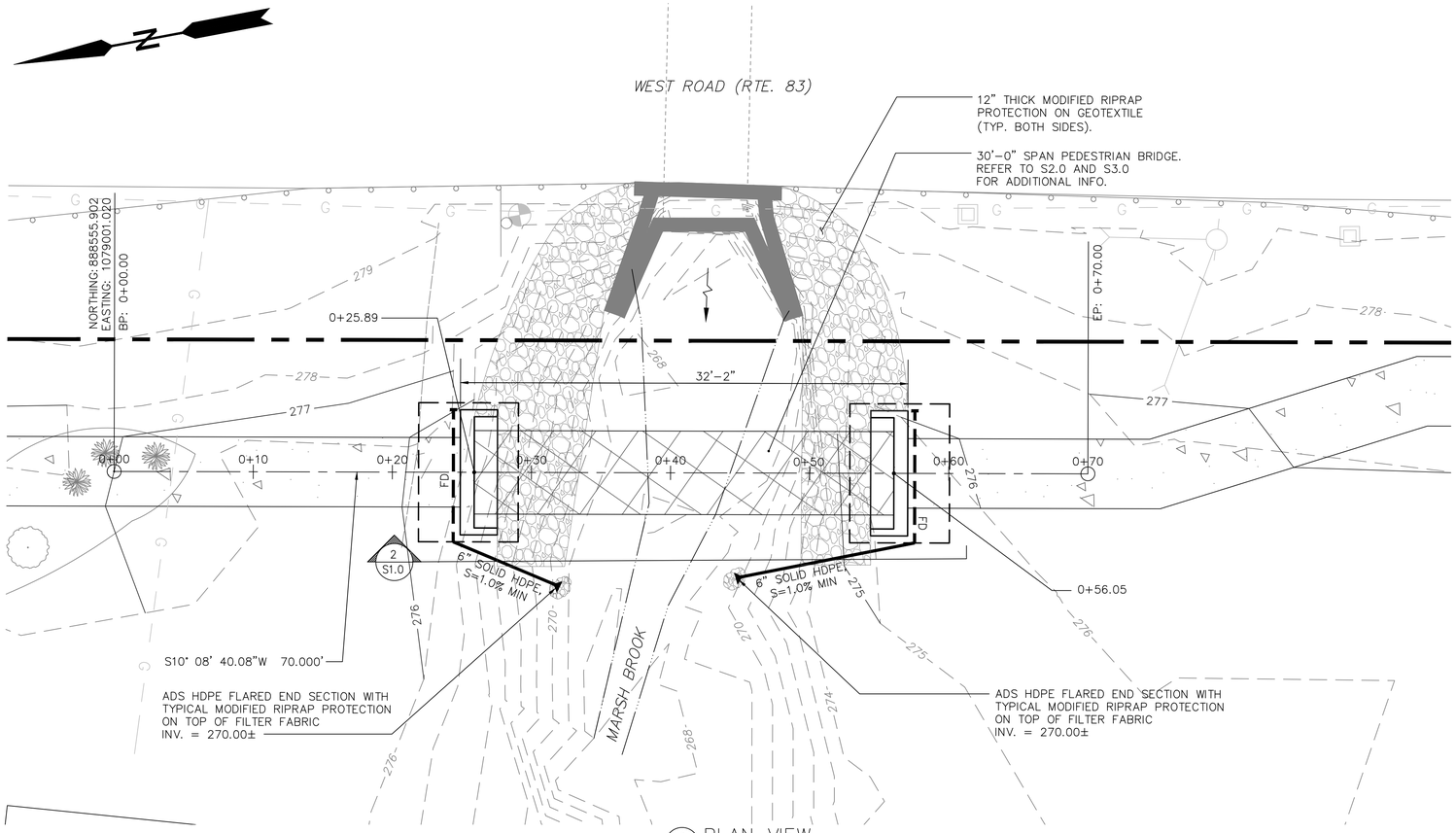
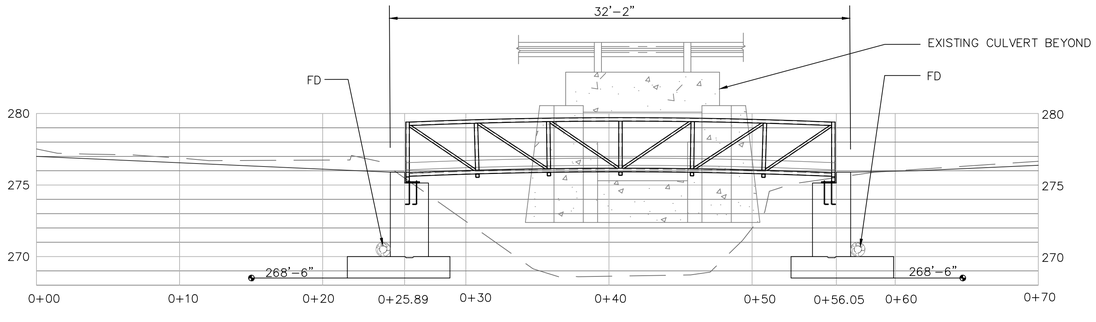


