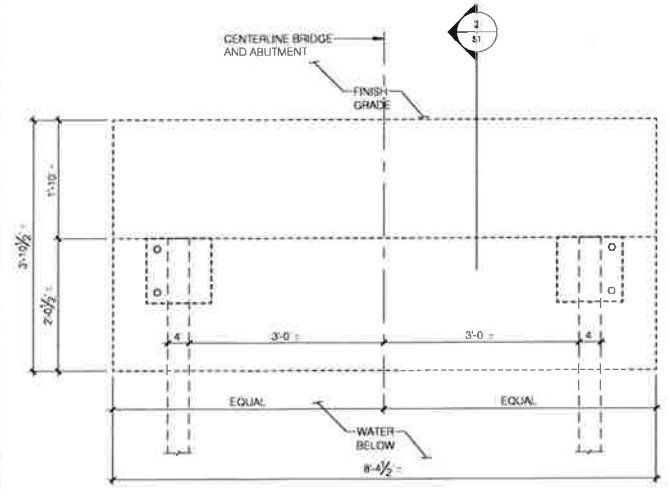
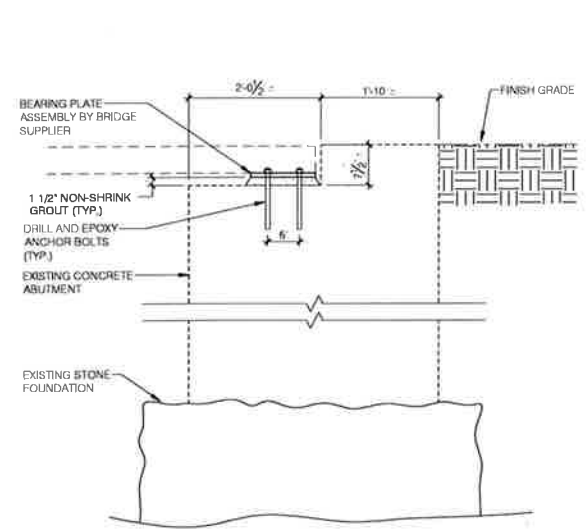


