

BID # 2248

ADDENDUM # 2

June 24, 2019

PROJECT: **Construction of the Twin Bridges Station
230kV – 138kV Transformer Addition**
BHA #2019E16A
Bid Opening Date: July 9, 2019 – 10:00 a.m.

OWNER: **City of Alexandria**

ENGINEER: **BHA, Inc.**
9342 Lindale Avenue
Baton Rouge, Louisiana 70815
Attn: Jay Cefalu

The Plans and Specifications contained in the above listed project documents are hereby revised as indicated below and prospective bidders are required to take into consideration all items presented hereby in the preparation of their bids, as though contained in the bidding documents as originally issued. In the event of any conflicts between the original documents and this Addendum, the provisions of this Addendum shall govern.

This Addendum shall be attached **INSIDE** the front cover of the bidding documents by the prospective bidders, thereby becoming a part of these documents.

This Addendum shall be acknowledged by Bidder on the Louisiana Uniform Public Work Bid Form, Page 10-1.

1. Reference Comments from the Pre-Bid Meeting held on Wednesday, June 19, 2019:

- The Containment Pit Foundation includes the grating and railing.
- The repair of the existing transformer containment pit wall has been revised.
See Drawings TBTA-05 Rev B2 and TBTA-05B Rev B2.
- The City will file a 100% tax exempt form for the successful Contractor.
- The Construction Start Date should be in early August, 2019.
- Due to the timing of a 230kV outage and the delivery time of the fire wall, the City will entertain a construction schedule whereby the Contractor does the site, foundation, grounding, partial steel, bus and switch erection, as well as all of the conduit and wire pulling first.

Then, when the fire wall arrives, a 230kV outage, as well as a partial 138kV outage, will take place and the Contractor can erect the fire wall and complete the 230kV steel erection and bus tie-ins. During this outage, a second Contractor will make the cable terminations in the existing control building relay panels.

The station Contractor shall include any additional cost for a possible delay between these two phases of construction in the bid units. A separate unit for this possible delay will not be added.

- The physical address of the Twin Bridges Substation is 370 Twin Bridges Road, Alexandria, Louisiana.

2. Reference Section 3 – Special Provisions

- Replace Page 3-1 with the attached **Revised Page 3-1 Addendum #2 6/24/2019**.

3. Reference Section 10 – Louisiana Uniform Public Work Bid Form

- Replace Page 10-7 with the attached **Revised Page 10-7 Addendum #2 6/24/2019**.
Changed wording of L-5 and L-7.
- Replace Page 10-8 with the attached **Revised Page 10-8 Addendum #2 6/24/2019**.
Changed One Cubic Yard to read One Ton on Z-1 and Z-2.

4. Reference Section 15 – Drawings

- Replace Page 15-1 Addendum #1 6/5/2019 with the attached **Revised Page 15-1 Addendum #2 6/24/2019**.
- Replace the set of Drawings – Twin Bridges Rev B1, containing 27 sheets, with the attached **Revised Set of Drawings – Twin Bridges Rev B2**, containing 27 sheets.

Changes To Drawings Are As Follows:

Title Page [REV. B2]	- Added Rev B2 next to revised drawings.
TBTA-01A [REV. B2]	- Added additional rip-rap areas.
TBTA-04A [REV. B2]	- Indicated location of railing grounding.
TBTA-05 [REV. B2]	- Revised foundation L-7.
TBTA-05B [REV. B2]	- Added Detail EW-1 and existing wall detail.
TBTA-07B [REV. B2]	- Added cable tray and revised conduit routing.

Section 3. Special Provisions

Time of Completion

The Contractor shall complete all work shown on Plans and called for in these Specifications within **one hundred eighty (180) calendar days**.

The Contractor shall be assessed Two Hundred Dollars (\$200.00) per day in liquidated damages for each calendar day he is delinquent. The above specified time shall be written into the Contract.

The 138kV bus between breaker CB1 and breaker CB5 can remain de-energized during construction unless an emergency occurs. The 230kV bus can be de-energized for short periods of time. This must be scheduled with the City a minimum of two weeks prior to de-energization.

Determination and Extension of Contract Time

Contract time will be extended to the Contractor only upon receipt of written request, provided such delays were caused by the Owner, by acts of God (provided such acts of God were not preceded by some fault of the Contractor without which the delay would not have occurred) or any causes completely beyond the control of the Contractor.

Work Order

Work will not begin on the Project until the Owner has issued a Work Order to the Contractor directing him to begin and stating that necessary funds are available for payments according to the Contract. The Contract time shall be based on the date of the Work Order.

Funds for financing this project will be deposited in the name of the Owner prior to issuance of a Work Order.

Payment to Contractor

Monthly, the Contractor shall submit to the Engineer an itemized invoice on a form approved by the Engineer, supported by such data substantiating the Contractor's right to payment as the Owner or the Engineer may require. Application for Payment shall be submitted on or about the first of each month for the value of labor and materials incorporated in the work and of material suitably stored at the site as of the twenty-fifth day of the preceding month, less normal retainage as follows:

1. Projects with contract price up to \$500,000.00 - 10% of the contract price.
2. Projects with contract price greater than \$500,000.00 - 5% of the contract price.

The normal retainage shall not be due the Contractor until expiration of the forty-five day lien period and submission to the Engineer of a Clear Lien Certificate and invoice for the retainage.

UNIT DESCRIPTIONS

TO: _____
City of Alexandria
915 Third Street
Alexandria, Louisiana 71301
Attention: City Clerk

BID FOR: _____
Twin Bridges Station
230kV – 138kV Transformer Addition
Construction

<u>REF. NO.</u>	<u>DESCRIPTIONS</u>
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L-3	FURNISH AND INSTALL 230kV GAS CIRCUIT BREAKER FOUNDATION WITH ANCHOR BOLTS
L-4	FURNISH AND INSTALL 12' X 16' CONTROL HOUSE FOUNDATION
L-5	FURNISH AND INSTALL TRANSFORMER OIL CONTAINMENT FOUNDATION, INCLUDING GRATING AND RAILING
L-6	FURNISH AND INSTALL LIGHT POLE FOUNDATION
L-7	FURNISH AND INSTALL/REPAIR EXISTING TRANSFORMER CONTAINMENT WALL SECTION
M-1	FURNISH AND INSTALL SITE WORK TO INCLUDE DIRT WORK WITH SOIL CEMENT, REMOVAL AND REPLACEMENT OF SITE SURFACING, NEW SITE SURFACING AND RIP-RAP THROUGHOUT WORK AREA AND BOTH SIDES OF FENCE. REPAIR OFF SITE EROSION ALONG FENCE IN MULTIPLE AREAS. RETURN BOTH DIRT AND LIMESTONE TO ORIGINAL GRADE, AND FINAL SITE CLEAN-UP.
O-1	FURNISH AND INSTALL BELOW AND ABOVE GRADE GROUNDING, INCLUDING EQUIPMENT AND FENCE GROUND CONNECTORS
R-1	RE-INSTALL EXISTING LIGHT POLES AND FIXTURES, INCLUDING CONDUIT AND WIRE
R-2	RE-INSTALL EXISTING GATE ALARM, INCLUDING CONDUIT AND WIRE

MISCELLANEOUS CONSTRUCTION UNITS

TO: City of Alexandria
915 Third Street
Alexandria, Louisiana 71301
Attention: City Clerk

BID FOR: Twin Bridges Station
230kV – 138kV Transformer Addition
Construction

The Contractor shall submit unit prices for the miscellaneous construction units listed. The Owner shall have the option to exercise the unit prices for additional work, which shall be done by this Contractor when, in the judgment of the Owner and the Engineer, said work is outside of the intended scope of work required by these specifications.

THESE VALUES SHALL NOT BE INCLUDED IN THE TOTAL BASE BID.

DESCRIPTION: INSTALL 2" RIGID CONDUIT (1 UNIT = 10 LINEAR FEET)				
REF. NO.	QUANTITY:	LABOR UNIT PRICE:	MATERIAL UNIT PRICE:	TOTAL LABOR AND MATERIALS:
X-1	1 Unit			

DESCRIPTION: INSTALL 4" RIGID CONDUIT (1 UNIT = 10 LINEAR FEET)				
REF. NO.	QUANTITY:	LABOR UNIT PRICE:	MATERIAL UNIT PRICE:	TOTAL LABOR AND MATERIALS:
X-2	1 Unit			

DESCRIPTION: INSTALL 2" SCHEDULE 40 PVC CONDUIT ENCASED IN CONCRETE (1 UNIT = 10 LINEAR FEET)				
REF. NO.	QUANTITY:	LABOR UNIT PRICE:	MATERIAL UNIT PRICE:	TOTAL LABOR AND MATERIALS:
X-3	1 Unit			

DESCRIPTION: INSTALL 4" SCHEDULE 40 PVC CONDUIT ENCASED IN CONCRETE (1 UNIT = 10 LINEAR FEET)				
REF. NO.	QUANTITY:	LABOR UNIT PRICE:	MATERIAL UNIT PRICE:	TOTAL LABOR AND MATERIALS:
X-4	1 Unit			

DESCRIPTION: ONE CUBIC YARD OF 3,000 PSI CONCRETE COMPLETE WITH REINFORCING STEEL AND REQUIRED FORMS TO ADD OR MODIFY AND FOUNDATION (1 UNIT = 1 CUBIC YARD)				
REF. NO.	QUANTITY:	LABOR UNIT PRICE:	MATERIAL UNIT PRICE:	TOTAL LABOR AND MATERIALS:
Y-1	1 Unit			

DESCRIPTION: ONE TON OF CRUSHED LIMESTONE GRADE 57				
REF. NO.	QUANTITY:	LABOR UNIT PRICE:	MATERIAL UNIT PRICE:	TOTAL LABOR AND MATERIALS:
Z-1	1 Unit			

DESCRIPTION: ONE TON OF CRUSHED LIMESTONE GRADE 610				
REF. NO.	QUANTITY:	LABOR UNIT PRICE:	MATERIAL UNIT PRICE:	TOTAL LABOR AND MATERIALS:
Z-2	1 Unit			

DRAWING LIST

[REV. B2]	Cover Sheet	
	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

TWIN BRIDGES SUBSTATION TRANSFORMER ADDITION

BID #2248, ACCEPTING BIDS TUESDAY, JULY 9, 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

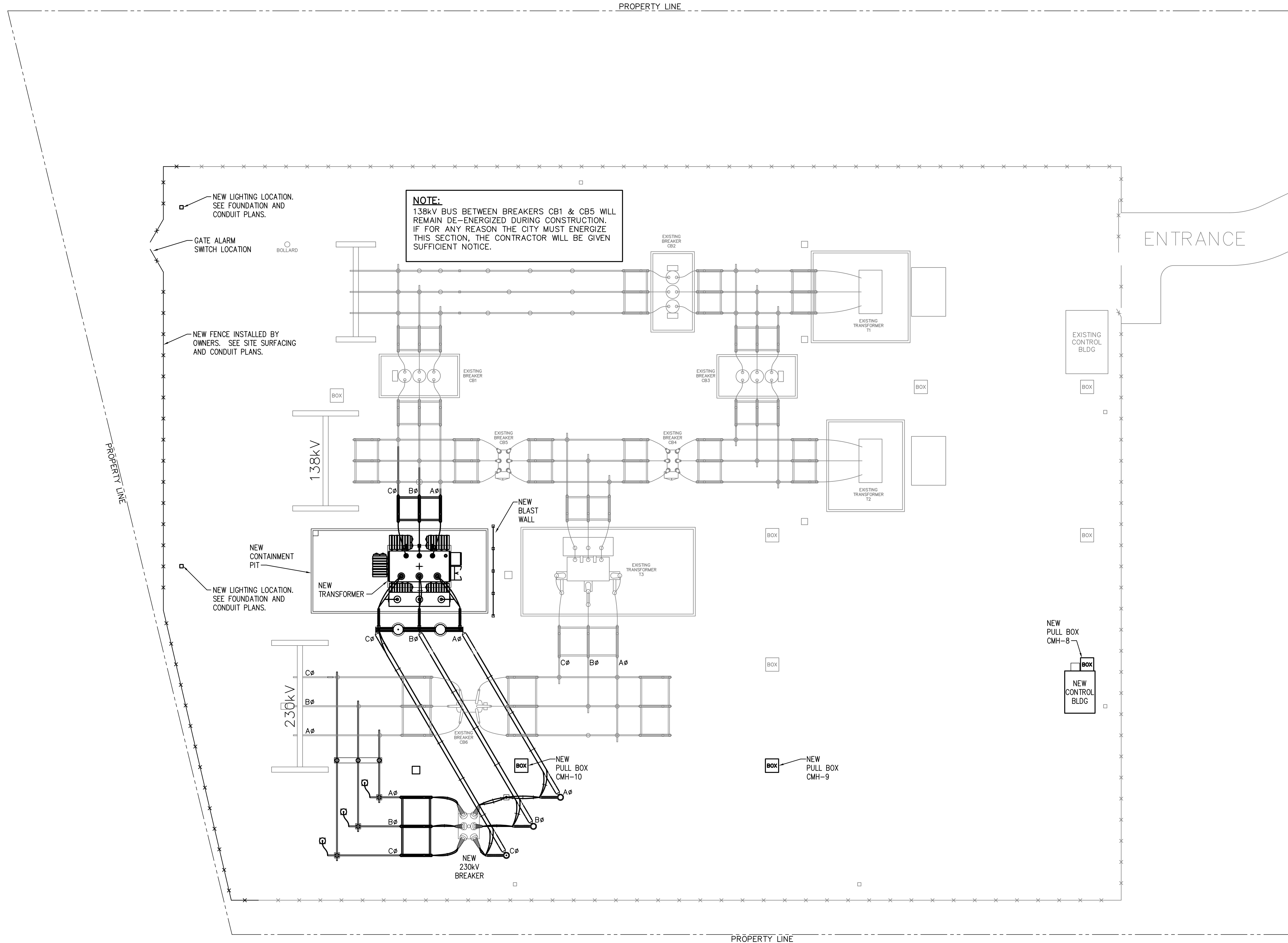
BHA, INC.

9342 LINDALE AVENUE
BATON ROUGE, LOUISIANA

CONSTRUCTION

FOR BIDDING
PURPOSES ONLY

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



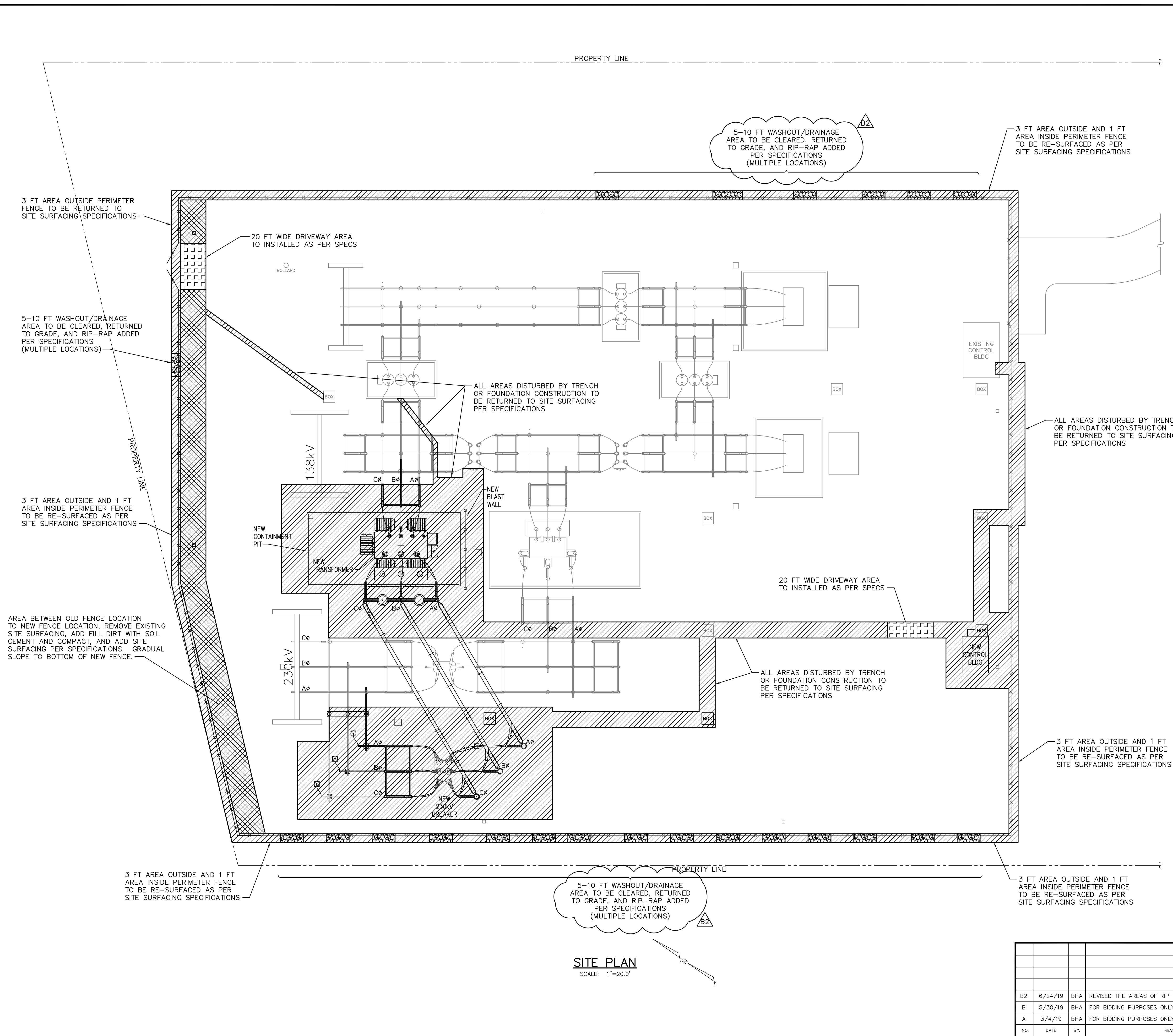
LEGEND:
 — EXISTING
 — PROPOSED

SITE PLAN
 SCALE: 1"=20.0'

FOR BIDDING PURPOSES ONLY

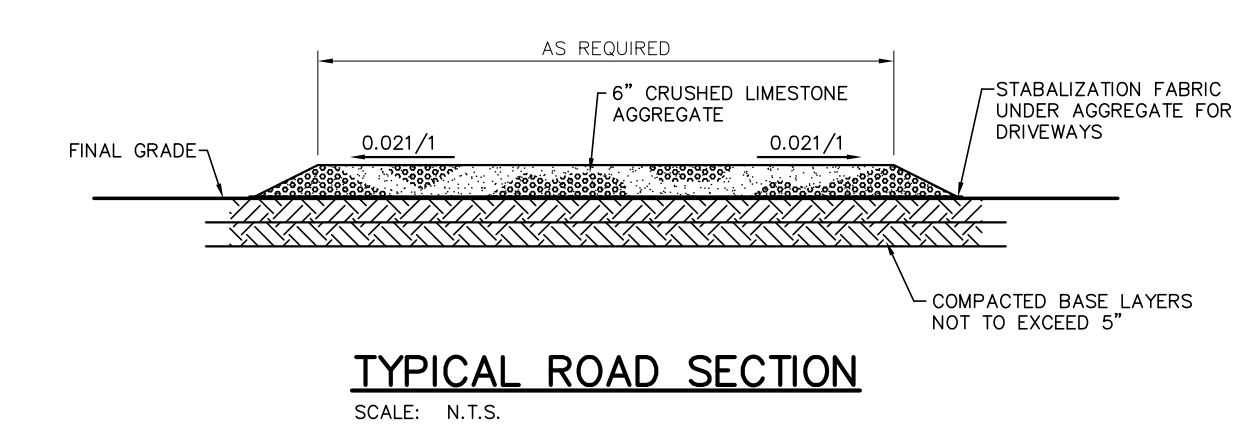
				TWIN BRIDGES TRANSFORMER ADDITION SITE PLAN			
				CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE: 1"=20.0'		DATE: 10/18/17		DRAWN BY: JHD		APPROVED BY: JJC	
PROJECT NO.: 2019-E-16A		REV.:		DRAWING NO.:		REV.:	
B 5/30/19 BHA FOR BIDDING PURPOSES ONLY - CONSTRUCTION		A 3/4/19 BHA FOR BIDDING PURPOSES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

B24242.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'

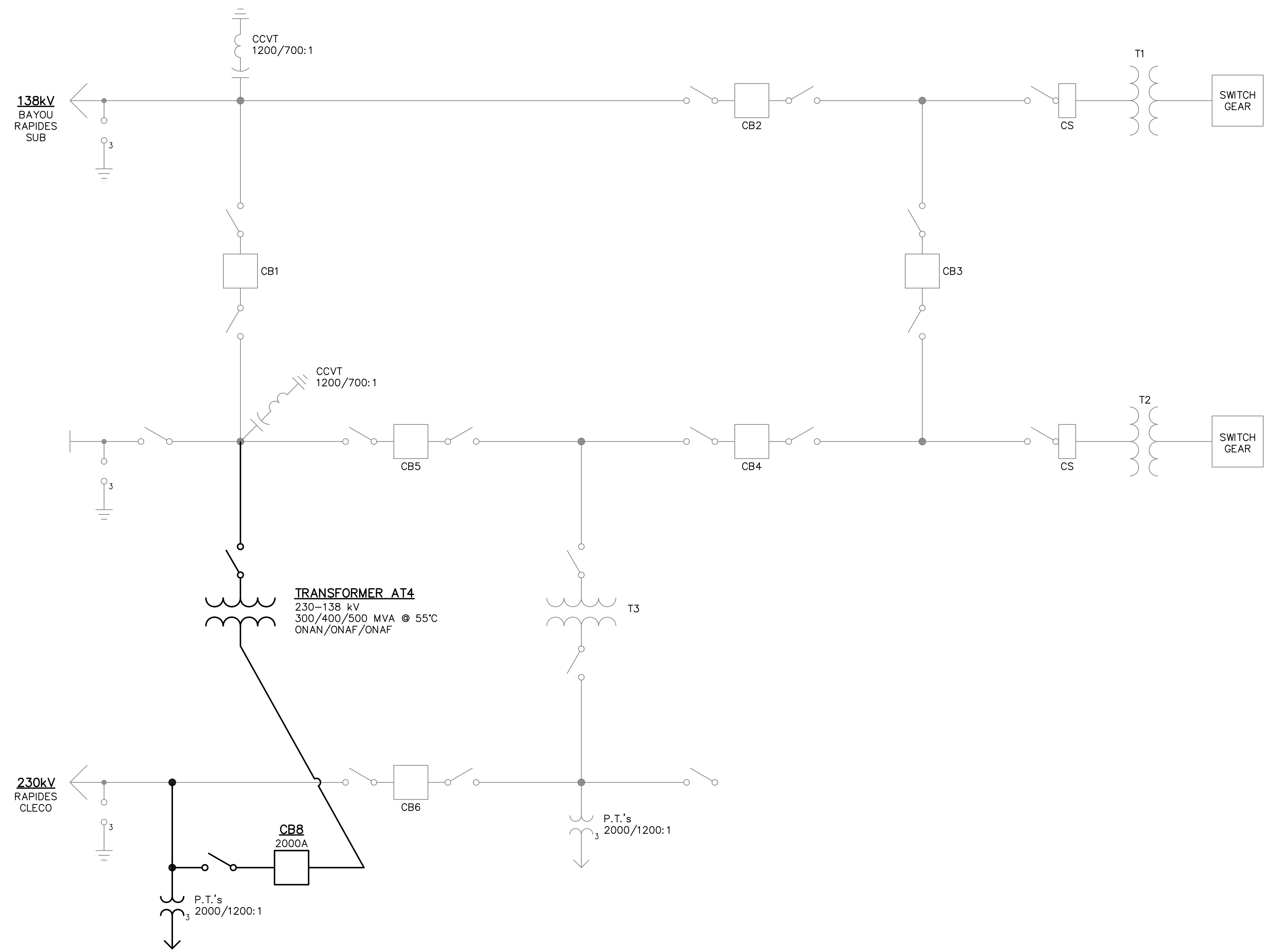
LEGEND:
— EXISTING
— PROPOSED

FOR BIDDING PURPOSES ONLY

				TWIN BRIDGES TRANSFORMER ADDITION SITE SURFACING PLAN			
				CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
DATE: 6/24/19		DRAWN BY: BHA		DATE: 10/18/17		APPROVED BY: JJC	
REVISION: B		REVISION: A		PROJECT NO.: 2019-E-16A		DRAWING NO.: TBTA-01A	
REVISION: A		REVISION: BHA		REV.: B2		REV.: B2	
NO.		DATE		BY:		REVISIONS	

BHA: COATBA02.dwg 05/20/19 11:33AM 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	
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, INC. BATON ROUGE, LOUISIANA			
				DRAWING NO.: TBTA-02		REV.: B	
				BHA: COATBA02.dwg USF-1 05/20/19 11:33AM BY #27			

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"

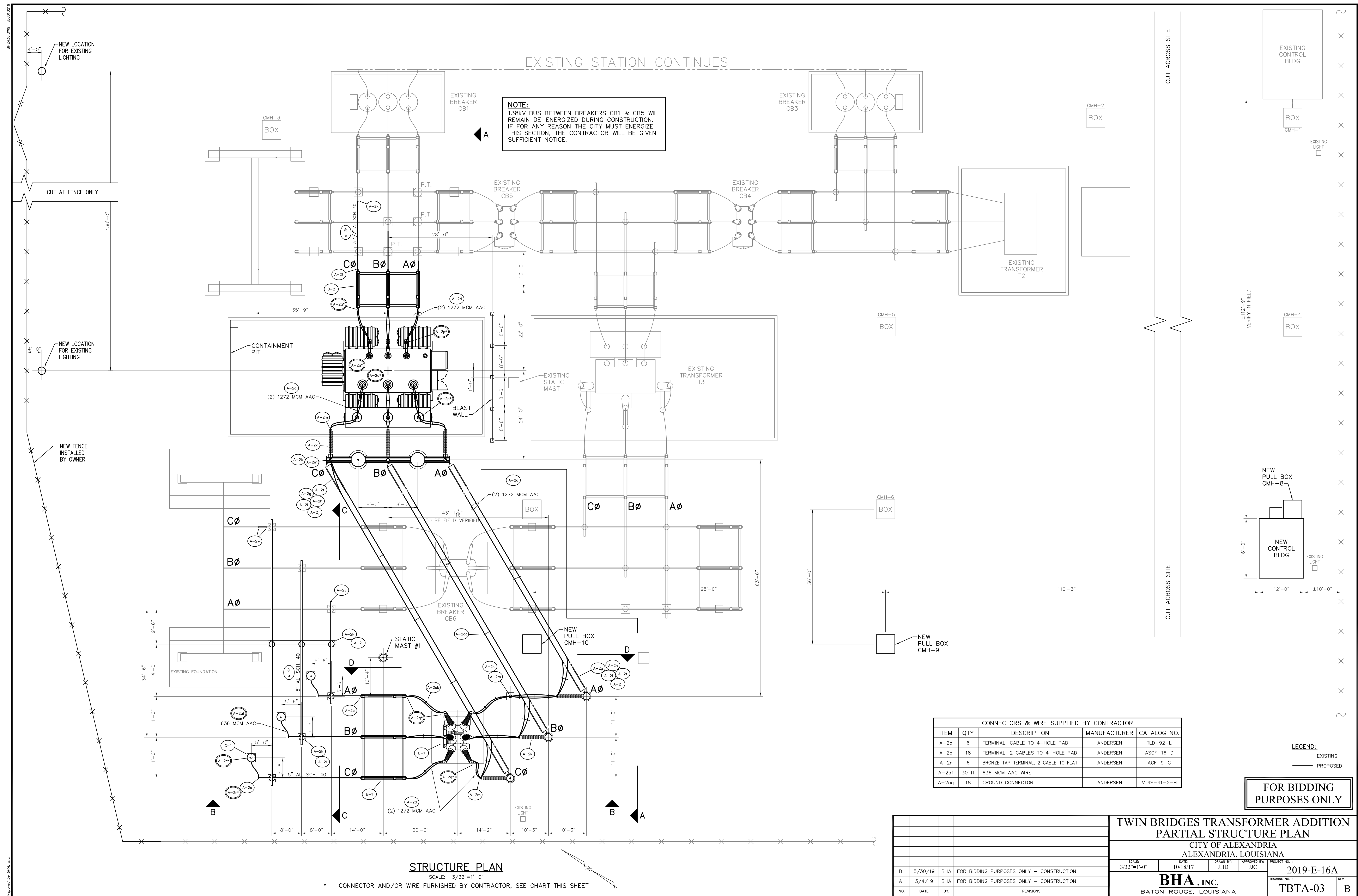
* - CONNECTOR AND/OR WIRE FURNISHED BY CONTRACTOR, SEE CHART THIS SHEET

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

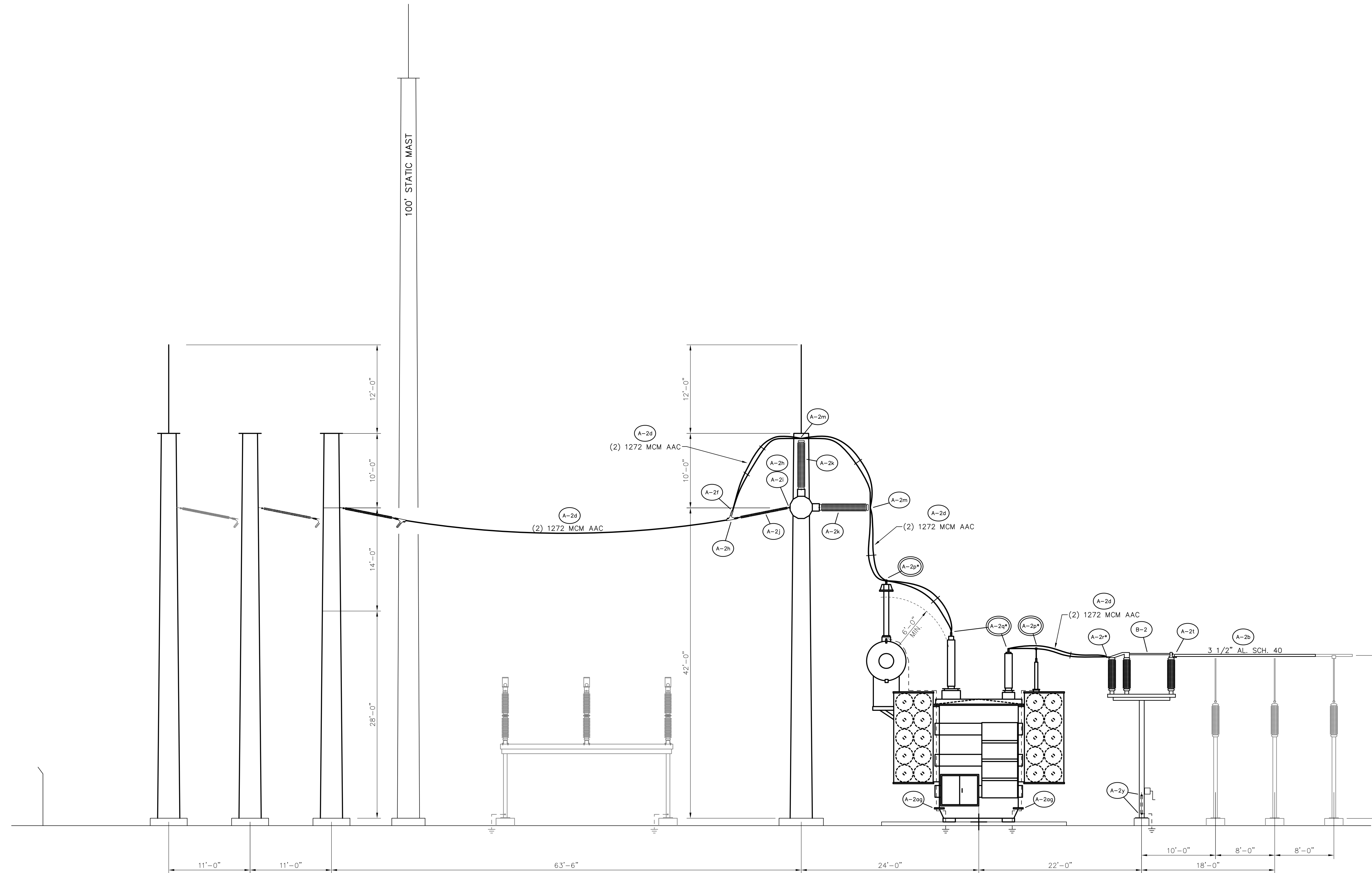
FOR BIDDING PURPOSES ONLY

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



Prepared by BHA, Inc. BHA245.DWG 04/01/2019

Prepared by BHA, Inc. BHA\2434.DWG 04/01/2019



STRUCTURE ELEVATION A-A

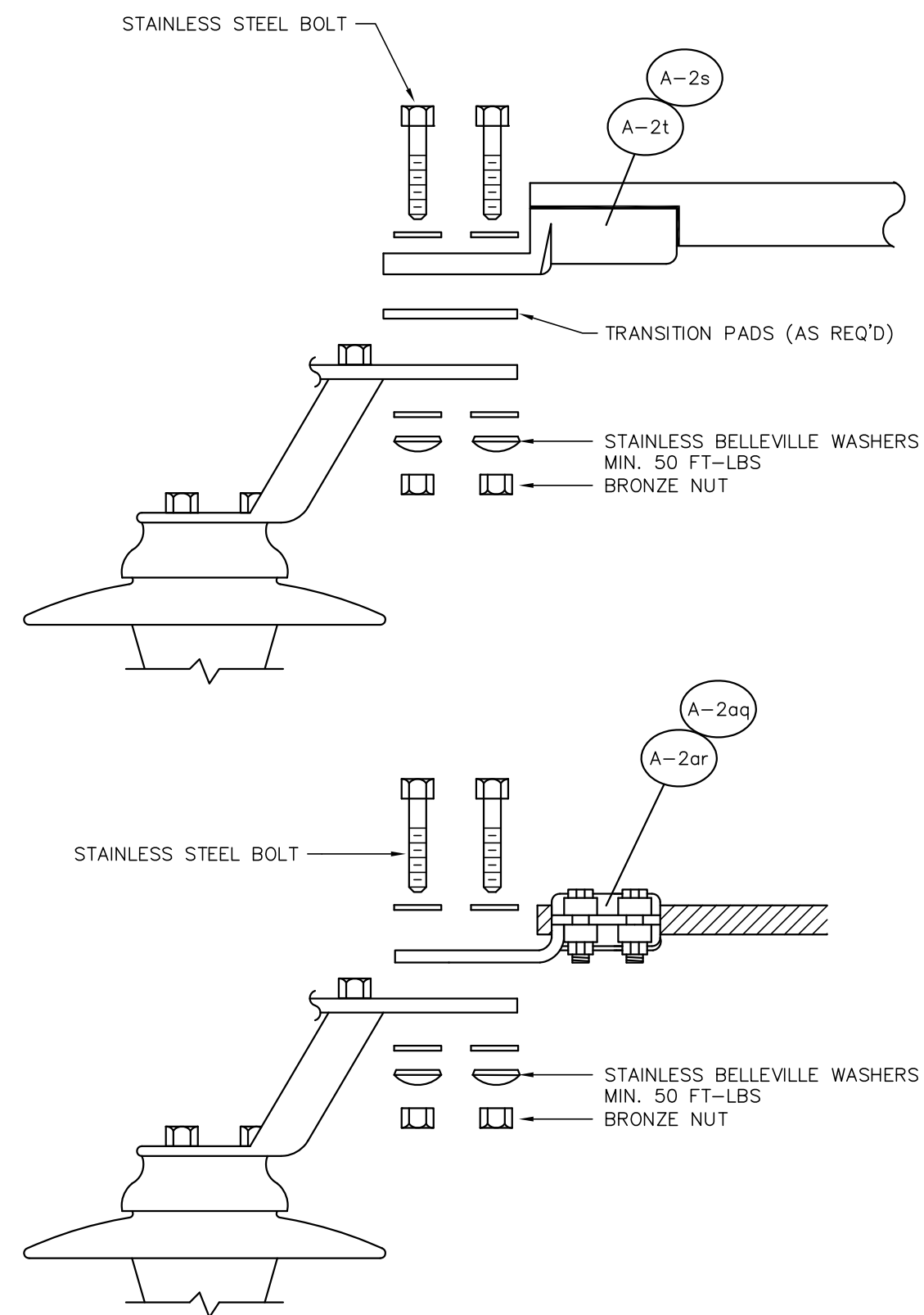
SCALE: 1/8"=1'-0"

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

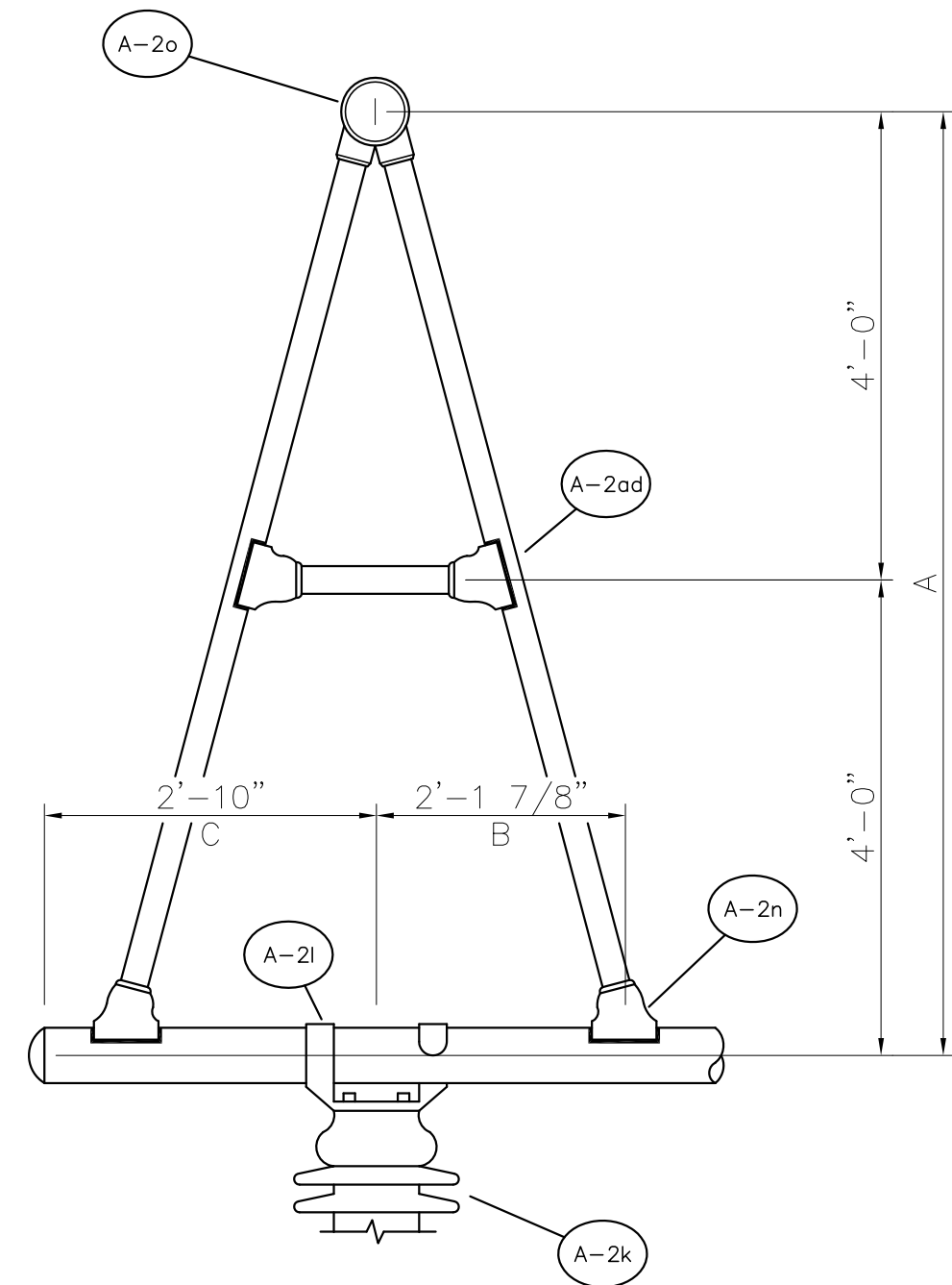
LEGEND:
 — EXISTING
 — PROPOSED

**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.		DRAWING NO.:	
				BATON ROUGE, LOUISIANA		TBTA-03A	
						REV.:	
						B	

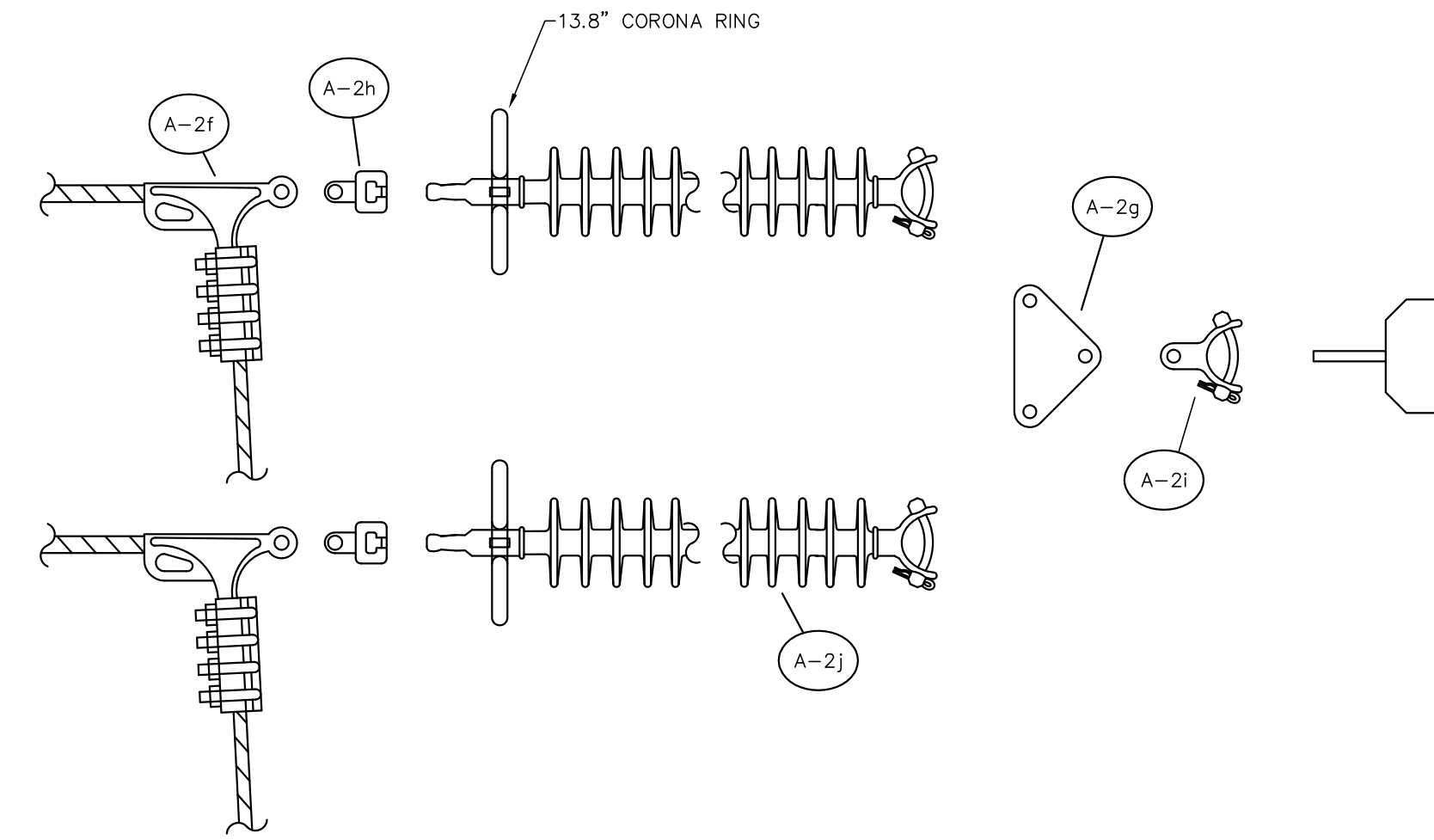


① SWITCH TERMINAL CONNECTION DETAIL



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

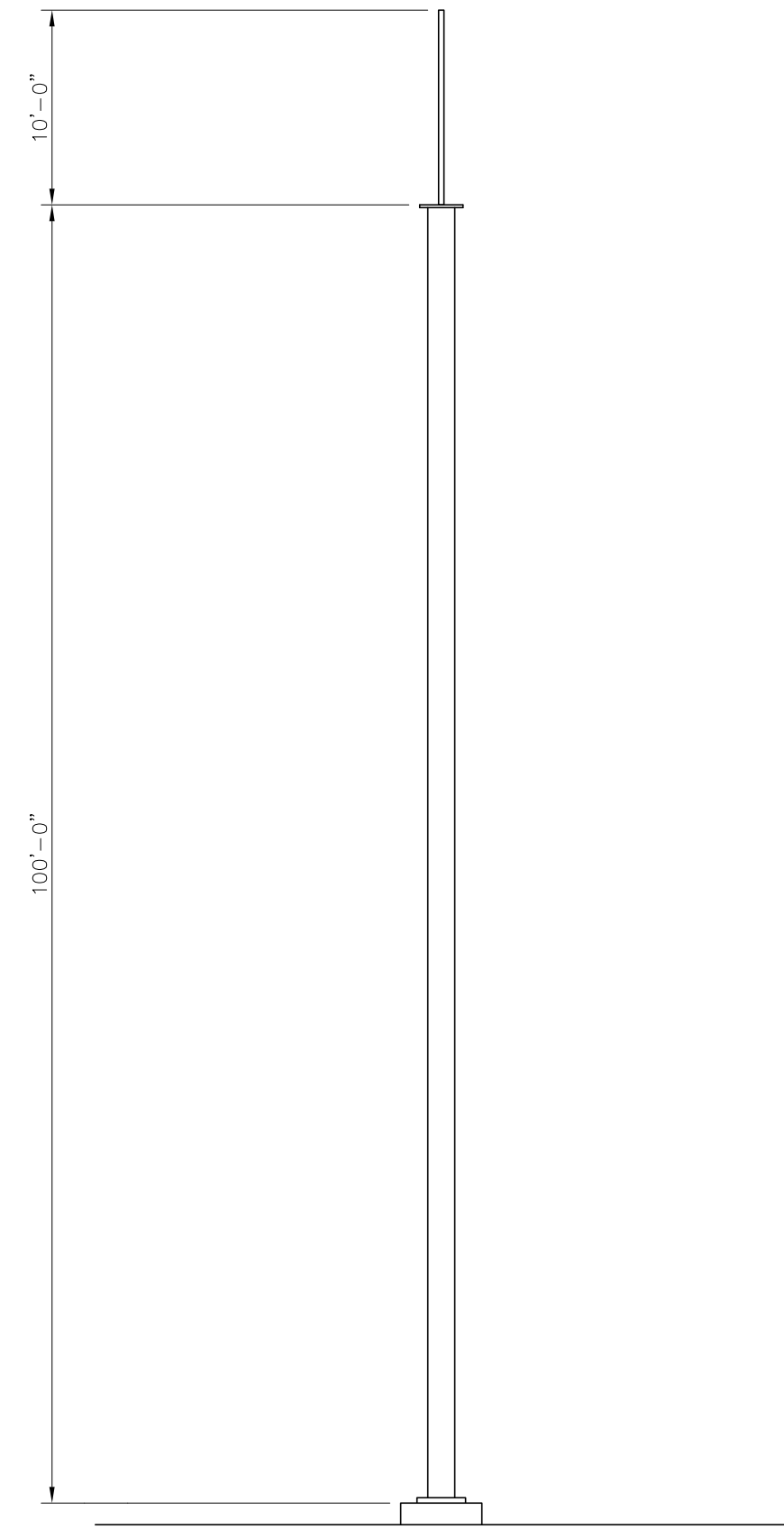
② BUS SUPPORT DETAIL



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

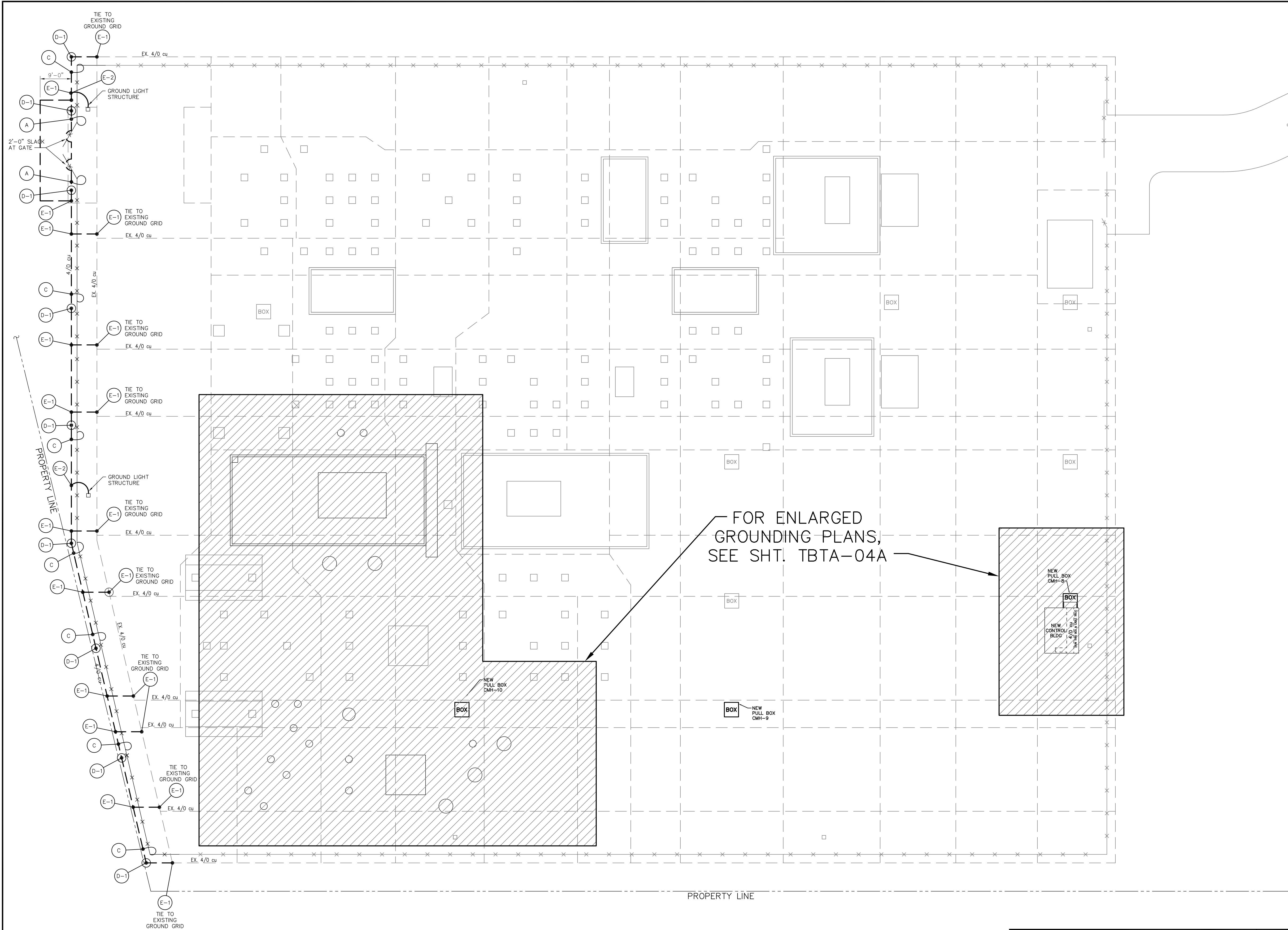
CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

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



- 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.