1 S1.0 PLAN VIEW
SCALE: 1" = 5'-0"



2 S1.0 SECTION
SCALE: 1" = 5'-0"

DESIGN DATA

CODES AND STANDARDS USED:

2018 CONNECTICUT BUILDING CODE
2015 INTERNATIONAL BUILDING CODE
AMERICAN CONCRETE INSTITUTE BUILDING CODE (ACI-318)
AMERICAN INSTITUTE OF STEEL CONSTRUCTION "ALLOWABLE STRESS DESIGN" (AISC-14TH EDITION,ANSI/AISC 360-10)
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 7TH EDITION

ALLOWABLE STRESSES:

ANGLES, & PLATES ASTM A36;
REINFORCING STEEL – ASTM A-615, GRADE 60 & ASTM A-185 (EPOXY COATED)
CONCRETE – f'c AT 28 DAYS 4,500 PSI WITH AIR FOR ALL FOOTINGS & WALLS
GROUT – f'c AT 28 DAYS = 5,000 PSI
ALLOWABLE SOIL BEARING PRESSURES:
4,000 PSF (GEOTECHNICAL REPORT)

MINIMUM LIVE LOAD: REFER TO BRIDGE MANUFACTURER FOR ADDITIONAL INFO.

BRIDGE DESIGN WAS ONLY BASED ON COMBINATIONS OF THE FOLLOWING LOADS WHICH WILL PRODUCT MAXIMUM CRITICAL MEMBER STRESSES.

1. 60 PSF UNIFORM LIVE LOADING ON THE FULL DECK AREA OR ONE 4,000 POUND VEHICLE LOAD. THE VEHICLE LOAD SHALL BE DISTRIBUTED AS A FOUR-WHEEL VEHICLE WITH 60% OF THE LOAD ON THE REAR WHEELS. THE WHEEL TRACK WIDTH OF THE VEHICLE SHALL BE 2'-8" AND THE WHEEL BASE SHALL BE 4'-0". THE VEHICLE SHALL BE POSITIONED SO AS TO PRODUCE THE MAXIMUM STRESS IN EACH MEMBER, INCLUDING DECKING.
2. 25 PSF WIND LOAD ON THE FULL HEIGHT OF THE BRIDGE, AS IF ENCLOSED.
3. 20 PSF UPWARD FORCE APPLIED AT THE WINDWARD QUARTER POINT OF THE TRANSVERSE BRIDGE WIDTH (AASHTO 3.15.3).

GENERAL NOTES

A. FILL AND BACKFILL

1. ANY PLACED MATERIAL SHALL BE COMPACTED WITH A MECHANICAL VIBRATOR TO A MINIMUM OF 95% PROCTOR DENSITY AS DEFINED BY ASTM D1557.
2. SEE PLANS FOR GRAVEL FILL REQUIREMENTS.
3. NO WALLS ARE TO BE BACKFILLED UNTIL CONCRETE HAS BEEN IN PLACE A MINIMUM OF 7 DAYS UNLESS DIRECTED BY THE ENGINEER.

B. CONCRETE

1. CONCRETE STRENGTH AT 28 DAYS SHALL BE AS INDICATED IN DESIGN DATA.
2. PROTECTIVE COVER, SPLICE LAP AND EMBEDMENT FOR REINFORCING STEEL SHALL BE PER ACI SPECIFICATION.
3. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS MUST FOLLOW ACI 318-14.
4. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.
5. NO TACK WELDING OF REINFORCING WILL BE PERMITTED.
6. UNLESS NOTED OTHERWISE, ALL LAP SPLICES SHALL BE CLASS B, IN ACCORDANCE WITH ACI 318-14.
7. NO CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CHLORIDES SHALL BE USED IN THE CONCRETE.
8. ALL HORIZONTAL STEEL SHOWN IN SECTIONS AND DETAILS SHALL BE CONTINUOUS, UNLESS OTHERWISE NOTED. ALL LAPS SHALL BE CLASS "B" SPLICES IN ACCORDANCE WITH ACI 318.
9. AT INTERSECTIONS OF REINFORCED CONCRETE WALLS, PROVIDE CORNER DOWELS OF SAME SIZE AND AT THE SAME SPACING AS THE SMALLER HORIZONTAL REINFORCING. DOWELS SHALL HAVE A CLASS B LAP WITH HORIZONTAL REINFORCING IN EACH DIRECTION. SEE DETAILS.
10. ALL KEYS IN CONCRETE WALLS SHALL BE 2X4 UNLESS NOTED OTHERWISE.
11. ALL CONCRETE TO REMAIN EXPOSED TO VIEW SHALL RECEIVE A SMOOTH RUBBED FINISH.
12. CONTRACTOR SHALL FOLLOW ACI REQUIRMENTS FOR ALL REINFORCING CLEARANCES

C. FOOTINGS

1. ELEVATION OF BOTTOM OF FOOTINGS TO BE VERIFIED WITH FIELD CONDITIONS. ALL FOOTINGS SHALL BE PLACED A MINIMUM OF 4'-0" BELOW FINAL GRADES.
2. ALL FOOTINGS TO BEAR ON FIRM, UNDISTURBED SOIL HAVING A SAFE BEARING CAPACITY AS STATED IN THE DESIGN DATA.
3. "FD" INDICATES 6" PERFORATED HDPE DRAIN WRAPPED WITH 12" OF WASHED 3/4" CRUSHED STONE AND FILTER FABRIC.

