

### **Work Order Signature Document**

	NJPA EZIQC Contra	ct No.: FL-SEA-G(	C04-041019-TCI
	X New Work Order	Modify an Ex	kisting Work Order
Work Order Numbe	er.: 072736.00	Work Order Date:	10/21/2019
Work Order Title:	North Shore Youth Center New O	Generator	
Owner Name:	City of Miami Beach	Contractor Name:	Team Contracting, Inc.
Contact:	Olga Sanchez	Contact:	Daniel Gell
Phone:	305.673.7000 x 2567	Phone:	305 207.9799
	Work to	be Performed	
•	ned as per the Final Detailed Scope of presence of the FL-SEA-GC04-041019-TCI.	Work Attached and as	per the terms and conditions of NJPA
Brief Work Order D	<u> Description:</u>		
Automatic Transferstructural support f	project consists of the installation of a reference of the entire for the entire for the Generator. All work to be in according Department.	facility. The work also	includes the installation of a new
Time of Perform	ance Estimated Start Date: Estimated Completion Da	ite:	
Liquidated Dama	ages Will apply:	Will not apply:	X
Work Order Firm	n Fixed Price: \$502,117.49		
Owner Purcha	se Order Number:		
Approvals			
Owner		Date Contractor	r Date

Work Order Signature Document Page 1 of 1



### **Detailed Scope of Work**

То:	Daniel Gell Team Contractine 13911 SW 42nd Miami, FL 33175 305 207.9799	g, Inc. St. Suite 209	From:	Olga Sanchez City of Miami Beach 1700 Convention Center Drive Miami Beach, FL 33139 305.673.7000 x 2567
Date	Printed:	October 21, 2019		
Work	Order Number:	072736.00		
Work	Order Title:	North Shore Youth Center New Generator		
Brief	Scope:	The Scope of this project consists of the instal Standby Generator as well as an Automatic Trentire facility. The work also includes the instate the Generator. All work to be in accordance we documents approved by the Building Department.	ransfer Illation o ith spec	Switch to provide power for the  of a new structural support for
	Prelimina	ry Revised		X Final
	•	il the scope of work as discussed at the site. All considered part of this scope of work.	require	ments necessary to accomplish the items
Tiedg	e, P.E., of TLC Eng	ed in the attached electrical and structural plans gineering Solutions, Issue Date 8/9/19 with som E2.000, E3.100, E3.100, E3.200, S-001, S-100	e sheet	s revised 9/5/19 per BD Comments, Plan
Subje	ect to the terms and	conditions of JOC Contract FL-SEA-GC04-041	019-TC	I.
			<b>.</b>	_
Contr	actor	L	ate	
Owne	:r		ate	_

Page 1 of 1 10/21/2019 Scope of Work

### **Contractor's Price Proposal - Summary**

**Date:** October 21, 2019

Re: IQC Master Contract #: FL-SEA-GC04-041019-TCI

Work Order #:

072736.00

Owner PO #:

Title: North Shore Youth Center New Generator

Contractor: Team Contracting, Inc.

Proposal Value: \$502,117.49

ELECTRICAL	\$399,302.72
FIRE ALARM	\$7,036.63
FOUNDATIONS	\$16,429.00
GENERAL REQ.	\$17,366.12
SUPERSTRUCTURE	\$61,983.02
Proposal Total	\$502,117.49

ThisI total represents the correct total for the proposal. Any discrepancy between line totals, sub-totals and the proposal total is due to rounding.

The Percentage of NPP on this Proposal: %

### **Contractor's Price Proposal - Detail**

October 21, 2019 Date:

FL-SEA-GC04-041019-TCI Re: IQC Master Contract #:

072736.00 Work Order #:

Owner PO #:

North Shore Youth Center New Generator Title:

Team Contracting, Inc. Contractor:

\$502,117.49 Proposal Value:

	Sect.	Item	Mod.	UOM	Description		Line Total
Labor	Equip.	Material	(Excludes)				
ELEC	TRICAL						
1	01 22 16	00 0002		EA	Reimbursable FeesReimbursable Fees will be paid to the contractor for eligible costs. Insert the appropriate quantity to adjust the base cost to the actual Reimbursable Fees. If there are multiple Reimbursable Fees, list each one separately and add a comment in the "note" block to identify the Reimbursable Fee (e.g. sidewalk closure, road cut, various permits, extended warranty, expedited shipping costs, etc.). A copy of each receipt shall be submitted with the Price Proposal.	<b>;</b>	\$7,150.00
				Installati	Quantity Unit Price Factor	Total 7.150.00	
					6,500.00 ^ 1.00 ^ 1.1000	7,130.00	
					FOR SHUTDOWN		
2	01 22 20	00 0010		HR	ElectricianFor tasks not included in the Construction Task Catalog® and as directed by owner only.		\$4,039.47
				Installati	Quantity Unit Price Factor	Total 4,039.47	
					64.00 ^ 55.90 ^ 1.1291	4,039.47	
				DEMOL	TION EXISTING CT METER AND CT CABINET OVER TIME		
3	01 22 20	00 0010	0001	MOD	For Foreman, Add		\$75.88
				Installati	Quantity Unit Price Factor = 24.00 x 2.80 x 1.1291	Total 75.88	
4	01 22 20	0 00 0010		HR	ElectricianFor tasks not included in the Construction Task Catalog® and as directed by owner only.		\$12,744.08
				Installati	Quantity Unit Price Factor = 200.00 x 55.90 x 1.1399	Total 12,744.08	
				GENER	TOR REMOTE ANNUNCIATOR ALLOWANCE. LOCATION TBD		
5	01 22 20	00 0010		HR	ElectricianFor tasks not included in the Construction Task Catalog® and as directed by owner only.		\$3,029.60
				la stallati	Quantity Unit Price Factor	Total	
				Installati	48.00 <sup>X</sup> 55.90 <sup>X</sup> 1.1291 <sup>=</sup>	3,029.60	
				TO ASS	ST FPL WITH TEMP. SHUTDOWN		
6	01 22 20	0 00 0010		HR	ElectricianFor tasks not included in the Construction Task Catalog® and as directed by owner only.		\$3,029.60
				Installati	Quantity Unit Price Factor	Total	
				ırıstanatı	48.00 × 55.90 × 1.1291 =	3,029.60	
				CONNE	T TEMPORARY GENERATOR		
7	01 22 23	3 00 0404		DAY	6,000 LB Mini-Excavator With Full-Time Operator		\$2,502.88
				Installati	Quantity Unit Price Factor = 3.00 x 738.90 x 1.1291	Total 2,502.88	
				TRENC	NG AND EXCAVATION OF BOXES		
8	01 22 23	3 00 0943		DAY	40 To 45 Ton Lift, Truck Mounted Hydraulic Crane With Full-Time Operator		\$4,122.32
				Installati	Quantity Unit Price Factor	Total 4,122.32	

Contractor's Price Proposal - Detail Page 1 of 8

Work Order Number: 072736.00

Work Order Title: North Shore Youth Center New Generator

	TRICAL							
9	01 71 13 00 0003		•	Mobilization And Der		•		\$721.75
			-	cludes loading, tie-do		·		
			<del>-</del>	e, rigging, dismantling				
		•		ment such as bulldoz		•		
			=	s, road graders, load				
				, pavers, rollers, brid	-	<del>-</del>		
			-	oing boom rough terr oom manlifts with >4				
		тегезсорі	Quantity	Unit Price	to boom ic	Factor	Total	
		Installation	1.00 X	639.23	x	1.1291 =	721.75	
10	01 74 19 00 0038	CYM Hauling (	On Paved Roads, Fi	rst 15 Miles				\$638.5
		Installation	Quantity	Unit Price		Factor _	Total	
		Installation	942.50 X	0.60	Х	1.1291	638.51	
			EXCAVATION OF I					
11	01 74 19 00 0039	CYM Hauling (		les Over Initial 15 Mi	iles			\$425.6
		Installation	Quantity	Unit Price	.,	Factor	Total 425.67	
			942.50 X	0.40	Х	1.1291	420.01	
		TRENCHING AND	EXCAVATION OF I	BOXES				
12	05 05 23 00 1602	EA 5/8" Dian	neter x 2-11/16" Lon	g, Welded Stud Con	crete Ancho	ors		\$4.9
		la stallation	Quantity	Unit Price		Factor	Total	
		Installation	1.00 X	4.37	Х	1.1291	4.93	
3	23 05 48 13 0082	EA 4-1/4" x 2	2-1/2" x 2-1/8" Molde	ed Neoprene Mount,	380-700 LE	3		\$1,457.6
			Quantity	Unit Price		Factor	Total	
		Installation	14.00 X	92.21	X	1.1291	1,457.60	
14	23 13 23 13 0043			eel Day Tank; Tramo	nt UTRXInd	cludes rust-inhibito	or	\$17,550.0
		coated in	terior and gray paint Quantity	tea exterior. Unit Price		Factor	Total	
		Installation	1.00 X	15,543.35	x	1.1291	17,550.00	
15	23 21 13 23 1217	EA 1/4" Cap.	, 6,000 LB, Screwed			201		\$9.8
			Quantity	Unit Price		Factor	Total	****
		Installation	1.00 X	8.70	x	1.1291	9.82	
16	26 05 13 00 0177	EA 500 MCN		KV One Conductor,				\$17,646.4
, ,	20 00 10 00 0177	5 KV	i Cable Splice, 10 5	KV One Conductor,	Silielded iv	redidiri voltage 10	•	φ17,040.4
		0111	Quantity	Unit Price		Factor	Total	
		Installation	60.00 X	260.48	x	1.1291 =	17,646.48	
17	26 05 19 16 0280			N-THWN 600 Volt Co	opper, Sing	le Stranded, Place	ed	\$2,361.7
		In Condu						
		Installation	Quantity	Unit Price	.,	Factor	Total 2,361.72	
			4.00 X	522.92	Х	1.1291	2,001.72	
8	26 05 19 16 0286	MLF #1 AWG In Condu	,,	-THWN 600 Volt Cop	pper, Single	e Stranded, Placed	d	\$1,310.3
			Quantity	Unit Price		Factor	Total	
		Installation	0.48 X	2,417.78	x	1.1291 =	1,310.36	
19	26 05 19 16 0289			N-THWN 600 Volt C	opper, Sing			\$9,728.0
		Placed In	Conduit			_		
			Quantity	Unit Price		Factor	Total	
		Installation	2.24 X	3,846.33	Х	1.1291 =	9,728.08	

