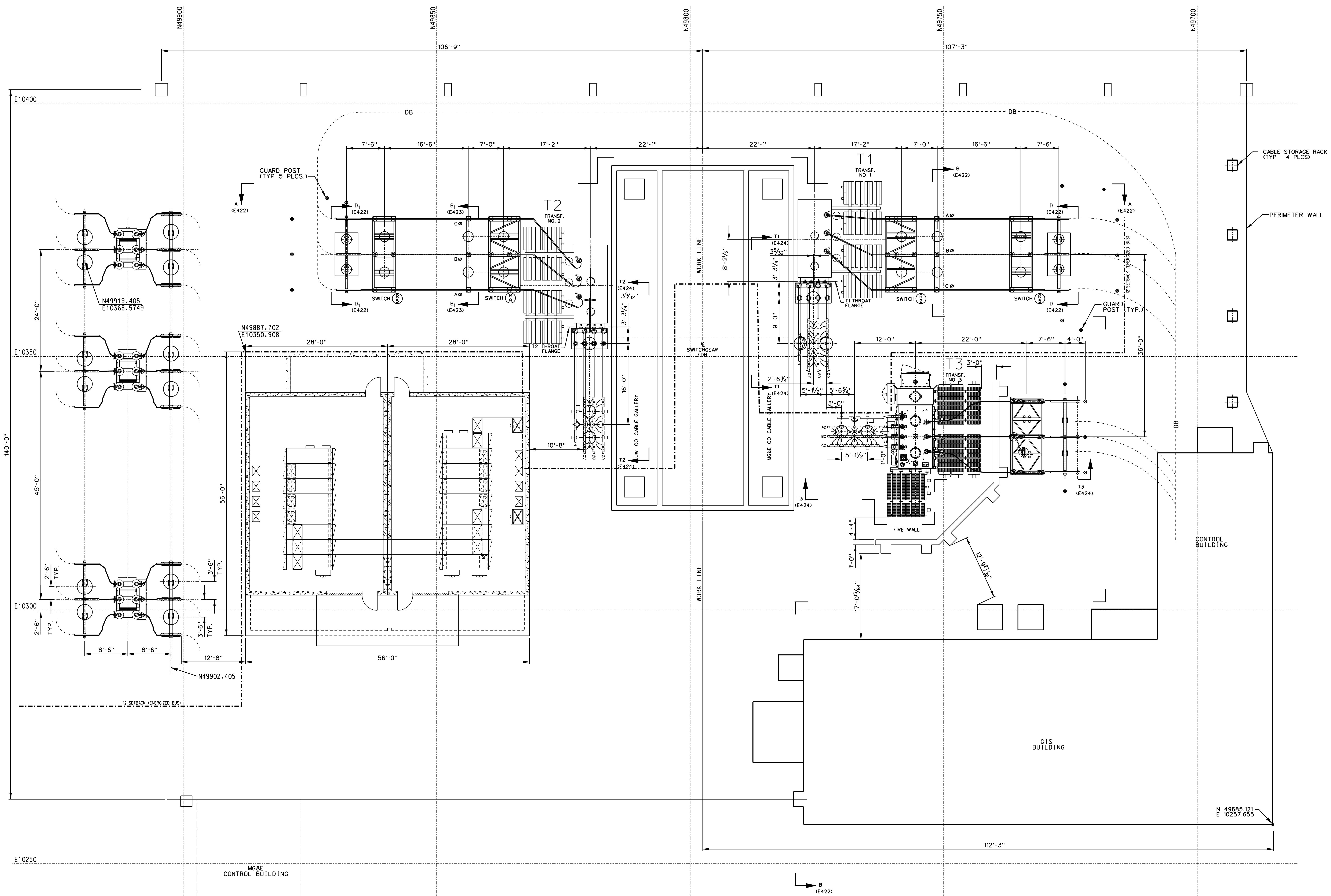


	MADISON GAS & ELECTRIC CO.
	MADISON GAS & ELECTRIC MADISON - WISCONSIN
WALNUT SUBSTATION	
DWN: JRE	DATE: 2-10-11



**CAUTION**

THE SOLID, GRAY OUTSIDE PAINTED GREEN PANELS ON THE OUTSIDE OF THE SUBSTATION ENCLOSURE ARE MADE OF ASBESTOS.

ANY MAJOR WORK OR MAINTENANCE ON THE ENCLOSURE IS THE RESPONSIBILITY OF THE UNIVERSITY OF WISCONSIN. REFER ANY REQUIREMENTS TO SUBSTATION ENGINEERING, WHO WILL CONTACT THE UW.

- IF MODIFICATIONS OR REPAIRS ARE REQUIRED FOR M.G.&E. PURPOSES:
- CONTACT SAFETY DEPARTMENT BEFORE DOING ANY WORK
  - WEAR PROTECTIVE EQUIPMENT
  - DISPOSE OF ALL WASTE IN APPROVED MANNER

- NOTES:**
1. SEE DRAWING 03-WLG-E420 FOR ELECTRICAL PLAN TO THE WEST CAMPUS COGENERATION FACILITY (WCCF).
  2. (C) SYMBOL INDICATES ITEM LISTED ON "BILL OF MATERIAL"

- LEGEND:**
- DB--- NEW UG 69KV CKT DUCT BANK
  - CL OF EXISTING PERIMETER WALL

REVISIONS	
6	PROJ M2-84A ADDED CAPACITOR BANK. DWN: ACH 5-29-84 CHKD: EGS 10-16-84 APPD: VCK 11-30-84
7	CHANGED DWG NUMBER FROM M2-F-72A-E40. DWN: LKH DATE: 4-22-86 APPD:
8	FILMED: 5-30-86
9	DRAWING SCANNED INTO INTERGRAPH AND REDUCED TO 30" X 42" MISCELLANEOUS CHANGES. DWN: RT-PLM 1-30-98 CKD: RT-RCS 2-2-98 APPD: MGE-JLG 3-23-98
10	FILMED:
11	OWNER REVIEW ISSUE DWN: BDP CKD: APPD:
12	FILMED:
13	AS BUILT PER ATC W.O. 62685 12/23/03 DWN: TGM CHKD: JDC APPD: ACM
14	ISSUED FOR CONSTRUCTION 03/18/04 DWN: TGM CHKD: JDC APPD: ACM
15	FILMED:
16	AS BUILT PER ATC W.O. 62685 12/23/03 DWN: TGM CHKD: JDC APPD: ACM
17	FILMED:
18	ADDED T3 AND 15KV SWGR. BLDG. DATE: 12-17-10 DWN: JC/LDP CHKD: KAW/LDP APPD: KA/MG&E
19	FILMED:
20	T3 RISER STRUCT. REVISED DATE: 01-07-11 DWN: JC/LDP CHKD: KAW/LDP APPD: KA/MG&E
21	FILMED:
22	ISSUED FOR BID DATE: 01-25-11 DWN: JC 01-25-11 CHKD: KAW 01-25-11 APPD:
23	FILMED:

74-WLT-E401

ORIGINAL DRAWING SEALED BY  
PAUL A. YOUNG, PE  
WISCONSIN 31410-006

PLOT DATE: DRAWN ON MICROSTATION  
PLOT TIME: VERSION 8  
FILE NAME:

**WALNUT SUBSTATION**

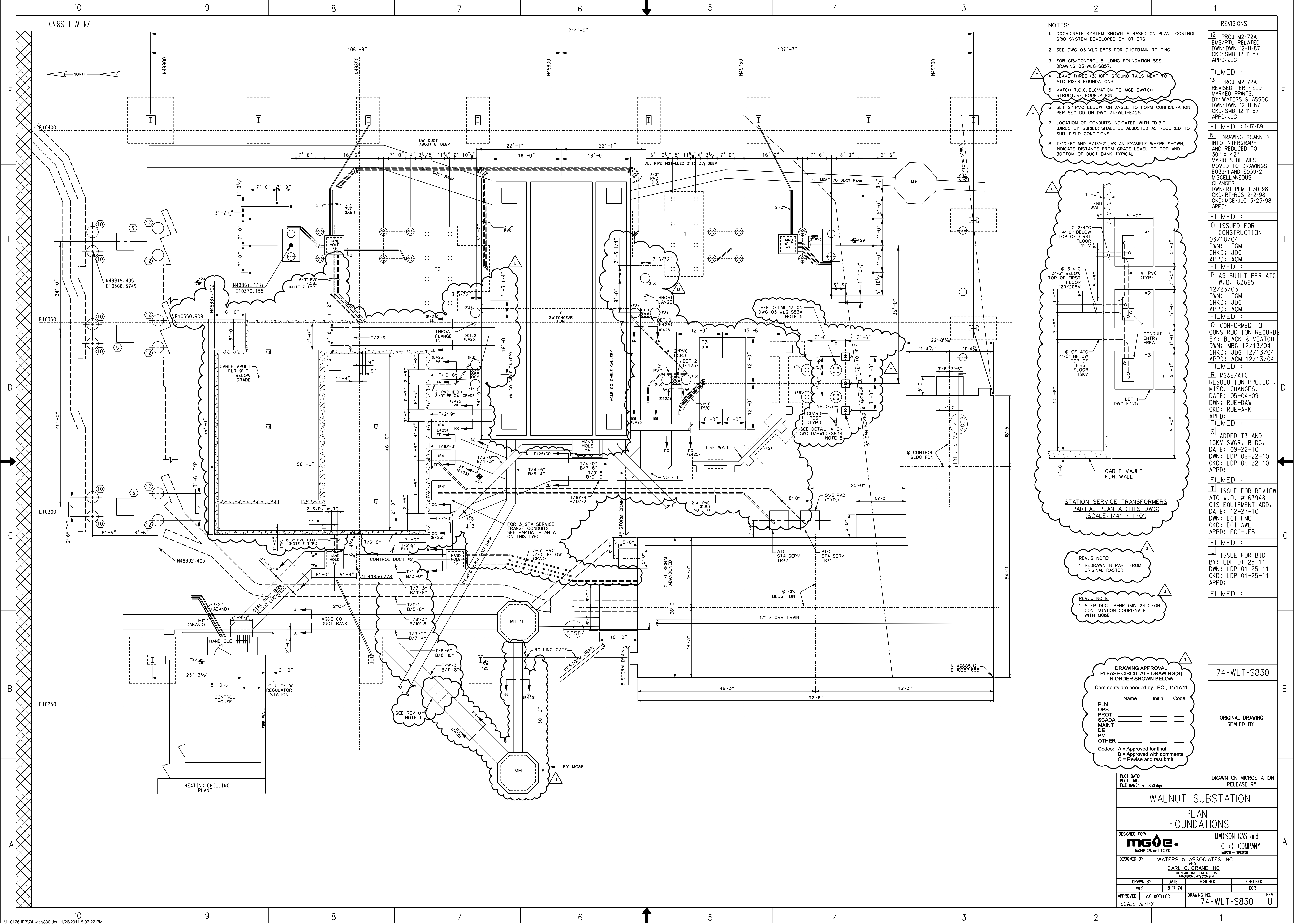
**PLAN ELECTRICAL GENERAL ARRANGEMENT**

DESIGNED FOR: **M.G.&E.** MADISON GAS and ELECTRIC COMPANY

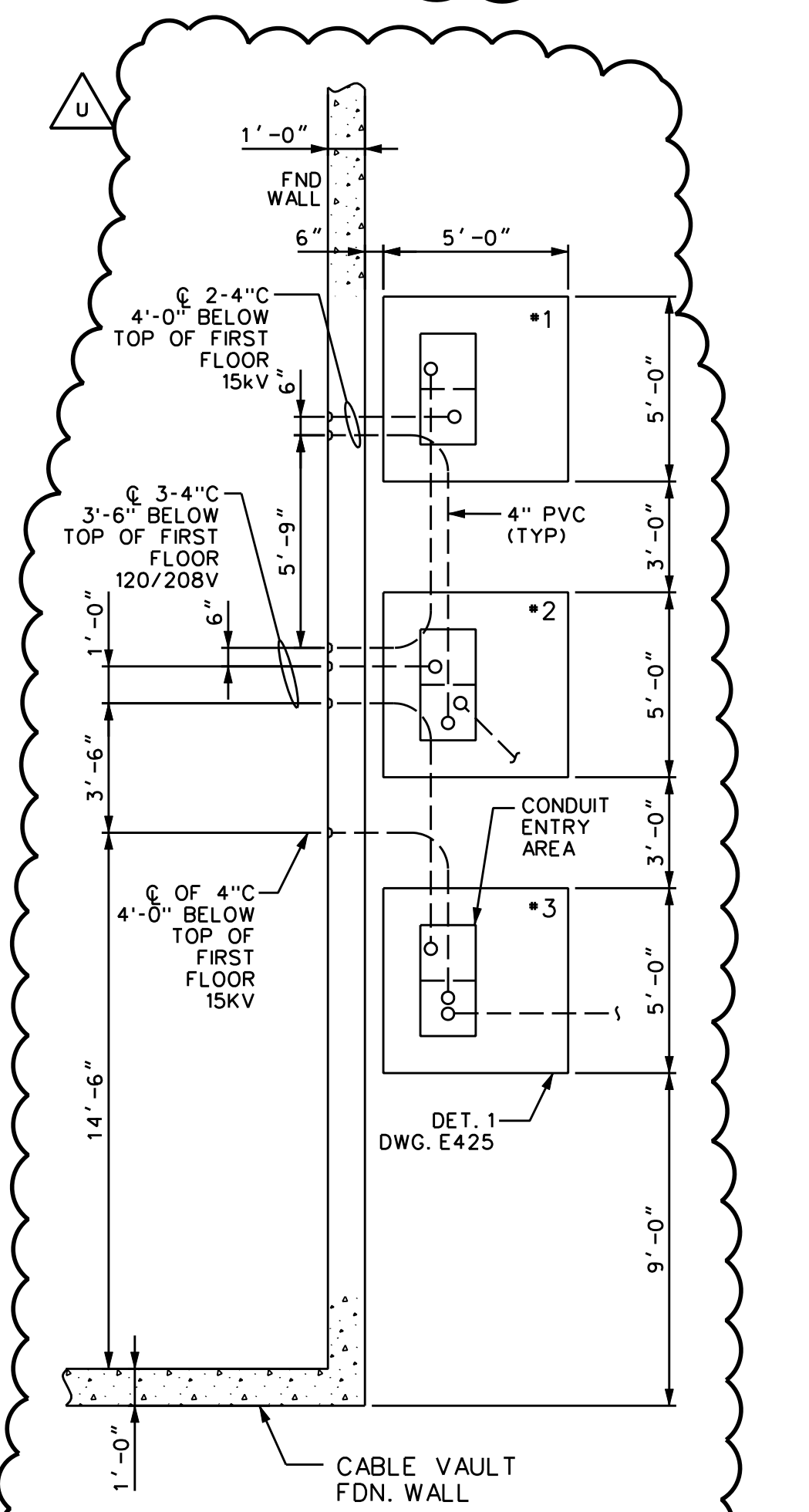
DESIGNED BY: LARAMORE DOUGLASS AND POPHAM  
CONSULTING ENGINEERS  
CHICAGO/ST. LOUIS

DRAWN BY	DATE	DESIGNED	CHECKED
WHS	12/17/74	---	DCR

APPROVED: D.J. KOEHLER DRAWING NO. 74-WLT-E401 REV  
SCALE: 1/8"=1'-0"



- NOTES:**
- COORDINATE SYSTEM SHOWN IS BASED ON PLANT CONTROL GRID SYSTEM DEVELOPED BY OTHERS.
  - SEE DWG 03-WLG-E506 FOR DUCTBANK ROUTING.
  - FOR GIS/CONTROL BUILDING FOUNDATION SEE DRAWING 03-WLG-S857.
  - LEAVE THREE (3) 10FT. GROUND TAILS NEXT TO ATC RISER FOUNDATIONS.
  - MATCH T.O.C. ELEVATION TO MGE SWITCH STRUCTURE FOUNDATION.
  - SET 2" PVC ELBOW ON ANGLE TO FORM CONFIGURATION PER SEC. DD ON DWG. 74-WLT-E425.
  - LOCATION OF CONDUITS INDICATED WITH "D.B." (DIRECTLY BURIED) SHALL BE ADJUSTED AS REQUIRED TO SUIT FIELD CONDITIONS.
  - T/10'-6" AND B/13'-2", AS AN EXAMPLE WHERE SHOWN, INDICATE DISTANCE FROM GRADE LEVEL TO TOP AND BOTTOM OF DUCT BANK, TYPICAL.