D. FOUNDATIONS COORDINATE ALL WORK WITH GEOTECHNICAL REPORT

1. BACKFILLING SHALL BE ACCOMPLISHED TO EQUAL HEIGHTS ON BOTH SIDES OF THE FOUNDATION WALLS TO PREVENT MOVEMENTS DUE TO UNBALANCED EARTH PRESSURE. WHERE EARTH IS ON SIDE ONLY, BACKFILLING AND COMPACTION SHALL NOT START UNTIL ADEQUATE BRACING IS PROVIDED FOR WALL SUPPORT (EXCEPT AT RETAINING WALLS).
2. REMOVAL OF UNSUITABLE SUBSOILS SHALL BE COORDINATED WITH GEOTECHNICAL REPORT.
3. ALL CONTROLLED COMPACTED BACKFILL UNDER FOOTINGS AND WITHIN THE FOOTPRINT OF THE STRUCTURE SHALL BE COMPACTED TO 95% OF THE MODIFIED OPTIMUM DENSITY.
4. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE ATLEAST 4'-0" BELOW FINISHED GRADE. PRIOR TO PROCEEDING WITH FOOTING EXCAVATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF FINISH GRADES AND BOTTOM OF EXTERIOR FOOTING ELEVATIONS TO MAINTAIN THE 4'-0" FROST PROTECTION.
5. ALL SOIL SURROUNDING AND UNDER ALL FOOTINGS SHALL BE PROTECTED FROM FREEZING AND FROST ACTION DURING THE COURSE CONSTRUCTION.
6. WHERE SUBSURFACE PIPING PASSES THROUGH FOUNDATION WALLS, THE TOP OF THE FOOTINGS SHALL BE AT LEAST 8" BELOW THE INVERT ELEVATION OF THE PIPING AND CONDUITS COORDINATE ALL INVERTS WITH MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, SITE AND SITE UTILITY DRAWINGS.
7. KEEP FOUNDATION EXCAVATIONS FREE OF WATER AT ALL TIMES.
8. PLACEMENT OF ALL COMPACTED FILL MATERIALS MUST BE UNDER SUPERVISION OF AN APPROVED TESTING LABORATORY OR GEOTECHNICAL ENGINEER. CONCRETE FOUNDATIONS SHALL NOT BE PLACED UNTIL SUBGRADE HAS BEEN CHECKED IN PLACE AND APPROVED BY A TESTING LABORATORY OR GEOTECHNICAL ENGINEER.
9. EXISTING ON-SITE EXCAVATED MATERIALS SHALL NOT BE ACCEPTABLE BACKFILL MATERIAL FOR BACKFILLING OF FOUNDATION WALLS, OR WITHIN 2 FEET OF PAVEMENT GRADES UNLESS APPROVED BY THE GEOTECHNICAL ENGINEER
10. THE FOUNDATION DESIGN OF THE STRUCTURE HAS BEEN PREPARED BASED ON THE SOIL BORINGS, SOILS REPORT AND RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER, WELTI GEOTECHNICAL, P.C., DATED AUGUST 12, 2021. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE MATERIAL PRIOR TO PREPARING HIS BID TO ASSURE HE UNDERSTANDS THE SOIL CONDITIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
11. THE FOUNDATION DESIGN OF THE STRUCTURE HAS BEEN PREPARED BASED ON THE SITE GRADING PLAN PREPARED BY J.R. RUSSO & ASSOCIATES, LLC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE DRAWINGS PRIOR TO PREPARING HIS BID TO ASSURE HE UNDERSTANDS THE SITE CONDITIONS AND THE REQUIREMENTS OF THE SITE ENGINEER.
12. NO WALLS ARE TO BE BACKFILLED FOR A MINIMUM OF 3 DAYS AFTER CONCRETE PLACEMENT UNLESS APPROVED BY THE ENGINEER.

E. STRUCTURAL STEEL

1. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH ALL AWS STANDARDS.
2. ALL WELDING TO BE PERFORMED USING E70-XX ELECTRODES.
3. THE STEEL ERECTOR IS RESPONSIBLE FOR SUPPLYING TEMPORARY BRACING AND GUYING OF STEEL FRAMING UNTIL ALL CONNECTIONS AND FLOORING HAVE BEEN COMPLETED.

