



Robot-Welded Post Testing Performance Test Report

Rendered To:
STAR Systems International, LLC.

Report No.:
QCT23-6935.01

Test Date(s):
March 14, 2023

Report Date:
March 29, 2023



MANUFACTURER: STAR Systems International, LLC.
7465 Conway Avenue
Burnaby, B.C. Canada, V5E 2P7

Summary of Results				
Post Number	Deflection at 200 lbf (in)	Deflection at Peak Load (in)	Peak Load (lbf)	Failure Mode
1	0.85	4.95	553	Fracture ~1/4" above weld
2	0.87	4.65	541	Fracture ~1/4" above weld
3	0.72	3.53	475	Fracture ~1/4" above weld

Project Summary:

Quast Consulting and Testing, Inc. was contracted by STAR Systems International, LLC. to perform strength testing on robotically-welded railing posts. The specimens were supplied by STAR Systems International, LLC. and were tested at Quast Consulting and Testing laboratory located in Mosinee, WI. Specimen description and test results are reported herein.

Test Setup:

See Photo #1 for test setup and Photo #2 for pulling attachment. A horizontal load was applied 42" up from the base of the post using a hydraulic cylinder. Horizontal deflection at the point of load application was measured using a string potentiometer. Load vs Deflection graphs were generated for each test and are located in Appendix A. Photos of specimens after test are located in Appendix B.

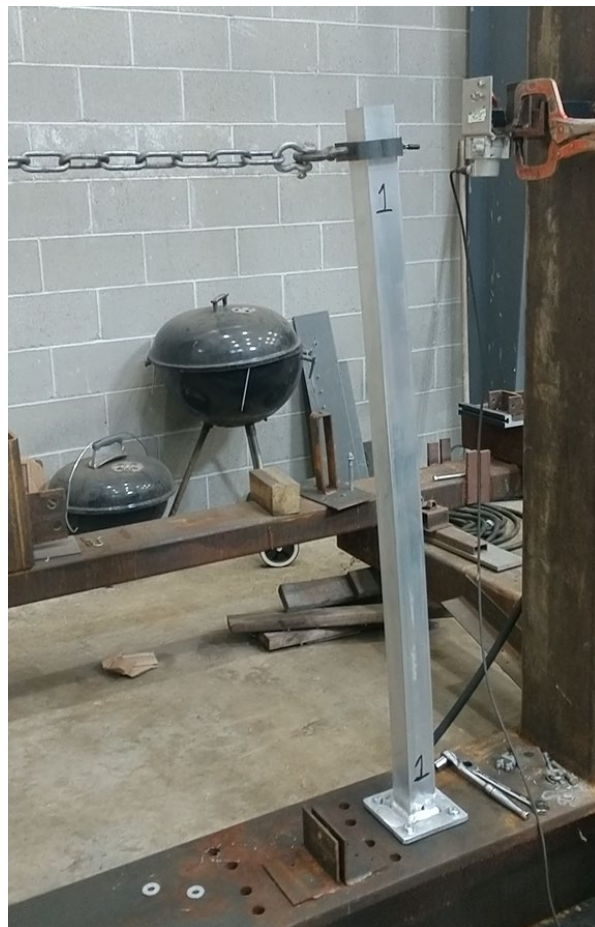


Photo #1: Post Setup



Photo #2: Pulling Attachment



Test Results:

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List of Official Observers:

<u>Name:</u>	<u>Company:</u>
Arlen Fisher	Quast Consulting and Testing, Inc.
Tim Quast	Quast Consulting and Testing, Inc.
Norm Plumb	STAR Systems International, LLC

Test specimen drawings have been reviewed by Quast Consulting and Testing, Inc. and are representative of the test specimen reported herein. Material compositions were supplied by the manufacturer and were not verified by QCT.

The reported results were secured using the designated test methods. Test results relate only to the specimen tested. Statements of conformity are determined using the simple acceptance decision rule per ILAC-G8:09-2019. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. This report is the exclusive property of the client so named herein and may not be reproduced, except in full, without the written approval of Quast Consulting and Testing, Inc.

