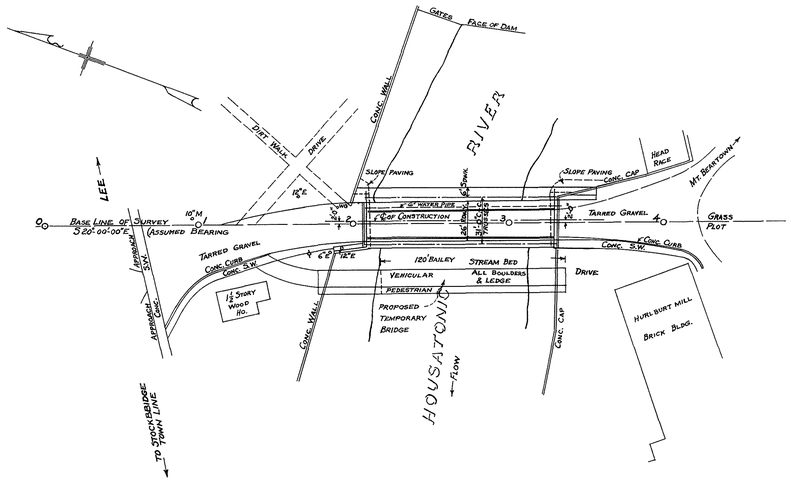
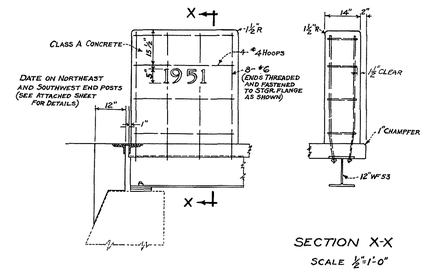


KEY PLAN

SCALE 1"=40'

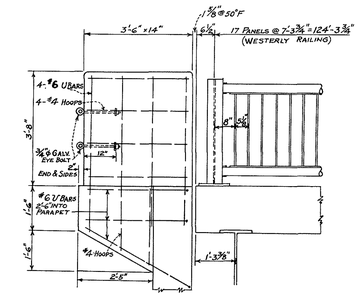


SECTION X-X

SCALE ½"=1'-0"

END POST DETAIL-NORTH END OF SIDEWALK

SCALE ½"=1'-0"



END POST DETAIL-ROADWAY SIDE (NORTH AND SOUTH ENDS)

SCALE ½"=1'-0"

NOTE: ANCHORS FOR GUARD RAIL ON NORTHEAST AND SOUTHWEST END POSTS.

GENERAL NOTES

DESIGN: ACCORDING TO SPECIFICATIONS OF AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS (1949 EDITION) FOR H20-44 LOADING.

DATE: TO BE PLACED ON INSIDE FACE OF NORTHEASTERLY AND SOUTHWESTERLY END POSTS. FOR DETAILS SEE ANOTHER SHEET.

BENCH MARK: DISC #154 P-N. EDGE CONC. SIDEWALK, 175' W. OF BRICK MOBIL GAS STATION ROUTE NO. 102, ELEV. 851.17 (NOT REFERRED TO MEAN SEA LEVEL DATUM.)

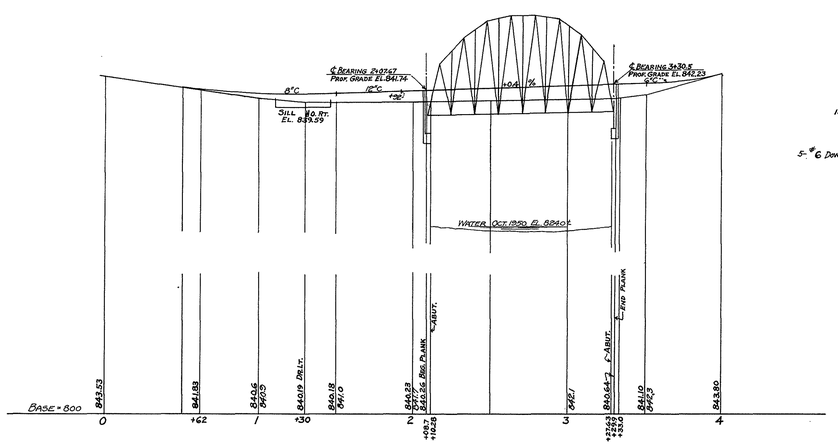
STRUCTURAL STEEL: COLOR COAT OF ALL STRUCTURAL STEEL SHALL BE CHROME OXIDE GREEN, ALL RIVETS ⅞" AND ALL HOLES 15/16" EXCEPT AS NOTED.

CONCRETE: ALL CONCRETE TO BE CEM. CONC. MASONRY CLASS A.

ESTIMATED QUANTITIES

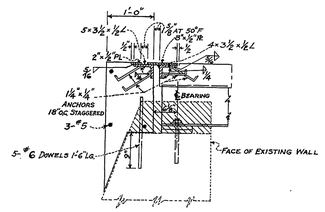
(NOT GUARANTEED)

GRAVEL BORROW	50	CU. YDS.
UNCLASSIFIED EXCAVATION	60	CU. YDS.
CLASS A CEMENT CONCRETE MASONRY	192	CU. YDS.
STEEL REINF. FOR STRUCTURES	32,000	POUNDS
STRUCTURAL STEEL	226,000	POUNDS
TEMPORARY BRIDGE	1	LUMP SUM
REMOVAL OF PRESENT SUPERSTRUCTURE	1	LUMP SUM
METAL BRIDGE RAILINGS	270	LIN. FT.
CEMENT FOR POINTING	10	BARRELS
GRANITE CURB, TYPE VA STR. (6"x9")	255	LIN. FT.
IRON PIPE FENCE REMOVED AND RESET	1	LUMP SUM
CLASS I BIT. CONC. PAVEMENT, TYPE I-1	55	TONS
MEMBRANE WATERPROOFING	380	SQ. YDS.
SLOPE PAVING	20	CU. YDS.



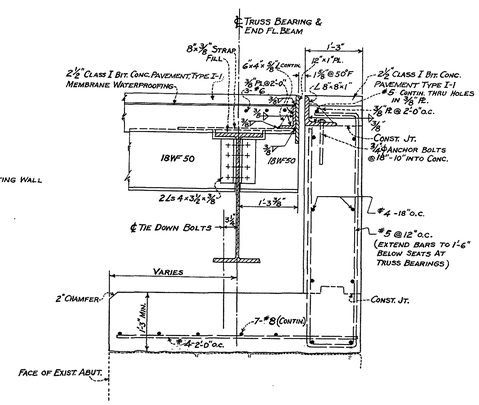
PROFILE

HOR. SCALE 1"=40'-0"
VERT. SCALE 1"=8'-0"



SECTION E-E (SEE SH. 4)

SCALE ¾"=1'-0"



ROADWAY ABUTMENT DETAIL

SCALE ¾"=1'-0"

COLLINS ENGINEERING COMPANY
SPRINGFIELD, MASS.
CONSULTING ENGINEERS

5/26/51	ISSUED FOR CONSTRUCTION

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE

LEE

WILLOW STREET-STA. 2+70±
OVER HOUSATONIC RIVER

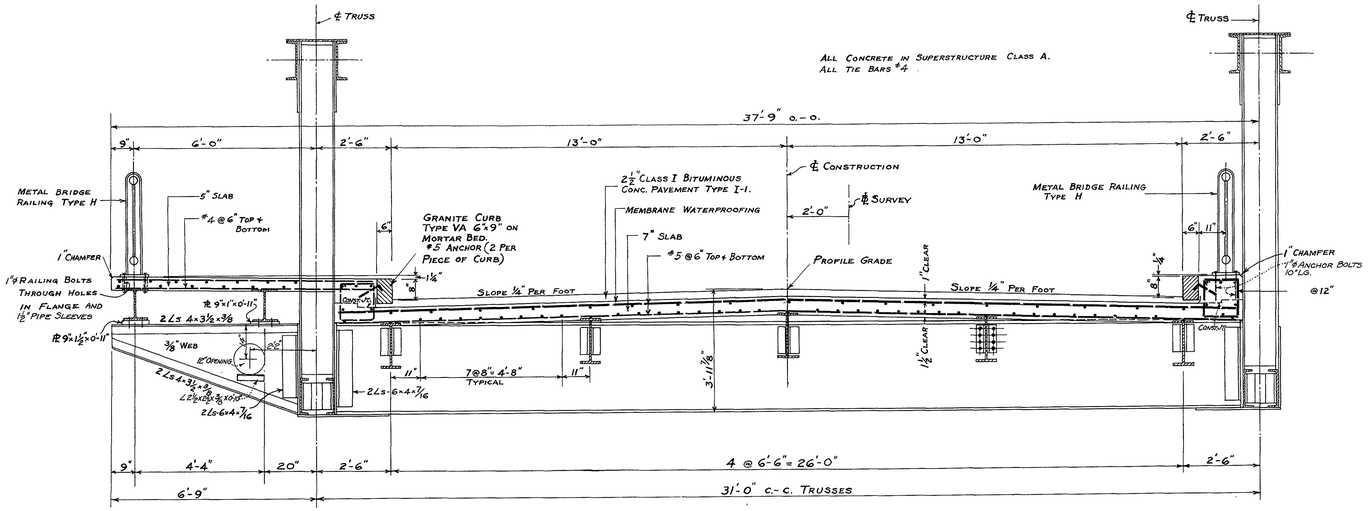
SCALE AS NOTED

OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST. BOSTON, MASS.

MAY 1951

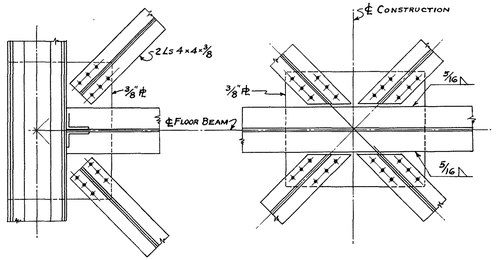
ACTING BRIDGE ENGINEER — CHIEF ENGINEER

SHEET 1 OF 4 SHEETS BRIDGE No. L-5-2



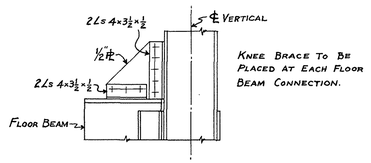
CROSS SECTION OF SUPERSTRUCTURE

SCALE ½" = 1'-0"



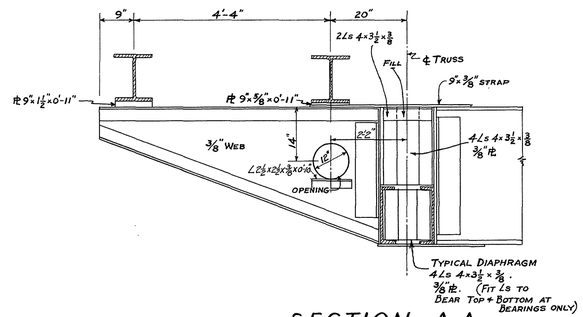
BRACING DETAILS

SCALE ¾" = 1'-0"



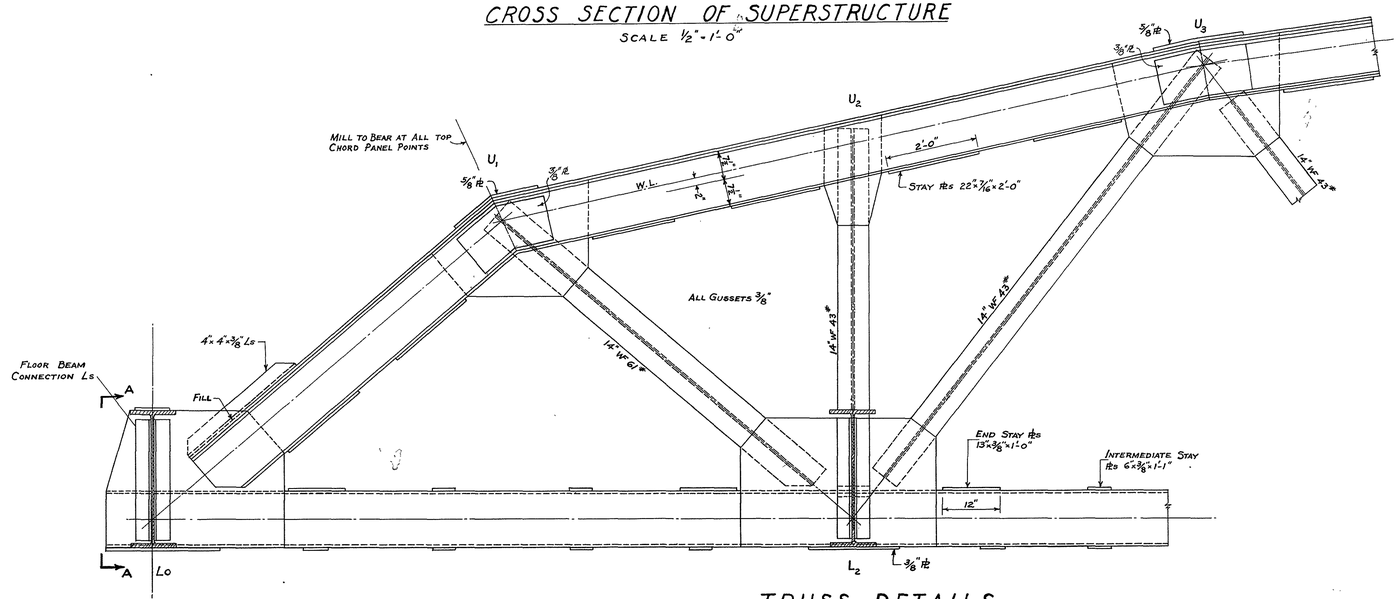
KNEE BRACE

SCALE ¾" = 1'-0"



SECTION A-A

SCALE ¾" = 1'-0"



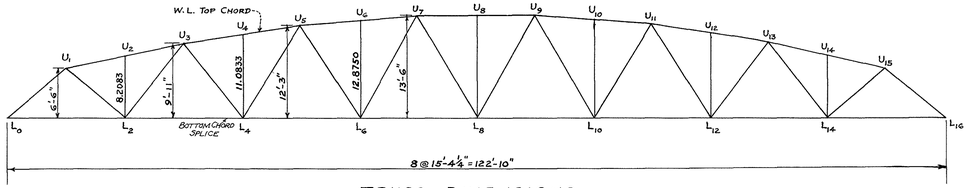
TRUSS DETAILS

SCALE ¾" = 1'-0"

DATE	DESCRIPTION
5/26/51	ISSUED FOR CONSTRUCTION

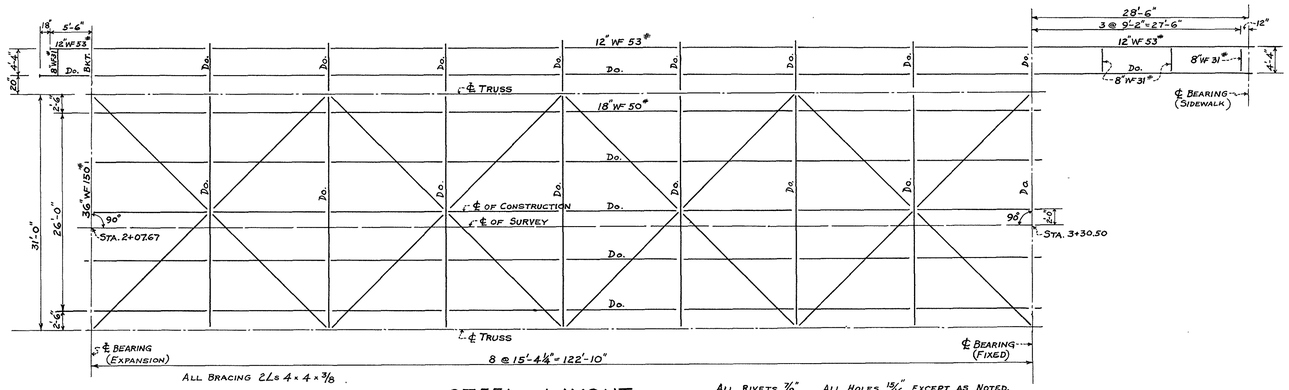
USE ONLY PRINTS OF LATEST DATE

SHEET 2 OF 4 SHEETS BRIDGE Nº L-5-2



TRUSS DIMENSIONS

SCALE 1/8" = 1'-0"



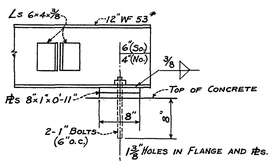
STEEL LAYOUT

SCALE 1/8" = 1'-0"

ALL RIVETS 7/8". ALL HOLES 13/16" EXCEPT AS NOTED.
TRUSS TO BE CAMBERED FOR FULL DEAD LOAD.
VERTICALS TO BE PERPENDICULAR TO LOWER CHORD.

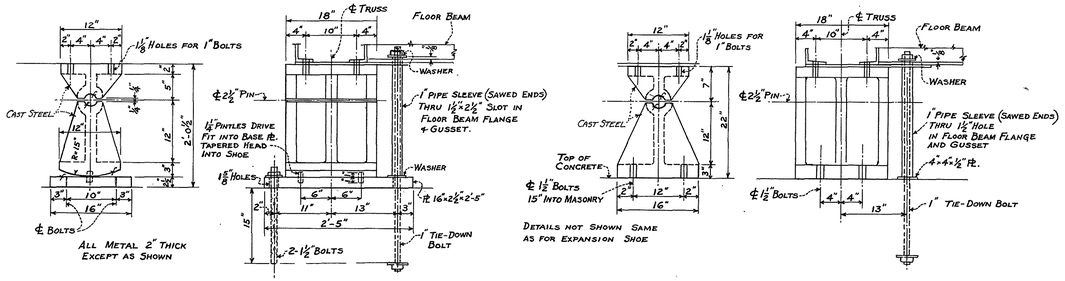
CLEAR DISTANCE BETWEEN TRUSS GUSSETS 14"

MEMBER	FORCES IN MEMBERS, KIPS. DEAD	LIVE	SIDEWALK	DESIGN	MAKE-UP	SECTION
L_0U_1	-292	-116	-33	-441	2-15"]C 400# PL 22×9/16	
U_1U_3	-365	-126	-41	-532		
U_3U_5	-459	-158	-51	-668	2-15"]L 50.0# PL 22×9/16 2 PL 12×3/8	
U_5U_7	-484	-169	-55	-708		
U_7U_8	-490	-172	-56	-718		
L_0L_2	+223	+78	+25	+326	2-15" [] 40.0#	
L_2L_4	+403	+137	+45	+585	2-15" [] 40.0# 2 PL 14×1/2	
L_4L_6	+460	+156	+51	+667	2-15" [] 50.0# 2 PL 14×3/4	
L_6L_8	+485	+161	+54	+700		
U_1L_2	+169	+68	+19	+256	14" WF 61#	
L_2U_3	-74	-45	-12	-131	14" WF 43#	
U_3L_4	+118	+45	+12	+175	14" WF 43#	
L_4U_5	-25	-32	-7	-64	14" WF 30#	
U_5L_6	+49	+40	+9	+98	14" WF 30#	
L_6U_7	+13	+29	+8	+50	14" WF 30#	
U_7L_8	+30	+41 -26	+9 -6	+86 -17	14" WF 30#	
U_2L_2 U_4L_4					14" WF 43#	
U_6L_6 U_8L_8					14" WF 48#	



SIDEWALK BEARINGS

SCALE 1" = 1'-0"



