CHECK WELDING EQUIPMENT

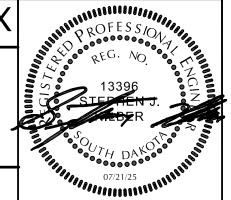
STRUCTURAL SHEET INDEX

GENERAL STRUCTURAL NOTES, IBC INSPECTION TABLES

TROLLEY BEAM PHOTOGRAPHS

TROLLEY BEAM PHOTOGRAPHS

DETAILS



STEEL CONSTRUCTION

TABLE N5.4-1 INSPECTION TASKS PRIOR TO WELDING INSPECTION TASKS PRIOR TO WELDING INTERVAL PROJECT WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS YES WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE YES YES MATERIAL IDENTIFICATION (TYPE/GRADE) 0 YES WELDER IDENTIFICATION SYSTEM(a) FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) JOINT PREPARATION DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) YES CLEANLINESS (CONDITION OF STEEL SURFACES) TACKING (TACK WELD QUALITY AND LOCATION) FIT-UP OF CJP GROOVE WELDS OF HSS T-, Y- AND K-JOINTS WITHOUT BACKING JOINT PREPARATIONS DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) YES CLEANLINESS (CONDITION OF STEEL SURFACES) TACKING (TACK WELD QUALITY AND LOCATION) CONFIGURATION AND FINISH OF ACCESS HOLES YES FIT-UP OF FILLET WELDS DIMENSIONS (ALIGNMENT, GAPS AT ROOT) YES CLEANLINESS (CONDITION OF STEEL SURFACES) TACKING (TACK WELD QUALITY AND LOCATION)

(a) THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.

TABLE N5.4-2 INSPECTION TASKS DURING WELDING REQUIRED ON INSPECTION TASKS DURING WELDING PROJECT INTERVAL USE OF QUALIFIED WELDERS

OUT OF GOVERNIED WELDERO		
CONTROL AND HANDLING OF WELDING CONSUMABLES PACKAGING EXPOSURE CONTROL	0	YES
NO WELDING OVER CRACKED TACK WELDS	0	YES
ENVIRONMENTAL CONDITIONS • WIND SPEED WITHIN LIMITS • PRECIPITATION AND TEMPERATURE	0	YES
WPS FOLLOWED SETTINGS ON WELDING EQUIPMENT TRAVEL SPEED SELECTED WELDING MATERIALS SHIELDING GAS TYPE/FLOW RATE PREHEAT APPLIED INTERPASS TEMPERATURE MAINTAINED (MIN/MAX) PROPER POSITION (F, V, H, OH)	0	YES
WELDING TECHNIQUES INTERPASS AND FINAL CLEANING EACH PASS WITHIN PROFILE LIMITATIONS EACH PASS MEETS QUALITY REQUIREMENTS	0	YES
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	Р	YES

AISC 360-16 TABLE N5.4-		
INSPECTION TASKS AFTER WE	ELDING	
INSPECTION TASKS AFTER WELDING	INSPECTION INTERVAL	REQUIRED ON PROJECT

INSPECTION TASKS AFTER WELDING	INSPECTION INTERVAL	REQUIRED O PROJECT
WELDS CLEANED	0	YES
SIZE, LENGTH AND LOCATION OF WELDS	Р	YES
WELDS MEET VISUAL ACCEPTANCE CRITERIA: CRACK PROHIBITION WELD/BASE-METAL FUSION CRATER CROSS SECTION WELD PROFILES WELD SIZE UNDERCUT POROSITY	P	YES
ARC STRIKES	Р	YES
k-AREA (a)	Р	YES
WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES(b)	Р	YES
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	Р	YES
REPAIR ACTIVITIES	0	YES
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	0	YES
NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR	0	YES

(a) WHEN WELDING OF DOUBLE PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA, VISUALLY INSPECT THE WEB k-AREA FOR CRACKS WITHIN 3" (75 mm) OF THE WELD. (b) AFTER ROLLED HEAVY SHAPES (SEE SECTION A3.1c) AND BUILT-UP HEAVY SHAPES (SEE SECTION A3.1d) ARE WELDED, VISUALLY INSPECT THE

AISC 360-16 TABLE N5.6-1 INSPECTION TASKS PRIOR TO BOLTING

INSPECTION TASKS PRIOR TO BOLTING	INSPECTION INTERVAL	REQUIRED ON PROJECT
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	0	NO
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	0	NO
CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO EXCLUDED FROM SHEAR PLANE)	0	NO
CORRECT BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	0	NO
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	0	NO
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	Р	NO
PRTECTED STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	0	NO

