



Weaver

CONSTRUCTION MANAGEMENT

3679 S Huron Street, Suite 404 Englewood, Colorado 80110

Phone: (303) 789-4111 FAX: (303) 789-4310

SUBMITTAL TRANSMITTAL

March 23, 2012

Submittal No: 05500-009.A

PROJECT: **Harold Thompson Regional WRF**
Birdsall Rd.
Fountain, CO 80817
Job No. 2908

ENGINEER: **GMS, Inc.**
611 No. Weber St., #300
Colorado Springs, CO 80903
719-475-2935 Roger Sams

OWNER: **Lower Fountain Metropolitan
Sewage Disposal District**
901 S. Santa Fe Ave.
Fountain, CO 80817
719-382-5303 James Heckman

CONTRACTOR: **CMS Industrial Constructors**
614 Cliff Street
Westcliffe, CO 81252
719-783-2867 Rebecca Kagan
csm@centurytel.net

SUBJECT: Re-submittal for the Aeration Basin/Digester Stairs

SPEC SECTION: 05500 - Metal Fabrications

PREVIOUS SUBMISSION DATES: 2/3/12

DEVIATIONS FROM SPEC: YES NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver Construction Management and, unless indicated otherwise, has been found to be in conformance with the intent of the contract documents.

Contractor's Stamp:

Engineer's Stamp:

Date: 3/23/12

Reviewed by: Tyler Ammerman

() Reviewed Without Comments

(X) Reviewed With Comments

ENGINEER'S

COMMENTS:



Project: HDTWRF Project

Location: Fountain, CO

Supplier: CSM

Date: 3/23/12

Submittal for: Aeration Basin/Digester Stairs. Resubmittal

Comments:

- 1. Redline notes are by WCMI and if GMS agrees, these will be accepted as final shops.**
- 2. See fabricators redline notes on GMS review comment sheet. Attached.**

GMS, INC.
CONSULTING ENGINEERS
611 NORTH WEBER, SUITE 300
COLORADO SPRINGS, COLORADO 80903-1074

TELEPHONE (719) 475-2935
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EDWARD D. MEYER, P.E.
ROGER J. SAMS, P.E.
GREGORY R. WORDEN, P.E.
THOMAS A. McCLERNAN, P.E.

KEN L. WHITE, P.L.S.
DAVID R. FRISCH, P.L.S.
MARK A. MORTON, P.E.
JASON D. MEYER, P.E.

March 14, 2012

Mr. Wes Weaver, President
Weaver Construction Management, Inc.
3679 South Huron Street, Suite 404
Englewood, CO 80110

Via Email to: wes@weavercm.com
No Hard Copy to Follow

Re: Harold D. Thompson Regional Water Reclamation Facility (HDTRWRF)
Lower Fountain Metropolitan Sewage Disposal District (LFMSDD)

Dear Wes:

Reference is made to your shop submittal identified as follows:

Submittal No.:	05500-009
Date of Submittal:	February 3, 2012
Title:	Aeration Basin/Digester Stairs
Specification Section:	05500 – Metal Fabrications
Manufacturer:	CSM Industrial Constructors

The referenced submittal has been stamped "**No Exception Taken**", "**Make Corrections Noted**" and "**Revise and Resubmit**". Our comments are as follows:

1. We acknowledge the WCMI comments provided on page 2 of the shop submittal.
2. Sheet S-6: **No Exception Taken** **Changed stair tread description & added note.**
3. Sheet S-7: **Revise and Resubmit** **Changed per this document & added notes.**
 - a. The plan view of the stair indicates 1½-inch aluminum I-bar non-slip treads will be utilized. All stair treads must be serrated aluminum tread. This also applies to the elevation section view.
 - b. The fabricator has made note to the Engineer that there may be a potential code violation. Per the project specifications, the maximum rise per step is 7 inches. The concrete and placement of the stringer and C-channel must be modified accordingly to provide for a maximum rise per step to equal 7 inches maximum.
4. Sheet S-8: **Revise and Resubmit** **Changed per this document & added note.**
 - a. The plan view of the stair indicates 1½-inch aluminum I-bar non-slip treads will be utilized. All stair treads must be serrated aluminum tread. This also applies to the elevation section view.

- b. Detail 2/AB-7 represents a typical stair section at two different stair locations. The top of concrete elevation shown in the elevation view may vary. The Contractor must verify the as-constructed elevations of all concrete surfaces at each location.
5. Sheet S-9: **No Exception Taken** No change.
6. Sheet S-10: **Revise and Resubmit** Changed per this document & added notes.
- a. The plan view of the stair indicates 1½-inch aluminum I-bar non-slip treads will be utilized. All stair treads must be serrated aluminum tread. This also applies to the elevation section view.
- b. As previously noted, Detail 2/AB-7 represents stairs at two stair locations. The top of concrete elevations must be verified at each location to confirm all elevations.
- c. The bottom step has a rise of $7\frac{3}{16}$ inches, where 7 inches is the maximum. The Contractor must make all necessary modifications to adjust concrete, stair stringers, etc., to provide for a maximum of 7 inches of rise per the project specifications.
7. Sheet S-11: **No Exception Taken** No change.
8. Sheet S-12: **Revise and Resubmit** Changed per this document & added note.
- a. The plan view of the stair indicates 1½-inch aluminum I-bar non-slip treads will be utilized. All stair treads must be serrated aluminum tread. This also applies to the elevation section view.
9. Sheet S-13: **Revise and Resubmit** Changed per this document, added notes & moved 6P1 & 6P2.
- a. The plan view of the stair indicates 1½-inch aluminum I-bar non-slip treads will be utilized. All stair treads must be serrated aluminum tread. This also applies to the elevation section view.
- b. The fabricator has questioned whether the 4-inch clearance is required for the top anchor. Per the Construction Drawings, the anchor should be placed 4 inches below the top of concrete elevation.
- c. The concrete section shown below the landing and stairs is shown extending well beyond support column 17C1. We request this concrete section be shortened to extend approximately ½-foot beyond the last anchor for the column. The General Contractor should make note of this change.
10. Sheet S-14: **No Exception Taken** Moved 6P1.
11. Sheet S-15: **No Exception Taken** Moved 6P2.
12. Sheet S-16: **No Exception Taken** No change.

13. Sheet S-17: **No Exception Taken** Changed per this document & added note.
 - a. Per the shop note provided on the drawing, the 1½-inch aluminum I-bar grating with non-slip surface should be fabricated to fit actual field conditions once the grating frame has been constructed.
14. Sheet S-18: **Revise and Resubmit** Changed per this document & added note.
 - a. The plan view of the stair indicates 1½-inch aluminum I-bar non-slip treads will be utilized. All stair treads must be serrated aluminum tread. This also applies to the elevation section view.
15. Sheet S-19: **Make Corrections Noted** Changed per this document & added note.
 - a. The plan view of the stair indicates 1½-inch aluminum I-bar non-slip treads will be utilized. All stair treads must be serrated aluminum tread. This also applies to the elevation section view.
 - b. The fabricator has provided a note on the drawings indicating the Engineer to verify the downhill elevation of the stoop. We request the fabricator work with the General Contractor as the Contractor is ordering the stairs and placing the concrete. The General Contractor must provide all necessary as-constructed elevations needed by the fabricator.
16. Sheet S-20: **No Exception Taken** Moved 6P1.
17. Sheet S-21: **No Exception Taken** Moved 6P2
18. Sheet S-22: **No Exception Taken** No change
19. Sheet S-23: **No Exception Taken** Moved 6P1.
20. Sheet S-24: **No Exception Taken** No change.
21. Sheet S-25: **No Exception Taken** No change.
22. Sheet S-26: **No Exception Taken** Added note.
23. Sheet S-27: **Revise and Resubmit** Changed per this document & added note.
 - a. The plan view of the stair indicates 1½-inch aluminum I-bar non-slip treads will be utilized. All stair treads must be serrated aluminum tread. This also applies to the elevation section view.
24. Sheet S-28: **Revise and Resubmit** Changed per this document & moved 6P1.
 - a. The plan view of the stair indicates 1½-inch aluminum I-bar non-slip treads will be utilized. All stair treads must be serrated aluminum tread. This also applies to the elevation section view.

Mr. Wes Weaver
March 14, 2012
Page 4

- b. The concrete pad under the stairway and top landing is shown extending beyond the landing at the top of the stair. We request the Contractor modify the shop drawings and the details of the drawing shown on Sheet AB-9 to extend the concrete to 6 inches beyond the last anchor bolt.

- 25. Sheet S-29: **No Exception Taken** Moved 6P1
- 26. Sheet S-30: **No Exception Taken** Moved 6P2
- 27. Sheet S-31: **No Exception Taken** No change
- 28. Sheet S-32: **No Exception Taken** Moved 6P1
- 29. Sheet S-33: **No Exception Taken** No change
- 30. Sheet S-34: **No Exception Taken** No change
- 31. Sheet S-35: **No Exception Taken** Added note
- 32. Sheet S-36: **No Exception Taken** Changed per this document & added notes

- a. A note on the drawing requests the Engineer provide the stair elevation, design, etc. We recommend the fabricator contact the Contractor who is purchasing the equipment and request the Contractor provide the as-constructed conditions of the secondary clarifier walkway and concrete slab at the base.

- 33. Sheet S-37: **No Exception Taken** No change

Please call if you should have any questions.

Sincerely,



David R. Frisch, P.L.S.

DRF/kmw

ec (letter only):

Mr. Jim Heckman, Manager, LFMSDD, lfmanager@lfmsdd.org

Ms. Cindy Murray, Office Manager, Fountain Sanitation District, fsdistrict@fsd901.org

Mr. Jeff Burst, Project Supt., Weaver Construction Management, Inc., jeff@weavercm.com

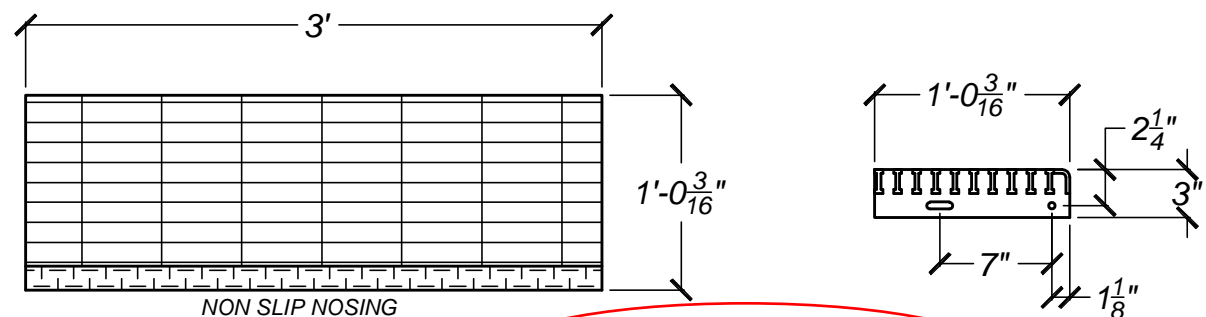
Mr. John Jacob, Project Mgr., Weaver Construction Management, Inc., john@weavercm.com

Mr. Tyler Ammerman, Weaver Construction Management, Inc., tammerman@weavercm.com

Ms. Leslie Brown, Weaver Construction Management, Inc., leslie@weavercm.com

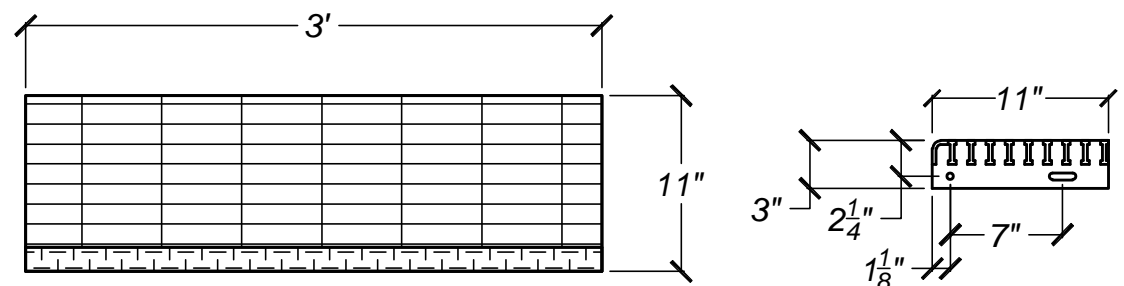
cc: Mr. Jerry Miller, Resident Project Representative, GMS, Inc.

ITEMS ON THIS SHEET WILL BE USED ON MULTIPLE STAIRS



(36 REQ.) 1-1/2" x 3/16" ALUM. SERRATED TREADS or STRIATED I-BAR STAIR TREADS - 6T1

6063-T6 ALUMINUM. SEE PROJECT SPECIFICATIONS FOR ALUMINUM TREADS.



(2 REQ.) 1-1/2" x 3/16" ALUM. SERRATED TREADS or STRIATED I-BAR STAIR TREADS - 6T2

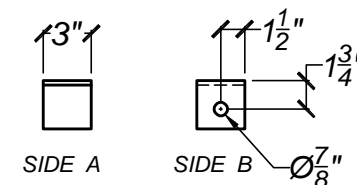
6063-T6 ALUMINUM. SEE PROJECT SPECIFICATIONS FOR ALUMINUM TREADS.

BOLT LIST: (FOR STAIR TREADS)

(152 REQ.) 3/8" SS 304 BOLTS WITH NUT & WASHER, TO ATTACH THE TREADS TO THE STRINGERS.

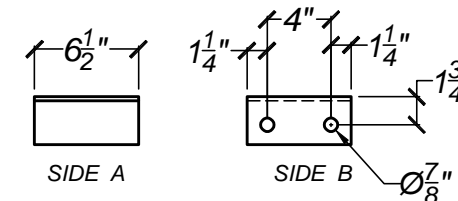
SHOP & FIELD NOTE:

PROTECT ALL ALUMINUM IN CONTACT WITH STEEL OR CONCRETE.
PROTECTIVE COATING TO BE SHERWIN WILLIAMS COAL TAR.



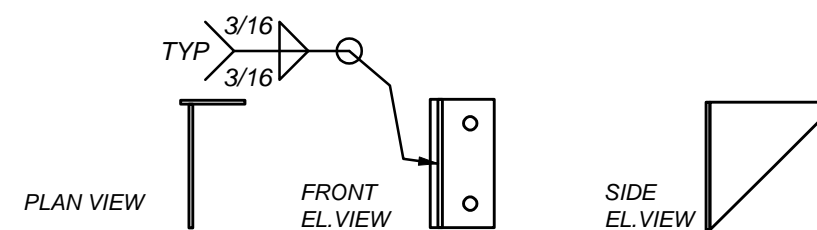
(14 REQ.) 3"x3"x1/4" ANGLES - 6A1

STEEL ANGLE A36

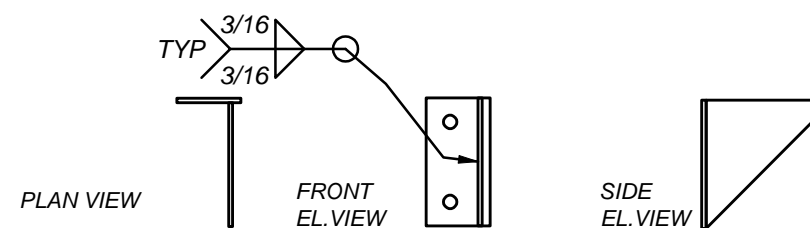


(12 REQ.) 3"x3"x1/4" ANGLES - 6A2

STEEL ANGLE A36

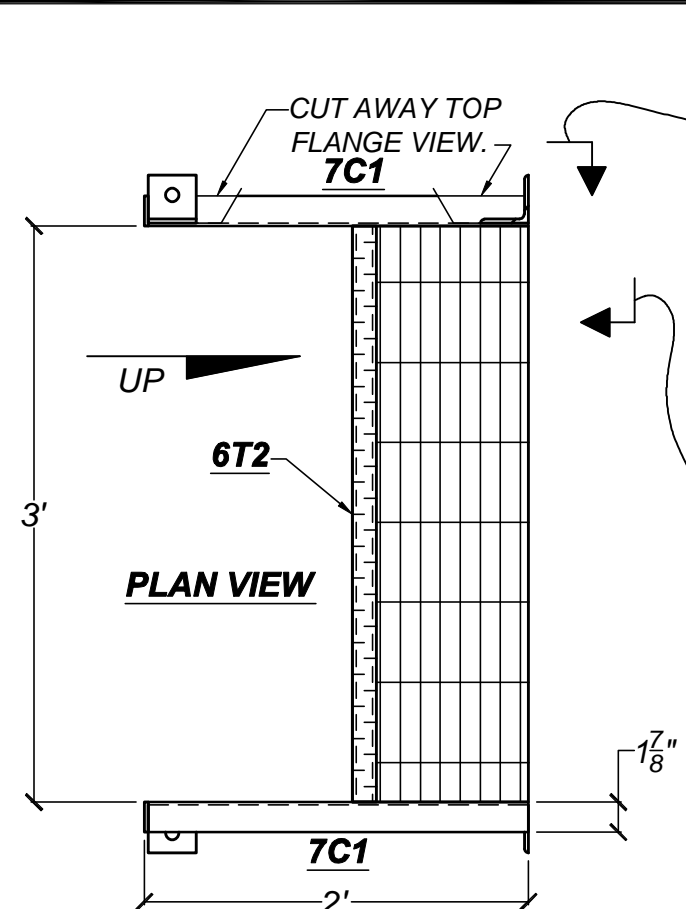


(3 REQ.) --- 1/4" GUSSET PLATE ASSEMBLY --- 6P1.



(3 REQ.) --- 1/4" GUSSET PLATE ASSEMBLY --- 6P2.

PROGRESS PRINT Not Valid for Construction Until Stamped	 (719) 783-2867	Project HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date 1/23/2012
		Area LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By DWN
		Detail DETAILS --- STAIRS	Rev: 2 Date: 3/21/2012
		Ref Dwg NOTED	Scale NONE
		Sheet S-6	

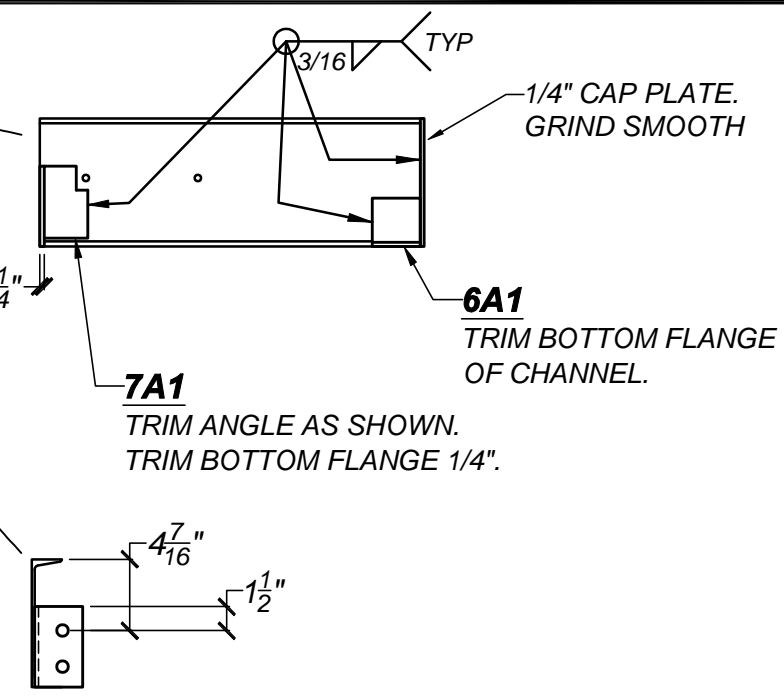


ONE. --- STAIR (GALV.) --- 7S1

GALVANIZED STRINGERS.
 1-1/2" ALUMINUM SERRATED or ~~STRIPED I-BAR~~ TREADS.
 1/AB-7 STAIR. AERATION BASIN STAIR AT
WALL BETWEEN AB2 & AB3.

NOTE TO GENERAL CONTRACTOR:
 ENGINEER HAS STATED: THE GC WILL NEED TO PLACE CONCRETE & STRINGER STAIRS TO PROVIDE A 7" STAIR RISE IN THIS LOCATION. NOTE: THESE ELEVATIONS ARE PER CONSTRUCTION DRAWINGS AND ARE SHOWN HERE FOR REFERENCE.

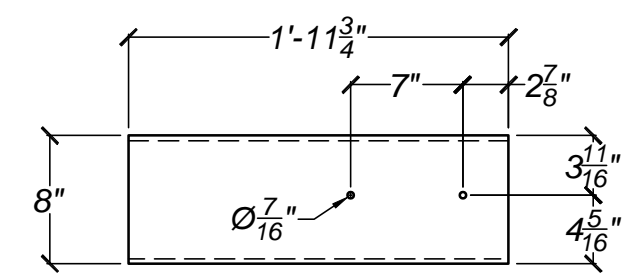
GC Acknowledges above note.



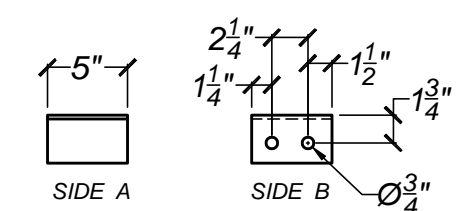
NOTE: HAND RAILS ARE NOT DRAWN ON THIS SET OF PRINTS.

Concrete will pour to stairs.