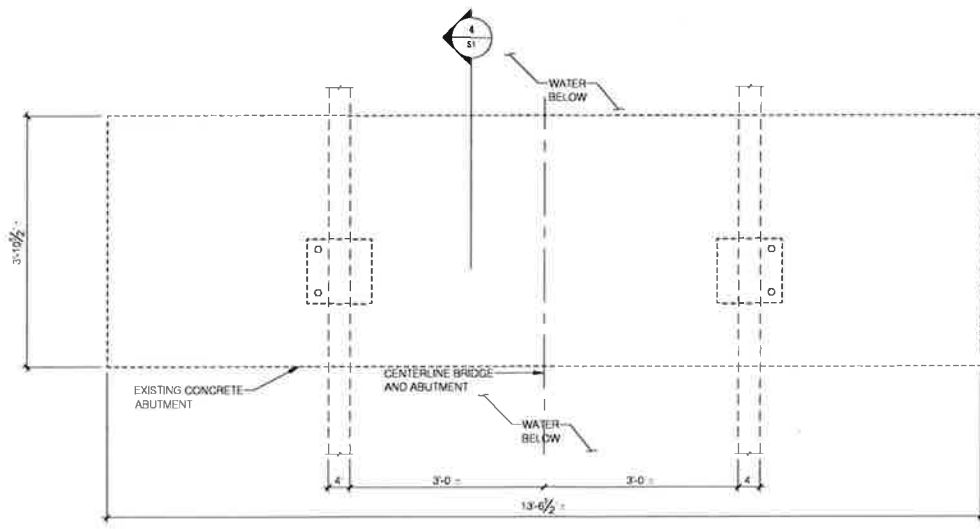
EXHIBIT B1
PRELIMINARY BRIDGE PLANS



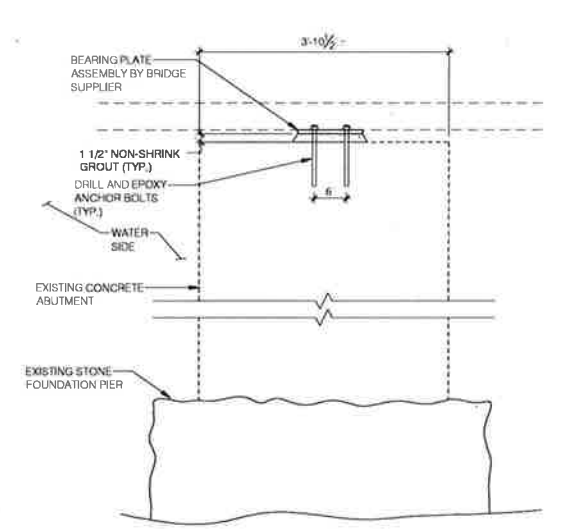
PLAN AT NORTH ABUTMENT 1
Scale: 3/4" = 1'-0"



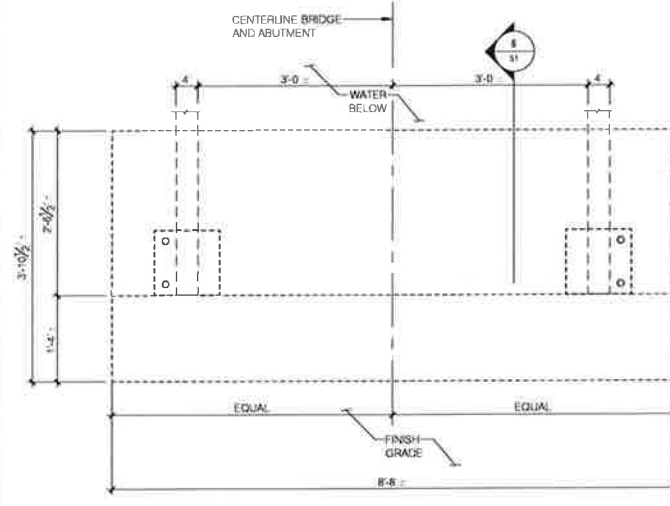
SECTION 2
Scale: 3/4" = 1'-0"



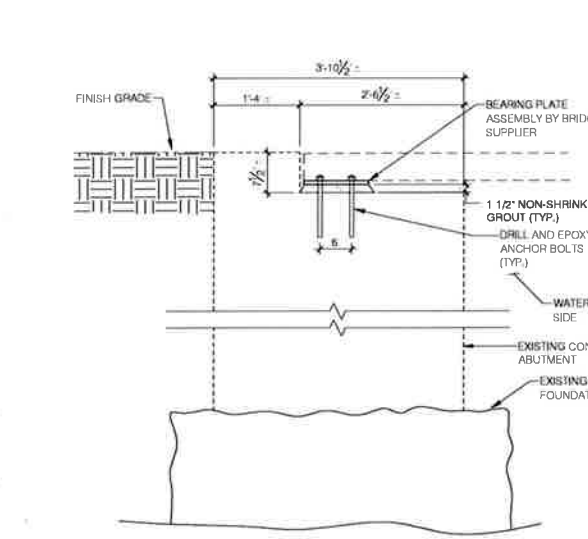
PLAN AT MIDSPAN ABUTMENT 3
Scale: 3/4" = 1'-0"



SECTION 4
Scale: 3/4" = 1'-0"



PLAN AT SOUTH ABUTMENT 5
Scale: 3/4" = 1'-0"



SECTION 6
Scale: 3/4" = 1'-0"

