



# Wisconsin Department of Transportation

July 30, 2020

## Division of Transportation Systems Development

Bureau of Project Development  
4822 Madison Yards Way, 4<sup>th</sup> Floor South  
Madison, WI 53705

Telephone: (608) 266-1631  
Facsimile (FAX): (608) 266-8459

### NOTICE TO ALL CONTRACTORS:

**Proposal #07: 4492-03-71, WISC 2020 384**  
**Racine Street Bridge, C of Menasha**  
**Fox River Bridge and Approaches**  
**Local Str**  
**Winnebago County**

### Letting of August 11, 2020

This is Addendum No. 01, which provides for the following:

#### Special Provisions:

| Revised Special Provisions |   |
|----------------------------|---|
| Article No.                | Description   |
| 7                          | Utilities   |
| 11                         | Bridge, w. Mechanical Work Bascule Span, Item SPV.0105.06 |

#### Plan Sheets:

| Revised Plan Sheets |   |
|---------------------|---|
| Plan Sheet          | Plan Sheet Title (brief description of changes to sheet)                      |
| 15                  | Construction Details (revised pavement type)                                  |
| 393                 | Bascule Sidewalk Plan & Elevations (revised floor plate thickness)            |
| 549                 | Machinery Notes (clarified torque values)                                     |
| 550                 | Machinery Trimetric View (revised coupling notes)                             |
| 551                 | Machinery Plan and Elevation (revised coupling notes)                         |
| 552                 | Machinery Plan & Elevation 2 (revised coupling notes)                         |
| 553                 | Bearing 'A' Assembly (revised bolt dimensions)                                |
| 568                 | Electrical Notes (revised Task E-4 note)                                      |
| 572                 | Operator's House Electrical Floor Plans (revised north arrow and added notes) |
| 574                 | Single Line Diagram (1 of 2) (revised 400 amp service and notes)              |
| 575                 | Single Line Diagram (2 of 2) (revised amperage and disconnect)                |
| 594                 | Grounding and Lightning Protection Details                                    |
| 595                 | Grounding Riser   |

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

*Mike Coleman*

Proposal Development Specialist  
Proposal Management Section

**ADDENDUM NO. 01**  
**PROJECT ID 4992-03-71**  
**July 30, 2020**

**Special Provisions**

**7. Utilities.**

*Delete paragraph eight under section titled **AT&T Wisconsin (Communication Line)** with the following:*

During Stage 3, final road construction, AT&T will coordinate with the contractor and perform the following adjustments in a one-week work period:

**11. Bridge.**

**w. Mechanical Work Bascule Span, Item SPV.0105.06.**

*Replace paragraph six under section titled **B.3 Motor and Machinery Brakes** with the following:*

Actuator: Provide a waterproof, dustproof IP65/NEMA 4 brake actuator enclosure of cast aluminum alloy, fitted with double shaft seals. Ensure the thruster motor is of ample capacity for the intended application. Actuator design to be independent of direction of motor rotation. Ensure that the rated stalled thrust of each thruster is not less than 135% of the thrust actually required to release the brake with the torque adjusted to the continuous rated value. Brakes are to set automatically when the thruster motor is de-energized. Note: When the bridge is in the closed position the brake will be at a 45° angle from horizontal. When the bridge is in the full open position the brake will be at a -25° angle with actuator below the brake wheel.

*Replace paragraph 16 under section titled **B.3 Motor and Machinery Brakes** with the following:*

Brake Wheels: Supply brake wheels manufactured from cast iron steel. Machine bore and keyway to obtain the specified fits with mating shaft. Mount the brake wheels to the shafts with an FN2 fit. Mount motor brakes on the input shaft extensions of the primary reducer, and the machinery brakes on the input shaft of the secondary reducers, unless otherwise indicated on plans. Do not use brake wheel couplings. Check, document and submit "run-out" measurements for all brake wheels. Dynamically balance all brake wheels 16 inch diameter and larger.

*Replace entire section titled **B.11.3 High Strength Bolts (Machinery Supports to Steel Structure)** with the following:*

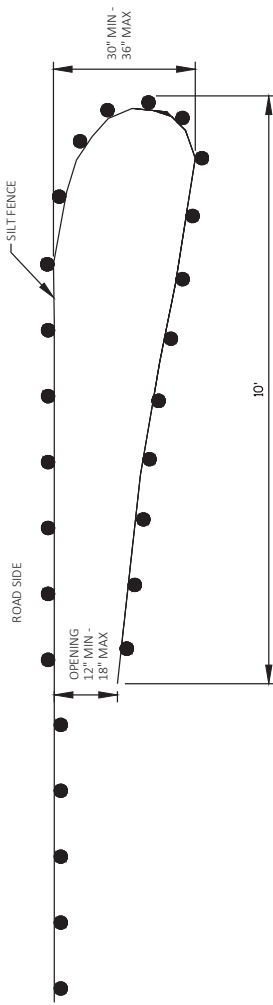
**B.11.3 High Strength Bolts (Machinery Supports to Steel Structure)**

Use high strength bolts for connections of supports to steel bridge structure. Provide bolts, nuts, and hardened washers that conform to the requirements of ASTM Specifications F3125 Gr. A325. Drill holes for bolts 1/32 inch larger than the diameter of the bolt. All high strength bolts, nuts, and washers shall be zinc coated with a Class 50 mechanically deposited zinc coating according to the requirements of ASTM B695.

**Plan Sheets**

The following 8½ x 11-inch sheets are attached and made part of the plans for this proposal:  
Revised: Sheet 15, 393, 549, 550, 551, 552, 553, 568, 572, 574, 575, 594, and 595.

END OF ADDENDUM

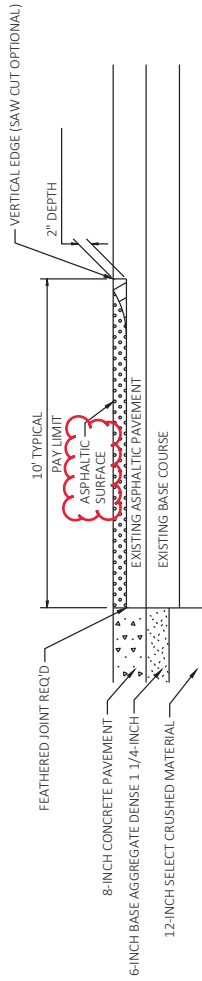


PLAN VIEW

GENERAL NOTES:  
 SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND, AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS. SEE TEMPORARY EROSION CONTROL PLANS FOR SILT FENCE LOCATIONS. INSTALL TURN-AROUND AT END OF SHOWN FENCING ON THE PENINSULA.  
 ROADSIDE OFFSETS DEPENDENT ON LOCATION.

TEMPORARY SMALL ANIMAL TURN-AROUND

Addendum No. 01  
 ID 4992-03-71  
 Revised Sheet 15  
 July 30, 2020



PAVEMENT MATCH FOR ASPHALT SIDE ROADS  
 (NOT TO SCALE)

|  |                              |                       |                        |
|--|------------------------------|-----------------------|------------------------|
| PROJECT NO: 4992-03-71   | COUNTY: WINNEBAGO            | SHEET 15              | E                      |
| FILE NAME: C:\P\WORKING\AECOM_ID516_MAVESSICA.LANCELLE@AECOM.COM\001177802002_CD.DWG | LAYOUT NAME: -01             | CONSTRUCTION DETAILS  | WIS007/CADD/S SHEET 42 |
| HWY: LOCAL   | PLOT DATE: 7/28/2020 8:39 AM | PLOT NAME: 1 IN=10 FT |                        |
|  |                              |                       |                        |



Addendum No. 01  
 ID 4992-03-71  
 Revised Sheet 549  
 July 30, 2020

**MACHINERY NOTES**

- DESIGN METHODOLOGY**  
 THE MACHINERY FOR THE BRIDGE DRIVE CONSISTS OF ALL SPAN DRIVE, MACHINERY, LOAD SHARING IS TO BE PROVIDED THROUGH A DIFFERENTIAL ASSEMBLY IN THE PRIMARY SPEED REDUCER, CONFORM TO DESIGN SPECIFICATIONS FOR MOVABLE HIGHWAY BRIDGES.
- DRIVE ASSEMBLY OPERATION**  
 THE SPAN DRIVE IS TO PROVIDE A FULLY REDUNDANT BACKUP MOTOR AND DRIVE SYSTEM CAPABLE OF OPERATING AT A FULL WIND LOAD. AT ALL ANGLES OF OPERATION WITH A SINGLE MOTOR, MACHINERY IS CAPABLE OF HOLDING THE LEAF UNDER A WIND LOAD OF UP TO 20 PSF.
- DESIGN LOADS FOR MACHINERY**  
 ALL DIMENSIONS UNLESS NOTED OTHERWISE.  
 AT THE PRIMARY REDUCER INPUT SHAFT WHICH IS 1/4" TIMES FULL LOAD TORQUE FROM ONE DRIVE MOTOR.
- DESIGN LOADS FOR BEARINGS**  
 SEE DETAILS THIS SHEET. THE "A" PINION SHAFT BEARING IS DESIGNED FOR THE FOLLOWING LOADINGS:  

| LOAD CASE       | LOAD       | SPEED    | CYCLES  |
|-----------------|------------|----------|---------|
| MAX. OPERATING  | 244 KIPS   | 1604 RPM | 37,500  |
| NORM. OPERATING | 55.3 KIPS  | 1604 RPM | 750,000 |
| HOLDING LOADS   | 275.3 KIPS | N/A      | 18,750  |

| LOAD CASE       | LOAD    | SPEED  | CYCLES  |
|-----------------|---------|--------|---------|
| MAX. OPERATING  | 84 KIPS | 37,500 | 37,500  |
| NORM. OPERATING | 26 KIPS | 37,500 | 750,000 |
| HOLDING LOADS   | 95 KIPS | N/A    | 18,750  |