~~SHOP & FIELD NOTE:
 FIELD WILL NEED TO VERIFY ALL ELEVATIONS FOR CONCRETE, PRIOR TO FAB.~~

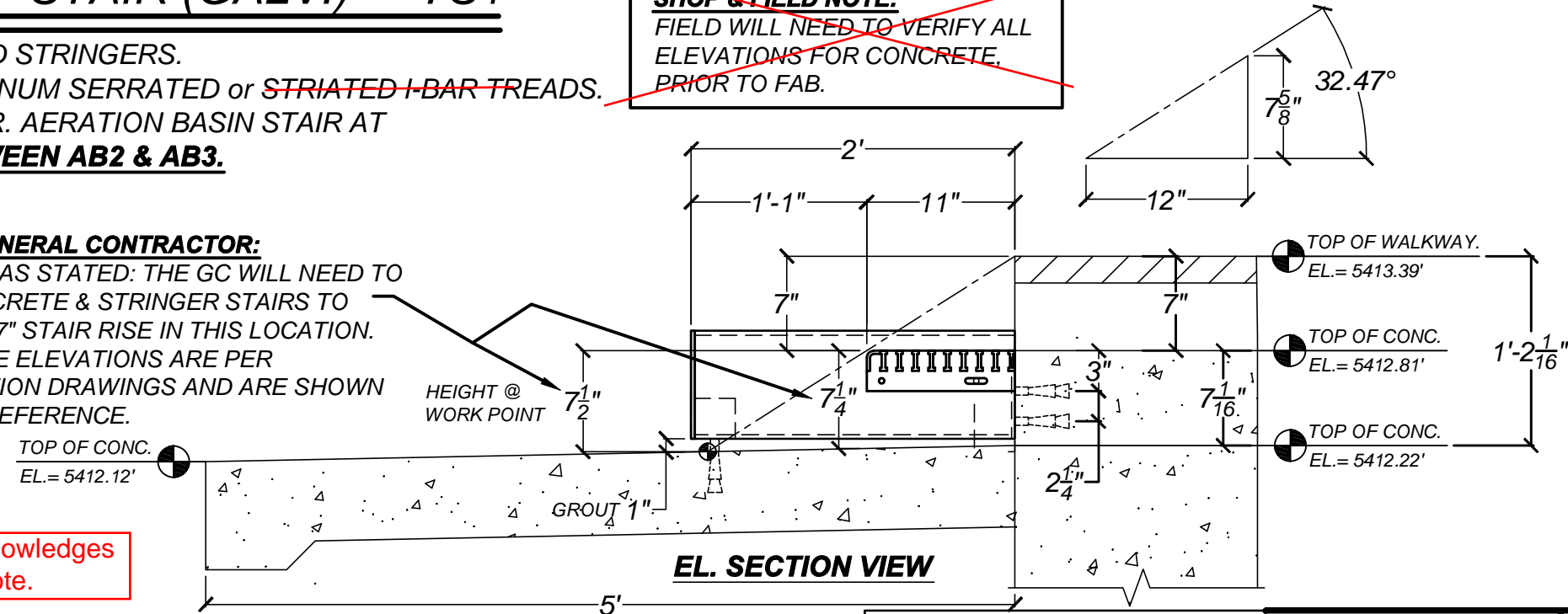


(2 REQ.) MC8x8.5 CHANNELS - 7C1
 NOTE: ONE AS SHOWN. ONE OPPOSITE.
 STEEL CHANNEL A36

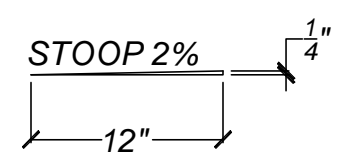


(2 REQ.) ONE AS, ONE OPP. 3"x3"x1/4" ANGLES - 7A1
 STEEL ANGLE A36

SHOP & FIELD NOTE:
 PROTECT ALL ALUMINUM IN CONTACT WITH STEEL OR CONCRETE.
 PROTECTIVE COATING TO BE SHERWIN WILLIAMS COAL TAR.



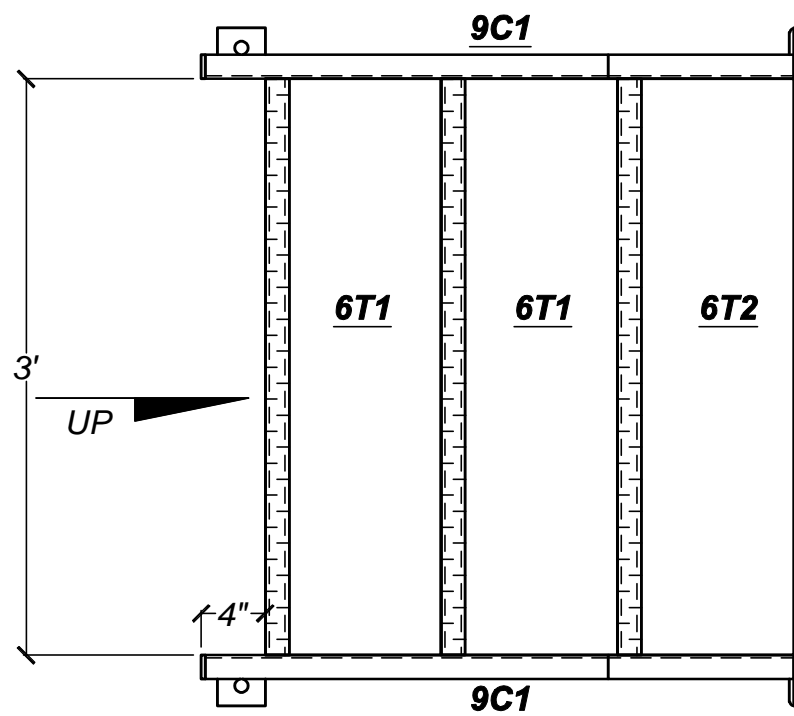
ANCHOR BOLT LIST: (FOR THIS STAIR)
 (2 REQ.) 3/4" EPOXY ANCHORS (GALV.)
 6-3/4" EMBED. BASE ANGLES.
 (4 REQ.) 5/8" EPOXY ANCHORS (GALV.)
 6" EMBED. WALL ANGLES.



PROGRESS PRINT
 Not Valid for Construction Until
 Stamped



Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 1/AB-7	Rev:	2
Ref Dwg	NOTED	Date:	3/21/2012
Scale	NONE	Sheet	S-7

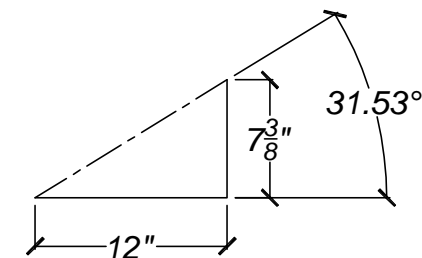


NOTE: HAND RAILS ARE NOT DRAWN ON THIS SET OF PRINTS.

SHOP & FIELD NOTE:

PROTECT ALL ALUMINUM IN CONTACT WITH STEEL OR CONCRETE.
PROTECTIVE COATING TO BE SHERWIN WILLIAMS COAL TAR.

~~**SHOP & FIELD NOTE:**
FIELD WILL NEED TO VERIFY ALL ELEVATIONS FOR CONCRETE, PRIOR TO FAB.~~

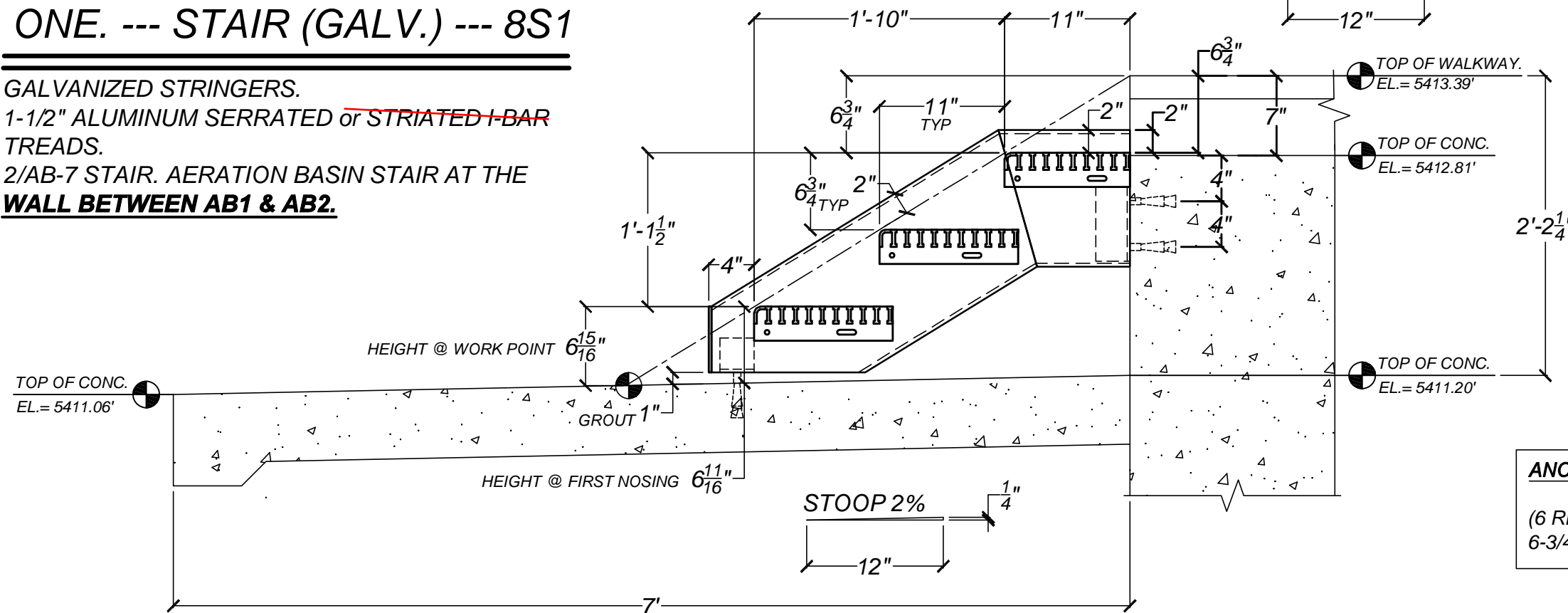


ONE. --- STAIR (GALV.) --- 8S1

GALVANIZED STRINGERS.

1-1/2" ALUMINUM SERRATED or ~~STRIPED~~ I-BAR TREADS.

2/AB-7 STAIR. AERATION BASIN STAIR AT THE **WALL BETWEEN AB1 & AB2.**



ANCHOR BOLT LIST: (FOR THIS STAIR)

(6 REQ.) 3/4" EPOXY ANCHORS (GALV.)
6-3/4" EMBED..

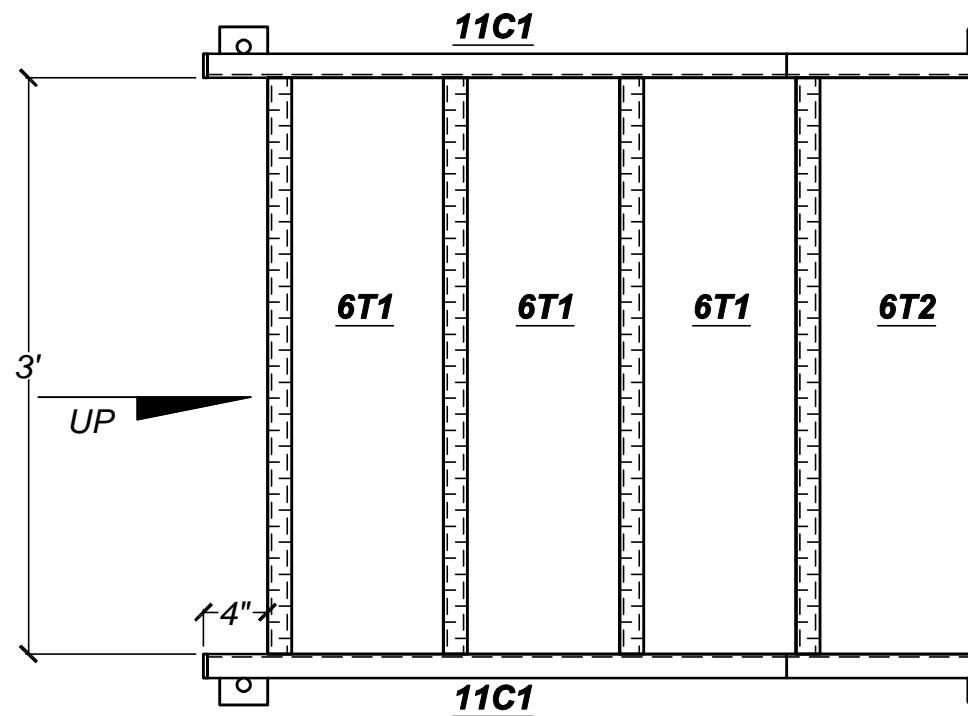
EL. SECTION VIEW

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Stamped



(719) 783-2867

Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 2/AB-7	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
Sheet	S-8		

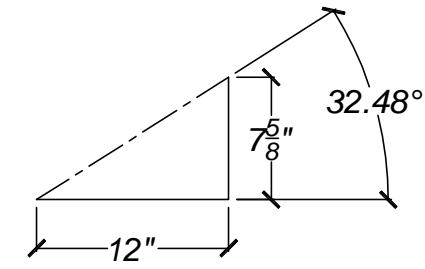


NOTE: HAND RAILS ARE NOT DRAWN ON THIS SET OF PRINTS.

SHOP & FIELD NOTE:

PROTECT ALL ALUMINUM IN CONTACT WITH STEEL OR CONCRETE.
PROTECTIVE COATING TO BE SHERWIN WILLIAMS COAL TAR.

~~SHOP & FIELD NOTE:
FIELD WILL NEED TO VERIFY ALL ELEVATIONS FOR CONCRETE, PRIOR TO FAB.~~



ONE. --- STAIR (GALV.) --- 10S1

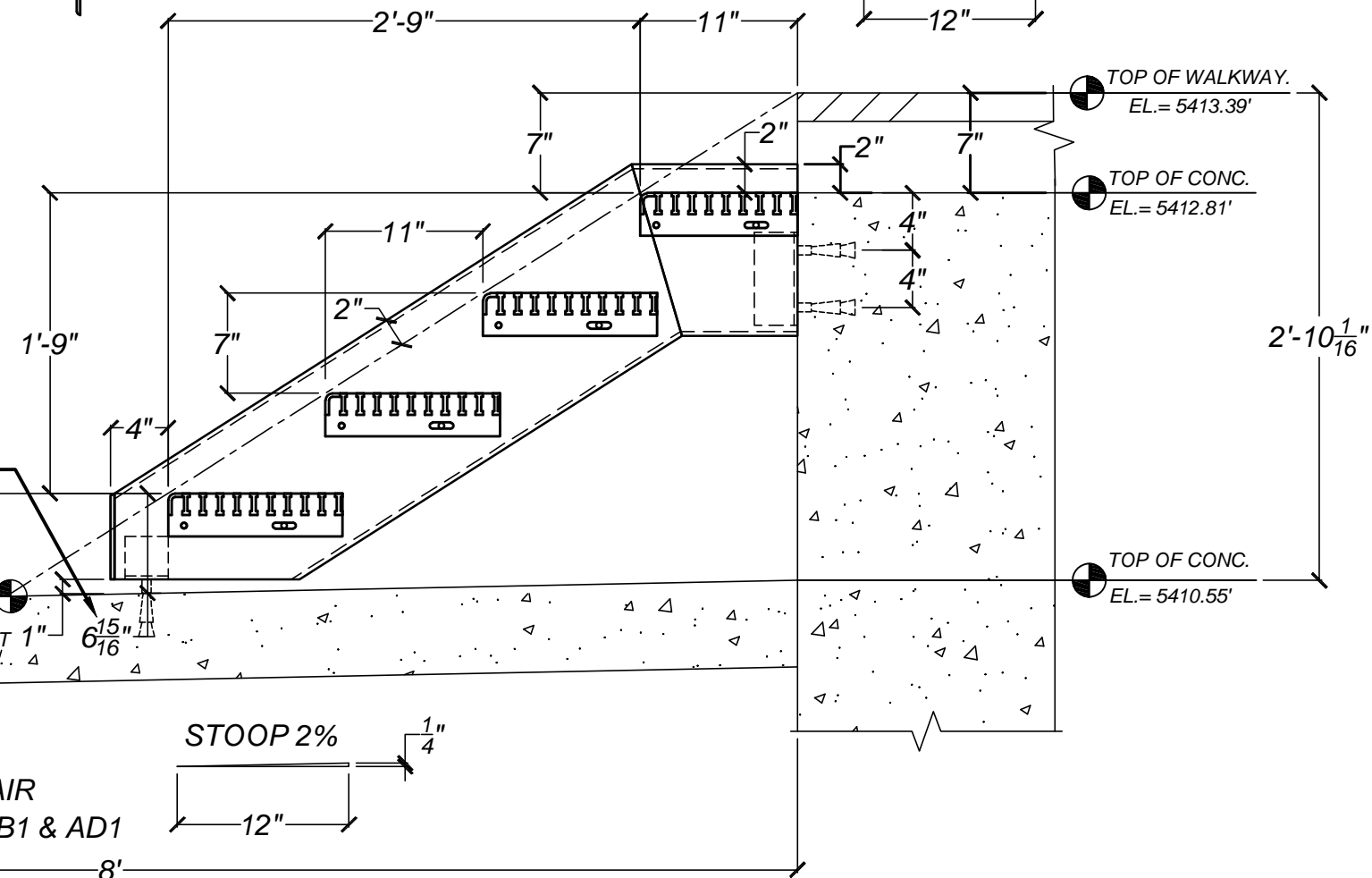
GALVANIZED STRINGERS.

1-1/2" ALUMINUM SERRATED or ~~STRIATED I-BAR~~ TREADS.

2/AB-7 STAIR. AERATION BASIN STAIR AT THE WALL BETWEEN AB1 & AD1.

NOTE TO GENERAL CONTRACTOR:

ENGINEER HAS STATED: THE GC WILL NEED TO PLACE CONCRETE & STRINGER TO PROVIDE A 7" STAIR RISE IN THIS LOCATION.
NOTE: THESE ELEVATIONS ARE PER CONSTRUCTION DRAWINGS AND ARE SHOWN HERE FOR REFERENCE.



TOP OF CONC.
EL. = 5410.39'

HEIGHT @ WORK POINT

GROUT 1"

STOOP 2%

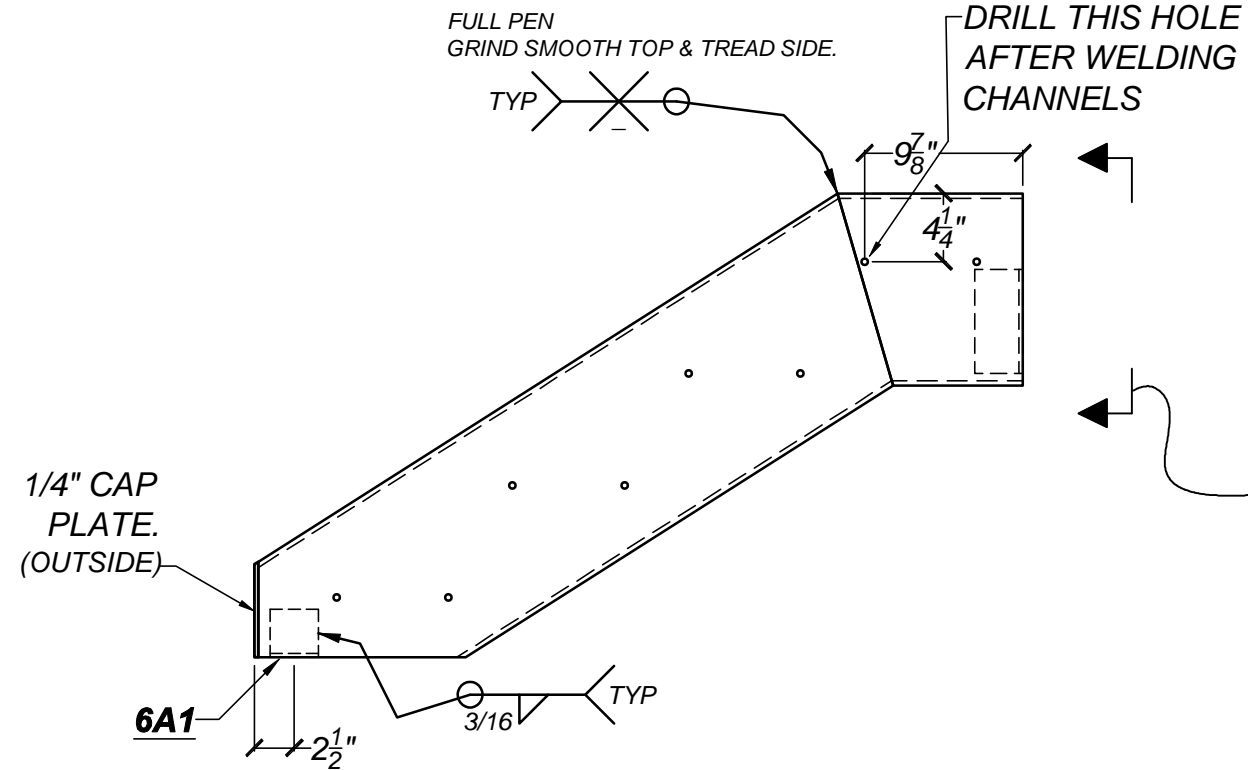
2/AB-7 STAIR
AB WALL AB1 & AD1

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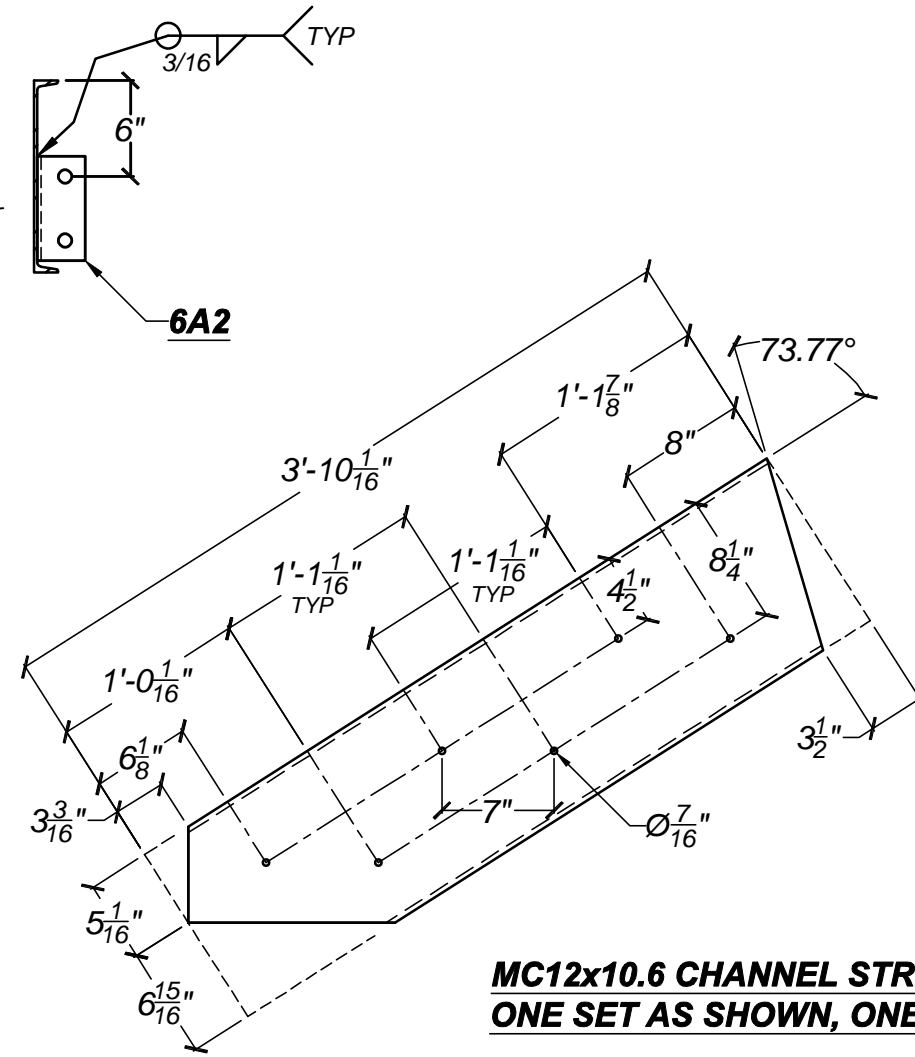