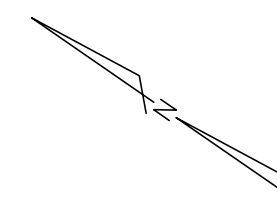
FOR ENLARGED
GROUNDING PLANS,
SEE SHT. TBTA-04A

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

**FOR BIDDING
PURPOSES ONLY**

OVERALL GROUNDING PLAN

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

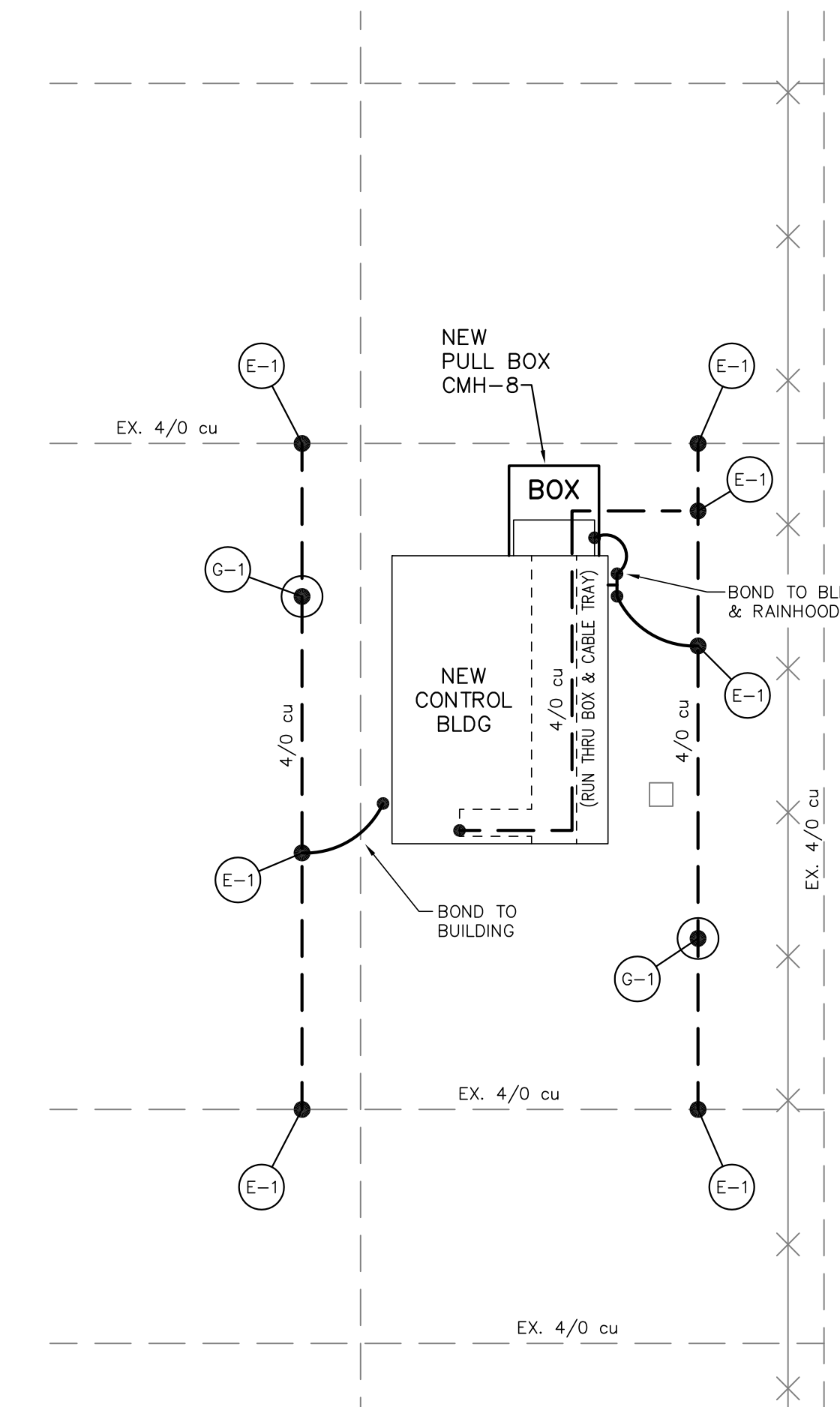
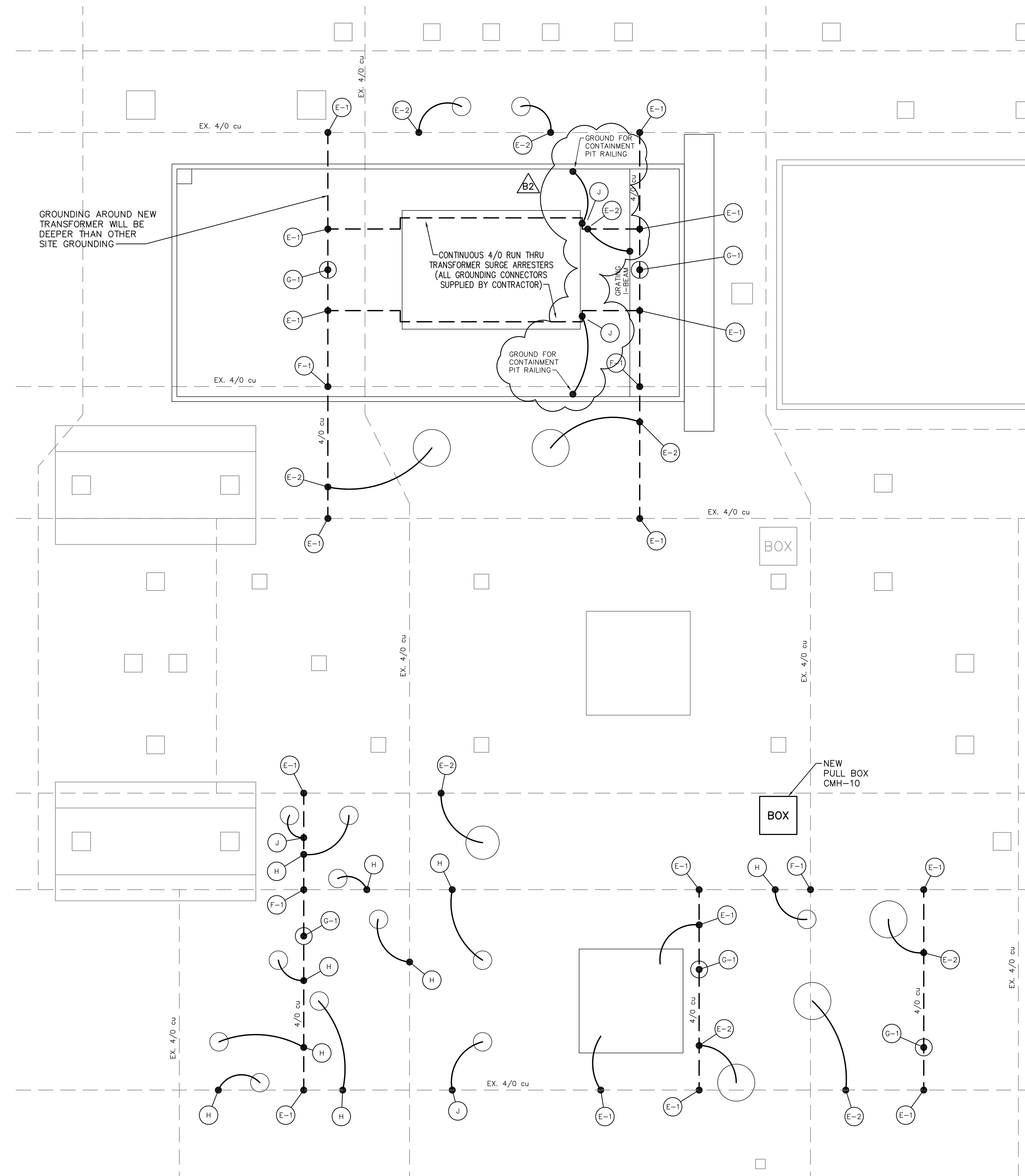


NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

**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

BHA, INC. 06/24/19 09:53AM BY #27



- 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.

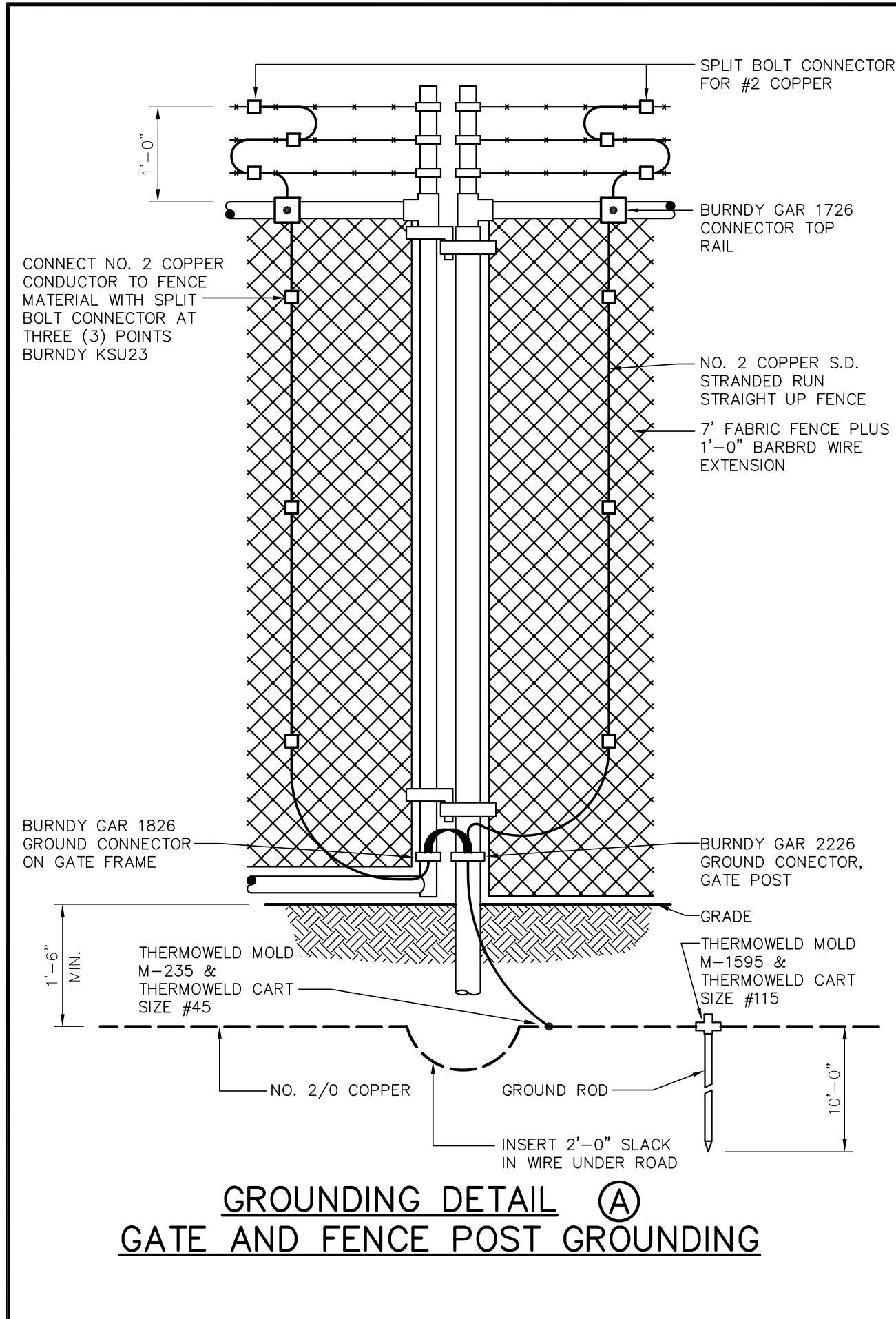
LEGEND:
 ——— EXISTING
 ——— PROPOSED

FOR BIDDING PURPOSES ONLY

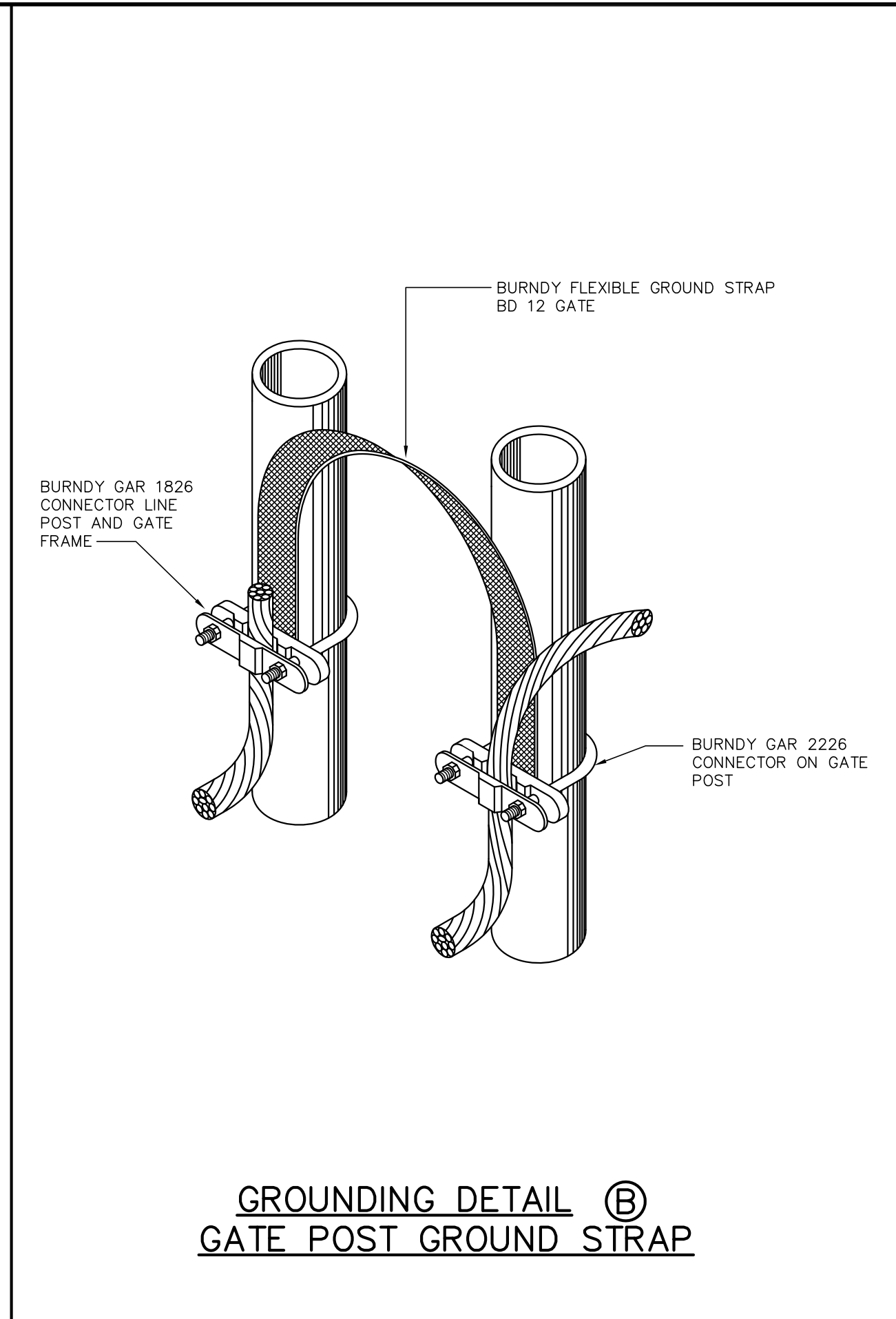
ENLARGED GROUNDING PLANS
 SCALE: 1/8"=1'-0"

NO.	DATE	BY	REVISIONS
B2	6/24/19	BHA	ADDED GROUNDING FOR RAILING
B1	6/5/19	BHA	ADDED GROUNDING FOR GRATING SUPPORT I-BEAM
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

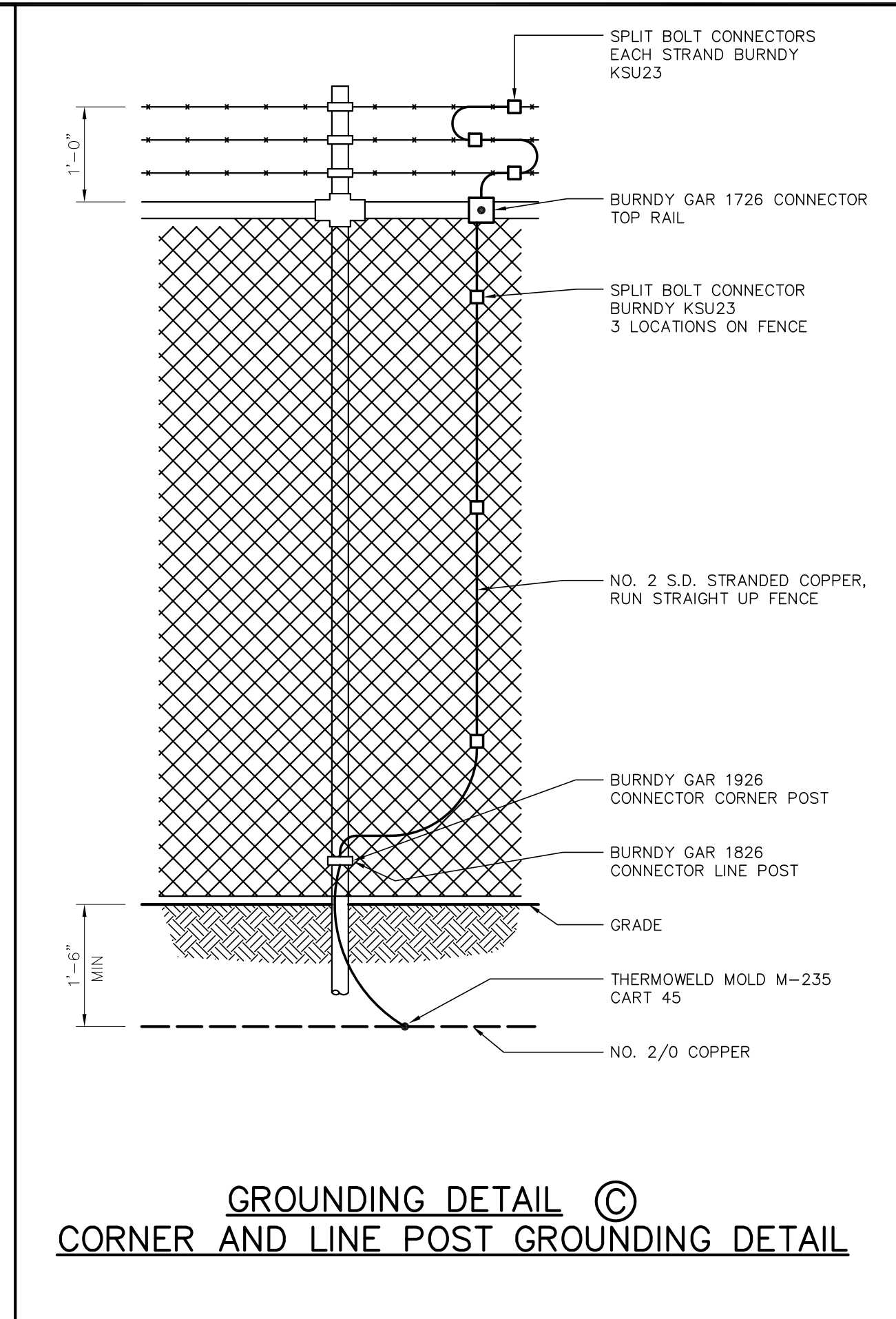
TWIN BRIDGES TRANSFORMER ADDITION ENLARGED GROUNDING PLANS			
CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE: 1/8"=1'-0"	DATE: 01/02/18	DRAWN BY: JHD	APPROVED BY: JJC
			PROJECT NO.: 2019-E-16A
BHA, INC. BATON ROUGE, LOUISIANA			DRAWING NO.: TBTA-04A
			REV.: B2



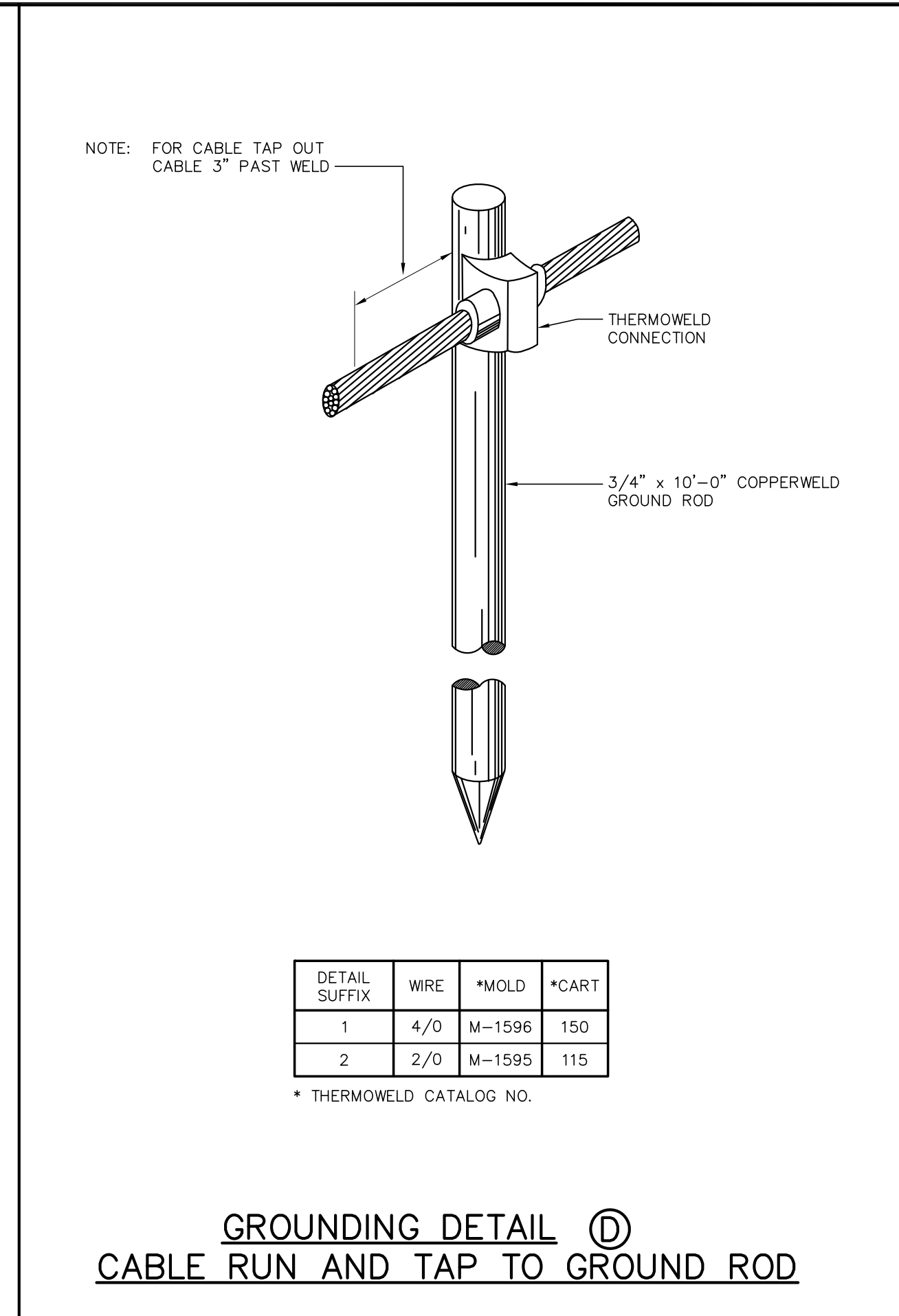
GROUNDING DETAIL A
GATE AND FENCE POST GROUNDING



GROUNDING DETAIL B
GATE POST GROUND STRAP



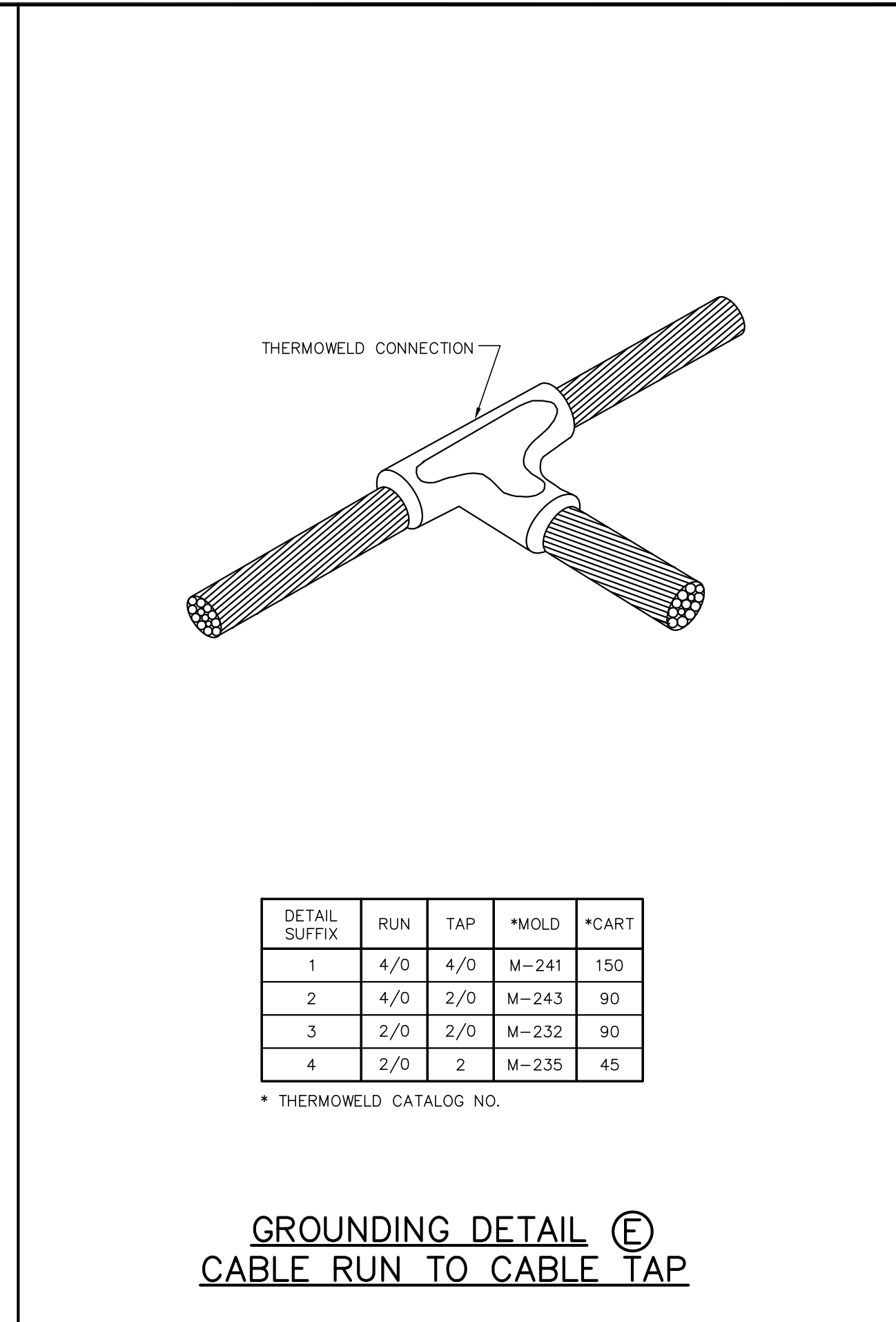
GROUNDING DETAIL C
CORNER AND LINE POST GROUNDING DETAIL



GROUNDING DETAIL D
CABLE RUN AND TAP TO GROUND ROD

DETAIL SUFFIX	WIRE	*MOLD	*CART
1	4/0	M-1598	150
2	2/0	M-1595	115

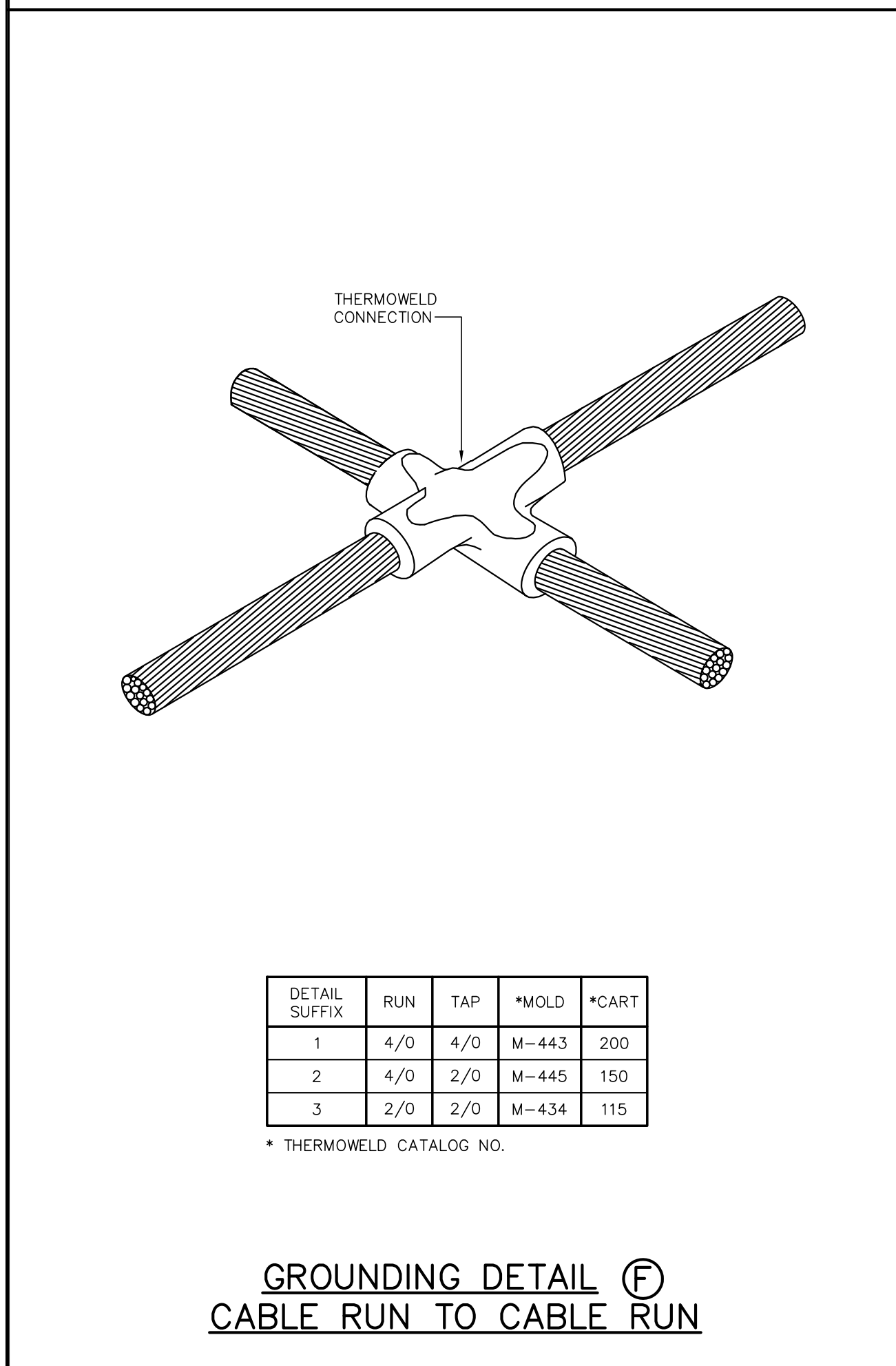
* THERMOWELD CATALOG NO.



GROUNDING DETAIL E
CABLE RUN TO CABLE TAP

DETAIL SUFFIX	RUN	TAP	*MOLD	*CART
1	4/0	4/0	M-241	150
2	4/0	2/0	M-243	90
3	2/0	2/0	M-232	90
4	2/0	2	M-235	45

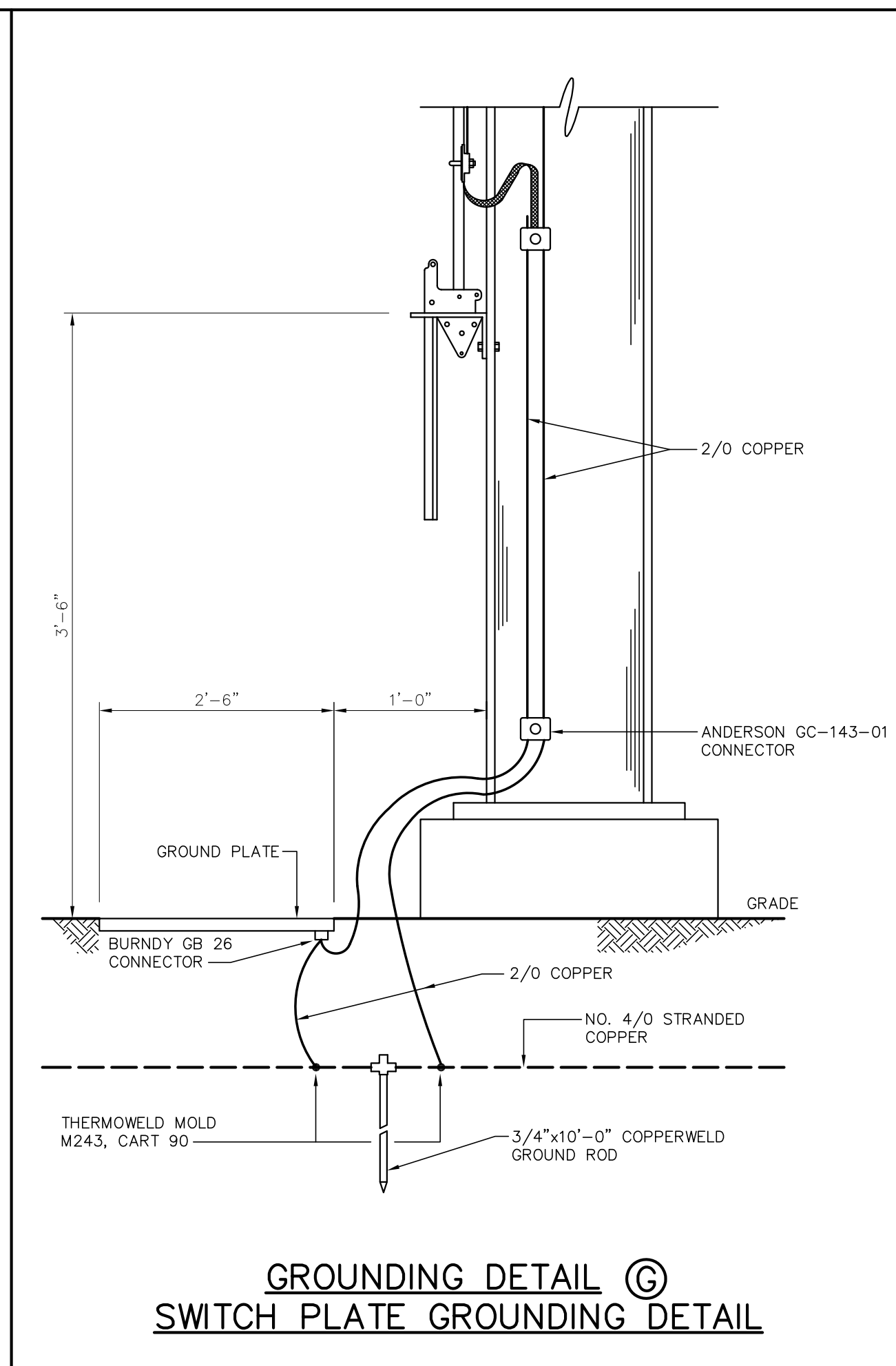
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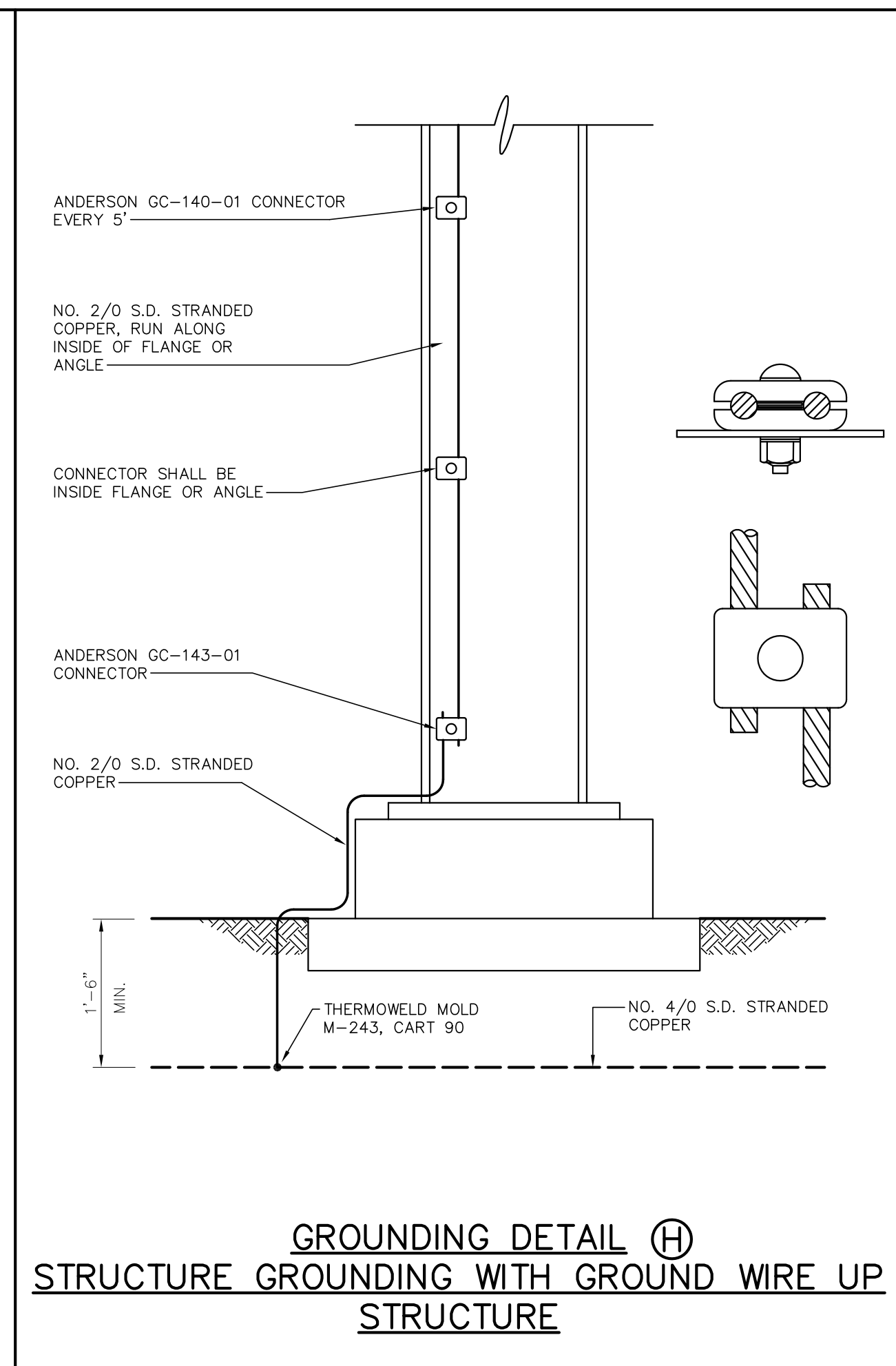
GROUNDING DETAIL F
CABLE RUN TO CABLE RUN

DETAIL SUFFIX	RUN	TAP	*MOLD	*CART
1	4/0	4/0	M-443	200
2	4/0	2/0	M-445	150
3	2/0	2/0	M-434	115

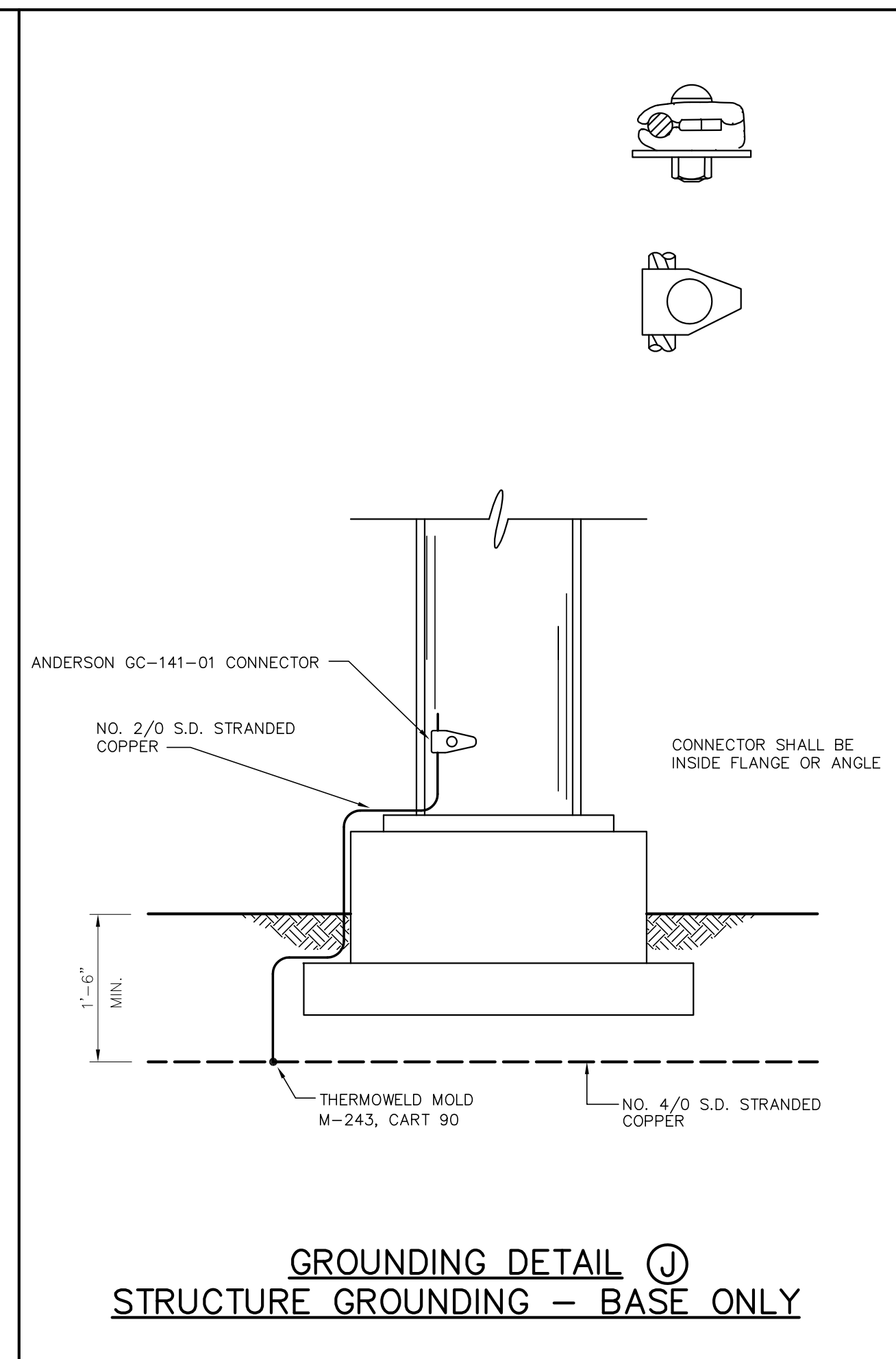
* THERMOWELD CATALOG NO.