AISC 360-16 TABLE N5.6-2 **INSPECTION TASKS DURING BOLTING**

INSPECTION TASKS DURING BOLTING	INSPECTION INTERVAL	REQUIRED ON PROJECT
FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED	0	NO
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	0	NO
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	0	NO
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	0	NO

AISC 360-16 TABLE N5.6-3 INSPECTION TASKS AFTER BOI TING

INSPECTION TASKS AT TER BOLTING		
INSPECTION TASKS AFTER BOLTING	INSPECTION INTERVAL	REQUIRED ON PROJECT
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	Р	NO

O-OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. P-PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.

2. OBSERVATION OF WELDING OPERATIONS AND VISUAL INSPECTION OF IN-PROCESS AND COMPLETED WELDS SHALL BE THE PRIMARY METHOD TO CONFIRM THAT THE MATERIALS, PROCEDURES AND WORKMANSHIP ARE IN CONFORMANCE WITH THE CONSTRUCTION

3. FOR STRUCTURES IN RISK CATEGORY III/IV (ASCE/SEI 7, TABLE 1.5-1), ULTRASONIC TESTING SHALL BE PERFORMED ON ALL COMPLETE-JOINT-PENETRATION GROOVE WELDS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING IN BUTT, T- AND CORNER JOINTS, IN MATERIALS 5/16" (8 MM) THICK OR GREATER

4. FOR STRUCTURES IN RISK CATEGORY II (ASCE/SEI 7, TABLE 1.5-1), ULTRASONIC TESTING SHALL BE PERFORMED ON 10% OF COMPLETE-JOINT-PENETRATION GROOVE WELDS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING IN BUTT, T- AND CORNER JOINTS, IN MATERIALS 5/16" (8 MM) THICK OR GREATER.

5. ALL NONDESTRUCTIVE TESTING OF WELDED JOINTS SHALL BE DOCUMENTED.

6. SEE AISC360-16 CHAPTER N FOR ADDITIONAL WELD INSPECTION REQUIREMENTS.

SEE AISC360-16 CHAPTER N FOR ADDITIONAL BOLT INSPECTION REQUIREMENTS.

9. EXPOSED CUT SURFACES OF GALVANIZED STRUCTURAL STEEL MAIN MEMBERS AND EXPOSED CORNERS OF RECTANGULAR HSS SHALL BE VISUALLY INSPECTED FOR CRACKS SUBSEQUENT TO GALVANIZING.

10. INSPECTION SHALL OCCUR DURING THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS, INCLUDING DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM. AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE.

1. FABRICATED STEEL AND ERECTED STEEL FRAMES, AS APPROPRIATE, SHALL BE INSPECTED FOR COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS, INCLUDING BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER JOINT DETAIL APPLICATION.

Albertson Engineering Inc 3202 W. MAIN, SUITE C RAPID CITY, SD 57702

605.343.9606

CONSULTANT

PROJECT IDEN:

ROSS HEADFRAME TROLLEY BEAM STRENGTHENING

SANFORD UNDERGROUND RESEARCH FACILITY LEAD, SOUTH DAKOTA

ISSUE BLOCK: NO ISSUE TYPE ISSUE DAT

D 4 A B	LAGENENIT	
IVIAI	NAGEMENT:	
PRO	DJECT NO: 2024-	253.5
DRA	AWN BY: SNC	
CHI	ECKED BY: SJK	

| CHECKED BY: SJK

SHEET TITLE:

GENERAL STRUCTURAL NOTES, IBC INSPECTION **TABLES**

SHEET IDENTIFICATION:

1 OF 4

GENERAL NOTES:

- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS. CONSULT THESE DOCUMENTS FOR OTHER INFORMATION NOT SHOWN ON STRUCTURAL DRAWINGS.
- ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE
- THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THEY ARE INSTALLED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING (AND ACCOMPANYING FOOTINGS), GUYS OR TIEDOWNS.
- ADDITIONAL OBSERVATIONS AS A RESULT OF REJECTION OF WORK COMPLETED AND/OR ADDITIONAL OBSERVATIONS DUE TO THE DEFICIENCIES IN WORK OBSERVED WILL BE AT THE EXPENSE OF THE
- THE DESIGN OF THE STRUCTURE SHOWN IN THESE CONSTRUCTION DOCUMENTS IS FOR THE ONE-TIME USE AT THE SPECIFIC SITE REFERENCED IN THE TITLE BLOCK.