10' 5' 2.5' 0' 5' 10'
GRAPHIC SCALE: 1"=5'

NORTHERN PEDESTRIAN BRIDGE FOUNDATION PLAN

REVISIONS

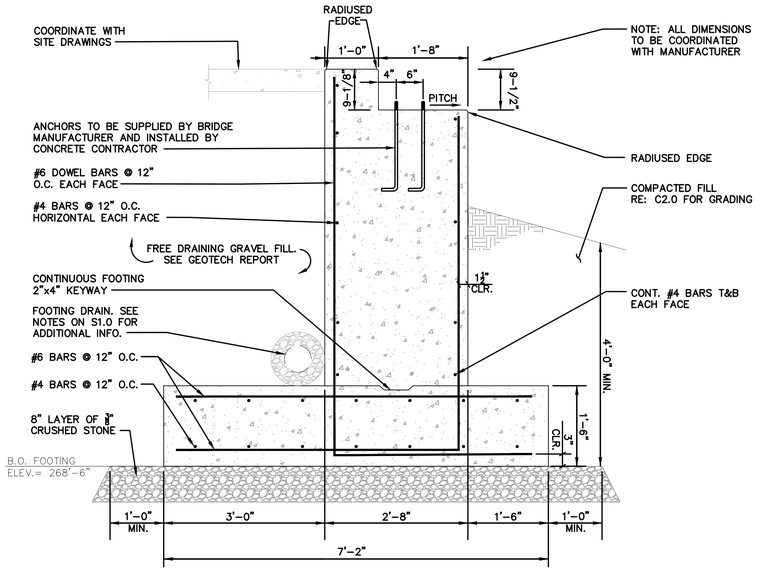
Mark	Date	Description

Prepared For:
ELLINGTON DEPARTMENT OF PUBLIC WORKS

Macchi Engineers
44 Gillett Street
Hartford, Connecticut
06105
(860) 549-6190

Date: 10-01-21
Scale: AS NOTED
Drawn By: JWK
Approved: MRP
Drawing No. S1.0

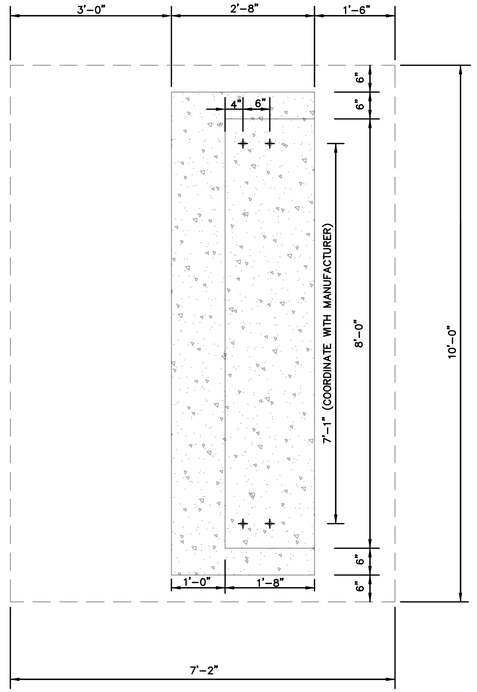
Project:
PEDESTRIAN BRIDGE FOR SIDEWALK PROJECT
IN BETWEEN #171 AND #175
WEST STREET (CT ROUTE 83)
ELLINGTON, CT



SECTION – TYPICAL ABUTMENT FOUNDATION AT NORTHERN BRIDGE

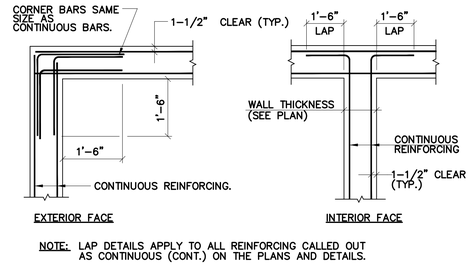
S2.0 SCALE: 3/4" = 1'-0"

1&6 S2.0



TYPICAL ABUTMENT PLAN VIEW

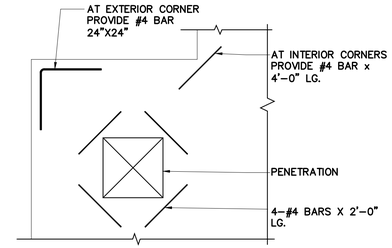
S2.0 SCALE: 3/4" = 1'-0"



NOTE: LAP DETAILS APPLY TO ALL REINFORCING CALLED OUT AS CONTINUOUS (CONT.) ON THE PLANS AND DETAILS.

TYPICAL CONCRETE WALL REINFORCING

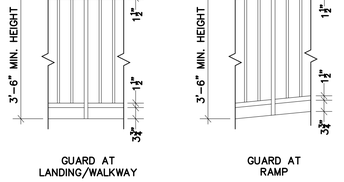
S2.0 N.T.S.



TYPICAL FOUNDATION WALL REINFORCING

S2.0 N.T.S.

GUARDS SHALL COMPLY WITH THE FOLLOWING 2016 CONNECTICUT STATE BUILDING CODE AND THE FOLLOWING DETAILS:



GUARD AT LANDING/WALKWAY

GUARD AT RAMP

GUARD/RAILING DETAILS:

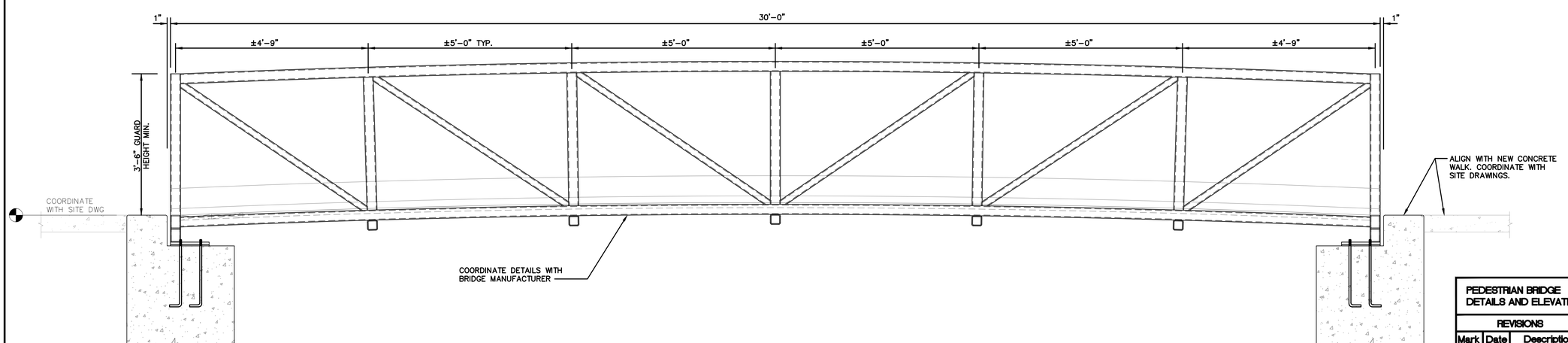
PER THE 2016 CONNECTICUT STATE BUILDING CODE (2012 INTERNATIONAL BUILDING CODE), GUARDS ARE REQUIRED IN ANY LOCATION ADJACENT TO WALKWAYS ASSOCIATED WITH STAIRS/RAMP/LANDING THAT "ARE LOCATED MORE THAN 30 INCHES MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36 INCHES HORIZONTALLY TO THE EDGE OF THE OPEN SIDE."

STEEL SHOP DRAWINGS NOTE:

STRUCTURAL STEEL AND MISCELLANEOUS STEEL FABRICATOR TO PROVIDE PROJECT ENGINEER WITH SHOP DRAWINGS FOR APPROVAL FOR STAIRS/RAMPS/HANDRAILS AS WELL AS FOR STRUCTURAL CLIPS AND CONNECTIONS ASSOCIATED WITH STAIRS/RAMP/HANDRAILS AS WELL AS FOR THE PRIMARY AND SECONDARY STRUCTURAL BEAMS, COLUMNS, GIRTS, BAR JOISTS, ANGLES, AND LIGHT GAUGE "C" CHANNELS AS WELL AS ASSOCIATED CLIPS AND CONNECTORS.

BRIDGE GUARDS

S2.0 N.T.S.



PEDESTRIAN BRIDGE ELEVATION VIEW

S2.0 SCALE: 3/4" = 1'-0"

PEDESTRIAN BRIDGE DETAILS AND ELEVATION

REVISIONS

Mark	Date	Description
	1.12.24	Removed detail referencing southern bridge - no longer in project scope

ELLINGTON DEPARTMENT OF PUBLIC WORKS

Macchi Engineers
44 Gillett Street
Hartford, Connecticut
06105
(860) 549-6190

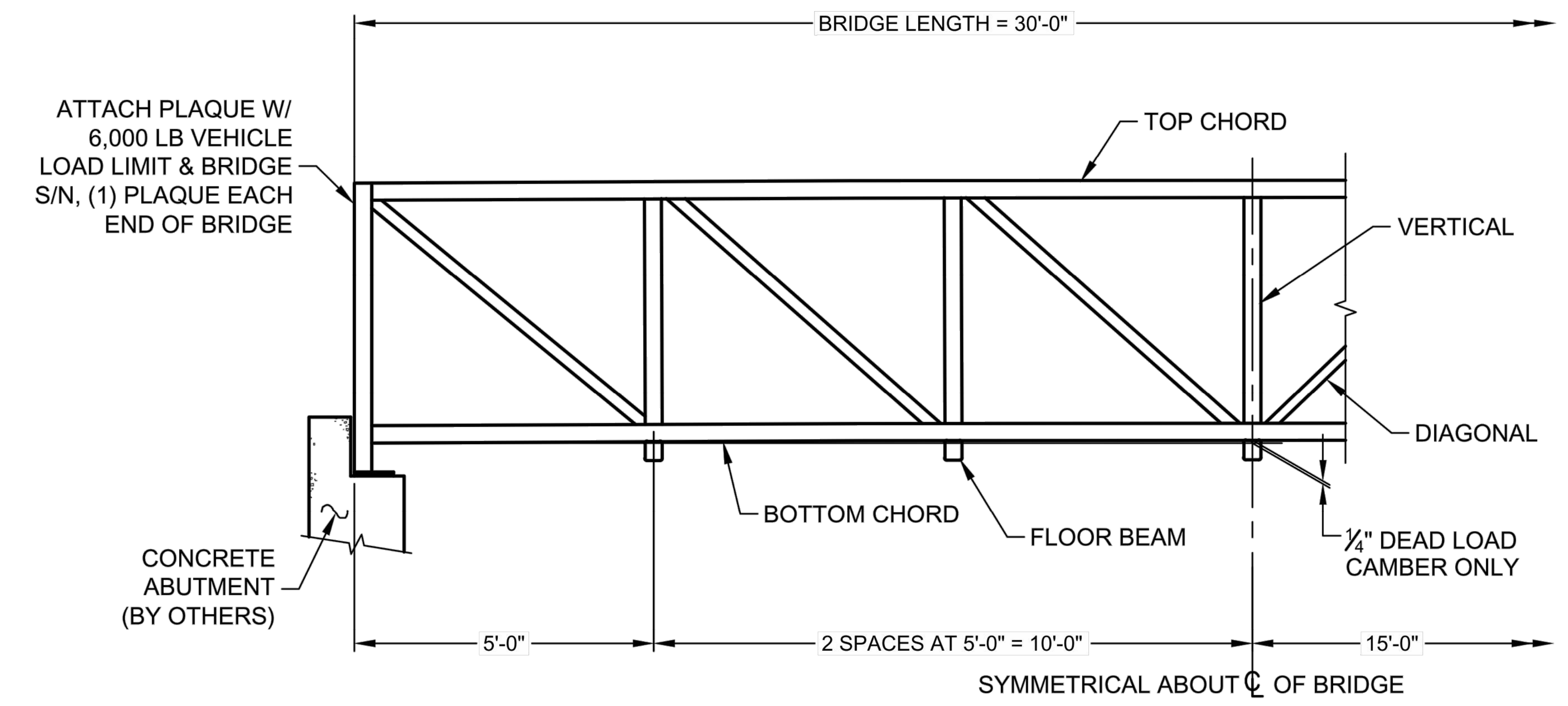
Project:

PEDESTRIAN BRIDGE FOR SIDEWALK PROJECT IN BETWEEN #171 AND #175 WEST STREET (CT ROUTE 83) ELLINGTON, CT

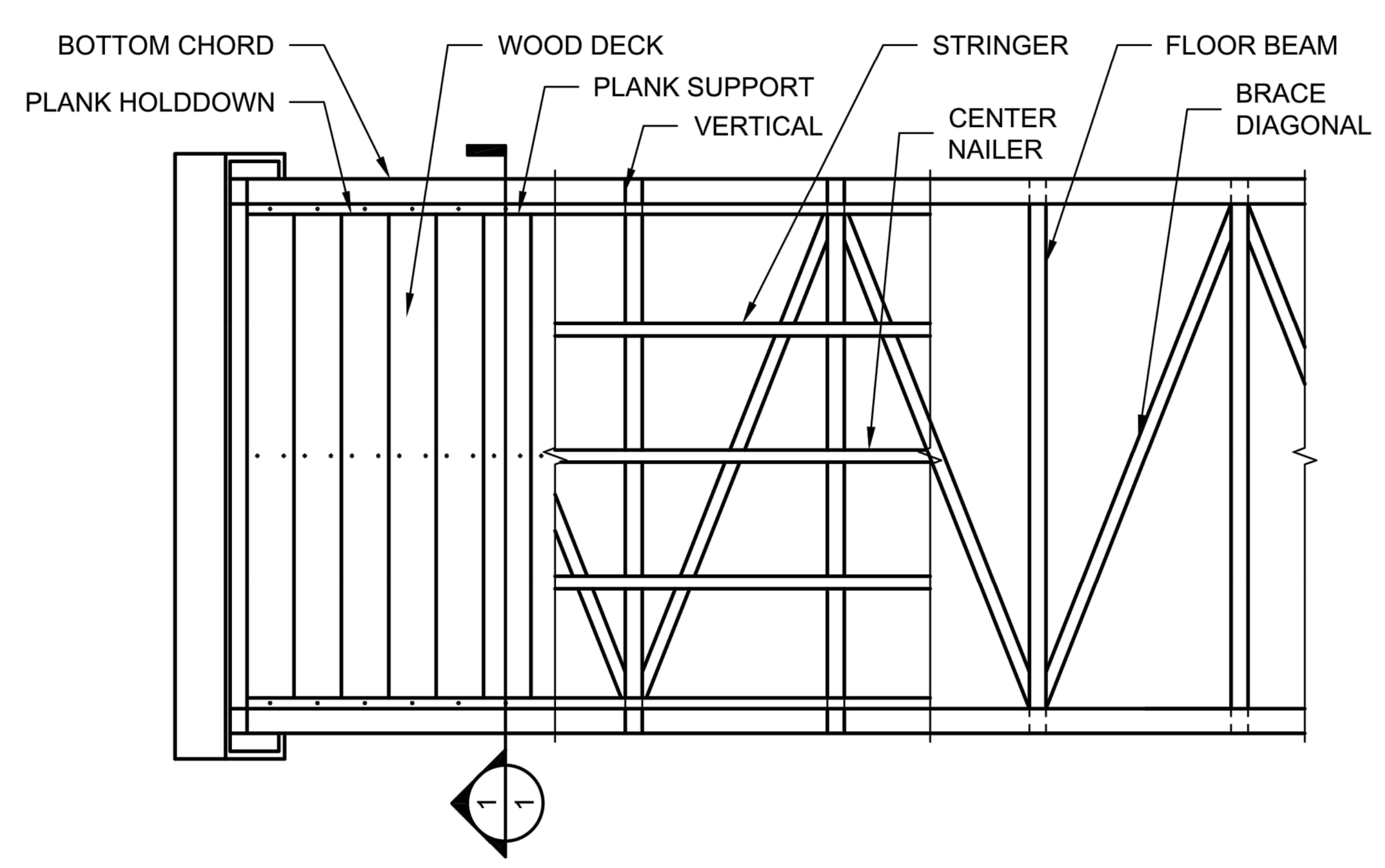
Date	10-01-21
Scale	AS NOTED
Drawn By	JWK
Approved	MPP
Drawing No	S2.0