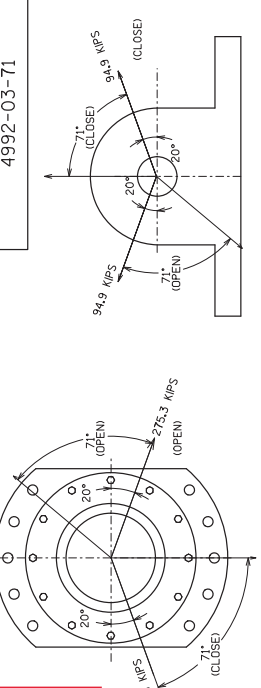
  
 PINION SHAFT ROTATES 100 REVOLUTIONS PER LOAD CYCLE. ALL LOADS ARE RADIAL. ASSUME A COMBINED AXIAL LOAD OF 15% OF THE RADIAL LOAD FOR ALL LOAD CASES.  
 PINION BEARING "A" IS AN ADAPTER MOUNTED SPHERICAL ROLLER BEARING WITH A SYSTEM HOUSING AS SHOWN IN PLANS. USE 3080 COM3X OR APPROVED EQUIVALENT. APPROVED EQUIVALENTS MUST BE APPROVED BY THE CONTRACTOR AND SAF OR APPROVED EQUAL OR 380420X20 HOSR SEALS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, FITS, & FINISHES. BEARING INSTALLATION SHALL FOLLOW MANUFACTURERS' RECOMMENDED PROCEDURES AND MANUFACTURER SHALL BE PRESENT DURING BEARING INSTALLATION.  
 LOAD RATINGS AND DIMENSIONS IN PLANS FOR PINION BEARING "B" ARE BASED ON A 100% WIND LOAD. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND FINISHES CAST FROM PULL BLOCK. CONTRACTOR SHALL VERIFY ALL MANUFACTURER'S DIMENSIONS, TOLERANCES, AND FITS PRIOR TO FABRICATION. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER FIT.
- DESIGN BRAKE TORQUES**  
 PROVIDE BRAKES WITH THE FOLLOWING TORQUE:  

| BRAKE              | RATED TORQUE (EACH) | TORQUE SETTING (EACH) |
|--------------------|---------------------|-----------------------|
| MOTOR BRAKE (EACH) | 250 FT-LBS          | 125 FT-LBS            |
| MOTOR BRAKE (EACH) | 250 FT-LBS          | 130 FT-LBS            |
- INSTALLATION AND ALIGNMENT EQUIPMENT**  
 PROVIDE ALL EQUIPMENT REQUIRED TO INSTALL THE MACHINERY TO THE SPECIFIED TOLERANCES SHOWN ON THE PLANS AND IN THE SPECIFICATIONS, INCLUDING SPECIAL TOOLS, JACKING FRAMES, LEVELING SCREWS, ETC. SUBMIT PROPOSALS FOR THE DESIGN, MANUFACTURE, AND INSTALLATION OF THE MACHINERY FOR APPROVAL PRIOR TO FABRICATION.
- BRAKE OPERATION**  
 THE MACHINERY BRAKES SHALL FUNCTION TO PROVIDE TORQUE TO HOLD THE LEAF IN A FIXED POSITION AGAINST WIND AND UNBALANCED LOADS. THE MOTOR BRAKES DRIVE THE LEAF TO A POSITION WHERE THE MACHINERY BRAKES CAN HOLD THE LEAF IN A FIXED POSITION. UNDER NORMAL CONDITIONS, MACHINERY BRAKES SHALL NOT BE USED FOR STOPPING THE LEAF WHILE IN MOTION. MACHINERY BRAKES SHALL ASSIST THE MOTOR BRAKES IN STOPPING THE LEAF IN A HIGH WIND, EMERGENCY STOP CONDITION. ESTABLISH FINAL BRAKE APPLICATION TIMES DURING FUNCTIONAL TESTING. INITIALLY SET THE BRAKES FOR THE FOLLOWING APPLICATION TIMES (I.E., THE TIMES REQUIRED TO PRODUCE THE SPECIFIED TORQUE):  

| MOTOR BRAKES:     | 1-2 SECONDS |
|-------------------|-------------|
| MACHINERY BRAKES: | 3-4 SECONDS |
- COUPLINGS**  
 PROVIDE COUPLINGS WITH SHROUDED BOLTS WHERE AVAILABLE. COUPLINGS SHALL BE INSTALLED AND ALIGNED SUCH THAT ALL MANUFACTURER'S TOLERANCES ARE MET.
- WELDMENTS**  
 ALL WELDMENTS SHALL BE MADE WITH COMPLETE JOINT PENETRATION (CJP) WELDS UNLESS OTHERWISE NOTED. MILL-TO-BEAR ALL STIFFENERS TO BE CONNECTED BY FILLET WELDS PRIOR TO WELDING. STRESS RELIEVE ALL WELDMENTS AFTER WELDING AND PRIOR TO MACHINING. PROVIDE ULTRASONIC (UT) AND MAGNETIC PARTICLE (MT) TESTING TO ALL CJP WELDS. PROVIDE UT AND MT TESTING TO ALL WELDS TO BE MADE IN ACCORDANCE WITH AISC D15 CONSIDERING EACH TO BE A MAIN MEMBER.

**MACHINERY NOTES**

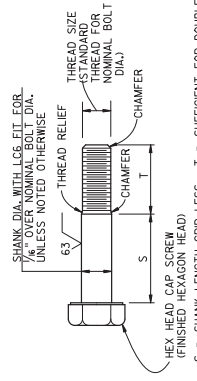
- FAS TENNERS**  
 WHERE REQUIRED, PROVIDE TURNED BOLTS IN ACCORDANCE WITH THE TYPICAL TURNED BOLT DETAIL. ALL HIGH STRENGTH FASTENERS FOR BOLTING WILL BE 7/8" DIA. H.S. BOLTS UNLESS OTHERWISE NOTED.
- SHIMS**  
 STAINLESS STEEL SHIMS FOR LEVELING AND ALIGNING ALL MACHINERY COMPONENTS. SHIM PACKS SHALL BE 1/2" NOMINAL THICKNESS UNLESS OTHERWISE SPECIFIED, WITH ADJUSTMENT VARIATIONS OF 1/4". MATERIAL FOR SHIMS SHALL BE ASTM A866 TYPE 316.
- PAINT**  
 PAINT FERROUS MACHINERY AND SUPPORT WELDMENTS IN ACCORDANCE WITH THE SPECIFICATIONS FOR NEW STRUCTURAL STEEL UNLESS GALVANIZING IS SPECIFIED OR THE SURFACES SLIDE IN CONTACT DURING OPERATION.
- SPARE PARTS AND TOOLS**  
 PROVIDE SPARE MACHINERY PARTS AND SPECIAL TOOLS IN ACCORDANCE WITH THE SPECIFICATIONS.
- BID ITEM NOTES**  
 A. UNLESS SO SPECIFIED ELSEWHERE, THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE BID ITEM COVERING THE MACHINERY OF WHICH THEY ARE ASSOCIATED:  
 TURNED BOLTS, NUTS, WASHERS  
 DOWEL PINS  
 EPOXY GROUT  
 LEADERS FOR DIMENSIONS & FITTINGS  
 PAINTING/GALVANIZING  
 TEMPORARY SUPPORTS  
 B. SPECIFIC ITEMS ARE SHOWN TO ESTABLISH CONFIGURATION AND RATING REQUIREMENTS. COMPONENTS ARE BASED ON CATALOG DATA CURRENT AT THE TIME THE PLANS WERE PREPARED. ITEMS OF EQUAL OR GREATER QUALITY AND RATING MAY BE SUBSTITUTED WITH APPROVAL OF THE DESIGN ENGINEER. THE SUBSTITUTIONS SHALL BE FOR THE SAME OR BETTER MATERIALS NECESSARY TO ACCOMMODATE THEM AT NO ADDITIONAL COST DEPARTMENT.  
 C. UNLESS OTHERWISE NOTED, QUANTITIES SHOWN ARE FOR EACH LEAF.  
 D. ALL WORK RELATED TO PROVIDING, INSTALLING, AND TESTING ONE COMPLETE BASCOULE LEAF MECHANICAL DRIVE SYSTEM, INCLUDING, BUT NOT LIMITED TO: SPEED REDUCERS, BEARINGS, FLOATING SHAFTS, COUPLINGS, DRIVE PINIONS, AND ASSOCIATED ACCESSORIES, IS INCLUDED IN THE LUMP SUM BID ITEM. MECHANICAL WORK BASCOULE SPAN.  
 E. ALL WORK RELATED TO PROVIDING, INSTALLING, AND TESTING TWO COMPLETE BASCOULE LEAF REAR LOCK SYSTEMS, INCLUDING, BUT NOT LIMITED TO: STRUT ASSEMBLIES, STRIKE PLATES, ELECTRIC ACTUATORS, TRUNNION COLUMNS, AND ASSOCIATED ACCESSORIES, IS INCLUDED IN THE LUMP SUM BID ITEM. MISCELLANEOUS ITEMS, IS INCLUDED IN THE LUMP SUM BID ITEM, REAR LOGS BASCOULE SPAN.



BEARING "A" LOADS

BEARING "B" LOADS

| MACHINERY TOLERANCE UNLESS OTHERWISE SPECIFIED | FINISH |
|--|--------|
| X ± 1/16"                                      | F4     |
| X/X ± .0020"                                   | F6     |
| X.XX ± 0.005"                                  | F8     |
| X.XXX ± 1/2°                                   | F12    |



TYPICAL TURNED BOLT DETAIL - STUDS SIMILAR  
 MATERIAL: NUTS - ASTM F3125 GRADE 316  
 WASHERS - ASTM F436



TABLE OF GEARING AND GEAR REDUCERS

| MARK              | RATIO    | QTY | DESCRIPTION   |
|-------------------|----------|-----|---|
| PRIMARY REDUCER   | 240 : 1  | 1   | HIGH SPEED, DIFFERENTIAL BEVEL-HELICAL TWO STAGE REDUCER, HORIZONTAL, SOLID SHAFTS, RATED INPUT SPEED 1200 RPM (RATED INPUT TORQUE 100 KIP-IN) (RATED OUTPUT TORQUE 100 KIP-IN)         |
| SECONDARY REDUCER | 50.6 : 1 | 2   | HELICAL GEAR PARALLEL SHAFT DRIVE, THREE STAGE, SOLID SHAFTS, HORIZONTAL, HORIZONTAL, HORIZONTAL, HORIZONTAL, WITH A-35 SERVICE FACTOR, 2,400 KIP-IN (RATED OUTPUT TORQUE 2,400 KIP-IN) |
| RACK AND PINION   | N/A      | 2   | SPUR 20° STUB INVOLUTE (SEE TABLE ON DRAWING M8)  |

TABLE OF COUPLINGS AND COUPLING KEYS

| COUPLING LOCATION   | MIN. TORQUE RATING | MIN. KEY SIZE |
|---------------------|--------------------|---------------|
| MOTOR (C4)          | 3,950 IN-LB        | 1/2" SQ.      |
| FLOATING SHAFT (C3) | 100,000 IN-LB      | 2 x 3/4" SQ.  |
| PINION SHAFT (C2)   | 2,400,000 IN-LB    | 2 x 1(1/2)"   |

FIT AND SURFACE FINISHES

| SURFACE                              | FIT   | FINISH |
|--------------------------------------|-------|--------|
| MACHINERY BASE ON STEEL              | ----- | 250    |
| MACHINERY PARTS IN FIXED CONTACT     | ----- | 125    |
| SHAFT JOURNALS                       | R6    | 8      |
| JOURNAL BUSHINGS                     | R6    | 16     |
| SOLID BUSHING IN BASE (TO 1/4" WALL) | F2    | 63     |
| SPLIT BUSHING IN BASE                | F2    | 125    |
| HUBS ON SHAFTS (UP TO 2" DIAMETER)   | F2    | 32     |
| HUBS ON SHAFTS (OVER 2" DIAMETER)    | F2    | 63     |
| KEY AND KEYS                         | ----- | 125    |
| TEETH OF OPEN SPIR GEAR              | ----- | 125    |
| PERMANENT DOWELS                     | F14   | 32     |

