22x34
PLOT SCALE: 1:1

TOWN OF SUDBURY, MA

PUBLIC WORKS DEPARTMENT

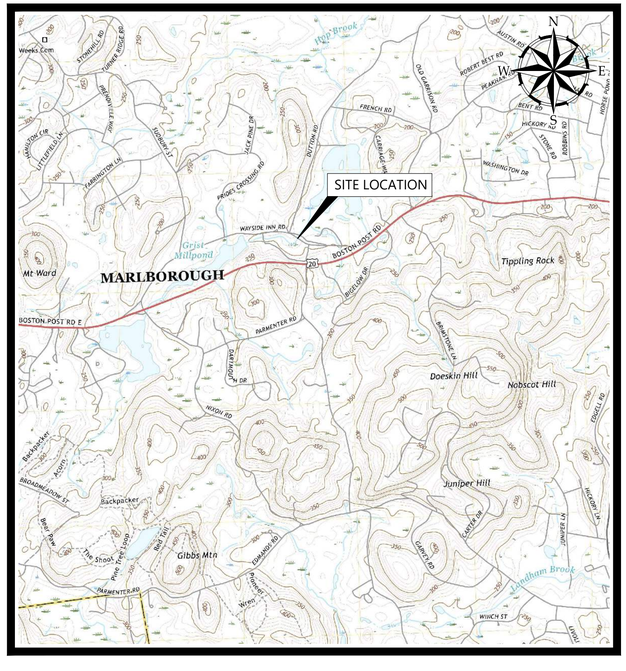
WAYSIDE BRIDGE REPAIRS

ISSUE FOR BID

APRIL 2024

PROJECT LOCATION MAP

SUDBURY PUBLIC WORKS



SITE LOCATION MAP

SOURCE: USGS TOPO QUADRANGLE

Woodard & Curran
40 Shattuck Road, Suite 110
Andover, Massachusetts 01810
866.702.6371 | www.woodardcurran.com

PE SEAL:

COMMONWEALTH OF MASSACHUSETTS
SCOTT C SALVUCCI
CIVIL
No. 52343
4/10/2024
REGISTERED PROFESSIONAL ENGINEER

ISSUE FOR BID

CLIENT INFO:

TOWN OF SUDBURY
MASSACHUSETTS

WAYSIDE BRIDGE REPAIRS

REV	MM/DD/YY	DESCRIPTION

JOB NO:	0227202.11
DATE:	APRIL 2024
SCALE:	NONE
DESIGNED BY:	KD
DRAWN BY:	JBC
CHECKED BY:	DS
FILENAME:	0227202.08-G-000.dwg

DRAWING TITLE:
GENERAL
COVER SHEET

DRAWING NO:
G-000

GENERAL NOTES:

1. EXISTING CONDITIONS ARE BASED ON A SURVEY PERFORMED BY CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST – SUITE 101 MARLBOROUGH, MA 01752. PLAN TITLED, "EXISTING CONDITIONS SURVEY WAYSIDE INN ROAD, SUDBURY, MASSACHUSETTS.", DATED JULY 21, 2021.
2. THE HORIZONTAL DATUM DEPICTED ON THE MAPS HEREON IS BASED ON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, MAINLAND ZONE, REFERENCED TO THE NORTH AMERICAN DATUM OF 1983. THE VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. ANY PROPERTY AND RIGHT OF WAY LOCATIONS THAT MAY BE SHOWN HEREIN ARE APPROXIMATE AND DO NOT REPRESENT A PROPERTY BOUNDARY SURVEY.
4. WOODARD & CURRAN ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.
5. COORDINATE CONSTRUCTION ACTIVITY WITH UTILITY COMPANIES, EMERGENCY SERVICES AND TOWN. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK, ALLOWING SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF BURIED UTILITIES. CONTRACTOR SHALL CONTACT "DIG SAFE", TELEPHONE 811, PRIOR TO EXCAVATION.
6. RESTORE ALL AREAS DISTURBED BY CONTRACTOR'S OPERATIONS TO ORIGINAL FINISH (GRAVEL, PAVEMENT, GRASS, ETC.) UNLESS NOTED OTHERWISE ON THE PLANS. RESTORATION OF PAVED SURFACES, GRAVEL SURFACES, DRIVEWAYS, AND LAWNS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE PERFORMED AT NO ADDITIONAL COST TO OWNER. ANY CURB DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND AND SHALL CONFORM TO TOWN OF SUDBURY AND MASSACHUSETTS DOT SPECIFICATIONS AT NO ADDITIONAL COST TO OWNER.
7. PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT SHALL BE RESET AT THE CONTRACTOR'S EXPENSE BY A LICENSED LAND SURVEYOR ACCEPTABLE TO THE TOWN.
8. EXISTING FACILITIES (I.E. TREES, JERSEY BARRIERS, STONE, ETC.) SHALL BE REMOVED AND PROTECTED DURING CONSTRUCTION. THE TOWN RETAINS RIGHT TO KEEP ANY AND ALL REMOVED FACILITIES. CONTRACTOR SHALL DISPOSE OF ANY REMOVED FACILITY AT THE REQUEST OF THE TOWN AT NO ADDITIONAL COST TO OWNER.
9. ALL TREES NOT NOTED TO BE REMOVED OR RELOCATED SHALL BE PROTECTED BY CONTRACTOR DURING CONSTRUCTION.
10. DO NOT PARK, IMPEDE ACCESS TO, OR STORE EQUIPMENT BEYOND LIMIT OF WORK, UNLESS PERMISSION HAS BEEN GRANTED IN WRITING BY TOWN AND/OR LAND OWNER.
11. RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
12. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS INCLUDING "PERMIT TO CONSTRUCT WITHIN A PUBLIC WAY" FROM THE TOWN. PERMIT APPLICATIONS SHALL BE SUBMITTED WITH ADEQUATE TIME SO AS NOT TO DELAY CONSTRUCTION.
13. ALL WORK ASSOCIATED WITH THE PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH THE TOWN OF SUDBURY BYLAW AND LOCAL REGULATIONS AND MASSACHUSETTS DOT STANDARD SPECIFICATIONS.
14. UPON COMPLETION OF CONSTRUCTION, A COMPLETE SET OF "RECORD" DRAWINGS SHALL BE SUBMITTED TO THE TOWN ENGINEER. THESE DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL AND HARD COPY FORMAT AS DEFINED IN THE SPECIFICATIONS PRIOR TO PAYMENT OF FINAL RETAINAGE.
15. PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION SHALL BE PROVIDED AT NO ADDITIONAL COST.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR SWEEPING WAYSIDE INN ROAD EVERY FRIDAY AND AS NECESSARY DURING THE DURATION OF THE WORK.
17. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING HELD AT THE PROJECT SITE WITH THE CONTRACTOR, ENGINEER, AND OWNER TO REVIEW THE CONSTRUCTION SCHEDULE AND SEQUENCING, STOCKPILE LOCATIONS AND CRITICAL ASPECTS OF THE PROJECT.
18. ALL DISTURBED UPLAND AREAS SHALL BE BROUGHT TO FINAL GRADE AND SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS AFTER DISTURBANCE. BARE GROUND AND DISTURBED AREAS THAT CANNOT BE PERMANENTLY VEGETATED WITHIN 30 DAYS SHALL BE TEMPORARY STABILIZED BY AN APPROVED METHOD.
19. CONTRACTOR SHALL DEMARCATE CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE AREAS PRIOR TO CONSTRUCTION.
20. THE CONSTRUCTION SITE SHALL BE MAINTAINED IN CLEAN CONDITIONS AT ALL TIMES AND CONSTRUCTION REFUSE AND DEBRIS SHALL BE DISPOSED OF PROMPTLY AND IN A LEGAL MANNER.
21. STORING, SERVICING, OR CLEANING OF TRUCKS OR EQUIPMENT SHALL BE PERFORMED IN AN UPLAND AREA AT A HORIZONTAL DISTANCE GREATER THAN 100 FEET FROM THE WATERBURY AND ASSOCIATED RESOURCE AREAS.

EROSION CONTROL NOTES

22. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE, UNTIL ALL DISTURBED SURFACES HAVE BEEN STABILIZED WITH FINAL VEGETATION COVER OR THE OWNER HAS AUTHORIZED THEIR REMOVAL.
23. EROSION CONTROL MEASURES AND BARRIERS SHALL BE MONITORED DAILY AND MAINTAINED, OR REINFORCED AS NECESSARY TO ENSURE AND PREVENT EROSION AND SILTATION OF SOILS TO WETLAND RESOURCE AREAS. ADDITIONAL FILTER FABRIC AND STRAW WATTLES SHALL BE STORED ON SITE FOR EMERGENCY USE.
24. DURING ALL PHASES OF CONSTRUCTION, ALL DISTURBED OR EXPOSED AREAS OUTSIDE THE ROADWAY SHALL BE BROUGHT TO FINISHED GRADE AND EITHER A) LOAMED AND SEEDED FOR PERMANENT STABILIZATION, IN ACCORDANCE WITH U.S. SOIL CONSERVATION SERVICE PROCEDURES, OR B) STABILIZED IN ANOTHER WAY APPROVED BY THE COMMISSION. AREAS THAT CANNOT BE PERMANENTLY STABILIZED WITHIN 30 DAYS OF DISTURBANCE SHALL BE STABILIZED WITH HAY, STRAW, MULCH OR ANY OTHER PROTECTIVE COVERING AND/OR METHOD APPROVED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE OR BY OTHER TEMPORARY MEASURES ACCEPTABLE TO THE COMMISSION.
25. AN ADEQUATE STOCKPILE OF EROSION AND SEDIMENTATION CONTROL MATERIALS SHALL BE ON SITE AT ALL TIMES FOR EMERGENCY OR ROUTINE REPLACEMENT.
26. ANY DAMAGE CAUSED AS A DIRECT RESULT OF CONSTRUCTION TO THE RESOURCE AREAS SHALL BE REPAIRED, RESTORED AND/OR REPLACED. SEDIMENTATION OR EROSION SHALL BE CONSIDERED DAMAGE TO THE RESOURCE AREAS. IF SEDIMENTATION REACHES THESE AREAS, THE CONSERVATION COMMISSION SHALL BE CONTACTED AND A PLAN FOR THE PROPOSED RESTORATION SHALL BE SUBMITTED FOR APPROVAL.
27. THE SILT FENCE AND STRAW BALES MUST BE INSPECTED PRIOR TO THE START OF ANY WORK OR A $100 PER DAY FINE WILL BE LEVIED ON THE CONTRACTOR.

