

TWIN BRIDGES SUBSTATION TRANSFORMER ADDITION

BID #2258, ACCEPTING BIDS TUESDAY, AUGUST 20, 2019

CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

DRAWING LIST

	TBTA-01	Site Plan
[REV. B2]	TBTA-01A	Partial Site Surfacing Plan
	TBTA-02	Partial One-Line Diagram
	TBTA-03	Partial Structure Plan
	TBTA-03A	Structure Elevations
	TBTA-03B	Structure Elevations
	TBTA-03C	Miscellaneous Details
	TBTA-04	Overall Grounding Plan
[REV. B2]	TBTA-04A	Partial Grounding Plan
	TBTA-04B	Grounding Details
[REV. B2]	TBTA-05	Partial Foundation Plan
	TBTA-05A	Transformer Foundation Plan & Details
[REV. B2]	TBTA-05B	Foundation Details
[REV. B1]	TBTA-05C	Foundation Details
	TBTA-05D	Control Building Foundation Plan & Details
[REV. B1]	TBTA-05E	Oil Containment Pit Plan & Details
	TBTA-06	Partial Conduit Plan
[REV. B1]	TBTA-06A1	Conduit & Wiring Schedules
[REV. B1]	TBTA-06A2	Conduit & Wiring Schedules
	TBTA-06B	Conduit, Wiring & Pull Box Details
	TBTA-06C	Pull Box Details
	TBTA-06D	AC & DC Panels
	TBTA-06E	230kV 3Ø Rapides Line PT Junction Box
	TBTA-07	New Control Building Layout
	TBTA-07A	New Control Building Interior Elevations
[REV. B2]	TBTA-07B	Existing Control Building Layout

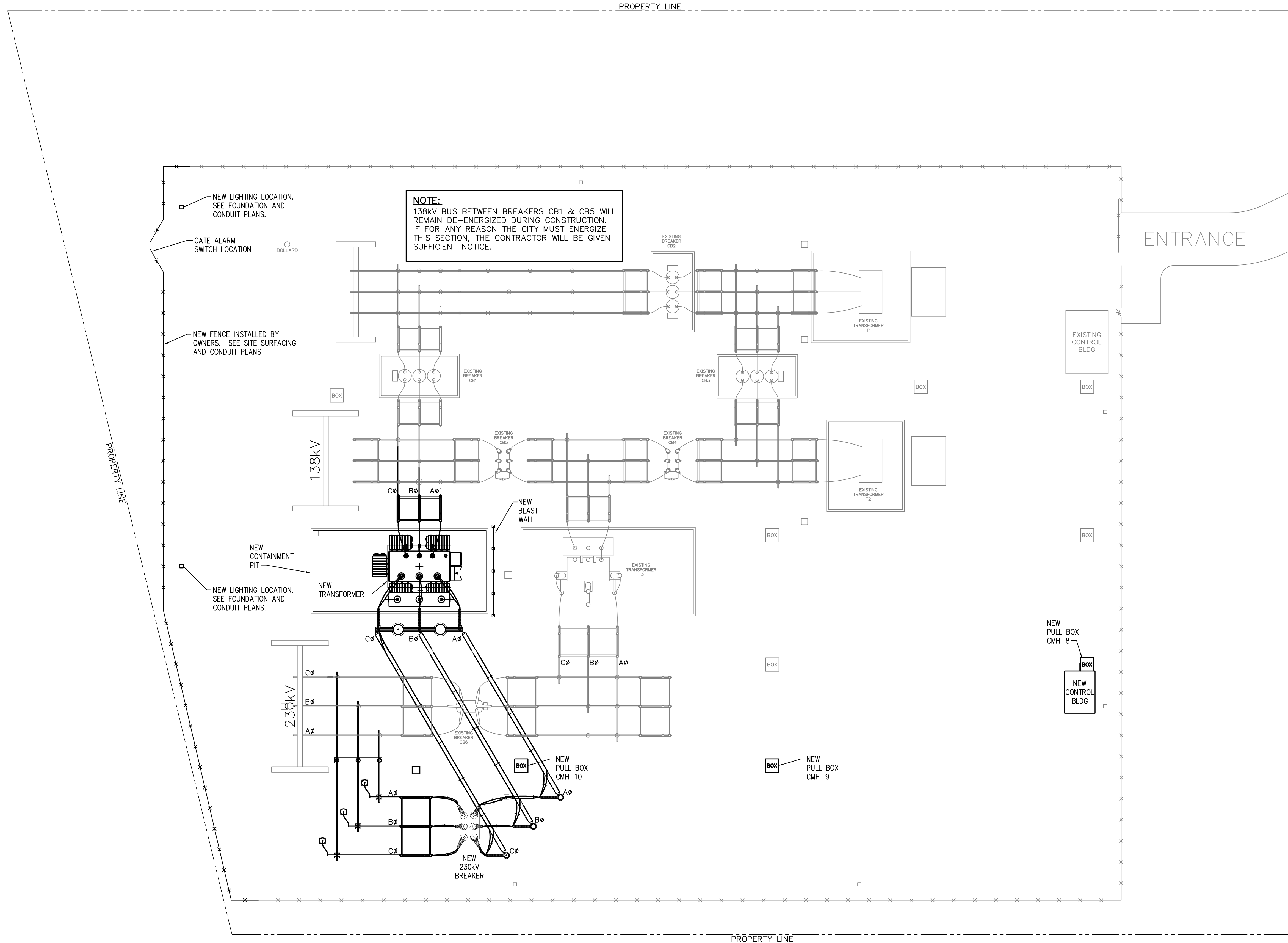
BHA, INC.

9342 LINDALE AVENUE
BATON ROUGE, LOUISIANA

CONSTRUCTION

FOR BIDDING
PURPOSES ONLY

BHA File No: 2019-E-16A
June 2019 - Revision B2



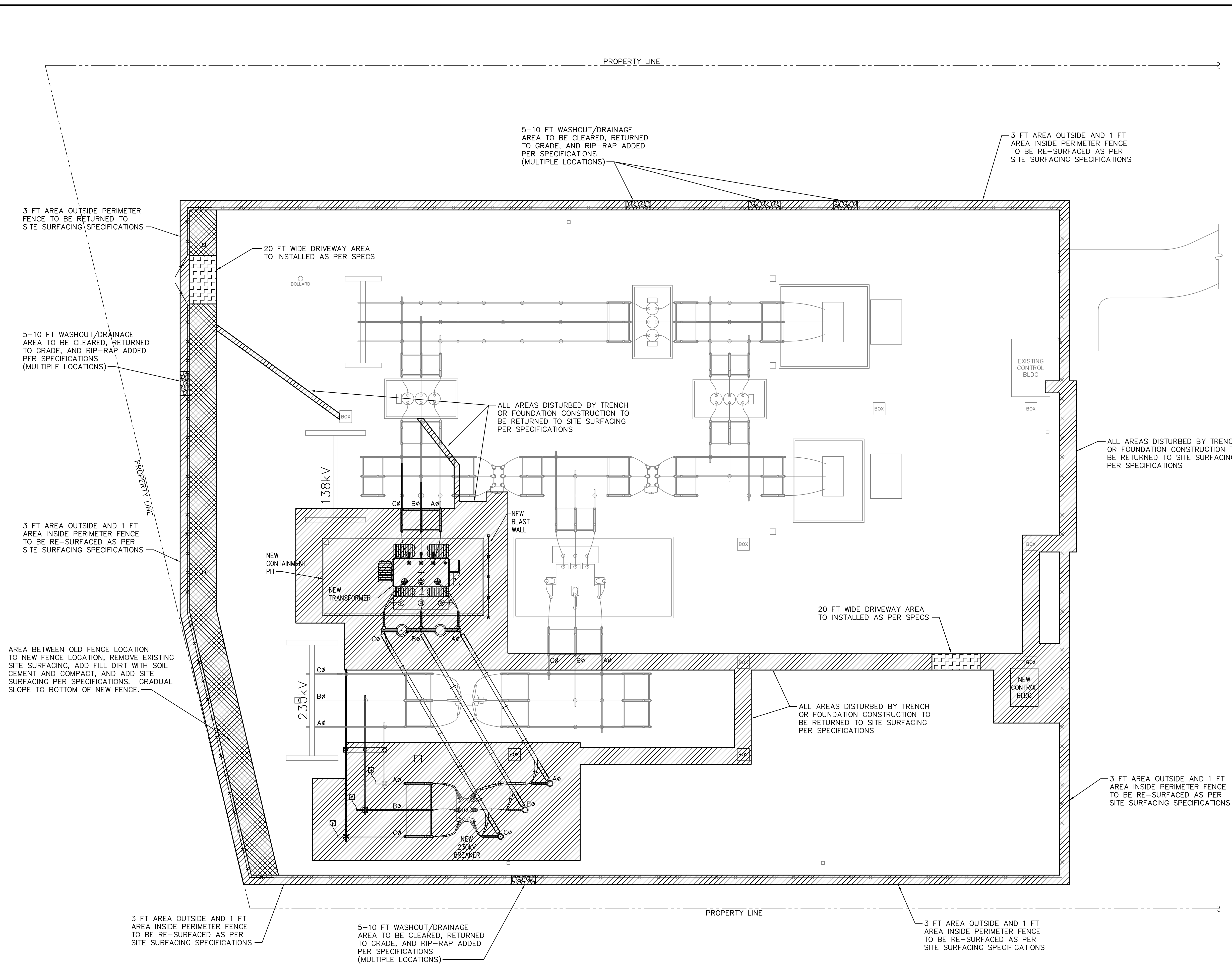
LEGEND:
 — EXISTING
 — PROPOSED

SITE PLAN
 SCALE: 1"=20.0'

FOR BIDDING PURPOSES ONLY

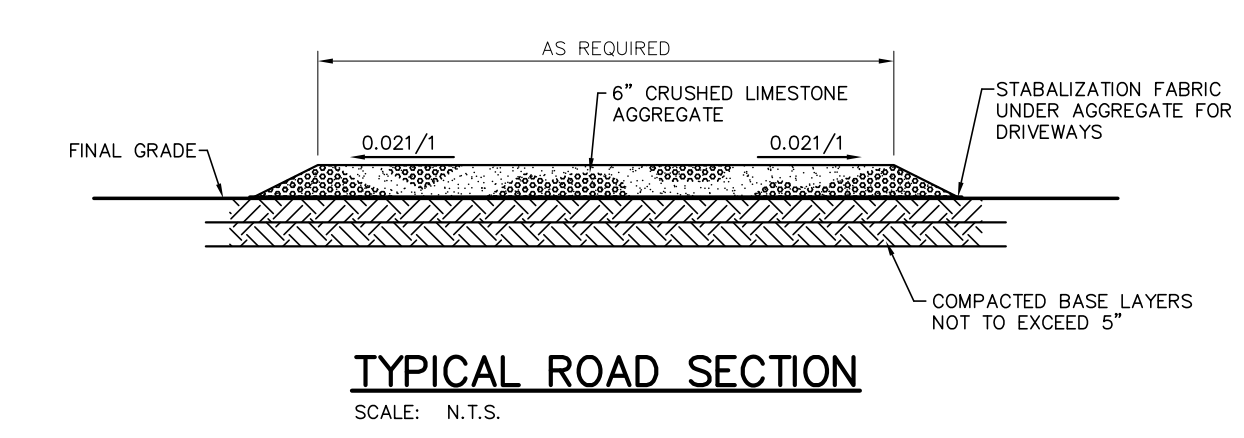
				TWIN BRIDGES TRANSFORMER ADDITION SITE PLAN			
				CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE: 1"=20.0'		DATE: 10/18/17		DRAWN BY: JHD		APPROVED BY: JJC	
PROJECT NO.: 2019-E-16A		REV.:		DRAWING NO.:		REV.:	
BHA, INC. BATON ROUGE, LOUISIANA		TBT-01		B			
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION				
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION				
NO.	DATE	BY:	REVISIONS				

BHA-24-101.DWG 04/01/2019



LEGEND

	SITE SURFACING AREA TO BE RETURNED TO SITE SURFACING PER SPECIFICATIONS 6" LIMESTONE AGGREGATE (GRADE 57)
	SOIL CEMENT & SITE SURFACING AREA TO BE CLEARED OF SITE SURFACING, ADD SOIL CEMENT, GRADUAL SLOPE TO NEW FENCE BOTTOM, AND RETURNED TO SITE SURFACING PER SPECIFICATIONS. 6" LIMESTONE AGGREGATE (GRADE 57)
	DRIVE-WAY DRIVE-WAY AREA TO BE COMPACTED TO SPECIFICATIONS, COVERED WITH STABILIZATION FABRIC AND 6" LIMESTONE AGGREGATE (1/2 GRADE 610, 1/2 GRADE 57)
	WASH OUT AREA/DRAINAGE AT PERIMETER FENCE, ANY EXISTING WASHOUT AREAS TO BE COMPACTED PER SPECIFICATIONS, COVERED WITH STABILIZATION FABRIC AND 12" OF RIPRAP, (4"-5" ROCK)



SITE PLAN
SCALE: 1"=20.0'

LEGEND:
— EXISTING
— PROPOSED

FOR BIDDING PURPOSES ONLY

NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

TWIN BRIDGES TRANSFORMER ADDITION
SITE SURFACING PLAN
CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

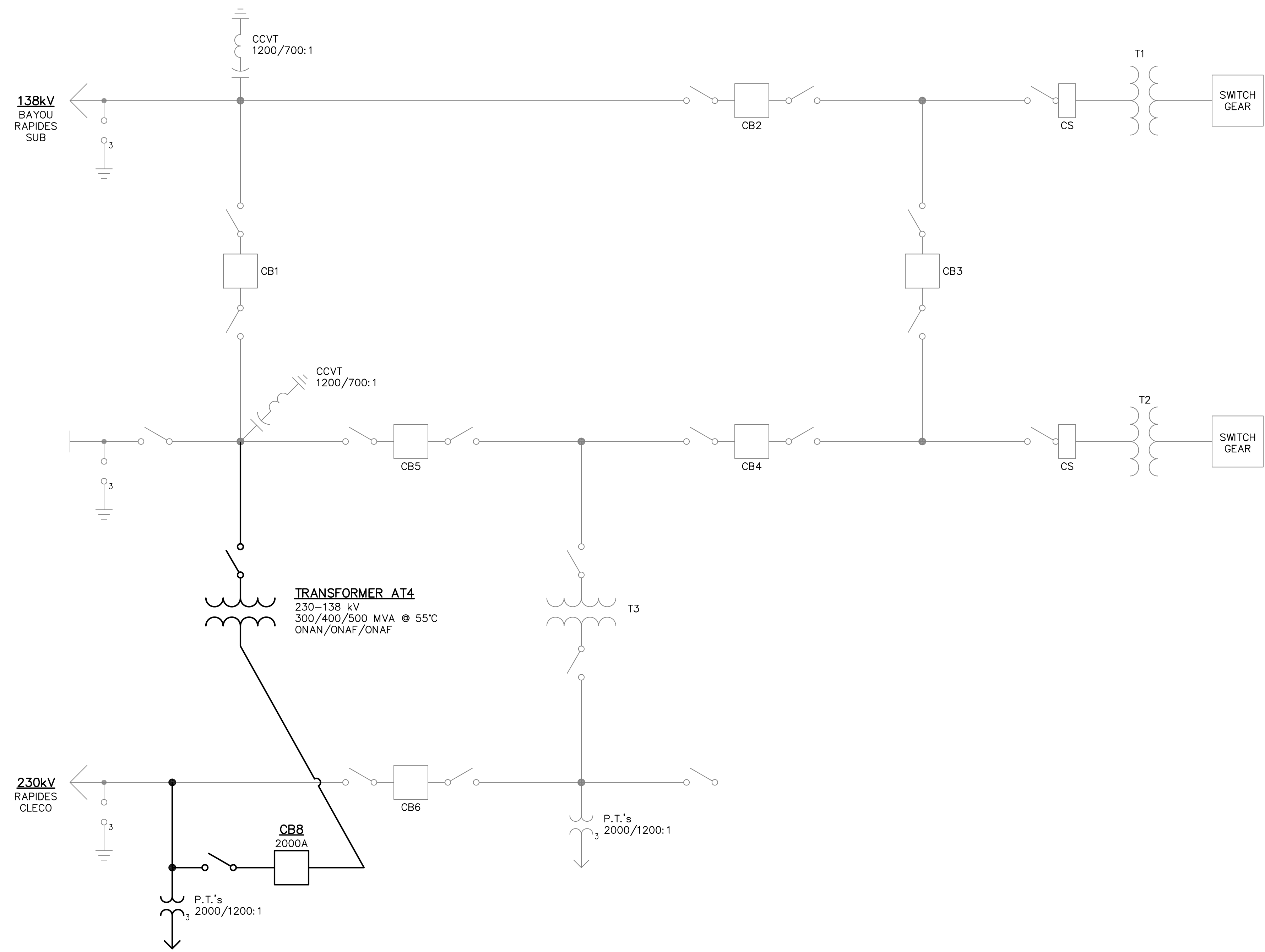
SCALE: 1"=20.0' DATE: 10/18/17 DRAWN BY: JHD APPROVED BY: JJC PROJECT NO.: 2019-E-16A

BHA, INC.
BATON ROUGE, LOUISIANA

DRAWING NO.: **TBTA-01A** REV.: **B**

BHA: COATBTA02.dwg USF-1 05/20/19 11:39AM BY #27

NOTE:
 138kV BUS BETWEEN BREAKERS CB1 & CB5 WILL REMAIN DE-ENERGIZED DURING CONSTRUCTION. IF FOR ANY REASON THE CITY MUST ENERGIZE THIS SECTION, THE CONTRACTOR WILL BE GIVEN SUFFICIENT NOTICE.



PARTIAL ONE-LINE DIAGRAM
 N.T.S.

LEGEND:
 — EXISTING
 — PROPOSED

FOR BIDDING PURPOSES ONLY

				TWIN BRIDGES TRANSFORMER ADDITION PARTIAL ONE-LINE DIAGRAM			
				CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE: N.T.S.		DATE: 10/18/17		DRAWN BY: JHD		APPROVED BY: JJC	
						PROJECT NO.: 2019-E-16A	
						DRAWING NO.: TBTA-02	
						REV.: B	
						BHA, INC. BATON ROUGE, LOUISIANA	
NO.	DATE	BY	REVISIONS				

EXISTING STATION CONTINUES

NOTE:
138KV BUS BETWEEN BREAKERS CB1 & CB5 WILL REMAIN DE-ENERGIZED DURING CONSTRUCTION. IF FOR ANY REASON THE CITY MUST ENERGIZE THIS SECTION, THE CONTRACTOR WILL BE GIVEN SUFFICIENT NOTICE.

STRUCTURE PLAN

SCALE: 3/32"=1'-0"

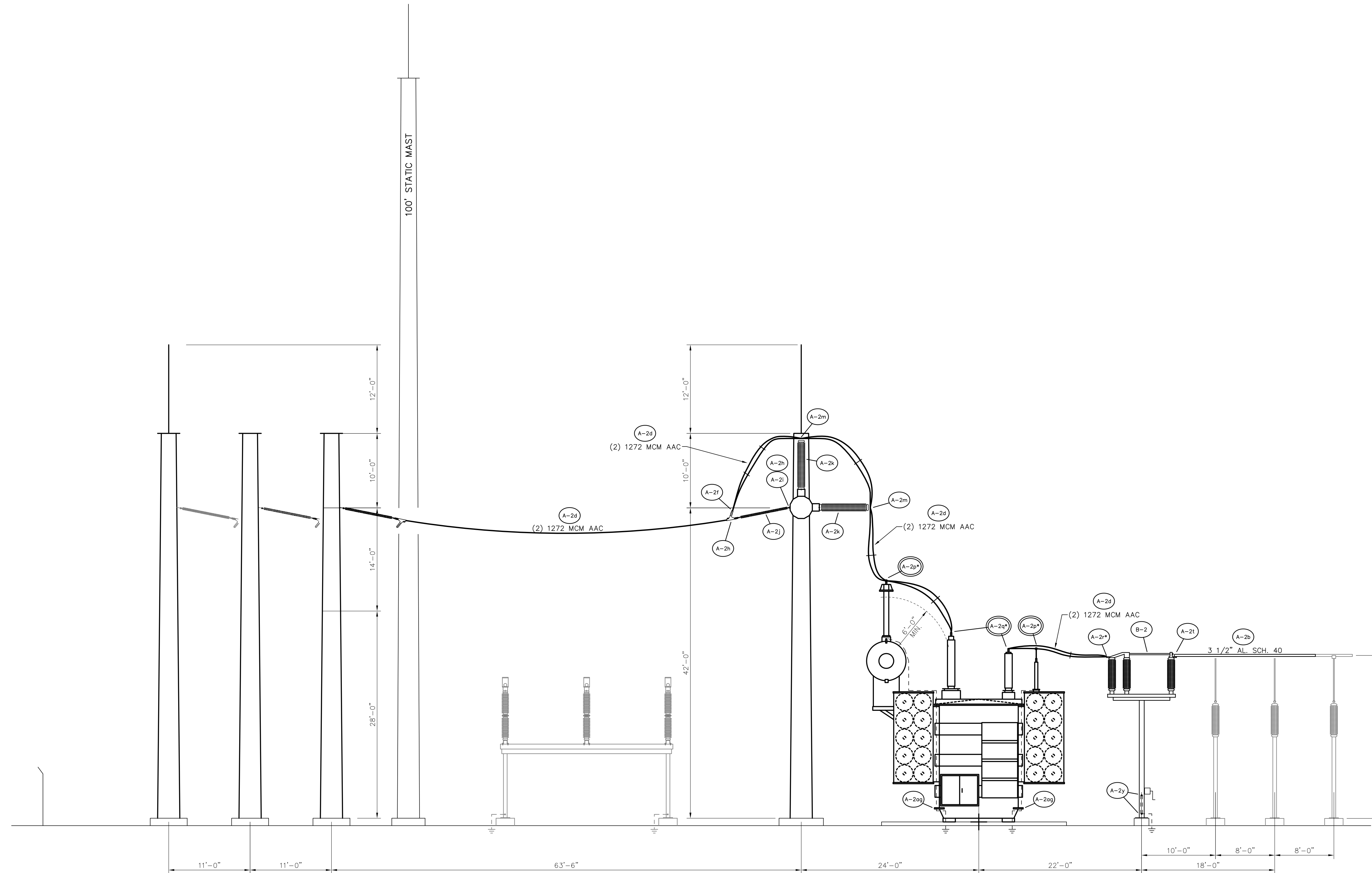
* - CONNECTOR AND/OR WIRE FURNISHED BY CONTRACTOR, SEE CHART THIS SHEET

CONNECTORS & WIRE SUPPLIED BY CONTRACTOR				
ITEM	QTY	DESCRIPTION	MANUFACTURER	CATALOG NO.
A-2p	6	TERMINAL, CABLE TO 4-HOLE PAD	ANDERSEN	TLD-92-L
A-2q	18	TERMINAL, 2 CABLES TO 4-HOLE PAD	ANDERSEN	ASCF-16-D
A-2r	6	BRONZE TAP TERMINAL, 2 CABLE TO FLAT	ANDERSEN	ACF-9-C
A-2of	30 ft	636 MCM AAC WIRE		
A-2og	18	GROUND CONNECTOR	ANDERSEN	VL4S-41-2-H

LEGEND:
— EXISTING
— PROPOSED

FOR BIDDING PURPOSES ONLY

B		5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION	TWIN BRIDGES TRANSFORMER ADDITION PARTIAL STRUCTURE PLAN CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA	SCALE: 3/32"=1'-0"	DATE: 10/18/17	DRAWN BY: JHD	APPROVED BY: JJC	PROJECT NO.:
A		3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION		2019-E-16A	BHA, INC. BATON ROUGE, LOUISIANA		DRAWING NO.:	REV.:
NO.	DATE	BY:	REVISIONS		TBTA-03					B



STRUCTURE ELEVATION A-A

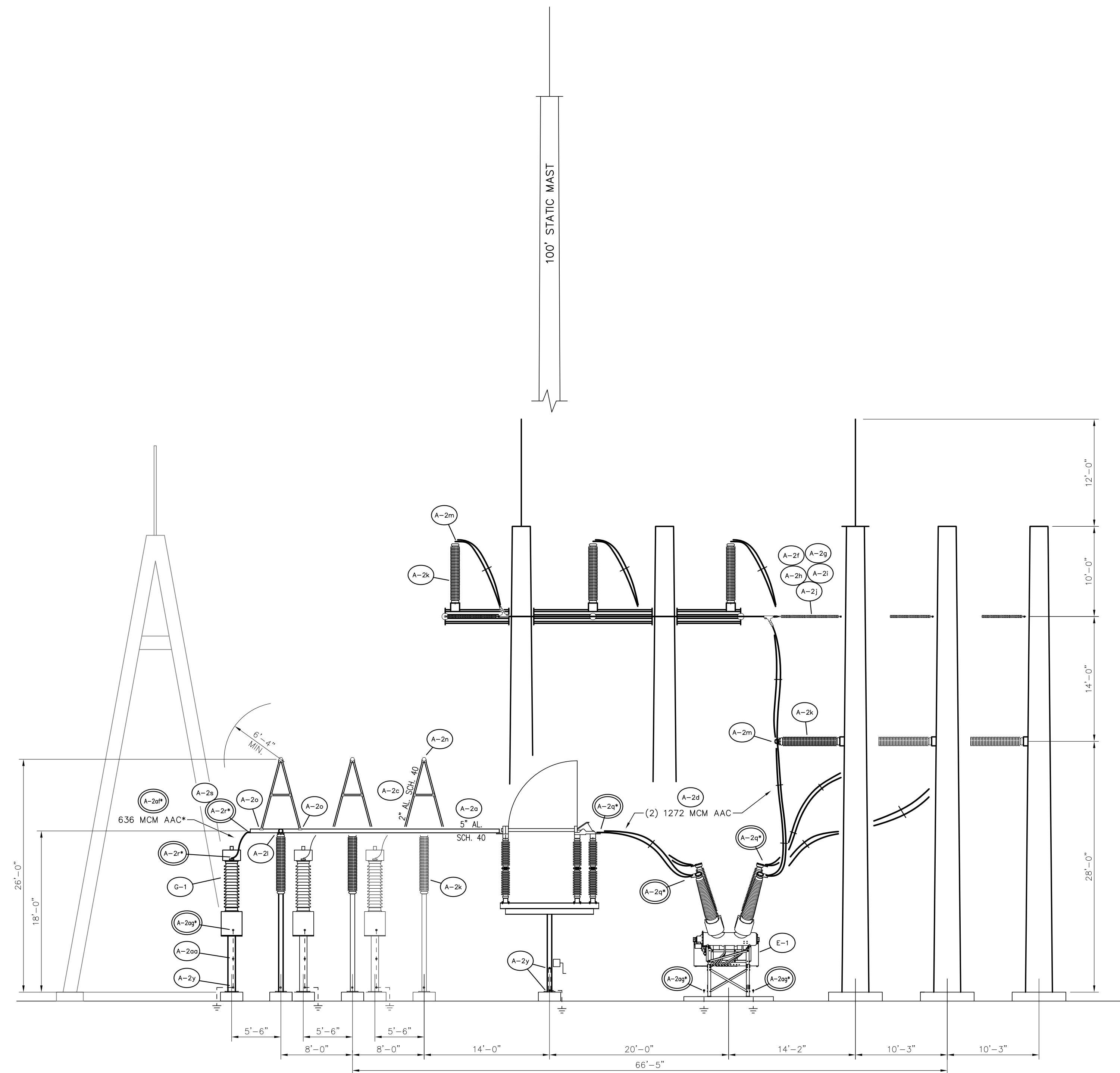
SCALE: 1/8"=1'-0"

* - CONNECTOR AND/OR WIRE FURNISHED BY CONTRACTOR, SEE CHART SHT. TBTA-03

LEGEND:
 — EXISTING
 — PROPOSED

**FOR BIDDING
 PURPOSES ONLY**

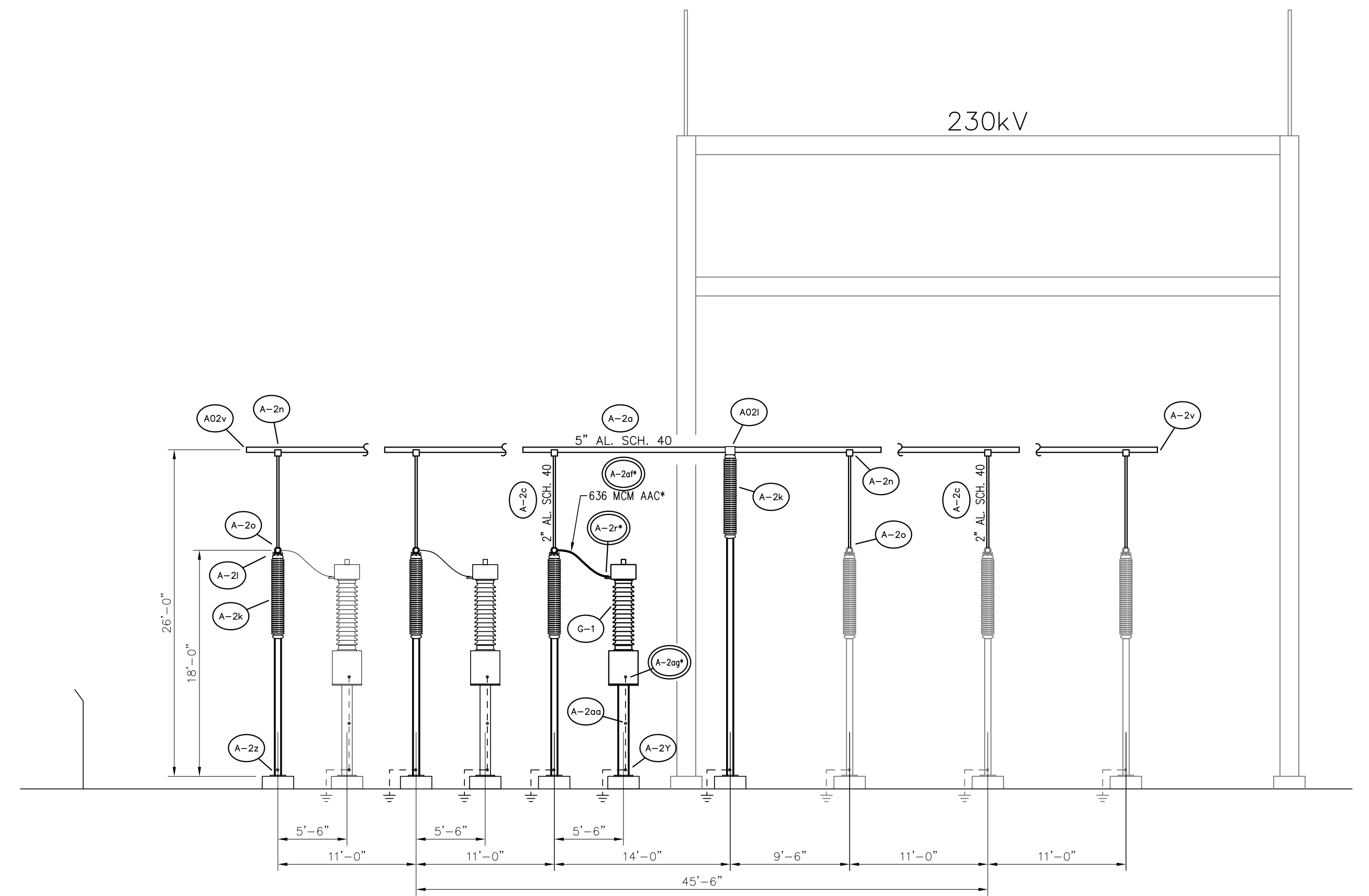
				TWIN BRIDGES TRANSFORMER ADDITION STRUCTURE ELEVATIONS			
				CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE: 1/8"=1'-0"		DATE: 10/18/17		DRAWN BY: JHD		APPROVED BY: JJC	
						PROJECT NO.: 2019-E-16A	
				BHA, INC. BATON ROUGE, LOUISIANA		DRAWING NO.: TBTA-03A	
						REV.: B	
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION				
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION				
NO.	DATE	BY	REVISIONS				



STRUCTURE ELEVATION B-B

SCALE: 1/8"=1'-0"

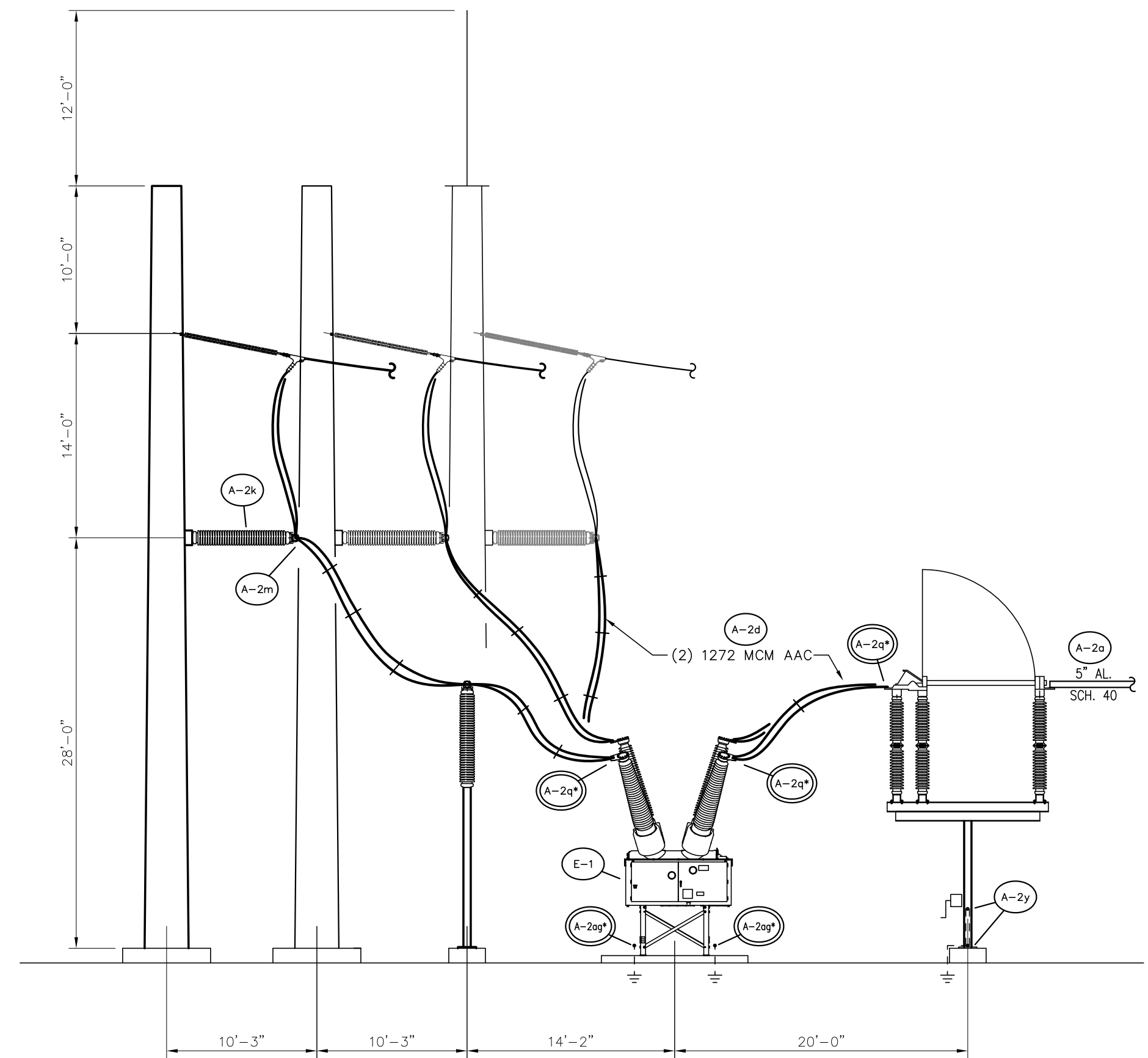
* - CONNECTOR AND/OR WIRE FURNISHED BY CONTRACTOR, SEE CHART SHT. TBTA-03



STRUCTURE ELEVATION C-C

SCALE: 1/8"=1'-0"

* - CONNECTOR AND/OR WIRE FURNISHED BY CONTRACTOR, SEE CHART SHT. TBTA-03



STRUCTURE ELEVATION D-D

SCALE: 1/8"=1'-0"

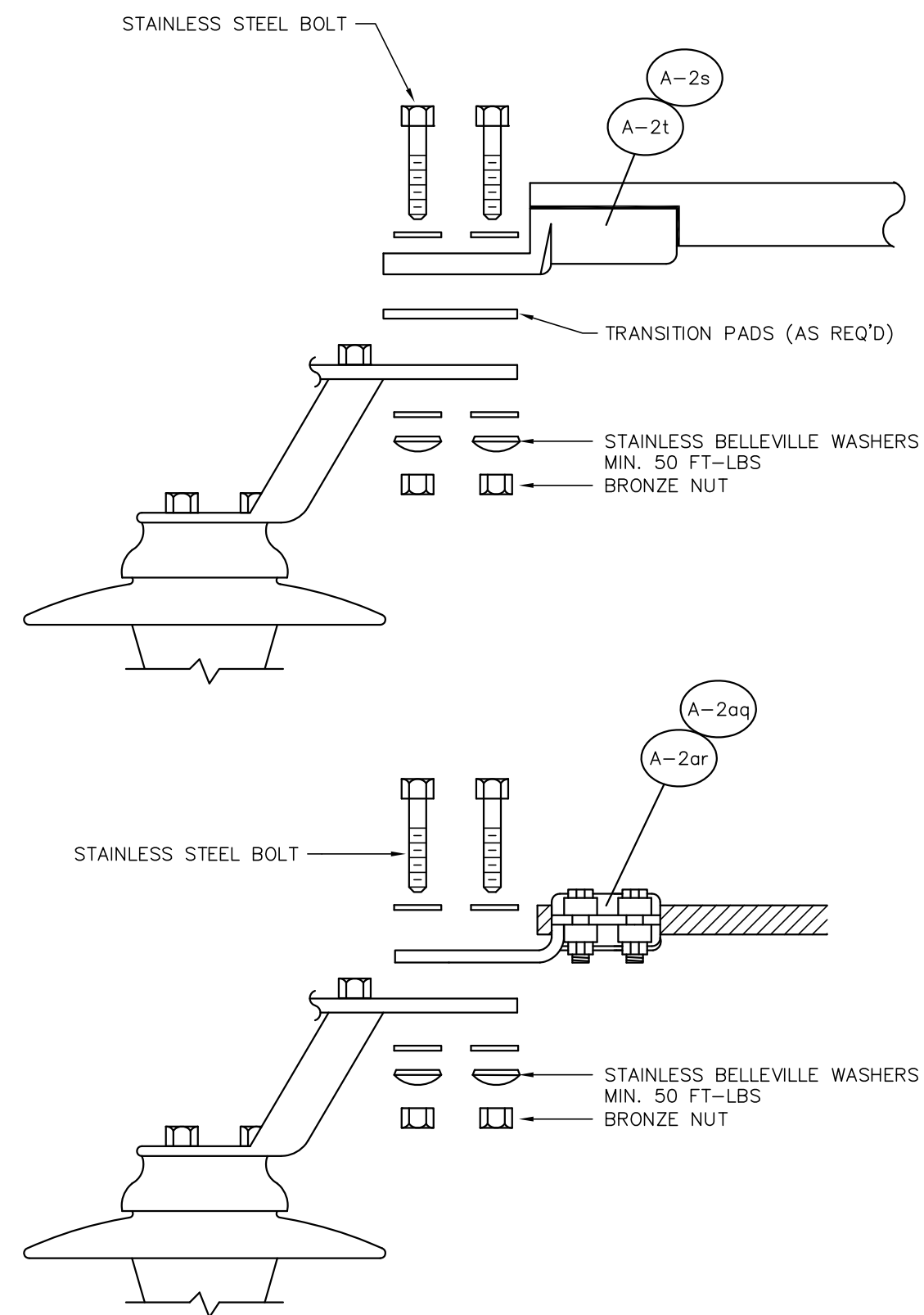
* - CONNECTOR AND/OR WIRE FURNISHED BY CONTRACTOR, SEE CHART SHT. TBTA-03

LEGEND:
 — EXISTING
 — PROPOSED

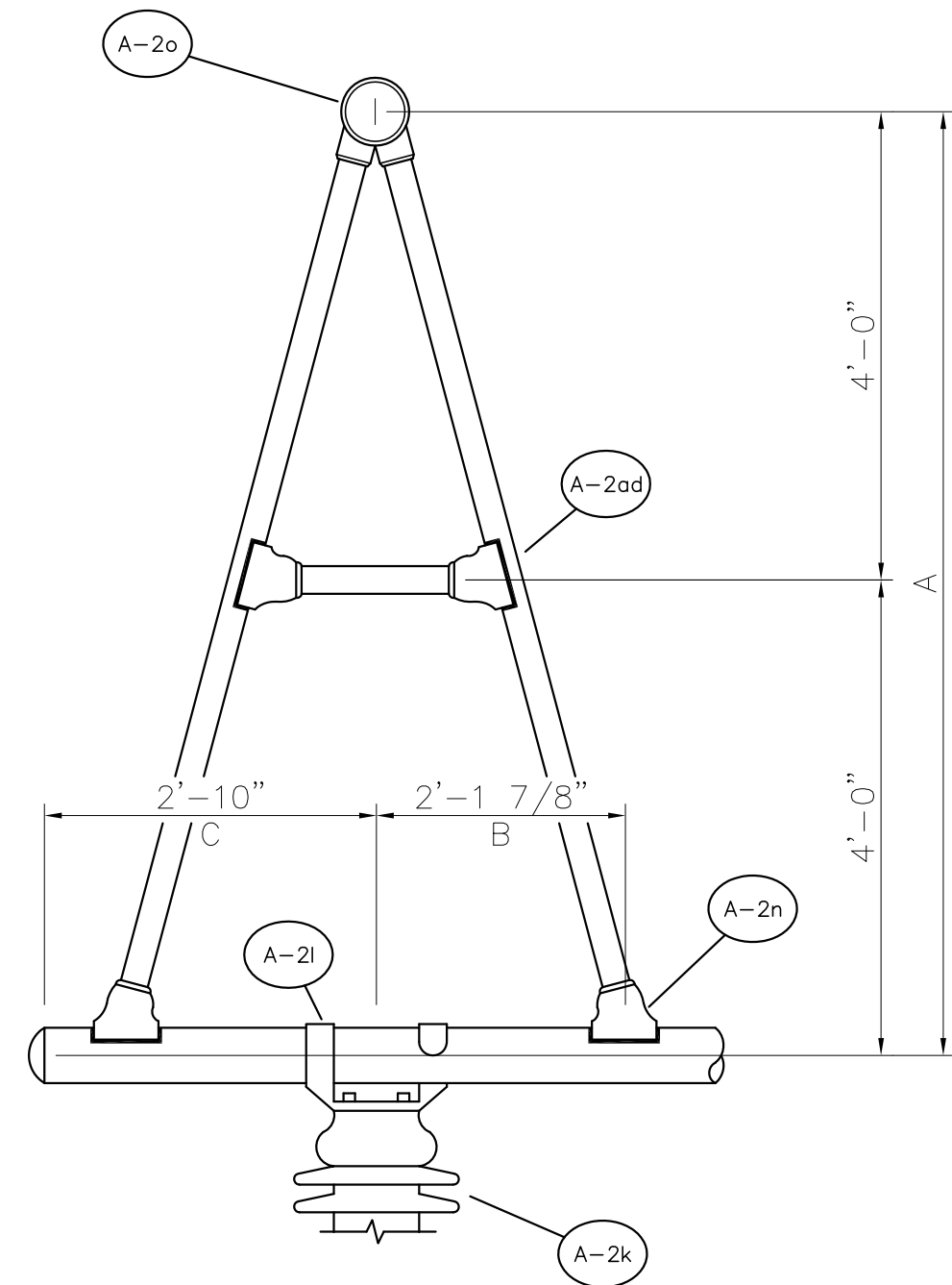
FOR BIDDING PURPOSES ONLY

NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

TWIN BRIDGES TRANSFORMER ADDITION STRUCTURE ELEVATIONS			
CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE: 1/8"=1'-0"	DATE: 10/18/17	DRAWN BY: JHD	APPROVED BY: JJC
			PROJECT NO.: 2019-E-16A
BHA, INC. BATON ROUGE, LOUISIANA			DRAWING NO.: TBTA-03B
			REV.: B

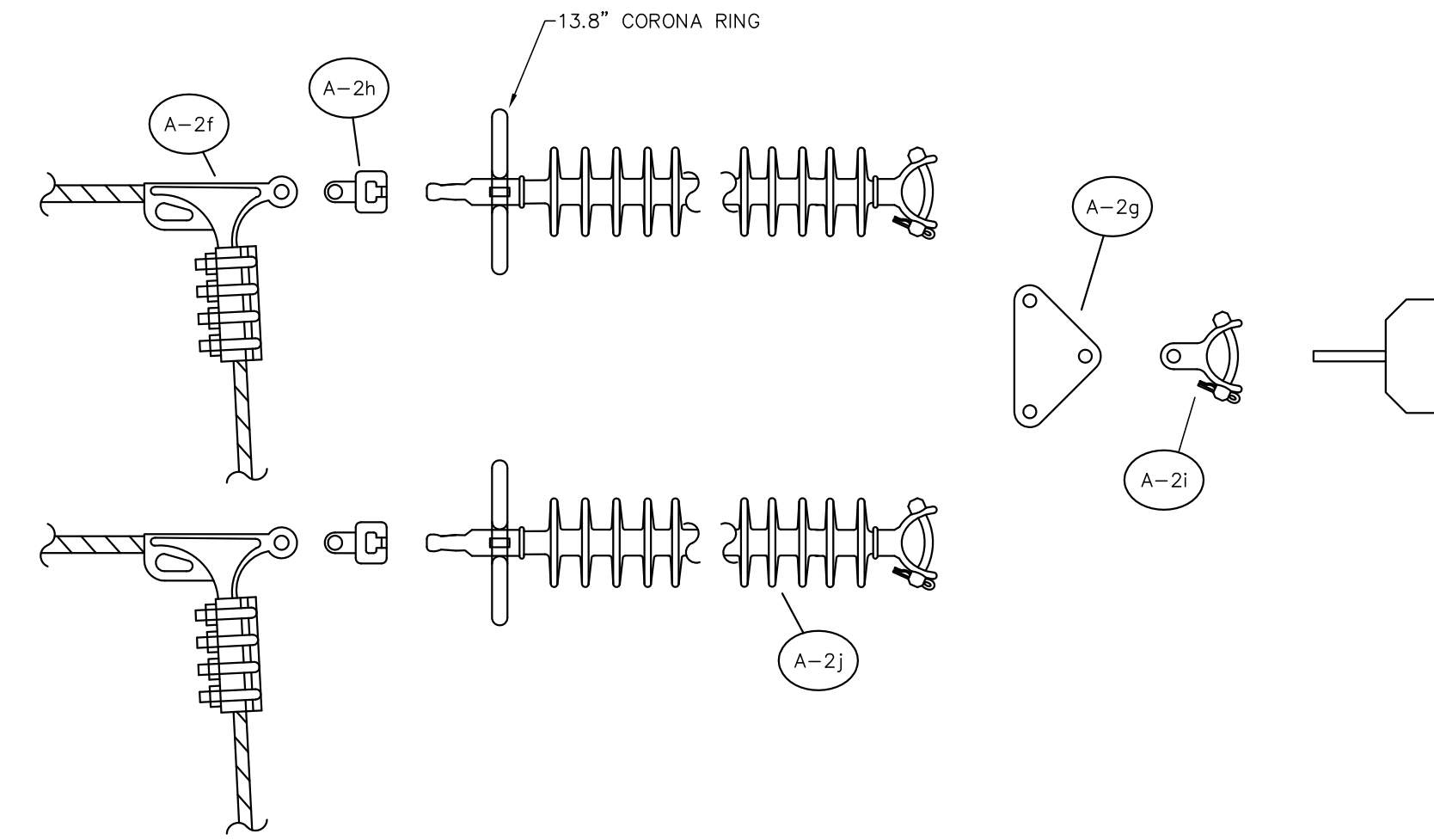


① SWITCH TERMINAL CONNECTION DETAIL



KV	A	B	C
230	8'-0"	2'-1 7/8"	2'-10"

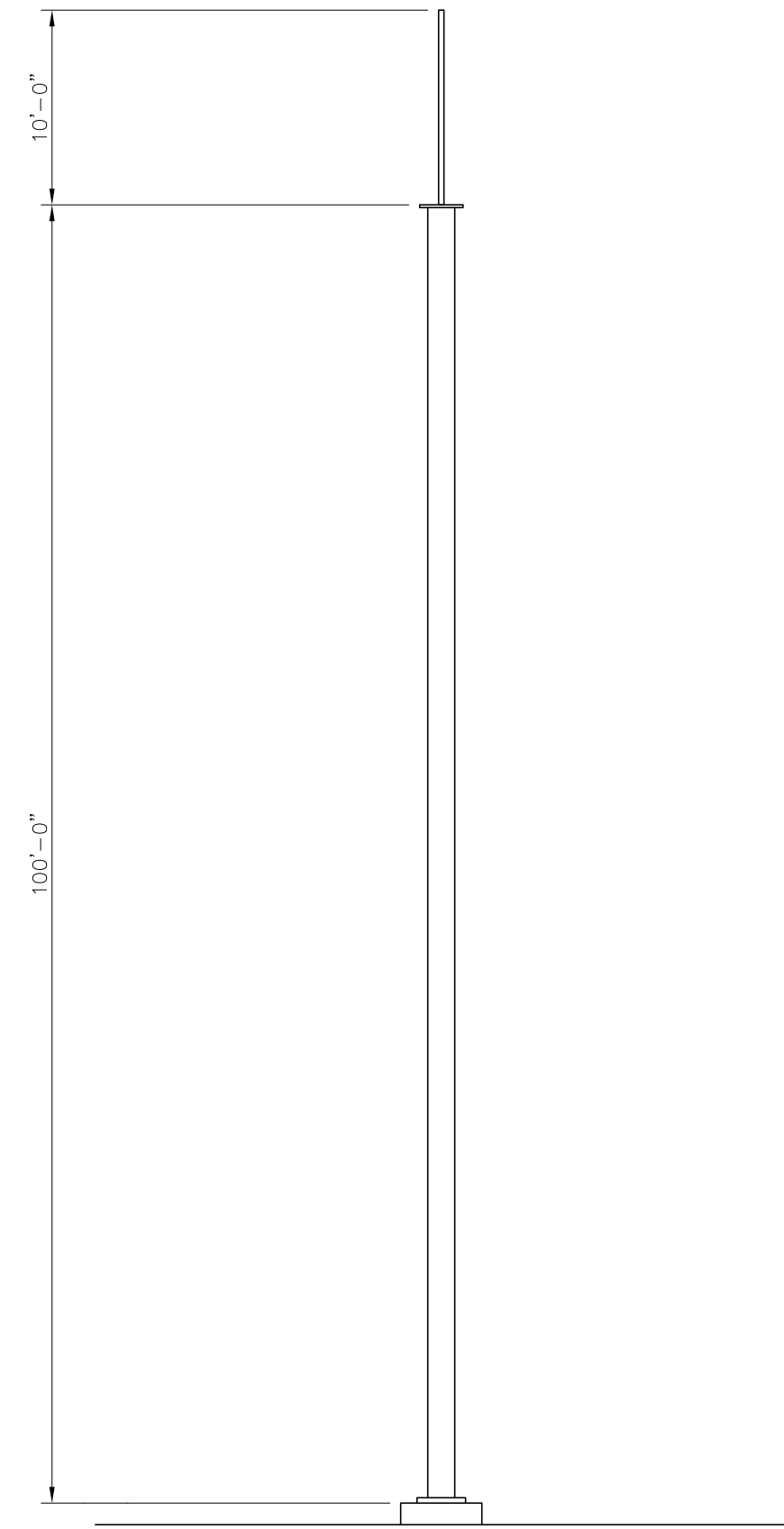
② BUS SUPPORT DETAIL



③ INSULATOR STRING DETAIL

NOTES :

- FABRICATOR SHALL FURNISH STAINLESS STEEL BOLTS, FOR ALL BOLTED ALUMINUM CONNECTORS. ALL BOLTS SHALL BE FURNISHED WITH TWO (2) STAINLESS STEEL FLAT WASHERS AND ONE (1) STAINLESS STEEL BELLEVILLE WASHER.
- THE CONTRACTOR SHALL FURNISH NO-OX-ID GRADE A FOR ALL ELECTRICAL CONNECTIONS.
- ALL 1/2" S.S. BOLTS SHALL BE TORQUED TO 40 FT-LBS.



