

2021-03-29

**REQUEST FOR QUOTATION
REPLACEMENT OF TRANSFORMERS FOR VAULTS #20, #27 & #30
RFQ 11 (2021-03)**

The Toronto Zoo invites you to submit a quotation to provide labour, tools, materials and equipment necessary to install three (3) pad mounted transformers, supplied by the Toronto Zoo. The contractor is responsible for all pricing and other arrangements with all sub contractors as required. All work is to be completed in accordance with the specifications and drawings in the Request for Quotation (RFQ).

Work shall commence as soon as possible once the project is awarded and a Purchase Order has been issued. All work shall be completed by **Friday, 2021-06-30**.

The Quotation package includes Instructions, Terms & Conditions, Requirements, Drawings, and Forms. Quoted prices shall remain in effect for a period of ninety (90) days from the Quotation due date.

Site Meeting: A site meeting has not been scheduled for this RFQ. If you would like to review the site, please contact Kyle Rekker, krekker@torontozoo.ca

Due Date: Your quotation must be completed, and received by the Supervisor, Purchasing & Supply, Toronto Zoo, Administrative-Support Centre, 361A Old Finch Ave., Toronto, Ontario, M1B 5K7 by:

Wednesday, 2021-03-14, 1200 hours (noon, local time)

The Board of Management of the Toronto Zoo reserves the right to reject any or all quotes or to accept any quote, should it deem such an action to be in its interests.

If you have any queries regarding this request for quote, please contact Peter Vasilopoulos, Supervisor of Purchasing & Supply, (416) 392-5916. If you have any technical queries regarding this request for quote, please contact Kyle Rekker, krekker@torontozoo.ca

Yours truly,

Taryne Haight
Manager, Financial Services

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1.0 INSTRUCTIONS

- 1.1** Ensure that you have received all **sixteen (16)** pages plus Equipment Specifications, Single Line Diagram and vault location pictures for the RFQ package.
- 1.2** Complete ALL FORMS in section 4.0 and return by due date and time received on or before **Wednesday, 2021-04-14, 1200 hours (noon, local time)** or your Quotation will not be considered. Include signed copies of any addenda with your proposal package.
- 1.3** Submission – Temporary process - In view of the current situation with COVID 19 and to limit personal interaction, on a temporary basis submissions for this Request for Proposal can be submitted electronically by email in a PDF file, prior to the submission deadline to the following email address

purchasing@torontozoo.ca

and note the following:

- a. Subject of the file to be: RFQ# - Title of RFQ – Vendor name.
- b. Amendments to a Proposal may be submitted via the same methods, at any time prior to the Closing Time.
- c. It is the Supplier's sole responsibility to ensure its Bid is received by the Submission Deadline in accordance with the requirements of this RFP. The receipt of Bids can be delayed due to a number of factors including "internet traffic", file transfer size and transmission speed. The Supplier should allow sufficient time to download, complete and upload, as applicable, the submission forms comprising its Bid and any attachments.

A Bid will only be considered to be submitted once it has been received by the Toronto Zoo. The time of such receipt is reflected by the time received stamped by the Toronto Zoo's email application

- 1.4** Quotations must not be submitted by facsimile.
- 1.5** All Prices submitted shall be quoted in Canadian currency, Show itemized cost of HST if applicable.
- 1.6** Toronto Zoo reserves the right to award in whole or in part on the basis of the bids received, Lump Sum Price or Breakdown Price.
- 1.7** Use the attached submission label, when you submit your response in a sealed envelope or package and deliver to the Toronto Zoo.
- 1.8** Quotation prices shall remain in effect for a period of ninety (90) days from the Quotation due date.
- 1.9** Include product information, samples, and pictures, as necessary.

-
- 1.10** Provide references of at least three (3) clients for whom your company has performed similar work. References must include photos of three (3) different installations, client company name, contact name, address and e-mail address.
- 1.11** If applicable, suggested alternative products are acceptable, however all such products must be quoted separately and should not replace the Toronto Zoo requested product, work or service.
- 1.12** It is the responsibility of the Bidder to understand all aspects of the RFQ and to obtain clarification if necessary before submitting their quotation.
- 1.13** For any questions concerning the contract terms and conditions of this RFQ, please contact:

Peter Vasilopoulos, Supervisor,
Purchasing & Supply, Tel: 416-392-5916, Fax: 416-392-6711,
E-mail: pvasilopoulos@torontozoo.ca

Any questions regarding the work in this RFQ must be forwarded by the end of the day **Tuesday, 2021-04-06**.

2.0 TERMS AND CONDITIONS

- 2.1 Definitions:** Wherever used in the Request for Quotation the word “**Board**” means the Board of Management of the Toronto Zoo and the word “**Vendor**” or “**Contractor**” means the person or persons or Corporation to whom the purchase order is issued.
- 2.2 Vendor Assurance:** Unless otherwise stated, the goods, material, articles, equipment, work or services, specified or called for in or under this Quotation, shall be delivered or completely performed, as the case may be, by the Vendor as soon as possible and in any event within the period set out herein as the guaranteed period of delivery or completion.
- 2.3 Country of Origin:** Wherever possible, the goods, services, materials, articles or equipment, specified or called for in or under this Quotation, shall be of Canadian origin and manufacture.
- 2.4 Delivery:** The prices stated in this Quotation cover the services, material, articles or equipment referred to herein, being delivered F.O.B. destination, freight, express, duty and all other charges prepaid, unless otherwise indicated herein. A detailed delivery ticket or piece tally, showing the exact quantity of goods, material, articles or equipment shall accompany each delivery. A receiver’s receipt shall not bind the Board to accept the goods, material, articles or equipment covered thereby, or the particulars of the delivery ticket or piece tally therefore. The Vendor shall not be entitled to any interest upon any bill due to delay in its approval by the CEO of the Toronto Zoo or his designate.
- 2.5 Invoicing:** Unless otherwise indicated herein, the prices stated are payable in Canadian Funds at the head office of the Board. Any Harmonized Sales Tax (HST) applicable shall be shown as a separate item. The Vendor’s HST/Business registration number must be indicated on the invoice.

The Vendor shall clearly show any special charges such as packaging and freight, where applicable, as separate items on the invoice.

Payments to non-resident Vendors may be subject to withholding taxes under the Income Tax Act (Canada). Unless a non-resident Vendor provides the Board with a letter from Revenue Canada, Taxation waiving the withholding requirements, the Board will withhold the taxes it determines are required under the Income Tax Act (Canada).

- 2.6 Notice of Delivery:** The Vendor shall notify the Purchasing Agent of the Board at the address given for the mailing of invoices, in writing as soon as possible of the details of the shipment of the goods, materials, articles or equipment.
- 2.7 Right to Cancel:** The Board shall have the right to cancel at any time this Quotation or any contract or any part of any contract resulting from this Quotation in respect of the goods, material, articles, equipment, work or services set out in this Quotation or any such contract or part of such contract, not delivered or performed at the time of such cancellation, and the Board will not be responsible to make any payments in respect of any such goods, materials, articles, equipment, work or services and shall not incur any liability whatsoever in respect thereto.

In the event that the Vendor fails or neglects by any act or omission to comply with any of the conditions set out herein, this Quotation or any contract resulting from this Quotation may be unconditionally cancelled by the Board without notice to the Vendor.

2.8 Official Agreement: No verbal arrangement or agreement, relating to the goods, material, articles, equipment, work or services, specified or called for under this Quotation, will be considered binding, and every notice advice or other communication pertaining thereto, must be in writing and signed by a duly authorized person.

2.9 Worker's Rights: The Vendor shall comply with the conditions of the Board relating to Worker's Rights, a copy of which is available on application to the Manager, Fair Wage and Labour Trades Office, City of Toronto, 18th Floor, West Tower, City Hall, Toronto, Ontario, M5H 2N2 or by phone at 416-392-7300.

2.10 Insurance: The Contractor shall, at his/her own expense obtain and, until the work is fully complete maintain, broad-scope insurance coverages, hereof, satisfactory to the Chief Executive Officer as to form and substance, with the indicated policy form of the Canadian Construction Documents Committee (CCDC), its equivalent or better subject to such modifications therein to cover unusual aspects of the work, working conditions or other circumstances as may be specified elsewhere in the Contract.

2.10.1 The Contractor shall effect, maintain and keep in force, at its sole cost and expense and satisfactory to the Chief Executive Officer as to form and substance the insurance described below:

2.10.2 All risks property insurance on property of every description and kind owned by the contractor or for which the Contractor is responsible while on the premises of the Board in an amount not less than full replacement value. The policy shall be endorsed to provide a waiver of subrogation against the Board for any loss or damage to insured property, however caused.

2.10.3 Commercial general liability insurance, including owners' and contractors' protective, products, completed operations, personal injury, employer's liability, contractual liability, occurrence basis property damage, liability arising from the sale of serving of alcoholic beverages and provisions for cross liability and severability of interests with a limit of not less than Two Million Dollars (\$2,000,000.00) per occurrence. The policy shall be endorsed to name the Board as an additional insured with respect to the operations of the Contractor under this agreement.

2.10.4 Standard automobile liability insurance for all owned vehicles with limits of not less than Two Million Dollars (\$2,000,000.00) per occurrence.

2.10.4.1 All policies of insurance required to be taken out by the Contractor shall be placed with insurers licensed to conduct business in the Province of Ontario and shall be subject to the approval of the Chief Executive Officer, acting reasonably.

2.10.4.2 The Contractor shall deliver to the Board evidence of the insurance required prior to the commencement of the agreement, in form and detail satisfactory to the Chief Executive Officer acting reasonably.

2.10.4.3 The provisions of this section 2.11 shall no way limit the requirements and obligations imposed on the Contractor elsewhere in the Contract, nor relieve the Contractor from compliance therewith and fulfillment thereof.

2.10.4.4 The parties agree that insurance policies may be subject to deductible amounts, which deductible amounts shall be borne by the Contractor.

2.10.4.5 The provisions of this article shall in no way limit the requirements and obligations imposed on the Contractor elsewhere in the Contract, nor relieve the Contractor from compliance therewith and fulfillment thereof.

2.11 Indemnity: The Vendor shall at all times well and truly save, defend, keep harmless and fully indemnify the Board, the City of Toronto, Toronto Region and Conservation Authority and their servants, employees, officers or agents, hereinafter called the "Indemnities", from and against all actions, suits, claims, demands, losses, costs, charges, damages, and expenses, brought or made against or incurred by the Indemnities, its or their servants, officers, employees, agents or invitees in any way relating, directly or indirectly, to goods, material, articles or equipment supplied or to be supplied, or to the supplying of goods or services, pursuant to this Quotation, or any other claim, action, suit, demand, loss, cost, charge, damage or expense relating to copyright, trademark or patent with regard directly or indirectly with any such goods, services, material, articles or equipment or the supply or performance thereof.

2.12 Ownership and Disclosure of Proposal Documentation

(1) The documentation comprising any Proposal submitted in response to this RFP, along with all correspondence, documentation and information provided to the Toronto Zoo by any Proponent in connection with, or arising out of this RFP, once received by the Toronto Zoo:

- a) shall become the property of the Toronto Zoo and may be appended to the Agreement and/or Purchase Order with the successful Proponent;
- b) shall become subject to the *Municipal Freedom of Information and Protection of Privacy Act ("MFIPPA")*, and may be released, pursuant to that Act.