EXPANSION

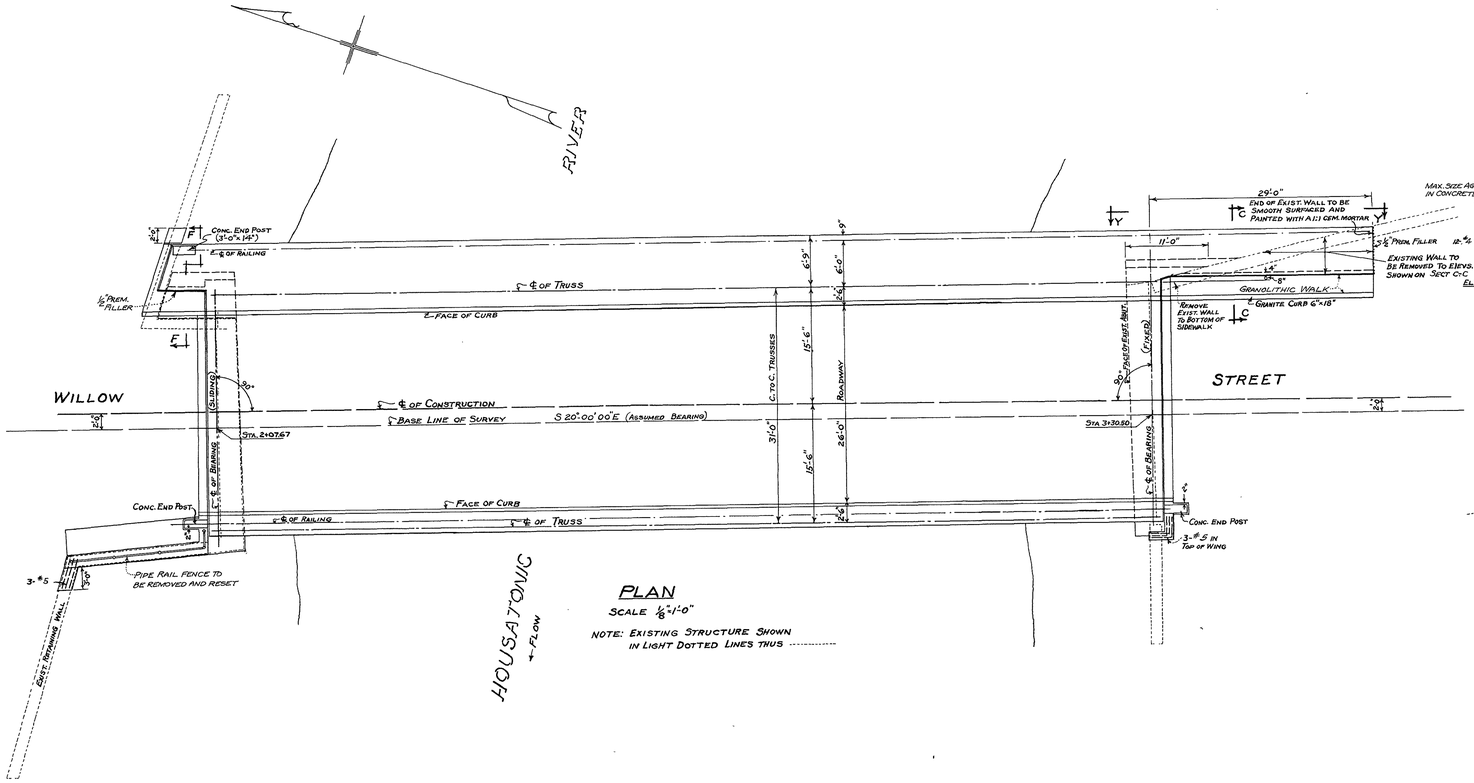
FIXED

BEARING DETAILS

SCALE 1" = 1'-0"

DATE	DESCRIPTION
5/26/51	ISSUED FOR CONSTRUCTION

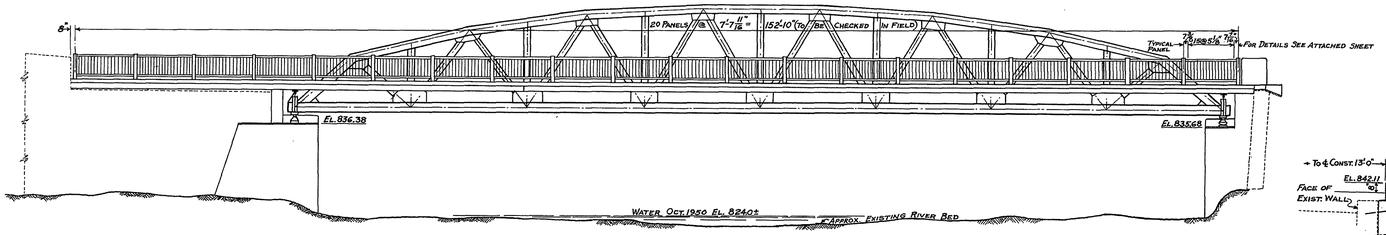
USE ONLY PRINTS OF LATEST DATE



PLAN

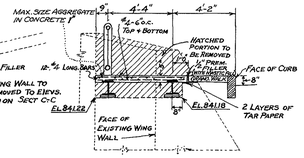
SCALE ⅛"=1'-0"

NOTE: EXISTING STRUCTURE SHOWN IN LIGHT DOTTED LINES THUS .....



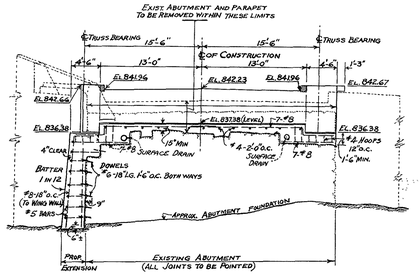
EASTERLY ELEVATION

SCALE ⅛"=1'-0"

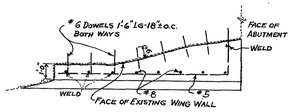


SECTION C-C

SCALE ½"=1'-0"

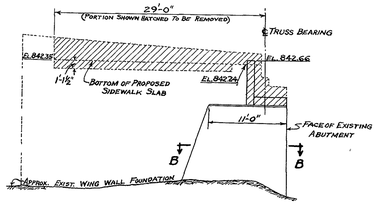


ELEVATION OF SOUTH ABUTMENT

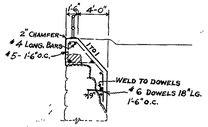


SECTION B-B

SCALE ½"=1'-0"

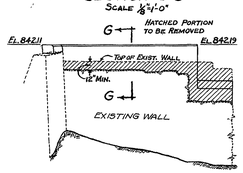


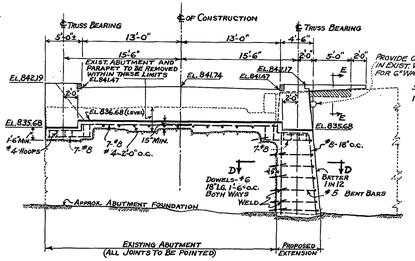
ELEVATION Y-Y



SECTION G-G

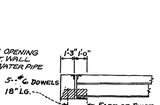
SCALE ½"=1'-0"





ELEVATION OF NORTH ABUTMENT

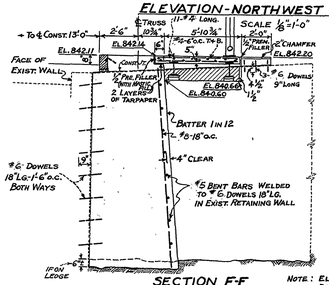
SCALE ⅛"=1'-0"



SECTION E-E

SCALE ½"=1'-0"

(SEE ENLARGED DETAIL ON SHEET 1)



ELEVATION-NORTHWEST WINGWALL

SECTION F-F

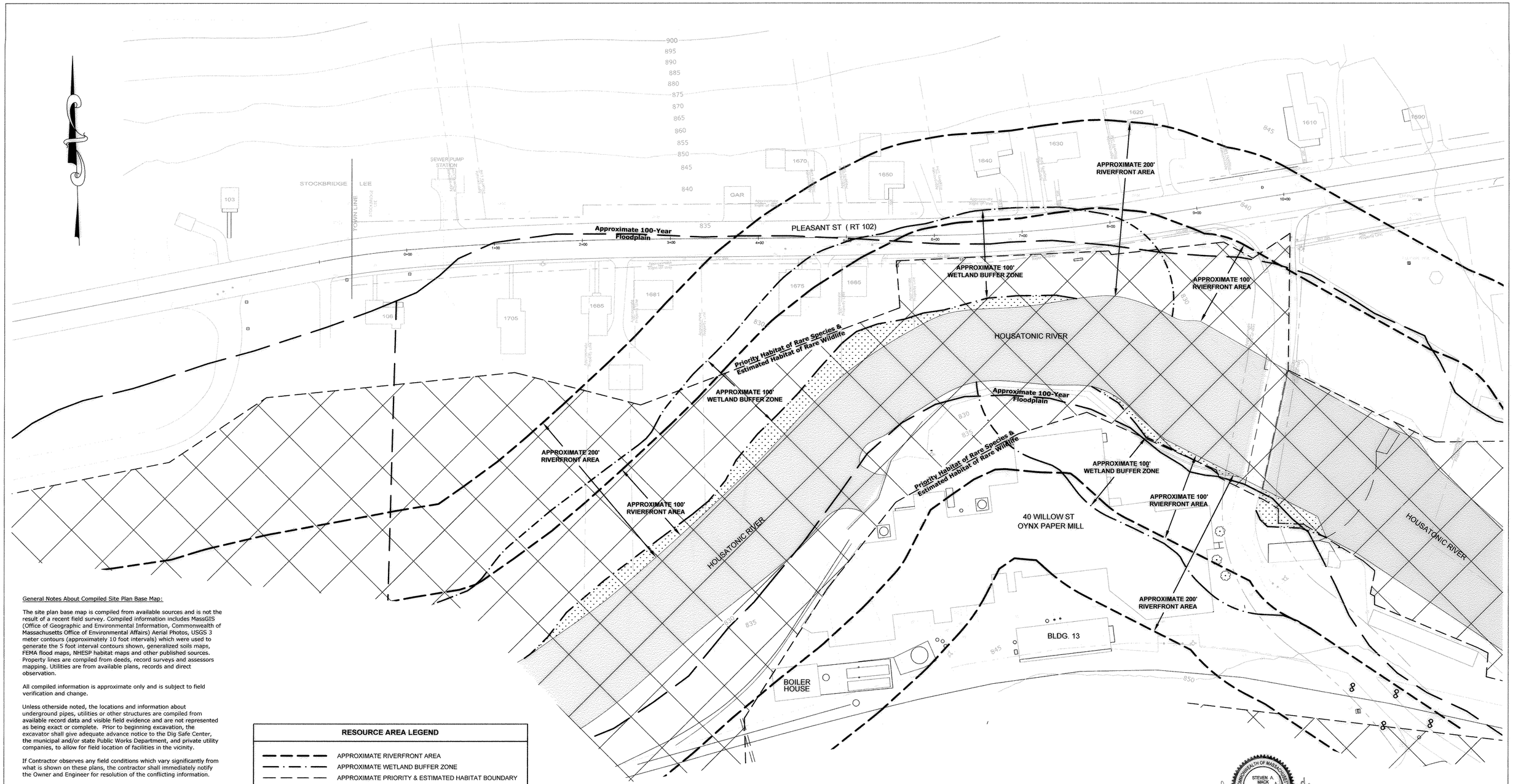
SCALE ½"=1'-0"

NOTE: ELEVATIONS ON LINE OF RETAINING WALL

DATE	DESCRIPTION
5/26/51	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE

SHEET 4 OF 4 SHEETS BRIDGE No. L-5-2



General Notes About Compiled Site Plan Base Map:

The site plan base map is compiled from available sources and is not the result of a recent field survey. Compiled information includes MassGIS (Office of Geographic and Environmental Information, Commonwealth of Massachusetts Office of Environmental Affairs) Aerial Photos, USGS 3 meter contours (approximately 10 foot intervals) which were used to generate the 5 foot interval contours shown, generalized soils maps, FEMA flood maps, NHESP habitat maps and other published sources. Property lines are compiled from deeds, record surveys and assessors mapping. Utilities are from available plans, records and direct observation.

All compiled information is approximate only and is subject to field verification and change.

Unless otherside noted, the locations and information about underground pipes, utilities or other structures are compiled from available record data and visible field evidence and are not represented as being exact or complete. Prior to beginning excavation, the excavator shall give adequate advance notice to the Dig Safe Center, the municipal and/or state Public Works Department, and private utility companies, to allow for field location of facilities in the vicinity.

If Contractor observes any field conditions which vary significantly from what is shown on these plans, the contractor shall immediately notify the Owner and Engineer for resolution of the conflicting information.

The Contractor shall record tie measurements, depths, dimensions, materials, field conditions and other pertinent data about all underground pipes, utilities and structures encountered during the work, both existing and constructed. Contractor shall submit Record drawings with this information to the Owner and Engineer prior to completion of the work.

Contractor shall immediately report any damage to existing pipes, utilities, or structures to the Owner and Engineer, and obtain directions as to repair, replacement or abandonment.

RESOURCE AREA LEGEND

- APPROXIMATE RIVERFRONT AREA
- APPROXIMATE WETLAND BUFFER ZONE
- APPROXIMATE PRIORITY & ESTIMATED HABITAT BOUNDARY
- APPROXIMATE FLOODPLAIN
- APPROXIMATE PRIORITY HABITAT OF RARE SPECIES AND ESTIMATED HABITAT OF RARE WILDLIFE
- APPROXIMATE WETLANDS

COMMONWEALTH OF MASSACHUSETTS
STEVEN A. MACK
CIVIL
No. 41744
REGISTERED PROFESSIONAL ENGINEER

FORESIGHT LAND SERVICES
ENGINEERING - SURVEYING - PLANNING - ENVIRONMENTAL PERMITTING
DIVISION OF BROWN ASSOCIATES, INC.
1496 WEST HOUSATONIC STREET - PITTSFIELD, MA 01201
TEL: (413) 499-1560 FAX: (413) 499-3307 www.foresightland.com

LEGEND / STANDARD SYMBOLS

LIGHT POLE
ELECTRIC BOX
TELEPHONE BOX
CABLE BOX
WATER VALVE
IRON PIPE
STONE MONUMENT
SIGN
UTILITY POLE
MANHOLE
HYDRANT
CATCH BASIN
DROP INLET
FENCE
GUARD RAIL
EDGE OF PAVEMENT
EDGE OF CURB
APPROX. PROPERTY LINE
CONST. BASELINE
ELECTRIC LINE
DRAIN LINE
TELEPHONE
SEWER LINE
WATER LINE
EXISTING GAS MAIN
PROPOSED GAS MAIN
PROPOSED GAS SERVICE
COUPLING
COUPLING (STRAPPED)
TRANSITION FITTING
LINE STOPPER FITTING
REDUCING COUPLING
GAS VALVE
REGULATOR STATION
DRIP
MAINS NOT CONNECTED
PIPE TYPE CHANGE
INSULATING FLANGES
CASING
END OF MAIN
ANODE
RECTIFIER
TEST STATION
BURIED REGULATOR
CURB VALVE TEE
INSULATING COUPLING OR ELECTROSTOP

NOTES

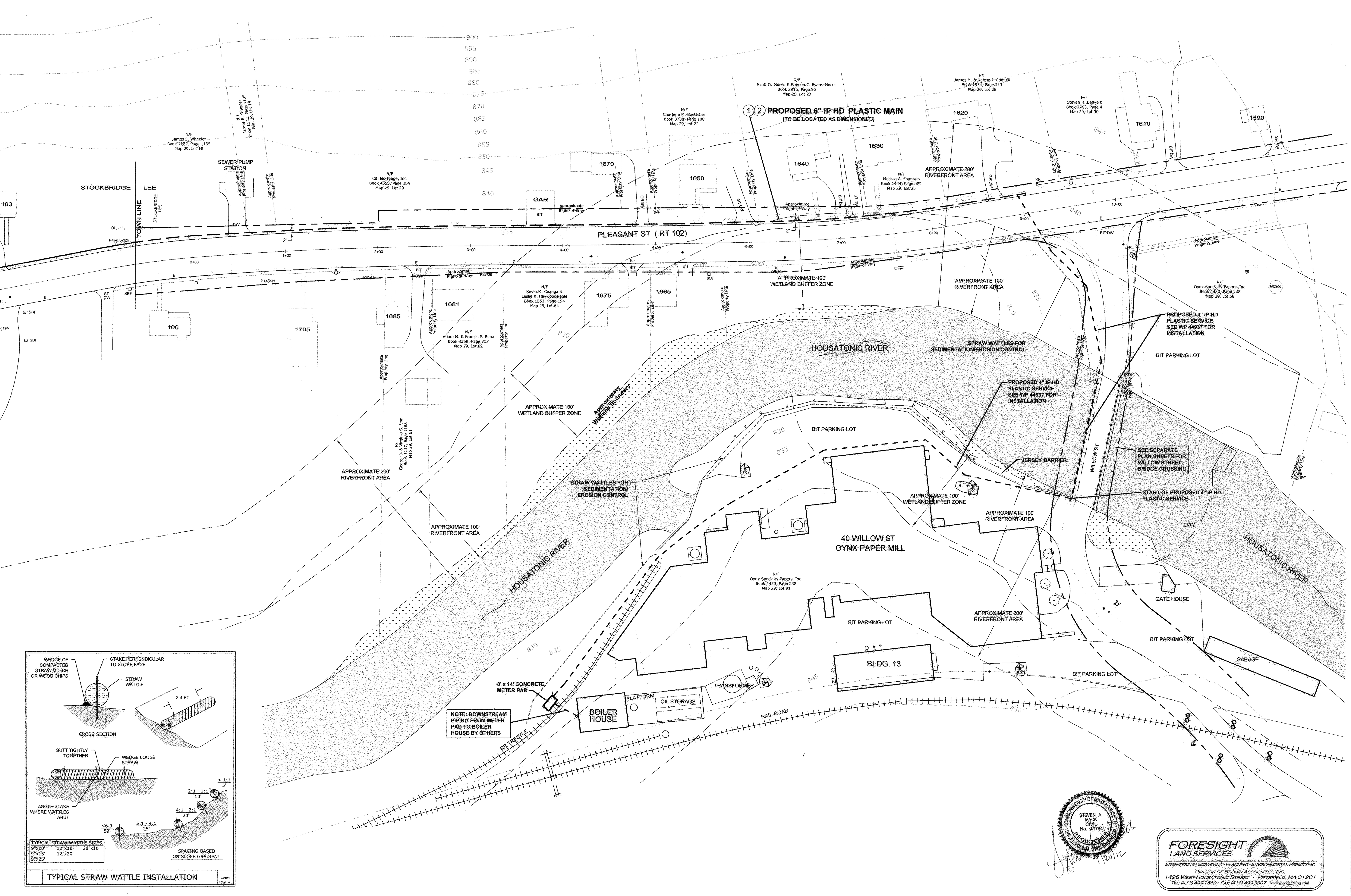
1. ALL UTILITIES (WATER, SEWER, DRAIN, ETC) SHOWN ON THIS PLAN ARE APPROXIMATE AND SHOULD BE VERIFIED PRIOR TO START OF EXCAVATION WITH THE APPROPRIATE CONTROLLING AUTHORITIES.
2. ANY CHANGE IN JOB SCOPE IS SUBJECT TO THE APPROVAL OF AN AUTHORIZED BERKSHIRE GAS COMPANY REPRESENTATIVE, IN WRITING.
3. ALL WORK TO BE PERFORMED IS TO BE DONE IN ACCORDANCE WITH BERKSHIRE GAS COMPANY CONSTRUCTION STANDARDS AND METHODS.

