

BREWER STEEL COMPANY

WATER TANK DESIGN - 24K & 40K BBLs

VEI PROJECT # E12076

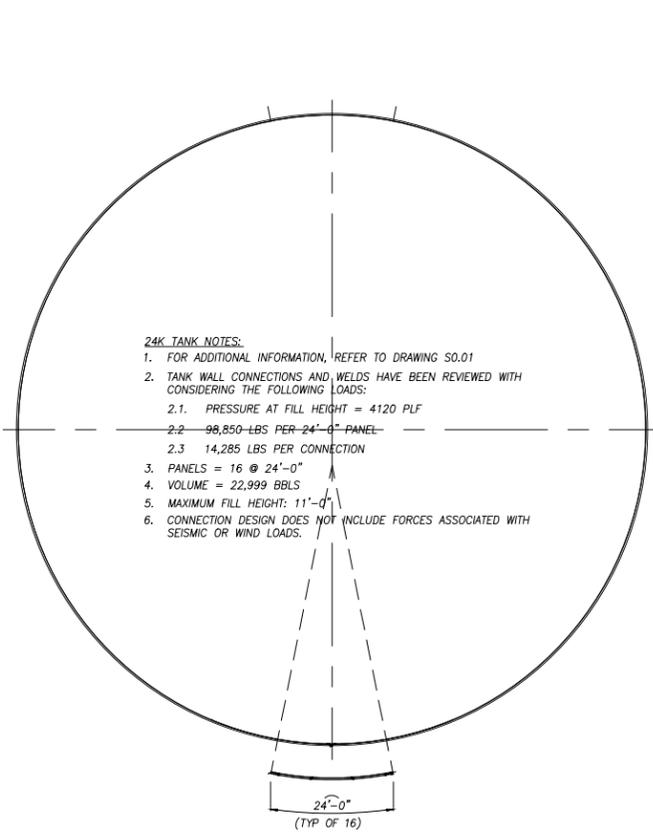
DRAWING SHEET INDEX:
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 S0.01 - 24K BBL WALL PANEL ELEVATION & TANK CONNECTION DESIGN
 S0.02 - 40K BBL WALL PANEL ELEVATION & TANK CONNECTION DESIGN