(2) Because of *MFIPPA*, Proponents should identify in their Proposal material any scientific, technical, commercial, proprietary or similar confidential information, the disclosure of which could cause them injury.

(3) Each Proponent's name at a minimum shall be made public.

(4) Proposals will be made available to members of Board of the Board of the Management of the Toronto Zoo provided that their requests have been made in accordance with the Toronto Zoo's procedure and may be released to members of the public pursuant to *MFIPPA*.

2.13 Intellectual Property Rights

Each Proponent warrants that the information contained in its Proposal does not infringe any intellectual property right of any third party and agrees to indemnify and save harmless the Toronto Zoo, the City of Toronto, the Toronto & Region Conservation Authority, and their servants, employees, officers, agents and invitees and its consultants, if any, against all claims, actions, suits and proceedings, including all costs incurred by the Toronto Zoo brought by any person in respect of the infringement or alleged infringement of any patent, copyright, trademark, or other intellectual property right in connection with their Proposal.

- 2.14 Liability for Acts of Vendor Employees, Contractors or Agents:** The Vendor acknowledges responsibility and accepts liability for the acts of any of its employees, contractors and agents while on Toronto Zoo property. The Toronto Zoo reserves the right to request background checks for any individual providing the services requested on behalf of the Vendor.
- 2.15 Guaranty of Quotation:** All goods, material, articles, equipment, work or services, specified or called for in or under this Quotation, shall be supplied or performed at the price or process and on the basis set forth or referred to in and in accordance with the Offer and this Quotation. The basis on which this Quotation is given shall include any specifications, plans, price schedules, samples, addenda or other details pertaining thereto, or provided in connection therewith.
- 2.16 Right of Notice:** Any notice that the Board may be required or desire to give to the Vendor shall for all purposes to be deemed to have been sufficiently and properly given and afforded by registered mail addressed to the Vendor at the address shown for the Vendor on this form and shall therefore be presumed to have been received by the Vendor on the third day following such registration.
- 2.17 Formal Contract:** The Vendor may be required and shall, if requested by the solicitor for the Board so to do, to execute and enter into a formal contract that is satisfactory to the solicitor for the Board, in order to document the contract resulting from this Quotation and to embody indemnity and related provisions that in the opinion of such solicitor are required to protect the Board.
- 2.18 Charity Status:** The Toronto Zoo is a registered charitable organization (registration #BN 119216398RR0001) and accordingly may be eligible for preferred pricing which should be reflected in the Quotation as submitted.
- 2.19 Performance Evaluation:** The Contractor's performance will be evaluated by the Chief Executive Officer and/or Chief Executive Officer's Representative during the Contract and at the end of the Contract. In the event that the Contractor's performance is considered unsatisfactory by the Chief Executive Officer and/or Chief Executive Officer's Representative, the Contractor and/or its affiliates may become ineligible from bidding on future contracts issued by the Board.

3.0 PROJECT REQUIREMENTS

The scope of work includes provision of labour, tools, materials and equipment necessary to install three (3) pad mounted transformers, supplied by the Toronto Zoo, as outlined in the drawings and specifications.

The work shall commence once the project has been awarded and a Purchase Order issued.

3.1 SCOPE OF WORK

1. All work to be completed in accordance with applicable codes, ie. Building Code, Electrical Code etc.
2. Work to be completed during normal operating hours.
3. Remove existing transformers from vaults.
4. Install and secure three (3) new pre-cast concrete transformer pads, supplied by Toronto Zoo, on top of existing vaults.
5. Install three (3) new pad mount transformer, supplied by Toronto Zoo.
6. Re-use existing primary cables at pad mount transformer locations.
7. Provide primary cable extension and new terminations as required.
8. Extend and terminate the existing transformer secondary cables to the new pad mount transformer as required. Wire sizes to be confirmed by contractor.
 - a. Vault #20 has a set of 500kcmil cables, #4/0awg cables, 2 sets #4awg cables, and #6awg cables.
 - b. Vault #27 has a set of #2awg cables.
 - c. Vault #30 has a set of 250kcmil cables.
9. Provide and install two (2) bollards at the front access to vault/pad, at vault #27 location only.
10. Supply and install grounding bonds to new transformer and bollards as necessary.
11. Perform installation and commissioning tests, inclusive of:
 - a. Transformer turns ratio.
 - b. Insulation resistance of transformer windings.
 - c. Ground resistance.
12. Provide E.S.A. permit and inspection.

3.2 CONTRACTOR RESPONSIBILITIES

1. Regular meetings/communication with the Toronto Zoo Project Team to review project status and to discuss issues that may arise during the project.

2. Provide samples, mock ups, etc. as required to the Project Team.
3. Provide product information and SDS sheets to the Project Team prior to start of the work where applicable.
4. Protect adjacent areas not included in the project. Any damage caused will be the responsibility of the contractor to rectify at no additional cost to the Zoo.
5. Clean the work area and remove all debris from site on a daily basis and make good any damage caused as a result of the work.
6. Secure the work site and provide construction signs and barriers to prevent injury to Zoo personnel and the public who will require access to the surrounding space during the work. All temporary barriers shall be free standing/ self-supporting and interlocking to prevent unauthorized access.
7. Upon award of contract, Contractor is to finish all work, including clean up and demobilization by the completion date specified.
8. Submit close out documents as requested. Including any warranties and “As built” drawings.
9. Any work must be carefully coordinated with the Zoo to ensure the safety of visitors, staff and the animals. All work is to be scheduled with consideration to ongoing events and functions and may be subject to limitations as a result.
10. The contractor shall supply the Zoo with copies of relevant certificates and licences, as required, for all workers prior to commencement of work.
11. All measurements to be site verified.
12. Contractor is to check in and out at Security when entering or exiting Zoo property as per the schedule agreed upon between contractor and Zoo designate.

3.3 SAFETY SPECIFICATIONS

1. It is the responsibility of the Contractor to protect the site as required during construction.
2. Ensure that awareness of public safety is considered and protect visitors in the vicinity during the construction period.
3. All necessary personal protective equipment must be worn at all times and SDS sheets must be available on site as required.
4. The contractor is to abide by applicable Toronto Zoo Health & Safety Policies,
 - i. SAFE-002 Health & Safety Hazard Reporting
 - ii. SAFE-017 Contractors Safety
 - iii. SAFE-018 Vehicles on Site
 - iv. SAFE-007 Working in Confined Space
 - v. SAFE-025 Hot Work

vi. SAFE-013 Equipment Lockout/Tag-out

the Ontario Health and Safety Acts, the Ontario Building Code and all other applicable codes including the Fire Codes.

5. The contractor is to abide by the Toronto Zoo's Commitment to the City of Toronto's Corporate Smog Alert Response Plan
6. It is the responsibility of the Contractor to ensure that the work site is properly protected at all times. All work sites must be marked and hoarded adequately with construction signs posted to secure and isolate the work site from the public or other personnel that have access to the area.

3.4 OTHER INFORMATION

The successful bidder must demonstrate the ability to complete the work to standards acceptable to the Zoo and prove past performance in the completion of similar types of work for other clients by providing relevant examples of work and references. The successful bidder must also demonstrate and guarantee that they can produce the work in the allotted time.

4.0 SUBMISSION FORMS:

I/We, hereby, submit the Quotation and will comply with all terms, conditions, specifications and drawings (when provided) as set out within the Board's Quotation.

I/We, hereby, have received, allowed for and included as part of our submission all issued Addendum numbered _____.

This form must be completed, properly signed and received on or before the date and time specified or your Quotation will not be considered. Quotation prices shall remain in effect for a period of ninety (90) days from the Quotation due date.

The Board of Management of the Toronto Zoo reserves the right to reject any or all Quotations or to accept any Quotation, should it deem such action to be in its interests.

By signing and submitting this FORM, you are agreeing to the release of your quotation information, as deemed necessary by the Board, in order to conduct business associated with this quotation or project.

COMPANY INFORMATION	
Company Name:	
Name of authorized Signing Officer	Title:
Signature of authorized Signing Officer:	Date:
Contact Name:	Title:
Address:	
Telephone #:	Fax #:
Email:	Web Site:
HST #:	

DESCRIPTION – REPLACEMENT OF TRANSFORMERS FOR VAULTS #20, #27 & #30	Price complete, excluding HST
Provide all labour, tools, materials and equipment necessary to install three (3) pad mounted transformers, supplied by the Toronto Zoo, as specified in the quotation documents, drawings and specifications.	\$
HST	\$
Total	\$

4.1 QUOTATION PRICING - LUMP SUM PRICE EACH SCOPE ACCORDINGLY

COMMITMENT TO DELIVER	YES / NO
Please confirm that you are able to complete the work described herein by Friday, 2021-06-30 .	

DISCOUNT	Discount and/or Other	Days
Discount allowed for prompt payment and period within which invoice must be paid to qualify.	%	
Charity Status: The Toronto Zoo is a registered charitable organization (registration #BN 119216398RR0001) and accordingly may be eligible for preferred pricing which should be reflected in the Quotation as submitted.		

Name of Firm:	
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SUBMISSION LABEL

This address label should be printed and affixed to the front of your sealed tender, quotation and proposal envelope/package submission. Toronto Zoo will not be held responsible for envelopes and packages that are not properly labelled or submitted to an address other than the one listed on this label.

Vendor Name _____

RFQ 11 (2021-03) – REPLACEMENT OF TRANSFORMERS FOR VAULTS #20, #27 & #30
Due Date: Wednesday, 2021-04-14, 1200 hours (noon, local time)

TO BE RETURNED TO

**TORONTO ZOO
C/O SUPERVISOR, PURCHASING & SUPPLY
ADMINISTRATIVE SUPPORT CENTRE
361A OLD FINCH AVE.
TORONTO, ONTARIO
M1B 5K7**

NOTICE OF NO BID
INSTRUCTIONS:

It is important to the Toronto Zoo to receive a reply from all invited bidders. If you are unable, or do not wish to submit a bid, please complete the following portions of this form. State your reason for not bidding by checking the applicable box(es) or by explaining briefly in the space provided. It is not necessary to return any other Request for Proposal/Quotation/Tender documents or forms. Please just return this completed form by fax or by mail prior to the official closing date. **Purchasing and Supply Fax Number: (416) 392-6711.**

A Proposal/Quotation/Tender is not submitted for the following reason(s):	
<input type="checkbox"/> Project/quantity too large.	<input type="checkbox"/> Project/quantity too small.
<input type="checkbox"/> We do not offer services or commodities to these requirements	<input type="checkbox"/> Cannot meet delivery or completion requirement
<input type="checkbox"/> We do not offer this service or commodity.	<input type="checkbox"/> Agreements with other company do not permit us to sell directly.
<input type="checkbox"/> Cannot handle due to present commitments.	<input type="checkbox"/> Licensing restrictions
<input type="checkbox"/> Unable to bid competitively.	<input type="checkbox"/> We do not wish to bid on this service or commodity in the future.
<input type="checkbox"/> Insufficient information to prepare quote/proposal/tender	<input type="checkbox"/> Specifications are not sufficiently defined
<input type="checkbox"/> We are unable to meet bonding or insurance requirements.	