- REV. S. NOTE:**
- REDRAW IN PART FROM ORIGINAL RASTER.
- REV. U. NOTE:**
- STEP DUCT BANK (MIN. 24") FOR CONTINUATION. COORDINATE WITH MGE.

**DRAWING APPROVAL PLEASE CIRCULATE DRAWING(S) IN ORDER SHOWN BELOW:**

Comments are needed by: ECI, 01/17/11

Name	Initial	Code
PLN		
OPS		
PROT		
SCADA		
MAINT		
DE		
PM		
OTHER		

Codes: A = Approved for final  
B = Approved with comments  
C = Revise and resubmit

REVISIONS	
12	PROJ: M2-72A EMS/RTU RELATED DWN: DWN 12-11-87 CKD: SMB 12-11-87 APPD: JLG
FILMED :	
13	PROJ: M2-72A REVISED PER FIELD MARKED PRINTS. BY: WATERS & ASSOC. DWN: DWN 12-11-87 CKD: SMB 12-11-87 APPD: JLG
FILMED : 1-17-89	
N DRAWING SCANNED INTO INTERGRAPH AND REDUCED TO 30" X 42" VARIOUS DETAILS MOVED TO DRAWINGS E039-1 AND E039-2. MISCELLANEOUS CHANGES: DWN: RT-PLM 1-30-98 CKD: RT-RCS 2-2-98 APPD: MGE-JLG 3-23-98	
FILMED :	
I ISSUED FOR CONSTRUCTION 03/18/04 DWN: TGM CHKD: JDC APPD: ACM	
FILMED :	
P AS BUILT PER ATC W.O. 62685 12/23/03 DWN: TGM CHKD: JDC APPD: ACM	
FILMED :	
O CONFORMED TO CONSTRUCTION RECORDS BY: BLACK & VEATCH DWN: MBG 12/13/04 CHKD: JDC 12/13/04 APPD: ACM 12/13/04	
FILMED :	
R MGE/ATC RESOLUTION PROJECT. MISC. CHANGES. DATE: 05-04-09 DWN: RUE-DAW CKD: RUE-AHK APPD:	
FILMED :	
S ADDED T3 AND 15KV SWGR. BLDG. DATE: 09-22-10 DWN: LDP 09-22-10 CKD: LDP 09-22-10 APPD:	
FILMED :	
I ISSUE FOR REVIEW ATC W.O. # 67948 GIS EQUIPMENT ADD. DATE: 12-27-10 DWN: ECI-FMO CKD: ECI-AWL APPD: ECI-JFB	
FILMED :	
U ISSUE FOR BID BY: LDP 01-25-11 DWN: LDP 01-25-11 CKD: LDP 01-25-11 APPD:	
FILMED :	
74-WLT-S830	
ORIGINAL DRAWING SEALED BY	

PLOT DATE: \_\_\_\_\_  
PLOT TIME: \_\_\_\_\_  
FILE NAME: wlt830.dgn

**WALNUT SUBSTATION PLAN FOUNDATIONS**

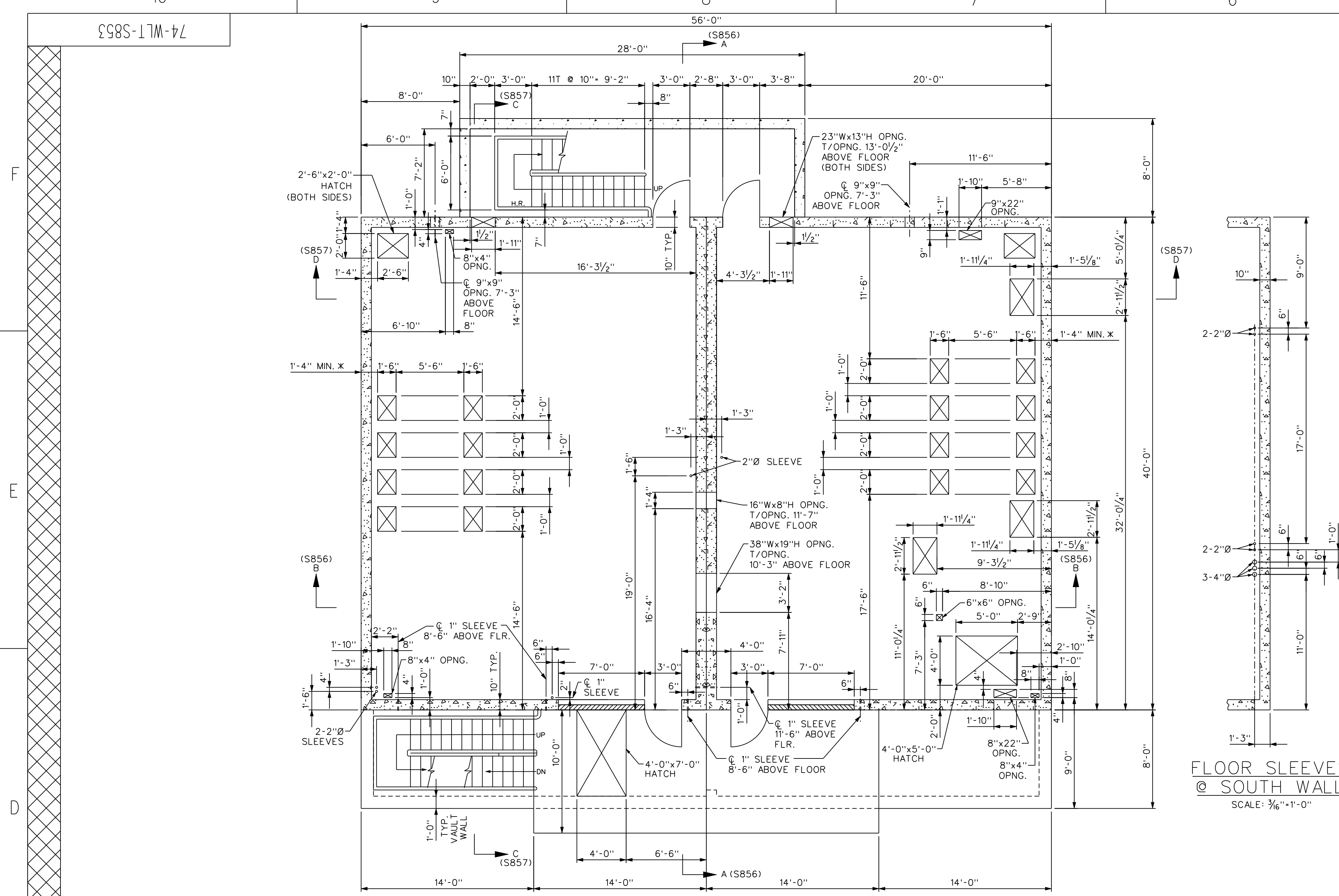
DESIGNED FOR: **MGE** MADISON GAS and ELECTRIC COMPANY

DESIGNED BY: WATERS & ASSOCIATES INC. AND CARL C. CRANE INC. CONSULTING ENGINEERS MADISON, WISCONSIN

DRAWN BY	DATE	DESIGNED	CHECKED
WHS	9-17-74	---	DCR

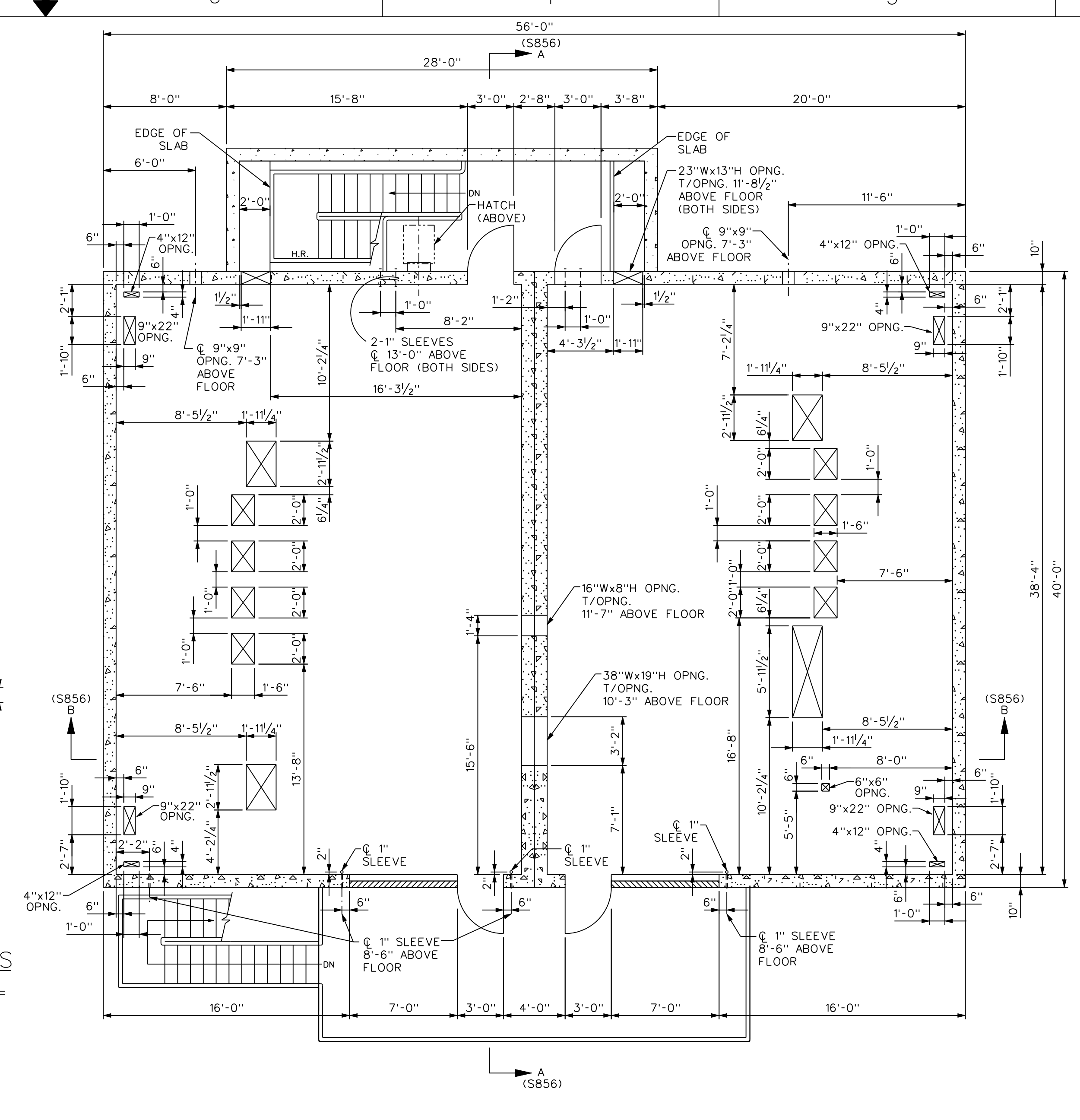
APPROVED: V.C. KOEHLER DRAWING NO. 74-WLT-S830 REV SCALE 1/8"=1'-0"

DRAWN ON MICROSTATION RELEASE 95

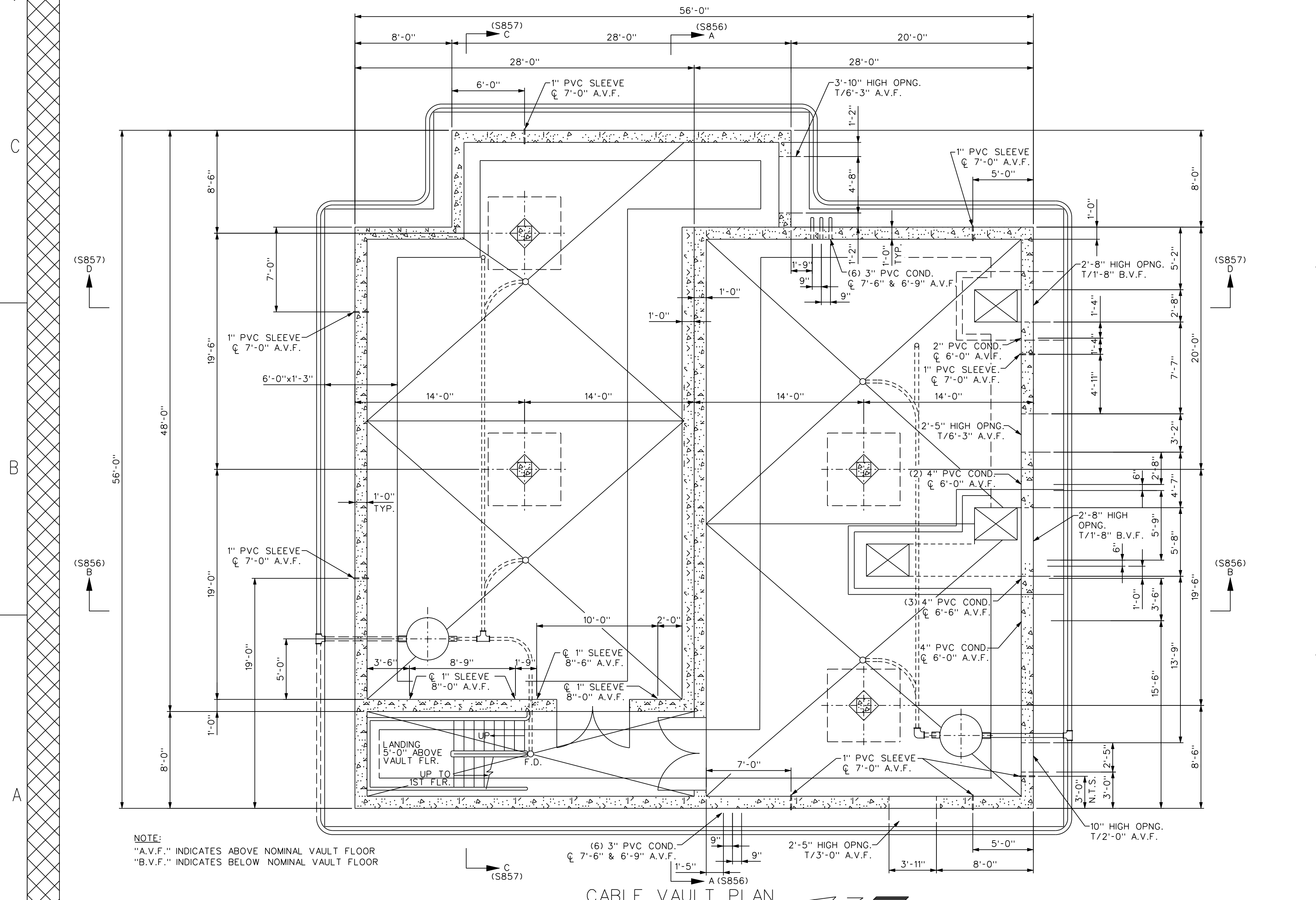
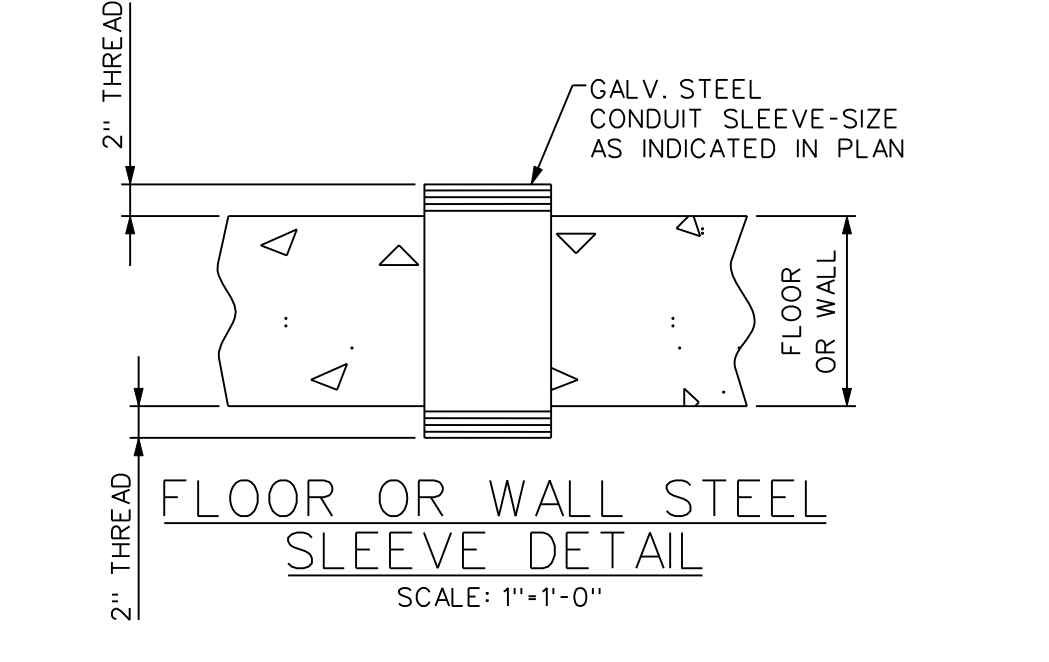
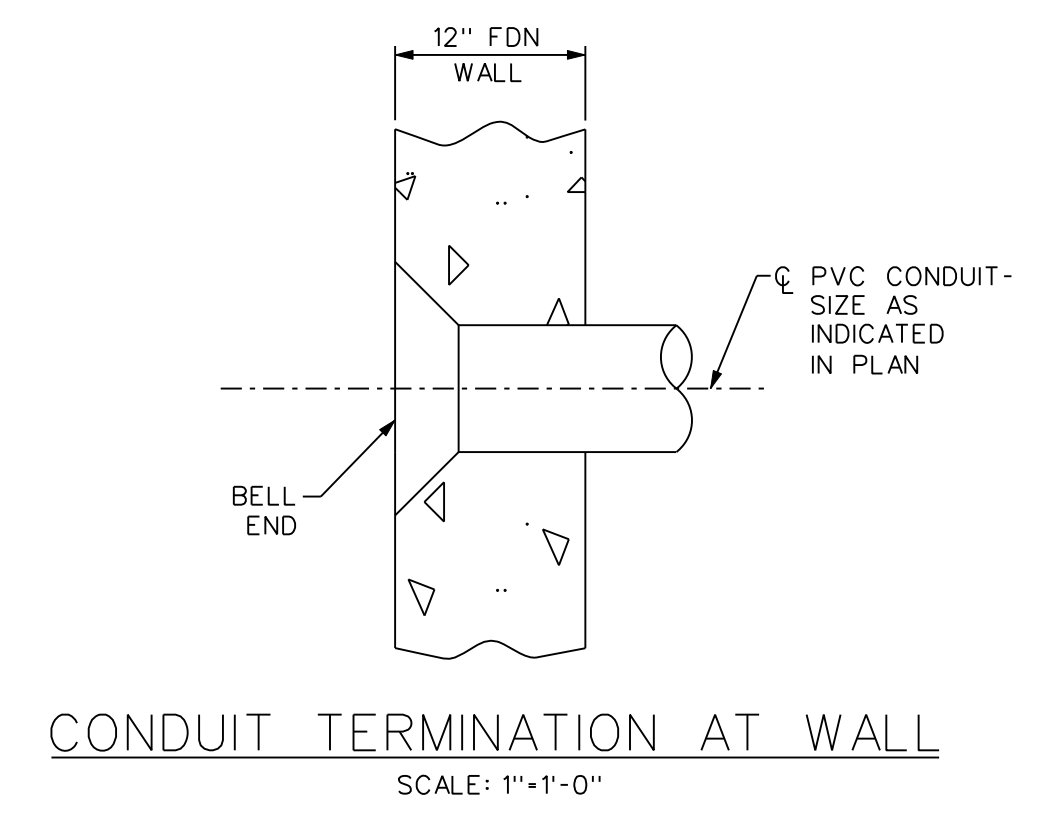