ABBREVIATIONS

&	AND
A.G.	ABOVE GROUND
BIT	BITUMINOUS
B/W	BETWEEN
BVW	BORDERING VEGETATED WETLAND
CB	CATCH BASIN
CI	CAST IRON
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
D	STORM DRAIN
DI	DUCTILE IRON
DIA.	DIAMETER
DMH	DRAIN MANHOLE
DOT	DEPARTMENT OF TRANSPORTATION
DTL.	DETAIL
DYL	DOUBLE YELLOW LINE
E	UNDERGROUND ELECTRICAL
EL.	ELEVATION
E.O.P.	EDGE OF PAVEMENT
EXIST.	EXISTING
FF	FINISH FLOOR
FT	FOOT/FEET
G	GAS MAIN
GS	GAS SERVICE
GALV.	GALVANIZED
GRAN.	GRANITE
HDPE	HIGH DENSITY POLYETHYLENE
HDPP	HIGH DENSITY POLYPROPYLENE
HYD	HYDRANT
INV.	INVERT
LF	LINEAR FEET
MASSDEP	MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
MADOT	MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
MAX.	MAXIMUM
MIN.	MINIMUM
MON	MONUMENT
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
NR	NO REFUSAL
N.T.S.	NOT TO SCALE
OE	OVERHEAD ELECTRIC
OH	OVERHEAD
±	PLUS OR MINUS
LLS	LICENSED LAND SURVEYOR
PROP.	PROPOSED
PT.	POINT
PVC	POLYVINYL CHLORIDE
R.O.W.	RIGHT-OF-WAY
RCP	REINFORCED CONCRETE PIPE
REINF.	REINFORCED
REQ'D	REQUIRED
RPP	RIBBED PLASTIC PIPE
S	SLOPE (FT./FT.)
S	SEWER
SMH	SEWER MANHOLE
SCH	SCHEDULE
STA.	STATION
SWL	SINGLE WHITE LINE
TOWN	TOWN OF SUDBURY
TYP.	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UP	UTILITY POLE
VC	VITRIFIED CLAY
W	WEST
W/	WITH

SYMBOLS

DESCRIPTION	EXISTING	PROPOSED
PK NAIL		
UTILITY POLE		
TREE/STUMP		
SIGN		
STEEL POST		
CONCRETE ANCHOR		
BRIDGE PARAPIT		
STEEL BACKED TIMBER GAURDRAIL		
TEMPORARY BARRIER		

SHEET INDEX

RESOURCE AREA LEGEND

BORDERING LAND SUBJECT TO FLOODING
(100 YEAR FLOOD ZONE, DEFINED BY FEMA)

NOTE:

A RESOURCE AREA DELINEATION WAS NOT CONDUCTED AS PART OF THIS PROJECT.

LINE TYPES & HATCHES

DESCRIPTION	EXISTING	PROPOSED
CONTOUR (1' INTERVAL)	201	
CONTOUR (INDEX)	200	
EDGE OF PAVEMENT		
OVERHEAD ELECTRIC	OE	
UNDERGROUND GAS	G	
RIGHT OF WAY/ PROPERTY LINE		
GUARDRAIL		
LIMIT OF WORK		LW
SEDIMENT BARRIER		
SAWCUT		
STONE WALL		
DOUBLE YELLOW LINE		
SINGLE WHITE LINE		
CENTERLINE		

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PE SEAL:

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SCOTT C SALVUCCI
CIVIL
No. 52343
4/10/2024
REGISTERED PROFESSIONAL ENGINEER

ISSUE FOR BID

CLIENT INFO:

TOWN OF SUDBURY
MASSACHUSETTS

WAYSIDE BRIDGE REPAIRS

REV	MM/DD/YY	DESCRIPTION

JOB NO:	0227202.11
DATE:	APRIL 2024
SCALE:	NONE
DESIGNED BY:	KD
DRAWN BY:	JBC
CHECKED BY:	DS
FILENAME:	0227202.08-G-001.dwg

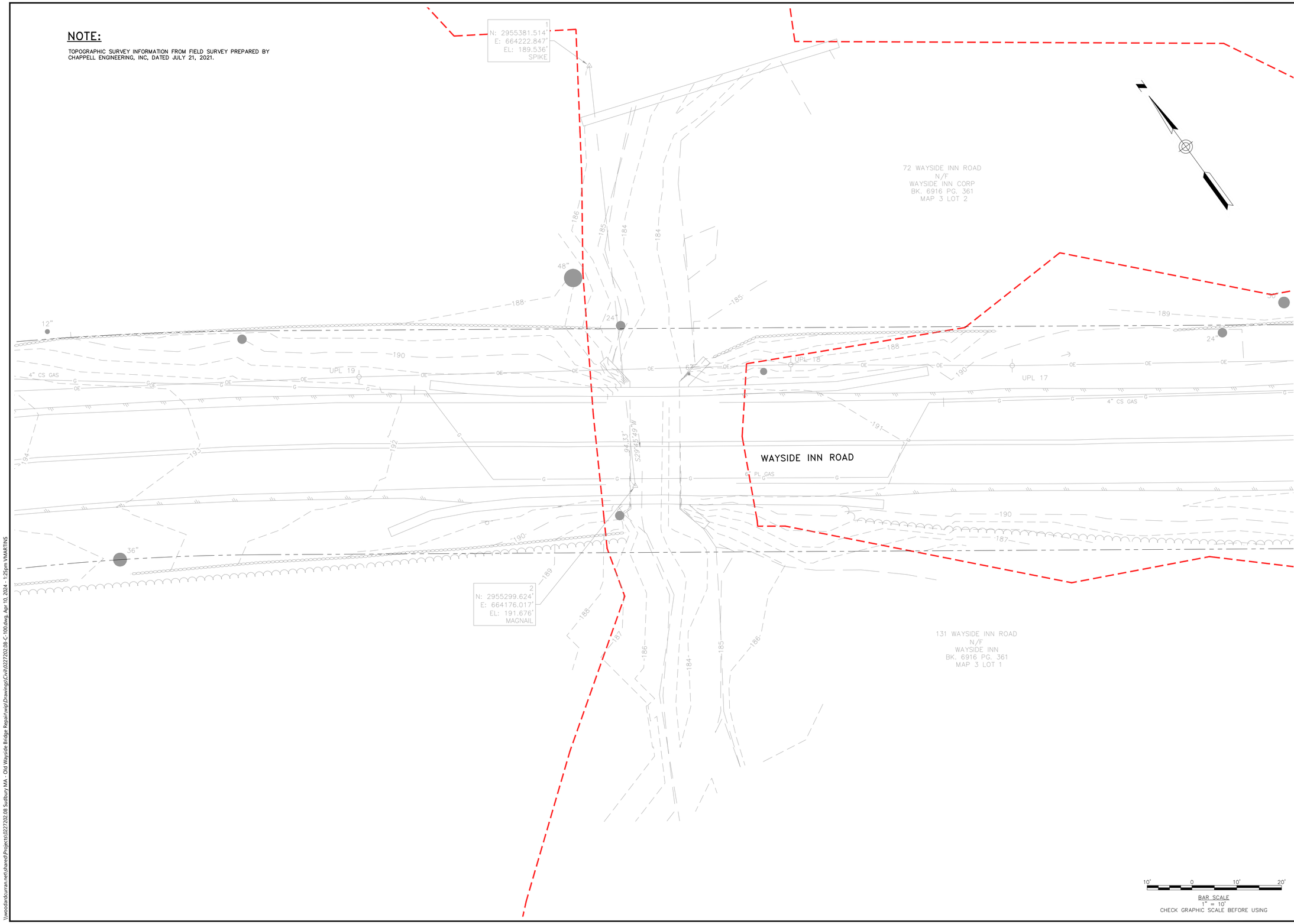
DRAWING TITLE:
GENERAL
GENERAL NOTES, LEGEND, AND ABBREVIATIONS

DRAWING NO:
G-001

22x34
PLOT SCALE: 1:1

NOTE:

TOPOGRAPHIC SURVEY INFORMATION FROM FIELD SURVEY PREPARED BY CHAPPELL ENGINEERING, INC, DATED JULY 21, 2021.



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WAYSIDE BRIDGE REPAIRS

REV	MM/DD/YY	DESCRIPTION

JOB NO:	0227202.11
DATE:	APRIL 2024
SCALE:	1" = 10'
DESIGNED BY:	KD
DRAWN BY:	JBC
CHECKED BY:	DS
FILENAME:	0227202.08-C-100.dwg