Electronic records of data sheets, drawings, correspondence, this report, or other pertinent project documentation will be retained for a period of 10 years from the test completion date. Physical representative samples of the test specimen will be retained for a period of 0 years from the test completion date. At the end of this retention period, such material shall be discarded without notice and the service life of this report will expire.

QUAST CONSULTING & TESTING, INC.

QUAST CONSULTING & TESTING, INC.

Arlen Fisher, P.E.
Project Manager

Brian M. Sasman, P.E.
Reviewer

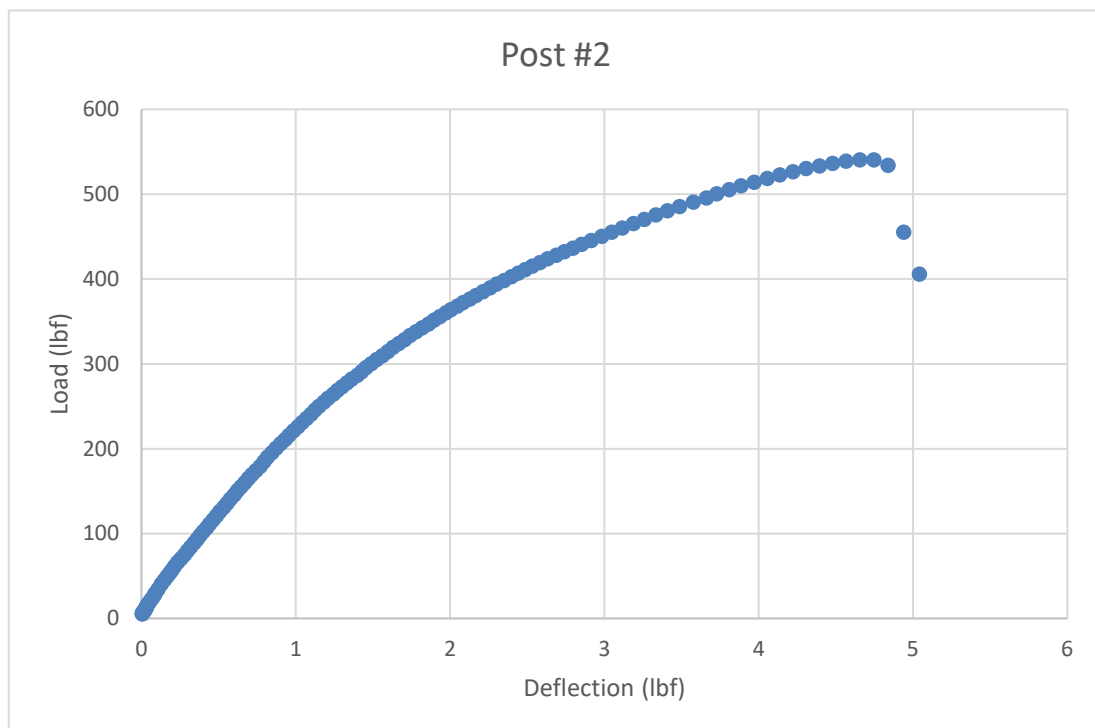
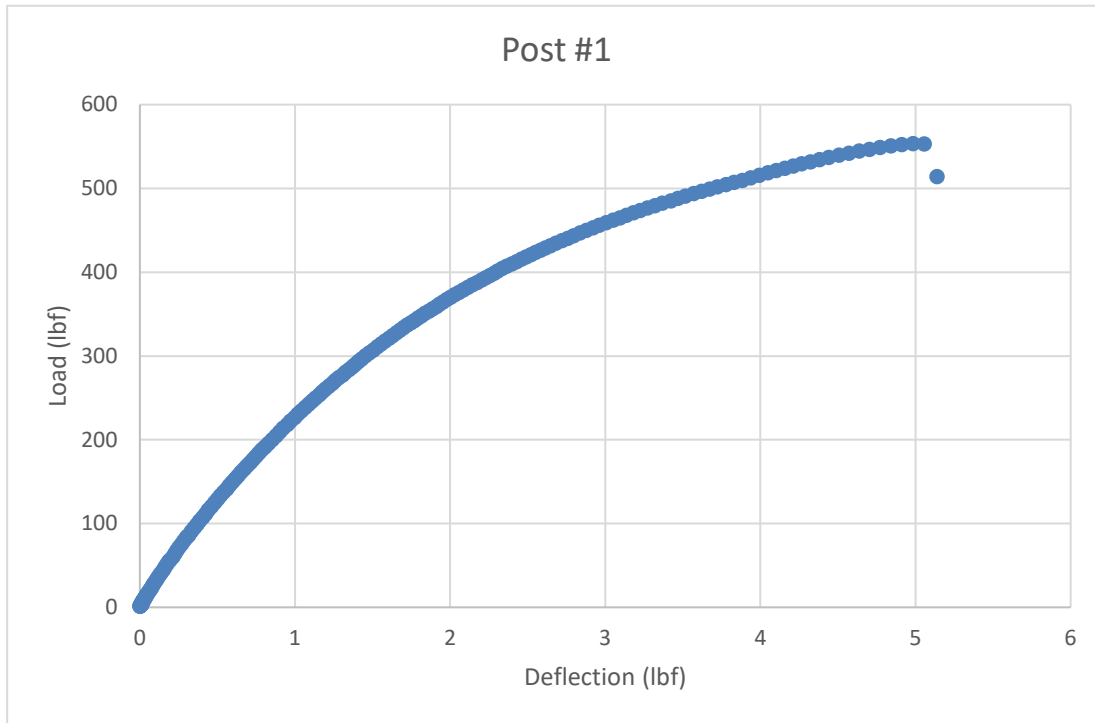
Attachments: This report is complete only when all attachments listed are included.