PLAN  
FIRST FLOOR  
SCALE: 3/16"=1'-0"

FLOOR SLEEVES  
@ SOUTH WALL  
SCALE: 3/16"=1'-0"

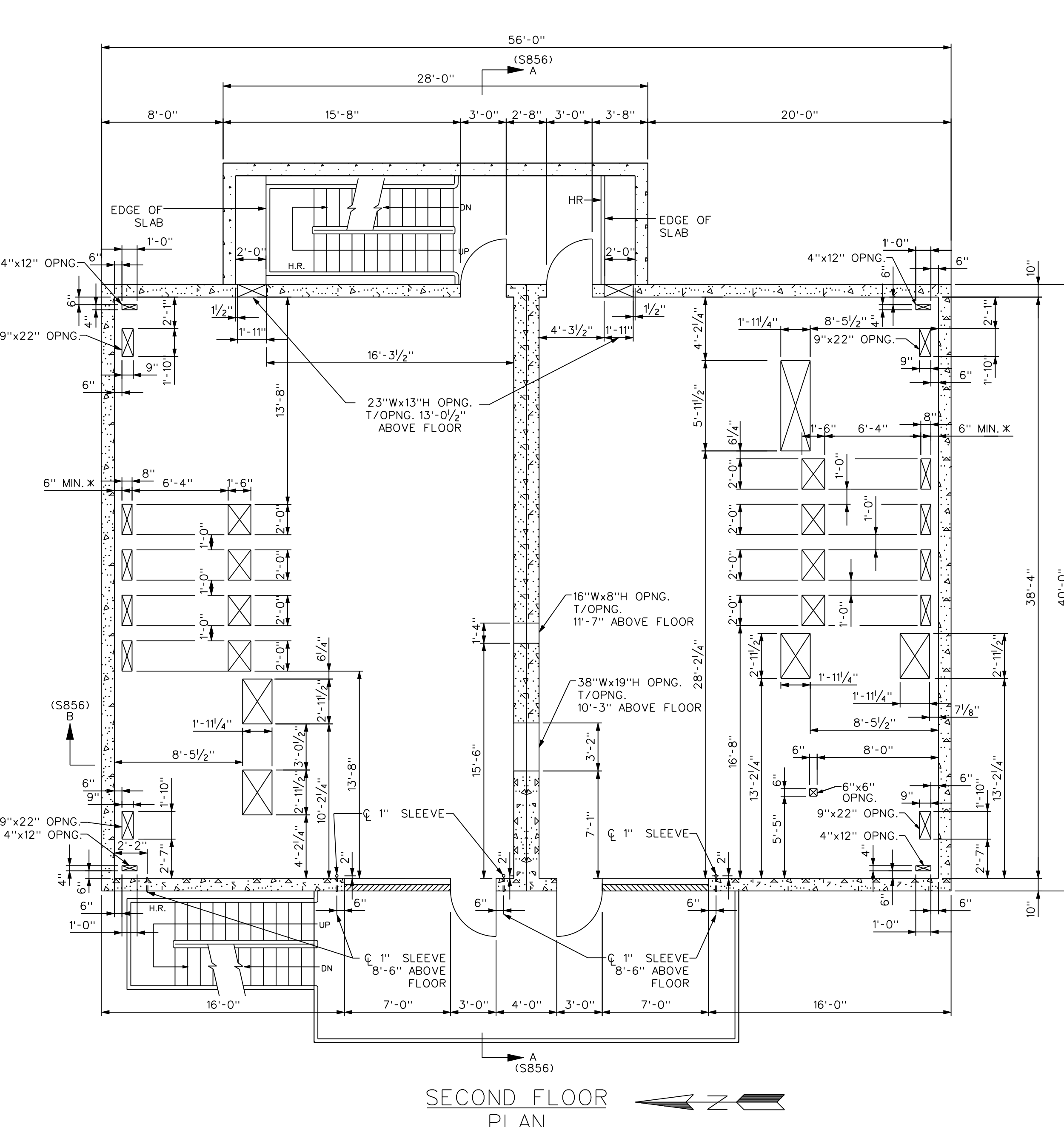


PLAN  
THIRD FLOOR  
SCALE: 3/16"=1'-0"

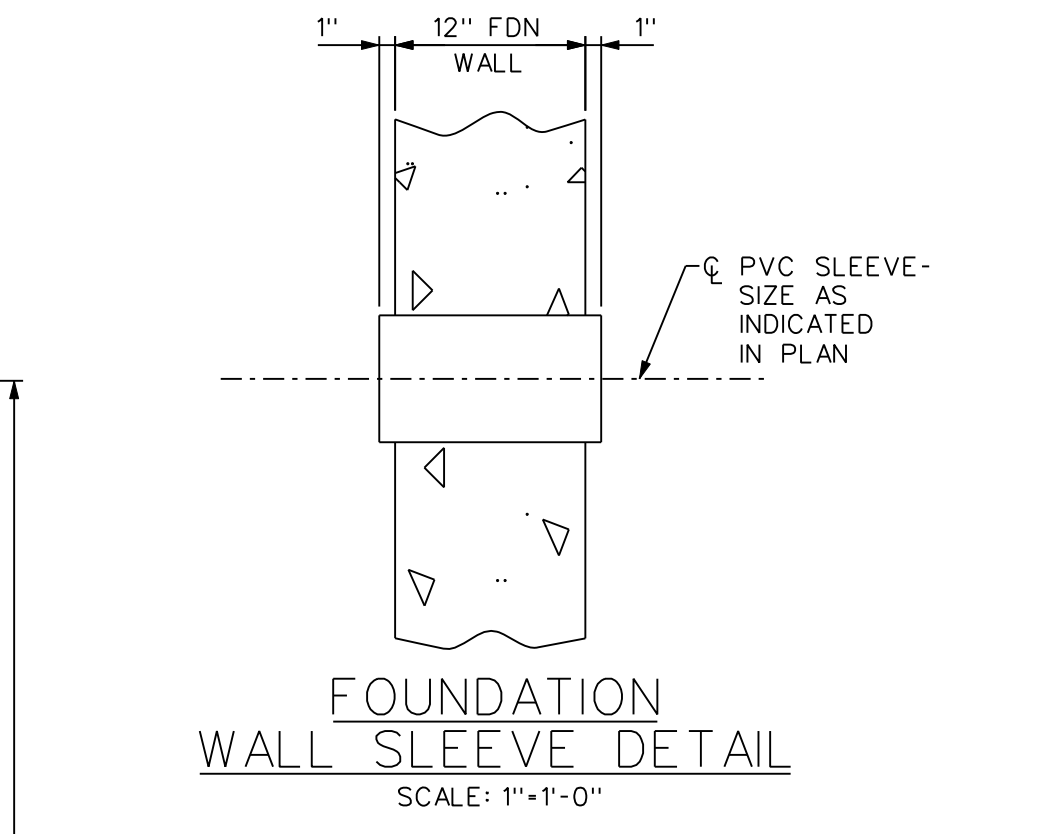


CABLE VAULT PLAN  
SCALE: 3/16"=1'-0"

NOTE:  
"A.V.F." INDICATES ABOVE NOMINAL VAULT FLOOR  
"B.V.F." INDICATES BELOW NOMINAL VAULT FLOOR



SECOND FLOOR  
PLAN  
SCALE: 3/16"=1'-0"



REVISIONS	
0	ISSUED FOR REVIEW BY: LDP 01-07-11 DWN: ND 01-25-11 CHKD: AM 01-07-11 APPD:
1	ISSUED FOR BID BY: LDP 01-25-11 DWN: ND 01-25-11 CHKD: AM 01-25-11 APPD:

FILMED :

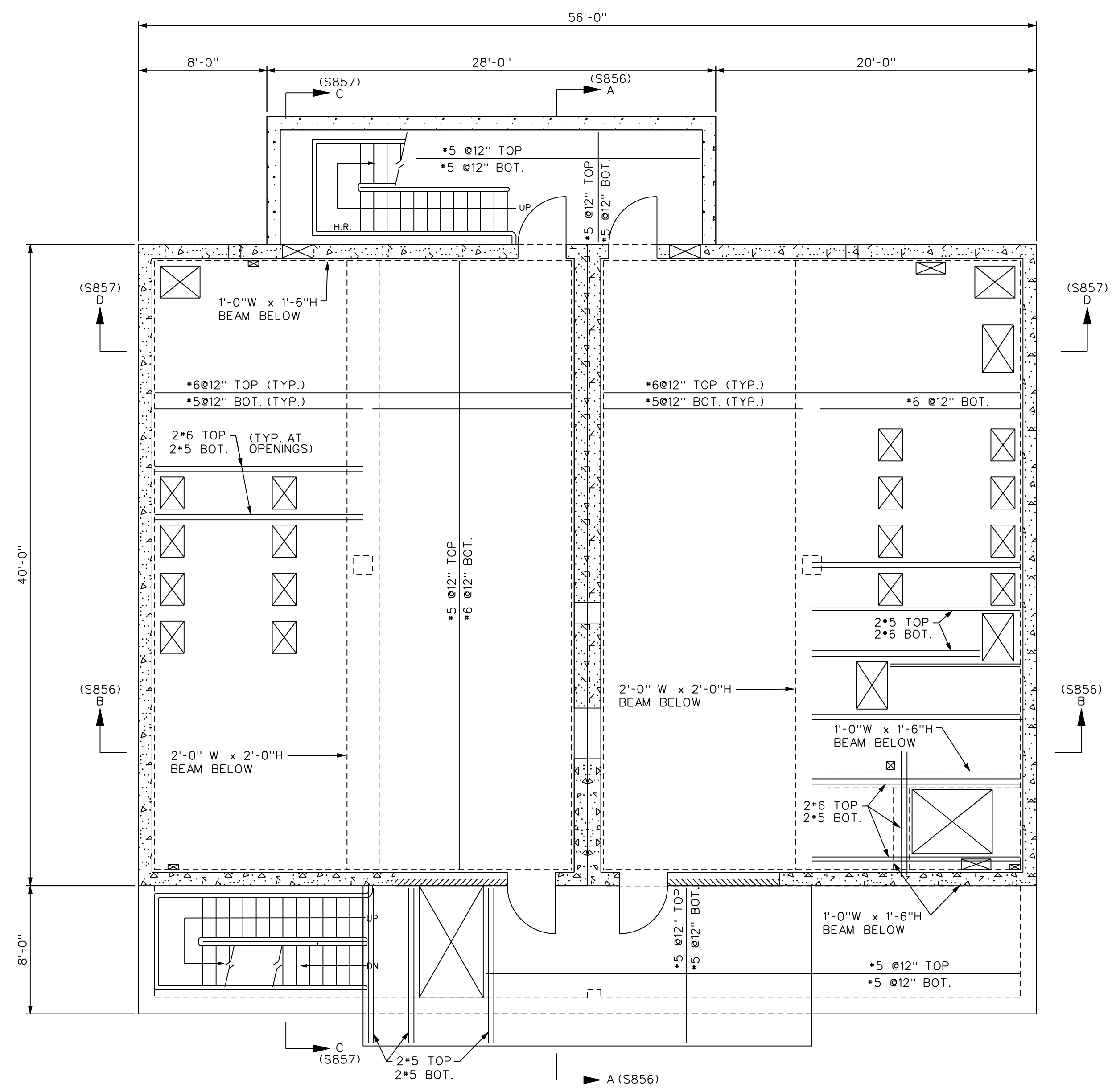
FILMED :