GROUNDING DETAIL G
SWITCH PLATE GROUNDING DETAIL



GROUNDING DETAIL H
STRUCTURE GROUNDING WITH GROUND WIRE UP STRUCTURE



GROUNDING DETAIL I
STRUCTURE GROUNDING - BASE 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.

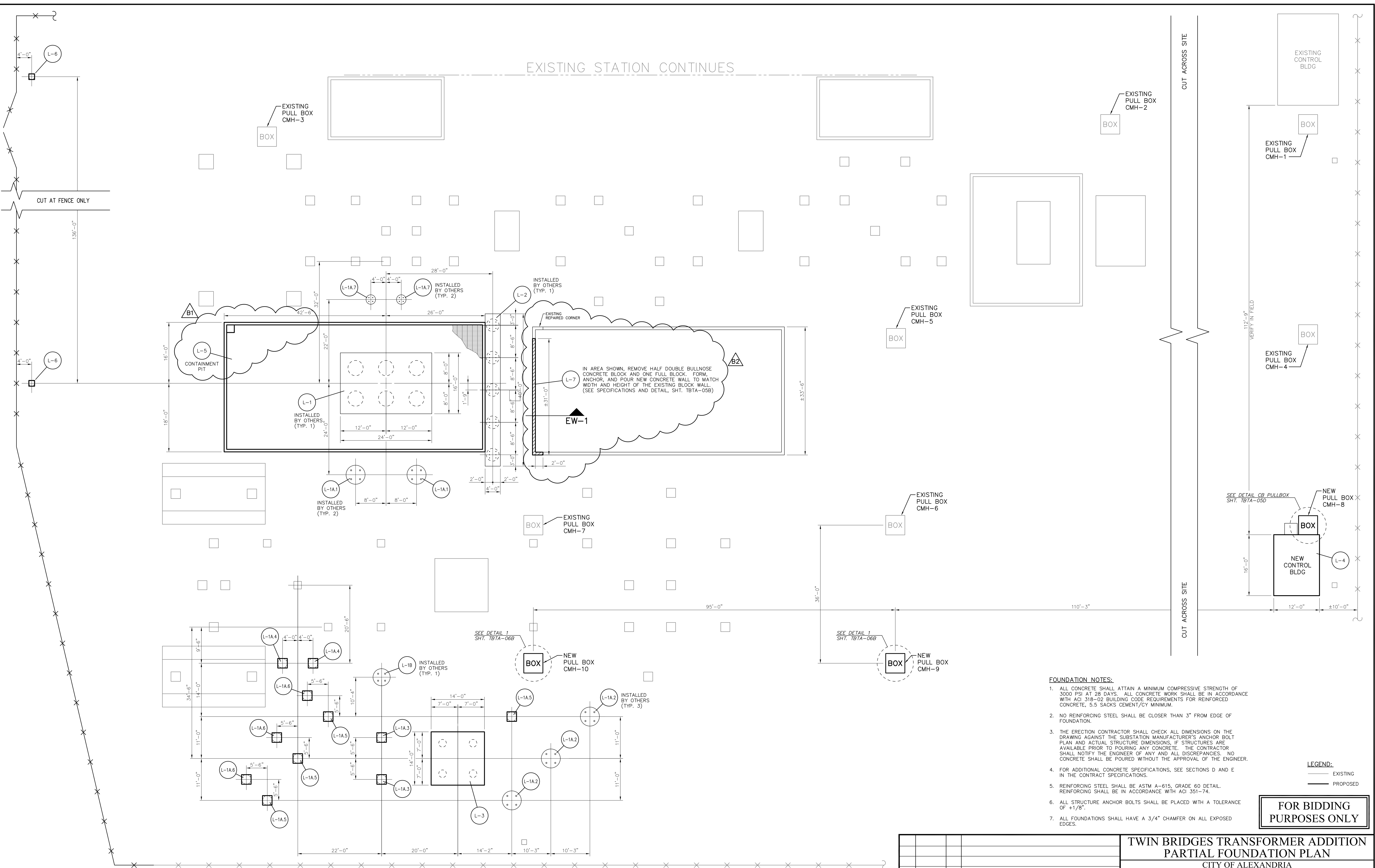
NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

**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-04AB	REV.: B

FOR BIDDING PURPOSES ONLY

BHA\245.DWG 04/01/2019



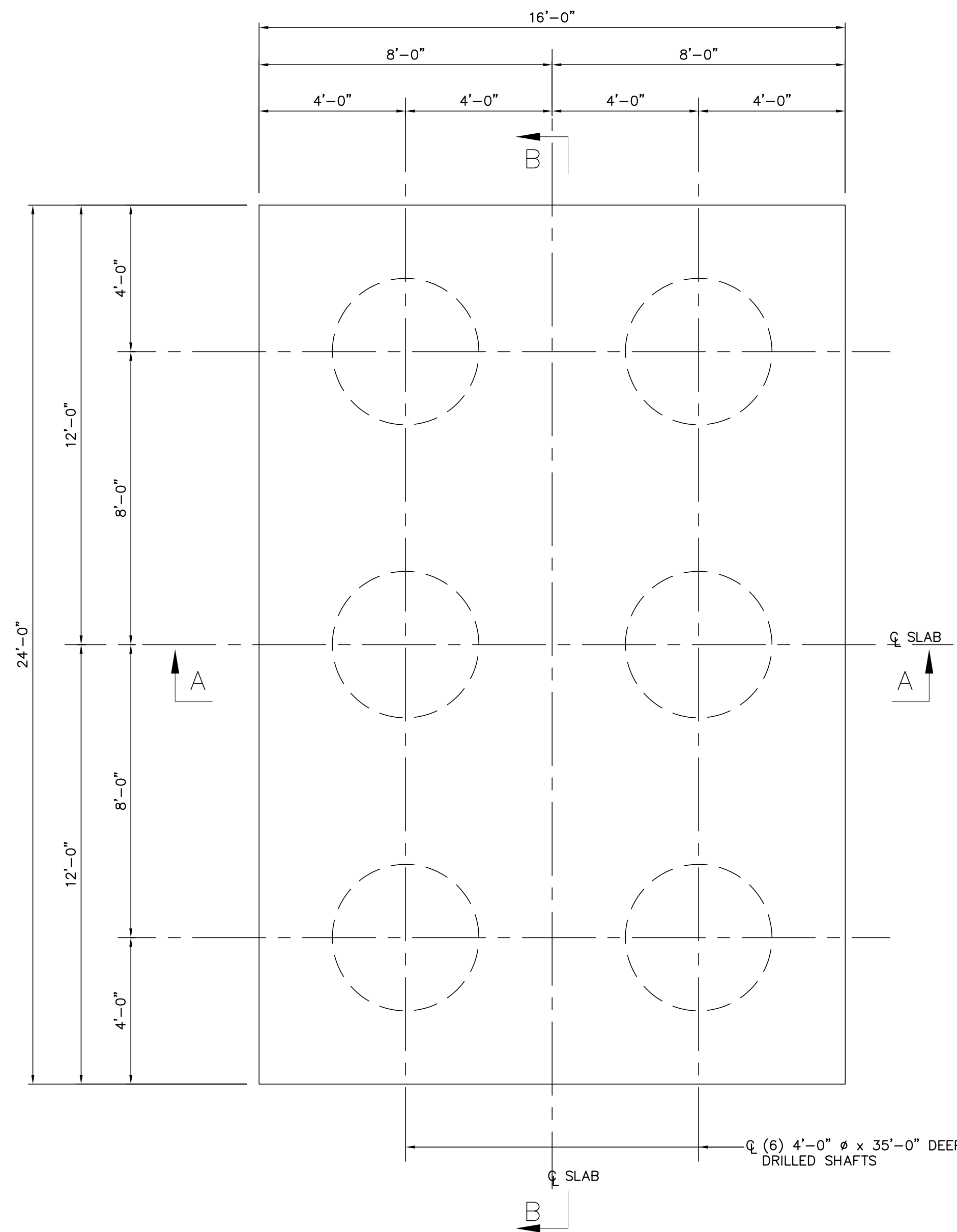
PARTIAL FOUNDATION PLAN
SCALE: 3/32"=1'-0"

- 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

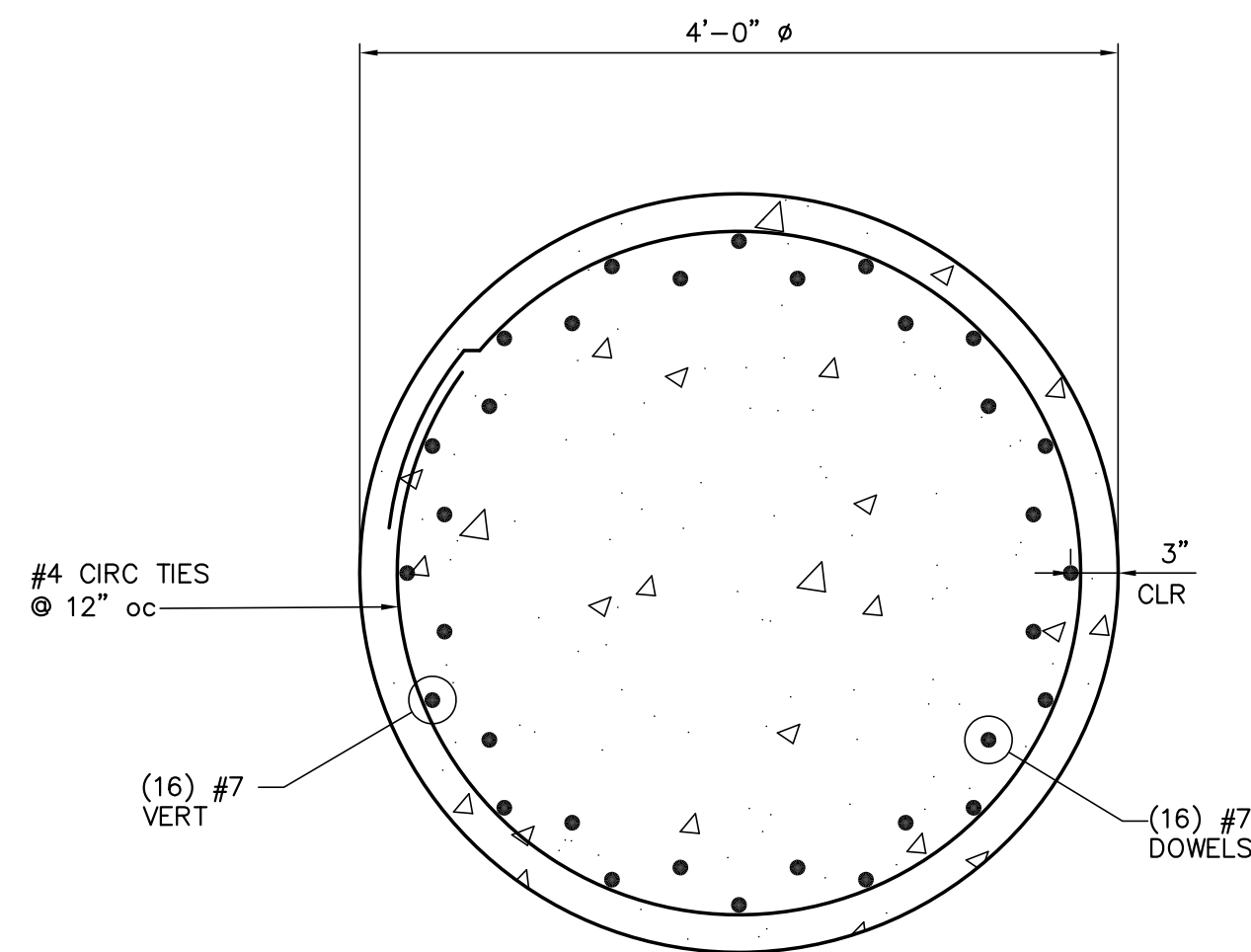
FOR BIDDING PURPOSES ONLY

NO.	DATE	BY	REVISIONS
B2	6/24/19	BHA	REVISED FOUNDATION L-7 MODIFICATION
B1	6/5/19	BHA	REVISED CONTAINMENT PIT FOUNDATION
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

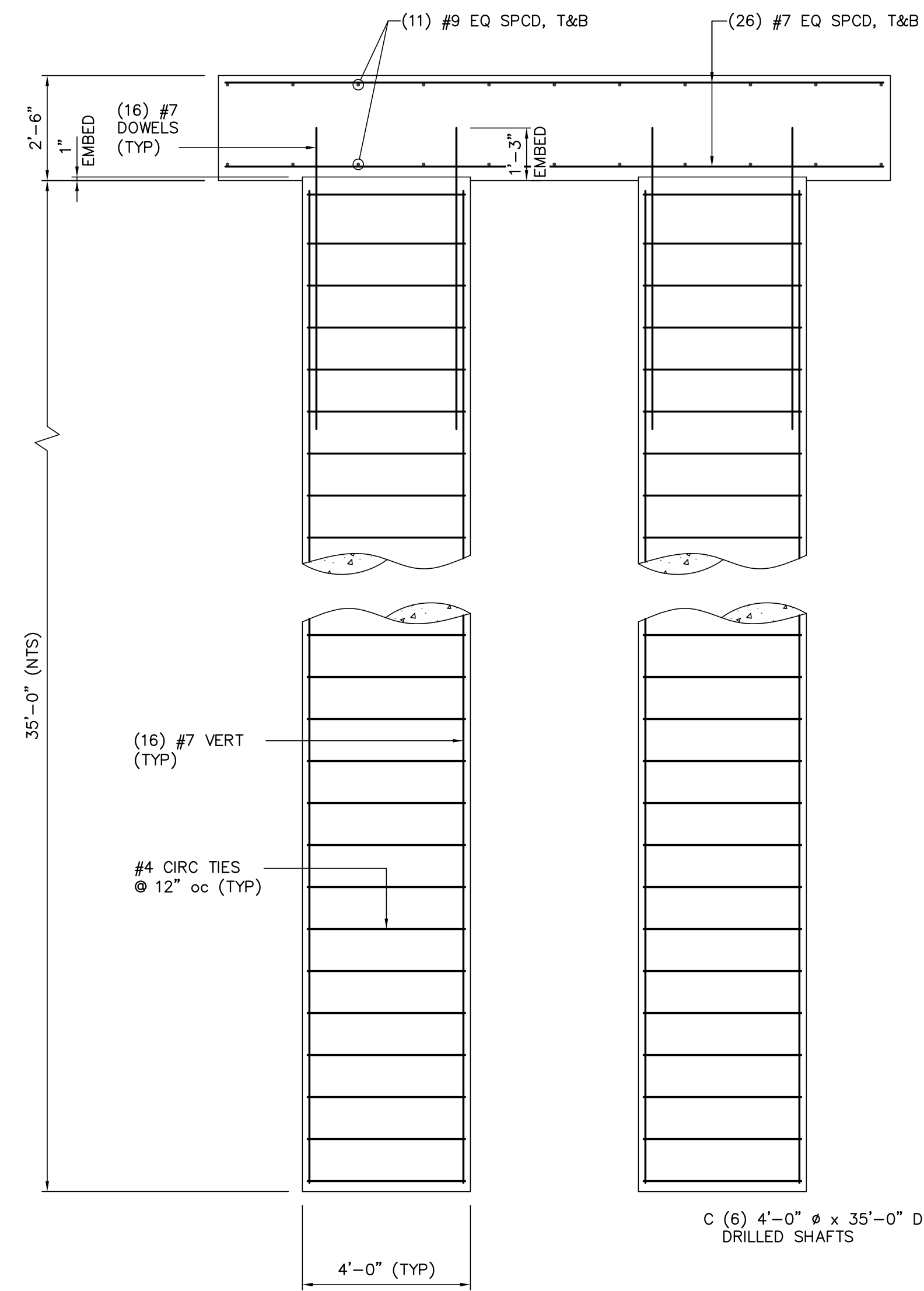
TWIN BRIDGES TRANSFORMER ADDITION PARTIAL FOUNDATION PLAN			
CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE: 3/32"=1'-0"	DATE: 8/15/18	DRAWN BY: JHD	APPROVED BY: JJC
			PROJECT NO.: 2019-E-16A
BHA, INC. BATON ROUGE, LOUISIANA			DRAWING NO.: TBTA-05
			REV.: B2



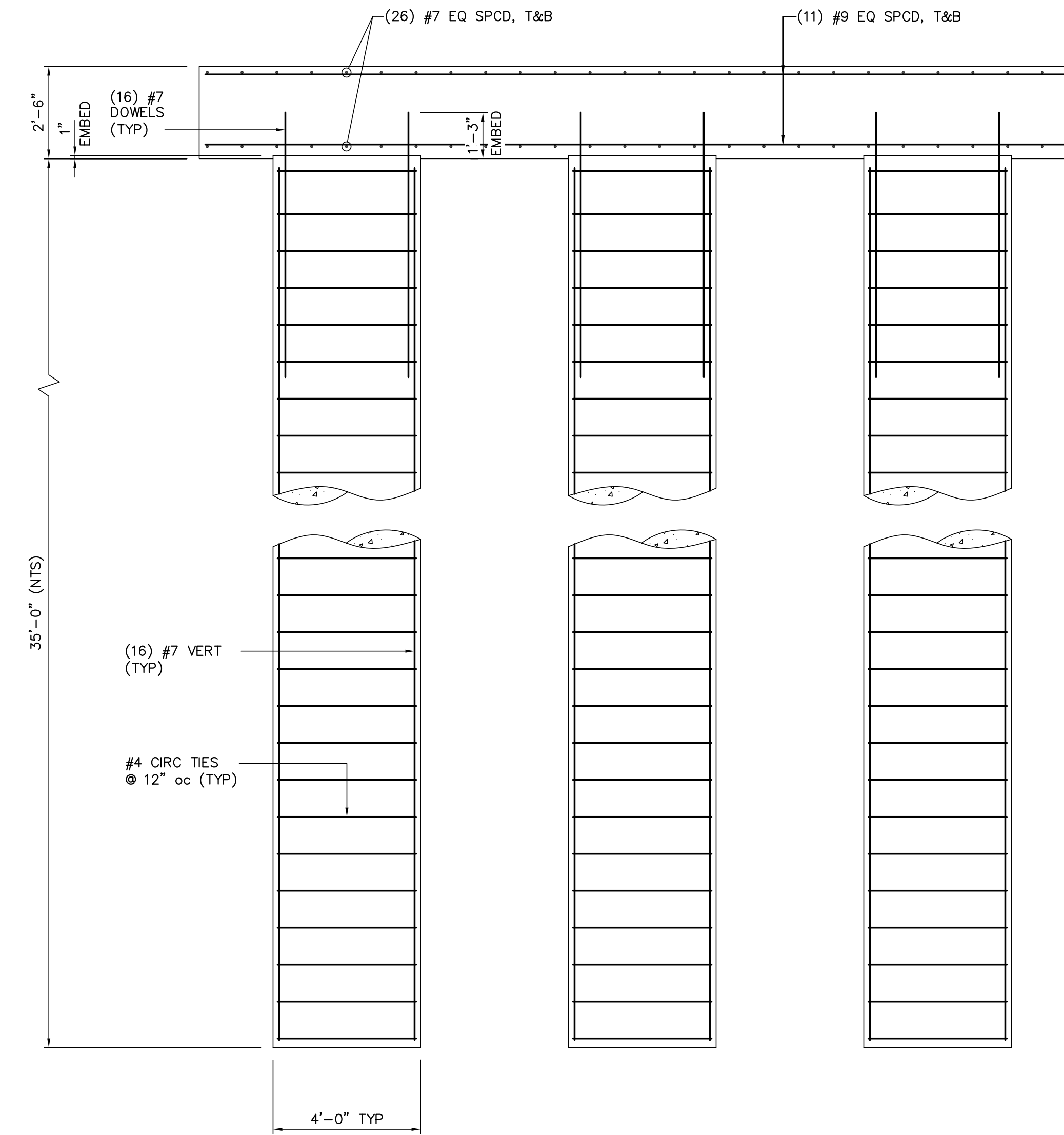
FOUNDATION PLAN L-1
3/8"=1'-0"
[INSTALLED BY OTHERS]



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

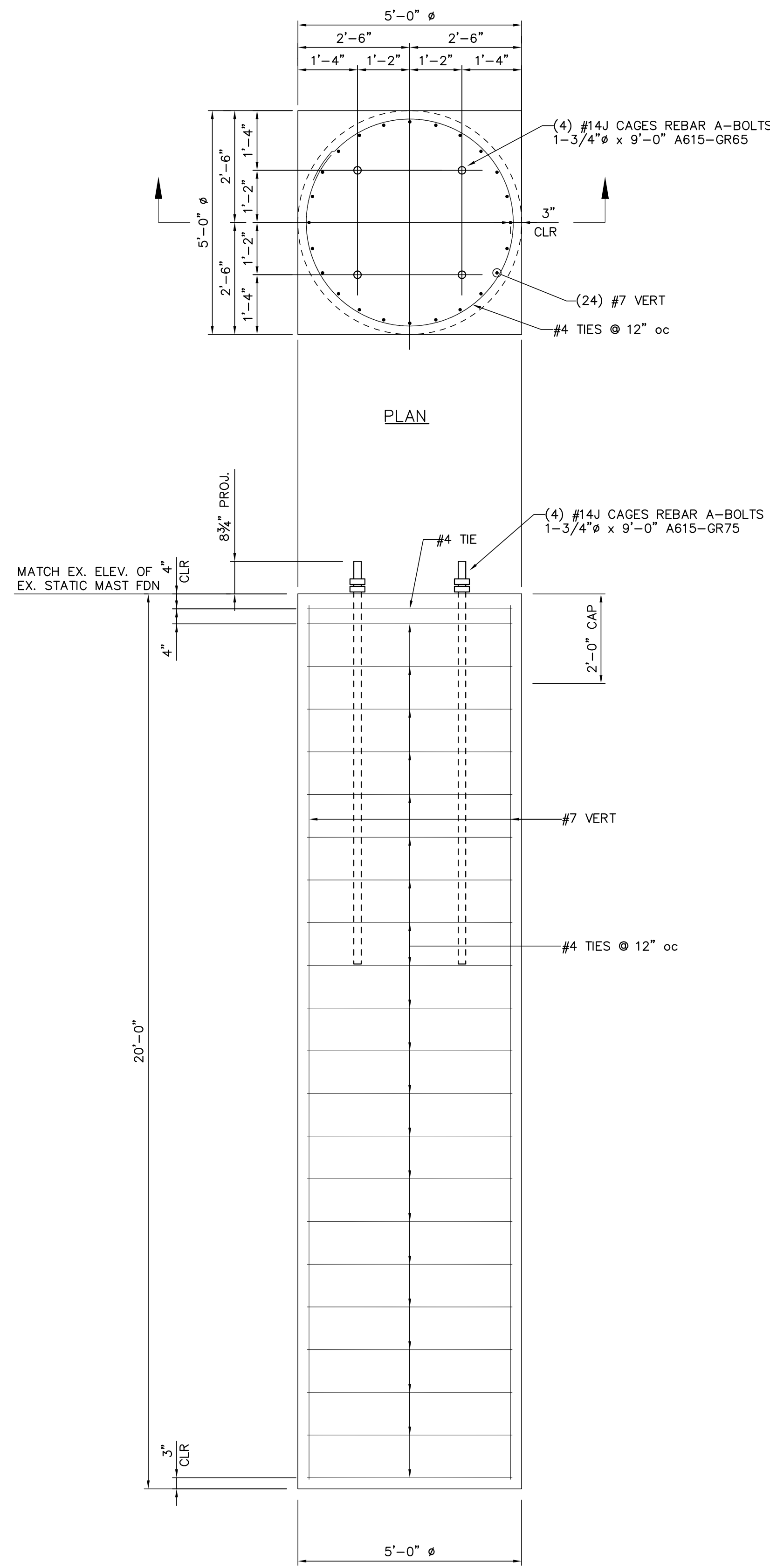
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BUILDING PLANS FOR:
BHA, INC. - BATON ROUGE, LA
TWIN BRIDGES SUBSTATION

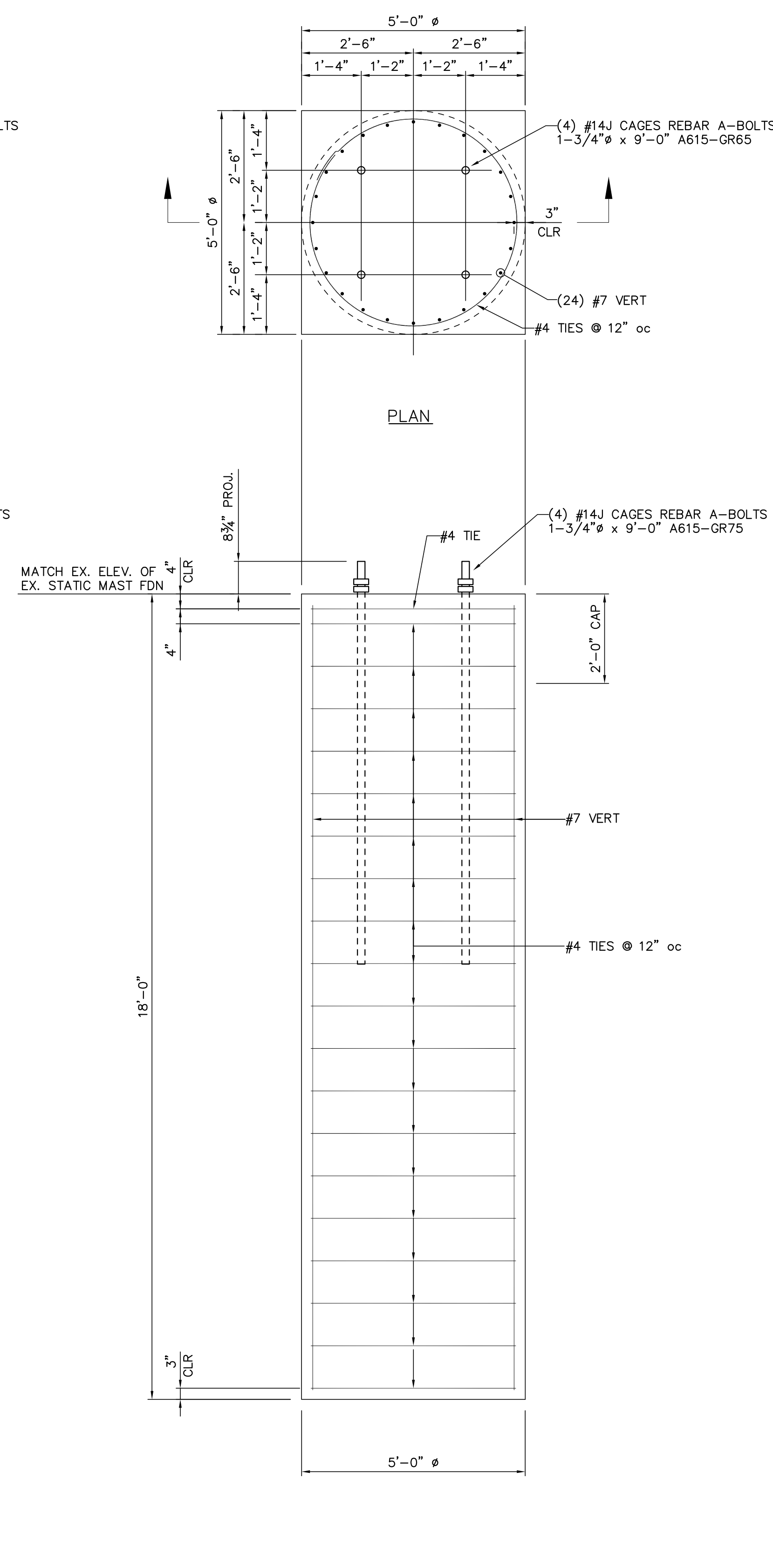
LANGLOIS ENGINEERING, INC.
GERARD W. LANGLOIS, P.E.
11328 PENNYWOOD AVENUE
BATON ROUGE, LOUISIANA 70809
PH 225-293-8730 FAX 225-293-8718
WWW.LANGLOISENGINEERING.COM



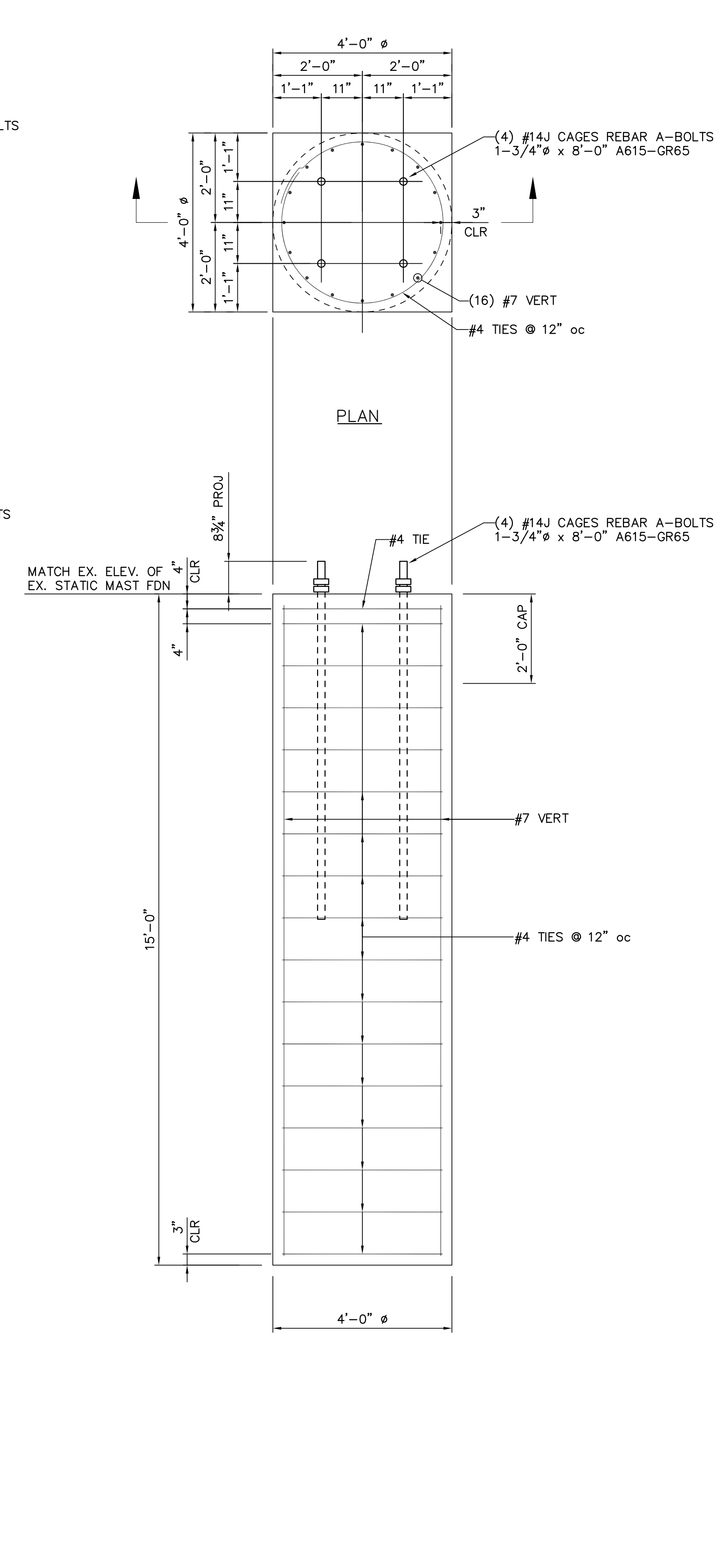
DATE: JUN '18
DRAWN BY: GWL, JR.
CHECKED BY: GWL, SR.
REVISIONS:
SHEET NO.
PROJECT NO.



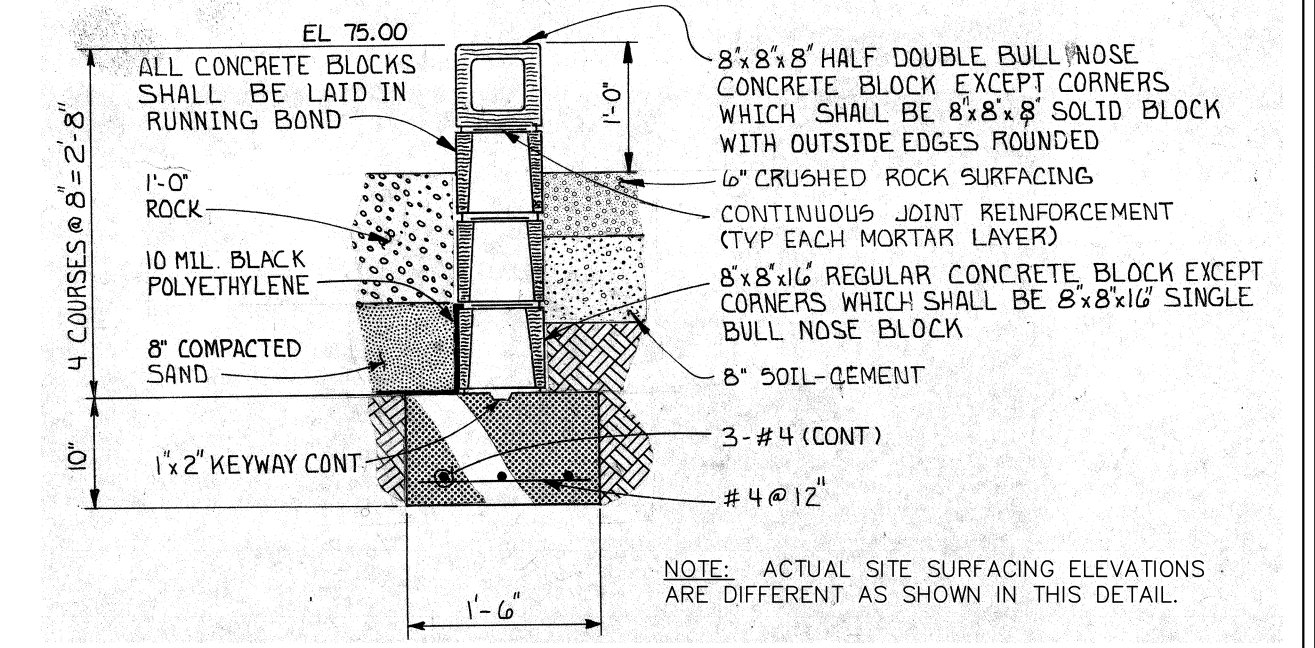
SECTION
 DRILLED SHAFT L-1A.1
 1/2"=1'-0"
 (QUANTITY: 2)
 [INSTALLED BY OTHERS]



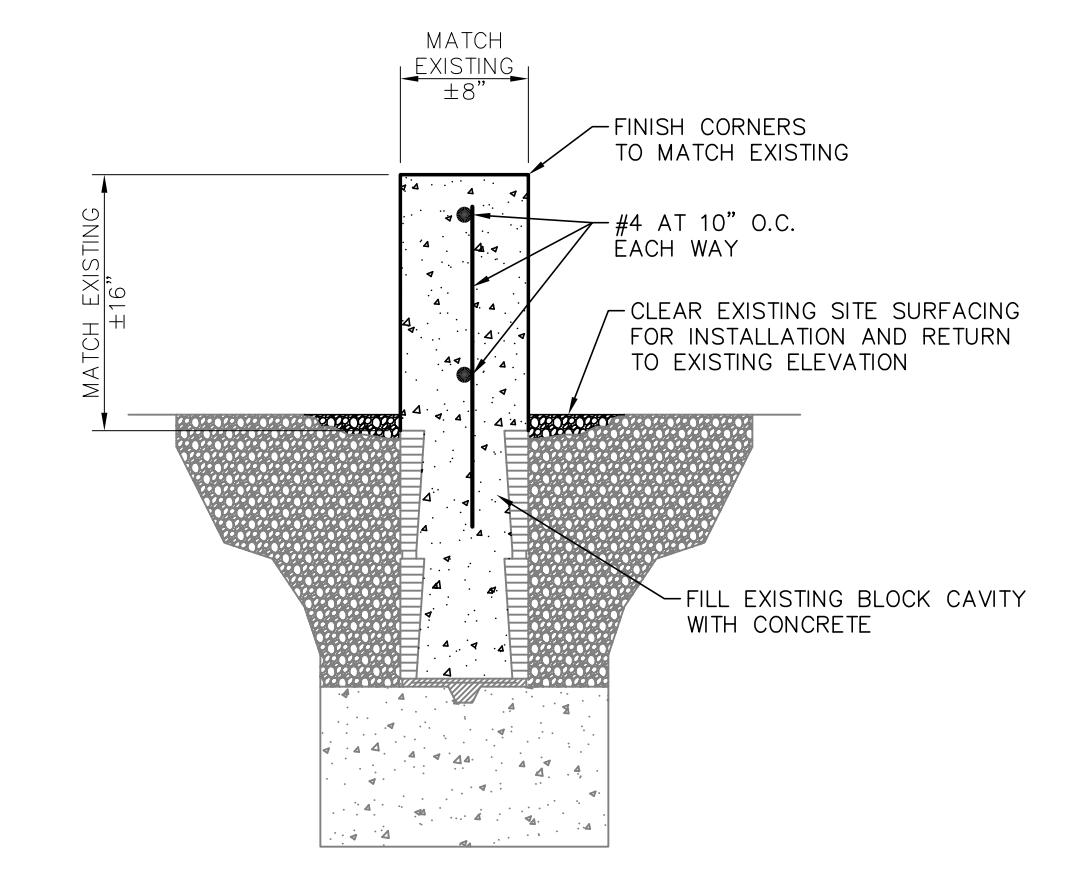
SECTION
 DRILLED SHAFT L-1A.2
 1/2"=1'-0"
 (QUANTITY: 3)
 [INSTALLED BY OTHERS]



SECTION
 DRILLED SHAFT L-1B
 1/2"=1'-0"
 (QUANTITY: 1)
 [INSTALLED BY OTHERS]



SECTION OF EXISTING
 TRANSFORMER CONTAINMENT PIT
 SCALE: 1/2"=1'-0"



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

NO.	DATE	BY	REVISIONS
B2	6/24/19	BHA	REVISED DETAIL EW-1
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
BHA, INC. BATON ROUGE, LOUISIANA			DRAWING NO.: TBTA-05B	REV.: B2

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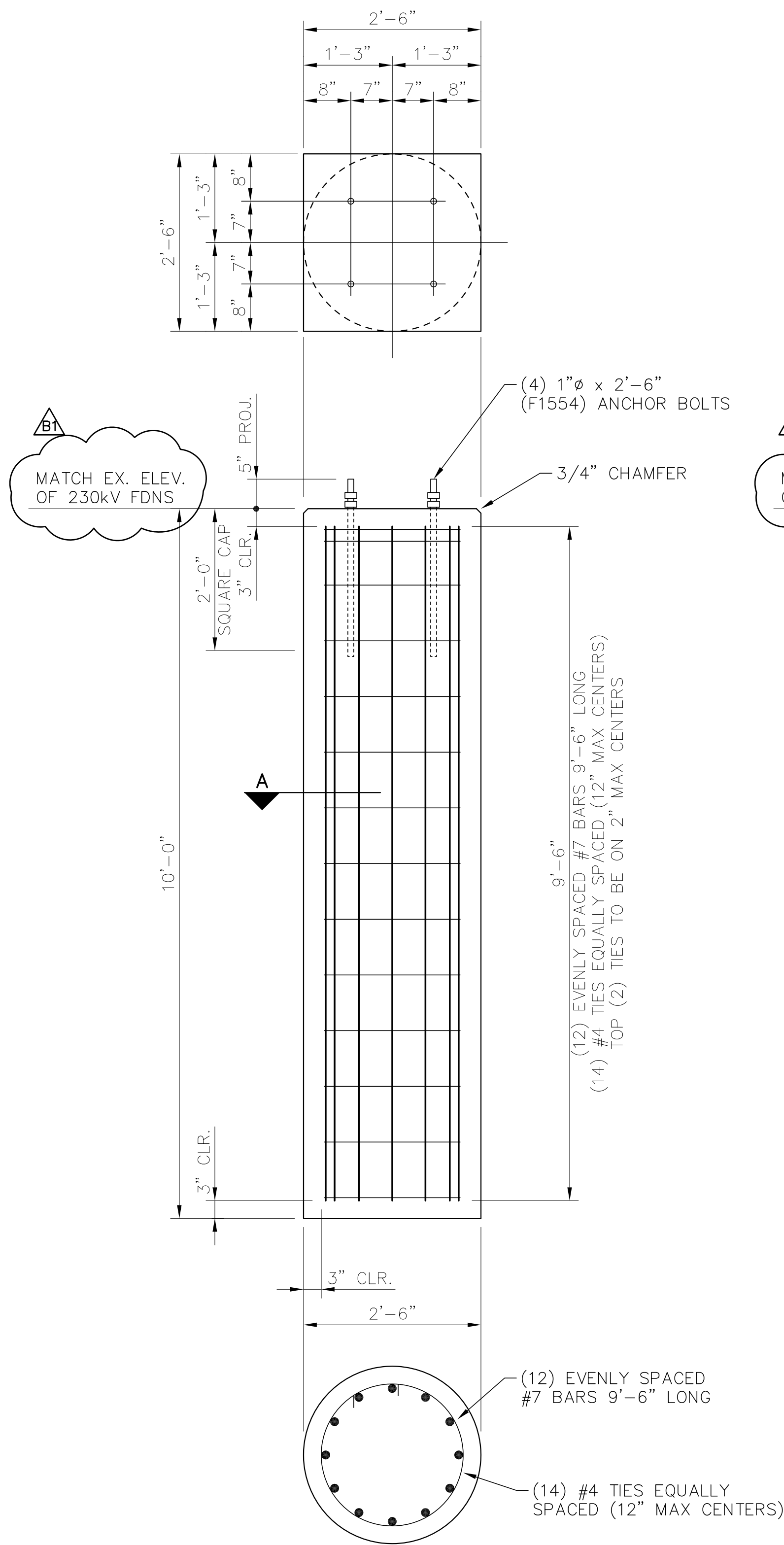
FOR BIDDING
 PURPOSES ONLY