(719) 783-2867

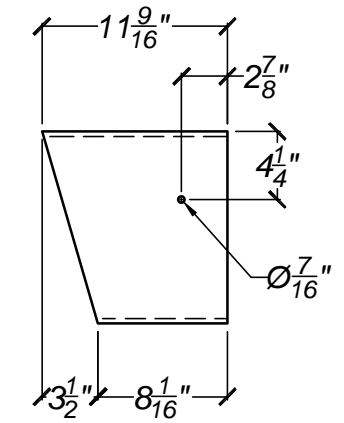
Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 2/AB-7	Rev:	2
Ref Dwg	NOTED	Date:	3/21/2012
Scale	NONE	Sheet	S-10



11C1 CHANNELS --- ADDITIONAL STRINGER DETAIL.
GALVANIZE AFTER FAB.

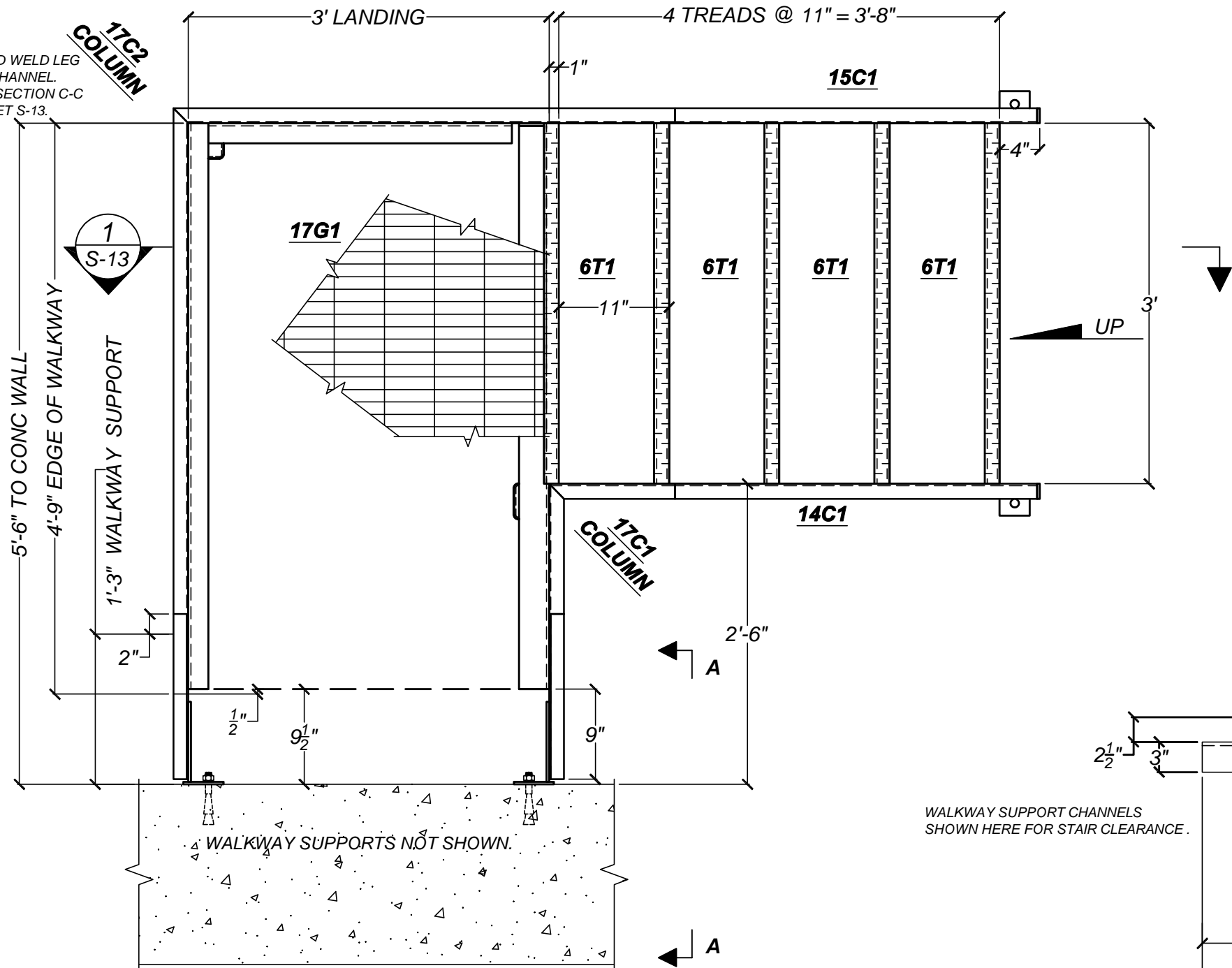


MC12x10.6 CHANNEL STRINGERS --- LAYOUT.
ONE SET AS SHOWN, ONE SET OPPOSITE.



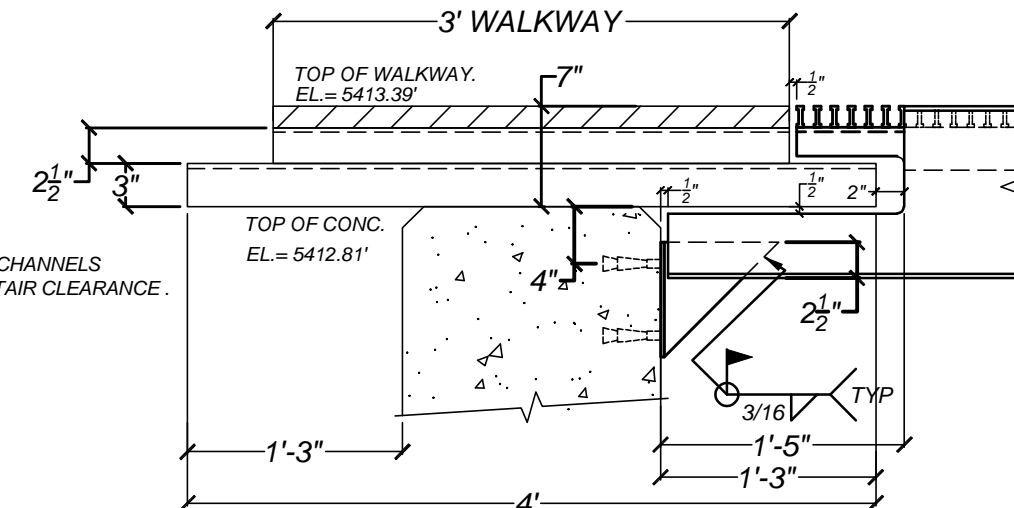
PROGRESS PRINT Not Valid for Construction Until Stamped	 (719) 783-2867	Project HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date 1/23/2012
		Area LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By DWN
		Detail DETAILS --- STAIRS PER 2/AB-7	Rev: 2 Date: 3/21/2012
		Ref Dwg NOTED Scale NONE	Sheet S-11

FIELD WELD LEG
TO CHANNEL.
SIM SECTION C-C
SHEET S-13.



SHOP & FIELD NOTE:

PROTECT ALL ALUMINUM IN CONTACT WITH
STEEL OR CONCRETE.
PROTECTIVE COATING TO BE SHERWIN
WILLIAMS COAL TAR.



ONE. --- STAIR (GALV.) --- 12S1

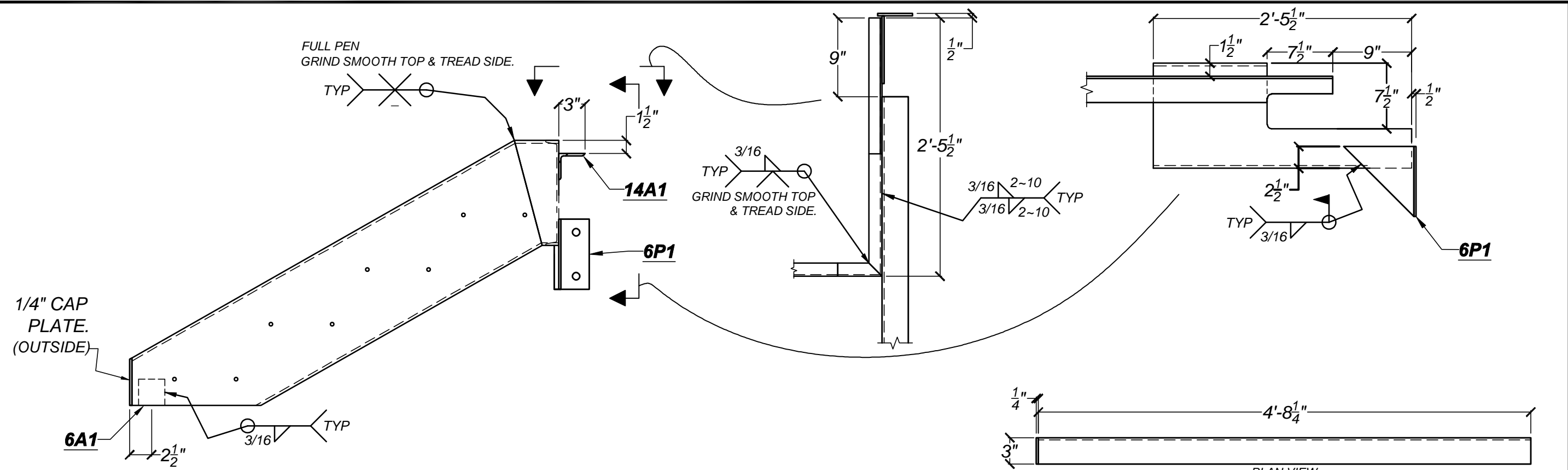
GALVANIZED STRINGERS & LANDING.
1-1/2" ALUMINUM SERRATED or ~~STRIATED I-BAR~~
TREADS.
1/AB-8 STAIR. AERATION BASIN STAIR AT THE
SOUTH/WEST CORNER.

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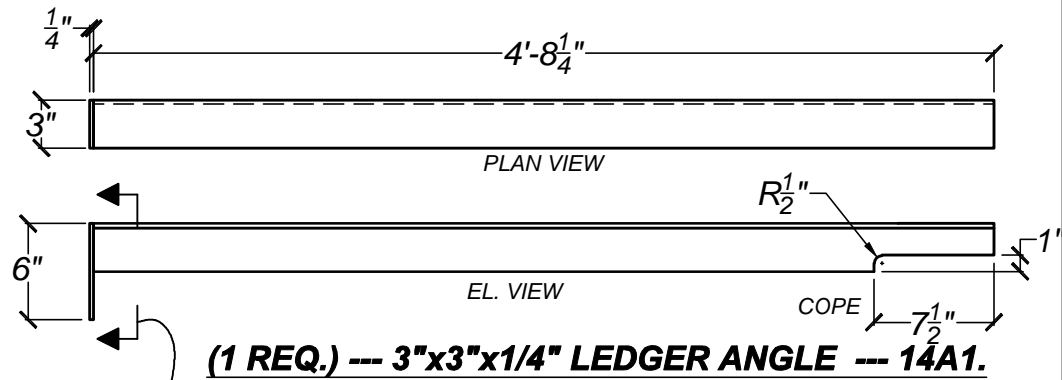
Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 1/AB-8	Rev:	2
Ref Dwg	NOTED	Date:	3/21/2012
Scale	NONE	Sheet	S-12



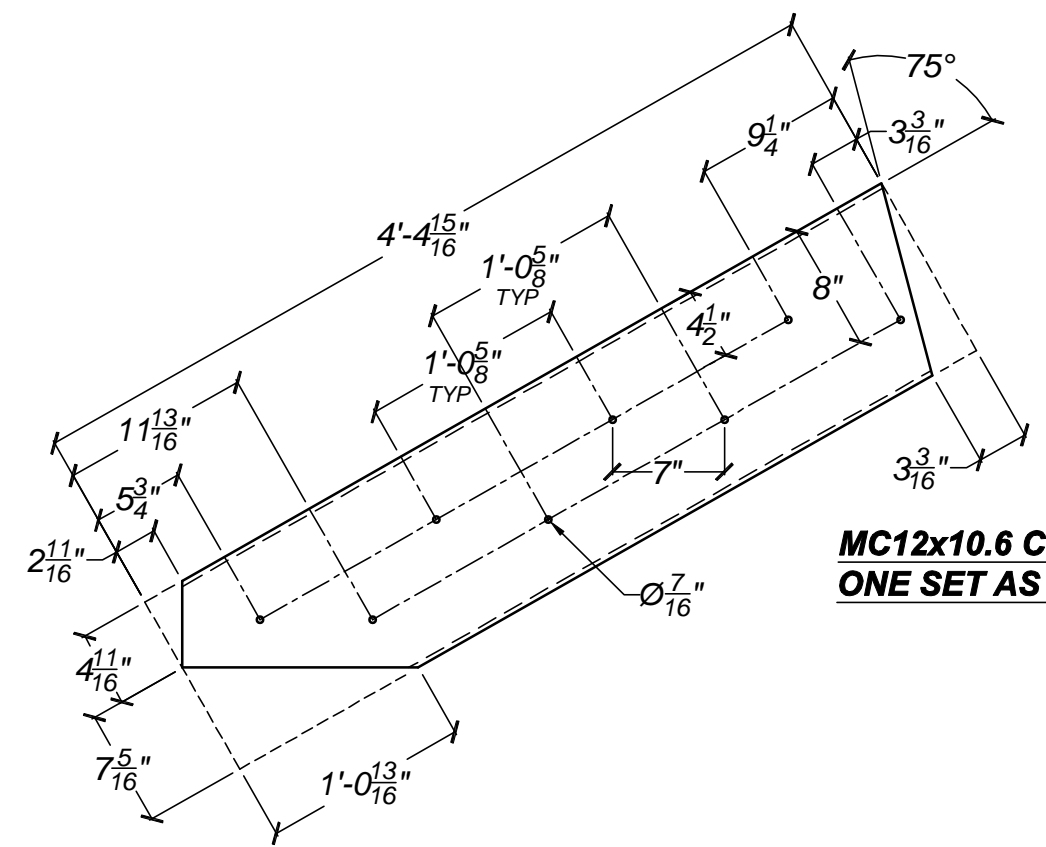
1/4" CAP PLATE. (OUTSIDE)

6A1

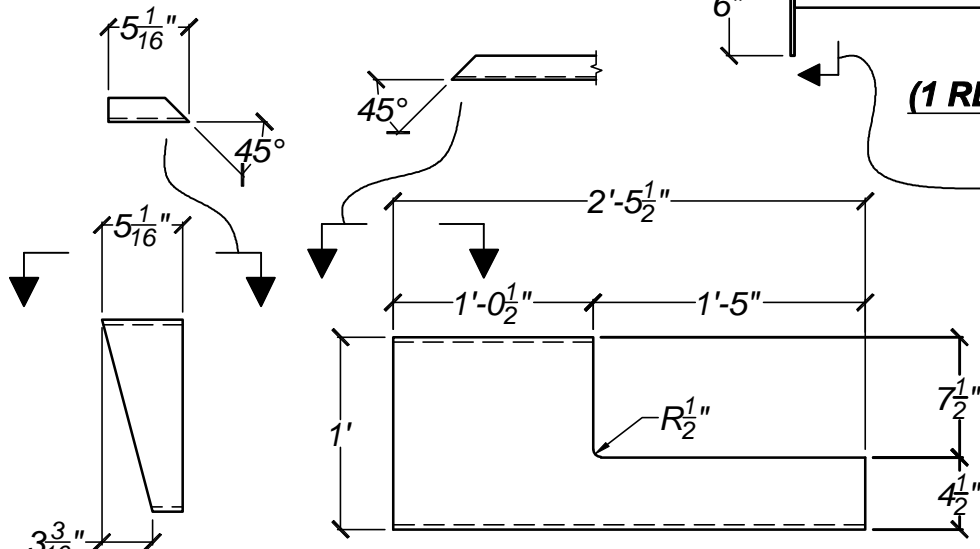
14C1 CHANNEL --- ADDITIONAL STRINGER & LANDING DETAIL.
GALVANIZE AFTER FAB.



(1 REQ.) --- 3"x3"x1/4" LEDGER ANGLE --- 14A1.



MC12x10.6 CHANNEL STRINGER & LANDING --- LAYOUT.
ONE SET AS SHOWN.



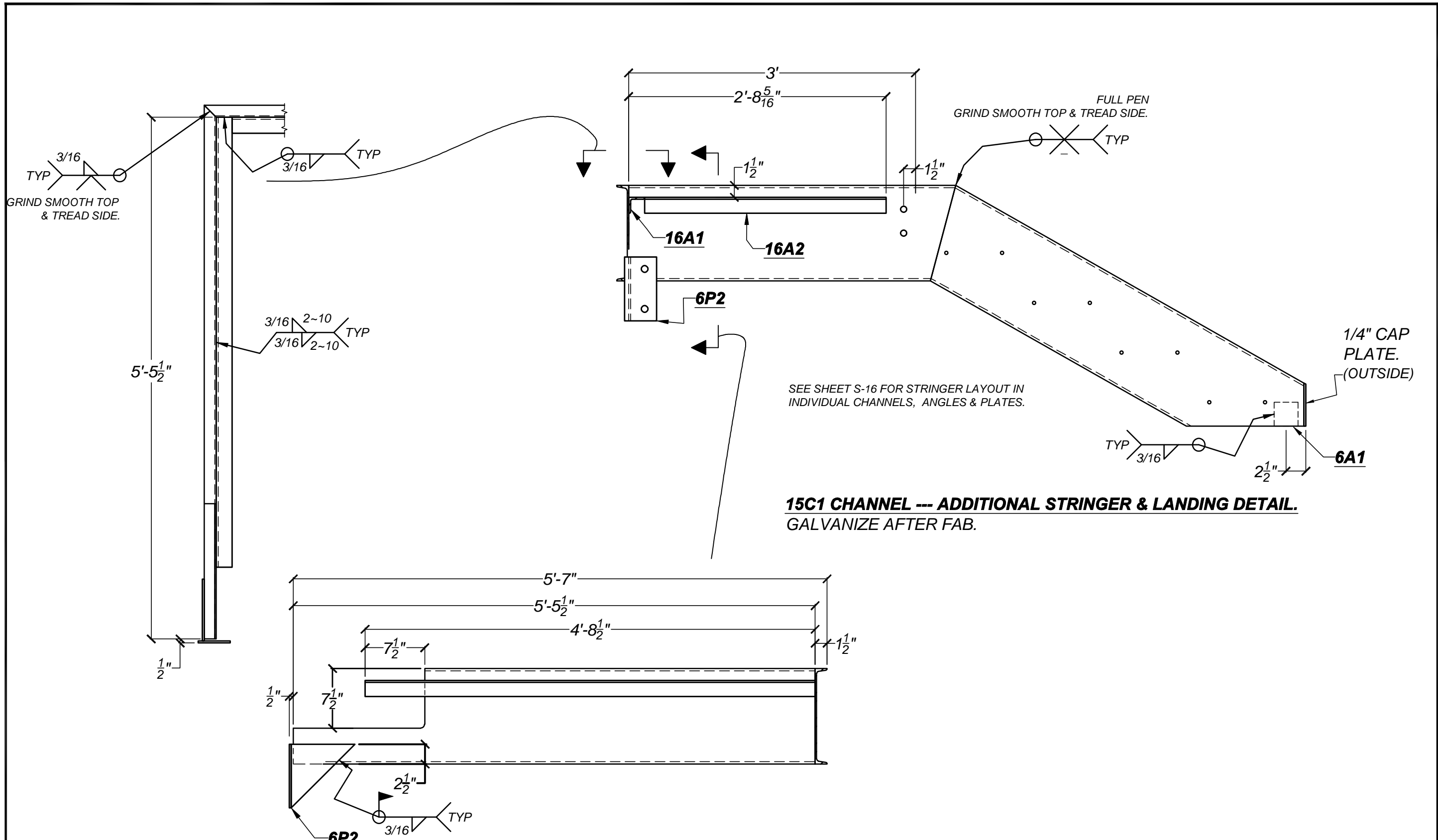
(1 REQ.) --- 1/4" PLATE --- 14P2.