74-WLT-S853  
ORIGINAL DRAWING  
SEALED BY  
PAUL A. YOUNG, PE  
WISCONSIN  
31410-006

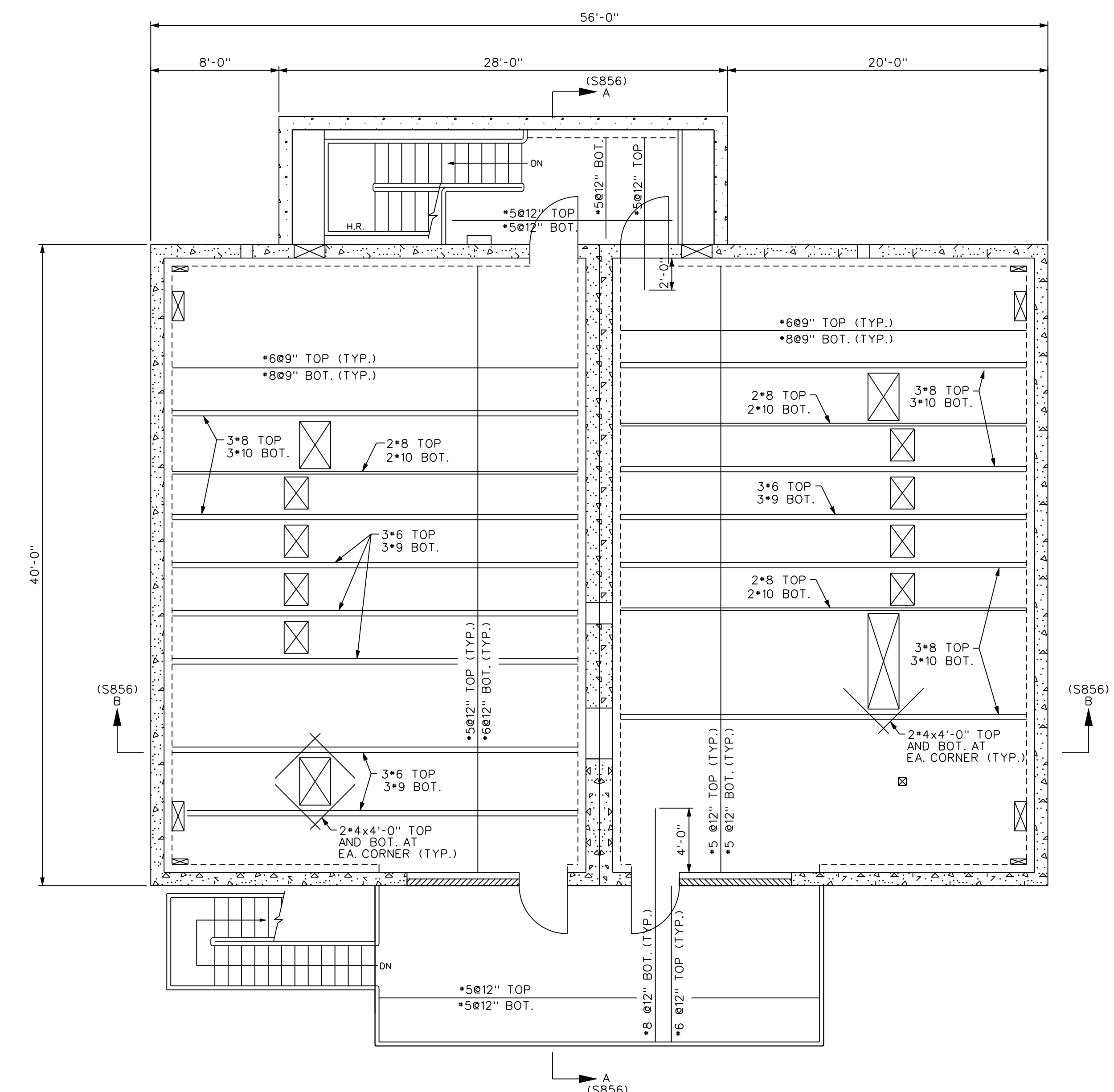
DRAWN ON MICROSTATION  
VERSION 8

WALNUT SUBSTATION			
SWITCHGEAR BUILDING FLOOR PLANS			
DESIGNED FOR: <b>mg&amp;e</b> MADISON GAS and ELECTRIC		MADISON GAS and ELECTRIC COMPANY WISCONSIN - MILWAUKEE	
DESIGNED BY: LARAMORE DOUGLASS AND POPHAM CONSULTING ENGINEERS CHICAGO/ST. LOUIS			
DRAWN BY	DATE	DESIGNED	CHECKED
KAW	12/27/10	AM	AM
APPROVED:		DRAWING NO.	REV
SCALE AS NOTED		74-WLT-S853	1

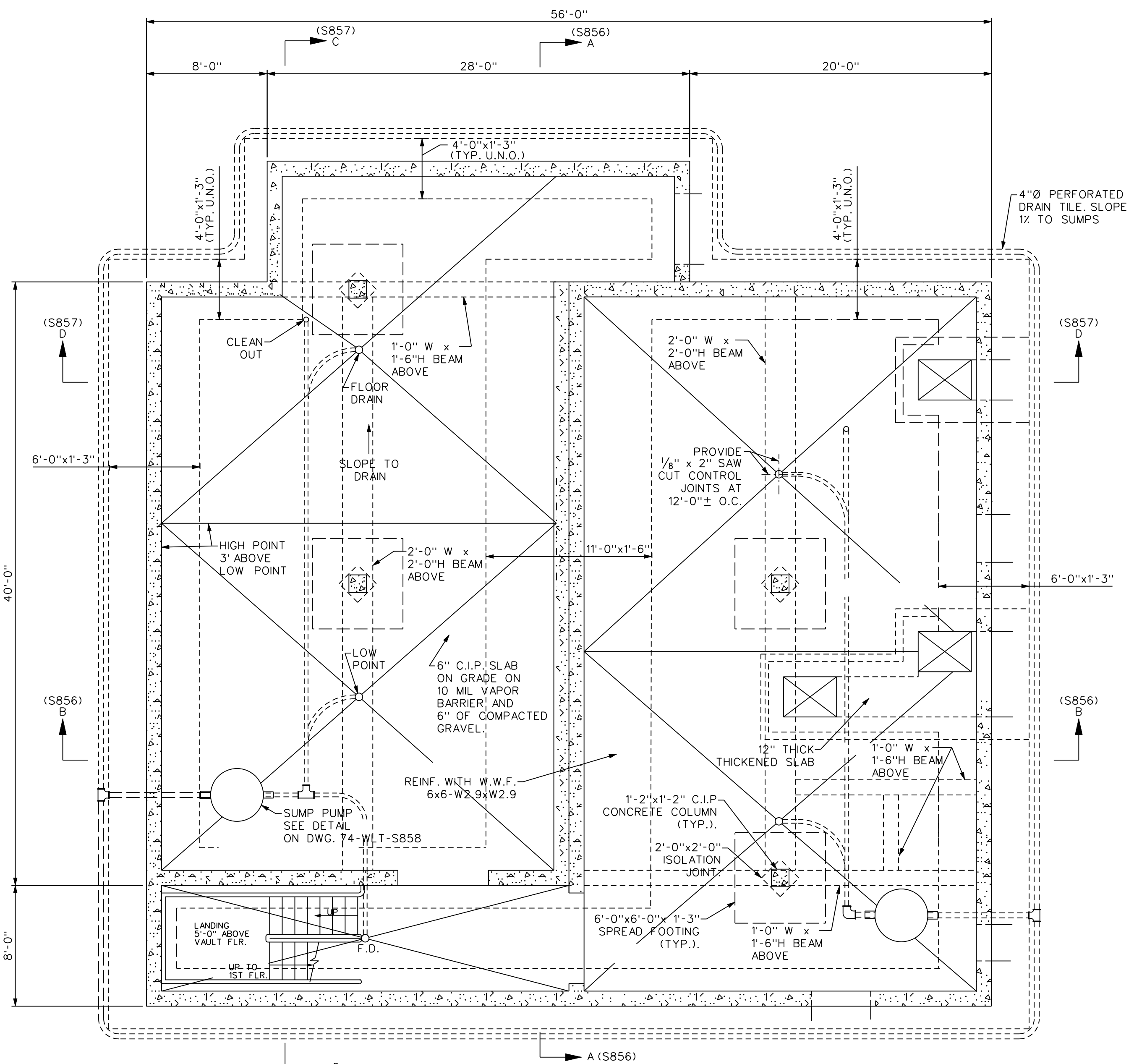
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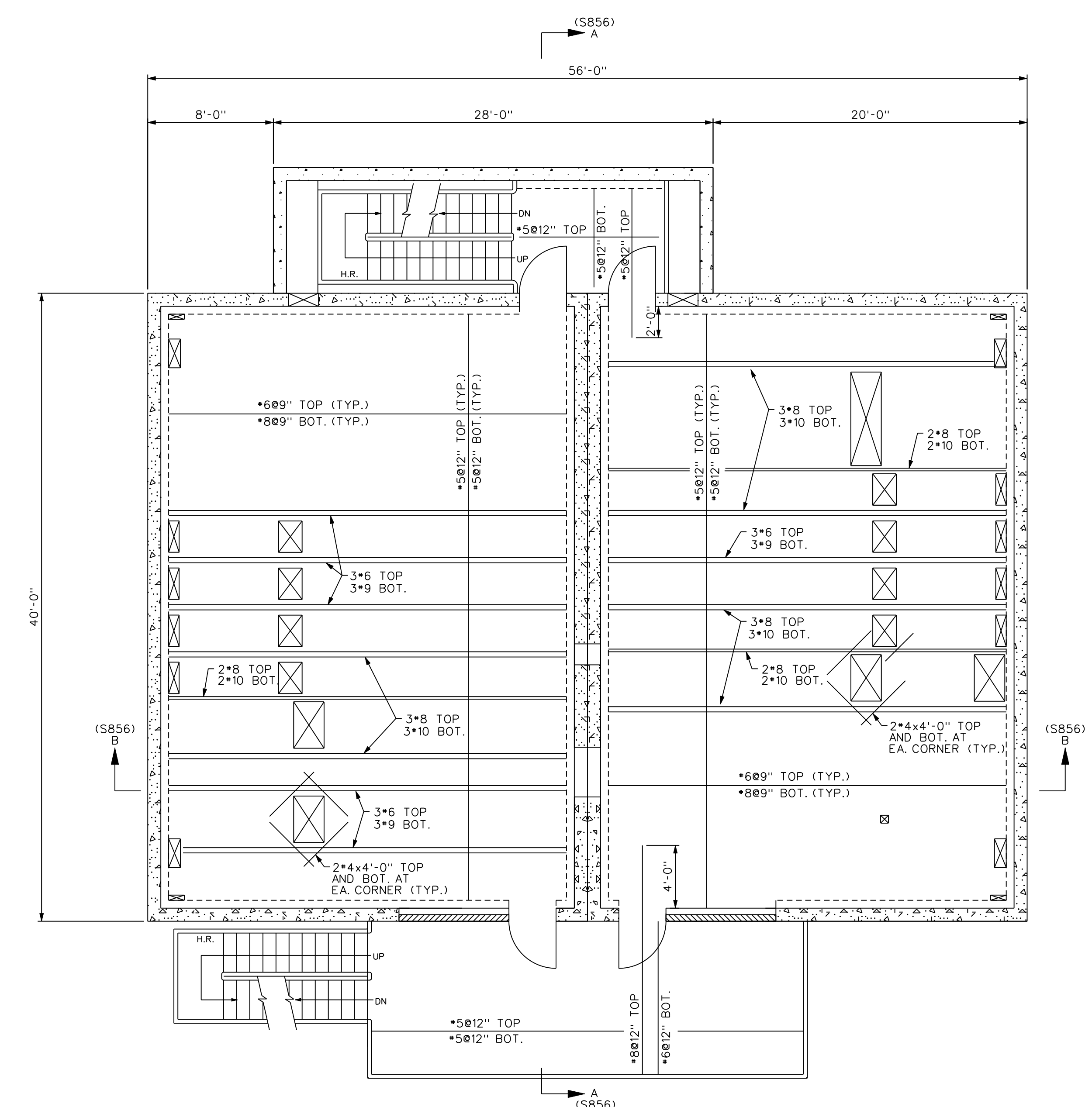
PLAN  
FIRST FLOOR  
SCALE: 3/16"=1'-0"



PLAN  
THIRD FLOOR  
SCALE: 3/16"=1'-0"



CABLE VAULT PLAN  
SCALE: 3/16"=1'-0"



PLAN  
SECOND FLOOR  
SCALE: 3/16"=1'-0"

PLOT DATE:  
PLOT TIME:  
FILE NAME:

74-WLT-S854

ORIGINAL DRAWING  
SEALED BY  
PAUL A. YOUNG, PE  
WISCONSIN  
31410-006

DRAWN ON MICROSTATION  
VERSION 8

DESIGNED FOR:  
**mgoe.** MADISON GAS and  
MADISON GAS and ELECTRIC ELECTRIC COMPANY  
MADISON WISCONSIN

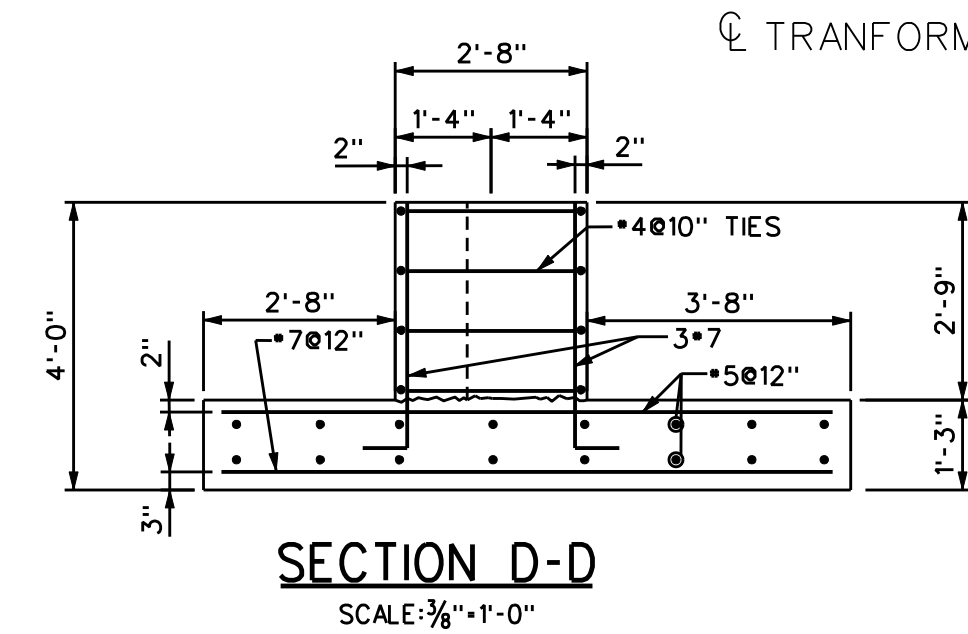
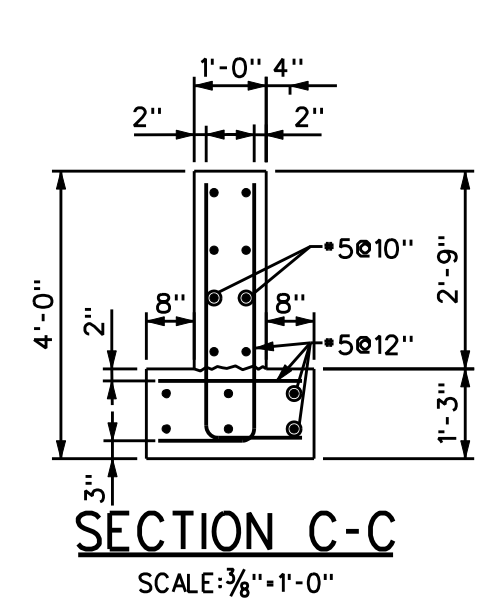
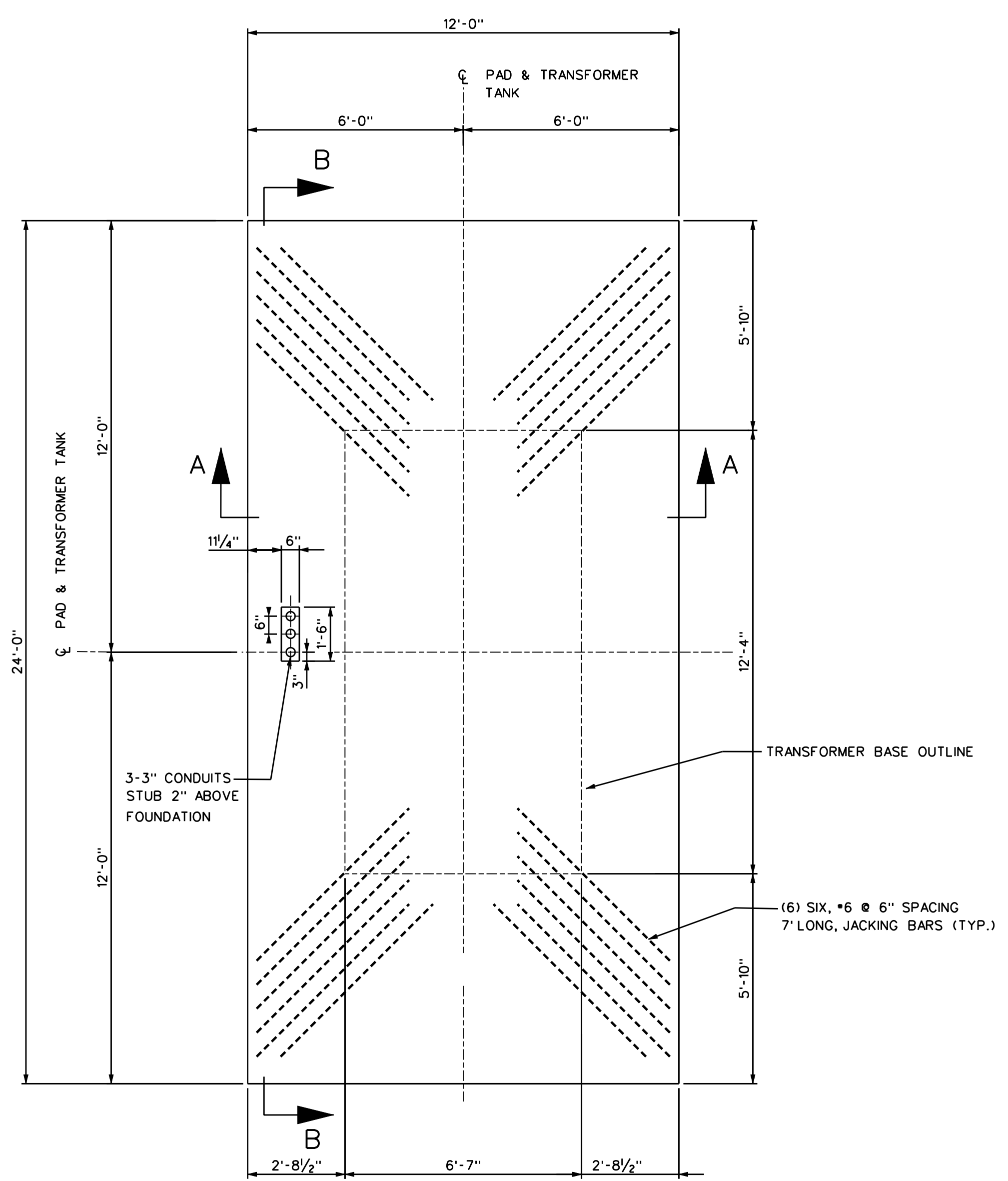
DESIGNED BY: LARAMORE DOUGLASS AND POPHAM  
CONSULTING ENGINEERS  
CHICAGO/ST. LOUIS

