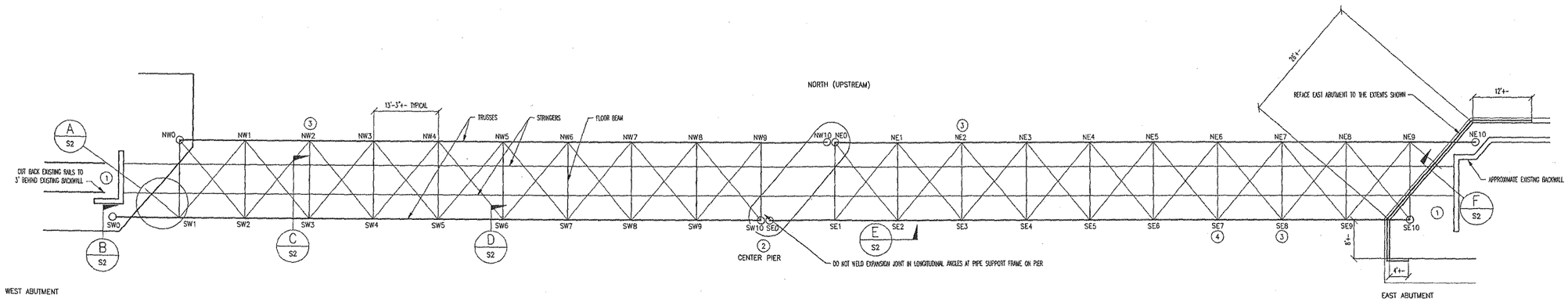
Gorham Paper and Tissue, LLC
Gorham Gas line installation Project
Proposed Scope of Work for Androscoggin Bridge Repairs

The following is a summary of the proposed Androscoggin Bridge Repairs designed and submitted by Fisher Engineering, P.C. on July 22, 2011. The attached drawings S1 and S2 depict the actual locations and repair designs that will need to be accomplished.

Scope of Work Includes:

1. Remove dirt, vegetation and deteriorated concrete form the top of the East and West abutments and from around steel members. Remove and replace railroad ties with new as required to facilitate this work. Re-grade behind and to the sides to slope away from the back wall and steel bearing locations.
2. Remove dirt and vegetation from the top of the Center Pier and from around steel members. Remove and replace railroad ties with new as required to facilitate this work.
3. Replace broken or missing rivets in 3 separate columns (NE2, SE7 and SE8) totaling 5 rivets. Replace with ½" Diameter A307 bolts, nuts and washers.
4. Replace on 9' long deteriorated diagonal bracing road starting from SW1 location to the West abutment. Details on Drawing S2 – Section A.
5. Repair the West end of the Utility support structure. This will require the removal of a 2'+/- long bent angle iron brace and installation of a new angle iron support member. Once in place grind up cracked weld and replace with new. Details on Drawing S2 – Section B.
6. Remove 19 discontinued pipe brackets from the existing Utility Support Structure. Inspect for cracked or broken welds under brackets and repair as needed. Details shown on Drawing S2 – Section C.
7. The Utility Support Structure has been cut free of the upright column at location SW6. Add a piece of 4"*4"*3/8" angle approximately 2' long from the top member to the existing girder to support the Utility structure. Detail shown on Drawing S2 – Section D.
8. The existing U-Bolt connection at location SE2 has significant deterioration and requires replacement. Remove and rebuild the connection as designed. This will require new U-Bolts be fabricated to the dimensions of the old bolts. Field measurement will have to be completed to assure a match. Detail shown on the Drawing S2 – Section E.
9. The top 4'-5' of the exterior of the East abutment appears to have significant deterioration of the existing concrete. Once this area is cleaned, remove and replace approximately 234 cubic feet of concrete. This is includes a 4'-8" high by 50' long by 1' deep area of the existing foundation. Structural Engineer will review demolished area to determine if the removal is sufficient to expose sound concrete. Detail shown on Drawings S1 and S2 – Section F.