GENERAL NOTES

- GENERAL**
GOVERNING CODE: 2018 CONNECTICUT STATE BUILDING CODE, (2015 INTERNATIONAL BUILDING CODE).
- DESIGN LOADS** TOWN OF GUILFORD
- MINIMUM LIVE LOADS PEDESTRIAN BRIDGE: 90 PSF
- WIND LOAD CRITERIA SECTION 1609 (2015 IBC)
ULTIMATE WIND SPEED V_{ult} = 130 MPH
NOMINAL DESIGN WIND V_{ref} = 101 MPH
RISK CATEGORY II, $W = 1.0$
EXPOSURE CLASSIFICATION 'C'
- SEISMIC LOAD CRITERIA AS PER SECTION 1613 (2012 IBC) WITH
RISK CATEGORY - II
SEISMIC IMPROVANCE FACTOR $I_e = 1.0$
 $S_{MS} = 0.11g$, $S_{M1} = 0.081g$
SOIL SITE CLASS = D
SPECTRAL RESPONSE COEFFICIENTS, $S_{ds} = 0.188g$, $S_{d1} = 0.098g$
SEISMIC DESIGN CATEGORY B
BASIC SEISMIC-FORCE-RESISTING SYSTEM BEARING WALL, LIGHT FRAME WALLS WITH SHEAR PANELS
DESIGN BASE SHEAR, $V = 0.054W$
RESPONSE MODIFICATION FACTOR, $R = 6.5$
ANALYSIS PROCEDURE USED: SIMPLIFIED ANALYSIS
- ASSUMED BEARING PRESSURE ON UNDISTURBED SOIL: 4000 PSF
- SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THE GENERAL STRUCTURAL NOTES, THE SPECIFICATIONS, OR WITH EACH OTHER, THE STRICTEST PROVISION SHALL GOVERN.
 - THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER BRACING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER COMPLETION OF THE PROJECT.
 - THE CONTRACTOR SHALL PROVIDE SHOPPING CALCULATIONS AND SHORING DRAWINGS, INDICATING THE WORK TO BE PROVIDED, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT.
 - MECHANICAL EQUIPMENT WEIGHTS USED IN DESIGN OF SUPPORTING ELEMENTS HAVE BEEN INDICATED ON THE DRAWINGS. CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO INSTALLATION IF ACTUAL WEIGHT EXCEEDS WEIGHT SHOWN ON DRAWINGS.
 - IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
 - SHOP DRAWINGS ARE TO BE CHECKED BY THE CONTRACTOR AND SUBCONTRACTOR AND BEAR CHECKERS INITIALS BEFORE BEING SUBMITTED TO THE ARCHITECT FOR APPROVAL.
 - THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS BEFORE PROCEEDING WITH ANY WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING THE EXISTING CONDITIONS TO THE BRIDGE SUPPLIER PRIOR TO THE SUBMISSION OF SHOP DRAWINGS FOR THE BRIDGE STRUCTURE. THE CONTRACTOR SHALL USE THE EXISTING CONCRETE BRIDGE ABUTMENTS FOR THE SUPPORT OF THE PEDESTRIAN BRIDGE.
 - ALL SECTIONS AND DETAILS SHALL BE CONSIDERED TYPICAL AND APPLY FOR THE SAME AND SIMILAR SITUATIONS THROUGHOUT THE BUILDING, UNLESS OTHERWISE SPECIFICALLY NOTED.
 - IN CASES OF DISCREPANCIES BETWEEN CONTRACT DOCUMENTS AND SUBMITTED SHOP DRAWINGS, THE CONTRACT DOCUMENTS SHALL GOVERN INSTALLATION OF MATERIALS.
- CONTRACTOR'S DELEGATED DESIGN**
- CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT TO PERFORM THE DESIGN OF THE FOLLOWING:
 - A. PREFABRICATED PEDESTRIAN BRIDGE DESIGN
 ALL CALCULATIONS SHALL BE SIGNED AND SEALED BY THE ENGINEER AND SUBMITTED FOR REVIEW.
- FOUNDATIONS**
- THE CONCRETE BRIDGE ABUTMENTS ARE EXISTING CONCRETE AND SHALL BE REUSED FOR THE NEW BRIDGE DESIGN.
 - THE LOCATION AND ELEVATION OF EXISTING BRIDGE ABUTMENTS INDICATED ARE BASED ON MINIMUM FIELD OBSERVATIONS. ACTUAL EXISTING FOUNDATIONS MAY VARY FROM WHAT IS INDICATED AND MUST BE VERIFIED IN FIELD BY THE CONTRACTOR PRIOR TO PREPARATION OF THE BRIDGE SHOP DRAWINGS. NOTIFY ENGINEER IF EXISTING CONDITIONS PRECLUDE USE OF DETAILS AS SHOWN.
 - THE FOUNDATION DESIGN OF THE STRUCTURE HAS BEEN PREPARED BASED ON THE SITE GRADING NOT REQUIRING ANY ADDITIONAL WORK AND THE EXISTING SIDEWALKS ARE TO REMAIN AND TO BE PROTECTED FROM DAMAGE DUE TO CONSTRUCTION OPERATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE SITE PRIOR TO PREPARING HIS BID TO ASSURE THEY UNDERSTAND THE SITE CONDITIONS AND THE PROJECT REQUIREMENTS.