1.0 GENERAL NOTES

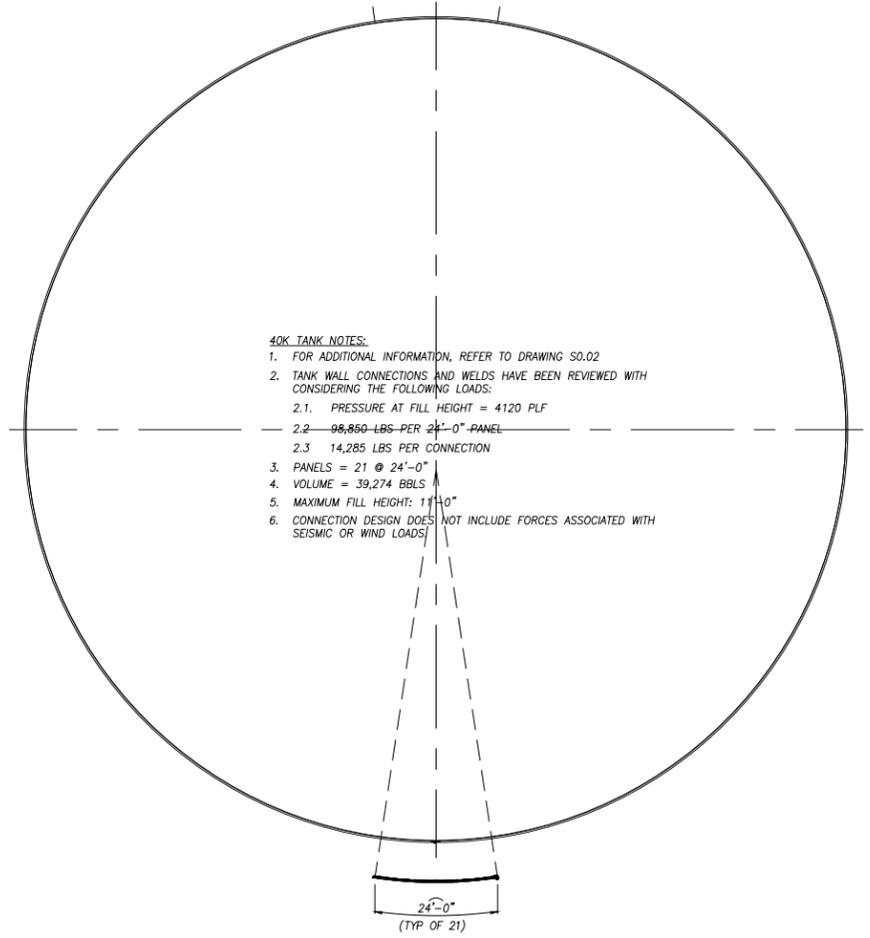
- 1.1 NO PROVISION OF ANY REFERENCED STANDARD SPECIFICATION, MANUAL OR CODE (WHETHER OR NOT SPECIFICALLY INCORPORATED BY REFERENCE IN THE CONTRACT DOCUMENTS) SHALL BE EFFECTIVE TO CHANGE THE DUTIES AND RESPONSIBILITIES OF OWNER, CONTRACTOR, ENGINEER, SUPPLIER, OR ANY OF THEIR CONSULTANTS, AGENTS, OR EMPLOYEES FROM THOSE SET FORTH IN THE CONTRACT DOCUMENTS. NOR SHALL IT BE EFFECTIVE TO ASSIGN TO THE STRUCTURAL ENGINEER OF RECORD OR ANY OF THE STRUCTURAL ENGINEER OF RECORD'S CONSULTANTS, AGENTS, OR EMPLOYEES ANY DUTY OR AUTHORITY TO SUPERVISE OR DIRECT THE FURNISHING OR PERFORMANCE OF THE WORK OR ANY DUTY OR AUTHORITY TO UNDERTAKE RESPONSIBILITIES CONTRARY TO THE PROVISIONS OF THE CONTRACT DOCUMENTS.
- 1.2 CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO, THE STRUCTURAL DOCUMENTS (DRAWINGS AND SPECIFICATIONS), BUT DO NOT INCLUDE SHOP DRAWINGS, VENDOR DRAWINGS, OR MATERIAL PREPARED AND SUBMITTED BY THE CONTRACTOR.
- 1.3 REFERENCE TO STANDARD SPECIFICATIONS OF ANY TECHNICAL SOCIETY, ORGANIZATION, OR ASSOCIATION OR TO CODES OF LOCAL OR STATE AUTHORITIES, SHALL MEAN THE LATEST STANDARD, CODE, SPECIFICATION OR TENTATIVE SPECIFICATION ADOPTED AT THE DATE OF TAKING BIDS, UNLESS SPECIFICALLY STATED OTHERWISE.
- 1.4 CONTRACT DOCUMENTS SHALL GOVERN IN THE EVENT OF A CONFLICT WITH THE CODE OF PRACTICE OR SPECIFICATIONS OF ACI, PCI, AISC, SJI OR OTHER STANDARDS. WHERE A CONFLICT OCCURS WITHIN THE CONTRACT DOCUMENTS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
- 1.5 MATERIAL, WORKMANSHIP, AND DESIGN SHALL CONFORM TO THE REFERENCED BUILDING CODE.
- 1.6 CONTRACTOR SHALL COORDINATE THE STRUCTURAL DOCUMENTS WITH THE MECHANICAL ENGINEER. THE MECHANICAL ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY OR OMISSION.
- 1.7 CONTRACTOR HAS SOLE RESPONSIBILITY FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.
- 1.8 THE STRUCTURE IS STABLE ONLY IN ITS COMPLETED FORM. TEMPORARY SUPPORTS REQUIRED FOR STABILITY DURING ALL INTERMEDIATE STAGES OF CONSTRUCTION SHALL BE DESIGNED, FURNISHED, AND INSTALLED BY THE CONTRACTOR.
- 1.9 CONTRACTOR HAS SOLE RESPONSIBILITY TO COMPLY WITH ALL OSHA REGULATIONS.
- 1.10 ELECTRONIC DRAWING FILES WILL NOT BE PROVIDED TO THE CONTRACTOR. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
- 1.11 REVIEW OF SUBMITTALS OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK ALL SUBMITTALS AND SHOP DRAWINGS BEFORE SUBMITTING TO THE STRUCTURAL ENGINEER. CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
- 1.12 DETAILS LABELED "TYPICAL" ON THE STRUCTURAL DRAWINGS APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THE TYPICAL DETAILS UNLESS THOSE LOCATIONS ARE SPECIFICALLY DETAILED OTHERWISE.
- 1.13 SCALING OF DRAWINGS SHALL NOT BE USED TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE ENGINEER FOR ANY DIMENSION NOT PROVIDED ON THE DRAWINGS.
- 1.14 STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR THE DESIGN OF STEEL TANK.