BRIDGE PLAN
SCALE: 3/32" = 1'-0"

DRAWING NOTES

1. REMOVE DIRT, VEGETATION AND DETERIORATED CONCRETE FROM TOP OF ABUTMENT AND FROM AROUND STEEL MEMBERS. REMOVE AND RE-INSTALL RAILROAD TIES AS REQUIRED TO FACILITATE WORK. RE-GRADE BEHIND AND TO THE SIDES TO SLOPE AWAY FROM BACKWALL AND STEEL BEARING LOCATIONS.
2. REMOVE DIRT AND VEGETATION FROM TOP OF CONCRETE PIER. REMOVE AND RE-INSTALL RAILROAD TIES AS REQUIRED TO FACILITATE WORK.
3. REPLACE MISSING OR BROKEN RIVET IN COLUMN WITH ½" DIA A307 BOLT.
4. REPLACE (3) MISSING RIVETS IN COLUMN WITH ½" DIA A307 BOLTS.

GENERAL STRUCTURAL NOTES

THE CONTRACTOR SHALL COORDINATE WORK SHOWN ON THE STRUCTURAL DRAWINGS WITH THOSE OF OTHER TRADES PRIOR TO THE START OF WORK. CONTACT THE ARCHITECT AND ENGINEER IN THE EVENT ANY ERRORS, OMISSIONS, DISCREPANCIES OR CONFLICTS BETWEEN THE TRADES ARE DISCOVERED PRIOR TO PROCEEDING WITH THE WORK TO AVOID UNNECESSARY DELAYS AND/OR CORRECTIVE WORK. BY USING THESE PLANS, THE CONTRACTOR AGREES TO INDEMNIFY, DEFEND, AND HOLD THE ENGINEER HARMLESS FOR ANY AND ALL CLAIMS ARISING OUT OF THE CONTRACTOR'S FAILURE TO FOLLOW THE PLANS AND SPECIFICATIONS, OR THE DESIGN INTENT CONVEYED, OR FOR FAILURE TO OBTAIN AND FOLLOW THE ENGINEER'S GUIDANCE.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, AS-BUILT OR OTHERWISE, PRIOR TO PROCEEDING WITH THE WORK.

THE DRAWINGS ARE INTENDED TO SHOW THE DESIGN CONCEPT AND ARE NOT TO BE USED AS SHOP DRAWINGS. COMMENTS MADE ON THE SHOP DRAWINGS, OR ON OTHER SUBMITTALS, DURING THE REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. REVIEW IS SPECIFICALLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING THE FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS OR HER WORK WITH THAT OF ALL OTHER TRADES; AND COMPLETING THE WORK AS SET FORTH IN THE CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BRACING AND SHORING REQUIRED TO COMPLETE THE WORK. THIS RESPONSIBILITY INCLUDES THE REPLACEMENT OF TIES AND PLANKS ON THE BRIDGE AS NECESSARY FOR ACCESS TO THE BRIDGE.

THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL CODES AND REGULATIONS WHICH APPLY TO THE WORK TO BE PERFORMED, AND WHICH APPLY TO OTHER WORK REQUIRED TO BE PERFORMED TO COMPLETE THE SCOPE OF WORK SHOWN ON THE DRAWINGS.

CONCRETE AND REINFORCING STEEL NOTES

ALL CONCRETE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ACI 301-05 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".

CONCRETE DESIGN MIXES SHALL BE PREPARED IN ACCORDANCE WITH ACI 211, ACI 318, THE PROJECT SPECIFICATIONS AND SHALL HAVE THE FOLLOWING STRENGTHS AND PROPERTIES:

LOCATION	STRENGTH AT 28 DAYS (f'c)		
ALL OTHER CONCRETE	3000 PSI		
(f'c)	CEMENT/YD	MAX W/C RATIO BY WT.	MAX SLUMP
3000 PSI	517 POUNDS	0.55	5"

CONCRETE SHALL BE AIR ENTRAINED TO 6±1%.

THE CONCRETE MIX DESIGN SHALL BE BASED ON THE SLUMP AND THE W/C RATIO'S GIVEN ABOVE. PROVIDE WATER REDUCING ADMIXTURE AS REQUIRED.