NO.	DATE	REVISION	REV. BY	CORR. APR.	ENG. APR.
0	4/12	ISSUED FOR PERMIT	PH		

berkshire gas
THE BERKSHIRE GAS COMPANY
115 CHESHIRE ROAD, P.O. BOX 1388
PITTSFIELD, MASSACHUSETTS 01202-1388
TELEPHONE: (413) 442-1511
a berkshire energy resources company

EXISTING CONDITIONS PLAN
LEE, MA

DRAWN BY: HEWITT	DATE: 4/12	W.P.# 44935
ENGINEER: SCARPA	SCALE: 1"= 50'	CADD FILE: 0512
CORROSION APPROVAL:	DATE:	SHEET 1 OF 3 SHEETS
ENGINEERING APPROVAL:	DATE:	



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TEL: (413) 499-1560 FAX: (413) 499-3307 www.foresightland.com

LEGEND / STANDARD SYMBOLS

LIGHT POLE, ELECTRIC BOX, TELEPHONE BOX, CABLE BOX, WATER VALVE, IRON PIPE, STONE MONUMENT, SIGN, UTILITY POLE, MANHOLE, HYDRANT, CATCH BASIN, DROP INLET, FENCE, GUARD RAIL, EDGE OF PAVEMENT, EDGE OF CURB, APPROX. PROPERTY LINE, CONST. BASELINE, ELECTRIC LINE, DRAIN LINE, TELEPHONE, SEWER LINE, WATER LINE, EXISTING GAS MAIN, PROPOSED GAS MAIN, PROPOSED GAS SERVICE, COUPLING, COUPLING (STRAPPED), TRANSITION FITTING, LINE STOPPER FITTING, REDUCING COUPLING, GAS VALVE, REGULATOR STATION, DRIP, MAINS NOT CONNECTED, PIPE TYPE CHANGE, INSULATING FLANGES, CASING, END OF MAIN, ANODE, RECTIFIER, TEST STATION, BURIED REGULATOR, CURB VALVE TEE, INSULATING COUPLING OR ELECTROSTOP

NOTES

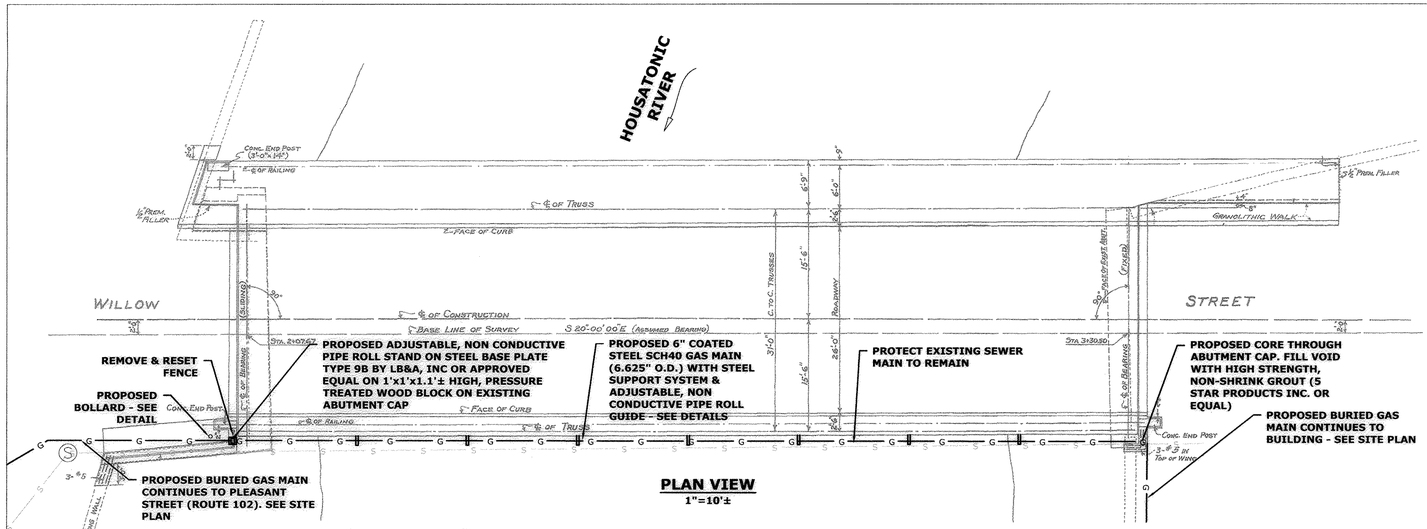
1. ALL UTILITIES (WATER, SEWER, DRAIN, ETC) SHOWN ON THIS PLAN ARE APPROXIMATE AND SHOULD BE VERIFIED PRIOR TO START OF EXCAVATION WITH THE APPROPRIATE CONTROLLING AUTHORITIES.
2. ANY CHANGE IN JOB SCOPE IS SUBJECT TO THE APPROVAL OF AN AUTHORIZED BERKSHIRE GAS COMPANY REPRESENTATIVE, IN WRITING.
3. ALL WORK TO BE PERFORMED IS TO BE DONE IN ACCORDANCE WITH BERKSHIRE GAS COMPANY CONSTRUCTION STANDARDS AND METHODS.

NO.	DATE	REVISION	REV. BY	CORR. APR.	ENG. APR.
0	4/12	ISSUED FOR PERMIT	PH		

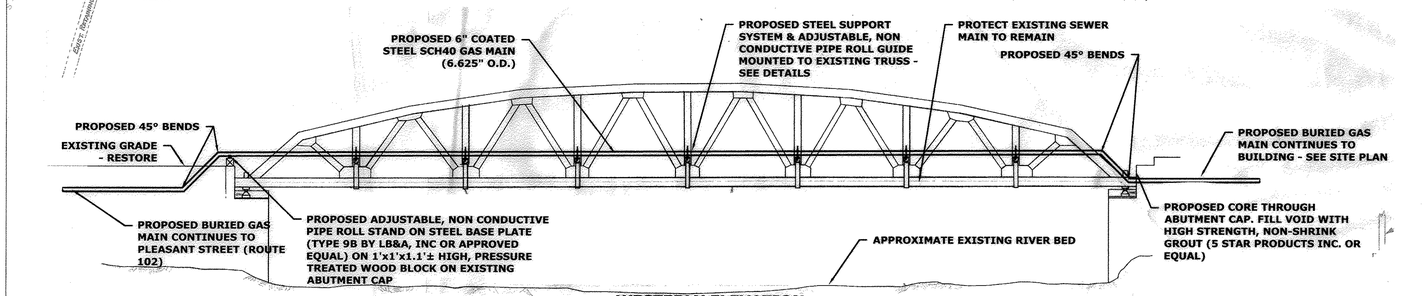
berkshire gas
THE BERKSHIRE GAS COMPANY
115 CHESHIRE ROAD, P.O. BOX 1388
PITTSFIELD, MASSACHUSETTS 01202-1388
TELEPHONE: (413) 442-1511
a berkshire energy resources company

PROPOSED 6" IP HD PLASTIC MAIN
PLEASANT ST (RT102)
LEE, MA

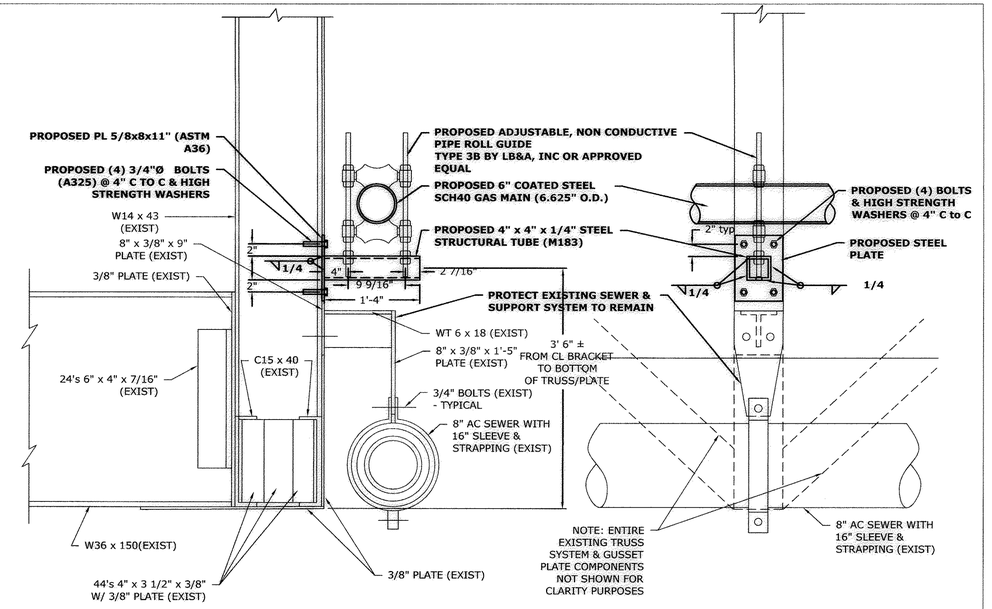
DRAWN BY:	DATE:	W.P. #:
HEWITT	4/12	44935
ENGINEER: SCARPA	SCALE: 1"= 50'	CADD FILE: 0512
CORROSION APPROVAL:	DATE:	SHEET 2 OF 3 SHEETS
ENGINEERING APPROVAL:	DATE:	



PLAN VIEW
1"=10'±

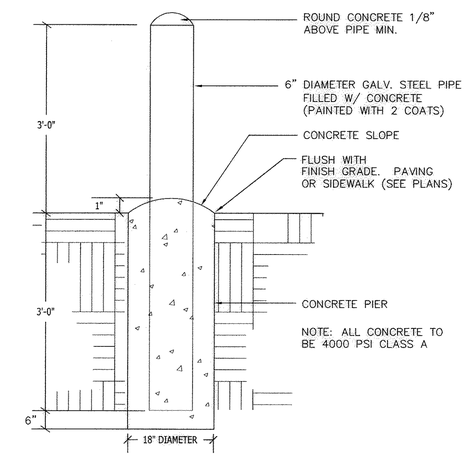


WESTERLY ELEVATION
1"=10'±

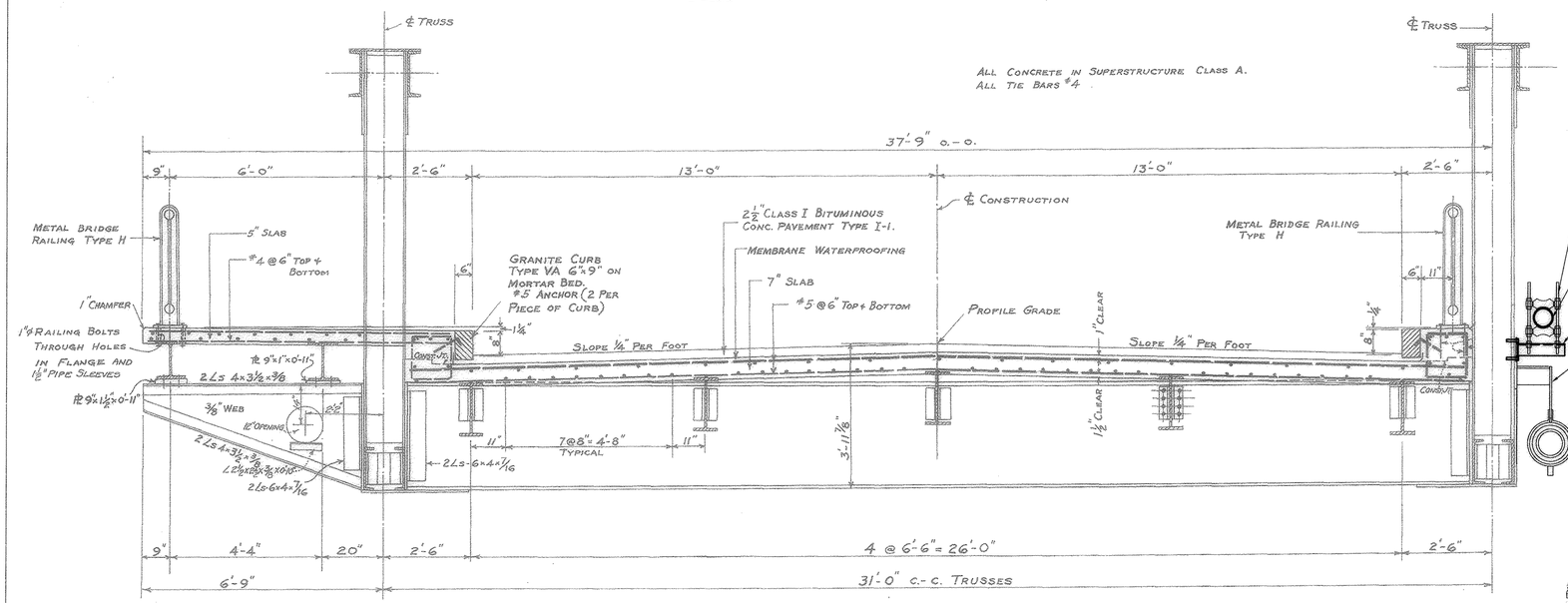


EXISTING & PROPOSED HANGER DETAILS
1"=1'±

NOTE: EXISTING BRIDGE PLANS, SECTIONS, ELEVATIONS, & SEWER CROSSING DETAILS COMPILED FROM AVAILABLE RECORD PLANS ONLY AND NOT A RECENT SURVEY. CONTRACTOR SHALL FIELD VERIFY ALL WORK PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOT REMOVE BATTEN PLATES.



BOLLARD DETAIL nts



CROSS SECTION OF SUPERSTRUCTURE
1"=2'±

PROPOSED ADJUSTABLE, NON CONDUCTIVE PIPE ROLL GUIDE TYPE 3B BY LB&A, INC OR APPROVED EQUAL

PROPOSED 6" COATED STEEL SCH40 GAS MAIN (6.625" O.D.)

PROPOSED STEEL TUBE ASSEMBLY - SEE DETAIL

PROTECT EXISTING SEWER MAIN & SUPPORT SYSTEM TO REMAIN

8" AC SEWER WITH 16" SLEEVE & STRAPPING (EXIST)

NOTE: PROTECT RIVER BY MEANS OF CANVAS TARP DURING BRIDGE MOUNTING PROCEDURES (DRILLING) INTO STEEL BRIDGE MEMBERS & DURING CONCRETE CORING OPERATIONS

COMMONWEALTH OF MASSACHUSETTS
MASS. HIGHWAY DEPARTMENT
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 25 & 33
CHIEF ENGINEER 6/8/12

COMMONWEALTH OF MASSACHUSETTS
STEVEN A. MACK
CIVIL
No. 41744
REGISTERED PROFESSIONAL CIVIL ENGINEER
7/20/12

NO.	DATE	REVISION	BY
-	7/19/12	FINAL MYLAR SUBMISSION	
-	6/26/12	REVISED END PLATE DETAIL AND ADDED DIMENSIONS	
-	5/2/12	REVISED ANGLE SUPPORT ASSEMBLY TO STRUCTURAL TUBE	
-	4/13/12	ISSUE TO MASSDOT BRIDGE SECTION	
-	4/3/12	ISSUE FOR WETLAND PERMIT ONLY	SAM

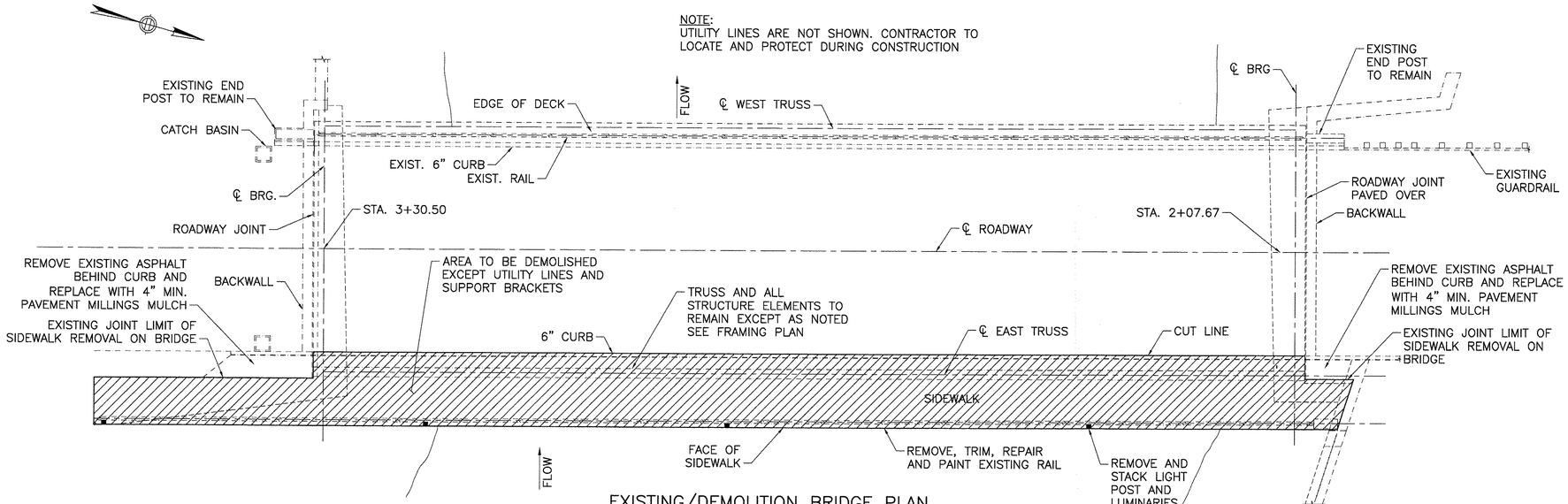
SHEET TITLE: PROPOSED BRIDGE MOUNTED GAS MAIN DETAILS

PROJECT TITLE: BERKSHIRE GAS/WILLOW STREET
WILLOW STREET, LEE ,MA

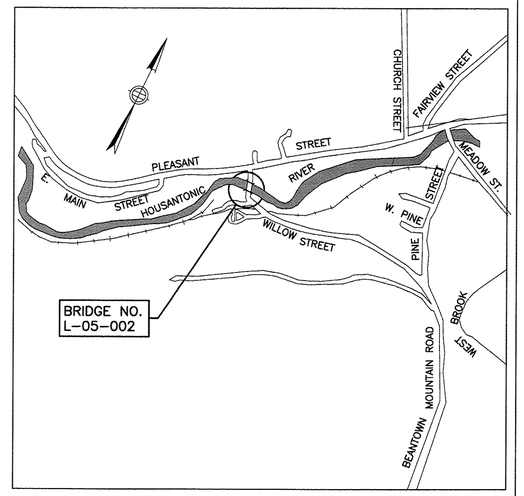
PROJECT NO.: E2223
SCALE: AS NOTED
DATE: 02/09/12
DESIGNED BY: SAM
DRAWN BY: MAL
CHECKED BY:
SHEET NO.: C-3
3 OF 3 SHEETS
DRAWING NO.: E2223001.DWG

FORESIGHT LAND SERVICES — ENGINEERING SURVEYING PLANNING
Division of Brown Associates, Inc.
Foresight Building * Pittsfield, MA 01201 * Tel (413) 499-1560

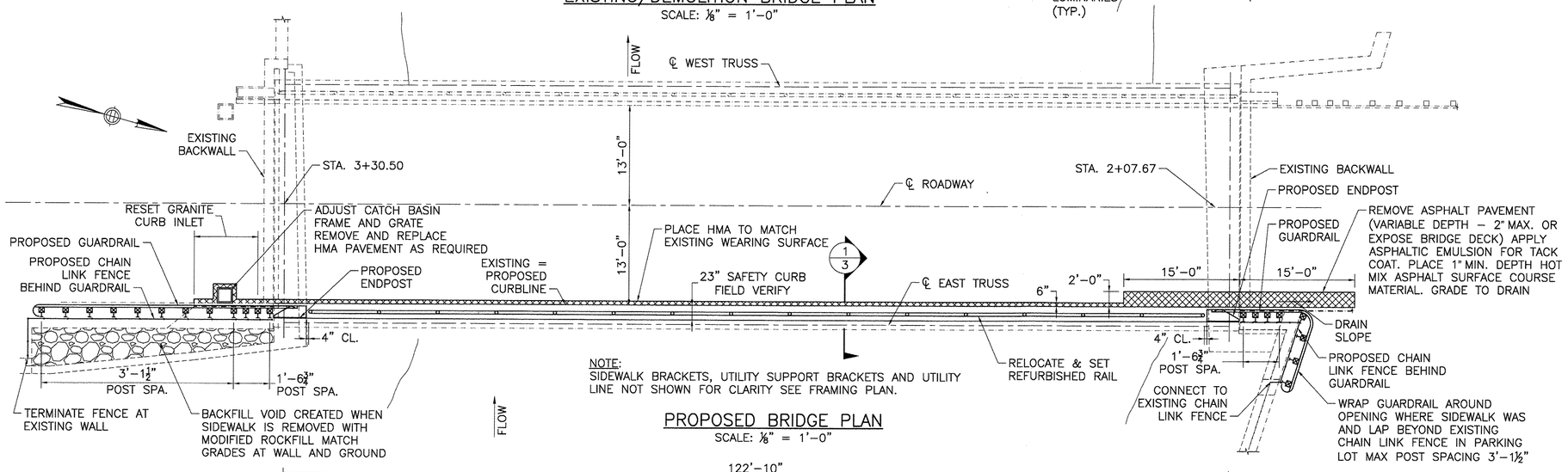
NOTE:
UTILITY LINES ARE NOT SHOWN. CONTRACTOR TO LOCATE AND PROTECT DURING CONSTRUCTION