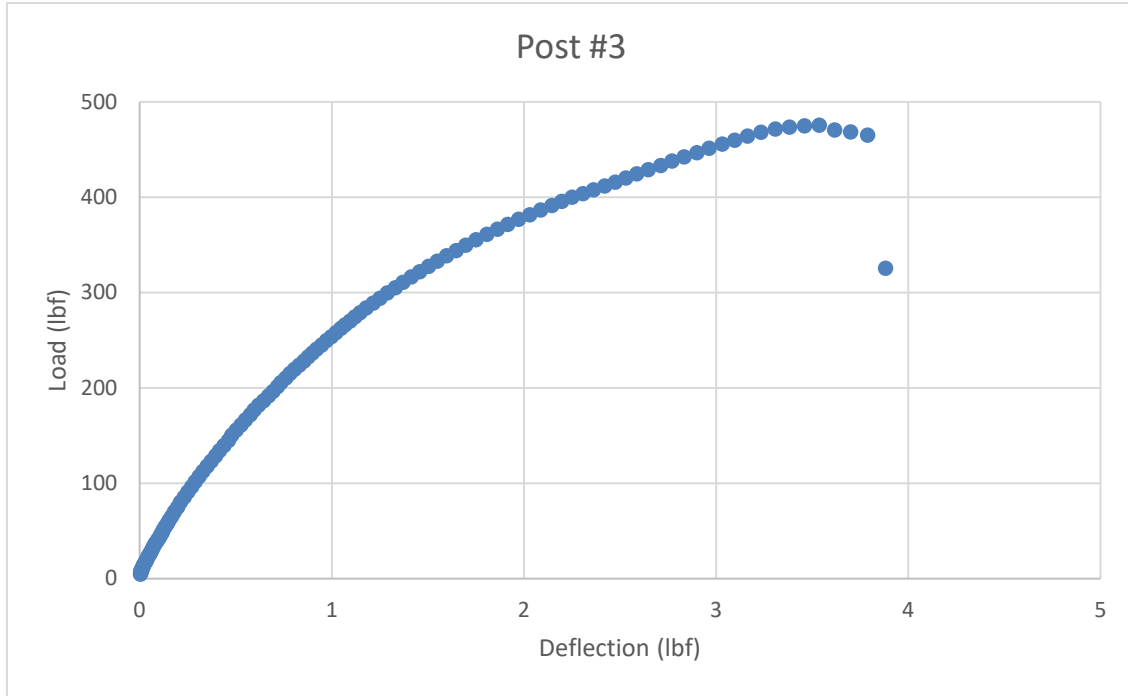
Appendix A: Load vs Deflection Graphs (2 Pages)