BOLT LIST: (FOR THIS STAIR)
(6 REQ.) 3/4" EPOXY ANCHORS (GALV.)
6-3/4" EMBED..
(2 REQ.) 3/4" A325 BOLTS x 1-1/2" (GALV.)


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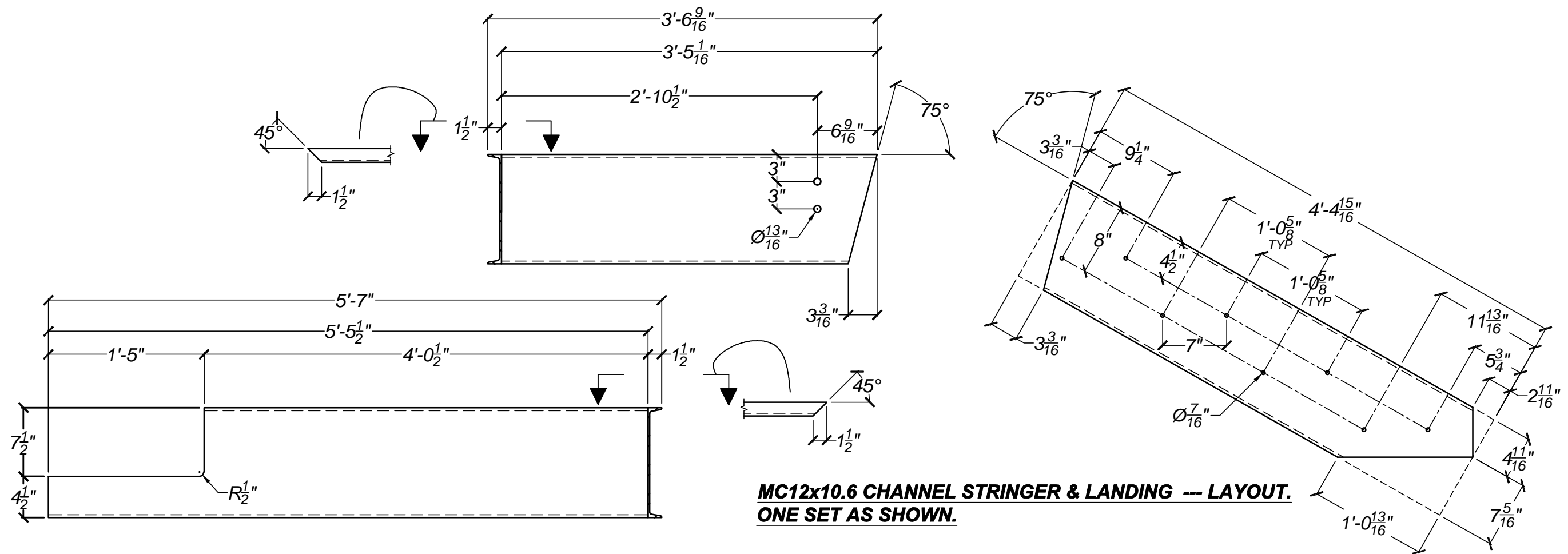


Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 1/AB-8	Rev:	2
Ref Dwg	NOTED	Date:	3/21/2012
Scale	NONE	Sheet	S-14

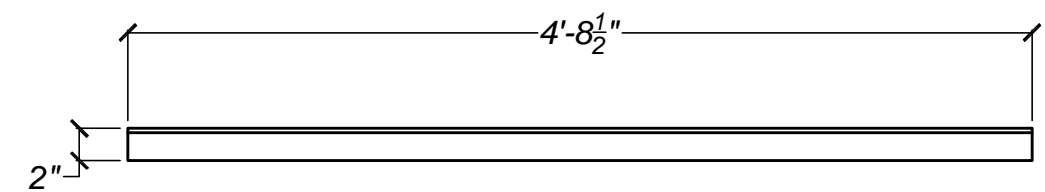


15C1 CHANNEL --- ADDITIONAL STRINGER & LANDING DETAIL.
 GALVANIZE AFTER FAB.

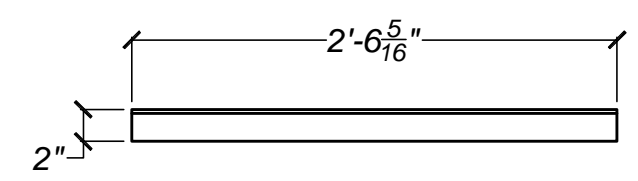
PROGRESS PRINT Not Valid for Construction Until Stamped	 (719) 783-2867	Project HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date 1/23/2012
		Area LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By DWN
		Detail DETAILS --- STAIRS PER 1/AB-8	Rev: 2 Date: 3/21/2012
		Ref Dwg NOTED Scale NONE	Sheet S-15



**MC12x10.6 CHANNEL STRINGER & LANDING --- LAYOUT.
ONE SET AS SHOWN.**

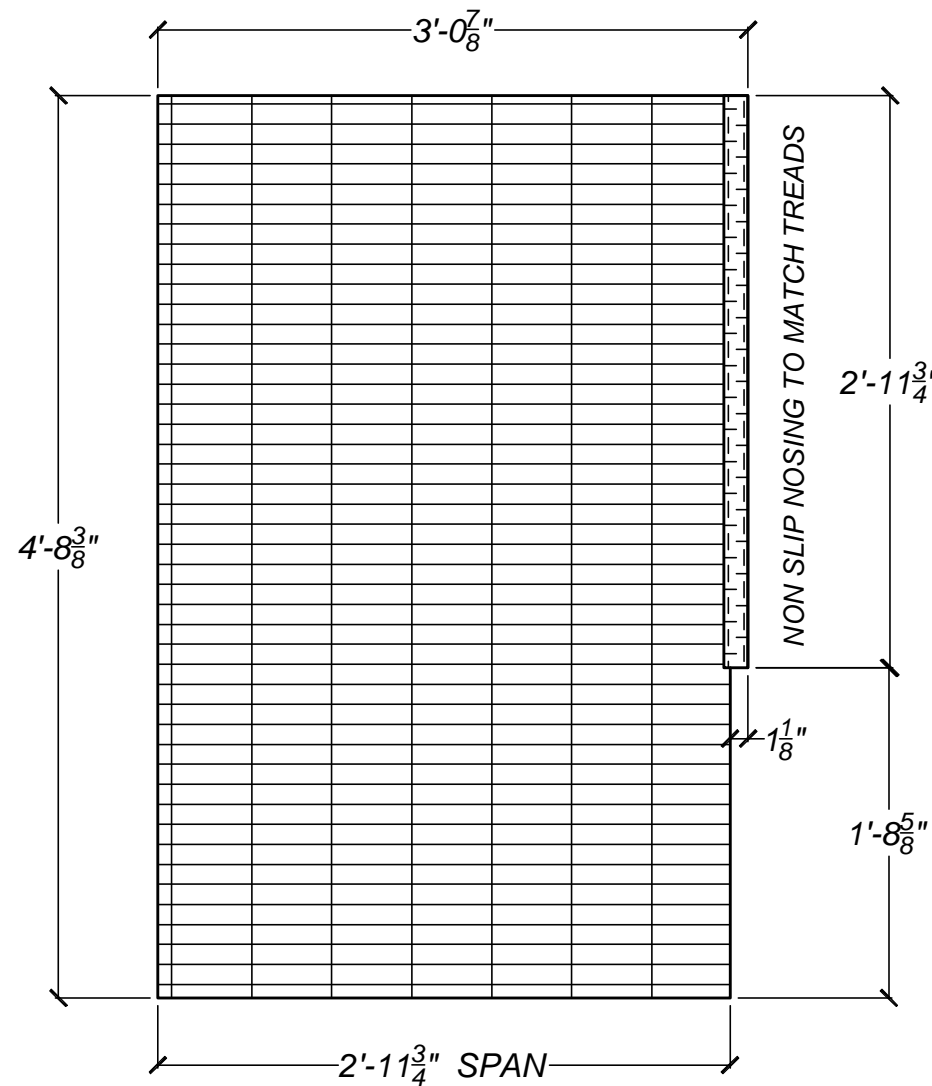


(1 REQ.) --- 2"x2"x1/4" LEDGER ANGLE --- 16A1.



(1 REQ.) --- 2"x2"x1/4" LEDGER ANGLE --- 16A2.

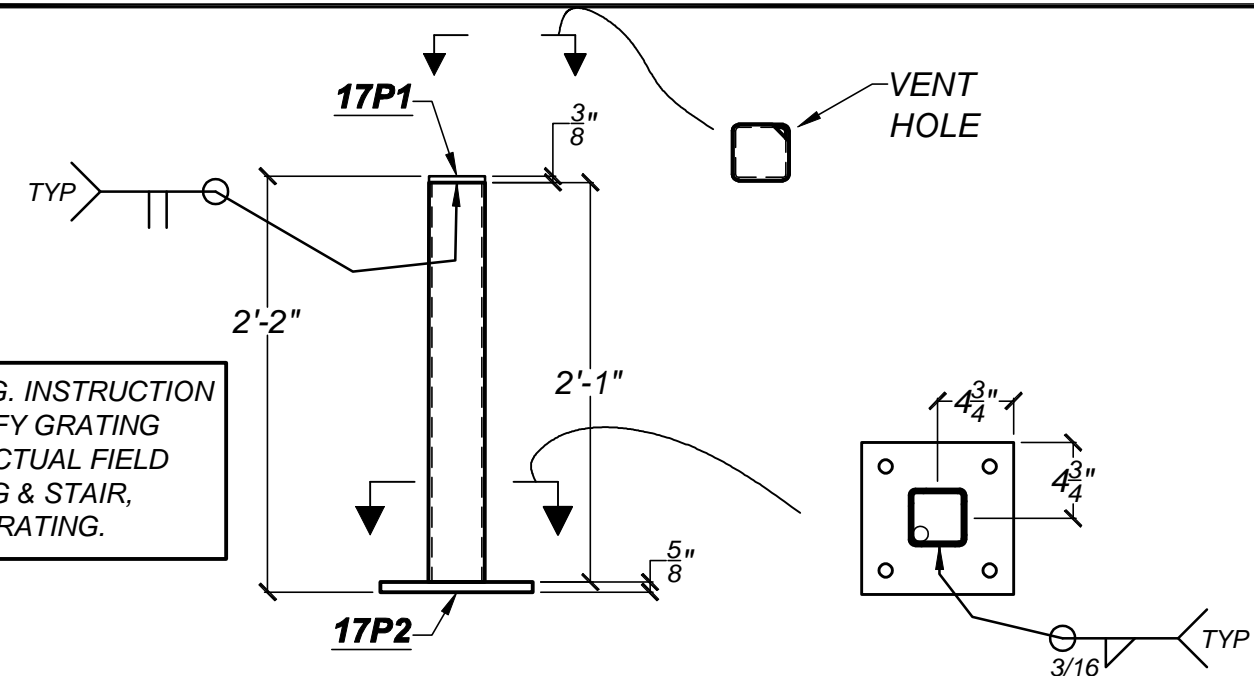
PROGRESS PRINT Not Valid for Construction Until Stamped	 (719) 783-2867	Project HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date 1/23/2012
		Area LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By DWN
		Detail DETAILS --- STAIRS PER 1/AB-8	Rev: 2 Date: 3/21/2012
		Ref Dwg NOTED Scale NONE	Sheet S-16



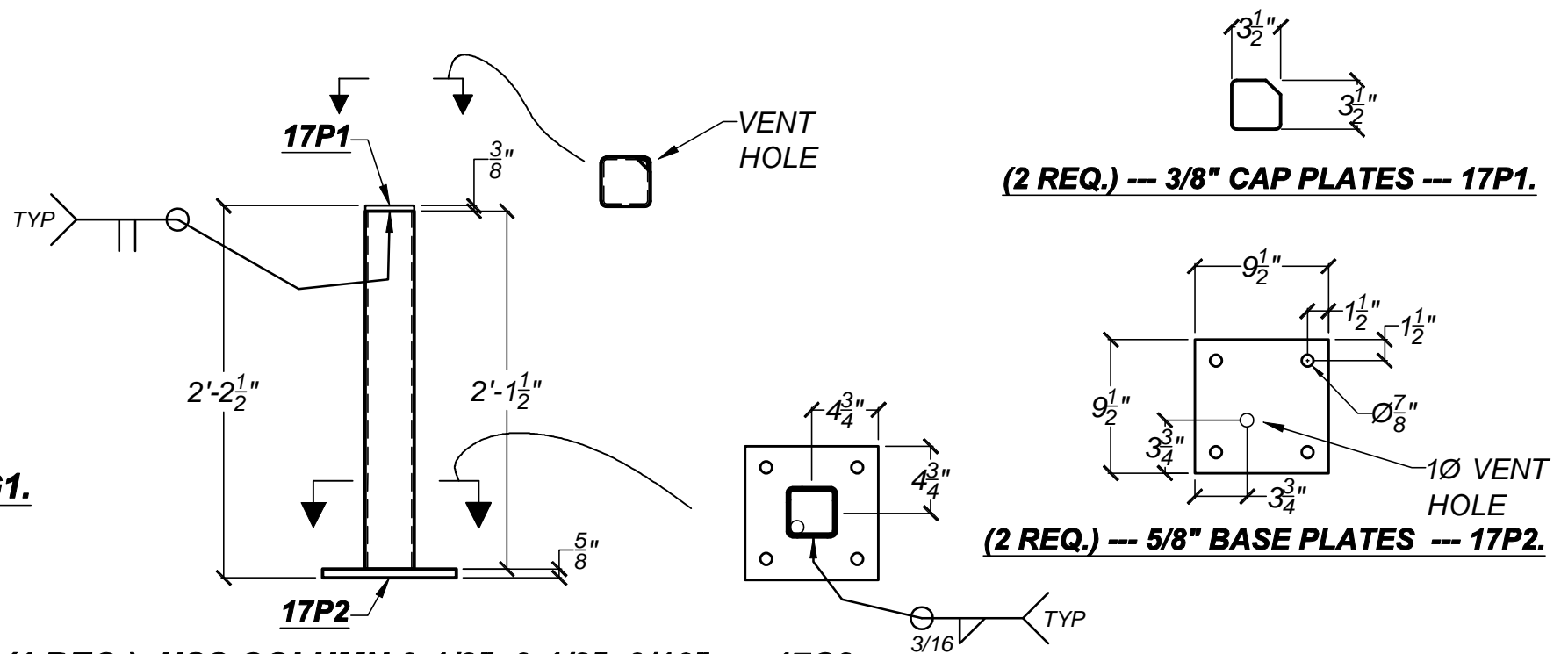
(1 REQ.) 1-1/2" ALUMINUM I-BAR GRATING WITH NON SLIP SURFACE --- 17G1.
6063-T6 ALUMINUM.

SHOP NOTE:
THIS GRATING IS TO BE FABRICATED TO ONE LARGE PANEL. TRIM GRATING WHEN PANELS ARE CUT TO SIZE SO THE PANEL CAN BE WELDED TO MAKE ONE LARGE GRATING PANEL. BAND GRATING.
ATTACH GRATING TO LANDING WITH M-CLIPS & SS304 SCREWS & PER MANUFACTURERS RECOMONDATIONS.
PROTECT ALUMINUM PER SPECS FOR ALUMINUM IN CONTACT WITH STEEL.

SHOP & FIELD NOTE: ENG. INSTRUCTION FIELD WILL NEED TO VERIFY GRATING DIMENSIONS TO MATCH ACTUAL FIELD INSTALLATION OF LANDING & STAIR, PRIOR TO FABRICATING GRATING.



(1 REQ.) HSS COLUMN 3-1/2"x3-1/2"x3/16" --- 17C1.



(1 REQ.) HSS COLUMN 3-1/2"x3-1/2"x3/16" --- 17C2.

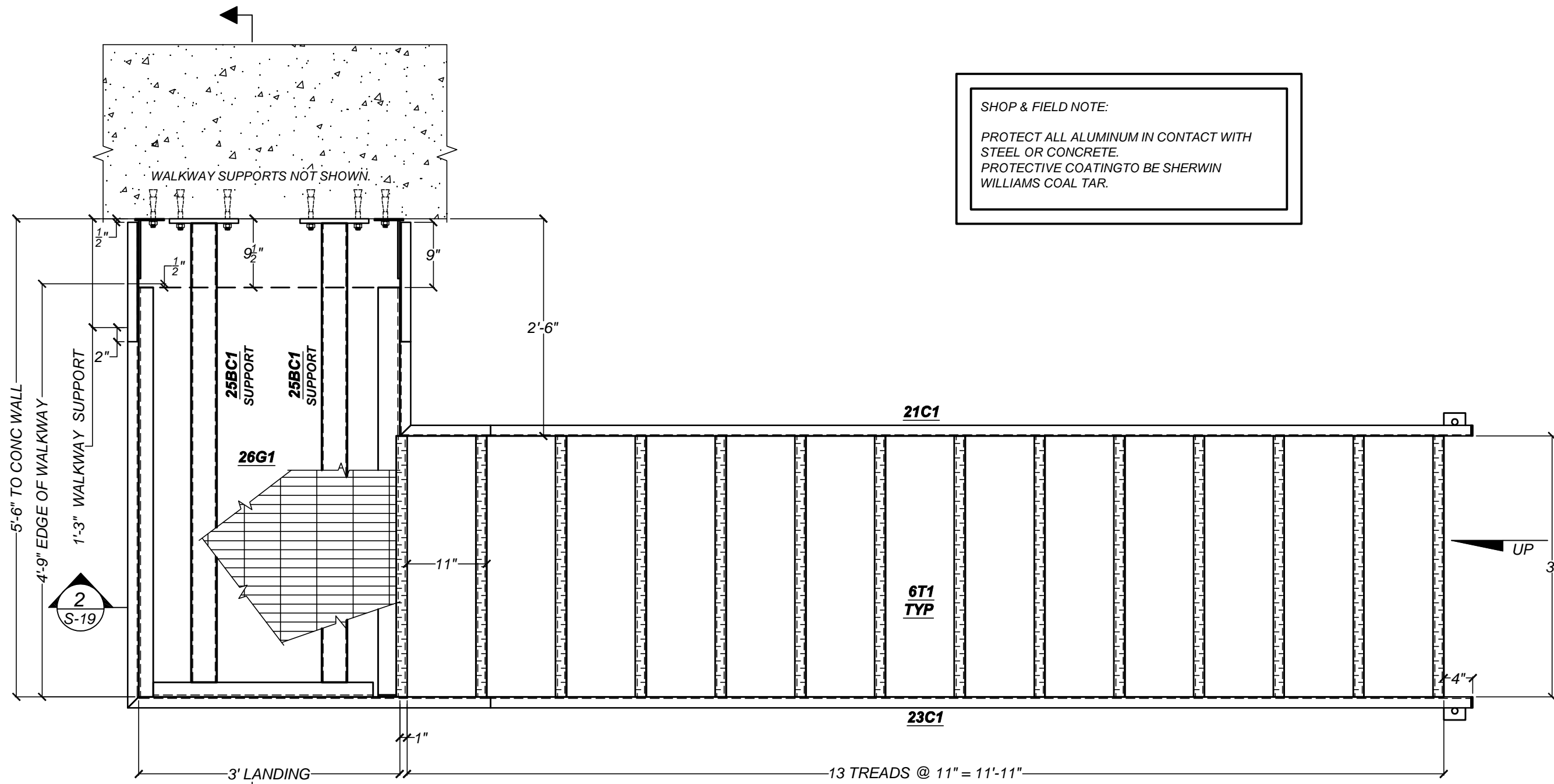
PROGRESS PRINT
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Stamped



(719) 783-2867

Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 1/AB-8	Rev:	2
Ref Dwg	NOTED	Date:	3/21/2012
Scale	NONE	Sheet	S-17

SHOP & FIELD NOTE:
 PROTECT ALL ALUMINUM IN CONTACT WITH
 STEEL OR CONCRETE.
 PROTECTIVE COATING TO BE SHERWIN
 WILLIAMS COAL TAR.