④ STATIC MAST DETAIL

FOR BIDDING
PURPOSES ONLY

TWIN BRIDGES TRANSFORMER ADDITION
MISCELLANEOUS DETAILS

CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

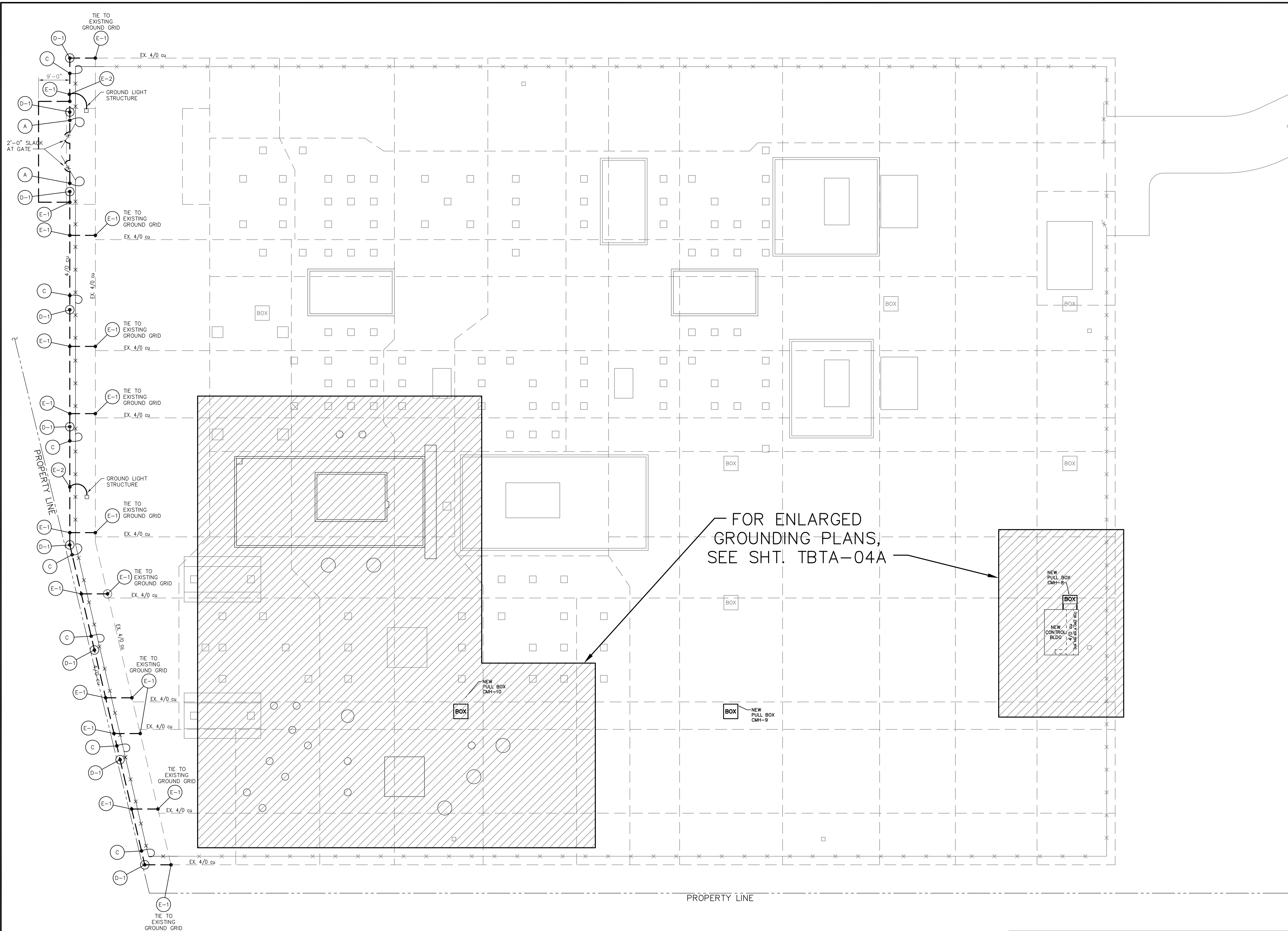
SCALE	DATE	DRAWN BY	APPROVED BY	PROJECT NO. :
N.T.S.	03/12/18	JHD	JJC	2019-E-16A

BHA, INC.
BATON ROUGE, LOUISIANA

DRAWING NO. :	REV. :
TBTA-03C	B

NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY -- CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY -- CONSTRUCTION

BHA\24\DWG\20190219



- NOTES:**
1. ALL GROUNDING CONDUCTORS, TAPS AND GROUND RODS TO BE A MINIMUM OF 1'-6" BELOW GRADE.
 2. BUBBLES REFERENCE DETAILS ON SHT. TBTA-04B.
 3. CONTRACTOR TO VERIFY ALL SWITCH HANDLE LOCATIONS PRIOR TO INSTALLING GROUND SYSTEM.
 4. WHEN NEW FOUNDATIONS AND PULLBOXES INTERFERE WITH EXISTING GROUND GRID, THE CONTRACTOR SHALL RELOCATE GROUND WIRE, IF POSSIBLE, OR MODIFY GROUND GRID TO EXCEPT NEW FOUNDATIONS AND PULLBOXES.
 5. ALL ABOVE AND BELOW GRADE GROUND WIRE SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR.

FOR ENLARGED
GROUNDING PLANS,
SEE SHT. TBTA-04A

LEGEND:
 - - - - - EXISTING
 ———— PROPOSED

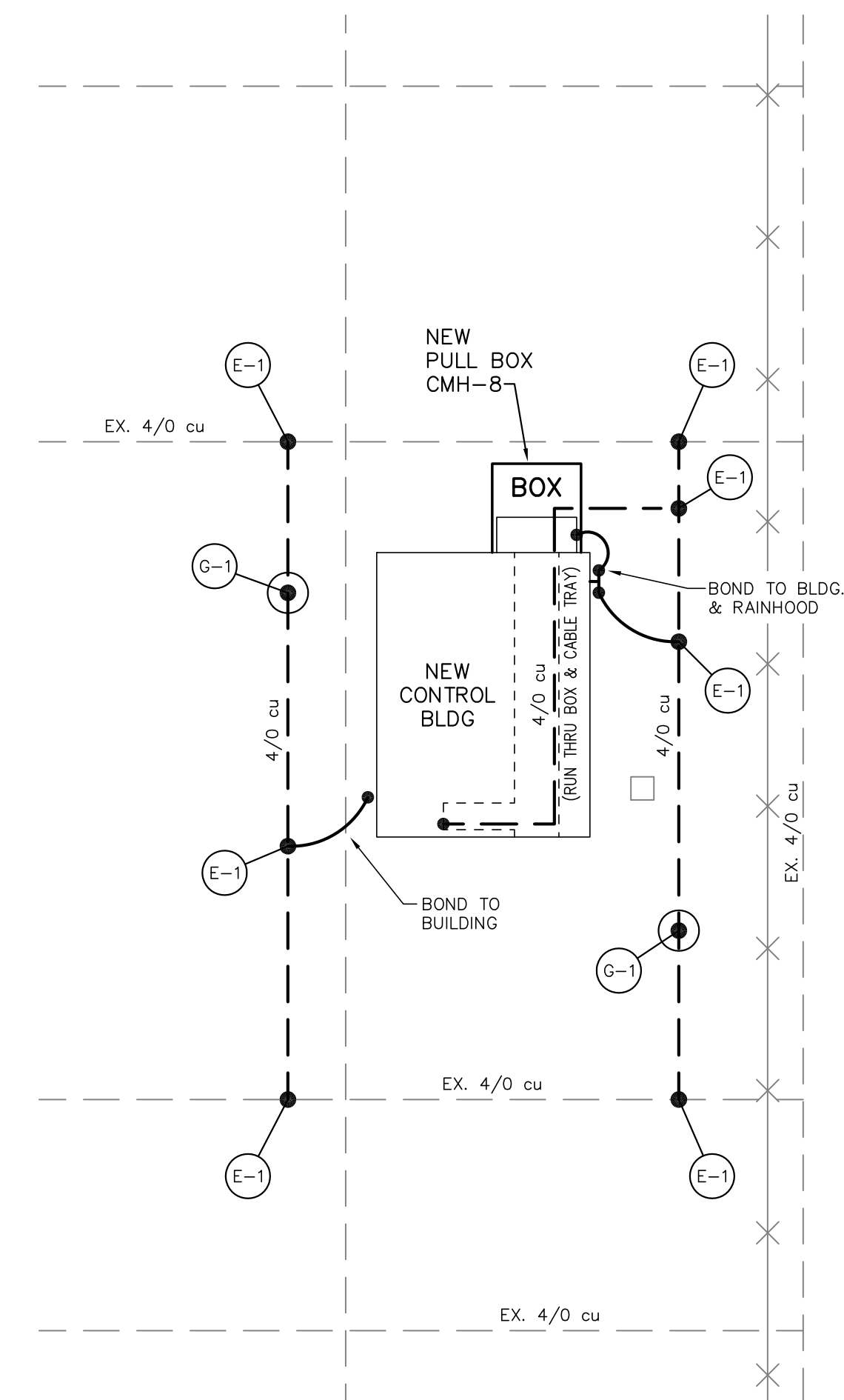
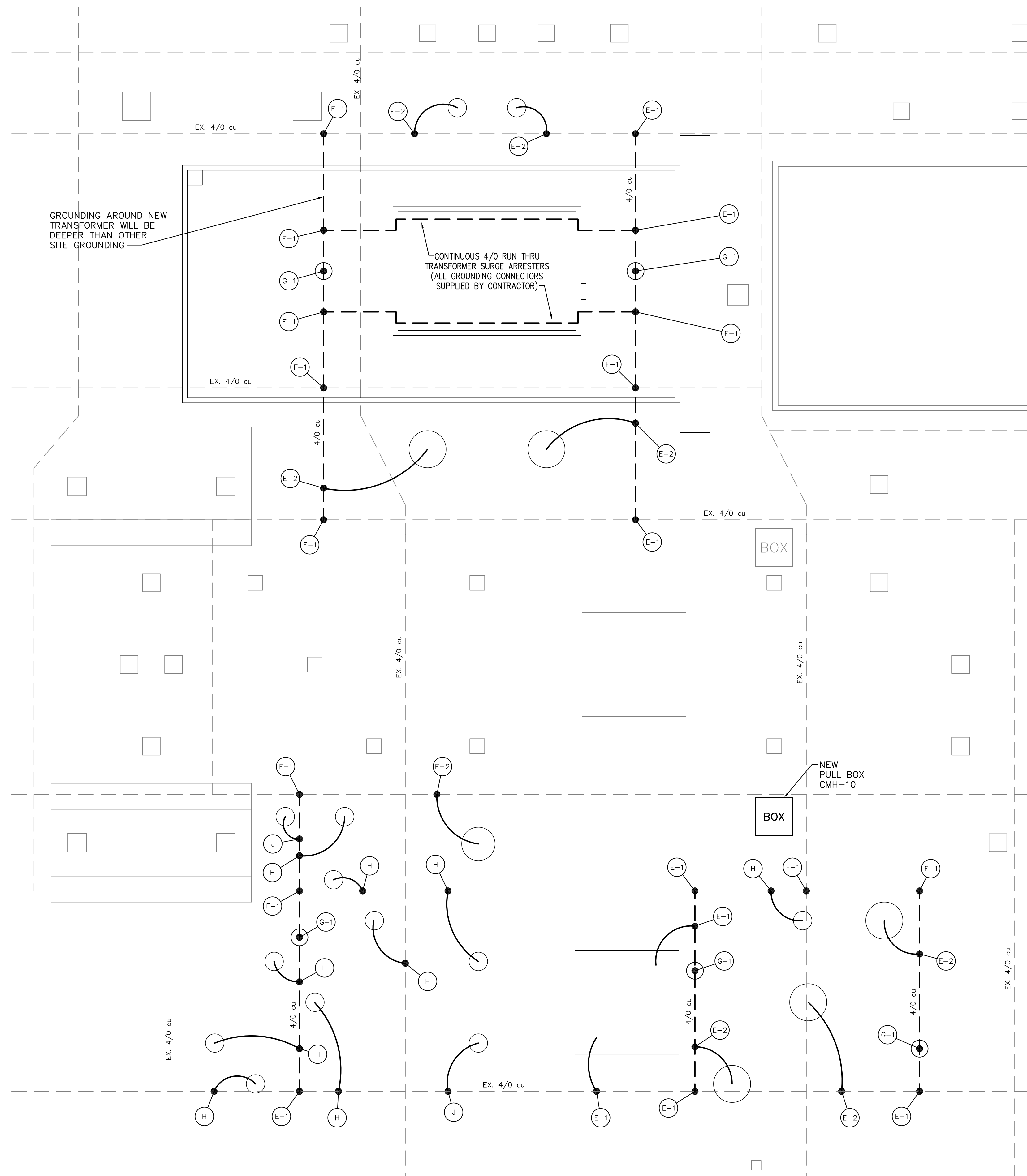
**FOR BIDDING
PURPOSES ONLY**

OVERALL GROUNDING PLAN
 SCALE: 1/16"=1'-0"

NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

**TWIN BRIDGES TRANSFORMER ADDITION
OVERALL GROUNDING PLAN**
 CITY OF ALEXANDRIA
 ALEXANDRIA, LOUISIANA

SCALE: 1/16"=1'-0"	DATE: 2/28/19	DRAWN BY: JHD	APPROVED BY: JJC	PROJECT NO.: 2019-E-16A
BHA, INC. BATON ROUGE, LOUISIANA			DRAWING NO.: TBTA-04	REV.: B



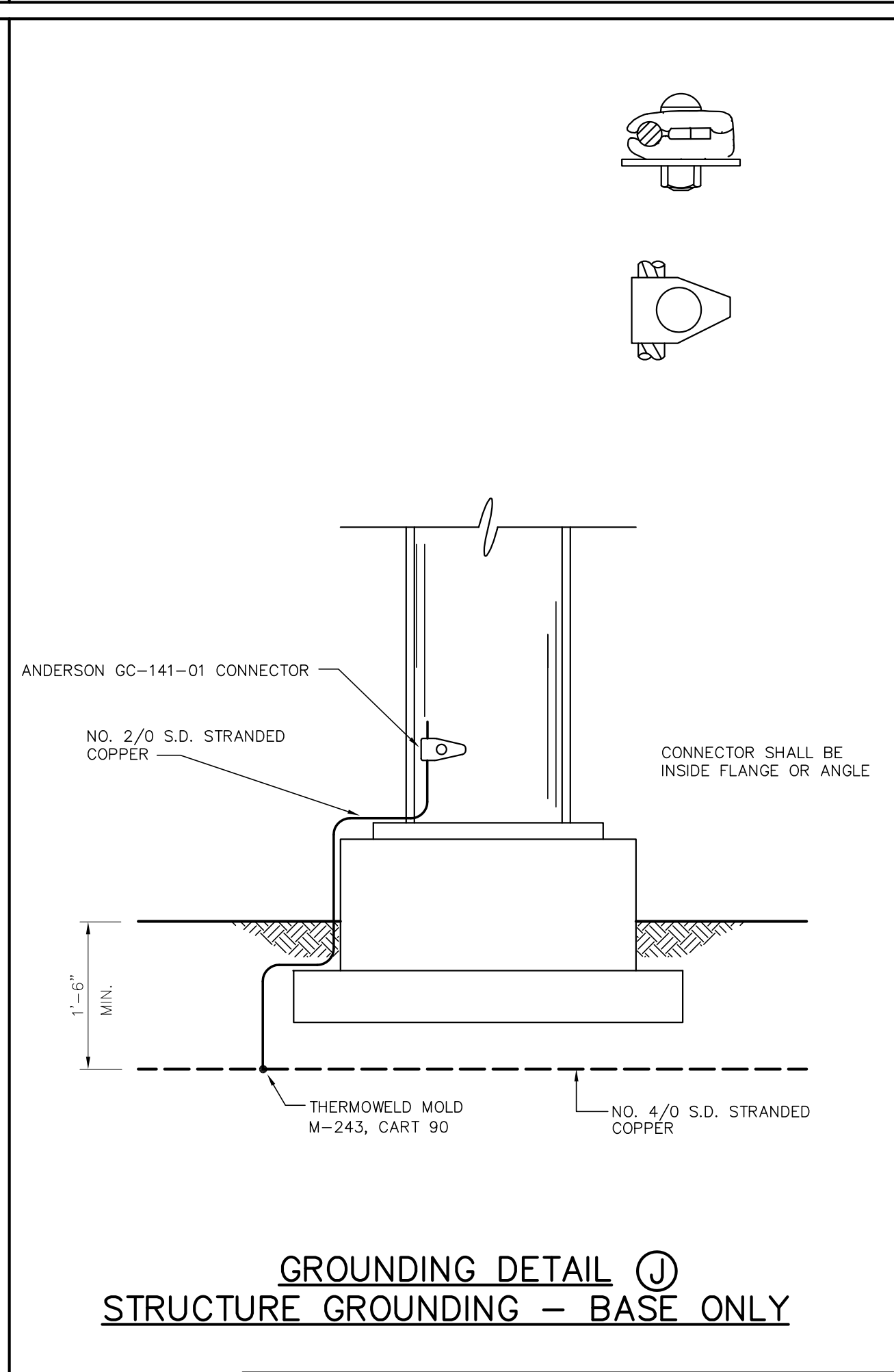
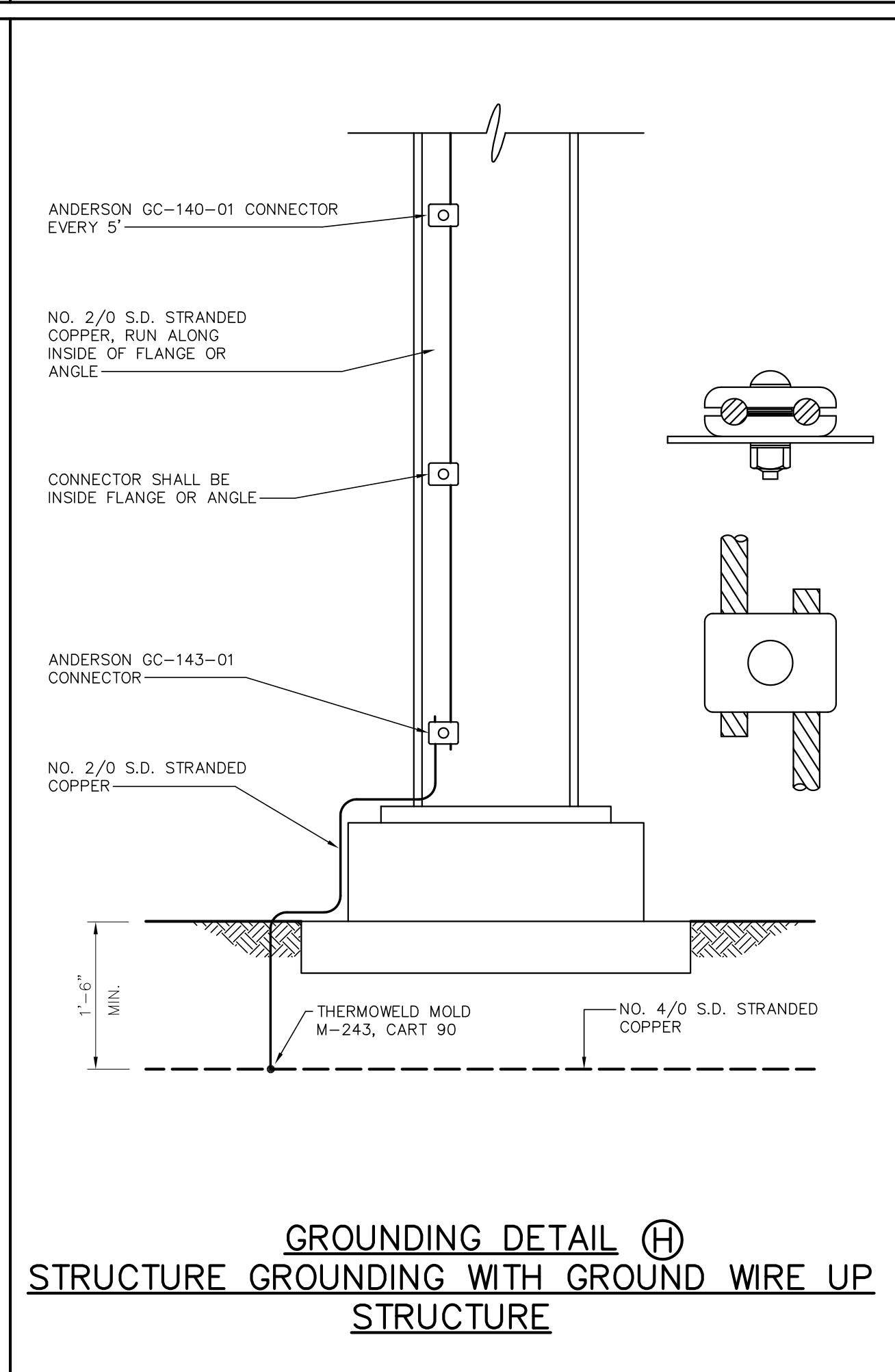
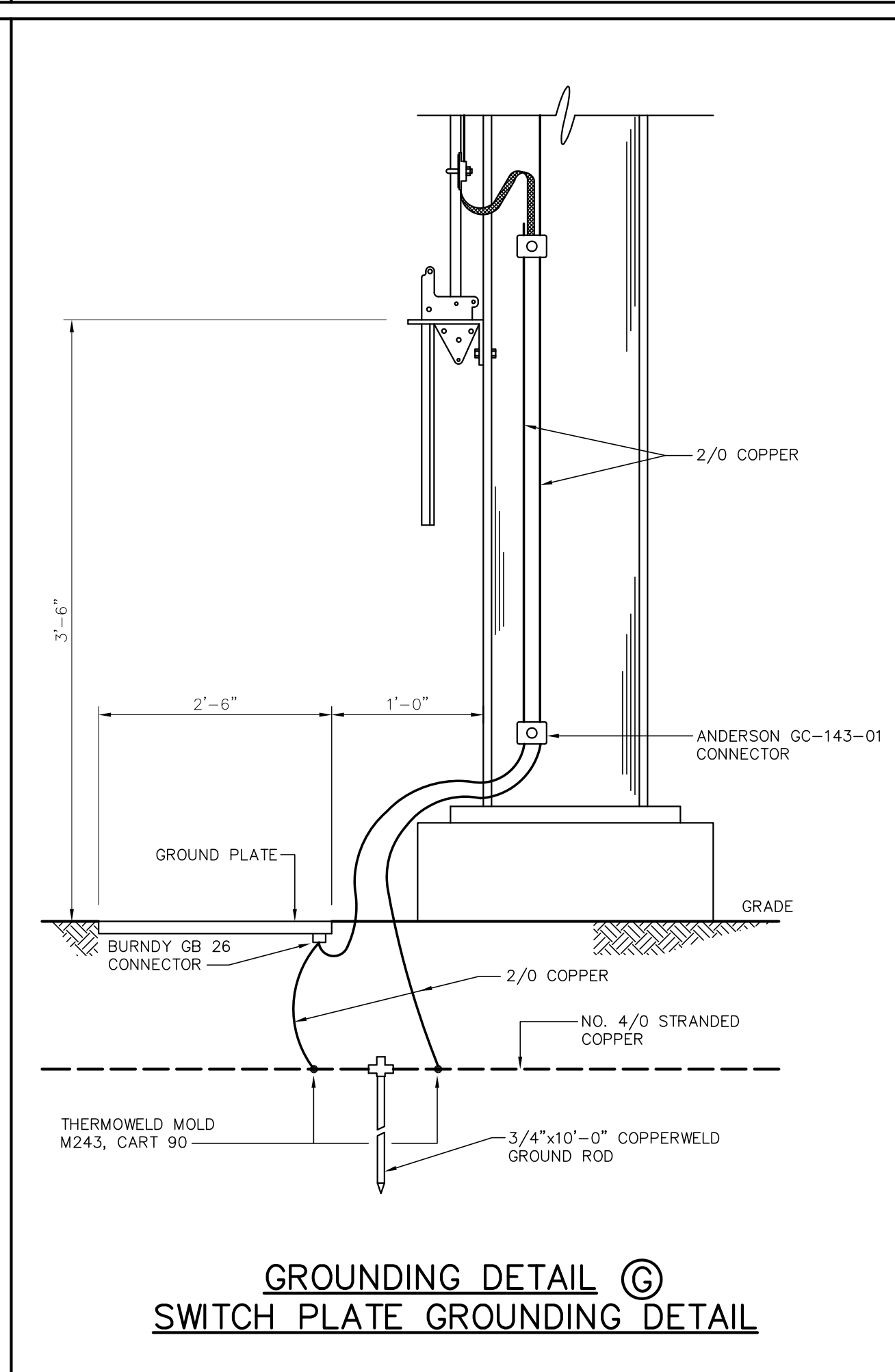
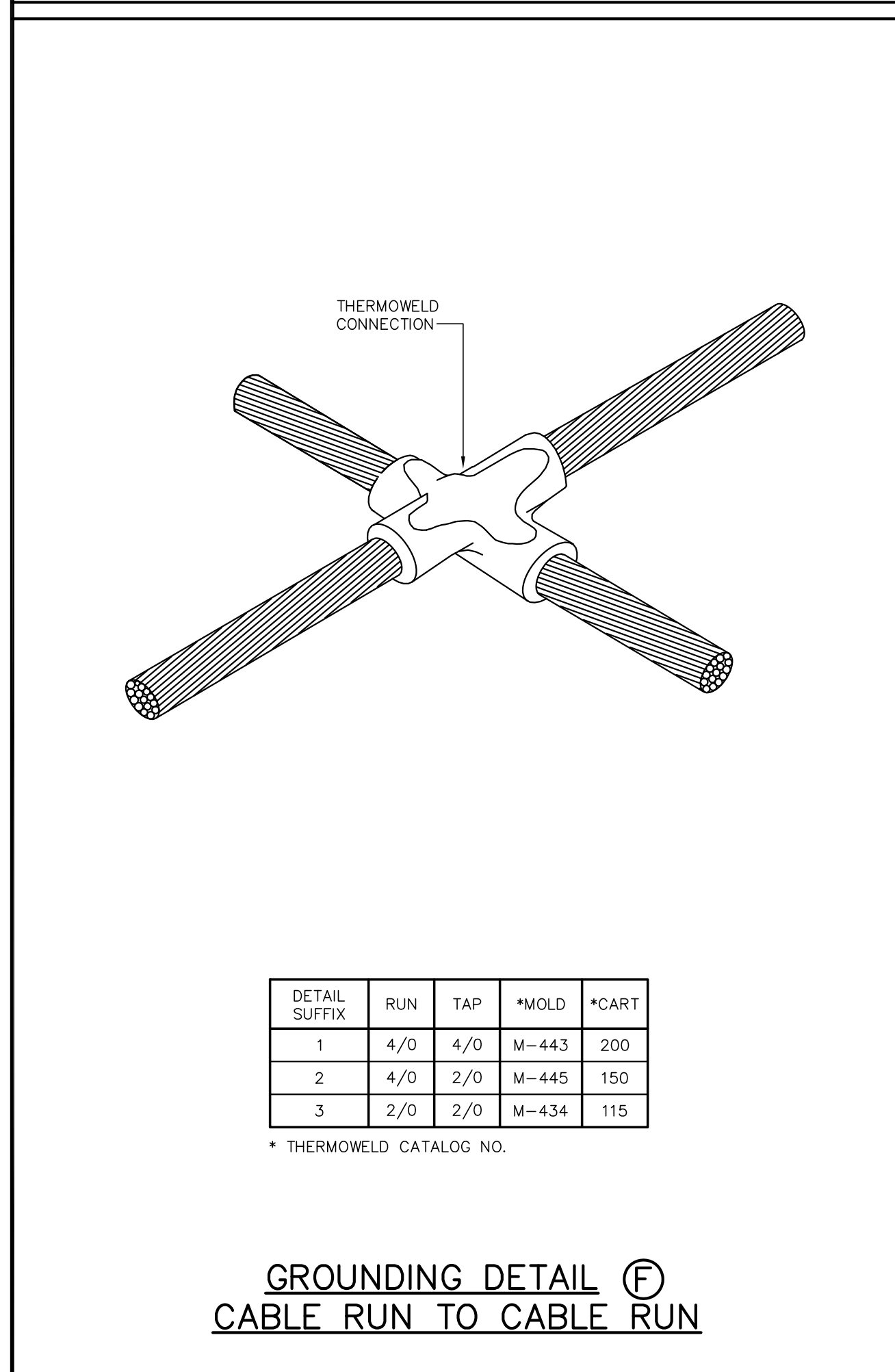
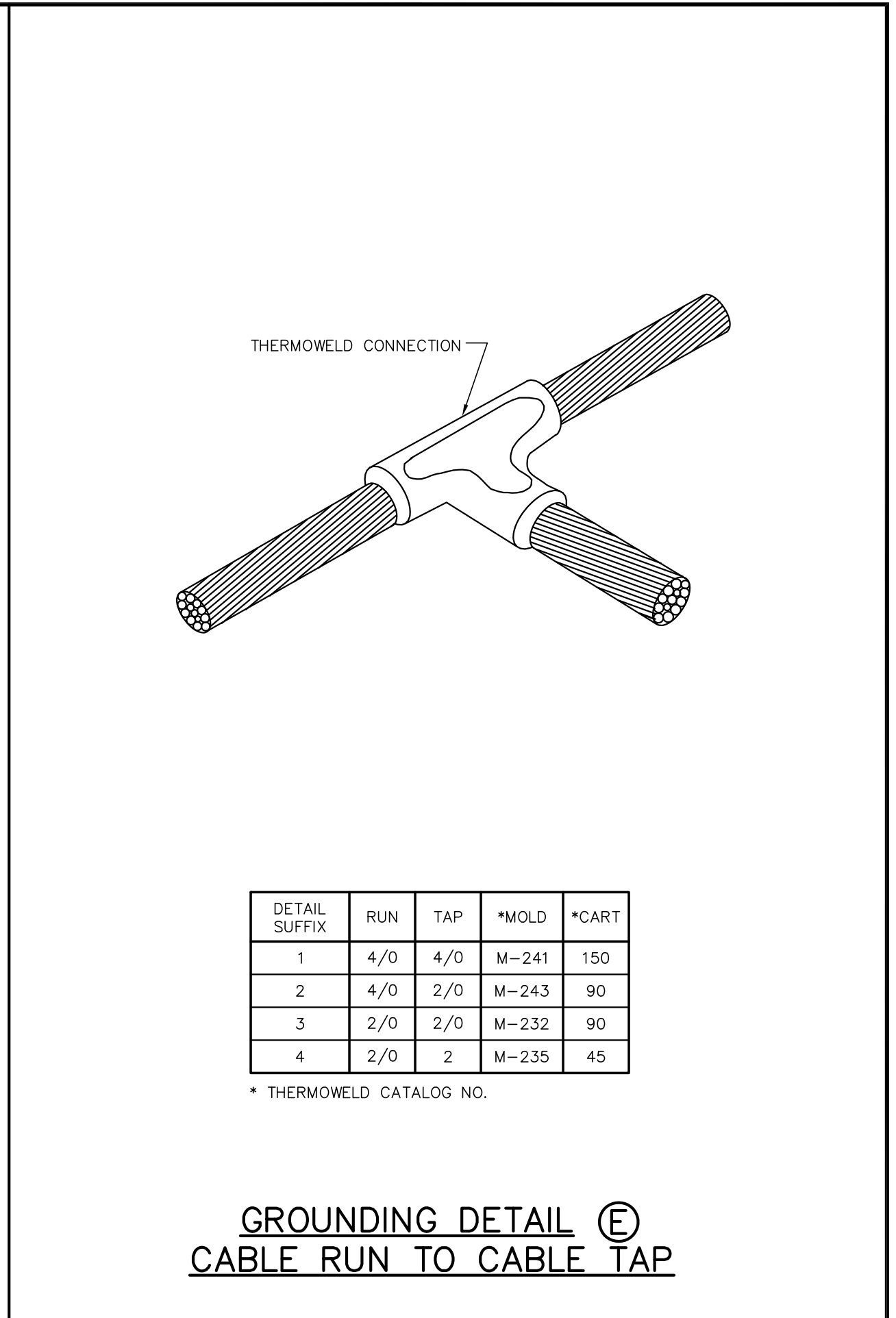
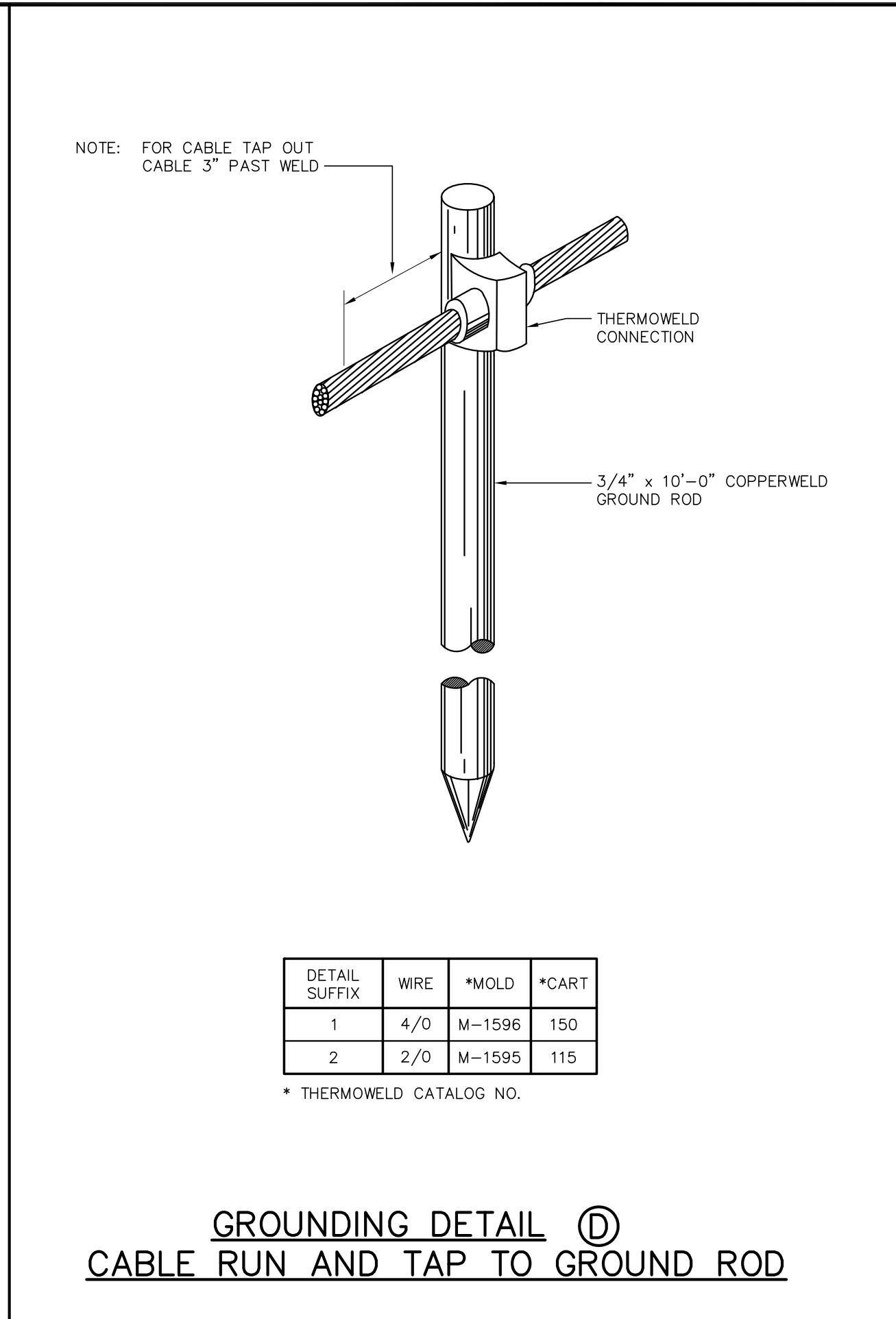
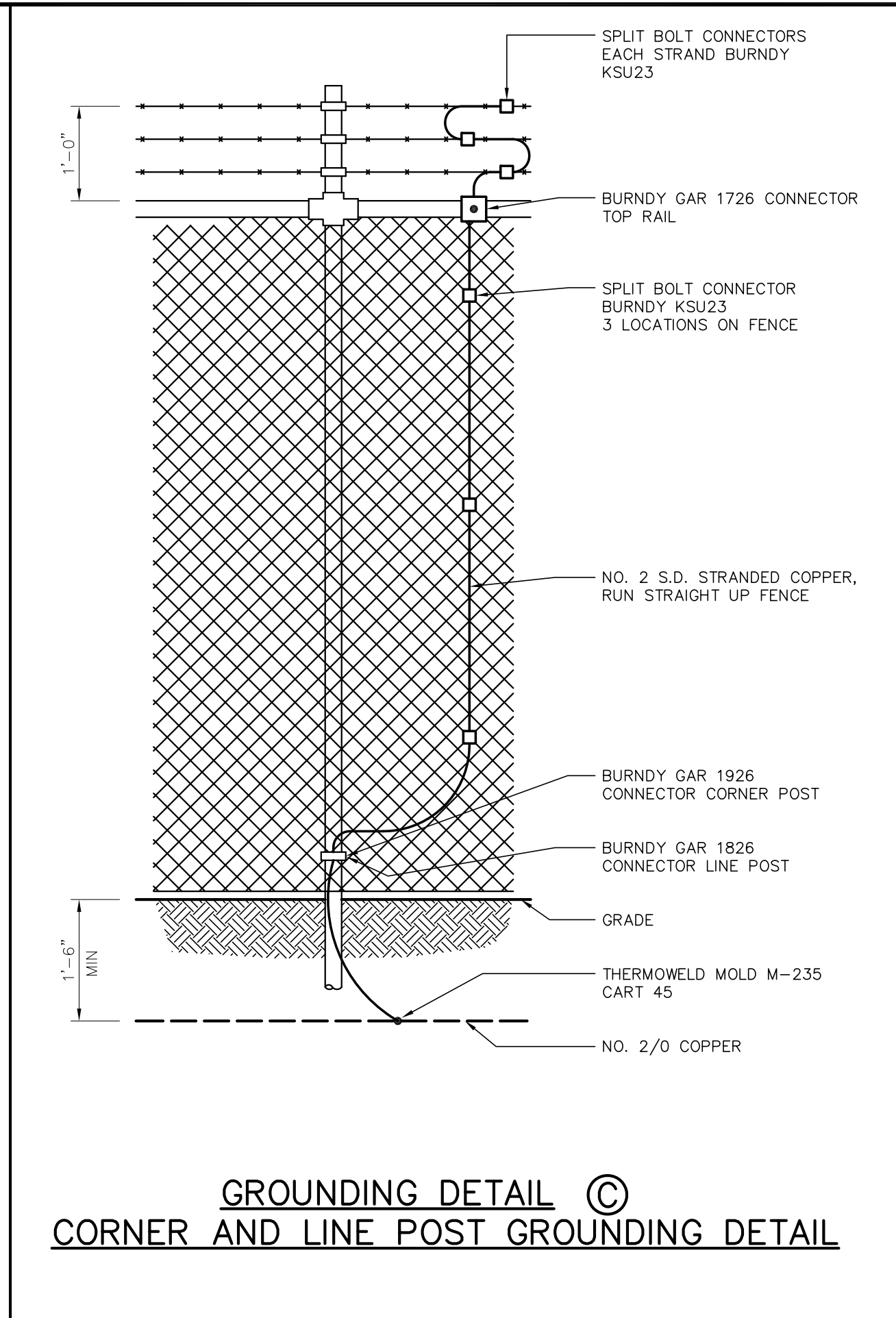
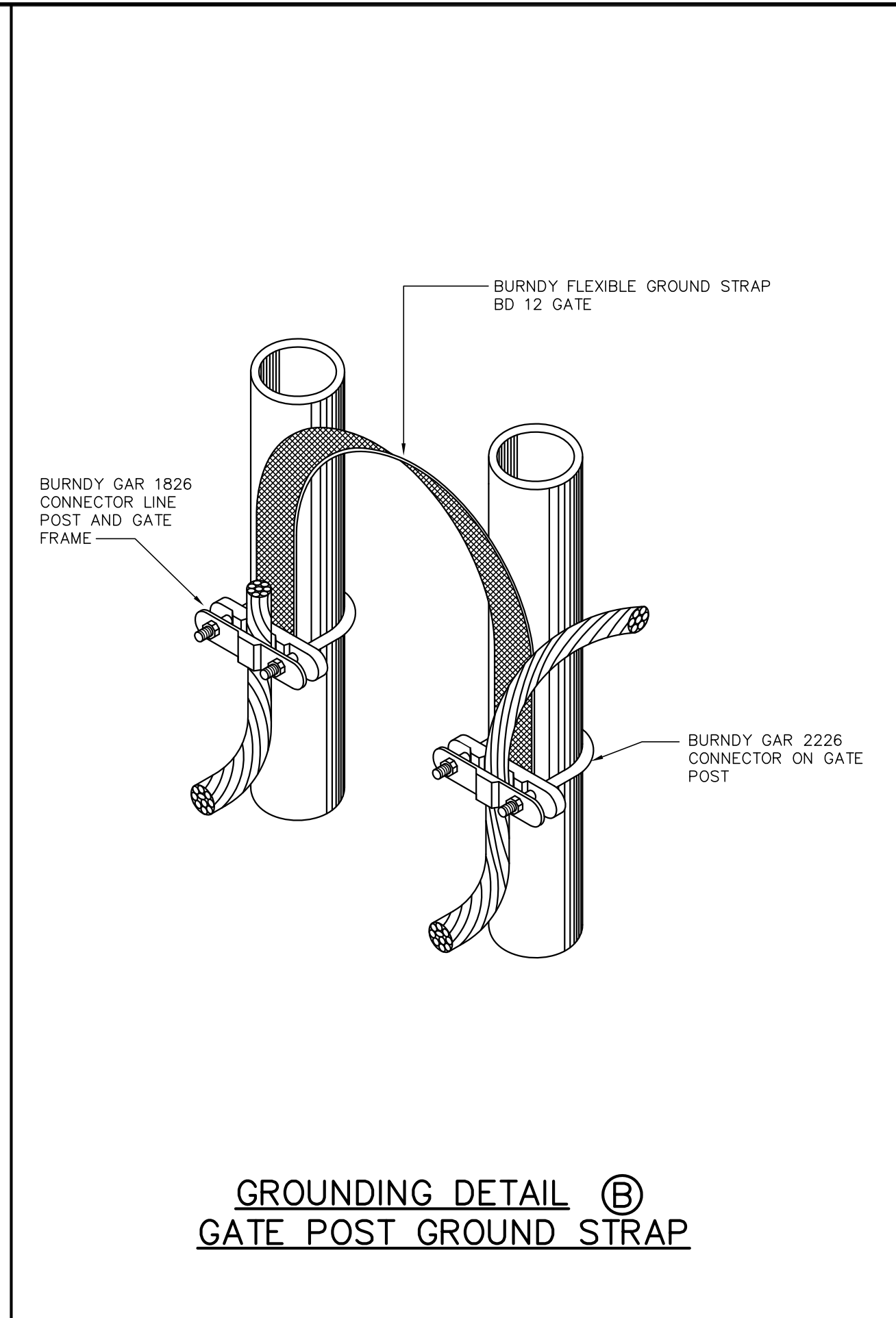
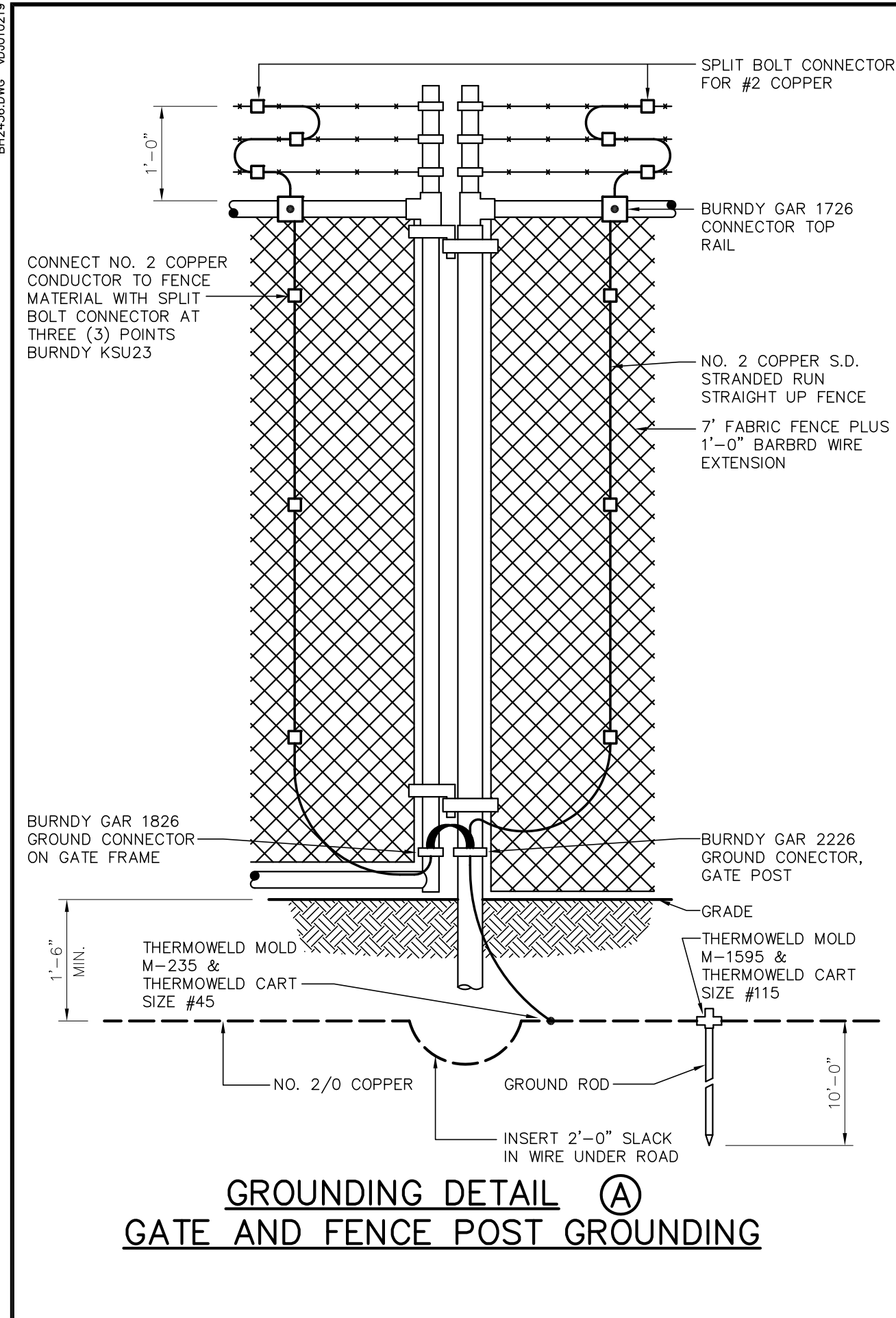
- NOTES:**
1. ALL GROUNDING CONDUCTORS, TAPS AND GROUND RODS TO BE A MINIMUM OF 1'-6" BELOW GRADE.
 2. BUBBLES REFERENCE DETAILS ON SHT. TBTA-04B.
 3. CONTRACTOR TO VERIFY ALL SWITCH HANDLE LOCATIONS PRIOR TO INSTALLING GROUND SYSTEM.
 4. WHEN NEW FOUNDATIONS AND PULLBOXES INTERFERE WITH EXISTING GROUND GRID, THE CONTRACTOR SHALL RELOCATE GROUND WIRE, IF POSSIBLE, OR MODIFY GROUND GRID TO EXCEPT NEW FOUNDATIONS AND PULLBOXES.
 5. ALL ABOVE AND BELOW GRADE GROUND WIRE SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR.