Appendix B: Specimen Photos (2 Pages)

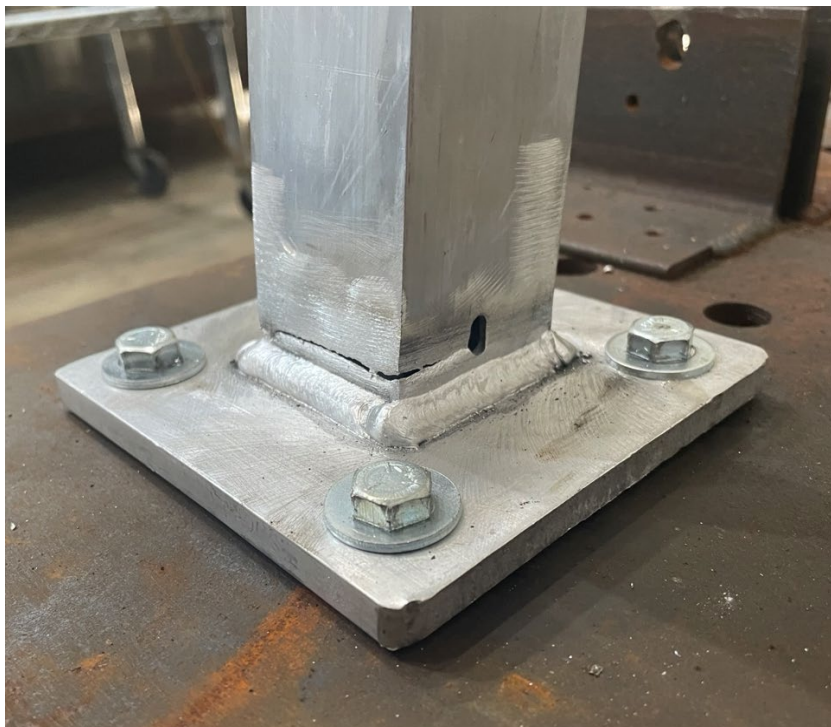
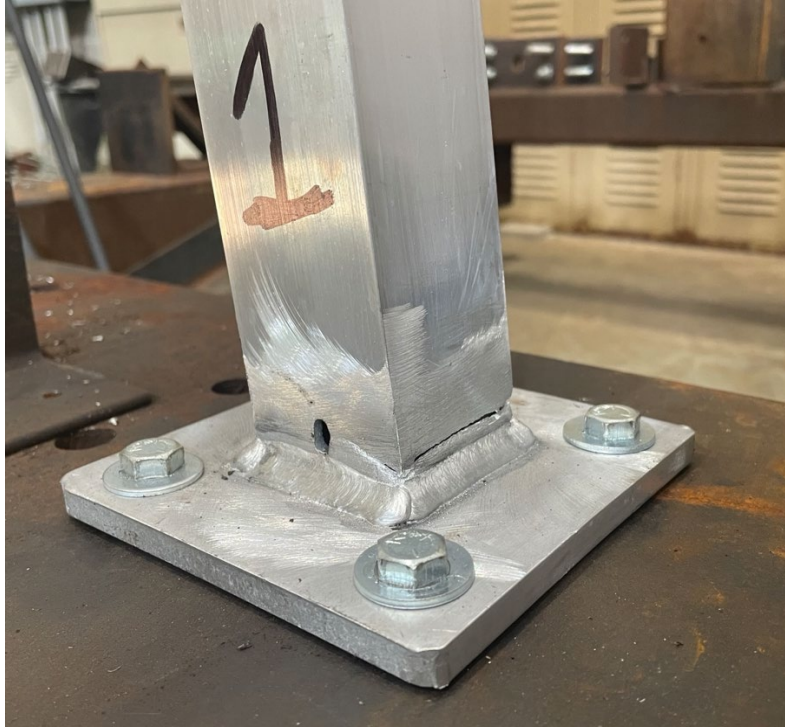
Appendix C: As-Built Drawings (1 Page)