2.0 STRUCTURAL STEEL NOTES

- 2.1 STRUCTURAL STEEL CONSTRUCTION SHALL CONFORM TO THE FOLLOWING AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) CODES AND SPECIFICATIONS, LATEST EDITIONS.
 - 2.1.1 AISC THIRTEENTH EDITION: "STEEL CONSTRUCTION MANUAL"
- 2.2 STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS, UNLESS NOTED OTHERWISE:
 - 2.2.1 ASTM A992 $F_y = 50$ KSI, W-SHAPES, WT-SHAPES
 - 2.2.2 ASTM A36 $F_y = 36$ KSI, M AND S SHAPES, CHANNELS, ANGLES, PLATES, AND BARS.
 - 2.2.3 ASTM A500 GRADE B $F_y = 46$ KSI, RECTANGULAR HSS
- 2.3 WELDED CONNECTIONS SHALL CONFORM TO THE LATEST RECOMMENDATIONS OF:
 - 2.3.1 AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION
 - 2.3.2 AWS AMERICAN WELDING SOCIETY: USE ELECTRODES CONFORMING TO AWS D1.1, E70XX, UNLESS OTHERWISE NOTED.
- 2.4 SUBMIT SHOP DRAWINGS WHICH ADEQUATELY DEPICT THE STRUCTURAL ELEMENTS AND CONNECTIONS SHOWN IN THE CONTRACT DOCUMENTS. CONNECTIONS SHALL BE DETAILED BASED ON THE DESIGN INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.
- 2.5 FIELD MODIFICATIONS, REVISIONS, AND ADDITIONS TO THE DESIGN DOCUMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO START OF WORK.
- 2.6 STEEL CONSTRUCTION SHALL BE INSPECTED BY AN INDEPENDENT TESTING AGENCY. REFER TO PROJECT SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO THE FOLLOWING:
 - 2.6.1 ALL FILLET WELDS SHALL BE VISUALLY INSPECTED.
 - 2.6.2 ALL JOINT PENETRATION WELDS SHALL BE TESTED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY D1.1.



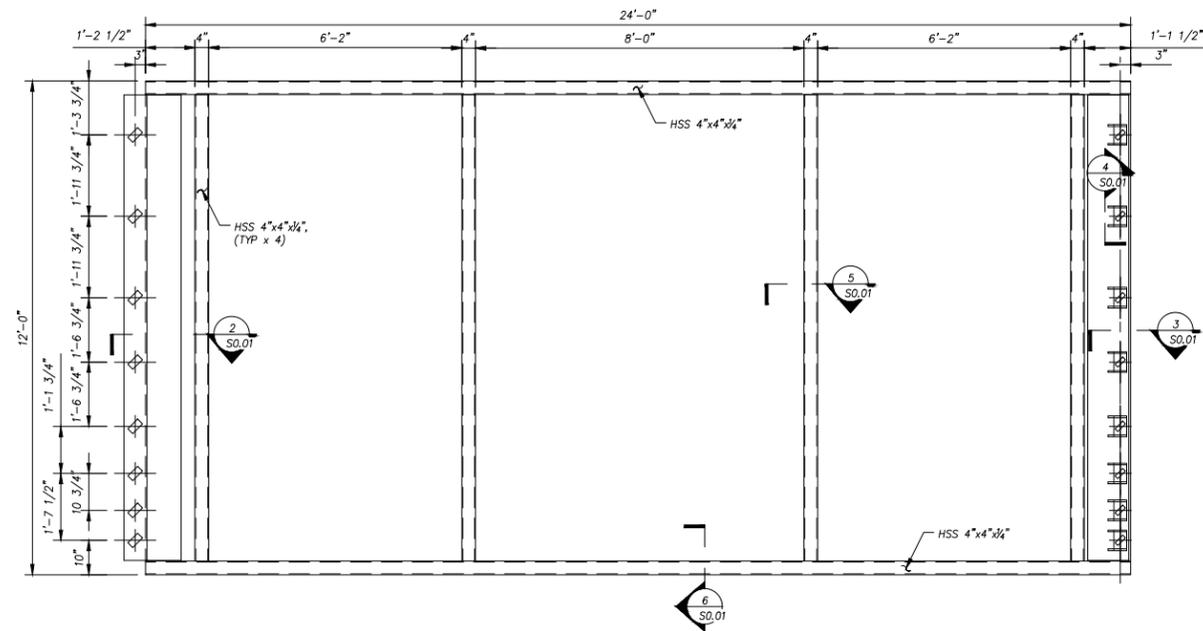
1 24K BBL TANK PLAN
 SCALE: 1/16"=1'-0"