EXISTING/DEMOLITION BRIDGE PLAN
SCALE: ⅛" = 1'-0"

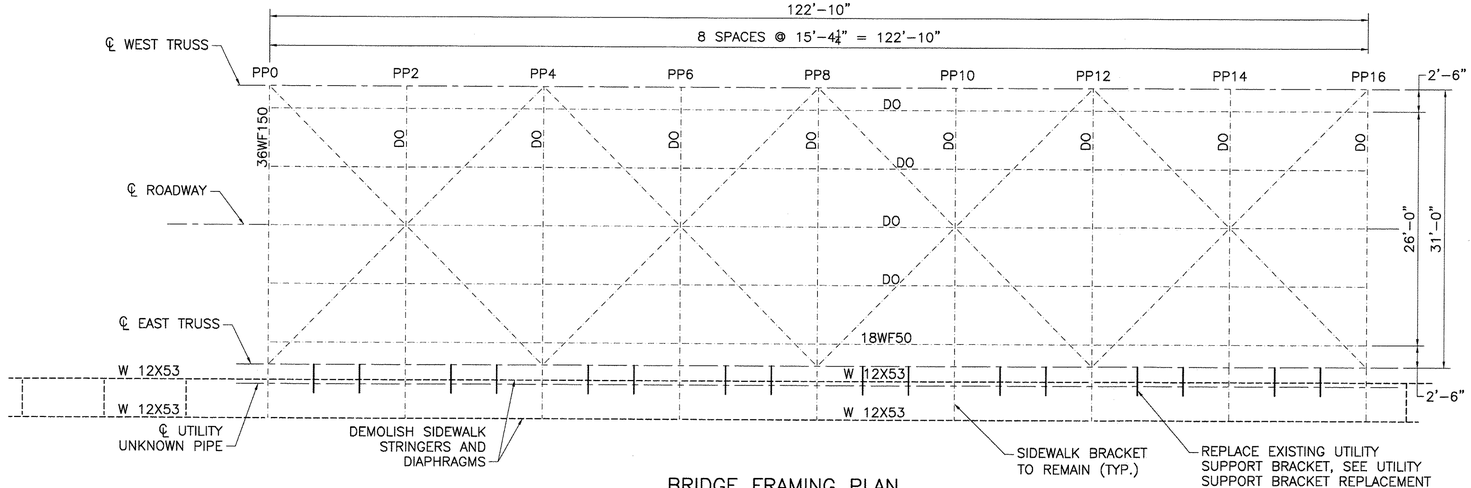


LOCUS



NOTE:
SIDEWALK BRACKETS, UTILITY SUPPORT BRACKETS AND UTILITY LINE NOT SHOWN FOR CLARITY SEE FRAMING PLAN.

PROPOSED BRIDGE PLAN
SCALE: ⅛" = 1'-0"



BRIDGE FRAMING PLAN
SCALE: ⅛" = 1'-0"

COMMONWEALTH OF MASSACHUSETTS
MASS. HIGHWAY DEPARTMENT
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 § 35
4/23/19
DATE

200 HIGHLAND AVE
4TH FLOOR
NEEDHAM, MA 02494
781-355-7100
781-355-7101 (FAX)
GILL ENGINEERING

DATE	DRW. BY	CALC. BY	APPRV. BY	DESCRIPTION
APRIL 12, 2014	MJK	TMR	PSM	50%SUBMIT-FOR-CONSTRUCTION

COMMONWEALTH OF MASSACHUSETTS
PAUL D. MOYER
STRUCTURAL
NO. 34287
REGISTERED PROFESSIONAL ENGINEER
4/19/2019

PROPOSED BRIDGE REPAIRS
TOWN OF LEE, MA

PROPOSED BRIDGE REPAIRS FOR LEE L-05-002
WILLOW STREET OVER HOUSATONIC RIVER

TITLE SHEET

SHEET 1 OF 4

GENERAL NOTES

STEEL:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF THE MASSDOT SPECIFICATIONS SECTION 960 AS NOTED IN THE CONTRACT SPECIFICATIONS.
2. ALL NEW STEEL SHALL BE AASHTO DESIGNATION M270 GRADE 50.
3. THE DETAILS DEPICTED HERE ARE BASED UPON RECORD DRAWINGS ONLY. THE CONTRACTOR WILL BE REQUIRED TO CONDUCT A FIELD SURVEY TAKING ALL NECESSARY MEASUREMENTS AND IDENTIFYING ALL DETAILS REQUIRED FOR THE COMPLETION OF THE WORK PRIOR TO THE PREPARATION OF SHOP DRAWINGS.
4. ALL NEW STRUCTURAL STEEL SHALL BE SHIPPED TO THE JOB SITE WITH PRIME COAT OF PAINT APPLIED TO FAYING SURFACES.
5. PRIOR TO THE INSTALLATION OF ANY NEW STEEL THE EXISTING STEEL SHALL BE THOROUGHLY CLEANED TO SSPC–SP10 CONDITION AND A PRIME COAT OF PAINT SHALL BE APPLIED. THIS PAINT SYSTEM SHALL MEET THE REQUIREMENTS OF THE MASSDOT SPECIFICATIONS AND BE COMPATIBLE WITH THE PAINT SYSTEM BEING EMPLOYED BY THE CONTRACTOR ON THE REMAINDER OF THE STRUCTURE.
6. ALL EXISTING RIVETS ARE ASSUMED TO BE $\frac{7}{8}$"ø IN $\frac{15}{16}$"ø HOLES.
7. ALL NEW BOLTS SHALL BE $\frac{7}{8}$"ø HIGH STRENGTH BOLTS IN $\frac{15}{16}$"ø HOLES, MINIMUM $1\frac{1}{2}$" EDGE DISTANCE, 3" C. TO C. SPACING U.N.O., AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 TYPE 1.
8. THE EXISTING PITCH AND GAGE OF THE RIVETS ARE NOT GUARANTEED. THEY ARE BASED UPON RECORD DRAWINGS ONLY. AT ALL LOCATIONS WHERE EXISTING RIVETS ARE BEING REPLACED WITH NEW HIGH STRENGTH BOLTS THE CONTRACTOR SHALL MAKE TEMPLATES OF THE EXACT BOLT SPACING. THE LOCATIONS OF THE EXISTING RIVETS SHALL BE TRANSFERRED TO THE PROPOSED STEEL USING THESE TEMPLATES.
9. ALL HOLES IN THE NEW STEEL SHALL BE SUB DRILLED TO $\frac{13}{16}$"ø.
10. THE CONTRACTOR SHALL CAREFULLY REMOVE THE RIVETS FASTENING THE EXISTING STEEL WHICH IS TO BE REPLACED. RIVET REMOVAL SHALL BE PERFORMED BY MECHANICAL MEANS SUCH AS UTILIZING RIVET BUSTERS OR REMOVAL OF RIVET HEADS BY CHIPPING OR GRINDING AND DRILLING OR PUNCHING OUT SHANKS; BURNING OUT RIVETS SHALL NOT BE PERMITTED.
11. THE CONTRACTOR SHALL ENSURE THAT NO DAMAGE OCCURS TO THE EXISTING STEEL TO REMAIN. ANY DAMAGE WHICH MAY OCCUR SHALL BE REPAIRED USING A PROCEDURE APPROVED BY THE ENGINEER.
12. ONCE THE EXISTING STEEL IS REMOVED THE REMAINING FAYING SURFACE SHALL BE TOOL CLEANED TO A SSPC–SP10 CONDITION AND COATED WITH A PRIME COAT OF PAINT. NOTE THE CONTRACTOR MAY BE REQUIRED TO ERECT ENCLOSURES AND PROVIDE MEANS TO CONTROL THE ENVIRONMENTAL CONDITIONS WITHIN TO PROVIDE FOR THE MINIMAL CURING TIME FOR THE PRIME COATING.
13. THE PROPOSED STEEL SHALL BE PROPERLY POSITIONED AND SECURED IN PLACE WITH CLAMPS OR OTHER MECHANICAL MEANS. WELDING WILL NOT BE PERMITTED WITHOUT APPROVAL OF THE ENGINEER.
14. ONCE THE PROPOSED STEEL IS SECURED INTO POSITION THE H.S. BOLTS SHALL BE INSTALLED. HOLES SHALL BE REAMED TO FULL SIZE AND BOLTS SHALL BE INSTALLED SNUG TIGHT. ONCE ALL BOLTS ARE INSTALLED THEY SHALL BE TIGHTENED TO THE PROPER PRETENSION LOAD FOLLOWING MASSDOT STANDARD PROCEDURES.
15. EXISTING WELDED BRACKET TO TRUSS CONNECTIONS TO BE REMOVED ACCORDING TO THE FOLLOWING UTILITY SUPPORT WELD REMOVAL PROCEDURE.

UTILITY SUPPORT WELD REMOVAL PROCEDURE (REFER TO SPECIAL PROVISIONS):

A. 100% V.T. & U.T. EXISTING WELDS
B. AIR CARBON ARC AND GRIND.
C. FARE AREA GRINDING PER SPECIAL PROVISIONS
D. 100% V.T. & U.T. OF AREA.
E. SUBMIT DAMAGE FOUND TO ENGINEER FOR DEVELOPMENT OF REPAIR PROCEDURE.
F. REPAIRS SHALL BE MADE IN ACCORDANCE WITH PROCEDURE PROVIDED BY ENGINEER.

EAST TRUSS VERTICAL AND DIAGONAL REPAIR PROCEDURE:

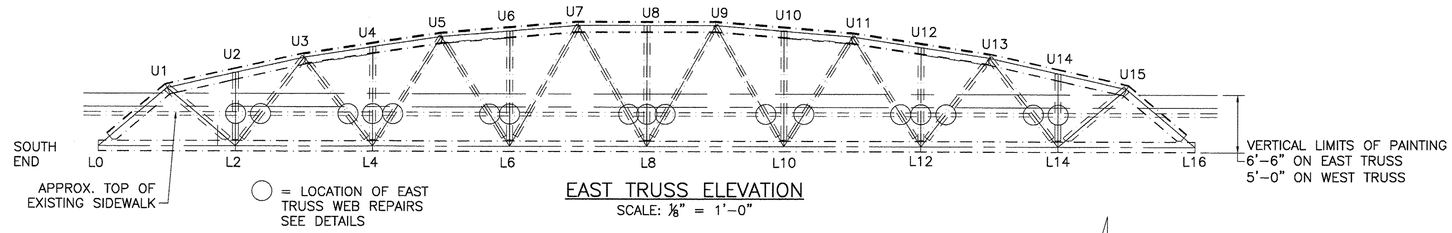
16. REPAIR LOCATIONS INDICATED ON EASTERLY ELEVATION ON EAST TRUSS ELEVATION
17. ADD REPAIR PLATES TO MEMBER WEBS AT LOCATION OF DETERIORATION.
18. CENTER PLATE ON DETERIORATION.

CONCRETE:

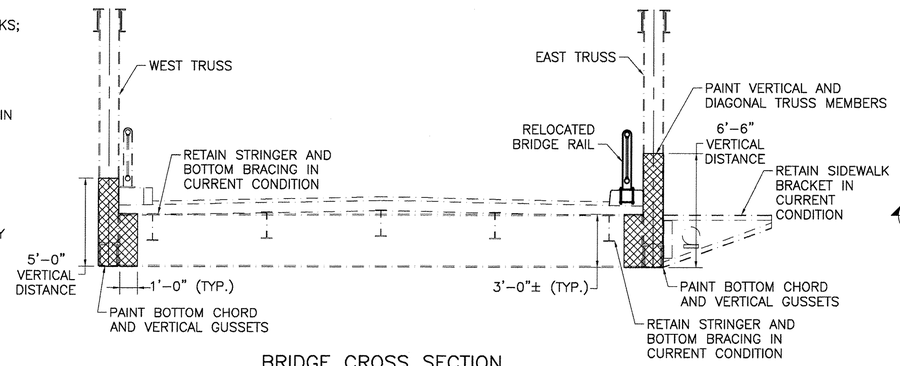
19. ALL WORK SHALL BE IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF THE MASSDOT SPECIFICATIONS SECTION 901 AS NOTED IN THE CONTRACT SPECIFICATIONS.
20. REINFORCING STEEL AND SUPPORT DEVICES SHALL BE EPOXY COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60. ALL CONTACT LAP SPLICES SHALL BE AASHTO CLASS C, UNLESS LAP LENGTHS ARE NOTED ON THE PLANS OR LISTED AS FOLLOWS:

	MODIFICATION CONDITION	#4 BARS	#5 BARS
A.	NONE	21"	26"
B.	12 INCHES OF CONCRETE BELOW BAR	29"	36"
C.	COATED BARS, COVER <3db, OR CLEAR SPACING < 6db	31"	39"
D.	COATED BARS, ALL OTHER CASES	24"	30"
E.	CONDITION 2 AND 3	35"	44"
F.	CONDITION 2 AND 4	33"	42"

IF THE ABOVE BARS ARE SPACED 6 INCHES OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE.

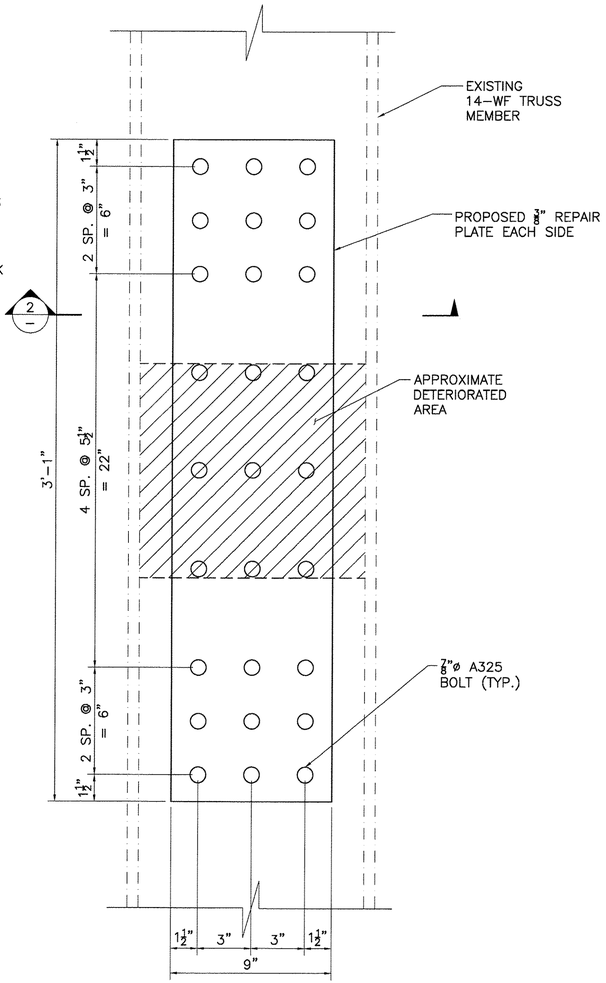


EAST TRUSS ELEVATION
SCALE: $\frac{1}{8}$" = 1'–0"

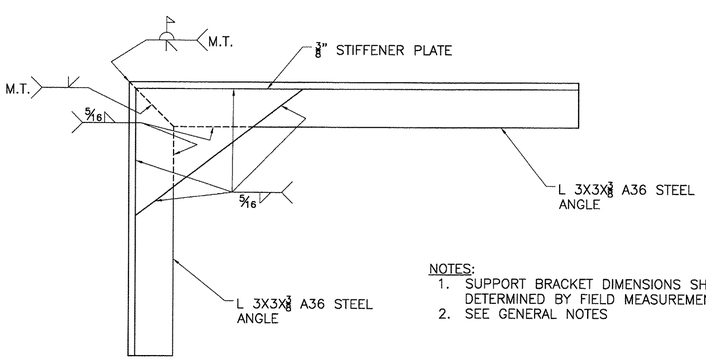


BRIDGE CROSS SECTION
SCALE: $\frac{1}{4}$" = 1'–0"

DENOTES LIMITS OF FIELD PAINTING ON FLOORBEAMS AND TRUSSES

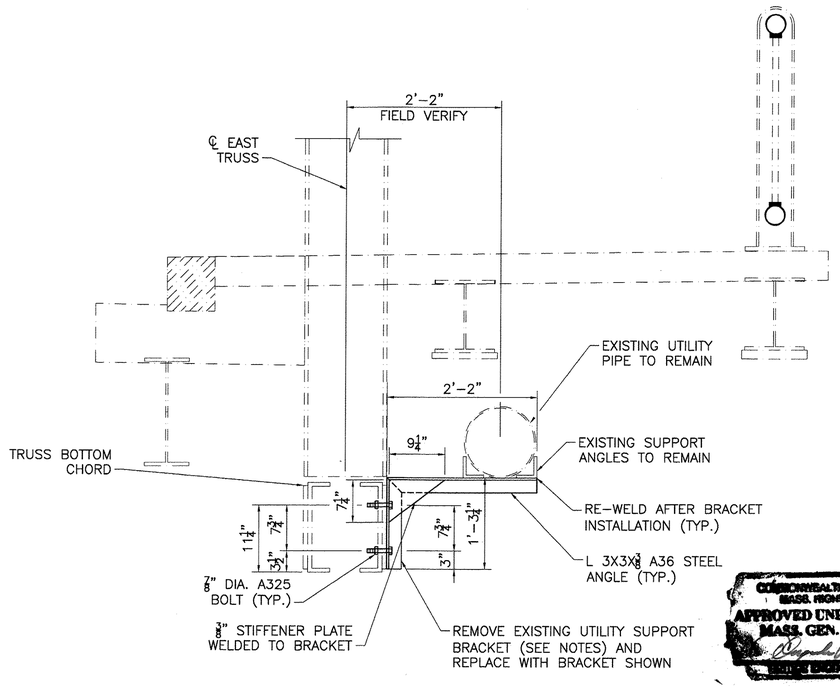


EAST TRUSS WEB REPAIR DETAIL
N.T.S.