ONE. --- STAIR (GALV.) --- 18S1

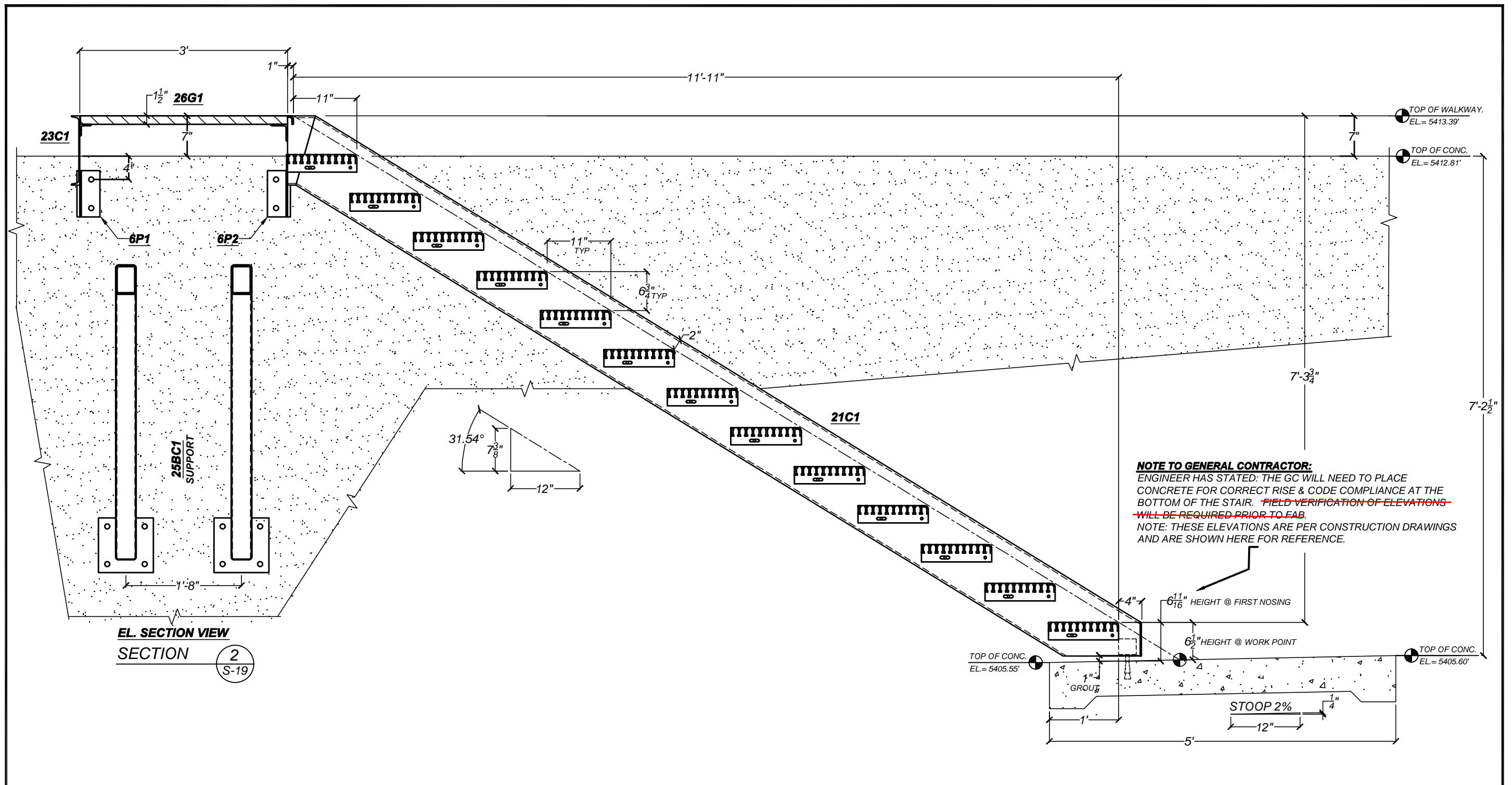
GALVANIZED STRINGERS & LANDING.
 1-1/2" ALUMINUM SERRATED or ~~STRIATED~~ **BAR**
 TREADS.
 2/AB-8 STAIR. AEROBIC DIGESTER NO 3 STAIR AT
 THE SOUTH/EAST CORNER.

PROGRESS PRINT
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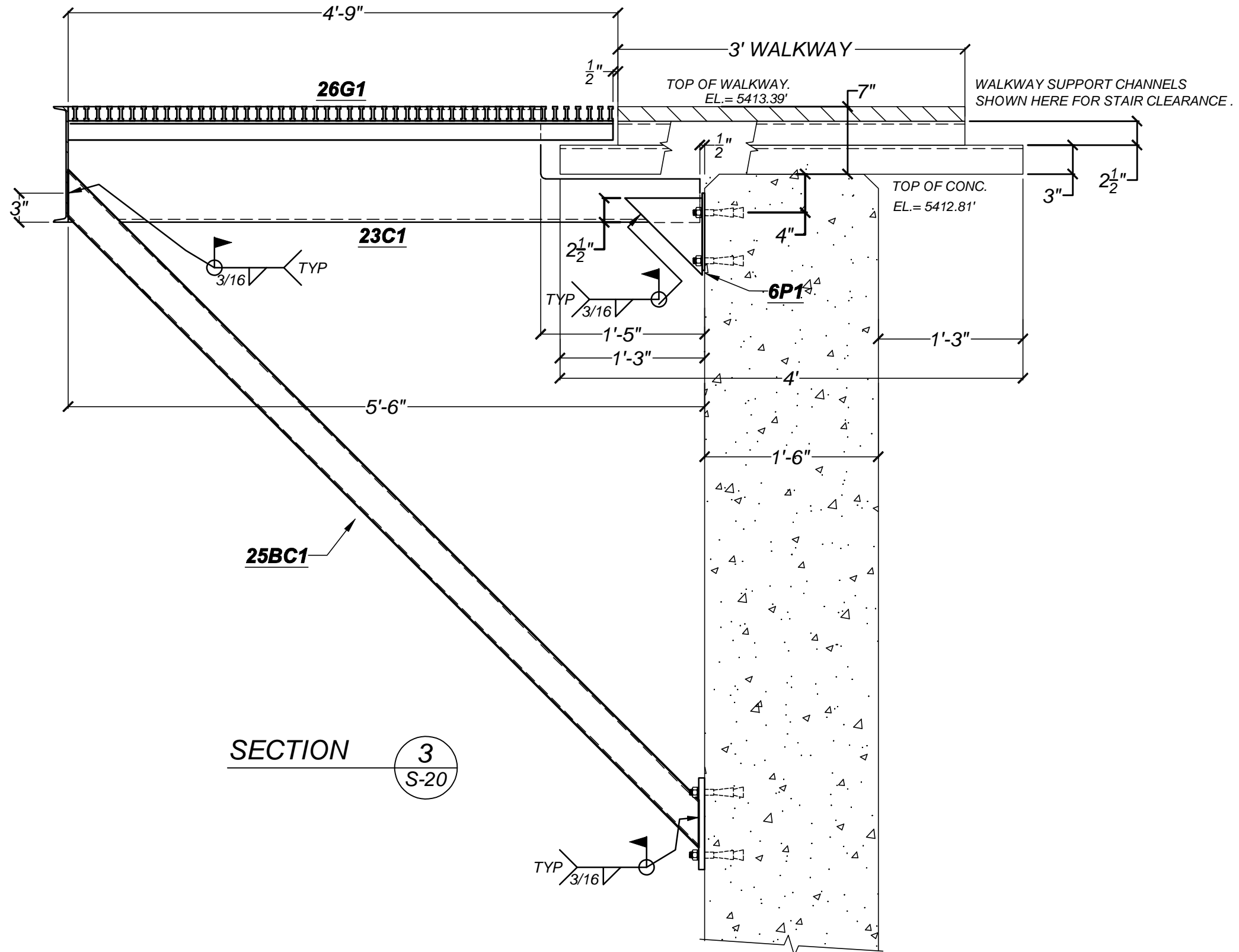
Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 2/AB-8	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
Sheet	S-18		



EL. SECTION VIEW
SECTION 2
S-19

NOTE TO GENERAL CONTRACTOR:
ENGINEER HAS STATED: THE GC WILL NEED TO PLACE CONCRETE FOR CORRECT RISE & CODE COMPLIANCE AT THE BOTTOM OF THE STAIR. ~~FIELD VERIFICATION OF ELEVATIONS WILL BE REQUIRED PRIOR TO FAB.~~
NOTE: THESE ELEVATIONS ARE PER CONSTRUCTION DRAWINGS AND ARE SHOWN HERE FOR REFERENCE.

PROGRESS PRINT Not Valid for Construction Until Stamped	 (719) 783-2867	Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
		Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
		Detail	DETAILS --- STAIRS PER 2/AB-8	Rev:	2
		Ref Dwg	NOTED	Scale	NONE
		Sheet	S-19	Date:	3/21/2012

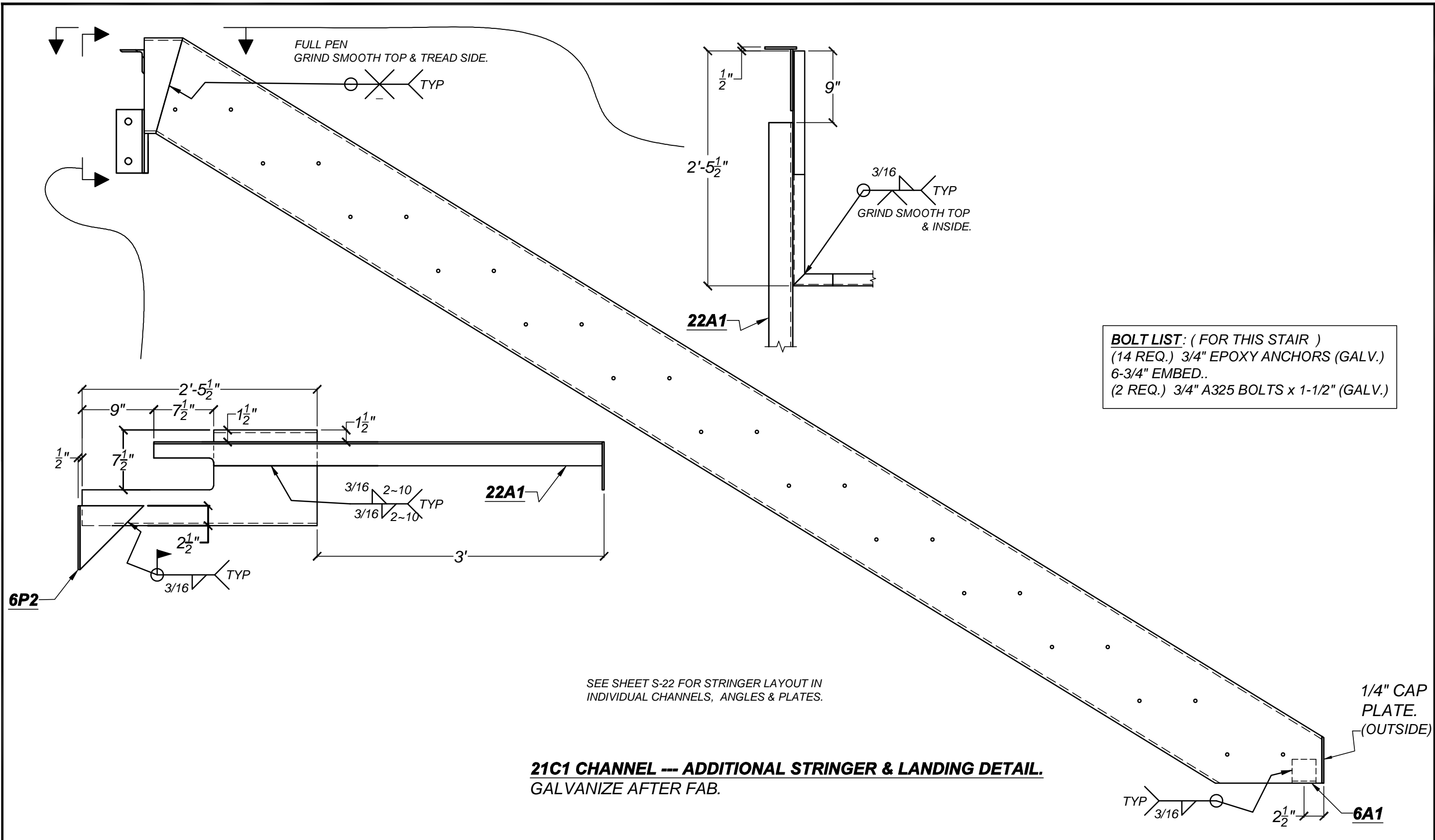


SECTION 3
S-20

PROGRESS PRINT
Not Valid for Construction Until
Stamped



Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 2/AB-8	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
			Sheet S-20



BOLT LIST: (FOR THIS STAIR)
 (14 REQ.) 3/4" EPOXY ANCHORS (GALV.)
 6-3/4" EMBED..
 (2 REQ.) 3/4" A325 BOLTS x 1-1/2" (GALV.)

SEE SHEET S-22 FOR STRINGER LAYOUT IN
 INDIVIDUAL CHANNELS, ANGLES & PLATES.

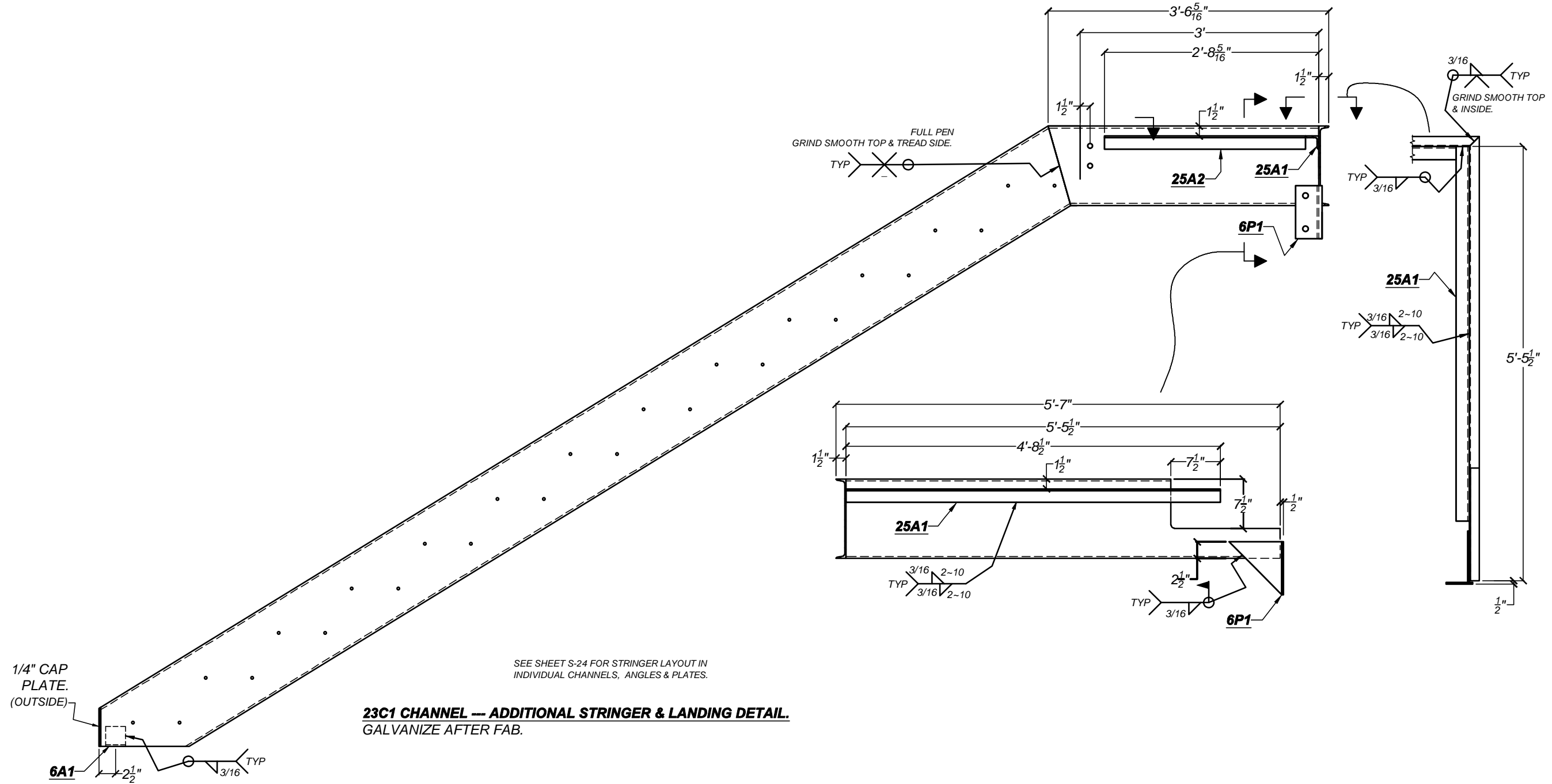
21C1 CHANNEL --- ADDITIONAL STRINGER & LANDING DETAIL.
 GALVANIZE AFTER FAB.

PROGRESS PRINT
 Not Valid for Construction Until
 Stamped



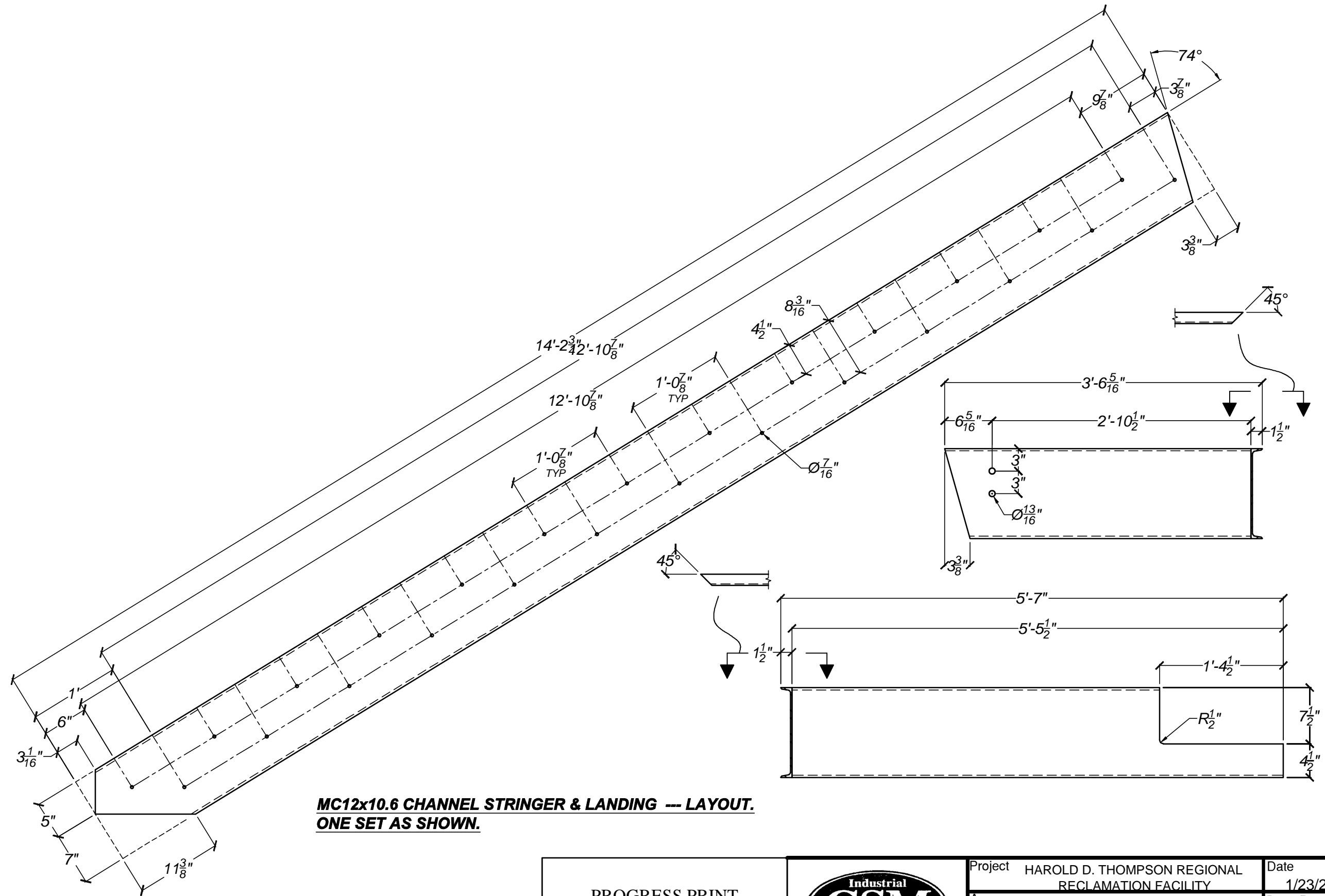
(719) 783-2867

Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 2/AB-8	Rev:	2
Ref Dwg	NOTED	Scale	NONE
Sheet	S-21		



23C1 CHANNEL — ADDITIONAL STRINGER & LANDING DETAIL.
 GALVANIZE AFTER FAB.

