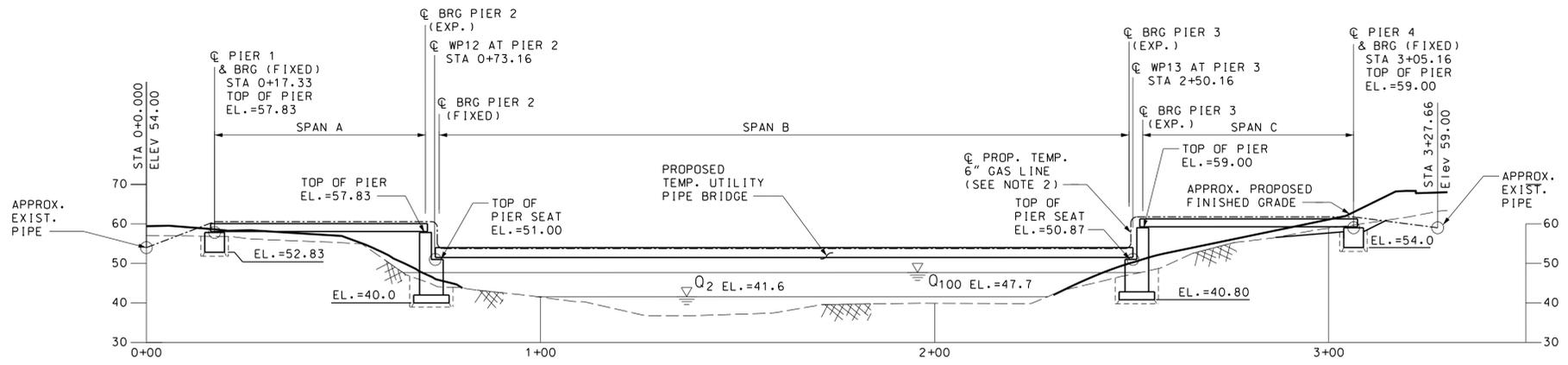


PLAN

SCALE: 1" = 20'-0"



PROFILE

SCALE: 1" = 20'-0"

GENERAL NOTES:

1. THE CONTRACTOR SHALL SUPPLY ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO CONSTRUCT, AND AFTER CONSTRUCTION OF THE NEW WHITTIER STREET BRIDGE REMOVE, THE TEMPORARY UTILITY PIPE BRIDGE FOR THE TEMPORARY UNITIL GAS LINE AS SHOWN IN THESE PLANS AND IN ACCORDANCE WITH THE SPECIAL PROVISION. ALL COSTS FOR THE TEMPORARY UTILITY PIPE BRIDGE SHALL BE INCLUDED IN ITEM 612.99, UTILITY PIPE BRIDGE - GAS MAIN.
2. ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO CONSTRUCT THE TEMPORARY GAS LINE ITSELF AND CONNECT IT TO THE EXISTING GAS LINE ON THE BRIDGE APPROACHES WILL BE SUPPLIED BY UNITIL. THIS INCLUDES THE GAS PIPE, PIPE EXPANSION JOINTS, PIPE VALVES, PIPE ROLLERS, THREADED RODS AND NUTS SUPPORTING PIPE ROLLERS, AND CONNECTION TO THE EXISTING GAS LINE ON THE BRIDGE APPROACHES.
3. AT THE CONTRACTOR'S OPTION, THE CONTRACTOR MAY PROPOSE AN ALTERNATE TEMPORARY UTILITY PIPE SUPPORT SYSTEM TO UNITIL FOR REVIEW. ANY ALTERNATE SUPPORT SYSTEM MUST BE CONSTRUCTIBLE WITHIN THE LIMITS OF THE RIGHT-OF-WAY OR THE PROJECT'S CONSTRUCTION EASEMENTS. IF THE CONTRACTOR CHOOSES TO PROPOSE AN ALTERNATE TEMPORARY UTILITY PIPE SUPPORT SYSTEM, THE CONTRACTOR SHALL SUBMIT PLANS AND DESIGN CALCULATIONS FOR THE ALTERNATE SYSTEM STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN NEW HAMPSHIRE TO UNITIL FOR REVIEW.
4. AFTER THE PERMANENT GAS LINE IS OPERATIONAL ON THE NEW WHITTIER STREET BRIDGE, THE ENTIRE TEMPORARY UTILITY PIPE BRIDGE SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR. PORTIONS OF THE CONCRETE PIERS AND PIER FOOTINGS TWO FEET OR MORE BELOW PROPOSED FINISHED GRADE MAY BE LEFT IN PLACE.
5. ALL WORK SHALL BE IN CONFORMANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2010.
6. STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 50W (ASTM A709, GRADE 50W) UNPAINTED UNLESS OTHERWISE NOTED.
7. CONCRETE FOR PIERS AND PIER FOOTINGS SHALL BE CLASS A WITH A DESIGN COMPRESSIVE STRENGTH = 4000 PSI.
8. REINFORCING STEEL SHALL BE AASHTO M31 (ASTM A615), GRADE 60 UNCOATED.

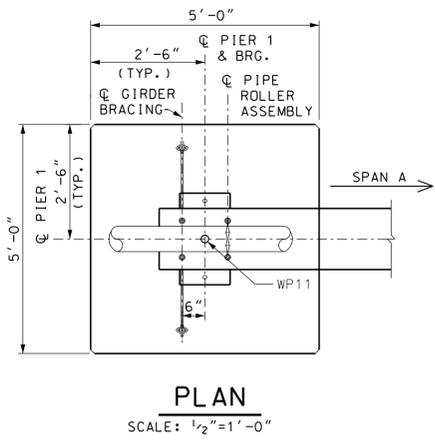
WORKING POINT COORDINATES		
WORKING POINT	NORTHING	EASTING
WP11	257836.47	1190399.49
WP12	257843.20	1190454.92
WP13	257956.21	1190591.15
WP14	257996.73	1190628.33



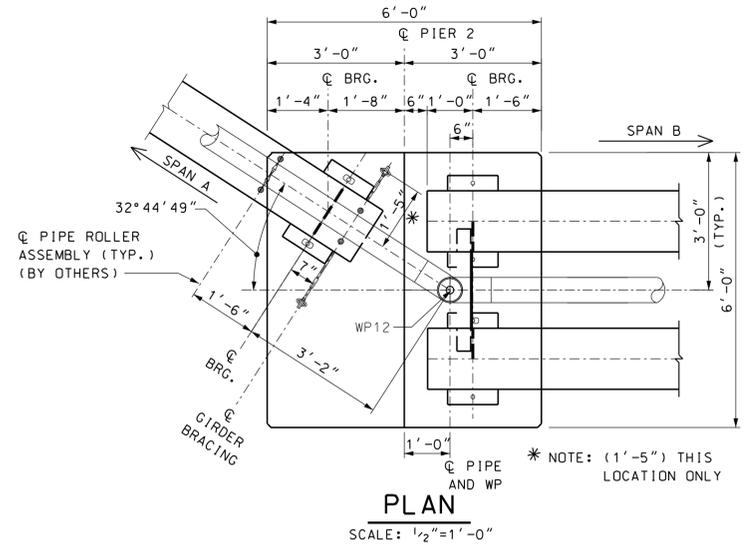
CITY OF DOVER, NEW HAMPSHIRE DEPARTMENT OF COMMUNITY SERVICES						
LOCATION		WHITTIER STREET OVER COCHECO RIVER	BRIDGE NO.	111/132	STATE PROJECT	15402
TEMP. GAS MAIN BRIDGE - PLAN AND PROFILE					BRIDGE SHEET	
REVISIONS AFTER PROPOSAL					A1 OF 5	
DESIGNED	JM/DPD	1/29	CHECKED	TSB	1/29	
DRAWN	DPD	1/29	CHECKED	TSB	1/29	
QUANTITIES			CHECKED			
ISSUE DATE		FEDERAL PROJECT NO.	X-A002(794)	SHEET NO.	A1	
REV. DATE		TOTAL SHEETS	5			