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

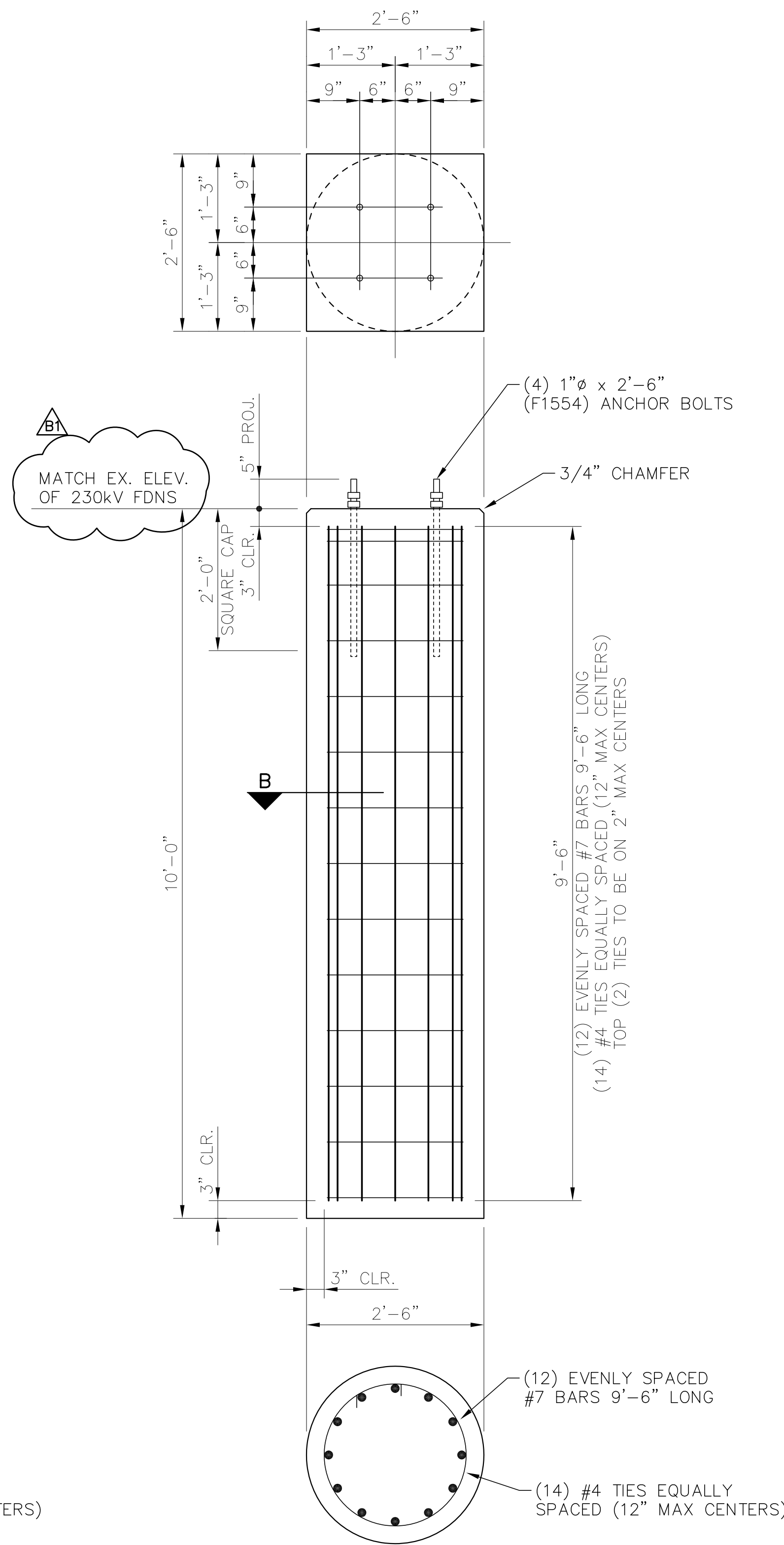
LANGLOIS ENGINEERING, INC.
 GERARD W. LANGLOIS, P.E.
 11328 PENNYWOOD AVENUE
 BATON ROUGE, LOUISIANA 70809
 PH: 225-293-8730 FAX: 225-293-8718
 WWW.LANGLOISENGINEERING.COM

STATE OF LOUISIANA
 REGISTERED PROFESSIONAL ENGINEER
 EX. XXXX 2018

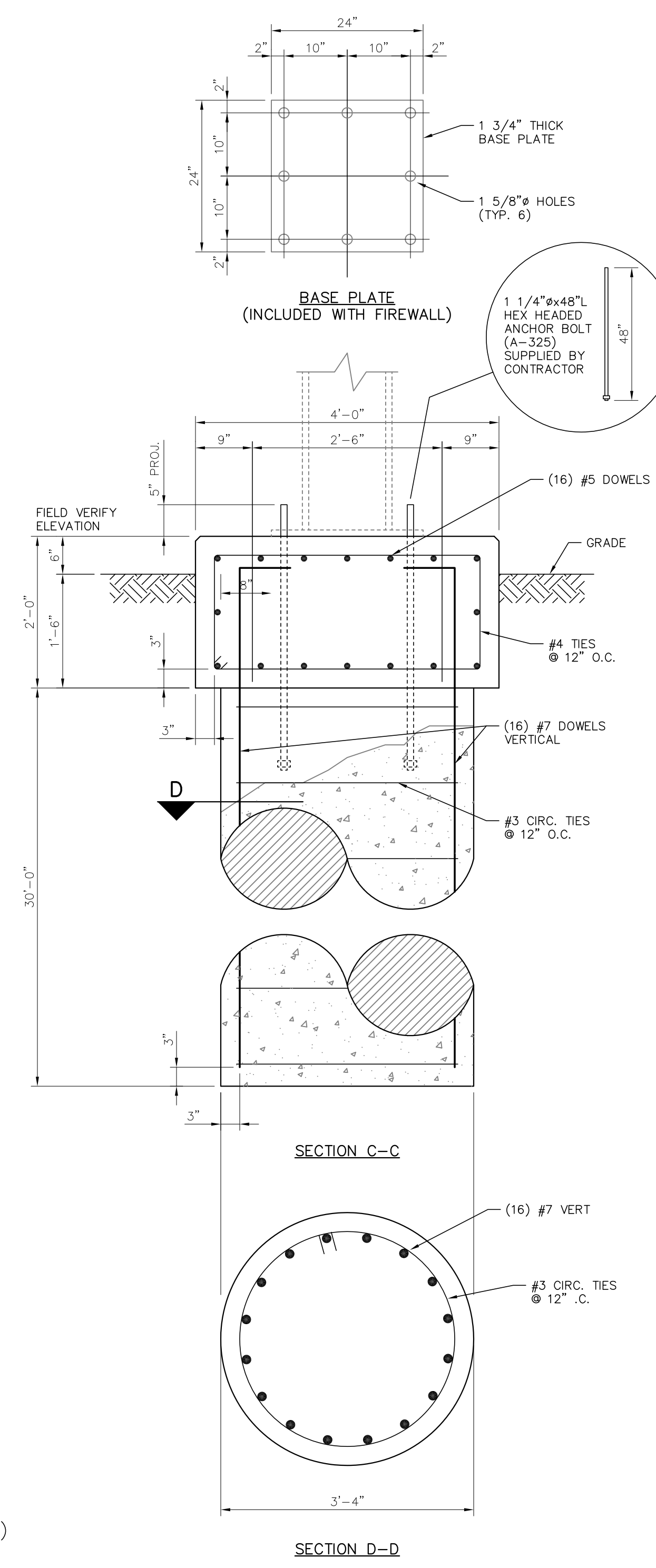
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 CHECKED BY: GWL, SR.
 REVISIONS:
 SHEET NO.
 PROJECT NO.



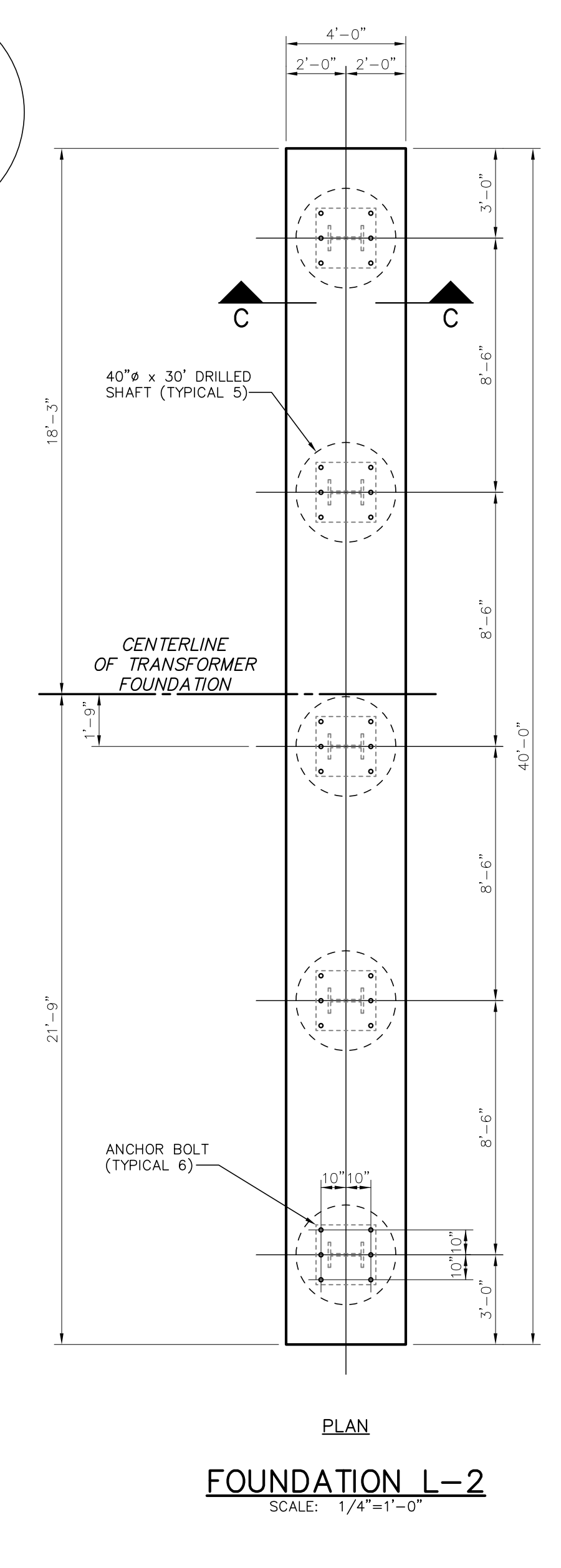
SECTION L-A
FOUNDATION L-1A.3
 SCALE: 3/4"=1'-0"
 (L-1A.3 QUANTITY: 2)



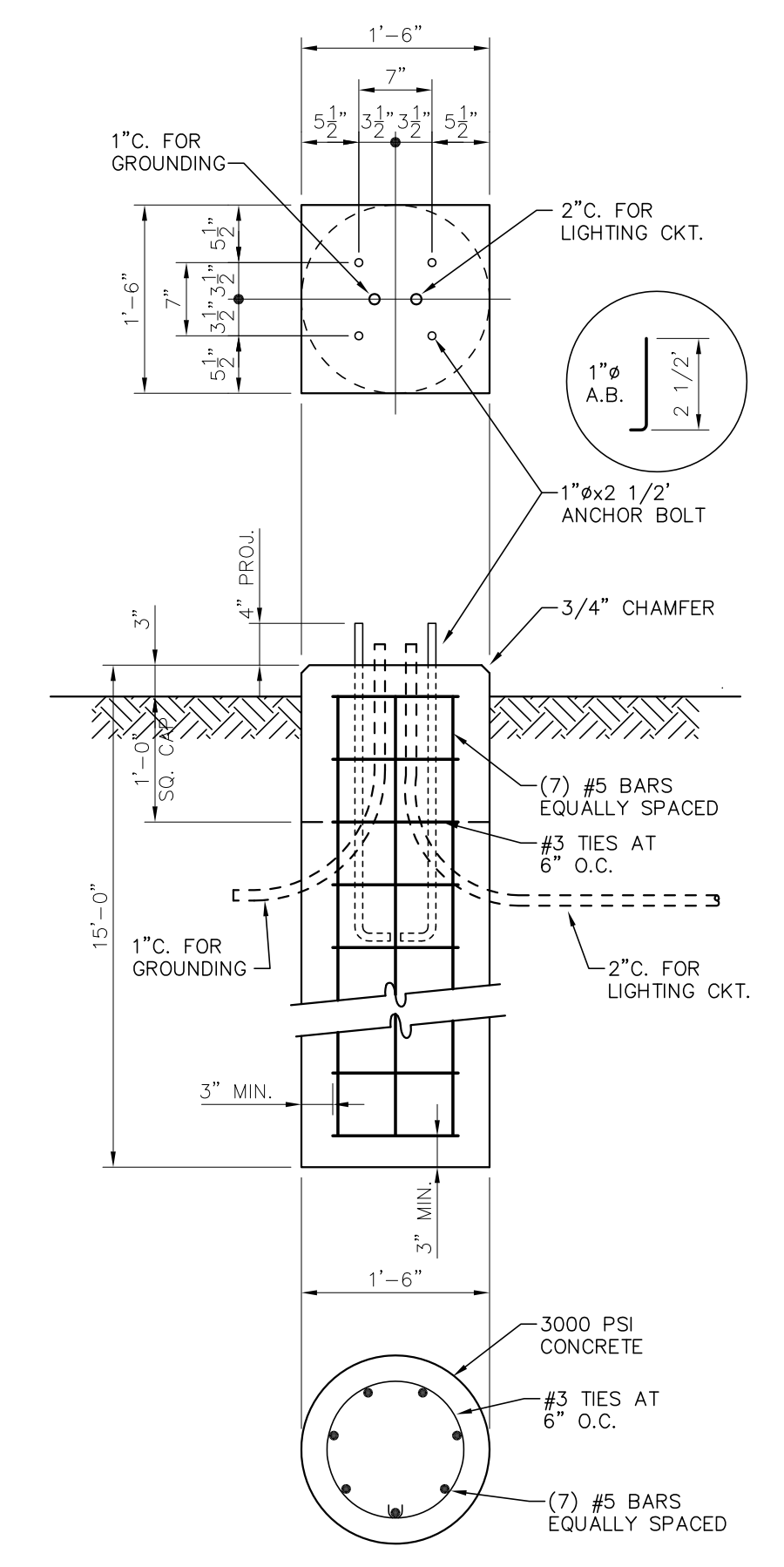
SECTION B-B
FOUNDATIONS L-1A.4
L-1A.5, L-1A.6, & L-1A.7
 SCALE: 3/4"=1'-0"
 (L-1A.4 QUANTITY: 2)
 (L-1A.5 QUANTITY: 4)
 (L-1A.6 QUANTITY: 3)
 (L-1A.7 QUANTITY: 2) [FOR REFERENCE ONLY]
[L-1A.7 INSTALLED BY OTHERS]



FOUNDATION L-2
 SCALE: 3/4"=1'-0"
 (L-2 QUANTITY: 1) [FOR REFERENCE ONLY]
[INSTALLED BY OTHERS]



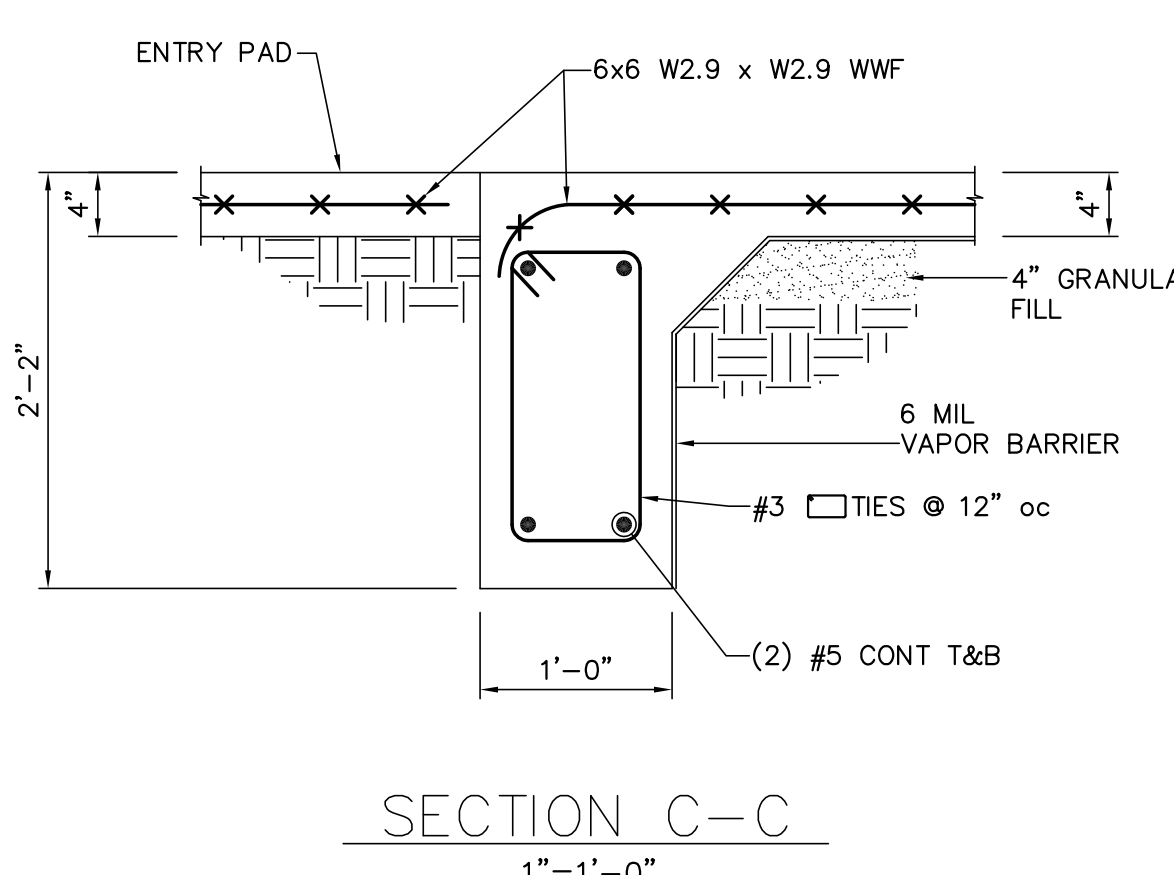
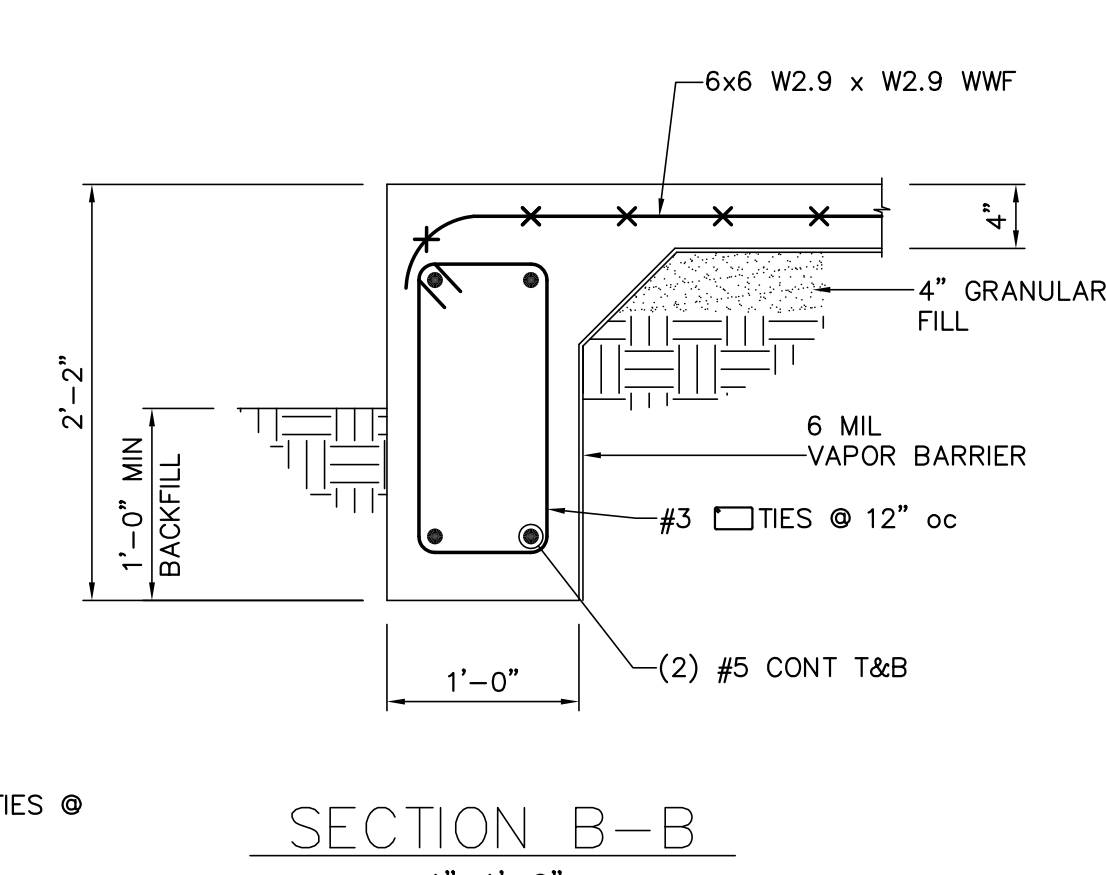
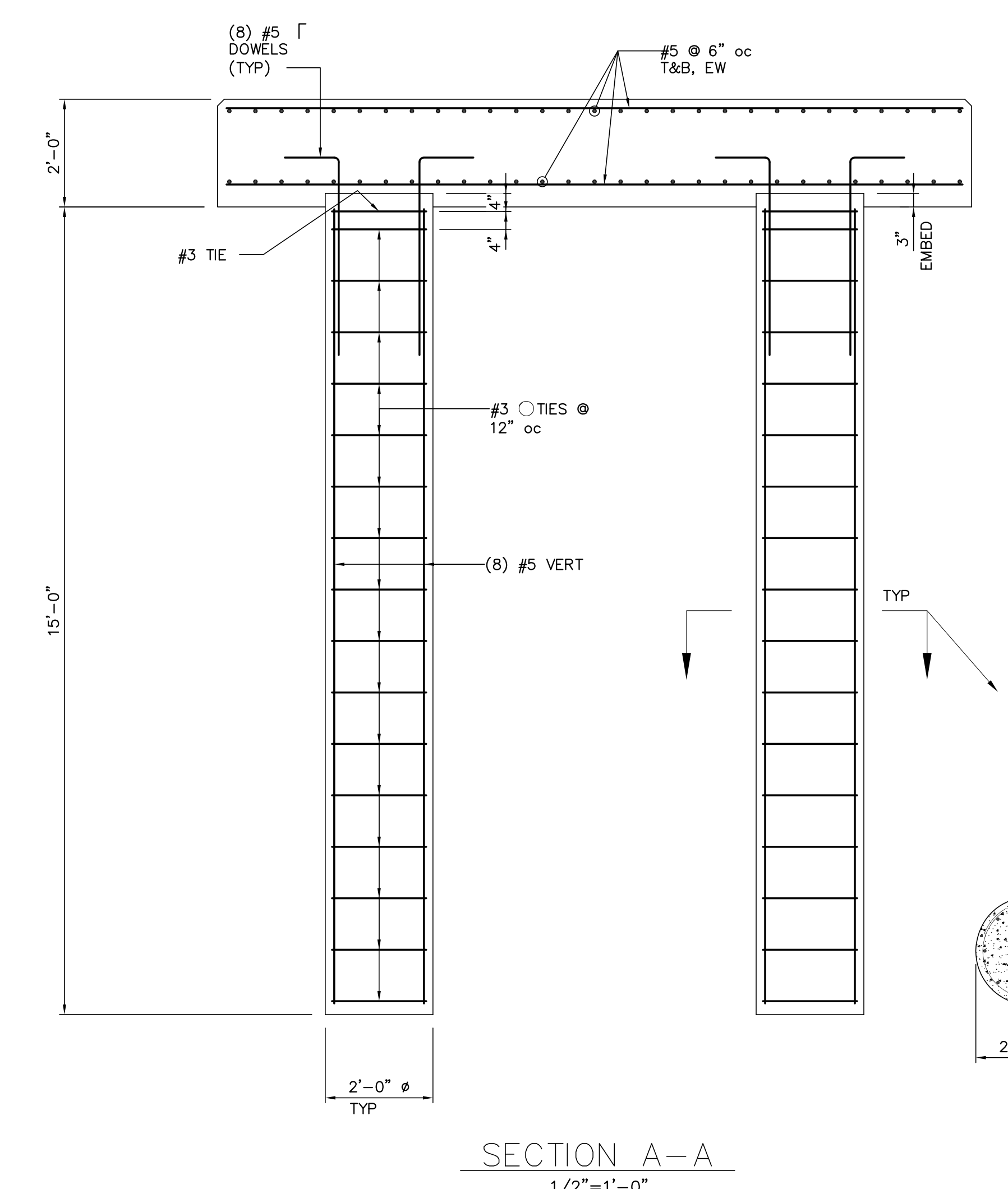
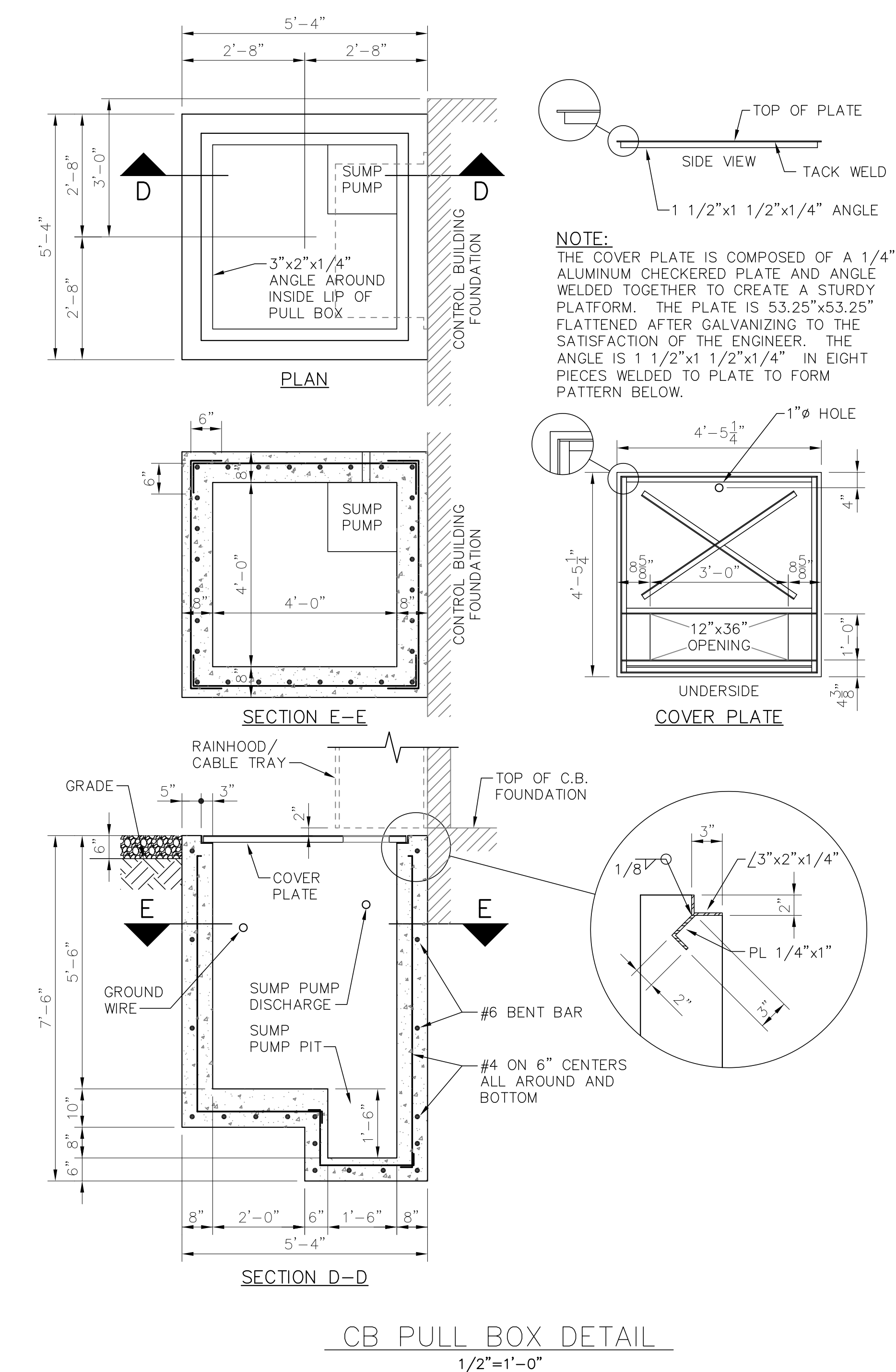
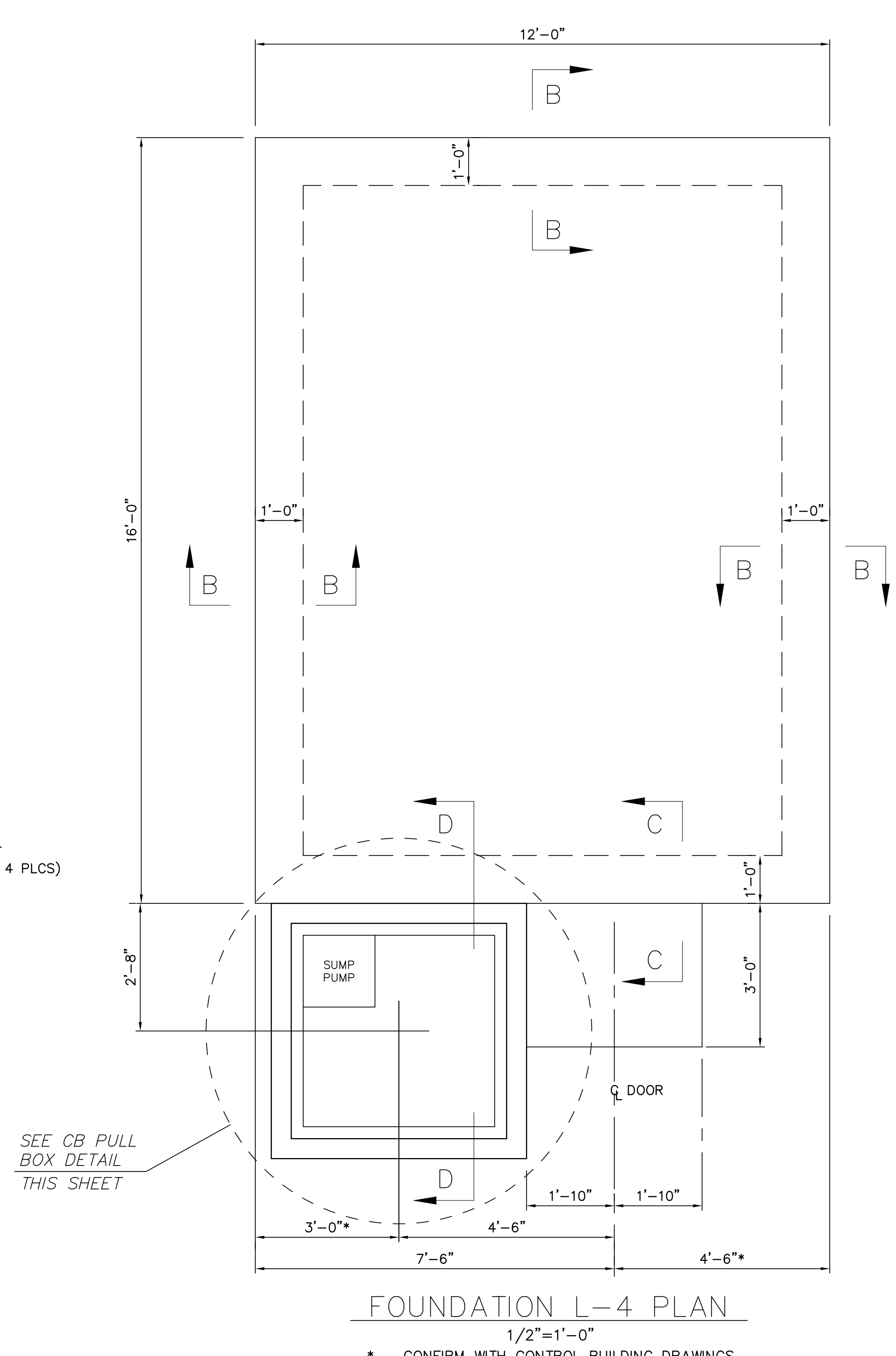
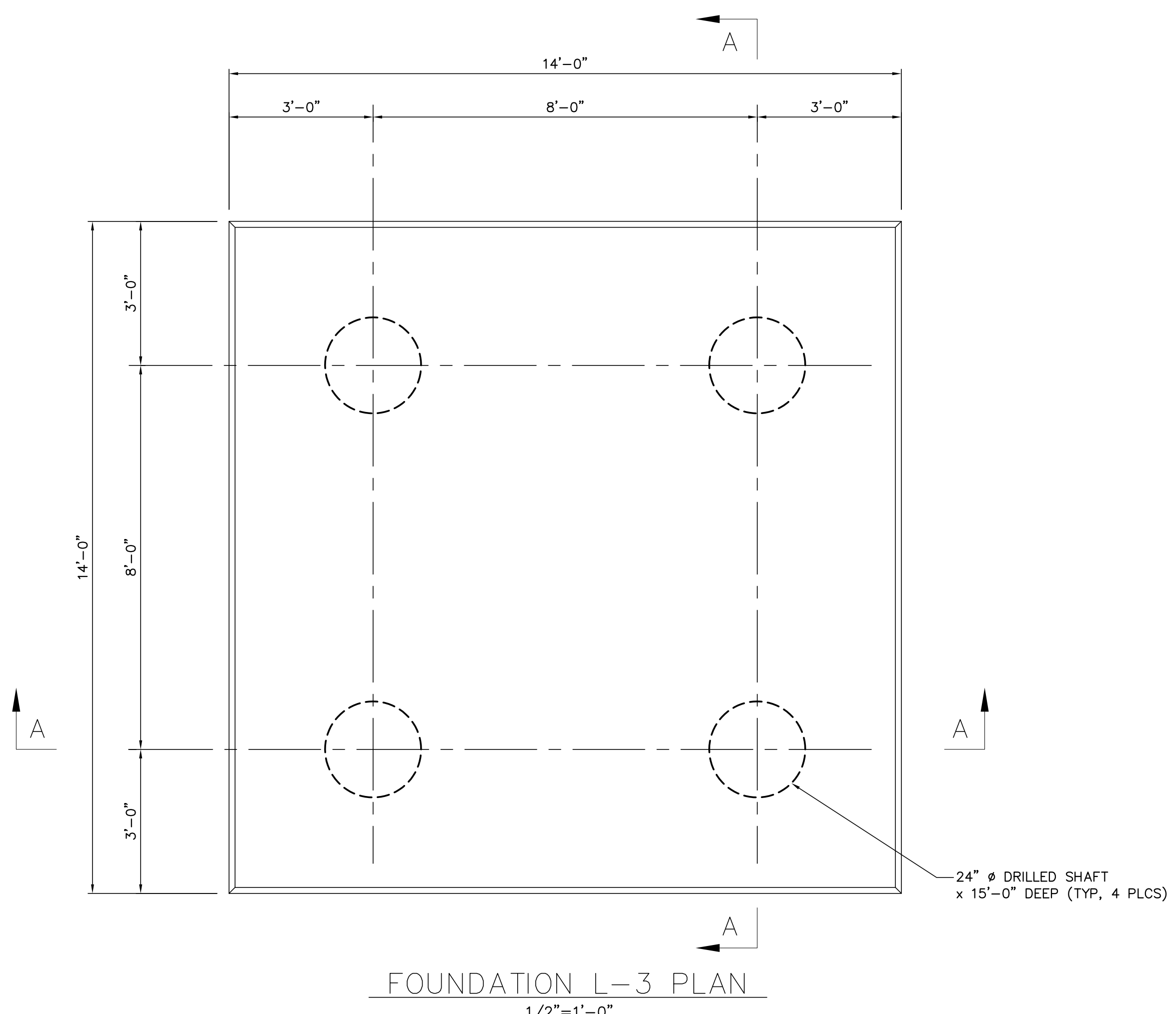
PLAN
FOUNDATION L-2
 SCALE: 1/4"=1'-0"



FOUNDATION L-6
LIGHT POLE FOUNDATION DETAIL
 SCALE: 3/4"=1'-0"
 (L-6 QUANTITY: 2)

FOR BIDDING PURPOSES ONLY

TWIN BRIDGES TRANSFORMER ADDITION FOUNDATION DETAILS															
CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA															
NO.	DATE	BY	REVISIONS												
B1	6/5/19	BHA	REVISED FOUNDATION HEIGHT												
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION												
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION												
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SCALE: NOTED		DATE: 8/15/18	DRAWN BY: JHD	APPROVED BY: JJC	PROJECT NO.: 2019-E-16A										
BHA, INC.		BATON ROUGE, LOUISIANA		DRAWING NO.: TBTA-05C	REV.: B1										



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.:
BHA, INC. BATON ROUGE, LOUISIANA			2019-E-16A	REV.:
			TBTA-05D	B

BHA: COATBTA05D.dwg DSW=1 05/20/19 02:32PM BY #27

BUILDING PLANS FOR:

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

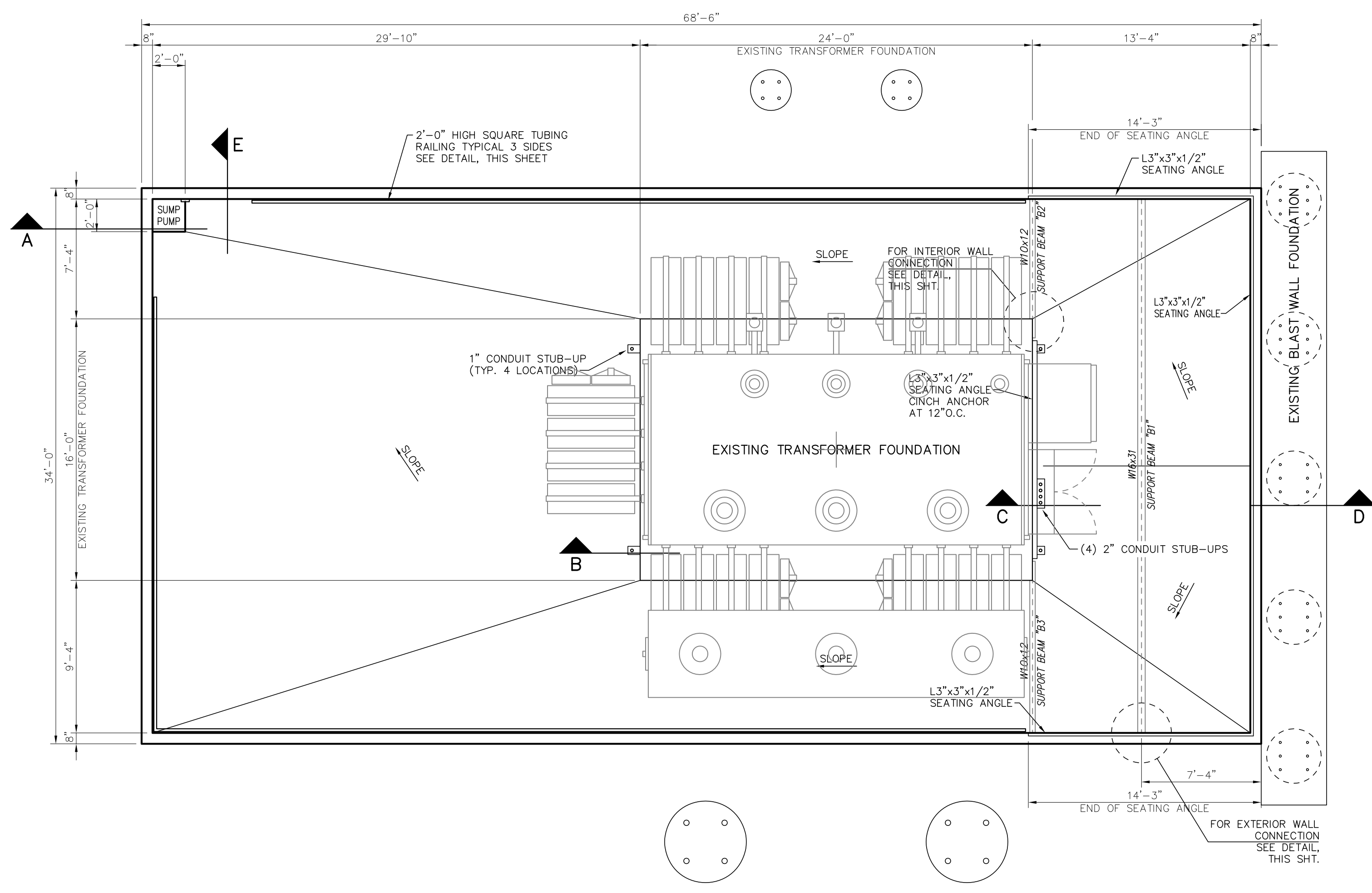
LANGLOIS ENGINEERING, INC.
GERARD W. LANGLOIS, P.E.
11328 PENNYWOOD AVENUE
BATON ROUGE, LOUISIANA 70809
PH 225-293-8730 FAX 225-293-8718
WWW.LANGLOISENGINEERING.COM

STATE OF LOUISIANA
REGISTERED PROFESSIONAL ENGINEER
EX. XXXX, 2018

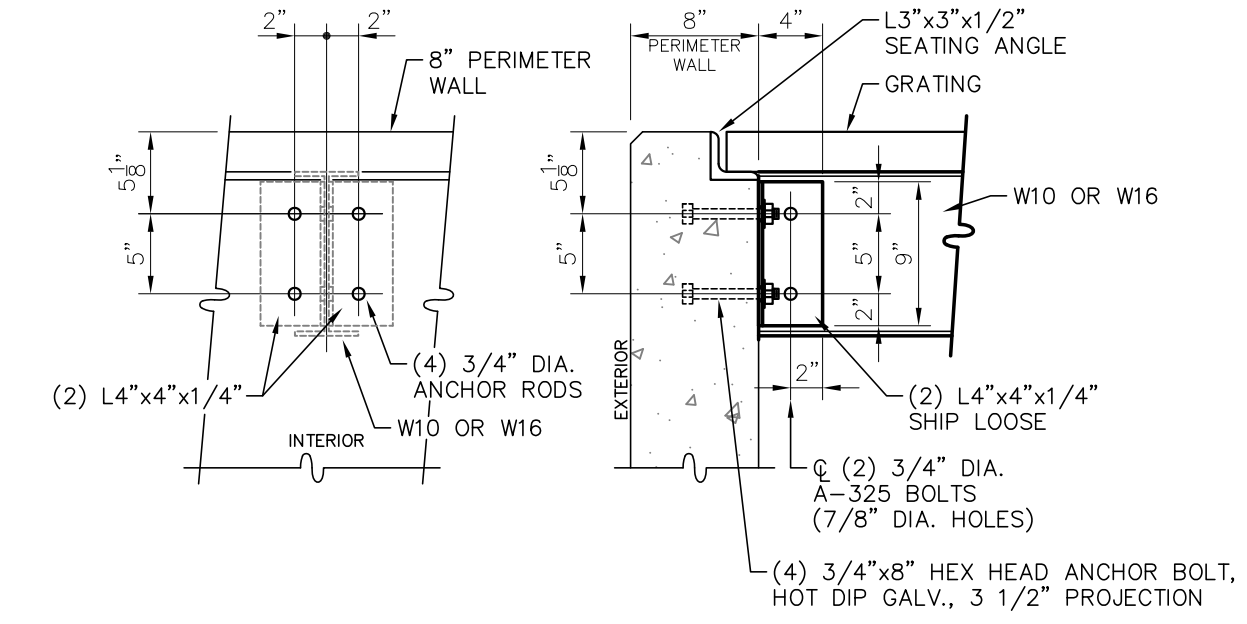
DATE: DEC '18
DRAWN BY: GWL, JR.
CHECKED BY: GWL, SR.
REVISIONS:
SHEET NO.
PROJECT NO.