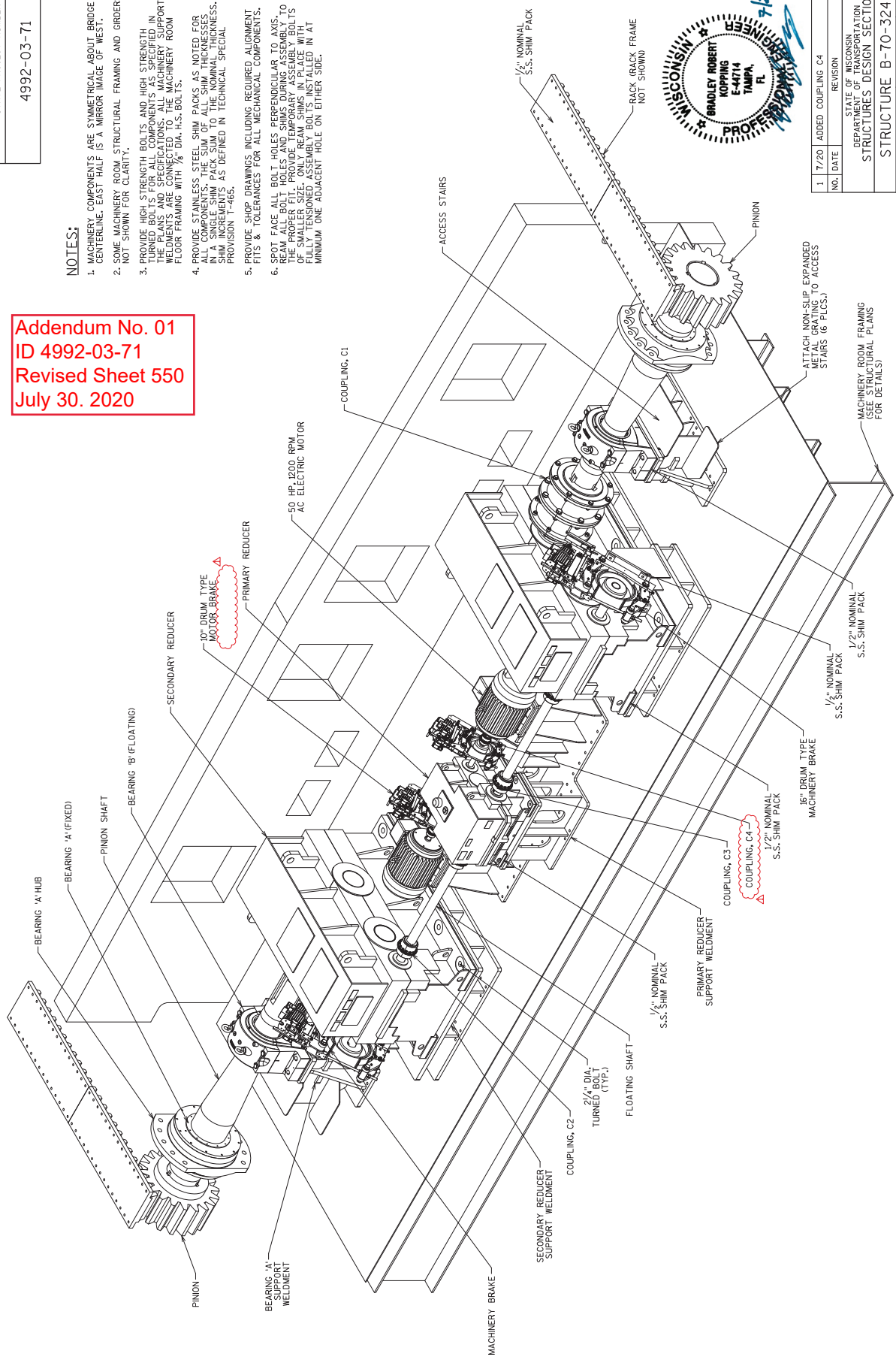
07/30/20  
 SEB

STATE PROJECT NUMBER  
4992-03-71

**NOTES:**

- MACHINERY COMPONENTS ARE SYMMETRICAL ABOUT BRIDGE CENTERLINE. EAST HALF IS A MIRROR IMAGE OF WEST.
- SOME MACHINERY ROOM STRUCTURAL FRAMING AND GIRDERS NOT SHOWN FOR CLARITY.
- PROVIDE HIGH STRENGTH BOLTS AND HIGH STRENGTH TURNED BOLTS FOR ALL COMPONENTS AS SPECIFIED IN THE PLANS AND SPECIFICATIONS. ALL MACHINERY SUPPORT WELDMENTS ARE CONNECTED TO THE MACHINERY ROOM FLOOR FRAMING WITH 7/8" DIA. 11.5. BOLT 15.
- PROVIDE STAINLESS STEEL SHIM PACKS AS NOTED FOR MACHINERY ROOM FRAMING. ALL SHIM PACKS TO BE INSTALLED IN A SINGLE SHIM PACK SIZE TO THE NOMINAL THICKNESS. SHIM INCREMENTS AS DEFINED IN TECHNICAL SPECIAL PROVISION T-465.
- PROVIDE SHOP DRAWINGS INCLUDING REQUIRED ALIGNMENT FITS & TOLERANCES FOR ALL MECHANICAL COMPONENTS.
- SPOT FACE ALL BOLT HOLES PERPENDICULAR TO AXIS. REAM ALL BOLT HOLES AND SHIMS DURING ASSEMBLY TO THE PROPER FIT. PROVIDE TEMPORARY ASSEMBLY BOLTS FOR MACHINERY ROOM FRAMING. ALL BOLTS INSTALLED WITH MINIMUM ONE ADJACENT HOLE ON EITHER SIDE.

Addendum No. 01  
ID 4992-03-71  
Revised Sheet 550  
July 30, 2020



8

|     |      |                   |     |    |
|-----|------|-------------------|-----|----|
| NO. | DATE | REVISION          | JCU | BY |
| 1   | 7/20 | ADDED COUPLING C4 |     |    |

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
STRUCTURES DESIGN SECTION  
STRUCTURE B-70-324

DESIGNED BY: JCU  
CHECKED BY: JCU  
DRAWING NO.: M.2 OF M.9  
SHEET NO.: 550

07/30/20

MACHINERY ROOM TRIMETRIC VIEW  
(SOUTH SHOWN, NORTH OPPOSITE)

8

PRINTER DRIVER: \$\$.printerdriver...\$\$  
PEN TABLE: \$\$.penable...\$\$  
FILE NAME: \$\$.designfile...\$\$  
PLOT DATE: \$\$.plotdate...\$\$  
PLOT TIME: \$\$.plottingtime...\$\$  
BATCH PRINT SHEET #C50# OF #NS0#



Addendum No. 01  
ID 4992-03-71  
Revised Sheet 551  
July 30, 2020

|     |      |                              |     |    |
|-----|------|------------------------------|-----|----|
| NO. | DATE | REVISION                     | JCU | BY |
| 1   | 7/20 | ADD COUPLING C4, BRAKE DESC. | JCU |    |

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
STRUCTURES DESIGN SECTION

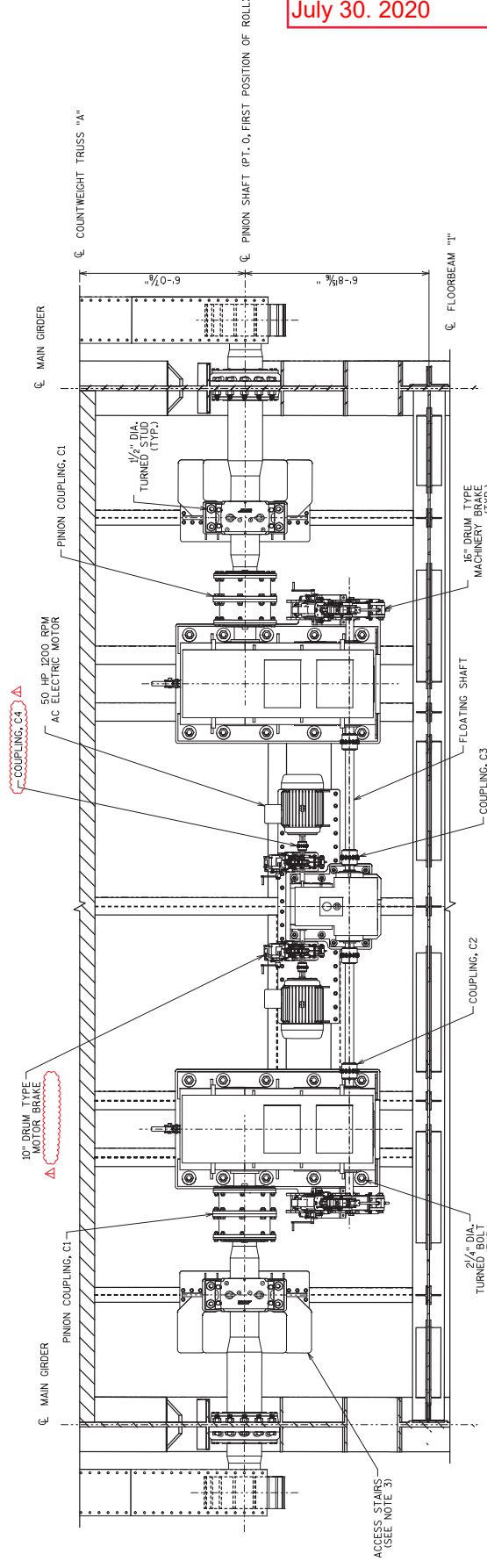
STRUCTURE B-70-324

DRAWING # M3 OF M19  
DRAWING # M3 OF M19  
MACHINERY PLAN AND ELEVATION

551



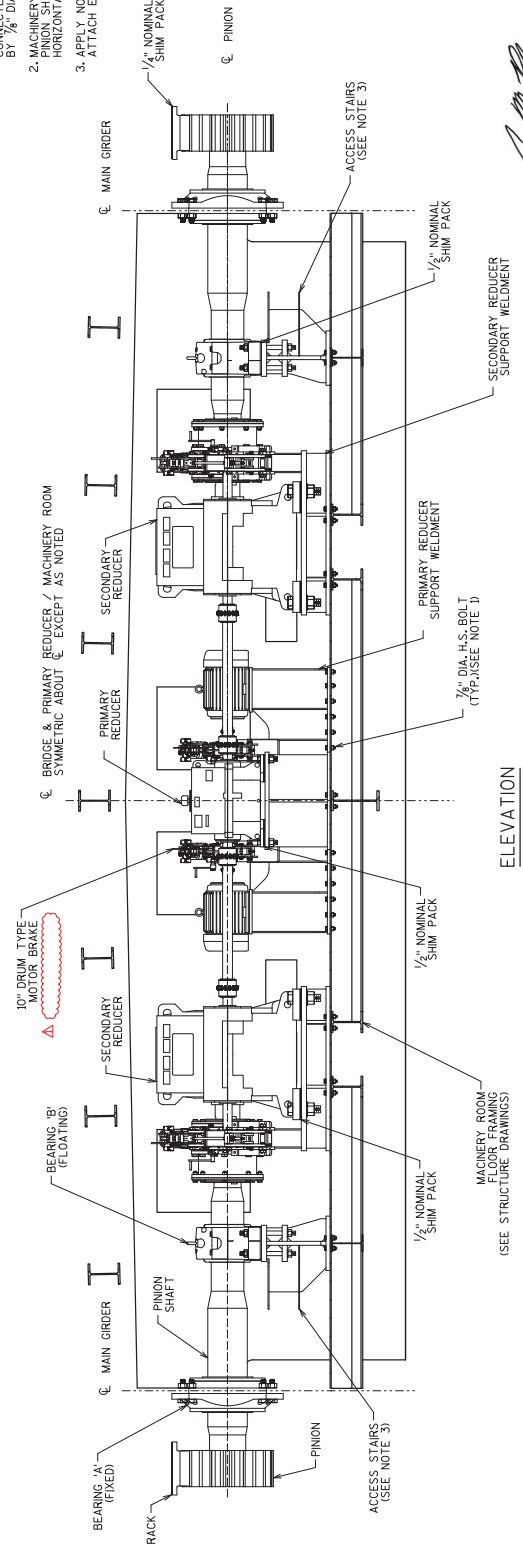
7/23/20



NOTES:

1. ALL MACHINERY SUPPORT WELDMENTS ARE CONNECTED TO MACHINERY ROOM FLOOR FRAMING BY 7/8" DIA. H.S. BOLTS.
2. MACHINERY ROTATES ABOUT THE CENTERLINE OF PINION SHAFT 70.7 DEGREES FROM HORIZONTAL DURING OPERATION.
3. APPLY NON-SLIP SURFACE TO ACCESS STAIRS OR ATTACH EXPANDED METAL GRATING TO EACH STEP.