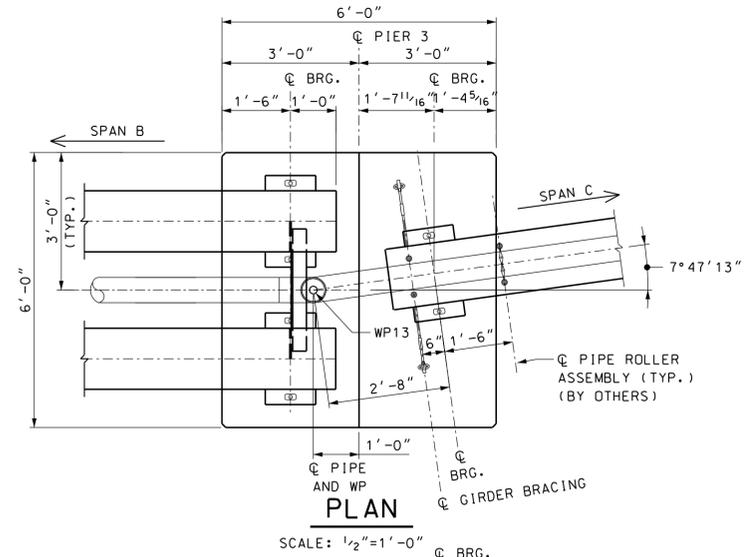
PLOT DATE	DRAWING NAME	SHEET SCALE
1/29/16	A1_PLAN_ELEV	AS NOTED



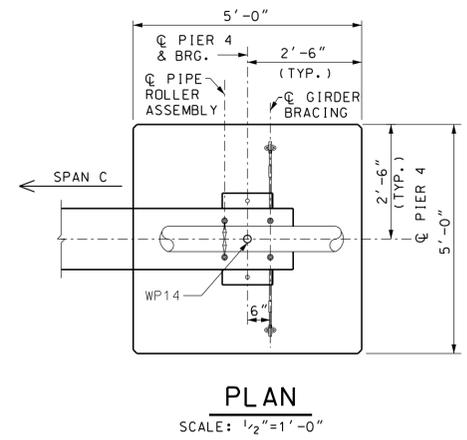
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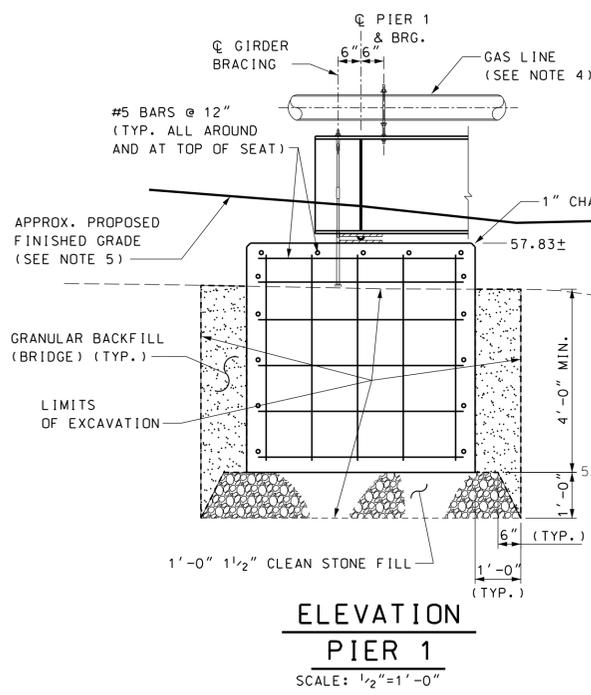
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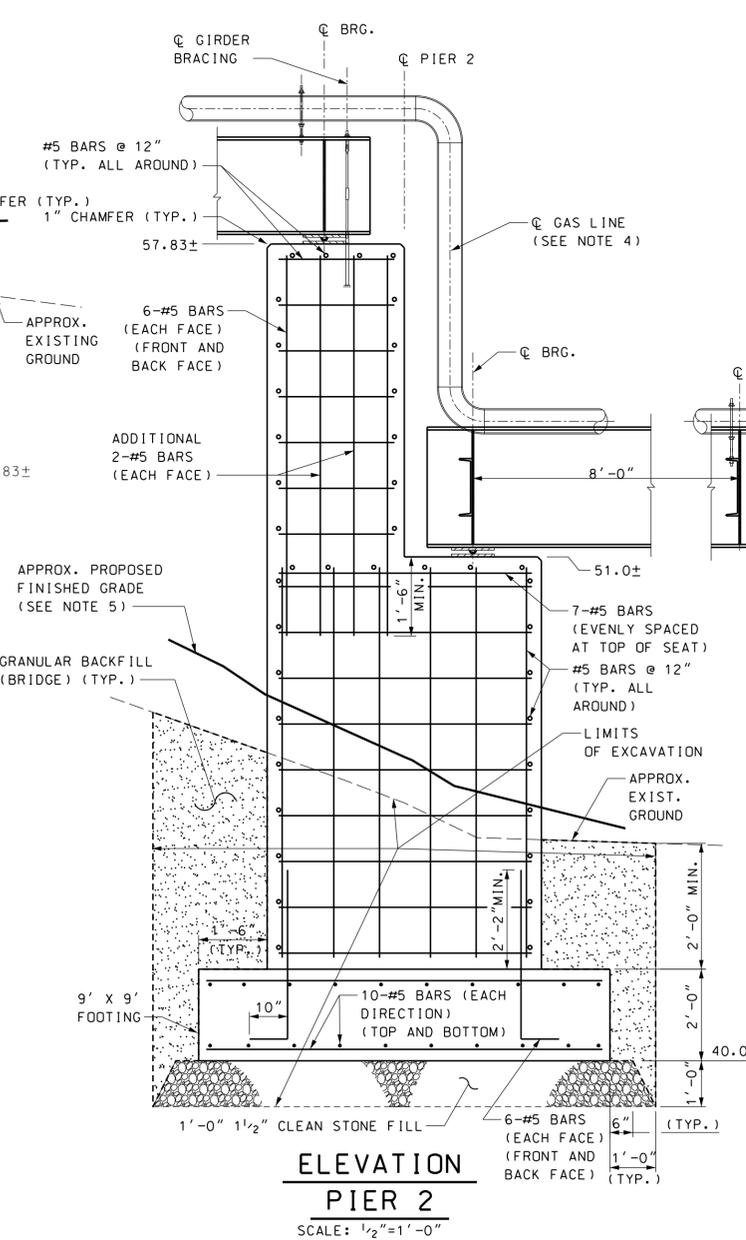
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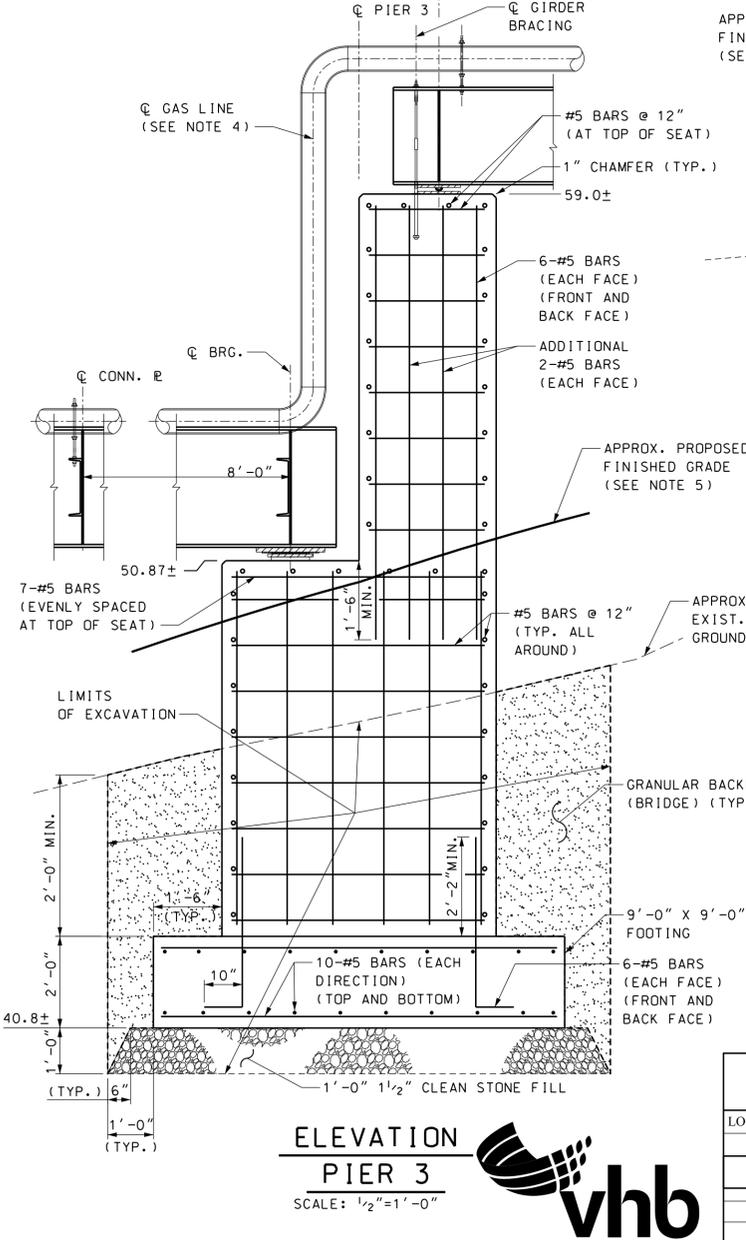
PLAN
SCALE: 1/2"=1'-0"



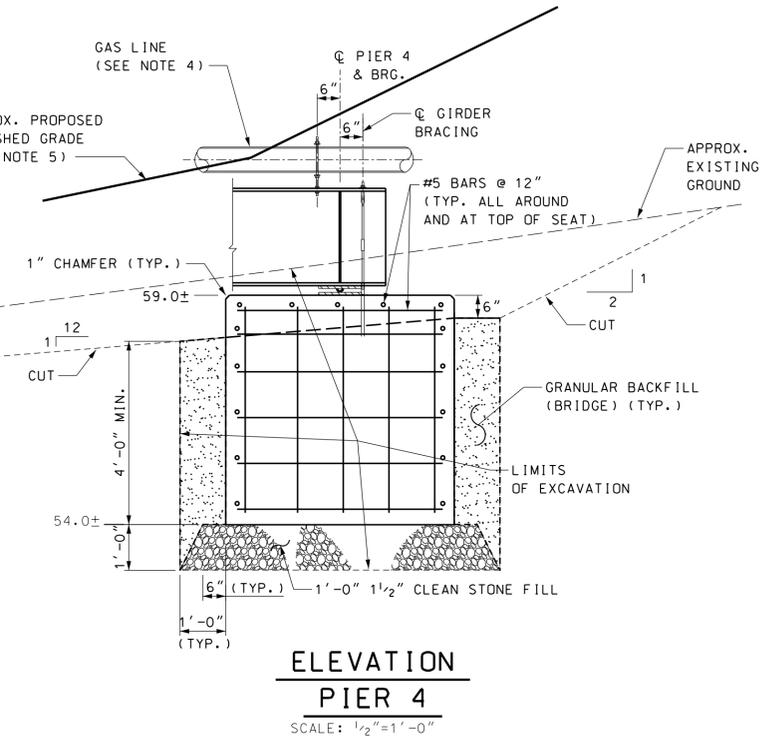
ELEVATION PIER 1
SCALE: 1/2"=1'-0"



ELEVATION PIER 2
SCALE: 1/2"=1'-0"



ELEVATION PIER 3
SCALE: 1/2"=1'-0"



ELEVATION PIER 4
SCALE: 1/2"=1'-0"

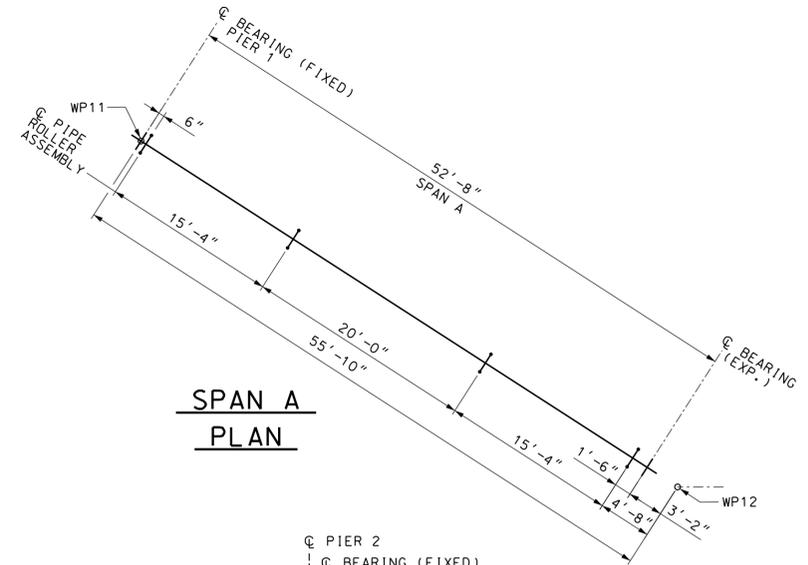
PIER NOTES:

1. THE PIER AND PIER FOOTING DESIGN IS BASED ON A MAXIMUM DESIGN SOIL PRESSURE OF 1.5 TONS/SF. IF AFTER EXCAVATION FOR THE PIERS THE ENGINEER DETERMINES THAT THE SOILS ARE NOT CAPABLE OF A BEARING PRESSURE OF 1.5 TONS/SF THE RESIDENT ENGINEER SHALL CONTACT THE DESIGN ENGINEER FOR A REDESIGN. IF LEDGE IS ENCOUNTERED IN ANY OF THE PIER EXCAVATIONS CONTACT THE DESIGN ENGINEER.
2. THE CONTRACTOR SHALL PLACE ALL CONCRETE IN THE DRY.
3. ALL REINFORCING STEEL SHALL BE A MINIMUM OF 2.5 INCHES FROM CONCRETE SURFACES UNLESS OTHERWISE NOTED.
4. ALL COMPONENTS OF THE TEMPORARY GAS LINE INCLUDING THE PIPE, PIPE EXPANSION JOINTS, AND PIPE ROLLER ASSEMBLIES WILL BE SUPPLIED AND INSTALLED BY OTHERS.
5. APPROXIMATE PROPOSED FINISHED GRADE SHOWN ON THIS SHEET IS THE FINAL GRADE THAT WILL BE ESTABLISHED AFTER THE TEMPORARY UTILITY PIPE BRIDGE IS REMOVED.

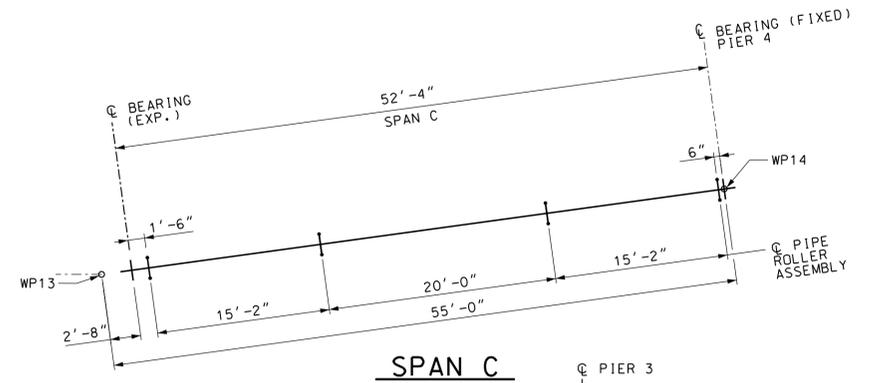


CITY OF DOVER, NEW HAMPSHIRE					
DEPARTMENT OF COMMUNITY SERVICES					
LOCATION	WHITTIER STREET OVER COCHECO RIVER	BRIDGE NO.	111/132	STATE PROJECT	15402
TEMP. GAS MAIN BRIDGE - PIER DETAILS					BRIDGE SHEET
REVISIONS AFTER PROPOSAL					A2 OF 5
DESIGNED	JM/DPD	DATE	1/29	CHECKED	TSB 1/29
DRAWN	DPD	DATE	1/29	CHECKED	TSB 1/29
QUANTITIES					FILE NUMBER
ISSUE DATE		FEDERAL PROJECT NO.	X-A002(794)	SHEET NO.	A2
REV. DATE				TOTAL SHEETS	5