Contractor's Price Proposal - Detail Page 2 of 8 10/21/2019

Work Order Number: 072736.00

Work Order Title: North Shore Youth Center New Generator

	TRICAL									
20	26 05 19 16 0	292	MLF 300 M In Cor	* *	THHN-1	THWN 600 Volt C	opper, Sin	gle Stranded, Place	d	\$11,988.58
			Installation	Quantity	v	Unit Price	v	Factor	Total 11,988.58	
			FROM GENERA	1.68 TOR TO ITS	Х	6,320.13	Х	1.1291	11,000.00	
21	26 05 19 16 0	294	MLF 400 M		THHN-1	THWN 600 Volt C	opper, Sin	gle Stranded, Place	d	\$67,859.90
			Installation	Quantity 7.36	x	Unit Price 8,165.88	x	Factor 1.1291	Total 67,859.90	
			FROM NEW MA		V ITS +	,	(ISTING E	LECT. ROOM+NEV	V CT BOX TO ITS	
22	26 05 33 13 0	027	And 1 conne		ated Gro	ounding Conducto	orIncludes	4 #10 Copper THHN conduit, set screw Not for use	1	\$1,217.21
			Installation	Quantity		Unit Price		Factor	Total	
			Installation SHUNT TRIP TR	1.50 RIGGER BUTTON	Х	718.69	Х	1.1291	1,217.21	
23	26 05 33 13 0	548		d Galvanized Stee		) Threadless Com	npression	Connectors		\$9,631.77
				Quantity		Unit Price		Factor	Total	
			Installation	56.00	X	152.33	Χ	1.1291 =	9,631.76	
			WATERPROOF	POLARIS CABLE	CONN	IECTION				
24	26 05 33 13 0	806	EA 3" Inte	rmediate Metal Co	onduit (I	MC) Sealing Fittir	ng, Vertica	l/Horizontal		\$1,179.9
			Installation	Quantity 4.00	x	Unit Price 261.26	x	Factor 1.1291 =	Total 1,179.95	
25	26 05 33 13 14	472	LF 3" Sch	edule 40 Polyviny	l Chloric	de (PVC) Conduit	With Cou	pled End		\$3,030.50
			Installation	Quantity 400.00	x	Unit Price 6.71	x	Factor 1.1291 =	Total 3,030.50	
			EMERGENCY E	BUTTON SHUT OF	F					
26	26 05 33 13 1	472	LF 3" Sch	edule 40 Polyviny	l Chloric	de (PVC) Conduit	With Cou	pled End		\$12,122.0
			Installation	Quantity 1,600.00	x	Unit Price 6.71	х	Factor 1.1291 =	Total 12,122.02	
			FROM MAIN HO	DLE TO ITS FROM	I ITS TO	O GENERATOR F	FROM ITS	TOELEC. ROOM		
27	26 05 33 13 14	472 0155	MOD For So	hedule 80, Add						\$1,914.9
			Installation	Quantity 1,600.00	x	Unit Price 1.06	х	Factor 1.1291 =	Total 1,914.95	
28	26 05 33 13 14	485		edule 40 Polyviny n 26 05 33 13-225		, ,	•	e ElbowSee CSI		\$1,688.4
			Installation	Quantity 32.00	x	Unit Price 46.73	X	Factor = 1.1291	Total 1,688.41	
29	26 05 33 13 14	485 0155	MOD For So	hedule 80, Add						\$294.83
			Installation	Quantity 32.00	x	Unit Price 8.16	x	Factor 1.1291 =	Total 294.83	Ψ=0ο.
30	26 05 33 13 14	498	EA 3" Sch	edule 40 Polyviny						\$622.45
			section	1 26 05 33 13-225	5 for co	"	g.	Fost	Takal	
			Installation	Quantity 12.00	х	Unit Price 45.94	x	Factor 1.1291 =	Total 622.45	
31	26 05 33 13 1	498 0155	MOD For So	hedule 80, Add						\$106.77
				Quantity		Unit Price		Factor	Total	
			Installation	12.00	х	7.88	Х	1.1291 =	106.77	

Contractor's Price Proposal - Detail Page 3 of 8 10/21/2019

Work Order Number: 072736.00

Work Order Title: North Shore Youth Center New Generator

32	26 05 33 13 1843		EA 3" Poly	winyl Chlorida (P	VC) Con	duit Female Ada	oter Direct	Rurial		£240 E
32	20 03 33 13 1043		LA 3 FOIY	,	vc) con		iter, Direct			\$249.5
			Installation	Quantity 12.00	x	Unit Price 18.42	x	Factor 1.1291 =	Total 249.58	
33	26 05 33 13 1843	0389		rsonal Protective nent, Add	Equipme	ent (Arc Flash) W	hen Worki	ng On Energized		\$57.1
			Installation	Quantity 12.00	x	Unit Price 4.22	x	Factor 1.1291 =	Total 57.18	
34	26 05 33 13 2101			" Long Polyvinyl		(PVC) Coated, U	rethane Li	ned, Rigid		\$1,997.3
			Installation	Quantity 10.00	x	Unit Price 176.90	x	Factor 1.1291 =	Total 1,997.38	
35	26 11 16 00 0124		EA Shunt	Trip And Auxiliary	/ Switch	Accessories, Sec	ondary Dis	stribution Section		\$1,017.6
			Installation	Quantity 1.00	x	Unit Price 901.31	x	Factor 1.1291 =	Total 1,017.67	
			SHUNT TRIP TR	RIGGER BUTTON	١					
36	26 25 00 00 0029		EA 225 An	np Cable Tap Bo	x, 600 V	olt, 3 Phase, 3 W	ire			\$2,506.2
			Installation	Quantity 1.00	х	Unit Price 2,219.69	x	Factor 1.1291 =	Total 2,506.25	
			CT METER CAN							
37	26 25 00 00 0040		EA 1,000 /	Amp Cable Tap E	30x 277/4	180 Volt, 3 Phase	, 4 Wire			\$3,415.4
			la stallation	Quantity		Unit Price		Factor	Total	
			Installation CT BOX	1.00	Х	3,024.93	х	1.1291	3,415.45	
38	26 29 13 13 0053		M-1P,			Il HP, 2 Pole, Pus h Thermal Overlo		Operator, NEMA Si ion (Square D	ize	\$1,347.7
				Quantity		Unit Price		Factor	Total	
			Installation	1.00	Х	1,193.63	Х	1.1291	1,347.73	
			EMERGENCY S	HUTOFF FOR G	ENERA	ΓOR				
39	26 32 13 13 0020		EA 500 KV	V Diesel Generat	or Set, 3	Phase (Cummin	s DFEK)			\$111,844.3
			Installation	Quantity 1.00	x	Unit Price 99,056.22	x	Factor 1.1291 =	Total 111,844.38	
40	26 32 13 13 0020	0098	MOD For We	eather Resistant	Steel Die	sel Generator Er	closure, A	dd		\$40,755.1
			Installation	Quantity		Unit Price		Factor	Total	
			mstallation	1.00	Х	36,095.25	Х	1.1291	40,755.15	
41	26 36 23 00 0019			Amp Automatic T ure (Cummins O		Switch, 3 Pole Cir 0)	cuit Breake	er, NEMA 1		\$21,607.2
			Installation	Quantity	v	Unit Price	v	Factor	Total 21,607.25	
				1.00	Х	19,136.70	Х	1.1291	21,007.25	
10	20, 20, 22, 00,0040	0400	NEMA 4X	MA OD Fralasii	- A al al					***
	26 36 23 00 0019	0196	MOD For NE	MA 3R Enclosur Quantity	e, Add	Unit Price		Factor	Total	\$3,091.9
42			Installation	1.00	х	2,738.39	x	1.1291 =	3,091.92	
42			NEMA 4X			,				
42				Oller O.All. Electric	Pull Box	es, Precast Cond	rete			\$1,222.7
43	33 71 19 00 0003		EA 24" x 3	6" x 24", Electric						
	33 71 19 00 0003		EA 24" x 3  Installation	Quantity	x	Unit Price 1 082 94	x	Factor 1 1291 =	Total 1,222.75	
43			Installation	Quantity 1.00	X Pull Box	1,082.94	X	Factor 1.1291		¢7.256.4
	33 71 19 00 0003 33 71 19 00 0009		Installation	Quantity 1.00						\$7,356.4

Contractor's Price Proposal - Detail Page 4 of 8 10/21/2019

072736.00 Work Order Number:

North Shore Youth Center New Generator Work Order Title:

ELEC	CTRICAL						
45	33 71 19 00 0026	EA 3'-6" x 2'-9	9" x 2' Deep Property	Line Box			\$2,627.46
		Installation	Quantity 1.00 <sup>X</sup>	Unit Price 2,327.04 X	Factor 1.1291	Total 2,627.46	
		CT METER CAN FR		_,			
Subt	otal for ELECTRICAL						\$399,302.72
FIRE	ALARM						
46	28 05 14 23 0007			Non-Shielded, Plenum able, Installed In Condu	Rated, Solid Type FPLP		\$2,932.96
		Installation	Quantity 1.50 <sup>X</sup>	Unit Price 1,731.74 X	Factor 1.1291 =	Total 2,932.96	
47	28 46 21 33 0989	EA Red, 120	VAC, Intelligent Fire	Alarm Control Panel (No	otifier NFS-320R)		\$4,103.67
		Installation	Quantity 1.00 X	Unit Price 3,634.46 X	Factor 1.1291 =	Total 4,103.67	
Subt	otal for FIRE ALARM						\$7,036.63
FOU	NDATIONS						
48	01 22 23 00 0404	DAY 6,000 LB I	Mini-Excavator With I	ull-Time Operator			\$2,502.88
		Installation	Quantity 3.00 x	Unit Price 738.90 X	Factor 1.1291 =	Total 2,502.88	
		Load and excavation	n of foundation				
		equipmen transportir hydraulic e constructie constructie	t, off loading on site, ng away. For equipmo excavators, gradalls, on loaders, tractors, p on forklifts, telescopir	rigging, dismantling, loa ent such as bulldozers, road graders, loader-ba pavers, rollers, bridge fin ag boom rough terrain com manlifts with >40' bo	motor scrapers, ackhoes, heavy duty nishers, straight mast onstruction forklifts,		
		Installation	Quantity	Unit Price	Factor	Total	
			1.00 X	639.23 X	1.1291	721.75	
	01 74 19 00 0038	Load and excavation  CYM Hauling O	n Paved Roads, First	15 Miles			\$407.15
30	01 74 19 00 0030	Installation	Quantity 601.00 ×	Unit Price 0.60 ×	Factor 1.1291 =	Total 407.15	\$407.15
51	01 74 19 00 0039	CYM Hauling O		s Over Initial 15 Miles	· · · · · · · · · · · · · · · · · · ·		\$271.44
		Installation	Quantity 601.00 X	Unit Price 0.40 x	Factor 1.1291 =	Total 271.44	<b>,</b>
52	03 11 13 00 0003	SF Continuou	s Footings Foundation	on Wood Formwork			\$1,615.52
		Installation	Quantity 392.00 x	Unit Price 3.65 X	Factor 1.1291 =	Total 1,615.52	
53	03 11 13 00 0003 0001	MOD For <1,000	0, Add				\$278.84
		Installation	Quantity 392.00 x	Unit Price 0.63 x	Factor 1.1291 =	Total 278.84	
54	03 21 11 00 0090	LF #5, Grade	60, Footings, Steel F	Reinforcement Bar			\$1,503.96
		Installation	Quantity 1,332.00 <sup>X</sup>	Unit Price 1.00 X	Factor 1.1291 =	Total 1,503.96	

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Work Order Number: 072736.00