LEGEND:
 - - - - - EXISTING
 ———— PROPOSED

FOR BIDDING PURPOSES ONLY

ENLARGED GROUNDING PLANS
 SCALE: 1/8"=1'-0"

TWIN BRIDGES TRANSFORMER ADDITION ENLARGED GROUNDING PLANS			
CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE: 1/8"=1'-0"	DATE: 01/02/18	DRAWN BY: JHD	APPROVED BY: JJC
			PROJECT NO.: 2019-E-16A
BHA, INC. BATON ROUGE, LOUISIANA			DRAWING NO.: TBTA-04A
NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
REV.: B			



FOR BIDDING PURPOSES ONLY

NOTES:

- ALL GROUNDING CONDUCTORS, TAPS AND GROUND RODS TO BE A MINIMUM OF 1'-6" BELOW GRADE.
- CONTRACTOR TO VERIFY ALL SWITCH HANDLE LOCATIONS PRIOR TO INSTALLING GROUND SYSTEM.
- ALL ABOVE AND BELOW GRADE GROUND WIRE SHALL FURNISHED AND INSTALLED BY CONTRACTOR.

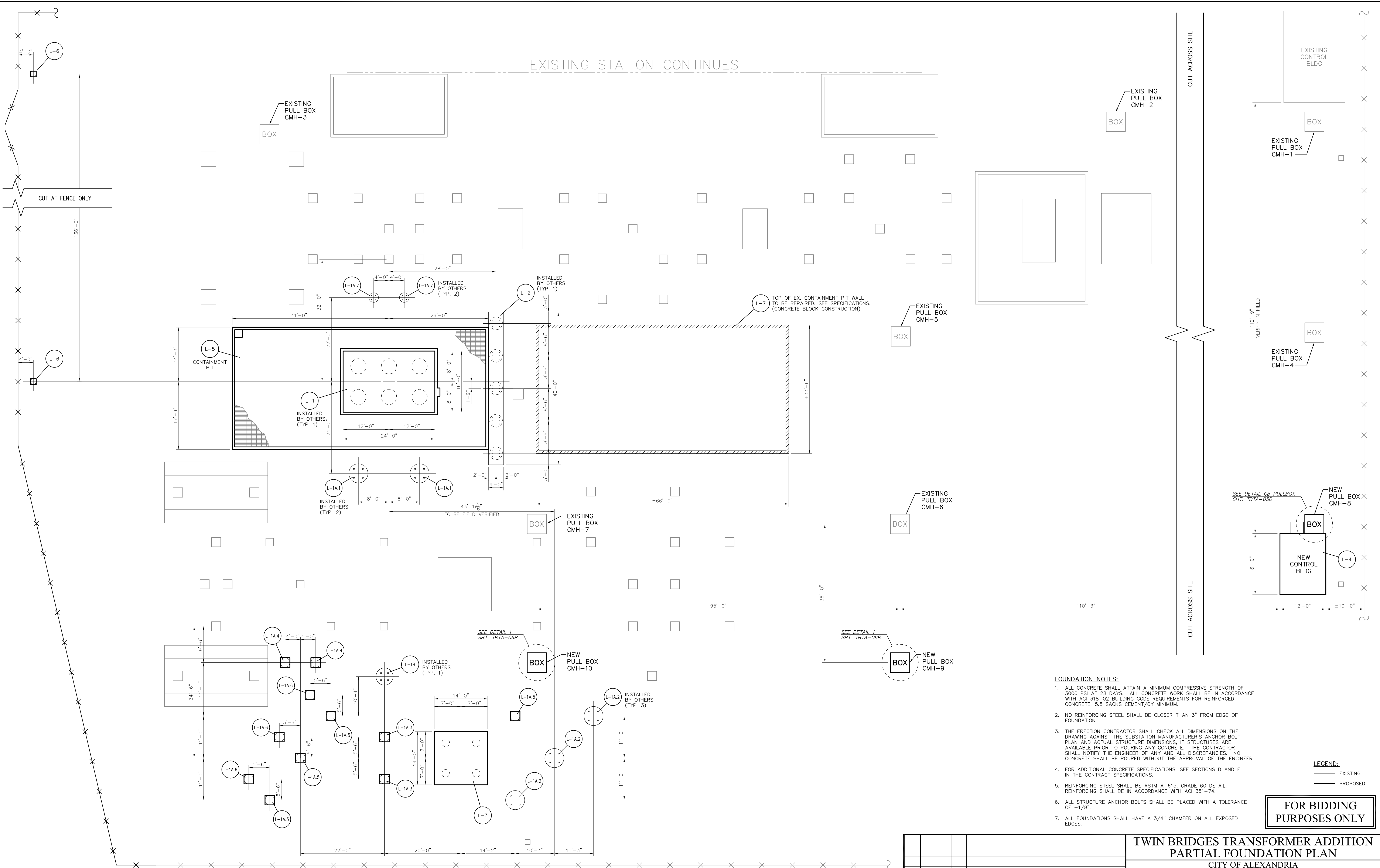
NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

**TWIN BRIDGES TRANSFORMER ADDITION
GROUNDING DETAILS**

CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

SCALE: N.T.S.	DATE: 2/18/19	DRAWN BY: JHD	APPROVED BY: JJC	PROJECT NO.: 2019-E-16A
BHA, INC. BATON ROUGE, LOUISIANA			DRAWING NO.: TBTA-04A	REV.: B

BHA\2019\05\01\2019.dwg 05/01/2019



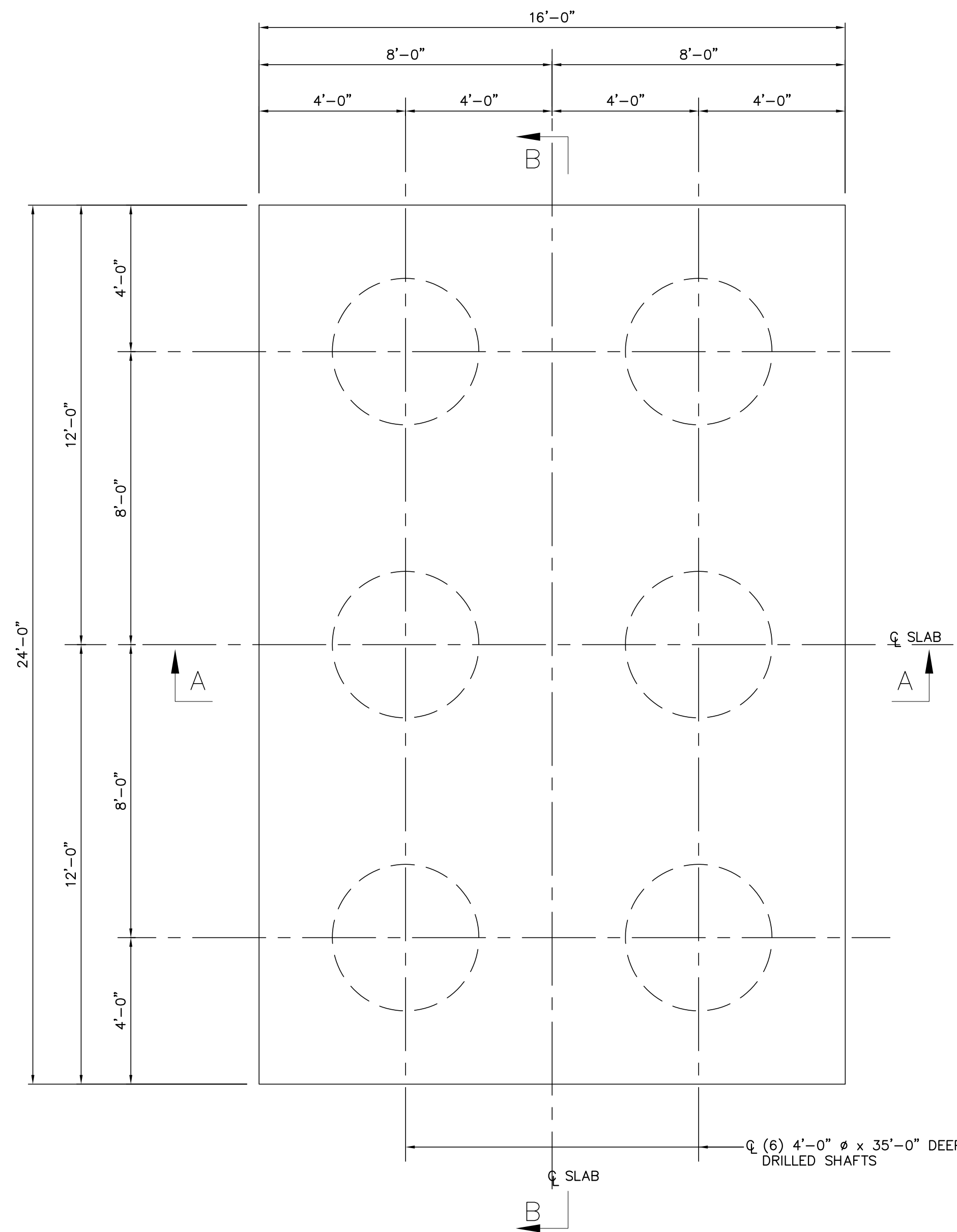
PARTIAL FOUNDATION PLAN

SCALE: 3/32"=1'-0"

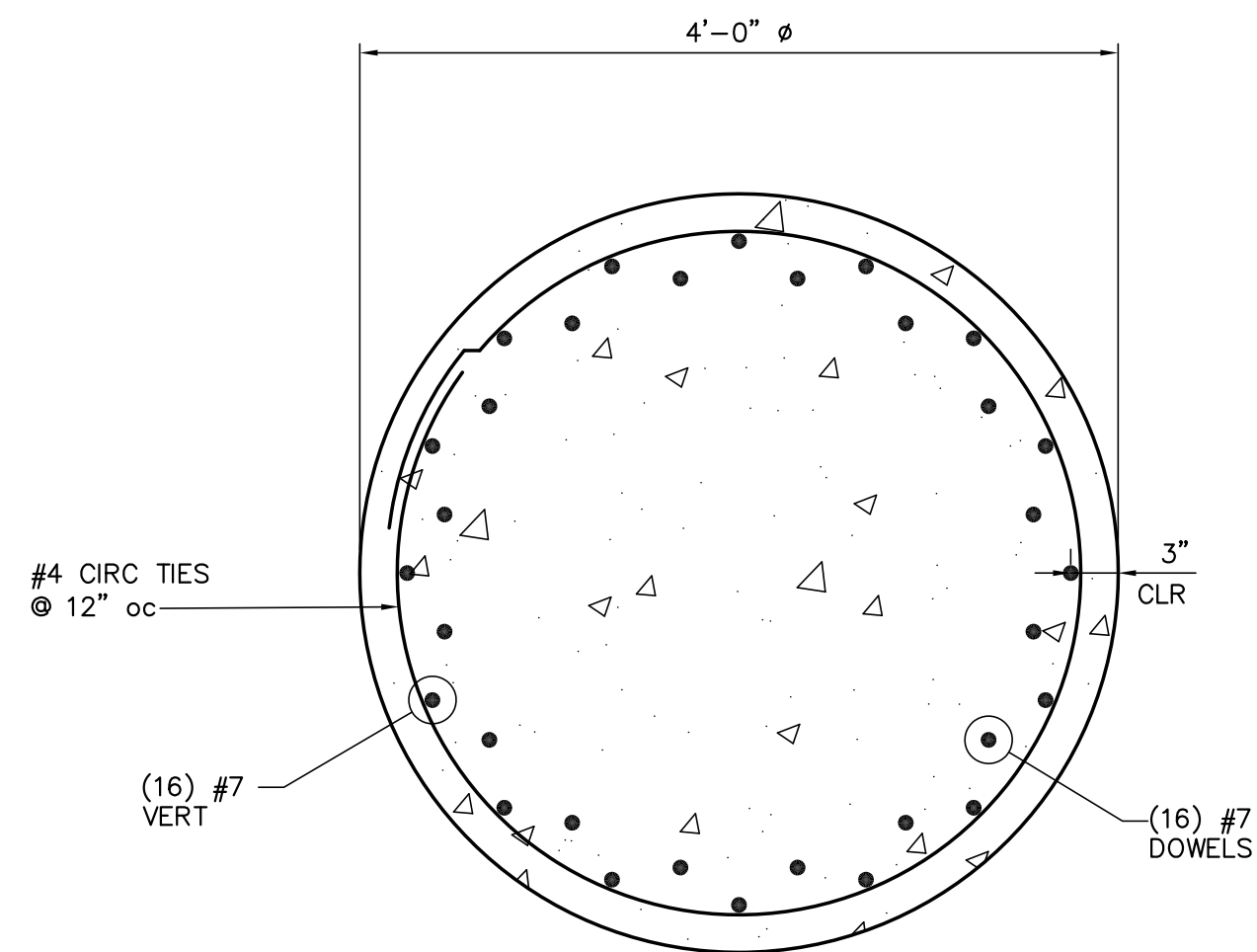
- FOUNDATION NOTES:**
1. ALL CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 318-02 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, 5.5 SACKS CEMENT/CY MINIMUM.
 2. NO REINFORCING STEEL SHALL BE CLOSER THAN 3" FROM EDGE OF FOUNDATION.
 3. THE ERECTION CONTRACTOR SHALL CHECK ALL DIMENSIONS ON THE DRAWING AGAINST THE SUBSTATION MANUFACTURER'S ANCHOR BOLT PLAN AND ACTUAL STRUCTURE DIMENSIONS, IF STRUCTURES ARE AVAILABLE PRIOR TO POURING ANY CONCRETE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY AND ALL DISCREPANCIES. NO CONCRETE SHALL BE POURED WITHOUT THE APPROVAL OF THE ENGINEER.
 4. FOR ADDITIONAL CONCRETE SPECIFICATIONS, SEE SECTIONS D AND E IN THE CONTRACT SPECIFICATIONS.
 5. REINFORCING STEEL SHALL BE ASTM A-615, GRADE 60 DETAIL. REINFORCING SHALL BE IN ACCORDANCE WITH ACI 351-74.
 6. ALL STRUCTURE ANCHOR BOLTS SHALL BE PLACED WITH A TOLERANCE OF +1/8".
 7. ALL FOUNDATIONS SHALL HAVE A 3/4" CHAMFER ON ALL EXPOSED EDGES.
- LEGEND:**
 — EXISTING
 — PROPOSED

FOR BIDDING PURPOSES ONLY

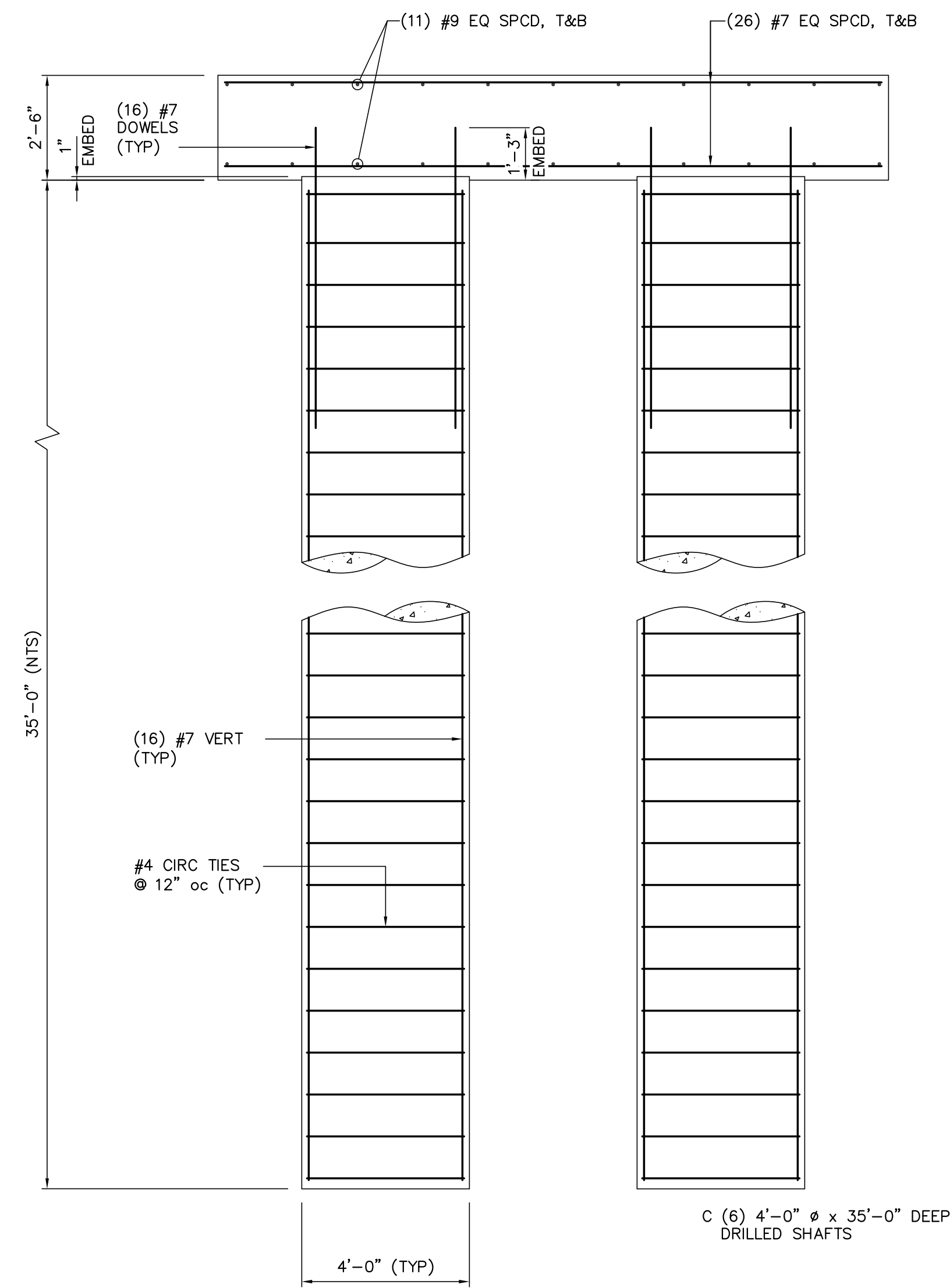
				TWIN BRIDGES TRANSFORMER ADDITION PARTIAL FOUNDATION PLAN			
				CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE 3/32"=1'-0"	DATE 8/15/18	DRAWN BY JHD	APPROVED BY JJC	PROJECT NO.: 2019-E-16A			
				BHA, INC. BATON ROUGE, LOUISIANA			
				DRAWING NO.: TBTA-05 REV.: B			
NO.	DATE	BY	REVISIONS				
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION				
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION				



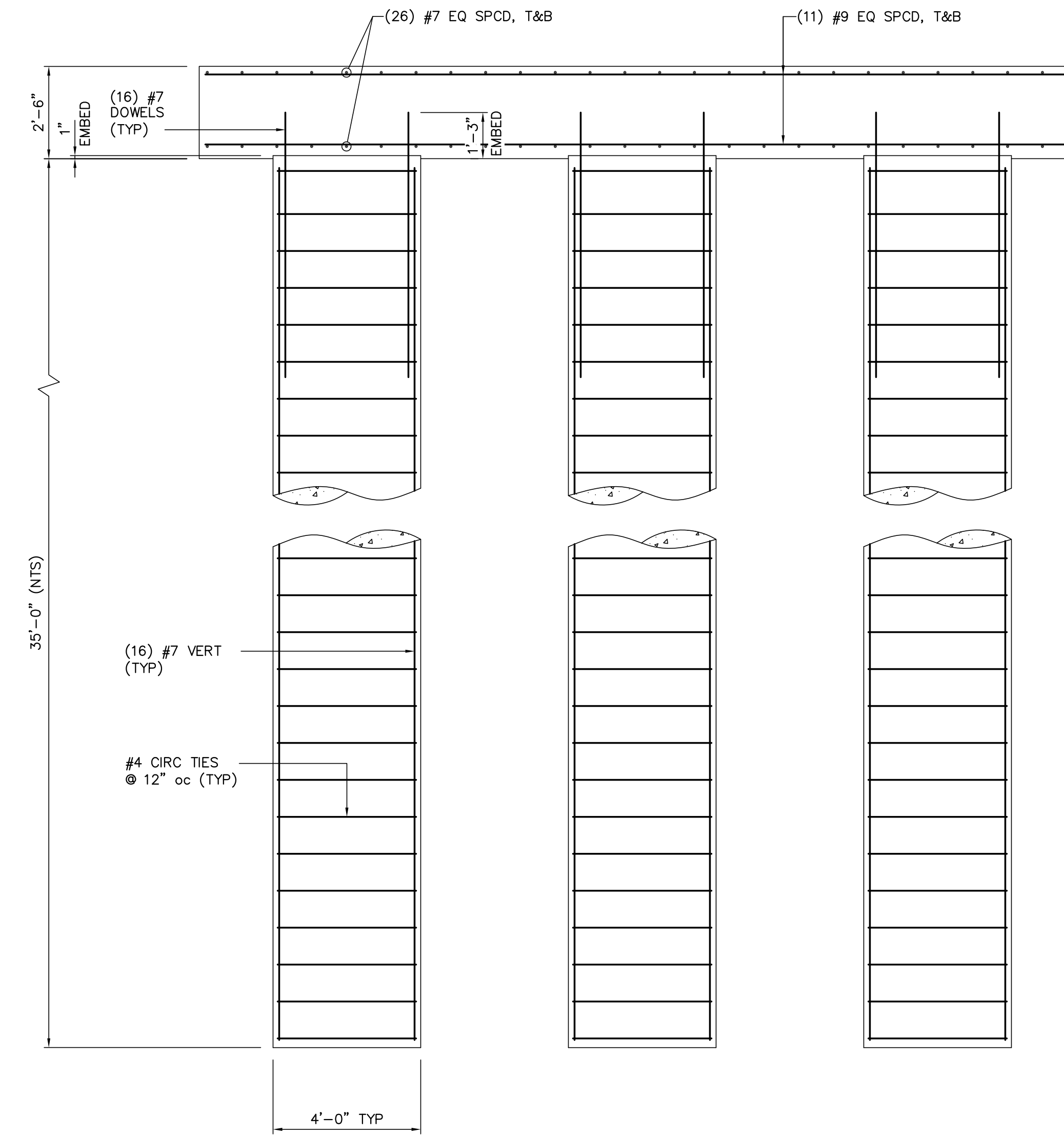
FOUNDATION PLAN L-1
3/8"=1'-0"
[INSTALLED BY OTHERS]



TYPICAL DRILLED SHAFT
SECTION
1"=1'-0"



SECTION A-A
3/8"=1'-0"



SECTION B-B
3/8"=1'-0"

GENERAL NOTES: SLAB ON GRADE

- THESE PLANS ARE TO BE ONLY FOR THE LOCATION BELOW:
TWIN BRIDGE ROAD
- THE CONCRETE MIX SHOULD YIELD A MINIMUM COMPRESSIVE STRENGTH OF 3500 psi AT 28 DAYS. CONCRETE DESIGN MIX SHALL BE IN ACCORDANCE WITH ACI-318 (LATEST VERSION). NO CHLORIDES SHALL BE ALLOWED.
- ALL CONVENTIONAL REINFORCING STEEL SHALL MEET ASTM-A613 (GRADE 60). REINFORCING STEEL SHALL BE DETAILED, AND ACCESSORIES PROVIDED IN ACCORDANCE WITH THE LATEST "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
- REINFORCEMENT SHALL HAVE 3" COVER IN THE GRADE BEAM BOTTOMS, 2" COVER IN THE BEAM SIDES AND TOP, 1 1/2" COVER IN THE SLAB TOP AND BOTTOMS, UNLESS NOTED OTHERWISE.
- 1 LAYER(S) POLYETHYLENE VAPOR BARRIER SHALL BE PLACED UNDER ALL CONCRETE.
- BARs SHALL BE SECURELY SUPPORTED TO PREVENT BOTH VERTICAL AND HORIZONTAL MOVEMENT DURING CONCRETE PLACING.
- CONCRETE SHALL BE WELL CONSOLIDATED.
- THE CONTRACTOR SHALL VERIFY ALL DROPS, OFF-SETS, BRICK LEDGES, AND BLOCK OUTS ON ARCHITECTURAL PLANS, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES THAT MAY EXIST.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF THE STRUCTURAL DRAWINGS WITH ALL OTHER DRAWINGS.
- GRADE BEAM SIZES MAY VARY BY -10%, +20%
- ALTERATION TO, OR DEVIATION FROM, THE INFORMATION SHOWN ON THIS SHEET WITHOUT THE WRITTEN ADVANCE APPROVAL FROM LANGLOIS ENGINEERING, INC., WILL VOID DESIGNER'S RESPONSIBILITY.
- THIS PLAN IS FOR GRADE BEAM LOCATION ONLY.
- ALL SUBGRADE FILL SHALL BE SELECT GRANULAR MATERIAL COMPACTED TO 90% STANDARD PROCTOR DENSITY IN A MAXIMUM OF 6" LIFTS.
- A MINIMUM OF 4" OF CONCRETE WILL BE MAINTAINED THROUGHOUT THE ENTIRE SLAB.
- ALL RUNOFF WATER MUST BE CARRIED AWAY FROM THE SLAB TO PREVENT MATURATION OF THE SUB-BASE.
- ALL TREES WITHIN CLOSE PROXIMITY SHALL BE REMOVED TO PREVENT THE ROOTS FROM EXTENDING UNDER THE SLAB.
- REMOVE A MINIMUM OF 12" OF EXISTING SOIL AND ALL UNSTABLE SILT PRIOR TO PLACING ANY FILL.
- MAXIMUM OF 1 FEET OF FILL MAY BE PLACED ON THE SITE. MAXIMUM DIFFERENTIAL FILL SHALL NOT EXCEED 20%.
- NO FIELD SUPERVISION PROVIDED UNDER THIS SEAL UNLESS OTHERWISE NOTED. 29. EXTERIOR FOOTINGS WILL HAVE A MINIMUM OF 12" WIDTH.

FOR REFERENCE ONLY

NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

TWIN BRIDGES TRANSFORMER ADDITION
TRANSFORMER FOUNDATION PLAN & DETAILS
CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

SCALE: NOTED	DATE: 7/11/18	DRAWN BY: JHD	APPROVED BY: JJC	PROJECT NO.:
BHA, INC. BATON ROUGE, LOUISIANA			2019-E-16A	REV.:
			TBTA-05A	B

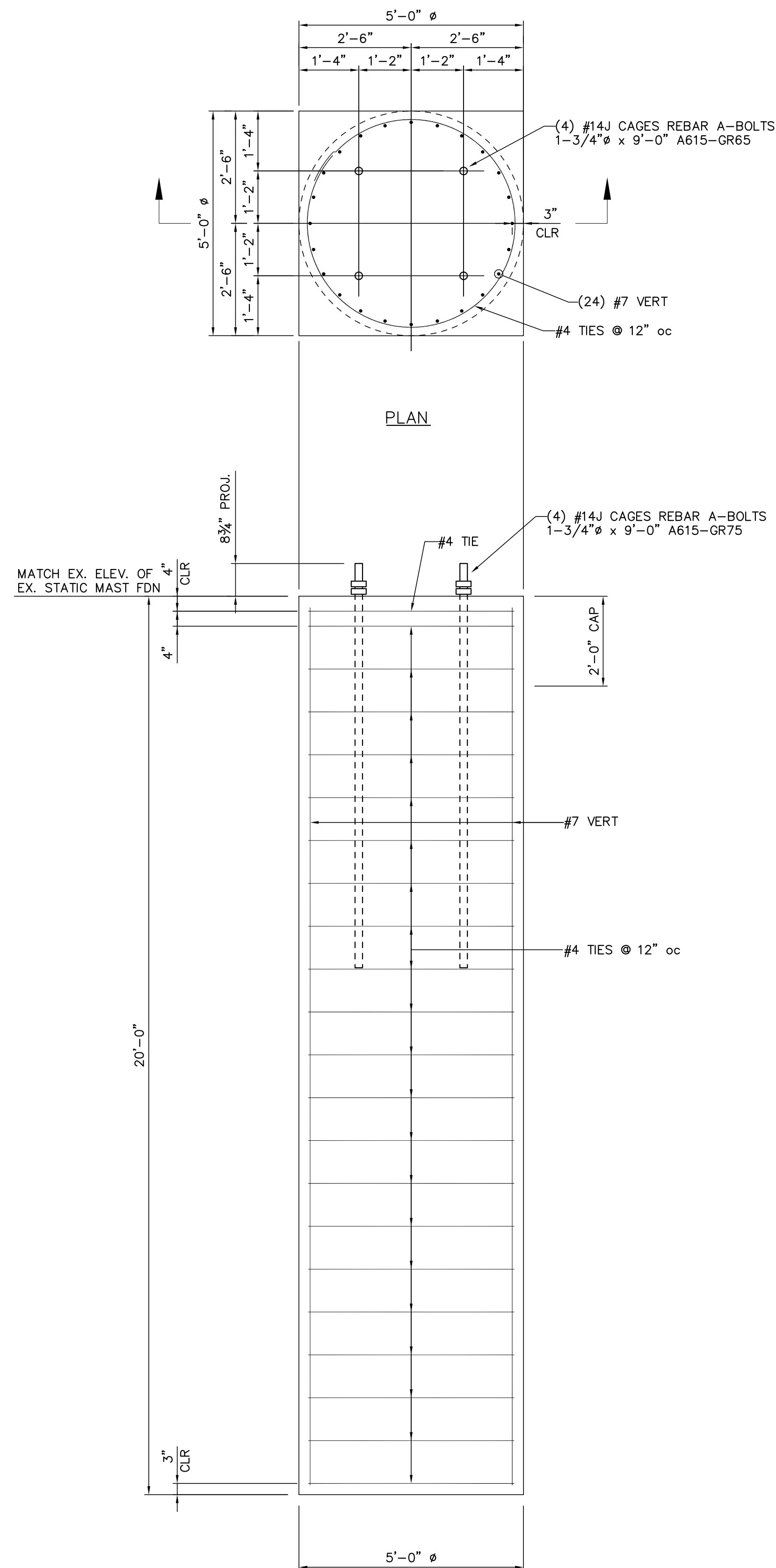
BHA: COATBT05A.dwg DSW-1 05/20/19 @ 11:58AM BY #

BUILDING PLANS FOR:
BHA, INC. - BATON ROUGE, LA
TWIN BRIDGES SUBSTATION

LANGLOIS ENGINEERING, INC.
GERARD W. LANGLOIS, P.E.
11328 PENNYWOOD AVENUE
BATON ROUGE, LOUISIANA 70809
PH 225-293-8730 FAX 225-293-8718
WWW.LANGLOISENGINEERING.COM



DATE:	JUN '18
DRAWN BY:	GWL, JR.
CHECKED BY:	GWL, SR.
REVISIONS:	
SHEET NO.:	
PROJECT NO.:	

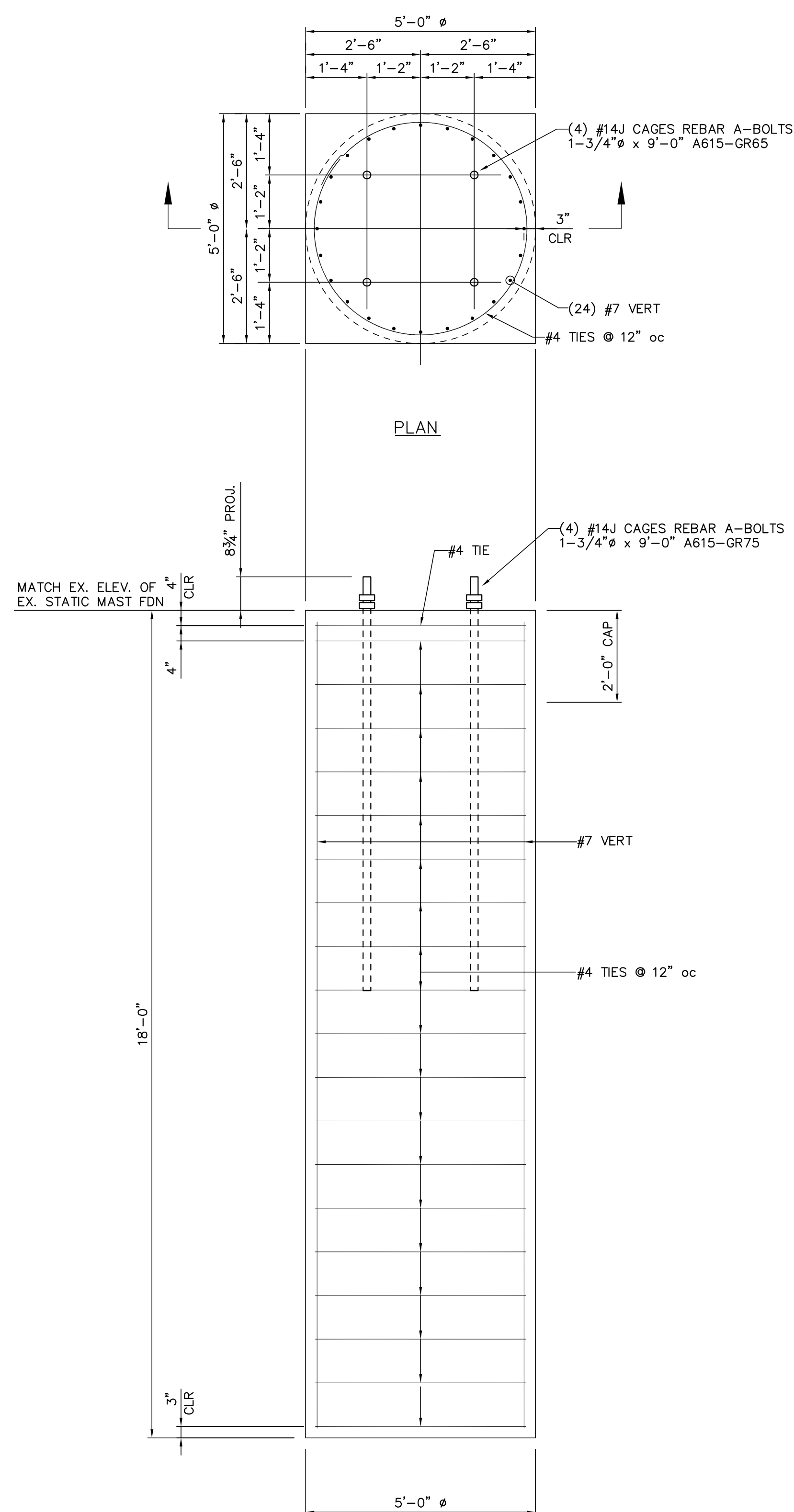


SECTION

DRILLED SHAFT L-1A.1
1/2"=1'-0"

(QUANTITY: 2)

[INSTALLED BY OTHERS]

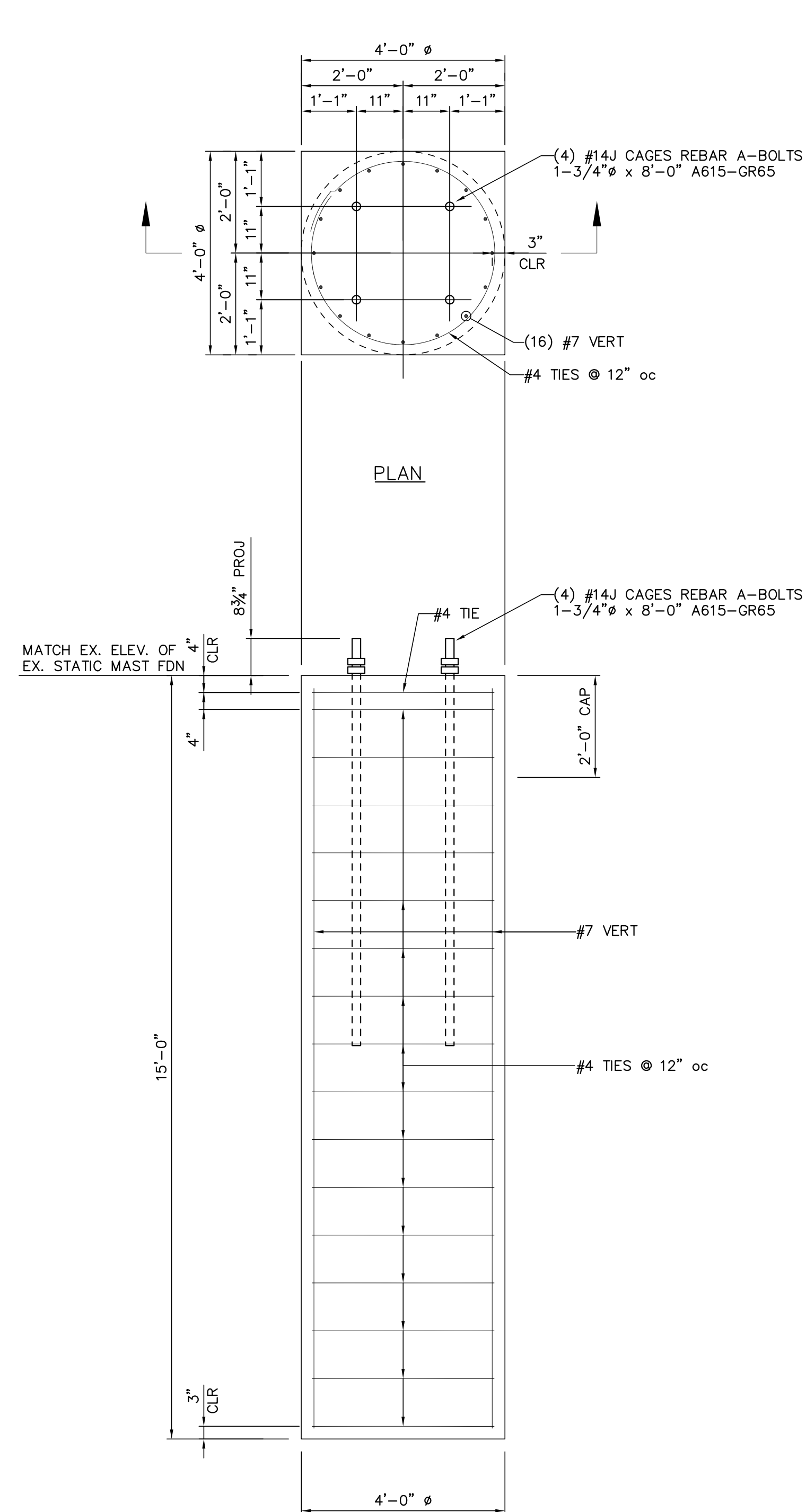


SECTION

DRILLED SHAFT L-1A.2
1/2"=1'-0"

(QUANTITY: 3)

[INSTALLED BY OTHERS]



SECTION

DRILLED SHAFT L-1B
1/2"=1'-0"

(QUANTITY: 1)