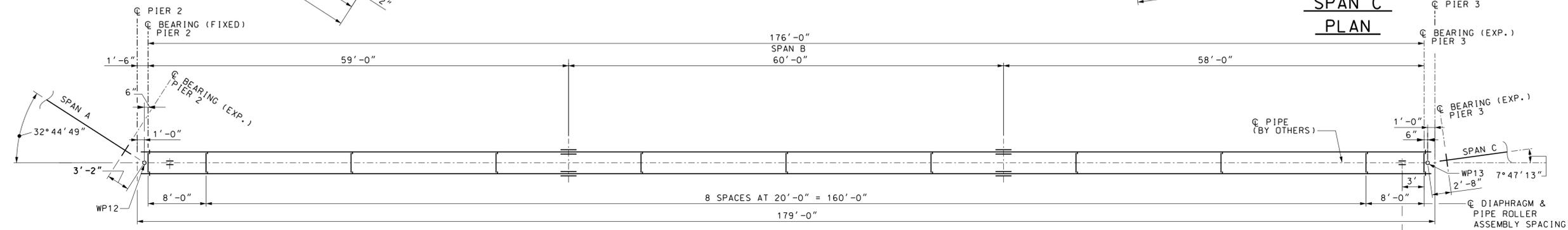
PLOT DATE	DRAWING NAME	SHEET SCALE
1/29/16	A2_PIER_DETAILS	AS NOTED



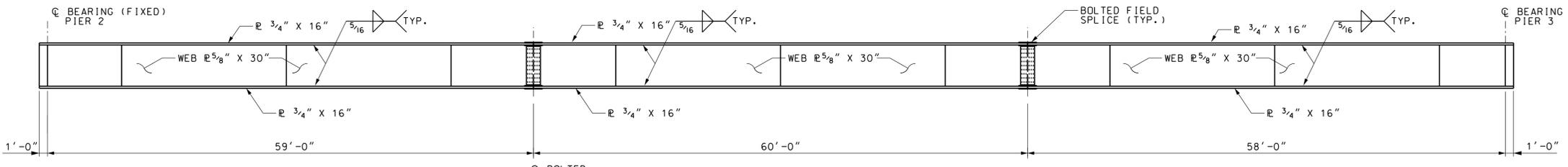
**SPAN A
PLAN**



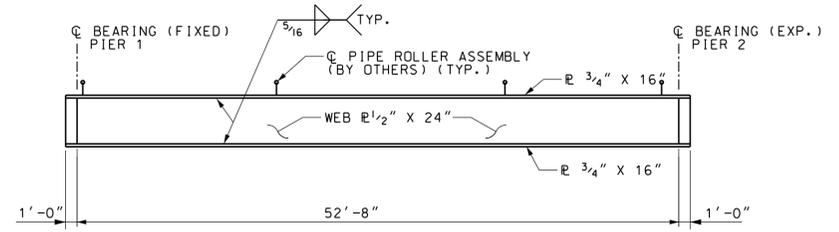
**SPAN C
PLAN**



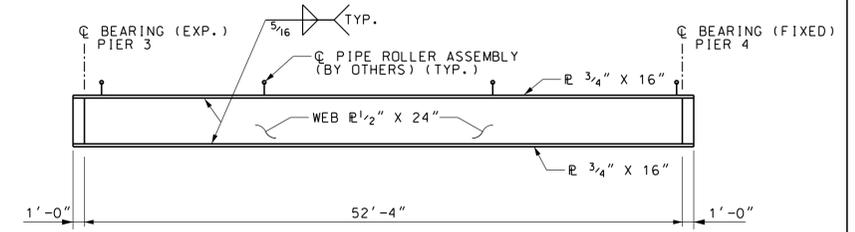
FRAMING PLAN
SCALE: 1/8"=1'-0"



**SPAN B
GIRDER ELEVATION**
SCALE: 1/8"=1'-0"



**SPAN A
GIRDER ELEVATION**
SCALE: 1/8"=1'-0"



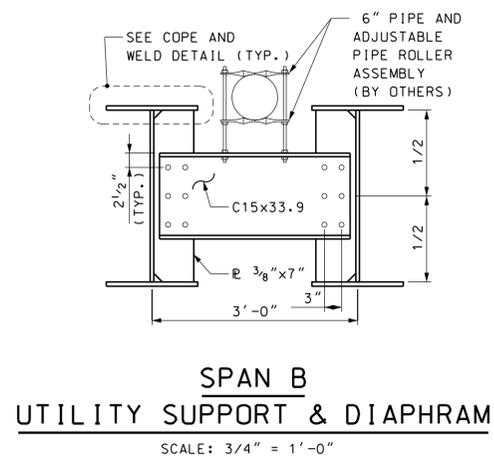
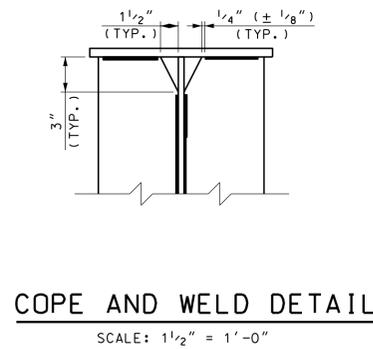
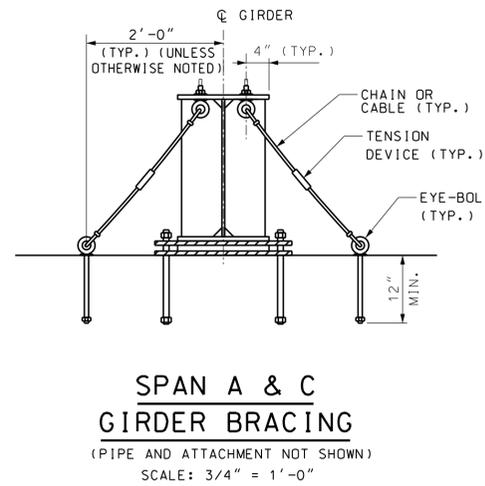
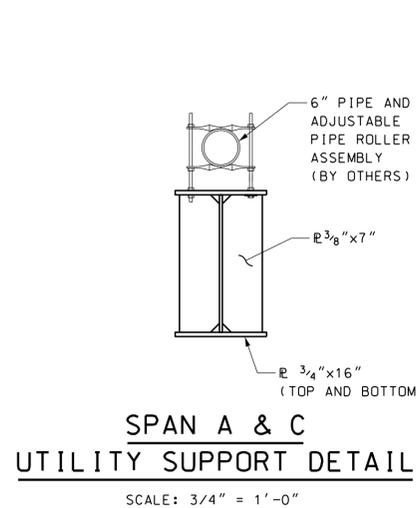
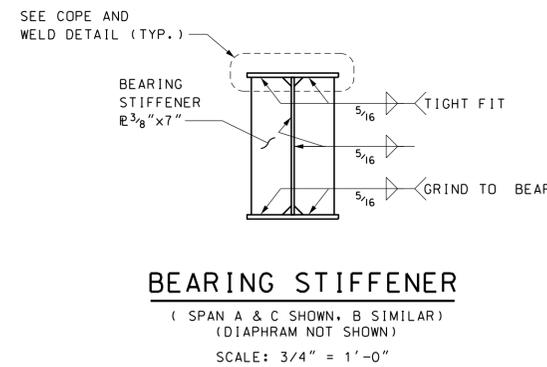
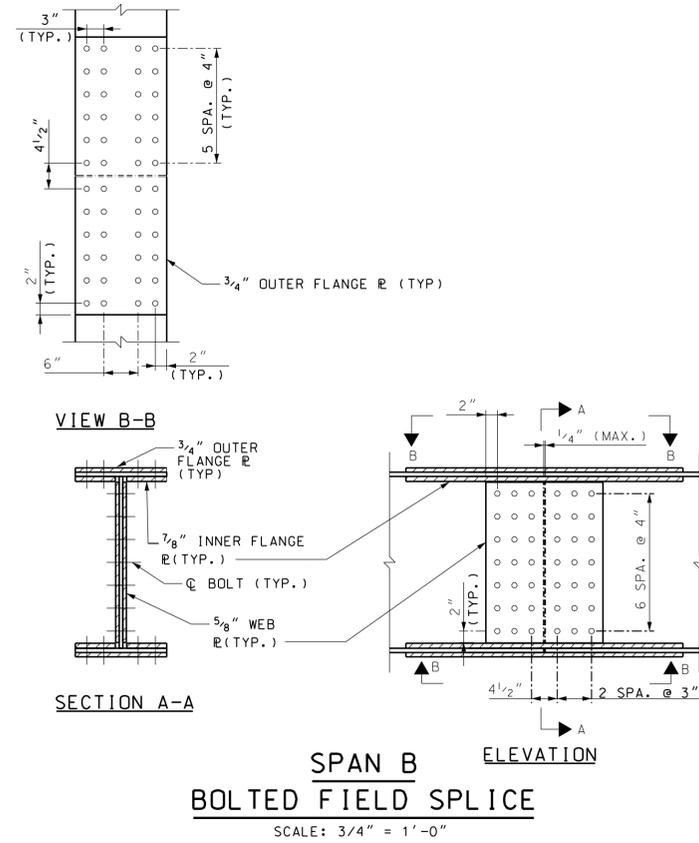
**SPAN C
GIRDER ELEVATION**
SCALE: 1/8"=1'-0"

CITY OF DOVER, NEW HAMPSHIRE										
DEPARTMENT OF COMMUNITY SERVICES										
LOCATION	WHITTIER STREET OVER COCHECO RIVER	BRIDGE NO.	111/132	STATE PROJECT	15402					
TEMP. GAS MAIN BRIDGE - FRAMING PLAN AND ELEV.										
REVISIONS AFTER PROPOSAL		BY	DATE	BY	DATE	BRIDGE SHEET				
		DESIGNED	JM/DPD	1/29	CHECKED	TSB	1/29	A3 OF 5		
		DRAWN	DPD	1/29	CHECKED	TSB	1/29	FILE NUMBER		
		QUANTITIES			CHECKED					
PLOT DATE	DRAWING NAME	SHEET SCALE	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS				
1/29/16	A3_FRAMING_PLN	AS NOTED	X-A002(794)		A3	5				