<u>Other reasons or additional comments (please explain):</u>

Company Name:	
Address	
Contact Person:	
Signature of Company Representative:	
Date:	
Phone Number:	
Email address	
Fax Number:	

APPENDIX A – LIST OF SUB-CONTRACTOR

The Bidder proposes to sublet the following portions of the Work to the persons, firms or corporations indicated. The Bidder (Contractor) is responsible for all pricing with all subcontractors.

The Bidder submits that in proposing the under mentioned subcontractors, the Bidder has consulted each and have ascertained to our completed satisfaction that those names are fully acquainted with the extent and nature of the work and that they will execute their work with the requirements of the contract documents.

Work or services to be provided	Name and address of sub-contractor or person	Telephone

Name of Bidder:	
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NOTES:

PAINT: 9GY 1.5/2.6 - MUNSELL EQUIPMENT GREEN

SINGLE PHASE MINIPAD		TYPE KNAN		60 HZ	65°C
KVA	100	SERIAL #	C-4162-1		
IZ@ 85°C	2.5 %	OIL:	240 L (Midel 1204)		
BIL	HV: 125 LV: 30 KV	MASS:	720 KG		
H.V.	27600GRDY/16000 V				
L.V.	120/240 V				
BAYONET FUSES	358C08	AT	16 KV	CLF	
	COOPER			CBUC15080C100	
LB SW.	300 AMP 38KV		NON-PCB		
	TAPS POS.	A(1)	B(2)	C(3)	D(4)
	VOLTS %	105	102.5	100	97.5
					E(5) 95
MINIMUM ENERGY EFFICIENCY AS PER CAN/CSA 802.1					
P.O.# 368051			DATE MANUFACTURED: FEB/2020		
SPEC#			MANUF. REF.# CSA C227.3-06		
DISTRIBUTION TRANSFORMER MANUFACTURERS. MARKHAM, ONTARIO					

CANADIAN ELECTRICAL SERVICES



20 Alden Road, Unit 4-5
 Markham, Ont., L3R 2S1
 Tel#: 905-474-0777 Fax#: 905-474-0777
 E-mail: drafting@cestransformers.com
 Web: www.cestransformers.com

TRANSFORMER INFORMATION:

SINGLE PHASE MINIPAD, 100 KVA
 HV:27600GRDY/16000 LV:120/240
 CSA C227.3-06

CUSTOMER PO#: 368051

CHECKED BY:

J.S.

APPROVED BY:

DATE:

NOV-7-2019

CUSTOMER:

House Of Electrical

DRAWING TYPE:

NAME PLATE

QUANTITY:

2

SHEET 1 OF 3

TOLLERANCES

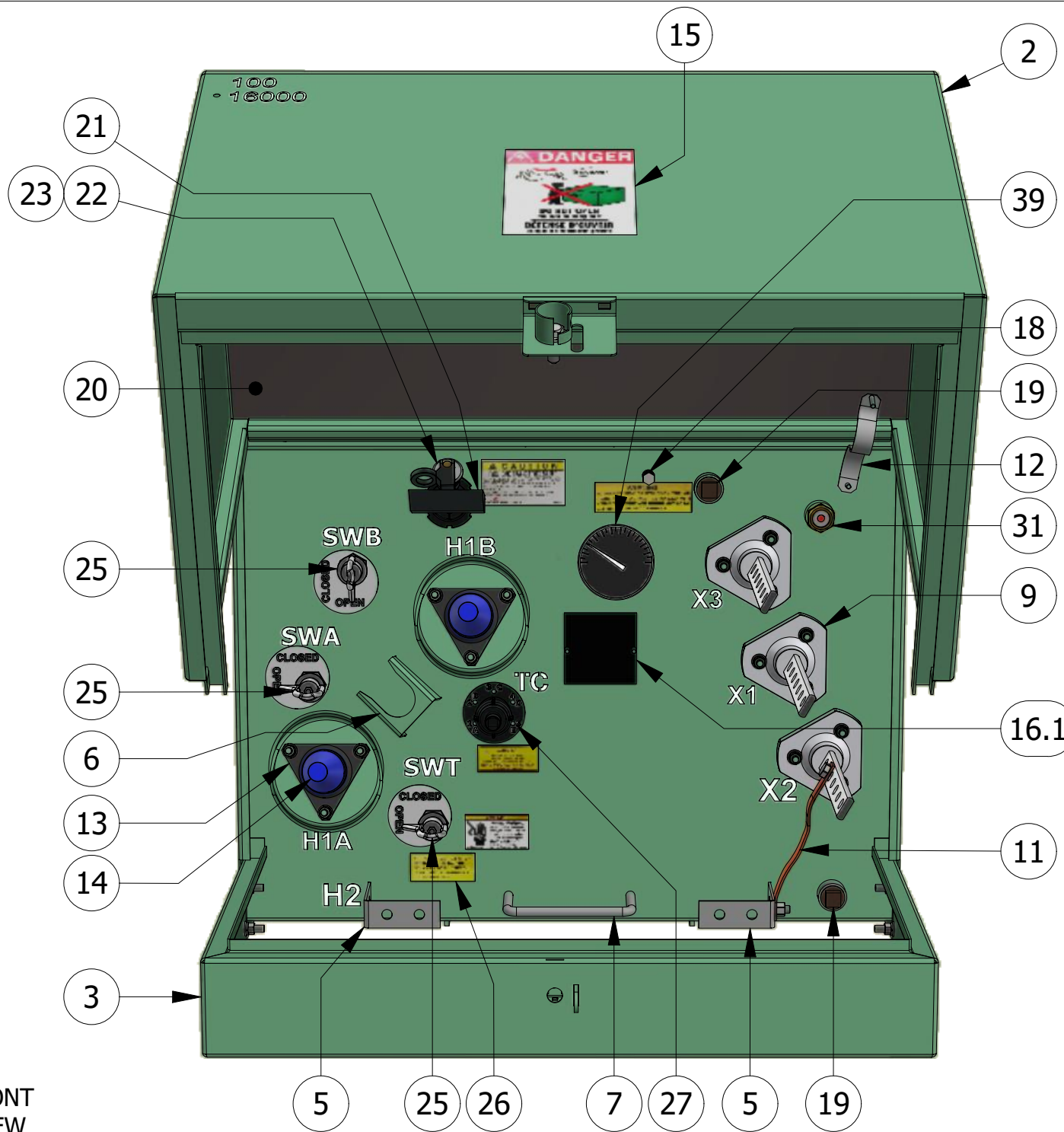
±0.08IN [2MM]

RV:

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DRAWING/SERIAL NO.

C-4162



FRONT VIEW

NOTES: PAINT: 9GY 1.5/2.6 - MUNSELL EQUIPMENT GREEN

STANDARD TANK COMPONENTS			
ITEM#	QTY	PART NUMBER	DESCRIPTION
1	1	BNC-B31NLH1G	75-100 BN. TANK ASSY-BYT-3 LBSW-TC-OSG-Steel, Mild 12GA
2	1	BHD-BCMS	50-100 STD. MINIPAD HOOD, Steel, Mild 12GA
3	1	SLM-BD1MS	50-167 STANDARD SILL, Steel, Mild 12GA
4	4		LIFTING LUG, HEX BOLT 5/8"-11 x 2 1/2"
5	2	P001-7122	GROUND BRACKET, MINI PAD, 304L S.S. 1/8 in
6	1	P001-7636	PARKING STAND BRACKET, Steel, Mild 12GA
7	1	P001-7124	CEA GROUND BRACKET HANDLE, 304L S.S. 1/2" ROD
8	1	NON-PCB	NON PCB STICKER

STANDARD TRANSFORMER COMPONENTS			
ITEM#	QTY	PART NUMBER	DESCRIPTION
9	3	EPC10-027-000E01T-03	LV NEMA BUSHING 7 HOLE, 600 AMP-30 BIL
11	1	GSTR-LV	COPPER GROUND STRAP
12	1	GSTR-HOOD	HOOD GROUND STRAP
13	2	BW150R	HV BUSHING WELLS R/S, COOPER 200A, 34.5 KV
14	2	LBI228	INSERT WITH DUST CAP (28KV)
15	2	P010-0068	SAFETY STICKER
16.1	1	P100-0010	NAME PLATE, Aluminum 6061 14GA
18	1	HPV-1005-R2-01	PSI PULL RING 5 PSI (PRESSURE RELIEF)
19	2	PTPL14SS1PLUG	FILLER/DRAIN HOLE SS PLUG
20	1	CM.1	ANTI-CONDENSITION MATERIAL