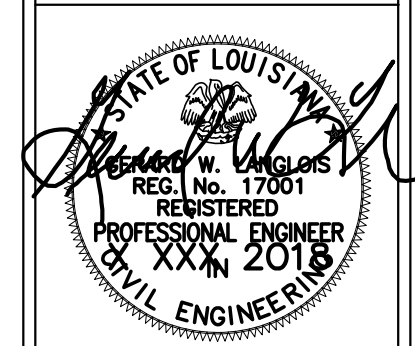
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FOR REFERENCE ONLY

NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY
TWIN BRIDGES TRANSFORMER ADDITION FOUNDATION DETAILS			
CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE: NOTED	DATE: 12/19/18	DRAWN BY: JHD	APPROVED BY: JJC
PROJECT NO.: 2019-E-16A			REV.: B
DRAWING NO.: TBTA-05B			

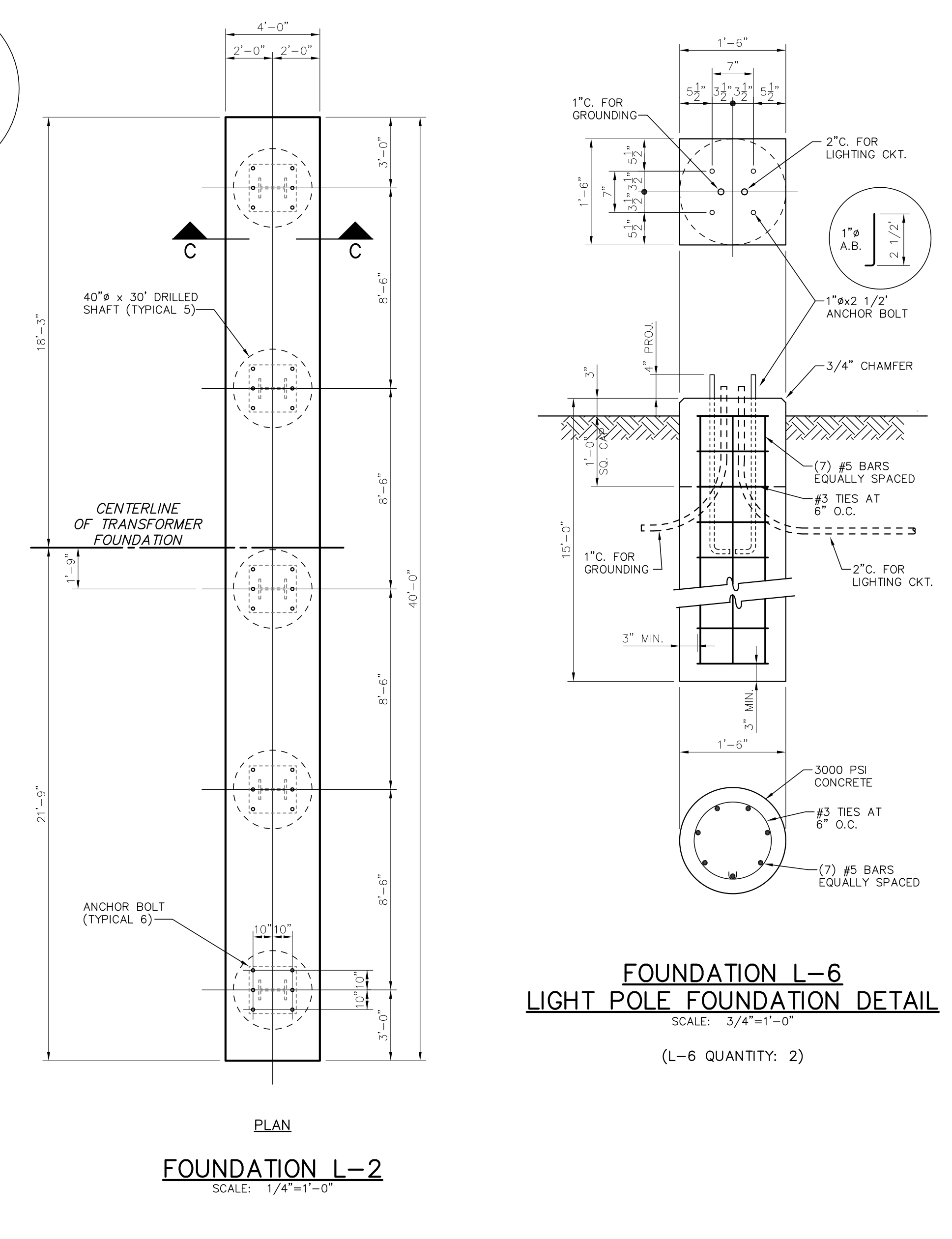
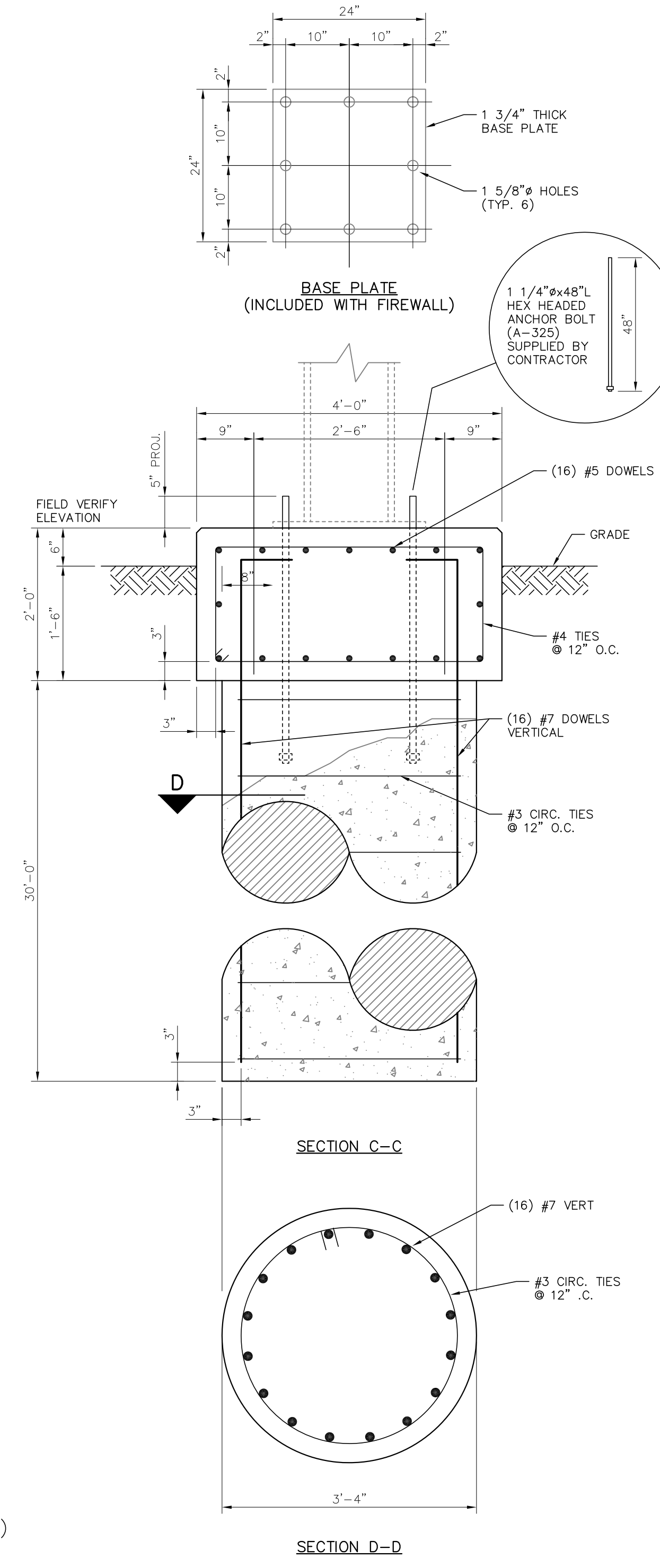
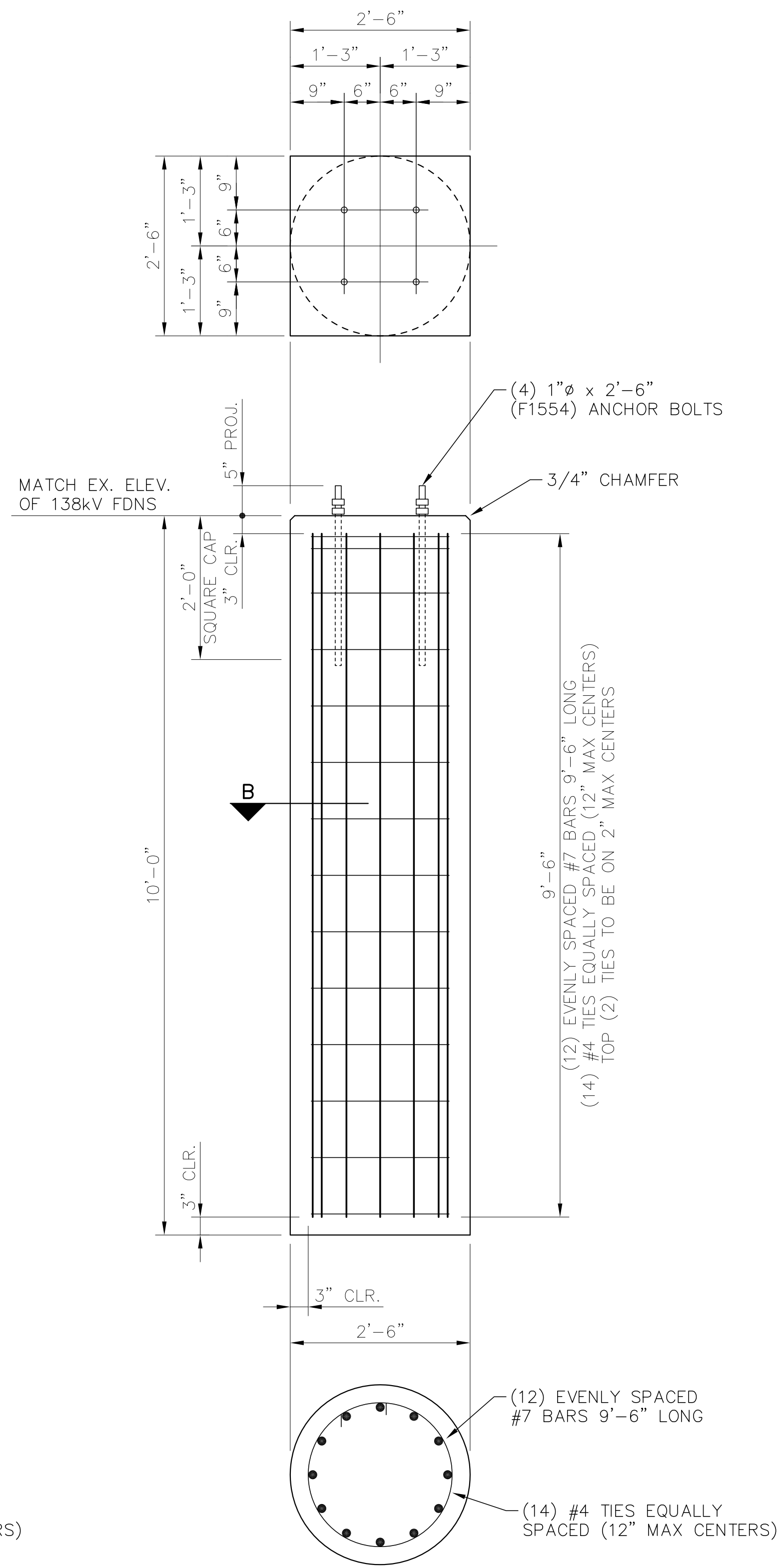
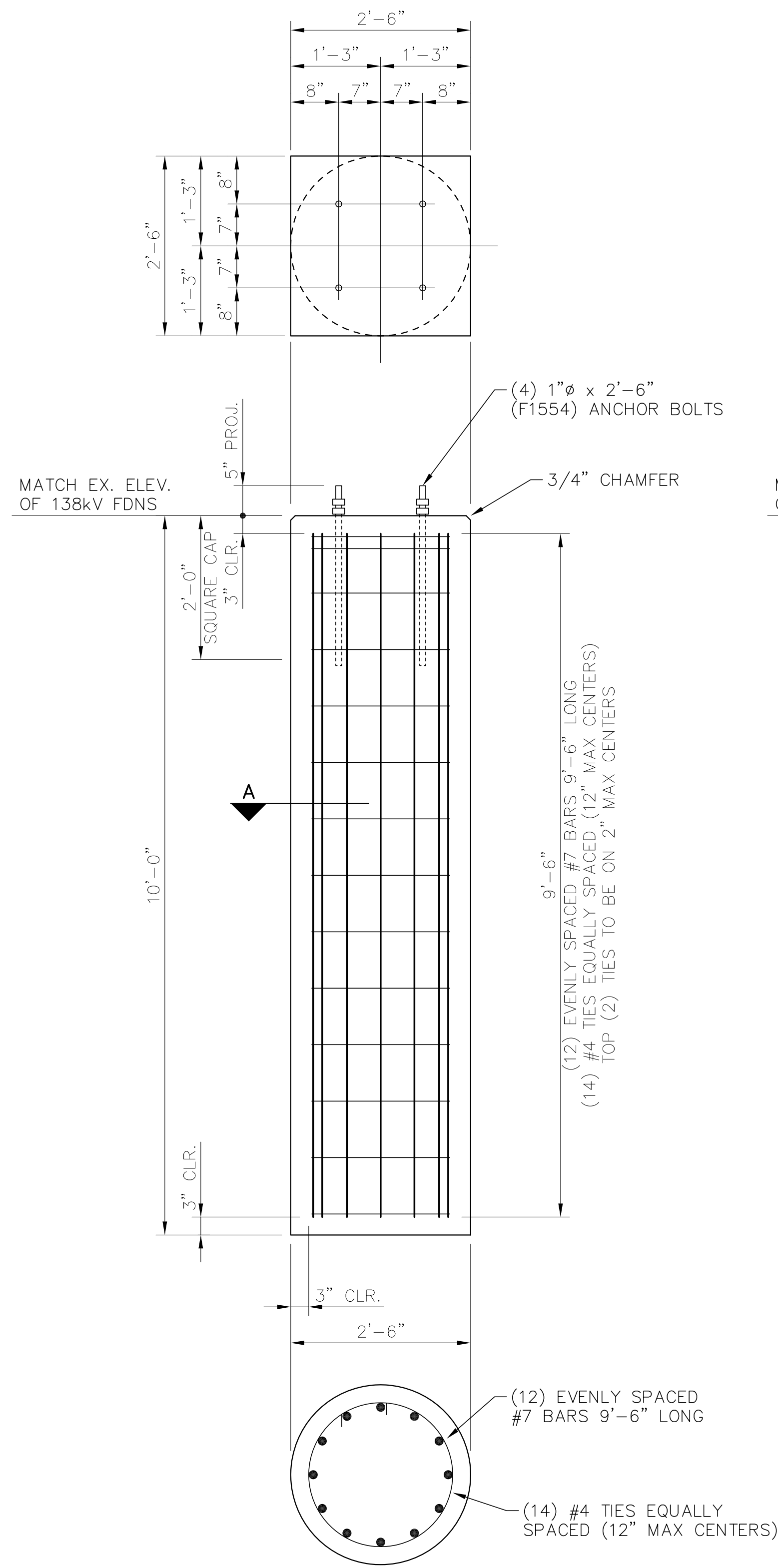
BUILDING PLANS FOR:
BHA, INC. — BATON ROUGE, LA
TWIN BRIDGES SUBSTATION

LANGLOIS ENGINEERING, INC.
GERARD W. LANGLOIS, P.E.
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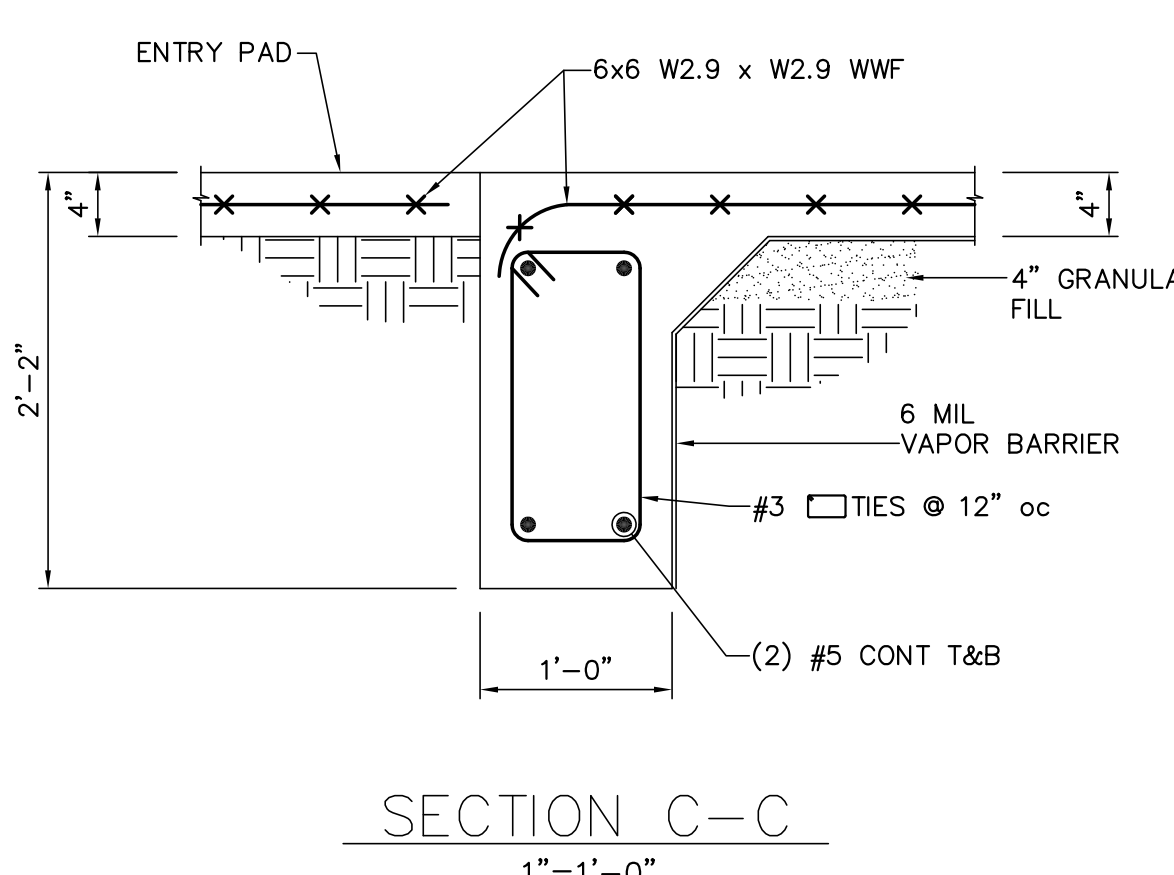
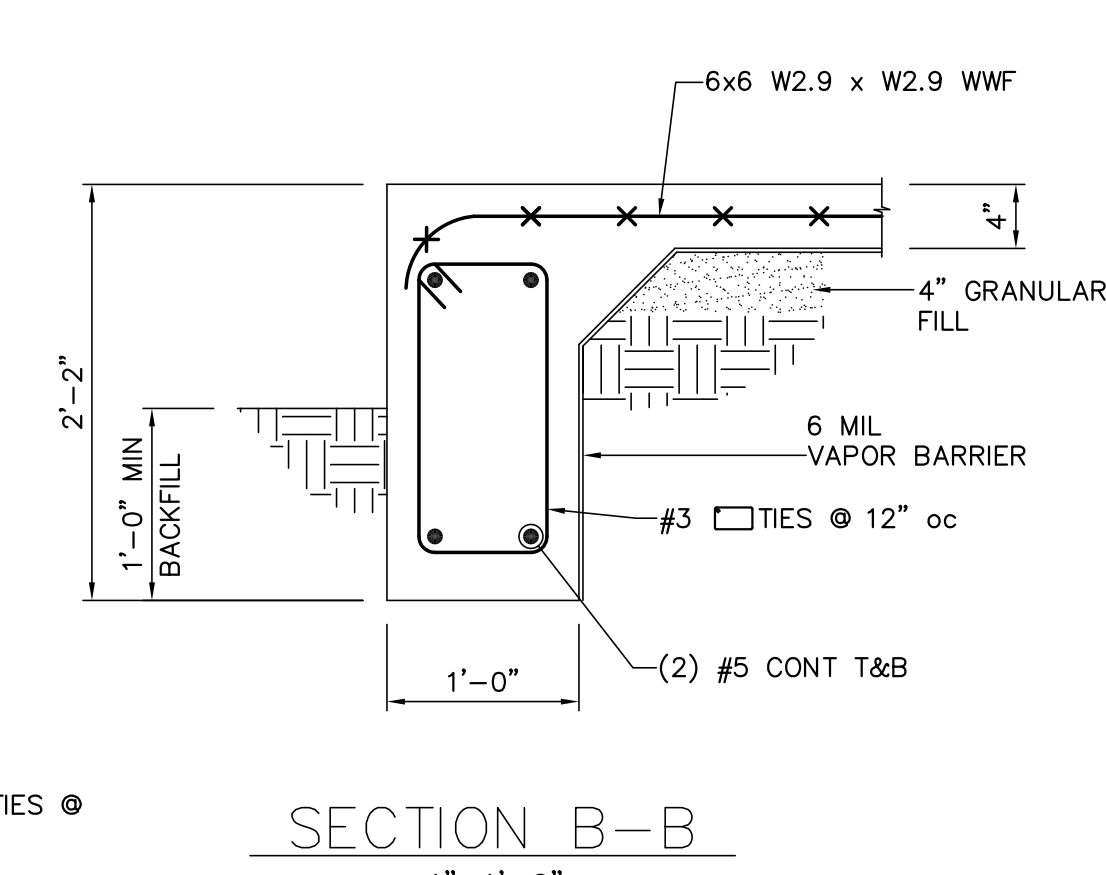
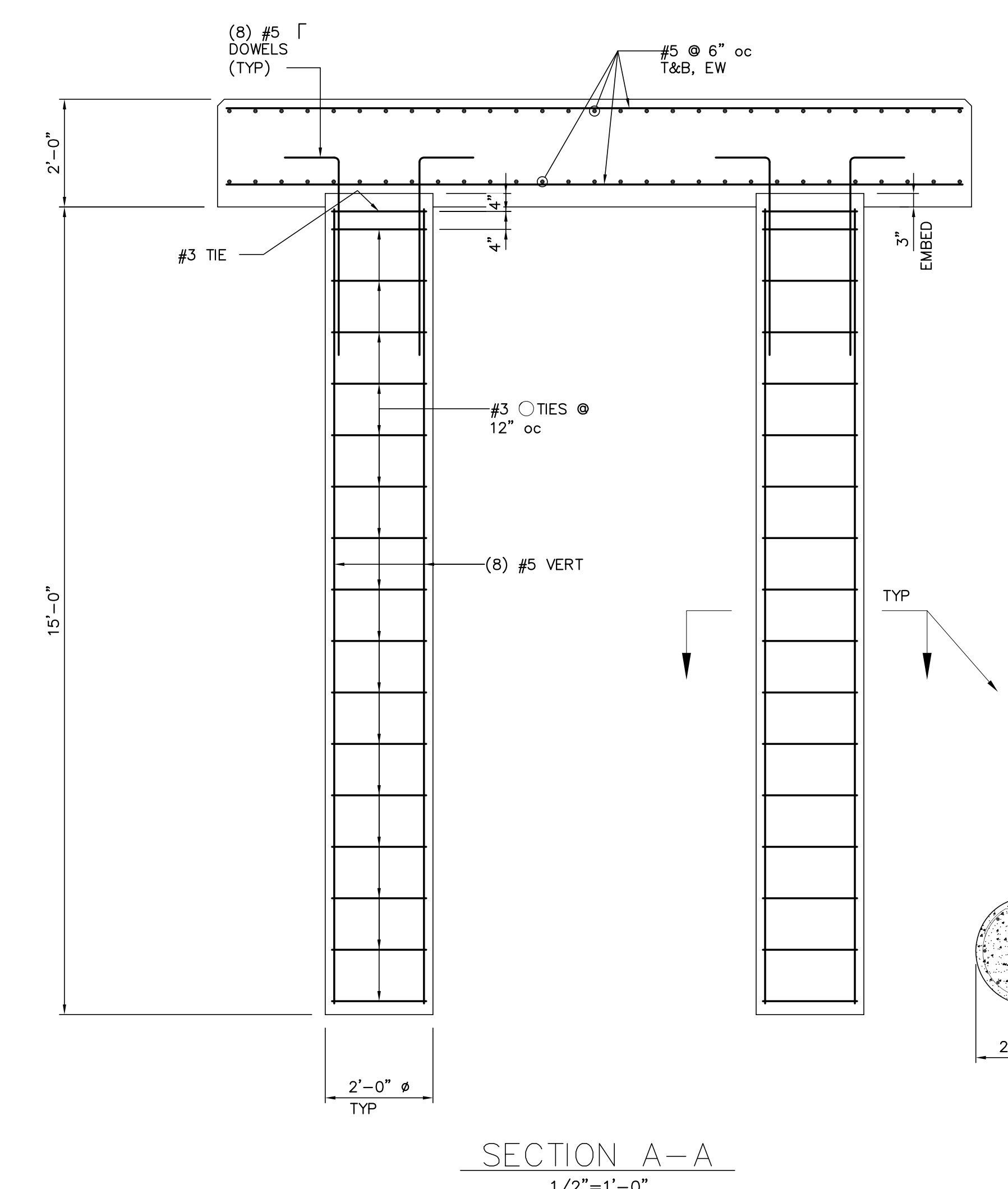
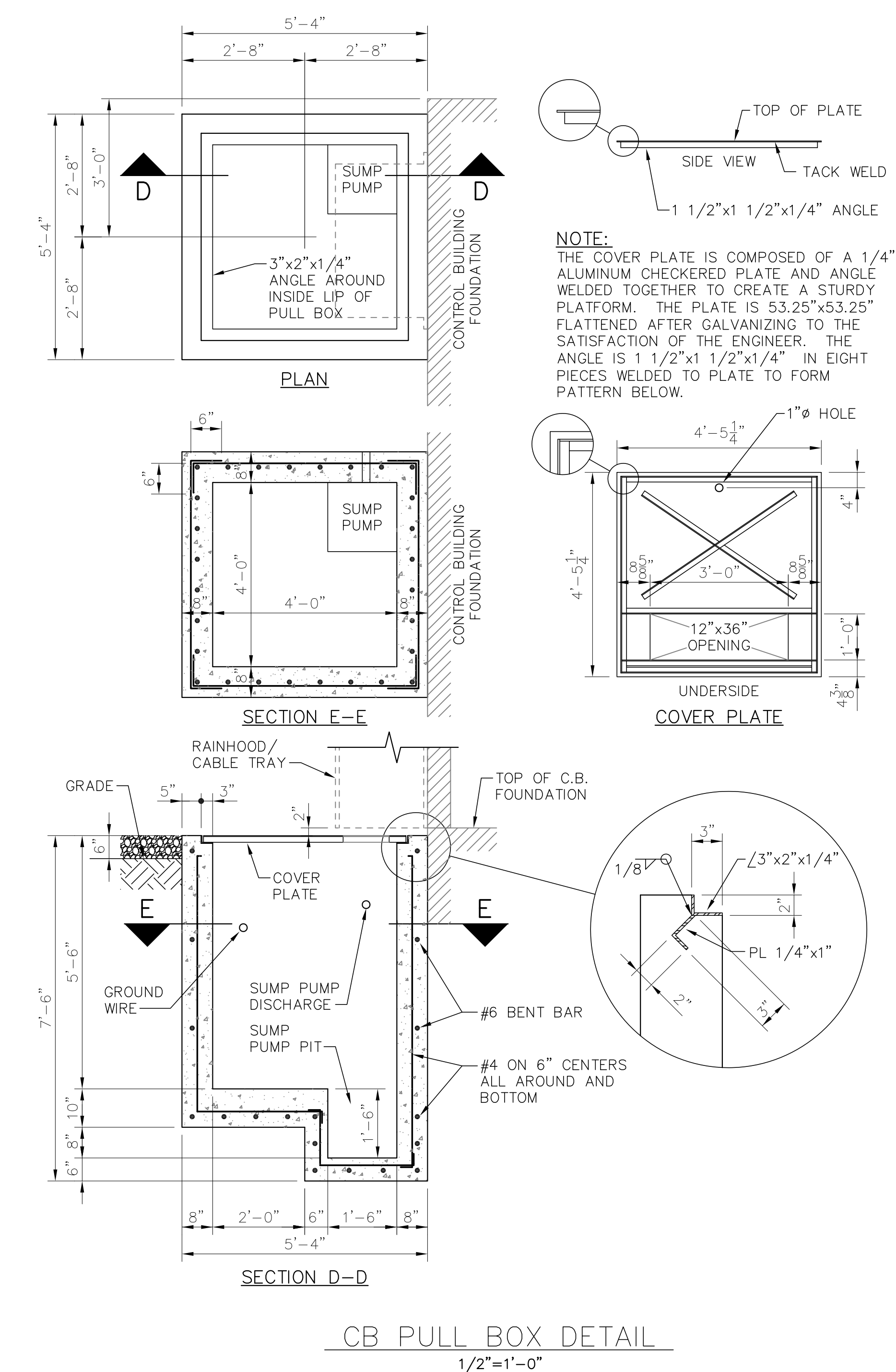
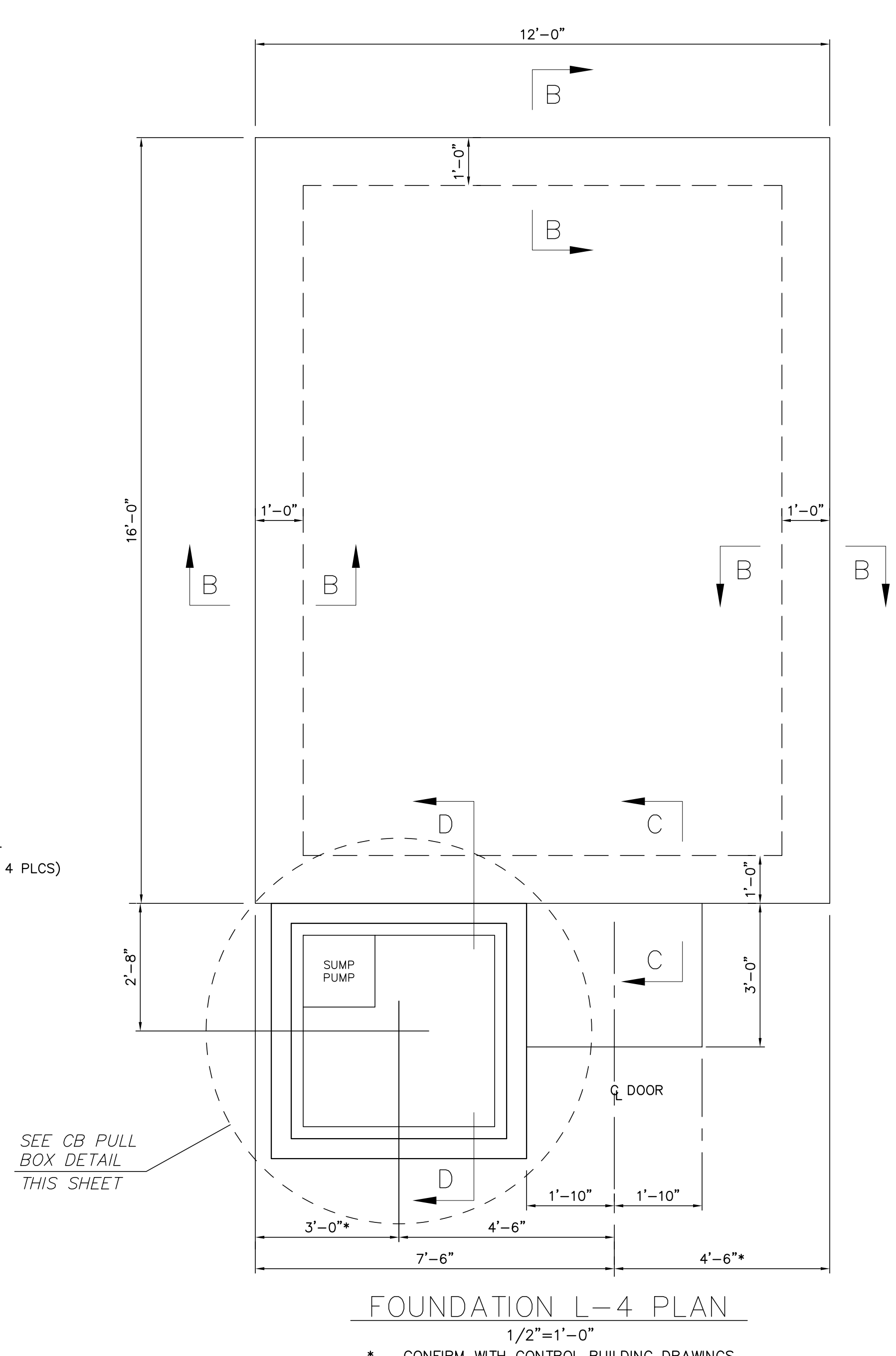
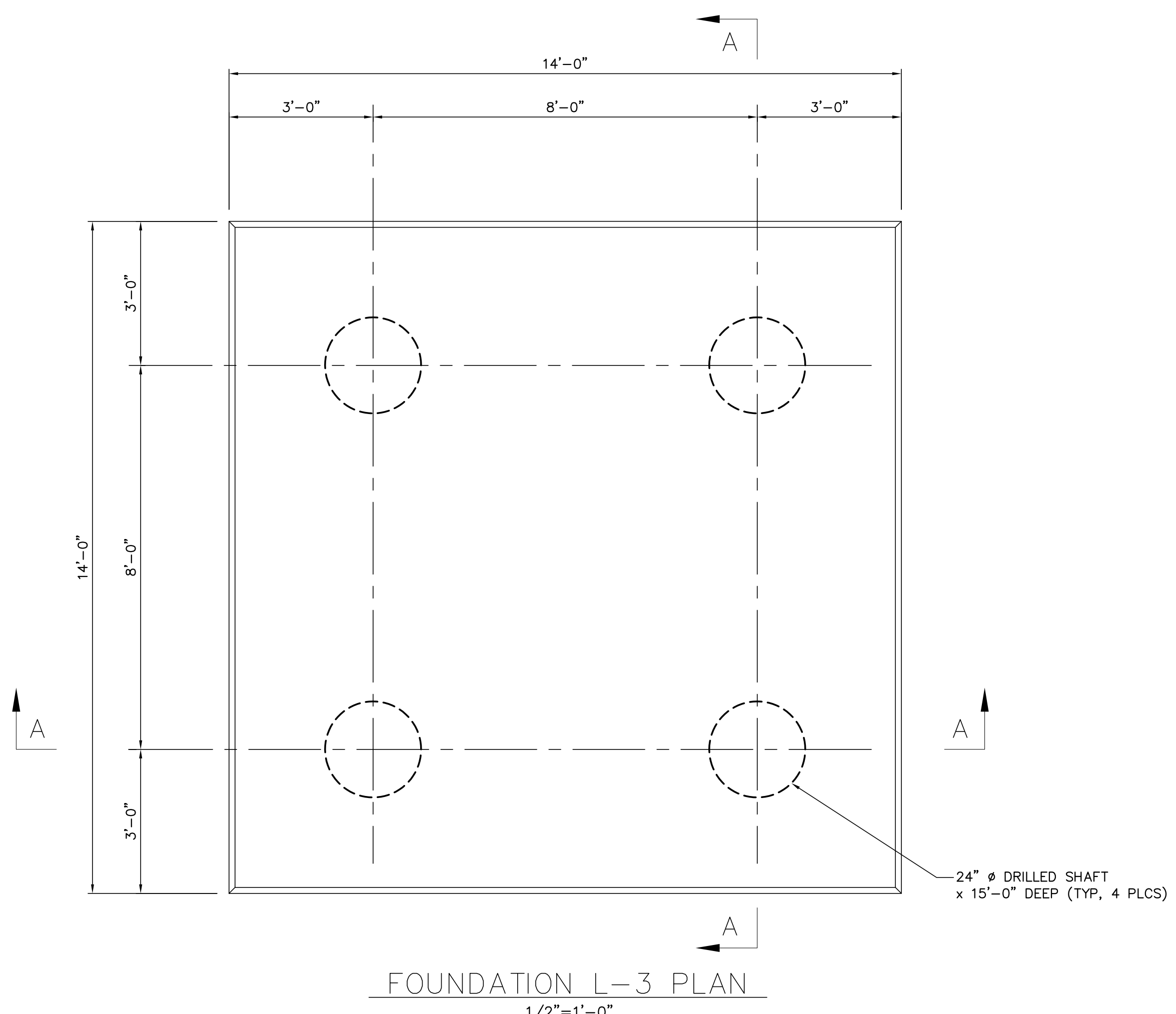
DATE:	JUN '18
DRAWN BY:	GWL, JR.
CHECKED BY:	GWL, SR.
REVISIONS:	
SHEET NO.:	
PROJECT NO.:	

BHA245.DWG 04/01/2019



FOR BIDDING
PURPOSES ONLY

TWIN BRIDGES TRANSFORMER ADDITION FOUNDATION DETAILS			
CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE	DATE	APPROVED BY	PROJECT NO.
NOTED	8/15/18	JHD	JJC
BHA, INC. BATON ROUGE, LOUISIANA			2019-E-16A
DRAWING NO.: TBTA-05C			REV.: B
NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION



NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY

**TWIN BRIDGES TRANSFORMER ADDITION
FOUNDATION DETAILS**

CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

SCALE: NOTED DATE: 12/31/18 DRAWN BY: JHD APPROVED BY: JJC PROJECT NO.: 2019-E-16A

BHA, INC.
BATON ROUGE, LOUISIANA

DRAWING NO.: TBTA-05D REV.: B

BUILDING PLANS FOR:

BHA, INC. — BATON ROUGE, LA
TWIN BRIDGES SUBSTATION

LANGLOIS ENGINEERING, INC.
GERARD W. LANGLOIS, P.E.
11328 PENNYWOOD AVENUE
BATON ROUGE, LOUISIANA 70809
PH: 225-293-8730 FAX: 225-293-8718
WWW.LANGLOISENGINEERING.COM

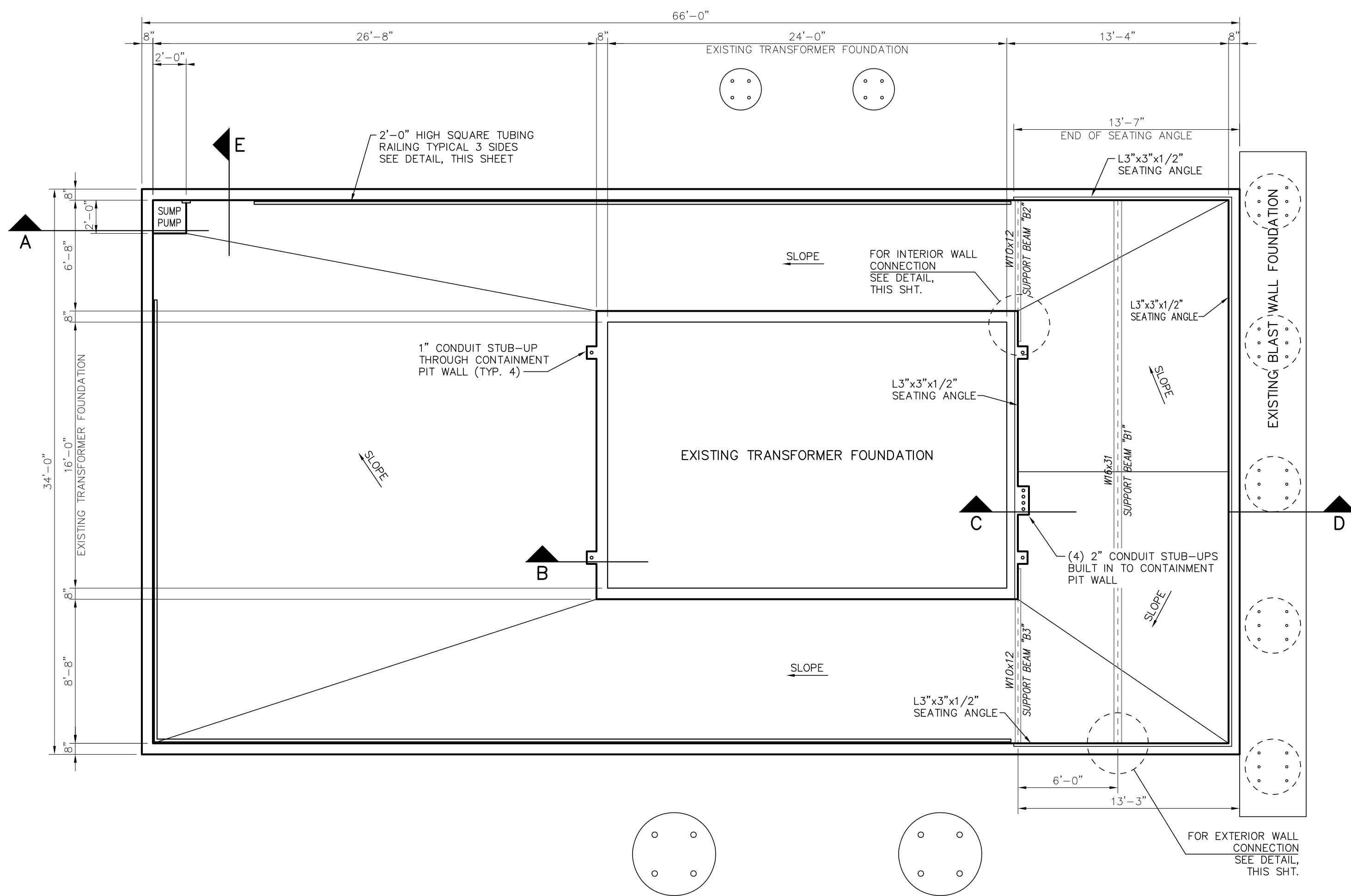
STATE OF LOUISIANA
REGISTERED PROFESSIONAL ENGINEER
EX. XXX, 2018

DATE: DEC '18
DRAWN BY: GWL, JR.
CHECKED BY: GWL, SR.
REVISIONS:
SHEET NO.
PROJECT NO.