PLOT DATE	DRAWING NAME	SHEET SCALE
1/29/16	A3_FRAMING_PLN	AS NOTED

SFILES



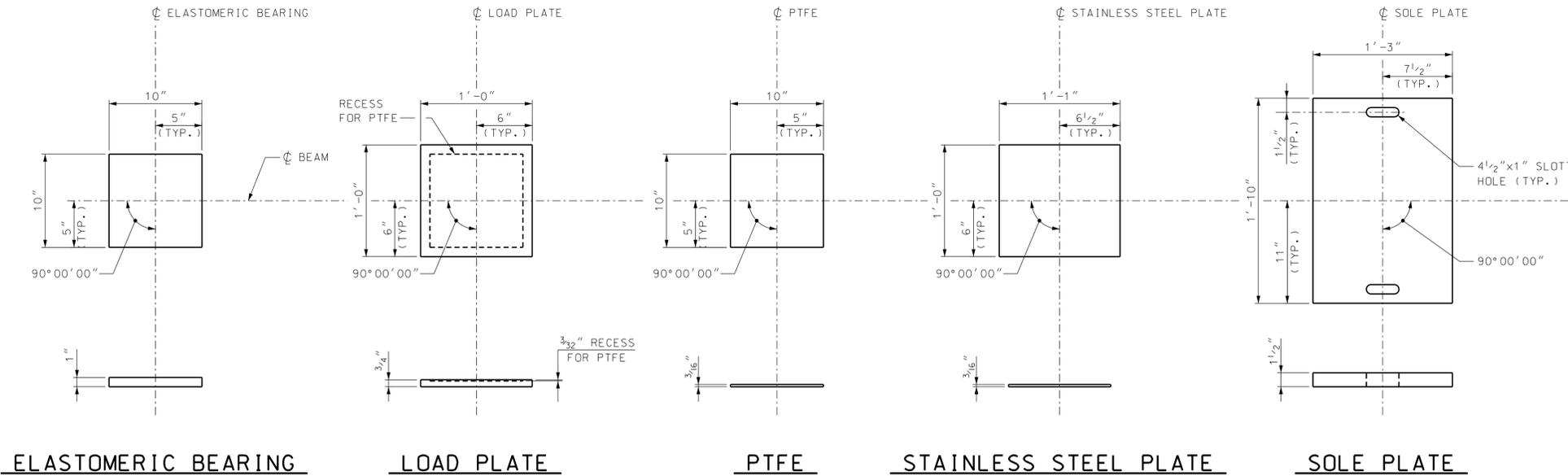
SUPERSTRUCTURE NOTES

- ALL STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF ITEM 550.108, STRUCTURAL STEEL (F), INCLUDING THE GIRDERS, CROSS FRAMES, DIAPHRAGMS, GUSSET PLATES, FILL PLATES, CONNECTION PLATES, SPLICE PLATES, STIFFENERS, AND FASTENERS.
- NOTCH TOUGHNESS REQUIREMENTS OF NHDOT STANDARD SPECIFICATIONS SHALL APPLY TO THE WEB AND FLANGES OF GIRDERS AND SPLICE PLATES.
- ALL BOLTED CONNECTIONS SHALL BE SLIP-CRITICAL (CLASS-B) MADE WITH 7/8" Ø HIGH STRENGTH BOLTS IN 15/16" Ø HOLES. ALL FASTENERS SHALL CONFORM TO REQUIREMENTS FOR AASHTO M164 (ASTM A325) TYPE 3.
- ALL BOLTS IN FIELD SPLICE SHALL HAVE THREADS EXCLUDED FROM THE THICK FLANGES.
- DIRECT TENSION INDICATOR WASHERS SHALL BE INSTALLED WITH HIGH STRENGTH BOLTS.
- GIRDERS SHALL BE CAMBERED FOR FULL DEAD LOAD DEFLECTION EQUAL TO:
SPANS A & C = 1/2" AT MIDSPAN
SPAN B = 21 1/2" AT MIDSPAN
- BEARING STIFFENERS AND ENDS OF THE GIRDERS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.
- ALL WELDS SHALL HAVE CORROSION RESISTANCE AND WEATHERING APPEARANCE AS SPECIFIED FOR WEATHERING STRUCTURAL STEEL.
- THE STRUCTURAL STEEL FABRICATOR SHALL ARRANGE FOR NON-DESTRUCTIVE TESTING OF THE WELDS.
- SHOP DRAWINGS SHALL INDICATE THE METHOD AND SEQUENCE TO BE FOLLOWED IN WELDING THE GIRDER COMPONENTS.
- LOCATION OF WELDED SHOP SPLICES SHALL BE: WEB SPLICES SHALL BE LOCATED A MINIMUM OF 9" FROM WELDED FLANGE SPLICES. WEB AND FLANGE SPLICES SHALL BE LOCATED A MINIMUM OF 6" FROM TRANSVERSE STIFFENERS OR CONNECTION PLATES.
- ANY SHOP OR FIELD WELDING OF ATTACHMENTS TO ANY PORTION OF THE PLATE GIRDERS FOR CONSTRUCTION PURPOSES WILL NOT BE PERMITTED, UNLESS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL SUBMIT A HANDLING AND ERECTION PROCEDURE TO THE ENGINEER PRIOR TO HANDLING THE STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 550.3.14 AND 550.3.15. THE ERECTION PROCEDURE SHALL INDICATE THE LOCATION AND NUMBER OF LIFTING POINTS AS DETERMINED BY CHECKING THE L/B RATIOS IN ACCORDANCE WITH SECTION 550.3.14.2.4 TO GUARD AGAINST LATERAL BUCKLING OF THE GIRDERS.
- STEEL ERECTION SHALL NOT BE PERMITTED UNTIL THE PIERS HAVE BEEN BACKFILLED TO THE LEVEL OF THE EXISTING GROUND SHOWN IN THESE PLANS.
- ALL WELDING AND FABRICATION SHALL BE PERFORMED IN CONFORMANCE WITH THE AASHTO/AWS D1.5-08 BRIDGE WELDING CODE, (INCLUDING ALL REVISIONS PUBLISHED BY AASHTO AS OF THE BID OPENING DATE) AND THE NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- THE CABLE OR CHAIN, TENSION DEVICE, AND ALL ATTACHMENTS USED IN THE GIRDER BRACING SYSTEM, SHALL BE CAPABLE OF WITHSTANDING A 8-KIP TENSILE LOAD.
- THE CABLE OR CHAIN USED IN THE FLANGE SUPPORT SYSTEM SHALL HAVE APPROXIMATELY 2% SLACK UNDER THE NO-WIND CONDITION. THE CABLE OR CHAIN SHALL NOT BE TENSIONED SUCH THAT A DOWNWARD FORCE IS IMPOSED ON THE BEAM UNDER THE NO-WIND CONDITION.
- THE FOLLOWING VERTICAL DEFLECTIONS DUE TO THE DESIGN PIPE LOAD AND ICE LOAD ARE ANTICIPATED ON THE GAS LINE:
SPANS A & C = 1/8" AT MIDSPAN
SPAN B = 3 3/4" AT MIDSPAN
- THE FOLLOWING HORIZONTAL DEFLECTIONS DUE TO THE DESIGN WIND LOAD ARE ANTICIPATED ON THE GAS LINE:
SPANS A & C = 1 5/8" AT MIDSPAN
SPAN B = 2 7/8" AT MIDSPAN
- HOLES IN THE SPAN A AND SPAN C GIRDER TOP FLANGES, AND THE SPAN B DIAPHRAGM TOP FLANGES, FOR THE THREADED RODS FOR THE PIPE ROLLERS SHALL BE SHOP DRILLED. CONTRACTOR SHALL COORDINATE FINAL LAYOUT AND SIZE OF THESE HOLES WITH UNITIL. THE HOLES SHALL BE SHOWN IN THE GIRDER SHOP DRAWINGS. ALL COSTS FOR THESE HOLES SHALL BE INCLUDED IN ITEM 612.99.



CITY OF DOVER, NEW HAMPSHIRE					
DEPARTMENT OF COMMUNITY SERVICES					
LOCATION	WHITTIER STREET OVER COCHECO RIVER	BRIDGE NO.	111/132	STATE PROJECT	15402
TEMP. GAS MAIN BRIDGE - GIRDER DETAILS AND NOTES					BRIDGE SHEET
REVISIONS AFTER PROPOSAL					A4 OF 5
DESIGNED	JM/DPD	DATE	1/29	CHECKED	TSB 1/29
DRAWN	DPD	DATE	1/29	CHECKED	TSB 1/29
QUANTITIES			CHECKED		
ISSUE DATE		FEDERAL PROJECT NO.	X-A002(794)	SHEET NO.	A4
REV. DATE				TOTAL SHEETS	5

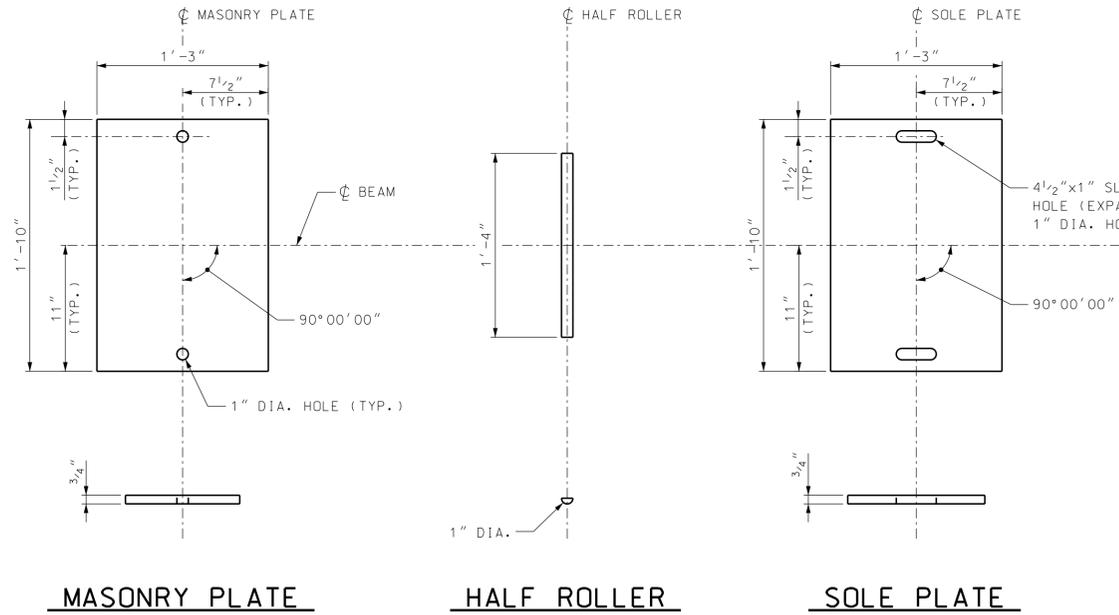
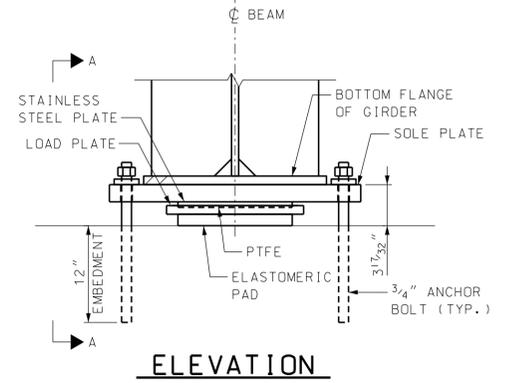
PLOT DATE	DRAWING NAME	SHEET SCALE
1/29/16	A4_GIRDER_DETAILS	AS NOTED



SPAN B EXPANSION ELASTOMERIC BEARINGS
NOT TO SCALE

ELASTOMERIC BEARING NOTES:

- ELASTOMER SHALL EITHER BE NEOPRENE OR NATURAL RUBBER WITH A DUROMETER OF 55.
- DESIGN SERVICE DEAD LOAD: 17 KIPS.
- VULCANIZING OF THE ELASTOMER TO THE STEEL PLATES SHALL BE DONE DURING THE PRIMARY MOLDING PROCESS.
- SOLE PLATES AND LOAD PLATES SHALL MEET THE REQUIREMENTS OF ASTM A709, GRADE 50W.
- HORIZONTAL PTFE AT EXPANSION BEARINGS SHALL BE DIMPLED AND LUBRICATED. LUBRICATION SHALL BE SUPPLIED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATION TO ENSURE A COEFFICIENT OF FRICTION LESS THAN OR EQUAL TO 0.03 AT 68 DEGREES F.
- THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN A RANGE OF 30 DEGREES F AND 90 DEGREES F. IF THE AMBIENT AIR TEMPERATURE IS OUTSIDE THIS RANGE, THE BEARING SHALL BE RESET AS DIRECTED BY THE RESIDENT.
- BEARINGS SHALL BE COVERED DURING TRANSIT.
- ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PROTECT BEARING COMPONENTS FROM FIELD WELD FLASH AND SPLATTER. HEAT FROM WELDING OPERATION SHALL BE CONTROLLED SUCH THAT STEEL ADJACENT TO THE ELASTOMER DOES NOT EXCEED 200 DEGREES F. THE TEMPERATURE SHALL BE VERIFIED BY THE USE OF TEMPERATURE INDICATING CRAYONS OR OTHER SUITABLE MEANS.