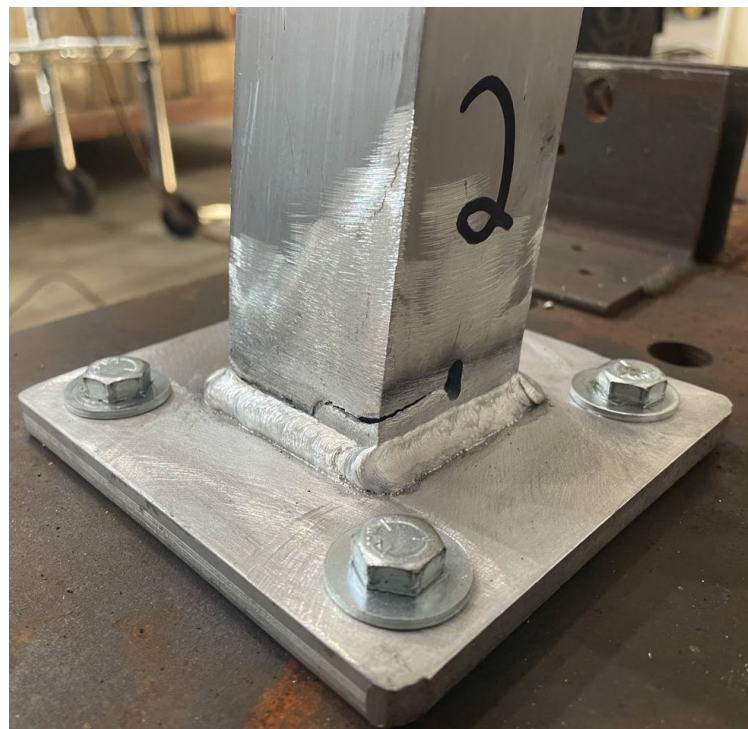
Appendix A - Load vs Deflection Graphs