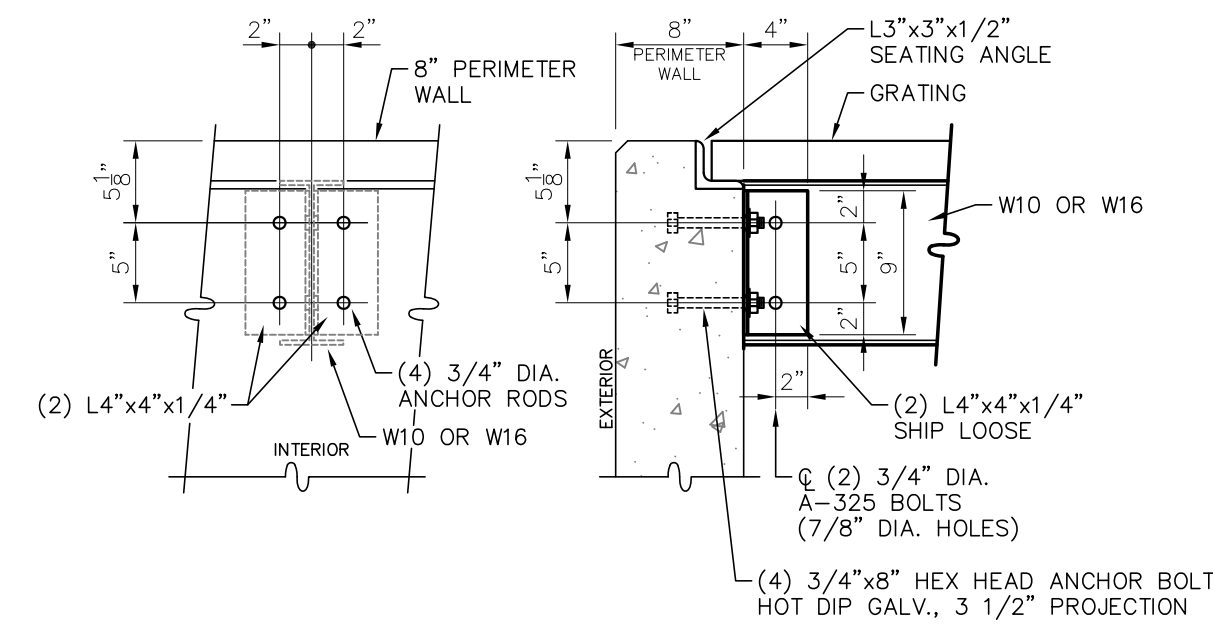
FOR BIDDING PURPOSES ONLY

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BHA\245.DWG 04/01/2019

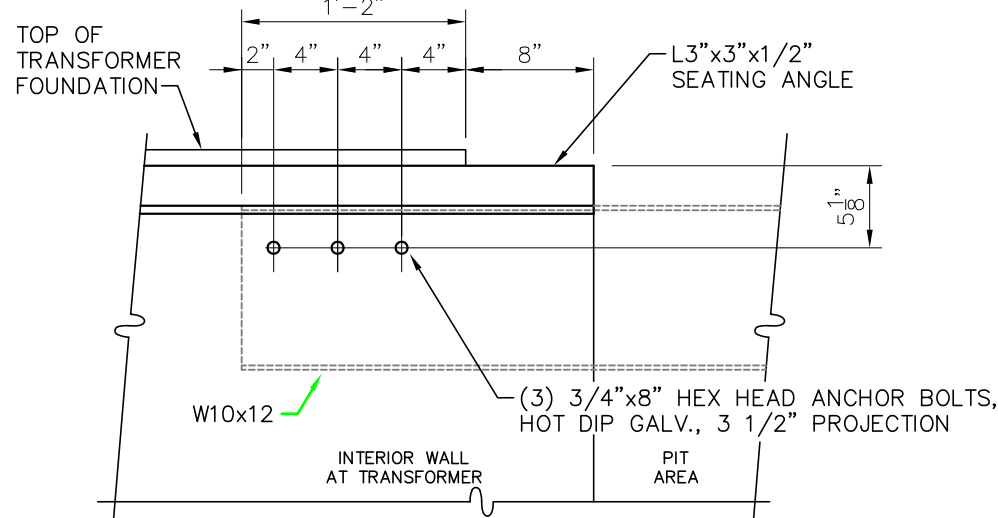


EXTERIOR WALL CONNECTION FOR GRATING DETAIL
SCALE: 1"=1'-0"

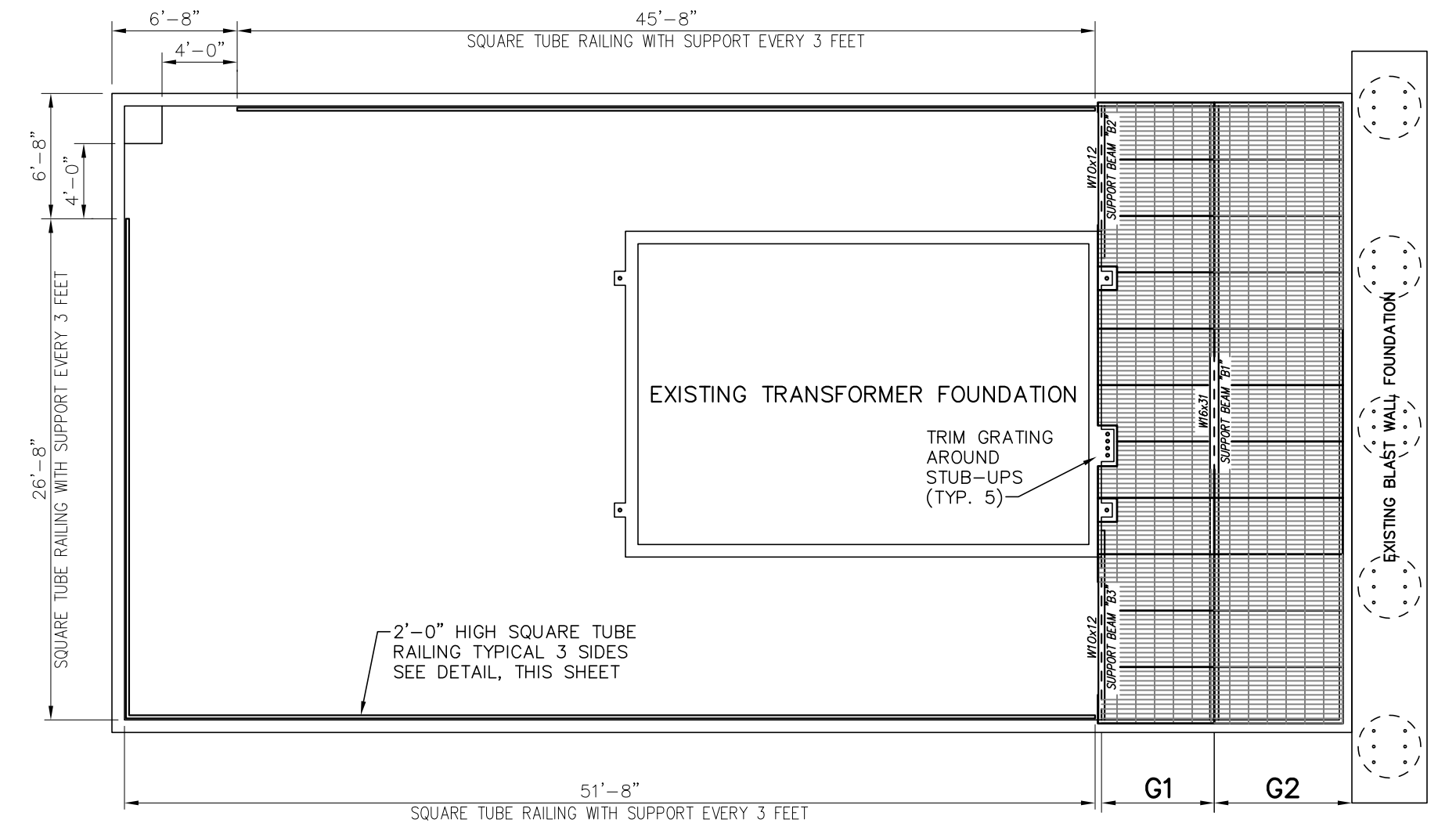


(2) LOCATIONS FOR W16x31
(2) LOCATIONS FOR W10x12

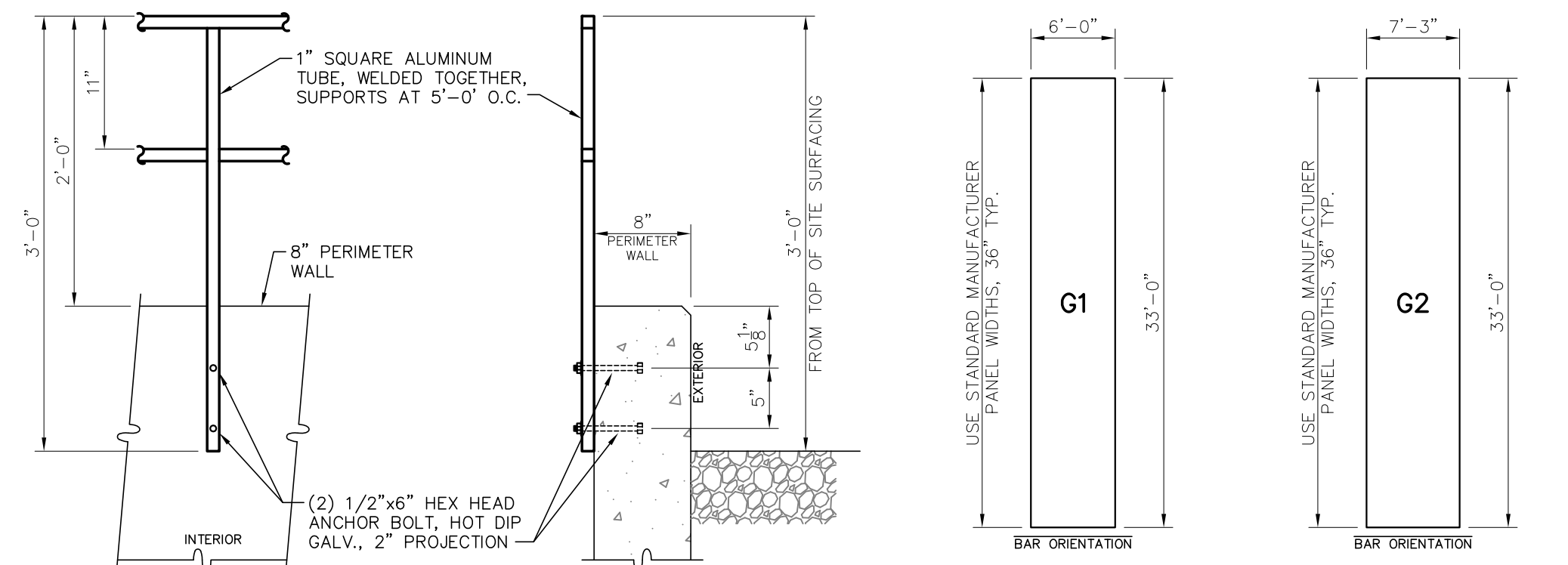
INTERIOR WALL CONNECTION FOR GRATING DETAIL
SCALE: 1"=1'-0"



(2) LOCATIONS FOR W10x12



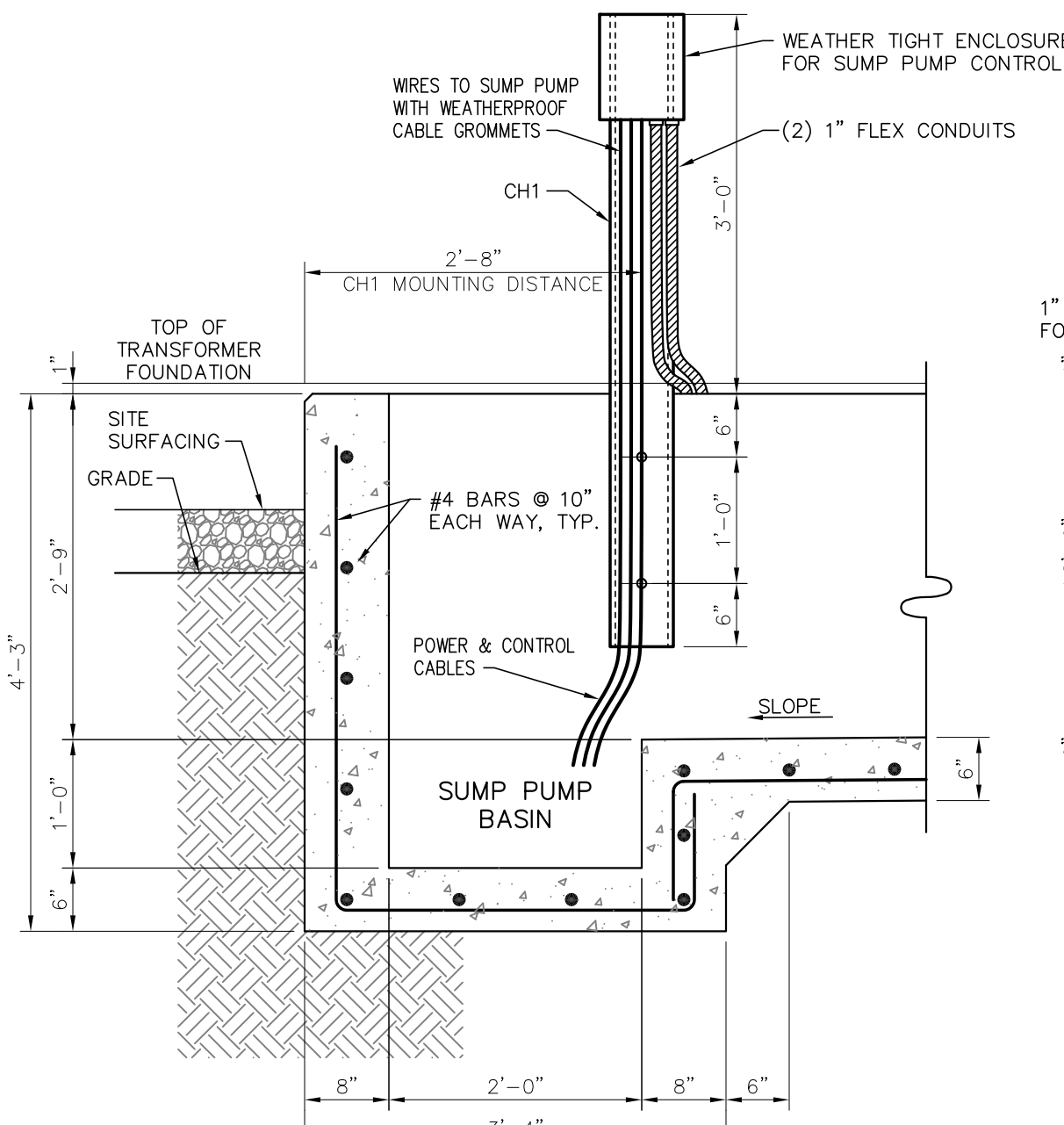
GRATING ORIENTATION
SCALE: 3/16"=1'-0"



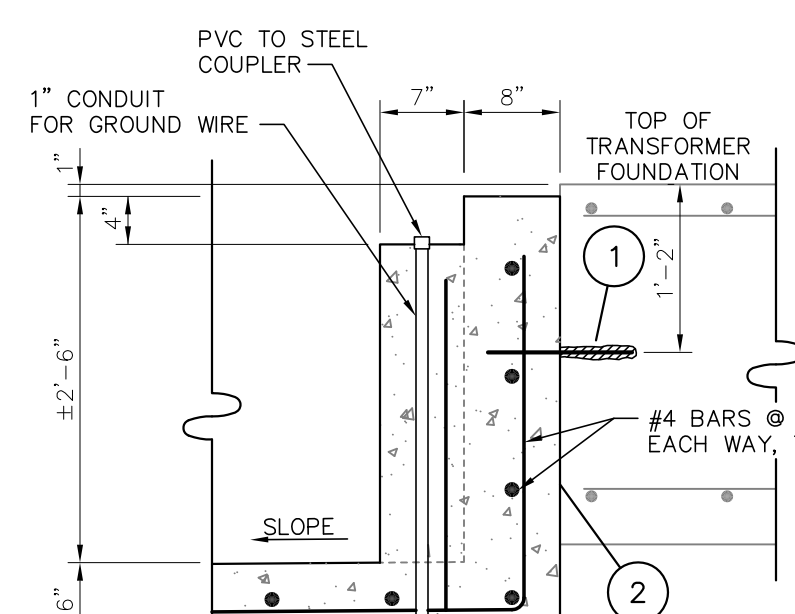
RAILING DETAIL
SCALE: 1"=1'-0"

GRATING LAYOUT "G1"
N.T.S.
1 EA REQUIRED
2 1/2" x 3/16, 19-W-4
SERRATED SURFACE

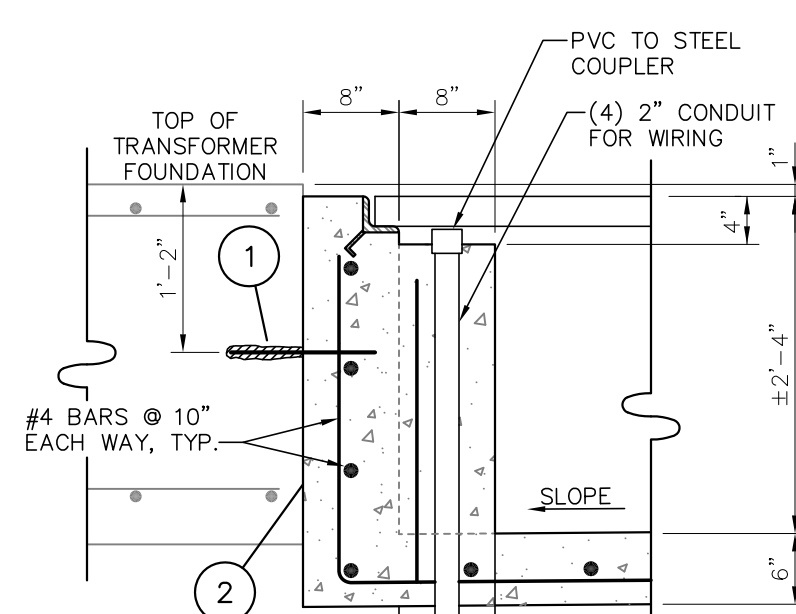
GRATING LAYOUT "G2"
N.T.S.
1 EA REQUIRED
2 1/2" x 3/16, 19-W-4
SERRATED SURFACE



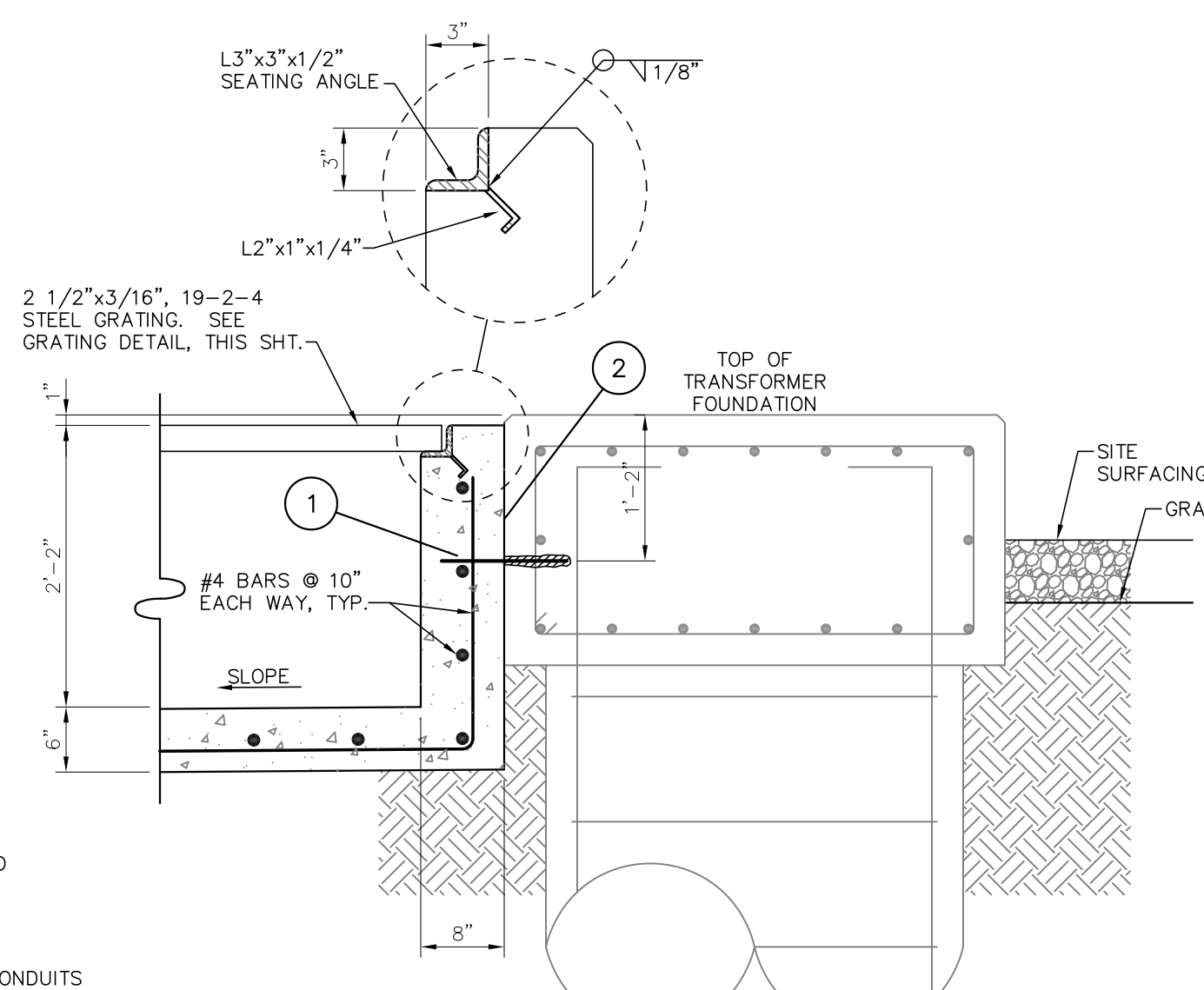
CONTAINMENT PIT DETAIL SECTION A
SCALE: 3/4"=1'-0"



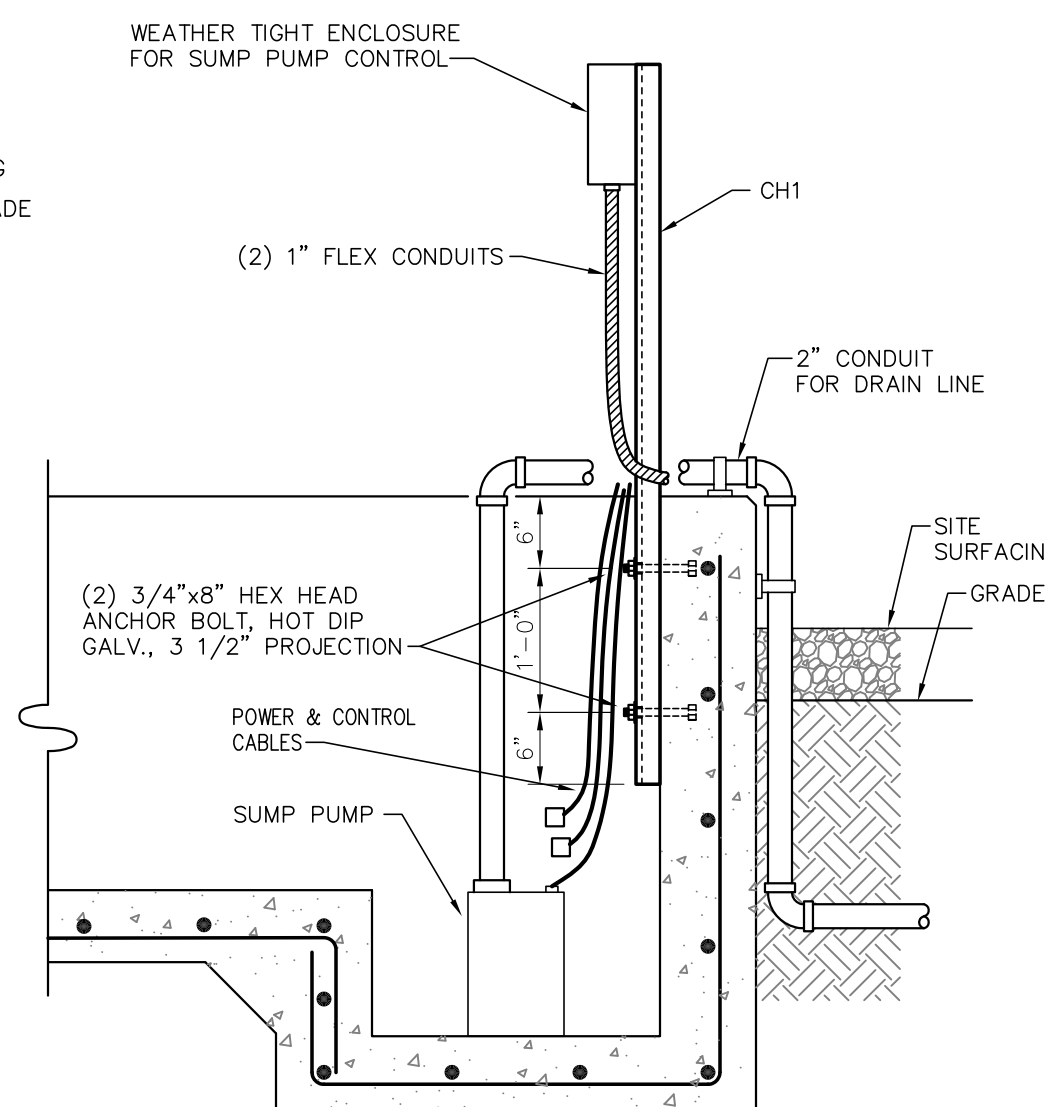
CONTAINMENT PIT DETAIL SECTION B
SCALE: 3/4"=1'-0"



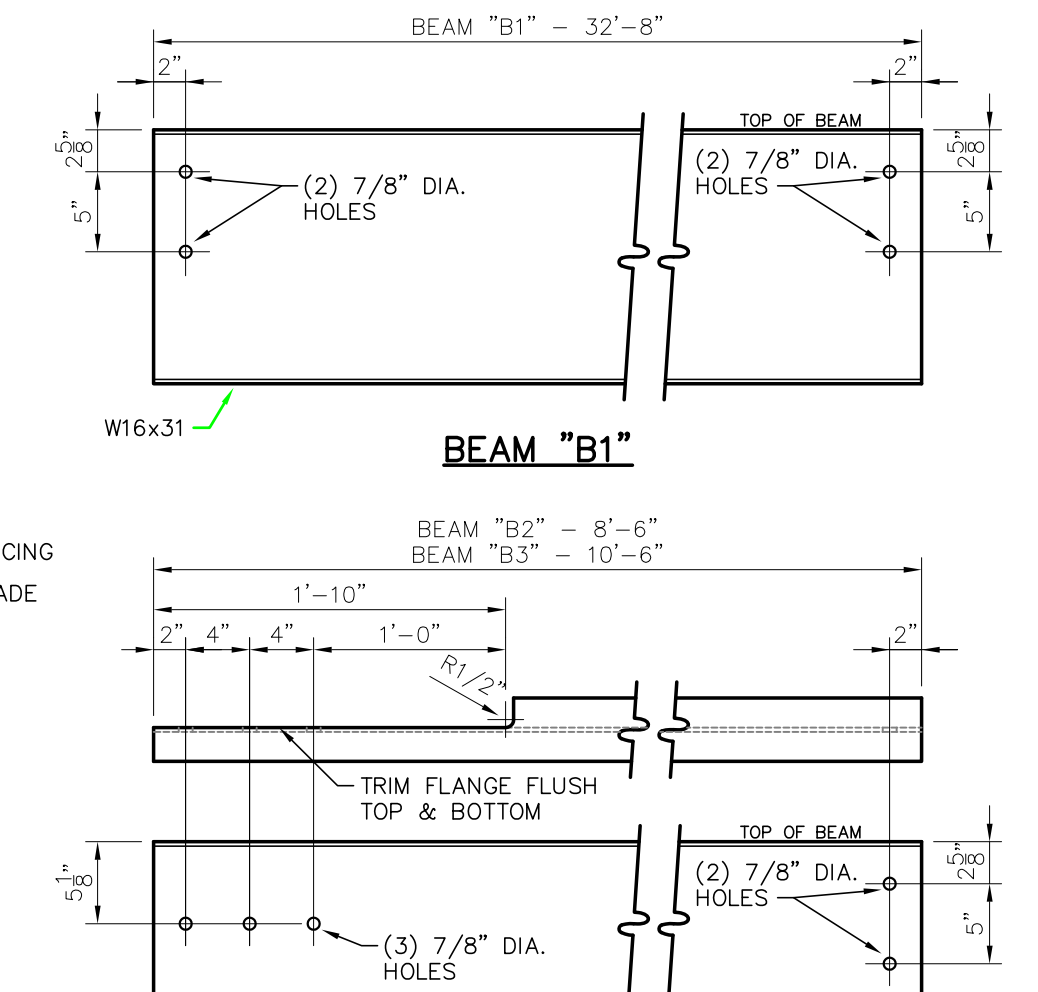
CONTAINMENT PIT DETAIL SECTION C
SCALE: 3/4"=1'-0"



CONTAINMENT PIT DETAIL SECTION D
SCALE: 3/4"=1'-0"

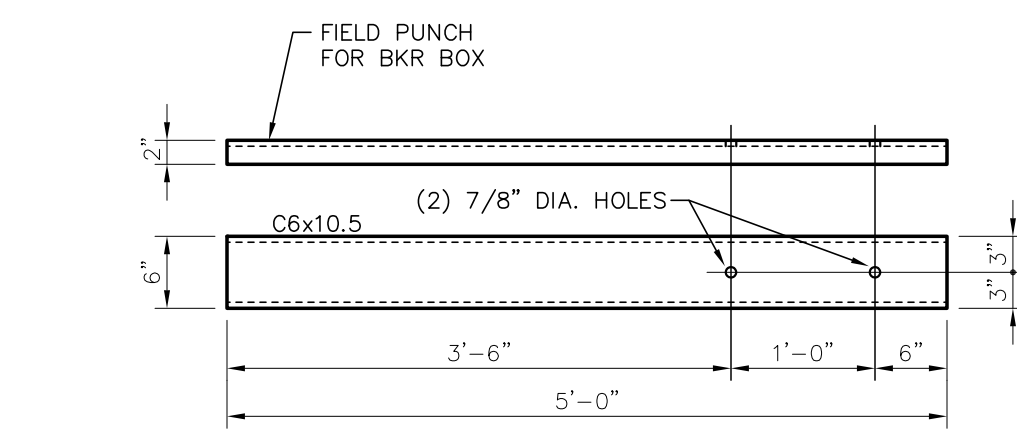


CONTAINMENT PIT DETAIL SECTION E
SCALE: 3/4"=1'-0"



SUPPORT BEAMS DETAIL
SCALE: 1"=1'-0"

(3) LOCATIONS FOR W16x31 (B1)
(2) LOCATIONS FOR W10x12 (B2)
(2) LOCATIONS FOR W10x12 (B3)



CHANNEL CH1
SCALE: 3/4"=1'-0"

FOR BIDDING PURPOSES ONLY

- FIELD DRILL 1-1/4" x 10" DEEP HOLE @ 12" O.C. INTO EXISTING FOUNDATION. SECURE A 12" LONG NO. 4 REBAR WITH SIKADUR 31, HI-MOD GEL EPOXY PASTE ADHESIVE.
- COAT SURFACE OF EXISTING CONCRETE WITH SIKADUR 31, HI-MOD GEL EPOXY PASTE ADHESIVE PRIOR TO POURING NEW CONCRETE.

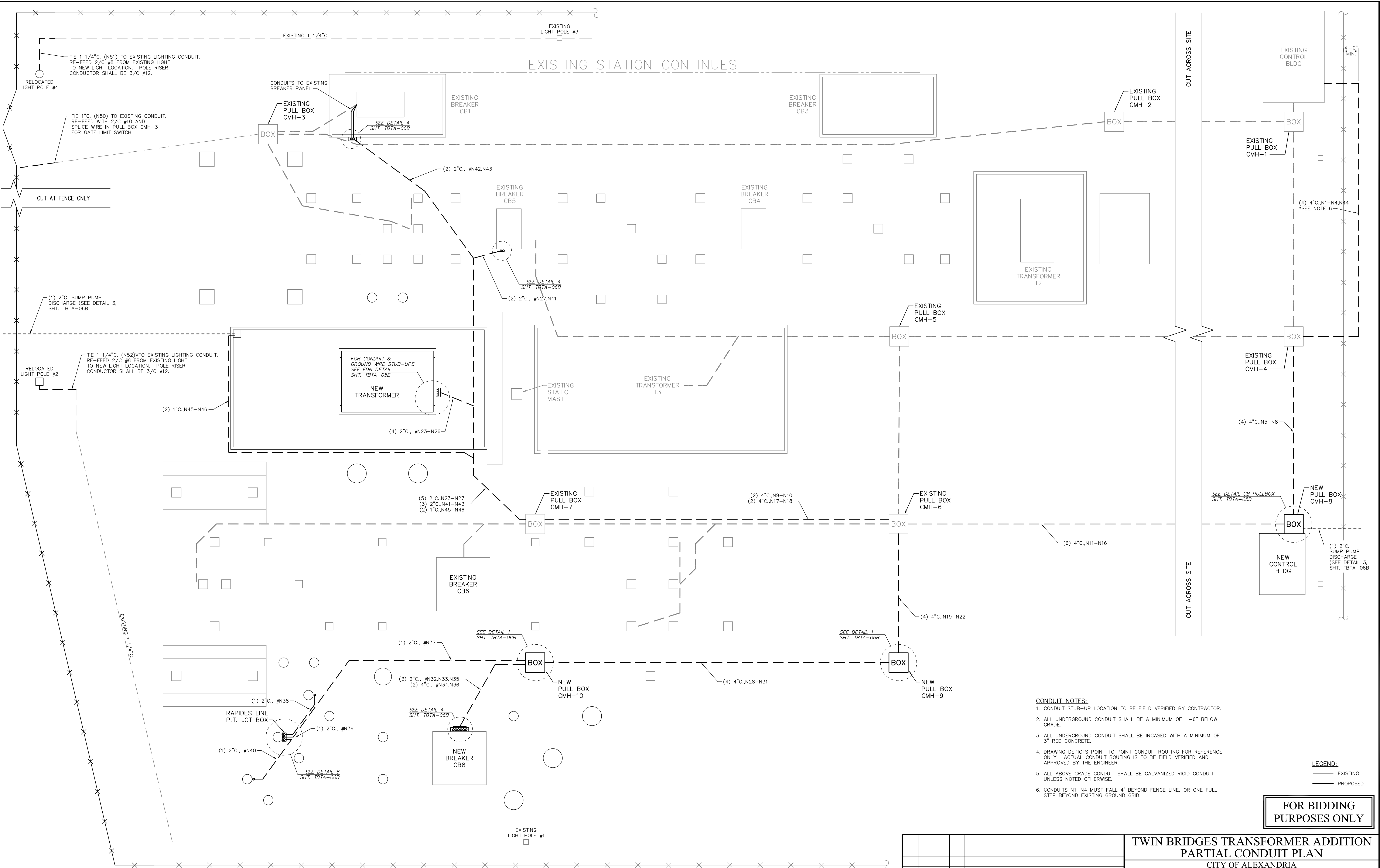
NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

TWIN BRIDGES TRANSFORMER ADDITION OIL CONTAINMENT PIT PLAN & DETAILS
CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

SCALE: NOTED	DATE: 2/20/19	DRAWN BY: JHD	APPROVED BY: JJC	PROJECT NO.: 2019-E-16A
BHA, INC. BATON ROUGE, LOUISIANA				DRAWING NO.: TBTA-05E REV.: B

BHA: COA18TA05E.dwg DSF=64 05/29/19 @ 05:39PM BY 627

BHA245.DWG 04/01/2019



- CONDUIT NOTES:**
- CONDUIT STUB-UP LOCATION TO BE FIELD VERIFIED BY CONTRACTOR.
 - ALL UNDERGROUND CONDUIT SHALL BE A MINIMUM OF 1'-6" BELOW GRADE.
 - ALL UNDERGROUND CONDUIT SHALL BE INCASED WITH A MINIMUM OF 3" RED CONCRETE.
 - DRAWING DEPICTS POINT TO POINT CONDUIT ROUTING FOR REFERENCE ONLY. ACTUAL CONDUIT ROUTING IS TO BE FIELD VERIFIED AND APPROVED BY THE ENGINEER.
 - ALL ABOVE GRADE CONDUIT SHALL BE GALVANIZED RIGID CONDUIT UNLESS NOTED OTHERWISE.
 - CONDUITS N1-N4 MUST FALL 4' BEYOND FENCE LINE, OR ONE FULL STEP BEYOND EXISTING GROUND GRID.

LEGEND:
 — EXISTING
 - - - PROPOSED

FOR BIDDING PURPOSES ONLY

PARTIAL CONDUIT PLAN
 SCALE: 3/32"=1'-0"

NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

**TWIN BRIDGES TRANSFORMER ADDITION
 PARTIAL CONDUIT PLAN**
 CITY OF ALEXANDRIA
 ALEXANDRIA, LOUISIANA

SCALE: 3/32"=1'-0"	DATE: 8/15/18	DRAWN BY: JHD	APPROVED BY: JJC	PROJECT NO.: 2019-E-16A
BHA, INC. BATON ROUGE, LOUISIANA				DRAWING NO.: TBTA-06
				REV.: B

BHA, INC. 05/01/2019
 Prepared by BHA, Inc.

CONDUIT & WIRE SCHEDULE

CABLE NO.	CONDUCTOR SIZE	WIRE COLOR	FROM	TO	ROUTE	USE	NOTES
1101S	2 - 1/C # 4/0		125V DC PANEL B (OLD HOUSE)	125V DC PANEL (NEW HOUSE)	N1,CMH-4,N5,CMH-8	100A - DC SUBPANEL SOURCE #1	
1301S	2/C #8		125V DC PANEL (NEW HOUSE)	AT4 P1 & P2 PANEL (NEW HOUSE)	C-TRAY	30A - AT4 DC SOURCE #1	
1302S	2/C #8		125V DC PANEL B (OLD HOUSE)	AT4 P1 & P2 PANEL (NEW HOUSE)	N1,CMH-4,N5,CMH-8	30A - AT4 DC SOURCE #2	
1401S	2/C #8		125V DC PANEL (NEW HOUSE)	C88 CTRL PANEL (NEW HOUSE)	C-TRAY	30A - C88 DC SOURCE #1	
1402S	2/C #8		125V DC PANEL B (OLD HOUSE)	C88 CTRL PANEL (NEW HOUSE)	N1,CMH-4,N5,CMH-8	30A - C88 DC SOURCE #2	
1701S	2/C #8 SH		125V DC PANEL (NEW HOUSE)	AT4 YARD CABINET	CMH-8,N11,CMH-6,N9,CMH-7,N23	15A - AT4 DC SUPPLY	
2201S	3 - 1/C # 4/0		225V AC PANEL (OLD HOUSE)	225V AC PANEL (NEW HOUSE)	N44,CMH-4,N6,CMH-8	200A - AC SUBPANEL SOURCE	
2301S	3/C #10		120V AC PANEL (NEW HOUSE)	AT4 P1 & P2 PANEL (NEW HOUSE)	C-TRAY	1P/20A - AC SUPPLY	
2401S	3/C #10		120V AC PANEL (NEW HOUSE)	C88 CTRL PANEL (NEW HOUSE)	C-TRAY	1P/20A - AC SUPPLY	
2601S	3/C #8 SH		230V AC PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N12,CMH-6,N19,CMH-9,N28,CMH-10,N32	2P/35A - C88 AC SUPPLY	
2701S	3 - 1/C # 4/0 SH		230V AC PANEL (NEW HOUSE)	AT4 YARD CABINET	CMH-8,N12,CMH-6,N10,CMH-7,N24	2P/150A - AT4 AC SUPPLY	
2901S	2/C #10 SH		120V AC PANEL (NEW HOUSE)	RAPIDES LINE PT J-BOX	CMH-8,N12,CMH-6,N19,CMH-9,N28,CMH-10,N37	1P/5A - J-BOX HEATERS	
2902S	3/C #10 SH		120V AC PANEL (NEW HOUSE)	P88 SUMP PUMP	C-TRAY	P88 SUMP PUMP POWER	
2903S	3/C #10 SH		120V AC PANEL (NEW HOUSE)	AT4 SUMP PUMP	N45,CMH-7,N17,CMH-6,N16,CMH-8	AT4 SUMP PUMP POWER	
3401R	12/C #10		AT4 P1 & P2 PANEL (NEW HOUSE)	C88 CTRL PANEL (NEW HOUSE)	C-TRAY	AT4 & C88 TRIP, CLOSE, BFI	
3402R	5/C #10		AT4 P1 & P2 PANEL (NEW HOUSE)	C81 CTRL PANEL 2R (OLD HOUSE)	CMH-8,N7,CMH-4,N3	TRIP AT4 P1 & P2	
3403R	5/C #10		AT4 P1 & P2 PANEL (NEW HOUSE)	C81 CTRL PANEL 2R/2F (OLD HOUSE)	CMH-8,N7,CMH-4,N3	TRIP, BLOCK CLOSE CB1	
3404R	5/C #10		AT4 P1 & P2 PANEL (NEW HOUSE)	C81 CTRL PANEL 2R/2F (OLD HOUSE)	CMH-8,N7,CMH-4,N3	BFI CB1	
3405R	5/C #10		AT4 P1 & P2 PANEL (NEW HOUSE)	C85 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP AT4 P1 & P2	
3406R	5/C #10		AT4 P1 & P2 PANEL (NEW HOUSE)	C85 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP C85	
3407R	5/C #10		AT4 P1 & P2 PANEL (NEW HOUSE)	C85 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	BLOCK CLOSE, BFI C85	
3408P	5/C #10		AT4 P1 & P2 PANEL (NEW HOUSE)	C88 CTRL PANEL (NEW HOUSE)	C-TRAY	AT4 LOWSIDE POT	
3409M	SEL-C273A		AT4 P1 & P2 PANEL (NEW HOUSE)	C88 CTRL PANEL (NEW HOUSE)	C-TRAY	SEL-487E COMM	
3410M	SEL-C273A		AT4 P1 & P2 PANEL (NEW HOUSE)	C88 CTRL PANEL (NEW HOUSE)	C-TRAY	SEL-387 COMM	
3411A	12/C #18		AT4 P1 & P2 PANEL (NEW HOUSE)	C88 CTRL PANEL (NEW HOUSE)	C-TRAY	ALARMS	
3601C	5/C #10 SH		C88 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N33,CMH-10,N29,CMH-9,N20,CMH-6,N13,CMH-8	AT4 P1 CTs	
3602C	5/C #10 SH		C81 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N42,CMH-7,N17,CMH-6,N13,CMH-8	AT4 P1 CTs	
3603C	5/C #10 SH		C85 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N41,CMH-7,N17,CMH-6,N13,CMH-8	AT4 P1 CTs	
3604R	2/C #10 SH		C88 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N34,CMH-10,N30,CMH-9,N21,CMH-6,N11,CMH-8	AT4 P1 BKR STATUS	
3605R	2/C #10 SH		C81 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N43,CMH-7,N9,CMH-6,N16,CMH-8	AT4 P1 BKR STATUS	
3606R	2/C #10 SH		C85 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N27,CMH-7,N9,CMH-6,N11,CMH-8	AT4 P1 BKR STATUS	
3607R	2/C #10 SH		C88 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N34,CMH-10,N30,CMH-9,N21,CMH-6,N11,CMH-8	AT4 P2 BKR STATUS	
3608R	2/C #10 SH		C81 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N43,CMH-7,N9,CMH-6,N16,CMH-8	AT4 P2 BKR STATUS	
3609R	2/C #10 SH		C85 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N27,CMH-7,N9,CMH-6,N11,CMH-8	AT4 P2 BKR STATUS	
3701S	2/C #10 SH		AT4 P1 & P2 PANEL (NEW HOUSE)	AT4 YARD CABINET	CMH-8,N14,CMH-6,N9,CMH-7,N23	AT4 NON-ELEC DC SUPPLY	
3702R	2/C #10 SH		AT4 P1 & P2 PANEL (NEW HOUSE)	AT4 YARD CABINET	CMH-8,N14,CMH-6,N9,CMH-7,N23	AT4 SUDDEN PRESSURE	
3703C	2/C #10 SH		AT4 P1 & P2 PANEL (NEW HOUSE)	AT4 YARD CABINET	CMH-8,N13,CMH-6,N17,CMH-7,N25	AT4 NEUTRAL CT	
3704C	5/C #10 SH		AT4 P1 & P2 PANEL (NEW HOUSE)	AT4 YARD CABINET	CMH-8,N13,CMH-6,N17,CMH-7,N25	AT4 HIGH-SIDE CT	
3705C	5/C #10 SH		AT4 P1 & P2 PANEL (NEW HOUSE)	AT4 YARD CABINET	CMH-8,N13,CMH-6,N17,CMH-7,N25	AT4 LOW-SIDE CT	
3706R	2/C #10 SH		AT4 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N23,CMH-7,N9,CMH-6,N14,CMH-8	AT4 NON-ELEC RELAYING	
3901P	9/C #10 SH		RAPIDES LINE PT J-BOX	AT4 P1 & P2 PANEL (NEW HOUSE)	N37,CMH-10,N28,CMH-9,N19,CMH-6,N12,CMH-8	X-WINDING POT	
4401R	12/C #10		C88 CTRL PANEL (NEW HOUSE)	C86 CTRL PANEL (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP, BLOCK CLOSE, BFI C88	
4402R	12/C #10		C88 CTRL PANEL (NEW HOUSE)	C86 CTRL PANEL (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP, BLOCK CLOSE, BFI C86	
4403R	12/C #10		C88 CTRL PANEL (NEW HOUSE)	C85 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP, BFI C88	
4404R	12/C #10		C88 CTRL PANEL (NEW HOUSE)	C85 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	BLOCK CLOSE C88, TRIP, BFI C85	
4405R	2/C #10		C88 CTRL PANEL (NEW HOUSE)	C85 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	BLOCK CLOSE C85	