FOR BIDDING PURPOSES ONLY

BHA-245.DWG 04/01/2019

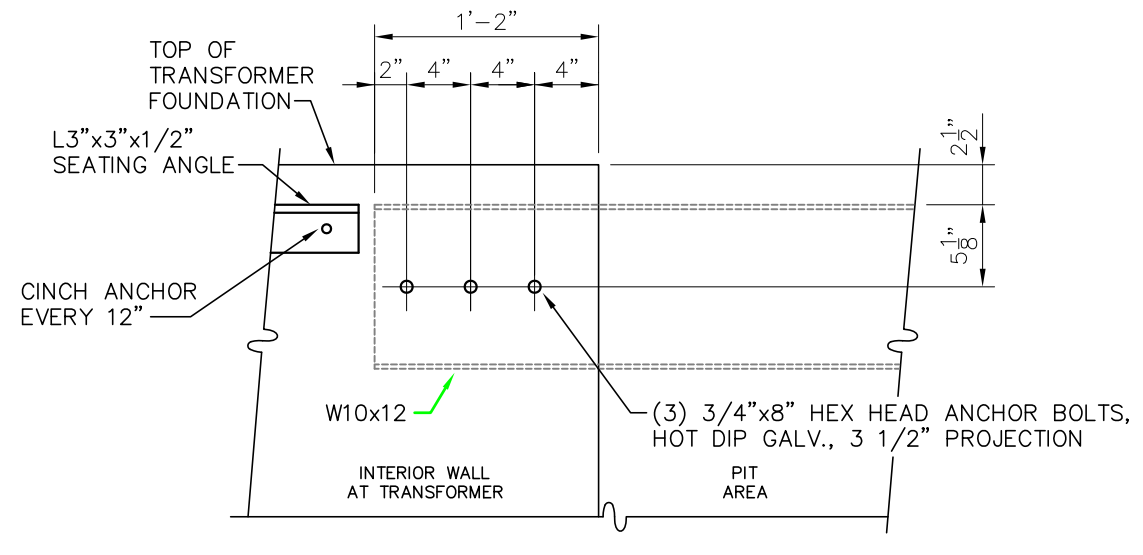


L-5 - TRANSFORMER CONTAINMENT PIT
SCALE: 3/16"=1'-0"



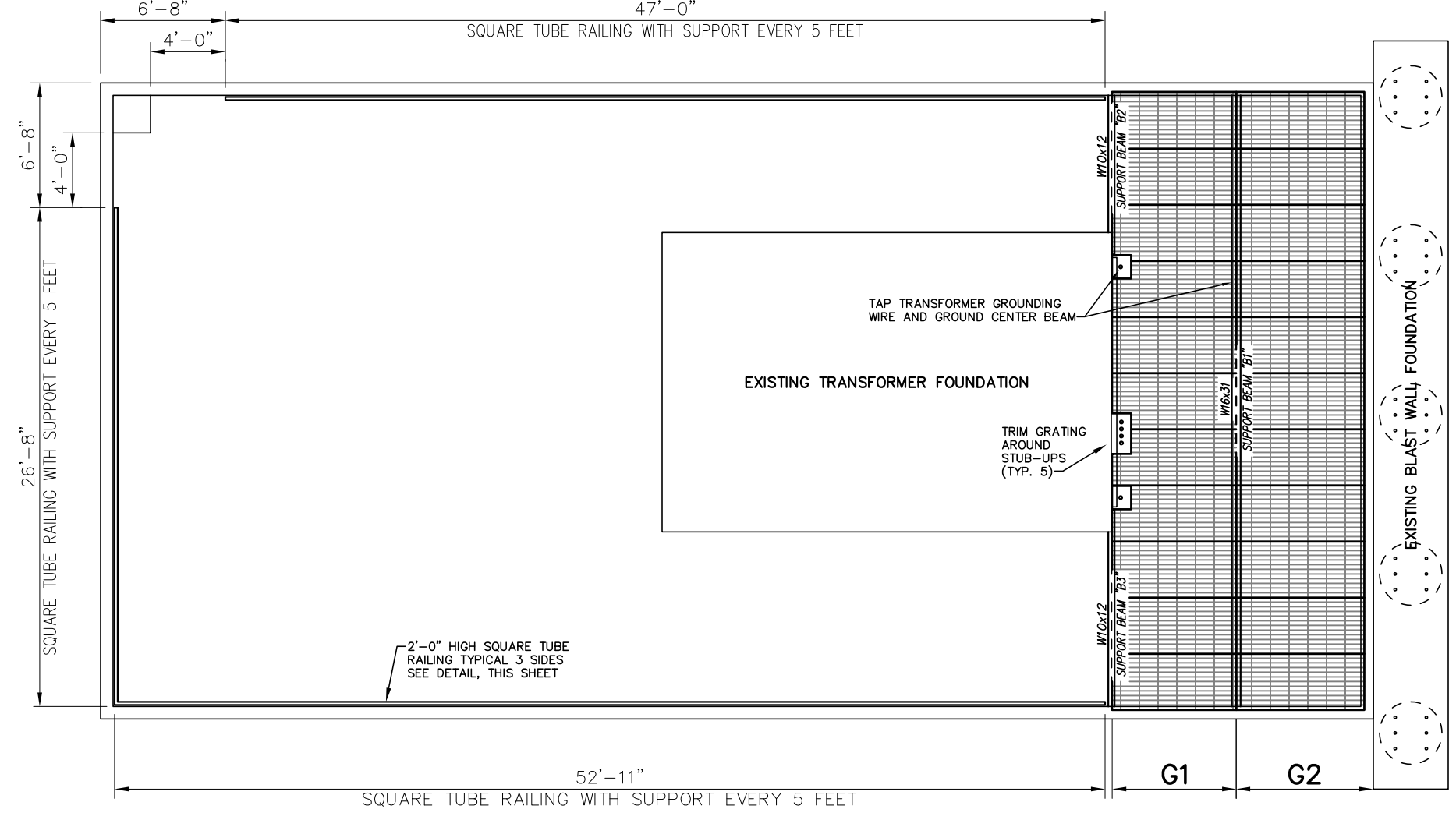
GRATING DETAIL EXTERIOR WALL CONNECTION
SCALE: 1"=1'-0"

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

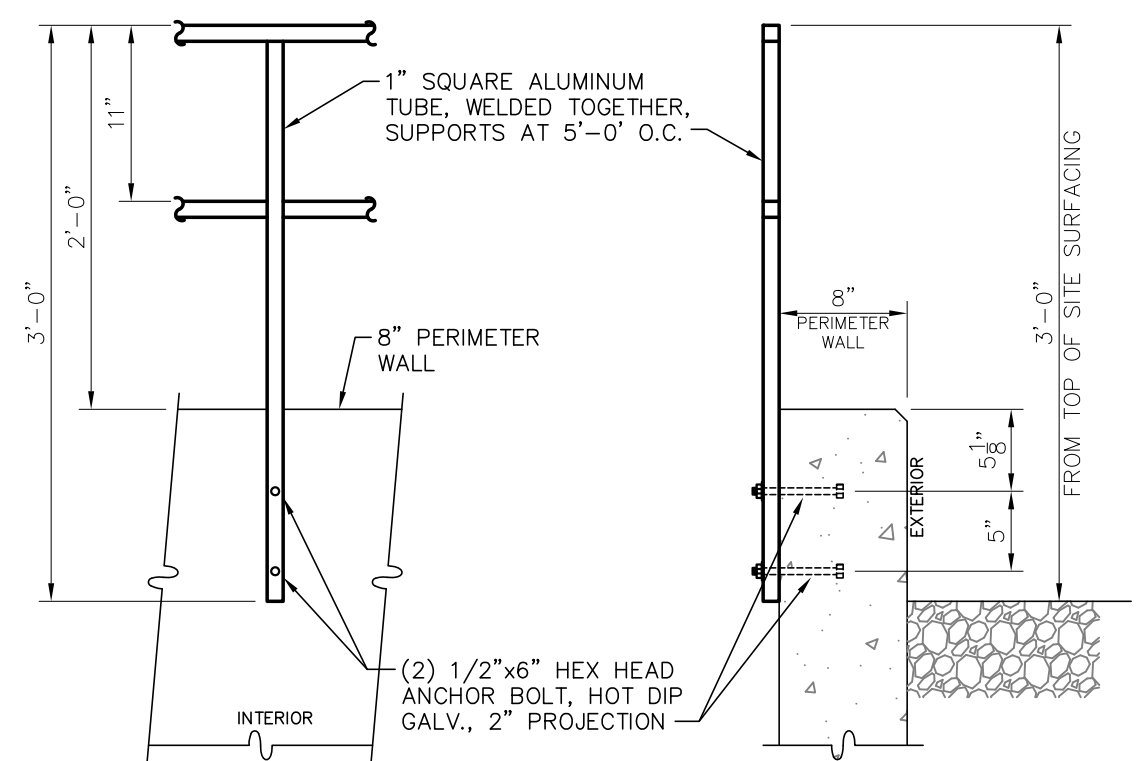


GRATING DETAIL INTERIOR WALL CONNECTION
SCALE: 1"=1'-0"

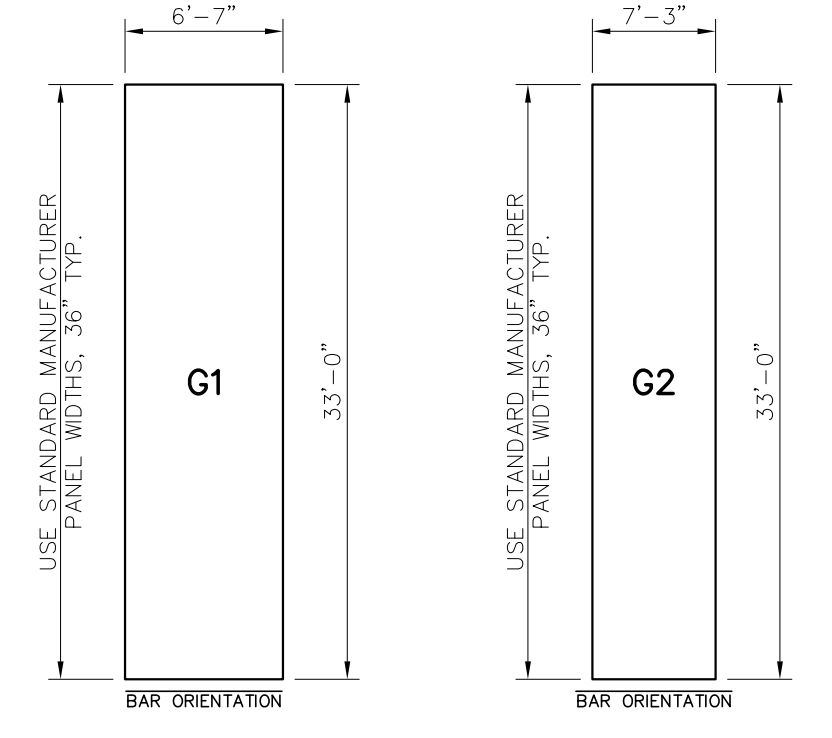
(2) LOCATIONS FOR W10x12



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



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

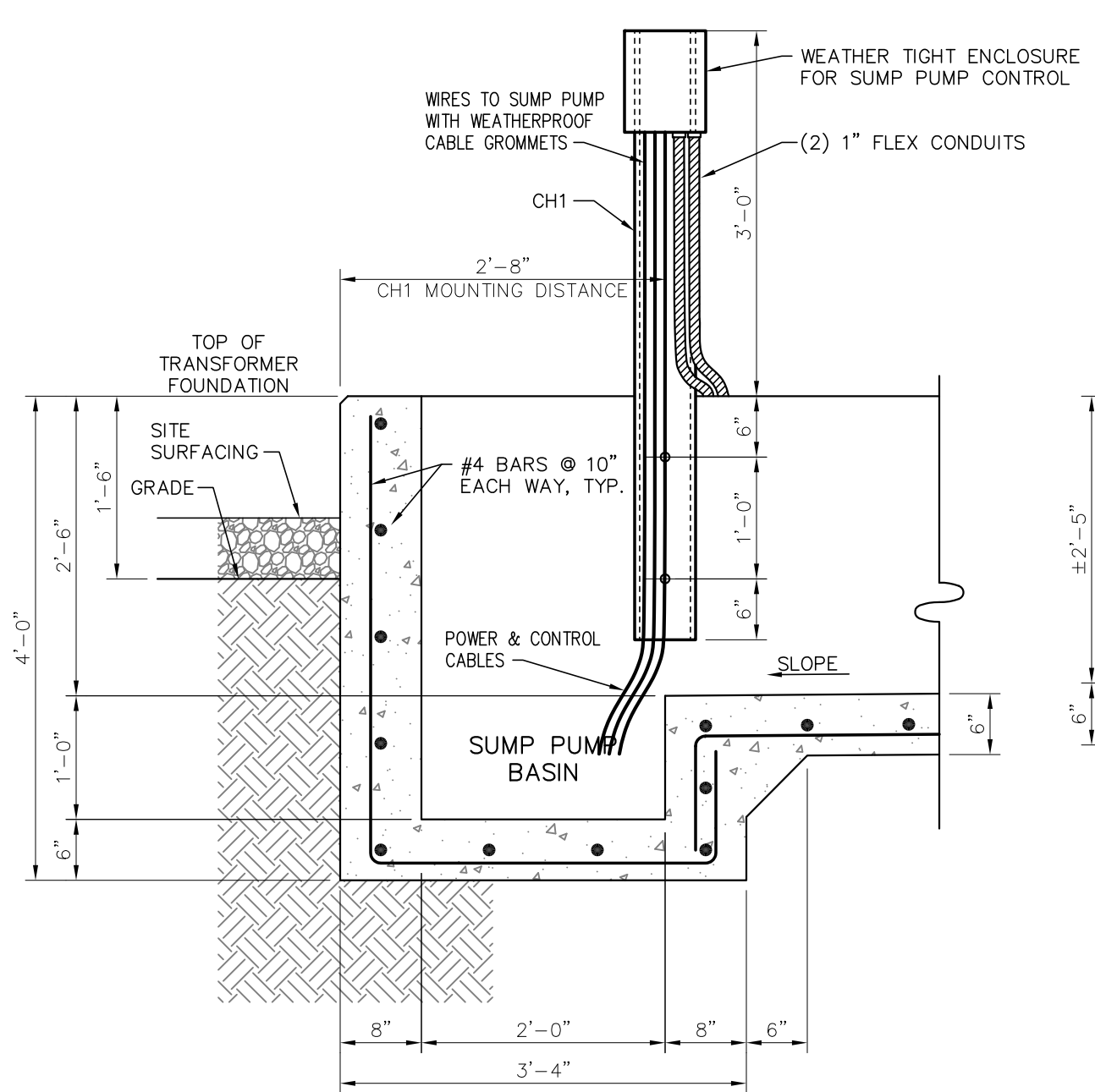


GRATING LAYOUT "G1"
N.T.S.

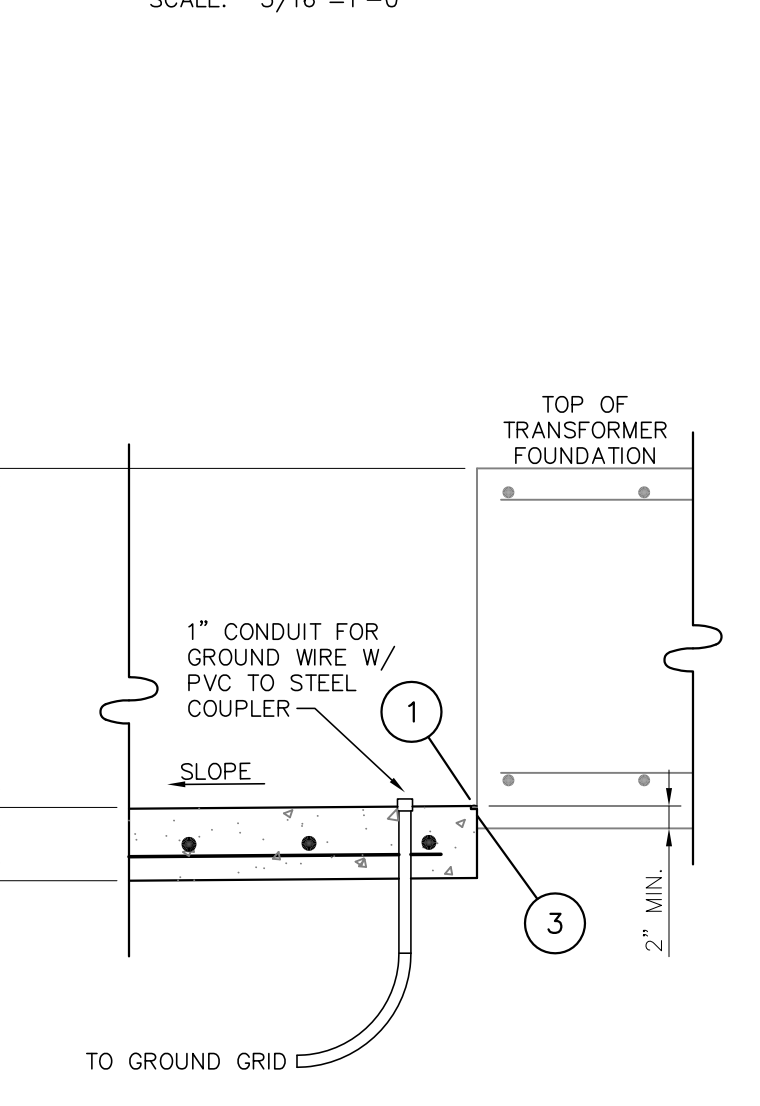
GRATING LAYOUT "G2"
N.T.S.

2 1/2" x 3/16, 19-W-4 SERRATED SURFACE
1 EA REQUIRED

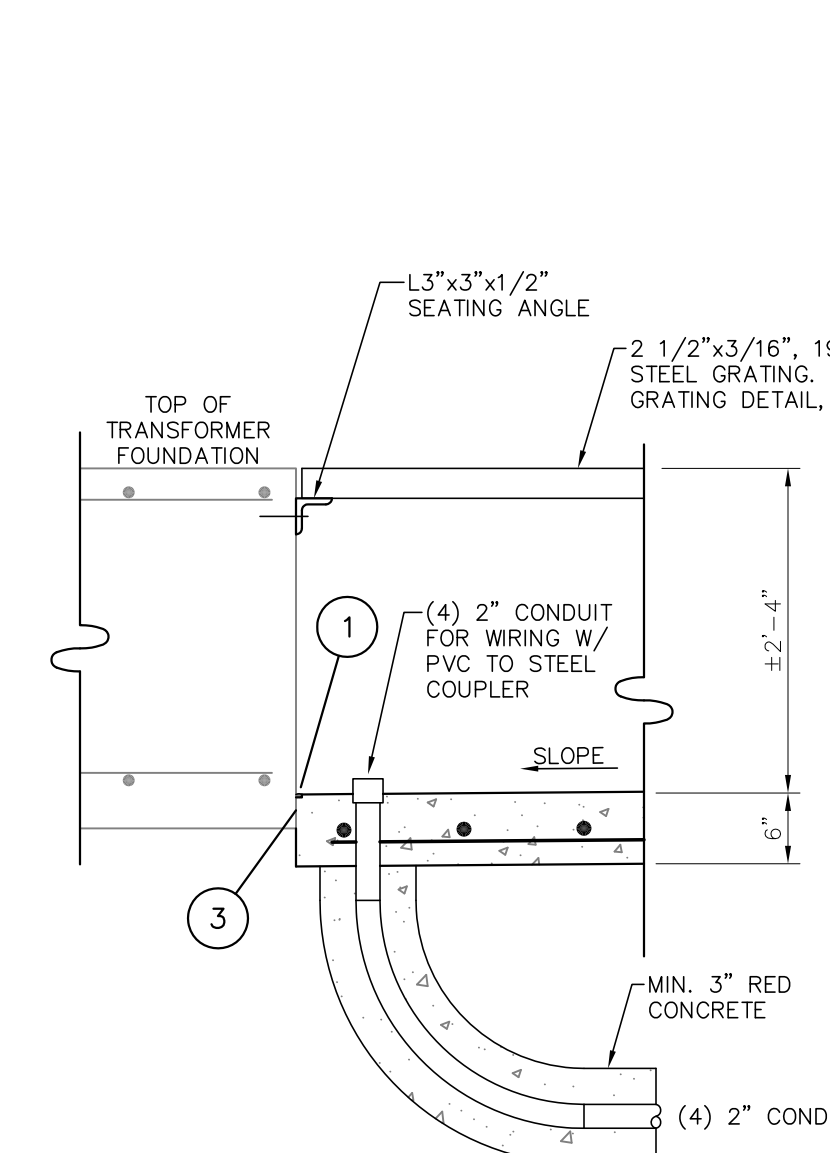
2 1/2" x 3/16, 19-W-4 SERRATED SURFACE
1 EA REQUIRED



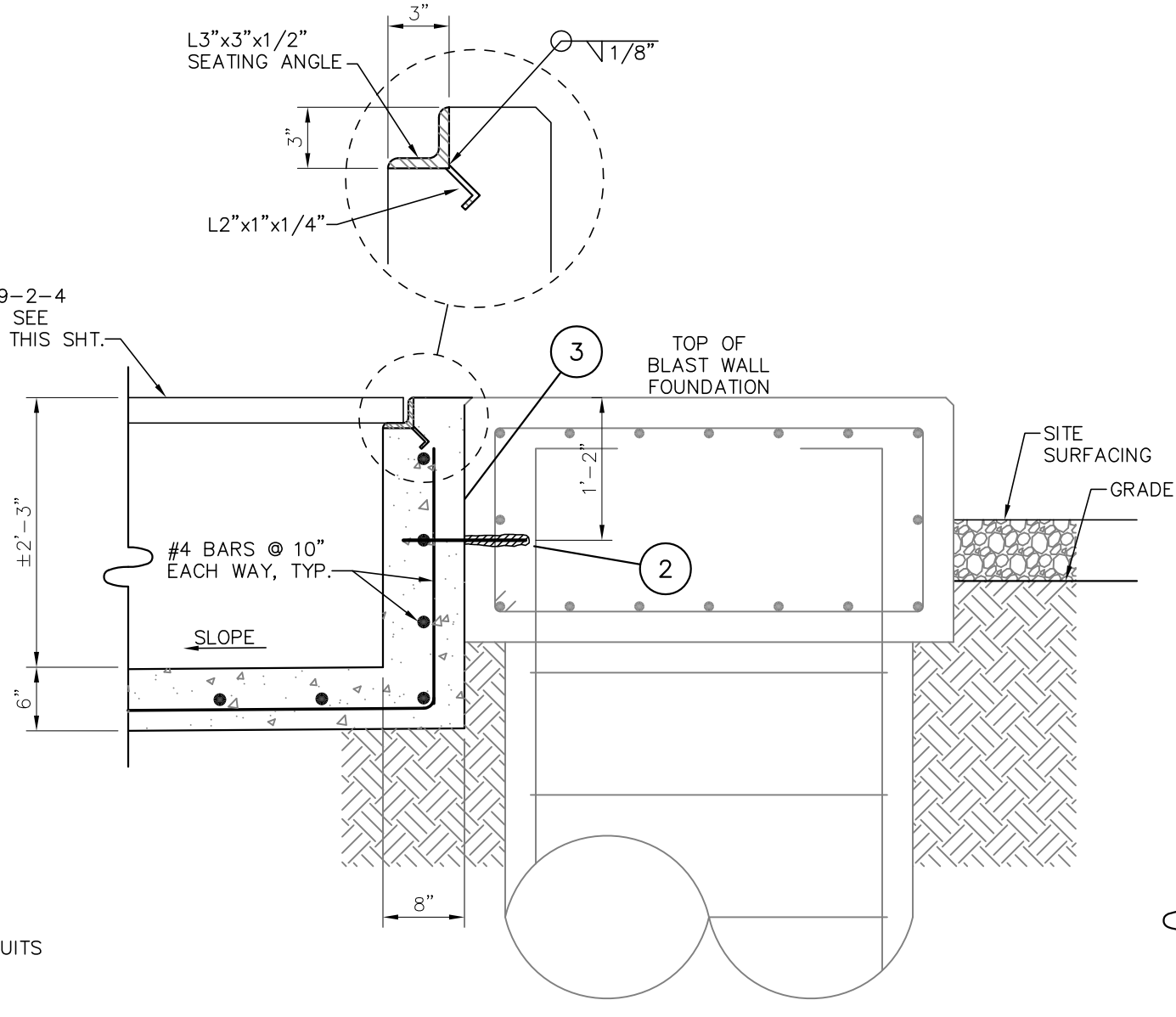
CONTAINMENT PIT DETAIL SECTION A
SCALE: 3/4"=1'-0"



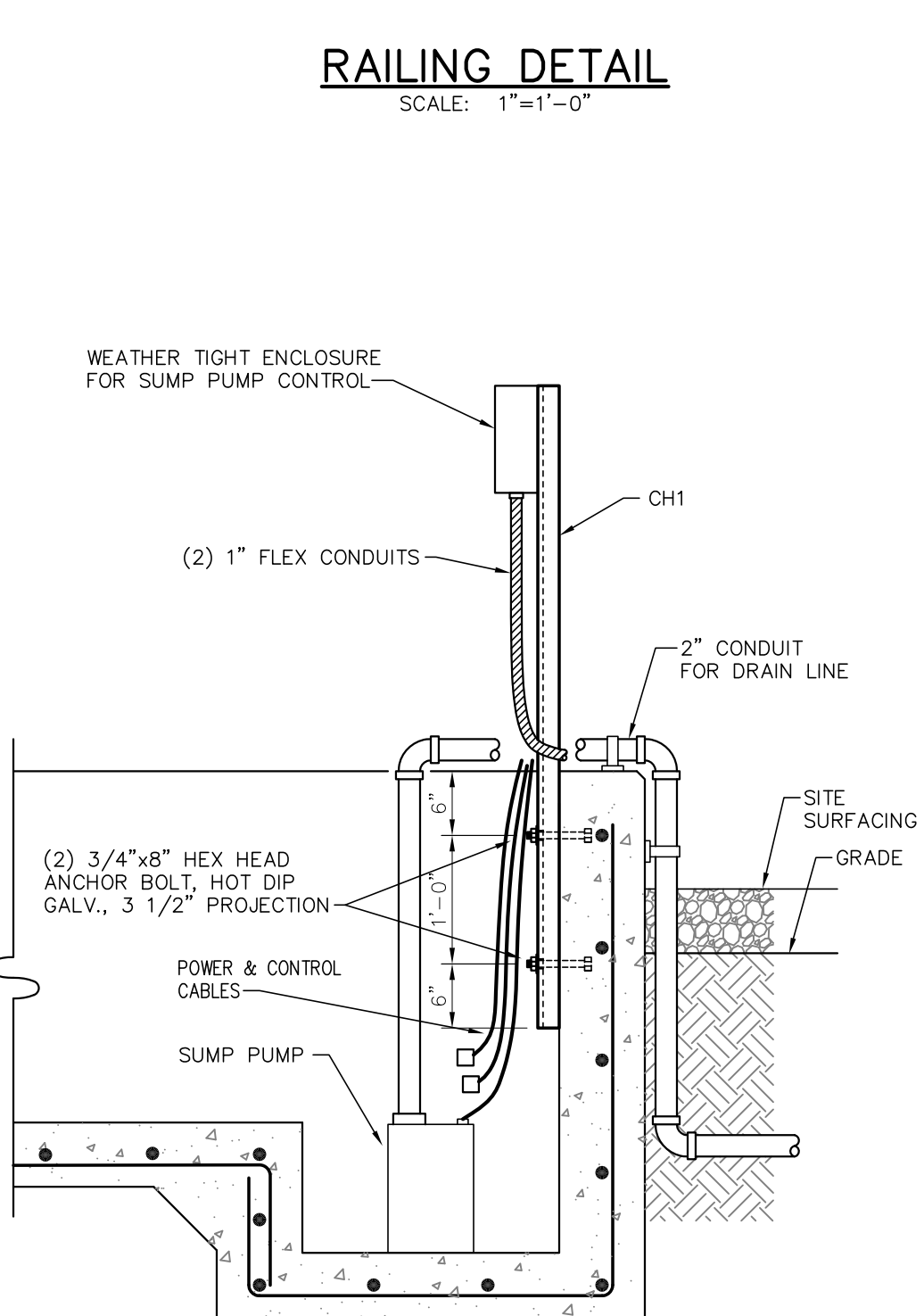
CONTAINMENT PIT DETAIL SECTION B
SCALE: 3/4"=1'-0"



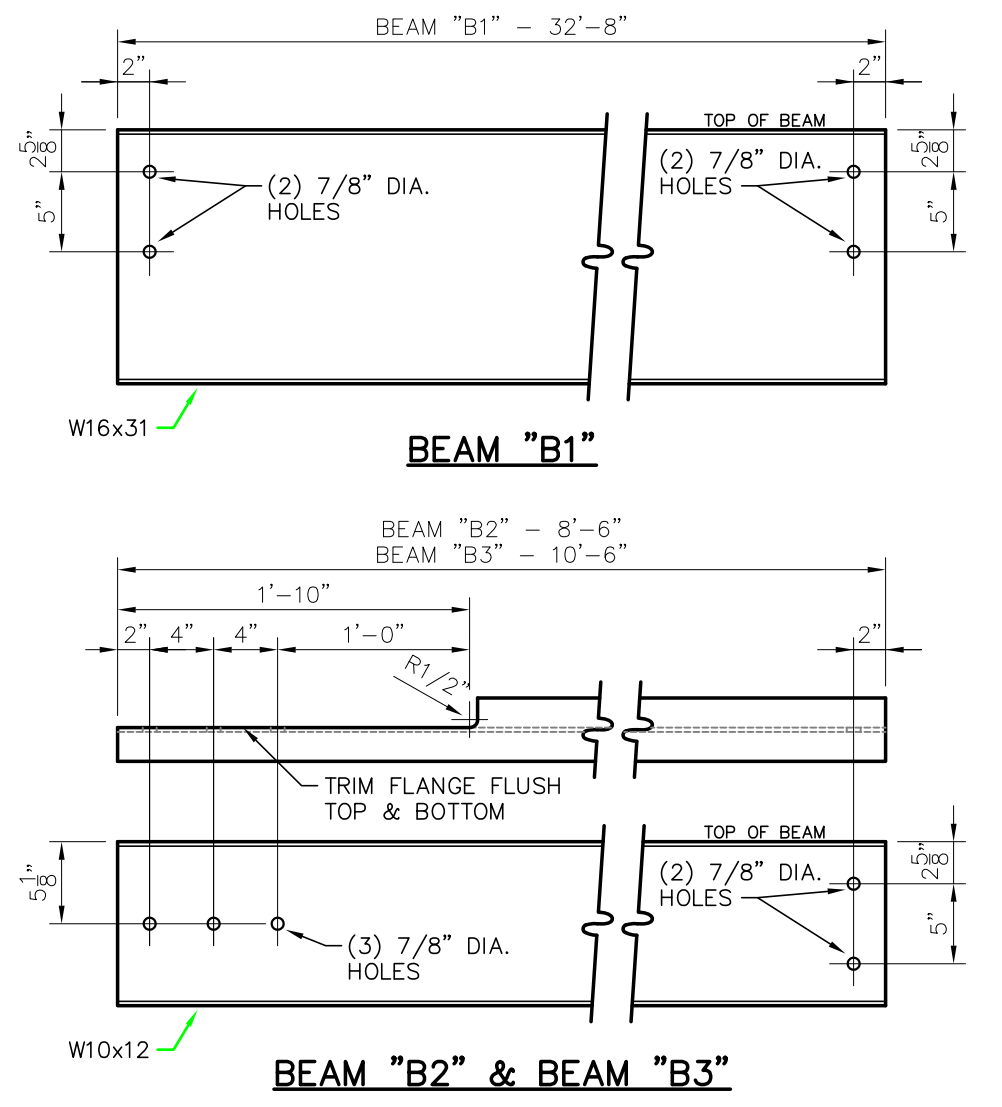
CONTAINMENT PIT DETAIL SECTION C
SCALE: 3/4"=1'-0"



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

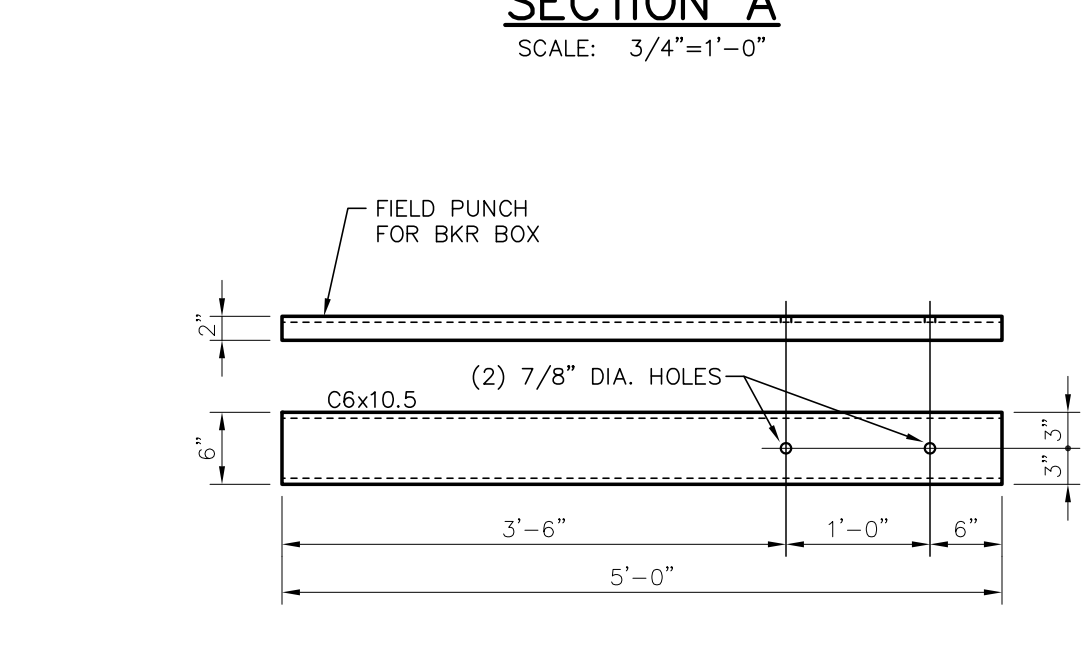


CONTAINMENT PIT DETAIL SECTION E
SCALE: 3/4"=1'-0"

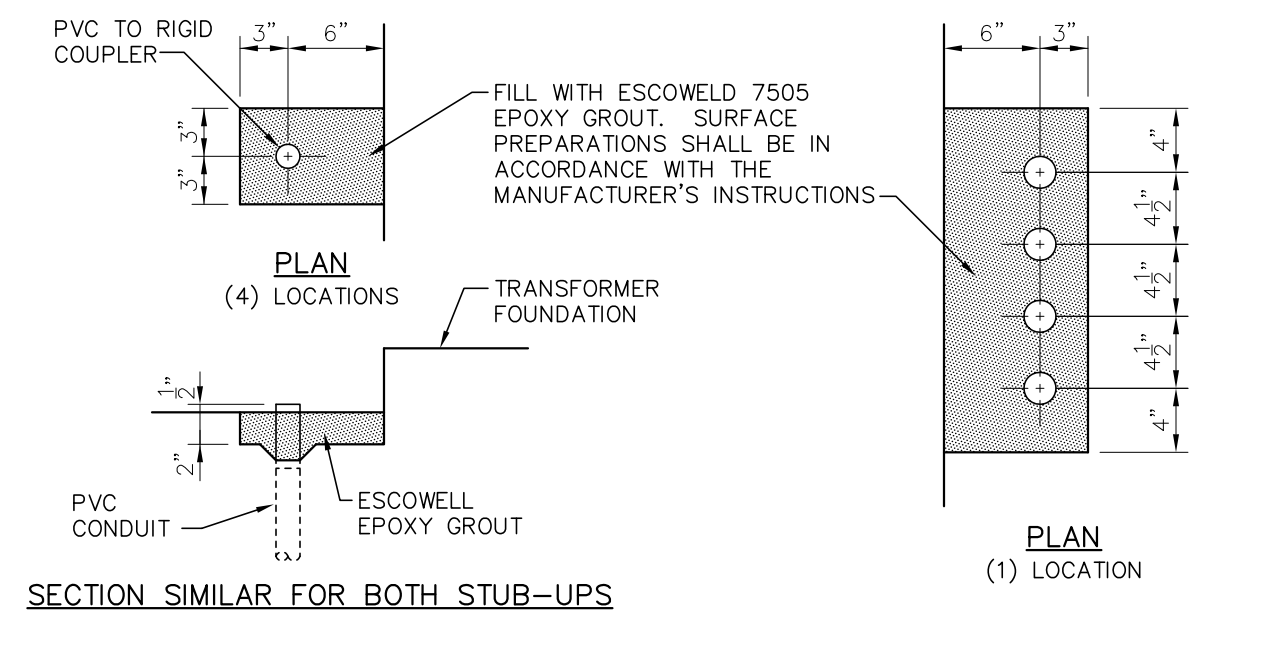


SUPPORT BEAMS DETAIL
SCALE: 1"=1'-0"

(1) LOCATIONS FOR W16x31 (B1)
(1) LOCATIONS FOR W10x12 (B2)
(1) LOCATIONS FOR W10x12 (B3)



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



CONDUIT STUB-UP DETAIL AT TRANSFORMER
SCALE: 1"=1'-0"

FOR BIDDING PURPOSES ONLY

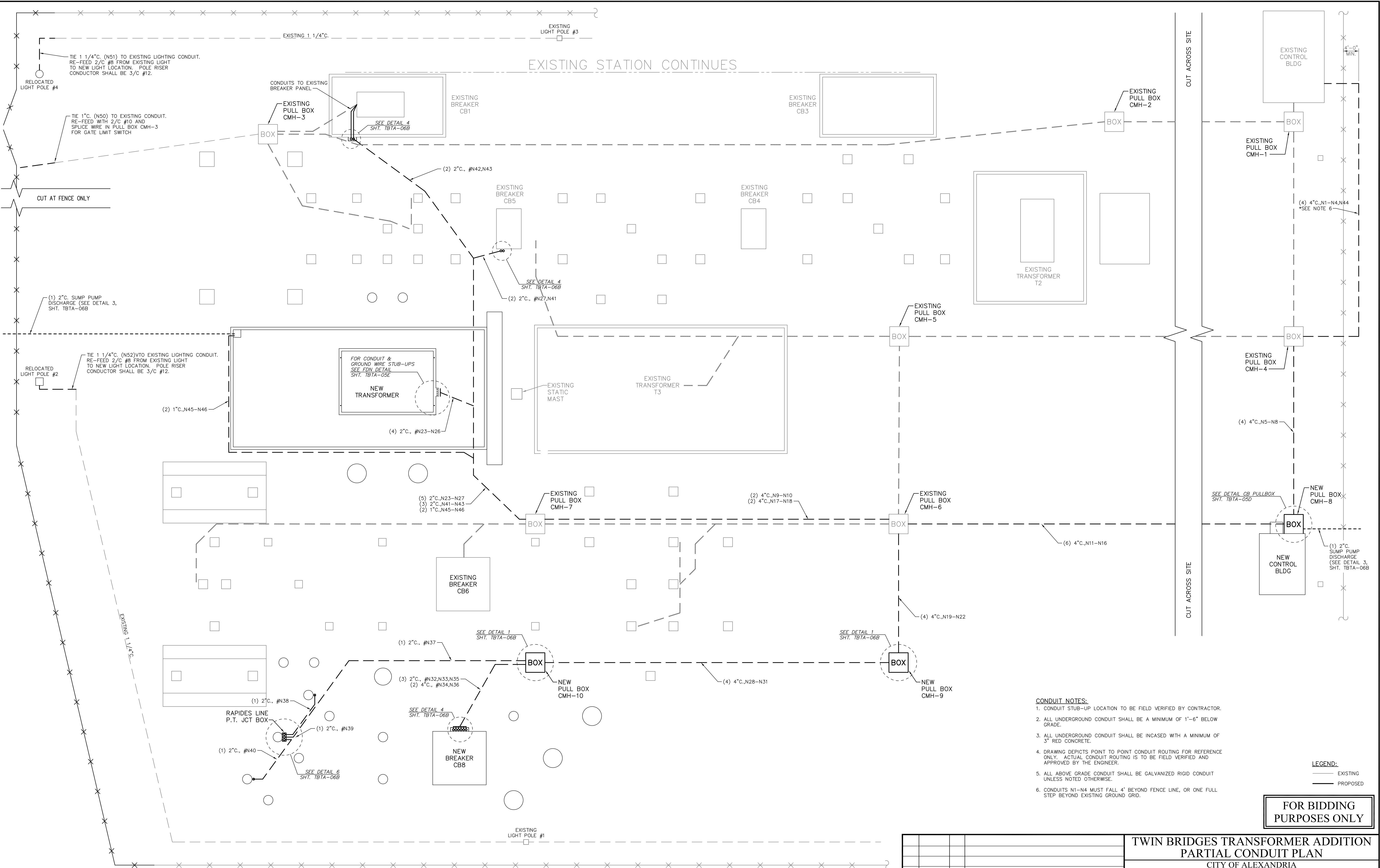
- 1/2"x1" DEEP ELASTOMERIC JOINT SEALANT AROUND PERIMETER OF EXISTING TRANSFORMER FOUNDATION.
- FIELD DRILL 1-1/4"x10" HOLE IN EXISTING FOUNDATION @ 12" O.C. SECURE A 12" LONG NO. 6 REBAR WITH SIKADUR 31, HI-MOD GEL EPOXY PASTE ADHESIVE, ALLOWING FOR A MINIMUM OF 4" PROJECTION INTO NEW FOUNDATION.
- COAT SURFACE OF EXISTING CONCRETE WITH SIKADUR 31, HI-MOD GEL EPOXY PASTE ADHESIVE PRIOR TO POURING NEW CONCRETE.