Work Order Title: North Shore Youth Center New Generator

OUN	DATION	s									
55	03 31 1	3 00 0005		SF 6" 3	3,000 PSI Slab On G	Grade Co	oncrete Slabs Asse	embly			\$345.38
				Installation	Quantity 52.20	x	Unit Price 5.86	x	Factor = 1.1291	Total 345.38	
				Stair slab	02.20		0.00		1.1201		
56	03 31 1	3 00 0005	0156		Up To 500, Add						\$113.16
					Quantity		Unit Price		Factor	Total	•
				Installation	52.20	x	1.92	Х	1.1291 =	113.16	
57	03 31 1	3 00 0018		CY Dire	ect Chute, Place 3,0	00 PSI C	Concrete Continuo	us Footing	gs		\$2,310.52
				La ata Hati an	Quantity		Unit Price		Factor	Total	
				Installation	14.14	Х	144.72	Х	1.1291	2,310.52	
58	03 31 1	3 00 0018	0039	MOD For	Up To 20, Add						\$138.42
				Installation	Quantity		Unit Price		Factor	Total 138.42	
					14.14	Х	8.67	Х	1.1291	130.42	
59	03 37 1	6 00 0010		HR 35	CY/HR, 66 HP Traile	er Mount	•	plncludes	hoses		\$803.56
				Installation	Quantity 8.00	x	Unit Price 88.96	x	Factor 1.1291 =	Total 803.56	
60	24 22 4	6 13 0011		CY Bad							04 700 05
60	31 23 1	6 13 0011			ckfilling or Placing S terials by Hand	ubbase f	or Trenches with I	mported (	or Stockpiled		\$1,709.65
					Quantity		Unit Price		Factor	Total	
				Installation	97.00	Х	15.61	Х	1.1291	1,709.65	
61	31 23 1	6 13 0013			mpaction of Fill or Si etera	ubbase f	or Trenches by Vi	bratory Pl	ate, Air Tamper,		\$360.33
				Installation	Quantity	v	Unit Price	v	Factor	Total 360.33	
	04 00 4	0 40 0040	2000		97.00	X	3.29	X	1.1291 =		
62	31 23 1	6 13 0013	0068	MOD For	>20 To 50, Add						\$180.71
				Installation	Quantity 97.00	x	Unit Price 1.65	x	Factor 1.1291 =	Total 180.71	
63	32 11 2	9 13 0002		SY 6" 1	hick FDOT Limerod	ck					\$2,603.89
					Quantity		Unit Price		Factor	Total	
				Installation	69.40	Х	33.23	Х	1.1291	2,603.89	
64	32 11 2	9 13 0002	0010	MOD For	Up To 500, Add						\$561.84
				Installation	Quantity		Unit Price		Factor =	Total 561.84	
				IIIStallation	69.40	X	7.17	Х	1.1291	301.04	
ubto	tal for F0	DUNDAT	IONS								\$16,429.0
ENE	RAL RE										
65	01 22 1	6 00 0002		cos Rei sep Fee exp	mbursable FeesRei ts. Insert the appro mbursable Fee. If the arately and add a co e (e.g. sidewalk clos edited shipping cos to the Price Proposal	priate qualere are in comment ure, road ts, etc.).	nantity to adjust the multiple Reimburs in the "note" block d cut, various perm	e base cos able Fees to identif nits, exten	, list each one y the Reimbursable ded warranty,		\$10,808.60
				Installation	Quantity	.,	Unit Price		Factor	Total 10,808.60	
				PERFORMAI	9,826.00	Х	1.00	Х	1.1000	10,000.00	
					NOE BUND						04 474 40
66	01 74 1	0 00 0014		FΔ 00	CV Dumneter /4 T-	a\ "C 1		العام مماميان			
66	01 74 1	9 00 0014			CY Dumpster (4 Tor tal cost, pick-up cos	•					\$1,471.49
66	01 74 1	9 00 0014			CY Dumpster (4 Tor tal cost, pick-up cos Quantity	•				Total 1,471.49	\$1,471.49

Contractor's Price Proposal - Detail Page 6 of 8 10/21/2019

072736.00 Work Order Number:

North Shore Youth Center New Generator Work Order Title:

GENI	ERAL REQ.								
67	02 41 16 13 0030	CF Reinford	ced Concrete Fo	undatio	n Demolition				\$5,086.03
		Installation	Quantity		Unit Price		Factor =	Total 5,086.03	
			550.00	Х	8.19	Х	1.1291 =	5,000.05	
		slab on site to be	removed						
Subt	otal for GENERAL REQ.								\$17,366.12
SUPE	ERSTRUCTURE								
68	01 45 23 00 0012	EA Proctor	Compaction 6"	Standard	d Mold, Field Soils	s Test			\$1,659.24
		Installation	Quantity		Unit Price		Factor _	Total 1,659.24	
			6.00	Х	244.92	Х	1.1291	1,009.24	
69	01 45 23 00 0226		•	•	ed in the State of I				\$3,810.71
		9	•		used only as dired onal services and	•			
			s are used for inv		onar services and	HOLIOI A	E design		
			Quantity		Unit Price		Factor	Total	
		Installation	45.00	Х	75.00	x	1.1291 =	3,810.71	
		RAILING AND ST	AIRS SHOP DE	RAWING	i				
70	03 21 13 00 0124	LF #5, Gra	de 60, Elevated	Slabs, C	Galvanized Steel F	Reinforce	ment Bar		\$1,552.51
		la stallation	Quantity		Unit Price		Factor	Total	
		Installation	1,100.00	Х	1.25	X	1.1291	1,552.51	
71	03 31 13 00 0007	SF 8" 3,000	) PSI Slab On G	rade Co	ncrete Slabs Asse	embly			\$5,619.53
		La aka Haifi a sa	Quantity		Unit Price		Factor	Total	
		Installation	700.00	Х	7.11	Х	1.1291	5,619.53	
72	03 31 13 00 0007 015	7 MOD For >50	0 To 1,000, Add						\$1,240.88
		Installation	Quantity		Unit Price		Factor	Total	
		IIIStaliation	700.00	Х	1.57	Х	1.1291	1,240.88	
73	03 37 16 00 0010	HR 35 CY/F	HR, 66 HP Traile	r Mount	ed Concrete Pum	plncludes	s hoses		\$1,607.12
		Installation	Quantity		Unit Price		Factor	Total	
			16.00	Х	88.96	X	1.1291	1,607.12	
		2 DAYS GROUTI							
74	04 05 16 26 0009	SF Grout C	oncrete Block C	ores- 8"	Block, Grout Fill I	Block Soli	id (0.258 CF/SF)		\$4,309.77
		Installation	Quantity		Unit Price		Factor	Total 4,309.77	
			1,100.00	Х	3.47	Х	1.1291	4,509.77	
75	04 22 23 13 0006	SF 8" x 8" x	k 16", Cored, Lig	htweigh	t, Concrete Block				\$8,023.38
		Installation	Quantity	.,	Unit Price	.,	Factor	Total 8,023.38	
			1,100.00	X	6.46	X	1.1291 =	0,023.30	
76	05 05 23 00 1072	EA 1/2" Dia	ımeter x 10" Len	gth, 316	Stainless Steel, I	Hex Head	l Bolt		\$398.69
		Installation	Quantity		Unit Price		Factor	Total 398.69	
			10.00	Х	35.31	Х	1.1291	390.09	
77	05 05 23 00 1120	EA 3/4" Dia	ımeter x 8" Leng	th, 316	Stainless Steel, H	ex Head I			\$724.25
		Installation	Quantity	v	Unit Price	v	Factor	Total 724.25	
			16.00	Х	40.09	Х	1.1291	724.23	
78	05 73 00 00 0003	LF Aluminu Up To 4		Handrail	Vertical Square E	Bars At 6"	, Shaped Top Rail,		\$11,233.02
		Installation	Quantity		Unit Price		Factor	Total	
		Installation	115.00	Х	86.51	Х	1.1291	11,233.02	

Page 7 of 8 Contractor's Price Proposal - Detail

Work Order Number: 072736.00

Work Order Title: North Shore Youth Center New Generator

9	05 73	00	00 0003	0143	MOD	For 4" (	On Center Stand	lards, Ad	ld				\$586.91
					Installat	ion	Quantity 115.00	x	Unit Price 4.52	x	Factor 1.1291 =	Total 586.91	
0	09 24	23	00 0004		SF	Two Co	at Troweled Stu	cco, Scr	atch/FinishExclud	les lath an	d felt. Interior or		\$3,440.3
						exterio	, one side.						
							Quantity		Unit Price		Factor	Total	
					Installat	ion	1,100.00	Х	2.77	X	1.1291	3,440.37	
1	09 24	23	00 0004	0034	MOD	For Sm	ooth Float Finisl	n, Add					\$732.7
							Quantity		Unit Price		Factor	Total	
					Installat	ion	1,100.00	Х	0.59	x	1.1291 =	732.79	
2	09 66	16	00 0039		SF	3" Thic	k Precast Terraz	zo Stair	Landing Structura	al, Non Sli	p		\$9,886.6
							Quantity		Unit Price		Factor	Total	
					Installat	ion	186.50	Х	46.95	x	1.1291 =	9,886.60	
3	09 91	13	00 0089		SF	Paint E	xterior Stucco W	/alls, 1 C	oat Primer, Brush	n/Roller W	ork		\$571.3
							Quantity		Unit Price		Factor	Total	
					Installat	ion	1,100.00	Х	0.46	X	1.1291 =	571.32	
4	09 91	13	00 0091		SF	Paint E	xterior Stucco W	/alls, 2 C	oats Paint, Brush	/Roller Wo	ork		\$606.6
							Quantity		Unit Price		Factor	Total	
					Installat	ion	553.90	Х	0.97	x	1.1291 =	606.65	
5	32 11	16	16 0009		SY	12" Cru	shed Aggregate	Base C	ourse For Roadw	ays And P	arking Areas		\$4,793.0
							Quantity		Unit Price		Factor	Total	
					Installat	ion	193.13	x	21.98	X	1.1291 =	4,793.03	
					6 LAYE	RS PROF	PERLY COMPAG	CTED					
6	32 11	16	16 0009	0010	MOD	For Up	To 500, Add						\$1,186.2
							Quantity		Unit Price		Factor	Total	
					Installat	ion	193.13	x	5.44	х	1.1291 =	1,186.26	

Proposal Total \$502,117.49

This total represents the correct total for the proposal. Any discrepancy between line totals, sub-totals and the proposal total is due to rounding.

The Percentage of NPP on this Proposal: %



### **Subcontractor Listing**

Date: October 21, 2019

Re: IQC Master Contract #: FL-SEA-GC04-041019-TCI

Work Order #:

072736.00

Owner PO #:

Title: North Shore Youth Center New Generator

Contractor: Team Contracting, Inc.

Proposal Value: \$502,117.49

Name of Contractor	Duties	Amount	%
No Subcontractors have been		\$0.00	0.00
selected for this Work Order			

Subcontractor Listing Page 1 of 1

CODE IN EFFECT ARE NEC 2014 AND FBC 2017 (6TH EDITION)

a.- STATE OF FLORIDA.

b.- LIFE SAFETY CODE - NFPA 101. c.- UNDERWRITERS LABORATORIES, INC. PUBLICATIONS

d.- NFPA110: STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS. e.- NFPA 70: NATIONAL ELECTRICAL CODE (NEC) 2014 ED.

f.- NFPA 72: FIRE ALARM AND SIGNALING CODE.

g.- AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI). h.- INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE).

j.- NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA). k.- 2014 FLORIDA BUILDING CODE.

2. ALL WORK SHALL BE PERFORMED BY A LICENSED MASTER ELECTRICIAN IN A FIRST CLASS NEAT,

3. THE ELECTRICAL INSTALLATION SHALL MEET THE APPROVAL OF THE LOCAL GOVERNING AUTHORITIES AND THE OWNER'S REPRESENTATIVE PRIOR TO ACCEPTANCE.

4. THE CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS, AND TESTING.

5. REFER TO THE ARCHITECTURAL, AND STRUCTURSAL DRAWINGS FOR RELATED INFORMATION AND

INSTALLATION REQUIREMENTS TO BE PERFORMED AS PART OF THE WREK. SUCH DRAWINGS SHALL BE CONSIDERED PART OF THE ELECTRIXCAL CONTRACT NDOCUMENTS

6. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM. PROVIDE EVERYTHING NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MINOR ITEMS WHICH ARE OBVIOUSLY AND REASONABLY NECESSARY TO COMPLETE THE INSTALLATION.

7. THE CONTRACTOR SHALL NOT SCALE DRAWINGS. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW APPROXIMATE LOCATIONS AND ARRANGEMENTS ONLY UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT UNLESS NOTED OTHERWISE.

14. USE GALVANIZED RIGID STEEL CONDUIT WHERE EXPOSED TO EXTERIOR CONDITIONS OR WHERE EXPOSED IN ANY LOCATIONS WHERE SUBJECT TO MECHANICAL DAMAGE. EMT SHALL BE PROVIDED WITH SET SCREW STEEL FITTINGS FOR INSTALLATION IN ALL CONCEALED WALLS AND CEILINGS IN DRY AREAS. UNLESS OTHERWISE NOTED, PVC MAY BE USED WHERE BURIED UNDER GRADE AND ENCASED IN CONCRETE OR EMBEDDED IN CONCRETE SLAB OR WALLS. ALUMINUM CONDUIT IS NOT ALLOWED.