CONDUIT & WIRE SCHEDULE

CABLE NO.	CONDUCTOR SIZE	WIRE COLOR	FROM	TO	ROUTE	USE	NOTES
4406R	12/C #10		C88 CTRL PANEL (NEW HOUSE)	C81 CTRL PANEL 2R/2F (OLD HOUSE)	CMH-8,N7,CMH-4,N3	TRIP, BLOCK CLOSE, BFI C88	
4407R	12/C #10		C88 CTRL PANEL (NEW HOUSE)	C81 CTRL PANEL 2R (OLD HOUSE)	CMH-8,N7,CMH-4,N3	TRIP, BLOCK CLOSE, BFI C81	
4408R	12/C #10		C88 CTRL PANEL (NEW HOUSE)	RAPIDES LINE TRIP PANEL 5 (OLD HOUSE)	CMH-8,N7,CMH-4,N3	TRIP, BLOCK CLOSE C88	
4409R	2/C #10		C88 CTRL PANEL (NEW HOUSE)	BREAKER C86 PANEL (OLD HOUSE)	CMH-8,N6,CMH-4,N2	BFI INITIATE C88	
4410R	5/C #10		C88 CTRL PANEL (NEW HOUSE)	BREAKER C86 PANEL (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP TC1, TC2 C88	
4411R	2/C #10		C88 CTRL PANEL (NEW HOUSE)	RAPIDES LINE TRIP PANEL 5 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	RAPIDES LINE TRANS TRIP SEND	
4412M	SEL-C273A		C88 CTRL PANEL (NEW HOUSE)	C88 CTRL PANEL (NEW HOUSE)	C-TRAY	COMMUNICATIONS	
4413M	COAXIAL		C88 CTRL PANEL (NEW HOUSE)	C88 CTRL PANEL (NEW HOUSE)	C-TRAY	SATELLITE CLOCK	
4414P	5/C #10		BREAKER C85 CTRL 4 (OLD HOUSE)	AT4 P1 & P2 PANEL (NEW HOUSE)	N4,CMH-4,N8,CMH-8	AT4 LOWSIDE POT	
4601S	2/C #8 SH		C88 CTRL PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N34	C88 TC1 DC SUPPLY	
4602R	5/C #10 SH		C88 CTRL PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N34	C88 TC1	
4604S	2/C #4 SH		C88 CTRL PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N34	C88 MOTOR DC SUPPLY	
4605S	2/C #8 SH		C88 CTRL PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N34	C88 CLOSE DC SUPPLY	
4606R	5/C #10 SH		C88 CTRL PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N34	C88 CLOSE	
4607R	2/C #10 SH		C88 CTRL PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N36	C88 BKR STATUS	
4608S	2/C #8 SH		C88 CTRL PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N36	C88 TC2 DC SUPPLY	
4609R	5/C #10 SH		C88 CTRL PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N36	C88 TC2	
4610R	2/C #10 SH		C88 CTRL PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N36	C88 GREEN LIGHT IND	
4611C	5/C #10 SH		C88 CTRL PANEL (NEW HOUSE)	C88 YARD CABINET	CMH-8,N13,CMH-6,N20,CMH-9,N29,CMH-10,N33	C88 CTRL CT	
4612C	5/C #10 SH		C88 YARD CABINET	BREAKER C86 PANEL (OLD HOUSE)	N33,CMH-10,N29,CMH-9,N20,CMH-6,N13,CMH-8,N8,CMH-4,N4	RAPIDES LINE PRIMARY RELAY CT	
4613C	5/C #10 SH		C88 YARD CABINET	BREAKER C86 PANEL (OLD HOUSE)	N33,CMH-10,N29,CMH-9,N20,CMH-6,N13,CMH-8,N8,CMH-4,N4	RAPIDES LINE BACKUP RELAY CT	
4614M	SEL-C273AF		C88 YARD CABINET	C88 CTRL PANEL (NEW HOUSE)	N35,CMH-10,N31,CMH-9,N22,CMH-6,N15,CMH-8	COMMUNICATIONS	
4615A	3/C #18 SH		C88 YARD CABINET	C88 CTRL PANEL (NEW HOUSE)	N36,CMH-10,N48,CMH-9,N29,CMH-6,N16,CMH-8	RELAY FAILURE ALARM	
4616R	2/C #10 SH		C88 YARD CABINET	BREAKER C86 PANEL (OLD HOUSE)	N36,CMH-10,N30,CMH-9,N21,CMH-6,N16,CMH-8,N7,CMH-4,N3	52b CONTACT	
4701M	SEL-C273AF		AT4 YARD CABINET	C88 CTRL PANEL (NEW HOUSE)	N26,CMH-7,N18,CMH-6,N15,CMH-8	COMMUNICATIONS	
4702A	3/C #18 SH		AT4 YARD CABINET	C88 CTRL PANEL (NEW HOUSE)	N23,CMH-7,N9,CMH-6,N16,CMH-8	RELAY FAILURE ALARM	
4801R	7/C #14		C88 CTRL PANEL (NEW HOUSE)	SCADA RTU PANEL (OLD HOUSE)	CMH-8,N7,CMH-4,N3	C88 SCADA CONTROLS	
4802R	7/C #14		C88 CTRL PANEL (NEW HOUSE)	SCADA RTU PANEL (OLD HOUSE)	CMH-8,N7,CMH-4,N3	C88 AUTO/NON-ELEC RECL	
4803A	7/C #18		C88 CTRL PANEL (NEW HOUSE)	SCADA RTU PANEL (OLD HOUSE)	CMH-8,N7,CMH-4,N3	RTAC ALARM	
4901P	9/C #10 SH		RAPIDES LINE PT J-BOX	C88 CTRL PANEL (NEW HOUSE)	N37,CMH-10,N28,CMH-9,N19,CMH-6,N12,CMH-8	Y-WINDING POT	
4902P	5/C #10 SH		RAPIDES LINE PT J-BOX	BREAKER C86 PANEL (OLD HOUSE)	N37,CMH-10,N28,CMH-9,N19,CMH-6,N12,CMH-8,N8,CMH-4,N4	X-WINDING POT	
4903P	5/C #10 SH		RAPIDES LINE PT J-BOX	BREAKER C86 PANEL (OLD HOUSE)	N37,CMH-10,N28,CMH-9,N19,CMH-6,N12,CMH-8,N8,CMH-4,N4	Y-WINDING POT	
7701C	5/C #10 SH		AT4 YARD CABINET	REVENUE MTR PANEL 7 (OLD HOUSE)	N23,CMH-7,N9,CMH-6,SPARE CONDUIT,CMH-5,SPARE CONDUIT,CMH-4,N4	METERING CTs	
7901C	2/C #10 SH		AT4 YARD CABINET	AT4 A# SLIPOVER METERING CT	N47A *FIELD VERIFY PHASING	A# METERING CTs	
7902C	2/C #10 SH		AT4 YARD CABINET	AT4 B# SLIPOVER METERING CT	N47B, N47A *FIELD VERIFY PHASING	B# METERING CTs	
7903C	2/C #10 SH		AT4 YARD CABINET	AT4 C# SLIPOVER METERING CT	N47C, N47B, N47A *FIELD VERIFY PHASING	C# METERING CTs	
9401A	3/C #18 SH		AT4 SUMP PUMP	C88 CTRL PANEL (NEW HOUSE)	N46,CMH-7,N17,CMH-6,N16,CMH-8	AT4 SUMP PUMP ALARMS	
9901P	9/C #10 SH		RAPIDES LINE PT J-BOX	RAPIDES LINE NODE A# PT	N38	A# POTENTIAL	
9902S	2/C #10 SH		RAPIDES LINE PT J-BOX	RAPIDES LINE NODE A# PT	N38	A# HEATERS	
9903P	9/C #10 SH		RAPIDES LINE PT J-BOX	RAPIDES LINE NODE B# PT	N39	B# POTENTIAL	
9904S	2/C #10 SH		RAPIDES LINE PT J-BOX	RAPIDES LINE NODE B# PT	N39	B# HEATERS	
9905P	9/C #10 SH		RAPIDES LINE PT J-BOX	RAPIDES LINE NODE C# PT	N40	C# POTENTIAL	
9906S	2/C #10 SH		RAPIDES LINE PT J-BOX	RAPIDES LINE NODE C# PT	N40	C# HEATERS	
101A	2/C #10		CMH-3	GATE CONTACT	N50	GATE ALARM	
102P	2/C #8		EXISTING LIGHT POLE #1	RELOCATED LIGHT POLE #2	N51	AREA LIGHTING	
103P	2/C #8		EXISTING LIGHT POLE #3	RELOCATED LIGHT POLE #4	N52	AREA LIGHTING	

NOTE:
CONTRACTOR TO VERIFY PHASING WITH OWNER PRIOR TO WIRE TERMINATIONS

NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

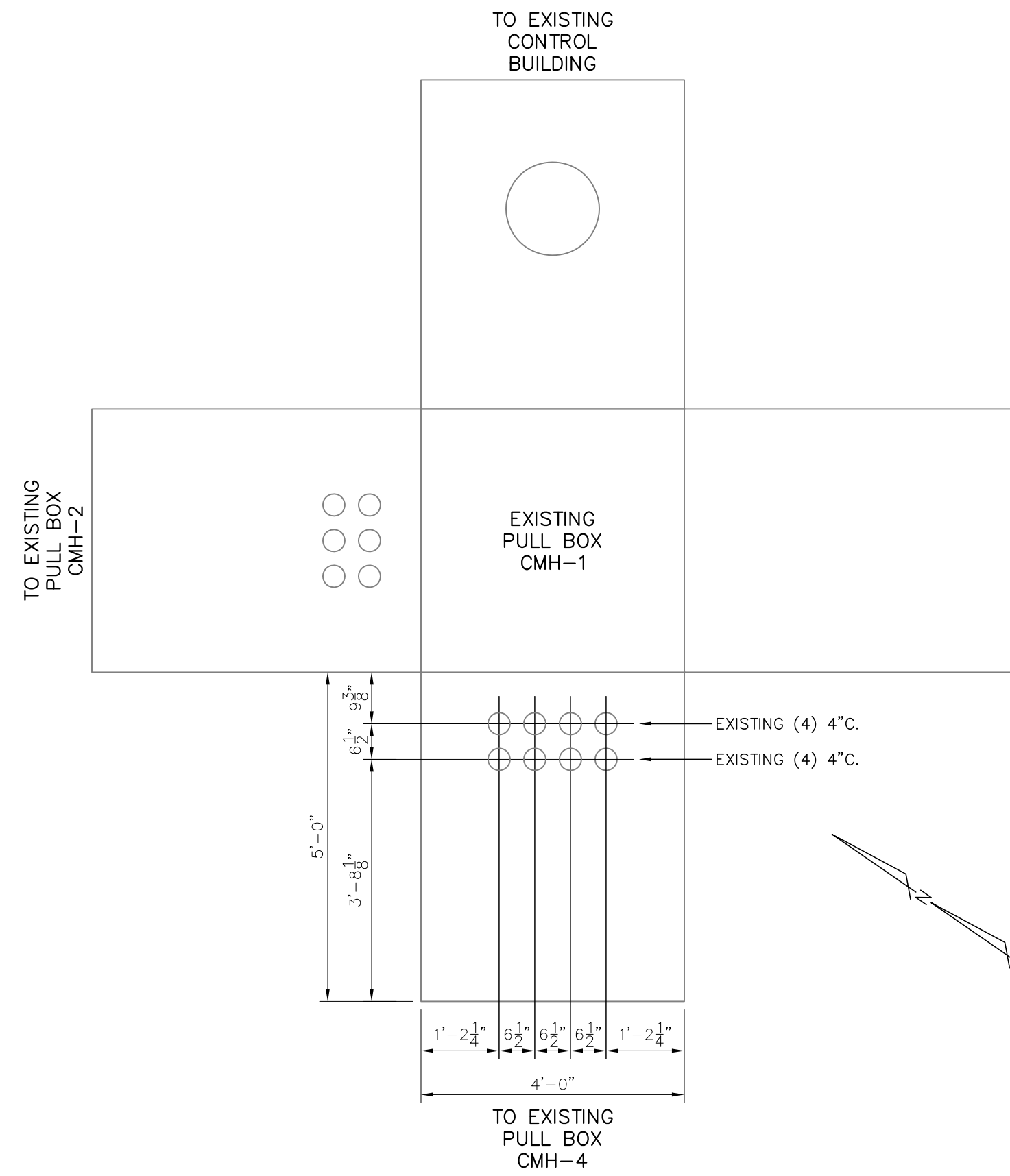
FOR BIDDING PURPOSES ONLY

**TWIN BRIDGES TRANSFORMER ADDITION
CONDUIT & WIRE SCHEDULES**

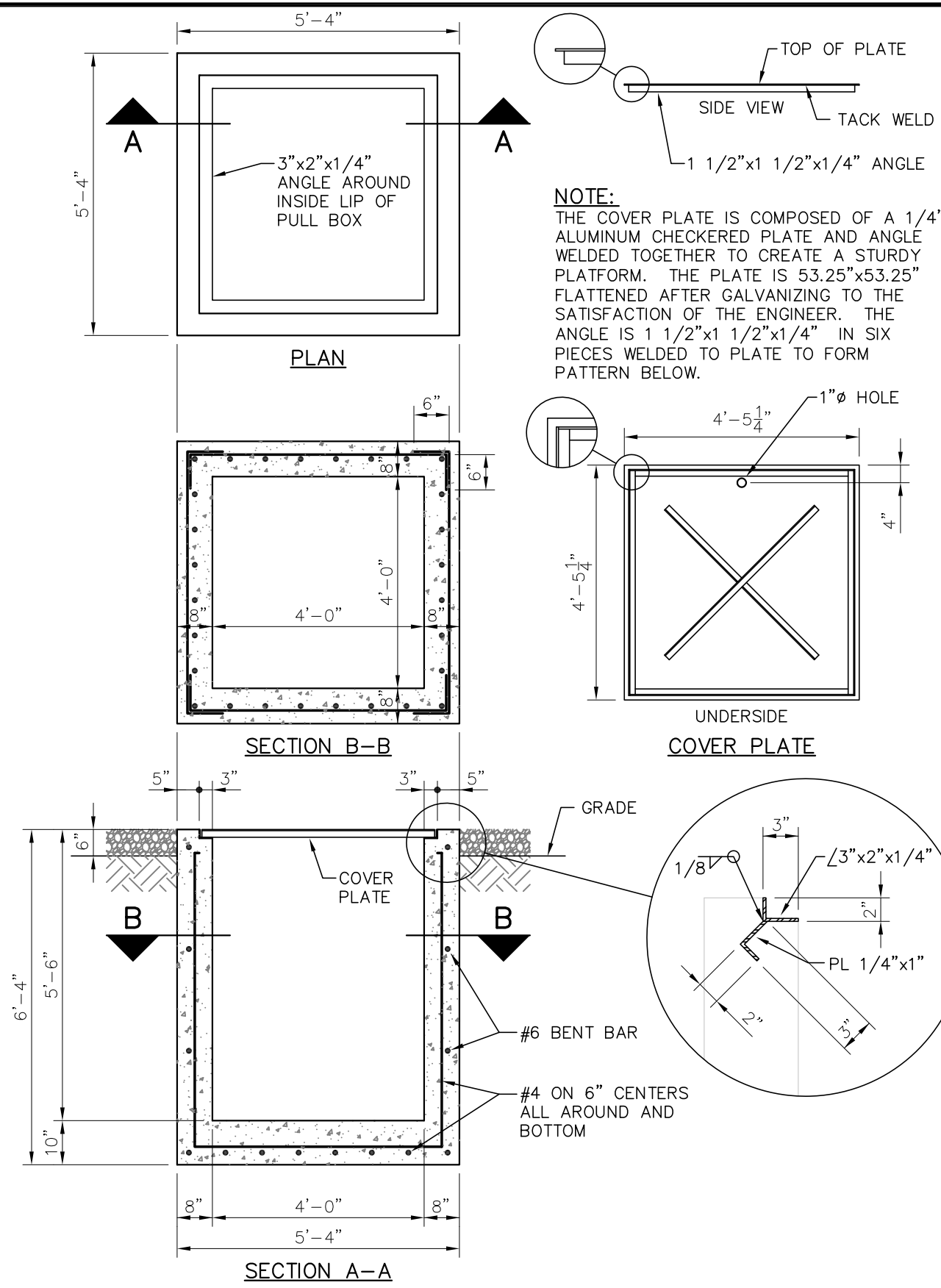
CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

SCALE: NONE	DATE: 2/2019	DRAWN BY: TJW	APPROVED BY: JJC	PROJECT NO.:
				2019-E-16A
BHA, INC. BATON ROUGE, LOUISIANA			DRAWING NO.:	TBTA-06A
			REV.:	B

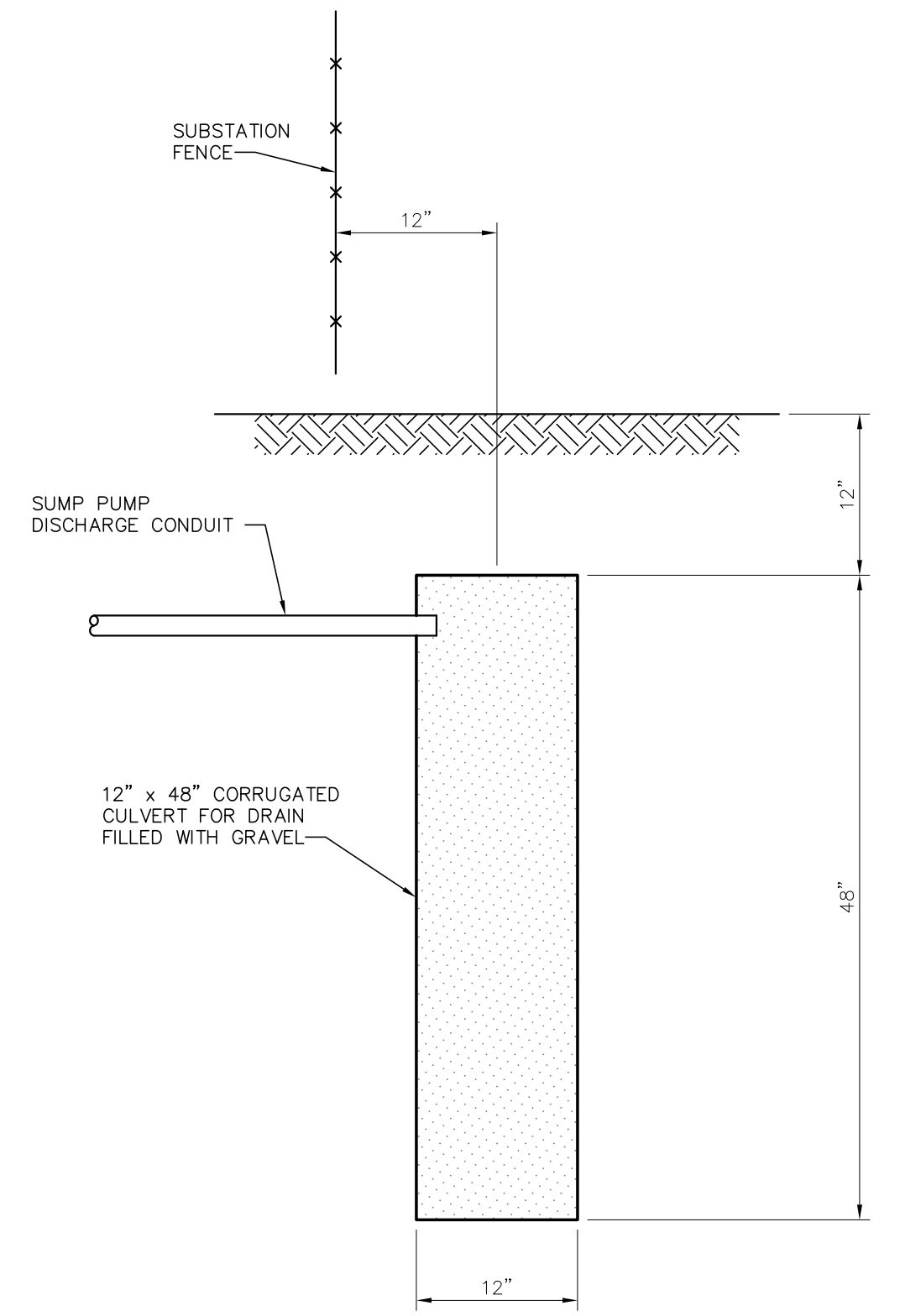
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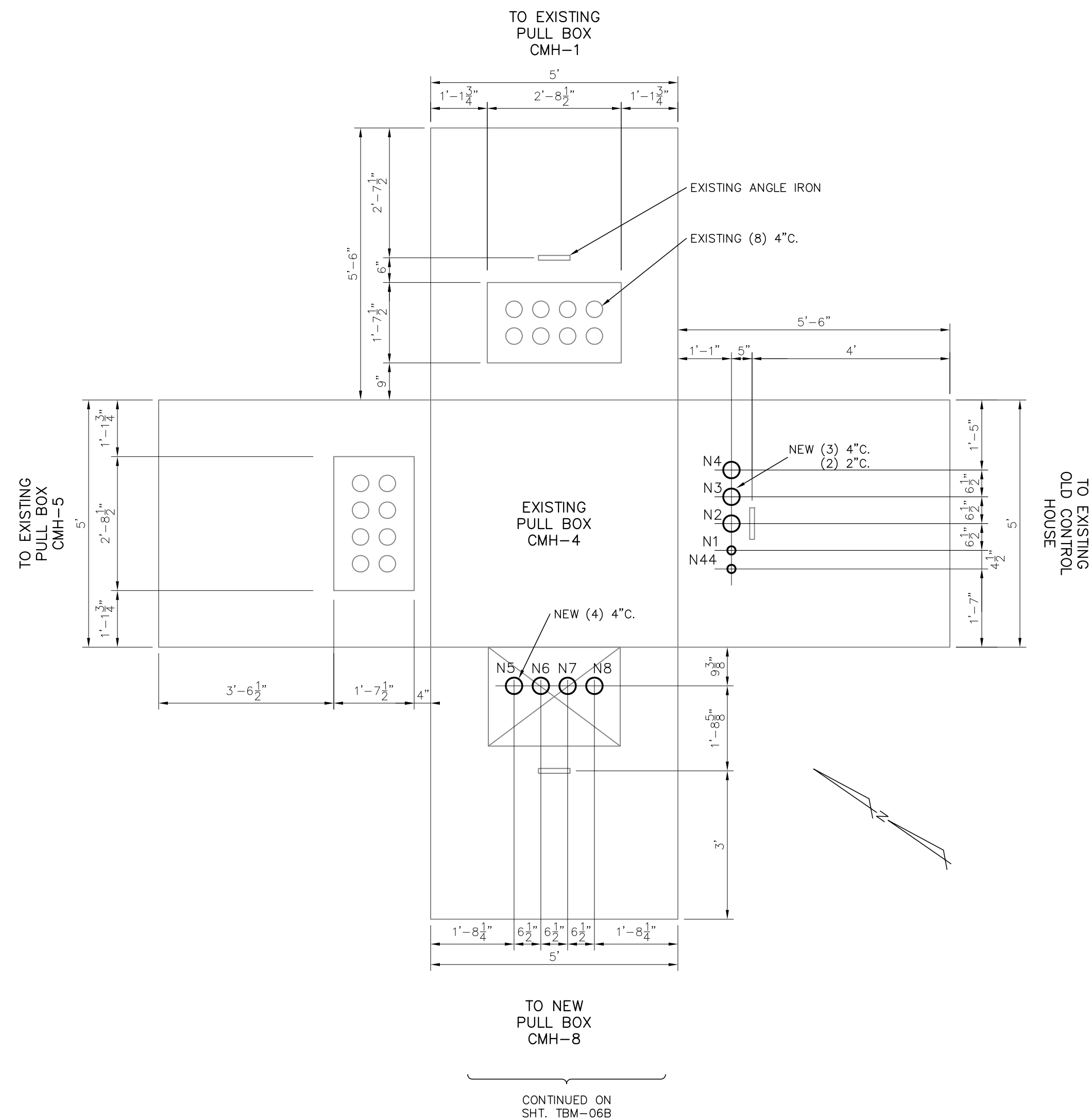
① PULL BOX DETAIL



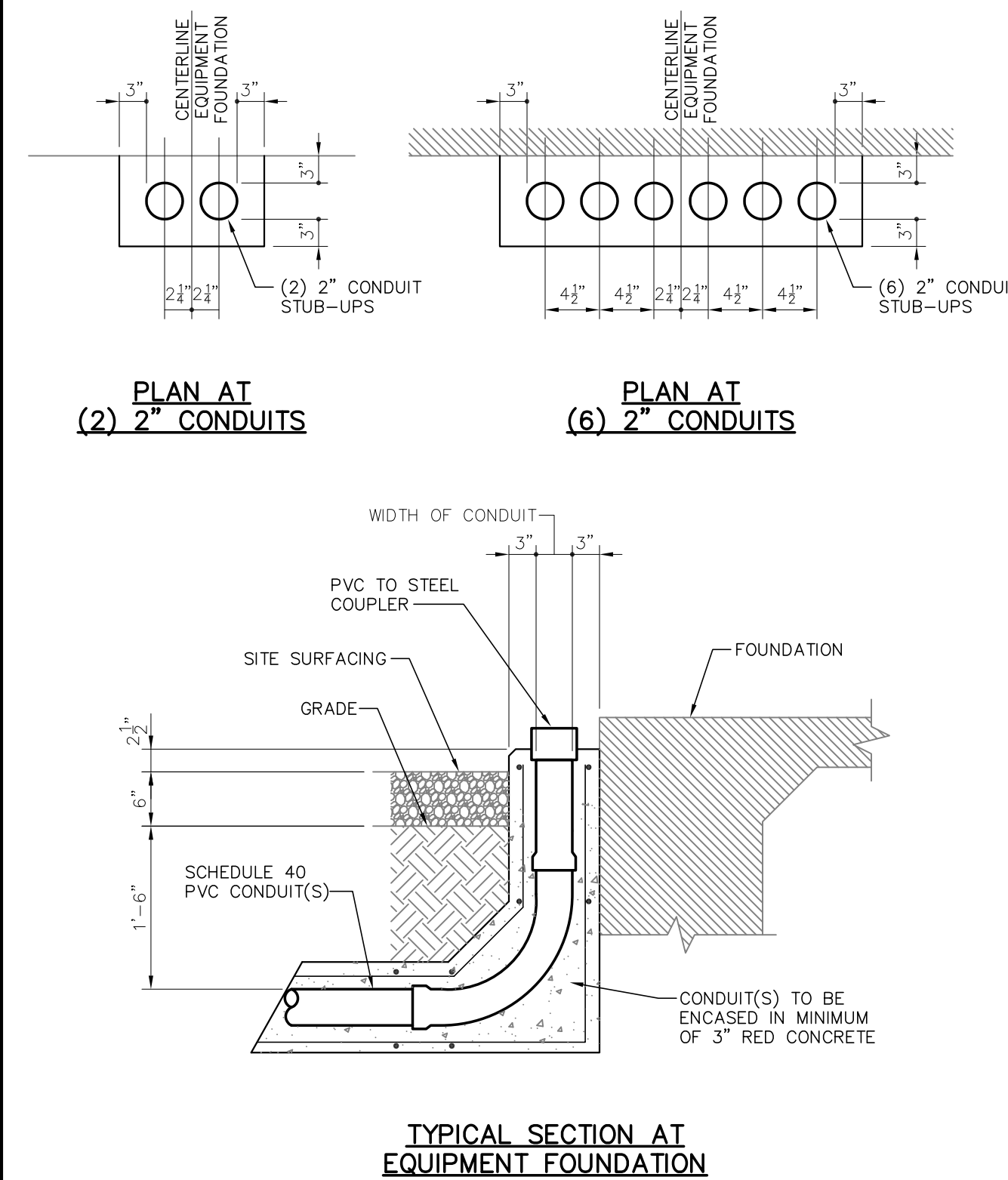
② CONDUIT DUCT BANK DETAIL
HORIZONTAL #4 BAR @ 3'-0" INTERVALS



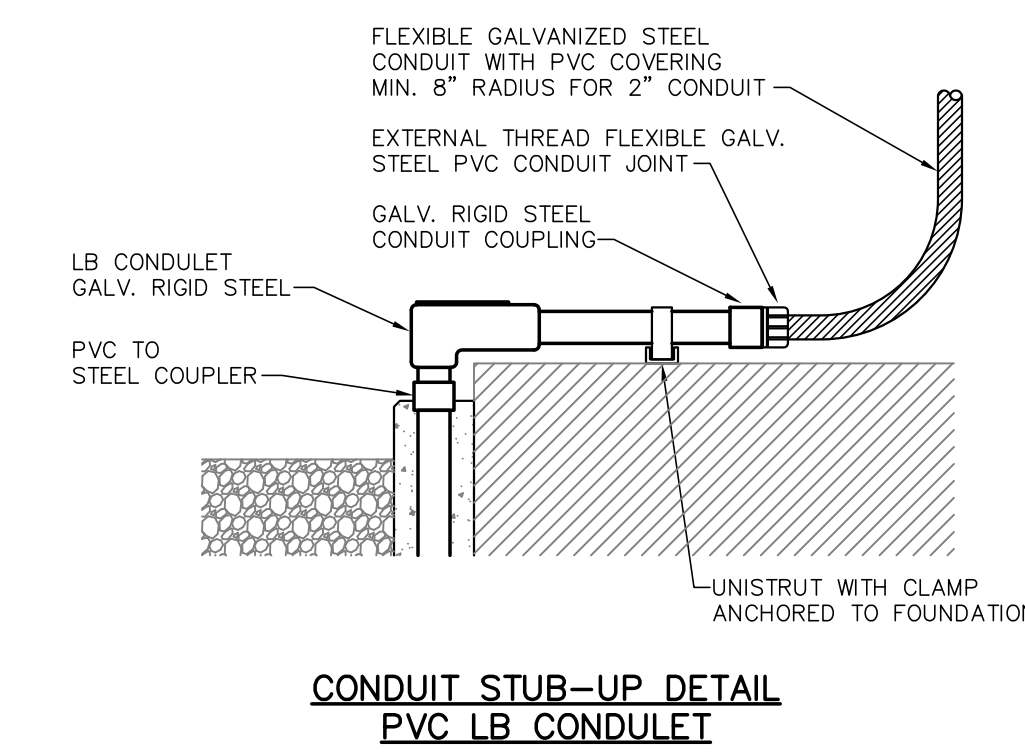
③ SUMP PUMP DRAIN AT FENCE DETAIL
TYPICAL 2 LOCATIONS



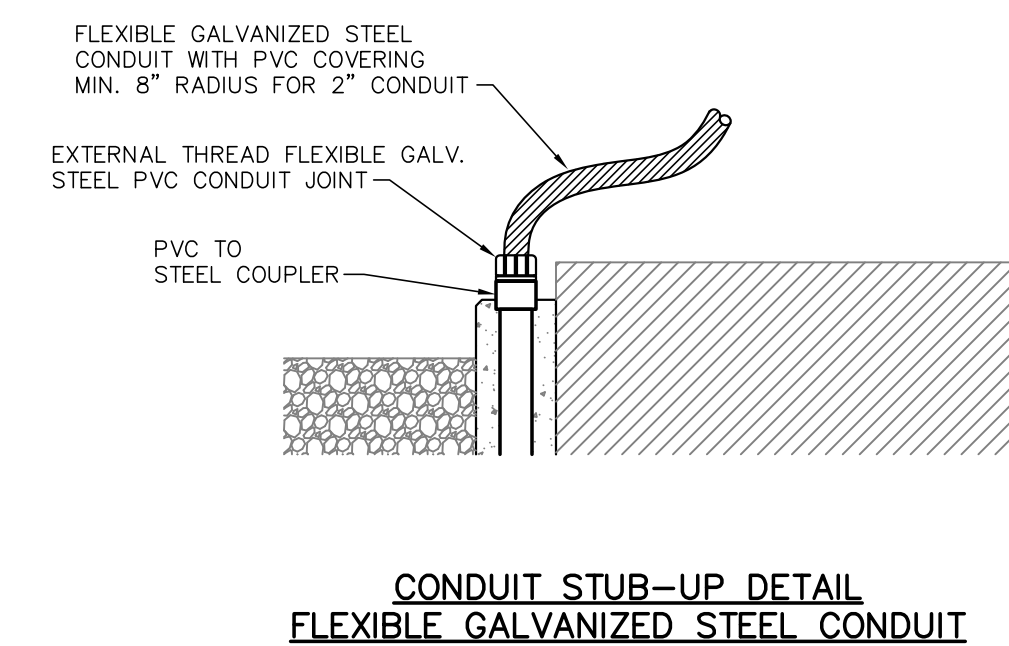
④ CONDUIT STUB-UP DETAIL
STUB-UPS AT EQUIPMENT



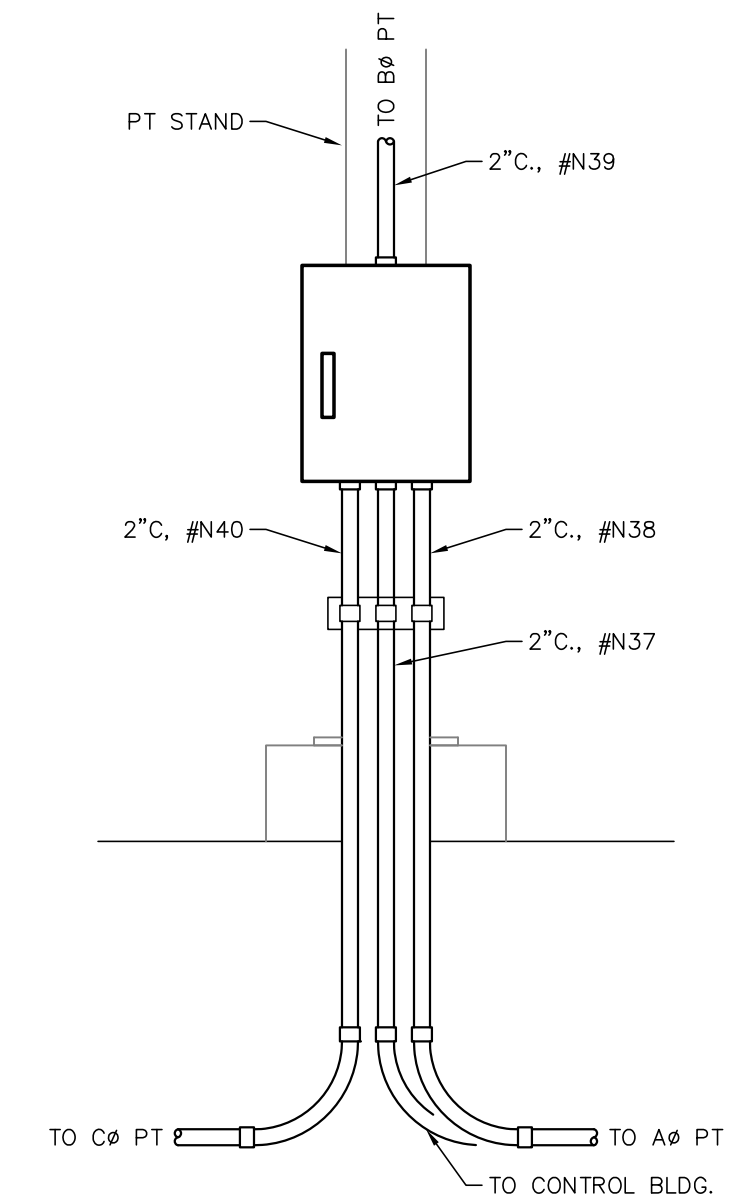
⑤ CONDUIT STUB-UP TRANSITIONS DETAIL
STUB-UPS AT EQUIPMENT



⑥ CONDUIT STUB-UP AT P.T. JUNCTION BOX



⑦ CONDUIT STUB-UP AT P.T. JUNCTION BOX



⑧ CONDUIT STUB-UP AT P.T. JUNCTION BOX

LEGEND:
— EXISTING
— PROPOSED

FOR BIDDING PURPOSES ONLY

TWIN BRIDGES TRANSFORMER ADDITION
CONDUIT, WIRING, & PULL BOX DETAILS

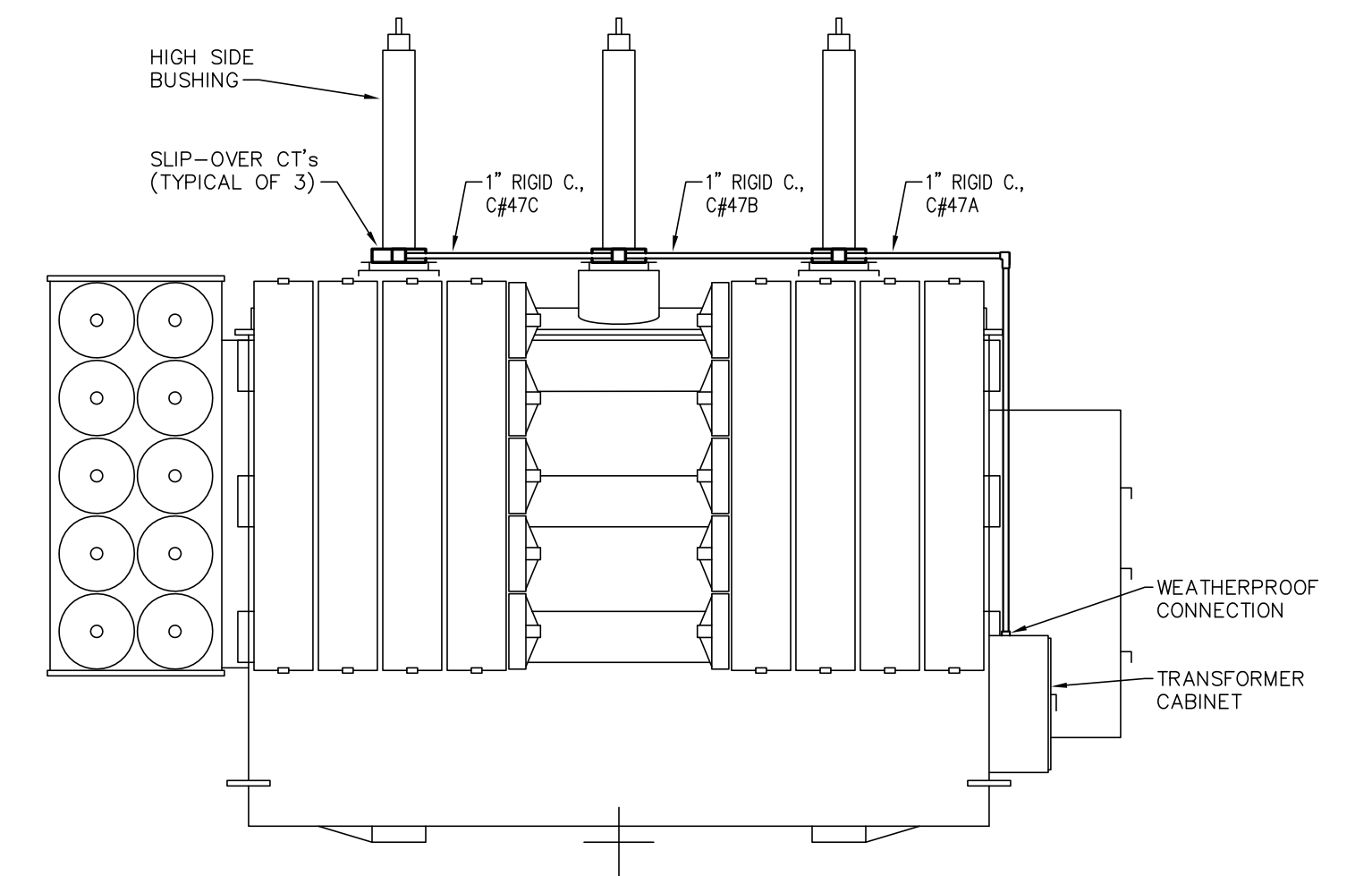
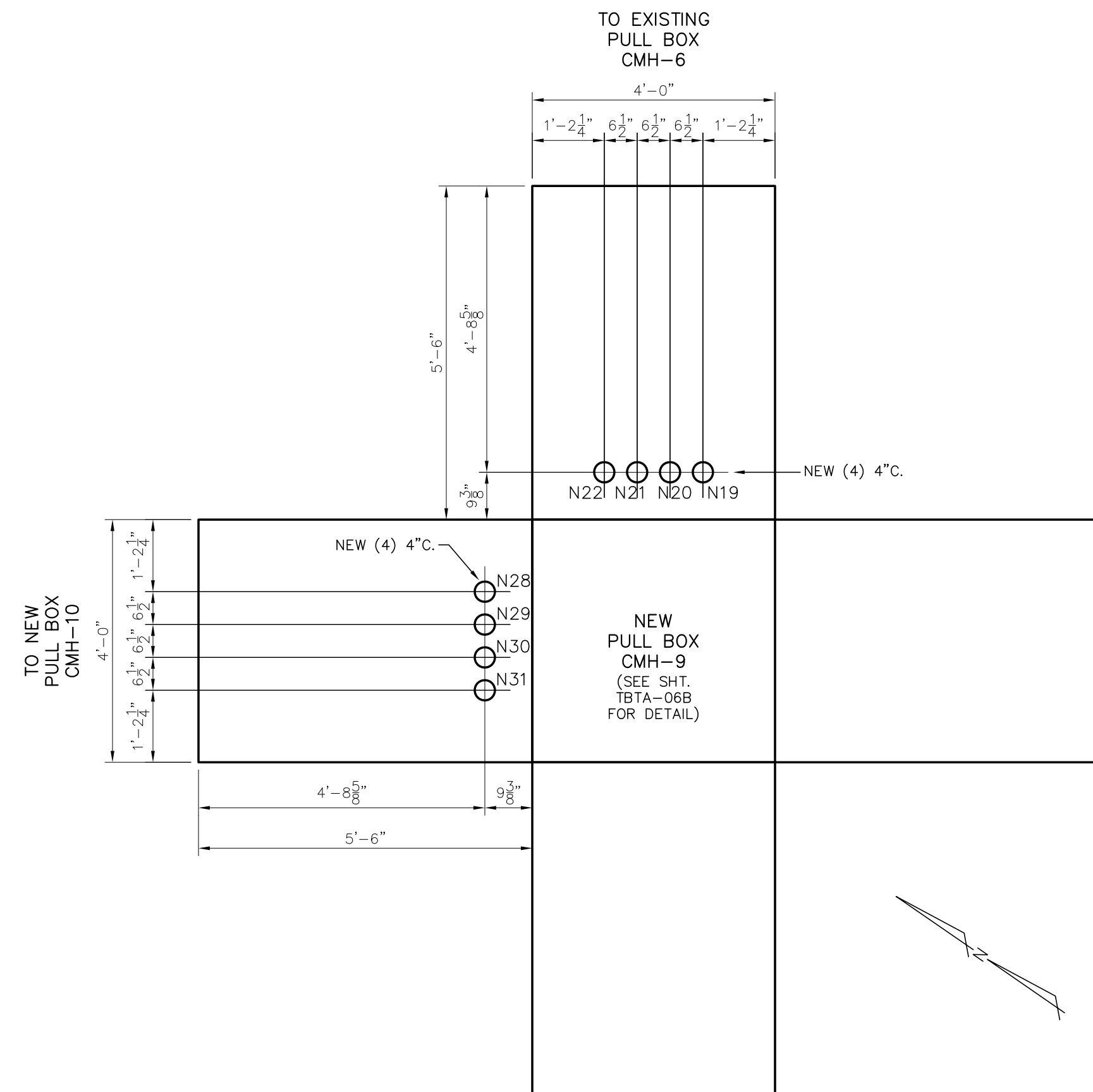
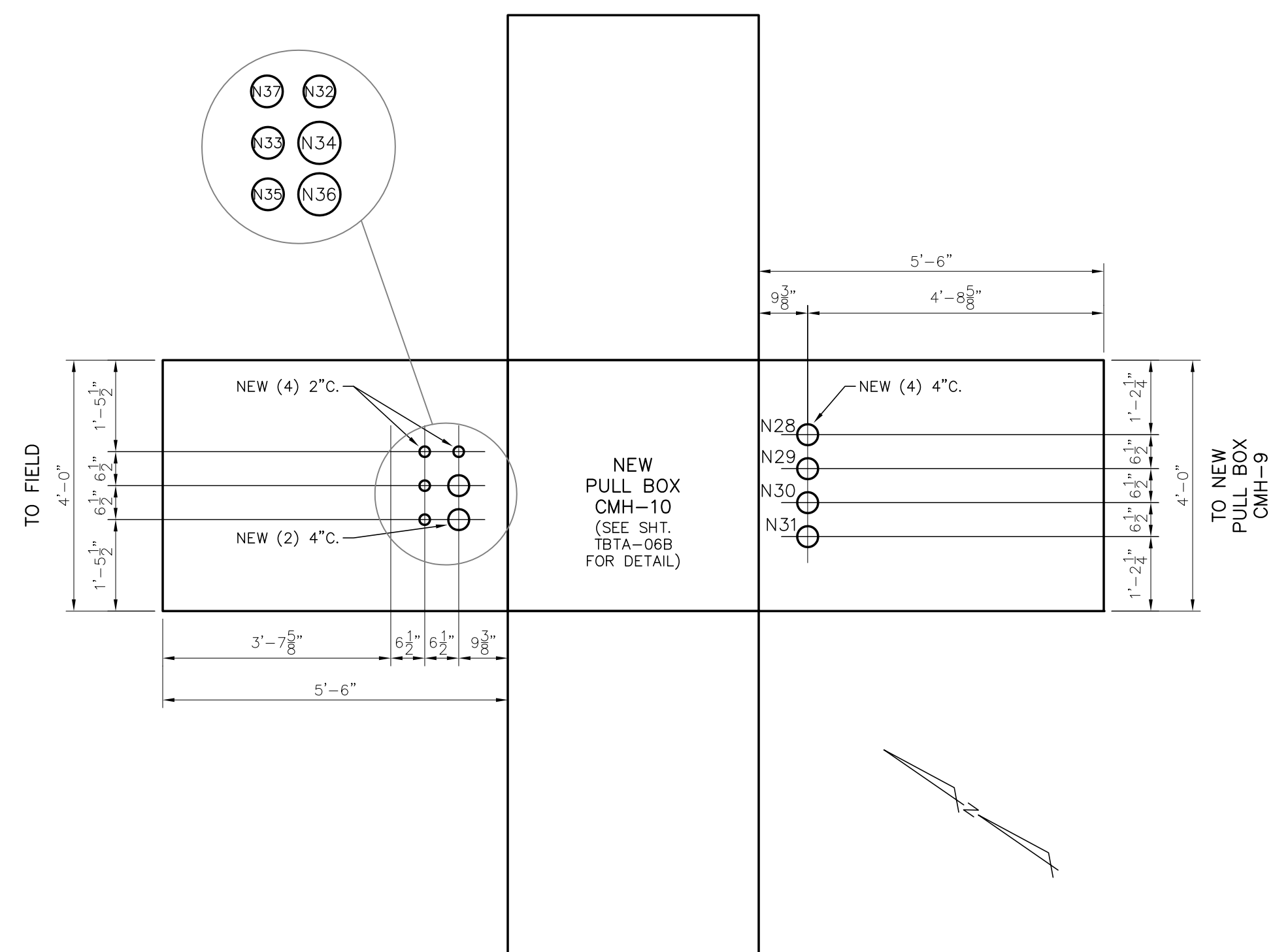
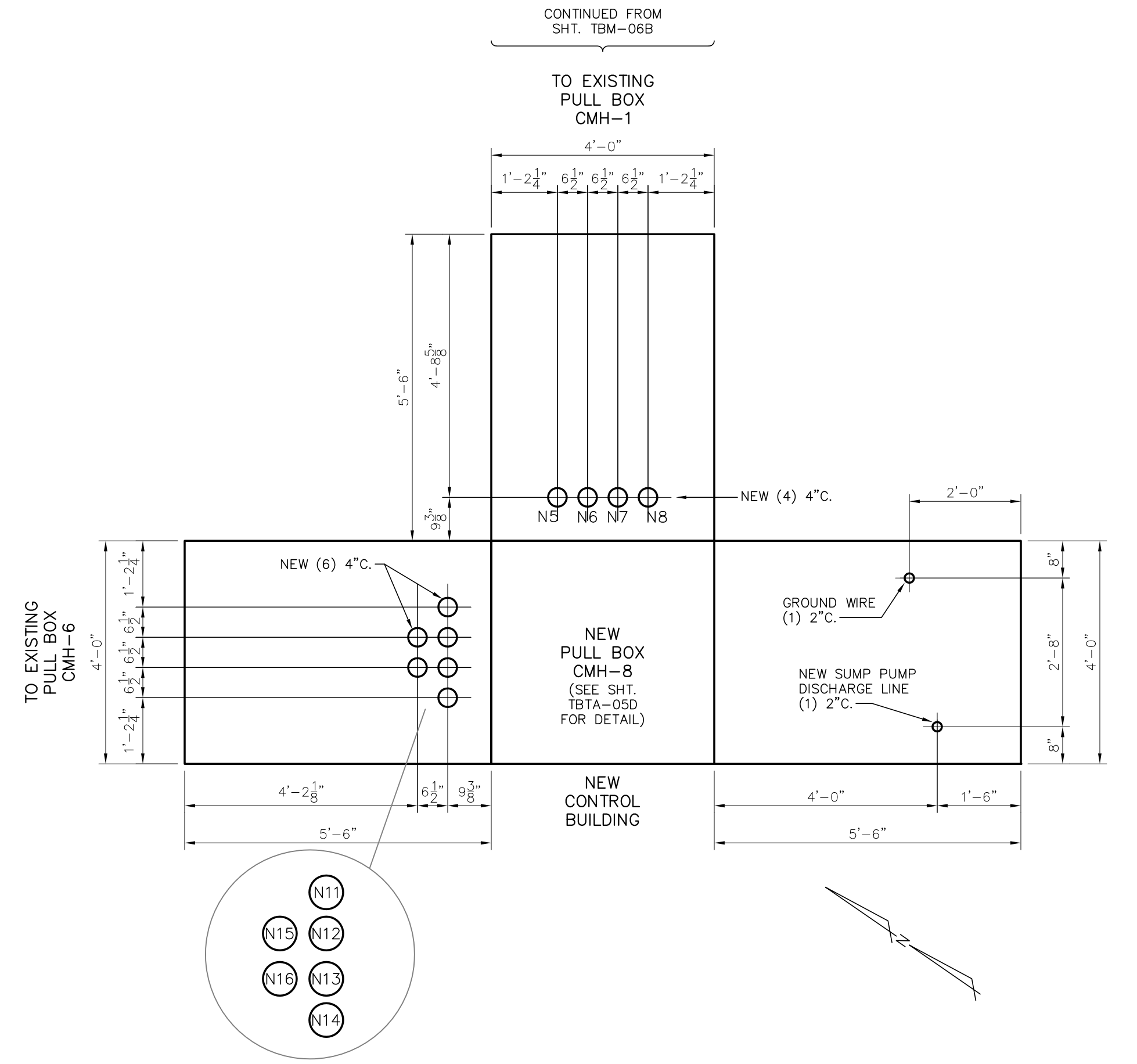
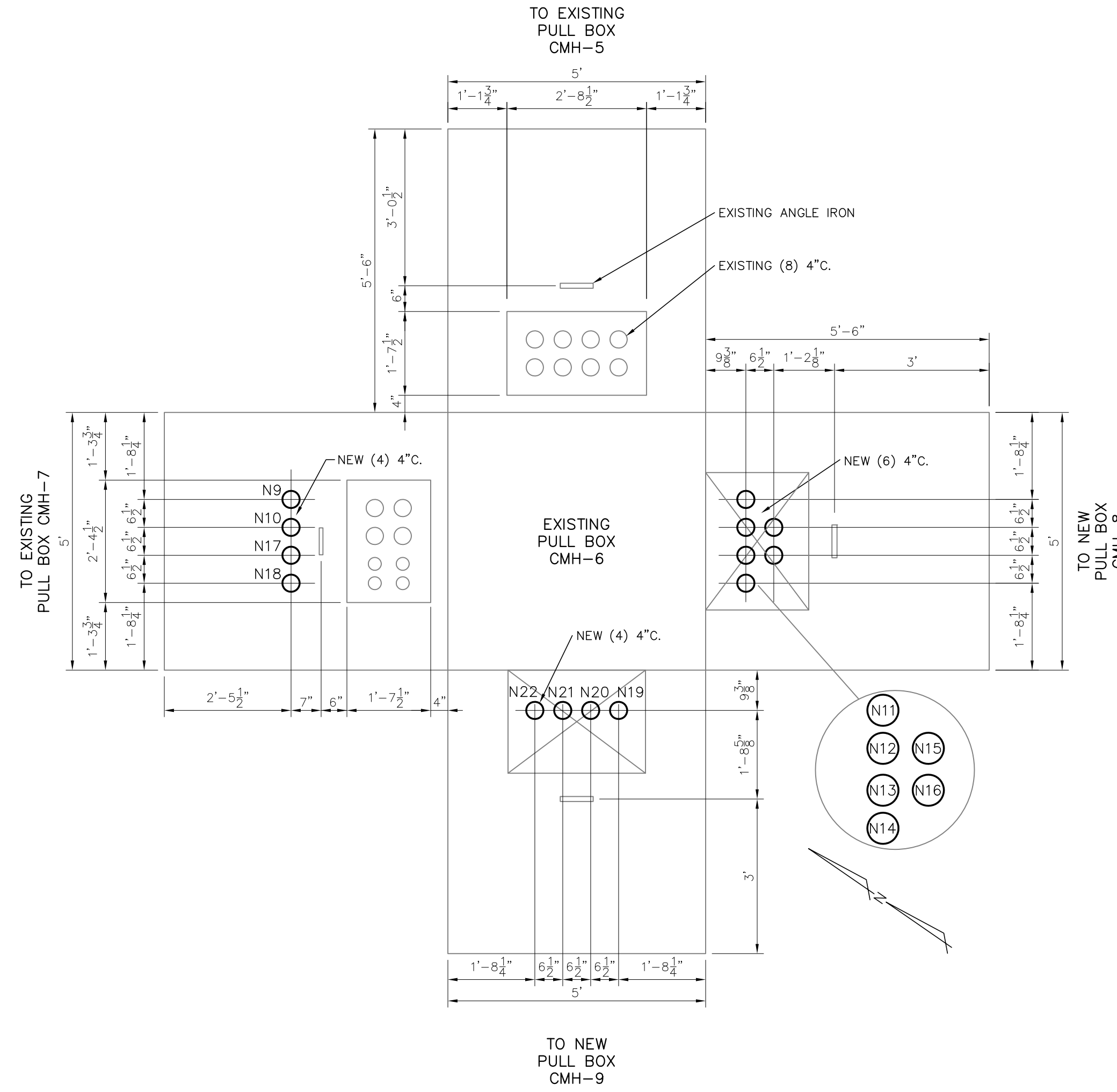
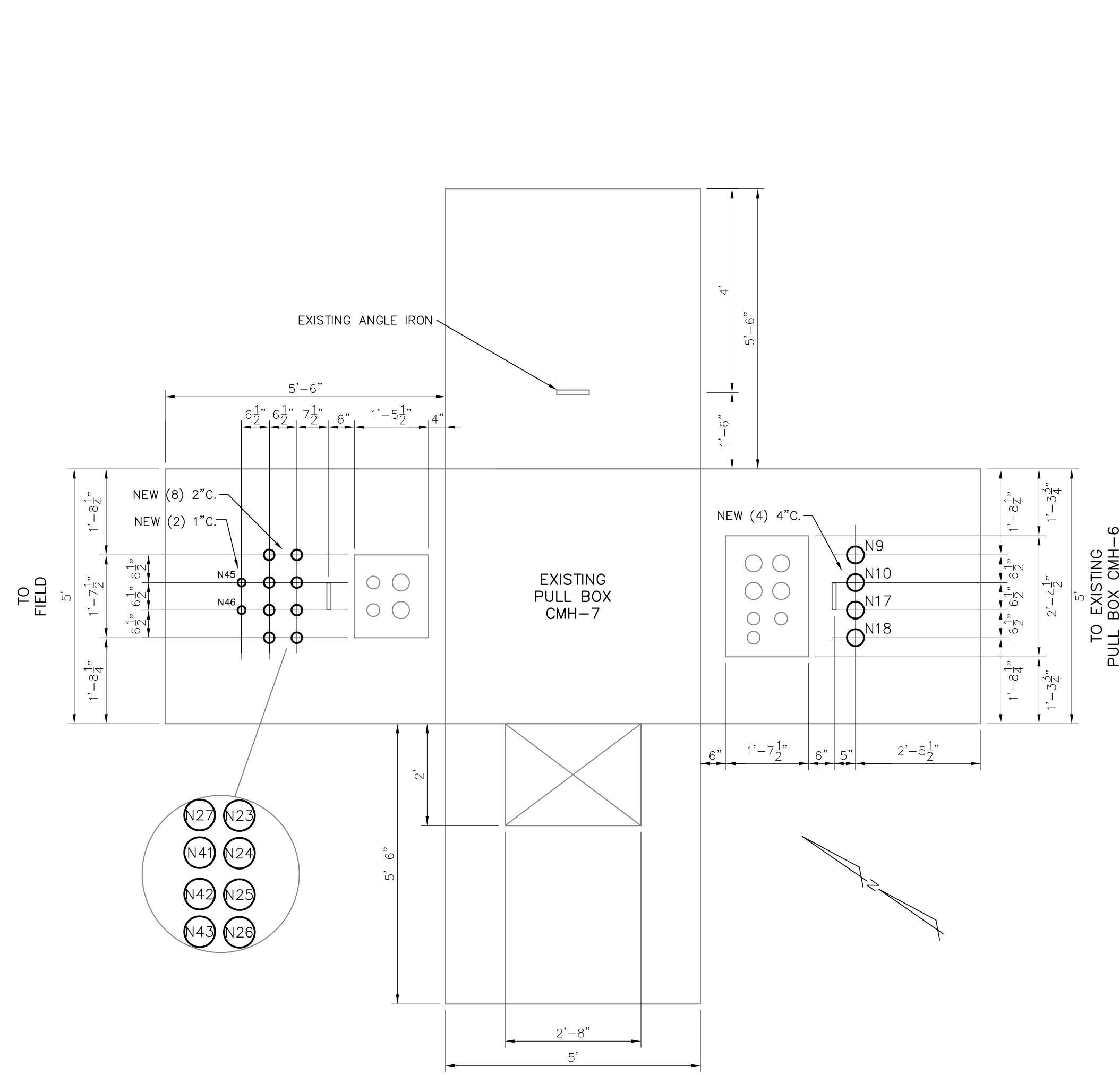
CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