GENERAL NOTES

1. DESIGN IS IN ACCORDANCE WITH THE MANUAL OF STEEL CONSTRUCTION FOLLOWING LOAD & RESISTANCE FACTOR DESIGN (LRFD) AS ADOPTED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), LATEST EDITION.
2. BRIDGE MEMBERS ARE FABRICATED FROM HIGH STRENGTH, LOW ALLOY, ENHANCED ATMOSPHERIC CORROSION RESISTANT ASTM A847 COLD-FORMED WELDED SQUARE AND RECTANGULAR TUBING, AND ASTM A588, ASTM A606, OR ASTM A242 PLATE AND STRUCTURAL SHAPES (Fy=50,000 PSI).
3. BRIDGE DECKING NOMINAL 2-INCH THICK SELECT STRUCTURAL FIR (Fb=1,400 PSI min.) OR SOUTHERN YELLOW PINE (Fb=1,300 PSI min.). TIMBER DECK MATERIAL SHALL BE TREATED WITH ALKALINE COPPER QUATERNARY (ACQ) TO A 0.4 PCF RETENTION OR TO REFUSAL.
4. THE GAS METAL ARC WELDING PROCESS OR FLUX CORED ARC WELDING PROCESS WILL BE USED.
5. ALL TOP AND BOTTOM CHORD SHOP SPLICES TO BE COMPLETE PENETRATION TYPE WELDS.
6. UNLESS OTHERWISE NOTED, WELDED CONNECTIONS SHALL BE FILLET WELDS (OR HAVE THE EFFECTIVE THROAT OF A FILLET WELD) OF A SIZE EQUAL TO THE THICKNESS OF THE LIGHTEST GAGE MEMBER IN THE CONNECTION. WELDS SHALL BE APPLIED AS FOLLOWS:
   A. BOTH ENDS OF VERTICALS, DIAGONALS, BRACE DIAGONALS AND FLOOR BEAMS SHALL BE WELDED ALL AROUND.
   B. BOTTOM OF STRINGERS WILL BE STITCH WELDED TO TOP OF FLOOR BEAMS.
   C. MISCELLANEOUS NON-STRUCTURAL MEMBERS WILL BE STITCH WELDED TO THEIR SUPPORTING MEMBERS.
7. BRIDGE DESIGN WAS ONLY BASED ON COMBINATIONS OF THE FOLLOWING LOADS WHICH WILL PRODUCE MAXIMUM CRITICAL MEMBER STRESSES.
   A. 60 PSF UNIFORM LIVE LOADING ON THE FULL DECK AREA OR ONE 4,000 POUND VEHICLE LOAD. THE VEHICLE LOAD SHALL BE DISTRIBUTED AS A FOUR-WHEEL VEHICLE WITH 60% OF THE LOAD ON THE REAR WHEELS. THE WHEEL TRACK WIDTH OF THE VEHICLE SHALL BE 2'-8" AND THE WHEEL BASE SHALL BE 4'-0". THE VEHICLE SHALL BE POSITIONED SO AS TO PRODUCE THE MAXIMUM STRESS IN EACH MEMBER, INCLUDING DECKING.
   B. 25 PSF WIND LOAD ON THE FULL HEIGHT OF THE BRIDGE, AS IF ENCLOSED.
   C. 20 PSF UPWARD FORCE APPLIED AT THE WINDWARD QUARTER POINT OF THE TRANSVERSE BRIDGE WIDTH (AASHTO 3.15.3).
8. CLEANING: ALL EXPOSED SURFACES OF STEEL SHALL BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACES PREPARATION SPECIFICATIONS NO. 7 BRUSH-OFF BLAST CLEANING. SSPC-SP7-LATEST EDITION.