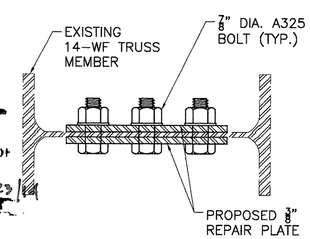
NOTES:
1. SUPPORT BRACKET DIMENSIONS SHALL BE DETERMINED BY FIELD MEASUREMENTS.
2. SEE GENERAL NOTES

UTILITY SUPPORT BRACKET WELD DETAIL
SCALE: 3" = 1'–0"



UTILITY SUPPORT BRACKET REPLACEMENT DETAIL
SCALE: 1" = 1'–0"

COMMONWEALTH OF MASSACHUSETTS
MASS. HIGHWAY DEPARTMENT
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 § 35
4/23
DATE



SECTION 2
SCALE: 3=1'–0"

200 HIGHLAND AVE
4TH FLOOR
NEEDHAM, MA 02494
781-355-7100
781-355-7101 (FAX)
GILL ENGINEERING

DATE	DRW. BY	CALC. BY	APPRV. BY	DESCRIPTION	DATE
APRIL 15, 2014	N.B.	N.B.	CHM	ISSUED FOR CONSTRUCTION	

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
PAUL D. MOYER
STRUCTURAL
NO. 34257
PROFESSIONAL ENGINEER
4/15/2014

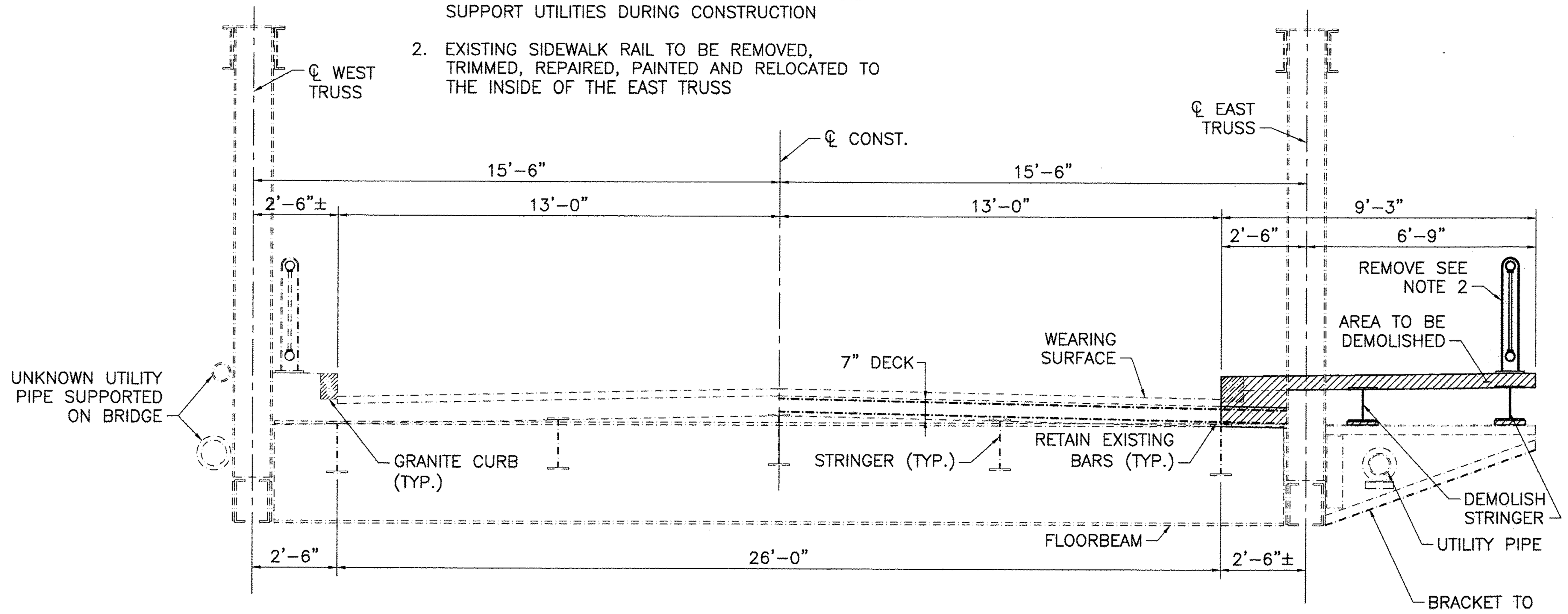
PROPOSED BRIDGE REPAIRS
TOWN OF LEE, MA

PROPOSED BRIDGE REPAIRS FOR LEE L-05-002
WILLOW STREET OVER HOUSATONIC RIVER

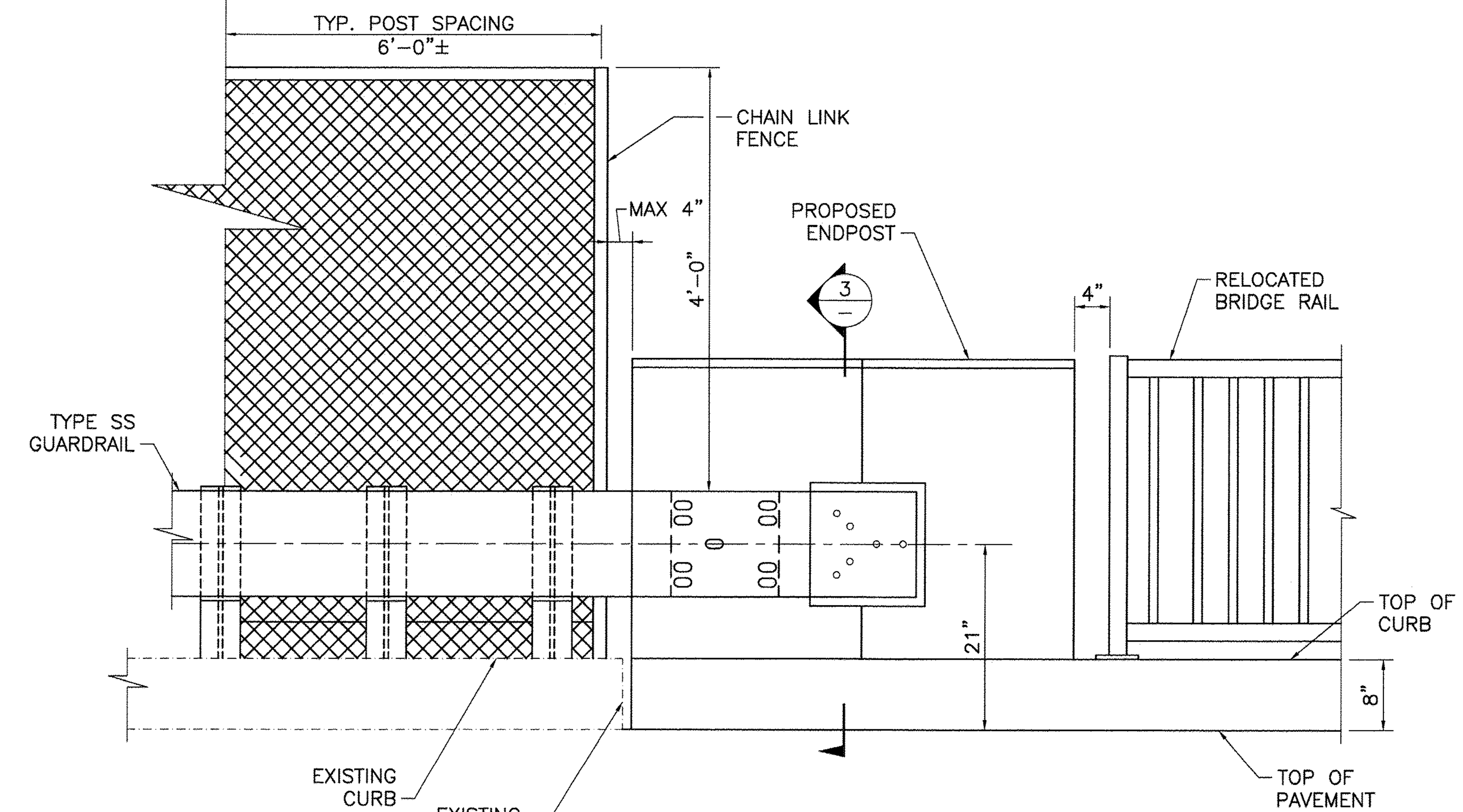
STEEL REPAIRS

SHEET 2 OF 4

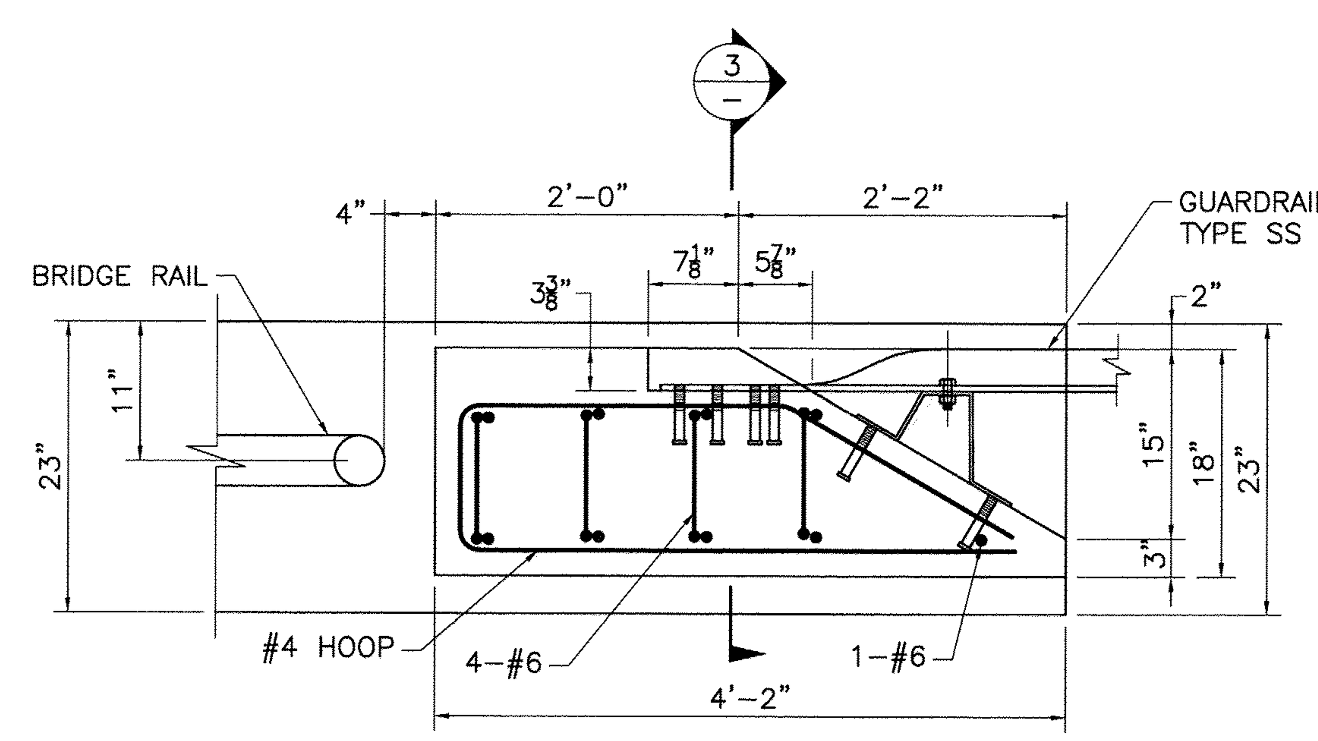
NOTES:
1. CONTRACTOR IS RESPONSIBLE TO PROTECT AND SUPPORT UTILITIES DURING CONSTRUCTION
2. EXISTING SIDEWALK RAIL TO BE REMOVED, TRIMMED, REPAIRED, PAINTED AND RELOCATED TO THE INSIDE OF THE EAST TRUSS



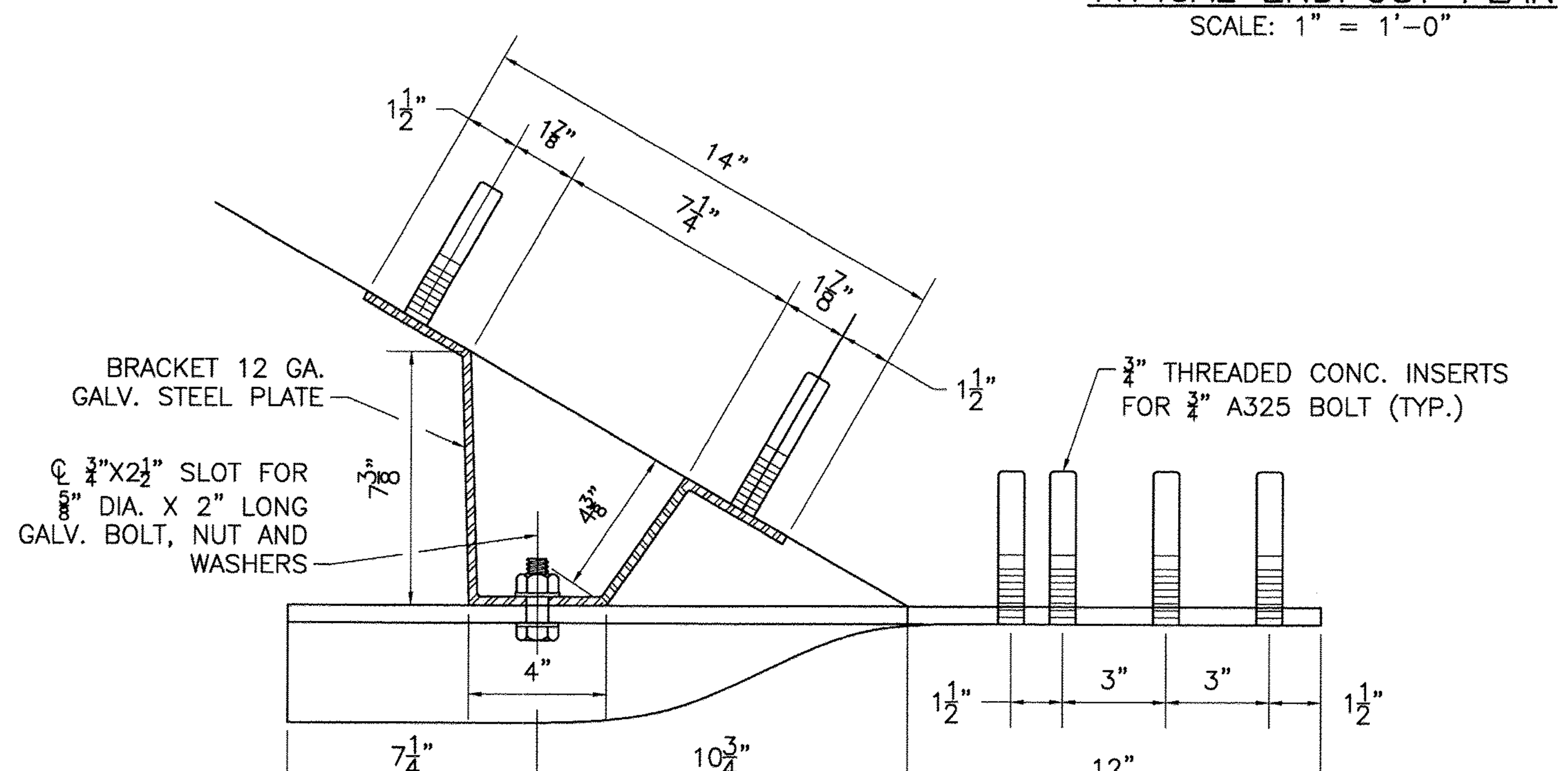
EXISTING CROSS SECTION
SCALE: $\frac{3}{8}$" = 1'-0"



TYPICAL ENDPOST ELEVATION
SCALE: 1" = 1'-0"

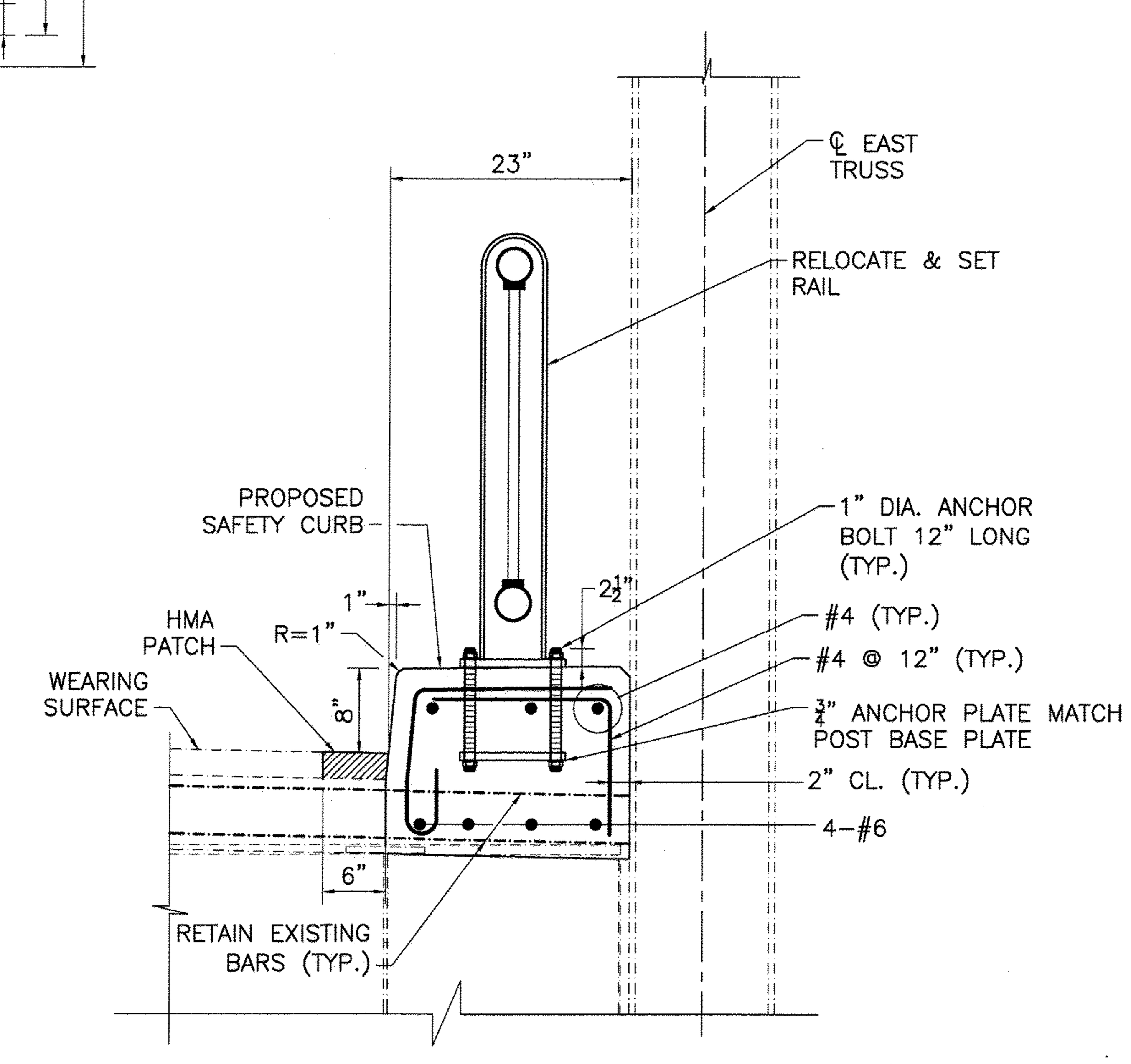


TYPICAL ENDPOST PLAN
SCALE: 1" = 1'-0"



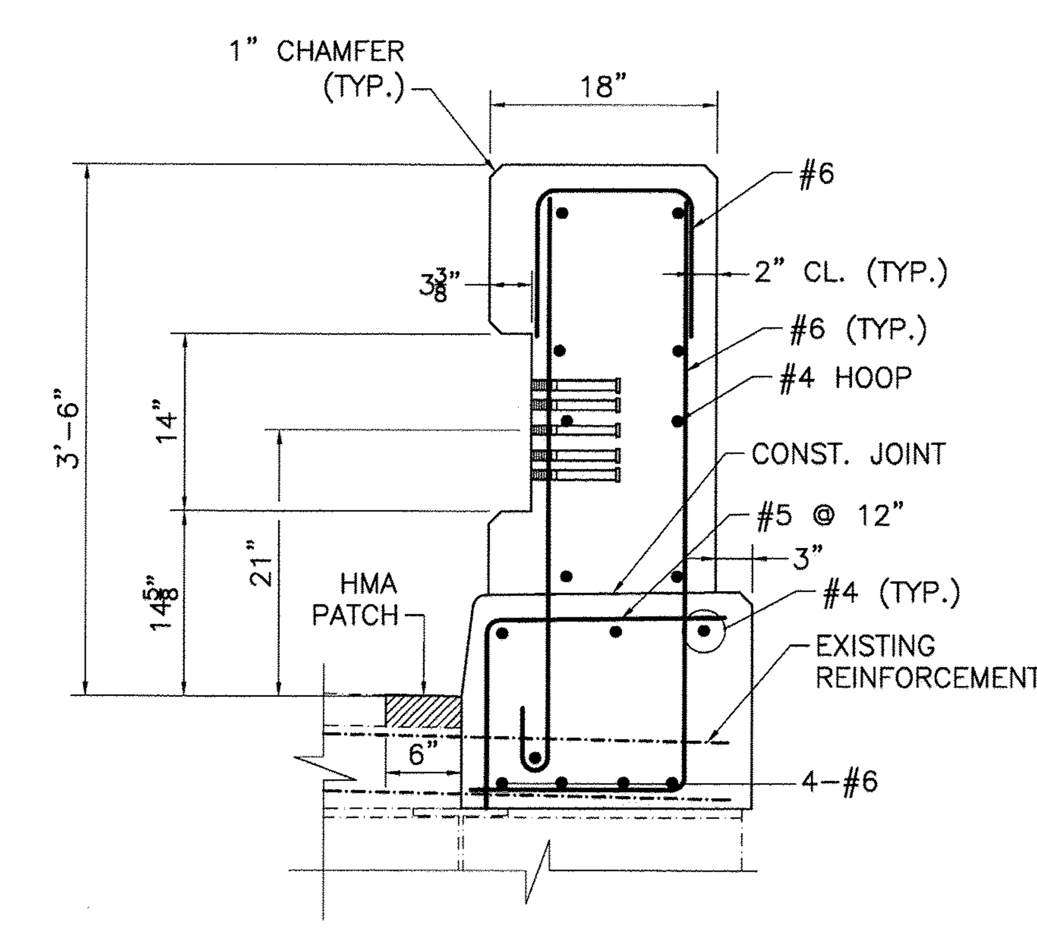
NOTE: CONCRETE INSERTS SHALL BE PRE-QUALIFIED AS CAPABLE OF DEVELOPING 11,000 LB OF SHEAR IN THE BOLT.