DESIGN CODES:

- 2021 INTERNATIONAL BUILDING CODE.
- AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.

ASCE 7-16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES.

DESIGN LOADS:

THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED WITH THE FOLLOWING SUPERIMPOSED LOADINGS BASED ON RISK CATEGORY II:

ROOF: GROUND SNOW LOAD 65 PSF + DRIFT ROOF SNOW LOAD SNOW EXPOSURE FACTOR 1.0 SNOW THERMAL FACTOR 1.2 SNOW IMPORTANCE FACTOR ROOF SLOPE FACTOR DEAD LOAD

20 PSF (REDUCIBLE) LIVE LOAD MONORAIL CRANE LOAD (ELECTRIC HOIST) 20,000 LB CRANE LOAD APPLIED TO EACH TROLLEY BEAM INDIVIDUALLY

STRUCTURAL STEEL:

STEEL SHALL CONFORM TO ASTM A992 (Fy=50 KSI) FOR ALL W-SHAPES, AND ASTM A36 (Fy=36 KSI) FOR ALL OTHER MISCELLANEOUS SHAPES AND PLATES, UNLESS NOTED OTHERWISE.

STEEL SHALL CONFORM TO THE LATEST EDITION OF AISC

- SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS. ALL SHOP CONNECTIONS TO BE WELDED (UTILIZING E70XX ELECTRODES) AND FIELD CONNECTIONS TO BE BOLTED, UNLESS
- FIELD TOUCH UP COAT OF APPROVED PAINT. 3.1. CONTRACTOR TO COORDINATE FINAL PAINT COLOR WITH OWNER.

OTHERWISE NOTED. STEEL TO RECEIVE ONE SHOP COAT AND ONE

- ALL BOLTED CONNECTIONS SHALL CONSIST OF ¾"Ø F3125 GRADE A325
- TYPE F1852 BOLTS, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL MAINTAIN ERECTION TOLERANCES OF STRUCTURAL STEEL WITHIN AISC'S CODE OF STANDARD PRACTICE FOR
- ANCHOR BOLT HOLES IN STRUCTURAL STEEL SHALL BE OVERSIZED NO MORE THAN 1/8" MAX, UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION AND TESTING:

STEEL BUILDINGS AND BRIDGES.

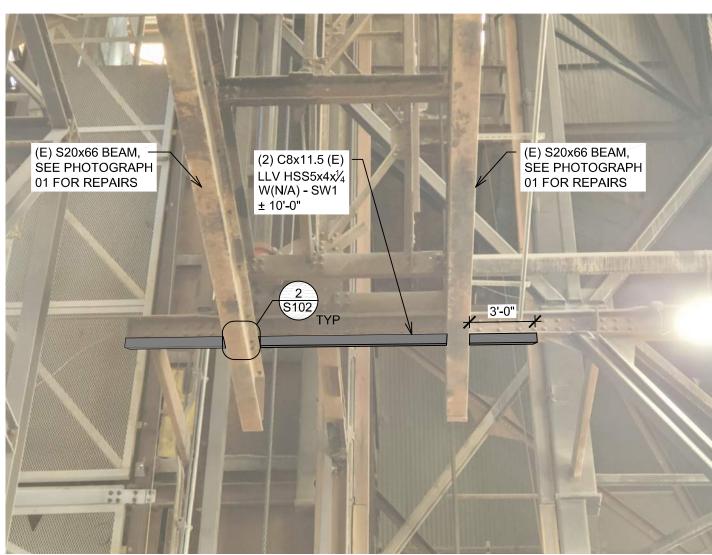
- SPECIAL INSPECTION AND MINIMUM TESTING SHALL BE PERFORMED IN ACCORDANCE WITH AISC STEEL REQUIREMENTS.
- INSPECTION SHALL BE PROVIDED BY AN INDEPENDENT TESTING AGENCY HIRED AT THE CONTRACTOR'S EXPENSE. AGENCY INSPECTION PERSONNEL SHALL MEET THE INSPECTOR QUALIFICATIONS FOR EACH MATERIAL ITEM AS INDICATED IN THE SPECIFICATIONS.
- ANY MATERIAL OR PLACEMENT DEVIATIONS FROM MINIMUMS SHOWN ON THE DRAWINGS OR IN SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- IN ADDITION TO THE IBC INSPECTION TABLES, THE INSPECTOR SHALL VERIFY THAT ALL STEEL MAINTAIN ERECTION TOLERANCES OF STRUCTURAL STEEL WITHIN AISC'S CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
- TESTING ANY FAILED FIELD TEST SHALL BE REPORTED TO ALBERTSON ENGINEERING INC IMMEDIATELY.