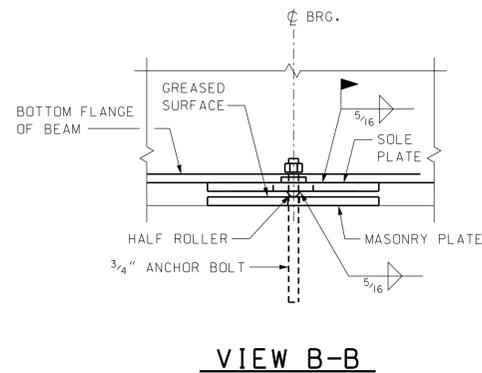
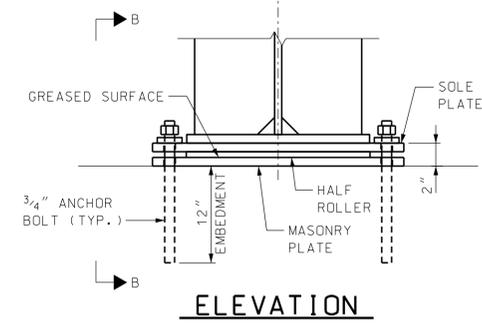
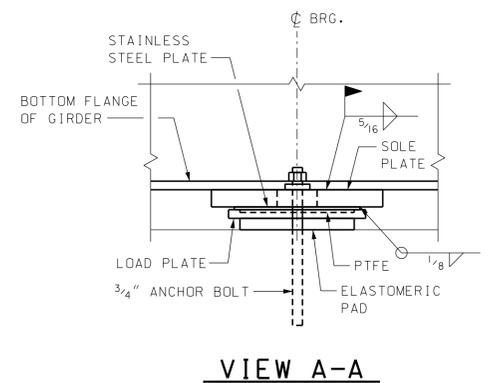
SPAN A, SPAN B (FIXED ONLY), AND SPAN C STEEL BEARINGS
NOT TO SCALE

ANCHOR ROD NOTES:

- ANCHOR RODS SHALL MEET THE REQUIREMENTS OF ASTM F1554, GRADE 55 AND SHALL BE SWEDGED ON THE EMBEDDED PORTION OF THE ROD.
- ANCHOR RODS, WASHERS, AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
- LEAVE NUTS 1/4" ABOVE WASHERS TO ALLOW FOR GIRDER ROTATION. UPSET THE THREADS ON THE ANCHOR RODS AFTER THE TEMPORARY PLATE WASHER HAS BEEN REMOVED TO PREVENT NUT MOVEMENT. TOUCH UP DAMAGED GALVANIZED SURFACES WITH ZINC-RICH PAINT AS DIRECTED BY THE RESIDENT.
- ANCHOR RODS SHALL BE SET BY TEMPLATE PRIOR TO POURING THE PIER.

STEEL BEARING NOTES:

- SOLE PLATES AND MASONRY PLATES SHALL MEET THE REQUIREMENTS OF ASTM A709, GRADE 50W.
- ROLLERS SHALL MEET THE REQUIREMENTS OF ASTM A668/A668M CLASS F OR CLASS G.
- THE MASONRY PLATE AND ROLLER SHALL BE SMOOTH AND FREE OF NICKS, BURRS, GOUGES, AND DEBRIS BEFORE INSTALLATION.
- MASONRY PLATE AND ROLLER SHALL BE LUBRICATED WITH A SILICONE GREASE WHICH SATISFIES SOCIETY OF AUTOMOTIVE ENGINEERS SPECIFICATION SAE-AS8660.
- BEARINGS SHALL BE CHECKED TO ENSURE THEY ARE PROPERLY FUNCTIONING EVERY THREE MONTHS.



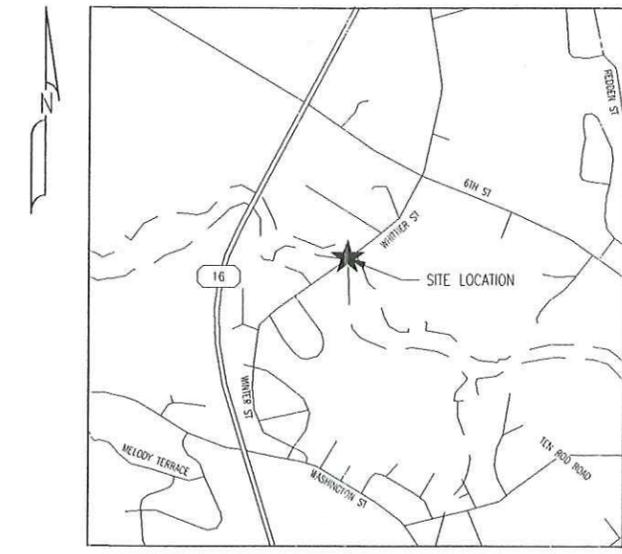
CITY OF DOVER, NEW HAMPSHIRE									
DEPARTMENT OF COMMUNITY SERVICES									
LOCATION	WHITTIER STREET OVER COCHECO RIVER	BRIDGE NO.	111/132	STATE PROJECT	15402				
TEMP. GAS MAIN BRIDGE - BEARING DETAILS								BRIDGE SHEET	
								A5 OF 5	
DESIGNED		JM/DPD	1/29	CHECKED		TSB	1/29	FILE NUMBER	
DRAWN		DPD	1/29	CHECKED		TSB	1/29		
QUANTITIES				CHECKED					
ISSUE DATE		FEDERAL PROJECT NO.			X-A002(794)		SHEET NO.		A5
REV. DATE							TOTAL SHEETS		5

PLOT DATE	DRAWING NAME	SHEET SCALE
1/29/16	AS_BEARING_DETAILS	AS NOTED



WHITTIER STREET BRIDGE
WHITTIER STREET OVER COCHECO RIVER
DOVER, NH 03820

INDEX OF SHEETS		
NUMBER	NAME	TITLE
1	T01	COVER SHEET
2	A01	SITE PLAN
3	C01	GENERAL DETAILS
4	C02	BILL OF MATERIALS
5	C03	BRIDGE DETAILS
6	C04	ABUTMENT DETAILS

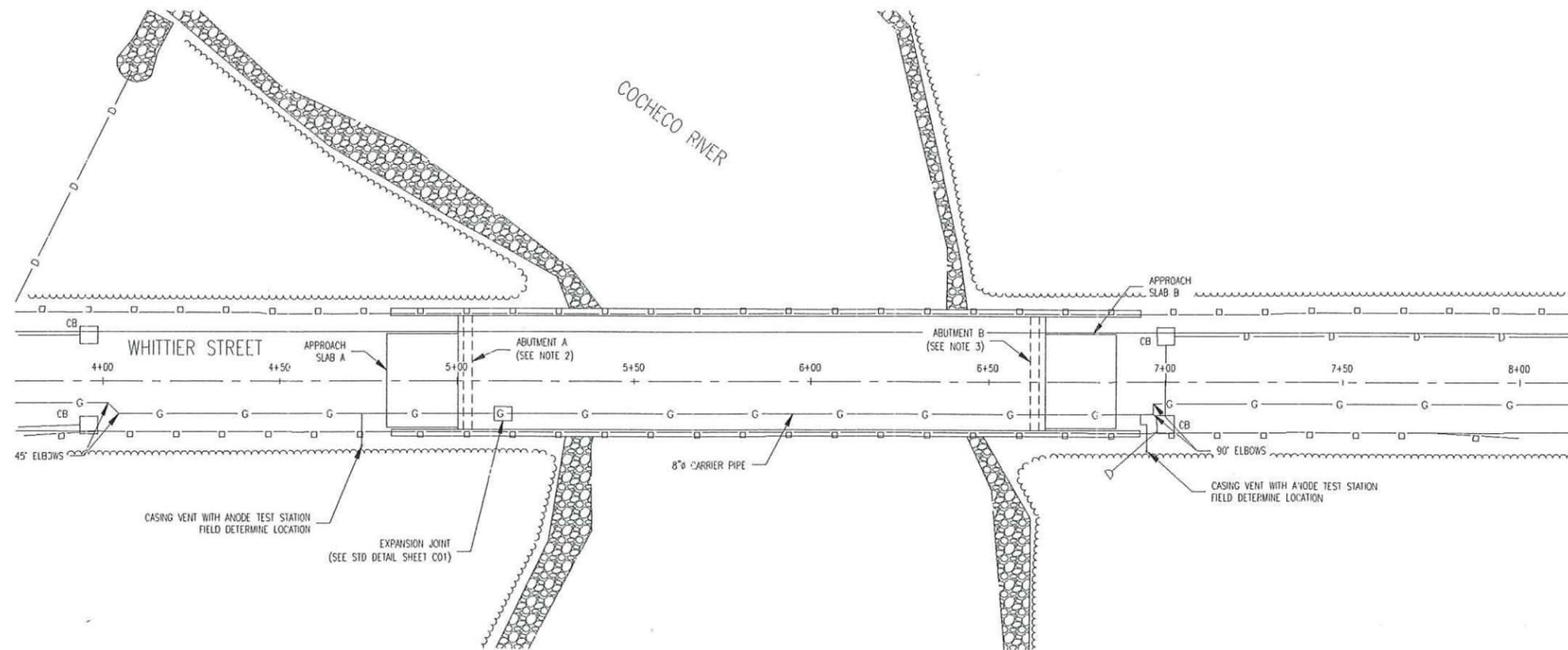


LOCUS
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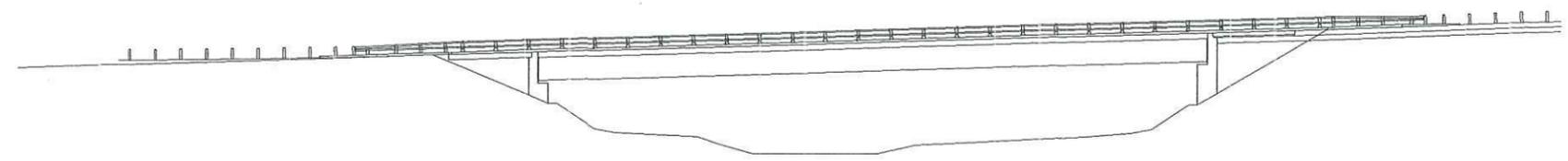
ISSUED FOR CONSTRUCTION

ISSUE STATUS	DATE	REVIEWED	CHECKED	APPROVED
25% SUBMISSION				
50% SUBMISSION				
75% SUBMISSION				
90% SUBMISSION				
ISSUED FOR BIC				
ISSUED FOR CONSTRUCTION	03/04/16			
AS CONSTRUCTED				

FILE NAME: 5201_C00.DWG	SIZE: 22X34	SHEET: T01	REV:
PLOT DATE: 03/03/2016 4:48 PM	SHEET 1 OF 6		



PLAN VIEW
SCALE: 1" = 20'-0"



PROFILE VIEW
SCALE: 1" = 20'-0"

- NOTES:
1. THE FOLLOWING REFERENCED DRAWINGS ARE PART OF A LARGER PLAN SET TITLED: CITY OF DOVER, DEPARTMENT OF COMMUNITY SERVICES, CONSTRUCTION PLANS, WHITTIER STREET OVER COCHECO RIVER, FEDERAL PROJECT NO. X-A002(764), N.H.D.O.T. PROJECT NO. 15402, FEBRUARY 2016; ROADWAY PLANS AND BRIDGE PLANS PREPARED BY: THE LOUIS BERGER GROUP, INC., MANCHESTER, NEW HAMPSHIRE, (603) 644 5200.
 2. FOR FURTHER DETAIL REFER TO PLAN TITLED ABUTMENT A - MASONRY SHEET 18 OF 58.
 3. FOR FURTHER DETAIL REFER TO PLAN TITLED ABUTMENT B - MASONRY SHEET 20 OF 58.