GUARDRAIL CONNECTION DETAIL
SCALE: 3" = 1'-0"



NOTE: CONCRETE SHALL BE 5000 PSI, 3/4", 685 HP CEMENT CONCRETE

SECTION 1/1
SCALE: 1" = 1'-0"



NOTE: END POST CONCRETE SHALL BE 5000 PSI, 3/4", 685 HP CEMENT CONCRETE

SECTION 3/–
SCALE: 1" = 1'-0"

COMMONWEALTH OF MASSACHUSETTS
MASS. HIGHWAY DEPARTMENT
APPROVED UNDER PROVISIONS OF MASS. GEN. LAWS CH 85 § 35
4/23/14
BRIDGE ENGINEER DATE

GILL ENGINEERING
220 HIGHLAND AVE
4TH FLOOR
NEEDHAM, MA 02494
781-355-7100
781-355-7101 (FAX)

DATE	DRW. BY	CALC. BY	APPRV. BY	DESCRIPTION
APRIL 10, 2014	NJR	NJR	PDM	DRAFT SUBMITTAL FOR MASSDOT REVIEW

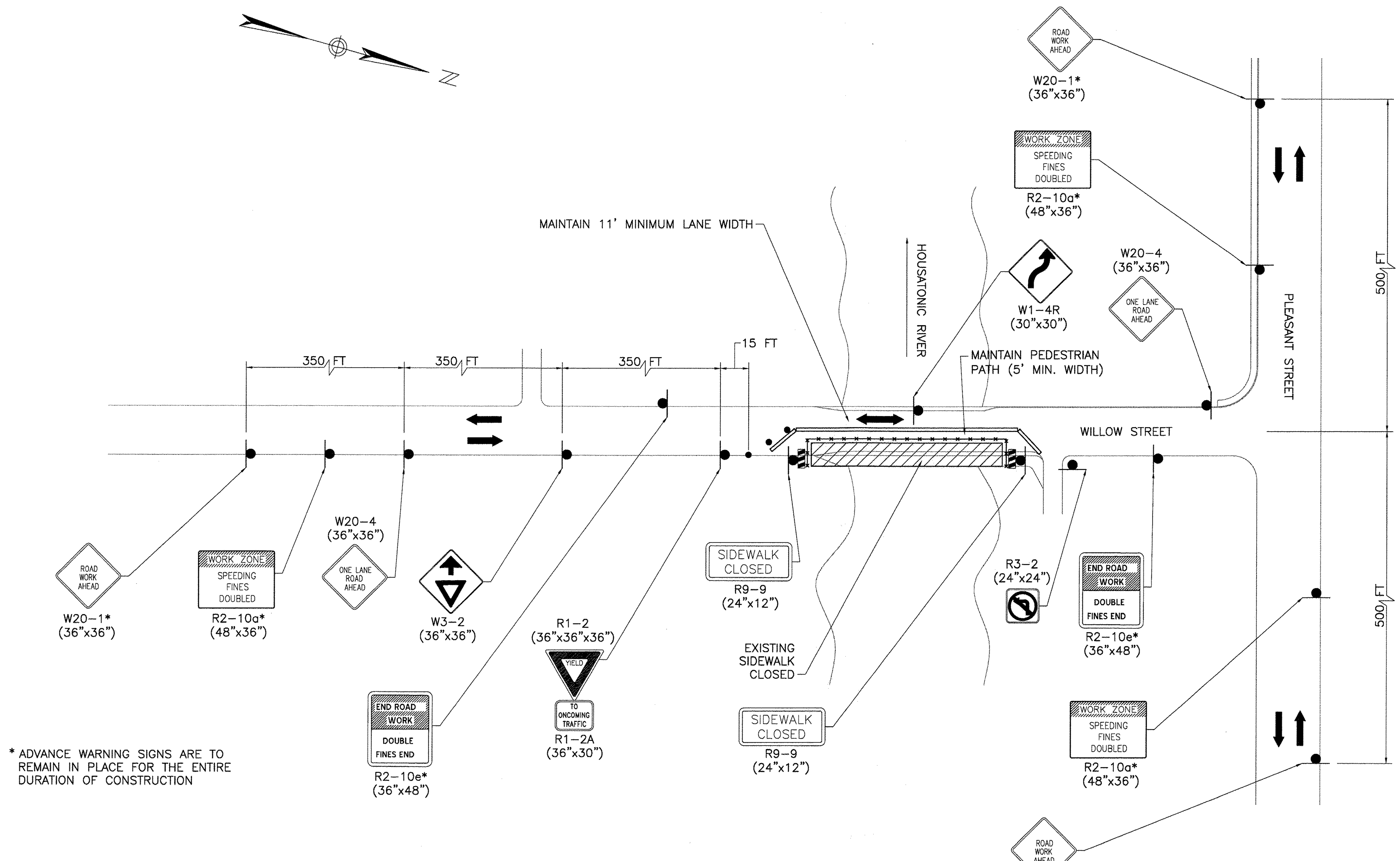
REGISTERED PROFESSIONAL ENGINEER — DATE

COMMONWEALTH OF MASSACHUSETTS — PAUL D. MOYER — STRUCTURAL — NO. 34257 — REGISTERED PROFESSIONAL ENGINEER
4/10/2014

PROPOSED BRIDGE REPAIRS
TOWN OF LEE, MA

PROPOSED BRIDGE REPAIRS FOR LEE L-05-002
WILLOW STREET OVER HOUSATONIC RIVER

DETAILS



TEMPORARY TRAFFIC CONTROL PLAN

NOT TO SCALE

NOTES

1. ALL TRAFFIC CONTROL DEVICES AND WORK ZONE SET-UPS ARE TO BE IN ACCORDANCE WITH MUTCD AND MASSDOT STANDARDS.
2. LANE WIDTHS AND GEOMETRY ARE APPROXIMATE.
3. CERTAIN SURFACE ROAD FEATURES ARE NOT SHOWN FOR DRAWING CLARITY.
4. ALL SIGNS SHOWN SHALL BE MOUNTED ON SUITABLE TEMPORARY SUPPORTS SUCH THAT SIGNS ARE CLEARLY VISIBLE TO APPROACHING TRAFFIC.
5. MAINTAIN ACCESS TO ALL DRIVEWAYS AND PEDESTRIAN SIDEWALKS AT ALL TIMES, UNLESS OTHERWISE NOTED.

LEGEND

- REFLECTORIZED DRUM
- TEMPORARY CONCRETE BARRIER
- SIGN
- WORK ZONE
- TRAFFIC FLOW
- TYPE III BARRICADE
- TEMPORARY CHAIN LINK FENCE

GILL ENGINEERING
200 HIGHLAND AVE
4TH FLOOR
NEEDHAM, MA 02494
781-355-7100
781-355-7101 (FAX)

DATE	DRW. BY	CALC. BY	APPRV. BY	DESCRIPTION
APRIL 15, 2014	GSM	GSM	SBC	ISSUED FOR CONSTRUCTION

COMMONWEALTH OF MASSACHUSETTS PAUL D. MOYER STRUCTURAL NO. 34257 REGISTERED PROFESSIONAL ENGINEER

REGISTERED PROFESSIONAL ENEGINEER

DATE

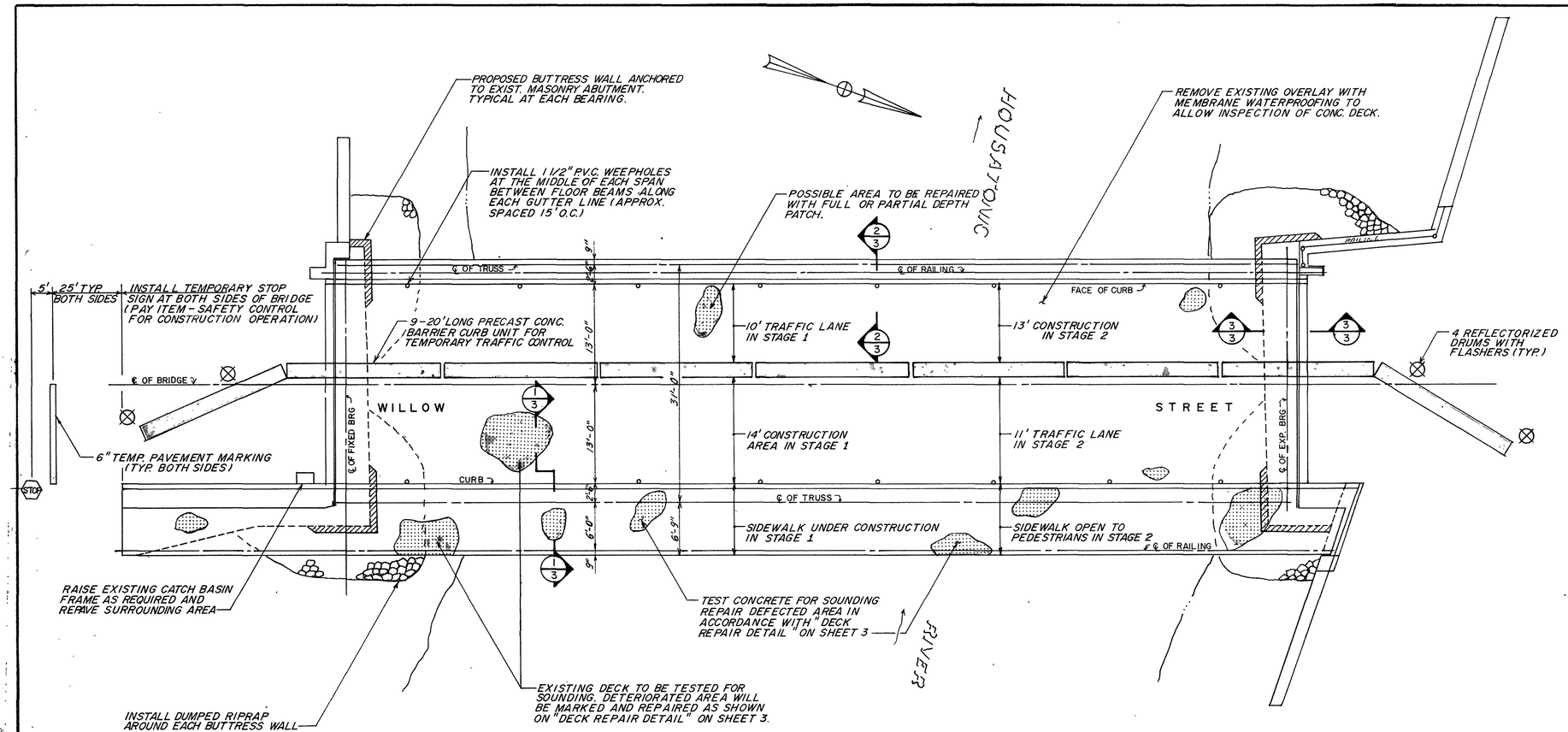
PROPOSED BRIDGE REPAIRS

TOWN OF LEE, MA

PROPOSED BRIDGE REPAIRS FOR LEE L-05-002
WILLOW STREET OVER HOUSATONIC RIVER

TEMPORARY TRAFFIC CONTROL

SHEET 4 OF 4



PLAN

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

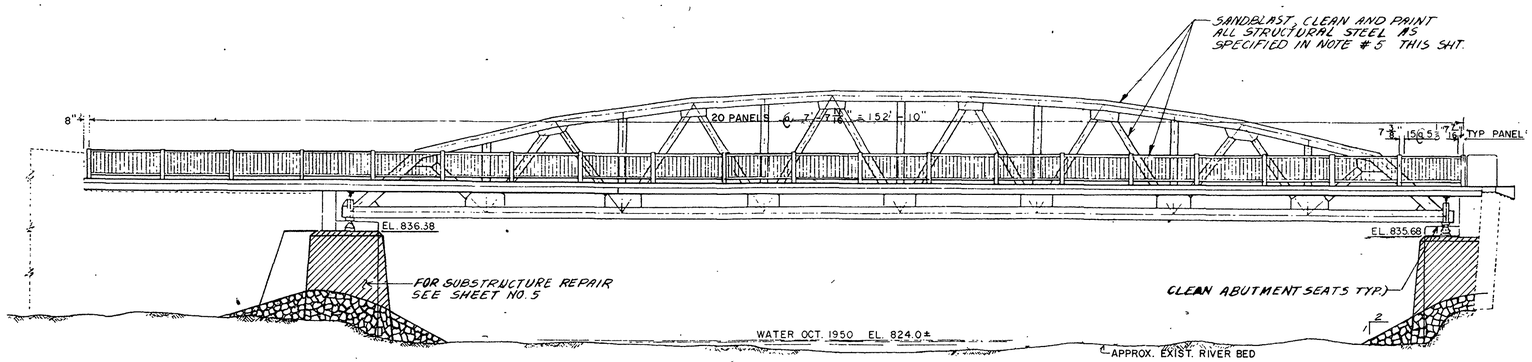
SEQUANCE OF CONSTRUCTION

THE FOLLOWING CONSTRUCTION SEQUANCE NOTES ARE SUGGESTED STEPS ONLY. THE CONTRACTOR MAY PRESENT HIS OWN METHOD TO ACCOMPLISH THIS WORK, WITH ENGINEER APPROVAL. ONE LANE TRAFFIC SHALL BE MAINTAINED AT ALL TIME DURING CONSTRUCTION.

1. INSTALL BARRIERS FOR STAGE 1 CONSTRUCTION AREA
   a. REMOVE EXISTING BITUMINOUS CONCRETE WEARING SURFACE AND MEMBRANE WATERPROOFING
   b. TEST AND REPAIR CONCRETE DECK AND SIDEWALK
   c. DRILL HOLES AND INSTALL 1 1/2" DIA. P.V.C. DRAINS ALONG GUTTER LINE SPACED APPROXIMATELY 15' O.C. BETWEEN FLOOR BEAMS
   d. REMOVE SIDEWALK CONCRETE AROUND STRUCTURAL MEMBERS FOR PAINTING STEEL
   e. RAISE CATCH BASIN AT SOUTHEAST APPROCH
   f. REPAIR STEEL MEMBERS WHERE REQUIRED AND PAINT STEEL WITHIN THE STAGE 1 AREA
   g. PATCH SIDEWALK CONCRETE WHERE REMOVED FOR PAINTING STEEL
   h. INSTALL NEOPRENE COMPRESSION SEAL AT DECK JOINTS
2. RELOCATE BARRIERS FOR STAGE 2 CONSTRUCTION AREA
   a. REMOVE EXISTING OVERLAY AND MEMBRANE WATERPROOFING
   b. TEST AND REPAIR CONCRETE DECK
   c. INSTALL 1 1/2" DIA. P.V.C. WEEPHOLES AS IN STAGE 1
   d. REPAIR STEEL MEMBERS WHERE REQUIRED AND PAINT STEEL WITHIN THE STAGE 2 AREA
   e. INSTALL NEOPRENE COMPRESSION SEAL AT DECK JOINTS
3. PAINT REMAINING STEEL AT DECK SOFFIT
4. OPEN BOTH LANES OF BRIDGE TO TRAFFIC
5. INSTALL CONCRETE BUTTRESS WALLS AT CORNERS OF EACH SUBSTRUCTURE AND REPAIR PORTION OF NORTHWEST WALL WITH REPLACEMENT OF OUTLET PIPE. SEE SHEET 5 FOR DETAILS.
6. CLEAN ABUTMENT SEATS

GENERAL SCOPE OF WORK

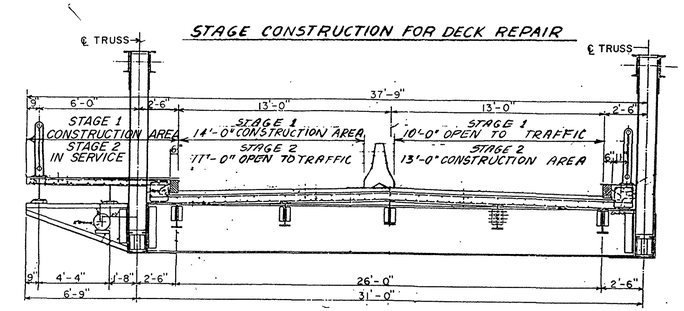
1. REMOVE EXISTING BITUMINOUS CONCRETE WEARING SURFACE AND MEMBRANE WATERPROOFING
2. REPAIR ENTIRE DECK AND SIDEWALK WITH PARTIAL OR FULL DEPTH PATCH AS REQUIRED
3. INSTALL 1 1/2" P.V.C. WEEPHOLES @ APPROX. 15' O.C.
4. STRENGTHEN THE ABUTMENTS AT BEARING AREA BY INSTALLING 10" THICK CONCRETE BUTTRESS WALL UNDER EACH BEARING SEAT
5. INSTALL NEOPRENE COMPRESSION SEAL AT DECK JOINTS AND MEMBRANE WATERPROOFING OVER THE MAIN DECK
6. REPAIR STRUCTURAL STEEL WHERE REQUIRED AND PAINT ALL STEEL INCLUDING THE RAILING
7. CLEAN ABUTMENT SEATS



EASTERLY ELEVATION

SCALE 1/8" = 1'-0"

STAGE CONSTRUCTION FOR DECK REPAIR



N.T.S.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
APPROVED UNDER THE PROVISIONS OF
MASS. GEN. LAWS CH. 81 § 35
BRIDGE ENGINEER — DATE 1/24/90

COMMONWEALTH OF MASSACHUSETTS
PRATAP Z PATEL
STRUCTURAL
No 33245
REGISTERED PROFESSIONAL ENGINEER

Pratap Z Patel

TOWN OF LEE, MASSACHUSETTS

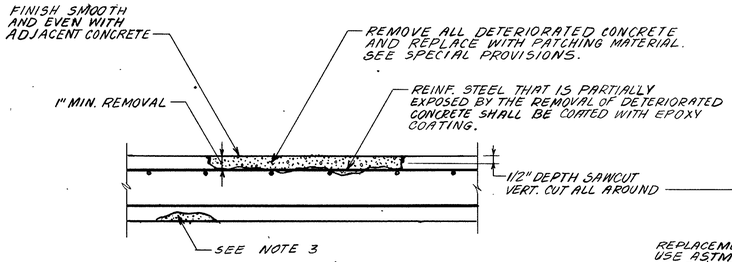
REHABILITATION OF WILLOW STREET BRIDGE

GENERAL SHEET

hrp associates inc.
engineering & geology
post office box 732
10 lexington street
new britain, ct 06050
(203) 827-0004

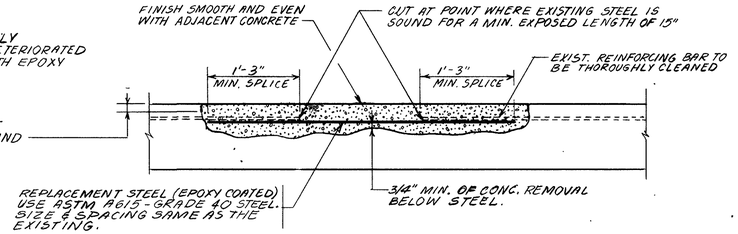
JMW (DESIGNED)	MCP (APPROVED)	SCALE AS NOTED	
(DRAWN)	APRIL, 1988 (DATE)		2 (SHEET NO)
WJG (CHECKED)	MELEEO (PROJECT NO)		

L-5-2



PATCH ABOVE TOP OF REINFORCING STEEL

N.T.S.