PROGRESS PRINT Not Valid for Construction Until Stamped	 (719) 783-2867	Project HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date 1/23/2012
		Area LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By DWN
		Detail DETAILS --- STAIRS PER 2/AB-8	Rev: 2 Date: 3/21/2012
		Ref Dwg NOTED Scale NONE	Sheet S-23



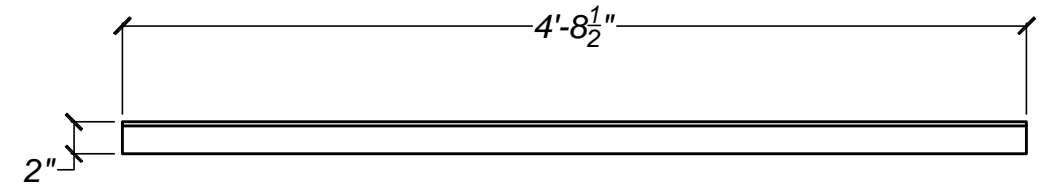
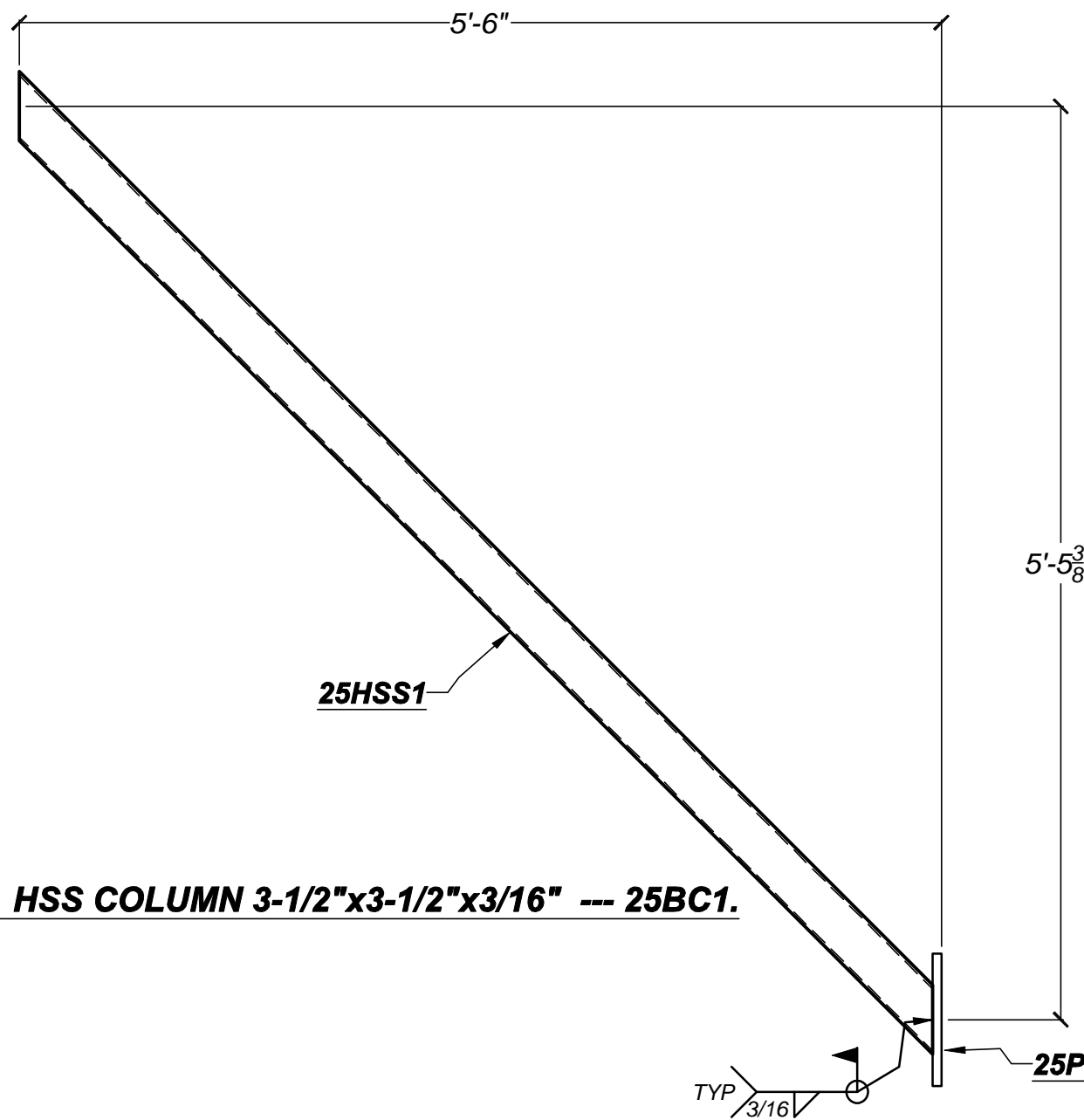
**MC12x10.6 CHANNEL STRINGER & LANDING --- LAYOUT.
ONE SET AS SHOWN.**

PROGRESS PRINT
Not Valid for Construction Until
Stamped

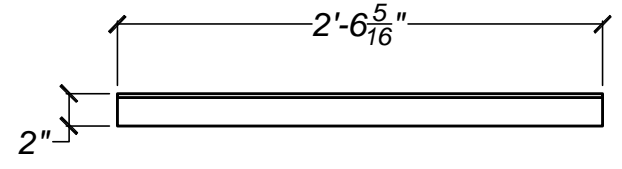


(719) 783-2867

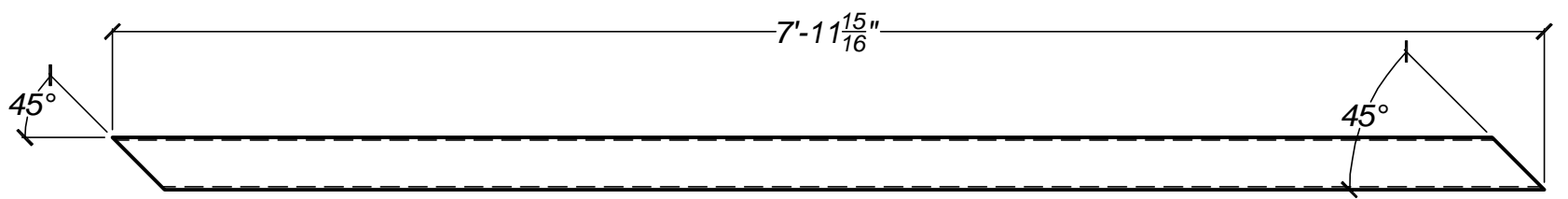
Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 2/AB-8	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
			Sheet S-24



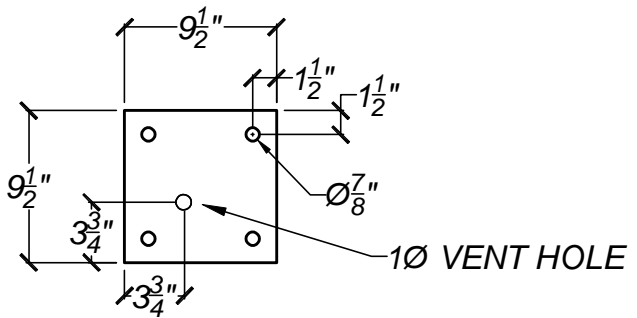
(1 REQ.) --- 2"x2"x1/4" LEDGER ANGLE --- 25A1.



(1 REQ.) --- 2"x2"x1/4" LEDGER ANGLE --- 25A2.



(2 REQ.) HSS COLUMN 3-1/2"x3-1/2"x3/16" --- 25HSS1.

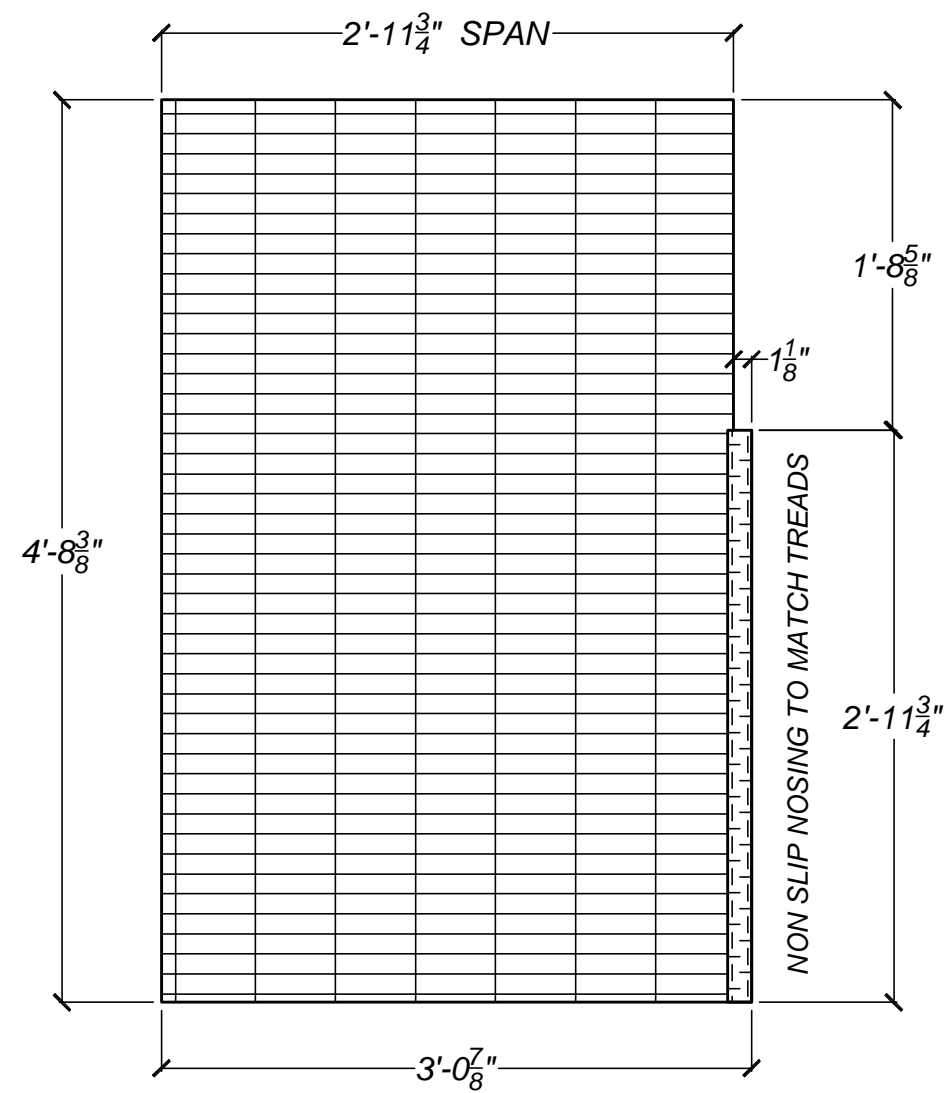


(2 REQ.) --- 5/8" BASE PLATES --- 25P1.

PROGRESS PRINT
Not Valid for Construction Until
Stamped



Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012	
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN	
Detail	DETAILS --- STAIRS PER 2/AB-8	Rev: 2	Date: 3/21/2012	
Ref Dwg	NOTED	Scale	NONE	
			Sheet	S-25



SHOP & FIELD NOTE: ENG. INSTRUCTION
 FIELD WILL NEED TO VERIFY GRATING
 DIMENSIONS TO MATCH ACTUAL FIELD
 INSTALLATION OF LANDING & STAIR,
 PRIOR TO FABRICATING GRATING.

**(1 REQ.) 1-1/2" ALUMINUM I-BAR GRATING
 WITH NON SLIP SURFACE --- 26G1.**

6063-T6 ALUMINUM.

SHOP NOTE:
 THIS GRATING IS TO BE FABRICATED TO ONE LARGE
 PANEL. TRIM GRATING WHEN PANELS ARE CUT TO
 SIZE SO THE PANEL CAN BE WELDED TO MAKE ONE
 LARGE GRATING PANEL. BAND GRATING.
 ATTACH GRATING TO LANDING WITH M-CLIPS & SS304
 SCREWS & PER MANUFACTURERS RECOMONDATIONS.
 PROTECT ALUMINUM PER SPECS FOR ALUMINUM IN
 CONTACT WITH STEEL.

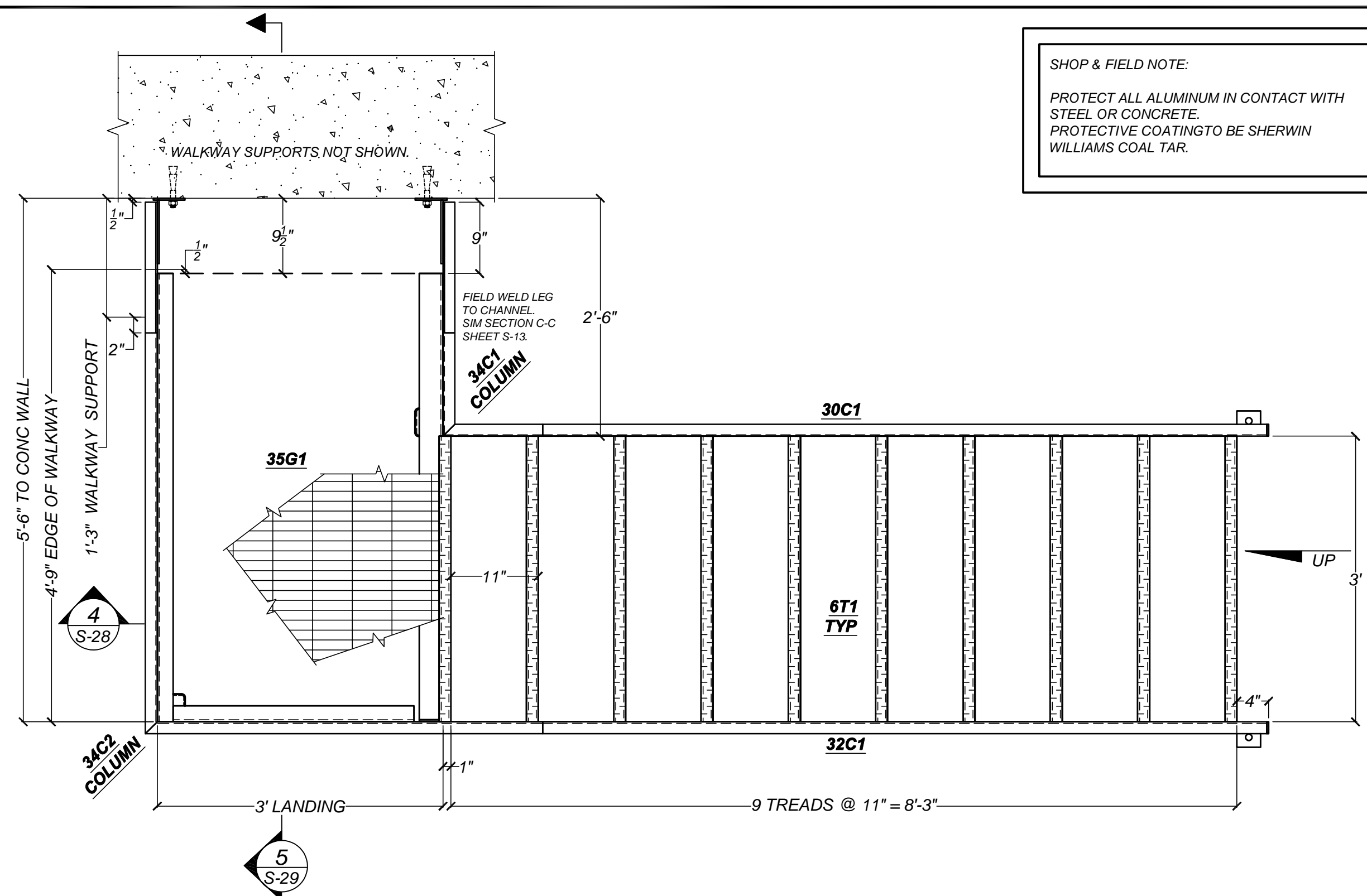
PROGRESS PRINT
 Not Valid for Construction Until
 Stamped



(719) 783-2867

Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 2/AB-8	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
			Sheet S-26

SHOP & FIELD NOTE:
 PROTECT ALL ALUMINUM IN CONTACT WITH
 STEEL OR CONCRETE.
 PROTECTIVE COATING TO BE SHERWIN
 WILLIAMS COAL TAR.



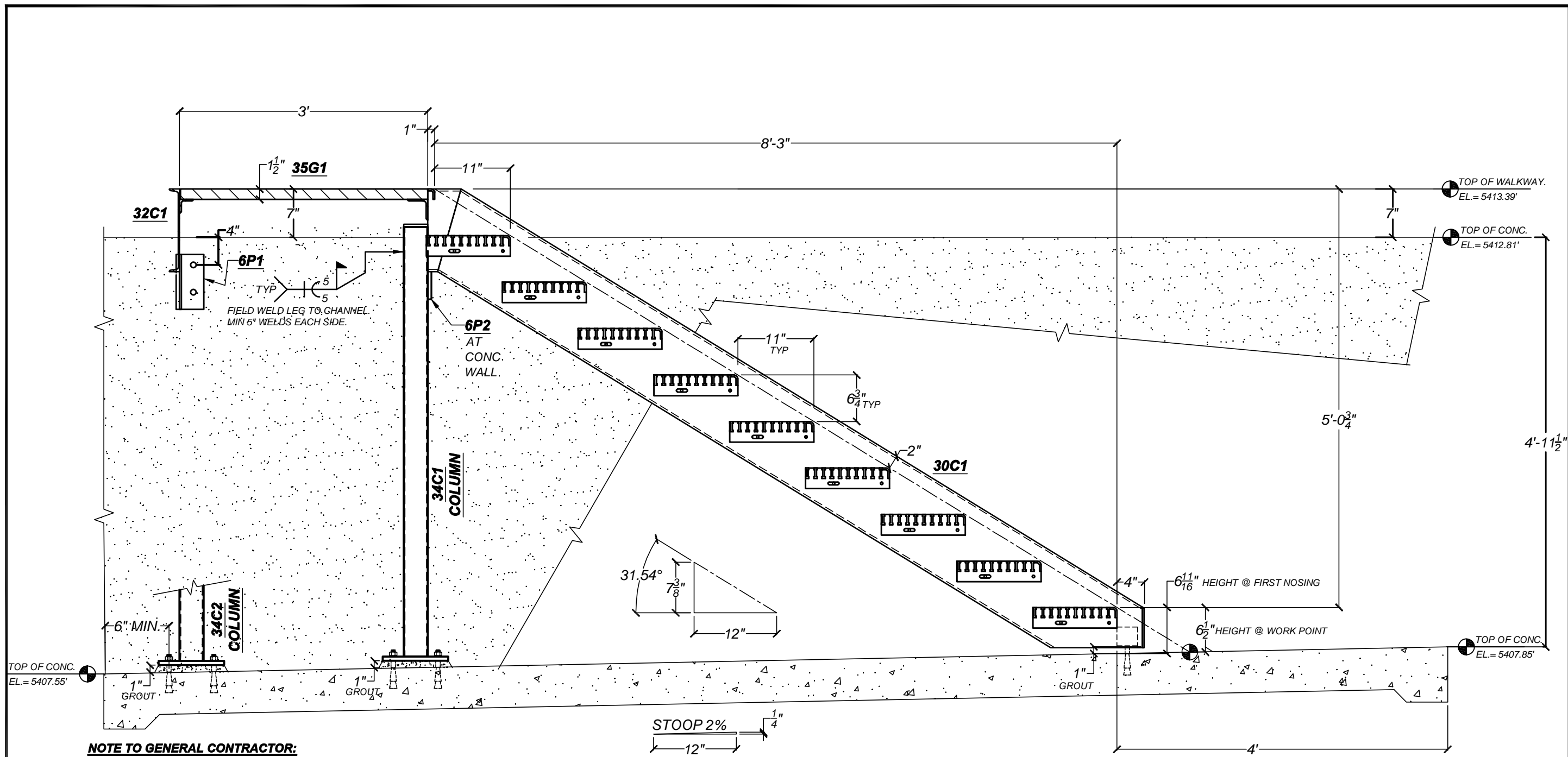
ONE. --- STAIR (GALV.) --- 27S1

GALVANIZED STRINGERS & LANDING.
 1-1/2" ALUMINUM SERRATED or STRIATED I-BAR
 TREADS.
 1/AB-9 STAIR. AERATION BASIN NO 3 STAIR AT THE
 NORTH/EAST CORNER.

PROGRESS PRINT
 Not Valid for Construction Until
 Stamped



Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 1/AB-9	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
Sheet	S-27		



NOTE TO GENERAL CONTRACTOR:
 ENGINEER HAS STATED: THE CONCRETE
 PAD MAY BE SHORTENED TO EXTEND MIN.
 OF 6" PAST THE LAST COLUMN ANCHOR.