ISSUED FOR CONSTRUCTION

REV	BY	DATE	DESCRIPTION	DWG NO.	REFERENCE DRAWINGS	SEAL AND SIGNATURE

PRJ MANAGER: MARK D. WOOD
 PRJ ENGINEER: STEPHEN M. READE
 PRJ NAME: WHITTIER STREET BRIDGE
 PRJ NUMBER: 5201
 PRJ MILESTONE: ISSUED FOR CONSTRUCTION
 PRJ PHASE: ISSUED FOR CONSTRUCTION
 DESIGNED BY: MDW 03/04/18
 DRAFTED BY: RPG 03/04/18
 CHECKED BY: SMR 03/04/18
 APPROVED BY: MDW 03/04/18

CLIENT INFORMATION

DESIGN MANAGER: XXXX
 DESIGN ENGINEER: XXXX
 ACTINATION ORDER:

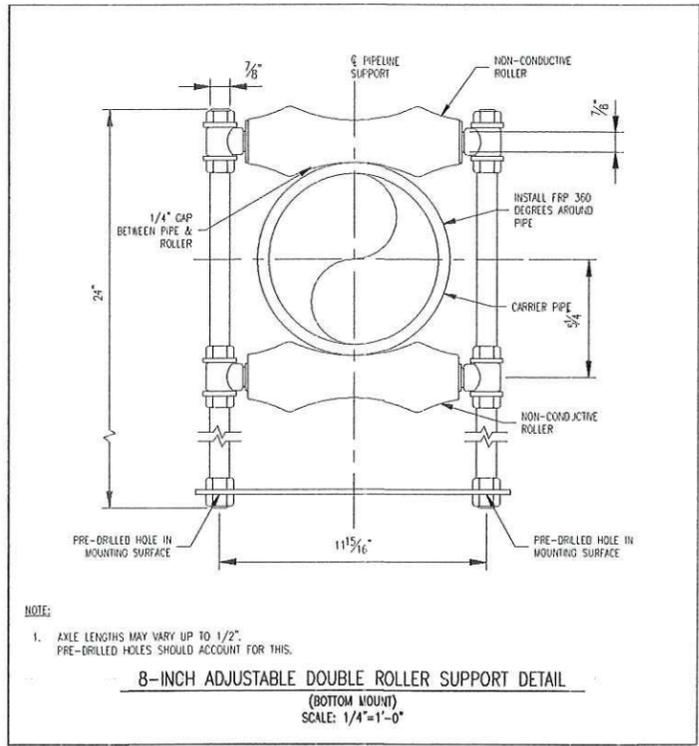
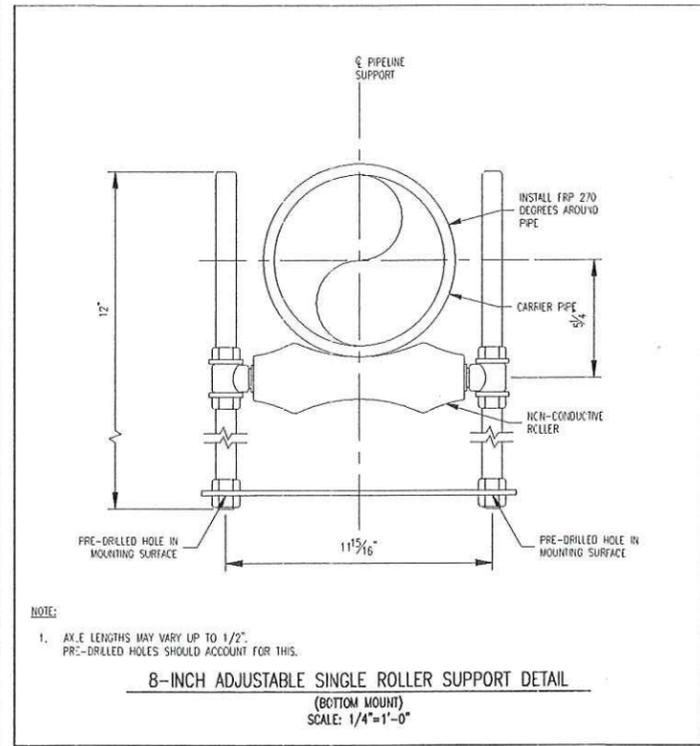
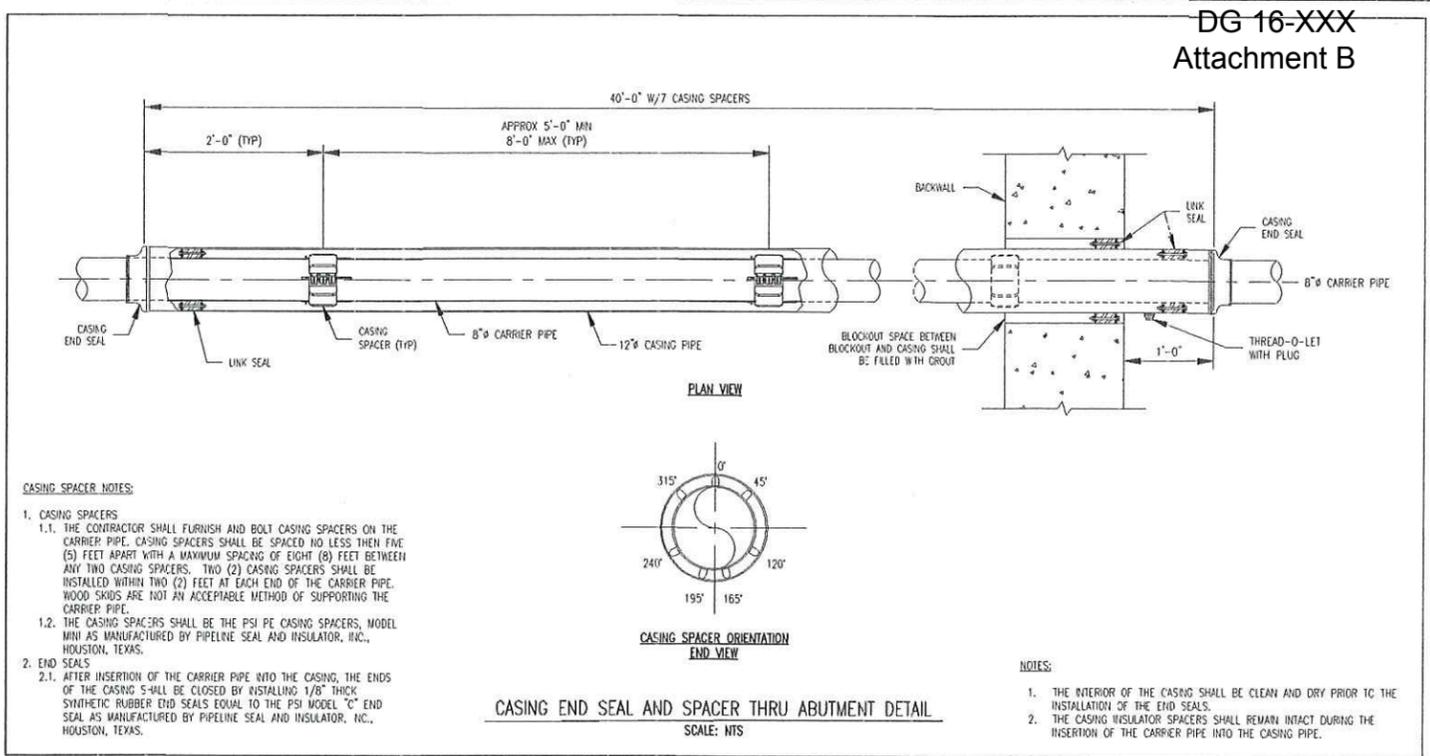
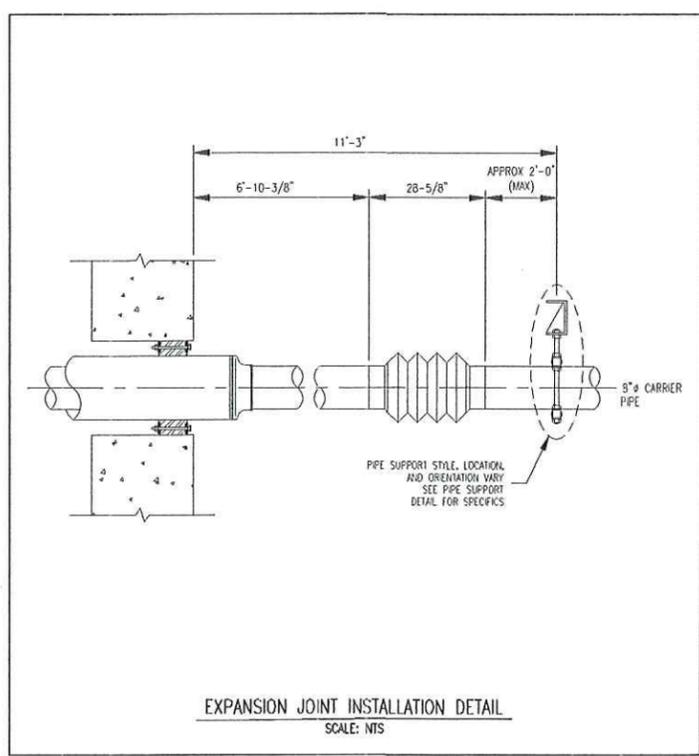
REVIEWED BY:
 CHECKED BY:
 APPROVED BY:

SHEET TITLE: SITE PLAN
 PROJECT NAME: WHITTIER STREET BRIDGE
 PROJECT LOCATION: WHITTIER STREET OVER COCHECO RIVER
 DOVER, NEW HAMPSHIRE 03820

1600 Providence Highway
 Walpole, MA 02081
 781.829.0524
 processpipelineservices.com

FILE NAME: 5201_C00.DWG
 PLOT DATE: 03/03/2016 4:48 PM
 SCALE: 1" = 20'-0"

SIZE: 22X34
 SHEET: A01
 REV: G
 SHEET 2 OF 6



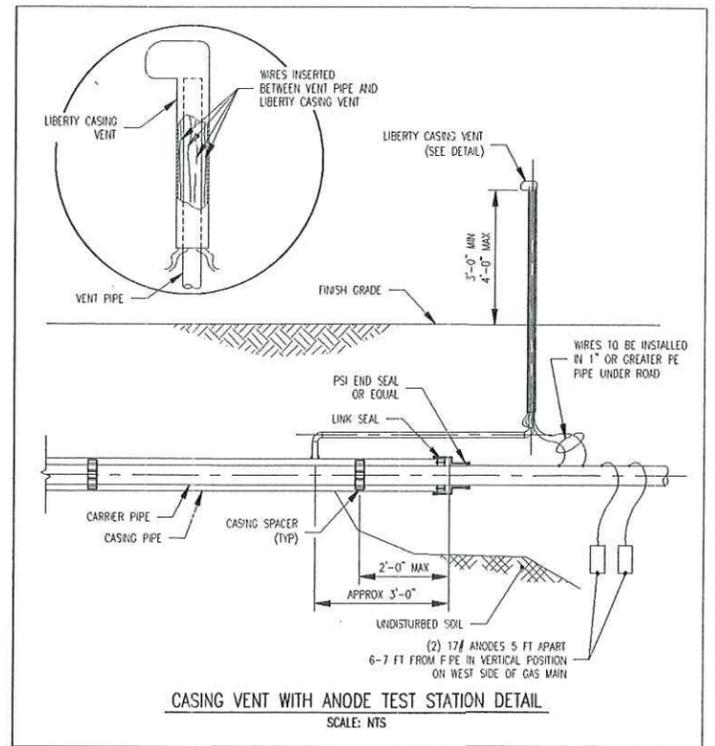
LS MODEL	SEAL ELEMENT	BOLTS/NUTS	PRESSURE PLATE
C	EPDM (BLACK)	ZINC DICHROMATE/ORGANIC COATED CARBON STEEL BOLT	REINFORCED NYLON POLYMER
L	EPDM (BLUE)	ZINC DICHROMATE/ORGANIC COATED CARBON STEEL BOLT	REINFORCED NYLON POLYMER
O	NITRILE	ZINC DICHROMATE/ORGANIC COATED CARBON STEEL BOLT	REINFORCED NYLON POLYMER
T	SILICONE	ZINC DICHROMATE/ORGANIC COATED CARBON STEEL BOLT	STEEL ZINC DICHROMATE
(C,L,O)+S-316	(SEE MODEL OPTIONS)	316 STAINLESS STEEL	REINFORCED NYLON POLYMER