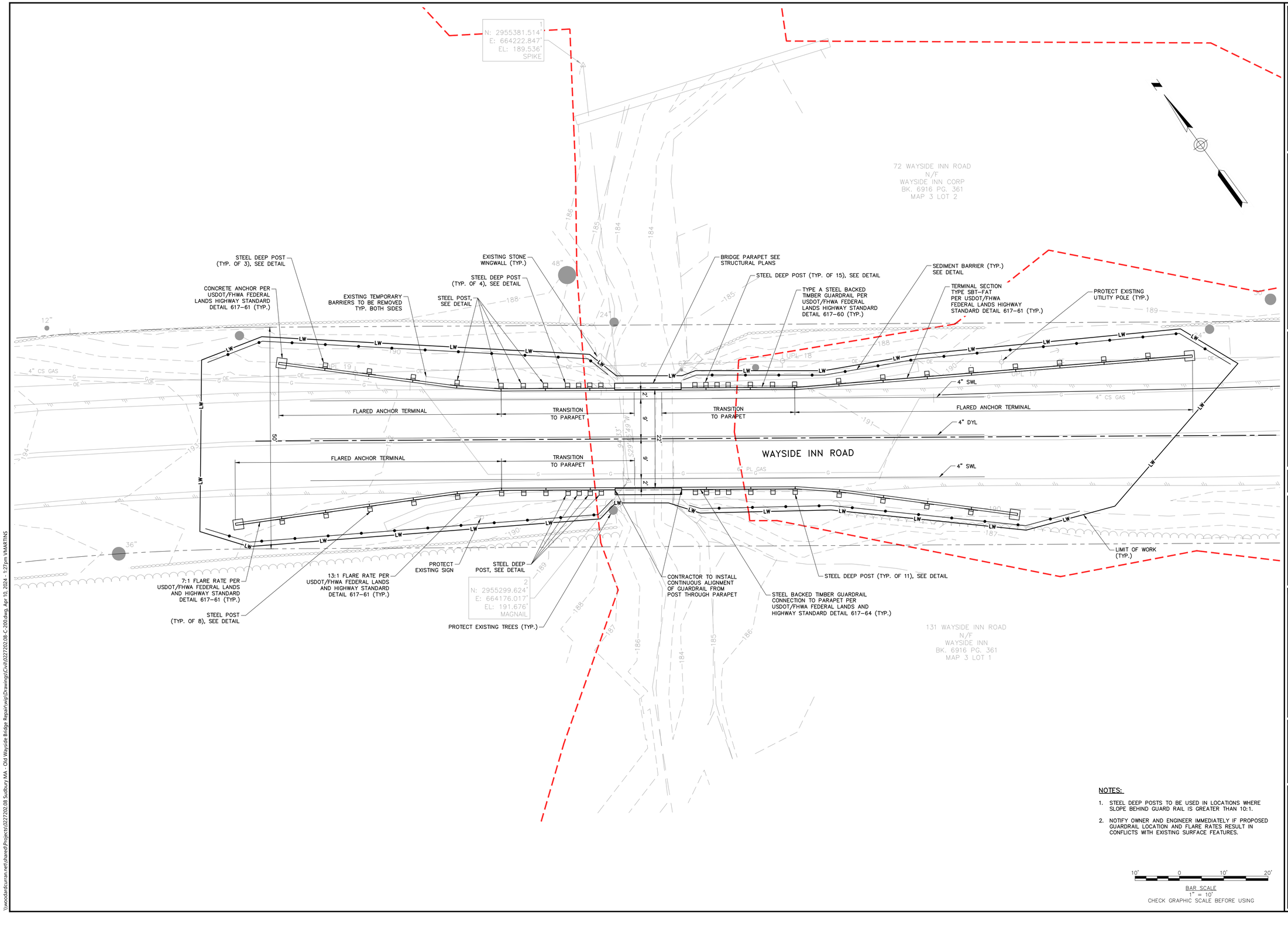
DRAWING TITLE:

CIVIL
EXISTING CONDITIONS

DRAWING NO:

C-100

22x34
PLOT SCALE: 1:1



NOTES:

1. STEEL DEEP POSTS TO BE USED IN LOCATIONS WHERE SLOPE BEHIND GUARD RAIL IS GREATER THAN 10:1.
2. NOTIFY OWNER AND ENGINEER IMMEDIATELY IF PROPOSED GUARDRAIL LOCATION AND FLARE RATES RESULT IN CONFLICTS WITH EXISTING SURFACE FEATURES.

10' 0 10' 20'
BAR SCALE
1" = 10'
CHECK GRAPHIC SCALE BEFORE USING

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SCALE:	AS NOTED
DESIGNED BY:	KD
DRAWN BY:	JBC
CHECKED BY:	DS
FILENAME:	0227202.08-C-200.dwg

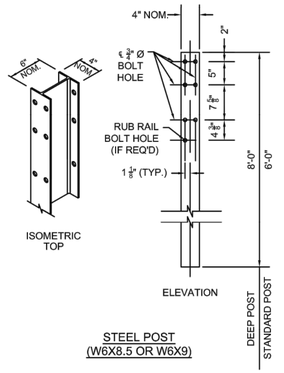
DRAWING TITLE:

CIVIL
SITE PLAN

DRAWING NO:

C-200

\\woodardcurran.net\shared\Projects\0227202.08 Sudbury MA - Old Wayside Bridge Repair\wip\Drawings\Civil\0227202.08-C-200.dwg, Apr 10, 2024 - 1:27pm VMARTINS



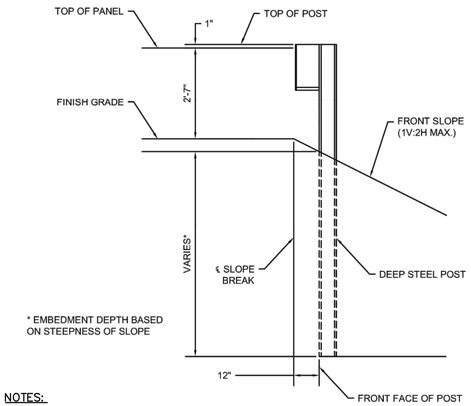
STEEL POST
(W6X8.5 OR W6X9)

NOTES:

1. DETAIL PER MASSDOT CONSTRUCTION STANDARD DETAILS DRAWING NUMBER 400.1.4.
2. DEEP STEEL POSTS SHALL ONLY BE USED WHERE INDICATED ON THE PLANS.
3. GUARDRAIL POSTS SHALL BE POWDER COATED BROWN. OWNER TO APPROVE OF COLOR PRIOR TO ORDERING POSTS.

STEEL POST DETAIL

N.T.S.



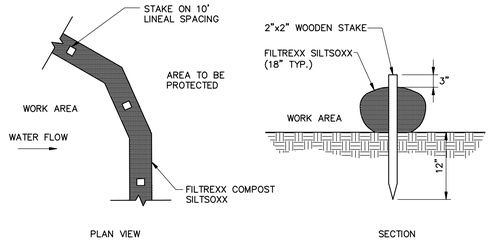
* EMBEDMENT DEPTH BASED ON STEEPNESS OF SLOPE

NOTES:

1. DETAIL PER MASSDOT CONSTRUCTION DETAILS DRAWING NUMBER 400.1.5.
2. DEEP STEEL POSTS SHALL ONLY BE USED WHERE INDICATED ON THE PLANS.

SLOPE BREAK CONDITION STEEL DEEP POST DETAIL

N.T.S.



SEDIMENT BARRIER – SILTSOXX

N.T.S.

EROSION AND SEDIMENT CONTROL NOTES

Temporary Erosion Control

Measure	Dates For Use	Timing, Activity, and Location
Sedimentation Barrier	ALL	Before soil disturbance, install downhill of areas to be disturbed and around material stockpiles.
Up-slope Diversion	ALL	Before soil disturbance, install uphill of areas to be disturbed and material stockpiles.
Catch Basin Protection	ALL	Before soil or pavement disturbance, install ACF Environmental, Inc. High Flow Siltsack, Siltsaver Inlet Filter. or equal, installed per manufacturer's requirements.
Dust Control	ALL	During dry weather, apply water and calcium chloride to control dust.
Temporary Seeding	April 15 to Oct. 15	Soil stockpiles that are not covered and disturbed areas that will not be disturbed again within 14 days. If grass growth provides less than 95% soil coverage by Nov. 1, apply mulch and anchor with erosion control blanket.
Mulch	April 15 to Sept. 15	On all areas of exposed soil prior to rain events apply 100-150 lbs (2.5 bales) per 1,000 sq ft. by mechanical blower.
Winter Mulch	Sept. 16 to Oct. 31	On all areas of exposed soil prior to precipitation apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. by mechanical blower, Erosion control blanket may be used as a substitute for winter mulch.
	Nov. 1 to April 14	On all areas of exposed soil, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. and anchor with netting at the end of each working day. Erosion control blanket may be used as a substitute for winter mulch.
Inspections	Until site is permanently stabilized	Inspect the erosion and sedimentation control measures daily, and after rainfall of half inch or greater in a 24-hour period, and maintain and repair as necessary.

Permanent Erosion Control:

Measure	Dates For Use	Timing, Activity, and Location
Pavement – Base Course – Final Course	When no frost is in ground	Install only in areas shown on the plan, shortly after pavement base is brought to final grade. Install near completion of project.
Permanent Seeding	April 15 to Sept. 15	On final grade areas, within 7 days of grade preparation, prepare topsoil, followed by seed and mulch application.
Dormant Seeding	Sept. 16 to April 15	On final grade areas, with prepared topsoil. Apply seed at double the specified rate on bare soil, and follow with an application of winter mulch.
Ground Cover, Trees, Shrubs	April 15 to Nov. 1	Install with final landscaping.
Permanent Mulch	ALL	Install with final landscaping.

Inspections:

Regular inspections of all erosion and sedimentation controls shall be made at least weekly and prior to and following storm events. Minimum inspections shall be made as listed in the table below.

Inspected Item	Look For
Mulched Surfaces	Thin mulch or inadequate application. Wind movement.
Seeded Surfaces	Poor seed germination. Loss of mulch. Development of rivulets.
Sediment Barrier	Sediment build-up to one half the height of the barrier. Undermining of the barrier. Supporting stakes loose, toppled, or unmarked. Breaks in barrier.
Perimeter Diversion	Discharge is to stabilized area. Erosion or breaks in barrier. Supporting stakes loose, toppled or unmarked.
Catch Basin Protection	Sediment build-up and structure blockages. Slow flow/Ponding water. Breaks in fabric or voids in barrier.
Dewatering Filter	Breaks in fabric or supporting structure. Slow flow, indicating high sediment build-up.
Construction Entrance	Sedimentation of roadways. Off-site dust complaints.

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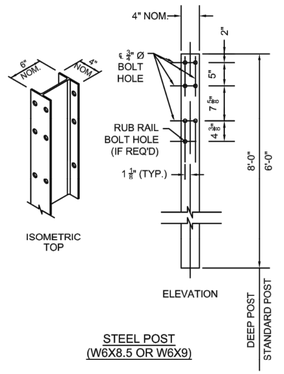
DRAWN BY:	JBC
CHECKED BY:	DS
FILENAME:	0227202.08-C-300.dwg

DRAWING TITLE:

CIVIL
CIVIL DETAILS - 1

DRAWING NO:

C-300



STEEL POST
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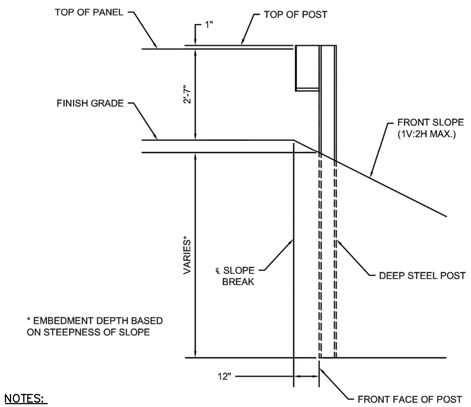
STEEL POST DETAIL

N.T.S.