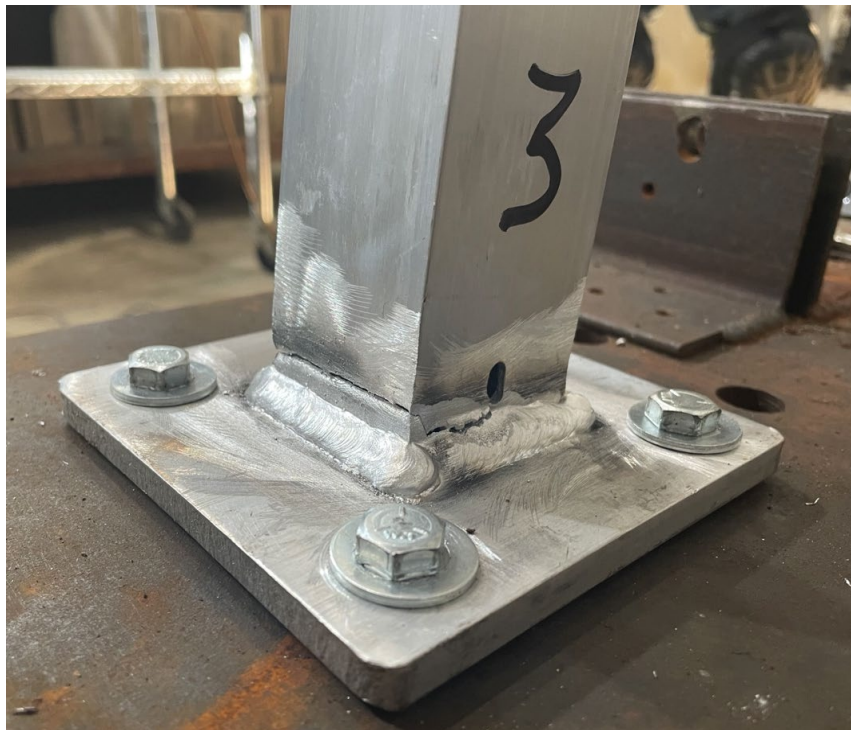
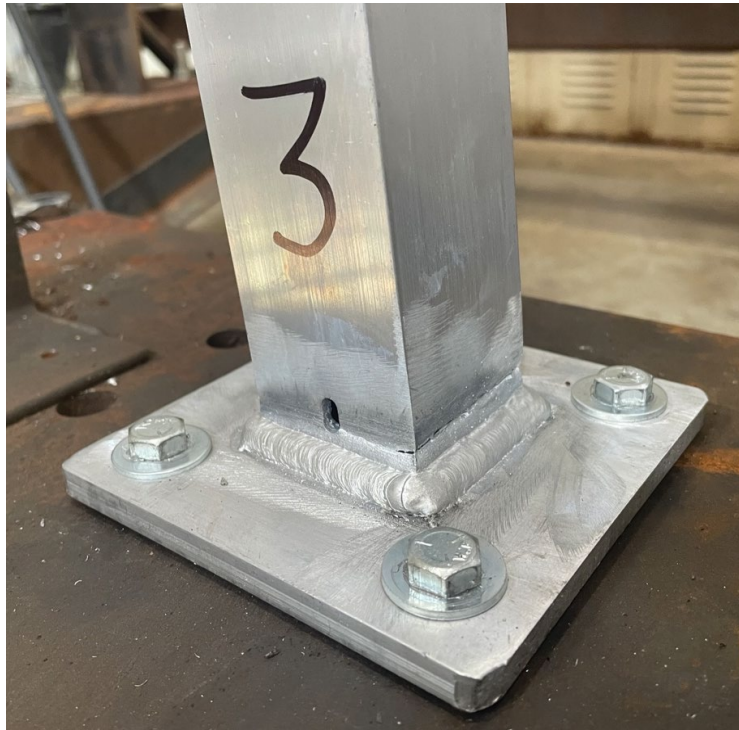