SCALE: N.T.S. DATE: 10/31/18 DRAWN BY: JHD APPROVED BY: JJC PROJECT NO.: 2019-E-16A

BHA, INC.
BATON ROUGE, LOUISIANA

DRAWING NO.: TBTA-06B REV.: B

NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION



SLIP-OVER CT'S INSTALLATION DETAIL

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

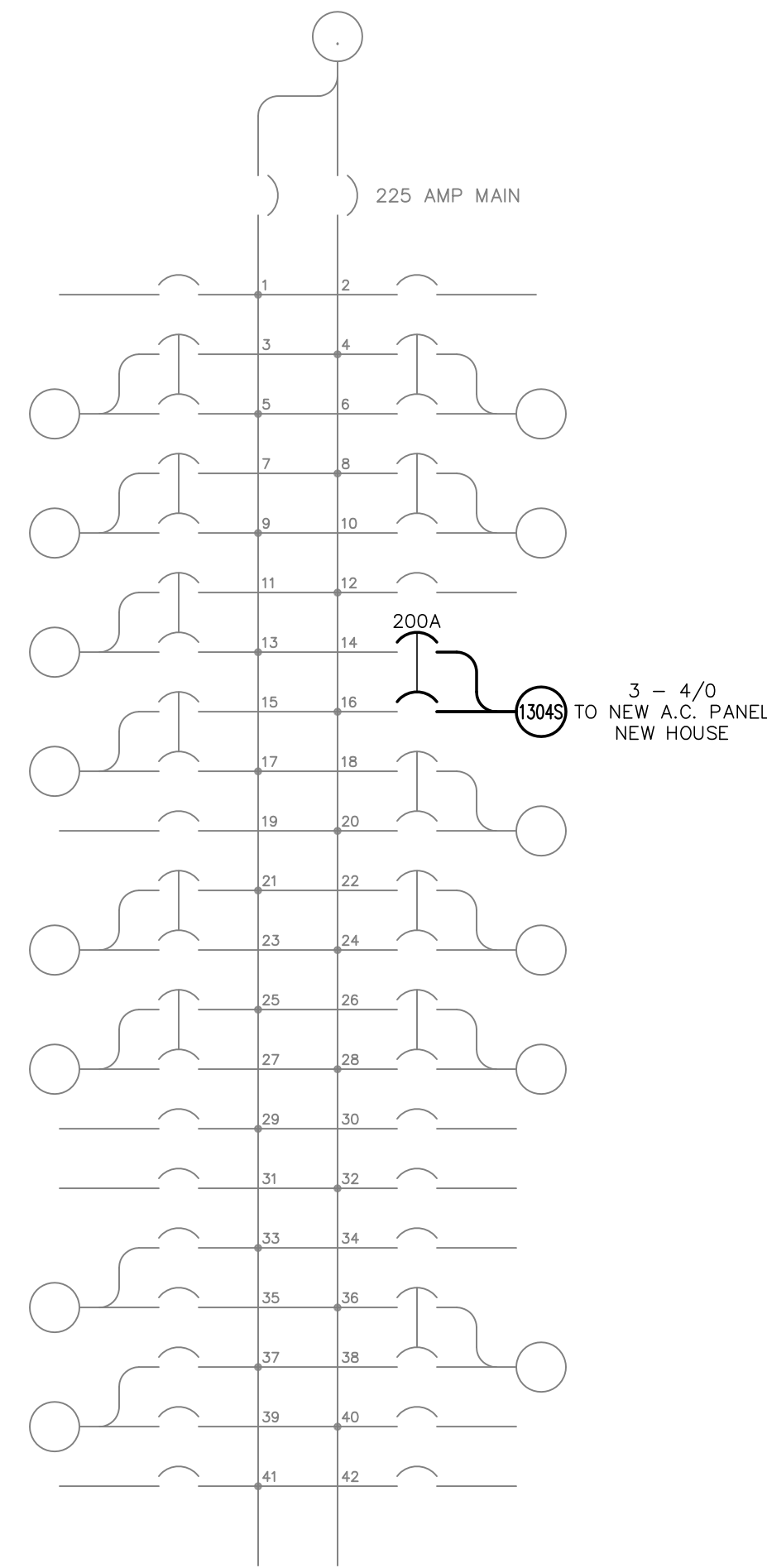
LEGEND:
 — EXISTING
 — PROPOSED

FOR BIDDING PURPOSES ONLY

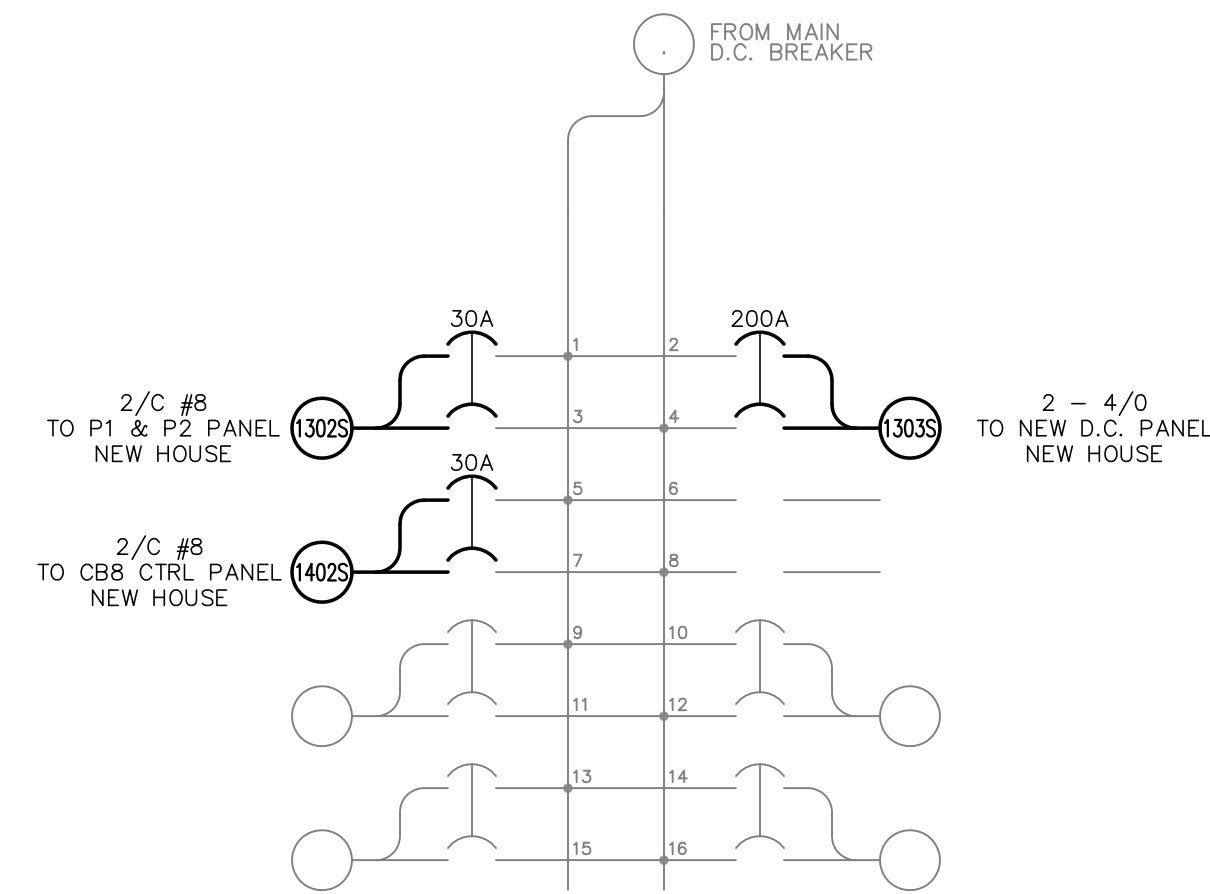
TWIN BRIDGES TRANSFORMER ADDITION PULL BOX DETAILS			
CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE	DATE	DRAWN BY	APPROVED BY
NONE	10/31/19	JHD	JJC
PROJECT NO.:			2019-E-16A
DRAWING NO.:			TBTA-06C
REV.:			B
BHA, INC. BATON ROUGE, LOUISIANA			
NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

OLD HOUSE A.C. & D.C. PANELS

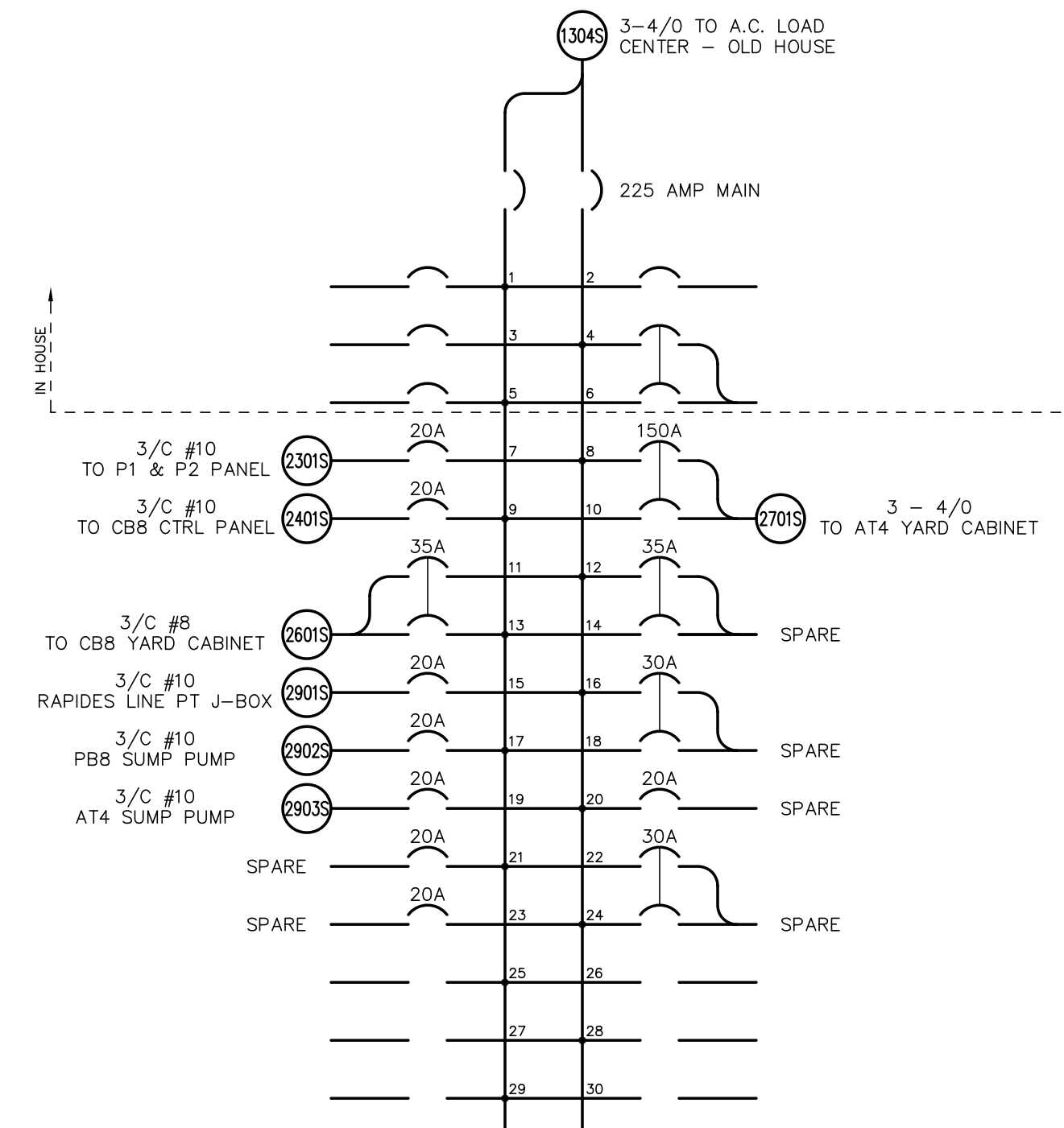
NEW HOUSE A.C. & D.C. PANELS



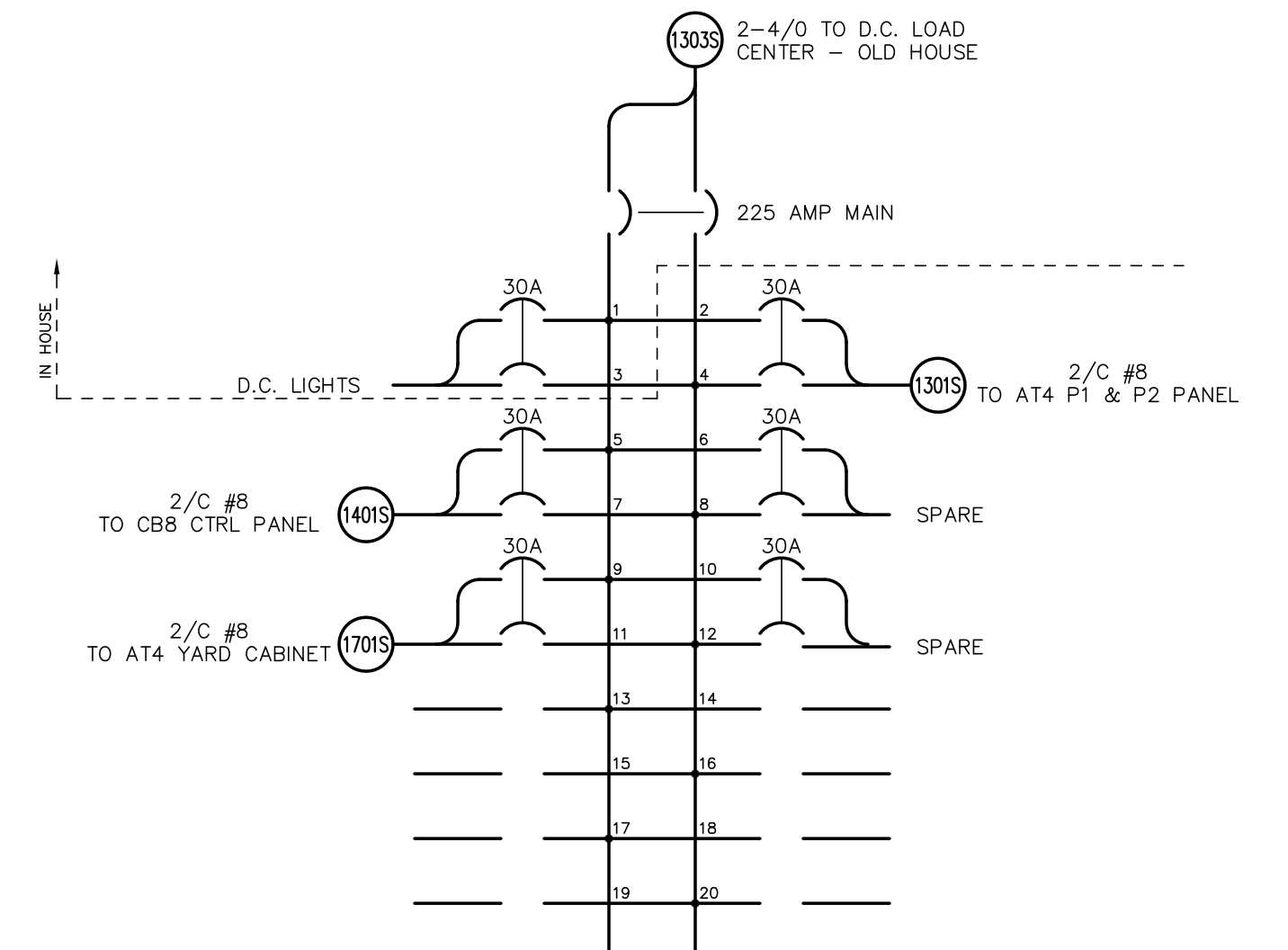
① A.C. LOAD CENTER
OLD HOUSE



② D.C. SUB LOAD CENTER
OLD HOUSE



③ A.C. LOAD CENTER
NEW HOUSE



④ D.C. LOAD CENTER
NEW HOUSE

FOR BIDDING
PURPOSES ONLY

TWIN BRIDGES TRANSFORMER ADDITION AC & DC PANELS CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE N.T.S.	DATE 2/18/19	DRAWN BY JHD	APPROVED BY JJC
PROJECT NO. : 2019-E-16A			REV. : B
DRAWING NO. : TBTA-06D			REV. : B
BHA, INC. BATON ROUGE, LOUISIANA			

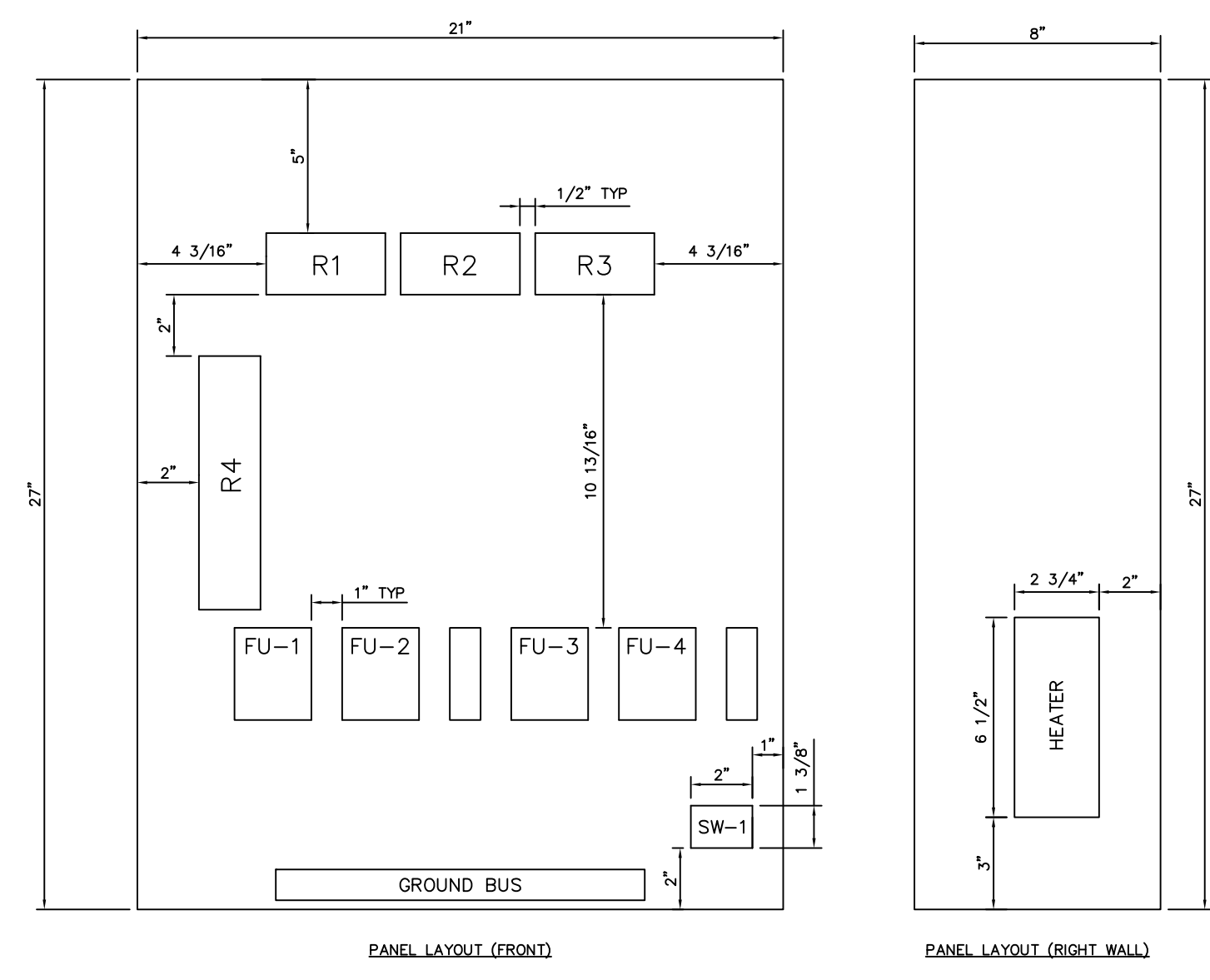
BILL OF MATERIALS				
LOCATION	QTY	ITEM	DESCRIPTION	
ENCLOSURE	1 EA	CABINET	HOFFMAN, ENCLOSURE, NEMA TYPE 4X, STAINLESS STEEL TYPE 316SS, 3-POINT LATCH, 30"(H)x24"(W)x8"(D), CAT.# A-30H248SSLP3PT	
PANEL	1 EA	CABINET	HOFFMAN, PANEL, STAINLESS STEEL TYPE 316L, 27"(H)x21"(W), W/ MOUNTING HARDWARE, CAT.# A-30P24556	
R4	1 EA	TERMINAL BLOCK	MARATHON, TERMINAL BLOCK, 12 POSITION, W/ MARKING STRIP, CAT.# 1512STD	
R1-R3	3 EA	TERMINAL BLOCK	MARATHON, TERMINAL BLOCK, 6 POSITION, W/ MARKING STRIP, CAT.# 1506STD	
SW-1	1 EA	SWITCH	STATES, KNIFE SWITCH, TYPE SMH SINGLE POLE POTENTIAL, CAT.# 401-A	
FU-1,2,3,4	16 EA	FUSE	BUSSMANN, FUSE, KTN-R(250V) LIMITRON FAST ACTING, GLASS RK1, 30A, CAT.# KTN-R-30	
ENCLOSURE	2 EA	FUSE	BUSSMANN, DUMMY FUSE, FUSE NEUTRALS, 250V, 30A, CAT.# NTN-R-30	
FU-1,2,3,4	4 EA	FUSE BLOCK	FERRAZ SHAWMUT, FUSE BLOCK, TRIPLE POLE, CAT.# 20318	
ENCLOSURE	2 EA	FUSE BLOCK	FERRAZ SHAWMUT, FUSE BLOCK, SINGLE POLE, CAT.# 20316	
ENCLOSURE	1 EA	HEATER	HOFFMAN, HEATER, 60 WATT, 120 VOLT, CAT.# DAH601	
GROUND BUS	1 EA	GND	PANEL VENDOR, GROUND BAR, MOUNTED, COPPER BUS, 1/4"x1"x12"	
ENCLOSURE	57 EA	RING TERMINAL	BURNDY, 8-10 STUD, 12-10 AWG RING TERMINAL, CAT.# YAEV10	
ENCLOSURE	1 EA	GROUND LUG	BURNDY, GROUND LUG 3/8" BRASS, 8-2 AWG STRANDED, 10-1 AWG SOLID	

NAMEPLATE ENGRAVING LIST						
NP#	QTY.	FIRST LINE	SECOND LINE	THIRD LINE	PLATE SIZE	LETTER SIZE
1	1 EA	230kV RAPIDES LINE NODE	3Ø POTENTIAL	JUNCTION BOX	4" x 12"	3/4"
N1	1 EA	R1-R3			3/4" x 2"	1/8"
N2	1 EA	R4			3/4" x 2"	1/8"
N3	1 EA	FU-1 (30A)	115VAC L-N	PRI 1 X-WINDING	3/4" x 2"	1/8"
N4	1 EA	FU-2 (30A)	67VAC L-N	PRI 1 X-WINDING	3/4" x 2"	1/8"
N5	1 EA	SLUG	NEUTRAL	PRI 1 RELAY X-WINDING	3/4" x 2"	1/8"
N6	1 EA	FU-3 (30A)	115VAC L-N	PRI 2 Y-WINDING	3/4" x 2"	1/8"
N7	1 EA	FU-4 (30A)	67VAC L-N	PRI 2 Y-WINDING	3/4" x 2"	1/8"
N8	1 EA	SLUG	NEUTRAL	PRI 2 RELAY Y-WINDING	3/4" x 2"	1/8"
N9	1 EA	SW-1			3/4" x 2"	1/8"
N10	1 EA	HEATER	120VAC	60W	3/4" x 2"	1/8"

* ALL NAMEPLATES ARE 1/16" (0.62) BLACK MATERIAL AND INSTALLED WITH DOUBLE SIDED ADHESIVE TYPE REFER TO THE APPLICABLE SUBSTATION PANEL LAYOUT DETAILS FOR EACH JOB.
 ** JUNCTION BOX TITLE NAMEPLATES TO BE CENTERED ON OUTSIDE OF DOOR. OTHER NAMEPLATES ARE MOUNTED INSIDE THE BOX ADJACENT TO THE APPROPRIATE DEVICES.

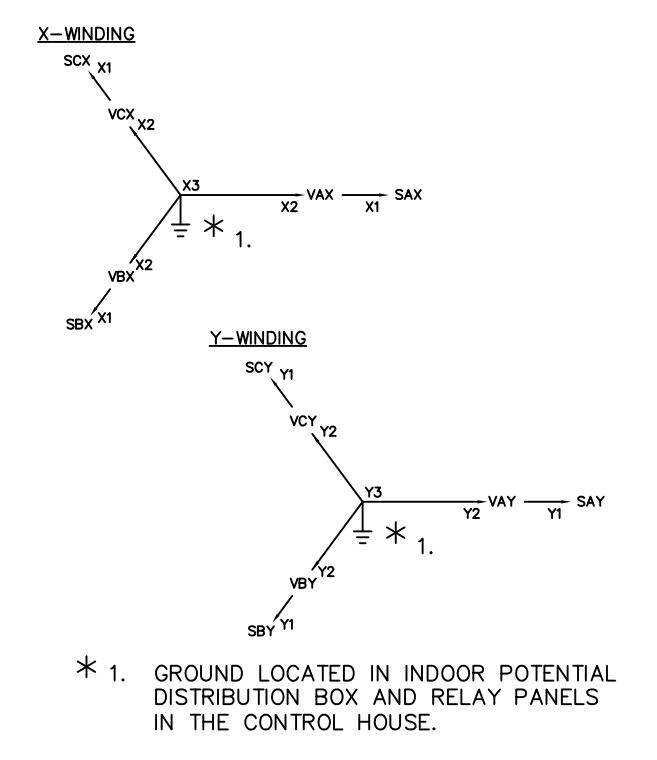
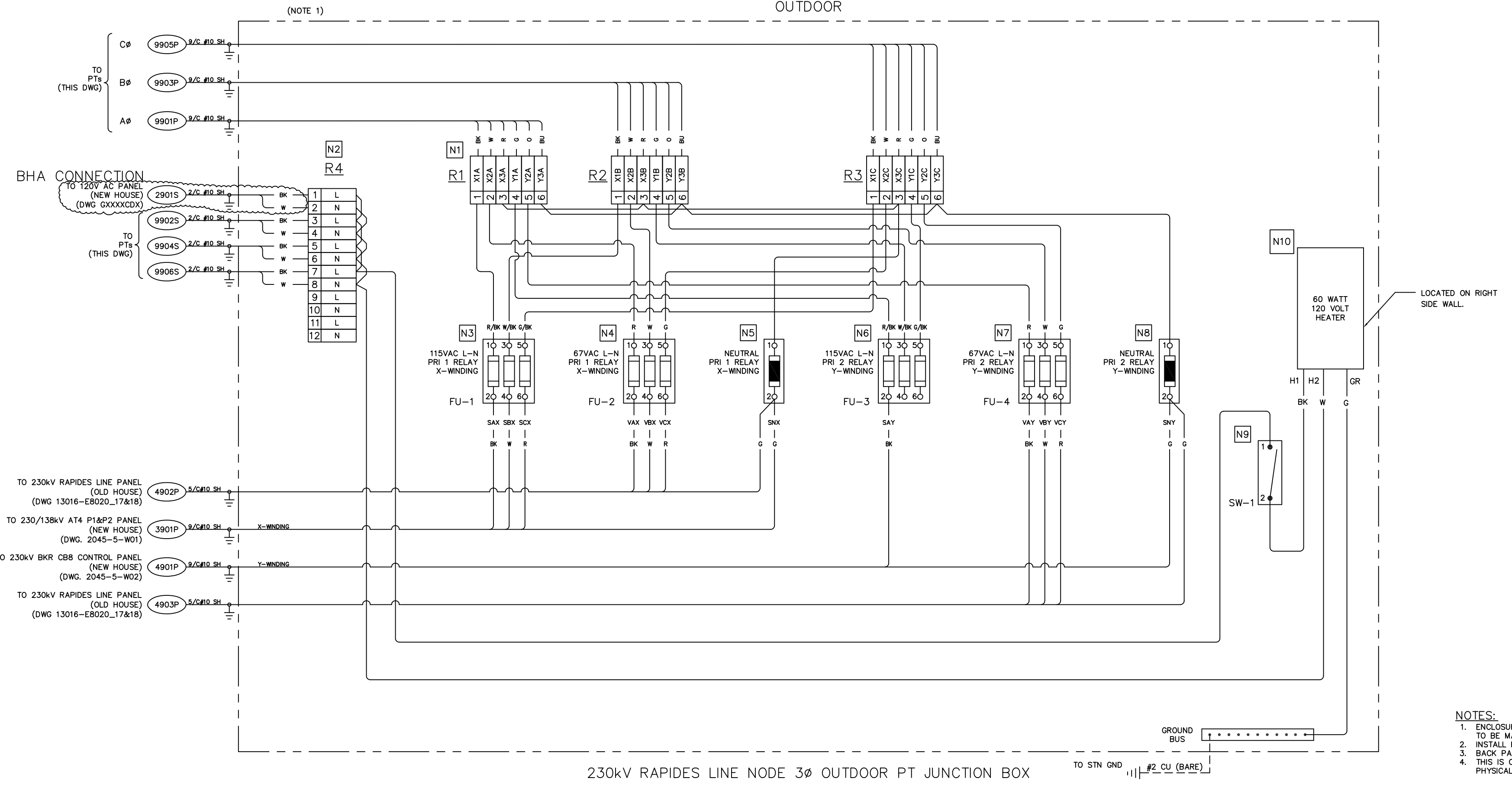
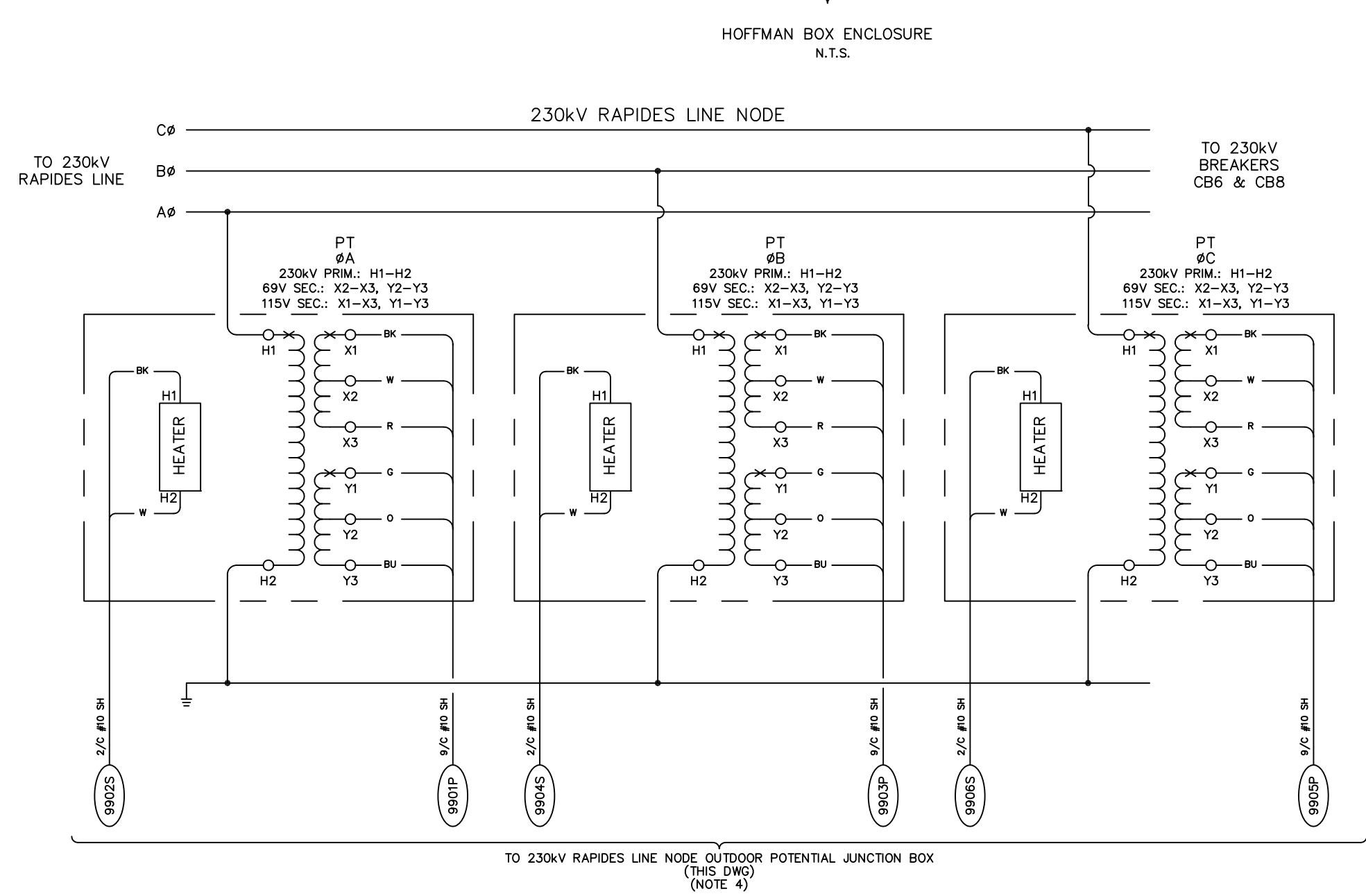
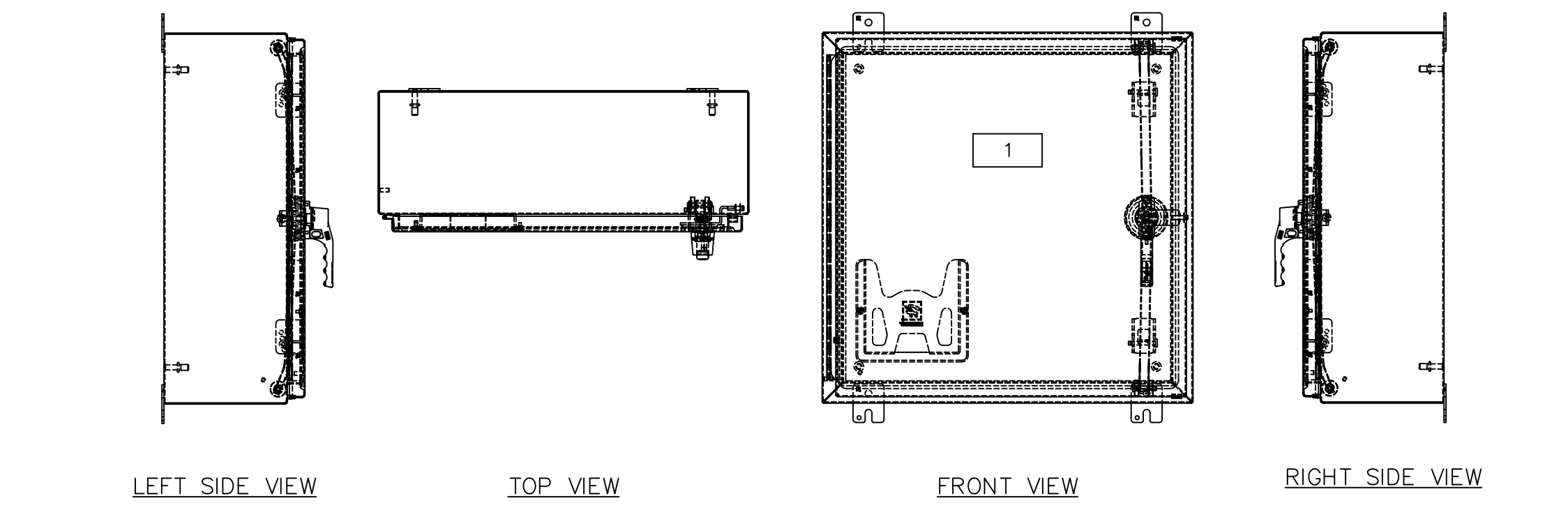
STANDARD CVT/PT RATIOS AND SECONDARY VOLTAGES ARE SHOWN FOR REFERENCE PURPOSES. ALWAYS REFER TO CVT/PT NAMEPLATE VENDOR DRAWING TO CONFIRM ACTUAL RATIOS AND CONNECTIONS.

NOMINAL SYSTEM VOLTAGE	PERFORMANCE REF. VOLTAGE	NAMEPLATE RATIO	NAMEPLATE SEC. VOLTAGE
69kV	40.25kV	350/600:1	115/67.1 VOLTS
115kV	69kV	600/1000:1	115/69 VOLTS
138kV	80.5kV	700/1200:1	115/67.1 VOLTS
161kV	92kV	800/1400:1	115/65.7 VOLTS
230kV	138kV	1200/2000:1	115/69 VOLTS
345kV	209kV	1800/3000:1	115/69 VOLTS
500kV	287.5kV	2500/4500:1	115/63.8 VOLTS



OUTDOOR 230kV RAPIDES LINE NODE 3Ø POTENTIAL JUNCTION BOX SCALE 3"=1'-0"

NOTE:
 CONTRACTOR TO VERIFY PHASING WITH OWNER PRIOR TO WIRE TERMINATIONS



FOR REFERENCE ONLY

NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY

TWIN BRIDGES TRANSFORMER ADDITION
 230kV 3Ø RAPIDES LINE PT JUNCTION BOX
 CITY OF ALEXANDRIA
 ALEXANDRIA, LOUISIANA

SCALE: NOTED DATE: 7/1/18 DRAWN BY: JHD APPROVED BY: JJC PROJECT NO.: 2019-E-16A DRAWING NO.: TBTA-06E REV: 1

BHA, INC. BATON ROUGE, LOUISIANA BHA: COA/TBACE-PCS-2045-5-05.dwg 09/11/2019 © 2019 BHA BY JZ

NOTES:
 1. ENCLOSURE TO BE MADE OF NON-CORROSIVE MATERIAL.
 2. INSTALL FUSE FOR ALL APPLICATIONS.
 3. BACK PANEL SHALL BE CONNECTED TO STATION GROUND.
 4. THIS IS ONLY THE ELECTRICAL LAYOUT AND NOT THE PHYSICAL LAYOUT.