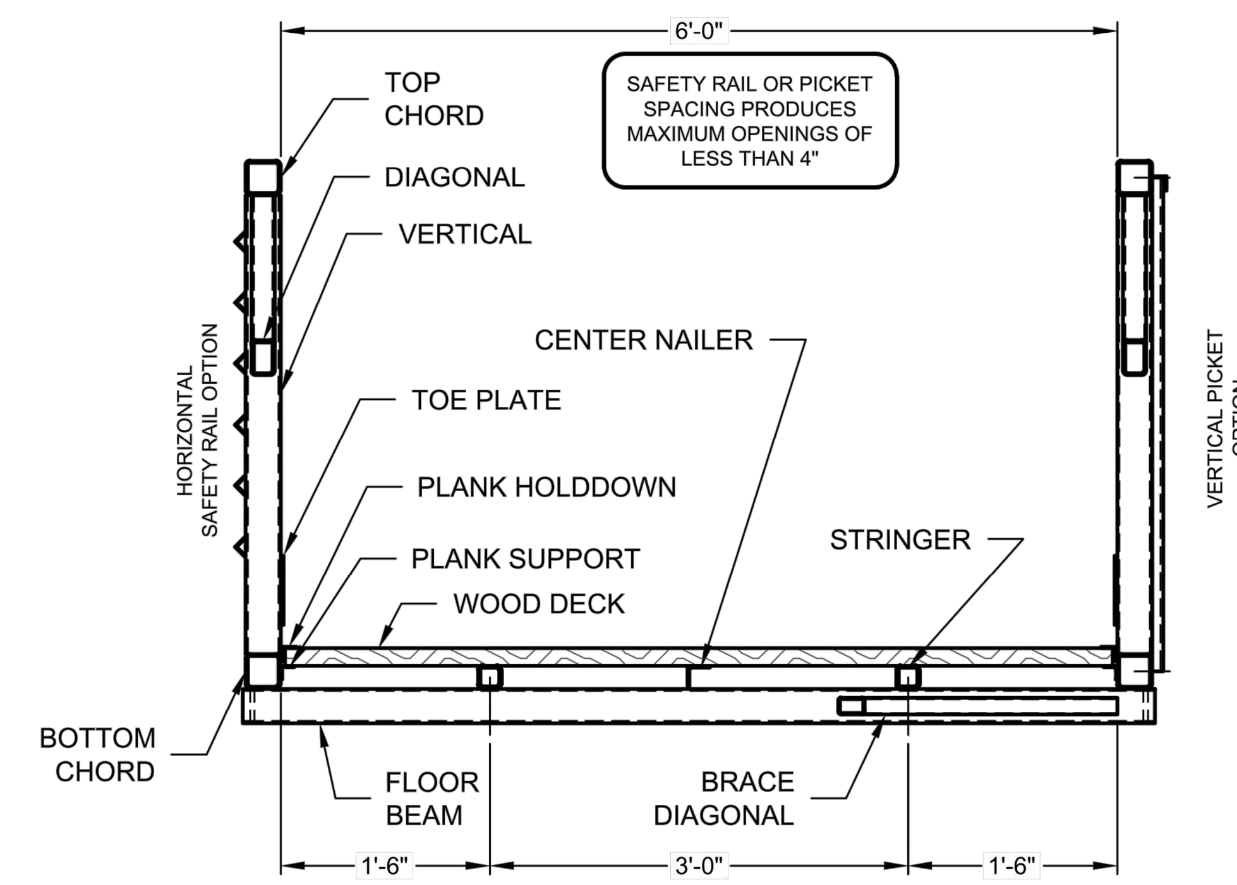


BRIDGE ELEVATION



DECK LEVEL FRAMING LEVEL BRACING LEVEL

BRIDGE PLAN



1/1 BRIDGE SECTION

CONTECH **PROPOSAL** DRAWING

AISC CERTIFIED FABRICATOR

MARK	DATE	REVISION DESCRIPTION	BY

30'-0" x 6'-0"
STANDARD
PEDESTRIAN BRIDGE
XXX, XX

CONTECH® CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
8301 State Highway 29 North, Alexandria, MN 56308
800-328-2047 320-852-7500 320-852-7067 FAX
EXPRESS

DATE: XX/XX/XX	
DESIGNED:	DRAWN: N/A
CHECKED:	APPROVED:
PROJECT No.: XXXXX	SEQUENCE No.: 1
SHEET: 1 OF 1	

F:\ENGINEERING\PROJECT SHARK\30' BRIDGES\6' WIDE\30 X 6 WOOD\30 X 6 WOOD SALES DRAWING.DWG 4/6/2011 10:46 AM

NOTES:

1. PROVIDED PEDESTRIAN BRIDGE INFORMATION IS FOR REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A DELEGATED DESIGN TO MEET OR EXCEED THE 2018 CONNECTICUT BUILDING CODE. THE DESIGN SHALL BE SIGNED AND SEALED BY A LICENSED CT P.E.
2. REFER TO DRAWING S1.0 FOR DESIGN PERAMETERS.
3. THE BRIDGE SHALL BE SECURED TO THE CONCRETE ABUTMENTS PER DETAILS ON S2.0 AND MANUFACTURER'S RECOMMENDATIONS.

1/S3.0 30'-0" SPAN PEDESTRIAN BRIDGE
N.T.S.

BASIS OF DESIGN PEDESTRIAN BRIDGE

REVISIONS

Mark	Date	Description

Prepared For:
ELLINGTON DEPARTMENT OF PUBLIC WORKS

Macchi Engineers
44 Gillett Street
Hartford, Connecticut 06105
(860) 549-6190

Project:
PEDESTRIAN BRIDGE FOR SIDEWALK PROJECT IN BETWEEN #171 AND #175 WEST STREET (CT ROUTE 83) ELLINGTON, CT

Date	10-01-21
Scale	AS NOTED
Drawn By:	JWK
Approved:	MRP
Drawing No.	S3.0