LEAD-BASED PAINT

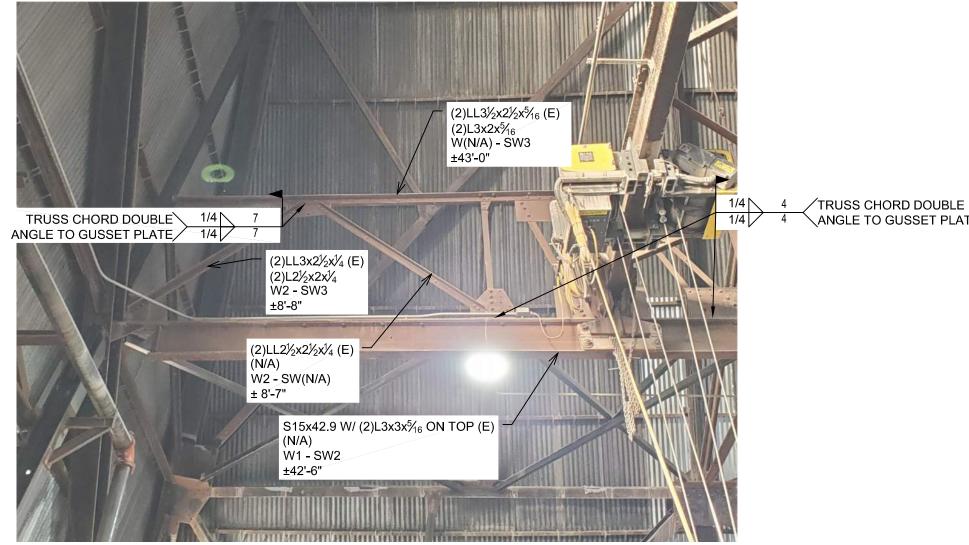
THE EXISTING STRUCTURAL STEEL FRAMING, CLADDING SUPPORTS, AND WINDOW FRAMES ARE COVERED IN A LEAD-BASED PAINT. ANY EXISTING PAINTED SURFACE SHALL BE ASSUMED TO HAVE BEEN PAINTED WITH LEAD-BASED PAINT. THE CONTRACTOR SHALL REMOVE THE PAINT AS REQUIRED TO PROPERLY INSTALL THE DETAILED CONNECTIONS. THE CONTRACTOR SHALL HANDLE AND DISPOSE OF THE LEAD-BASED PAINT IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL RETAIN A NECESSARY SPECIALITY SUBCONTRACTOR AS REQUIRED TO PERFORM THE LEAD-BASED PAINT REMEDIATION PRIOR TO THE STRUCTURAL CONNECTION INSTALL. THE CONTRACTOR SHALL REFERENCE THE APPROPRIATE SPECIFICATION SECTIONS FOR FURTHER INFORMATION.