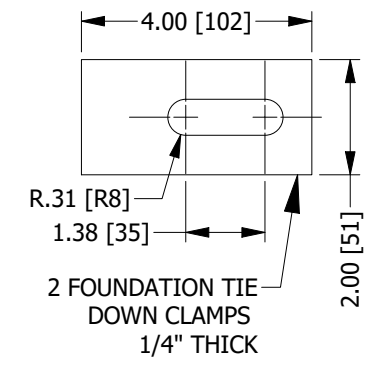
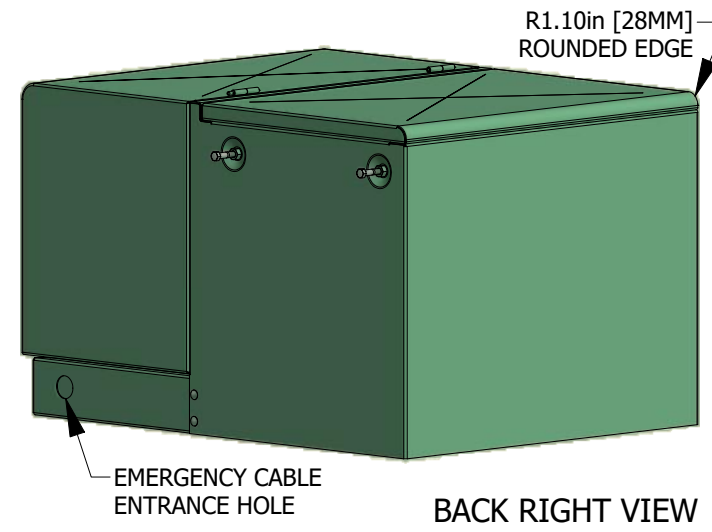
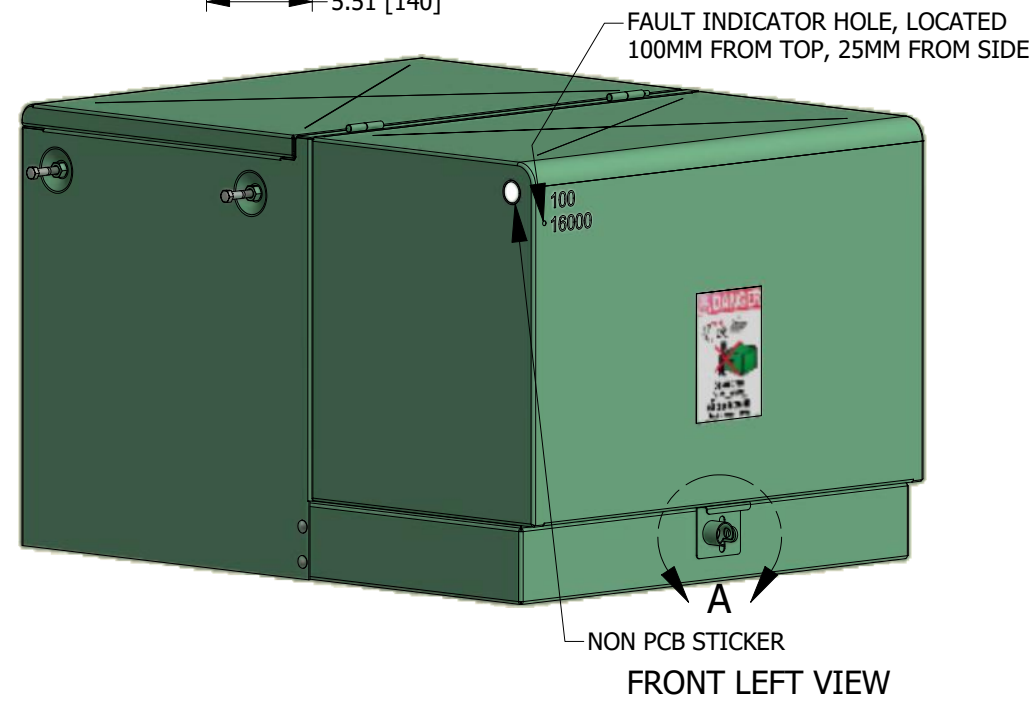
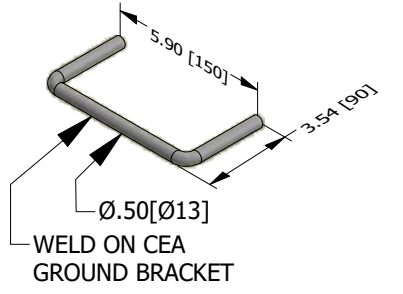
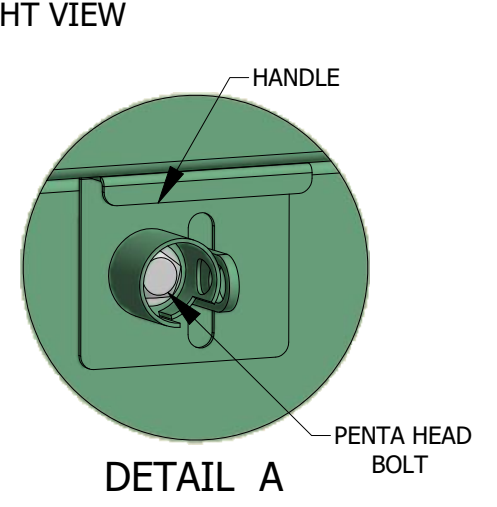
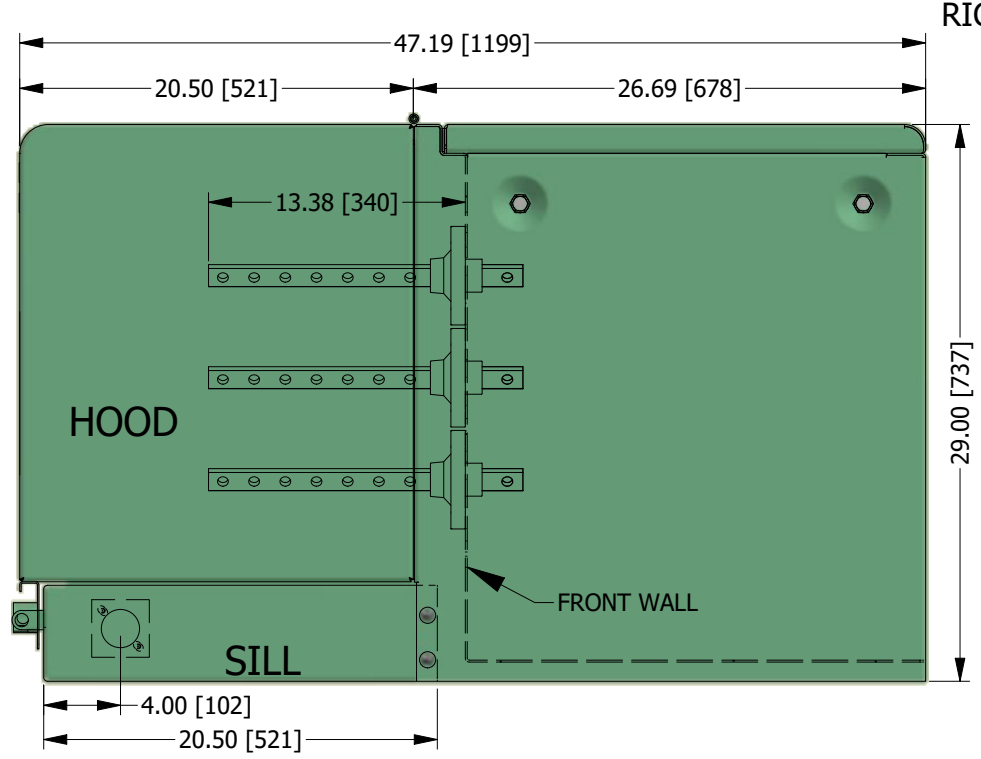
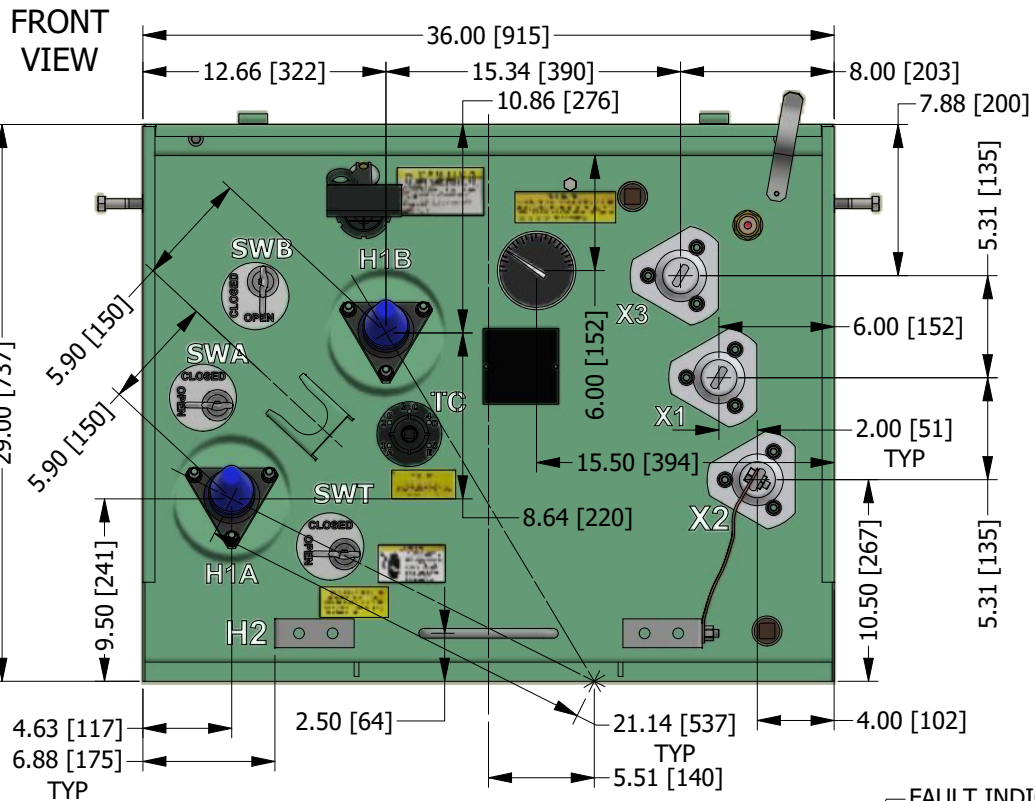
OPTIONAL TRANSFORMER COMPONENTS			
ITEM#	QTY	PART NUMBER	DESCRIPTION
21	1	4004352B02	BAYONET DRIP TRAY
22	1	4000361C99FV	BAYONET FUZE HOLDER-FLAPPER V.
23	1	358C08	BAYONET FUZE
24	1	CBUC15080C100	15.5/17.2 KV 80 AMP CURRENT LIMITING FUZE
25	3	LS2R338H1N1A	LB SWITCH ON/OFF
26	1	LBSW-STK	LOAD BREAK SWITCH NAME PLATE
27	1	2237500C01	TAP CHANGER
31	1	HLG-1000-012	1" NPT OIL SIGHT GAUGE
34	1	FIH-8	FAULT INDICATOR HOLE 8MM
39	1	INT002-002	STANDARD TEMPERATURE GAUGE

CANADIAN ELECTRICAL SERVICES

 20 Alden Road, Unit 4-5
 Markham, Ont., L3R 2S1
 Tel#: 905-474-0777 Fax#: 905-474-0777
 E-mail: drafting@cestransformers.com
 Web: www.cestransformers.com

TRANSFORMER INFORMATION:
 SINGLE PHASE MINIPAD, 100 KVA
 HV:27600GRDY/16000 LV:120/240
 CSA C227.3-06

CUSTOMER PO#: 368051	
CHECKED BY: J.S.	CUSTOMER: House Of Electrical
APPROVED BY:	DRAWING TYPE: OUTLINE
DATE: NOV-7-2019	TOLERANCES: ±0.08IN [2MM]
	QUANTITY: 2
	RV: 0
	DRAWING/SERIAL NO. C-4162
	SHEET 2 OF 3



NOTES: PAINT: 9GY 1.5/2.6 - MUNSELL EQUIPMENT GREEN

CANADIAN ELECTRICAL SERVICES
CES TRANSFORMERS
 20 Alden Road, Unit 4-5
 Markham, Ont., L3R 2S1
 Tel#: 905-474-0777 Fax#: 905-474-0777
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TRANSFORMER INFORMATION:
 SINGLE PHASE MINIPAD, 100 KVA
 HV:27600GRDY/16000 LV:120/240
 CSA C227.3-06

CUSTOMER PO#: 368051	
CHECKED BY: J.S.	CUSTOMER: House Of Electrical
APPROVED BY:	DRAWING TYPE: OUTLINE
DATE: NOV-7-2019	TOLERANCES: ±0.08IN [2MM]
QUANTITY: 2	RV: 0
SHEET 3 OF 3	DRAWING/SERIAL NO. C-4162

NOTES:

PAINT: 9GY 1.5/2.6 - MUNSELL EQUIPMENT GREEN

SINGLE PHASE MINIPAD		TYPE KNAN		60 HZ	65°C
KVA	167	SERIAL #	C-4163-1		
IZ@ 85°C	4.0	%	OIL:	290 L (Midel 1204)	
BIL	HV: 125 LV: 30	KV	MASS:	920 KG	
H.V.	27600GRDY/16000		V		
L.V.	120/240		V		
BAYONET FUSES	358C08	AT	16 KV	CLF	
	COOPER			CBUC15080C100	
LB SW.	300 AMP 38KV		NON-PCB		
	TAPS POS.	A(1)	B(2)	C(3)	D(4)
	VOLTS %	105	102.5	100	97.5
					E(5)
					95
MINIMUM ENERGY EFFICIENCY AS PER CAN/CSA 802.1					
P.O.# 368051			DATE MANUFACTURED: FEB/2020		
SPEC#			MANUF. REF.# CSA C227.3-06		
DISTRIBUTION TRANSFORMER MANUFACTURERS. MARKHAM, ONTARIO					

CANADIAN ELECTRICAL SERVICES



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 Markham, Ont., L3R 2S1
 Tel#: 905-474-0777 Fax#: 905-474-0777
 E-mail: drafting@cestransformers.com
 Web: www.cestransformers.com

TRANSFORMER INFORMATION:

SINGLE PHASE MINIPAD, 167 KVA
 HV:27600GRDY/16000 LV:120/240
 CSA C227.3-06

CUSTOMER PO#: 368051

CHECKED BY:

J.S.