PLAN



ELEVATION

07/30/20

JCU

Addendum No. 01  
ID 4992-03-71  
Revised Sheet 552  
July 30, 2020

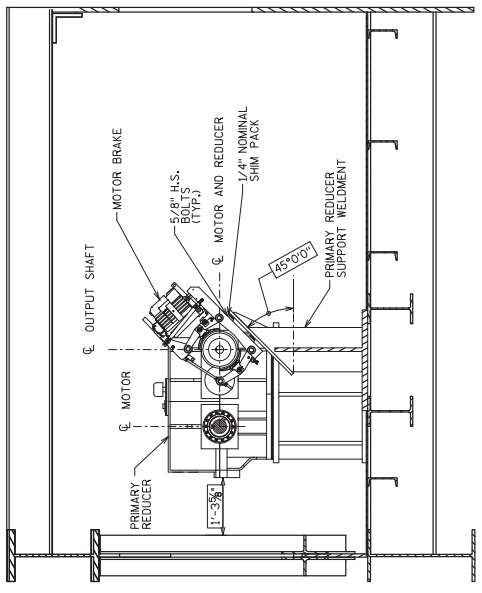
|   |      |                                |                      |     |
|---|------|--------------------------------|----------------------|-----|
| NO.   | DATE | ADDED COUPLING C4, BRAKE DESC. | JCU                  | BY  |
| 1   | 7/20 |                                |                      |     |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |      |                                |                      |     |
| STRUCTURE B-70-324  |      |                                |                      |     |
| DRAWN BY: JCU   |      |                                | CHECKED BY: *<br>JCU |     |
| MACHINERY PLAN<br>& ELEVATION 2   |      |                                |                      | 552 |

7/23/20

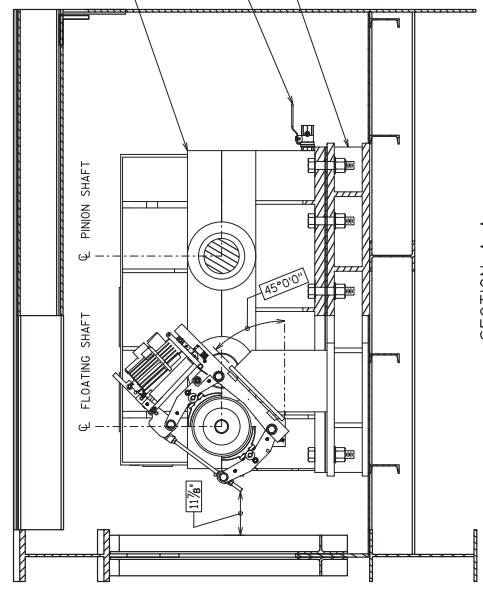
07/30/20

SPR

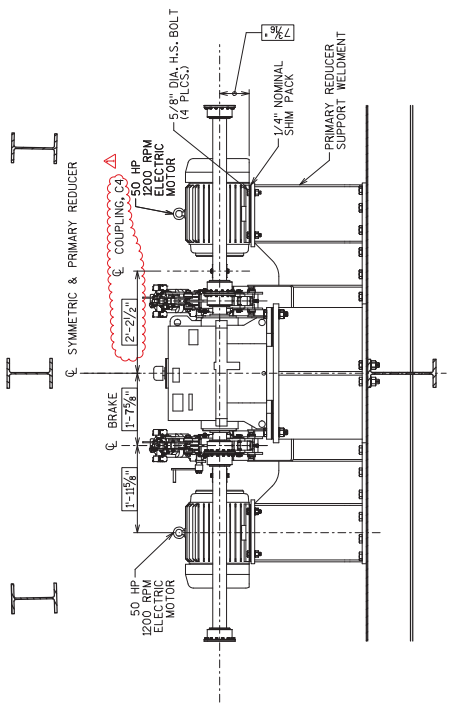
PROFESSIONAL ENGINEER  
WISCONSIN  
BRADLEY ROBERT KOPPING  
E-44714  
TAMPA, FL



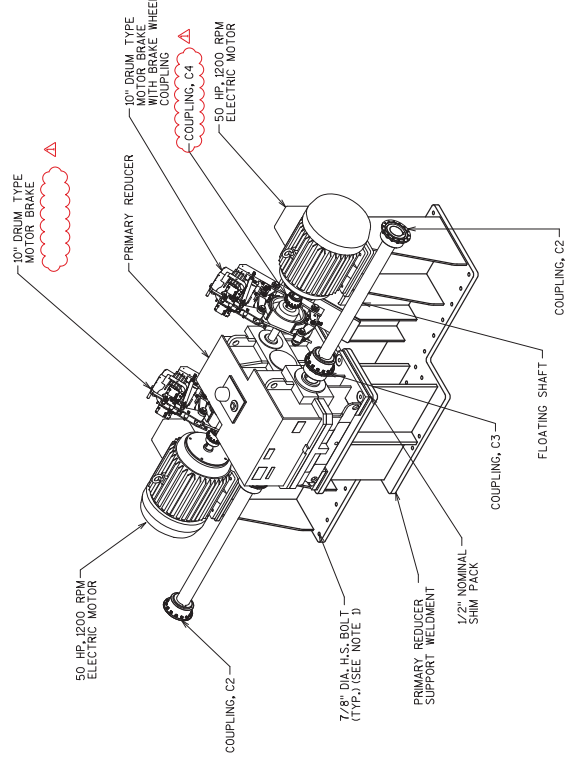
SECTION B-B



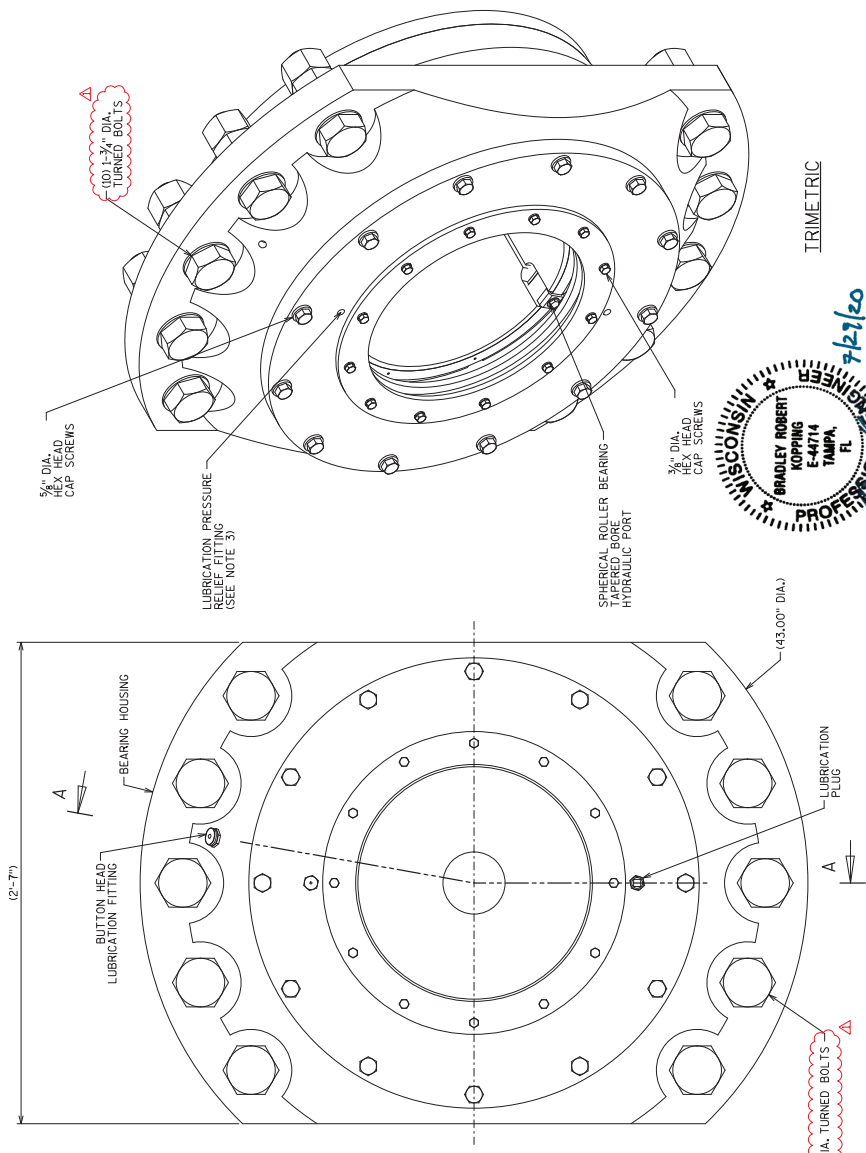
SECTION A-A



MOTOR & MOTOR BRAKE ELEVATION







TRIMETRIC



NOTES:

- LOAD RATINGS AND HOUSING DIMENSIONS FOR BEARING "A" ARE BASED ON CATALOG SIZE OF A SKF (23080 CCK/W33) ADAPTER MOUNTED SPHERICAL ROLLER BEARING WITH AN (OH 3080 H) ADAPTER SLEEVE AND SKF (CR 360X20X20) INSER SHAF T SEAL S.
- PROVIDE BUNA-N AS568A-474 O-RING.
- PROVIDE PRESSURE RELIEF VENT WITH A RANGE OF 1-5 PSI.
- HYDRAULICALLY TENSION BEARING TURNED BOLTS TO 85% OF YIELD STRENGTH OF MATERIAL BASED ON TENSILE STRESS AREA OF THREADED PORTION OF BOLT.