DRAWN BY	DATE	DESIGNED	CHECKED
ND	12/27/10	AM	AM

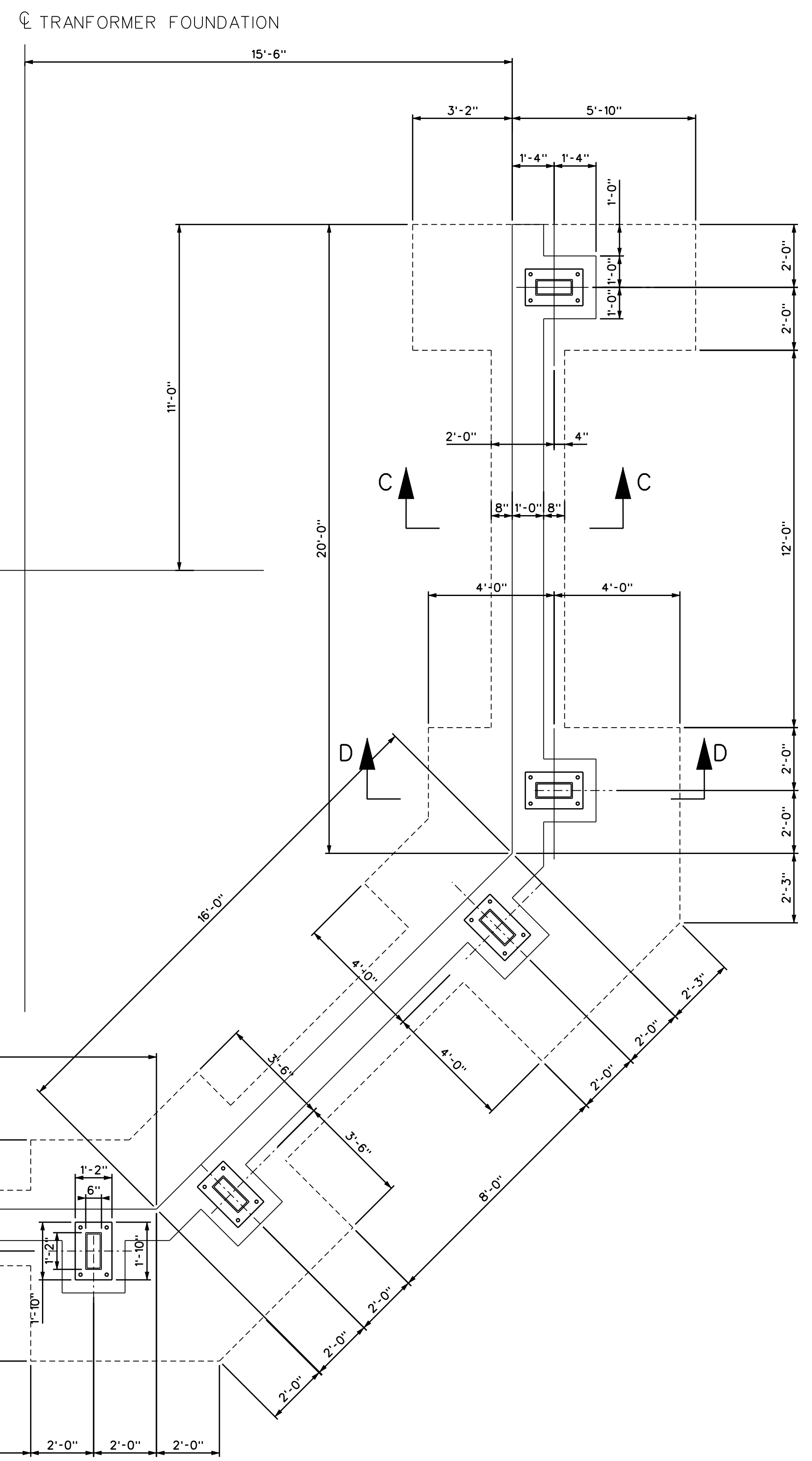
APPROVED: KAW  
SCALE: 3/16"=1'-0"

DRAWING NO. 74-WLT-S854  
REV 1

REVISIONS	
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FILMED :	

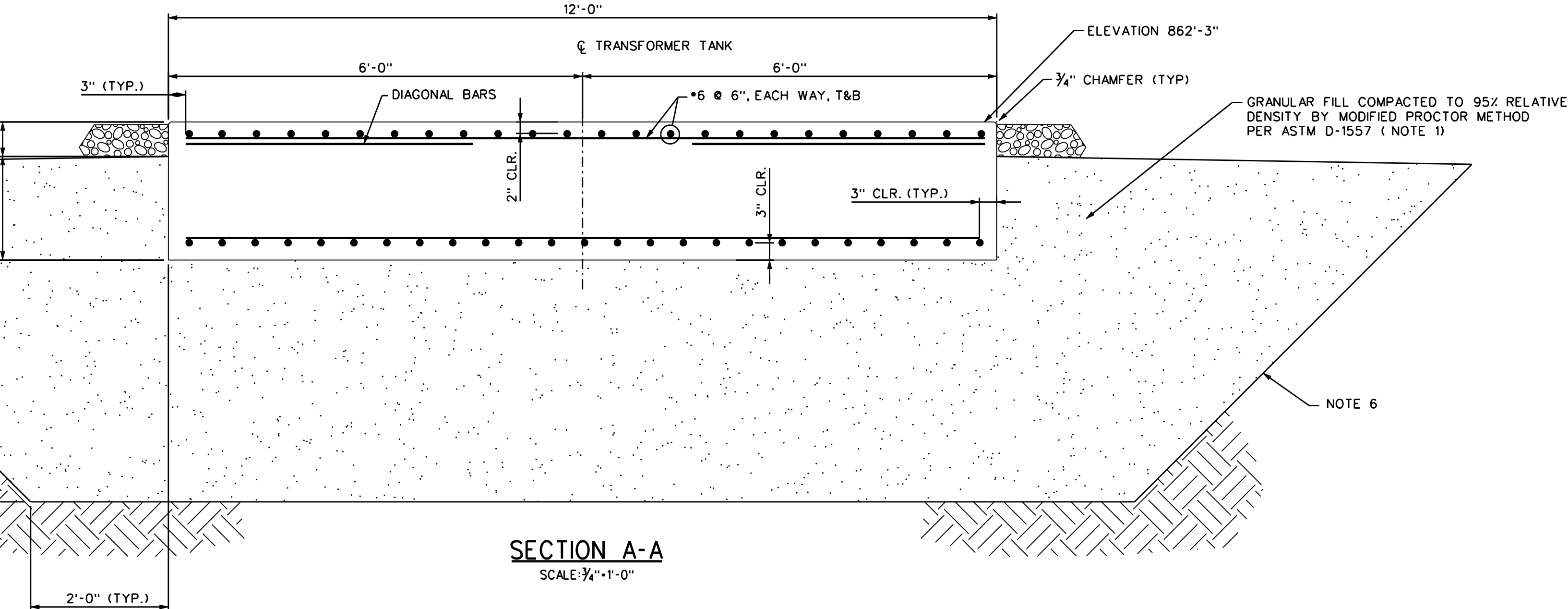


TRANSFORMER FOUNDATION (F1)  
SCALE: 3/8"=1'-0"

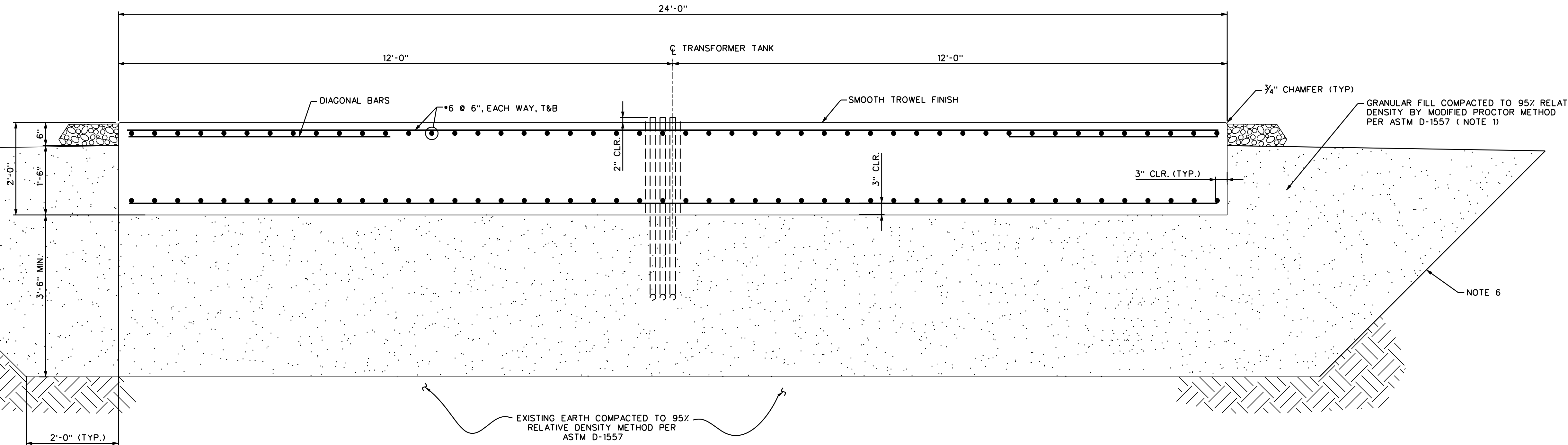


FIREWALL FOUNDATION (F2)  
SCALE: 3/8"=1'-0"

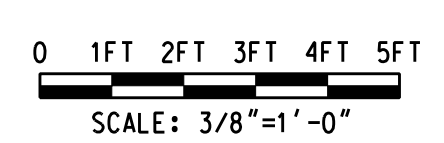
- FOUNDATION NOTES:**
- ALL EXISTING SOIL BELOW FOUNDATION TO BE REMOVED TO A MINIMUM DEPTH OF 5'-0" BELOW GRADE AND REPLACED WITH COMPACTED GRANULAR FILL AS DESCRIBED IN SPECIFICATION SECTION 5.0.
  - CONCRETE SHALL HAVE 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
  - REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.
  - ALLOWABLE SOIL BEARING PRESSURE IS 2000 PSF.
  - BACKFILL AROUND AND UNDER ALL FOOTINGS AND PIERS WITH COMPACTED GRANULAR FILL.
  - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SAFE EXCAVATION SLOPES AND SUPPORTS IN ACCORDANCE WITH OSHA AND WISCONSIN DEPARTMENT OF COMMERCE AND MGE SPECIFICATION.



SECTION A-A  
SCALE: 3/4"=1'-0"



SECTION B-B  
SCALE: 3/4"=1'-0"



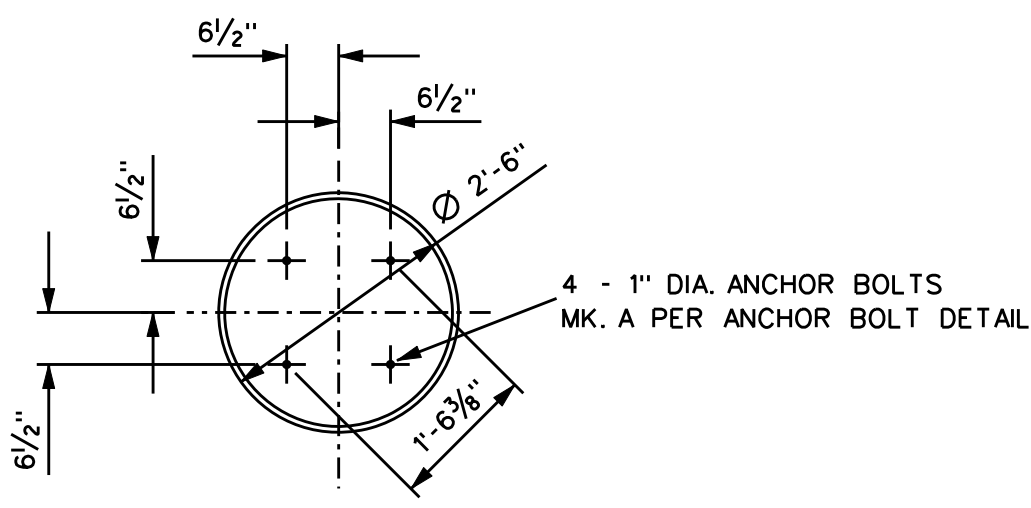
74-WLT-S835  
ORIGINAL DRAWING  
SEALED BY  
PAUL A. YOUNG, PE  
WISCONSIN  
31410-006  
DRAWN ON MICROSTATION  
VERSION 8