SLEEVE MODEL	DESCRIPTION	MATERIAL
CS	CENTURY-LINE SLEEVE	HDPE
WS	STEEL WALL SLEEVE	STEEL

FOR MORE MATERIAL PROPERTY INFORMATION, SEE LITERATURE AT WWW.LINKSEAL.COM

HOLE SIZE	LINKS PER SEAL
8"x12"	12
12"x16"	17

LINK-SEAL DETAIL
SCALE: NTS



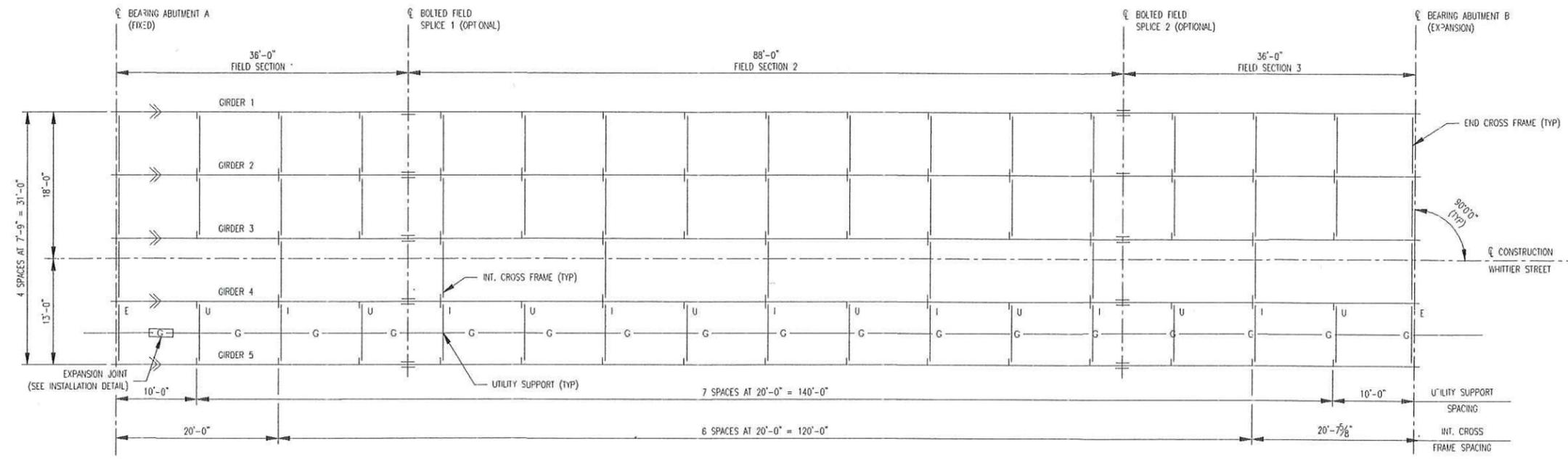
ISSUED FOR CONSTRUCTION

REV	BY	DATE	DESCRIPTION	DWG NO.	REFERENCE DRAWINGS	SEAL AND SIGNATURE	PRJ MANAGER: MARK D. WOOD PRJ ENGINEER: STEPHEN M. READE PRJ NAME: WHITTIER STREET BRIDGE PRJ NUMBER: 5201 PRJ MILESTONE: ISSUED FOR CONSTRUCTION PRJ PHASE: ISSUED FOR CONSTRUCTION DESIGNED BY: MDW 03/04/18 DRAFTED BY: RPG 03/04/18 CHECKED BY: SMR 03/04/18 APPROVED BY: MDW 03/04/18	CLIENT INFORMATION 	SHEET TITLE: GENERAL DETAILS PROJECT NAME: WHITTIER STREET BRIDGE PROJECT LOCATION: WHITTIER STREET OVER COCHECO RIVER DOVER, NEW HAMPSHIRE 03820	1600 Providence Highway Walpole, MA 02081 781.829.0524 processpipelineservices.com	FILE NAME: 5201_C00.DWG PLOT DATE: 03/03/2016 4:48 PM SCALE: AS SHOWN	SIZE: 22X34 SHEET: C01 REV: G SHEET 3 OF 6
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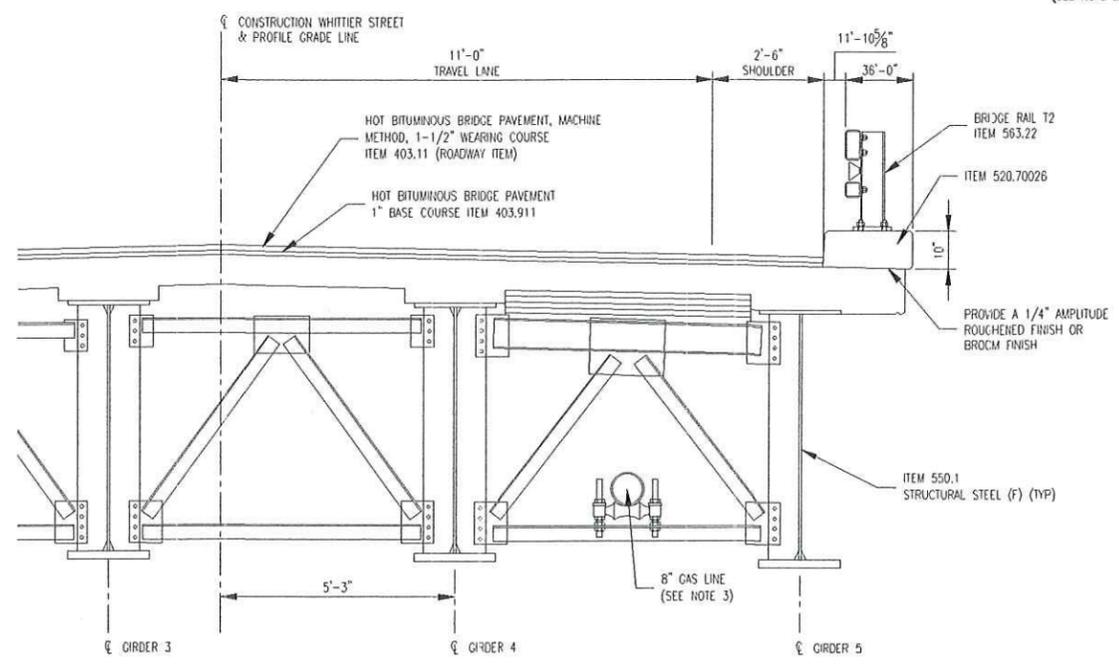
BILL OF MATERIAL										
ITEM	QTY	UOM	SIZE (IN)	DESCRIPTION	RATING	THICKNESS (IN)	STANDARD	MATERIAL SPEC	MANUFACTURER	NOTES
1	300	LF	8	PIPE	SCHD 40	0.322	-	API 5L, GR B	-	PRITEC 1080 COATED - NISOURCE GAS TRANSMISSION AND STORAGE SPECIFICATION OEP-13
2	80	LF	12	PIPE	SCHD 40	0.375	-	API 5L, GR B	-	PRITEC 1080 COATED - NISOURCE GAS TRANSMISSION AND STORAGE SPECIFICATION OEP-13
3	40	LF	2	PIPE	SCHD 40	0.154	-	API 5L, GR B	-	PRITEC 1080 COATED - NISOURCE GAS TRANSMISSION AND STORAGE SPECIFICATION OEP-13
4	15	LF	2	PIPE	SCHD 40	0.154	-	API 5L, GR B	-	BARE, SEAMLESS
5	8	EA	2	ELB, 90 DEG, LR	-	0.154	ASME B16.9	ASTM A-234, WPB	-	-
6	2	EA	12 x 2	WELD-O-LET	3000 LB	-	ASME B16.11	ASTM A-105	-	-
7	8	EA	8	ADJUSTABLE DOUBLE ROLLER GUIDE SUPPORT	-	-	-	-	LB&A, Inc	MODEL : 3B ASSEMBLY, WITH MODEL 6H NON-CONDUCTIVE ROLLER(S) AND 304SS SLEEVE(S)
8	14	EA	8 X 12	CASING SPACER	-	-	-	-	PSI, Inc	MODEL : PE, RUNNER HEIGHT 1.0", BAND WIDTH 5.0"
9	4	EA	8 X 12	END SEAL	-	-	-	-	PSI, Inc	MODEL : C
10	4	EA	LS-475-S-316-12	LINK SEAL	-	-	-	-	PSI, Inc	COMPLETE ASSEMBLY (QTY 12 LINKS PER SEAL)
11	2	EA	2	PLUG, HEX HEAD, MNPT	-	-	ASME B16.11	ASTM A-105	-	-
12	7	EA	8	ADJUSTABLE SINGLE ROLLER GUIDE SUPPORT	-	-	-	-	LB&A, Inc	MODEL : 2B ASSEMBLY, WITH MODEL 6H NON-CONDUCTIVE ROLLER(S) AND 304SS SLEEVE(S)
13	2	EA	3.5 X 72	CASING VENT	-	-	-	-	LIBERTY	P/N: LCV - YELLOW
14	2	EA	12 x 2	THREAD-O-LET, FW X FNPT	3000 LB	-	ASME B16.11	ASTM A-105	-	-
15	16	EA	FRP TYPE 180	SADDLES 9" LONG X 1/8" THICK	-	-	-	-	GLAS MESH CO. INC.	-
16	1	EA	8-7HF-WI	EXPANSION JOINT, WE X WE	-	0.322	-	-	BADGER INDUSTRIES	JB-008007-H1036
17	2	EA	LS-475-S-316-17	LINK SEAL	-	-	-	-	PSI, Inc	COMPLETE ASSEMBLY (QTY 17 LINKS PER SEAL)
18	7	EA	FRP TYPE 270	SADDLES 9" LONG X 1/8" THICK	-	-	-	-	GLAS MESH CO. INC.	-
19	2	EA	8	ELB, 90 DEG, LR	-	0.322	ASME B16.9	ASTM A-234, WPB	-	-
20	2	EA	8	ELB, 45 DEG, LR	-	0.322	ASME B16.9	ASTM A-234, WPB	-	-

ISSUED FOR CONSTRUCTION

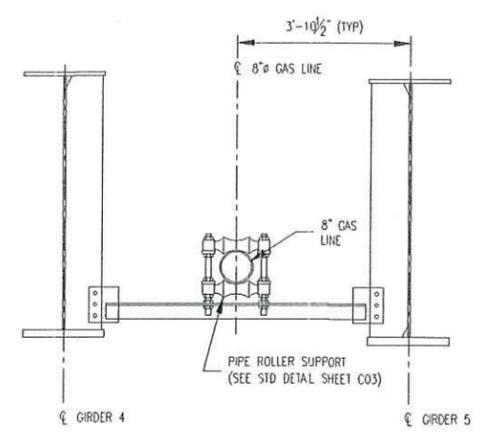
				PRJ MANAGER: MARK D. WOOD PRJ ENGINEER: STEPHEN M. READE PRJ NAME: WHITTIER STREET BRIDGE PRJ NUMBER: 5201 PRJ MILESTONE: ISSUED FOR CONSTRUCTION PRJ PHASE: ISSUED FOR CONSTRUCTION		CLIENT INFORMATION 		SHEET TITLE BILL OF MATERIALS		 1600 Providence Highway Walpole, MA 02081 781.829.0524 processpipeline@pservices.com	
				DESIGNED BY: MDW 03/04/18 DRAFTED BY: RPG 03/04/18 CHECKED BY: SMR 03/04/18 APPROVED BY: MDW 03/04/18		DESIGN MANAGER: XXXX DESIGN ENGINEER: XXXX ACTINATION ORDER:		REVIEWED BY: CHECKED BY:		PROJECT NAME WHITTIER STREET BRIDGE	
				SEAL AND SIGNATURE		PROJECT LOCATION WHITTIER STREET OVER COCHECO RIVER DOVER, NEW HAMPSHIRE 03820		FILE NAME: 5201_C00.DWG PLOT DATE: 03/03/2016 4:49 PM SCALE: N/A		SIZE: 22X34 SHEET: 002 R/W: G SHEET 4 OF 6	
REV	BY	DATE	DESCRIPTION	DWG NO.	REFERENCE DRAWINGS						



FRAMING PLAN
SCALE: 1/8" = 1'-0"
(SEE NOTE 2)



INTERMEDIATE CROSS FRAME
TYPICAL DECK SECTION
SCALE: 1/2" = 1'-0"
(SEE NOTE 4)



UTILITY CROSS FRAME
TYPICAL DECK SECTION
SCALE: 1/2" = 1'-0"
(SEE NOTE 3)

- LEGEND:
- E - END CROSS FRAME (NO PIPE SUPPORT)
 - I - INTERMEDIATE CROSS FRAME
 - U - UTILITY CROSS FRAME

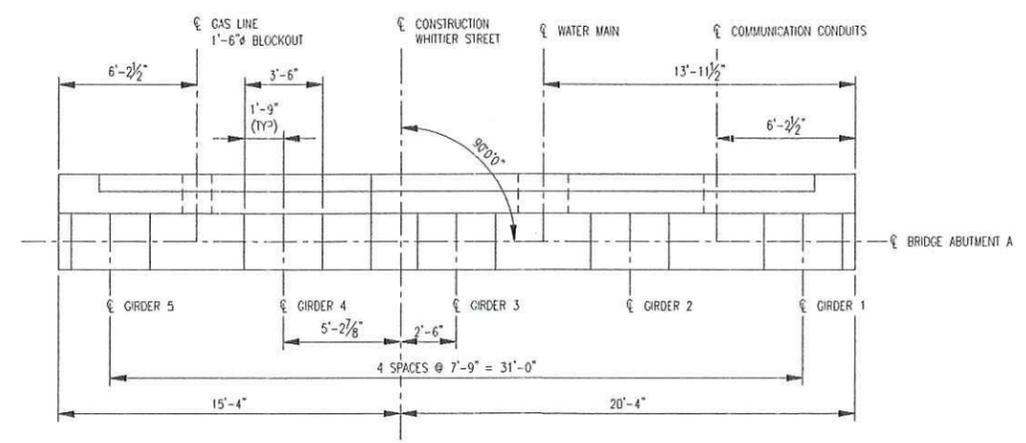
- NOTES:
1. THE FOLLOWING REFERENCED DRAWINGS ARE PART OF A LARGER PLAN SET TITLED: CITY OF DOVER, DEPARTMENT OF COMMUNITY SERVICES, CONSTRUCTION PLANS, WHITTIER STREET OVER COCHECO RIVER, FEDERAL PROJECT NO. X-A002(754), N.H.D.O.T. PROJECT NO. 15402, FEBRUARY 2016; ROADWAY PLANS AND BRIDGE PLANS PREPARED BY: THE LOUIS BERGER GROUP, INC., MANCHESTER, NEW HAMPSHIRE. (603) 644 5200.
 2. FOR FURTHER DETAIL REFER TO PLAN TITLED FRAMING PLAN SHEET 25 OF 58.
 3. FOR FURTHER DETAIL REFER TO PLAN TITLED SUBSTRUCTURE DETAILS SHEET 28 OF 58.
 4. FOR FURTHER DETAIL REFER TO PLAN TITLED TYPICAL SECTION AND DECK SLAB DETAILS, SHEET 29 OF 58.