4 ANGLE TO GUSSET PLATE

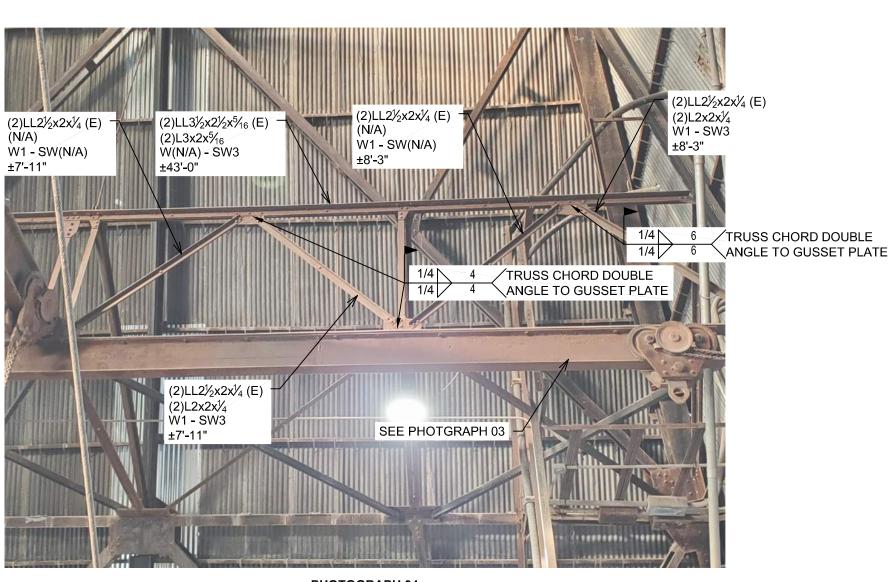
PHOTOGRAPH 01



PHOTOGRAPH 02



PHOTOGRAPH 03



PHOTOGRAPH 04



PHOTOGRAPH 05

SHEET NOTES

NOTE: SIGNIFICANT UNDERGROUND PREPARATION AND ON-GOING IMPROVEMENT ACTIVITIES ARE AND WILL BE OCCURRING WITHIN AND AROUND THE ROSS HEADFRAME FOR THE ENTIRETY OF THE CONSTRUCTION PERIOD FOR THIS WORK. RESTRICTIONS ON ALLOWED PROJECT-SPECIFIC WORK ACTIVITIES, TIMING AND COORDINATION OF SUCH ACTIVITIES IS REQUIRED. THE SDSTA TO DIRECT THE CONTRACTOR AS TO THE COORDINATION REQUIREMENTS INCLUDING ALL PROJECT SPECIFIC ACTIVITY LIMITATION AND SAFETY REQUIREMENTS THAT THE CONTRACTOR MUST ADHERE TO. SPECIFYING THE LIMITATIONS IS OUTSIDE THE SCOPE OF THESE CONSTRUCTION DOCUMENTS AND SHALL COME DIRECTLY FROM THE SDSTA.

TROLLEY BEAM PHOTOGRAPH NOTES

- SEE SHEET S001 FOR GENERAL STRUCTURAL NOTES.
- VERIFY ALL DIMENSIONS AND ELEVATIONS W/ FIELD CONDITIONS BEFORE CONSTRUCTION COMMENCES.
- ELEVATIONS ON THE STRUCTURAL DRAWINGS REFER TO THE TOP OF THE EXISTING CONCRETE PRESENT AT THE COLLAR WITH A REFERENCE ELEVATION SET AT 100'-0".
- SHEET ABBREVATIONS:
- •• (N) NEW •• (E) - EXISTING
- THE TYPICAL REPAIR CALLOUT IS LISTED BELOW WITH A DESCRIPTION OF EACH ITEM:

W12x40 (E) [1] C12x30 [2] W# - SW# [3] - [4] ± 20'-1" [5]

- ITEM [1]: THE EXISTING STRUCTURAL MEMBER

- ITEM [2]: THE REPAIR SHAPE TO BE INSTALLED (IF NEEDED)
- ITEM [3]: THE END WELD REPAIR REQUIREMENTS, SEE THE END WELD SCHEDULE BELOW - ITEM [4]: THE LONGITUDINAL STITCH WELD REQUIREMENT BETWEEN EXISTING & REPAIR STEEL
- MEMBERS, SEE STITCH WELD SCHEDULE BELOW - ITEM [5]: THE APPROXIMATE LENGTH OF STRUCTURAL MEMBER. FIELD VERIFY
- (N/A): CERTAIN MEMBERS REQUIRING REPAIRS DO NOT NEED ALL OF THE REPAIR CALLOUT ITEMS. THUS ITEMS NOT NEEDED ARE LISTED WITH AN "(N/A)" DESIGNATION.
- THE REPAIRS SHOWN HAVE LISTED THE NOMINAL LENGTHS FOR THE REPAIR SECTIONS. AT THE SUBCONTRACTOR'S DISCRETION, THE REPAIR SECTIONS MAY BE CUT INTO SMALLER LENGTHS AND INSTALLED SEPARATELY. THE SMALLER SECTIONS SHALL BE INSTALLED WITH FULL END BEARING BETWEEN THE PIECES. THE SHORTER SECTIONS SHALL BE WELDED TOGETHER WITH FULL PENETRATION BUTT WELDS. THE SHORTED CUT LENGTH SHALL NOT BE SHORTER THAN 3'-0", UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL REMOVE ALL PAINT, DIRT, GREASE, DEBRIS, AND SURFACE CORROSION FROM THE PERTINENT STEEL SURFACES PRIOR TO THE INSTALLATION OF STEEL REPAIRS. SUBCONTRACTOR SHALL ENSURE ALL CONNECTIONS OF REPAIRED MEMBERS ARE UNCOVERED AND INSPECTED TO DETECT FOR SECTION LOSS OR LOOSE RIVETS PRIOR TO THE INSTALLATION OF THE REPAIRS.
- FOR DOUBLE ANGLE STRENGTHENING, SEE DETAIL 3 ON SHEET S501.