DESIGNED FOR: **mgoe.** MADISON GAS and ELECTRIC COMPANY

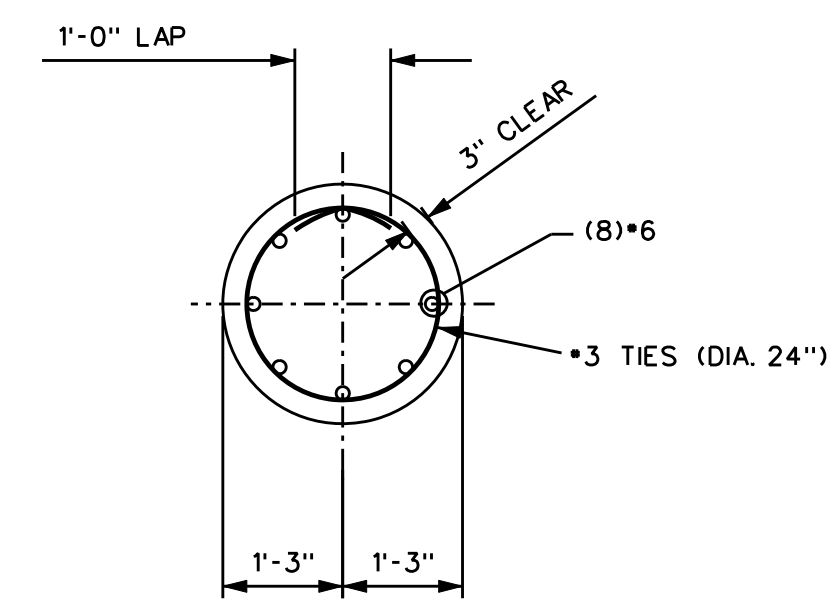
DESIGNED BY: LARAMORE DOUGLASS AND POPHAM  
CONSULTING ENGINEERS  
CHICAGO/ST. LOUIS

DRAWN BY	DATE	DESIGNED	CHECKED
ND	12/27/10	AM	AM

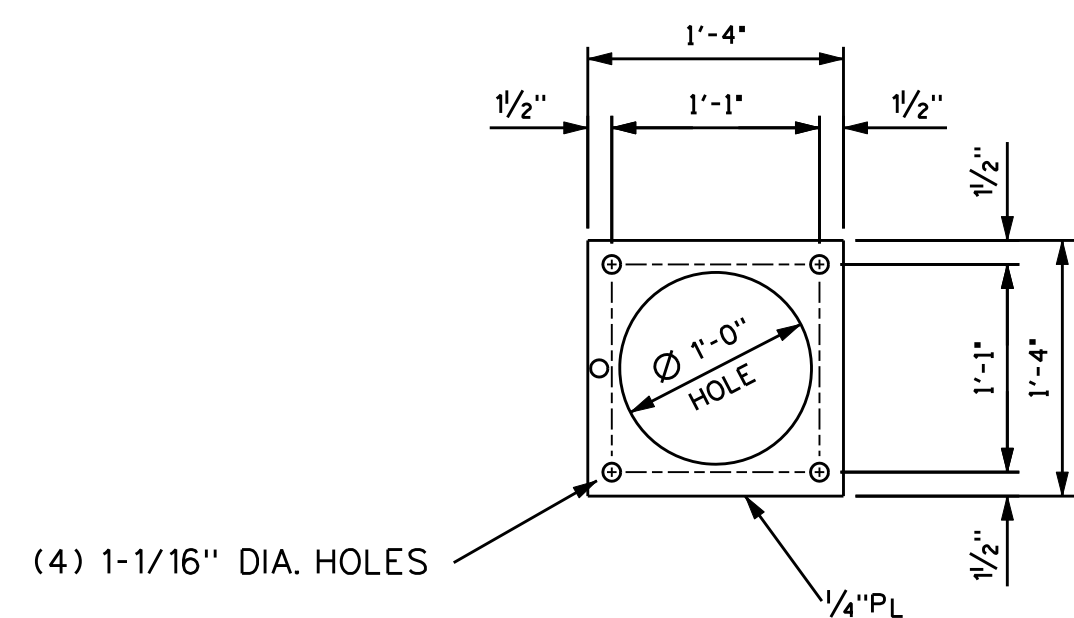
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SCALE AS NOTED



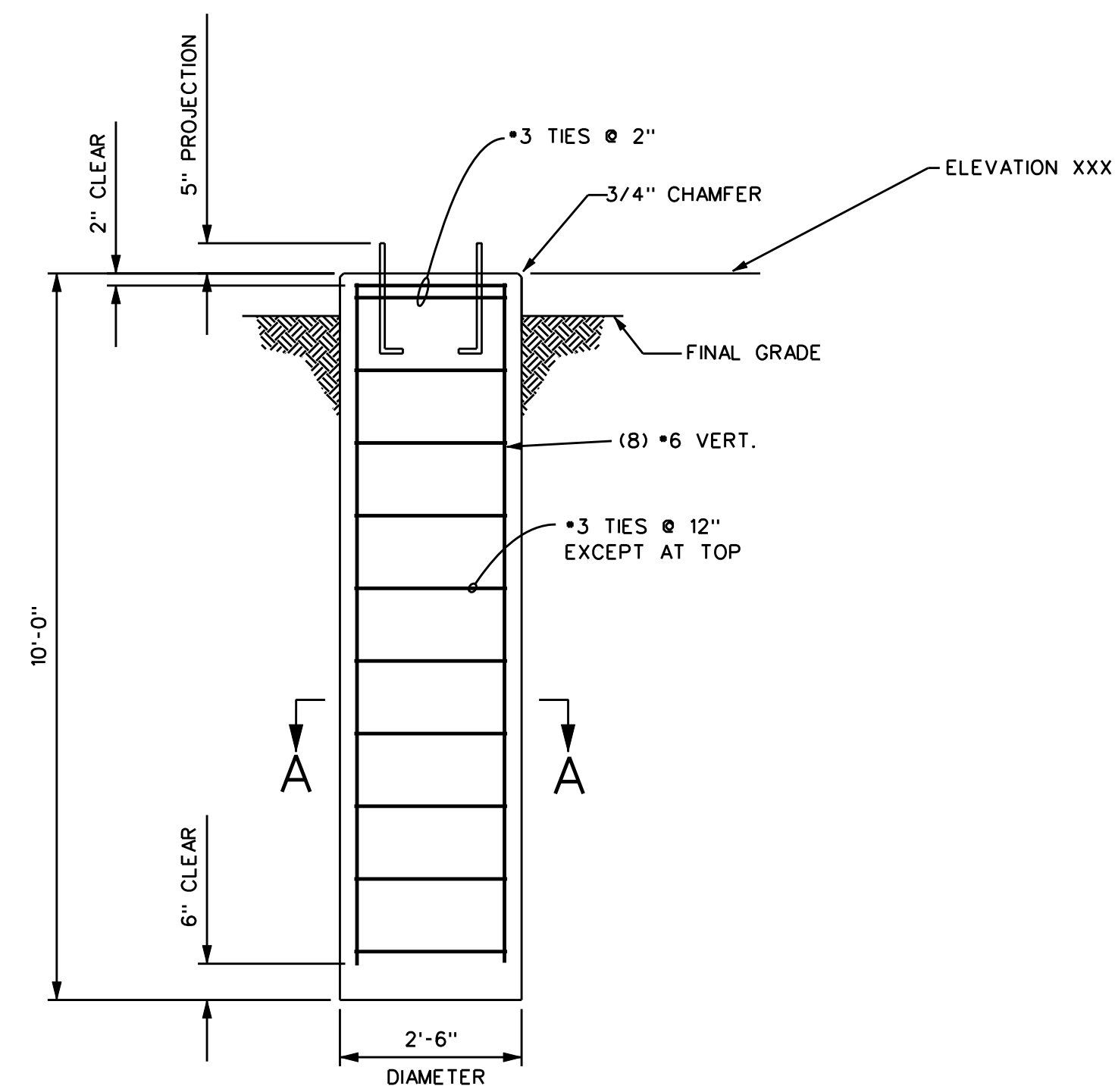
ANCHOR BOLT DETAIL  
SCALE: 1/2"=1'-0"



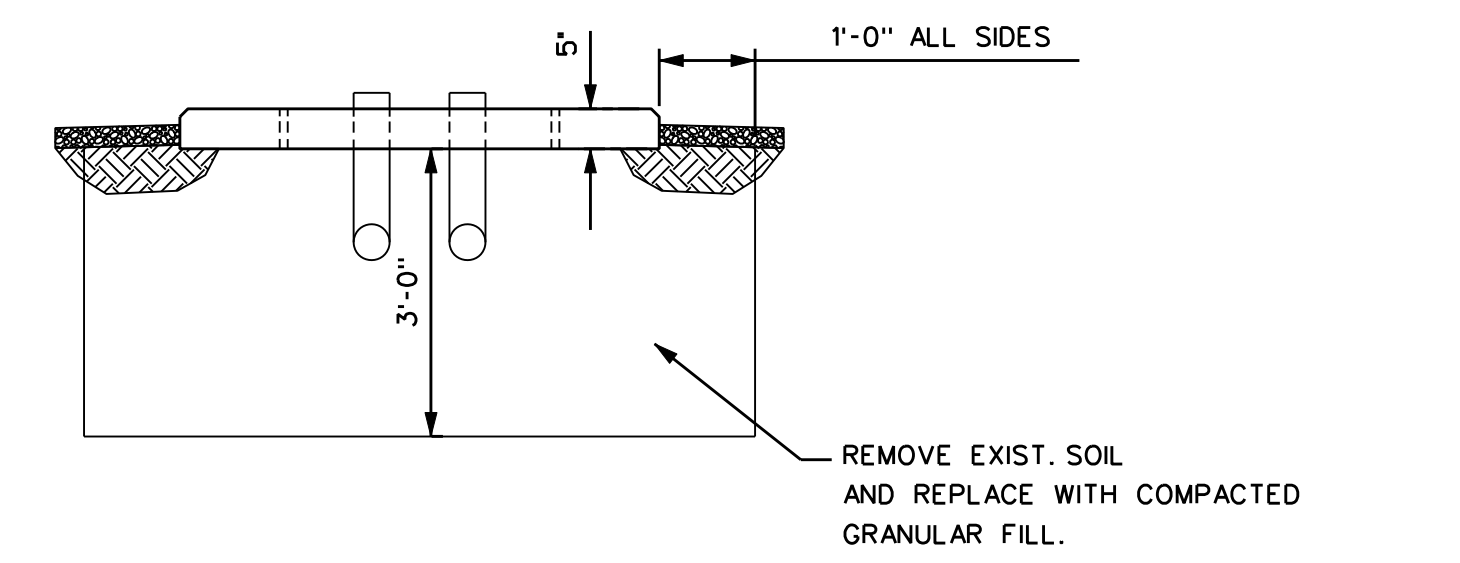
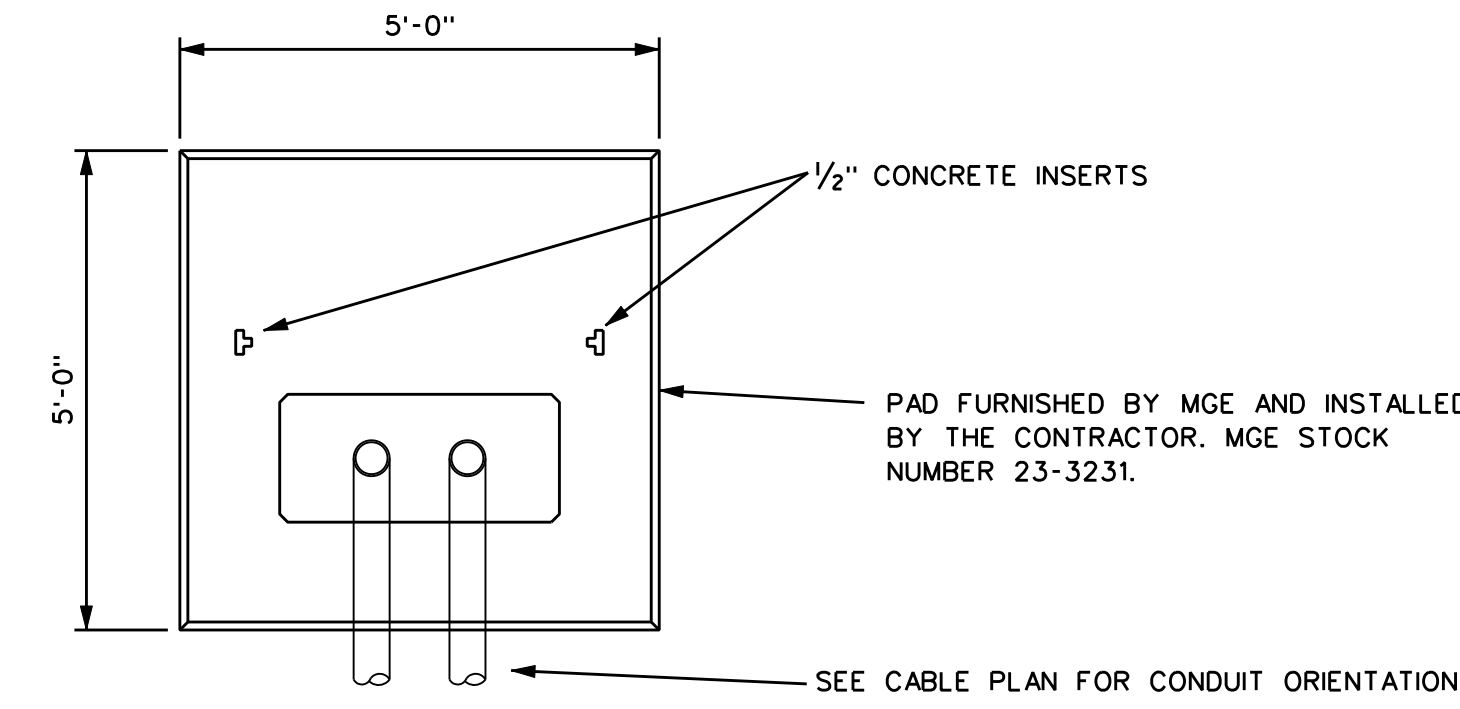
SECTION A-A  
SCALE: 1/2"=1'-0"



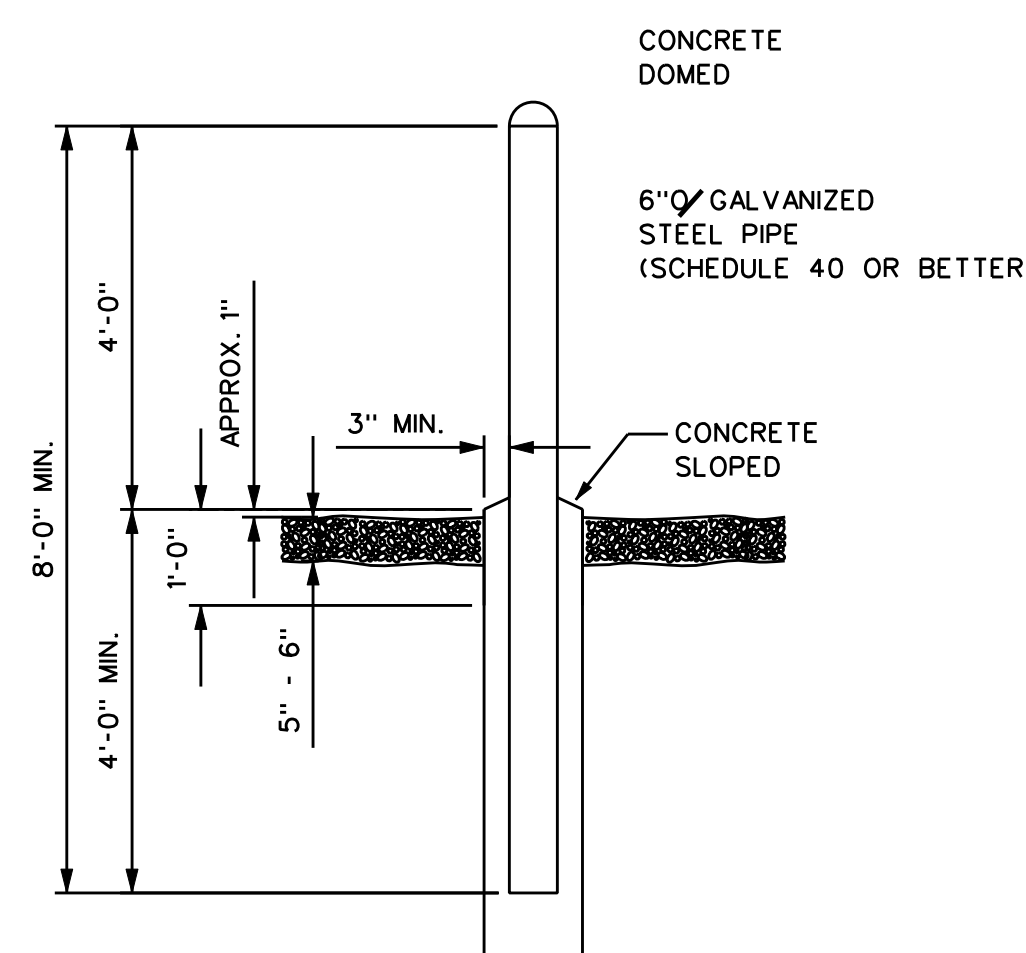
ANCHOR BOLT SETTING TEMPLATE  
SCALE: 1" = 1'-0"