17. ALL WIRING MUST BE IN CONDUIT, UNLESS SPECIFIED OTHERWISE. A PULL WIRE SHALL BE PROVIDED IN ALL EMPTY CONDUITS.

ALL BRANCH CIRCUIT HOMERUNS SHALL BE ROUTED IN 3/4"C. MINIMUM. MC CABLE IS NOT ALLOWED FOR CIRCUIT HOMERUNS.

18. MAINTAIN THE FIRE RATING OF ALL WALL AND FLOOR PENETRATIONS AS REQUIRED THROUGH WHICH CONDUIT PASS AND JUNCTIONS ARE INSTALLED.

19. LIGHT SWITCHES SHALL BE MOUNTED 48 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE.

20. RECEPTACLES SHALL BE LOCATED 18 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS NOTED OTHERWISE. ABOVE-COUNTER RECEPTACLES SHALL BE MOUNTED 6" ABOVE BACK SPLASH TO CENTERLINE OF DEVICE UNLESS NOTED OTHERWISE.

21. EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED, WITH APPROPRIATE NEMA ENCLOSURE RATING.

22. WORKING CLEARANCES AND DEDICATED SPACE FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC 110. SUBMIT COORDINATION DRAWINGS OF ALL ELECTRICAL ROOMS SHOWING COMPLIANCE.

24. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO COMMENCEMENT OF WORK.

26. ALL CONDUCTORS INSTALLED ABOVE THE ROOF SHALL BE DERATED FOR AMBIENT TEMPERATURE INCLUDING AMBIENT TEMPERATURE ADJUSTMENT IN ACCORDANCE WITH ARTICLE 310.15 (B)(2)(c).

34. THE ELECTRICAL SYSTEM SHALL BE COMPLETELY AND EFFECTIVELY GROUNDED AS REQUIRED BY THE NEC.

40. CONTRACTOR SHALL UPSIZE BRANCH CIRCUIT WIRE SIZE AS REQUIRED TO COMPENSATE VOLTAGE DROP FROM LENGTHENING OF CIRCUITS DUE TO FIELD ROUTING. FINAL INSTALLATION SHALL MEET FLORIDA BUILDING CODE REQUIREMENT OF: MAXIMUM BRANCH CIRCUIT VOLTAGE DROP OF 3%: REFER TO VOLTAGE DROP CHART BELOW FOR CONDUCTOR SIZES FOR BRANCH CIRCUITS

120 VOLT (BASIS 1500 WATT) MIN. CONDUCTOR UP SIZE FOR VOLTAGE DROP CIRCUIT LENGTH 0 - 70' #12 AWG 71' - 115' #10 AWG

116' - 180'

181' AND ABOVE TO BE SUBMITTED BY CONTRACTOR AND APPROVED BY ENGINEER.

#8 AWG

45. DISCONNECT SWITCHES SHALL BE HORSEPOWER RATED, HEAVY DUTY, WITH QUICK-MAKE, QUICK-BREAK

46. ALL FUSES, UNLESS OTHERWISE NOTED ON THE DRAWINGS, SHALL BE CURRENT-LIMITING WITH 200,000 AMPERES INTERRUPTING CAPACITY.

51. CONTRACTOR SHALL PROVIDE AN OPERATING MANUAL AND MAINTENANCE MANUAL TO OWNER. THE MANUAL SHALL INCLUDE AT A MINIMUM: (1) SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. (2) OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED. (3) NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.

52. THE CORRECTION OF ANY DEFECTS OR DAMAGE TO ANY EQUIPMENT, DEVICE, LUMINAIRE, RACEWAY, ETC. SHALL BE COMPLETED AT NO ADDITIONAL CHARGE.

53. THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF THE ACTUAL INSTALLATION INCLUDING: SINGLE LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM, SITE PLANS AND ALL ELECTRICAL FLOOR PLANS.

54. AT THE COMPLETION OF WORK, THE CONTRACTOR SHALL REMOVE ALL DUST AND DEBRIS CAUSED BY HIS WORK AND SHALL THOROUGHLY CLEAN ALL ELECTRICAL EQUIPMENT.

**SPECIFICATIONS** 

THIS SPECIFICATIONS INCLUDES PACKAGED ENGINE-GENRATOR SETS FOR EMERGENCY AND STANDBY POWER SUPPLY WITH THE FOLLOWING FEATURES:

1.- DIESEL ENGINE 2.- UNIT MOUNTED COOLING SYSTEM

3.- UNIT MOUNTED CONTROL AND MONITORING.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH DETAILED EQUIPMENT ASSEMBLIES AND INDICATE DIMENSIONS, WEIGHTS, LOADS, REQUIRED CLEARANCES, METHOD OF FIELD ASSEMBLY, COMPONENTS, AND LOCATION AND SIZE

QUALITY ASSURANCE: INSTALLER SHALL BE MANUFACTURER QUALIFIED AND MAINTAIN WITHIN 50 MILES OF PROJECT SITE, A SERVICE CENTER CAPABLE OF PROVIDING TRAINING, PART, AND EMERGENCY MAINTENANCE REPAIRS.

ALL ELECTRICAL COMPONENTS. DEVICES AND ACCESSORIES SHALL BE LISTED AND LABELED AS DEFINED IN NFPA 70 ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.

GENERATOR SET SHALL COMPLY WITH: 1.- ASME B15.1

2.- NFPA 37, NFPA 70, NFPA 110 (REQUIREMENTS FOR LEVEL 1 EMERGENCY POWER SUPPLY SYSTEM)

3.- UL 2200 4.- EPA: ENGINE EXHAUST EMISSION: COMPLY WITH APPLICABLE STATE AND LOCAL GOVERNMENT REQUIREMENTS. 5.- NOISE EMISSION: COM;PLY WITH APPLICABLE STATE AND LOCAL GOVERNMENT REQUIREMENTS FOR MAXIMUM NOISE LEVEL AT ADJACENT PROPERTY BOUNDARIES DUE TO SOUND EMITTED BY GENERATOR SET.

ENGINE GENERATOR SET SHALL COMPLY WITH THE FOLLOWING:

1.- FACTORY-ASSEMBLED AND -TESTED, ENGINE-GENERATOR SET. 2.- MOUNTING FRAME: MAINTAIN ALIGNMENT OF MOUNTED COMPONENTS WITHOUT DEPENDING ON CONCRETE FOUNDATION: AND HAVE LIFTING ATTACHMENTS.

3.- POWER OUTPUT RATINGS: NOMINAL RATINGS AS INDICATED, WITH CAPACITY AS REQUIRED TO OPERATE AS A UNIT AS EVIDENCED BY RECORDS OF PROTOTYPE TESTING. 4.- OUTPUT CONNECTIONS: THREE-PHASE, FOUR WIRE.

**GENERATOR SET PERFORMANCE:** 

1.- STEADY-STATE VOLTAGE OPERATIONAL BANDWIDTH: 3 PERCENT OF RATED OUTPUT VOLTAGE FROM NO LOAD TO FULL LOAD.

2.- TRANSIENT VOLTAGE PERFORMANCE: NOT MORE THAN 10 PERCENT VARIATION FOR 50 PERCENT STEP-LOAD INCREASE OR DECREASE. VOLTAGE SHALL RECOVER AND REMAIN WITHIN THE SATEADY-SATE OPERATING BANDWIDTH WITHIN TREE SECONDS.

3.- STEADY-STATE FREQUENCY OPERATIONAL BANDWIDTH: 0.5 PERCENT OF RATED FREQUENCY FORM NO LOAD TO FULL LOAD. STEADY-STATE FREQUENCY STABILITY: WHEN SYSTEM IS OPERATING AT ANY CONSTANT LOAD WITHIN THE RATED

LOAD , THERE SHALL BE NO RANDOM SPEED VARIATIONS OUTSIDE THE STEADY-STATE OPERATIONAL BAND AND NO 4.- TRANSIENT FREQUENCY PERFORMANCE: LESS THAN 5 PERCENT VARIATION FOR 50 PERCENT STEP-LOAD

INCREASE OR DECREASE. FREQUENCY SHALL RECOVER AND REMAIN WITHIN THE STEADY-STATE OPERATING BAND 5.- OUTPUT WAVEFORM: AT NO LOAD, HARMONIC CONTENT MEASURED LINE TO LINE OR LINE TO NEUTRAL SHAL NOT EXCEED 5 PERCENT TOTAL AND 3 PERCENT FOR SINGLE HARMONICS.

6.- SUSTAINED SHORT-CIRCUIT CURRENT: FOR A 3-PHASE, BOLTED SHORT CIRCUIT AT SYSTEM OURPUT TERMINALS, SYSTEM SHALL SUPLY A MINIMUM OF 250 PERCENT OF RATED FULL-LOAD CURRENT FOR NOT LESS THAN 10 MSECONDS AND THEN CLEAR THE FAUL AUTOMATICALLY, WITHOUT DAMAGE TO GENERATORSYSTEM COMPONENTS. 7.- START TIME: COMPLY WITH NFPA 110, TYPE 10, SYSTEM REQUIREMNENTS

1.- FUEL: FUEL OIL, GRADE DF-2

2.- RATED ENGINE SPEED: 1,800 RPM

3.- MAXIMUM PISTON SPEED FOR FOUR-CYCLE ENGINE: 2250 FPM 4.- LUBRICATION SYSTEM: THE FOLLOWING ITEMS ARE MOUNTED ON ENGINE OR SKID:

- FILTER AND STRAINER: RATED TO REMOVE 90 PERCENT OF PARTICLES 5 MICROMETERS AND SMALLER. - THERMOSTATIC CONTROL VALVE: CONTROL FLOW IN SYSTEM TO MAINTAIN OPTIMUM OIL TEMPERATURE. UNIT SHALL BE CAPABLE OF FULL FLOW AND IS DESIGNED TO BE FAIL-SAFE.

- CRANKCASE DRAIN: ARRANGED FOR COMPLETE GRAVITY DRAINAGE TO AN EASILY REMOVABLE CONTAINER WITH NO DISASSEMBLY AND WITHOUT USE OF PUMPS, SIPHONS, SPECIAL TOOLS OR APPLIANCES.

1.- MAIN FUEL PUMP: MOUNTED ON ENGINE. PUMP ENSURES ADEQUATE PRIMARY FUEL FLOW UNDER STARTING AND LOAD CONDITIONS. 2.- RELIEF-BYPASS VALVE: AUTOMATIC REGULATES PRESSURE IN FUEL LINE AND RETURNS EXCESSES FUEL TO

3.- FUEL SHUT-OFF SOLENOID VALVES: ONE FOR EACH FUEL SOURCE. 4.- COOLANT JACKET HEATER: ELECTRIC-IMMERSION TYPE, FACTORY INSTALLED IN COOLANT JACKET SYSTEM. COMPLY WITH NFPA 110. REQUIREMENTS FOR LEVEL 1 EQUIPMENT FOR HEATER CAPACITY.

5.- GOVERNOR: ADJUSTABLE ISOCHRONOUS, WITH SPEED SENSING. 6.- COOLING SYSTEM: CLOSED LOOP, LIQUID COOLED, WITH RADIATOR FACTORY MOUNTED ON ENGINE-GENRATOR SET MOUNTING FRAME AND INTEGRAL ENGINE-DRIVEN COOLANT PUMP. 7.- MUFFLER / SILENCER: CRITICAL TYPE. SIZED AS RECOMMENDED BY ENGINE MANUFACTURER AND SELECTED WITH

EXHAUST PIPING SYSTEM TO NOT EXCEED ENGINE MANUFACTURER': S ENGINE BACK PRESSURE REQUIREMENTS. - MINIMUM SOUND ATTENUATION OF 25 DB AT 500 HZ - SOUND LEVEL MEASURED AT A DISTANCE OF 10 FEET FROM EXHAUST DISCHARGE AFTER INSTALLATION IS

COMPLETE SHALL BE 65 dBA OR LESS. 8.- STARTING SYSTEM: 24-V ELECTRIC. WITH NEGATIVE GROUND.