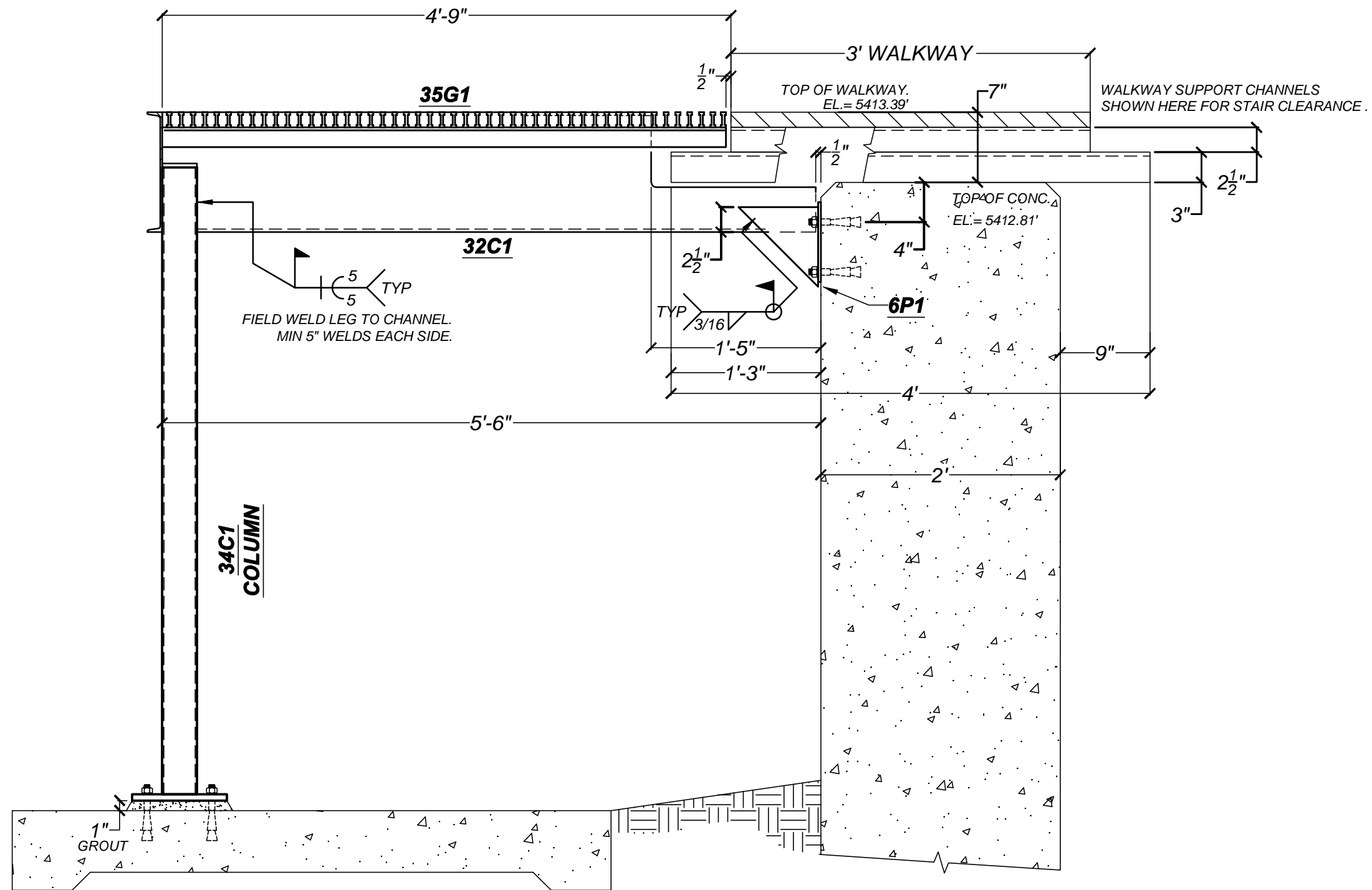
EL. SECTION VIEW
SECTION 4
 S-28

PROGRESS PRINT
 Not Valid for Construction Until
 Stamped



(719) 783-2867

Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 1/AB-9	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
Sheet	S-28		



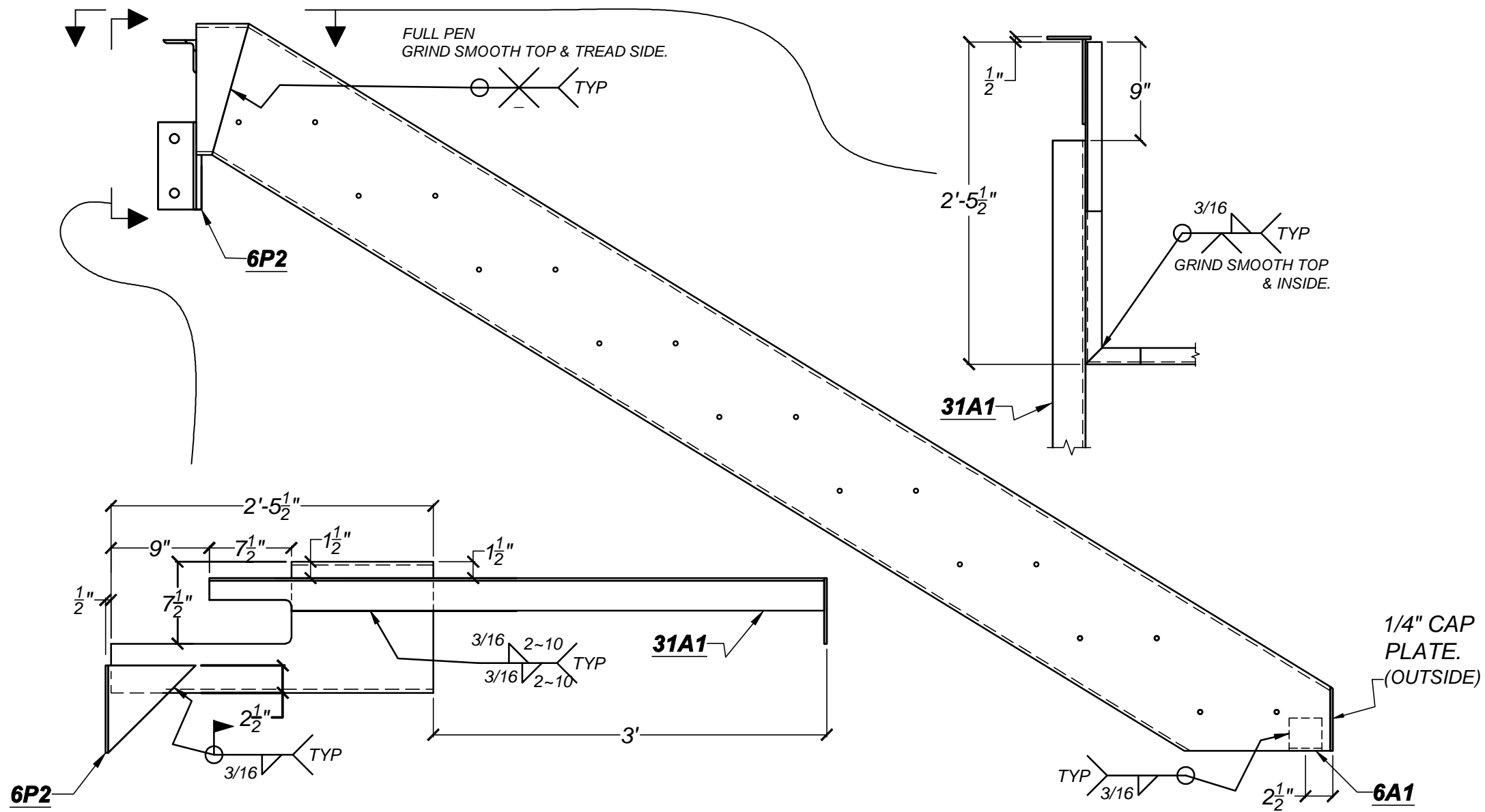
SECTION 5
S-29

PROGRESS PRINT
Not Valid for Construction Until
Stamped



(719) 783-2867

Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 1/AB-9	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
		Sheet	S-29



BOLT LIST: (FOR THIS STAIR)
 (14 REQ.) 3/4" EPOXY ANCHORS (GALV.)
 6-3/4" EMBED..
 (2 REQ.) 3/4" A325 BOLTS x 1-1/2" (GALV.)

SEE SHEET S-31 FOR STRINGER LAYOUT IN
 INDIVIDUAL CHANNELS, ANGLES & PLATES.

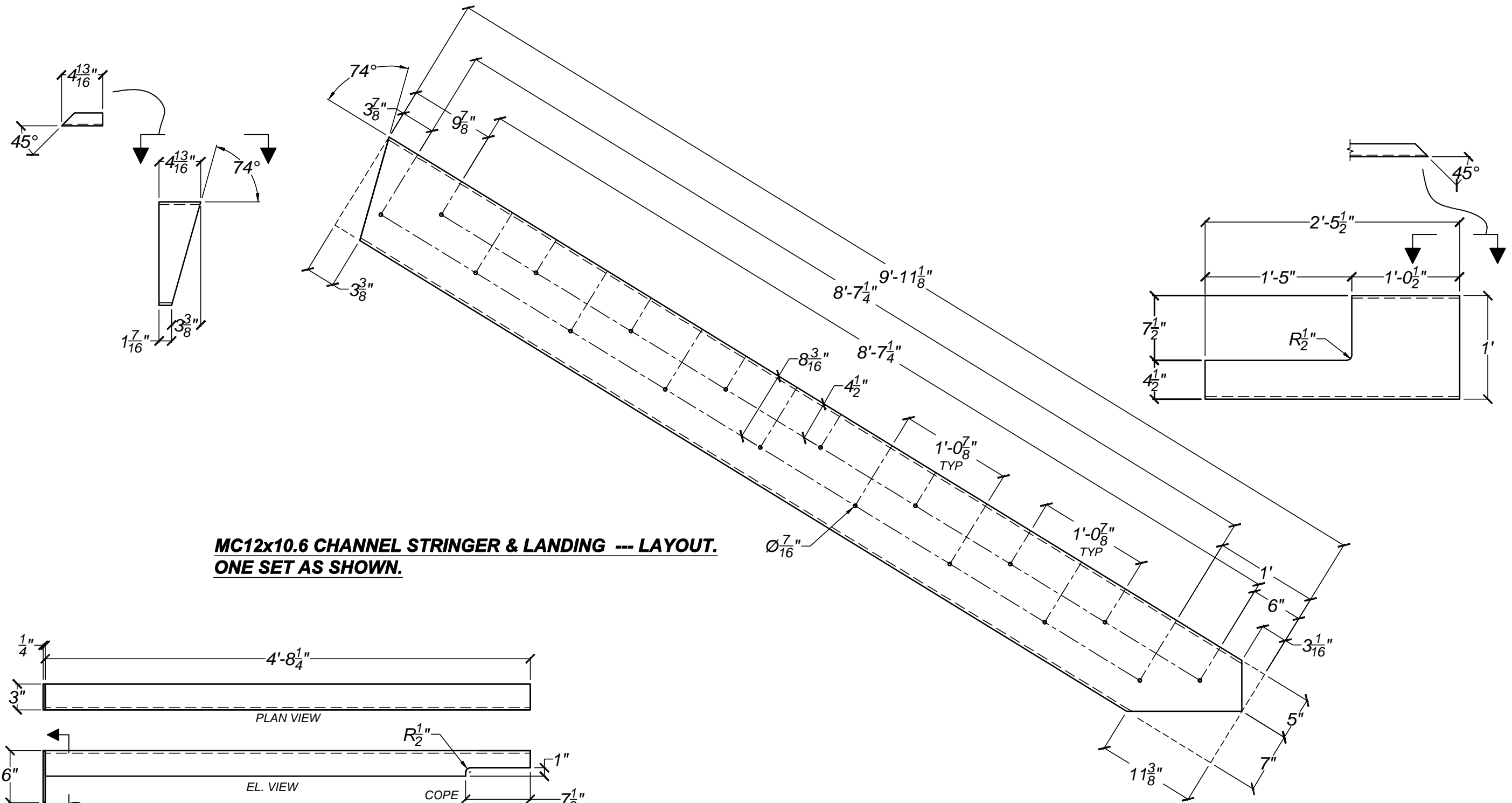
30C1 CHANNEL --- ADDITIONAL STRINGER & LANDING DETAIL.
 GALVANIZE AFTER FAB.

PROGRESS PRINT
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 Stamped

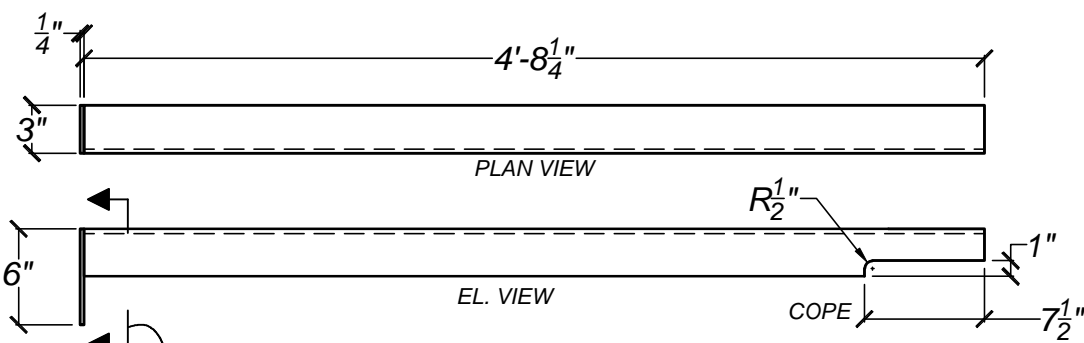


(719) 783-2867

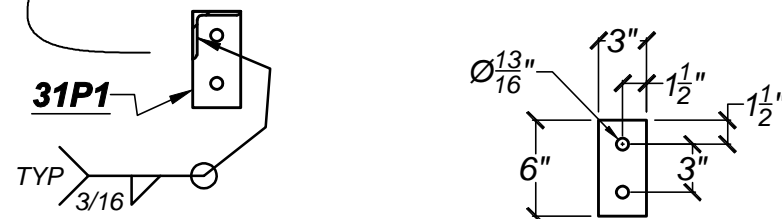
Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 1/AB-9	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
Sheet	S-30		



**MC12x10.6 CHANNEL STRINGER & LANDING --- LAYOUT.
ONE SET AS SHOWN.**



(1 REQ.) --- 3"x3"x1/4" LEDGER ANGLE --- 31A1.



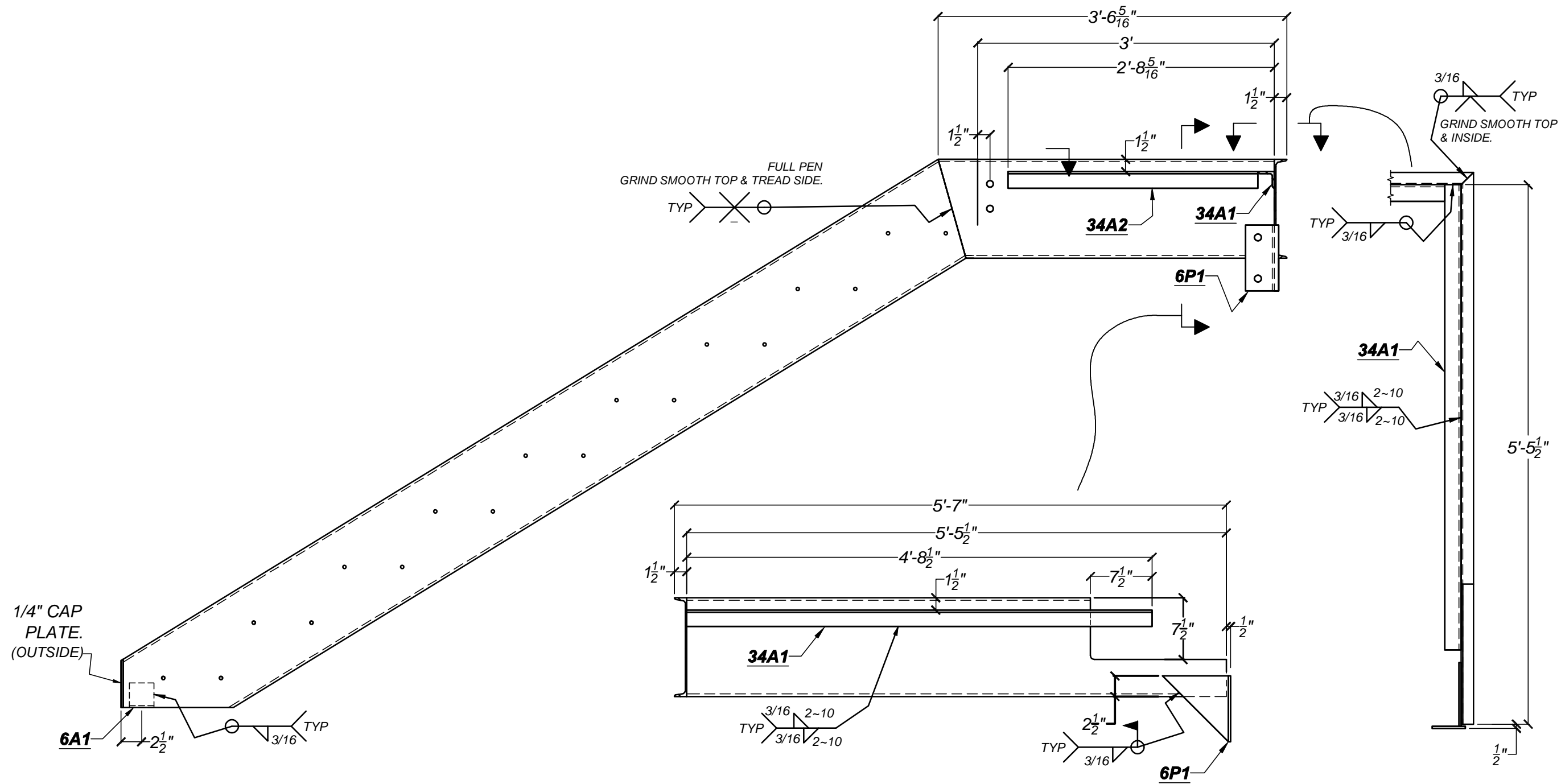
(1 REQ.) --- 1/4" PLATE --- 31P1.

PROGRESS PRINT
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(719) 783-2867

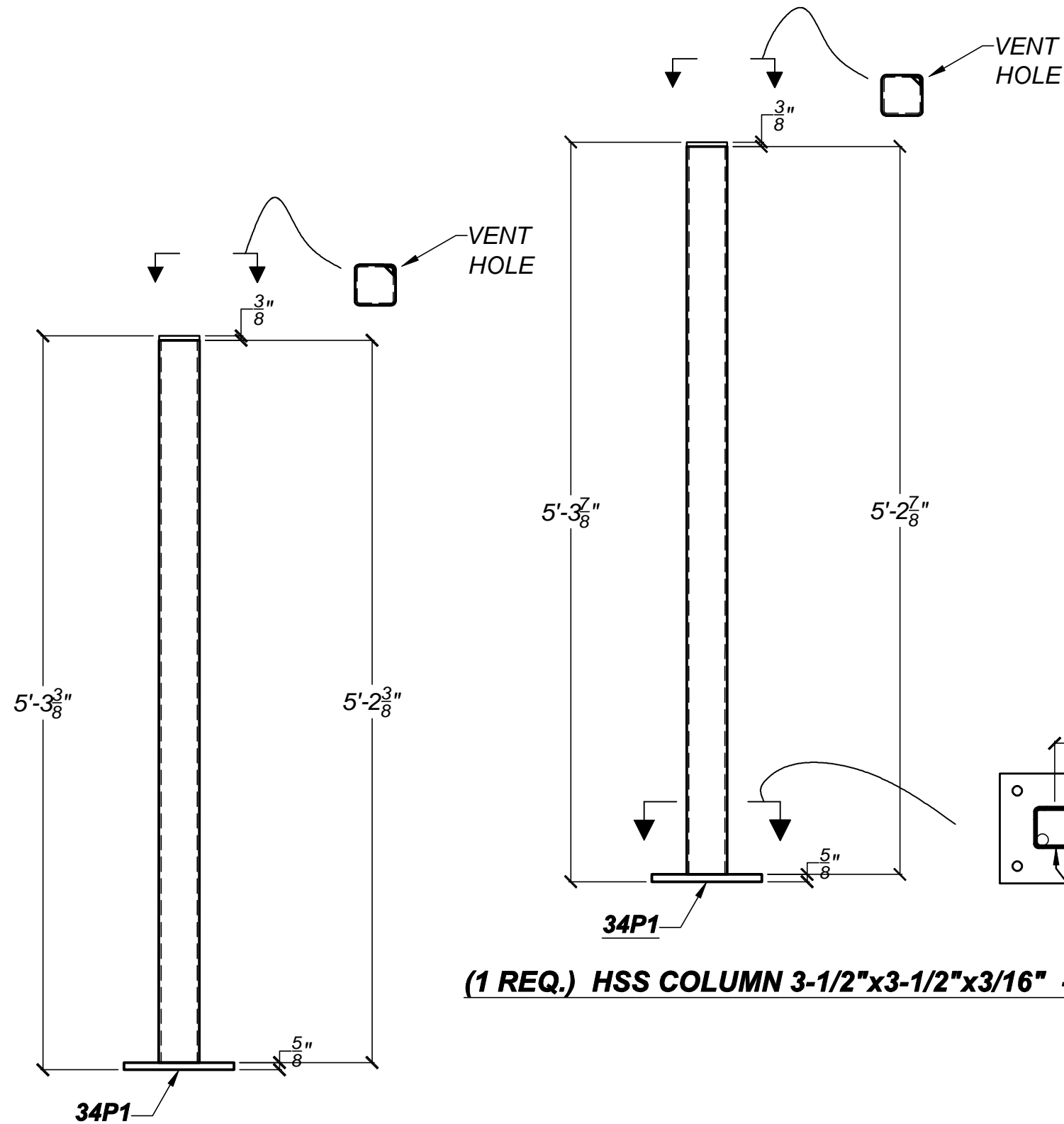
Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 1/AB-9	Rev:	2
Ref Dwg	NOTED	Scale	NONE
Sheet	S-31		
		Date:	3/21/2012



SEE SHEET S-33 FOR STRINGER LAYOUT IN INDIVIDUAL CHANNELS, ANGLES & PLATES.

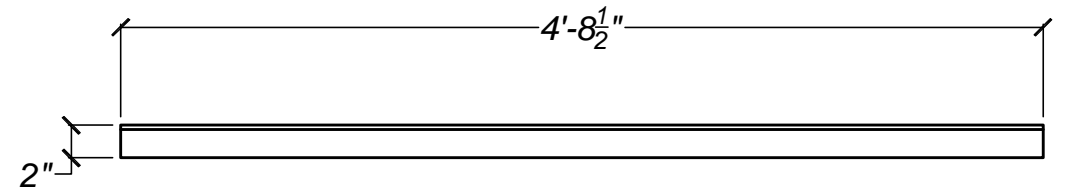
32C1 CHANNEL --- ADDITIONAL STRINGER & LANDING DETAIL.
 GALVANIZE AFTER FAB.

PROGRESS PRINT Not Valid for Construction Until Stamped	 (719) 783-2867	Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
		Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
		Detail	DETAILS --- STAIRS PER 1/AB-9	Rev: 2	Date: 3/21/2012
		Ref Dwg	NOTED	Scale	NONE
		Sheet	S-32		

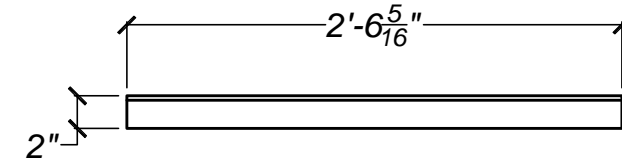


(1 REQ.) HSS COLUMN 3-1/2"x3-1/2"x3/16" --- 34C1.

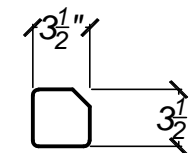
(1 REQ.) HSS COLUMN 3-1/2"x3-1/2"x3/16" --- 34C2.