CONCRETE

- MATERIALS**
- CONCRETE SHALL MEET THE REQUIREMENTS OF THE EXPOSURE CATEGORY LISTED BELOW PER ACI 318 CHAPTER 19, AND SHALL HAVE THE MAXIMUM WATER TO CEMENT RATIO, TARGET AIR CONTENT AND DEVELOP STRENGTH IN 28 DAYS AS FOLLOWS:
- | LOCATION | EXPOSURE CATEGORY | STRENGTH (PSI) | WATER TO CEMENT RATIO | MAXIMUM WATER CONTENT | TARGET AIR CONTENT |
|-------------|-------------------|----------------|-----------------------|-----------------------|--------------------|
| FOUNDATIONS | F2 | 4500 | 0.45 | 6% | |
- ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS MUST FOLLOW ACI 318-14.
 - REINFORCING STEEL SHALL BE ASTM A615, GRADE 60
 - NO TACK WELDING OF REINFORCING WILL BE PERMITTED
 - UNLESS NOTED OTHERWISE, ALL LAP SPLICES SHALL BE CLASS B, IN ACCORDANCE WITH ACI 318-14.
 - NO CALCIUM CHLORIDE OR ADMIXTURES CONTAINING MORE THAN 0.1% CHLORIDE BY WEIGHT OF ADMIXTURE SHALL BE USED IN THE CONCRETE.
 - 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.
 - 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.
 - PROVIDE DRILLED AND EPOXIED DOWELS OF SAME SIZE TO MATCH NEW REINFORCING WHERE NEW CONSTRUCTION ABUTS EXISTING CONCRETE CONSTRUCTION. LENGTH SHALL BE THE REQUIRED EMBEDMENT DEPTH PER THE ANCHOR BOLT/EPOXY MANUFACTURER PLUS A CLASS B LAP SPLICE FOR THE SIZE OF BAR.
 - PROVIDE CORROSION RESISTANT ACCESSORIES IN ALL EXPOSED CONSTRUCTION.
 - ALL KEYS IN CONCRETE WALLS SHALL BE 2 X 4 UNLESS NOTED OTHERWISE.
 - CONCRETE PIERS: PLACE CONCRETE PIERS AND WALLS TOGETHER. SET PIER REINFORCING AND SET WALL REINFORCING THROUGH PIER VERTICAL BARS. PROVIDE DOWELS WITH STANDARD HOOK FROM FOOTING AT ALL PIERS. SIZE AND QUANTITY OF DOWELS TO MATCH VERTICAL PIER REINFORCING. PROVIDE CLASS 'B' SPLICE.
 - THE CONTRACTOR SHALL FURNISH, LOCATE AND INSTALL ALL ACCESSORIES FOR PROPER ANCHORAGE OF METAL FRAMING. HE SHALL BE SOLELY RESPONSIBLE FOR FURNISHING, LOCATING AND ENSURING PROPER QUANTITY OF ALL FASTENING DEVICES.
 - ALL CONCRETE TO REMAIN EXPOSED TO VIEW SHALL RECEIVE A SMOOTH RUBBED FINISH (SEE SPECIFICATIONS).
 - ALL CONCRETE CORNERS WITH BOTH SIDES EXPOSED TO VIEW SHALL BE SQUARE UNLESS OTHERWISE SHOWN OR NOTED. THE EDGE SHALL BE RUBBED, PRODUCING A SMOOTH, DENSE SURFACE WITHOUT PITS OR IRREGULARITIES.
 - PROVIDE CLEARANCE FROM EDGE OF REINFORCING TO EDGE OF CONCRETE AS FOLLOWS:

FOOTINGS (AGAINST EARTH)	3
COLUMNS AND PIERS (VERTICAL REINFORCING)	2
 - ALL REINFORCING: THREADED RODS OR BOLTS INDICATED TO BE DRILLED AND EPOXIED SHALL UTILIZE HILTI HIT-HY200 ADHESIVE OR APPROVED EQUAL.

STRUCTURAL STEEL (DOES NOT APPLY TO PRE-ENGINEERED PEDESTRIAN BRIDGE. REFER TO SPECIFICATIONS FOR THE REQUIREMENTS FOR THE BRIDGE)

- MATERIALS**
- STRUCTURAL STEEL: ASTM A 36
ALL W SHAPES: ASTM A 992, GR 50
BOLTS: ASTM A 325
ANCHOR BOLTS: ASTM F 1554, GRADE 36
WELDING ELECTRODE: ASTM E 70
- DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION, AISC 360-10. ALL REACTIONS SHOWN ON PLAN HAVE BEEN DEVELOPED USING ALLOWABLE STRESS DESIGN.
 - WELDING SHALL CONFORM TO THE CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION OF THE AMERICAN WELDING SOCIETY. ALL WELDING SHALL BE DONE BY A CERTIFIED WELDER.
 - PROVIDE LEVELING NUTS FOR ALL BRIDGE BASE PLATES WITH FOUR (4) ANCHOR BOLTS AND PROVIDE 1 1/2" MINIMUM 5000 PSI NON-SHRINK GROUT.