REINFORCING STEEL SHALL CONFORM TO ASTM A 615 GRADE 60 SPECIFICATIONS. FABRICATED IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE OF THE CONCRETE REINFORCING STEEL INSTITUTE AND PLACED IN ACCORDANCE WITH A.C.I. 315 AND A.C.I. MANUAL OF STANDARD PRACTICE.

MAINTAIN THE FOLLOWING CONCRETE COVER OVER REINFORCING UNO;
- CONCRETE CAST AGAINST EARTH 3"
- FORMED CONCRETE EXPOSED TO EARTH OR WEATHER 2"

PROVIDE CORNER BARS TO MATCH SIZE AND SPACING OF ALL DISCONTINUOUS REINFORCING IN WALLS AND FOOTINGS.

REINFORCING SHALL BE SPLICED AND EMBEDDED AS FOLLOWS:

BAR SIZE	SPLICE LENGTH	STRAIGHT BAR EMBEDMENT LENGTH
#4	2'-0"	1'-4"
#5	2'-6"	1'-6"
#6	3'-0"	2'-0"
#7	3'-6"	2'-6"
#8	4'-0"	3'-0"

STRUCTURAL STEEL NOTES

STRUCTURAL STEEL DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN, AND WITH THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES WITH THE EXCEPTION OF PARAGRAPH 4.2.1.

ALL NEW STEEL IS TO RECEIVE ONE COAT OF A RUST INHIBITIVE PRIMER.

CHANNELS, ANGLES, PLATES AND BARS SHALL CONFORM TO ASTM A 36 WITH A MINIMUM YIELD STRESS (Fy) OF 36 KSI.

WELDING ELECTRODES SHALL BE E60 COMPLYING WITH THE REQUIREMENTS OF AWS D1.1.

WELDERS SHALL BE QUALIFIED TO PERFORM THE TYPE AND POSITION OF THE WELDS SPECIFIED.

WOOD NOTES

PRESSURE TREATED LUMBER SHALL BE SOUTHERN PINE NO. 2 OR BETTER. PRESSUE TREAT WITH ACQ-C OR ACQ-D (NO AMMONIA) WITH A MINIMUM RETENTION OF 0.40 POUNDS PER CUBIC-FOOT IN ACCORDANCE WITH AWPA STANDARD C2/C9. JOBSITE FABRICATION CUTS AND BORINGS SHOULD BE FIELD TREATED WITH COPPER NAPHTHENATE HAVING A MINIMUM 2% METALLIC SOLUTION IN ACCORDANCE WITH AWPA STANDARD M4.

TIMBERLOK, LEDGERLOK, TRUSSLOK, TRUSSLOK-Z, OLYLOG, LOGHOG ARE MANUFACTURED BY FASTENMASTER. ALTERNATIVE FASTENERS MAY BE USED IF TEST DATA IS SUBMITTED TO THE ENGINEER SHOWING LOAD CAPACITIES ARE AT LEAST EQUIVALENT TO THE FASTENMASTER BRAND FASTENERS.

SUBMITTALS AND OBSERVATIONS

SHOP DRAWINGS AND SUBMITTALS SHALL BE PREPARED IN ACCORDANCE WITH THE APPLICABLE INDUSTRY STANDARD.

THE CONTRACTOR ASSUMES FULL RESPONSIBILITY TO VERIFY THAT ALL REQUIRED SHOP DRAWINGS AND OTHER SUBMITTALS HAVE BEEN REVIEWED PRIOR TO THE START OF WORK.

THE FOLLOWING IS A LIST OF SUBMITTALS REQUIRED:

CONCRETE MIXES
MIX DESIGNS AND SUBSTANTIATING DATA
MANUFACTURER'S TECHNICAL DATA FOR ADMIXTURES AND GROUT

THE CONTRACTOR IS TO COORDINATE THE ENGINEER'S OBSERVATION OF CONSTRUCTION AT THE FOLLOWING MILESTONES:

AFTER REMOVAL OF DETERIORATED CONCRETE.

AFTER COMPLETION OF STEEL WORK.