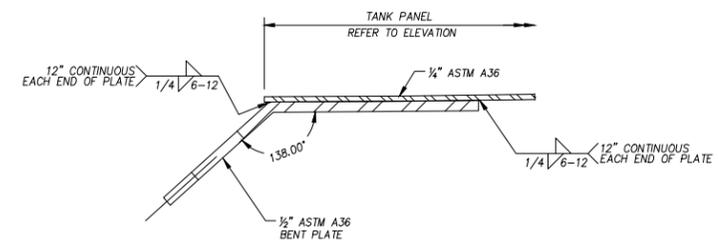
2 40K BBL TANK PLAN
 SCALE: 1/16"=1'-0"

		Title: WATER TANK CONNECTION DESIGN 24K / 40K BBLs LAYOUT PLAN		Client: BMA		Address: BREWER STEEL COMPANY 2985 1st AVENUE GREELEY, COLORADO 80631	
Date: 2013.07.17 Chkd By: SW Dwn By: RWJ		Project: E12076 Dwg: S0.00		Revision:			

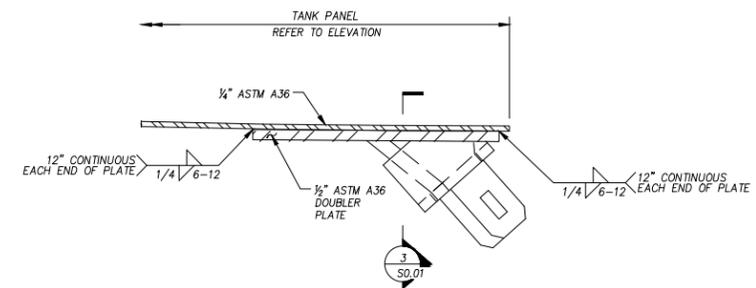
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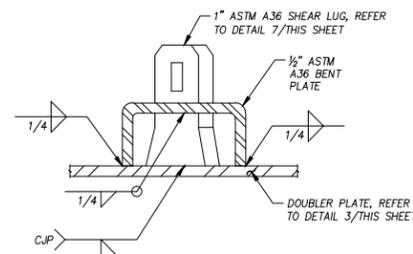
1 **TYPICAL TANK WALL PANEL (FLATTENED VIEW)**
SCALE: 1/2" = 1'-0"



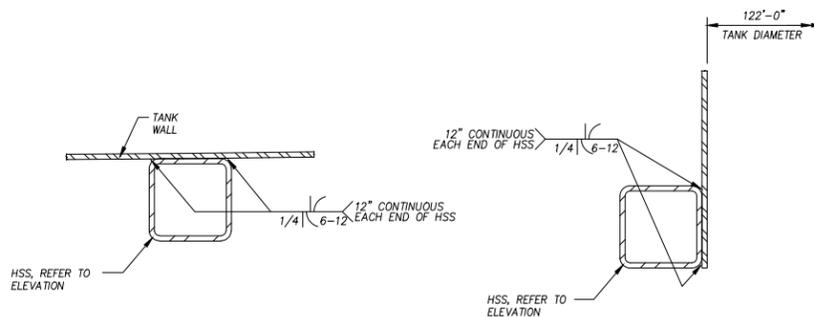
2 **CONNECTION PLATE TYPE "A"**
SCALE: 3" = 1'-0"



3 **CONNECTION PLATE TYPE "B"**
SCALE: 3" = 1'-0"