NOTES:

1. DETAIL PER MASSDOT CONSTRUCTION DETAILS DRAWING NUMBER 400.1.5.
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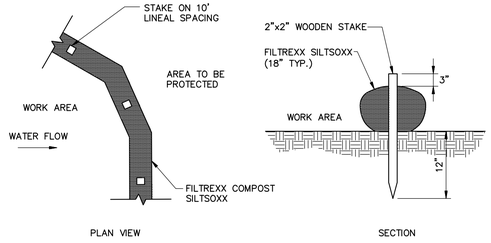
SLOPE BREAK CONDITION STEEL DEEP POST DETAIL

N.T.S.



SEDIMENT BARRIER – SILTSOXX

N.T.S.

EROSION AND SEDIMENT CONTROL NOTES

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Catch Basin Protection	ALL	Before soil or pavement disturbance, install ACF Environmental, Inc. High Flow Siltsack, Siltsaver Inlet Filter. or equal, installed per manufacturer's requirements.
Dust Control	ALL	During dry weather, apply water and calcium chloride to control dust.
Temporary Seeding	April 15 to Oct. 15	Soil stockpiles that are not covered and disturbed areas that will not be disturbed again within 14 days. If grass growth provides less than 95% soil coverage by Nov. 1, apply mulch and anchor with erosion control blanket.
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Perimeter Diversion	Discharge is to stabilized area. Erosion or breaks in barrier. Supporting stakes loose, toppled or unmarked.
Catch Basin Protection	Sediment build-up and structure blockages. Slow flow/Ponding water. Breaks in fabric or voids in barrier.
Dewatering Filter	Breaks in fabric or supporting structure. Slow flow, indicating high sediment build-up.
Construction Entrance	Sedimentation of roadways. Off-site dust complaints.

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PE SEAL:

COMMONWEALTH OF MASSACHUSETTS
SCOTT C SALVUCCI
CIVIL
No. 52343
4/10/2024
REGISTERED PROFESSIONAL ENGINEER

ISSUE FOR BID

CLIENT INFO:

TOWN OF SUDBURY
MASSACHUSETTS

WAYSIDE BRIDGE REPAIRS

REV	MM/DD/YY	DESCRIPTION

JOB NO:	0227202.11
DATE:	APRIL 2024
SCALE:	AS NOTED
DESIGNED BY:	KD
DRAWN BY:	JBC
CHECKED BY:	DS
FILENAME:	0227202.08-C-300.dwg

DRAWING TITLE:

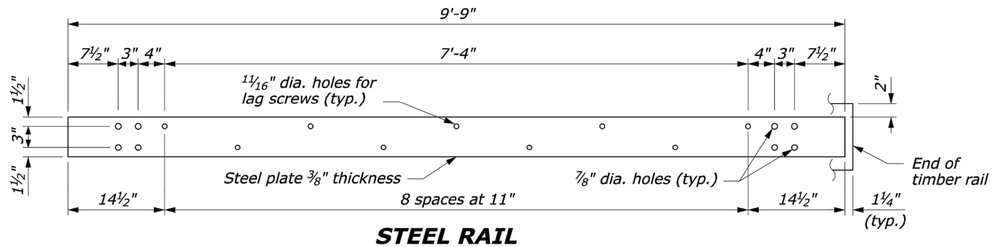
CIVIL
CIVIL DETAILS - 1

DRAWING NO:

C-300

22x34
PLOT SCALE: 1:1

STATE	PROJECT	SHEET NUMBER

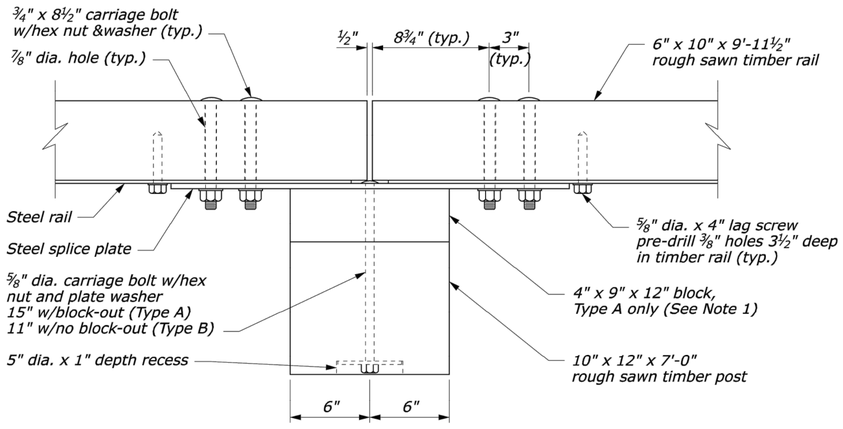


STEEL RAIL

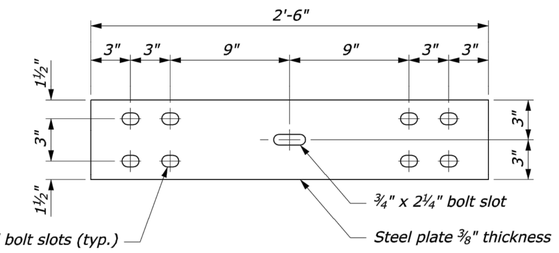
PLATE WASHER

NOTE:

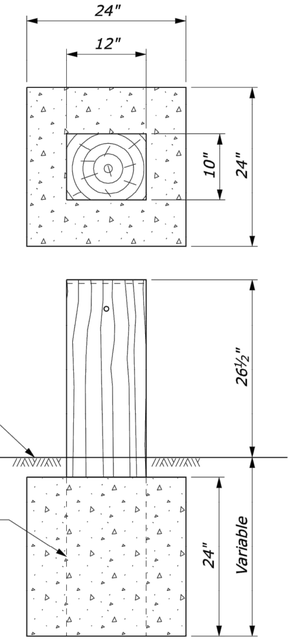
1. *Use the Type A, blocked-out, system or the Type B, non-blocked-out, system as specified in the plans.*
2. *Use weathering steel for all structural steel and fastener hardware as specified.*
3. *Place a terminal section (See Standards 617-61 and 617-62) on both approach and trailing ends of barrier installations.*



PLAN

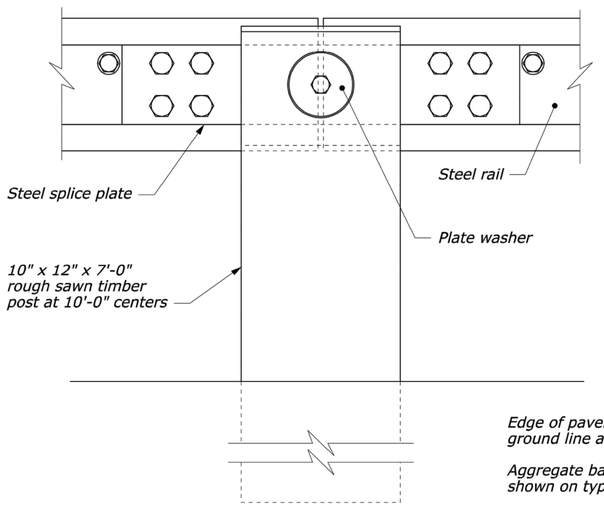


STEEL SPLICE PLATE



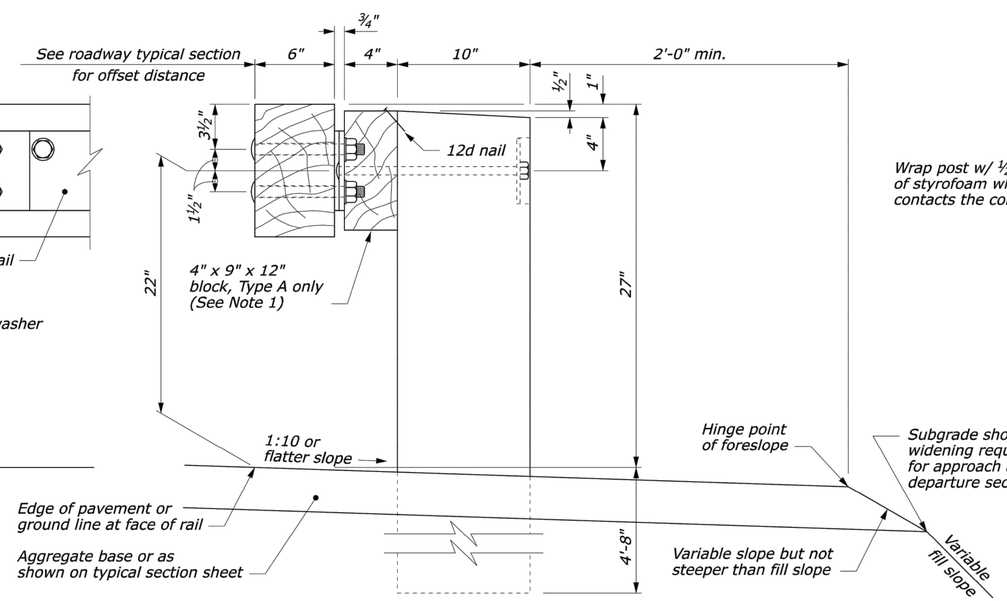
24" dia. round anchor is an acceptable alternative. Reduced size acceptable in solid rock.