APPROVED BY:

DATE:

NOV-7-2019

CUSTOMER:

House Of Electrical

DRAWING TYPE:

NAME PLATE

QUANTITY:

1

SHEET 1 OF 3

TOLLERANCES

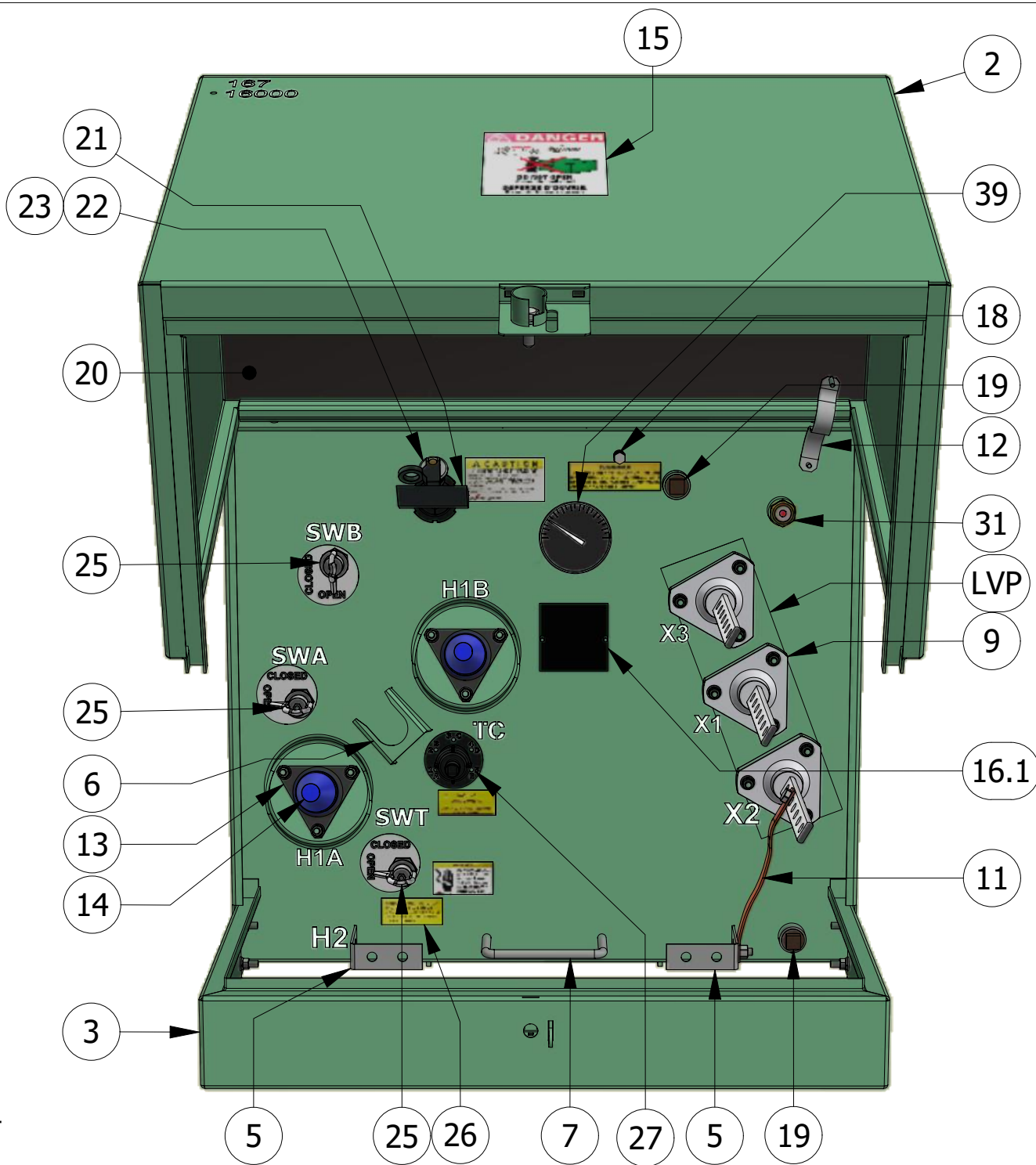
±0.08IN [2MM]

RV:

0

DRAWING/SERIAL NO.

C-4163



FRONT
VIEW

NOTES:

PAINT: 9GY 1.5/2.6 - MUNSELL EQUIPMENT GREEN

STANDARD TANK COMPONENTS			
ITEM#	QTY	PART NUMBER	DESCRIPTION
1	1	BND-B31NLH1G	167 BN. TANK ASSY-BYT-3 LBSW-TC-OSG-Steel, Mild 12GA
2	1	BHD-DMS	167 STD. MINIPAD HOOD, Steel, Mild 12GA
3	1	SLM-BD1MS	50-167 STANDARD SILL, Steel, Mild 12GA
4	4		LIFTING LUG, HEX BOLT 5/8"-11 x 2 1/2"
5	2	P001-7122	GROUND BRACKET, MINI PAD, 304L S.S. 1/8 in
6	1	P001-7636	PARKING STAND BRACKET, Steel, Mild 12GA
7	1	P001-7124	CEA GROUND BRACKET HANDLE, 304L S.S. 1/2" ROD
8	1	NON-PCB	NON PCB STICKER
LVP	1	LVP-167	MINIPAD LV PLATE , 304L S.S.1/8in

STANDARD TRANSFORMER COMPONENTS			
ITEM#	QTY	PART NUMBER	DESCRIPTION
9	3	111-032	LV NEMA BUSHING 7 HOLE, 1100 AMP-30 BIL
11	1	GSTR-LV	COPPER GROUND STRAP
12	1	GSTR-HOOD	HOOD GROUND STRAP
13	2	BW150R	HV BUSHING WELLS R/S, COOPER 200A, 34.5 KV
14	2	LBI228	INSERT WITH DUST CAP (28KV)
15	2	P010-0068	SAFETY STICKER
16.1	1	P100-0010	NAME PLATE, Aluminum 6061 14GA
18	1	HPV-1005-R2-01	PSI PULL RING 5 PSI (PRESSURE RELIEF)
19	2	PTPL14SS1PLUG	FILLER/DRAIN HOLE SS PLUG
20	1	CM.1	ANTI-CONDENSITION MATERIAL

OPTIONAL TRANSFORMER COMPONENTS			
ITEM#	QTY	PART NUMBER	DESCRIPTION
21	1	4004352B02	BAYONET DRIP TRAY
22	1	4000361C99FV	BAYONET FUZE HOLDER-FLAPPER V.
23	1	358C08	BAYONET FUZE
24	1	CBUC15080C100	15.5/17.2 KV 80 AMP CURRENT LIMITING FUZE
25	3	LS2R338H1N1A	LB SWITCH ON/OFF
26	1	LBSW-STK	LOAD BREAK SWITCH NAME PLATE
27	1	2237500C01	TAP CHANGER
31	1	HLG-1000-012	1" NPT OIL SIGHT GAUGE
34	1	FIH-8	FAULT INDICATOR HOLE 8MM
39	1	INT002-002	STANDARD TEMPERATURE GAUGE