SHEET SCHEDULES

• THE TWO STRENGTHENED TROLLEY BEAMS SHOWN IN PHOTOGRAPH 1 ARE EACH TO HAVE A RATED LOAD CAPACITY OF 20,000 LBS. CONCURRENT USE OF THE TROLLEY BEAMS IS NOT



Albertson Engineering Inc. 3202 W. MAIN, SUITE C RAPID CITY, SD 57702

605.343.9606

CONSULTANT

PROJECT IDEN:

ROSS HEADFRAME TROLLEY BEAM STRENGTHENING

SANFORD UNDERGROUND RESEARCH FACILITY LEAD, SOUTH DAKOTA

ISSUE BLOCK:

NO	ISSUE TYPE	ISSUE DATE
_		

LONGITUDINAL STITCH WELD					
DESIGNATION	WELD TYPE	WELD SIZE	LENGTH - PITCH		
SW1	FILLET	1/4"	4" - 12"		L
SW2	FILLET	3/16"	3" - 12"		
SW3	FILLET	3/16"	1 1/2" - 12"		L

END WELD			
DESIGNATION FILLET SIZE		TOTAL WELD LENGTH (L _T)	
W1	1/4"	$L_T = L_{1F} + L_{1R} + L_{2F} + L_{2R} \ge 8$ "	
W2	1/4"	$L_T = L_{1F} + L_{1R} + L_{2F} + L_{2R} \ge 10$ "	

NOTE: SEE DOUBLE ANGLE END WELD DETAIL ON SHEET S501.

MANAGEMENT:				
PRO	DJECT NO:	2024-	253.5	
DRA	AWN BY:	SNC		
CH	ECKED BY:	SJK		
SHE	ET TITLE:			
TR	OLLEY B	EAM		

PHOTOGRAPHS

SHEET IDENTIFICATION:

S101

2 OF 4

TROLLEY BEAM PHOTOGRAPH NOTES

- SEE SHEET S001 FOR GENERAL STRUCTURAL NOTES.
- VERIFY ALL DIMENSIONS AND ELEVATIONS W/ FIELD CONDITIONS BEFORE CONSTRUCTION COMMENCES.
- ELEVATIONS ON THE STRUCTURAL DRAWINGS REFER TO THE TOP OF THE EXISTING CONCRETE PRESENT AT THE COLLAR WITH A REFERENCE ELEVATION SET AT 100'-0".
- SHEET ABBREVATIONS:
- •• (N) NEW •• (E) EXISTING
- THE REPAIRS SHOWN HAVE LISTED THE NOMINAL LENGTHS FOR THE REPAIR SECTIONS. AT THE SUBCONTRACTOR'S DISCRETION, THE REPAIR SECTIONS MAY BE CUT INTO SMALLER LENGTHS AND INSTALLED SEPARATELY. THE SMALLER SECTIONS SHALL BE INSTALLED WITH FULL END BEARING BETWEEN THE PIECES. THE SHORTER SECTIONS SHALL BE WELDED TOGETHER WITH FULL PENETRATION BUTT WELDS. THE SHORTED CUT LENGTH SHALL NOT BE SHORTER THAN 3'-0", UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL REMOVE ALL PAINT, DIRT, GREASE, DEBRIS, AND SURFACE CORROSION FROM THE PERTINENT STEEL SURFACES PRIOR TO THE INSTALLATION OF STEEL REPAIRS. SUBCONTRACTOR SHALL ENSURE ALL CONNECTIONS OF REPAIRED MEMBERS ARE UNCOVERED AND INSPECTED TO DETECT FOR SECTION LOSS OR LOOSE RIVETS PRIOR TO THE INSTALLATION OF THE REPAIRS.