CONCRETE ANCHOR FOR SHORT GUARDRAIL POST



ELEVATION

POST CONNECTION



TYPICAL GUARDRAIL CROSS SECTION

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

STEEL-BACKED TIMBER GUARDRAIL TYPE A & TYPE B

STANDARD APPROVED FOR USE 3/1990	STANDARD
REVISED: 4/1994 6/2005	617-60

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PE SEAL:

COMMONWEALTH OF MASSACHUSETTS
SCOTT C SALVUCCI
CIVIL
No. 52343
4/10/2024
REGISTERED PROFESSIONAL ENGINEER

ISSUE FOR BID

CLIENT INFO:

TOWN OF SUDBURY
MASSACHUSETTS

WAYSIDE BRIDGE REPAIRS

REV	MM/DD/YY	DESCRIPTION

JOB NO:	0227202.11
DATE:	APRIL 2024
SCALE:	AS NOTED
DESIGNED BY:	JBC
DRAWN BY:	DS
CHECKED BY:	KD
FILENAME:	0227202.08-C-300.dwg

DRAWING TITLE:
CIVIL
CIVIL DETAILS - 2

DRAWING NO:
C-301

20-Sep-2007 06:42 AM
F:\StanDraw\st61760.dgn [US Customary]
\\woodardcuran.net\shared\Projects\0227202.08 Sudbury MA - Old Wayside Bridge Repair\wip\Drawings\Civil\0227202.08-C-300.dwg, Apr 10, 2024 - 1:27pm VMARTINS

GENERAL NOTES

1. GOVERNING CODES

   1.1. MASS STATE BUILDING CODE 780 CMR NINTH EDITION
   1.2. MASSDOT LRFD BRIDGE MANUAL 2013
   1.3. ACI 318-14

2. DESIGN LOADS AND CRITERIA

   2.1. BASIC DESIGN PARAMETERS

PROJECT ADDRESS:	SUDBURY, MA	
PROJECT LOCATION:	LAT	42.357°
	LONG	-71.470°
GENERAL ELEVATION	188-FT	

   2.1. DEAD LOADS
   ACTUAL

   2.2. LIVE LOADS
   IMPACT LOAD 10,000 LBS

3. DEMO OR DEMOLISH SHALL MEAN TO REMOVE AND LEGALLY DISPOSE OF ITEM(S) INDICATED.

MATERIAL NOTES SPECIFICATIONS

A. CONCRETE: CURB

1. CONCRETE

PORTLAND CEMENT	ASTM C150, TYPE I OR II
FLY ASH	ASTM C618 C OR F, 20% MIN BY WEIGHT
WATER / CEMENTITIOUS RATIO	0.40 MAX
COMPRESSIVE STRENGTH	f'c = 5000 PSI
ENTRAINED AIR	6% ± 1.5%
SLUMP	4 IN +/- 1 IN

   1.1. USE ONE BRAND OF CEMENT THROUGHOUT PROJECT, UNLESS OTHERWISE ACCEPTABLE TO THE ENGINEER OF RECORD.
   1.2. WATER SHALL BE CLEAN AND FREE FROM DELETERIOUS AMOUNTS OF OIL, ACIDS, ALKALIS, ORGANIC MATERIAL, AND OTHER FOREIGN MATTER AND SHALL CONFORM TO ASTM C94
   1.3. CONCRETE MIX SHALL MEET MASS DOT STANDARDS FOR INTENDED SERVICE.

2. EPOXIED REINFORCING:

DEFORMED BAR	ASTM A615, GRADE 60
EPOXY COATING	ASTM A775

B. CONCRETE ANCHORS

3. POST INSTALLED – ADHESIVE

ANCHOR	DEFORMED BAR ASTM A615, GR 60
ADHESIVE	HILTI HIT-RE 500 V3
EXG CONC STRENGTH	3,000 PSI, CRACKED (ASSUMED)

ALTERATION OF EXISTING STRUCTURES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TEMPORARY MODIFICATIONS AND REPLACEMENT TO EXISTING BRIDGE COMPONENTS AS REQUIRED FOR THE INSTALLATION OF THE NEW PARAPET.
2. CONTRACTOR SHALL PROVIDE WRITTEN PLANS DETAILING THE SEQUENCE, PROCEDURE, AND PROPOSED EQUIPMENT FOR REVIEW BY THE ENGINEER OF RECORD PRIOR TO BEGINNING THE WORK.

CONCRETE NOTES

1. CONCRETE REINFORCEMENT FABRICATION

   1.1. REINFORCEMENT DETAILING SHALL BE DONE IN CONFORMANCE WITH ACI SP-66, CURRENT EDITION.
   1.2. FABRICATOR SHALL TAG ALL REINFORCEMENT FOR PROPER PLACEMENT IF SHOP FABRICATED. REINFORCING SHALL BE BENT PER CRSI 10 MANUAL OF STANDARD PRACTICE.

2. CONCRETE AND REINFORCEMENT PLACEMENT

   2.1. PERFORM CONCRETE WORK IN ACCORDANCE WITH CURRENT ACI 301 "STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE" UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED.
   2.2. CONCRETE SHALL BE FORMED AND LOCATED AS PER ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS AND COMMENTARY.
   2.3. FORMS SHALL BE COATED WITH A FORM RELEASE AGENT. FORM RELEASE AGENT SHALL NOT RAISE FORM GRAIN OR STAIN CONCRETE SURFACE.
   2.4. MECHANICALLY VIBRATE ALL CONCRETE PLACEMENTS, BUT VIBRATION SHALL NOT BE UTILIZED TO CONVEY MATERIAL.
   2.5. WELDING OF REINFORCING BARS IS NOT PERMITTED WITHOUT A PROCEDURE APPROVED BY THE ENGINEER OF RECORD.
   2.6. SECURE ALL REINFORCING IN POSITION WITH CHAIRS BEFORE CONCRETE PLACEMENT. REINFORCING SHALL BE INSPECTED FOR PROPER PLACEMENT.

3. CONCRETE FINISHING

   3.1. CHAMFER ALL EXPOSED EDGES 3/4" (TYPICAL UNLESS NOTIFIED OTHERWISE). CHAMFER VIA GRINDING IS PROHIBITED.

4. CONCRETE TESTING AND INSPECTION

   4.1. ALL CONCRETE SHALL BE FIELD TESTED BY AN INDEPENDENT TESTING LABORATORY AS PER ASTM SPECIFICATIONS (PAID FOR BY CONTRACTOR). FOR EACH PLACEMENT, ONE SET OF 5 STANDARD COMPRESSION TEST CYLINDERS SHALL BE TAKEN AND TESTED IN ACCORDANCE WITH ASTM C39: 1 SPECIMEN TESTED AT 7 DAYS; 3 SPECIMENS TESTED AT 28 DAYS; AND 1 SPECIMEN RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED.

EPOXY-COATED REINFORCEMENT NOTES

1. REINFORCEMENT

   1.1. ALL REINFORCING BARS SHALL BE DEFORMED AND SHALL CONFORM TO ASTM A 615
   1.2. EPOXY-COATED REINFORCING BARS SHALL CONFORM TO ASTM A 775
   1.3. WHEN REQUIRED, DAMAGES TO EPOXY COATING SHALL BE REPAIRED WITH PATCHING MATERIAL CONFORMING TO ASTM A775. REPAIR SHALL BE DONE IN ACCORDANCE WITH THE PATCHING MATERIAL MANUFACTURER'S RECOMMENDATIONS.

2. FABRICATION

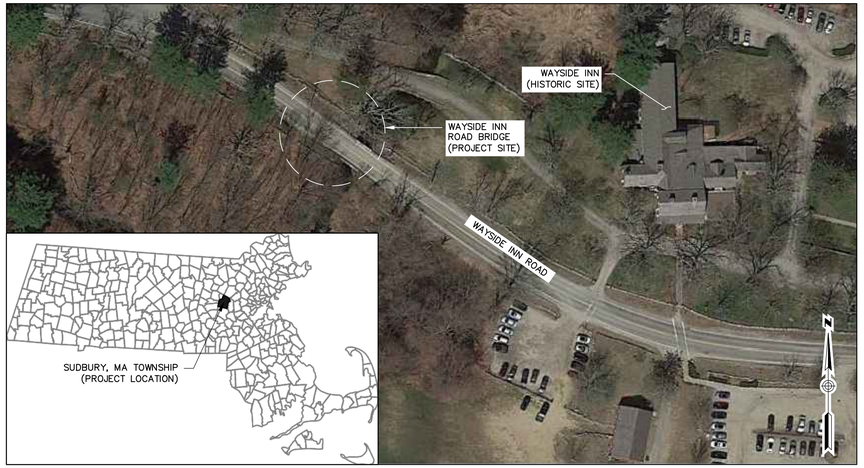
   2.1. ALL REINFORCEMENT SHALL BE BENT COLD UNLESS OTHERWISE PERMITTED BY THE ENGINEER.

3. PLACING (FIELD INSTALLATION)

   3.1. EPOXY-COATED REINFORCING BARS SUPPORTED FROM FORMWORK SHALL REST ON COATED WIRE BAR SUPPORTS, OR ON BAR SUPPORTS MADE OF DIELECTRIC MATERIAL OR OTHER ACCEPTABLE MATERIALS. REINFORCING BARS USED AS SUPPORT BARS SHALL BE EPOXY-COATED.
   3.2. EPOXY-COATED REINFORCING BARS SHALL BE FASTENED WITH NYLON-, EPOXY-, OR PLASTIC-COATED TIE WIRE OR OTHER ACCEPTABLE MATERIALS.
   3.3. SPLICES OF REINFORCING BARS SHALL BE MADE ONLY AS AUTHORIZED BY THE ENGINEER
   3.4. REINFORCING BARS PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT EXCEPT WHERE SHOWN ON THE DRAWINGS. WHERE REINFORCING BARS ARE FIELD BENT, COATING DAMAGE SHALL BE REPAIRED PER THESE NOTES.
   3.5. UNLESS PERMITTED BY THE ENGINEER, REINFORCING BARS SHALL BE NOT BE FIELD CUT. WHEN EPOXY-COATED REINFORCING BARS ARE CUT IN THE FIELD, THE ENDS OF THE BARS SHALL BE COATED WITH THE SAME MATERIAL USED FOR REPAIR OF COATING DAMAGE PER THESE NOTES.
   3.6. EQUIPMENT FOR HANDLING EPOXY-COATED BARS SHALL HAVE PROTECTED CONTACT AREAS. BUNDLES OF COATED BARS SHALL BE LIFTED AT MULTIPLE PICK-UP POINTS TO MINIMIZE BAR-TO-BAR ABRASION FROM SAGS IN THE BUNDLES. COATED BARS OR BUNDLES OF COATED BARS SHALL NOT BE DROPPED OR DRAGGED. COATED BARS SHALL BE STORED ON PROTECTIVE CRIBBING. FADING OF THE COLOR OF THE COATING SHALL NOT BE CAUSE FOR REJECTION OF EPOXY-COATED REINFORCING BARS. COATING DAMAGE DUE TO HANDLING, SHIPMENT, AND PLACING NEED NOT BE REPAIRED IN CASES WHERE THE DAMAGED AREA IS 0.1 SQUARE INCH OR SMALLER. DAMAGED AREAS LARGER THAN 0.1 SQUARE INCH SHALL BE REPAIRED PER THESE NOTES. THE MAXIMUM AMOUNT OF DAMAGE INCLUDING REPAIRED AND UNREPAIRED AREAS SHALL NOT EXCEED 2 PERCENT OF THE SURFACE AREA OF EACH BAR.