REPAIR OF DEFORMED STEEL BARS

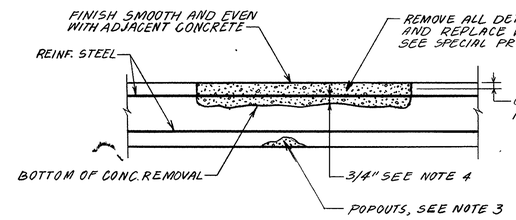
N.T.S.

NOTES

1. ALL AREAS OF EXPOSED REINFORCING BARS SHALL BE COATED WITH EPOXY BONDING COMPOUND (SEE SPECIAL PROVISIONS).
2. EPOXY BONDING COMPOUND SHALL BE APPLIED TO ALL CONCRETE SURFACES WHERE NEW CONCRETE IS TO BE BONDED (SEE SPECIAL PROVISIONS).
3. AREAS OF POPOUTS CAUSED BY REMOVAL OF DETERIORATED CONCRETE SHALL BE COATED WITH EPOXY COATING, IF POPOUT DOES NOT EXTEND BEYOND FIRST LAYER OF REINFORCEMENT. IF POPOUT EXTENDS BEYOND THE FIRST LAYER, REPAIR AS DIRECTED BY THE ENGINEER.
4. IF AFTER CONCRETE REMOVAL, THE REINFORCING STEEL HAS AT LEAST ONE HALF ITS SURFACE AREA EXPOSED, THE CONCRETE SHALL BE FURTHER REMOVED TO A DEPTH OF 3/4" BELOW THE STEEL.

GENERAL NOTES

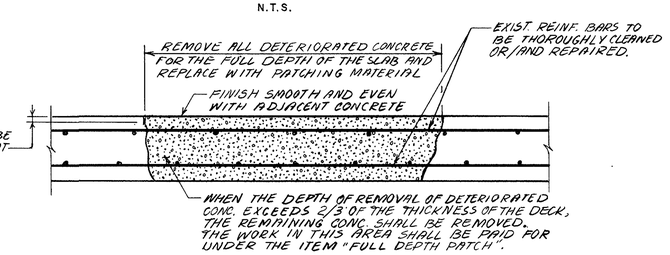
1. THE CONTRACTOR SHALL VERIFY IN FIELD ALL INFORMATION PERTAINING TO THE EXISTING CONDITIONS.
2. ALL NEW TYPES OF CONCRETE SHALL CONFORM TO SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
3. ALL NEW REINFORCING STEEL SHALL BE A.S.T.M. A615-GRADE 40.
4. ALL AREAS REQUIRING REPAIRS SHALL BE PROPERLY PREPERED FOR THE ENGINEERS APPROVAL BEFORE PROCEEDING WITH THE REPAIRS.
5. THE CONTRACTOR SHALL DEVELOP HIS OWN TECHNIQUE AND SEQUENCE OF SANDBLASTING AND PAINTING ALL STRUCTURAL STEEL MEMBERS WITH ENGINEER APPROVAL. INORGANIC ZINC RICH PRIMER M7.02.21 AND HIGH BUILD BROWN VINYL FINISH PAINT M7.02.25 OF STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SHALL BE APPLIED TO ALL STRUCTURAL STEEL.
6. THE CONTRACTOR SHALL REPORT TO THE ENGINEER ANY LOSS OF SECTION FOUND DURING SANDBLASTING AND CLEANING PROCESS. THE ENGINEER SHALL EVALUATE THE EXISTING CONDITIONS OF EACH DEFECT AND DIRECT THE CONTRACTOR AS TO THE METHOD OF REPAIR.
7. THE CONTRACTOR SHALL PROVIDE NECESSARY TEMPORARY SUPPORTS TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE STRUCTURE, DURING THE OPERATION OF HIS WORK.
8. THE CONTRACTOR SHALL TEST THE ENTIRE CONCRETE DECK FOR SOUNDNESS USING DELAMTECK, HAMMER OR CHAIN DRAGGING METHOD, THEN, MARK THE DEFECTIVE AREAS ON THE CONCRETE SURFACE. THIS WORK WILL BE COORDINATED WITH THE ENGINEER.
9. WHEN SIDEWALK DECK CONDITIONS REQUIRE FULL DEPTH PATCH OR COMPLETE SIDEWALK REPLACEMENT, THE EXISTING RAILING SHALL BE RESET TO ITS ORIGINAL STATE. SIDEWALK REINFORCEMENT SHALL BE EPOXY COATED REBARS #4 @ 6" TOP & BOTTOM EACH WAY.
10. PROTECTIVE COMPOUND FOR BRIDGES SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES OF THE BRIDGE, SUCH AS SIDEWALK, TOPS, AND SIDES OF PARAPET.



PATCH BELOW TOP REINFORCING STEEL

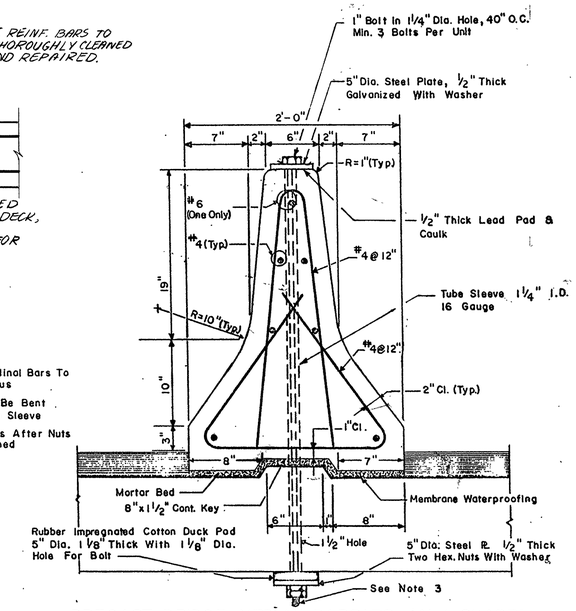
PARTIAL DEPTH PATCH

N.T.S.



FULL DEPTH PATCH

N.T.S.



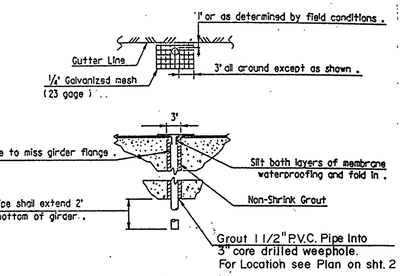
NOTE:

1. All Longitudinal Bars To Be Continuous
2. # 6 Bars To Be Bent Around Tube Sleeve
3. Burr Threads After Nuts Are Tightened

PRECAST BRIDGE MEDIAN BARRIER (N.J. SHAPE)

FOR TEMPORARY TRAFFIC CONTROL

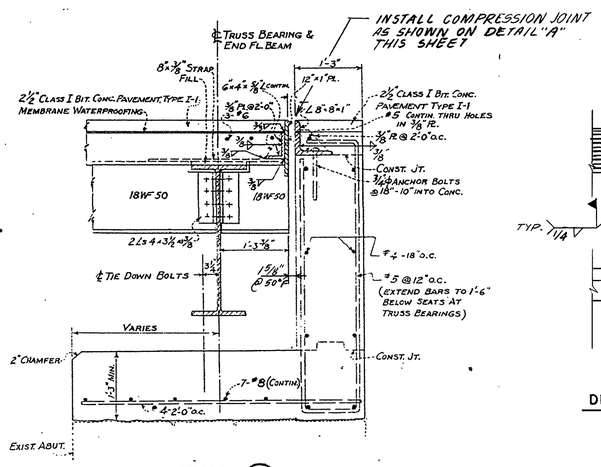
SCALE: 1 1/2" = 1'-0"



WEEPHOLE INSTALLATION DETAIL

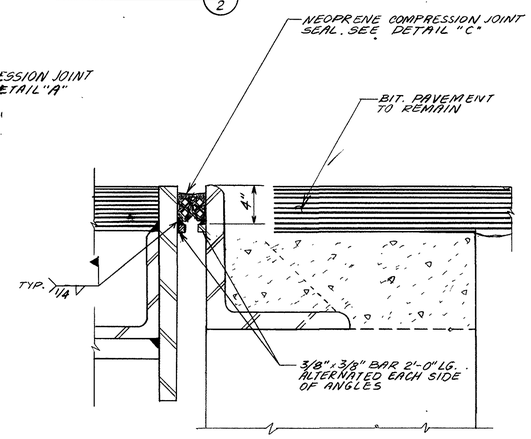
Scale: 1" = 1'-0"

SECTIONS 1/2



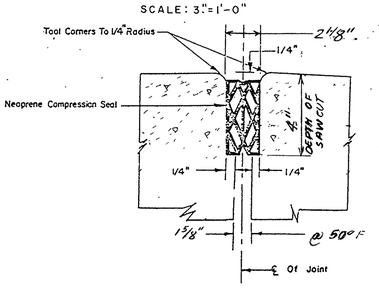
SECTION 3/2

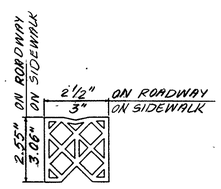
SCALE: 3/4" = 1'-0"



DETAIL "A" COMPRESSION JOINT IN ROADWAY

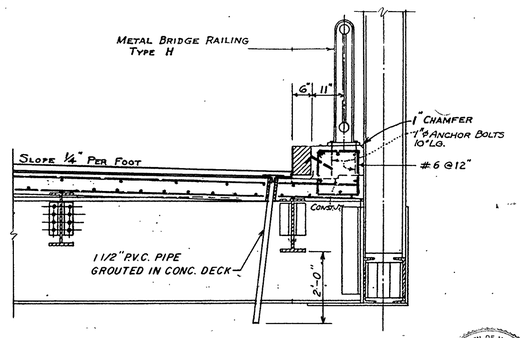
SCALE: 3" = 1'-0"





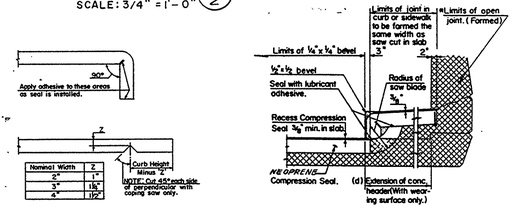
DETAIL "C"

N.T.S.



SECTION 2/2

N.T.S.



COMPRESSION JOINT IN CURB AND SIDEWALK

N.T.S.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 S 35

BRIDGE ENGINEER — DATE 1/24/90

COMMONWEALTH OF MASSACHUSETTS
PRATAP Z PATEL
STRUCTURAL
No 33245
REGISTERED PROFESSIONAL ENGINEER

Pratap Z Patel

TOWN OF LEE, MASSACHUSETTS

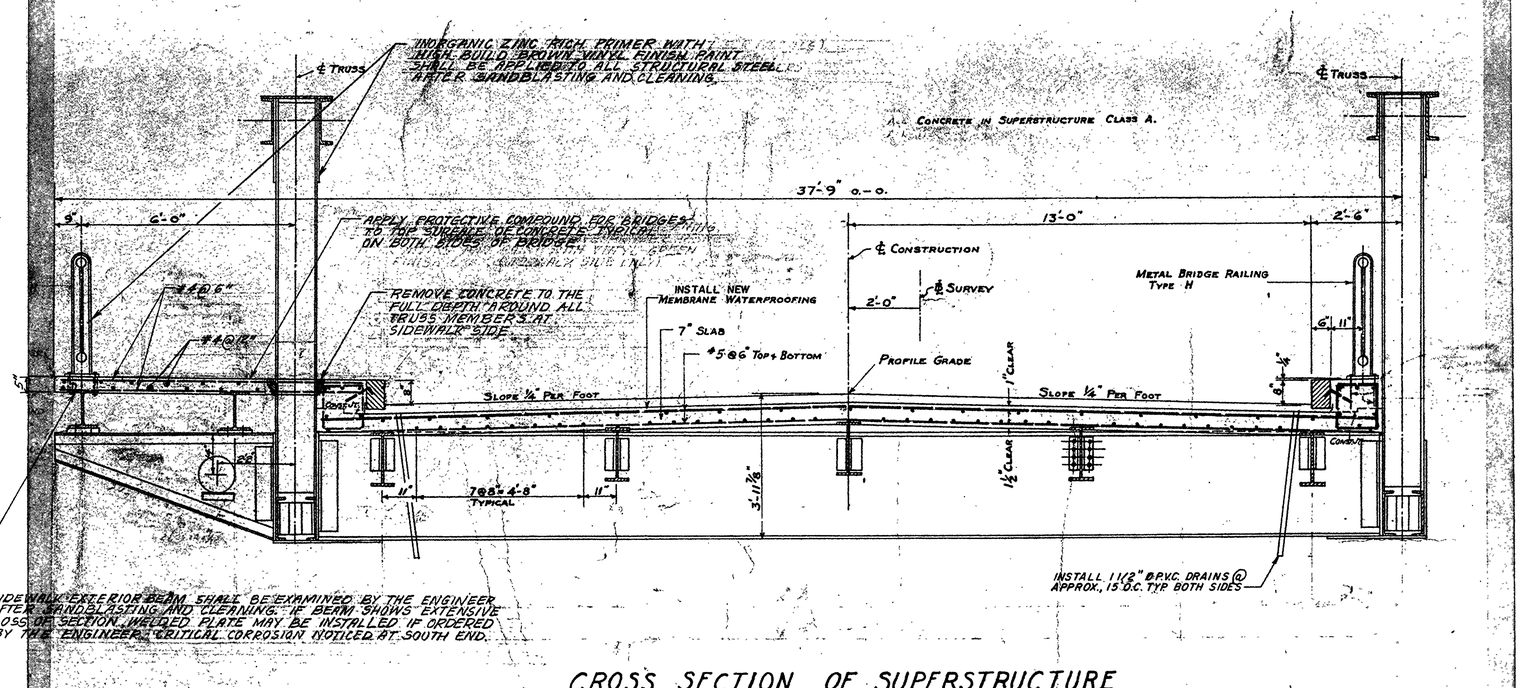
REHABILITATION OF WILLOW STREET BRIDGE

DECK REPAIR DETAILS

hrp associates inc.
engineering & geology
post office box 732
10 lexington street
new britain, ct 06050
(203) 827-0004

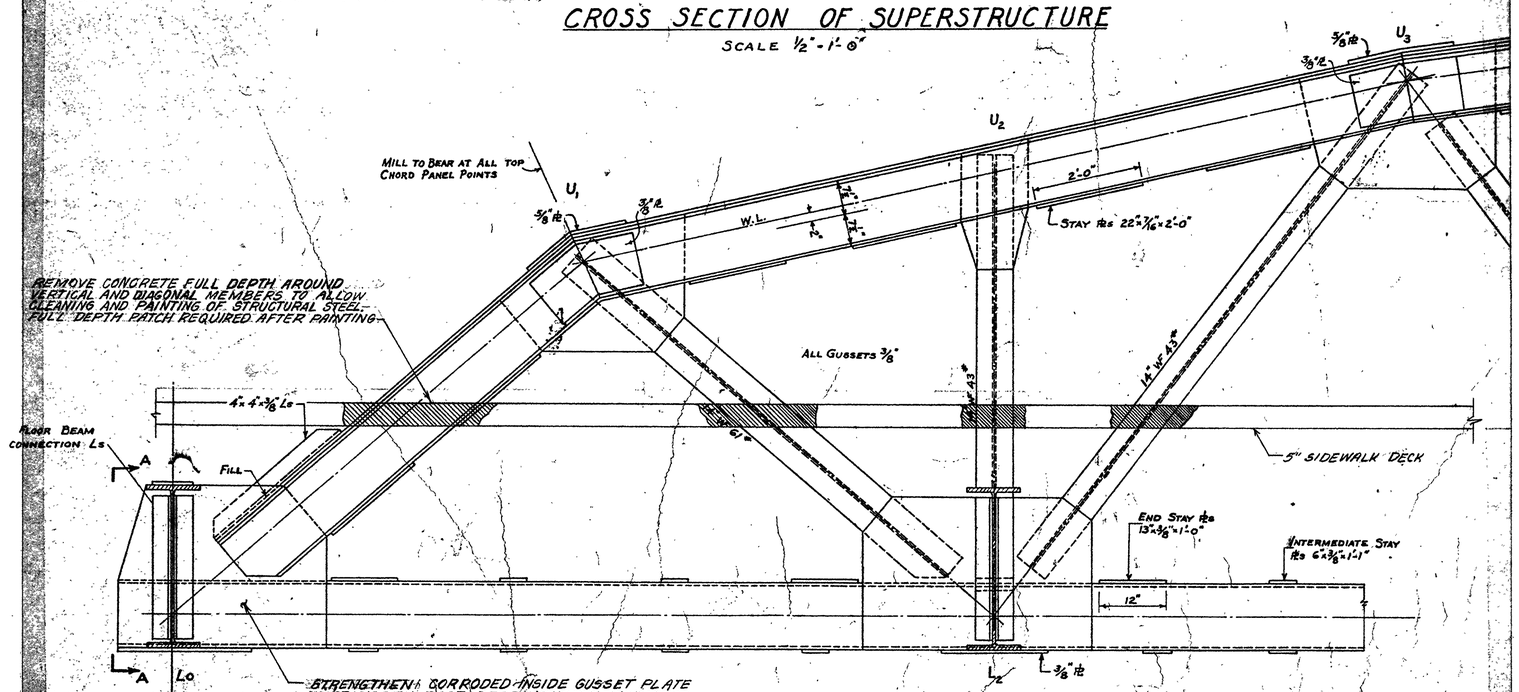
JMW DESIGNED	MCP APPROVED	SCALE AS NOTED
WJG CHECKED	APRIL, 1988 DATE	3 SHEET NO.
	MELEEO PROJECT NO	

L-5-2



CROSS SECTION OF SUPERSTRUCTURE

SCALE 1/2" = 1'-0"



TRUSS DETAILS

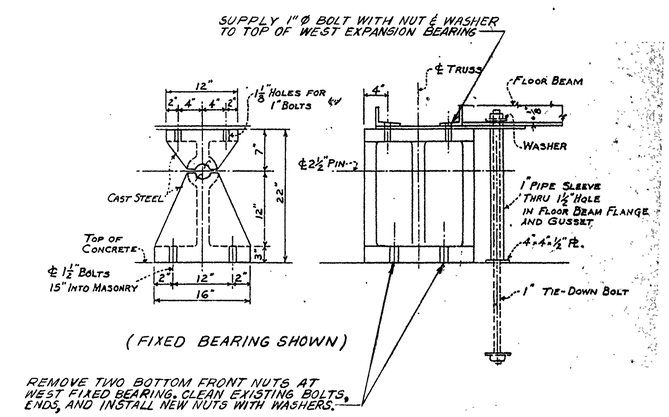
SCALE 3/4" = 1'-0"

NOTES

1. THE CONTRACTOR SHALL REPORT TO THE ENGINEER ANY LOSS OF SECTION FOUND DURING THE SANDBLASTING AND CLEANING PROCESS. THE ENGINEER SHALL EVALUATE THE EXISTING CONDITIONS OF EACH DEFECT AND DIRECT THE CONTRACTOR AS TO THE METHOD OF REPAIR.
2. WHEN SIDEWALK DECK CONDITIONS REQUIRE FULL DEPTH PATCH OR COMPLETE SIDEWALK REPLACEMENT, THE EXISTING RAILING SHALL BE RESET IN ACCORDANCE TO ITS ORIGINAL STATE. SIDEWALK REINFORCEMENT SHALL BE EPOXY COATED REBARS #4 @ 6" TOP & BOTTOM.
3. PROTECTIVE COMPOUND FOR BRIDGES SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES OF THE BRIDGE, SUCH AS SIDEWALK, TOPS AND SIDES OF PARAPET.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 S 35