NO.	DATE	BY	REVISIONS
B1	6/5/19	BHA	REVISED CONTAINMENT PIT FOUNDATION
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	DRAN BY: JHD	APPROVED BY: JJC	PROJECT NO.: 2019-E-16A
BHA, INC. BATON ROUGE, LOUISIANA				DRAWING NO.: TBTA-05E REV.: B1

BHA245.DWG 04/01/2019



- CONDUIT NOTES:**
1. CONDUIT STUB-UP LOCATION TO BE FIELD VERIFIED BY CONTRACTOR.
 2. ALL UNDERGROUND CONDUIT SHALL BE A MINIMUM OF 1'-6" BELOW GRADE.
 3. ALL UNDERGROUND CONDUIT SHALL BE INCASED WITH A MINIMUM OF 3" RED CONCRETE.
 4. DRAWING DEPICTS POINT TO POINT CONDUIT ROUTING FOR REFERENCE ONLY. ACTUAL CONDUIT ROUTING IS TO BE FIELD VERIFIED AND APPROVED BY THE ENGINEER.
 5. ALL ABOVE GRADE CONDUIT SHALL BE GALVANIZED RIGID CONDUIT UNLESS NOTED OTHERWISE.
 6. 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

CONDUIT & WIRE SCHEDULE

CABLE NO.	CONDUCTOR SIZE	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)	CB8 CTRL PANEL (NEW HOUSE)	C-TRAY	30A - CB8 DC SOURCE #1	
1402S	2/C #8	125V DC PANEL B (OLD HOUSE)	CB8 CTRL PANEL (NEW HOUSE)	N1,CMH-4,N5,CMH-8	30A - CB8 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)	CB8 CTRL PANEL (NEW HOUSE)	C-TRAY	1P/20A - AC SUPPLY	
2601S	3/C #8 SH	230V AC PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N12,CMH-6,N19,CMH-9,N28,CMH-10,N32	2P/35A - CB8 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)	PB8 SUMP PUMP	C-TRAY	PB8 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)	CB8 CTRL PANEL (NEW HOUSE)	C-TRAY	AT4 & CB8 TRIP, CLOSE, BFI	
3402R	5/C #10	AT4 P1 & P2 PANEL (NEW HOUSE)	CB1 CTRL PANEL 2R (OLD HOUSE)	CMH-8,N7,CMH-4,N3	TRIP AT4 P1 & P2	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN PANEL 2R FOR CB1 BY OTHERS
3403R	5/C #10	AT4 P1 & P2 PANEL (NEW HOUSE)	CB1 CTRL PANEL 2R/2F (OLD HOUSE)	CMH-8,N7,CMH-4,N3	TRIP, BLOCK CLOSE CB1	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN PANEL 2R/2F FOR CB1 BY OTHERS
3404R	5/C #10	AT4 P1 & P2 PANEL (NEW HOUSE)	CB1 CTRL PANEL 2R/2F (OLD HOUSE)	CMH-8,N7,CMH-4,N3	BFI CB1	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN PANEL 2R/2F FOR CB1 BY OTHERS
3405R	5/C #10	AT4 P1 & P2 PANEL (NEW HOUSE)	CB5 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP AT4 P1 & P2	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN PANEL 4 FOR CB5 BY OTHERS
3406R	5/C #10	AT4 P1 & P2 PANEL (NEW HOUSE)	CB5 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP CB5	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN PANEL 4 FOR CB5 BY OTHERS
3407R	5/C #10	AT4 P1 & P2 PANEL (NEW HOUSE)	CB5 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	BLOCK CLOSE, BFI CB5	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN PANEL 4 FOR CB5 BY OTHERS
3408P	5/C #10	AT4 P1 & P2 PANEL (NEW HOUSE)	CB8 CTRL PANEL (NEW HOUSE)	C-TRAY	AT4 LOWSIDE POT	
3409M	SEL-C273A	AT4 P1 & P2 PANEL (NEW HOUSE)	CB8 CTRL PANEL (NEW HOUSE)	C-TRAY	SEL-487E COMM	
3410M	SEL-C273A	AT4 P1 & P2 PANEL (NEW HOUSE)	CB8 CTRL PANEL (NEW HOUSE)	C-TRAY	SEL-387 COMM	
3411A	12/C #18	AT4 P1 & P2 PANEL (NEW HOUSE)	CB8 CTRL PANEL (NEW HOUSE)	C-TRAY	ALARMS	
3601C	5/C #10 SH	CB8 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	CB1 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N42,CMH-7,N17,CMH-6,N13,CMH-8	AT4 P1 CTs	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN CB1 YARD CABINET BY OTHERS
3603C	5/C #10 SH	CB5 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N41,CMH-7,N17,CMH-6,N13,CMH-8	AT4 P1 CTs	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN CB5 YARD CABINET BY OTHERS
3604R	2/C #10 SH	CB8 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	CB1 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N43,CMH-7,N9,CMH-6,N16,CMH-8	AT4 P1 BKR STATUS	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN CB1 YARD CABINET BY OTHERS
3606R	2/C #10 SH	CB5 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N27,CMH-7,N9,CMH-6,N11,CMH-8	AT4 P1 BKR STATUS	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN CB5 YARD CABINET BY OTHERS
3607R	2/C #10 SH	CB8 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	CB1 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N43,CMH-7,N9,CMH-6,N16,CMH-8	AT4 P2 BKR STATUS	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN CB1 YARD CABINET BY OTHERS
3609R	2/C #10 SH	CB5 YARD CABINET	AT4 P1 & P2 PANEL (NEW HOUSE)	N27,CMH-7,N9,CMH-6,N11,CMH-8	AT4 P2 BKR STATUS	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN CB5 YARD CABINET BY OTHERS
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	CB8 CTRL PANEL (NEW HOUSE)	CB6 CTRL PANEL (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP, BLOCK CLOSE, BFI CB8	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION IN RAPIDES LINE PANEL FOR CB6 BY OTHERS
4402R	12/C #10	CB8 CTRL PANEL (NEW HOUSE)	CB6 CTRL PANEL (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP, BLOCK CLOSE, BFI CB6	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION IN RAPIDES LINE PANEL FOR CB6 BY OTHERS
4403R	12/C #10	CB8 CTRL PANEL (NEW HOUSE)	CB5 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP, BFI CB8	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION IN PANEL 4 FOR CB5 BY OTHERS
4404R	12/C #10	CB8 CTRL PANEL (NEW HOUSE)	CB5 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	BLOCK CLOSE CB8, TRIP, BFI CB5	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION IN PANEL 4 FOR CB5 BY OTHERS
4405R	2/C #10	CB8 CTRL PANEL (NEW HOUSE)	CB5 CTRL PANEL 4 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	BLOCK CLOSE CB5	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION IN PANEL 4 FOR CB5 BY OTHERS

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

NO.	DATE	BY	REVISIONS
B1	6/5/19	BHA	ADDED NOTES FOR SCOPE OF CONTRACTOR TERMINATIONS
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-06A1 REV.: B1

CONDUIT & WIRE SCHEDULE

CABLE NO.	CONDUCTOR SIZE	FROM	TO	ROUTE	USE	NOTES
4406R	12/C #10	CB8 CTRL PANEL (NEW HOUSE)	CB1 CTRL PANEL 2R/2F (OLD HOUSE)	CMH-8,N7,CMH-4,N3	TRIP, BLOCK CLOSE, BFI CB8	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION IN 2R/2F PANEL FOR CB1 BY OTHERS
4407R	12/C #10	CB8 CTRL PANEL (NEW HOUSE)	CB1 CTRL PANEL 2R (OLD HOUSE)	CMH-8,N7,CMH-4,N3	TRIP, BLOCK CLOSE, BFI CB1	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION ON 2R PANEL FOR CB1 BY OTHERS
4408R	12/C #10	CB8 CTRL PANEL (NEW HOUSE)	RAPIDES LINE TRIP PANEL 5 (OLD HOUSE)	CMH-8,N7,CMH-4,N3	TRIP, BLOCK CLOSE CB8	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION ON PANEL 5 BY OTHERS
4409R	2/C #10	CB8 CTRL PANEL (NEW HOUSE)	BREAKER CB6 PANEL (OLD HOUSE)	CMH-8,N6,CMH-4,N2	BFI INITIATE CB8	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION IN RAPIDES LINE PANEL FOR CB6 BY OTHERS
4410R	5/C #10	CB8 CTRL PANEL (NEW HOUSE)	BREAKER CB6 PANEL (OLD HOUSE)	CMH-8,N6,CMH-4,N2	TRIP TC1, TC2 CB8	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION IN RAPIDES LINE PANEL FOR CB6 BY OTHERS
4411R	2/C #10	CB8 CTRL PANEL (NEW HOUSE)	RAPIDES LINE TRIP PANEL 5 (OLD HOUSE)	CMH-8,N6,CMH-4,N2	RAPIDES LINE TRANS TRIP SEND	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION ON PANEL 5 BY OTHERS
4412M	SEL-C273A	CB8 CTRL PANEL (NEW HOUSE)	CB8 CTRL PANEL (NEW HOUSE)	C-TRAY	COMMUNICATIONS	
4413M	COAXIAL	CB8 CTRL PANEL (NEW HOUSE)	CB8 CTRL PANEL (NEW HOUSE)	C-TRAY	SATELLITE CLOCK	
4414P	5/C #10	BREAKER CB5 CTRL PNL 4 (OLD HOUSE)	AT4 P1 & P2 PANEL (NEW HOUSE)	N4,CMH-4,N8,CMH-8	AT4 LOWSIDE POT	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 PANEL, TERMINATION IN PANEL 4 FOR CB5 BY OTHERS
4601S	2/C #8 SH	CB8 CTRL PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N34	CB8 TC1 DC SUPPLY	
4602R	5/C #10 SH	CB8 CTRL PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N34	CB8 TC1	
4604S	2/C #4 SH	CB8 CTRL PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N34	CB8 MOTOR DC SUPPLY	
4605S	2/C #8 SH	CB8 CTRL PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N34	CB8 CLOSE DC SUPPLY	
4606R	5/C #10 SH	CB8 CTRL PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N34	CB8 CLOSE	
4607R	2/C #10 SH	CB8 CTRL PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N36	CB8 BKR STATUS	
4608S	2/C #8 SH	CB8 CTRL PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N36	CB8 TC2 DC SUPPLY	
4609R	5/C #10 SH	CB8 CTRL PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N36	CB8 TC2	
4610R	2/C #10 SH	CB8 CTRL PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N14,CMH-6,N21,CMH-9,N30,CMH-10,N36	CB8 GREEN LIGHT IND	
4611C	5/C #10 SH	CB8 CTRL PANEL (NEW HOUSE)	CB8 YARD CABINET	CMH-8,N13,CMH-6,N20,CMH-9,N29,CMH-10,N33	CB8 CTRL CT	
4612C	5/C #10 SH	CB8 YARD CABINET	BREAKER CB6 PANEL (OLD HOUSE)	N33,CMH-10,N29,CMH-9,N20,CMH-6,N13,CMH-8,N8,CMH-4,N4	RAPIDES LINE PRIMARY RELAY CT	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON BREAKER CB8, TERMINATION IN RAPIDES LINE PANEL FOR CB6 BY OTHERS
4613C	5/C #10 SH	CB8 YARD CABINET	BREAKER CB6 PANEL (OLD HOUSE)	N33,CMH-10,N29,CMH-9,N20,CMH-6,N13,CMH-8,N8,CMH-4,N4	RAPIDES LINE BACKUP RELAY CT	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON BREAKER CB8, TERMINATION IN RAPIDES LINE PANEL FOR CB6 BY OTHERS
4614M	SEL-C273AF	CB8 YARD CABINET	CB8 CTRL PANEL (NEW HOUSE)	N35,CMH-10,N31,CMH-9,N22,CMH-6,N15,CMH-8	COMMUNICATIONS	
4615A	3/C #18 SH	CB8 YARD CABINET	CB8 CTRL PANEL (NEW HOUSE)	N36,CMH-10,N48,CMH-9,N29,CMH-6,N16,CMH-8	RELAY FAILURE ALARM	
4616R	2/C #10 SH	CB8 YARD CABINET	BREAKER CB6 PANEL (OLD HOUSE)	N36,CMH-10,N30,CMH-9,N21,CMH-6,N16,CMH-8,N7,CMH-4,N3	52b CONTACT	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON BREAKER CB8, TERMINATION IN RAPIDES LINE PANEL FOR CB6 BY OTHERS
4701M	SEL-C273AF	AT4 YARD CABINET	CB8 CTRL PANEL (NEW HOUSE)	N26,CMH-7,N18,CMH-6,N15,CMH-8	COMMUNICATIONS	
4702A	3/C #18 SH	AT4 YARD CABINET	CB8 CTRL PANEL (NEW HOUSE)	N23,CMH-7,N9,CMH-6,N16,CMH-8	RELAY FAILURE ALARM	
4801R	7/C #14	CB8 CTRL PANEL (NEW HOUSE)	SCADA RTU PANEL (OLD HOUSE)	CMH-8,N7,CMH-4,N3	CB8 SCADA CONTROLS	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION ON RTU PANEL BY OTHERS
4802R	7/C #14	CB8 CTRL PANEL (NEW HOUSE)	SCADA RTU PANEL (OLD HOUSE)	CMH-8,N7,CMH-4,N3	CB8 AUTO/NON-ELEC RECL	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION ON RTU PANEL BY OTHERS
4803A	7/C #18	CB8 CTRL PANEL (NEW HOUSE)	SCADA RTU PANEL (OLD HOUSE)	CMH-8,N7,CMH-4,N3	RTAC ALARM	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON CB8 PANEL, TERMINATION ON RTU PANEL BY OTHERS
4901P	9/C #10 SH	RAPIDES LINE PT J-BOX	CB8 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 CB6 PANEL (OLD HOUSE)	N37,CMH-10,N28,CMH-9,N19,CMH-6,N12,CMH-8,N8,CMH-4,N4	X-WINDING POT	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON PT J-BOX, TERMINATION IN RAPIDES LINE PANEL FOR CB6 BY OTHERS
4903P	5/C #10 SH	RAPIDES LINE PT J-BOX	BREAKER CB6 PANEL (OLD HOUSE)	N37,CMH-10,N28,CMH-9,N19,CMH-6,N12,CMH-8,N8,CMH-4,N4	Y-WINDING POT	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON PT J-BOX, TERMINATION IN RAPIDES LINE PANEL FOR CB6 BY OTHERS
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	CONTRACTOR TO INSTALL CABLE AND TERMINATE ON AT4 CABINET, TERMINATION ON PANEL 7 BY OTHERS
7901C	2/C #10 SH	AT4 YARD CABINET	AT4 A# SLIPCOVER METERING CT	N47A *FIELD VERIFY PHASING	A# METERING CTs	
7902C	2/C #10 SH	AT4 YARD CABINET	AT4 B# SLIPCOVER METERING CT	N47B, N47A *FIELD VERIFY PHASING	B# METERING CTs	
7903C	2/C #10 SH	AT4 YARD CABINET	AT4 C# SLIPCOVER METERING CT	N47C, N47B, N47A *FIELD VERIFY PHASING	C# METERING CTs	
9401A	3/C #18 SH	AT4 SUMP PUMP	CB8 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

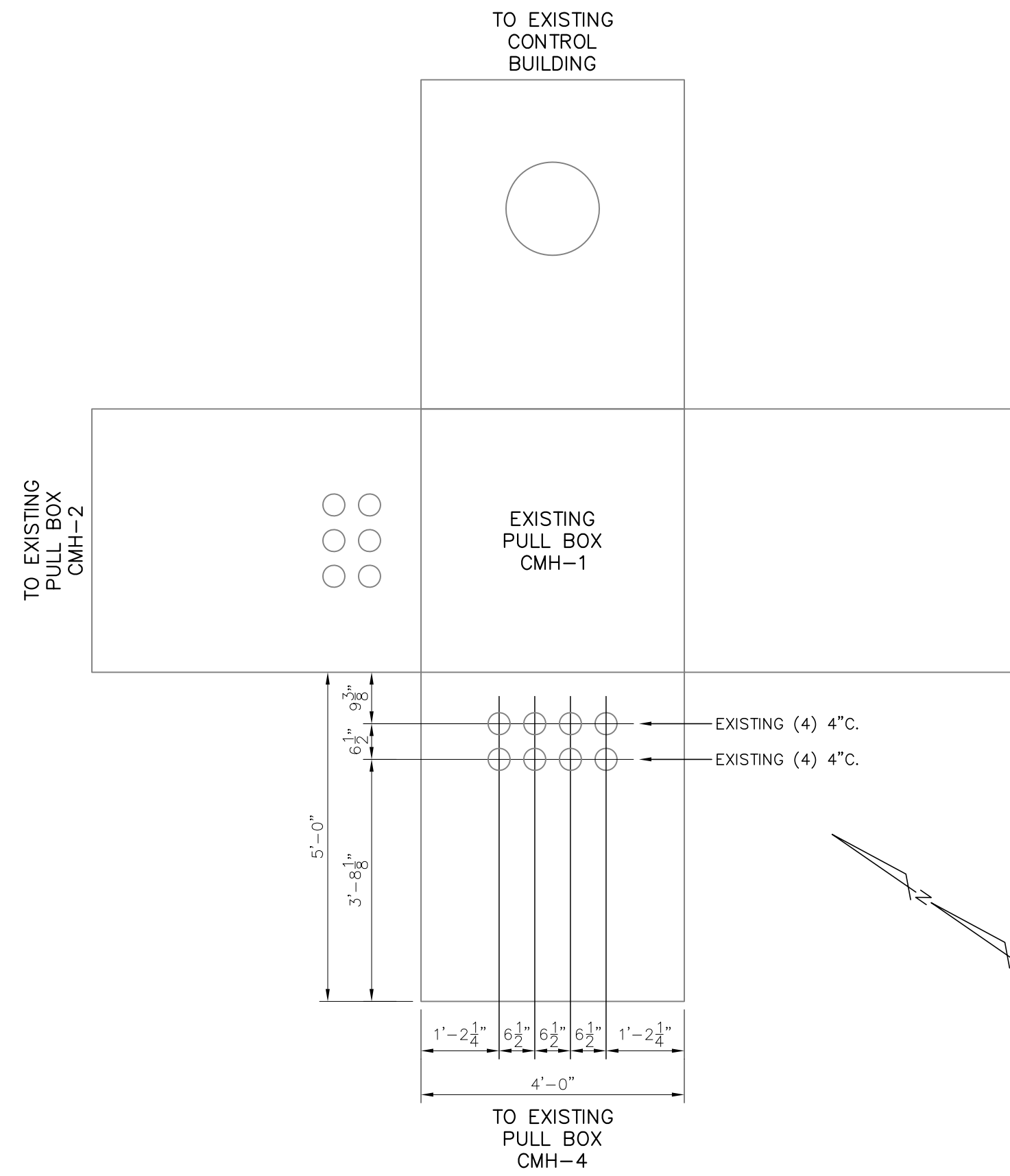
NO.	DATE	BY	REVISIONS
B1	6/5/19	BHA	ADDED NOTES FOR SCOPE OF CONTRACTOR TERMINATIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION

FOR BIDDING
PURPOSES ONLY

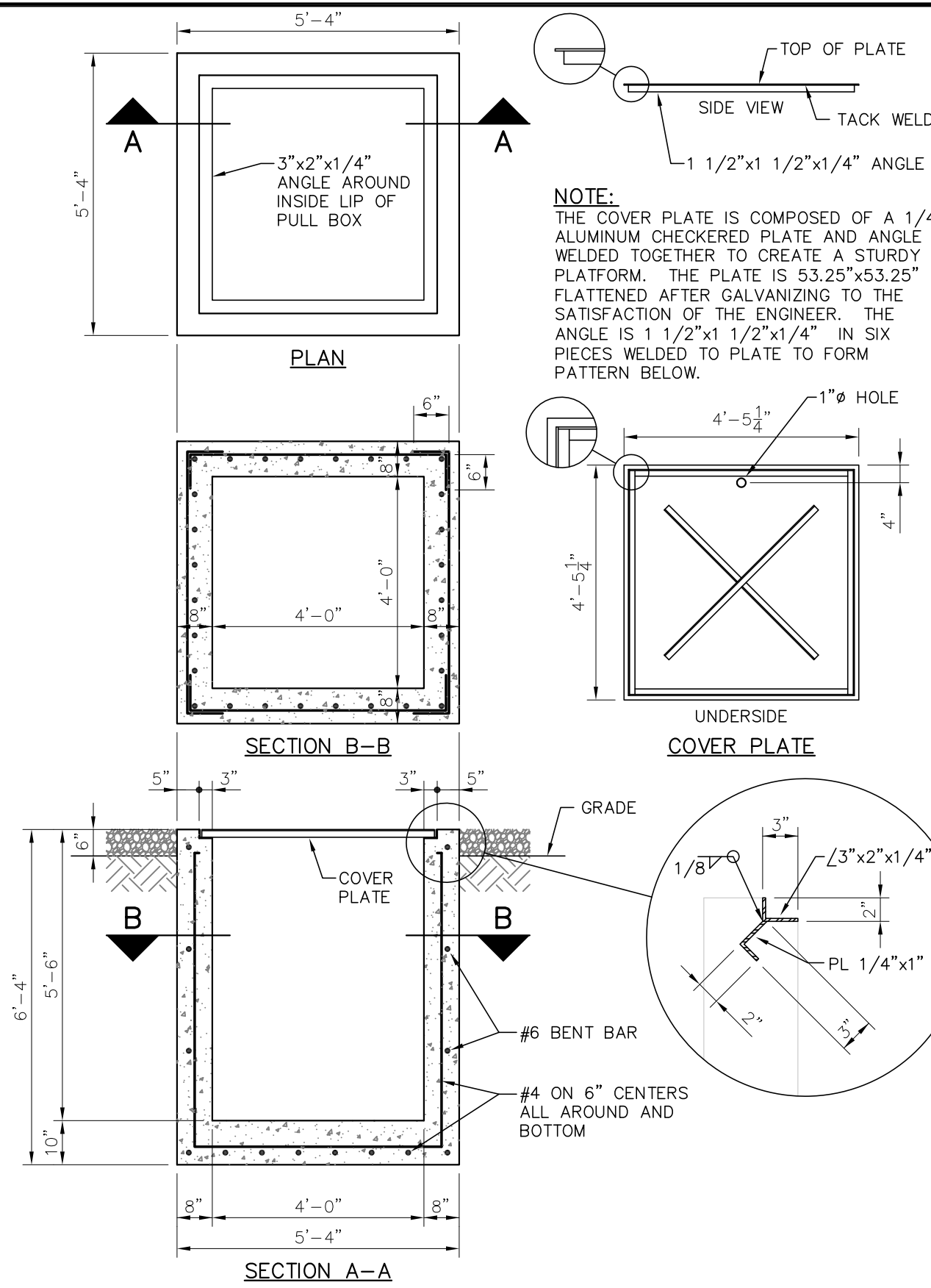
**TWIN BRIDGES TRANSFORMER ADDITION
CONDUIT & WIRE SCHEDULES**

CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

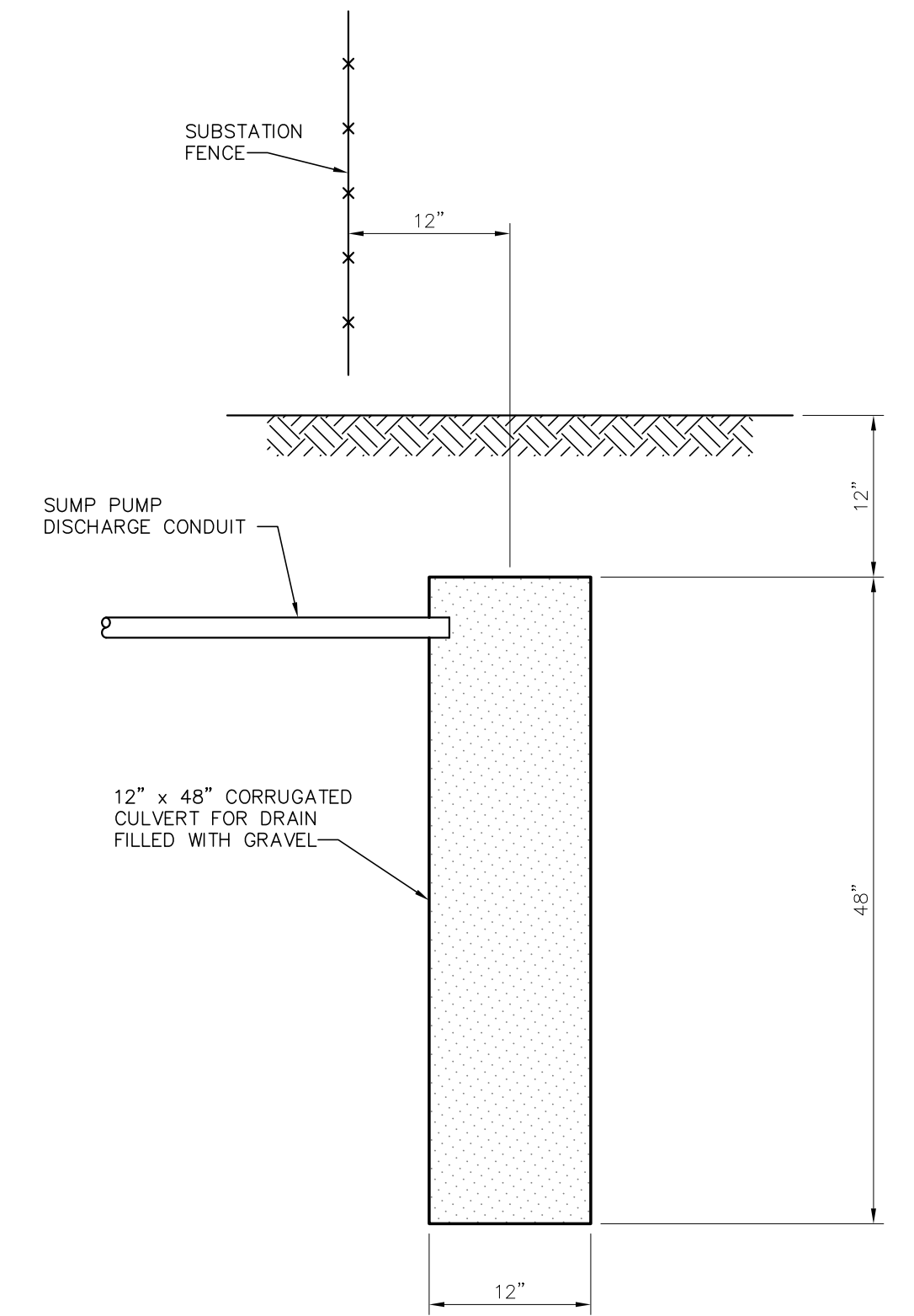
SCALE: NONE	DATE: 2/2019	DRAWN BY: TJW	APPROVED BY: JJC
BHA, INC. BATON ROUGE, LOUISIANA			PROJECT NO.: 2019-E-16A DRAWING NO.: TBTA-06A2 REV.: B1



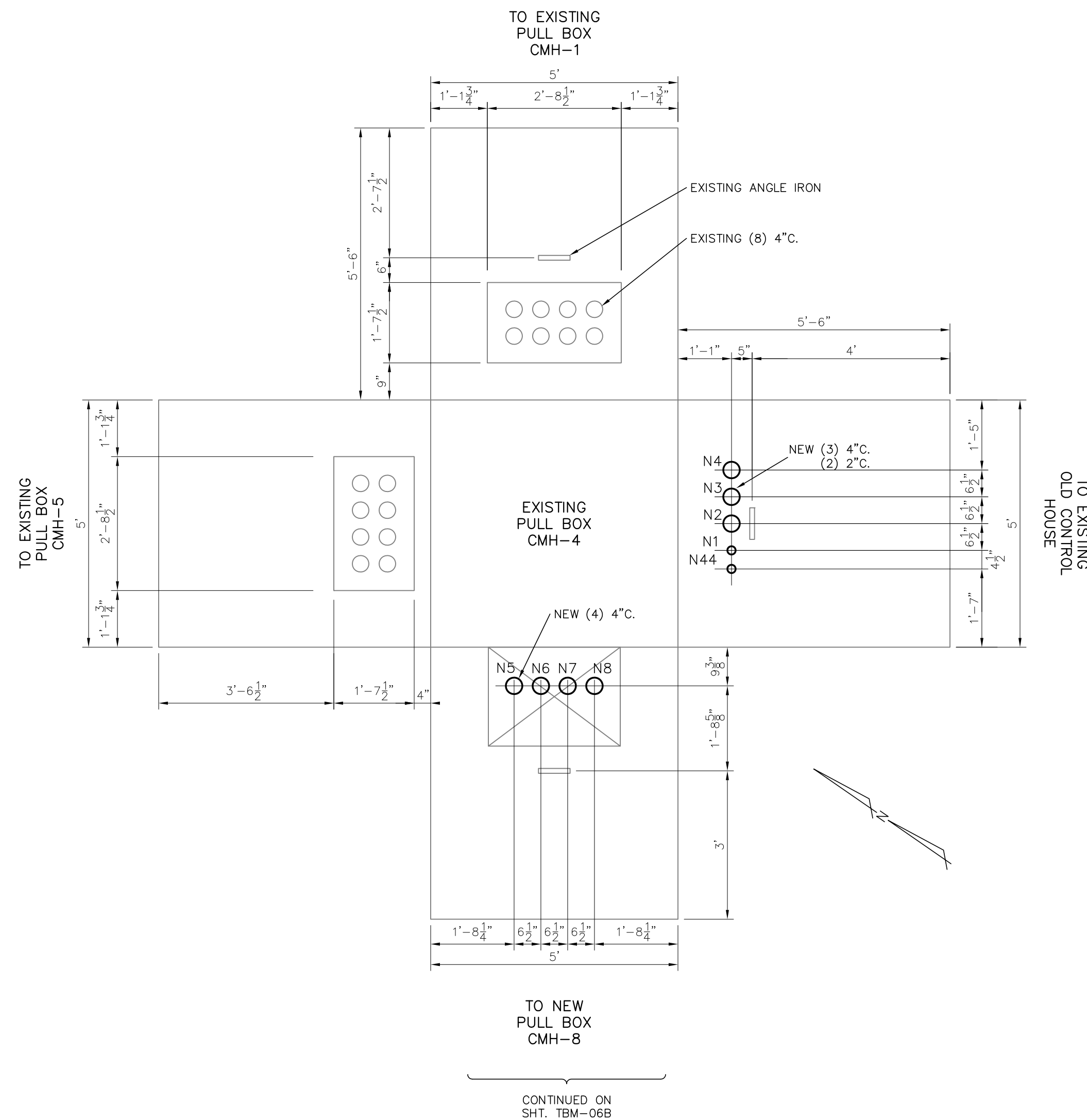
① PULL BOX DETAIL



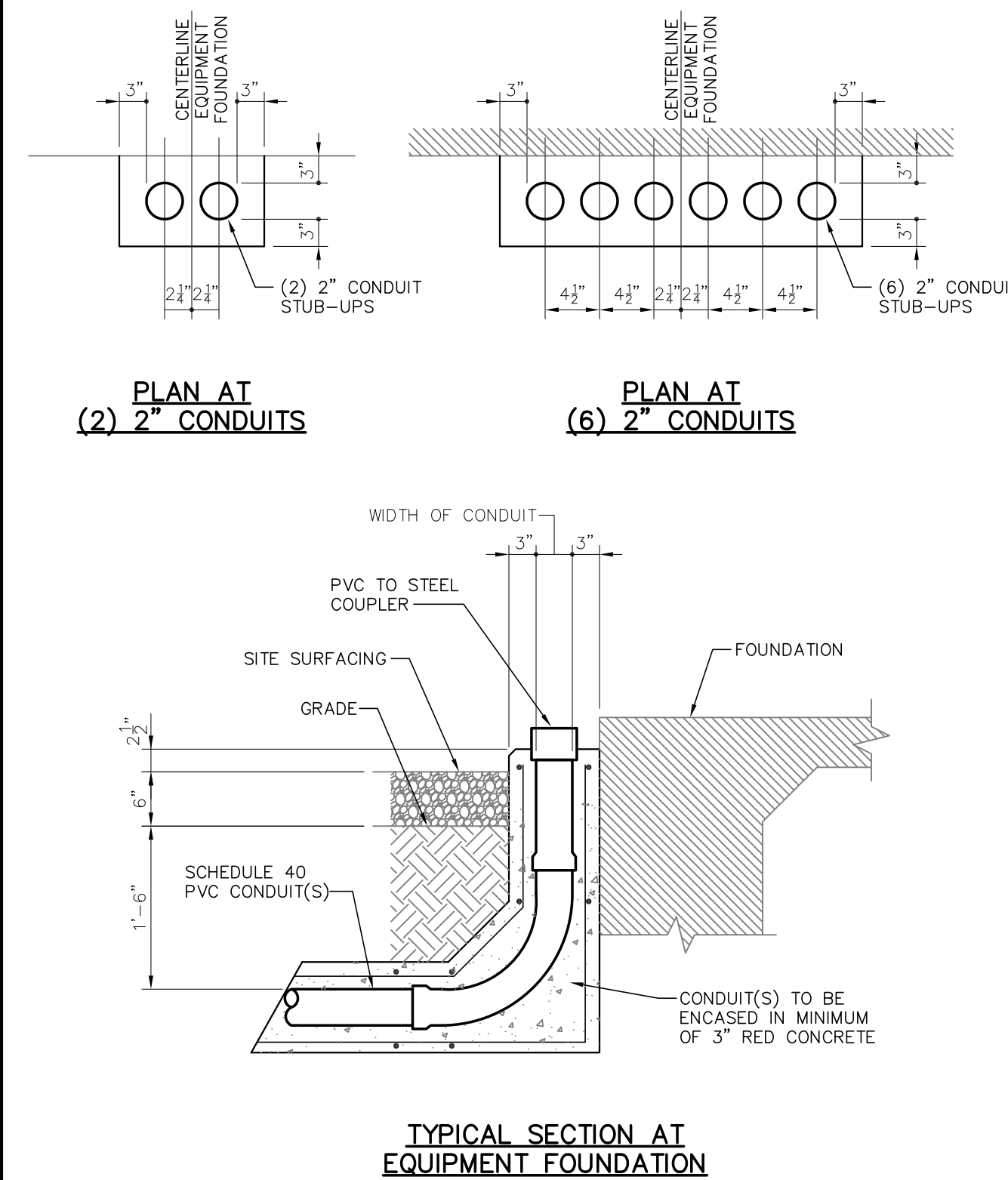
② CONDUIT DUCT BANK DETAIL
HORIZONTAL #4 BAR @ 3'-0" INTERVALS



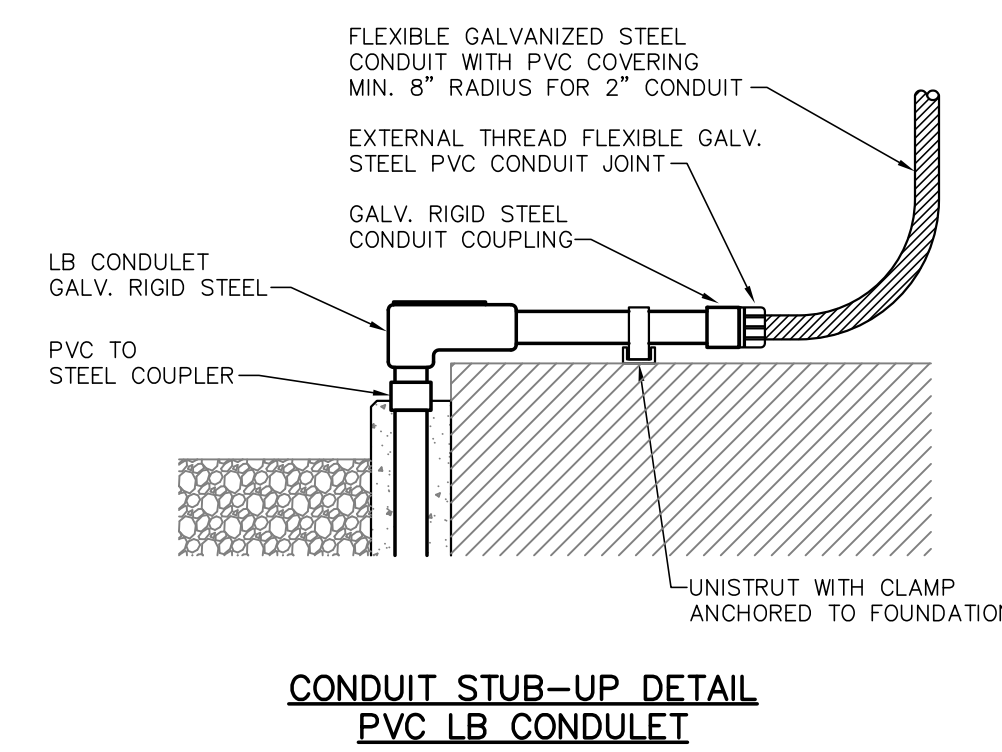
③ SUMP PUMP DRAIN
AT FENCE DETAIL
TYPICAL 2 LOCATIONS



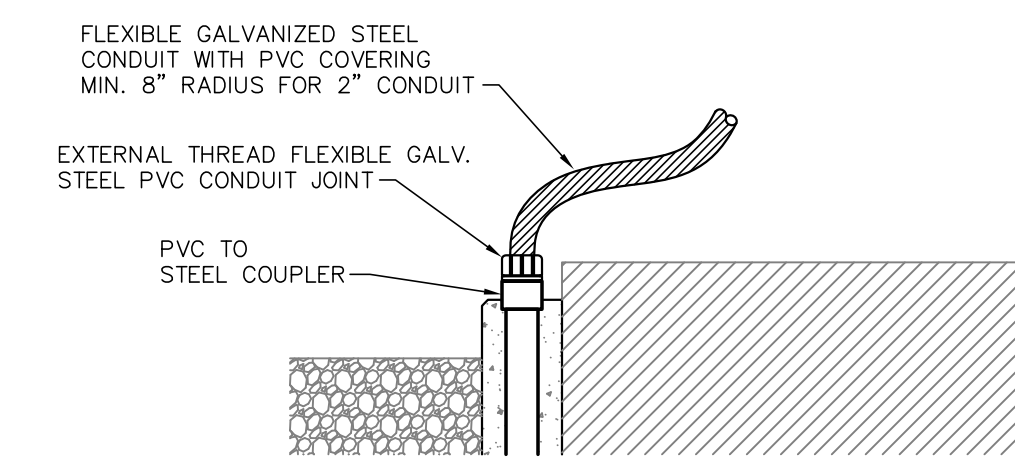
④ CONDUIT STUB-UP DETAIL
STUB-UPS AT EQUIPMENT