FOUNDATION F3  
SCALE: 1/2"=1'-0"  
13kV CABLE RISER STAND  
(6-REQ'D)

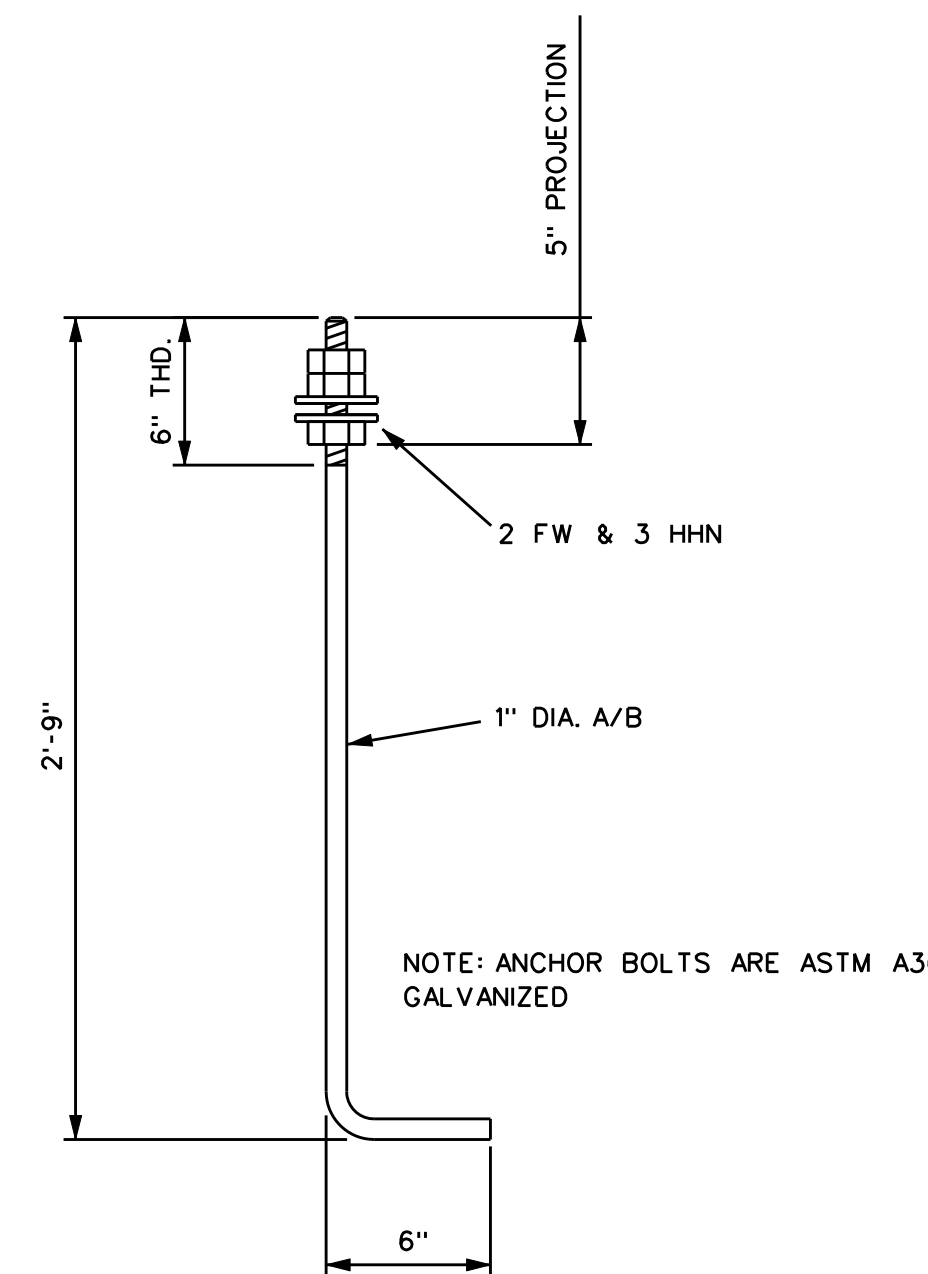


FOUNDATION F4  
SCALE: 1/2"=1'-0"  
75-150 KVA TRANSFORMER AND  
CONDENSER PAD  
(5-REQ'D)

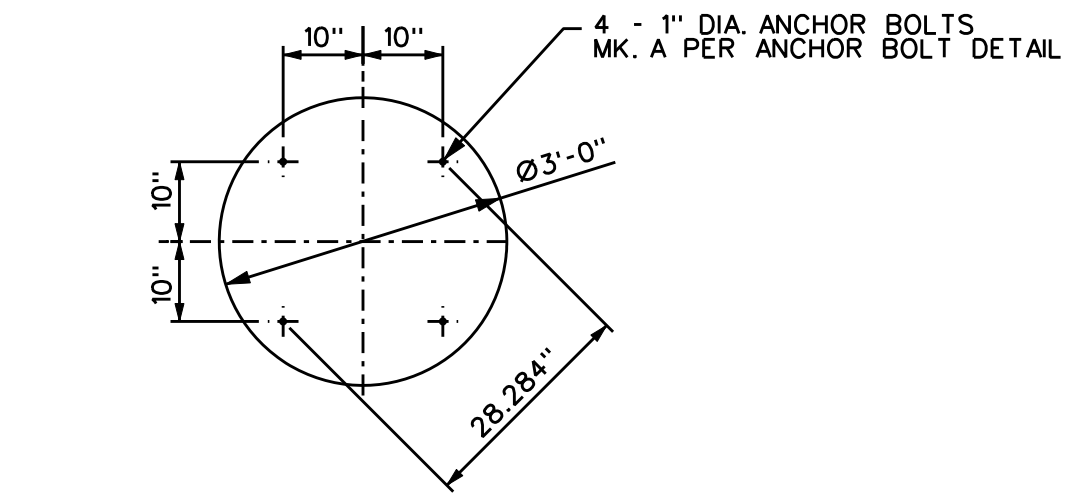


GUARD POST F5  
SCALE: 1/2"=1'-0"  
(8 REQ'D)

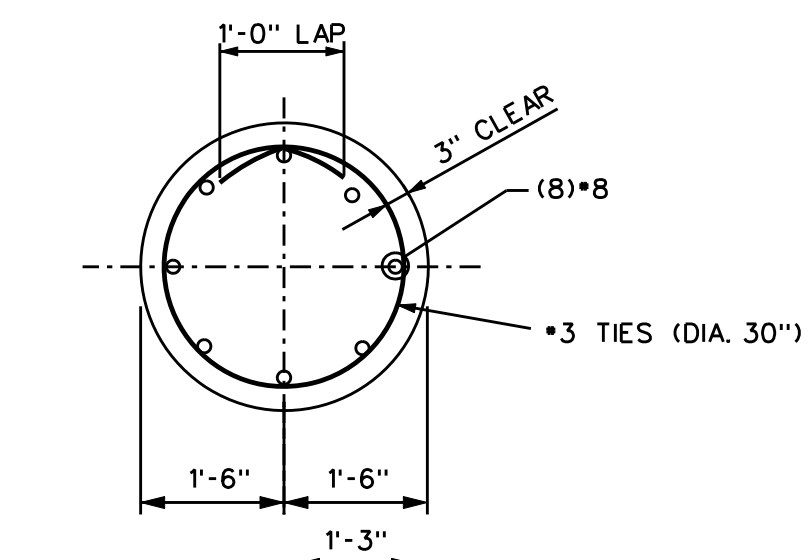
- NOTES:
1. REMOVE ALL COATINGS (EXCEPT GALVANIZING) FROM PIPE BEFORE INSTALLATION.
  2. PIPE TO BE SET IN AND FILLED WITH CONCRETE.
  3. TOP 1'-0" (MINIMUM) OF SETTING TO BE FORMED.
  4. PIPE TO BE PAINTED BRIGHT YELLOW.
  5. 2" WIDE REFLECTIVE TAPE AROUND TOP OF PIPE.



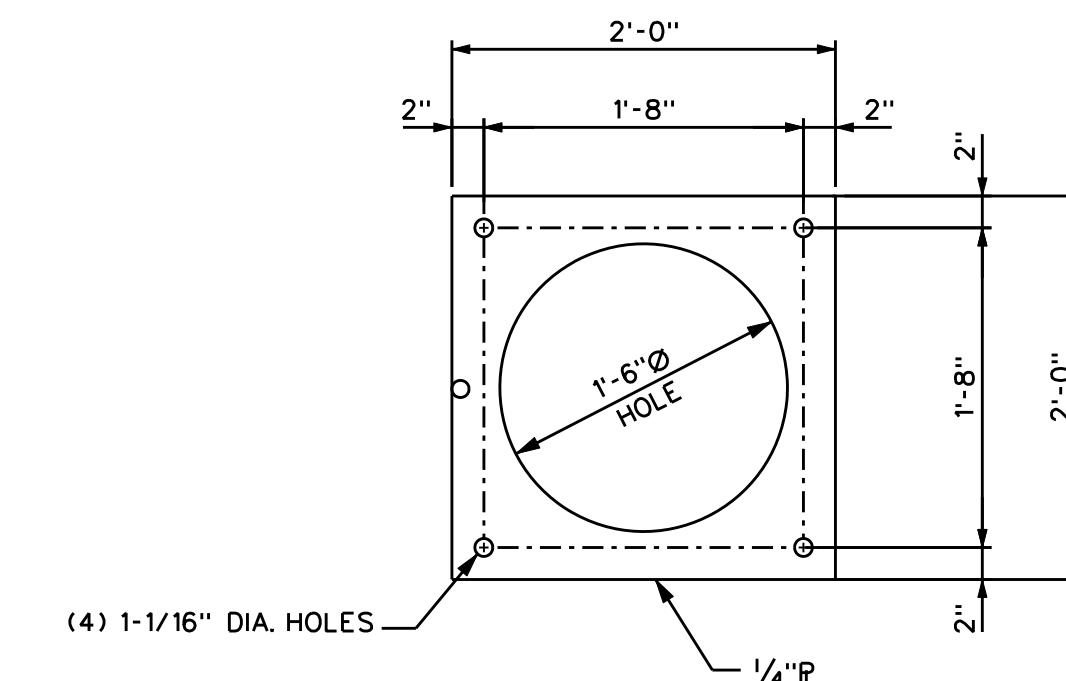
ANCHOR BOLT DETAIL  
SCALE: NONE



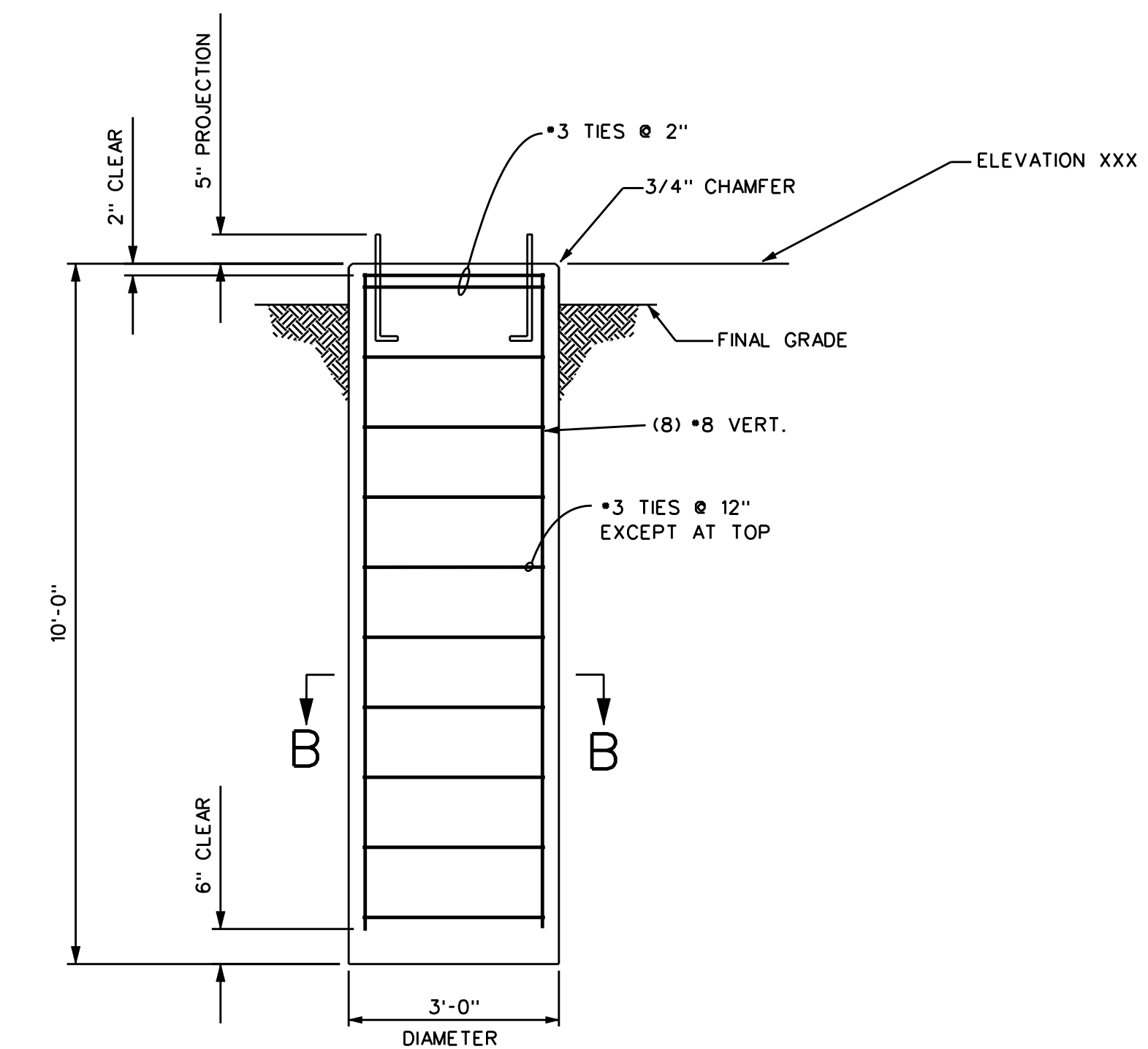
ANCHOR BOLT DETAIL  
SCALE: 1/2"=1'-0"



SECTION B-B  
SCALE: 1/2"=1'-0"



ANCHOR BOLT SETTING TEMPLATE  
SCALE: 1" = 1'-0"



FOUNDATION F6  
SCALE: 1/2"=1'-0"  
69kV SWITCH STAND  
(2-REQ'D)

FOUNDATION NOTES:

1. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.
2. ALLOWABLE SOIL BEARING PRESSURE IS 2000 PSF.
3. SET ANCHOR BOLTS USING TEMPLATES.
4. ALL ANCHOR BOLTS AND TEMPLATES SHALL BE PROVIDED BY CONTRACTOR.