ELEVATION

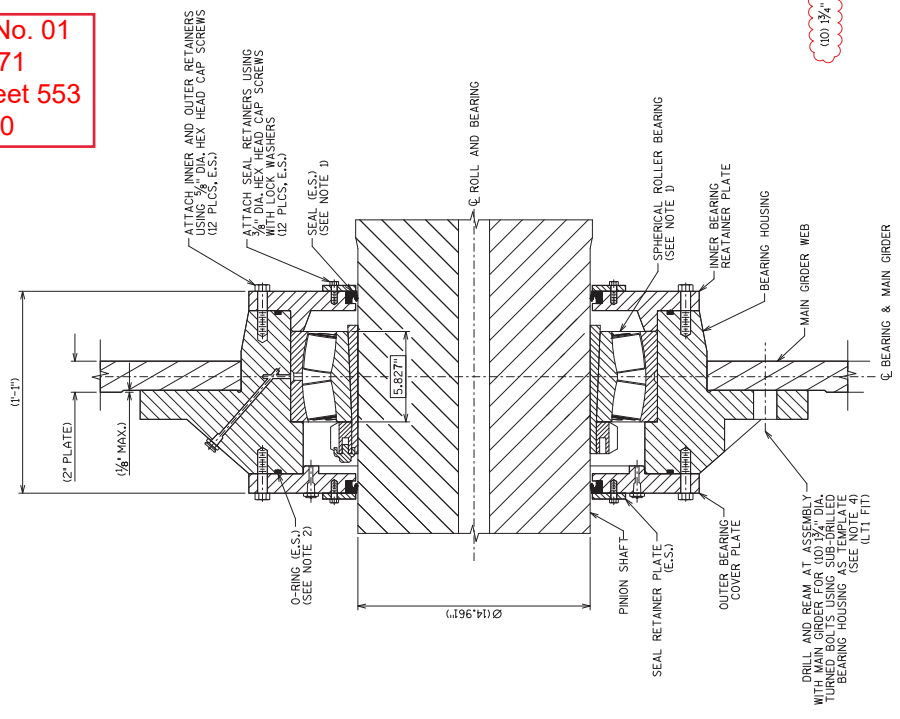
BEARING "A" HUB ASSEMBLY

ASSEMBLED WEIGHT: 2.068 POUNDS DRY  
SEE DETAILS M-06 & M-07

*[Signature]* SPR

07/30/20

Addendum No. 01  
ID 4992-03-71  
Revised Sheet 553  
July 30, 2020



SECTION A-A

DRILL AND REAM AT ASSEMBLY WITH PIN ORDER. DRILL AND REAM TURNED BOLTS USING SUB-DRILLED BEARING HOUSING AS TEMPLATE (SEE NOTE 4) (L1, F1)

Addendum No. 01  
ID 4992-03-71  
Revised Sheet 568  
July 30, 2020

|                      |            |
|----------------------|------------|
| STATE PROJECT NUMBER | 4992-03-71 |
|----------------------|------------|

ELECTRICAL GENERAL NOTES

- A. ALL CONTROL SYSTEMS RELATED SUBMITTALS AND WORK SHALL BE REVIEWED AND APPROVED BY THE ENGINEER BEFORE CONSTRUCTION. THE APPROVAL SHALL INCLUDE ALL SYSTEMS INTEGRATION, SHOP & FIELD TESTING, PLC SYSTEMS, AND PA AND DRIVE SYSTEMS. REFER TO PLANS AND SPECIAL PROVISIONS FOR ADDITIONAL DETAILS. PROVIDE SUBMITTALS THAT INCLUDE ALL MATERIALS, DATA SHEETS, AND PURCHASED UNTIL THE RELATED SUBMITTAL IS APPROVED BY THE ENGINEER.
- B. CONFORM TO ALL NEC, UL, IEEE, NEMA, AND AASHTO CODES, STANDARDS AND PRACTICES.
- C. ELECTRICAL DEVICES AND EQUIPMENT ARE SHOWN SYMBOLICALLY ON THE PLANS. THE USE OF SYMBOLS AND NOTATIONS (OR THE OMISSION THEREOF) DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING A SAFE, COMPLETE AND FULLY FUNCTIONAL SYSTEM. FIELD OPERATIONS AND MAINTENANCE CONDITIONS.
- D. ALL MOUNTING HARDWARE SHALL BE 300 SERIES STAINLESS STEEL. ALL EXTERIOR BOXES SHALL BE NEMA 4X.
- E. MINIMUM CONDUIT SIZE IS 3/4". ALL INTERCONNECT WIRES SHALL BE MIN. #14 AWG FOR CONTROL AND #10 AWG FOR POWER. HIM/MIM/UMW UNLESS OTHERWISE NOTED. CABINET WIRING SHALL BE PERMITTED TO BE FIELD WIRING. ALL WIRING SHALL BE PERMITTED TO BE FIELD WIRING. RC-TOR RG-59 FOR COAX. PROVIDE SPECIALIZED CABLES AS RECOMMENDED BY EQUIPMENT MANUFACTURERS.
- F. INSTALL A COMPLETE INTEGRATED GROUNDING AND BONDING SYSTEM FOR ALL NEW EQUIPMENT AND DEVICES PER NEC 250.
- G. PULL BOXES SHALL BE UTILIZED FOR CONTINUOUS PULLING OF WIRES, NO PULLING PERMITTED ON TO TERMINAL BOXES, WIRE NUTS AND COMPRESSION SPLICES ARE NOT PERMITTED. DO NOT EXCEED 3-30 DEGREE CONDUIT BENDS WITHOUT PROVIDING A PULL BOX.

|                              |                              |
|------------------------------|------------------------------|
| FILE NAME: 88.dplotngtunm.88 | PLOT DATE: 88.dplotngtunm.88 |
| PEN TABLE: 88.pndtbl.88      | PLOT TIME: 88.dplotngtunm.88 |
| PRINTER DRIVER: 88.pndtbl.88 | PLOT TIME: 88.dplotngtunm.88 |

ELECTRICAL SCOPE OF WORK

- SEE SPECIAL PROVISIONS FOR SCOPE OF WORK AND REQUIREMENTS FOR EACH PAY ITEM.
- TASK E-1 - CONTROL CABINETS
- A. CONTROL CONSOLE - FURNISH, INSTALL AND TEST A NEW NEMA 12 CONSOLE WITH STAINLESS STEEL CABINET. INCLUDES ALL WIRING AND DEVICES SHOWN IN MOUNTING ARM.
  - B. PLC CABINET - FURNISH, INSTALL AND TEST A NEW 19" PLC CABINET WITH VENTILATION AS REQUIRED. THE CABINET SHALL INCLUDE ALL PLC COMPONENTS, POWER SUPPLIES, UPS, RELAYS, TERMINALS, WIRING AND MISCELLANEOUS EQUIPMENT NECESSARY FOR A COMPLETE SYSTEM.
  - C. DRIVE CABINETS - FURNISH, INSTALL AND TEST FOUR NEW NEMA 12 DRIVE CABINETS WITH FLANGE MOUNTED DISCONNECTS AND VENTILATION AS REQUIRED.
  - D. FURNISH & INSTALL A THREE PHASE 480/208/120, 45 KVA TRANSFORMER.
  - E. FURNISH & INSTALL A 42 CIRCUIT PANELBOARD FOR LIGHTING AND OTHER MISCELLANEOUS ELECTRICAL LOADS.
- TASK E-3 - MOTOR CONTROL CENTER
- A. FURNISH, INSTALL AND TEST MOTOR CONTROL CENTER.
  - B. PROVIDE UPS AS FREE STANDING ENCLOSURES, RATED 400 AMP, 65KA WITH A TOP ENTRY MAIN BREAKER.
  - C. PROVIDE NEMA RATED STARTERS WITH HOA AND CONTROL POWER TRANSFORMERS.
  - D. PROVIDE SHIPPING SPLITS AS NECESSARY TO INSTALL IN OPERATOR HOUSE.
- TASK E-4 - MOTORS AND DISCONNECTS
- A. MAIN SPAN MOTORS - FURNISH, INSTALL AND TEST TWO 50 HP, 1750 RPM MOTORS. MOTORS SHALL BE SUPPLIED AND TESTED BY THE DRIVE MANUFACTURER.
  - B. DISCONNECTS - FURNISH NEMA 4X KNIFE SWITCH DISCONNECTS FOR EACH BRAKE, REAR LOCK AND MAIN SPAN MOTOR.
- TASK E-5 - PROGRAM PLC SYSTEM AND HMI
- A. PROGRAM TEST AND INTEGRATE THE CONTROL SYSTEM TO OPERATE AS DESCRIBED IN THE SPECIAL PROVISIONS AND FUNCTION BLOCK SEQUENCE IN THE PLANS.
  - B. PROGRAM THE PLC USING LADDER LOGIC.
  - C. DOCUMENT ALL RUNGS, CONTACTS, COILS AND FUNCTION BLOCKS IN THE PROGRAM.
  - D. FURNISH, INSTALL, PROGRAM AND TEST A TOUCH SCREEN GRAPHIC TERMINAL FOR INFORMATION AND DIAGNOSTICS.
- TASK E-6 - SUBMARINE CABLE
- A. FURNISH, TEST AND INSTALL SUBMARINE CABLES AS SHOWN IN PLANS.
  - B. PROVIDE TERMINATION CABINETS WITH TERMINAL BLOCKS, HEATERS, AND CONNECTIONS TO ALL REQUIRED DEVICES.
  - C. ROUTE SUBMARINE CABLES BETWEEN THE TWO BAScule PIERS AS SHOWN IN THE PLANS. BELOW THE CHANNEL AT A DEPTH AS APPROVED BY THE USCG. OBTAIN NECESSARY PERMITS. SEE ROADWAY PLANS FOR CABLE DEPTH AND TAMPING METHODS.
- TASK E-7 - PA SYSTEM
- A. FURNISH, INSTALL, MOUNT AND ADJUST A PUBLIC ADDRESS SYSTEM CONSISTING OF A MASTER PUSH-TO-TALK MICROPHONE SYSTEM AND A PAGING/PARTY SYSTEM WITH STATIONS AS SHOWN IN THE PLANS.
  - B. PROVIDE PA SYSTEM THAT INCLUDES ALL INCIDENTALS, REQUIRED FOR A FULLY OPERATIONAL, NOISE FREE AND INTEGRATED SYSTEM.
  - C. ADJUST AND TEST THE SPEAKERS AS DIRECTED BY THE ENGINEER.
- TASK E-8 - LIGHTNING AND SURGE DETECTION
- A. FURNISH AND INSTALL A LIGHTNING PROTECTION SYSTEM PER NFPA 780.
  - B. FURNISH AND INSTALL TRANSPARENT VOLTAGE SURGE PROTECTORS FOR INCOMING POWER AND 120 VAC CIRCUITS SHOWN ON PLANS.
- TASK E-9 - NEW LIMITS AND SENSORS
- A. FURNISH, INSTALL, TEST AND ADJUST SPAN POSITION PROXIMITY SENSORS AND PLUNGER SEATED SWITCHES.
  - B. FURNISH, INSTALL, TEST AND ADJUST SPAN POSITION INCLINOMETER IN A NEMA 12 CABINET AS SHOWN IN THE PLANS.
  - C. FURNISH, INSTALL, TEST AND ADJUST REAR LOCK PROXIMITY SWITCHES AS SHOWN IN PLANS.
  - D. BRAKE LIMITS FOR SET, RELEASE AND HAND RELEASED ARE FURNISHED AS PART OF ASSEMBLY. FURNISH, INSTALL, AND TEST ALL CONDUIT FOR THE LIMITS.
  - E. INSTALL ALL LIMITS WITH 3-AXIS ADJUSTABILITY USING STAINLESS STEEL HARDWARE.
- TASK E-10 - TRAFFIC SIGNALS & TRAFFIC GATES
- A. FURNISH, INSTALL AND TEST A RED/YELLOW/GREEN LED TRAFFIC SIGNALS. SEE ROADWAY PLANS FOR DETAILS.
  - B. FURNISH, INSTALL AND TEST FOUR TRAFFIC GATES AS SHOWN ON THE PLANS.
  - C. FURNISH, INSTALL, TEST "DRAWBRIDGE AHEAD" ADVANCED WARNING SIGNS WITH FLASHING AMBER LED ADVANCED WARNING SIGNAL LIGHTS AS SHOWN ON THE PLANS. SEE ROADWAY PLANS FOR DETAILS.
- TASK E-11 - CCTV
- A. FURNISH AND INSTALL A NEW LP-CCTV SYSTEM THAT INCLUDES DIGITAL RECORDING CAPABILITIES AND CONTROL. CAMERAS SHALL BE MOUNTED AS SHOWN ON THE PLANS.
  - B. CCTV VIDEO SHALL BE DISPLAYED ON A SINGLE 55 INCH FLAT SCREEN PANEL.
- TASK E-12 - TESTING & TRAINING
- A. DEMONSTRATE THE FUNCTION OF THE ENTIRE ELECTRICAL CONTROL AND DRIVE SYSTEM AT MANUFACTURERS SHOP. SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS.
  - B. DEMONSTRATE THE OPERATION OF THE BRIDGE AT A PARTIAL ACCEPTANCE TEST IN THE PRESENCE OF THE ENGINEER AND/OR HIS REPRESENTATIVES.
  - C. PROVIDE OPERATOR TRAINING FOR CITY OPERATORS.
  - D. PROVIDE MAINTENANCE TRAINING FOR CITY MAINTENANCE PERSONNEL.
  - E. FURNISH COMPLETE OPERATION AND MAINTENANCE MANUALS.
- TASK E-13 - MISCELLANEOUS ELECTRICAL WORK
- A. FURNISH AND INSTALL ALL RELATED CONDUITS, CONDUCTORS, COMM., DATA, AND POWER CABLES, INTERCONNECTIONS, JUNCTION & PULL BOXES, STAINLESS STEEL FASTENERS, AND RELATED INCIDENTAL ITEMS REQUIRED FOR FULLY OPERATIONAL CONTROL SYSTEM.
  - B. PROVIDE SUBMITTALS AS REQUIRED IN ELECTRICAL GENERAL NOTES, DRAWINGS, AND SPECIAL PROVISIONS.
  - C. NAVIGATION LIGHTS - FURNISH RED/GREEN LED NAVIGATION LIGHTS ON SWING ARMS AT TIPS OF SPAN.
  - D. PIER LIGHTS - FURNISH FOUR NEW RED LED PIER LIGHTS.
  - E. AIR HORN - FURNISH NEW AIR HORN WITH COMPRESSOR.
  - F. FURNISH AND INSTALL FIRE ALARM AND SECURITY SYSTEMS. EACH SYSTEM COMPLETE WITH EXISTING RACINE STREET BRIDGE. THIS SHALL INCLUDE A CONTROL CONSOLE VIDEO MONITOR WITH LOCAL CAMERA CONTROL, PA SYSTEM MASTER STATION, FIBER OPTIC MULTIFLEXOR AND ANY MISCELLANEOUS EQUIPMENT ASSOCIATED WITH REMOTE OPERATIONS.
  - G. FURNISH AND INSTALL LIGHTING, RECEPTACLES, AND MISCELLANEOUS ELECTRICAL EQUIPMENT IN BRIDGE OPERATOR HOUSE, MACHINERY ROOM, AND BAScule PIER.
  - H. FURNISH SPARE PARTS FOR ALL EQUIPMENT INSTALLED INCLUDING LIGHT BULBS, RELAYS, CONTACTORS, FUSES, TRAFFIC GATE ARMS, ETC.
- TASK E-14 - TAYCO STREET REMOTE OPERATIONS
- A. REMOVE AND STORE EXISTING TAYCO STREET REMOTE OPERATION EQUIPMENT IN THE EXISTING RACINE STREET BRIDGE. THIS SHALL INCLUDE A CONTROL CONSOLE VIDEO MONITOR WITH LOCAL CAMERA CONTROL, PA SYSTEM MASTER STATION, FIBER OPTIC MULTIFLEXOR AND ANY MISCELLANEOUS EQUIPMENT ASSOCIATED WITH REMOTE OPERATIONS.
  - B. THE EQUIPMENT SHALL BE STORED IN A CLEAN, DRY AND TEMPERATURE CONTROLLED IN ENVIRONMENT.
  - C. NEW EQUIPMENT SHALL BE INSTALLED IN THE NEW RACINE STREET BRIDGE AS SHOWN ON PLANS.
  - D. INSTALL A NEW 12 STRAND SINGLE MODE FIBER FROM THE OPERATOR HOUSE TO A HANDHOLE NEAR THE MEMSHA UTILITIES SERVICE TRANSFORMERS. MEMSHA UTILITIES WILL SPLICE THE NEW FIBER INTO THEIR NETWORK.