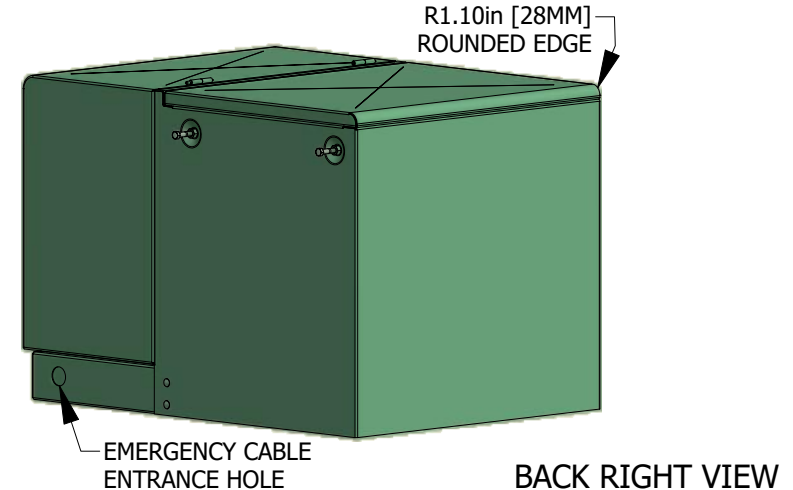
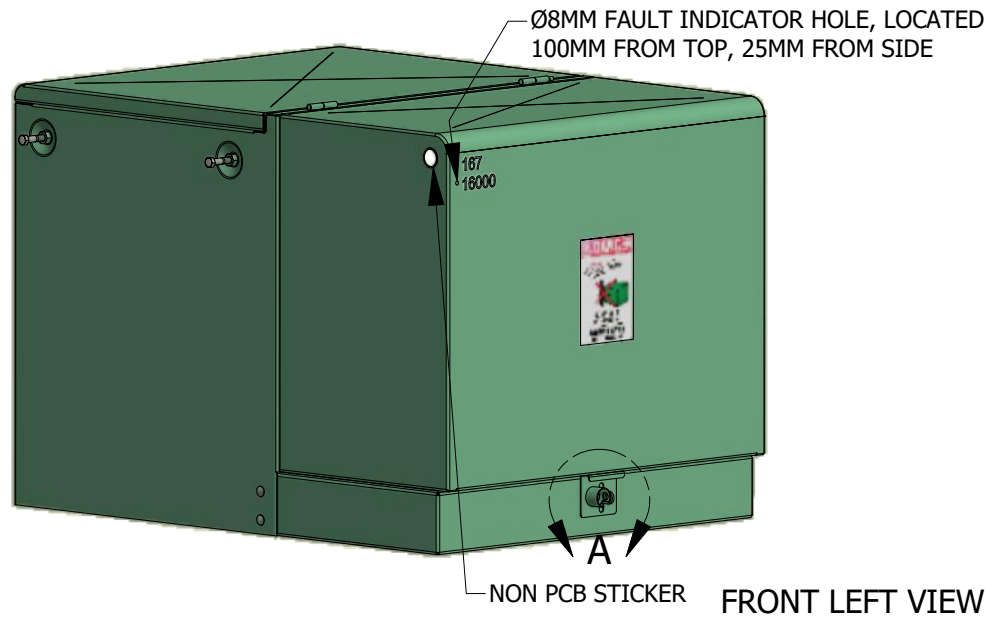
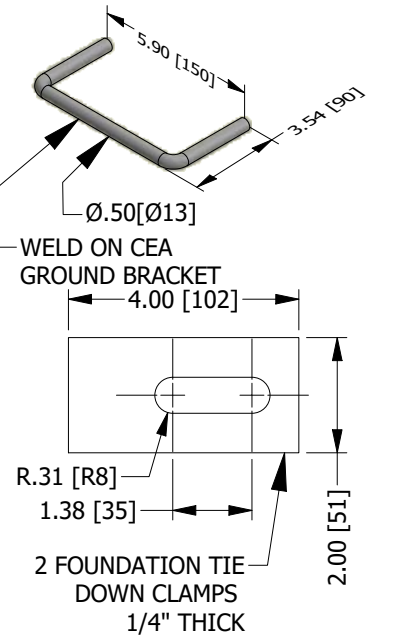
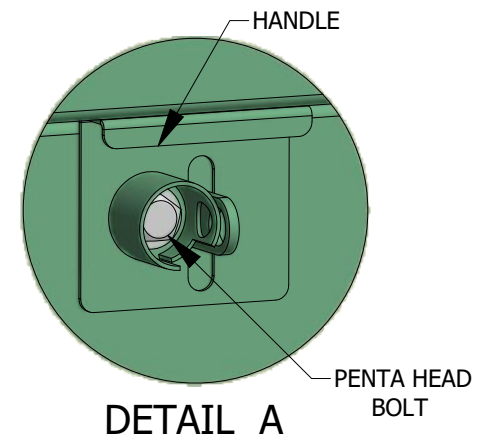
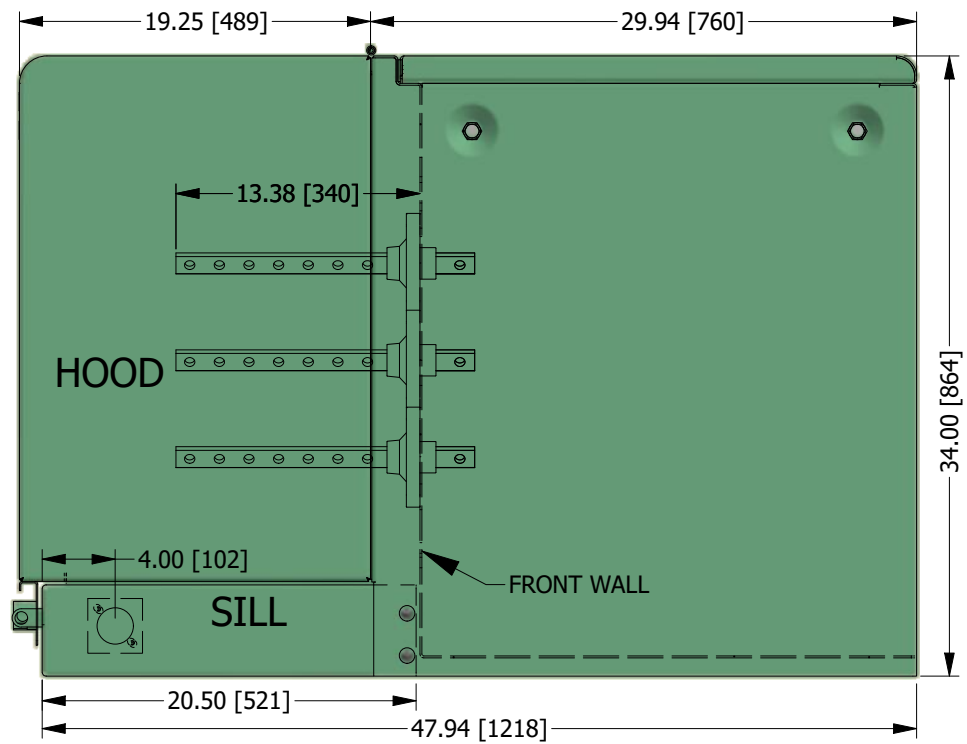
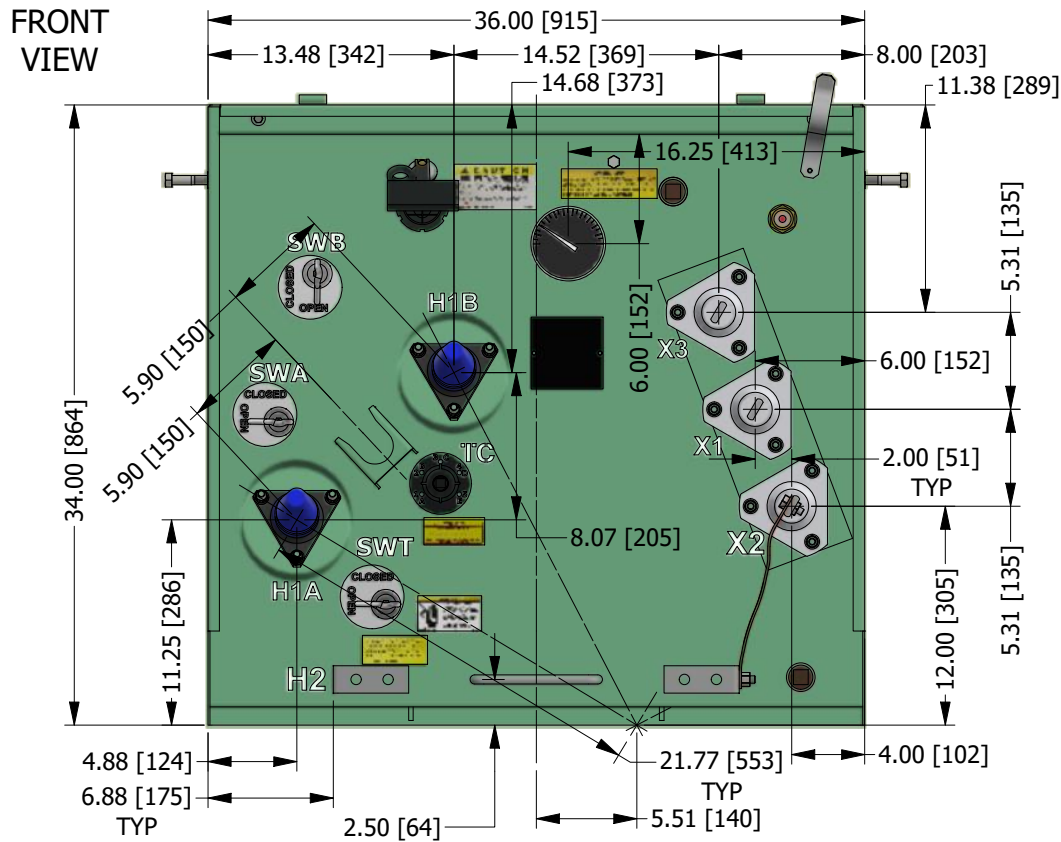
CANADIAN ELECTRICAL SERVICES



20 Alden Road, Unit 4-5
Markham, Ont., L3R 2S1
Tel#: 905-474-0777 Fax#: 905-474-0777
E-mail: drafting@cestransformers.com
Web: www.cestransformers.com

TRANSFORMER INFORMATION:
SINGLE PHASE MINIPAD, 167 KVA
HV:27600GRDY/16000 LV:120/240
CSA C227.3-06

CUSTOMER PO#: 368051	
CHECKED BY: J.S.	CUSTOMER: House Of Electrical
APPROVED BY:	DRAWING TYPE: OUTLINE
DATE: NOV-7-2019	TOLERANCES: ±0.08IN [2MM]
QUANTITY: 1	RV: 0
SHEET 2 OF 3	DRAWING/SERIAL NO. C-4163

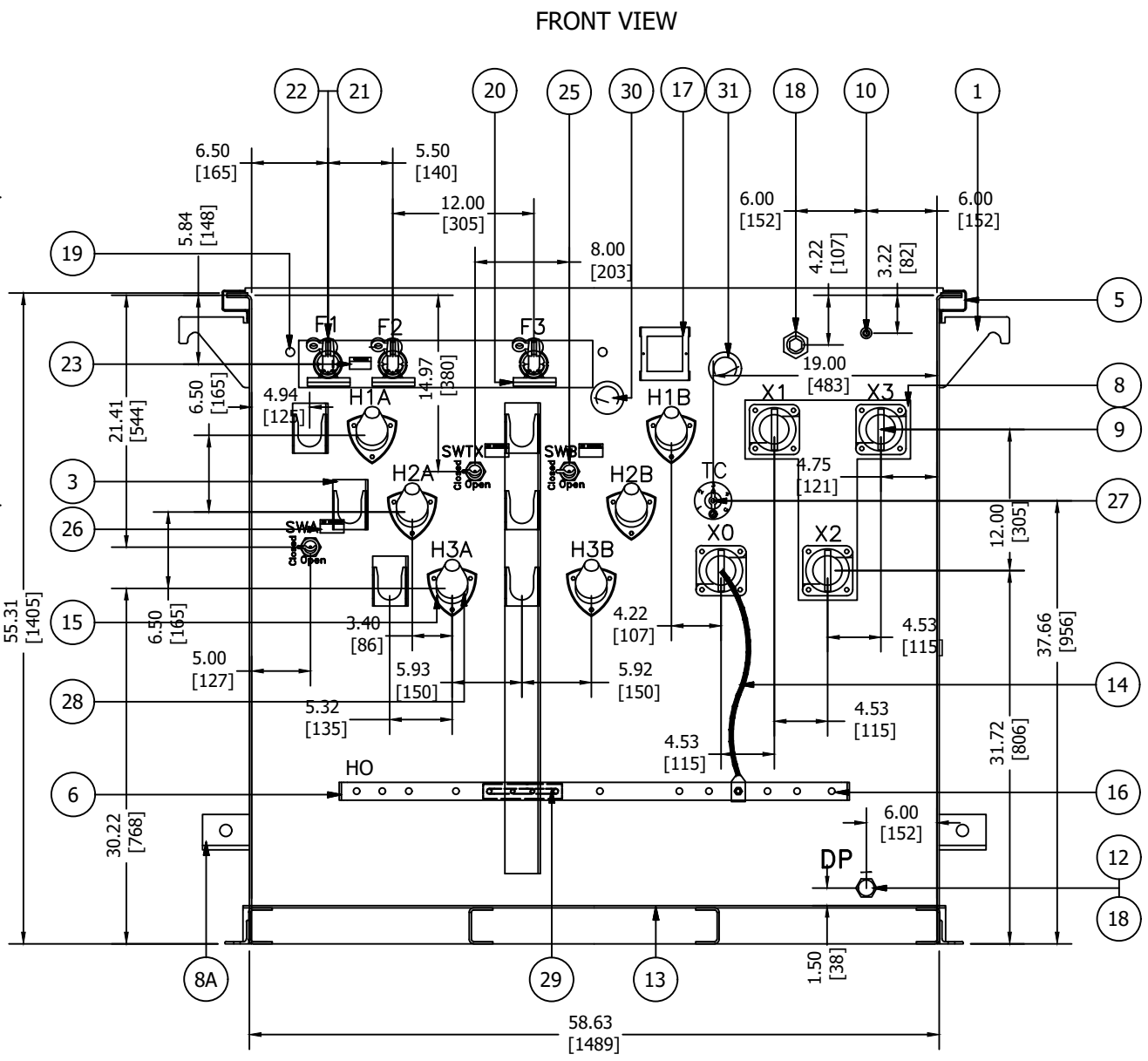
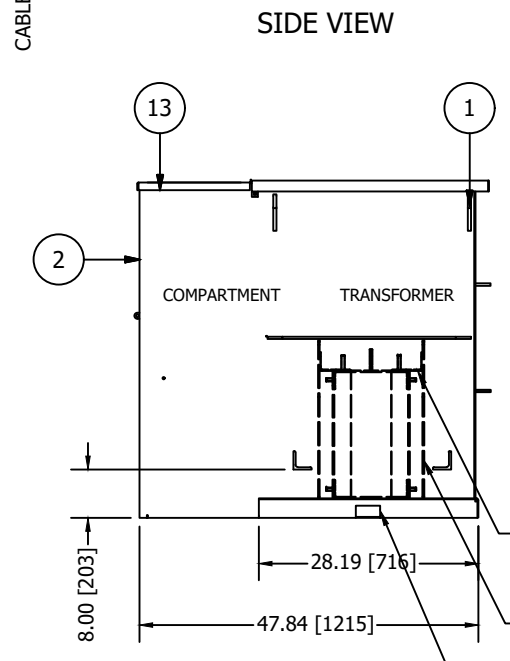
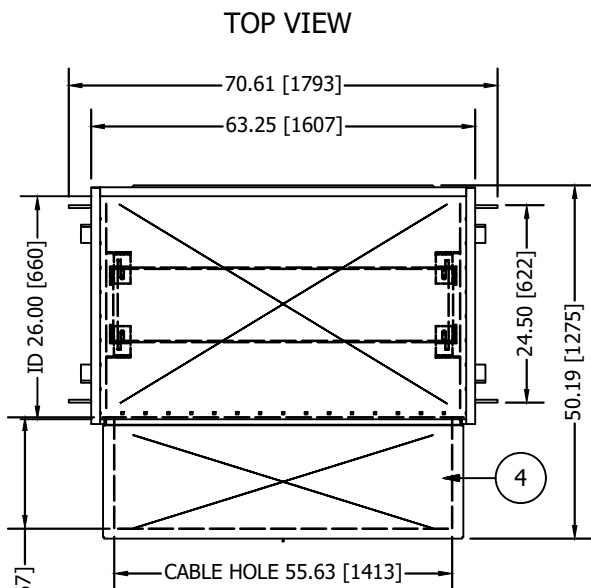