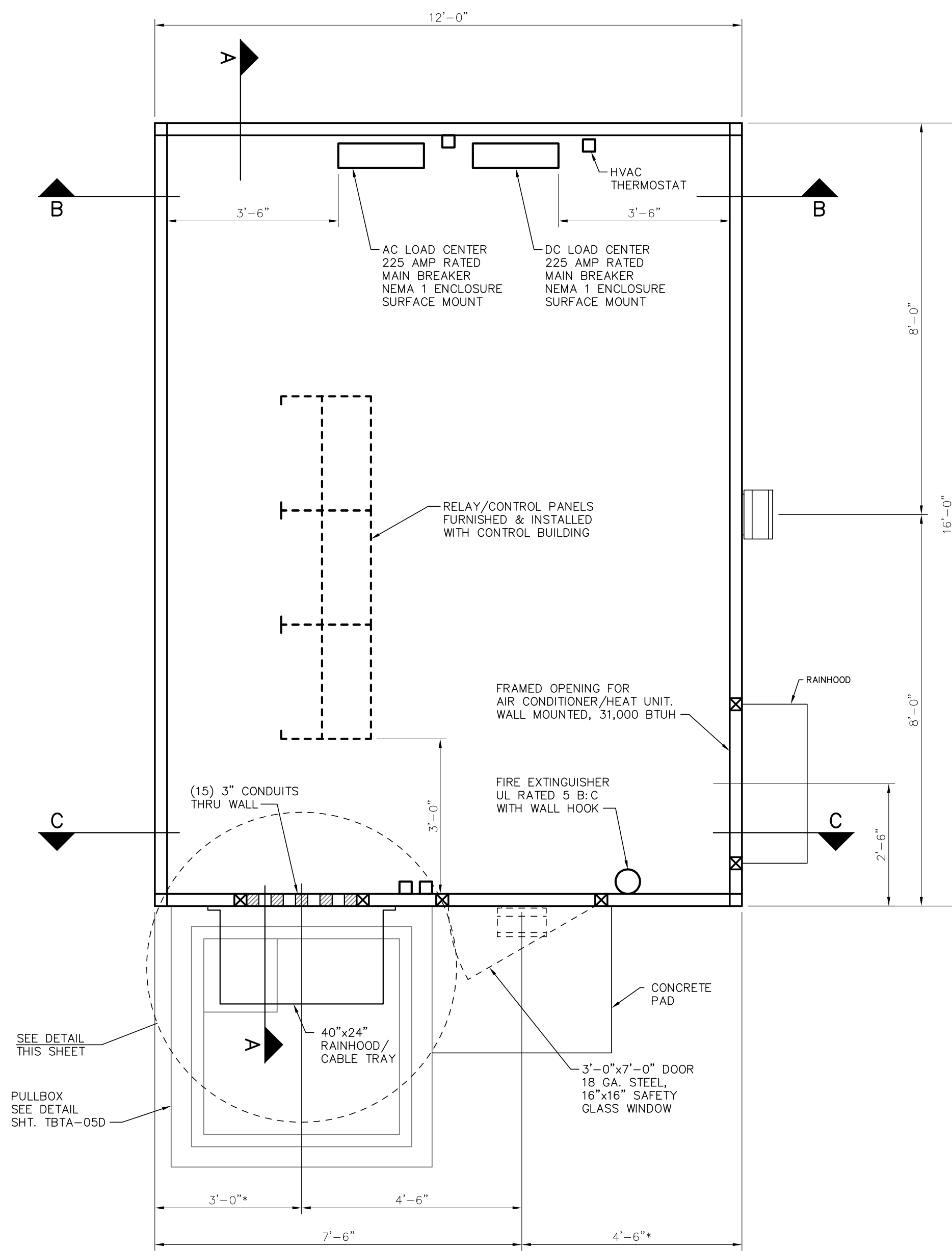
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE	REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE	REFERENCE DRAWINGS	CAD NOTES
0	INSTALL 230kV TRANSFORMER AT4 & BKR C88	MB	AK	DG	1-31-19								

PC2000

CITY OF ALEXANDRIA, LA
 TWIN BRIDGES SUBSTATION
 230kV 3Ø RAPIDES LINE NODE
 OUTDOOR POTENTIAL JUNCTION BOX

SCALE: NONE DATE: 11-7-18 DWG No: 2045-5-J01

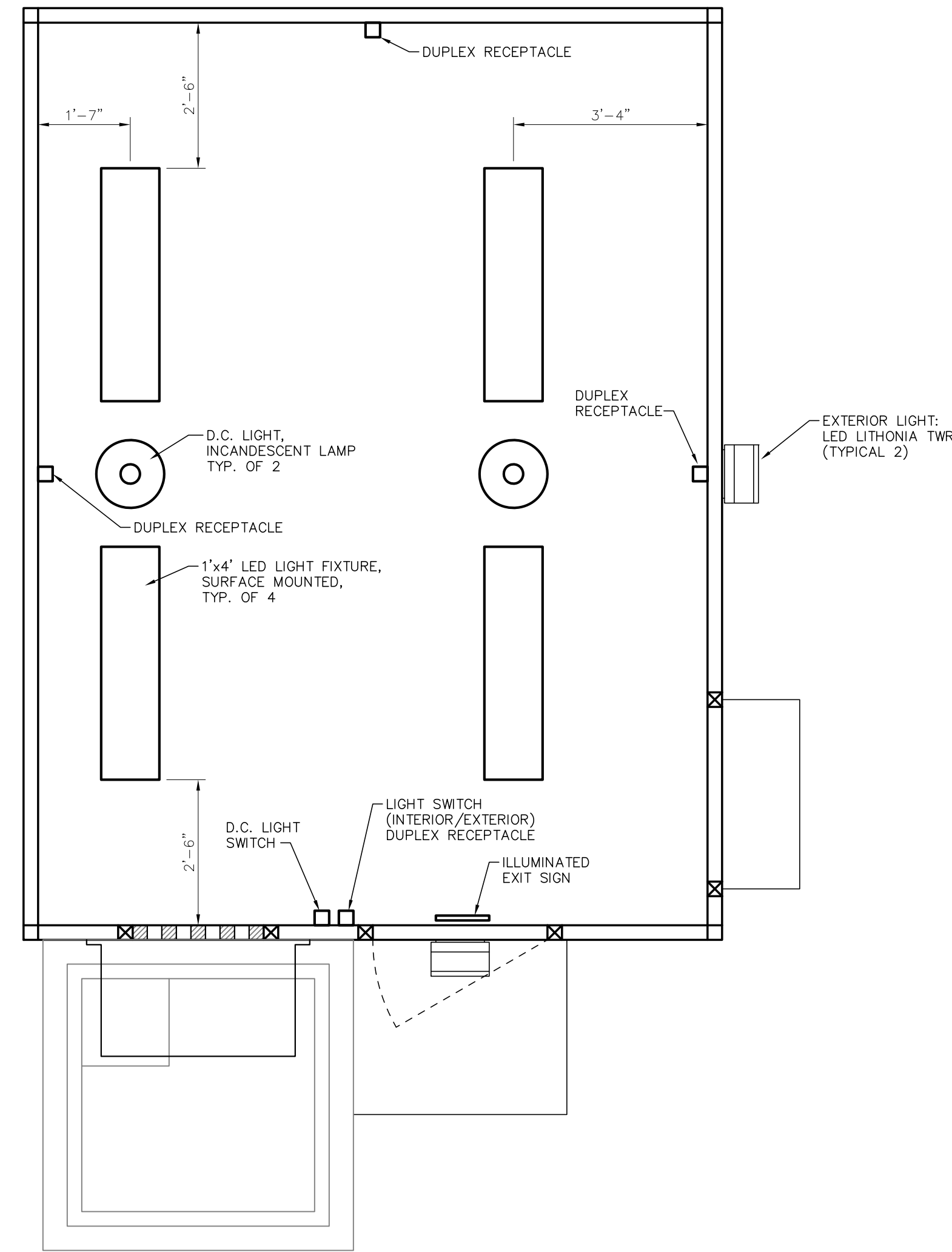
BHA-245.DWG 10/01/2019



CONTROL BUILDING EQUIPMENT LAYOUT

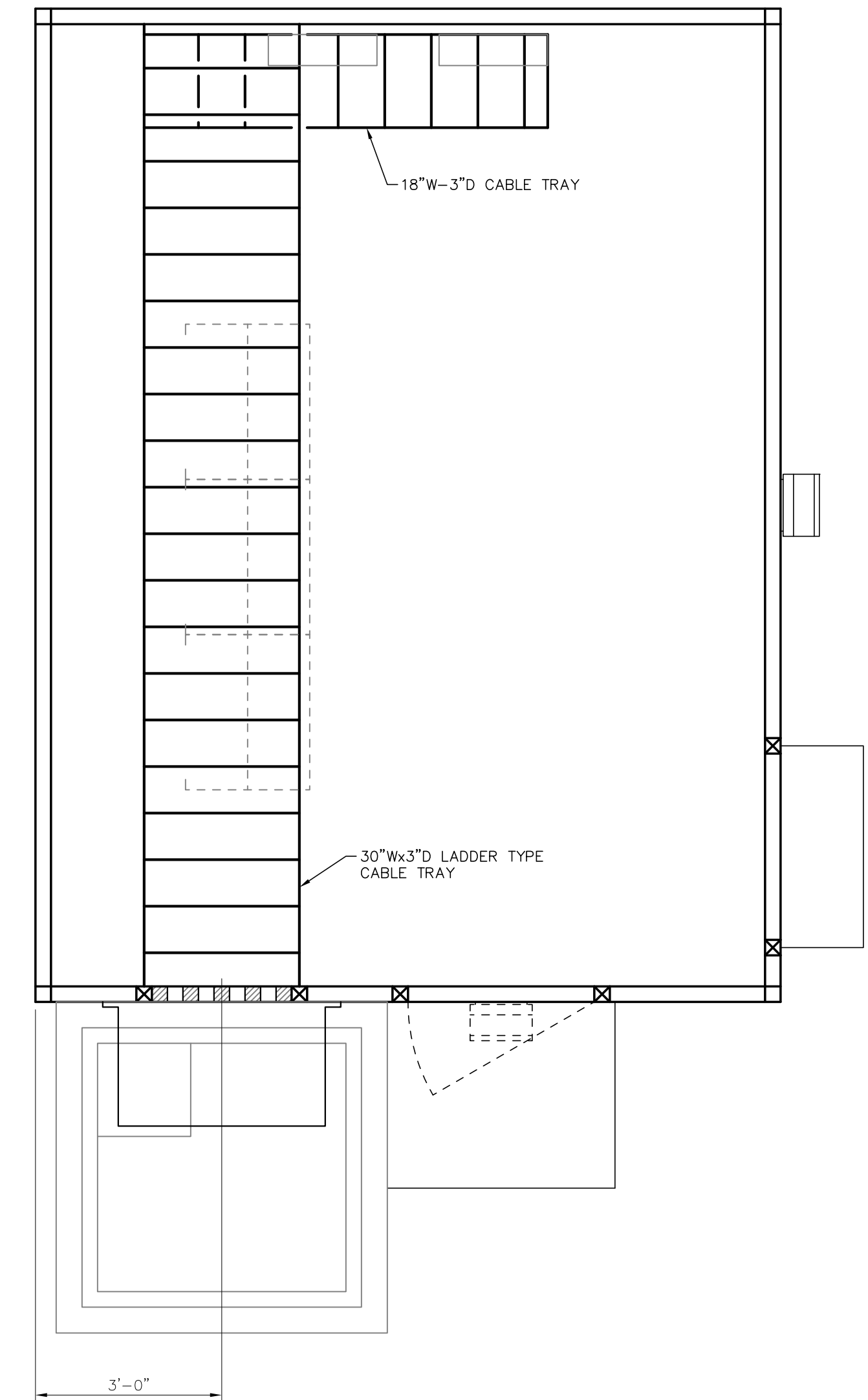
SCALE: 1/2"=1'-0"

* - CONFIRM WITH CONTROL BUILDING DRAWING



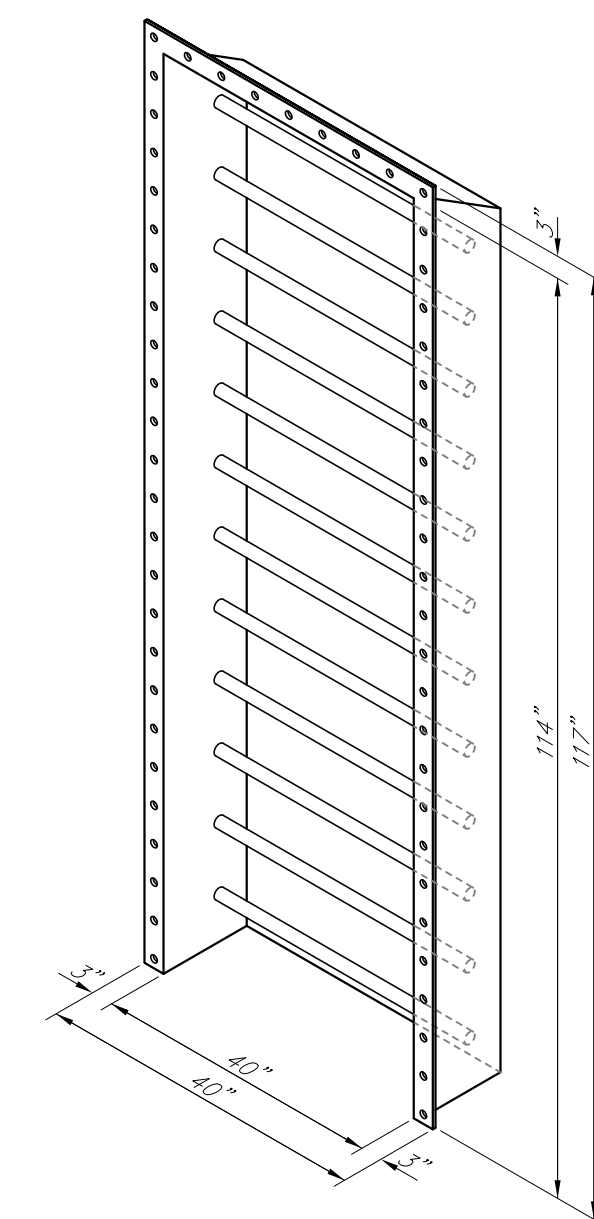
CONTROL BUILDING LIGHTING & POWER LAYOUT

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



CONTROL BUILDING CABLE TRAY LAYOUT

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



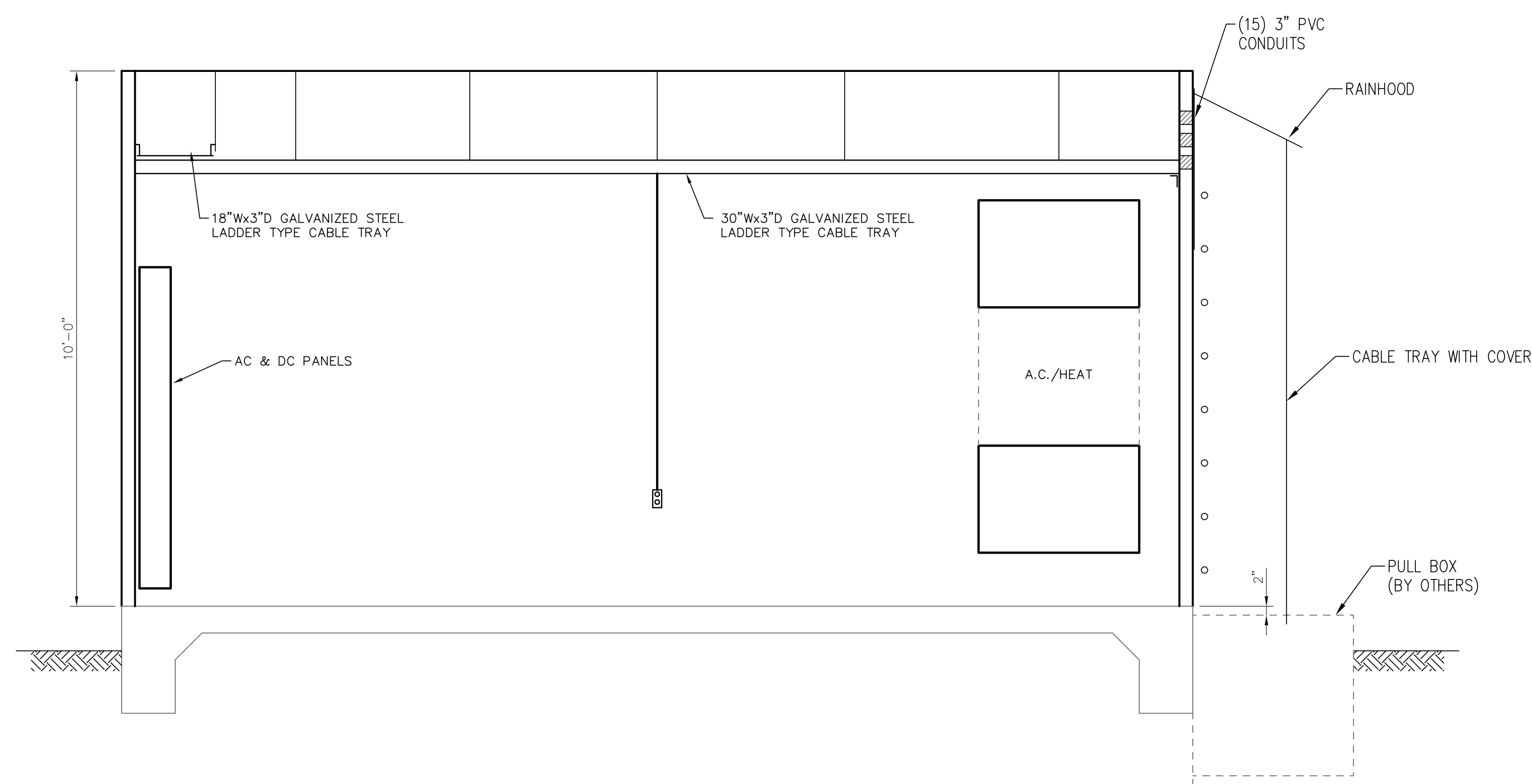
CONTROL BUILDING RAINHOOD/CABLE TRAY

SCALE: N.T.S.

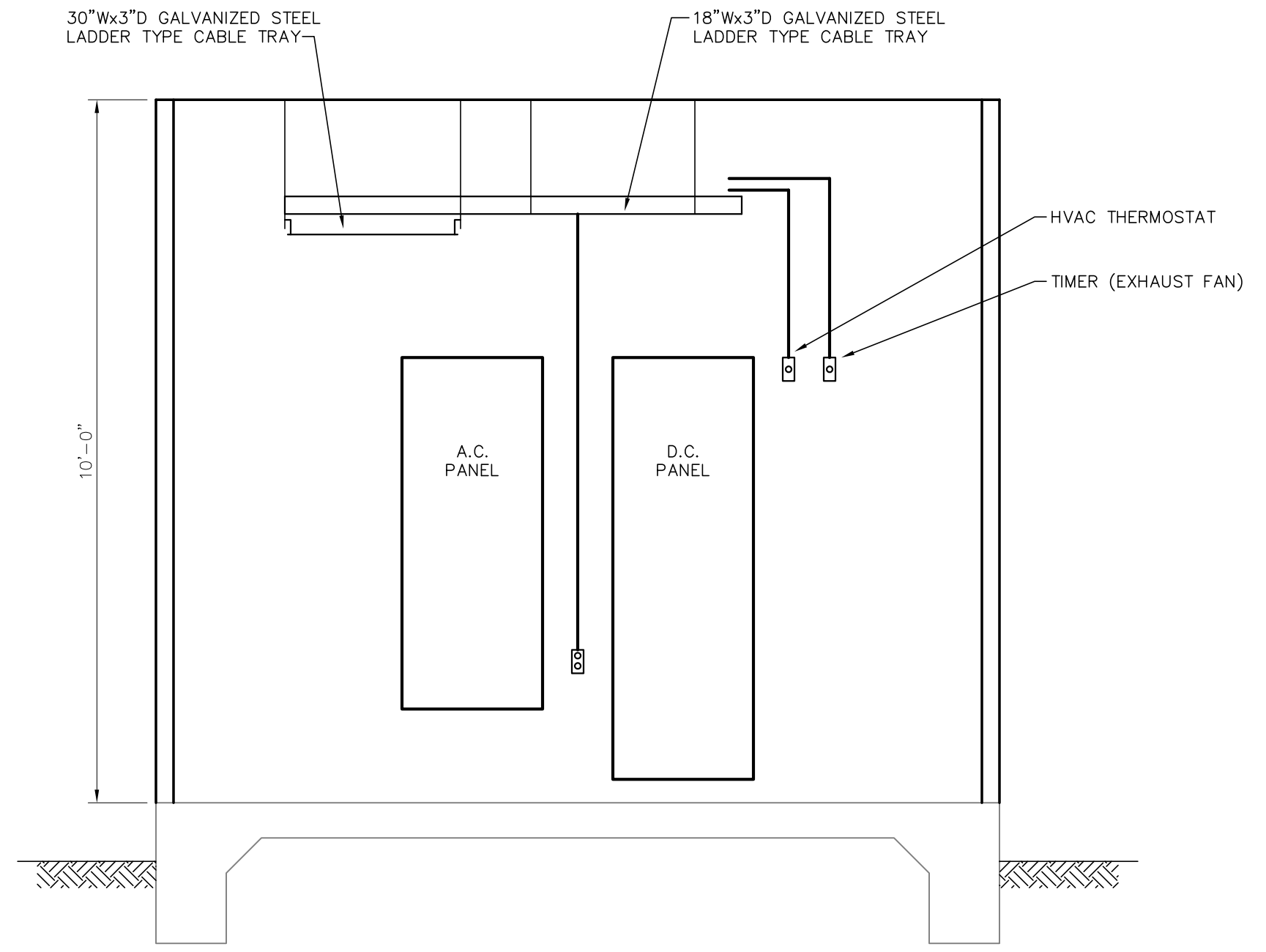
FOR REFERENCE ONLY

TWIN BRIDGES TRANSFORMER ADDITION CONTROL BUILDING LAYOUT			
CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE	DATE	DRAWN BY	APPROVED BY
1/2"=1'-0"	10/2/18	JHD	JJC
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
NO.	DATE	BY	REVISIONS
PROJECT NO. : 2019-E-16A			REV. : B
DRAWING NO. : TBTA-07			
BHA, INC. BATON ROUGE, LOUISIANA			

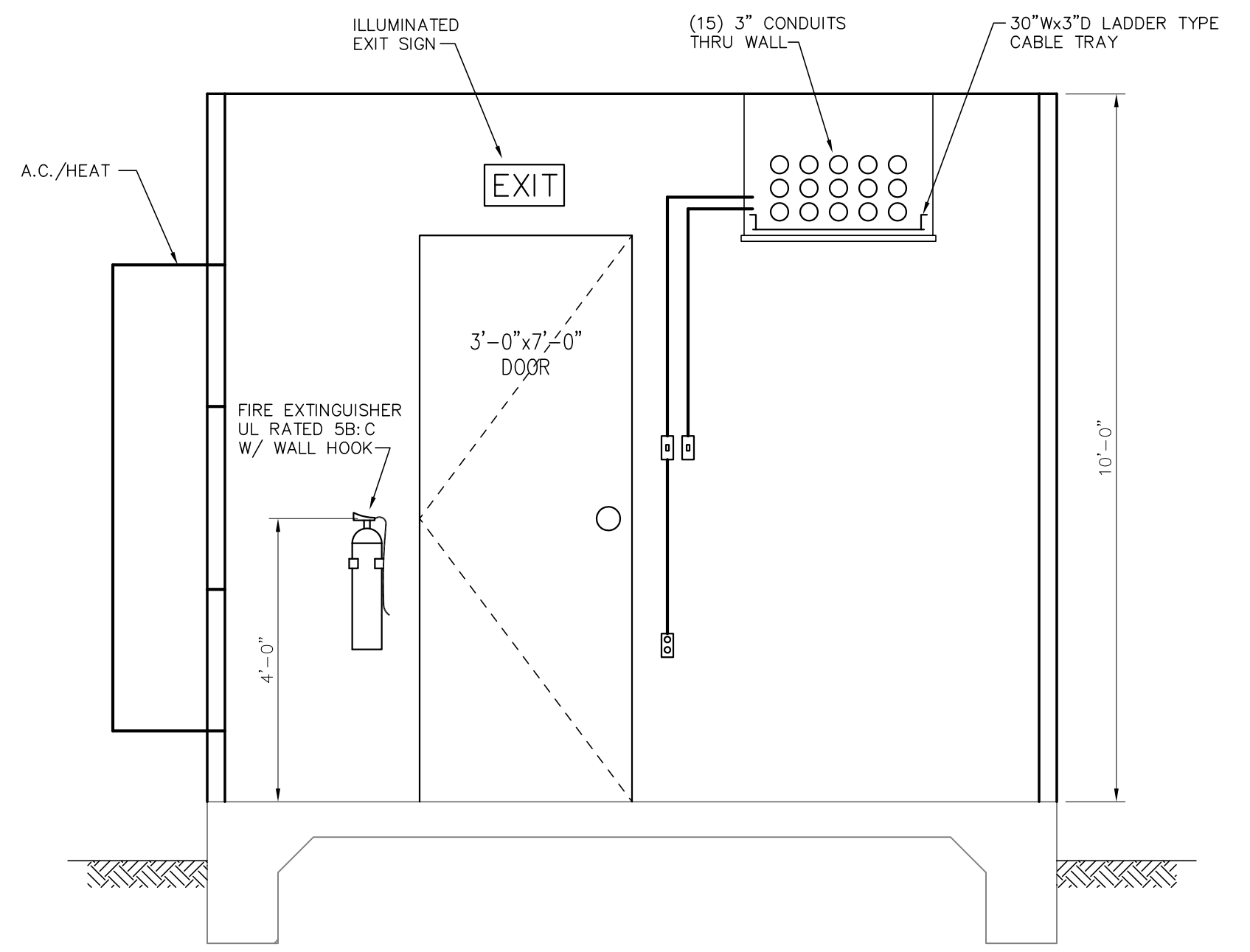
BHA-24-07A.dwg 10/01/2019



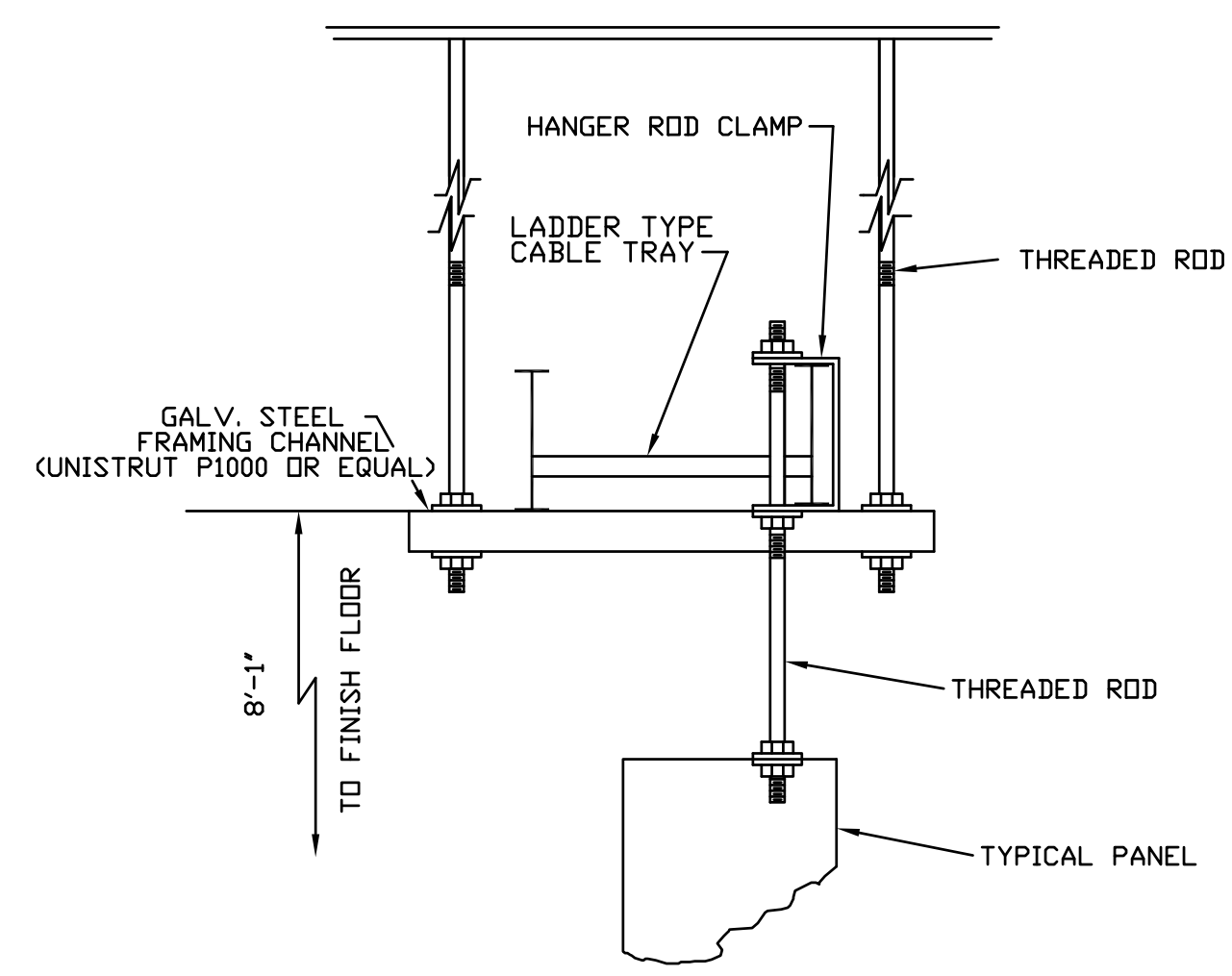
ELEVATION A-A
SCALE: 1/2"=1'-0"



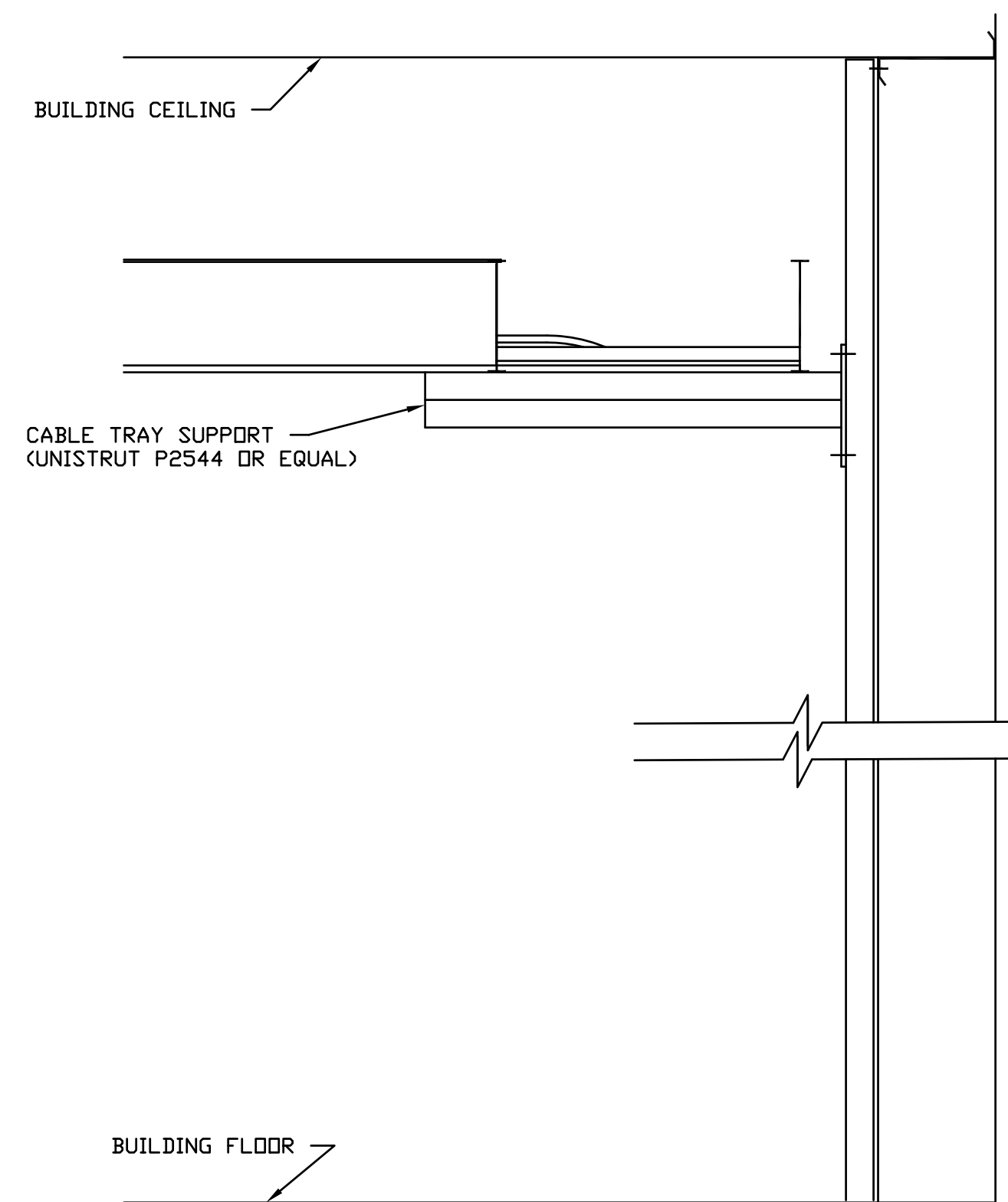
ELEVATION B-B
SCALE: 1/2"=1'-0"



ELEVATION C-C
SCALE: 1/2"=1'-0"



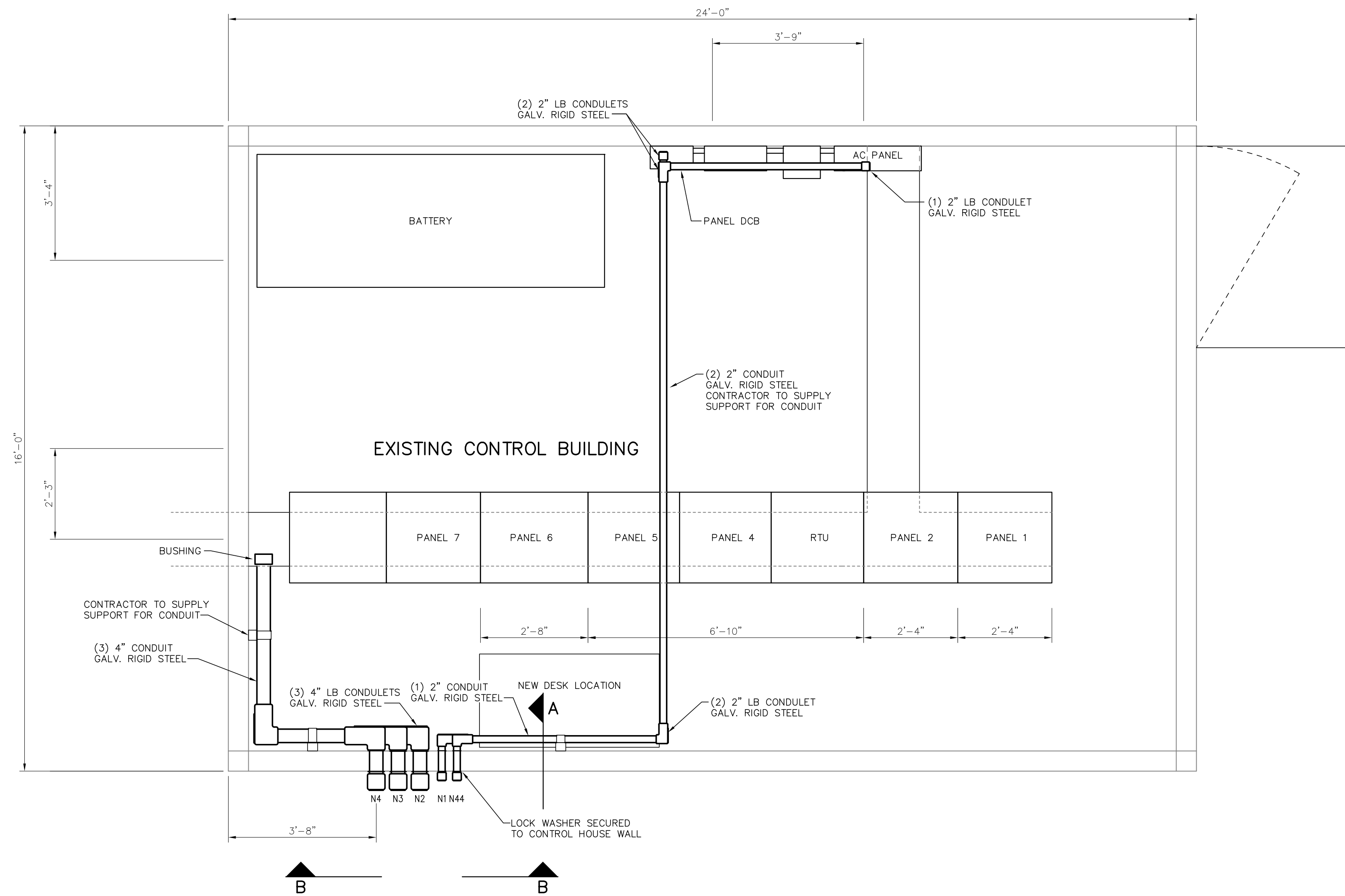
CABLE TRAY SUPPORT DETAIL NO. 1
N.T.S.



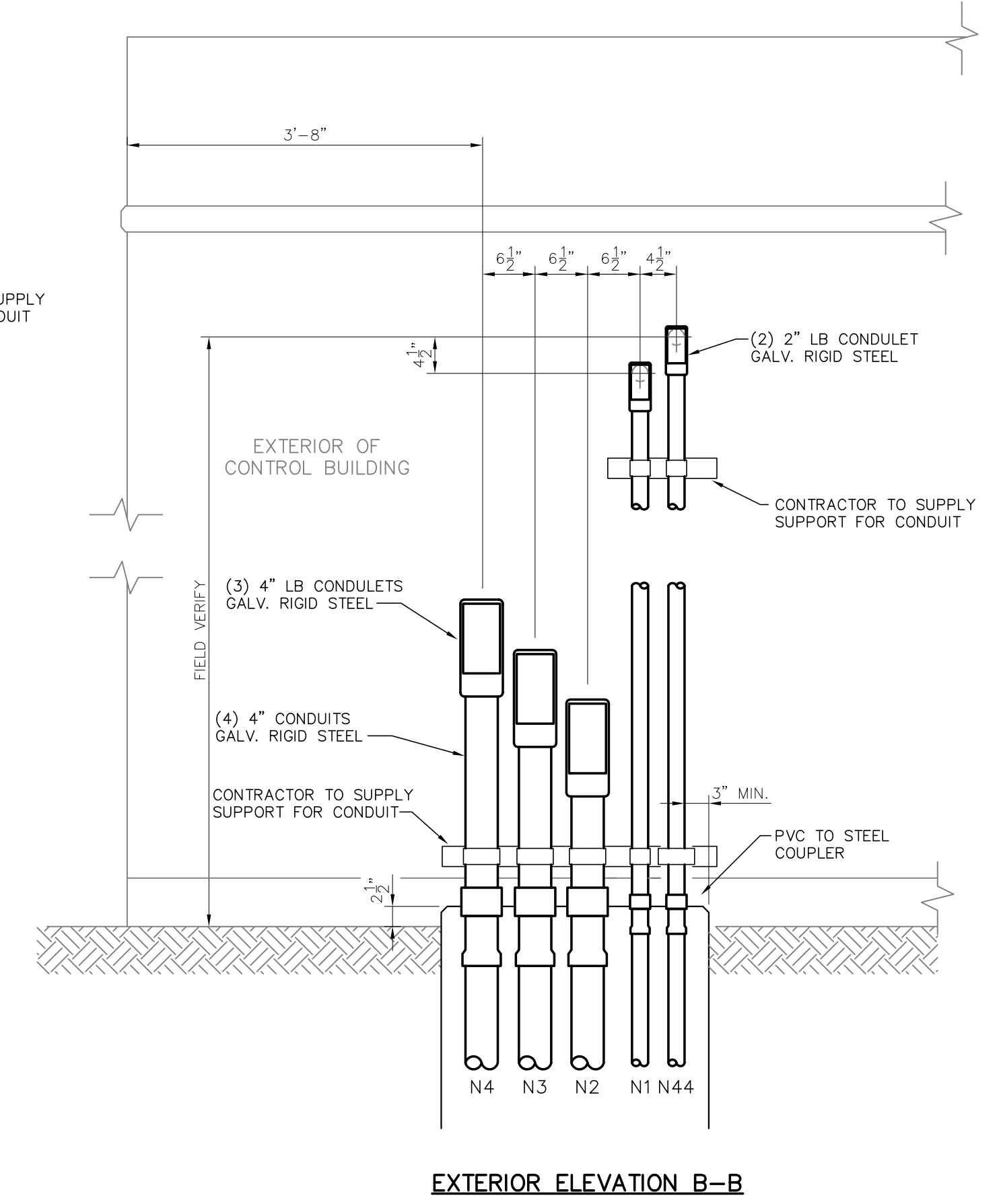
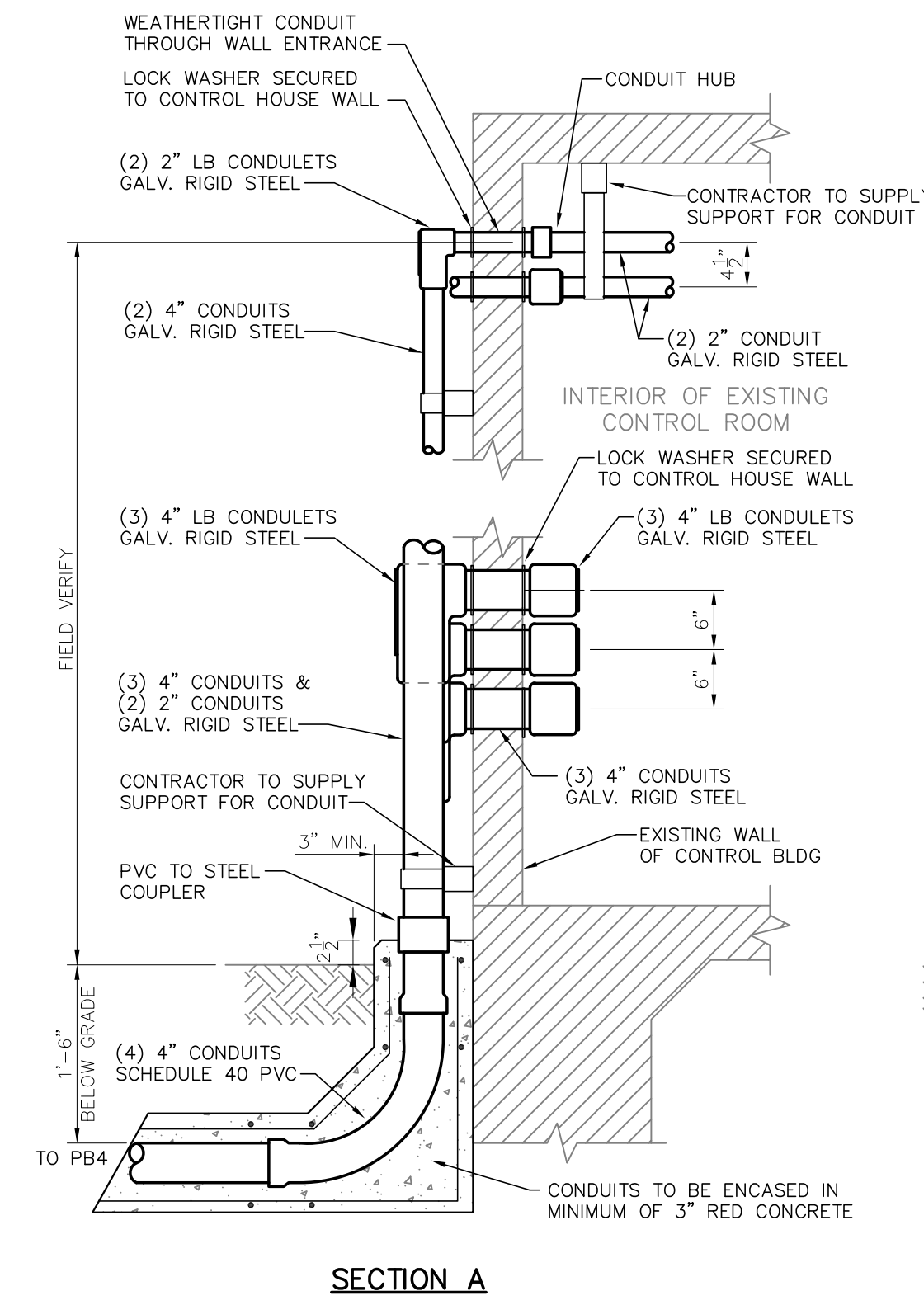
CABLE TRAY SUPPORT DETAIL NO. 2
N.T.S.

FOR BIDDING PURPOSES ONLY

				TWIN BRIDGES TRANSFORMER ADDITION CONTROL BUILDING DETAILS			
				CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE: NOTED		DATE: 10/2/18		DRAWN BY: JHD		APPROVED BY: JJC	
						PROJECT NO.: 2019-E-16A	
B 5/30/19		BHA		FOR BIDDING PURPOSES ONLY - CONSTRUCTION			
A 3/4/19		BHA		FOR BIDDING PURPOSES ONLY - CONSTRUCTION			
NO.		DATE		BY:		REVISIONS	
				BHA, INC. BATON ROUGE, LOUISIANA			
						DRAWING NO.: TBTA-07A	
						REV.: B	



**EXISTING CONTROL BUILDING
CONDUIT ROUTING LAYOUT**
SCALE: 1/2"=1'-0"



**EXISTING CONTROL BUILDING
CONDUIT AT EXTERIOR WALL DETAIL**
SCALE: 3/4"=1'-0"

FOR BIDDING
PURPOSES ONLY

				TWIN BRIDGES TRANSFORMER ADDITION EXISTING CONTROL BUILDING LAYOUT			
				CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE	DATE	DRAWN BY	APPROVED BY	PROJECT NO.			
NOTED	2/5/19	TJW	JJC	2019-E-16A			
				BHA, INC.			
				BATON ROUGE, LOUISIANA			
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION				
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION				
NO.	DATE	BY	REVISIONS				
				DRAWING NO.:		REV.:	
				TBTA-07B		B	