REVISIONS	
0	ISSUED FOR REVIEW BY: LDP DWN: ND 12-27-10 CHKD: AM 12-30-10 APPD:
1	ISSUED FOR REVIEW BY: LDP DWN: KW 1-25-11 CHKD: AM 1-25-11 APPD:
FILMED :	

74-WLT-S836  
ORIGINAL DRAWING  
SEALED BY  
PAUL A. YOUNG, PE  
WISCONSIN  
31410-006

DRAWN ON MICROSTATION  
VERSION 8

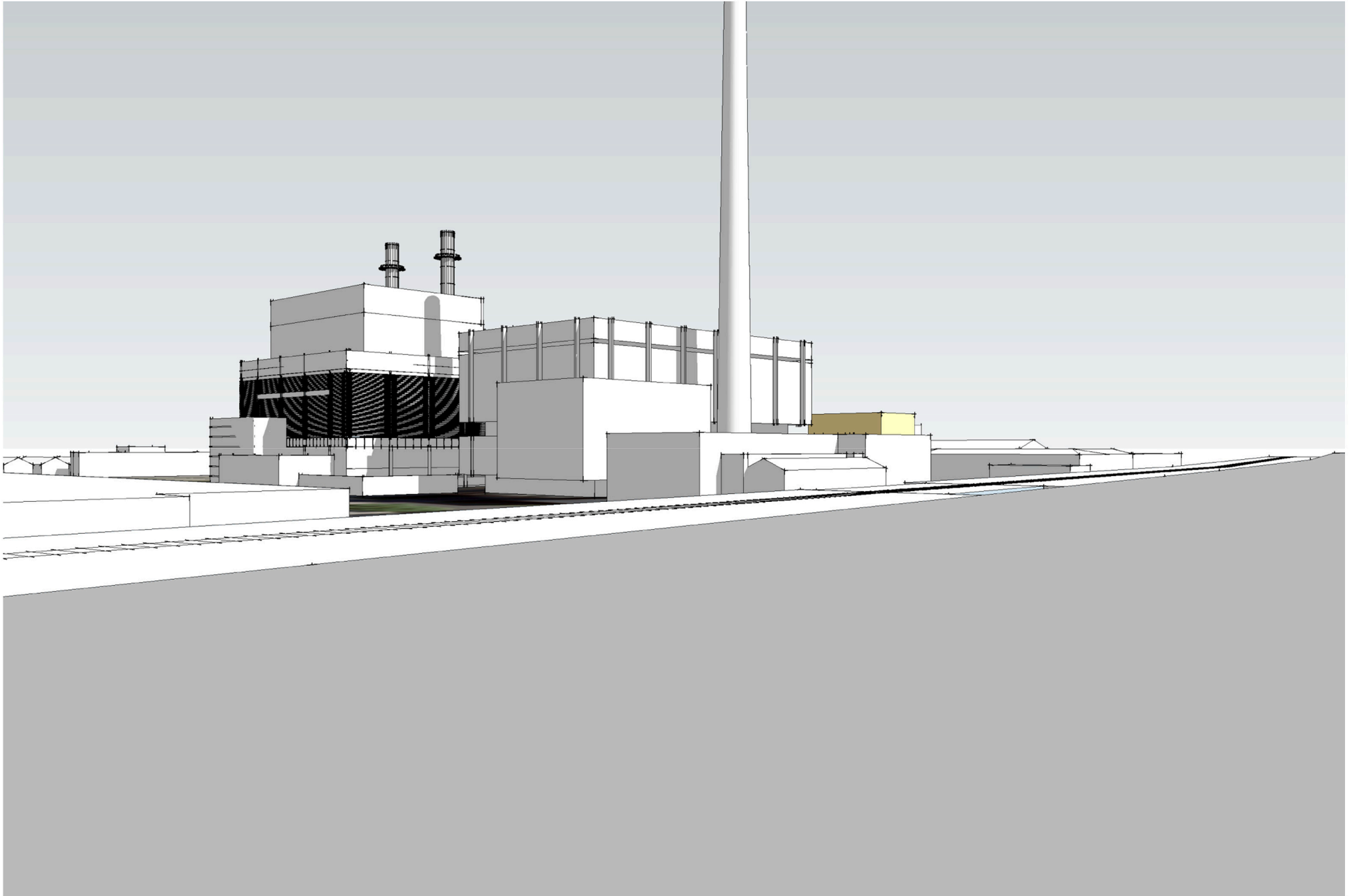
PLOT DATE:  
PLOT TIME:  
FILE NAME:

WALNUT SUBSTATION  
FOUNDATION DETAILS  
FOUNDATIONS F3 THRU F6

DESIGNED FOR:  
**mgde**  
MADISON GAS and  
ELECTRIC COMPANY

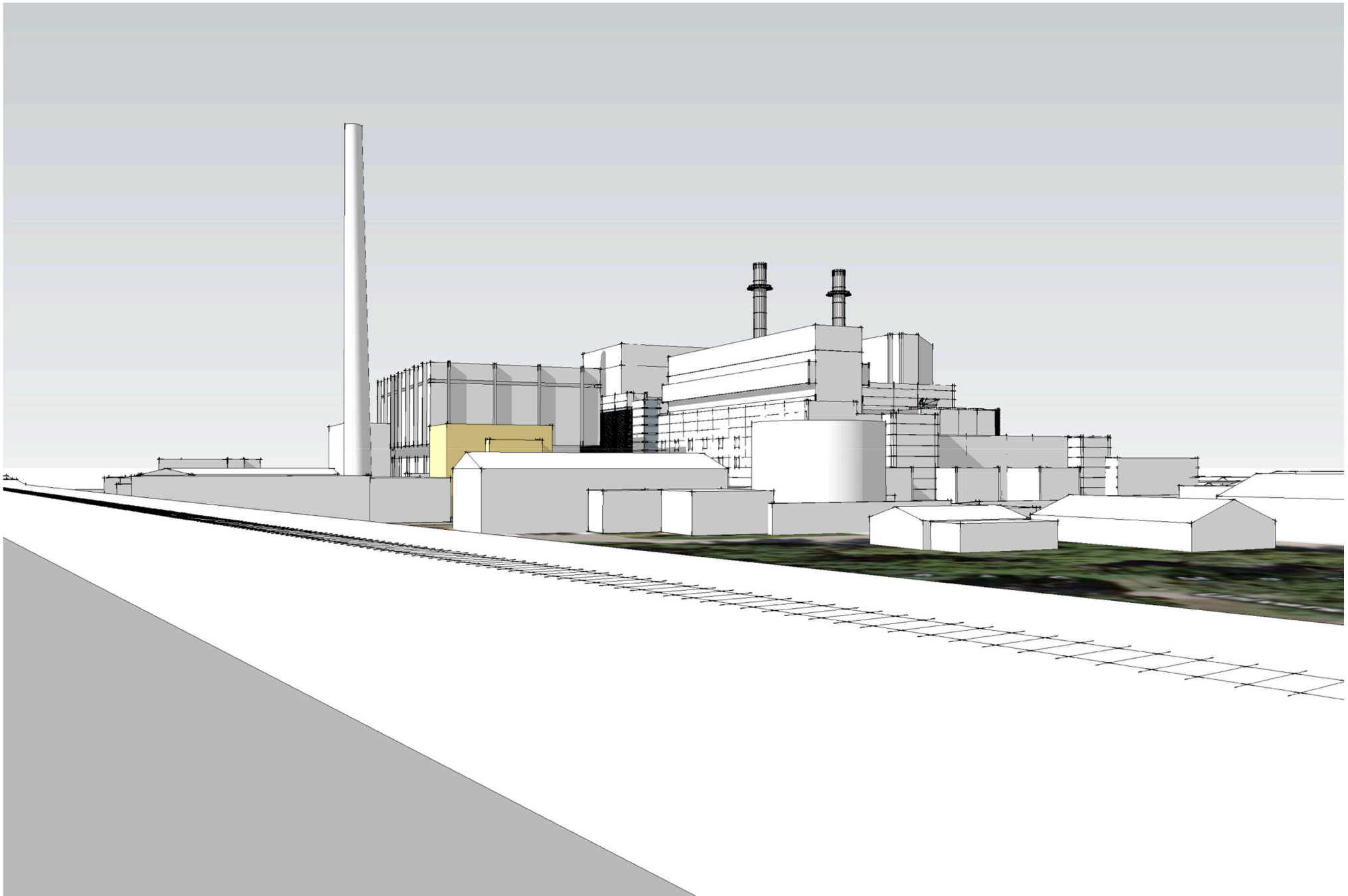
DESIGNED BY: LARAMORE DOUGLASS AND POPHAM  
CONSULTING ENGINEERS  
CHICAGO/ST. LOUIS

DRAWN BY	DATE	DESIGNED	CHECKED
ND	12/27/10	AM	AM
APPROVED: KAW		DRAWING NO. 74-WLT-S836	REV 1
SCALE AS NOTED			

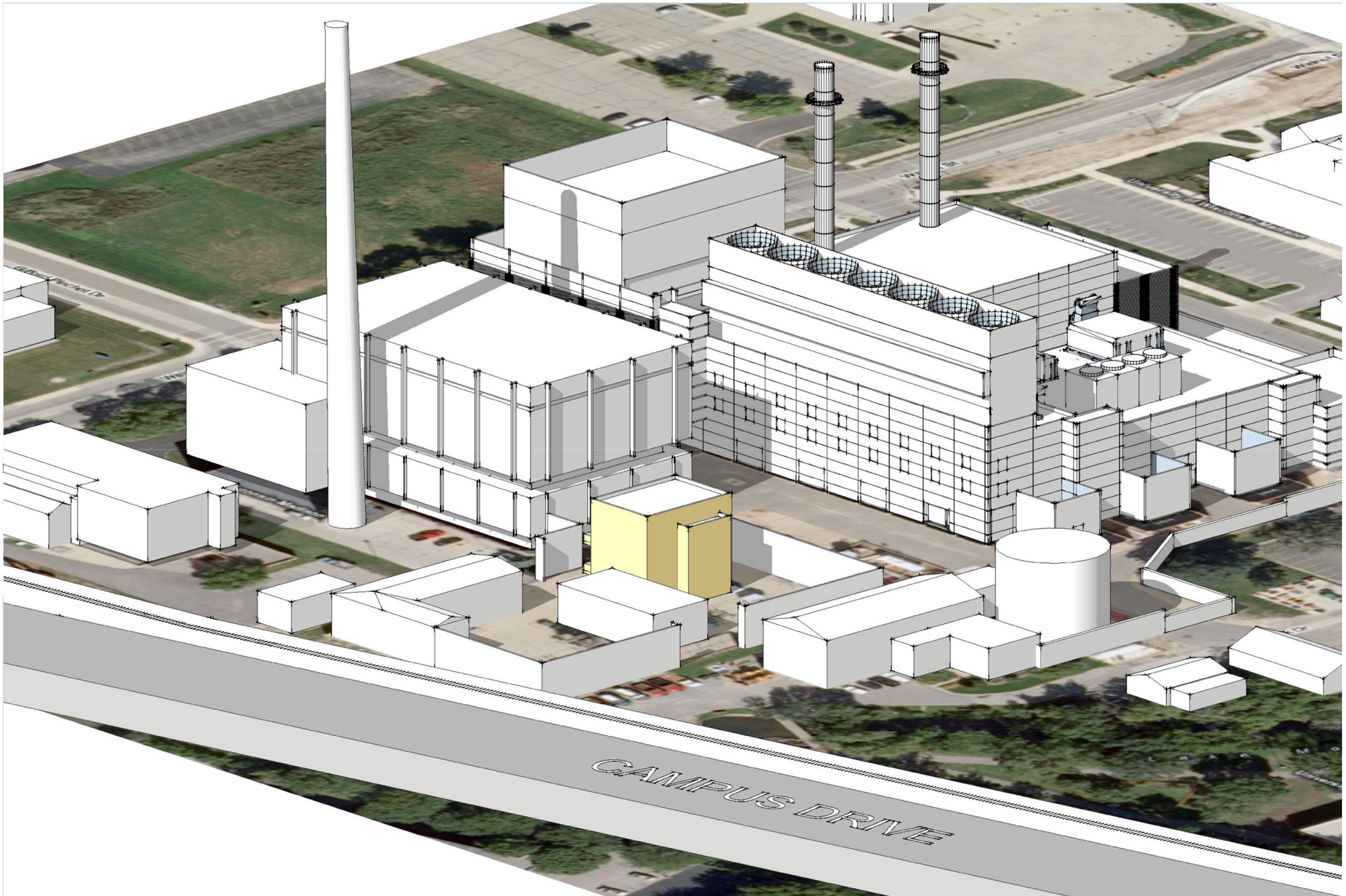


**Campus Drive - East Bound view**  
MG&E Walnut Street Substation Preliminary Massing Model

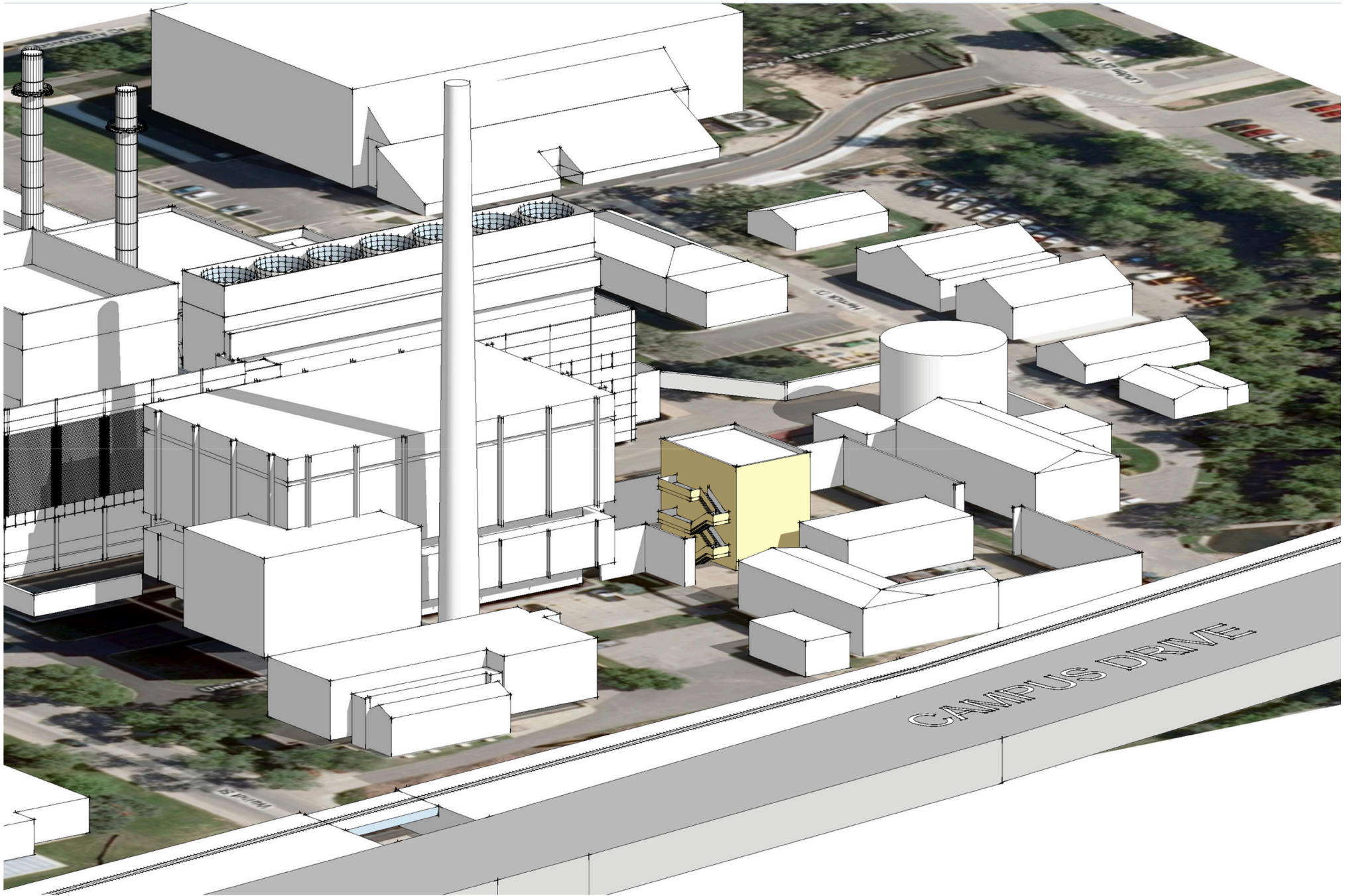




**Campus Drive - West Bound view**  
MG&E Walnut Street Substation Preliminary Massing Model



**Southeast Aerial view**  
MG&E Walnut Street Substation Preliminary Massing Model



**Southwest Aerial view**  
MG&E Walnut Street Substation Preliminary Massing Model



Herrick Dr

Linden Dr W

University of Wisconsin-Madison

Proposed New Switchgear Building

Walnut St

Campus Dr

Campus Dr

Paul