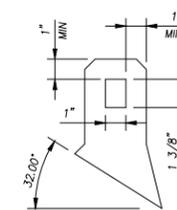


4 **SECTION**
SCALE: 3" = 1'-0"

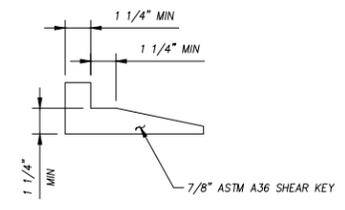


5 **SECTION**
SCALE: 3" = 1'-0"

6 **SECTION**
SCALE: 3" = 1'-0"



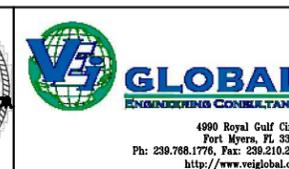
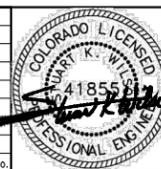
7 **SHEAR LUG**
SCALE: 3" = 1'-0"



8 **SHEAR KEY**
SCALE: 3" = 1'-0"

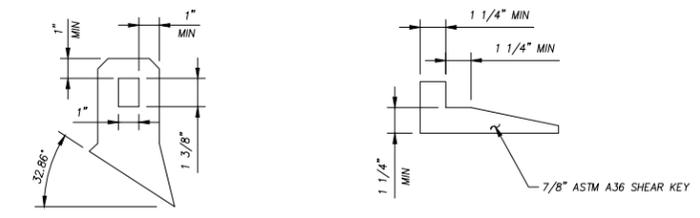
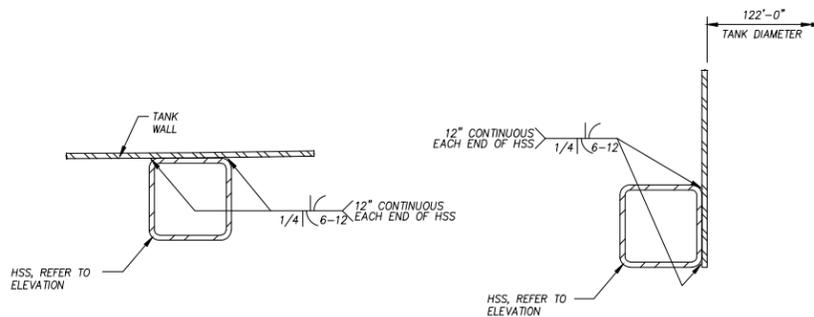
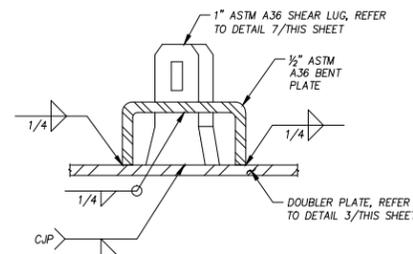
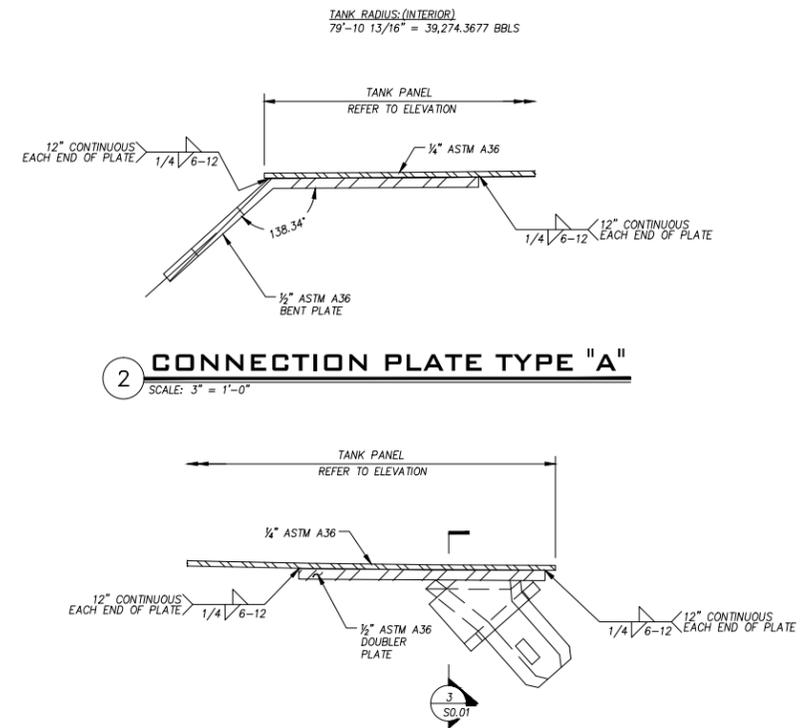
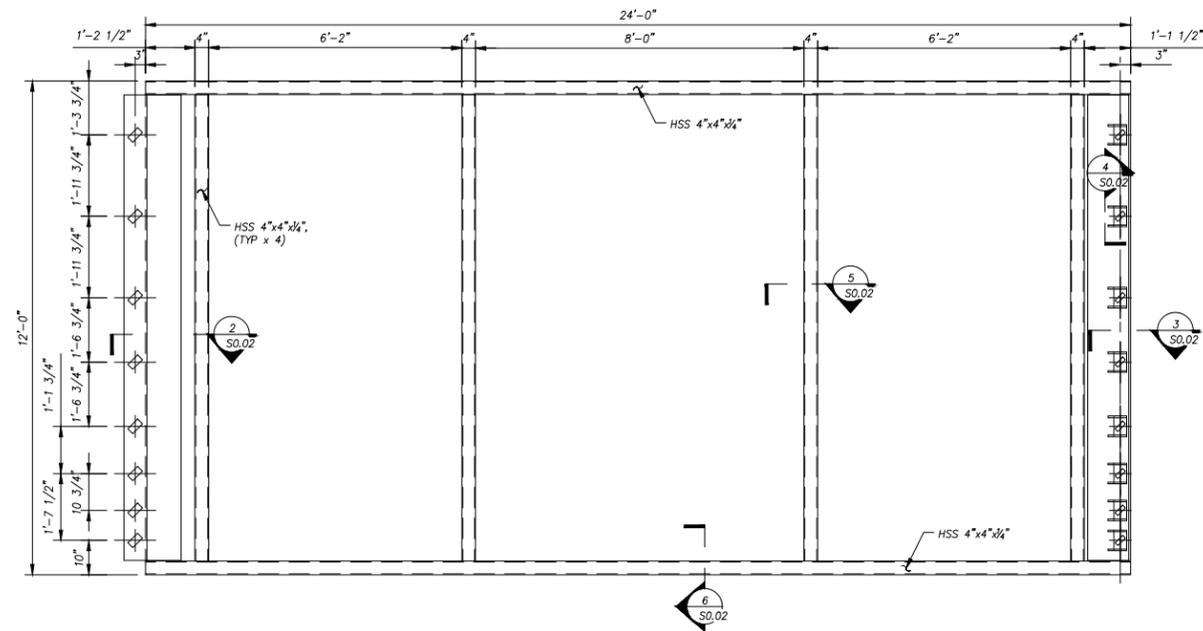
24K BBL TANK TYPICAL WALL PANEL AND DETAILS