- CRANKING CYCLE: AS REQUIRED BY NFPA 100 FOR SYSTEM LEVEL SPECIFIED.

- BATTERY: ADEQUATE CAPACITY WITHIN AMBIENT TEMPERATURE RANGE SPECIFIED. - BATTERY-CHARGING ALTERNATOR: FACTORY MOUNTED ON ENGINE WITH SOLID-STATE VOLTAGE REGULATION AND 35-A MINIMUM CONTINUOUS RATING.

- BATTERY CHARGER: CURRENT-LIMITING, AUTOMATIC-EQUAKLIZING AND FLOAT-CHARGING TYPE. UNIT TO COMPLY WITH UL 1236

FUEL OIL STORAGE: 1 - COMPLY WITH NEPA 30

2.- BASE MOUNTED FUEL OIL TANK: FACTORY INSTALLED AND PIPED, COMPLYING WITH UL 142 FUEL OIL TANK. FEATURES INCLUDE THE FOLLOWING: - TANK LEVEL INDICATOR.

- CAPACITY: FUEL FOR EIGHT HOURS' CONTINUOUS OPERATION AT 100 PERCENT RATED POWER OUTPUT (MINIMUM). - VANDAL-RESISTANT FILL CAP. - CONTAINMENT PROVISIONS: COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

CONTROL AND MONITORING 1.- AUTOMATIC STARTING SYSTEM SEQUENCE OF OPERATION.

2.- MANUAL STARTING SYSTEM SEQUENCE OF OPERATION

3.- INDICATING AND PROTECTIVE DEVICES AND CONTROLS: AS REQUIRED BY NFPA 110 FOR LEVEL 1 SYSTEM, 4.- COMMON REMOTE AUDIBLE ALARM: COMP;LY WITH NFPA 110 REQUIREMENTS FOR LEVEL 1 SYSTEMS. INCLUDE NECESSARY CONTACT AND TERMINAL IN CONTROL AND MONITORING PANEL.

GENERATOR OVERCURRENT AND FAULT PROTECTION

5.- REMOTE ALARM ANNUNCIATOR.

1.- GENERATOR CIRCUIT BREAKER: MOLDED-CASE, THERMAL-MAGNETIC TYPE; 100 PERCENT RATED; COMPLYING WITH NEMA AB1 AND UL 480

- TRIPPING CHARACTERISTIC: DESIGNED SPECIFICALLY FOR GENERATOR PROTECTION. - TRIP RATING: MATCHED TO GENERATOR RATING. PROVIDE (1) 1,200A-3P BREAKE FOR EMERGENCY STANDBY LOADS, (1) 100A-3P BREAKER FOR LEVEL1 EMERGENCY LOADS, AND (1) 100A-3P BREAKER FOR FIRE PUMP. - MOUNTING: ADJACENT TO OR INTEGRATED WITH CONTROL AND MONITORING PANEL.

GENERATOR . EXCITER. AND VOLTAGE REGULATOR

1.- COMPLY WITH NEMA MG1

2.- DRIVE: GENERATOR SHAFT SHALL BE DIRECTLY CONNECTED TO ENGINE SHAFT. EXCITER SHALL BE ROTATED INTEGRALLY WITH GENERATOR ROTOR. 3.- ELECTRICAL INSULATION: CLASS H OR CLASS F.

4.- CONSTRUCTION SHALL PREVENT MECHANICAL, ELECTRICAL, AND THERMAL DAM/GE DUE TO VIBRATION, OVERSPEED UP TO 125 PERCENT OR FATING, AND HEAT DURING OPERATION AT 110 PERCENT OF RATED CAPACITY

5.- ENCLOSURE: DRIPPROOF. 6.- INSTRUMENT TRANSFORMER: MOUNTED WITHING GENERATOR ENCLOSURE.

7.- VOLTAGE REGULATOR: SOLID-STATE, SEPARATE FROM THE EXCITER, PROVIDING PERFORMANCE AS SPECIFIED. 8.- SUBTRANSIENT REACTANCE: 12 PERCENT, MAXIMUM.

VIBRATION ISOLATION DEVICES.

SOURCE QUALITY CONTROL.

1.- ELASTOMERIC ISOLATOR PADS: OIL- AND WATER- RESISTANT ELASTOMER OR NATURAL RUBBER, ARRANGED IN SINGLE OR MJULTIPLE LAYERS, MOLDED WITH A NONSLIP PATTERN AND GALVANIZED-STEEL BASEPLATES OF SUFFICIENT STIFFNESS FOR UNIFORM LOADING OVER PAD AREA, AND FACTORY CUT TO SIZES THAT MATCH REQUIREMENTS OF SUPPORTED EQUIPMENT. 2.- RESTRAINED SPRING ISOLATORS: FREESTANDING, STEEL, OPEN-SPRING ISOLATOR WITH SEISMIC RESTRAINT.

1.- OUTDOOR ENCLOSURE COMPONENTS: MANUFACTURER'S STANDARD FINISH OVER CORROSION-RESISTANT PRETREATMENT AND COMPATIBLE PRIMER. PROVIDE CATHODIC PROTECTION TO CONTROL THE CORROSION.

1.- PROTOTYPE TESTING: FACTORY TEST ENGINE-GENERATOR SET USING SAME ENGINE MODEL, CONSTRUCTED OF IDENTICAL OR EQUIVALENT COMPONENTS AND EQUIPM=PED WITH IDENTICAL OR EQUIVALENT ACCESSORIES. - TESTS: COMPLYING WITH NFPA 110, LEVEL 1 ENERGY CONVERTERS AND WITH IEEE 115. - REPORT FACTORY TEST RESULTS WITHING 10 DAYS OF COMPLETKION OF TEST.

**BASIC MATERIALS** 

 $\mapsto$ 

SYMBOL DESCRIPTION ─# OF POLES RATING-—NEMA RATING; NEMA 1 UNLESS OTHERWISE NOTED NON-FUSED DISCONNECT SWITCH, RATING AS NOTED NF = NON-FUSED AR = AMPERE RATING OF SWITCH 4X SS = NEMA 4X STAINLESS STEEL ENCLOSURE

EMERGENCY TWIN-HEAD LIGHT WITH INTEGRAL BATTERY PACK, WALL

LED, FLUORESCENT, HID, WALL MOUNTED

SINGLE POLE SWITCH (SUBSCRIPT INDICATES ITEM CONTROLLED) DUPLEX RECEPTACLE

JUNCTION BOX WALL MOUNTED

SOLUTIONS

5757 Blue Lagoon Drive, Suite 400 Miami, Florida 33126 P 305.266.6553 www.tlc-engineers.com

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Consultants:

Revisions:

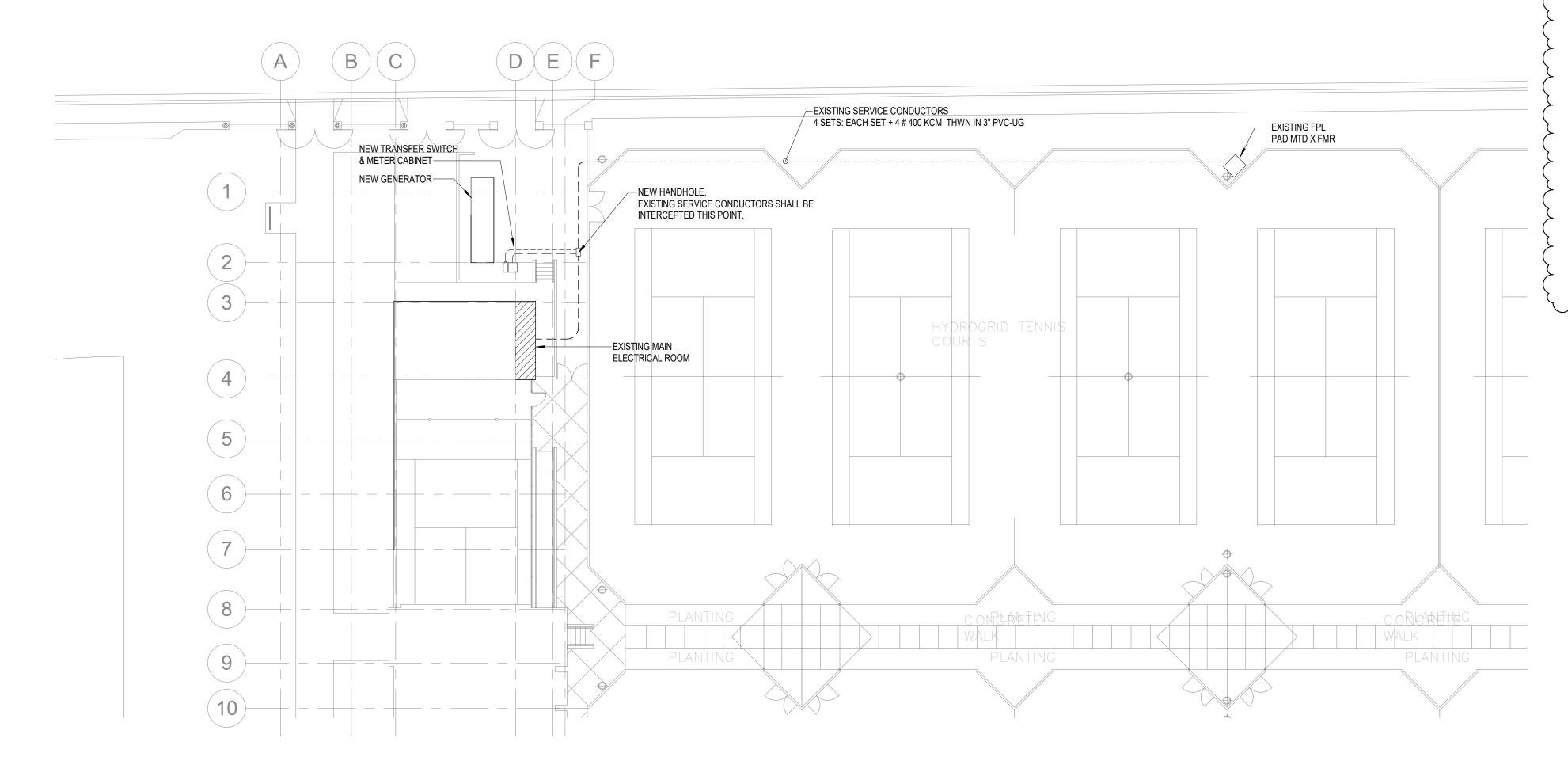
Manuel Mollinedo, P.E. Florida License # 63096

Project No.:	6190
Issue Date:	08/09/20
Drawn By:	Auth
Approved By:	Approv
Scale:	12" = 1'-

ELECT. LEGEND GENERAL NOTES, & SHEET INDEX

E0.000

1 EXISTING SERVICE ENTRANCE CONDUCTORS - ELECTRICAL SITE PLAN 1" = 20'-0"



SCOPE OF WORK:

THE SCOPE OF WORK FOR THIS DESIGN IN TO INSTALL A NEW STANDBY GENERATOR AT THE NORTH SHORE YOUTH CENTER, LOCATED AT 501 - 71st STREET, MIAMI, FL. 33141.

THE NEW GENERATOR SHALL BE LOCATED AT THE REAR OF THE PROPERTY WITH ACCESS THROUGH 73rd STREET. CURRENTLY THE MAIN ELECTRICAL ROOM AND THE FPL POINT OF SERVICE ARE LOCATED A THAT SIDE.

NEW GENERATOR SHALL BE CLASSIFIED AS LEVEL 2, CLASS 48, AND TYPE 30.