NOTES: PAINT: 9GY 1.5/2.6 - MUNSELL EQUIPMENT GREEN

CANADIAN ELECTRICAL SERVICES
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 Tel#: 905-474-0777 Fax#: 905-474-0777
 E-mail: drafting@cestransformers.com
 Web: www.cestransformers.com

TRANSFORMER INFORMATION:
 SINGLE PHASE MINIPAD, 167 KVA
 HV:27600GRDY/16000 LV:120/240
 CSA C227.3-06

CUSTOMER PO#: 368051	
CHECKED BY: J.S.	CUSTOMER: House Of Electrical
APPROVED BY:	DRAWING TYPE: OUTLINE
DATE: NOV-7-2019	TOLERANCES: ±0.08IN [2MM]
QUANTITY: 1	RV: 0
SHEET 3 OF 3	DRAWING/SERIAL NO. C-4163



STANDARD TANK PARTS LIST			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	P001-7324	4	LIFTING LUG, MILD STEEL 1"
2		2	HINGED DOOR
3	P001-7047	6	PARKING STAND BRACKET
4		1	FLIP TOP COVER
5		1	REMOVABLE TAMPER PROOF CHANNEL
6	P001-7239	2	HO GROUND BRACKET, S.S. 3/16"
7	EQUIP. GREEN	1	PAINT: MUNSELL 9GY 1.5/2.6
8	P001-7329	1	LV PLATE, S.S. 3/16"
8A	P001-7066	1	JACKING STEP

STANDARD TRANSFORMER PARTS LIST			
ITEM	PART NUMBER	QTY	DESCRIPTION
9	EPC10-023-000E01T-01	4	LV BUSHING NEMA 4H, 1100 AMP
10	HPV-1005-R2	1	PSI VALVE
11		1	IDENTIFICATION TAG
12	DV1000-001FB	1	DRAIN VALVE WITH SAMPLE VALVE, HJ
13		1	ANTI-CONDENSATION MATERIAL
14		1	GROUND STRAP COPPER
15	BW150R	6	HV BUSHING WELL R/S, COOPERS
16		1	GROUND BAR
17		1	NAME PLATE
18	V109-F	2	BRASS PLUG

OPTIONAL TRANSFORMER PARTS LIST			
ITEM	PART NUMBER	QTY	DESCRIPTION
19		1	INTERLOCK MECHANISM
20	40004353B01	3	BAYONET DRIP TRAY
21	4000361C99FV	3	BAYONET FUSE HOLDER-FLAPPER V.
22	SEE NAME PLATE	3	BAYONET FUSE
23		1	BAYONET WARNING LABEL
24	SEE NAME PLATE	3	ELSP FUSE
25	LS2R338H3N1A	3	LB SWITCH ON/OFF
26	NP.3	3	LB SWITCH NAME PLATE
27	2237500C31	1	TAP CHANGER
28	LBI228	6	INSERT WITH DUST CAP (28KV)
29	S010-0022	1	CEA GROUND BRACKET ASSY
30	INT002-2	1	THERMOMETER, HJ
31	INT005-001	1	OIL LEVEL GAUGE, HJ

CORE CLAMP IS BOLTED ON TO THE SLOTTED MOUNTING BARS.

(4) SLOTTED MOUNTING BARS ARE WELDED TO THE SIDE WALLS.

TIE DOWN BRACKETS ON BOTH SIDES

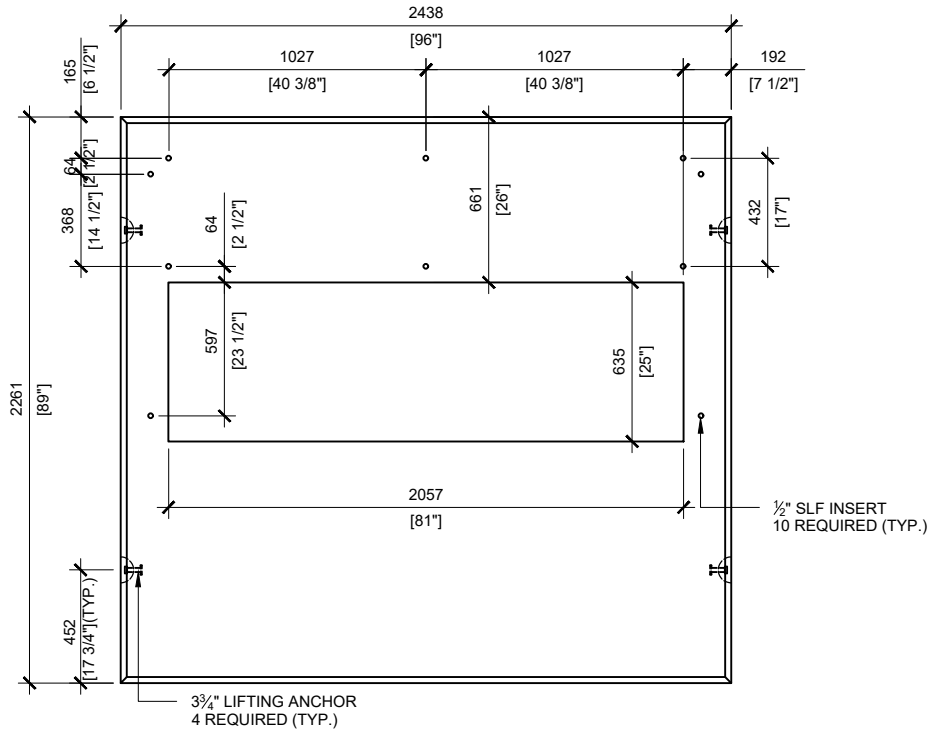
CANADIAN ELECTRICAL SERVICES
 20 Alden Road, Unit 4-5
 Markham, Ont., L3R 2S1
 Tel#: 905-474-0777 Fax#: 905-474-1812
 E-mail: admin@cestransformers.com
 Web: www.cestransformers.com

TITLE: 3-PHASE, PADMOUNT, LOOP
 225 KVA HV:27600GRDY/16000 LV:208Y/120
 CSA C227.4-06 & C802

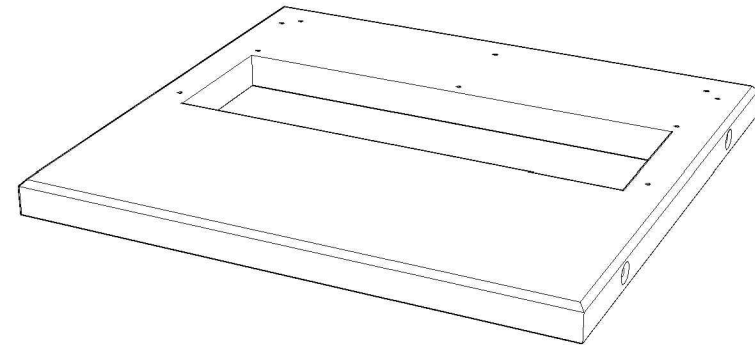
CONTRACT REVIEWED:	CUSTOMER PO#: 368051		
CHECKED BY: M.T	CUSTOMER: House Of Electrical		
APPROVED BY:	SERIAL NO. C-4164	QUANTITY: 1	
DATE: OCT/2019	DIMENSIONS: IN [MM]	RV: 0	TOLERANCES +/- 0.08IN [2MM]
	SCALE: N.T.S.	DRAWING NO. C-4164	

3 PHASE LOOP		TYPE KNAN		HZ 60		65 °C	
KVA	225	SERIAL NO.		C-4164			
IZ AT 85 °C	2.9	%	OIL Midel 1204	900		L	
BIL	125 30	KV		MASS		2600 KG	
H.V.	27600GRDY/16000		V	X			
L.V.	208Y/120		V				
BAYONET FUSE	358C05	AT	27.6	KV CL.FUSE		CBUC17030C100	
L.B. SWITCH	300AMPS	38KV	MAKE: RTE		NON PCB		
○	TAPS POS.	A	B	C	D	E	○
	VOLTS %	105	102.5	100	97.5	95	
ENERGY EFFICIENCY AS PER CAN/CSA-C802.1							
P.O.	368051		DATE MANUFACTURED		FEB/2020		
SPEC.NO.	C802		MANUF.REF.NO.		CSA C227.4-06		
CES DISTRIBUTION TRANSFORMER MANUFACTURER							

<p>CANADIAN ELECTRICAL SERVICES 20 Alden Road, Unit 4-5 Markham, Ont., L3R 2S1 Tel#: 905-474-0777 Fax#: 905-474-1812 E-mail: admin@cestransformers.com Web: www.cestransformers.com</p>	CONTRACT REVIEWED:		CUSTOMER PO#: 368051		
	CHECKED BY: M.T		CUSTOMER: House Of Electrical		
	APPROVED BY:		SERIAL NO. C-4164	QUANTITY: 1	
	TITLE 3-PHASE, PADMOUNT, LOOP 225 KVA HV: 27600GRDY/16000 LV:208Y/120 CSA C227.4-06 & C802		DIMENSIONS: IN [MM]	RV 0	TOLERANCES +/- 0.08IN [2MM]
DATE OCT/2019		SCALE: N.T.S.	DRAWING NO. C-4164		