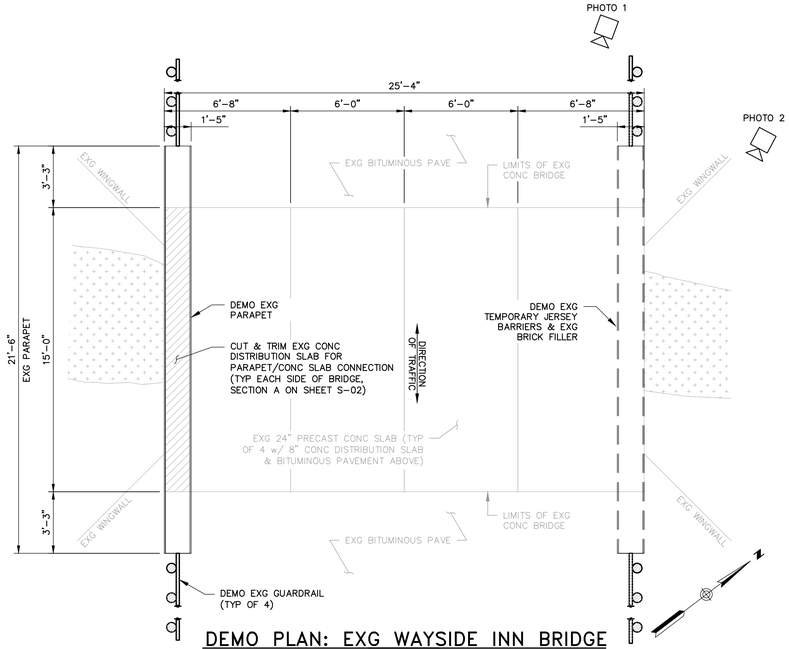
ABBREVIATIONS

&	AND
@	AT
%	PERCENT(AGE)
±	PLUS OR MINUS
ACI	AMERICAN CONCRETE INSTITUTE
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
BOT	BOTTOM
CLR	CLEAR
CONC	CONCRETE
CONT	CONTINUOUS
DEMO	DEMOLISH
EF	EACH FACE
EXG	EXISTING
EMB	EMBEDMENT
FT	FOOT / FEET
FV	FIELD VERIFY
IN	INCHE(S)
LB	POUND
MAX	MAXIMUM
MIN	MINIMUM
OC	ON CENTER
OCEF	ON CENTER EACH FACE
REF	REFERENCE
TYP	TYPICAL



SITE PLAN: WAYSIDE INN ROAD BRIDGE SITE

PHOTO 1: EXISTING CONDITIONS – WAYSIDE BRIDGE LOOKING SOUTH



DEMO PLAN: EXG WAYSIDE INN BRIDGE

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

PHOTO 2: EXISTING CONDITIONS – MISSING PARAPET

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PE SEAL:

COMMONWEALTH OF MASSACHUSETTS
ROBERT G. N.JORDGE
CIVIL
No. 43642
4/10/2024
REGISTERED PROFESSIONAL ENGINEER

ISSUE FOR BID

CLIENT INFO:

TOWN OF SUDBURY
MASSACHUSETTS

WAYSIDE BRIDGE REPAIRS

REV	MM/DD/YY	DESCRIPTION

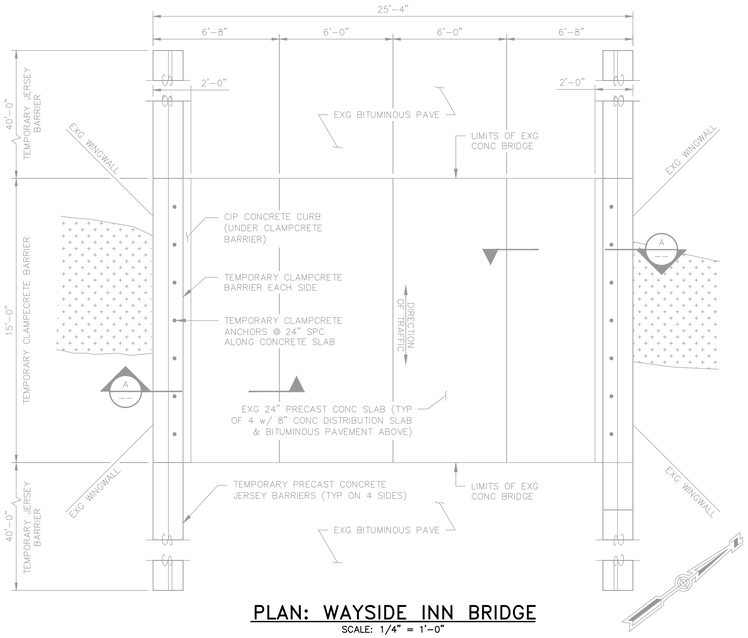
JOB NO:	0227202.11
DATE:	APRIL 2024
SCALE:	AS NOTED
DESIGNED BY:	CSB
DRAWN BY:	CSB
CHECKED BY:	TJS/JPS
FILENAME:	0227202.08_S-101.dwg

DRAWING TITLE:

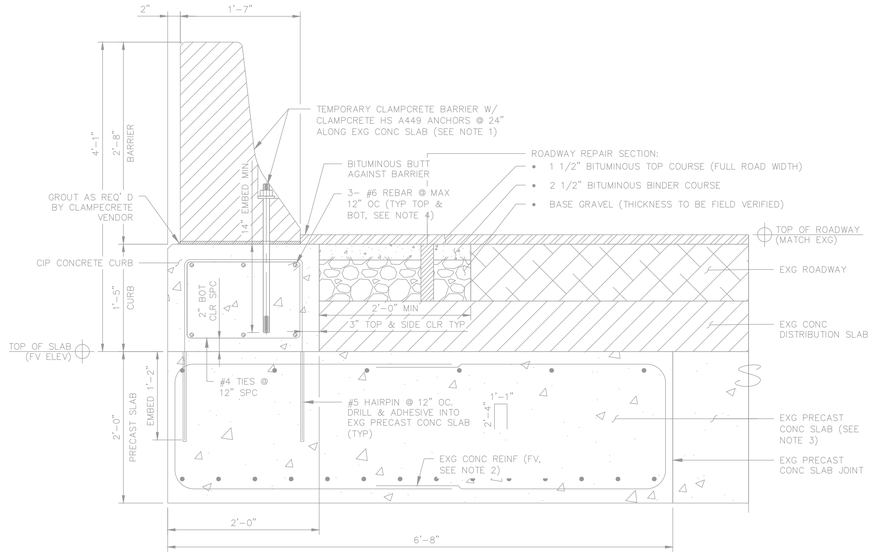
STRUCTURAL
WAYSIDE INN BRIDGE REPAIRS
SITE PLAN, NOTES, EXISTING CONDITIONS, AND DEMOLITION PLAN

DRAWING NO:

S-101



PLAN: WAYSIDE INN BRIDGE
SCALE: 1/4" = 1'-0"



NOTES:
1. CLAMPCRETE BARRIER & ASSOCIATED ANCHORS SHALL BE DESIGNED, STAMPED & INSTALLED BY VENDOR. VENDOR SHALL PROVIDED DESIGN & CALCULATIONS SIGNED & SEALED BY A LICENSED MA STRUCTURAL ENGINEER.
2. CONTRACTOR SHALL NOT DAMAGE OR DRILL THROUGH EXISTING REBAR – RELOCATE DOWEL DRILL HOLES AS REQUIRED TO AVOID REBAR.
3. CONTRACTOR SHALL INSPECT EXISTING CONDITION OF PRECAST CONC SLAB PRIOR TO INSTALLING NEW CURB. ANY EXPOSED REINFORCING, SPALLED CONCRETE, OR OTHERWISE UNSOUND CONCRETE SHALL BE IMMEDIATELY BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO NEW CURB CONSTRUCTION.
4. ALL REINFORCEMENT SHOWN THIS SECTION SHALL BE EPOXY-COATED PER NOTES ON SHEET S-101.

SECTION: TEMPORARY BRIDGE PARAPET (A / --)
SCALE: 1" = 1'-0"

NOTE:

1. NOT FOR CONSTRUCTION EXISTING CONDITIONS SHEET IS FOR INFORMATION ONLY.

FOR INFORMATIONAL PURPOSES ONLY

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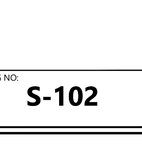
PE SEAL:



FOR INFORMATIONAL PURPOSES ONLY

CLIENT INFO:

TOWN OF SUDBURY
MASSACHUSETTS

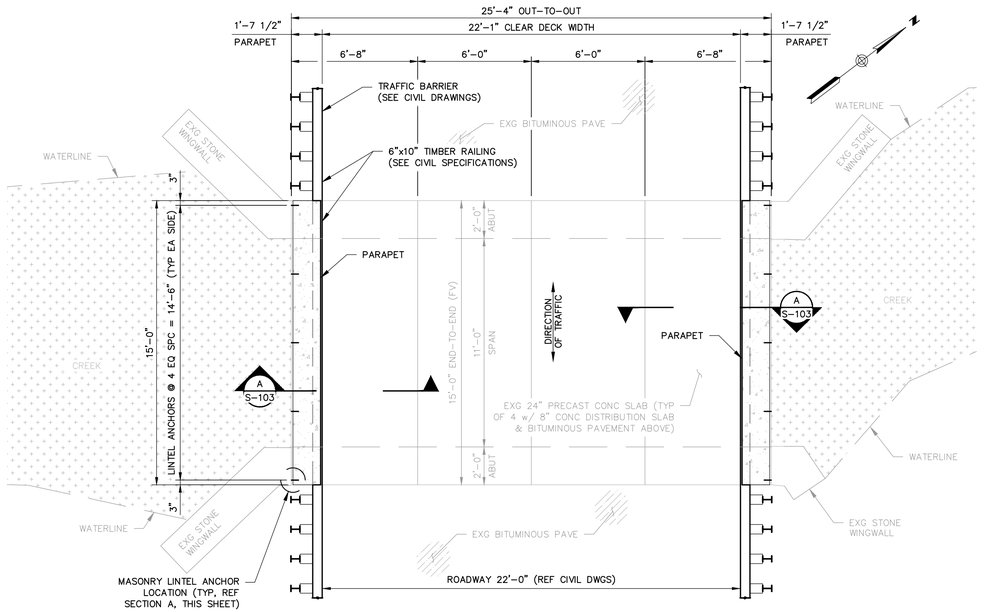
WAYSIDE BRIDGE REPAIRS

REV	MM/DD/YY	DESCRIPTION

JOB NO:	0227202.11
DATE:	APRIL 2024
SCALE:	AS NOTED
DESIGNED BY:	CSB
DRAWN BY:	CSB
CHECKED BY:	TJS/JPS
FILENAME:	0227202.08_S-102.dwg