ABBREVIATIONS AND LEGEND

ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ASTM	ASTM INTERNATIONAL
BF	BIG FOOT STYLE FOOTING
BOT	BOTTOM
BP	BASE PLATE
BRP	BEARING PLATE
BRG	BEARING
CMU	CONCRETE MASONRY UNIT(S)
CONT	CONTINUOUS
CT	CONTRACTION JOINT
DIA	DIAMETER
EA	EACH
ELEV	ELEVATION
EW	EACH WAY
FD	FLOOR DRAIN
FF	FINISH FLOOR
FTG	FOOTING
GALV	GALVANIZE
HDG	HOT DIP GALVANIZE
HORIZ	HORIZONTAL
IBC	INTERNATIONAL BUILDING CODE
NA	NEUTRAL AXIS
NTS	NOT DRAWN TO SCALE
OC	ON CENTER
REINF	REINFORCE(D)(ING)
REQD	REQUIRED
SDI	STEEL DECK INSTITUTE
SECT	SECTION
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
SS	STAINLESS STEEL
STL	STEEL
TOC	TOP OF CONCRETE
TOCP	TOP OF CONCRETE PIER
TOCW	TOP OF CONCRETE WALL
TOS	TOP OF STEEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN THE FIELD
VL	BOISE VERSALAM
W/	WITH
WWF	WELDED WIRE FABRIC
#	SIZE OF REINFORCING BAR
@	AT
( )	INDICATES QUANTITY
⬡	INDICATES DRAWING NOTE KEYED TO PLAN

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ISSUE DATE: JUNE 28, 2011

STRUCTURAL NOTES AND BRIDGE PLAN

FISHER ENGINEERING, P.C.
686 BELKNAP MOUNTAIN ROAD
GILFORD, NEW HAMPSHIRE 03249
(603) 528-7641

GORHAM PAPER AND TISSUE
PIPE BRIDGE REPAIRS
CASCADE FLATS
GORHAM, NEW HAMPSHIRE

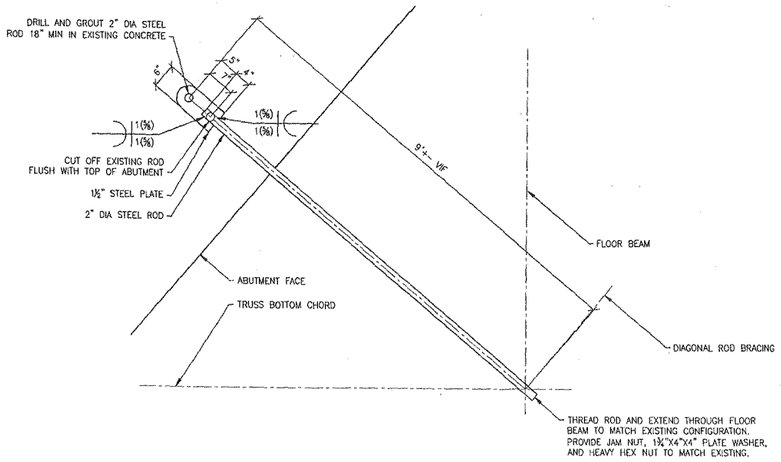
REVISIONS:

DATE: TBD

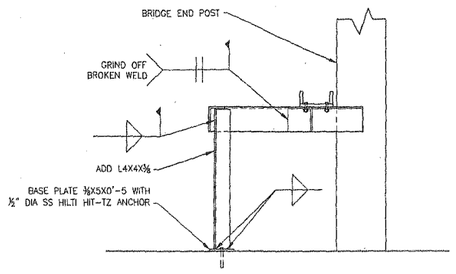
DRAWING NO:

S1

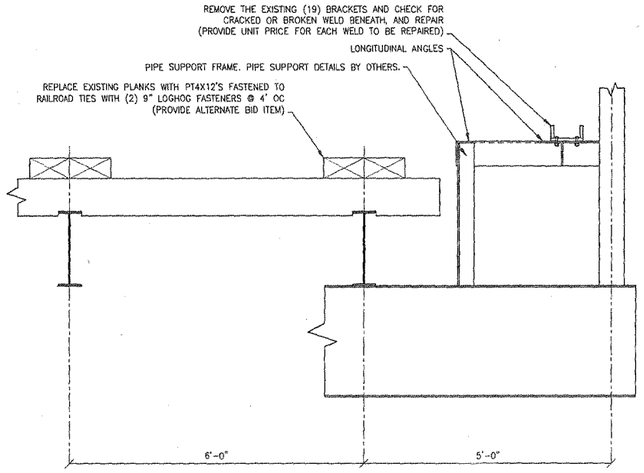
SH 1 OF 2



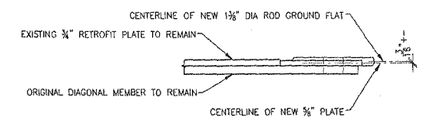
SECTION A
3/4" = 1'-0"



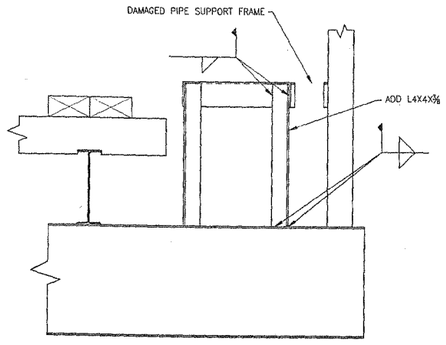
SECTION B
3/4" = 1'-0"



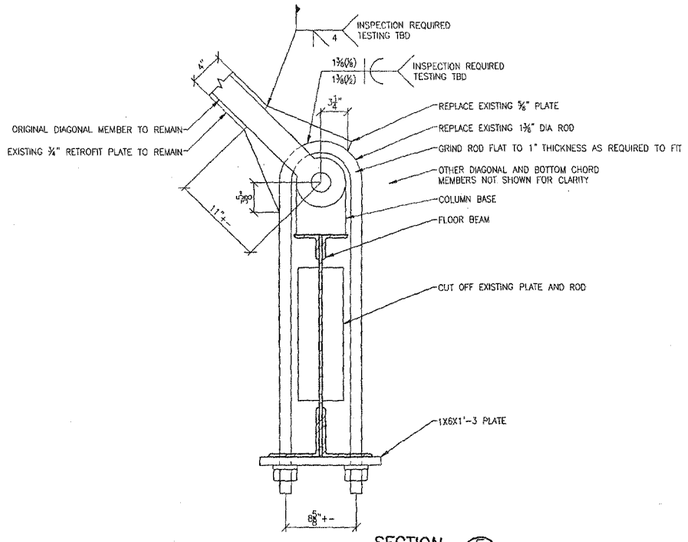
SECTION C
3/4" = 1'-0"



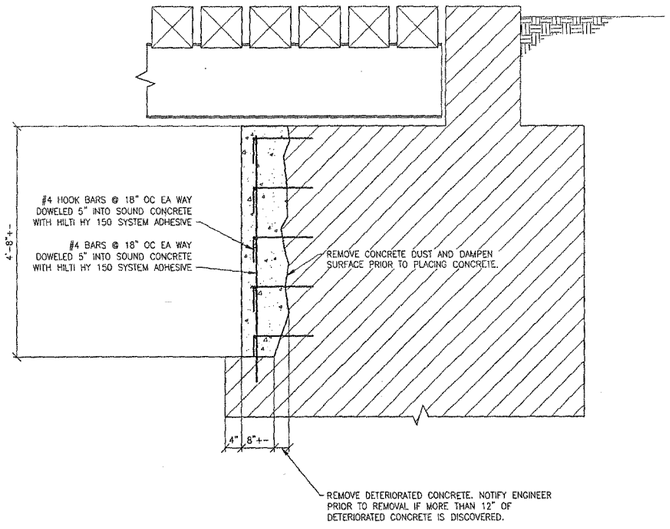
PARTIAL PLAN VIEW



SECTION D
3/4" = 1'-0"



SECTION E
3/4" = 1'-0"



SECTION F
3/4" = 1'-0"

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SECTIONS

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S2

SH 2 OF 2