ISSUED FOR CONSTRUCTION

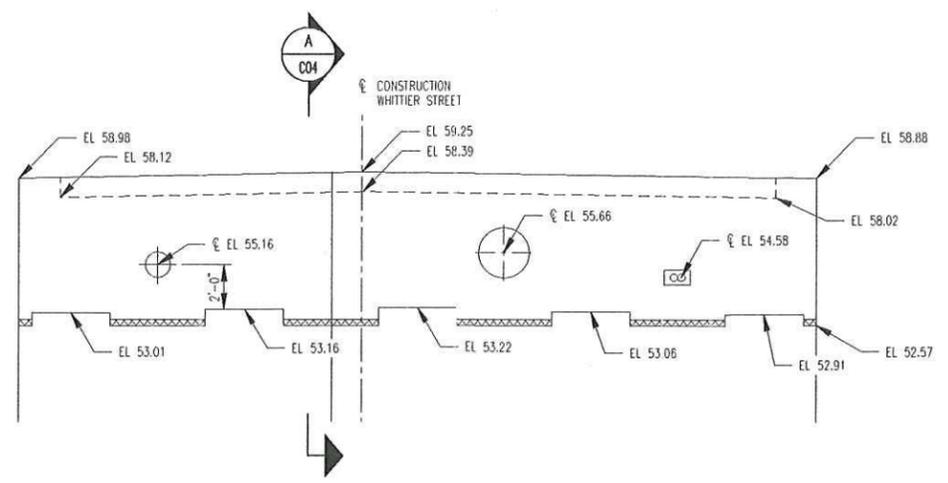
PRJ MANAGER: MARK D. WOOD		CLIENT INFORMATION		SHEET TITLE	
PRJ ENGINEER: STEPHEN M. READE				BRIDGE DETAILS	
PRJ NAME: WHITTIER STREET BRIDGE				PROJECT NAME	
PRJ NUMBER: 5201		DESIGNED BY: MDW 03/04/18		WHITTIER STREET BRIDGE	
PRJ MILESTONE: ISSUED FOR CONSTRUCTION		DRAFTED BY: RPG 03/04/18		PROJECT LOCATION:	
PRJ PHASE: ISSUED FOR CONSTRUCTION		CHECKED BY: SMR 03/04/18		WHITTIER STREET OVER COCHECO RIVER	
DESIGNED BY: MDW 03/04/18		DESIGN ENGINEER: XXXX		DOVER, NEW HAMPSHIRE 03820	
DRAFTED BY: RPG 03/04/18		REVIEWED BY:		FILE NAME: 5201_C00.DWG	
CHECKED BY: SMR 03/04/18		APPROVED BY:		PLOT DATE: 03/03/2016 4:49 PM	
APPROVED BY: MDW 03/04/18		ACTIVATION ORDER:		SCALE: N/A	
SEAL AND SIGNATURE		ACTIVATION ORDER:		SIZE	
				22X34	
				SHEET	
				03	
				G	
				SHEET 5 OF 6	



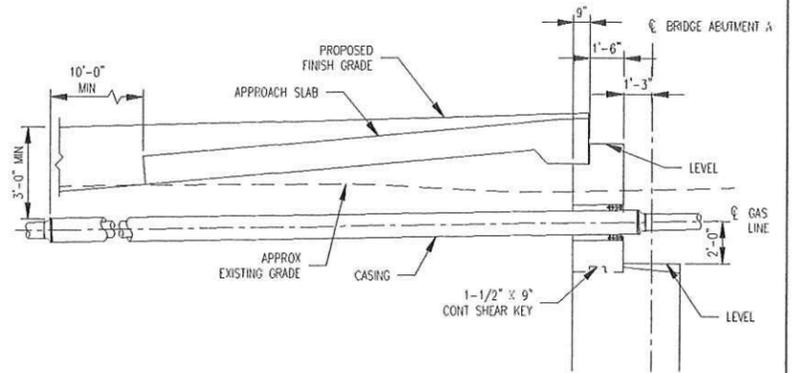
3600 Providence Highway
Watpole, MA 02081
781.829.0524
process@pipelineservices.com



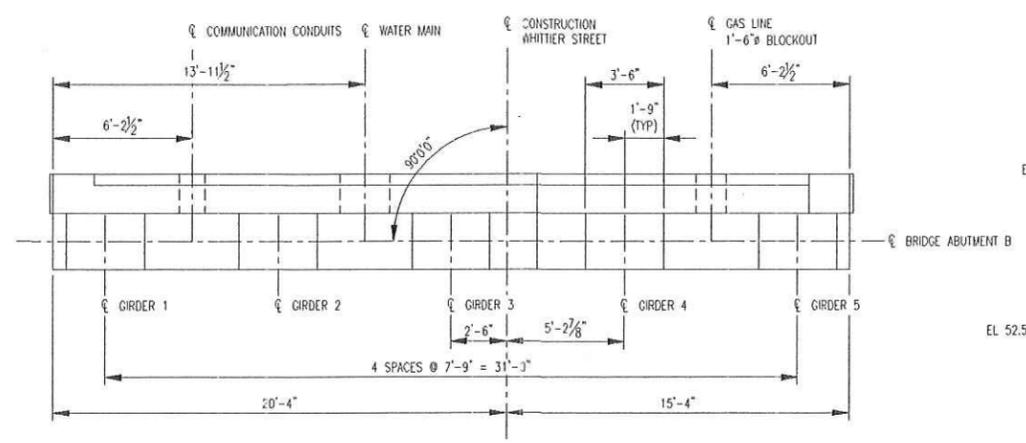
ABUTMENT A - PLAN
SCALE: 1/4" = 1'-0"
(SEE NOTE 2)



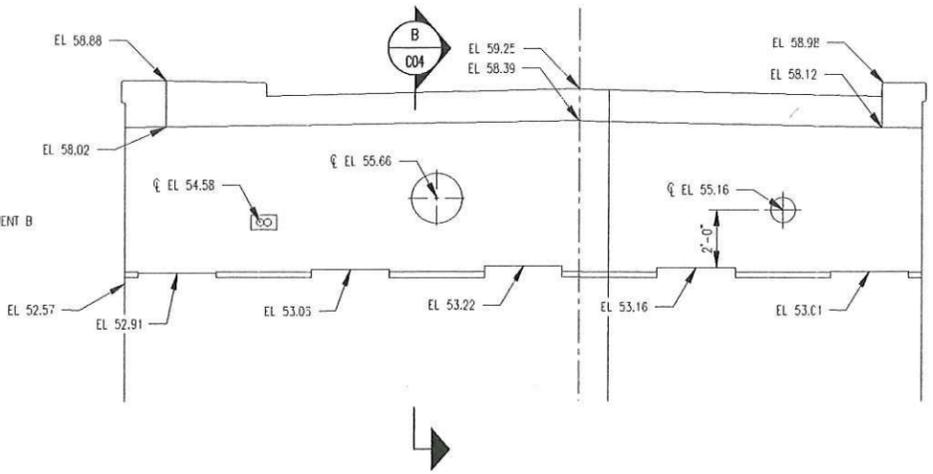
ABUTMENT A - ELEVATION
SCALE: 1/4" = 1'-0"
(SEE NOTE 2)



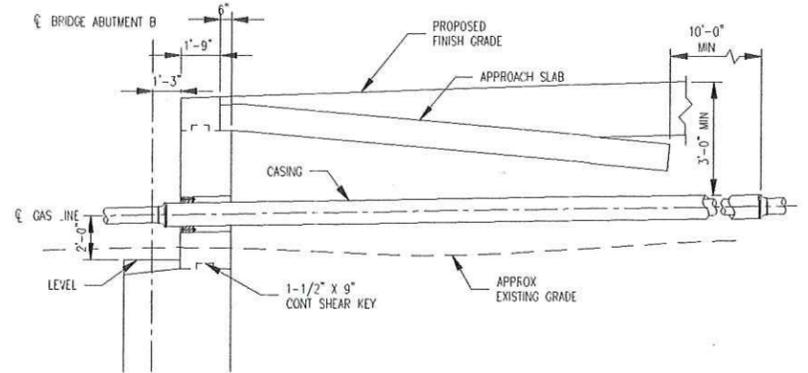
SECTION A
SCALE: 1/4" = 1'-0"
(SEE NOTE 2)



ABUTMENT B - PLAN
SCALE: 1/4" = 1'-0"
(SEE NOTE 3)



ABUTMENT B - ELEVATION
SCALE: 1/4" = 1'-0"
(SEE NOTE 3)



SECTION B
SCALE: 1/4" = 1'-0"
(SEE NOTE 3)

- NOTES:
- THE FOLLOWING REFERENCED DRAWINGS ARE PART OF A LARGER PLAN SET TITLED: CITY OF DOVER, DEPARTMENT OF COMMUNITY SERVICES, CONSTRUCTION PLANS, WHITTIER STREET OVER COCHECO RIVER, FEDERAL PROJECT NO. X-A002(794), N.H.D.O.T. PROJECT NO. 15402, FEBRUARY 2016; ROADWAY PLANS AND BRIDGE PLANS PREPARED BY: THE LOUIS BERGER GROUP, INC., MANCHESTER, NEW HAMPSHIRE, (603) 644 5200.
 - FOR FURTHER DETAIL REFER TO PLAN TITLED ABUTMENT A - MASONRY SHEET 18 OF 58. CASING TO EXTEND 10 FEET BEYOND APPROACH SLAB.
 - FOR FURTHER DETAIL REFER TO PLAN TITLED ABUTMENT B - MASONRY SHEET 20 OF 58. CASING TO EXTEND 10 FEET BEYOND APPROACH SLAB.

ISSUED FOR CONSTRUCTION

PRJ MANAGER: MARK D. WOOD PRJ ENGINEER: STEPHEN M. READE PRJ NAME: WHITTIER STREET BRIDGE PRJ NUMBER: 5201 PRJ MILESTONE: ISSUED FOR CONSTRUCTION PRJ PHASE: ISSUED FOR CONSTRUCTION			SHEET TITLE ABUTMENT DETAILS		
DESIGNED BY: MDW 03/04/16 DRAFTED BY: RPC 03/04/16 CHECKED BY: SMR 03/04/16 APPROVED BY: MDW 03/04/16			PROJECT NAME WHITTIER STREET BRIDGE		
DESIGN MANAGER: XXXX DESIGN ENGINEER: XXXX		PROJECT LOCATION WHITTIER STREET OVER COCHECO RIVER DOVER, NEW HAMPSHIRE 03820		FILE NAME: 5201_C00.DWG PLOT DATE: 03/03/2016 4:49 PM SCALE: N/A	SIZE: 22X34 SHEET: C04 REV: G SHEET 6 OF 6