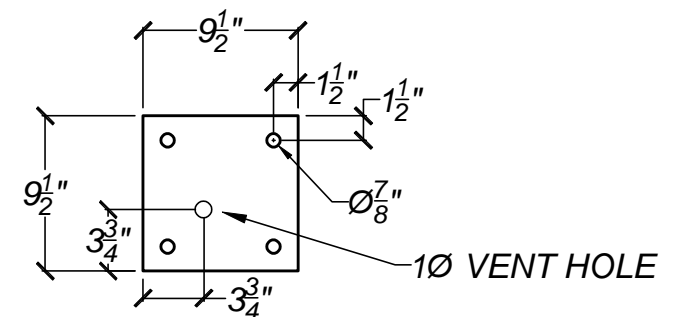
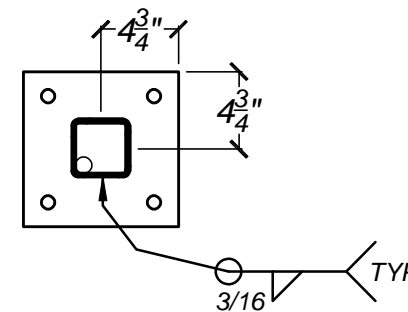
(1 REQ.) --- 2"x2"x1/4" LEDGER ANGLE --- 34A1.



(1 REQ.) --- 2"x2"x1/4" LEDGER ANGLE --- 34A2.



(2 REQ.) --- 3/8" CAP PLATES --- 34P2.



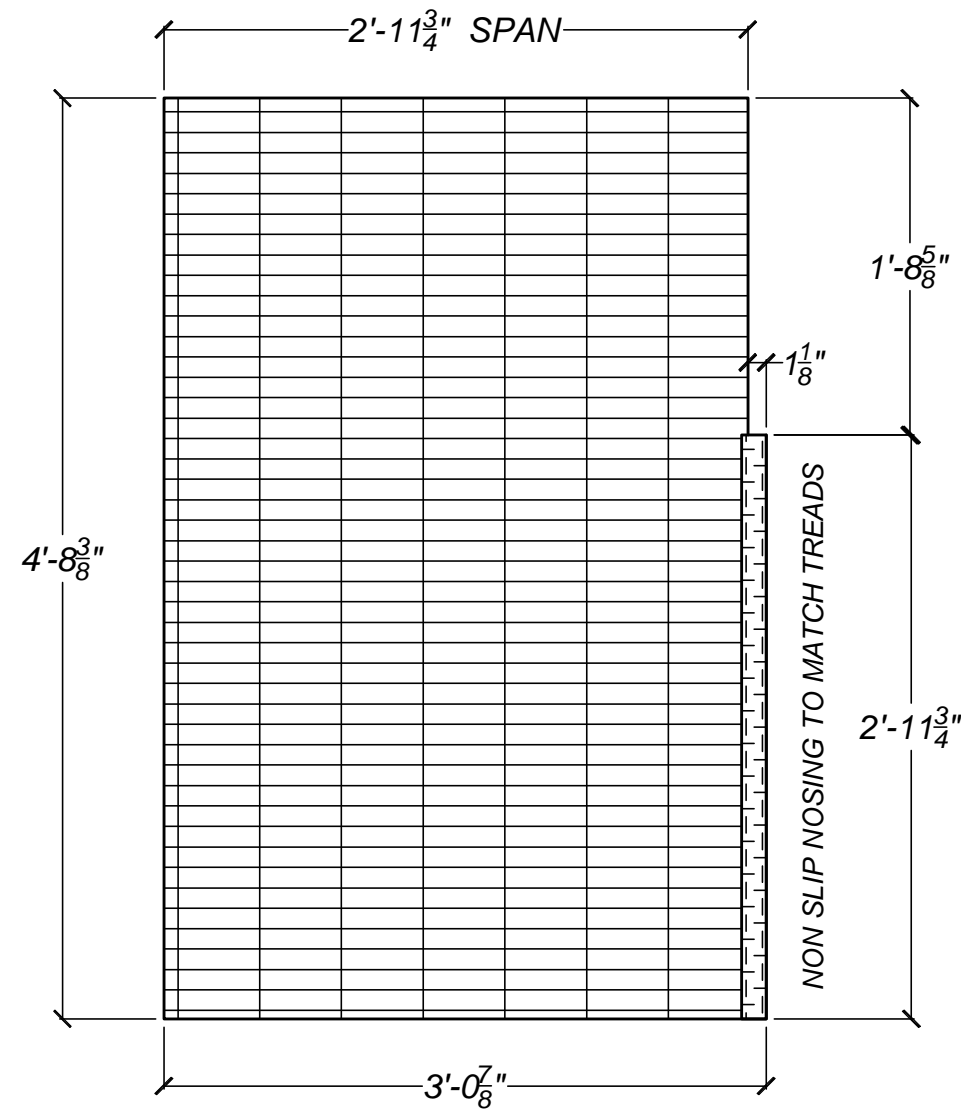
(2 REQ.) --- 5/8" BASE PLATES --- 34P1.

PROGRESS PRINT
Not Valid for Construction Until
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(719) 783-2867

Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012	
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN	
Detail	DETAILS --- STAIRS PER 1/AB-9	Rev: 2	Date: 3/21/2012	
Ref Dwg	NOTED	Scale	NONE	
			Sheet	S-34



SHOP & FIELD NOTE: ENG. INSTRUCTION FIELD WILL NEED TO VERIFY GRATING DIMENSIONS TO MATCH ACTUAL FIELD INSTALLATION OF LANDING & STAIR, PRIOR TO FABRICATING GRATING.

(1 REQ.) 1-1/2" ALUMINUM I-BAR GRATING WITH NON SLIP SURFACE --- 35G1.

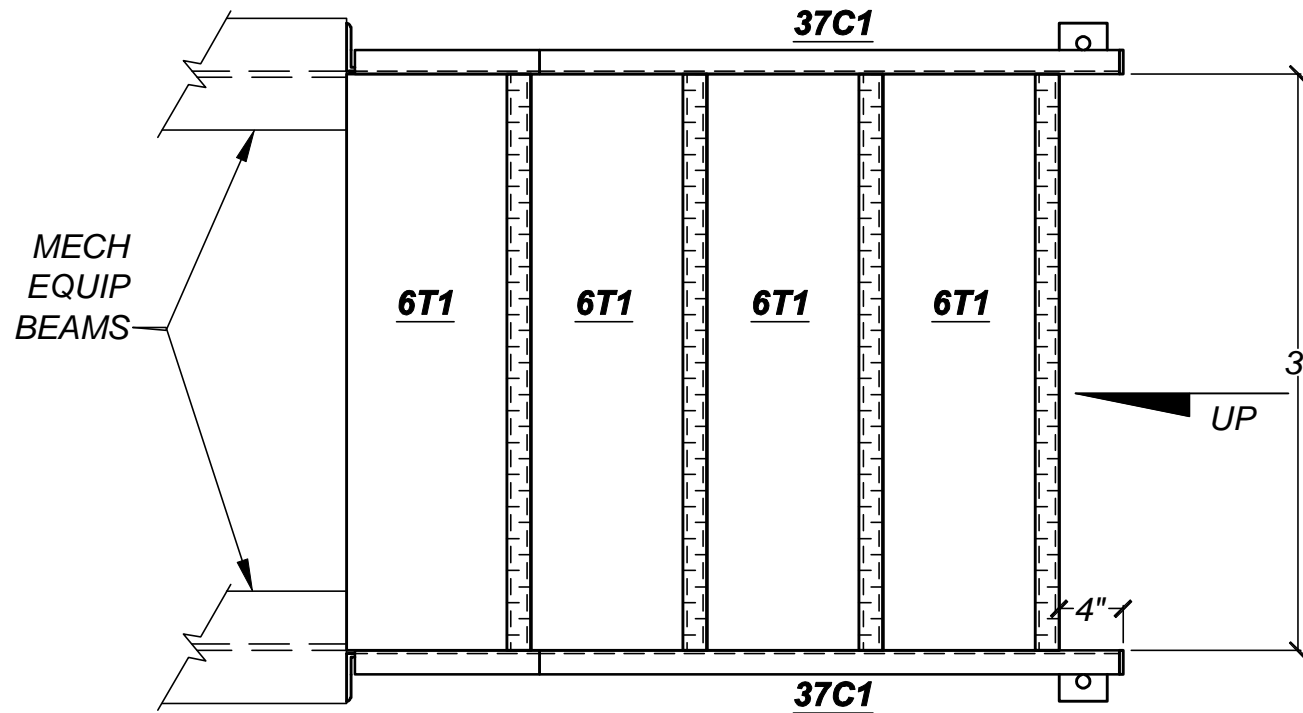
6063-T6 ALUMINUM.

SHOP NOTE:
 THIS GRATING IS TO BE FABRICATED TO ONE LARGE PANEL. TRIM GRATING WHEN PANELS ARE CUT TO SIZE SO THE PANEL CAN BE WELDED TO MAKE ONE LARGE GRATING PANEL. BAND GRATING.
 ATTACH GRATING TO LANDING WITH M-CLIPS & SS304 SCREWS & PER MANUFACTURERS RECOMONDATIONS.
 PROTECT ALUMINUM PER SPECS FOR ALUMINUM IN CONTACT WITH STEEL.

PROGRESS PRINT
 Not Valid for Construction Until
 Stamped



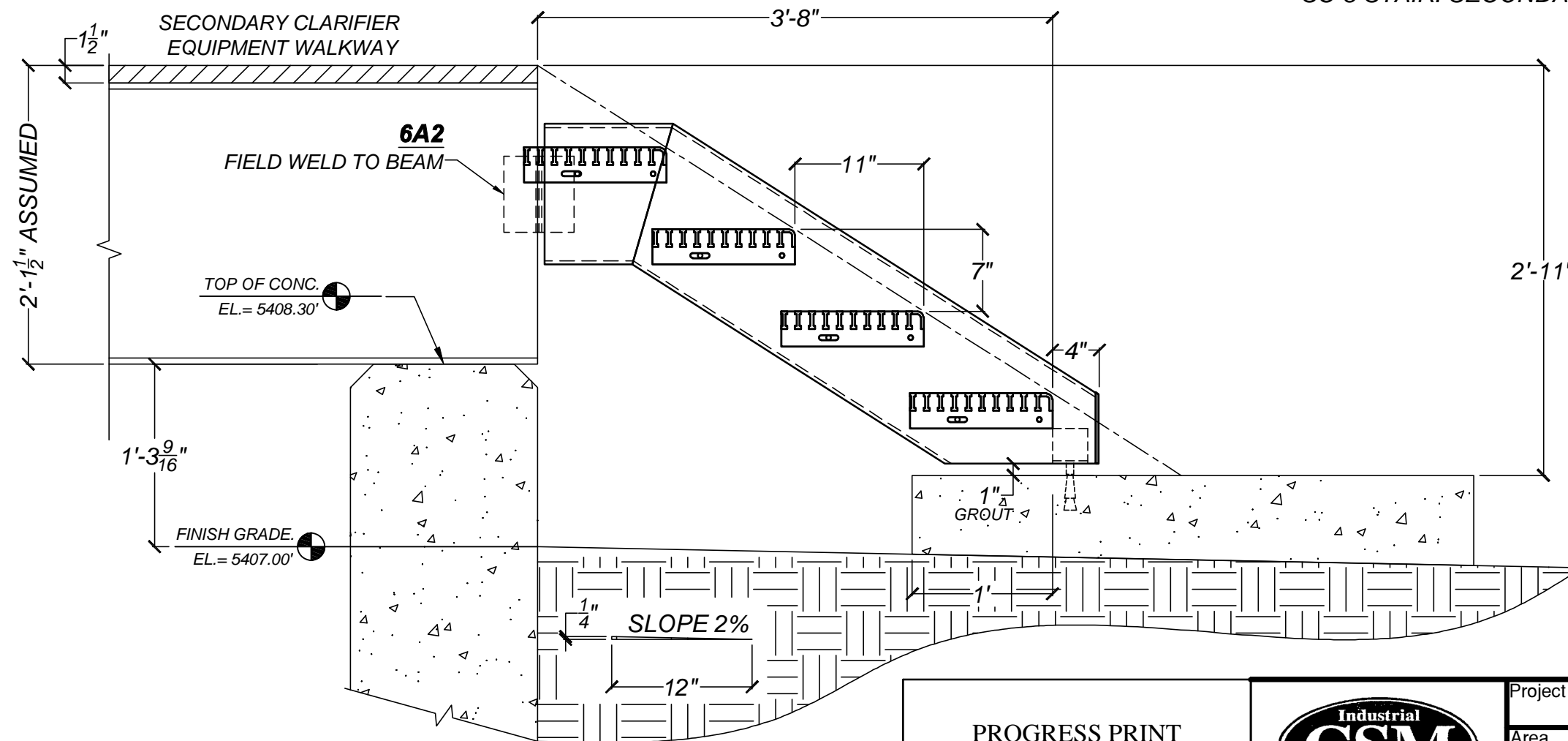
Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER 1/AB-9	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
Sheet			S-35



SHOP & FIELD NOTE:
 PROTECT ALL ALUMINUM IN CONTACT WITH
 STEEL OR CONCRETE.
 PROTECTIVE COATING TO BE SHERWIN
 WILLIAMS COAL TAR.

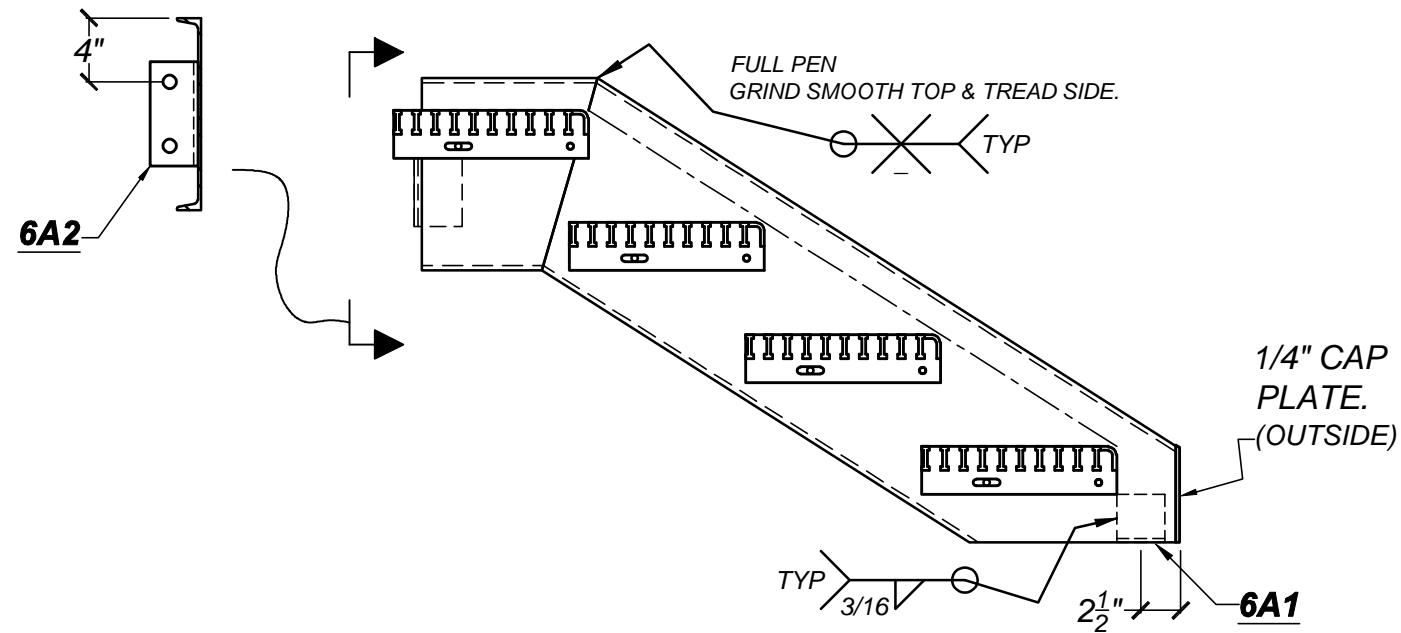
TWO. --- STAIRS (GALV.) --- 36S1

GALVANIZED STRINGERS.
 1-1/2" ALUMINUM SERRATED or ~~STRIATED~~ I-BAR
 TREADS.
 SC-8 STAIR. SECONDARY CLARIFIER STAIRS.



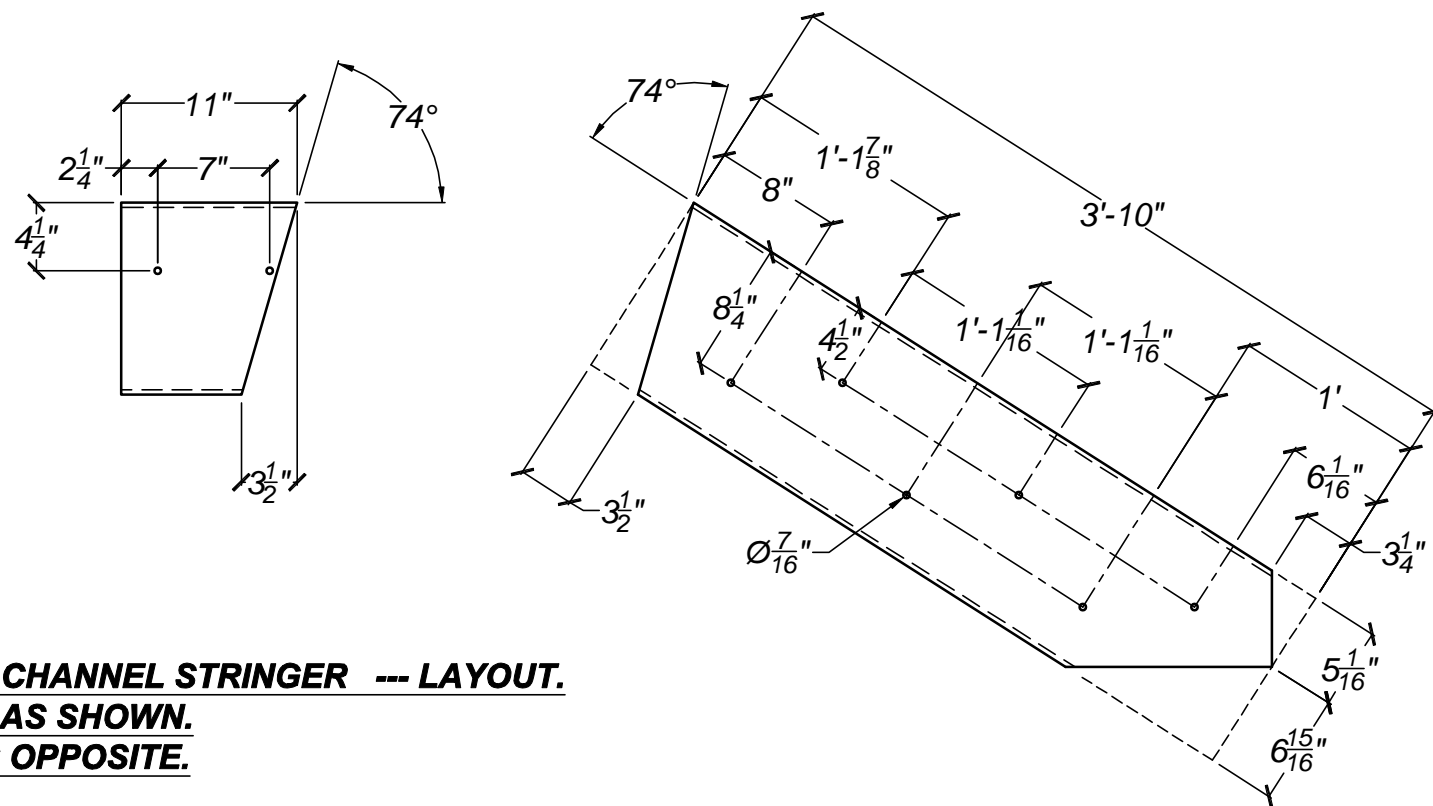
SHOP & FIELD NOTE:
 FIELD WILL NEED TO VERIFY ALL
 ELEVATIONS FOR CONCRETE. FIELD
 WILL ALSO NEED TO VERIFY THE STAIR
 CONNECTION INFORMATION SHOWN HERE
 TO CONNECT THE STAIR AT THE
 SECONDARY CLARIFIERS, PRIOR TO FAB.

PROGRESS PRINT Not Valid for Construction Until Stamped	 (719) 783-2867	Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
		Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
		Detail	DETAILS --- STAIRS PER SC-8	Rev: 2	Date: 3/21/2012
		Ref Dwg	NOTED	Scale	NONE



BOLT LIST: (FOR THIS STAIR)
 (4 REQ.) 3/4" EPOXY ANCHORS (GALV.)
 6-3/4" EMBED..
 (8 REQ.) 3/4" A325 BOLTS x 1-1/2" (GALV.)

37C1 CHANNEL --- ADDITIONAL STRINGER & LANDING DETAIL.
 GALVANIZE AFTER FAB.



MC12x10.6 CHANNEL STRINGER --- LAYOUT.
 TWO SETS AS SHOWN.
 TWO SETS OPPOSITE.

PROGRESS PRINT
 Not Valid for Construction Until
 Stamped



(719) 783-2867

Project	HAROLD D. THOMPSON REGIONAL RECLAMATION FACILITY	Date	1/23/2012
Area	LOWER FOUNTAIN METROPOLITAN SEWEGE DISPOSAL DISTRICT	Drwn By	DWN
Detail	DETAILS --- STAIRS PER SC-8	Rev: 2	Date: 3/21/2012
Ref Dwg	NOTED	Scale	NONE
			Sheet S-37