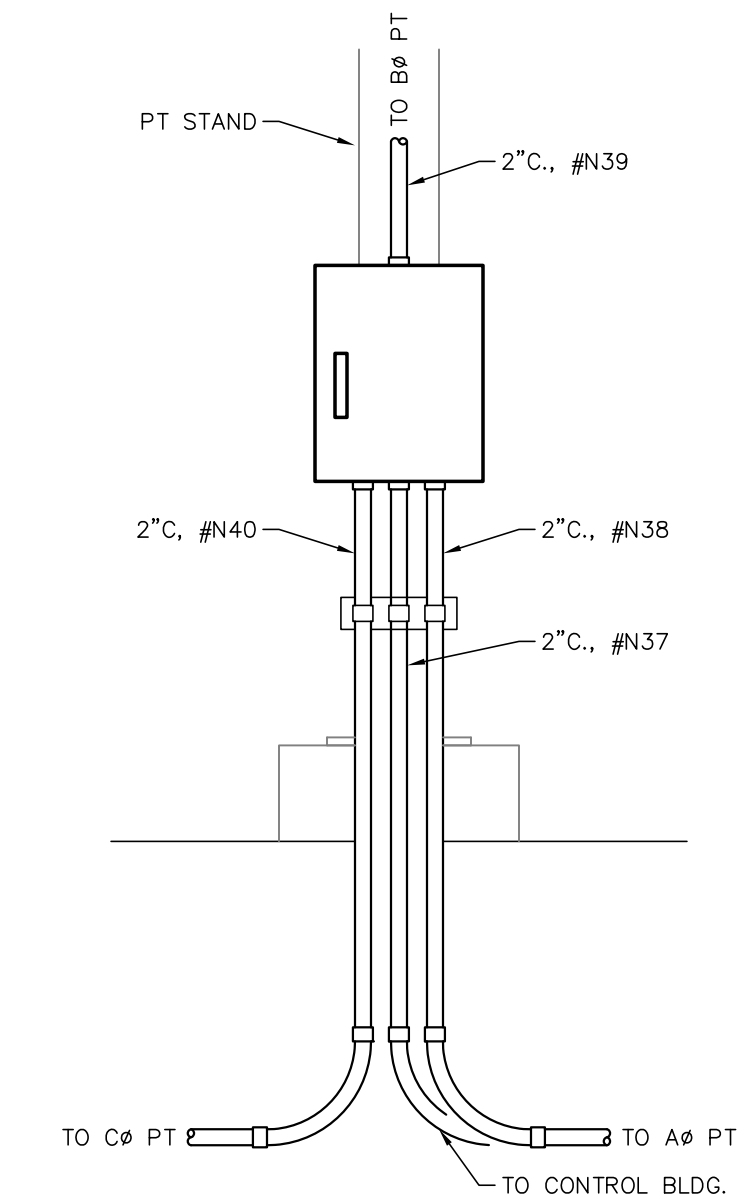
⑤ CONDUIT STUB-UP TRANSITIONS DETAIL
STUB-UPS AT EQUIPMENT



CONDUIT STUB-UP DETAIL
PVC LB CONDULET



CONDUIT STUB-UP DETAIL
FLEXIBLE GALVANIZED STEEL CONDUIT



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

LEGEND:
— EXISTING
— PROPOSED

FOR BIDDING
PURPOSES ONLY

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

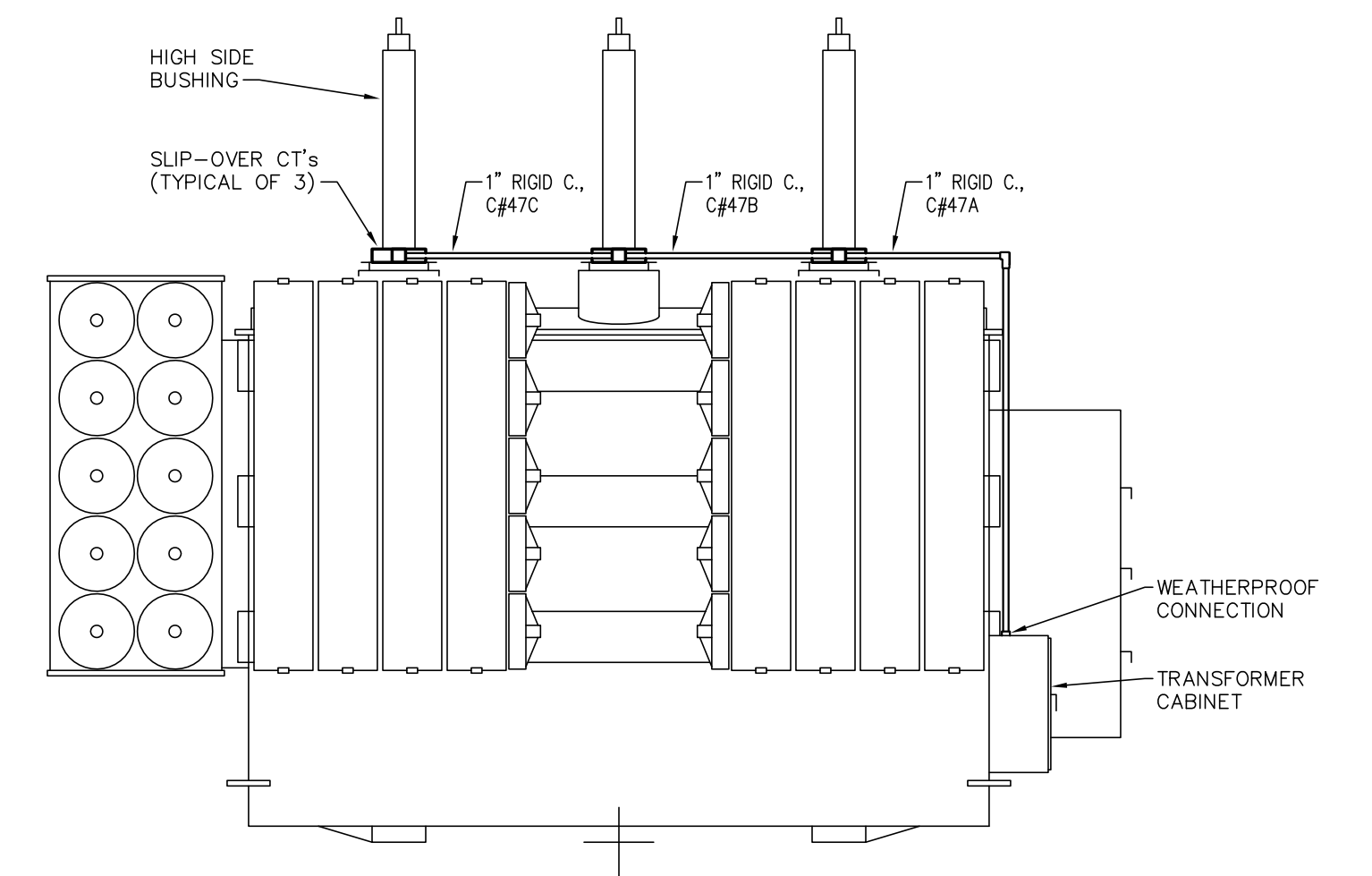
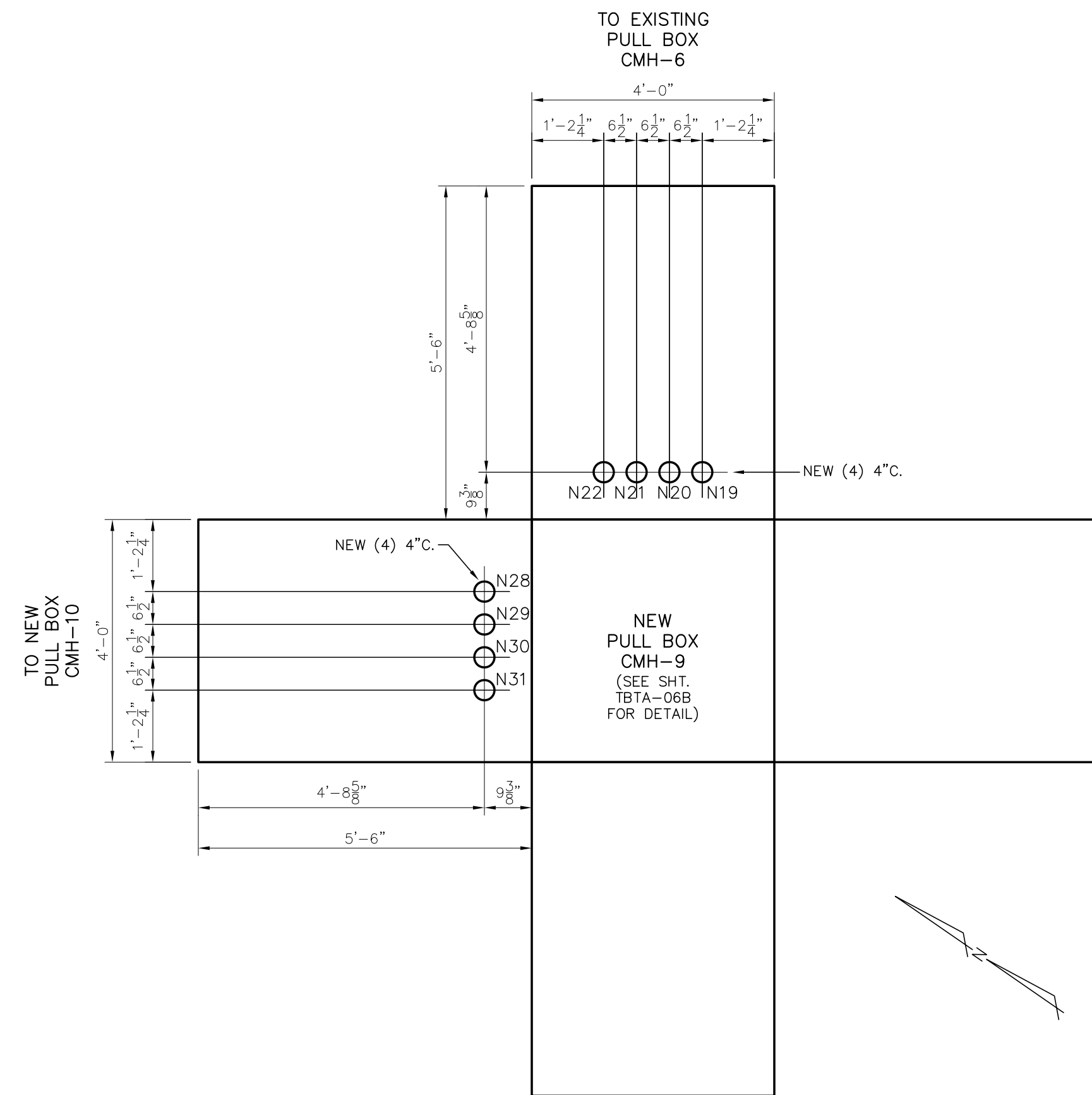
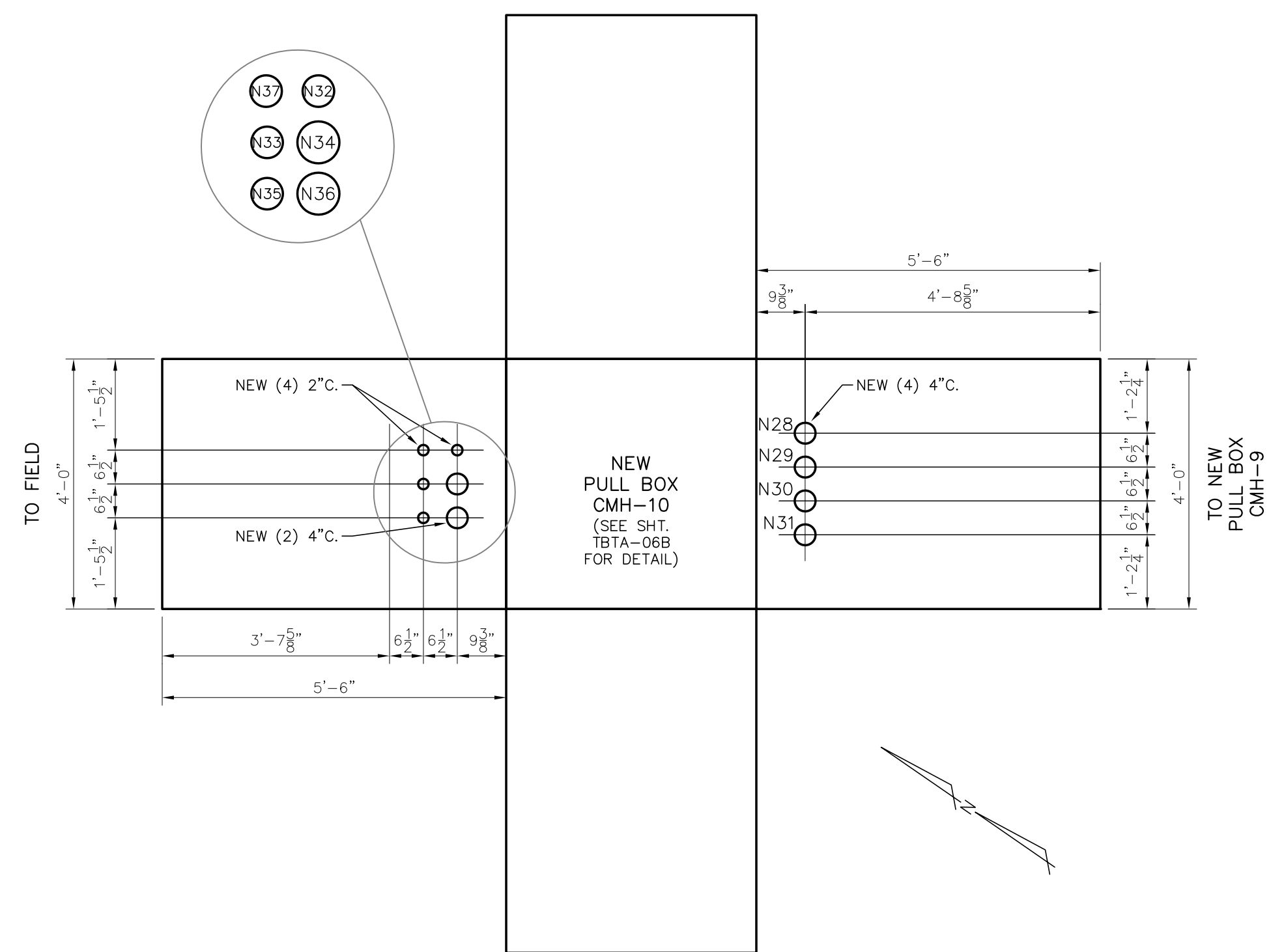
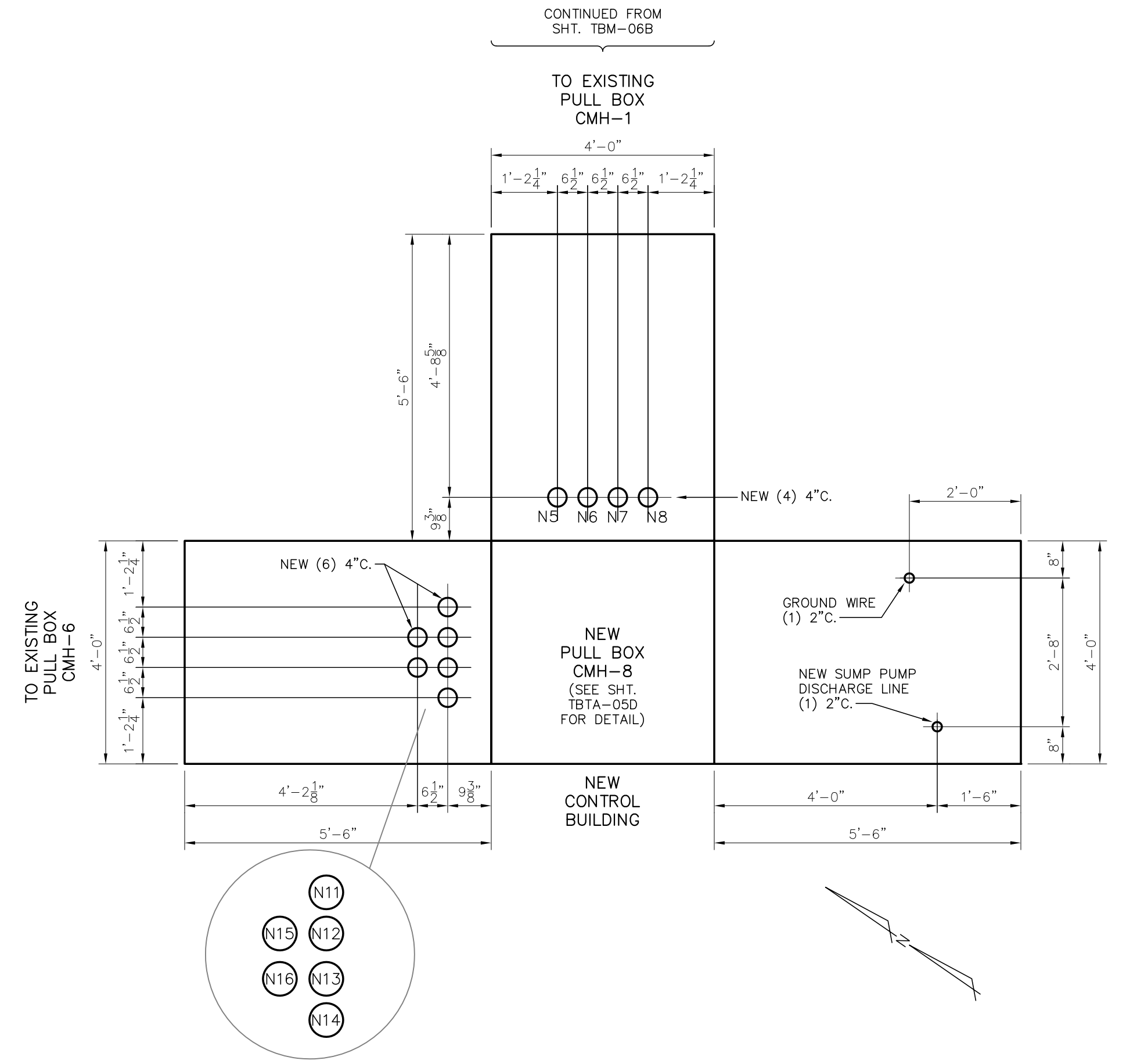
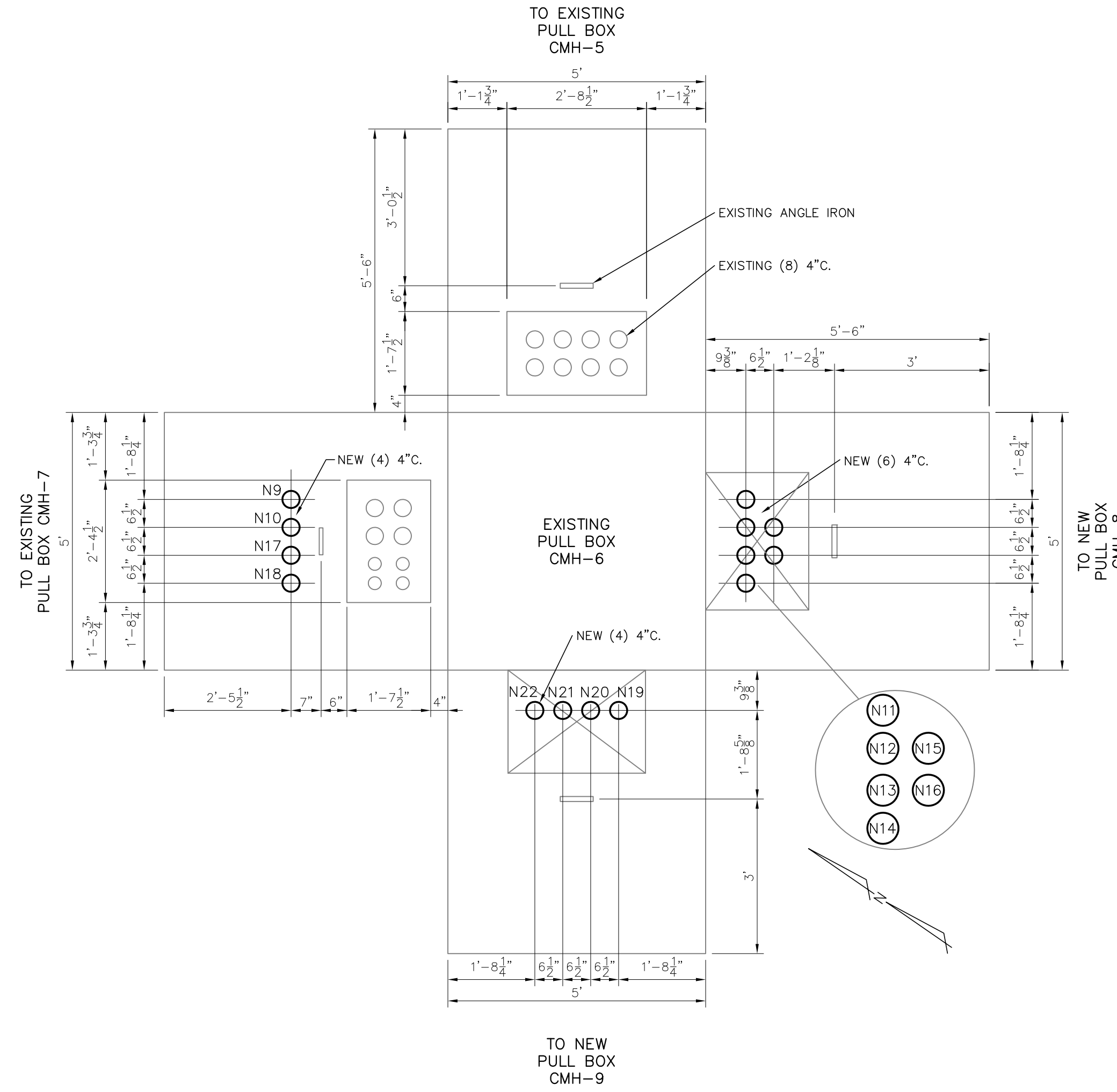
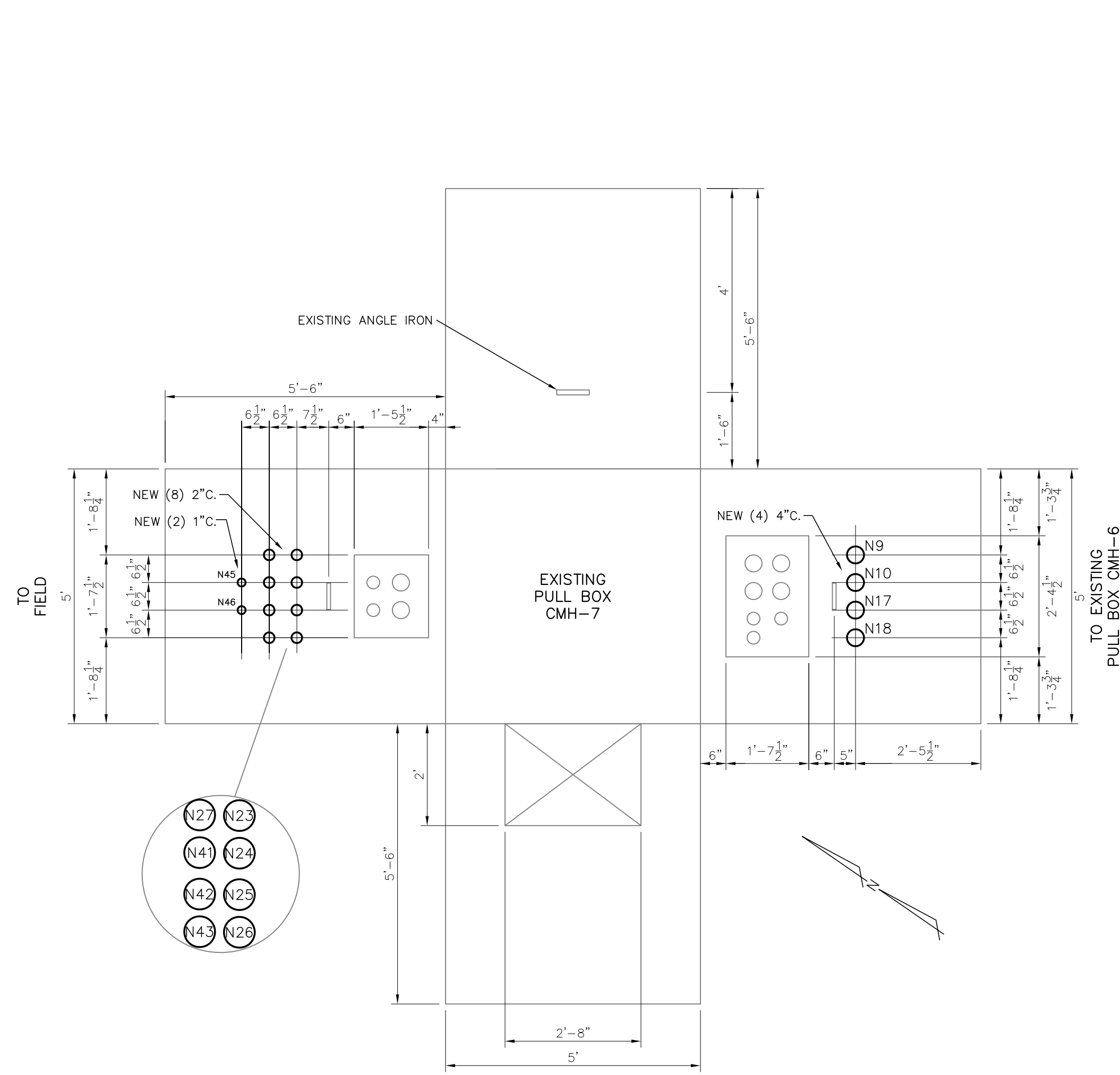
CITY OF ALEXANDRIA
ALEXANDRIA, LOUISIANA

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"

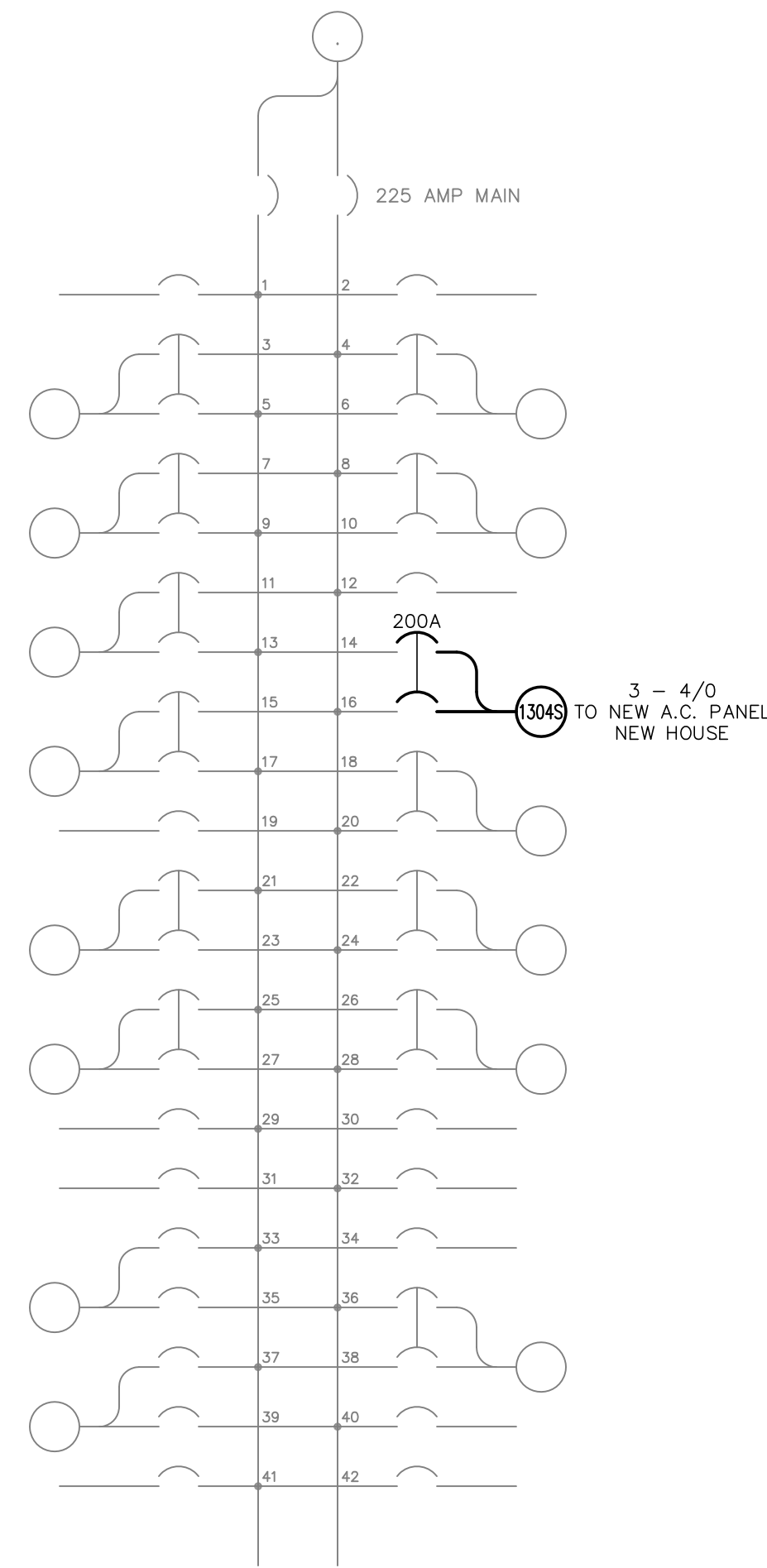
LEGEND:
 — EXISTING
 — PROPOSED

FOR BIDDING PURPOSES ONLY

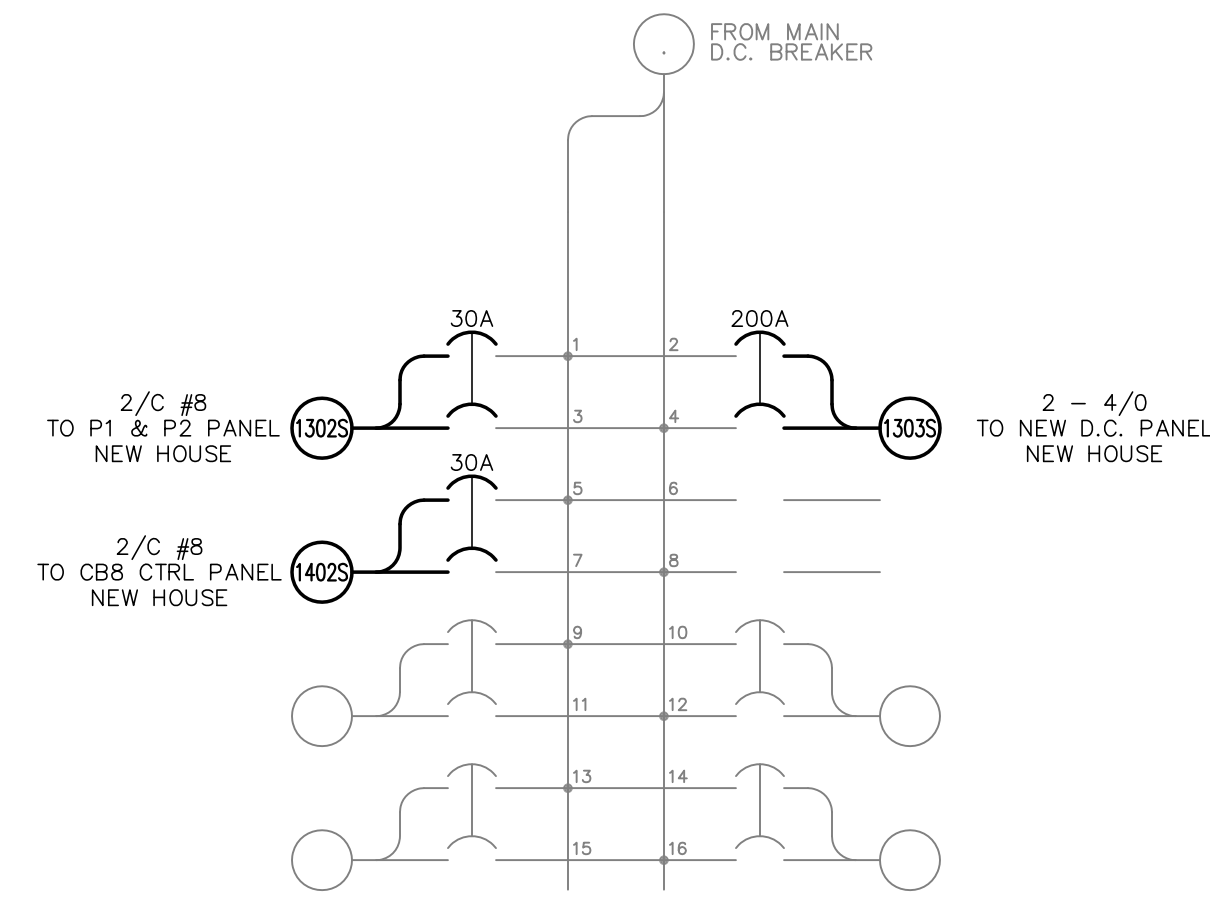
TWIN BRIDGES TRANSFORMER ADDITION PULL BOX DETAILS			
CITY OF ALEXANDRIA ALEXANDRIA, LOUISIANA			
SCALE	DATE	DRAWN BY	APPROVED BY
NONE	10/31/19	JHD	JJC
PROJECT NO.:			2019-E-16A
DRAWING NO.:			TBTA-06C
REV.:			B
NO.	DATE	BY	REVISIONS
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION
A	3/4/19	BHA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

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

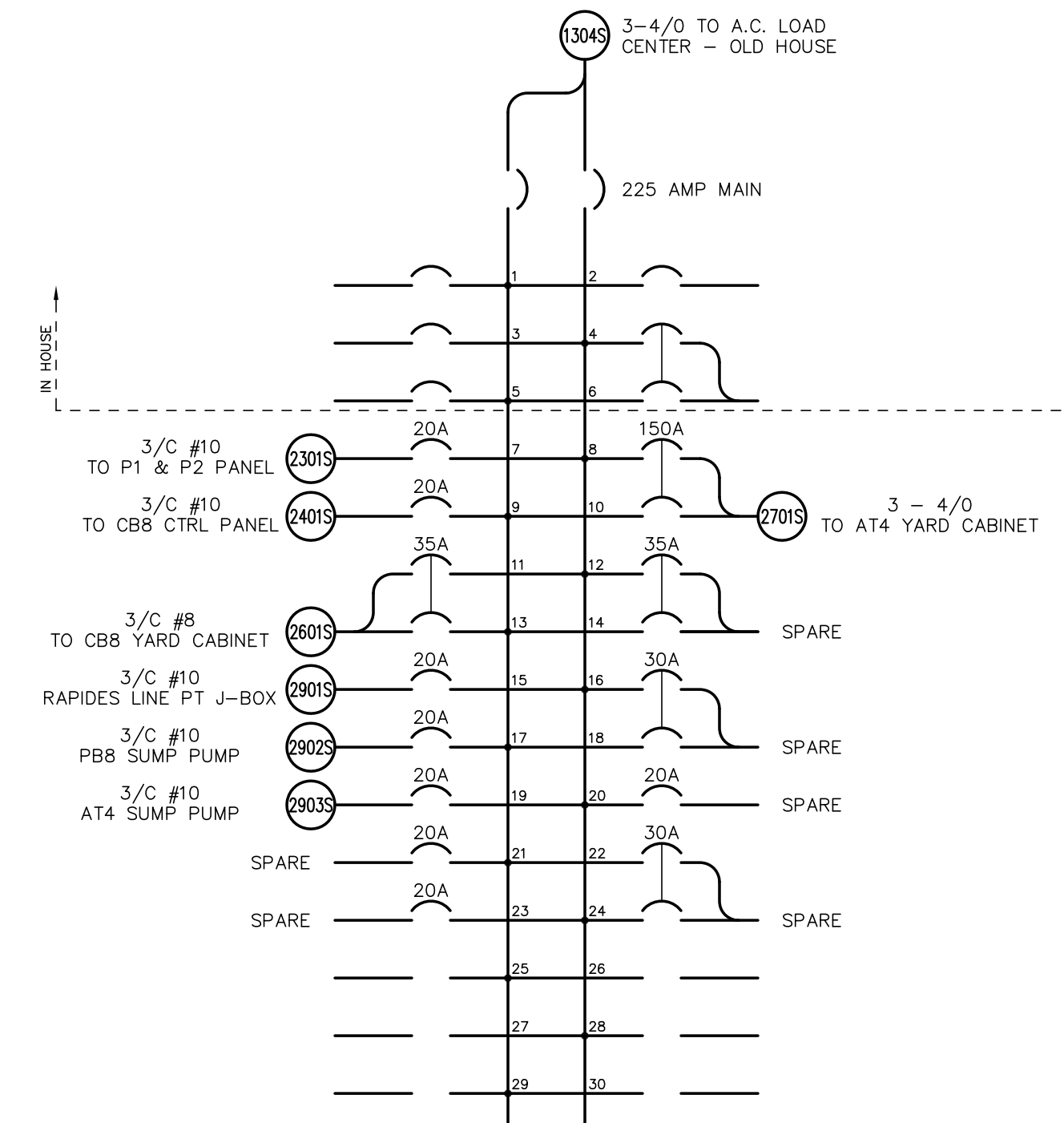
NEW HOUSE A.C. & D.C. PANELS



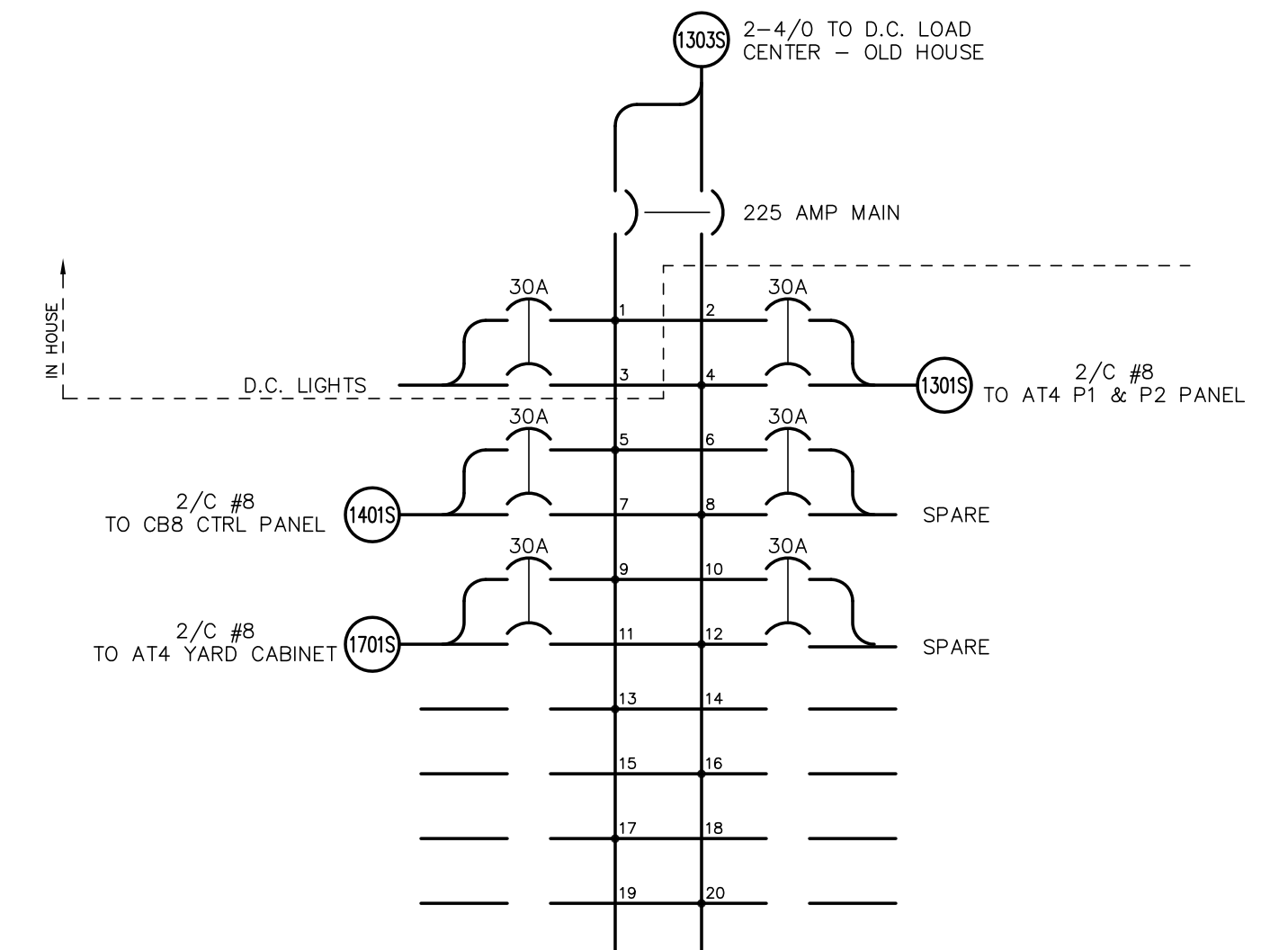
① A.C. LOAD CENTER
OLD HOUSE



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
<div style="display: flex; justify-content: space-between;"> <div style="font-weight: bold;">BHA, INC.</div> <div>BATON ROUGE, LOUISIANA</div> </div>			

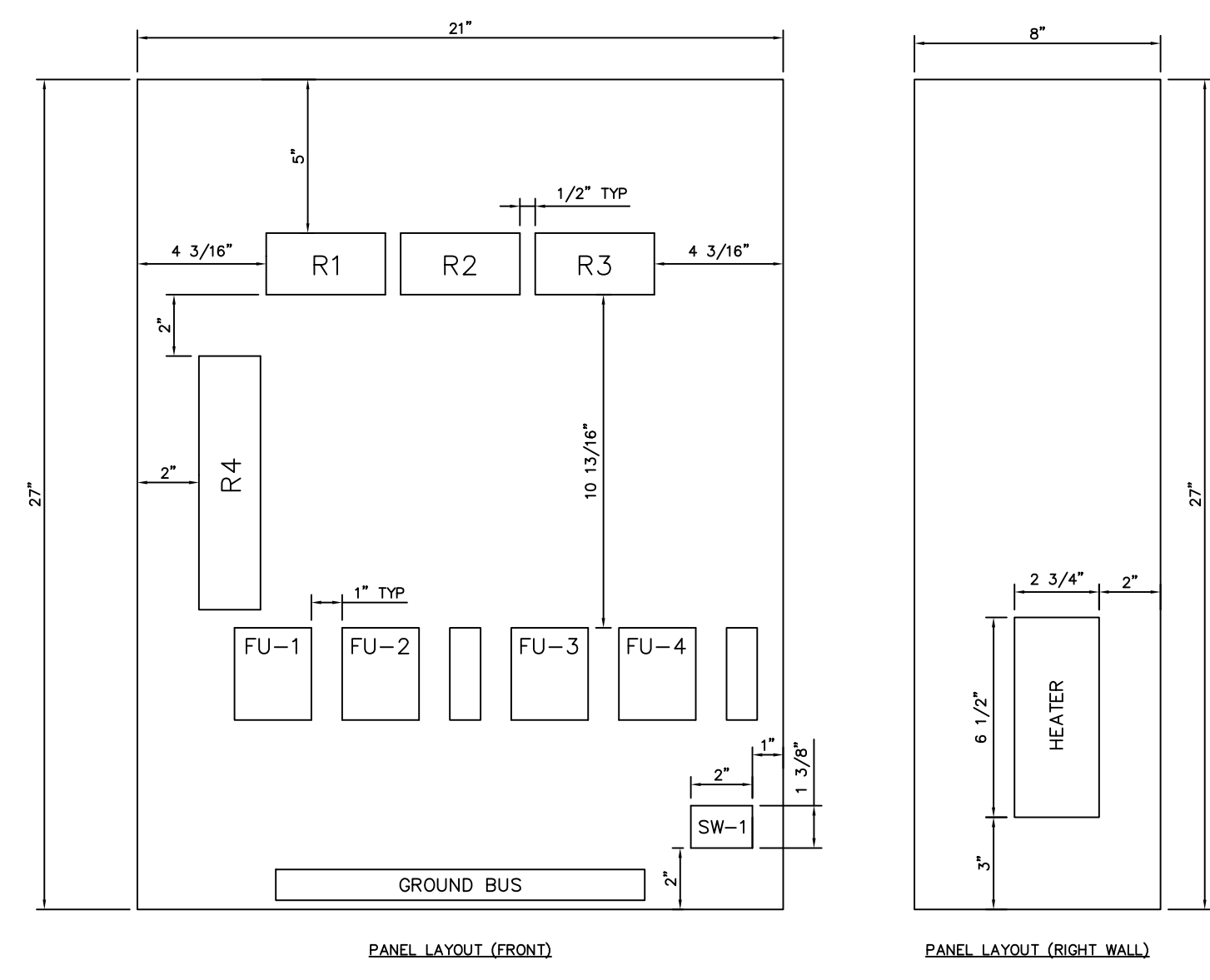
BILL OF MATERIALS				
LOCATION	QTY	ITEM	DESCRIPTION	
ENCLOSURE	1 EA	CABINET	HOFFMAN, ENCLOSURE, NEMA TYPE 4X, STAINLESS STEEL TYPE 316SS, 3-POINT LATCH, 30"(H)x24"(W)x6"(D), CAT.# A-30H2408SLP3PT	
PANEL	1 EA	CABINET	HOFFMAN, PANEL, STAINLESS STEEL TYPE 316L, 27"(H)x21"(W), W/ MOUNTING HARDWARE, CAT.# 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.# 2031B	
ENCLOSURE	2 EA	FUSE BLOCK	FERRAZ SHAWMUT, FUSE BLOCK, SINGLE POLE, CAT.# 2031B	
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.

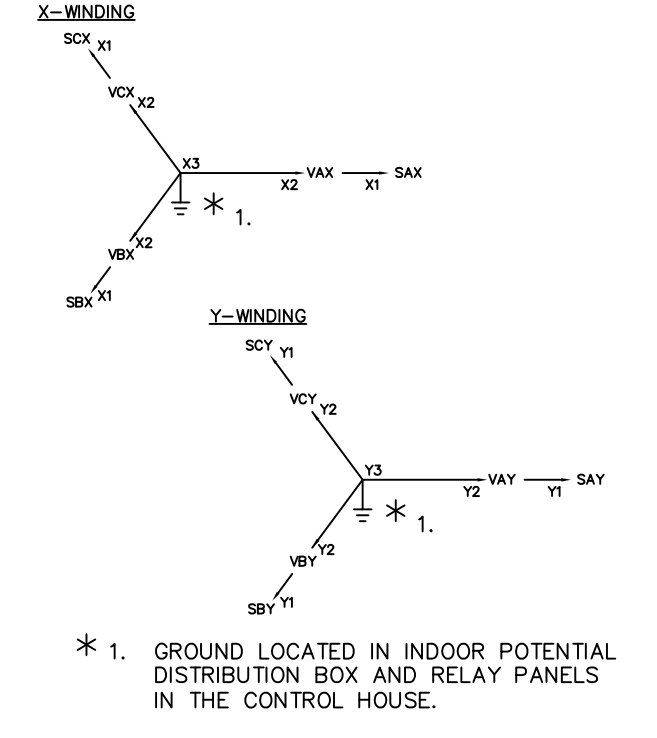
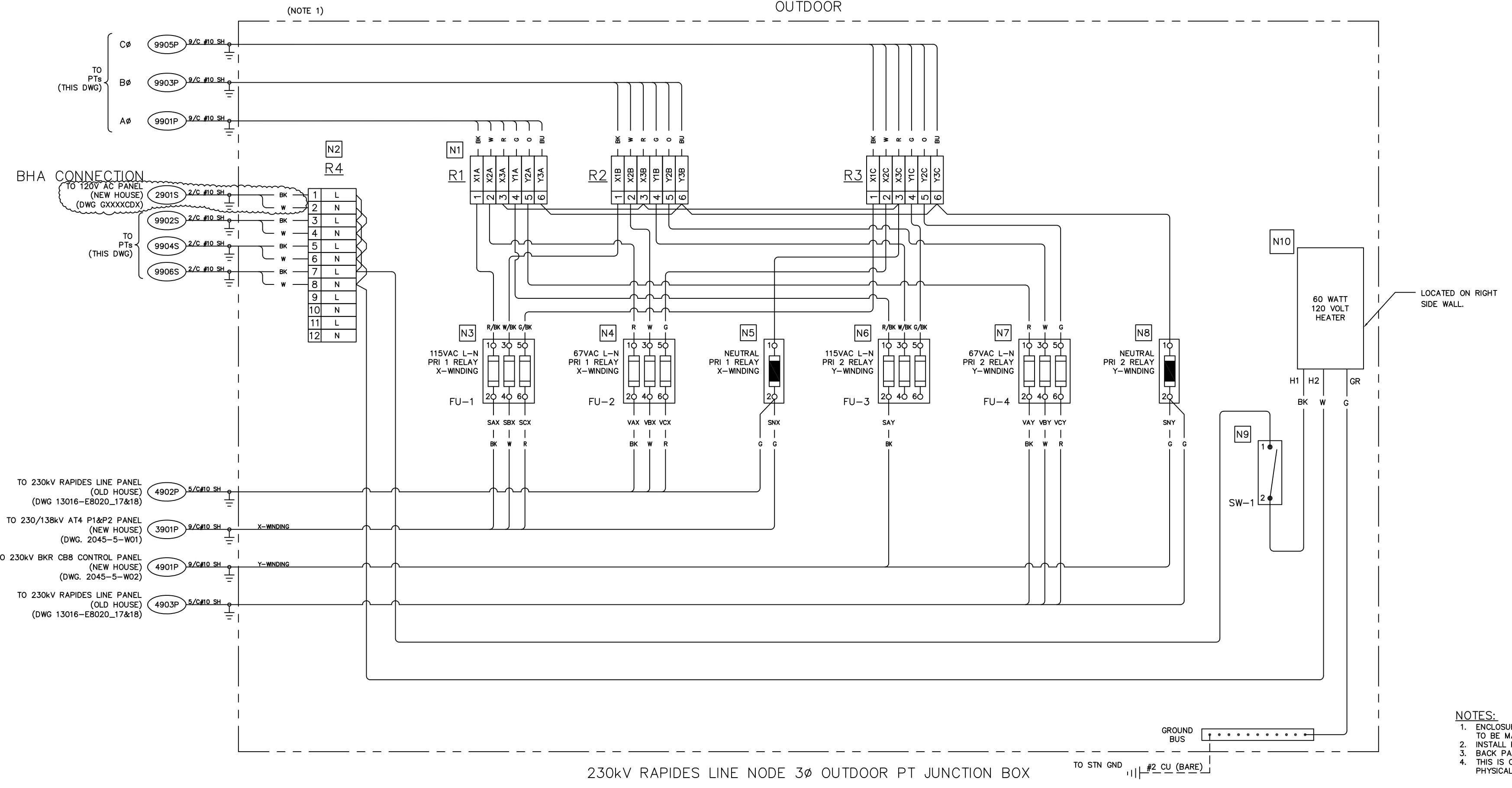
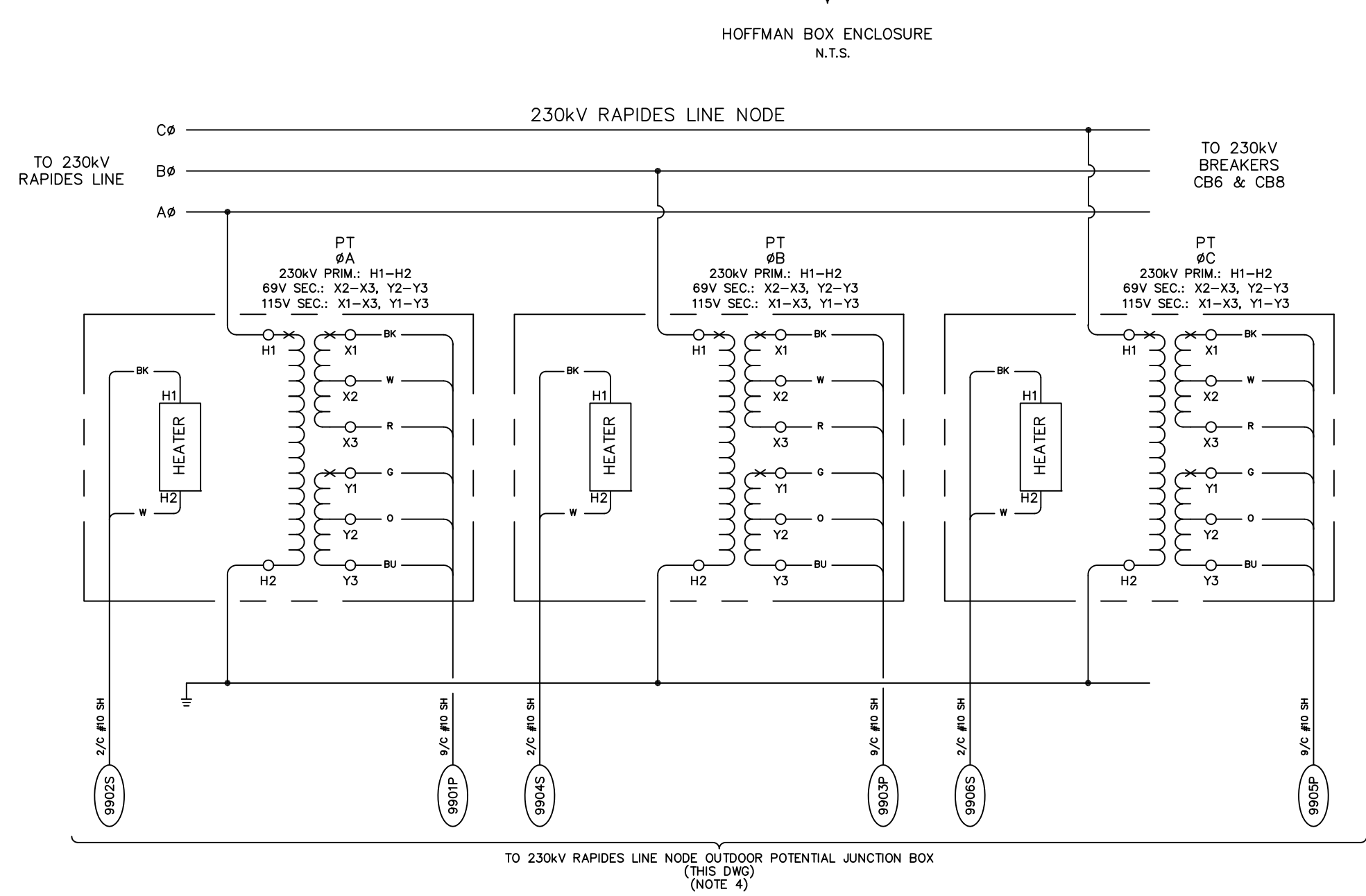
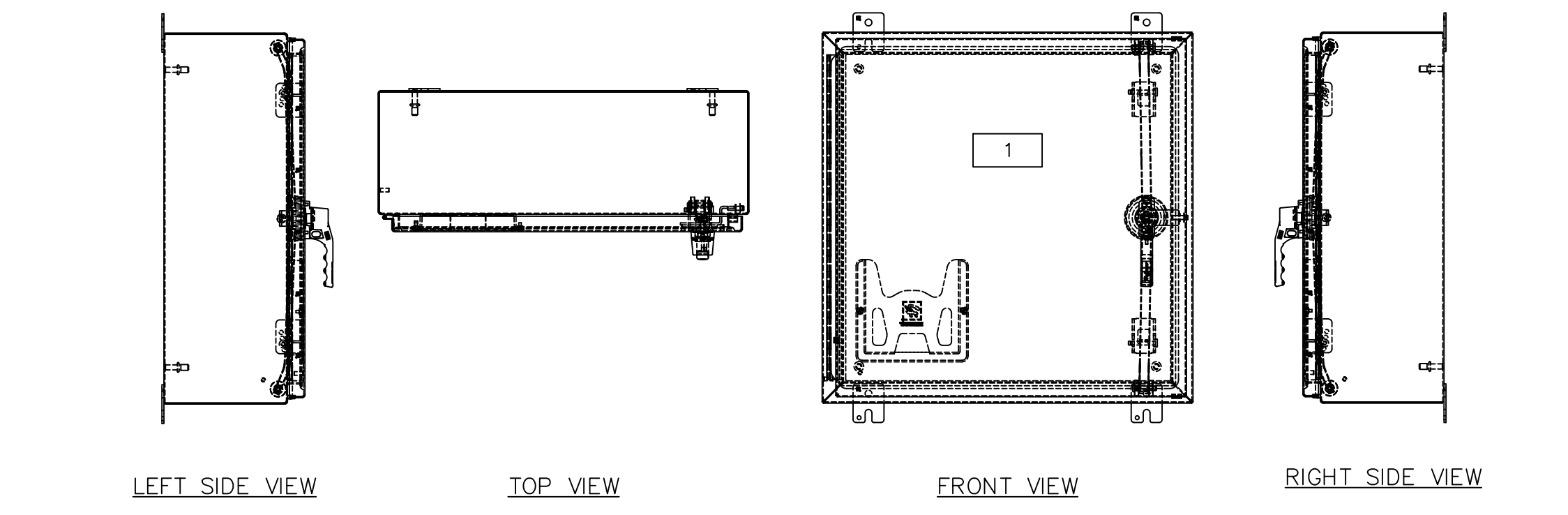
STANDARD CVT/PT RATIOS AND SECONDARY VOLTAGES ARE SHOWN FOR REFERENCE PURPOSES. ALWAYS REFER TO CVT/PT NAMEPLATE VENDOR DRAWING TO CONFIRM ACTUAL RATIOS AND CONNECTIONS.