No.	Date	By	Revision	Ad. No.
-	-	-	-	-
0	2013.07.25	RWJ	ISSUED FOR CONSTRUCTION	



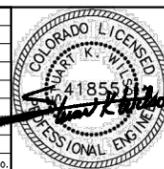
Title: WATER TANK CONNECTION DESIGN - 24K BBLs TYPICAL WALL PANEL ELEVATION AND CONNECTION DETAILS		Date: 2012.10.02
Client: BMA	Address: BREWER STEEL COMPANY 2985 1st AVENUE GREELEY, COLORADO 80631	Chkd By: SW
Project: E12076		Dwn By: TP
Revision: S0.01		Dwg: S0.01

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40K BBL TANK TYPICAL WALL PANEL AND DETAILS

No.	Date	By	Revision	Ad. No.
0	2013.07.25	RWJ	ISSUED FOR CONSTRUCTION	



Title: WATER TANK CONNECTION DESIGN - 40K BBL'S TYPICAL WALL PANEL ELEVATION AND CONNECTION DETAILS		Client: BREWER STEEL COMPANY		Date: 2013.07.09
Address: 2985 1st AVENUE, GREELEY, COLORADO 80631		BMA logo		Chkd By: SW
Project: E12076		Revision: S0.02		Dwn By: RWJ

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