Albertson Engineering Inc. 3202 W. MAIN, SUITE C RAPID CITY, SD 57702

605.343.9606

CONSULTANT

PROJECT IDEN:

ROSS HEADFRAME TROLLEY BEAM STRENGTHENING

SANFORD UNDERGROUND RESEARCH FACILITY LEAD, SOUTH DAKOTA

ISSUE BLOCK:

NO ISSUE TYPE ISSUE DATE

MANAGEMENT: PROJECT NO: 2024-253.5

DRAWN BY: SNC CHECKED BY: SJK

SHEET TITLE:

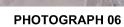
TROLLEY BEAM PHOTOGRAPHS

SHEET IDENTIFICATION:

3 OF 4

S102

TOP FLANGE BRACING BETWEEN TROLLEY BEAMS TO BE REMOVED AND REINSTALLED ATOP OF THE (N) HSS TUBES. WHEN REINSTALLING THE (E) BRACE ELEMENTS, THE CONTRACTOR IS TO MATCH THE EXISTING LAYOUT AND PROVIDE 1/4" FILLET WELDS WITH 3" PITCH ON EACH SIDE (6" OF WELD) AT EACH END OF THE BRACE ELEMENTS.





S18x54.7 (E)

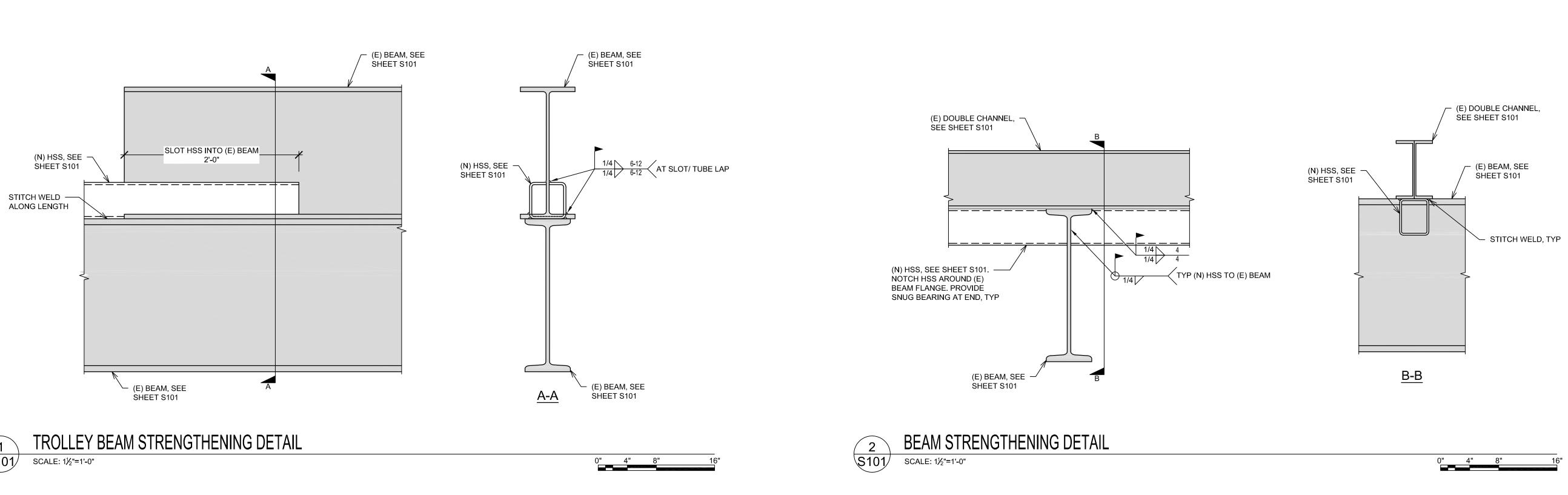
PHOTOGRAPH 07

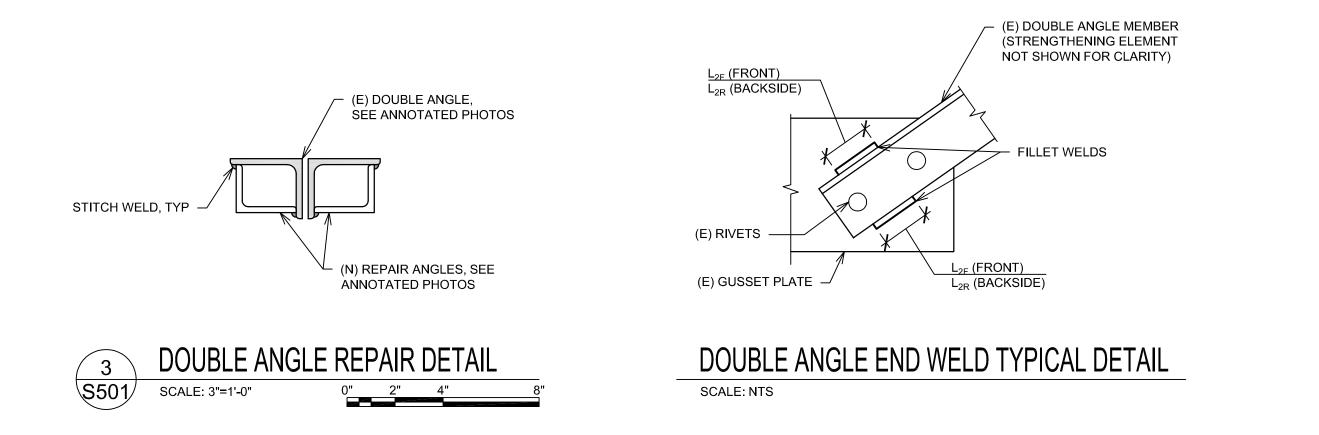
NOTE: THIS PHOTOGRAPH APPLIES TO THE SOUTH END OF THE FAR EAST TROLLEY BEAM PRESENT WITHIN THE ROSS HEADFRAME. THE CONTRACTOR SHALL BE DIRECTED BY SDSTA TO THIS BEAM'S LOCATION. ONLY THE SOUTH END OF THIS BEAM REQUIRES REPAIRS.



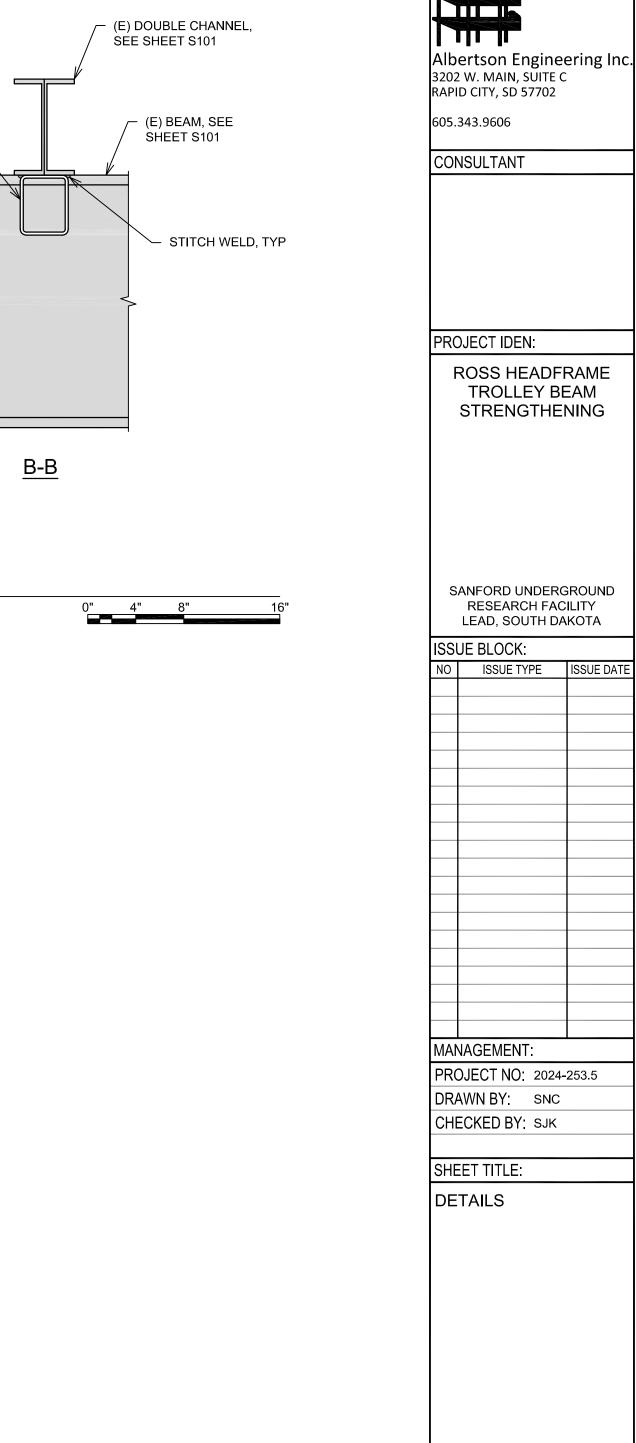
PHOTOGRAPH 08

2 3





2



SHEET IDENTIFICATION:

S501

4 OF 4

3

, ,