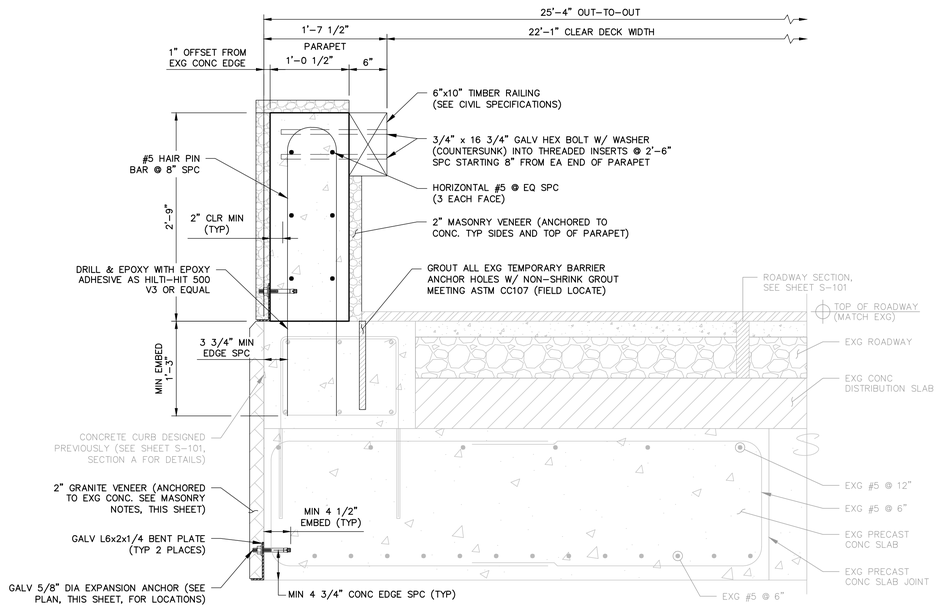
DRAWING TITLE:
STRUCTURAL
WAYSIDE INN BRIDGE REPAIRS
PROPOSED PLAN AND SECTION

DRAWING NO:
S-102



WAYSIDE INN BRIDGE PLAN

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



PERMANENT BRIDGE PARAPET

A S-103

SCALE: 1" = 1'-0"

NOTES:

1. CONTRACTOR SHALL NOT DAMAGE OR DRILL THROUGH EXISTING REBAR. RELOCATE DOWELING AS REQUIRED TO AVOID REBAR.
2. EXISTING CONCRETE ASSUMED IN GOOD CONDITION. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL VERIFY CONDITION OF EXISTING CONCRETE WHERE VENEER WILL BE LOCATED. ANY EXPOSED REINFORCING, SPALLED CONCRETE, OR OTHERWISE UNSOUND CONCRETE SHALL BE IMMEDIATELY BROUGHT TO THE ENGINEER'S ATTENTION BEFORE STARTING CONSTRUCTION.

GENERAL NOTES

A. GENERAL STRUCTURAL NOTES:

1. THESE NOTES SHALL APPLY TO ALL WORK THIS SHEET, EXCEPT AS NOTED OTHERWISE. SEE SHEETS S-01 & S-02 FOR WORK PREVIOUSLY PERFORMED.
2. GOVERNING CODES
   2.1. MASS STATE BUILDING CODE 780 CMR NINTH EDITION
   2.2. MASSDOT LRFD BRIDGE MANUAL 2013
   2.3. AISC STEEL CONSTRUCTION MANUAL, 14TH ED.
   2.4. ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE,
3. DESIGN LOADS AND CRITERIA
   3.1. BASIC DESIGN PARAMETERS
   PROJECT ADDRESS: SUDBURY, MA
   PROJECT LOCATION: LAT 42.357°
   LONG -71.470°
   GENERAL ELEVATION 188 FT
   3.1. DEAD LOADS
   ACTUAL
   STONE FACADE 30 PSF (EQUIVALENT TO 2" GRANITE @ 180 PCF)
   3.2. LIVE LOADS
   IMPACT LOAD 10,000 LBS

B. REINFORCED CONCRETE:

1. PROVIDE 4,500 PSI COMPRESSIVE STRENGTH AT 28 DAYS; 3/4" NOMINAL MAXIMUM AGGREGATE SIZE; AIR CONTENT 6% ± 1.5%; W/C RATIO 0.45 MAXIMUM; SLUMP 5" MAXIMUM W/ NO REDUCER, 6" MAXIMUM W/ MID-RANGE WATER REDUCER, OR 8" MAXIMUM W/ HIGH-RANGE WATER REDUCER AFTER ALL WATER HAS BEEN ADDED. SUBMIT TEST RESULTS TO THE ENGINEER.
2. PRIOR TO ORDERING A CONCRETE MIX, SUBMIT A CONCRETE MIX DESIGN TO BE REVIEWED AND APPROVED BY THE ENGINEER. MIX DESIGN SHALL INCLUDE TARGET COMPRESSIVE STRENGTH, TARGET SLUMP, TARGET AIR CONTENT, SIEVE ANALYSIS, WATER REDUCER PRODUCTS (MEETING ASTM C494), AIR ADMIXTURE PRODUCTS (MEETING ASTM C260), AND A CEMENT MILL REPORT NOT OLDER THAN 90 DAYS. CEMENT SHALL BE PER ASTM C150, TYPE II AND SHALL CONTAIN LESS THAN 0.60% EQUIVALENT ALKALIS. IF THE CEMENT CONTAINS 0.60% OR GREATER EQUIVALENT ALKALIS, PROVIDE AGGREGATE ALKALI REACTIVITY TESTING PER ASTM C1260, C1293, OR C1567.
3. ALL DESIGN IN ACCORDANCE WITH ACI 318-14 CONCRETE BUILDING CODE. ALL CONCRETE SHALL BE PROVIDED, PLACED, AND MOIST CURED (MIN 7 DAYS) AS PER ALL APPLICABLE SECTIONS OF ACI, AS APPROVED BY THE ENGINEER.
4. ALL CONCRETE SHALL BE FIELD TESTED BY AN INDEPENDENT TESTING LABORATORY AS PER ASTM SPECIFICATIONS (PAID FOR BY THE CONTRACTOR). FOR EACH PLACEMENT, ONE SET OF FOUR 4" DIAMETER X 8" TALL STANDARD COMPRESSION TEST CYLINDERS SHALL BE TAKEN AND TESTED IN ACCORDANCE WITH ASTM C39: 1 SPECIMEN TESTED AT 7 DAYS; 2 SPECIMENS TESTED AT 28 DAYS; AND 1 SPECIMEN RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED.
5. PRIOR TO INSTALLING STONE VENEER, ALL EXPOSED CONCRETE SURFACES SHALL RECEIVE A GROUT-CLEANED RUBBED FINISH AND SHALL HAVE A SMOOTH AND EVEN SURFACE, FREE OF BUG HOLES, WHEN COMPLETED. FILL MORTAR SHALL CONSIST OF ONE PAR CEMENT TO 1 1/2 PARTS SAND MEETING ASTM C144 OR C404. WORK IN DIRECT HOT SUNLIGHT SHALL BE AVOIDED.
6. CONCRETE ANCHORS

   THE FOLLOWING ANCHORS SHALL BE USED WHERE CALLED FOR IN THESE DRAWINGS.

   EPOXY ADHESIVE:
   ANCHOR SYSTEM HILTI HIT-HY 500-A W/ REBAR DOWELING

   MECHANICAL ANCHORS:
   ANCHOR HILTI SS304 KWIK BOLT TZ2-CS W/WASHER

D. CONCRETE REINFORCEMENT (EPOXY-COATED)

1. REINFORCEMENT: ASTM A615 GRADE 60 & EPOXY-COATED PER ASTM A775 - ALL SPLICES CLASS B (UNO). REINFORCEMENT SHALL BE DETAILED, FABRICATED, AND PLACED AS PER ACI 315 DETAILING MANUAL.
2. ALL REINFORCEMENT SHALL BE BENT COLD UNLESS OTHERWISE PERMITTED BY THE ENGINEER.
3. PLACING (FIELD INSTALLATION)
   3.1. EPOXY-COATED REINFORCING BARS SUPPORTED FROM FORMWORK SHALL REST ON COATED WIRE BAR SUPPORTS, OR ON BAR SUPPORTS MADE OF DIELECTRIC MATERIAL OR OTHER ACCEPTABLE MATERIALS. REINFORCING BARS USED AS SUPPORT BARS SHALL BE EPOXY-COATED.
   3.2. EPOXY-COATED REINFORCING BARS SHALL BE FASTENED WITH NYLON-, EPOXY-, OR PLASTIC-COATED TIE WIRE OR OTHER ACCEPTABLE MATERIALS.
   3.3. SPLICES OF REINFORCING BARS SHALL BE MADE ONLY AS AUTHORIZED BY THE ENGINEER
   3.4. REINFORCING BARS PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT EXCEPT WHERE SHOWN ON THE DRAWINGS. WHERE REINFORCING BARS ARE FIELD BENT, COATING DAMAGE SHALL BE REPAIRED PER THESE NOTES.
   3.5. UNLESS PERMITTED BY THE ENGINEER, REINFORCING BARS SHALL BE NOT BE FIELD CUT. WHEN EPOXY-COATED REINFORCING BARS ARE CUT IN THE FIELD, THE ENDS OF THE BARS SHALL BE COATED WITH THE SAME MATERIAL USED FOR REPAIR OF COATING DAMAGE PER THESE NOTES.
   3.6. EQUIPMENT FOR HANDLING EPOXY-COATED BARS SHALL HAVE PROTECTED CONTACT AREAS. BUNDLES OF COATED BARS SHALL BE LIFTED AT MULTIPLE PICK-UP POINTS TO MINIMIZE BAR-TO-BAR ABRASION FROM SAGS IN THE BUNDLES. COATED BARS OR BUNDLES OF COATED BARS SHALL NOT BE DROPPED OR DRAGGED. COATED BARS SHALL BE STORED ON PROTECTIVE CRIBBING. FADING OF THE COLOR OF THE COATING SHALL NOT BE CAUSE FOR REJECTION OF EPOXY-COATED REINFORCING BARS.
   3.7. COATING DAMAGE DUE TO HANDLING, SHIPMENT, AND PLACING NEED NOT BE REPAIRED IN CASES WHERE THE DAMAGED AREA IS 0.1 SQUARE INCH OR SMALLER. DAMAGED AREAS LARGER THAN 0.1 SQUARE INCH SHALL BE REPAIRED PER THESE NOTES. THE MAXIMUM AMOUNT OF DAMAGE INCLUDING REPAIRED AND UNREPAIRED AREAS SHALL NOT EXCEED 2 PERCENT OF THE SURFACE AREA OF EACH B
   3.8. WHEN REQUIRED, DAMAGES EPOXY COATING SHALL BE REPAIRED WITH PATCHING MATERIAL CONFORMING TO ASTM A775. REPAIR SHALL BE DONE IN ACCORDANCE WITH THE PATCHING MATERIAL MANUFACTURER'S RECOMMENDATIONS.
   3.9. COATING DAMAGE DUE TO HANDLING, SHIPMENT, AND PLACING NEED NOT BE REPAIRED IN CASES WHERE THE DAMAGED AREA IS 0.1 SQUARE INCH OR SMALLER. DAMAGED AREAS LARGER THAN 0.1 SQUARE INCH SHALL BE REPAIRED PER THESE NOTES. THE MAXIMUM AMOUNT OF DAMAGE INCLUDING REPAIRED AND UNREPAIRED AREAS SHALL NOT EXCEED 2 PERCENT OF THE SURFACE AREA OF EACH BAR.