|                      |            |
|----------------------|------------|
| STATE PROJECT NUMBER | 4992-03-71 |
|----------------------|------------|

ELECTRICAL GENERAL NOTES

- A. ALL CONTROL SYSTEMS RELATED SUBMITTALS AND WORK SHALL BE REVIEWED AND APPROVED BY THE ENGINEER BEFORE CONSTRUCTION. THE APPROVAL SHALL INCLUDE ALL SYSTEMS INTEGRATION, SHOP & FIELD TESTING, PLC SYSTEMS, AND PA AND DRIVE SYSTEMS. REFER TO PLANS AND SPECIAL PROVISIONS FOR ADDITIONAL DETAILS. PROVIDE SUBMITTALS THAT INCLUDE ALL MATERIALS, DATA SHEETS, AND PURCHASED UNTIL THE RELATED SUBMITTAL IS APPROVED BY THE ENGINEER.
- B. CONFORM TO ALL NEC, UL, IEEE, NEMA, AND AASHTO CODES, STANDARDS AND PRACTICES.
- C. ELECTRICAL DEVICES AND EQUIPMENT ARE SHOWN SYMBOLICALLY ON THE PLANS. THE USE OF SYMBOLS AND NOTATIONS (OR THE OMISSION THEREOF) DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING A SAFE, COMPLETE AND FULLY FUNCTIONAL SYSTEM. FIELD OPERATIONS AND MAINTENANCE CONDITIONS.
- D. ALL MOUNTING HARDWARE SHALL BE 300 SERIES STAINLESS STEEL. ALL EXTERIOR BOXES SHALL BE NEMA 4X.
- E. MINIMUM CONDUIT SIZE IS 3/4". ALL INTERCONNECT WIRES SHALL BE MIN. #14 AWG FOR CONTROL AND #10 AWG FOR POWER. HIM/MIM/UMW UNLESS OTHERWISE NOTED. CABINET WIRING SHALL BE PERMITTED TO BE FIELD WIRING. ALL WIRING SHALL BE PERMITTED TO BE FIELD WIRING. RC-TOR RG-59 FOR COAX. PROVIDE SPECIALIZED CABLES AS RECOMMENDED BY EQUIPMENT MANUFACTURERS.
- F. INSTALL A COMPLETE INTEGRATED GROUNDING AND BONDING SYSTEM FOR ALL NEW EQUIPMENT AND DEVICES PER NEC 250.
- G. PULL BOXES SHALL BE UTILIZED FOR CONTINUOUS PULLING OF WIRES, NO PULLING PERMITTED ON TO TERMINAL BOXES, WIRE NUTS AND COMPRESSION SPLICES ARE NOT PERMITTED. DO NOT EXCEED 3-30 DEGREE CONDUIT BENDS WITHOUT PROVIDING A PULL BOX.

| SHEET DESCRIPTION                                    | SHEET DESCRIPTION                                  |
|--|--|
| E01 ELECTRICAL NOTES                                 | E31 RAISE SEQUENCE CHART 2                         |
| E02 ELECTRICAL SYMBOLS & LEGENDS                     | E32 LOWER SEQUENCE CHART                           |
| E03 GENERAL PLAN AND ELEVATION BAScule SPAN          | E33 LOWER SEQUENCE CHART                           |
| E04 GENERAL PLAN AND ELEVATION                       | E34 TRAFFIC GATE                                   |
| E05 OPERATORS HOUSE ELECTRICAL FLOOR PLANS           | E35 SUBMARINE CABLE DETAILS                        |
| E06 TAYCO STREET REMOTE OPERATION PLANS              | E36 SUBMARINE CABLE DETAILS                        |
| E07 SINGLE LINE DIAGRAM (1 OF 2)                     | E37 PUMP SWITCH DETAILS                            |
| E08 SINGLE LINE DIAGRAM (2 OF 2)                     | E38 SUMP PUMP DETAILS                              |
| E09 CONTROL POWER SCHEMATIC - 1                      | E39 CCTV CAMERA CONFIGURATION                      |
| E10 CONTROL POWER SCHEMATIC - 2                      | E40 TRAFFIC SIGNALS                                |
| E11 TRAFFIC SIGNALS SCHEMATIC - 3                    | E41 TRAFFIC SIGNALS                                |
| E12 TRAFFIC SIGNALS SCHEMATIC - 4                    | E42 NORTH BAScule ABUTMENT PLAN AT PIER LEVEL      |
| E13 NORTH SPAN DRIVE SCHEMATIC - 5                   | E43 NORTH BAScule ABUTMENT PLAN AT TRACK LEVEL     |
| E14 SOUTH SPAN DRIVE SCHEMATIC - 6                   | E44 SOUTH BAScule ABUTMENT PLAN AT TRACK LEVEL     |
| E15 NORTH EAST SPAN MOTOR & DRIVE SCHEMATIC - 7      | E45 SOUTH BAScule ABUTMENT PLAN AT MACHINERY LEVEL |
| E16 NORTH WEST SPAN MOTOR & DRIVE SCHEMATIC - 8      | E46 SOUTH BAScule ABUTMENT PLAN AT MACHINERY LEVEL |
| E17 SOUTH WEST SPAN MOTOR & DRIVE SCHEMATIC - 9      | E47 NORTH MACHINERY PLAN AND ELEVATION             |
| E18 SOUTH WEST SPAN MOTOR & DRIVE SCHEMATIC - 10     | E48 SOUTH MACHINERY PLAN AND ELEVATION             |
| E19 NAVIGATION LIGHTS SCHEMATIC - 11                 | E49 CONDUIT BLOCK DIAGRAM                          |
| E20 MCC CABINET & MCC SCHEDULES - 12                 | E50 CONDUIT SCHEDULE (01 OF 10)                    |
| E21 ELECTRICAL SCHEDULE & PLC I/O                    | E51 CONDUIT SCHEDULE (02 OF 10)                    |
| E22 INCLINOMETER, CAMERA, LIMITS, & TIMING SCHEDULES | E52 CONDUIT SCHEDULE (03 OF 10)                    |
| E23 FIRE ALARM AND SECURITY DETAIL                   | E53 CONDUIT SCHEDULE (04 OF 10)                    |
| E24 PAL SYSTEM WIRING DIAGRAM                        | E54 CONDUIT SCHEDULE (05 OF 10)                    |
| E25 CCTV CAMERA WIRING DIAGRAM & DETAILS             | E55 CONDUIT SCHEDULE (06 OF 10)                    |
| E26 GROUNDING AND LIGHTNING PROTECTION DETAILS       | E56 CONDUIT SCHEDULE (07 OF 10)                    |
| E27 OPERATOR CONSOLE                                 | E57 CONDUIT SCHEDULE (08 OF 10)                    |
| E28 GROUNDING RISER                                  | E58 CONDUIT SCHEDULE (09 OF 10)                    |
| E29 PLC & DRIVE CABINETS                             | E59 CONDUIT SCHEDULE (10 OF 10)                    |
| E30 SEQUENCE LEGEND & PROGRAMMING NOTES              |  |
| E31 HMI SCREENS                                      |  |
| E32 RAISE SEQUENCE CHART 1                           |  |