NEW STANDBY GENERATOR AND SERVICE RATED AUTOMATIC TRANSFER SWITCH (ATS) SHALL BE INSTALLED OUTDOOR. GENERATOR SHALL BE ENCLOSED IN AN ALUMINUM HOUSING CAPABLE TO WITHSTAND WIND GUST UP TO 186MPH. ATS SHALL BE IN NEMA 3R ENCLOSURE.

GENERATOR AND ATS SHALL BE INSTALLED ABOVE THE ELECTRICAL DATUM PLANE. A STRUCTURAL BASE SHALL BE PROVIDED. THIS BASE SHALL SOPPORT ALSO THE FUEL SUB BASE TANK. SUB BASE FUEL TANK SHALL HAVE ENOUGH CAPACITY TO MAINTAIN THE GENERATOR RUNNING DURING 48 HOURS AT 100% OF THE NOMINAL LOAD.

NEW FPL METERING EQUIPMENT SHALL BE LOCATED AND INSTALLED BEFORE TO REACH THE ATS. C.T.s SHALL BE REQUIRED. COORDINATE WITH FPL.

INSIDE THE EXISTING ELECTRICAL ROOMS THERE ARE SOME EXISTING METERING DEVICES THAT SHALL BE REMOVE TOGETHER WITH C.T.'s.

NEW WIRES SHALL BE INSTALLED INSIDE THE EXISTING GUTTER AND TAP CONDUCTORS EXTENDED UP TO EXISTING PANELS "MDP1" AND "T-1".

GENERATOR REMOTE ANNUNCIATOR SHALL BE INSTALLED IN A LOCATION THAT IS OCCUPIED DURING THE OPERATION HOURS OF THE BUILDING. COORDINATE WITH PROPERTY MANAGER.

GENERATOR EMERGENCY SHUT-OFF BUTTON SHALL BE FACTORY BUILT-IN ON THE GENERATOR HOUSING. ADDITIONAL SHUT OFF PUSH BUTTON SHALL BE INSTALLED CLOSE TO ELECTRICAL ROOM. REFER TO DRAWINGS.

SIZING THE GENERATOR

MAXIMUM DEMAND LOAD FOR THE NORTH SHORE YOUGHT CENTER HAS BEEN DETERMINED FOLLOWING THE FPL BILLING REPORTS FOR A YEAR ( JUNE 2018 TO MAY 2019).

THE NORTH SHORE YOUGHT CENTER CURRENTLY HAS TWO FPL METERS:
- METER 1 - No. 41724 - 10526: MAX. DEMAND = 94 KW (OCT - NOV 2018).
- METER 2 - No. 88135 - 39429: MAX. DEMAND = 222 KW (OCT - NOV 2018).
THE RESULT WILL BE 316 KW MAXIMUM DEMAND.

A POWER FACTOR OF 0.90 IS ASSUMED FOR THIS KIND OF BUILDING WHERE MOST OF THE POWER IS CONSUMED FOR LIGHTING AND AC SYSTEM. THE RESULT IS 351.11 KVA.

AS PER NFPA 70 - 2014, ARTICLE 220.87 THE SIZE OF THE SERVICE (GENERATOR) IS OBTAINED MULTIPLYING BY 1.25 THE MAXIMUM DEMAND: 351.11 KVA x 1.25 = 438 KVA

SELECTED GENERATOR SIZE IS 500KW FOR A SAFETY FACTOR = 15%

NEW WORK GENERAL NOTES:

- DETERMINE EXACT ROUTE OF UNDERGROUND SERVICE ENTRANCE CONDUCTOR. CALL 811 TO TRACE CONDUIT ROUTE.

- COORDINATE WITH PROPERTY MANAGER AND FPL TO DE-ENERGIZE THE LINE DURING DIGGING

- INSTALL NEW PULL BOX. REFER TO SHEET E1.101

- INSTALL NEW CONDUITS FROM PULL BOX TO NEW TRANSFER SWITCH. CONDUIT SHALL BE AT 24-IN BELOW FINISHED GRADE.

- REMOVE EXISTING WIRES BETWEEN NEW PULL BOX AND EXISTING ELECTRICA ROOM.

- INSTALL NEW CONDUCTORS FROM ATS TO ELECTRICAL ROOM USING EXISTING CONDUITS.

ENGINEERING SOLUTIONS®

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COA 15

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THINK. LISTEN. CREATE.

North Shore Youth Center Generator-ATS

Consultants:

Revisions:

No. Date Description

1 09-05-19 BD COMMENTS

Manuel Mollinedo, P.E. Florida License # 63096

Project No.:	61905
Issue Date:	08/09/201
Drawn By:	TL
Approved By:	TLO
Scale:	1" = 20'-0

Drawing Title:
ELECTRICAL SITE
PLAN

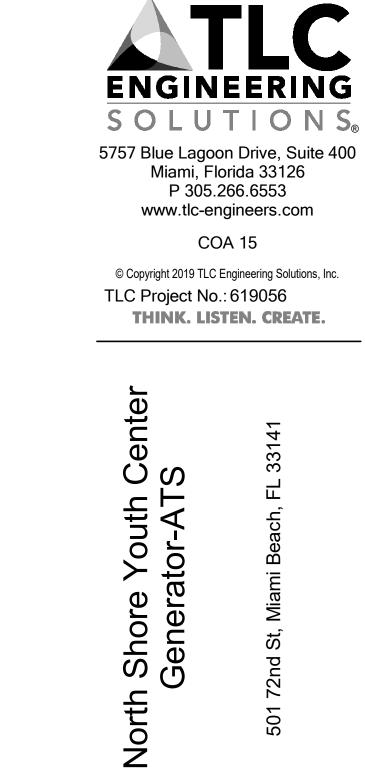
Drawing No.:

E1.000

2 SITE PLAN NEW WORK E1.000 1" = 20'-0" **KEYED NOTES:** 

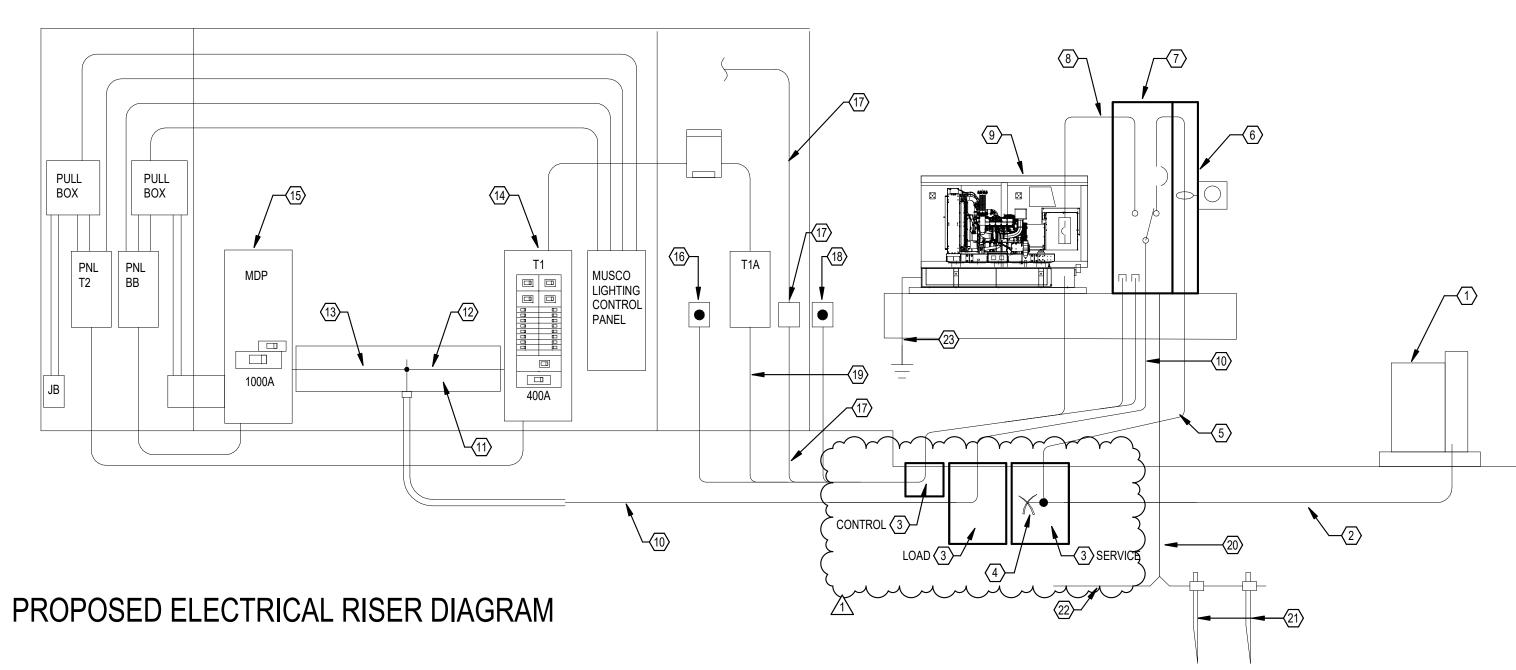
EXISTING ELECTRICAL RISER DIAGRAM - DEMOLITION NOTES

Not	Location: Supply From: Mounting: Surface Enclosure: Type 1 es:						Volts: Phases: Wires:	-	Wye			M	Ma lain MC	C. Rating: 22,000 ins Type: MLO s Rating: 200 A B Rating: 175 A al Rating: 100.00		
СК		N o		P o							P o		N o			Cŀ
T	Circuit Description	t e	Trip	l e		401)/4	E	3	(	;	l e	Trip	t e	Circu	it Description	T
3	EXISTING AHU		20 A	2	3.2 kVA	1.9 kVA	3.2 kVA	1.9 kVA			3	20 A			EXIST. CU	2
$\rightarrow$	EXIST. VENDING	-	20 A	1			J.Z KVA	I.S KVA	0.7 kVA	1.9 kVA	٦	20 A			EAIST. CU	6
$\rightarrow$	EXIST. VENDING  EXIST. VENDING		20 A	1	0.7 kVA	0.9 kVA			U.I KVA	1.3 KVA	1	20 A			EXIST. RECEPTACLE	_
$\rightarrow$	EXIST. RECEPTACLE		20 A	1	U.I KVA	0.5 KVA	0.9 kVA	0.9 kVA			1	20 A			EXIST. RECEPTACLE	-
$\rightarrow$	EXIST. VENDING		20 A	1			0.0 KV/K	0.0 KVA	0.7 kVA	2.3 kVA	Ļ,		$\Box$			1
$\rightarrow$	EXIST. VENDING		20 A	1	0.7 kVA	2.3 kVA			0.7 1071	2.0 1(1/1	2	20 A			EXIST. WATER HEATER	1
$\rightarrow$	EXIST. RECEPTACLE		20 A	1	J., KV/	KV/ (	0.7 kVA	0.7 kVA			1	20 A			EXIST. D.F.	
_	EXIST. RECEPTACLE		20 A	1			J.: KV/ (	J 1071	0.4 kVA	0.7 kVA	1	20 A			EXIST. D.F.	_
$\rightarrow$	SPACE				0.0 kVA	0.7 kVA					1	20 A			EXIST. RECEPTACLE	-
$\rightarrow$	SPACE						0.0 kVA	0.7 kVA			1	20 A			EXIST. EF-2 AND EF-3	-
23									3.0 kVA	1.3 kVA	1	20 A			NEW BATTERY CHARGER	-
25 27	EXIST. LAWN SPRINKLER PUMP		20 A	3	3.0 kVA	1.8 kVA	3.0 kVA	0.0 kVA			2	20 A		NE	W WATER JACKET HEATER	2 2
$\rightarrow$	SPARE		20 A	1					0.0 kVA	0.2 kVA	1	20 A		NEW GENERATOR	LIGHTS AND RECEPTACLE	-
		To	otal Lo	ad:	15.3	kVA	12.1	kVA	11.2	kVA						
			tal Am			8 A	102	2 A	93	3 A	J					
Loa	d Classification		C	onr	nected Loa	d	Demand Fac	ctor	Estimated	Demand				Panel	Totals	
														Total Conn. Load:	20 E IA/A	
														Total Est. Demand:		
														otal Conn. Current:		
												Tata		t. Demand Current:		
												TOLO	II E8	a. Demana Current.	107 A	