4. CONNECTIONS

- CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR AND CONSTRUCTED IN ACCORDANCE WITH AISC 360-10. CONNECTIONS SHALL BE PROVIDED TO CONFORM TO THE REQUIREMENTS OF SIMPLE CONNECTIONS UNLESS OTHERWISE DETAILED.
- CONNECTIONS SHALL BE DESIGNED TO ACCOMMODATE THE REACTIONS SHOWN ON THE CONTRACT DOCUMENTS. IF NO REACTIONS ARE GIVEN THEN PROVIDE CONNECTION FOR ONE HALF THE ALLOWABLE UNIFORM LOAD BEAM TABLES, PER THE AISC MANUAL. FOR THE SPAN INDICATED ON THE DRAWINGS. MINIMUM CONNECTION DESIGN LOAD IS 4 KIPS.
- MINIMUM CONNECTION ANGLE THICKNESS SHALL BE 5/16". MINIMUM SHEAR PLATE IS 3/8".
- CONNECTIONS SHALL BE MADE USING 3/4" DIAMETER ASTM A325 BOLTS (SNUG TIGHT OR SLIP CRITICAL) OR WELDS UNLESS NOTED OTHERWISE. IF TENSION CONTROL BOLTS ARE USED, CONNECTIONS SHALL BE DESIGNED FOR SLIP CRITICAL BOLT ALLOWABLE LOAD VALUES USING CLASS A FAYING SURFACE.
- USE LARGER OF 1/4" FILLET WELDS OR MINIMUM SIZE PER AISC REQUIREMENTS WHERE NO WELD SIZE IS SHOWN ON DRAWINGS.
- WELDS IN EXCESS OF 24" IN LENGTH SHALL BE 3" STITCH WELDS AT 8" ON CENTERS UNLESS SPECIFICALLY SHOWN ON DRAWINGS TO BE CONTINUOUS.
- NO WELDING OR FINAL BOLTING SHALL BE DONE UNTIL AS MUCH OF THE STRUCTURE THAT WILL BE STIFFENED THEREBY HAS BEEN PROPERLY ALIGNED.
 - SEQUENCE OF PLACING WELDS SHALL BE SUCH AS TO AVOID DISTORTION OF MEMBERS.
 - PROVIDE 1/4" CLOSURE PLATES WITH FULL SEAL WELDS FOR ALL TUBE OR PIPE HOLLOW STEEL SECTIONS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - STEEL CONTRACTOR SHALL PROVIDE SKETCHES FOR ALL CORRECTIVE FIELD WORK WHICH SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL. ALL SKETCHES SHALL BE SIGNED AND SEALED BY THE STEEL FABRICATOR'S CONNECTIONS ENGINEER.
 - ALL THREADED RODS OR BOLTS INDICATED TO BE DRILLED AND EPOXIED SHALL UTILIZE HILTI HIT-HY200 ADHESIVE OR APPROVED EQUAL.
- PRE-ENGINEERED PEDESTRIAN BRIDGE**
- THE DESIGN TEAM SHALL BE PROVIDED BY THE PRE-ENGINEERED PEDESTRIAN BRIDGE MANUFACTURER, A FINAL ANCHOR ROD LOCATION PLAN, BASE PLATE DETAILS AND THE FINAL BRIDGE REACTION REPORT, IDENTIFYING THE MAXIMUM REACTIONS FOR THE WORST LOAD CASE COMBINATION TO BE IMPOSED ON THE EXISTING BRIDGE FOUNDATIONS. THE BASIC LOAD COMBINATIONS SHALL BE IN ACCORDANCE WITH LATEST RELEASE OF ASCE 7.
 - THE STRUCTURAL SYSTEM SHALL BE A TWO SPAN CONTINUOUS TRUSS.
 - ACTUAL BRIDGE DIMENSIONS SHALL BE FIELD SURVEYED BY THE CONTRACTOR AND SHALL FIT THE EXISTING PIER AND ABUTMENT CONDITIONS.
 - ANCHOR BOLTS SHALL BE AS SPECIFIED BY THE MANUFACTURER AND SUPPLIED BY THE CONTRACTOR.
 - ALL STRUCTURAL SECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH THE AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
 - ALL BOLTS SHALL BE ASTM A-325 HIGH STRENGTH BOLTS AS INDICATED ON THE ERECTION DRAWINGS.
 - WELDING PROCEDURE, OPERATOR QUALIFICATIONS AND WELDING QUALITY STANDARDS SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE.

- SECTION NOTES**
DETAILS ARE SCHEMATIC.
- BEARING ASSEMBLIES ARE DESIGNED BY BRIDGE SUPPLIER. ANCHOR BOLTS WILL BE SUBMITTED WITH BRIDGE DESIGN. BEARING CONDITIONS SHALL BE FINALIZED AFTER SUBMISSION OF THE PROPOSED BRIDGE DESIGN AND CALCULATIONS.

MHAJ Michael Horton Associates Inc. <small>Consulting Structural Engineers 131 Mainway Street Southington, Connecticut 06488 203-481-6600 mhajcorp.com</small>	Noble Pedestrian Bridge, Colonial Road Guilford Connecticut	
	Plans and Sections	
	Date: 4-20-20	Drawn By: AC
Scale: AS NOTED	Job No.: 10-140A	Dwg. No.: S1