BRIDGE ENGINEER — DATE 1/24/90



BEARING REPAIR

SCALE: 1" = 1'-0"

COMMONWEALTH OF MASSACHUSETTS
PRATAP Z PATEL
STRUCTURAL
No. 33265
REGISTERED PROFESSIONAL ENGINEER

Pratap Z Patel

TOWN OF LEE, MASSACHUSETTS

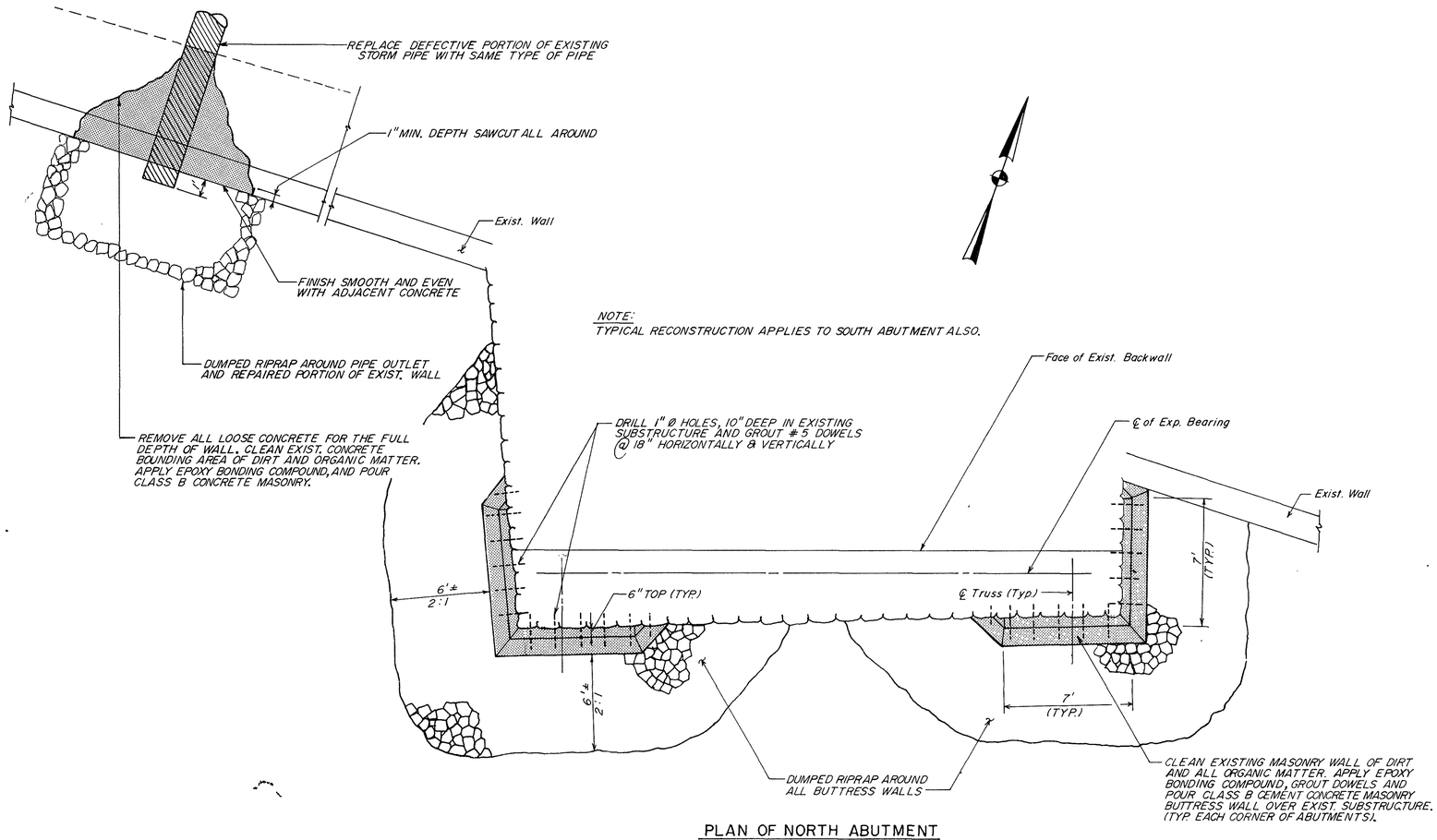
REHABILITATION OF WILLOW STREET BRIDGE

SUPERSTRUCTURE REPAIR

hrp associates inc.
engineering & geology
post office box 732
10 lexington street
new britain, ct 06050
(203) 827-0004

J.M.W. DESIGNED	M.C.P. APPROVED	SCALE AS NOTED	
DRAWN	DATE APRIL, 1988		4
W.J.G. CHECKED	ME LEE O PROJECT NO		SHEET NO

L-5.2

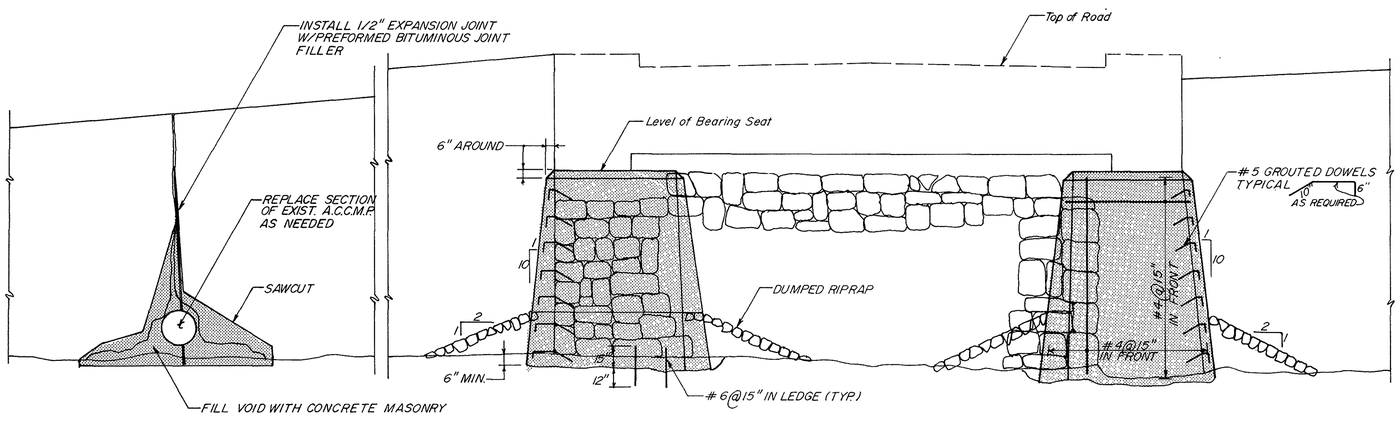


PLAN OF NORTH ABUTMENT

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

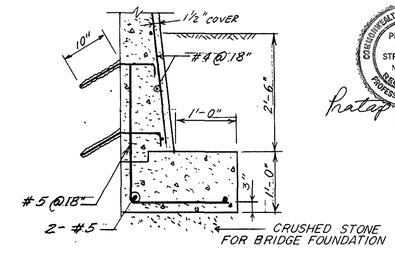
SUBSTRUCTURE REPAIR NOTES

1. AS INDICATED ON THIS SHEET THE BUTTRESS WALL SHALL BE POURED AROUND ALL CORNERS OF ABUTMENTS WITH 1 ON 10 BATTER AFTER GROUTING ALL DOWELS IN EXISTING WALLS. THE BUTTRESS WALL SHALL EXTEND 7' FROM EACH ABUTMENT CORNER ALONG EACH SIDE OF SUBSTRUCTURE.
2. PRIOR TO POURING, THE EXISTING MASONRY OR CONCRETE WALLS WHERE NEW CONCRETE IS TO BE BONDED, SHALL BE CLEAN OF DIRT AND ALL ORGANIC MATTER, AND PAINTED WITH EPOXY BONDING COMPOUND.
3. IF THE CAPPING WALL WILL BE RESTING ON BEDROCK, THE TOP 6" OF THE LEDGE SHALL BE REMOVED, TO FORM A NATURAL KEY. HOWEVER, THE FOOTING AS SHOWN ON SHEET 5, SHALL BE FORMED IF SOFT GROUND IS ENCOUNTERED.
4. DUMPED RIPRAP SHALL BE PLACED ALONG EACH NEW BUTTRESS WALL AND PORTIONS OF THE RECONSTRUCTED NORTHWEST WALL. SEE SUBSTRUCTURE PLAN AND ELEVATION ON THIS SHEET FOR DETAILS.



ELEVATION

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



BUTTRESS WALL FOOTING ON SOIL

N.T.S.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 S 35

BRIDGE ENGINEER — DATE

COMMONWEALTH OF MASSACHUSETTS
PRATAP Z. PATEL
STRUCTURAL
No. 33245
REGISTERED PROFESSIONAL ENGINEER

Pratap Z. Patel

TOWN OF LEE, MASSACHUSETTS

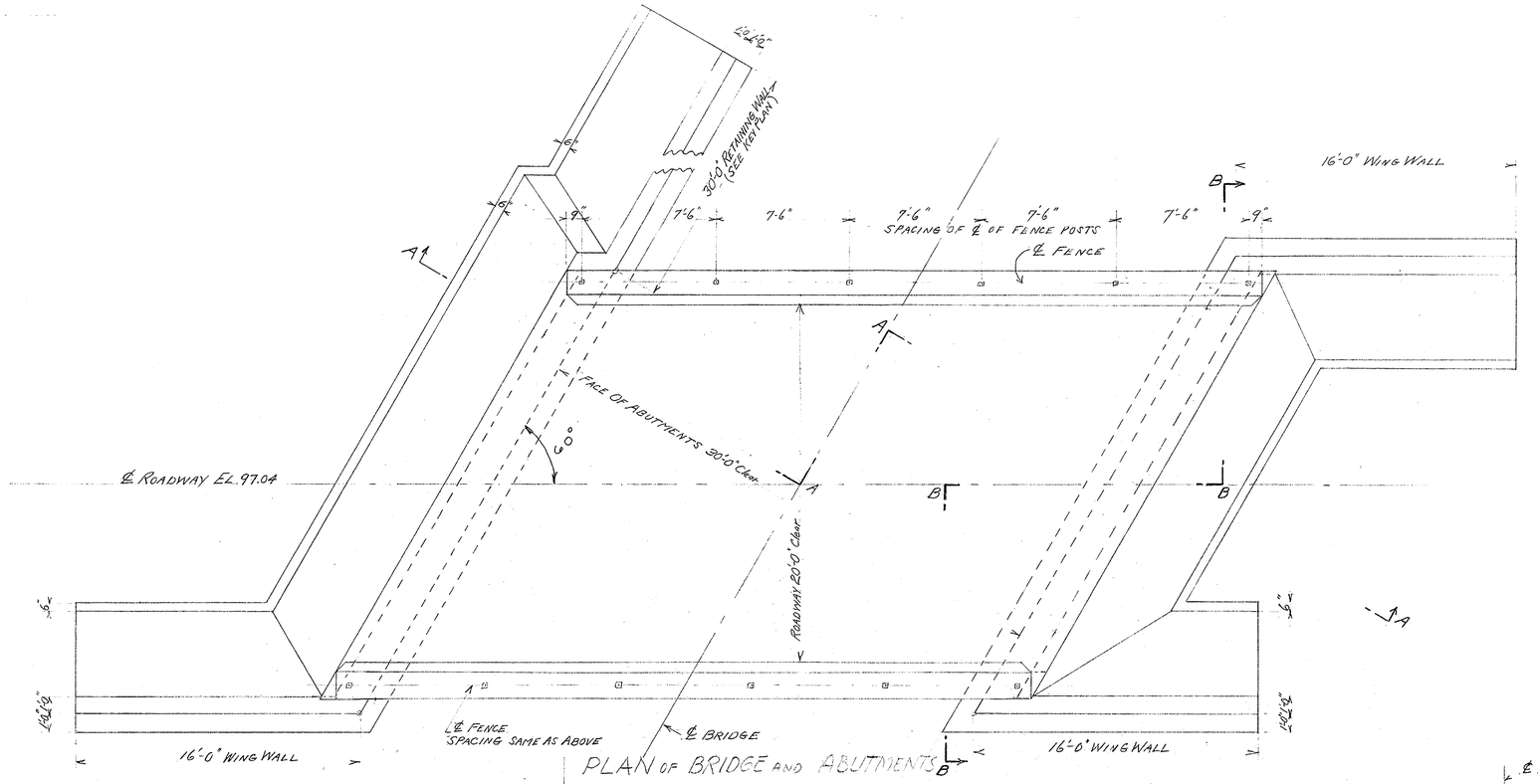
REHABILITATION OF WILLOW STREET BRIDGE

SUBSTRUCTURE REPAIR

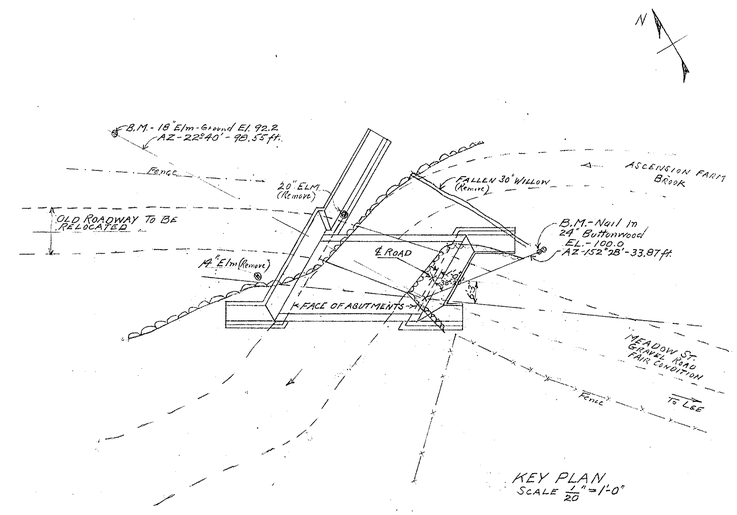
HRP ASSOCIATES, INC.
167 New Britain Avenue
Plainville, CT 06062
(203) 793-6899
FAX: (203) 793-6871

J.M.W. DESIGNED	M.C.P. APPROVED	SCALE AS NOTED
J.M.W. DRAWN	MAY 1989 DATE	5 SHEET NO.
W.J.G. CHECKED	ME LEE Ø PROJECT NO.	

L-5-2



PLAN OF BRIDGE AND ABUTMENTS



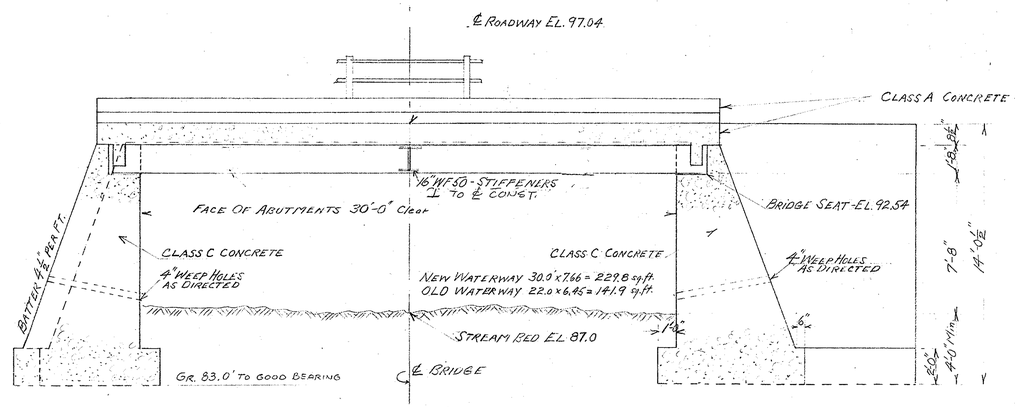
KEY PLAN
SCALE $\frac{1}{20}$" = 1'-0"

NOTES

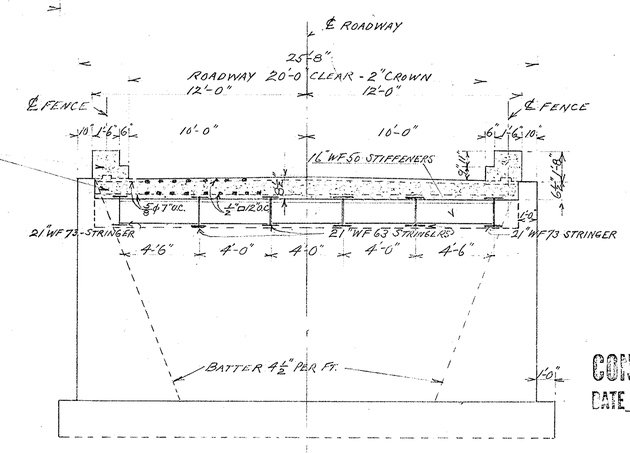
Bridge designed for H-15 loading.
Abutments and wing walls are Class "C" concrete; the remainder is Class "A".

ESTIMATES OF QUANTITIES

Borrow Gravel	100 cu. yds.
Excavation (Bridge)	700 cu. yds.
" (Ledge)	70 cu. yds.
" (Channel)	60 cu. yds.
Sheeting steel	33000 lbs.
Concrete Main, Class "A"	32 cu. yds.
" Class "C"	290 cu. yds.
Reinforcing steel	5000 lbs.
Fence steel	76 lin. ft.
Structural steel	19600 lbs.
Rip Rap	40 cu. yds.
Trench ledge excavation	25 cu. yds.
Removal trees	3
Removal of Superstructure	Lump Sum

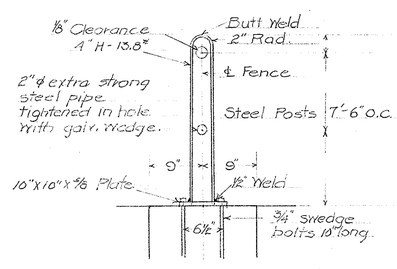


SECTION ON A-A
SCALE $\frac{1}{4}$" = 1'-0"

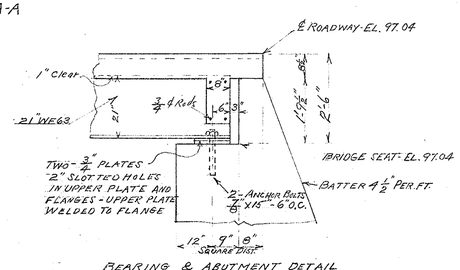


SECTION ON B-B - AT RIGHT ANGLES TO ROAD
SCALE $\frac{1}{4}$" = 1'-0"

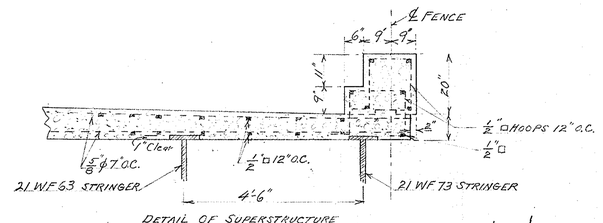
FOR CONSTRUCTION
DATE 12/10/38



FENCE DETAIL
SCALE $\frac{1}{2}$" = 1'-0"



BEARING & ABUTMENT DETAIL
SCALE $\frac{1}{2}$" = 1'-0"



DETAIL OF SUPERSTRUCTURE
SCALE $\frac{1}{2}$" = 1'-0"

10/20/38

BRIDGE NO. 4 ON TOPO SHEET 39

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE

LEE

ASCENSION FARM BRIDGE - MEADOW ST.
OVER ASCENSION FARM BROOK
SCALES AS NOTED
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST. BOSTON, MASS.
OCT. 19, 1938

BRIDGE ENGINEER — CHIEF ENGINEER

CLEVERDON, YARNEY & PIKE, ENGINEERS, BOSTON

BRIDGE No. L-5-4