07/30/20

7/31/20

|   |                  |     |
|---|------------------|-----|
| 1   | REVISED TASK E-4 | HVP |
| NO.   | REVISION         | BY  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |                  |     |
| STRUCTURE B-70-324  |                  |     |
| ELECTRICAL  |                  |     |
| NOTES   |                  |     |
| 568   |                  |     |

|                      |            |
|----------------------|------------|
| STATE PROJECT NUMBER | 4992-03-71 |
|----------------------|------------|

ELECTRICAL GENERAL NOTES

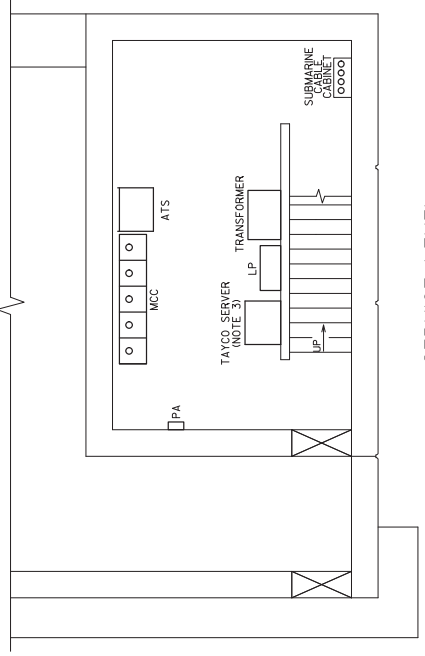
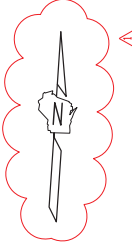
- A. ALL CONTROL SYSTEMS RELATED SUBMITTALS AND WORK SHALL BE REVIEWED AND APPROVED BY THE ENGINEER BEFORE CONSTRUCTION. THE APPROVAL SHALL INCLUDE ALL SYSTEMS INTEGRATION, SHOP & FIELD TESTING, PLC SYSTEMS, AND PA AND DRIVE SYSTEMS. REFER TO PLANS AND SPECIAL PROVISIONS FOR ADDITIONAL DETAILS. PROVIDE SUBMITTALS THAT INCLUDE ALL MATERIALS, DATA SHEETS, AND PURCHASED UNTIL THE RELATED SUBMITTAL IS APPROVED BY THE ENGINEER.
- B. CONFORM TO ALL NEC, UL, IEEE, NEMA, AND AASHTO CODES, STANDARDS AND PRACTICES.
- C. ELECTRICAL DEVICES AND EQUIPMENT ARE SHOWN SYMBOLICALLY ON THE PLANS. THE USE OF SYMBOLS AND NOTATIONS (OR THE OMISSION THEREOF) DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING A SAFE, COMPLETE AND FULLY FUNCTIONAL SYSTEM. FIELD OPERATIONS AND MAINTENANCE CONDITIONS.
- D. ALL MOUNTING HARDWARE SHALL BE 300 SERIES STAINLESS STEEL. ALL EXTERIOR BOXES SHALL BE NEMA 4X.
- E. MINIMUM CONDUIT SIZE IS 3/4". ALL INTERCONNECT WIRES SHALL BE MIN. #14 AWG FOR CONTROL AND #10 AWG FOR POWER. HIM/MIM/UMW UNLESS OTHERWISE NOTED. CABINET WIRING SHALL BE PERMITTED TO BE FIELD WIRING. ALL WIRING SHALL BE PERMITTED TO BE FIELD WIRING. RC-TOR RG-59 FOR COAX. PROVIDE SPECIALIZED CABLES AS RECOMMENDED BY EQUIPMENT MANUFACTURERS.
- F. INSTALL A COMPLETE INTEGRATED GROUNDING AND BONDING SYSTEM FOR ALL NEW EQUIPMENT AND DEVICES PER NEC 250.
- G. PULL BOXES SHALL BE UTILIZED FOR CONTINUOUS PULLING OF WIRES, NO PULLING PERMITTED ON TO TERMINAL BOXES, WIRE NUTS AND COMPRESSION SPLICES ARE NOT PERMITTED. DO NOT EXCEED 3-30 DEGREE CONDUIT BENDS WITHOUT PROVIDING A PULL BOX.

**NOTES:**

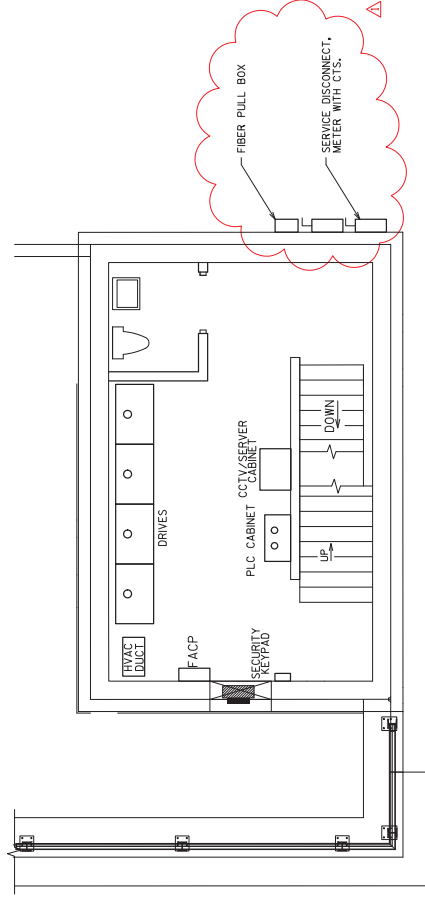
1. PROVIDE ADEQUATE SPACE FOR SERVICING ALL EQUIPMENT.
2. FURNISH AND INSTALL A COMPLETE BUILDING SECURITY SYSTEM WITH A KEYPAD AT THE ENTRANCE TO THE BUILDING, INCLUDE A CONTROL PANEL, ALL SENSORS, MOTION DETECTORS, SIRENS, AND ASSOCIATED WIRING. CONDUITS, PROGRAMMING, TRAINING, AND MISCELLANEOUS HARDWARE TO PROVIDE A COMPLETE AND FULLY FUNCTIONAL SECURITY SYSTEM.
3. RELOCATE EXISTING TAYCO STREET REMOTE CONTROL EQUIPMENT, SEE SHEET E-06
4. ATTACH NEW CCTV MONITOR FROM CEILING, FIELD ADJUST HEIGHT FOR PROPER VIEWING.

5. INSTALL NEW METER WITH CTS AND SERVICE DISCONNECTS ON NORTH WALL.

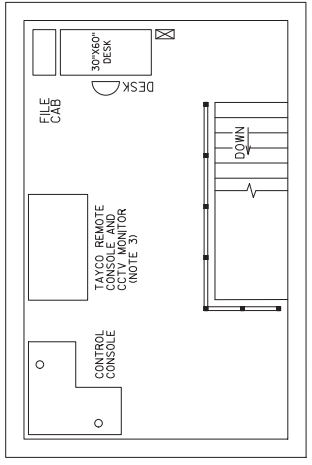
STATE PROJECT NUMBER  
4992-03-71



SERVICE LEVEL  
N.T.S.



ENTRY LEVEL  
N.T.S.



OPERATOR LEVEL  
N.T.S.

Addendum No. 01  
ID 4992-03-71  
Revised Sheet 572  
July 30, 2020

|     |          |  |     |
|-----|----------|--|-----|
| NO. | DATE     | REVISION                                 | BY  |
| 1   | 07/22/20 | REVISED NOTES, CALLOUTS, AND NORTH ARROW | HVP |

|   |            |
|---|------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |            |
| STRUCTURE B-70-324  |            |
| DESIGNED BY   | DAD        |
| CHECKED BY  | HVP        |
| PLANS   | PLANS      |
| DRAWING   | E05 OF E64 |
| OPERATOR'S HOUSE<br>ELECTRICAL FLOOR<br>PLANS                                   |            |
| 572   |            |



*[Signature]*  
07/30/20

7/21/20

Addendum No. 01  
 ID 4992-03-71  
 Revised Sheet 574  
 July 30, 2020

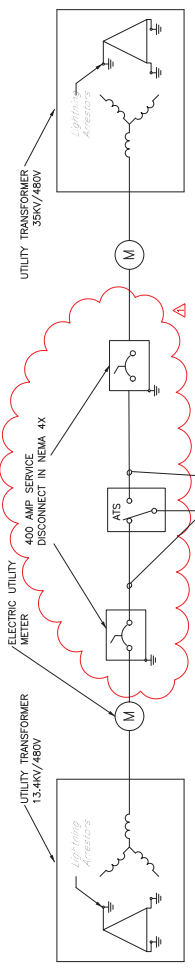
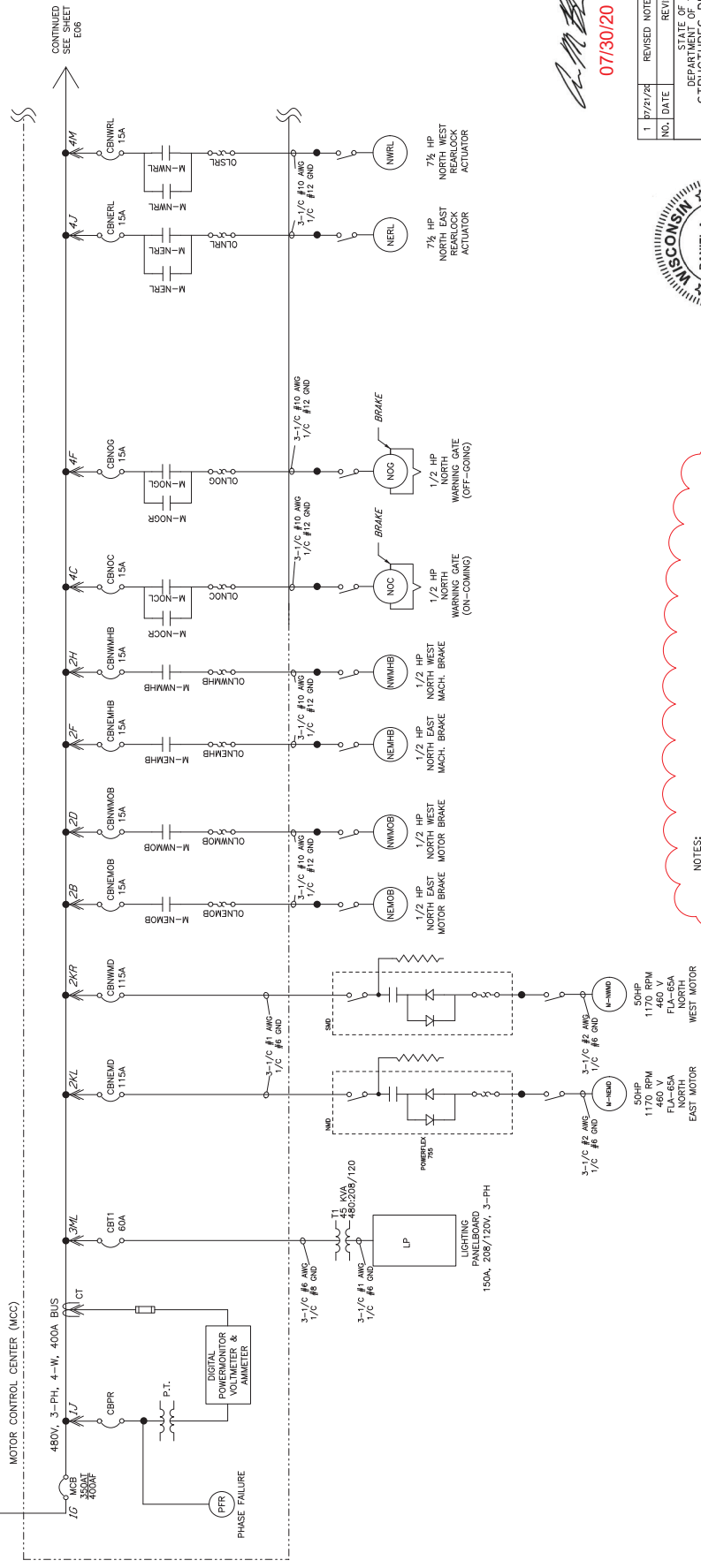
*[Signature]*  
 07/30/20