Consultants:

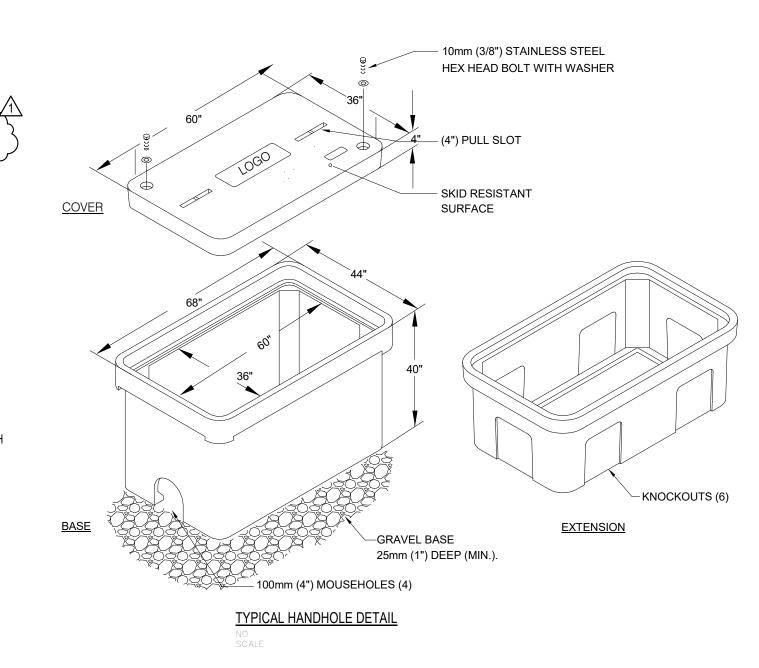
Revisions:



## KEYED NOTES:

- (1) EXISTING FPL PAD MOUNTED TRANSFORMER TO REMAIN.
- 2 EXISTING SERVICE ENTRANCE CONDUCTORS TO REMAIN: (4) SETS: EACH SET = (4) #400KCM THWN IN 3" PVC-UG.
- PROVIDE NEW HAND HOLE
- SERVICE CONDUCTORS SHALL BE INTERCEPTED AND CUT OFF INSIDE THE HAND HOLE. EXTEND THOSE CONDUCTORS UP TO NEW ATS. USE
- WATERPROOF POLARIS CONNECTORS.  $\overline{5}$  NEW (4) SETS: EACH SET = (4) #400KCM THWN IN 3" PVC-UG @ 18" BFG.
- (6) NEW PULL BOX / TURNING SECTION CABINET, NEMA 3R, TO HOUSING THE CURRENT TRANSFORMERS (C.T.'s) AND METER. COORDINATE WITH FPL FOR APPROVED MANUFACTURERS AND MODELS.
- 7 NEW MAIN 1 OF 1: AUTOMATIC TRANSFER SWITCH, SERVICE RATED, 1,200A FRAME, 3-POLE, NEMA 4X ENCLOSURE. MAIN CIRCUIT BREAKER = 1,200A - 3P, SHUNT TRIP TYPE. 480V - 3Ø - 4W. BASIS OF DESIGN ASCO 300 SERIES, CAT NO. H3AUSA41200NGXM,11B,44G,119M,119BG, AIC RATING = 50KIAC. PROVIDE BONDING BETWEEN GROUND BAR AND NEUTRAL BAR. USE (1) # 3/0 AWG THWN IN 1" PVC.
- 8 NEW (3) SETS: EACH SET = (4) #300 AWG THWN + (1) 1/0 AWG THWN(G) IN 3" C.

  9 NEW 500 KW DIESEL GENERATOR, 480V 3Ø 4W, WITH FACTORY INSTALLED 800A BREAKER. BAŞIS OF DESIGN KOHLER MODEL 500REOZJB. 10) NEW (4) SETS: EACH SET = (4) #400 KCM THWN + (1) #3/0 AWG THWN(G) IN 3"
- (11) EXISTING GUTTER TO REMAIN.
- (4) #500 KCM THWN + (1) # 3/0 AWG THWN IN GUTTER
- (3) SETS: EACH SET = (4) #400 KCM THWN + (1) # 3/0 AWG THWN IN GUTTER
- (15) EXISTING PANEL "MDP" TO REMAIN.
- SHUNT TRIP TRIGGER BUTTON: CONNECTED TO MAIN SERVICE BREAKER 1 OF 1 ON ATS. PROVIDE (2) #12 AWG THWN + (1) #12 AWG THWN(G) IN 1"PVC. PROVIDE SIGN INDICATING THIS PUSH BUTTON TURN OFF THE MAIN SERVICE CIRCUIT BREAKER.
- (17) EMERGENCY GENERATOR REMOTE ANNUNCIATOR SHALL BE INSTALLED IN THE MAIN OFFICE. INSTALL A 6" X 6" J-BOX IN MAIN ELECTRICAL ROOM TO MAKE THE TRANSITION BETWEEN PVC AND METAL CONDUIT. INSTALL 1"C PVC-UG FROM GENERATOR TO THIS J-BOX. EXTEND 1"C UP TO MAIN OFFICE. COORDINATE WITH HSYC REPRESENTATIVE FOR REMOTE ANNUNCIATOR FINAL LOCATION IN THAT OFFICE. PROVIDE (1) 1" PVC-UG. WIRING AS REQUIRED BY MANUFACTURER'S
- (18) GENERATOR EMERGENCY SHUT OFF BUTTON, WETAHERPROOF. PROVIDE (1) 1" PVC-UG. WIRING AS REQUIRED BY MANUFACTUIORER'S SPECIFICATIONS.
- 19) BRANCH CIRCUITS FOR GFENERATOR WATER HEATER, BATTERY CHARGER,
- CONVENIENCE RECETACLE AND LIGHTS. REFER TO PANEL SCHEDULE
- 20 NEW GROUNDING ELECTRODE CONDUCTOR: (1) #3/0 AWG THWN IN 1" PVC. NEW (2) GROUND RODS 5/8" X 10-FT, BURIED 6-FT APART.
- EXTEND NEW GROUNDING ELECTRODE CONDUCTOR UP TO EXISTING GROUNDING SYSTEM IN MAIN ELECTRICAL ROOM. USE (1) #3/0 AWG THWN IN
- © GENERATOR HOUSING SHALL BE GROUNDED. CONNECT TO GROUND ROD 5/8" X 10-FT. USE (1) #2 AWG THWN.



2 HAND HOLE E2.000 N.T.S.

No.	Date	Description
1	09-05-19	BD COMMENTS
Seal		
Seal		

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Project No.:	619056
Issue Date:	08/09/2019
Drawn By:	Author
Approved By:	Approver
Scale:	As indicated

ELECTRICAL RISER DIAGRAM

E2.000

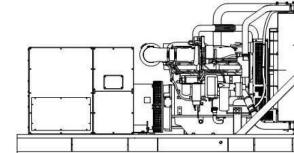
KOHLER, Model: 500REOZJB

208-600 V

Tier 2 EPA-Certified for Stationary Emergency KOHLER. Applications

Ratings Range

400-510 500-638



# Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories. The generator set and its components are
- prototype-tested, factory-built, and production-tested. The 60 Hz generator set offers a UL 2200 listing. The generator set accepts rated load in one step.
- Level 1, when equipped with the necessary accessories and installed per NFPA standards. · A one-year limited warranty covers all generator set systems and components. Two- and five-year extended limited warranties are also available.

The 60 Hz emergency generator set meets NFPA 110,

- Alternator features: The pilot-excited, permanent magnet (PM) alternator provides superior short-circuit capability. The brushless, rotating-field alternator has
- broadrange reconnectability. Kohler designed controllers for one-source system

integration and remote communication. See

Controllers on page 3. The low coolant level shutdown prevents overheating (standard on radiator models only). Integral vibration isolation eliminates the need for under-unit vibration spring isolators.

An electronic, isochronous governor delivers precise

frequency regulation. Mount up to four circuit breakers to allow circuit protection of selected priority loads

### Generator Set Ratings

	_				Rise Rating	130°C Standby	
Alternator	Voltage	Ph	Hz	kW/kVA	Amps	kW/kVA	Amps
	120/208	3	60	450/563	1561	440/550	1527
	127/220	3	60	465/581	1525	465/581	1525
44.00	139/240	3	60	505/631	1519	475/594	1428
5M4024	220/380	3 3 3	60	400/500	760	400/500	760
	240/416	3	60	450/563	781	440/550	763
	277/480	3	60	505/631	759	475/594	714
	120/208	3	60	505/631	1752	475/594	1648
	127/220	3	60	505/631	1657	500/625	1640
EN44007	139/240	3	60	505/631	1519	505/631	1519
5M4027	220/380	3	60	405/506	769	405/506	769
	240/416	3	60	505/631	876	475/594	824
	277/480	3	60	505/631	759	505/631	759
	120/208	3	60	510/638	1770	510/638	1770
	127/220	3	60	510/638	1673	510/638	1673
EN 14000	139/240	3	60	510/638	1534	510/638	1534
5M4028	220/380	3	60	470/588	893	470/588	893
	240/416	3	60	510/638	885	510/638	885
	277/480	3	60	510/638	767	510/638	767
5M4270	347/600	3	60	505/631	607	505/631	607
5M4272	347/600	3	60	510/638	613	510/638	613

RATINGS: All three-phase units are rated at 0.8 power factor. Standby Ratings: The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISS-03046-1, 00tain technical information bulletin (TIB-10T) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacture reserves the right to change the design or specifications without any obligation or liability whatsoever.

### Alternator Specifications

Specifications		Alternator	<ul> <li>NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.</li> </ul>			
Туре		4-Pole, Rotating-Field	and the liver cores for the tweller agreement ones.			
Exciter type		Brushless, Permanent- Magnet, Pilot Exciter	<ul> <li>Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.</li> </ul>			
Leads: quantity	, type	10/12, Reconnectable	Sustained short-circuit current enabling downstream circuit			
		4, 600 V	breakers to trip without collapsing the alternator field.			
Voltage regulate	or	Solid State, Volts/Hz	<ul> <li>Self-ventilated and dripproof construction.</li> </ul>			
Insulation:		NEMA MG1	Superior voltage waveform from a two-thirds pitch stator and			
Material		Class H, Synthetic, Nonhygroscopic	skewed rotor.			
Temperature rise Bearing: quantity, type		130°C, 150°C Standby	<ul> <li>Brushless alternator with brushless pilot exciter for excellent</li> </ul>			
		1, Sealed	load response.			
Coupling		Flexible Disc				
Amortisseur wir	ndings	Full				
Rotor balancing	1	125%				
Voltage regulati	ion, no-load to full-load	Controller Dependent				
One-step load a	acceptance	100% of Rating				
Unbalanced loa	d capability	100% of Rated Standby Current				
Peak motor sta	rting kVA:	(35% dip for voltages below)				
480 V	5M4024 (10 lead)	1350				
480 V	5M4027 (12 lead)	1550				
480 V	5M4028 (10 lead)	1800				
600 V	5M4270 (4 lead)	1250				