E. MASONRY:

1. VENEER: BY STONEYARD, INC OR APPROVED EQUAL. COLOR AND STYLE OF MASONRY & GRANITE VENEER SHALL BE SELECTED BY THE CLIENT. ANCHORAGE OF VENEER SHALL BE ANCHORED PER MANUFACTURERS RECOMMENDATIONS.
2. ALL STONE FINISHES SHALL HAVE AN AGED FINISH TO BE REVIEWED AND APPROVED BY THE HISTORIC DISTRICTS COMMISSION AT A FUTURE MEETING.
3. MORTAR FOR VENEER SHALL CONFORM TO ASTM C270, TYPE N, AND SHALL CONSIST OF THE FOLLOWING PROPORTIONS BY VOLUME: 1 PART TYPE N MORTAR CEMENT 2-1/4 TO 3 PARTS AGGREGATE; OR 1 PART PORTLAND CEMENT, 1/2 TO 1-1/4 PARTS HYDRATED LIME, 2-1/4 TO 3 TIMES THE SUM OF THE CEMENT AND LIME VOLUMES, PARTS AGGREGATE
4. MORTAR PIGMENT: MORTAR SHALL BE CHEMICALLY PURE INORGANIC OXIDES IN COMPOUNDS SUITABLY PREPARED FOR USE IN MASONRY MORTAR. COLORS SHALL BE SELECTED BY THE CLIENT.

F. STRUCTURAL STEEL:

1. STEEL SHALL COMPLY WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AISC 360-10 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, AISC 303-10 CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AND THE 14TH EDITION OF STEEL CONSTRUCTION MANUAL. ALL STEEL MEMBERS, BOLTS, AND CONNECTIONS SHALL BE DESIGNED TO LOAD AND RESISTANCE FACTOR DESIGN (LRFD).
2. STEEL SHALL CONFORM TO ASTM A36 FOR ROLLED SHAPES & PLATES.
3. POST-INSTALLED ANCHORS: EXPANSIONS BOLTS ARE PERMITTED WHERE SPECIFICALLY INDICATED ON DRAWINGS AND IN COMPLIANCE WITH PROJECT SPECIFICATION.
4. FIELD CUTTING OR DRILLING IN STRUCTURAL MEMBERS IS PROHIBITED, UNLESS PREVIOUSLY APPROVED BY THE STRUCTURAL STRUCTURAL ENGINEER-OF-RECORD.

G. STRUCTURAL STEEL GALVANIZING

1. ALL STRUCTURAL STEEL, INCLUDING BOLTS AND CONNECTION ITEMS, SHALL BE GALVANIZED.
2. ALL ITEMS SPECIFIED AS GALVANIZED SHALL BE COATED BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A123 OR ASTM A153, IN MOLTEN ZINC, PRODUCING A CONTINUOUS COATING OF UNIFORM THICKNESS OF WEIGHT REQUIRED BY THE REFERENCED SPECIFICATIONS.
3. GALVANIZING PROCESS SHALL INCLUDE NOT LESS THAN FOUR IMMERSIONS IN COPPER SULFATE IN CONFORMANCE WITH ASTM A239. MINIMUM ACCEPTABLE WEIGHT OF COATING SHALL BE 1.25 OUNCES PER SQUARE FOOT OF SURFACE AS PER ASTM A90 .
4. GALVANIZED ITEMS SHALL BE TAGGED TO INCLUDE THE NAME OF GALVANIZER, THE WEIGHT OF THE COATING, AND APPLICABLE ASTM COMPLIANCE.
5. AT LOCATIONS WHERE GALVANIZED STEEL IS FIELD CUT AND AT OTHER LOCATIONS WHERE GALVANIZED COATING IS REMOVED, THE STEEL SURFACE SHALL BE TOUCHED UP WITH A ZINC RICH PAINT MEETING ASTM A780 AND CONTAINING A MINIMUM OF 65% ZINC. THE MINIMUM ACCEPTABLE WEIGHT OF COATING SHALL BE 1.25 OUNCES PER SQUARE FOOT OF SURFACE AS PER ASTM A90.
6. IF GALVANIZED STEEL IS TO BE PAINTED, THE GALVANIZED STEEL SHALL NOT BE QUENCHED. IT SHALL BE PHOSPHATIZED, AND PREPARED FOR PAINTING PER ASTM D6386. IT SHALL BE PRIME PAINTED, COMPATIBLE WITH THE FINISH PAINTS SPECIFIED.

F. EXISTING CONDITIONS:

4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AS THEY RELATE TO NEW CONSTRUCTION. REPORT TO THE ENGINEER-OF-RECORD ALL OBSERVATIONS AND ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.
5. WHERE DETAILS FOR SPECIFIC CONDITIONS ARE NOT SHOWN ON THESE PLANS, USE DETAILS FOR THE MOST NEARLY SIMILAR CONDITIONS SHOWN ON THE STRUCTURAL DRAWINGS AS DETERMINED BY THE STRUCTURAL ENGINEER. REPORT ANY COORDINATION ISSUES IMMEDIATELY TO THE ENGINEER.
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE FOR A SAFE AND EFFICIENT METHOD OF SHORING AND/OR BRACING FOR THE STRUCTURE DURING ALL CONSTRUCTION PHASES. SUBMIT AN OUTLINE OF PROPOSED PROCEDURES BEFORE CONSTRUCTION COMMENCES.
7. STRUCTURAL MEMBERS SHALL NOT BE MODIFIED IN THE FIELD WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER. IN THE EVENT OF A CONSTRUCTION OR FABRICATION ERROR, THE CONTRACTOR SHALL PREPARE A SKETCH WITH A PROPOSED REPAIR, AND SUBMIT IT TO THE ENGINEER FOR APPROVAL PRIOR TO PERFORMING ANY CORRECTIVE WORK.
8. VERIFY ALL FIELD DIMENSIONS, LOCATIONS, AND GEOMETRY OF EXISTING STRUCTURES PRIOR TO CONSTRUCTION. ALL EXISTING DIMENSIONS ARE APPROXIMATE. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCY BETWEEN THE FIELD CONDITIONS AND THE CONTRACT DRAWINGS.
9. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT THE EXISTING BUILDING ELEMENTS TO REMAIN DURING DEMOLITION. DO NOT CUT OR ALTER ANY OF THE EXISTING STRUCTURAL OR ARCHITECTURAL ELEMENTS TO REMAIN WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. PROVIDE PROTECTION FOR EXISTING WALLS, COLUMNS, BRACES, AND OTHER BUILDING ELEMENTS TO REMAIN FROM FALLING DEBRIS. ANY DAMAGE TO EXISTING ELEMENTS TO REMAIN SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR OWN EXPENSE.

ABBREVIATIONS

&	AND
@	AT
%	PERCENT(AGE)
±	PLUS OR MINUS
ACI	AMERICAN CONCRETE INSTITUTE
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
BOT	BOTTOM
CIP	CAST-IN-PLACE
CLR	CLEAR
CONC	CONCRETE
DIA	DIAMETER
DWGS	DRAWINGS
EL	ELEVATION
EMBED	EMBEDMENT
EXG	EXISTING
FT	FOOT / FEET
FV	FIELD VERIFY
FL	FIELD LOCATE
IN	INCH(ES)
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
OC	ON CENTER
OD	OUTSIDE DIAMETER
OCEW	ON CENTER EACH WAY
PL	PLATE
PLF	POUND(S) PER LINEAR FOOT
PSF	POUND(S) PER SQUARE FOOT
PSI	POUND(S) PER SQUARE INCH
REF	REFERENCE
SEOR	STRUCTURAL ENGINEER OF RECORD
SS	STAINLESS STEEL
T&B	TOP AND BOTTOM
TYP	TYPICAL
UNO	UNLESS NOTIFIED OTHERWISE
W/	WITH

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PE SEAL:

COMMONWEALTH OF MASSACHUSETTS
ROBERT G. NJOROGE
CIVIL
No. 49642
REGISTERED PROFESSIONAL ENGINEER

ISSUE FOR BID

CLIENT INFO:

TOWN OF SUDBURY
MASSACHUSETTS

WAYSIDE BRIDGE REPAIRS

REV	MM/DD/YY	DESCRIPTION

JOB NO:	0227202.11
DATE:	APRIL 2024
SCALE:	AS NOTED
DESIGNED BY:	CSB
DRAWN BY:	CSB
CHECKED BY:	TJS/JPS
FILENAME:	0227202.08_S-103.dwg

DRAWING TITLE:

STRUCTURAL
WAYSIDE INN BRIDGE REPAIR
PLAN & SECTION

DRAWING NO:

S-103