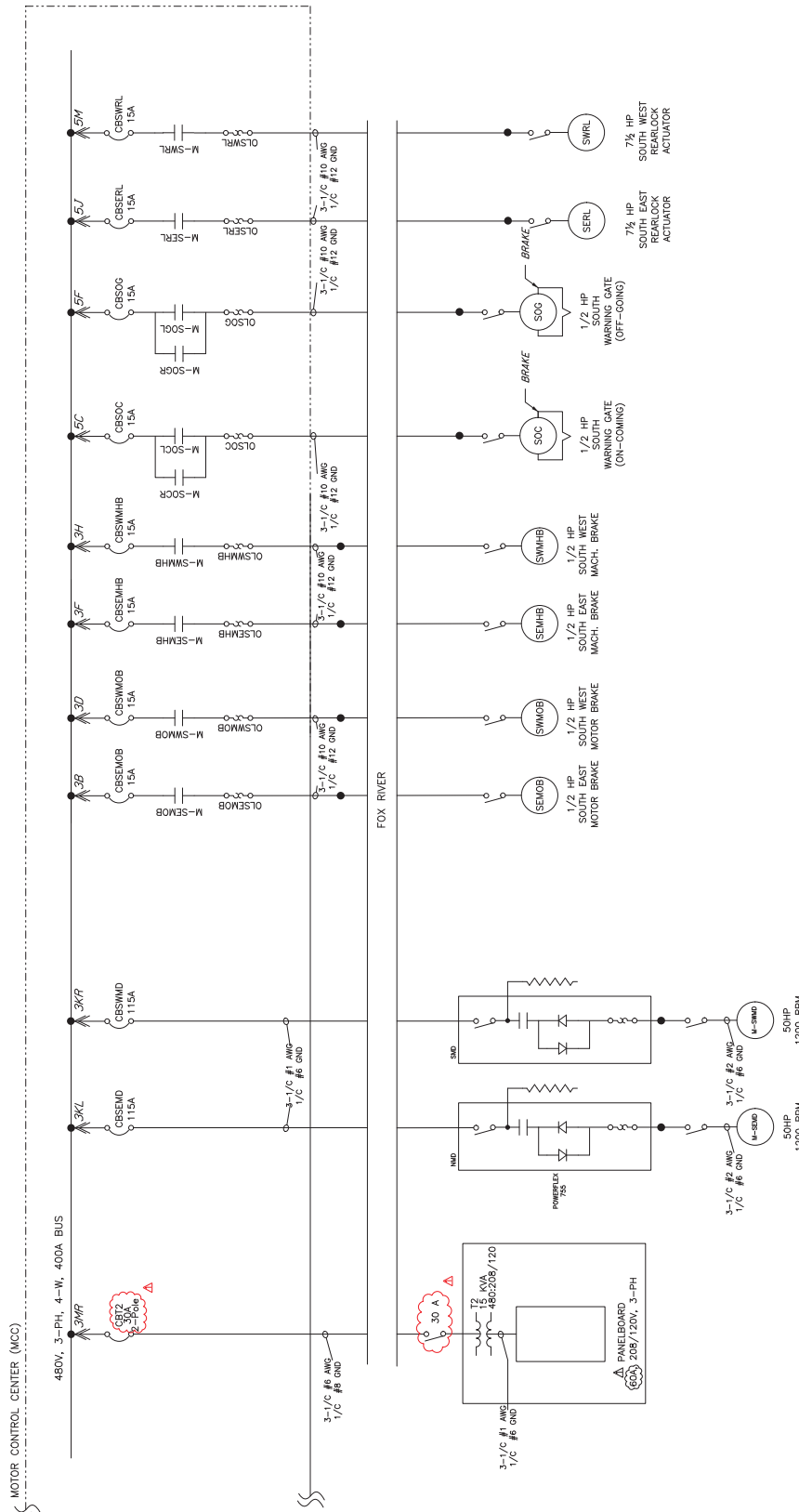
| NO.   | DATE     | REVISION                 | HVP     | BY  |
|---|----------|--------------------------|---------|-----|
| 1   | 07/21/20 | REVISED NOTES & CALLOUTS |         |     |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |          |                          |         |     |
| STRUCTURE B-70-324  |          |                          |         |     |
|   |          |                          | BY      | HVP |
|   |          |                          | CHKD    | DAD |
|   |          |                          | PLANS   | EG4 |
|   |          |                          | DRAWING | 574 |
|   |          |                          | EGOT OF |     |



7/2/20

NOTES:  
 1. HORSE POWER RATING AND CIRCUIT BREAKER RATING SHOWN ARE NOMINAL.  
 2. WARNING GATE DISCONNECTS ARE INCLUDED WITH GATES.





**Addendum No. 01**  
**ID 4992-03-71**  
**Revised Sheet 575**  
**July 30, 2020**



*D. A. Duzan*  
**07/30/20**  
SFR

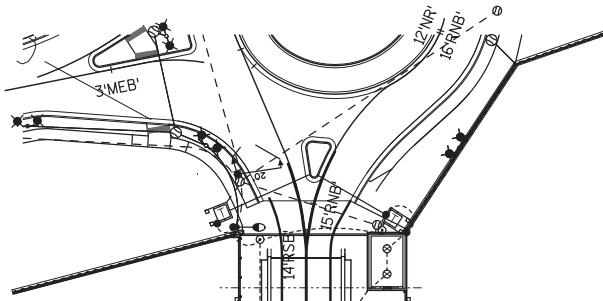
- NOTES:
- HORSE POWER RATING AND CIRCUIT BREAKER RATING SHOWN ARE NOMINAL.
  - WARNING GATE DISCONNECTS ARE INCLUDED WITH GATES.

| NO. | DATE    | REVISION                            | BY  |
|-----|---------|-------------------------------------|-----|
| 1   | 7/21/20 | REVISED AMPERAGE & ADDED DISCONNECT | HMP |

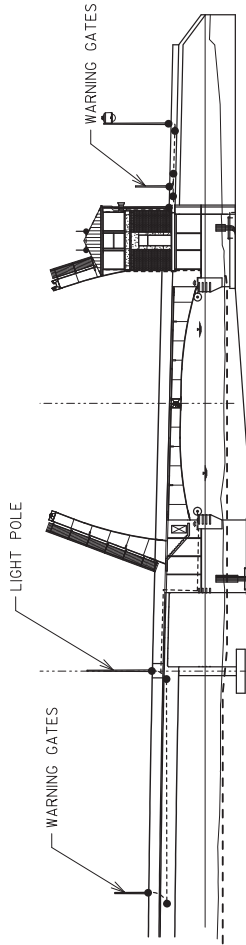
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
STRUCTURES DESIGN SECTION  
STRUCTURE B-70-324  
DRAWING NO. 575  
EG08 OF EG08

SINGLE LINE  
DIAGRAM (2 OF 2)

Addendum No. 01  
ID 4992-03-71  
Revised Sheet 594  
July 30, 2020



PLAN



ELEVATION

**LEGEND**

|                            |       |
|----------------------------|-------|
| MAIN CONDUCTOR             | ----- |
| FLEXIBLE BONDING CONDUCTOR | ..... |
| EXOTHERMIC WELD            | ●     |
| GROUND ROD                 | ○     |
| AIR TERMINAL               | ◊     |

- NOTES**
- SUBMIT SHOP DRAWINGS BY CERTIFIED LIGHTNING PROTECTION PROFESSIONAL SHOWING DETAILS AND MATERIALS.
  - BOND MAIN CONDUCTOR TO ALL TRAFFIC GATES AND SIGNALS. BOND TO HANDRAIL AND GUARDRAIL AT 20'-0" SPACING. MAX. USE #6-2 MCMIL COPPER CONDUCTOR COORDINATE WITH HANDRAIL AND GUARDRAIL INSTALLATION.
  - USE APPROPRIATE MATERIALS TO PROVIDE CONNECTIONS TO NONFERROUS MATERIALS. (I.E. BRONZE TO ALUMINUM).
  - ALL CONNECTIONS ARE TO USE EXOTHERMIC WELDING PROCESS. ANY DEVIATION FROM THIS REQUIREMENT SHALL BE APPROVED BY THE ENGINEER.
  - GROUND RODS SHALL MEET LATEST NEC REQUIREMENTS FOR GROUNDING, PROVIDE 1/2" JOINTS.
  - GROUNDING CONDUCTOR SHALL BE EMBEDDED. PROVIDE EXPANSION FITTING AND LOOP AT EXPANSION JOINTS (SEE EXPANSION DETAIL). FITTING CONSISTS OF 1/2" PVC INSIDE OF 3/4" PVC. DO NOT BOND TO REINFORCING STEEL.



*[Signature]*  
SDR  
07/30/20

7/31/20

|   |          |                |     |
|---|----------|----------------|-----|
| 1   | 07/22/20 | REVISED NOTE 5 | HVP |
| NO.   | DATE     | REVISION       | BY  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |          |                |     |
| STRUCTURE B-70-324  |          |                |     |
| BY: HVP<br>CHECKED: DAD<br>DRAWING: E27 OF E64                                  |          |                |     |
| GROUNDING AND LIGHTNING PROTECTION DETAILS                                      |          |                |     |
| 594   |          |                |     |