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.

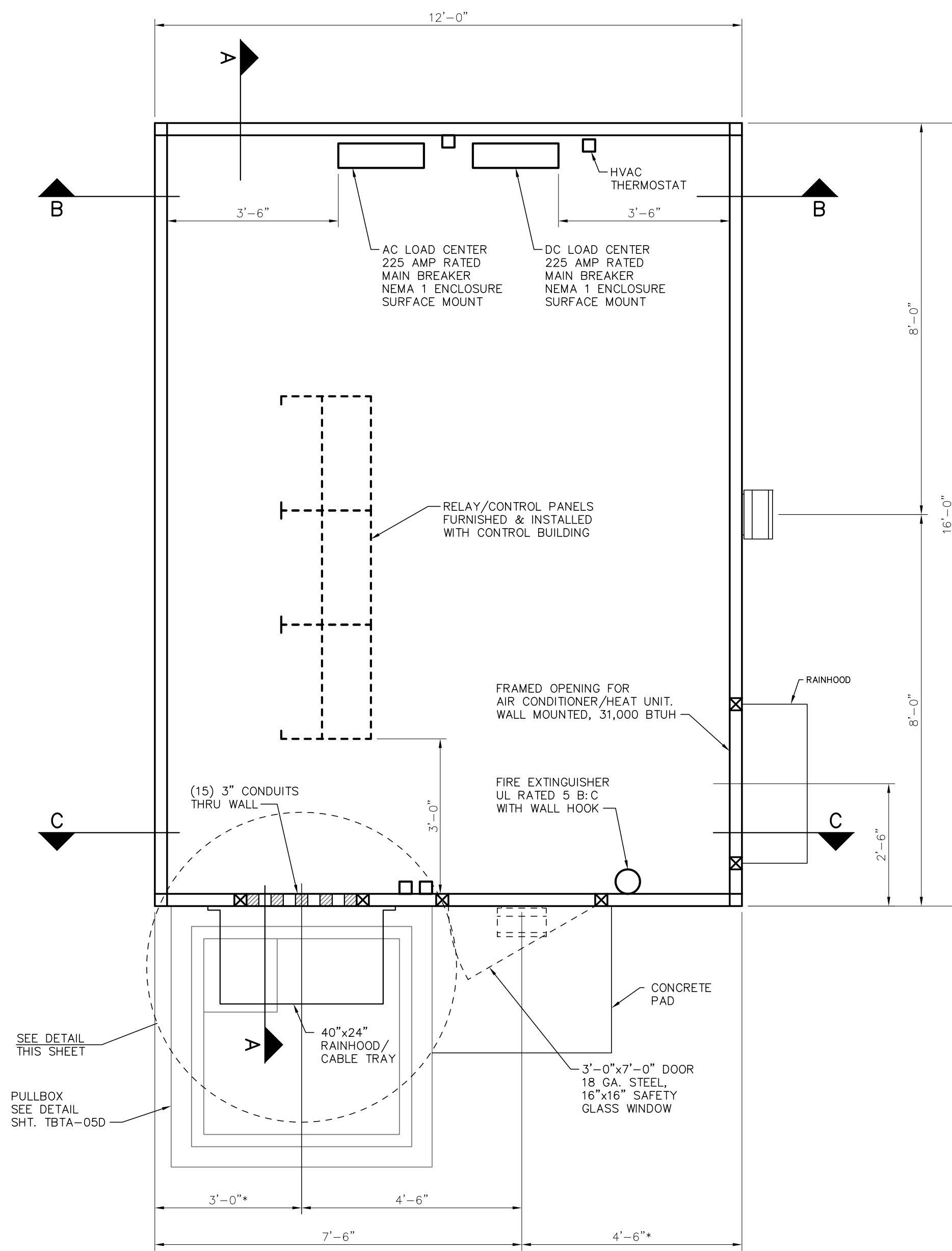
REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE	REV	DESCRIPTION	DRN BY	CHK BY	APP BY	DATE	REFERENCE DRAWINGS	CAD NOTES
0	INSTALL 230kV TRANSFORMER AT4 & BKR C88	MB	AK	DG	1-31-19								

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

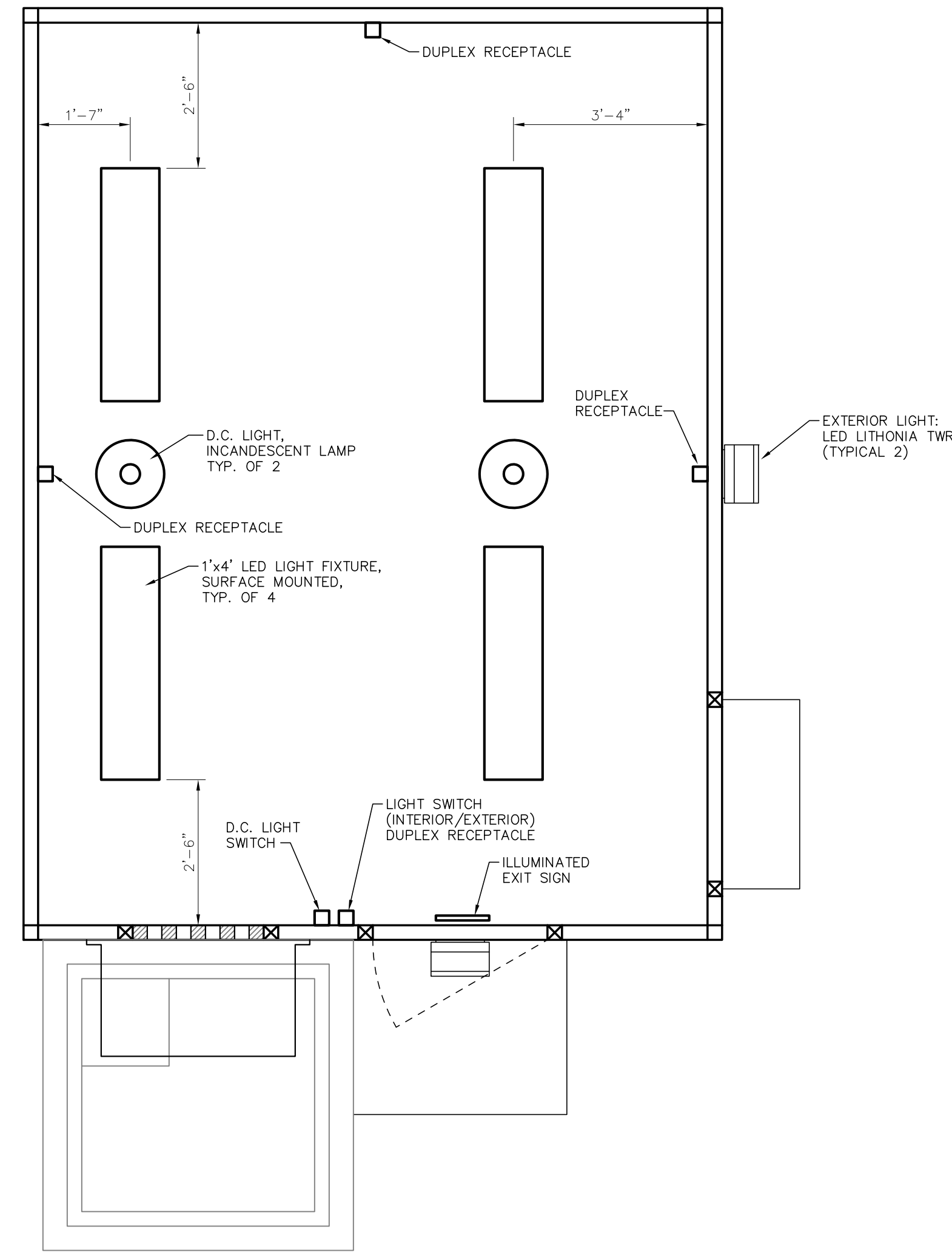
BHA-245.DWG 10/01/2019



CONTROL BUILDING EQUIPMENT LAYOUT

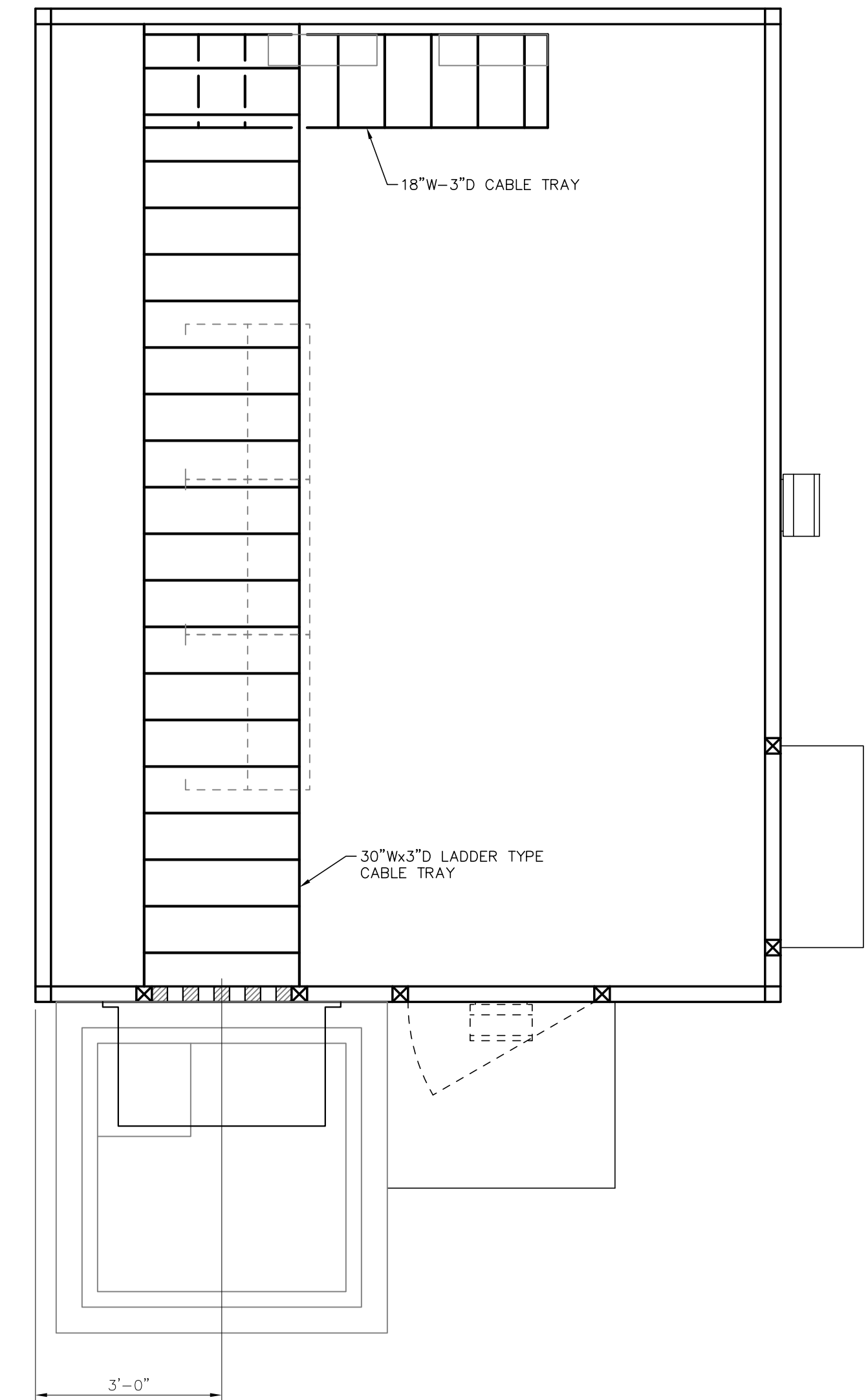
SCALE: 1/2"=1'-0"

* - CONFIRM WITH CONTROL BUILDING DRAWING



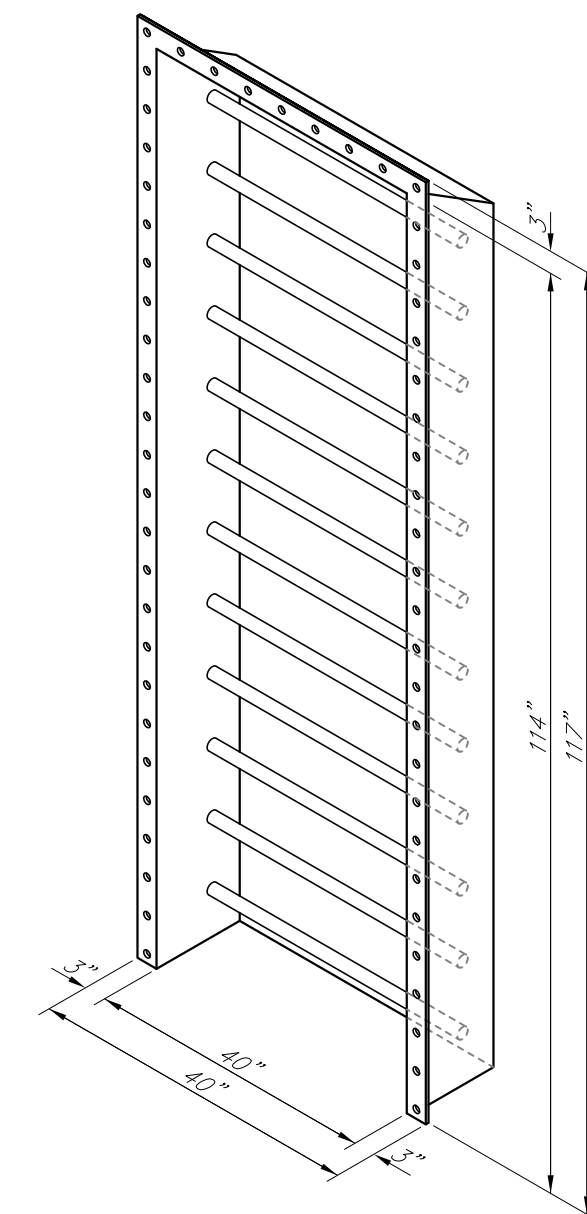
CONTROL BUILDING LIGHTING & POWER LAYOUT

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



CONTROL BUILDING CABLE TRAY LAYOUT

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



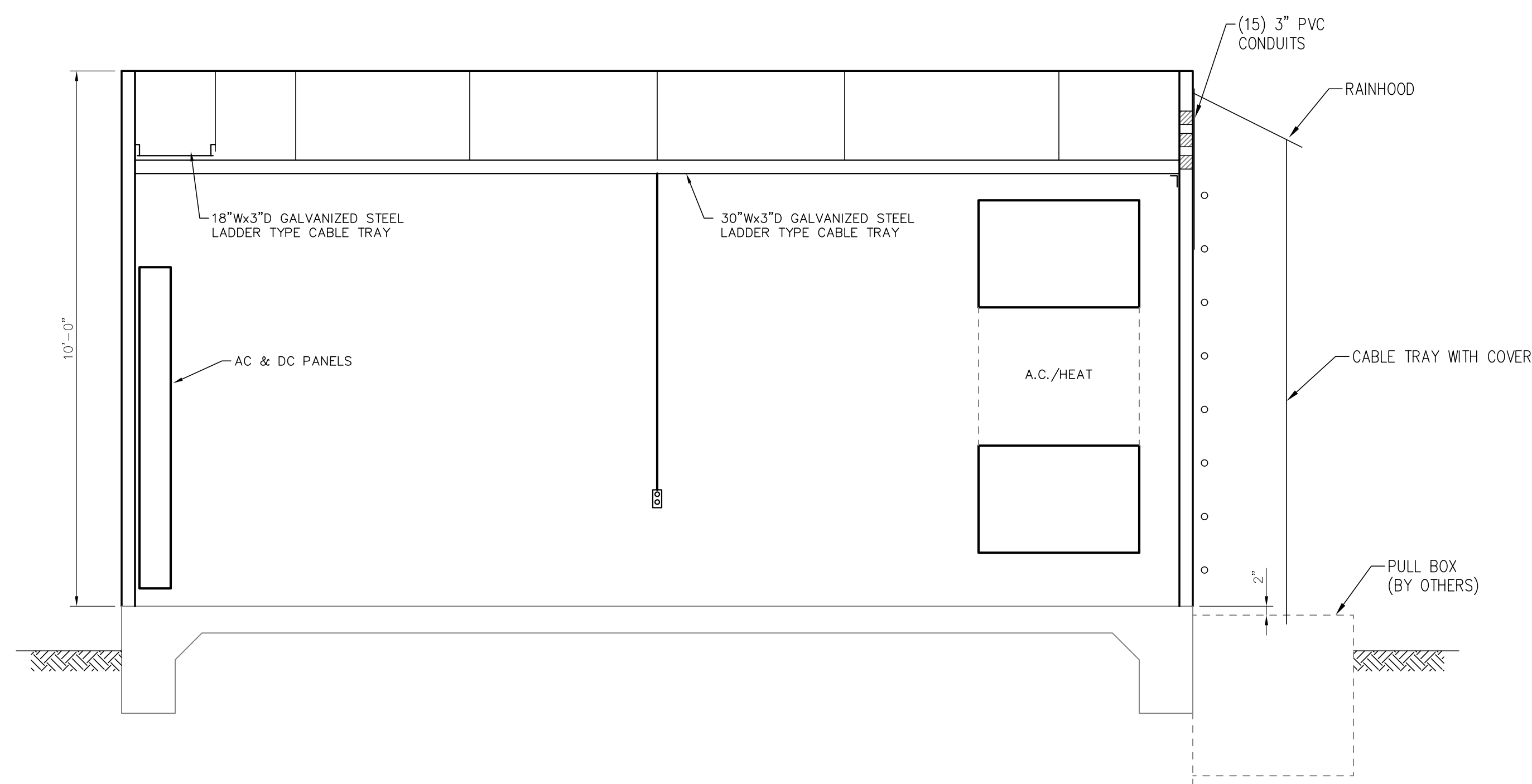
CONTROL BUILDING RAINHOOD/CABLE TRAY

SCALE: N.T.S.

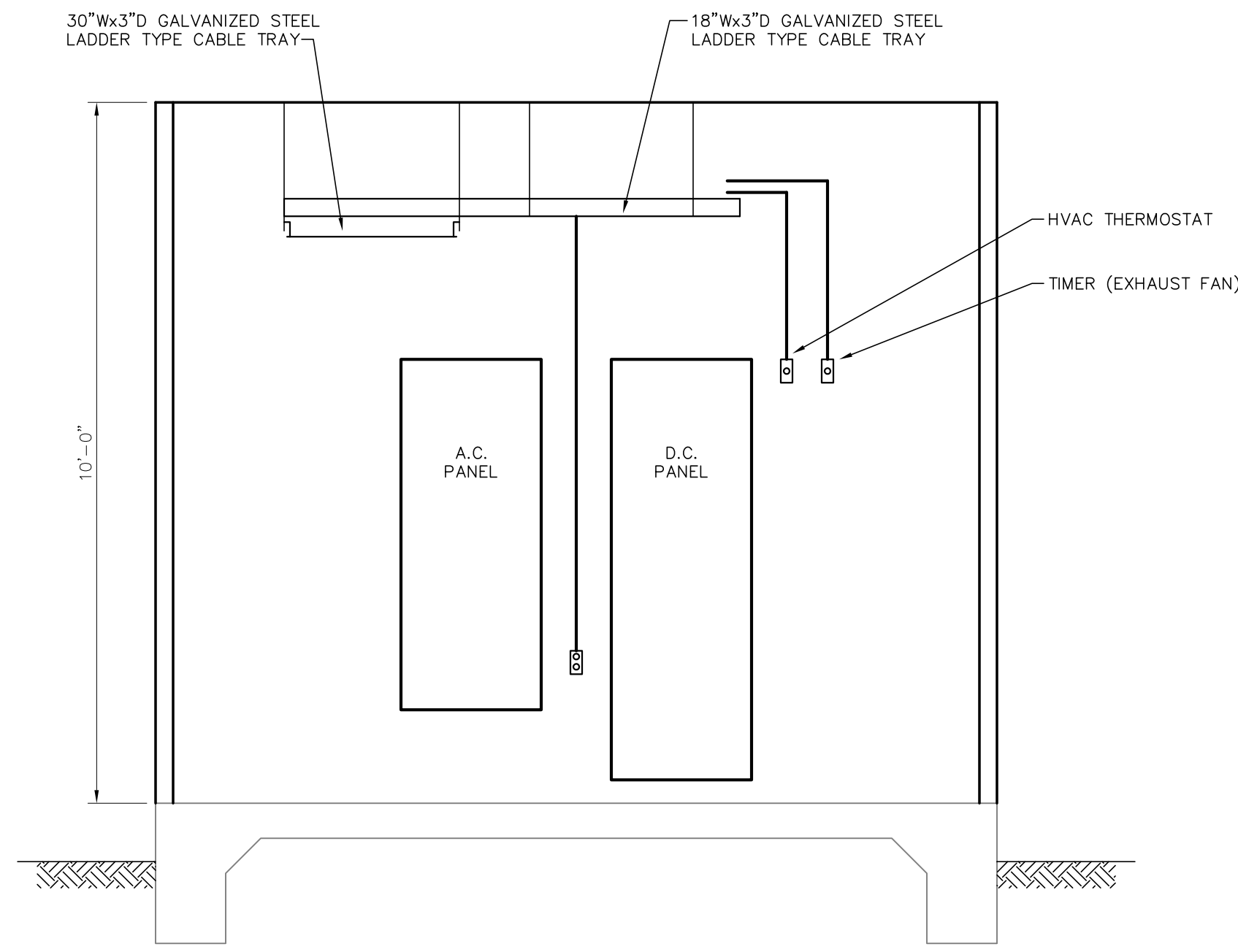
FOR REFERENCE ONLY

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
PROJECT NO. : 2019-E-16A			REV. : B
DRAWING NO. : TBTA-07			
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

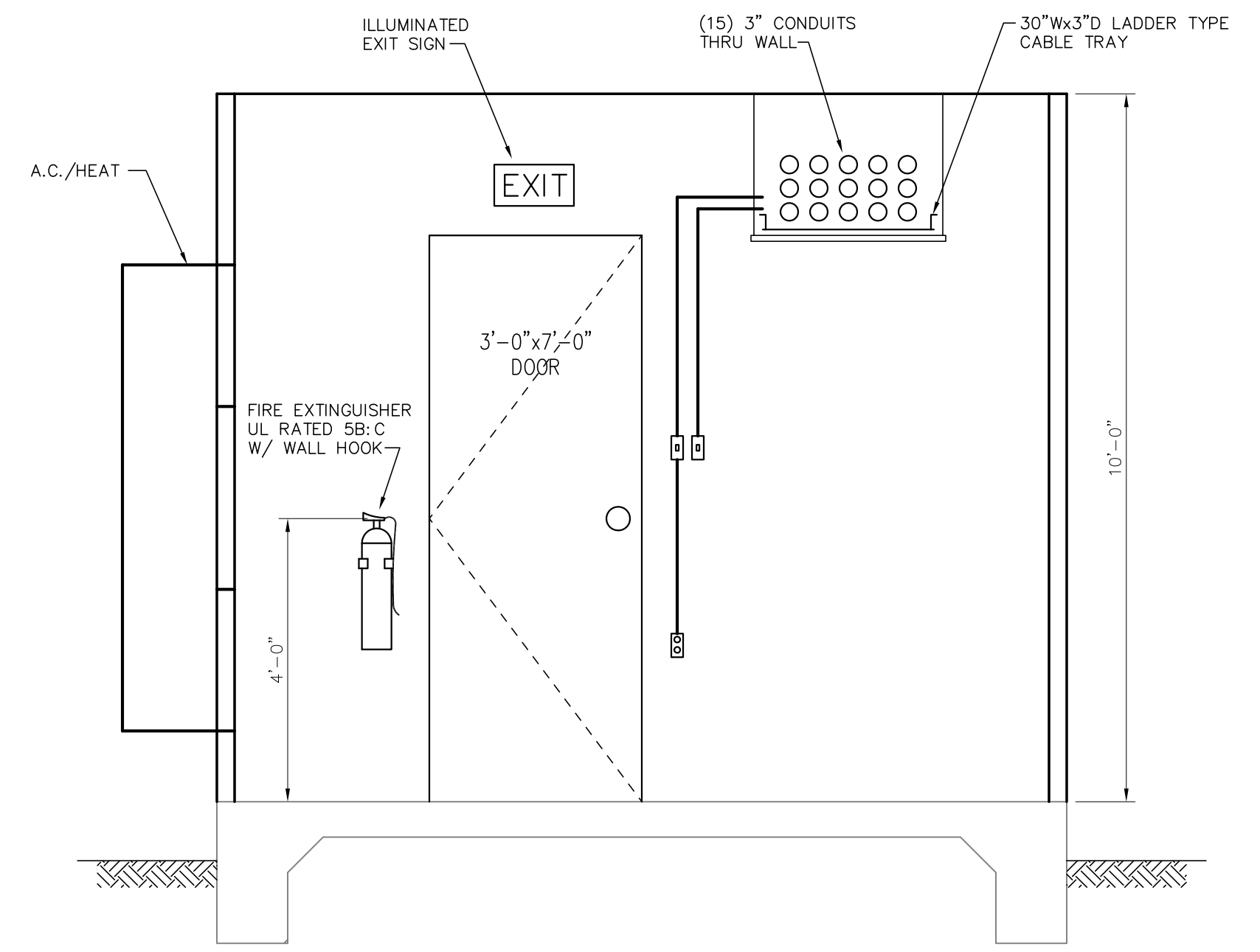
BHA-24-07A.dwg 10/01/2019



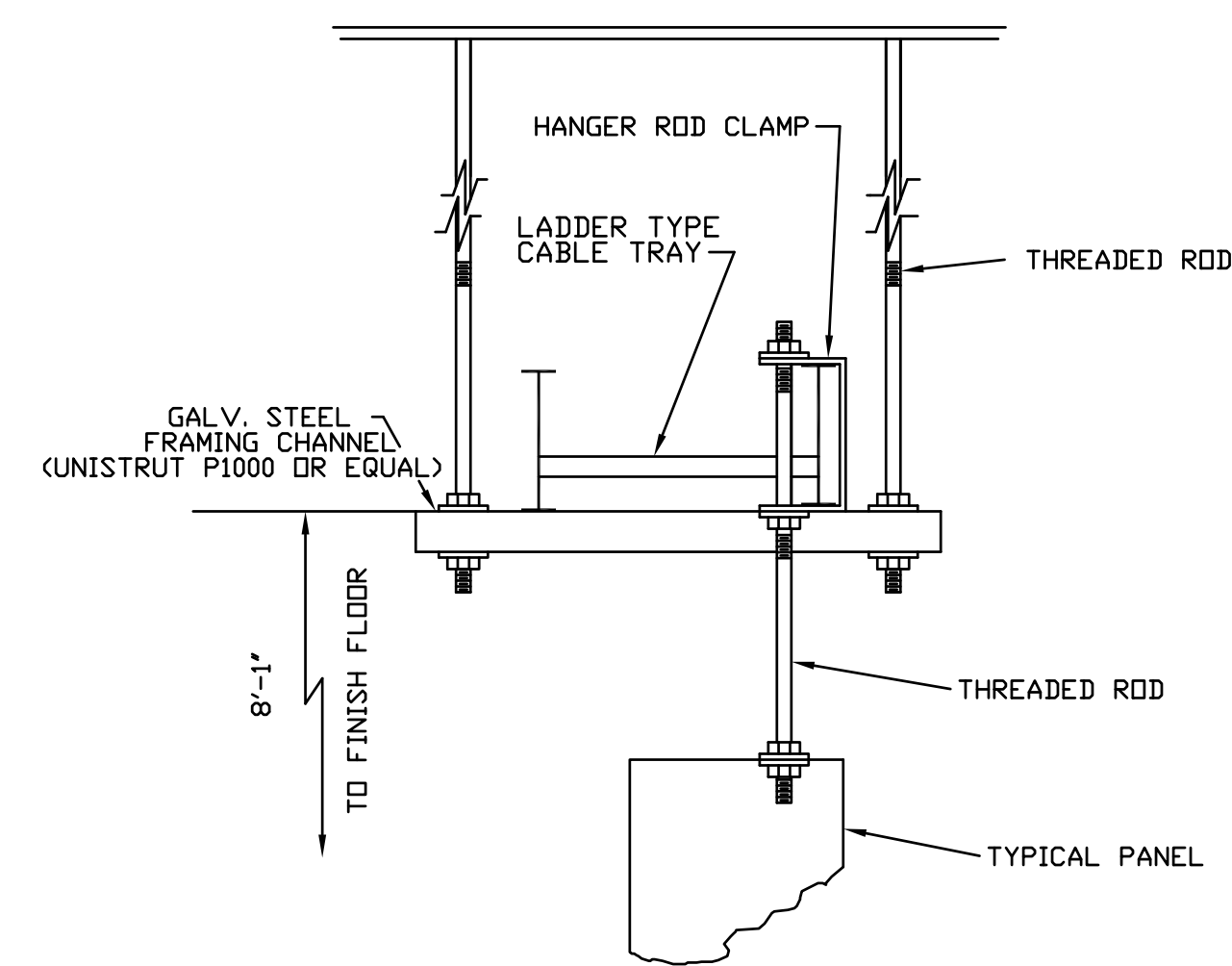
ELEVATION A-A
SCALE: 1/2"=1'-0"



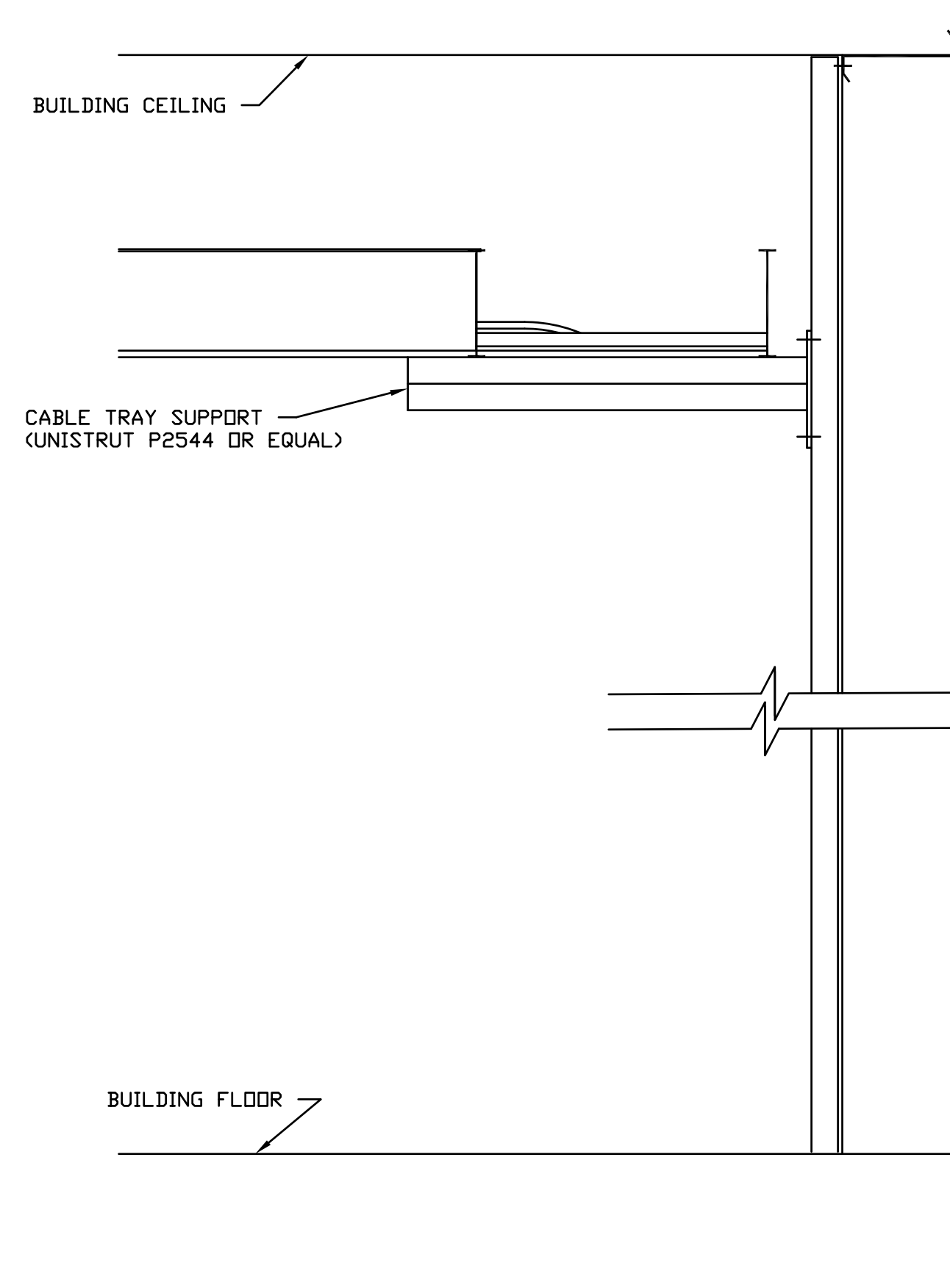
ELEVATION B-B
SCALE: 1/2"=1'-0"



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



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

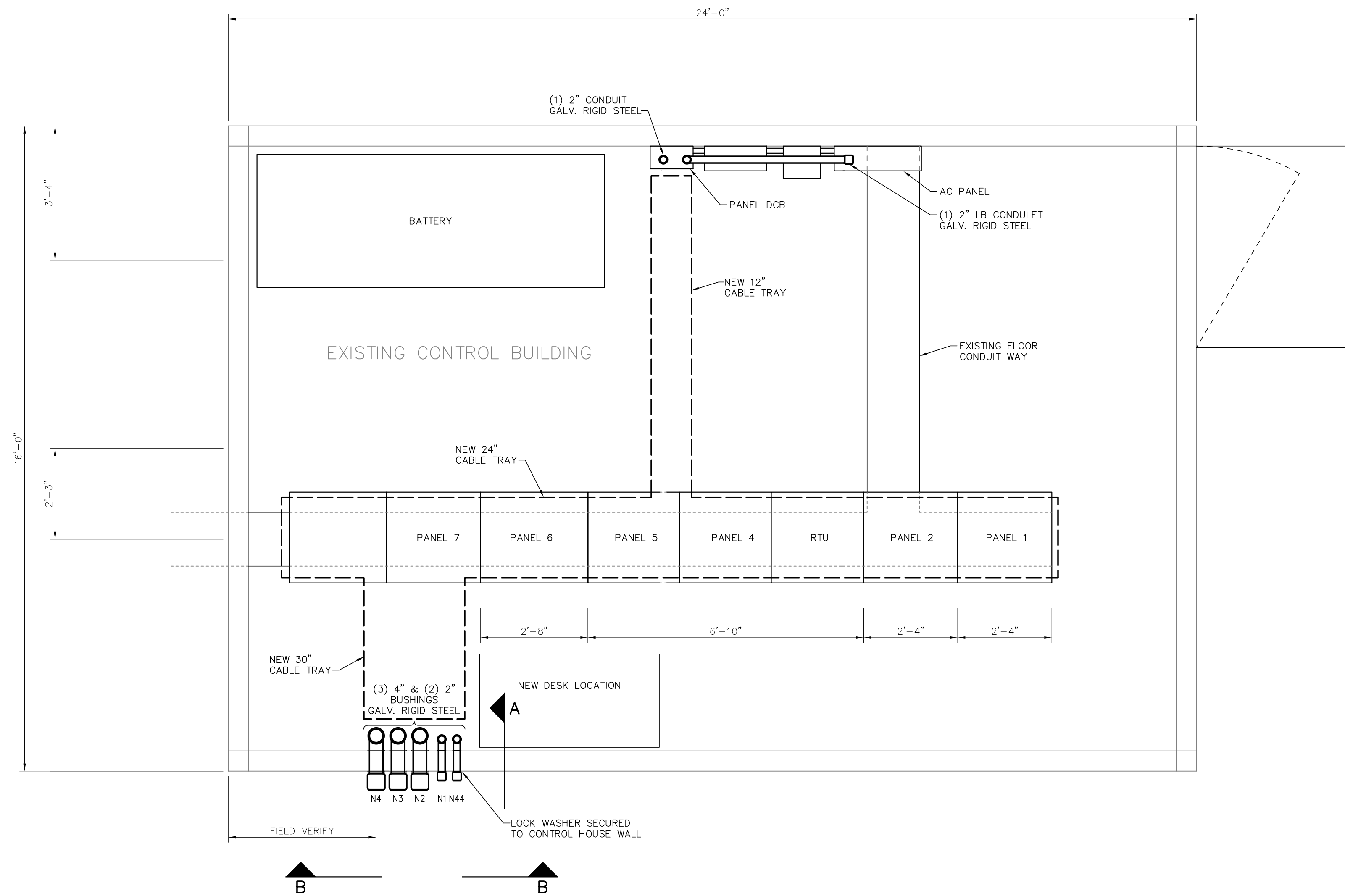


CABLE TRAY SUPPORT DETAIL NO. 2
N.T.S.

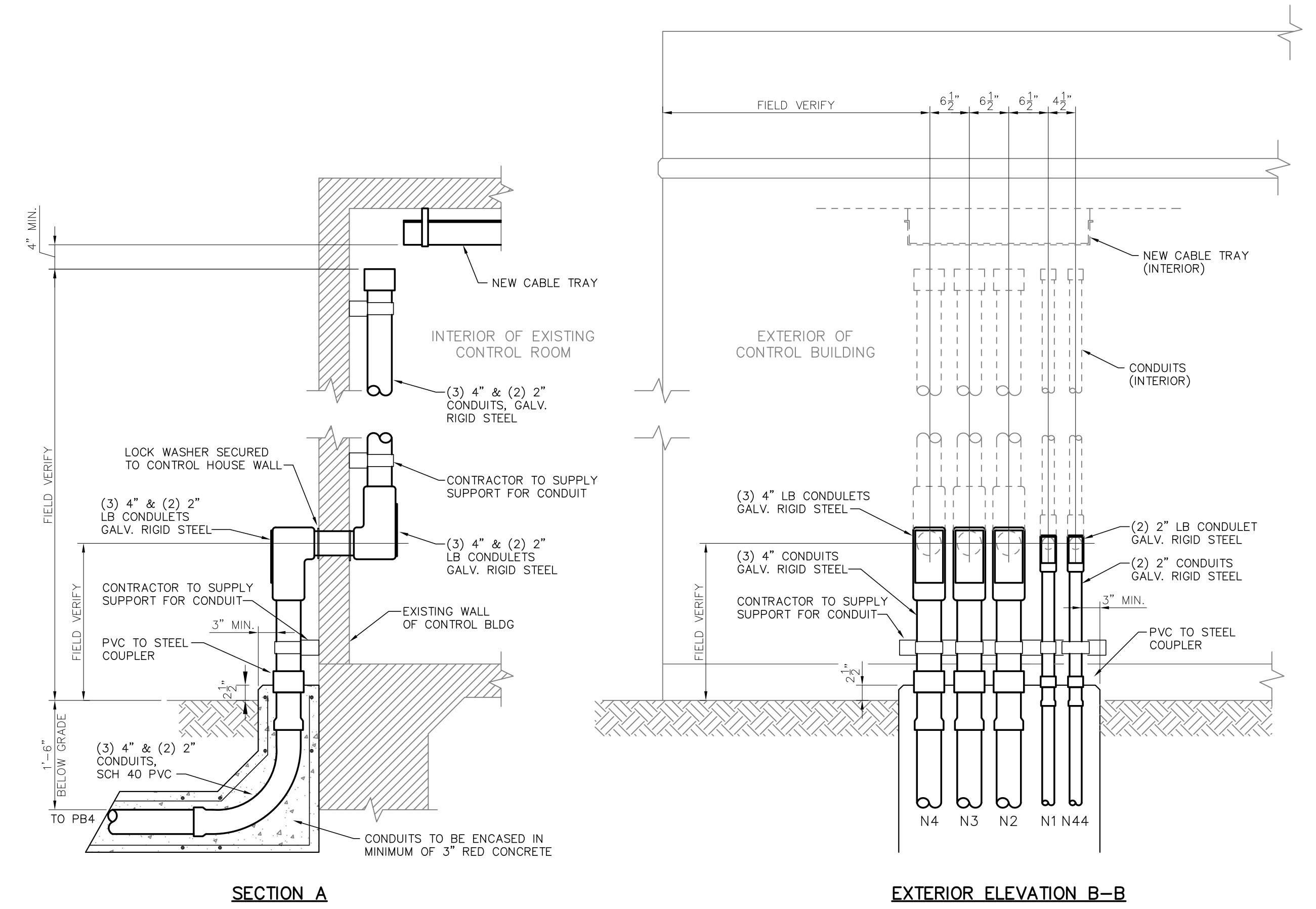
FOR BIDDING PURPOSES ONLY

				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		DRAWING NO.: TBTA-07A		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	

BHA\24\DWG\0010219



**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			
B2	6/24/19	BHA	REVISED CONDUIT ACCESS & ADDED CABLE TRAY	SCALE:	DATE:	DRAWN BY:	APPROVED BY:
B	5/30/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION	NOTED	2/5/19	TJW	JJC
A	3/4/19	BHA	FOR BIDDING PURPOSES ONLY - CONSTRUCTION	PROJECT NO.: 2019-E-16A			
NO. DATE BY: REVISIONS				DRAWING NO.: TBTA-07B REV.: B2			
				BHA, INC. BATON ROUGE, LOUISIANA			