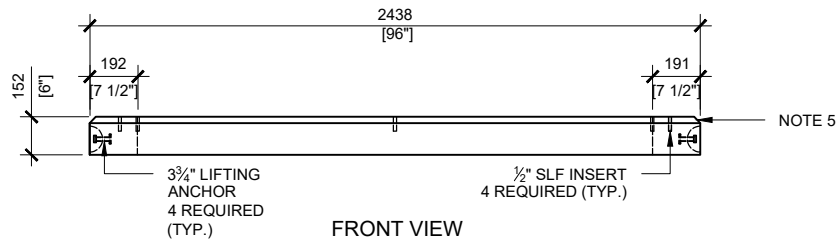


TOP VIEW
SCALE:1/30

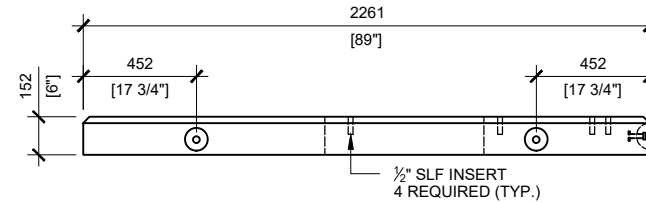


GENERAL NOTES:

1. DELIVERY IS MADE BY CRANE-EQUIPPED TRUCKS
2. EXCAVATION MUST BE READY, SAFE AND ACCESSIBLE FOR UNLOADING FROM THE REAR OF THE TRUCK.
3. MIN OVERHEAD CLEARANCE OF 18FT (5.5 METRES) IS REQUIRED
4. ALL UNITS MUST BE HANDLED WITH PROPER LIFTING EQUIPMENT (I.E. SPREADER BAR)
5. TOP EDGES TO HAVE CHAMFER



FRONT VIEW
SCALE:1/30



RIGHT VIEW
SCALE:1/30



MANUFACTURED:
BROOKLIN, ON
1-800-655-3430

CONCRETE: 35MPa / 5,000PSI
AIR ENTRAINMENT: 5-8%
REINFORCEMENT : STEEL TO CSA
CAN A23.1 / A23.3, G30.18
Fy=400MPa

WEIGHT:
BCP 400TGWHO -3,400lbs / 1,540kg

DRAWN BY:
N.CHAN

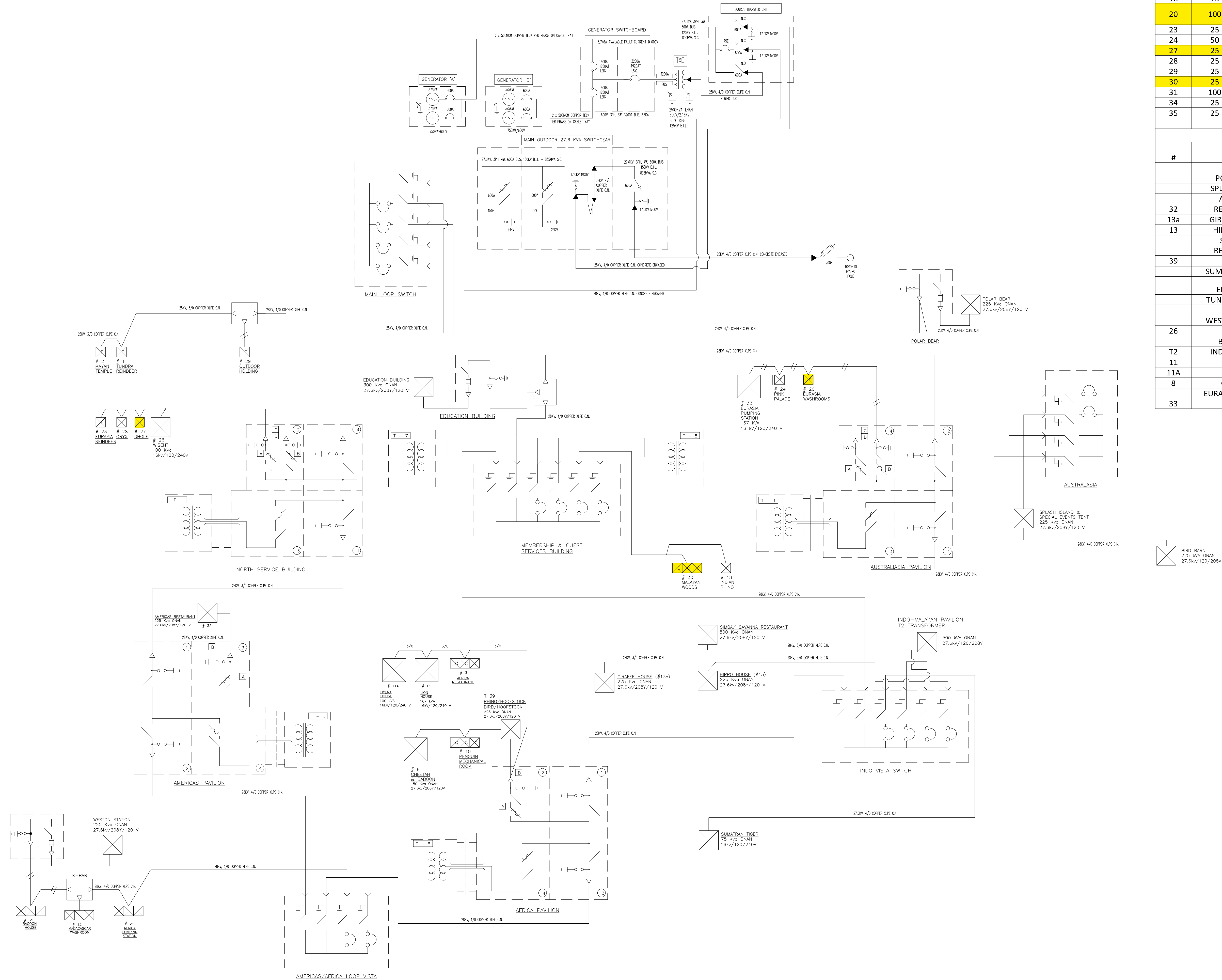
DATE:
MAY/2020

BCP400T6GWHO

PRECAST TOP FOR TRANSFORMER FOUNDATION

TORONTO ZOO

SINGLE LINE DIAGRAM
HIGH VOLTAGE ELECTRICAL DISTRIBUTION
REVISED 2018-09-18



SUBMERSIBLES					
VAULT	SIZE	PHASES		FED FROM	AFFECTED BUILDINGS
		1	3		
1	25	X		OPS COMPLEX PADDOCK WEST	TUNDRA REINDEER
2	100	X		OPS COMPLEX PADDOCK WEST	MAYAN TEMPLE
10	25		X	AFRICA PADDOCK FEEDER	PENGUIN MECHANICAL ROOM
12	50		X	AMERICAS/AFRICA LOOP VISTA	MADAGASCAR WASHROOMS
18	75	X		MEMBERSHIP VISTA WAY 5	INDIAN RHINO
20	100	X		AUSTRALASIA	EURASIA KEEPER ROOM, WASHROOM, RETAIL STORE, VIEWING BUILDING & MANDARIN EXPRESS
23	25	X		OPS COMPLEX PADDOCK EAST	EURASIAN REINDEER
24	50	X		AUSTRALASIA	PINK PALACE CAMEL HOUSE
27	25	X		OPS COMPLEX PADDOCK EAST	DHOLE
28	25	X		OPS COMPLEX PADDOCK EAST	ORYX
29	25	X		OPS COMPLEX PADDOCK WEST	OUTDOOR HOLDING
30	25	X	X	MEMBERSHIP VISTA WAY 5	MALAYAN WOODS
31	100	X		AFRICA PADDOCK FEEDER	AFRICA RESTAURANT
34	25	X		AMERICAS/AFRICA LOOP VISTA	AFRICA PUMPING STATION, WATUSI
35	25	X		AMERICAS/AFRICA LOOP VISTA	KATA (RACCOUR HOUSE)

PAD MOUNT TRANSFORMERS					
#	NAME	SIZE (kva)	PHASES		AFFECTED BUILDINGS
			FED FROM	PHASES	
	POLAR BEAR	225, 3Ø	AFRICA	AFRICA Paddock Feeder	POLAR BEAR HOLDING, RETAIL STORE, BEAVERTAILS, TUNDRA AIR RIDE
	SPLASH ISLAND	225, 3Ø	AUSTRALASIA	AUSTRALASIA VISTA WAY 3	SPLASH ISLAND, KIDS ZOO, SPECIAL EVENTS TENT
32	RESTAURANT	225, 3Ø	AMERICAS	AMERICAS PAVILION	AMERICAS RESTAURANT, POLAR BEAR MECHANICAL ROOM, POLAR PATIO
13a	GIRAFFE HOUSE	225, 3Ø	INDO VISTA	INDO VISTA WAY 6	GIRAFFE HOUSE
13	HIPPO HOUSE	225, 3Ø	INDO VISTA	INDO VISTA WAY 6	HIPPO HOUSE, GAUR 2
	SAVANNA RESTAURANT	500, 3Ø	INDO VISTA	INDO VISTA WAY 5	SAVANNA RESTAURANT, RHINO POOL MECH. ROOM, BUSH CAMP, SAVANNA PICNIC SITE, OLD BABOON AREA PANEL
39	T39	225, 3Ø	AFRICA	AFRICA Paddock Feeder	RHINO / HOOFSTOCK, BIRD / HOOFSTOCK
	SUMATRAN TIGER	75, 1Ø	INDO VISTA	INDO VISTA WAY 3	SUMATRAN TIGER
	EDUCATION	300, 3Ø	AUSTRALASIA	AUSTRALASIA - MEMBERSHIP LOOP FEEDER	EDUCATION BUILDING
	TUNDRA AIR RIDE	75, 3Ø	POLAR BEAR	POLAR BEAR	STEP UP TRANSFORMER AT TUNDRA AIR RIDE
	WESTON STATION	225, 3Ø	GIRAFFE VISTA	GIRAFFE VISTA WAY 3	PUMPING STATION, GRIZZLY BEAR, DUCK HOUSE, WESTON STATION WASHROOMS
26	WISENT	100, 1Ø	OPS COMPLEX	OPS COMPLEX	BARBARY APES, WISENT
	BIRD BARN	225, 3Ø	SPLASH ISLAND	SPLASH ISLAND	RED PANDA, BIRD BARN, AMUR TIGER
T2	INDO PAVILION	500, 3Ø	INDO VISTA	INDO VISTA 4	INDO PAVILION
11	LIONS	167, 1Ø	AFRICA	AFRICA Paddock Feeder	LIONS, WILDBEEST
11A	HYENA	100, 1Ø	AFRICA	AFRICA Paddock Feeder	HYENA, SAVANNA RETAIL, PORCUPINE
8	CHEETAH	150, 3Ø	AFRICA	AFRICA Paddock Feeder	CHEETAH
33	EURASIA PUMPING STATION	167, 1Ø	AUSTRALASIA	AUSTRALASIA	EURASIA PUMP STATION, SNOW LEOPARD