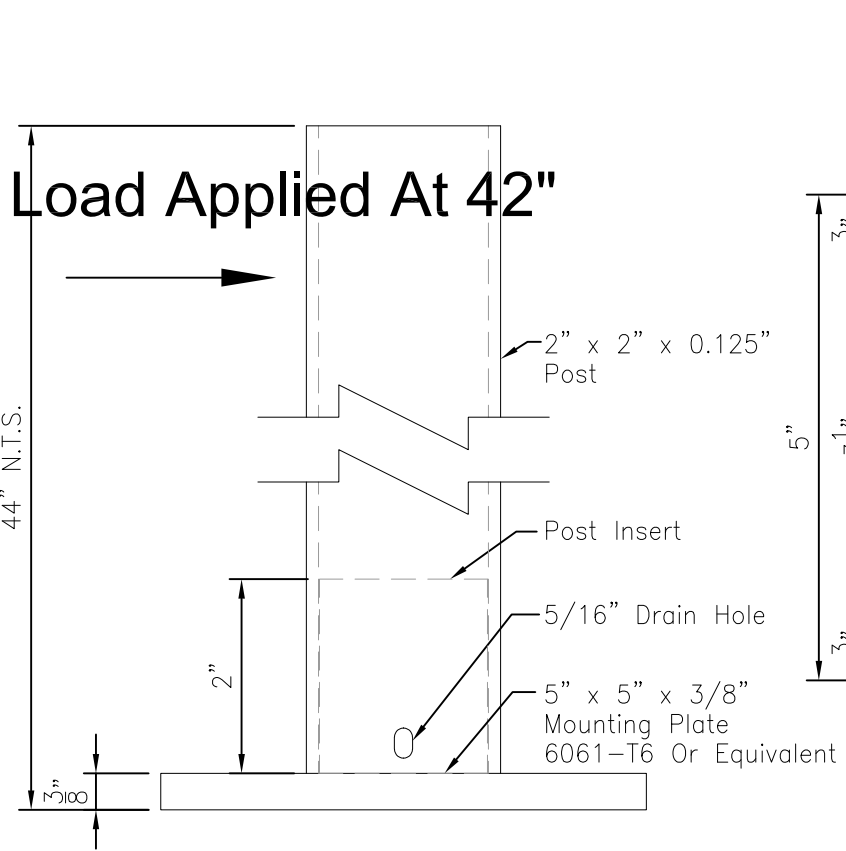


Appendix B - Specimen Photos

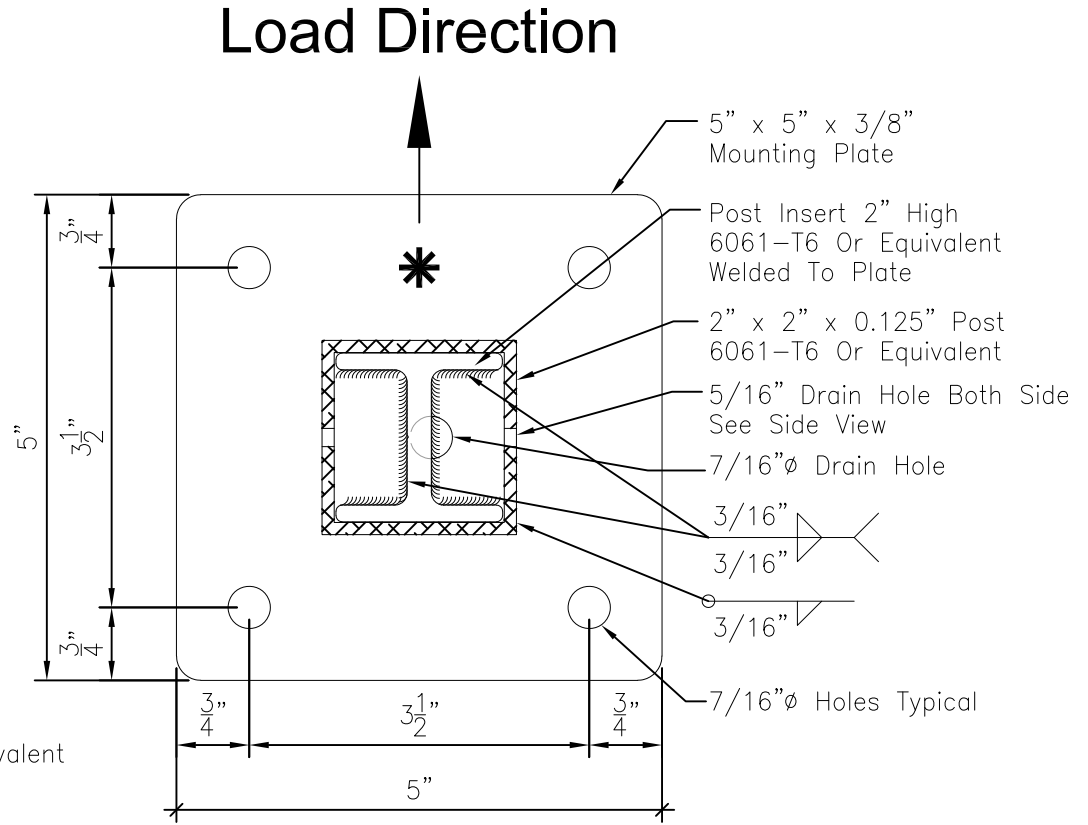








Side View



Mounting Plate Detail

Quantity x3

Project:	Post Testing
Title:	2" Post 5x5 Mounting Plate Detail

Drawing No.	Scale:	6"=1'-0"
Drawn By:	Date:	March 14, 2023
Alloy:	Post No.:	#7
6061-T6		

Seal