Engine	-12	Engine Electrical	
Engine Specifications		Engine Electrical System	
Engine manufacturer	John Deere	Battery charging alternator:	
Engine model	6135HFG75	Ground (negative/positive)	Negative
Engine type	4-Cycle, Turbocharged, Charge Air-Cooled	Volts (DC) Ampere rating	24 60
Cylinder arrangement	6, Inline	Starter motor rated voltage (DC)	24
Displacement, L (cu. in.)	13.5 (824)	Battery, recommended cold cranking	et ever
Bore and stroke, mm (in.)	132 x 165 (5.2 x 6.5)	amps (CCA):	
Compression ratio	16.0:1	Qty., CCA rating each	Two, 950
Piston speed, m/min. (ft./min.)	594 (1949)	Battery voltage (DC)	12
Main bearings: quantity, type Rated rpm	7, Replaceable Insert 1800	Fuel	
Max. power at rated rpm, kWm (BHP)	563 (755)	Fuel System	
Crankshaft material	Forged Steel	Fuel supply line, min. ID, mm (in.)	13 (0.50)
Valve material		Fuel return line, min. ID, mm (in.)	10 (0.38)
Intake/Exhaust	Nickel-Chromium Head	Max. lift, fuel pump: type, m (ft.)	Electronic 2.1 (6.8)
	Chromium-Silicone Stem	Max. fuel flow, Lph (gph)	214.8 (56.7)
Governor: type, make/model	JDEC Electronic L15	Max. return line restriction, kPa (in. Hg)	35 (10.3)
Frequency regulation, no-load to full-load	Isochronous	Fuel prime pump	Electronic
Frequency regulation, steady state	±0.25%	Fuel filter	
Frequency	Fixed	Secondary	2 Microns @ 98% Efficien
Air cleaner type, all models	Dry	Primary	10 Microns
-vhamat		Water Separator	Yes
Exhaust	*	Recommended fuel	#2 Diesel
Exhaust System	2000	Lubrication	
Exhaust manifold type	Dry	Lubricating System	
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)	97.2 (3433)	Type	Full Pressure
Exhaust temperature at rated kW, dry exhaust, °C (°F)	524 (975)	Oil pan capacity, L (qt.) §	40.0 (42.3)
Maximum allowable back pressure,	Min. 4 (1.2)	Oil pan capacity with filter, L (qt.) §	42.0 (44.4)
kPa (in. Hg)	Max. 10 (3.0)	Oil filter: quantity, type §	1, Cartridge
Engine exhaust outlet size, mm (in.)	See ADV drawing	Oil cooler	Water-Cooled
		§ Kohler recommends the use of Kohle	r Genuine oil and filters.

### **Application Data**

### **Radiator System** Ambient temperature, °C (°F Engine jacket water capacity, L (gal.) 18 (4.8) Radiator system capacity, including 67.2 (17.8) engine, L (gal.) Engine jacket water flow, Lpm (gpm) Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.) Heat rejected to air charge cooler at rated kW, dry exhaust, kW (Btu/min.) Centrifugal Water pump type Fan diameter, including blades, mm (in.) 965 (38) Fan, kWm (HP) Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H2O) \* Enclosure with internal silencer reduces ambient temperature

### capability by 5°C (9°F). **Operation Requirements**

Air Requirements	
Radiator-cooled cooling air, m³/min. (scfm)†	651 (23000)
Cooling air required for generator set when equipped with city water cooling or remote radiator, based on 14°C (25°F) rise, m³/min. (cfm)†	279 (9867)
Combustion air, m3/min. (cfm)	38 (1342)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	38 (2163)
Alternator, kW (Btu/min.)	40 (2277)
Air density = 1.20 kg/m3 (0.075 lbm/ft3)	

### **Fuel Consumption** Diesel, Lph (gph) at % load 104.6 (27.6) 75.3 (19.9) 38.8 (10.2)

## Controllers

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APM402 Controller Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility. Digital display and menu control provide easy local data access Measurements are selectable in metric or English units

Remote communication thru a PC via network or

serial configuration
• Controller supports Modbus® protocol  $\bullet \ \ Integrated \ hybrid \ voltage \ regulator \ with \ \pm 0.5\% \ regulation$  Built-in alternator thermal overload protection Refer to G6-161 for additional controller features and accessories



APM603 Controller Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

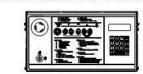
Graphic display with touch screen and menu control provides easy local data access

 Measurements are selectable in metric or English units
 Paralleling capability with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays Note: Parallel with other APM603 controllers only Generator management to turn paralleled generators off and or as required by load demand Standby Rating

Load management to connect and disconnect loads as required

Controller supports Modbus® RTU, Modbus® TCP, SNMP

 Integrated voltage regulator with ±0.25% regulation
 Built-in alternator thermal overload protection NFPA 110 Level 1 capability Refer to G6-162 for additional controller features and accessories



Decision-Maker® 6000 Paralleling Controller Provides advanced control, system monitoring, and system diagnostics with remote monitoring capabilities for paralleling multiple generator

 Paralleling capability with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays Note: Parallel with other Decision-Maker® 6000 controllers only Digital display and keypad provide easy local data access

 Measurements are selectable in metric or English units Remote communication thru a PC via network or modem configuration Controller supports Modbus® protocol Integrated voltage regulator with ±0.25% regulation

 Built-in alternator thermal overload protection NFPA 110 Level 1 capability Refer to G6-107 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric. G5-404 (500REOZJB) 4/19f

### Standard Features Alternator Protection Battery Rack and Cables

- Customer Connection (standard with Decision-Maker® 6000 controller only) Local Emergency Stop Switch Oil Drain Extension
- Operation and Installation Literature **Available Options Circuit Breakers**
- ☐ Magnetic Trip ☐ Thermal Magnetic Trip ☐ 100% ☐ Electronic Trip (LI) ☐ Electronic Trip with Short Time (LSI)
- ☐ Electrically Operated (for paralleling) ☐ Electronic Trip with Ground Fault (LSIG) **Circuit Breaker Mounting**  Generator Mounted ☐ Remote Mounted
- Bus Bar (for remote mounted breakers) **Enclosures for Remote Mounted Circuit Breakers** ☐ NEMA 3R Approvals and Listings
- California OSHPD Pre-Approval CSA Certified ☐ IBC Seismic Certification ☐ UL 2200 Listing Hurricane Rated Enclosure
- **Enclosed Unit** ■ Sound Enclosure Level 1 and Subbase Fuel Tank Packages ■ Sound Enclosure Level 2 and Subbase Fuel Tank Packages ☐ Weather Enclosure and Subbase Fuel Tank Packages
- Exhaust Silencer, Critical (kit: PA-354880) ☐ Flexible Exhaust Connector, Stainless Steel Fuel System
- ☐ Flexible Fuel Lines (Select rubber or stainless steel) ☐ Common Failure Relay (Decision-Maker® 6000 and APM603 controllers only)
- Dry Contact (isolated alarm) (Decision-Maker® 6000 controller only) ☐ Two Input/Five Output Module (APM402 controller only)
- ☐ Four Input/Fifteen Output Module (APM603 controller only) ☐ Remote Audiovisual Alarm Panel (Decision-Maker® 6000 controller only) Lockable Emergency Stop Switch ☐ Remote Emergency Stop Switch
- Remote Serial Annunciator Panel ☐ Run Relay (standard with APM603, optional with others) ☐ Manual Key Switch (APM603 controller only) ☐ Manual Speed Adjust (APM402 controller only)

- Cooling System
  ☐ Block Heater, 2500 W, 90-120 V, 1 Ph Block Heater, 2500 W, 190-208 V, 1 Ph Block Heater, 2500 W, 210-240 V, 1 Ph ■ Block Heater, 2500 W, 380-480 V, 1 Ph Required for ambient temperatures below 0°C (32°F) ☐ Radiator Duct Flange
- **Electrical System**
- ☐ Battery Charger, Equalize/Float Type ☐ Battery Heater
- Miscellaneous ☐ Air Cleaner, Heavy Duty ☐ Air Cleaner Restriction Indicator
- □ Crankcase Emissions Canister Engine Fluids Added ☐ Rated Power Factor Testing
- Overhaul ☐ Production Warranty
- 2-Year Basic Limited Warranty 5-Year Basic Limited Warranty 5-Year Comprehensive Limited Warranty

### **EMERGENCY POWER SYSTEM:**

STANDBY GENERATOR SHALL BE SUCH THAT, IN THE EVENT OF FAILURE OF THE NORMAL POWER, THE EMERGENCY POWER SHALL BE AVAILABLE WITHIN THE TIME REQUIRED FOR THE APPLICATION BUT NOT TO EXCEED 30 SECONDS.

EXISTING EMERGENCY LIGHTS ARE CURRENTLY POWERED WITH BATTERY BACKUP AND READY TO START 10 SECONDS AFTER THE POWER FAILURE.

STANDBY GENERATOR SHALL COMPLY WITH UL 2200, EPA TIER 2 AND NFPA 110 GENERATOR SET SHALL BE DESIGNED AND MANUFACTURER BY A UNIQUE SOURCE

GENERATOR SHALL ACCEPT RATED LOAD IN ONE STEP AS PER NFPA 110.

SUPPIER, IN FACILITIES CERTIFIED TO STANDARDS ISO 9001 AND ISO 14001.

EMERGENCY GENERATOR ENGINE SHALL BE AN INTERNAL COMBUSTION ENGINE FUELED BY DIESEL #2 TYPE. A 1,600 GALS SUB-BASE FUEL TANK SHALL BE PROVIDED WITH ENOUGH CAPACITY FOR 48 HOURS OF CONTINUOUS OPERATION AT A LOA OF 100% POWER RATING.

CLASSIFICATION OF THE EMERGENCY POWER SUPPLY SYSTEM.

THIS STANDBY GENERATOR AND THE ATS SHALL BE PART OF THE EPSS AND SHALL BE CLASSIFIED AS LEVEL 2, TYPE 30, AND CLASS 48.

THE STANDBY GENERATOR SHALL BE HEATED AS NECESSARY TO MAINTAIN THE WATER JACKET AND BATTERY TEMPERATURE DETERMINED BY THE MANUFACTURER FOR COLD START AND LOAD ACCEPTANCE.

THE GENERATOR SET SHALL BE MONITORED BY THE REMOTE ANNUNCIATOR AND CONTROL PANEL. THE CONTROL PANEL SHALL BE CAPABLE TO OFFER THE REQUIRED INDICATIONS AND CONTROL AS PER NFPA 110 - 5.6.5.2

AN EMERGENCY MANUAL STOP STATION SHALL BE FACTORY BUILT-IN ON THE GENERATOR HOUSING. ADDITIONAL A REMOTE EMERGENCY MANUAL STOP STATION SHALL BE PROVIDED ATTACHED TO EXTERIOR WALL OF THE ELECTRICAL ROOM. THE REMOTE

MANUAL STOP BUTTON SHALL BE WEATHERPROOF AND LABELED. REQUIRED WIRING BETWEEN TRANSFER SWITCH A ND GENERATOR CONTROL PANEL SHALL BE RUN BY THE ELECTRICAL CONTRACTOR. PROVIDE NECESSARY CONDUITS AND

WIRES FOR CONTROL FUNCTIONS. COORDINATE WITH GENERATOR / TRANSFER SWITCH MANUFACTURER'S SPECIFICATIONS FOR QUANTITY AND SIZE. GENERATOR HOUSING SHALL BE ALUMINUM, SOUND PROOF LEVEL 1, AND CAPABLE TO

SUB BASE DIESEL FUEL TANK SHALL BE CONSTRUCTED OF HEAVY GAUGE STEEL (7 AND 11 GAUGE) AND INCLUDE AN INTERNALLY REINFORCED BAFFLE STRUCTURE FOR GENERATOR SUPPORT. DESIGN SHALL HAVE FEWER EXPOSED SEAMS AND WELDS FOR INCREASED

CORROSION RRESISTANCE, AND HAS BEEN TESTED TO WITHSTAND GREATER THAN 18,000

TANKS SHALL BE UL LISTED AS SECONDARY CONTAINMENT GENERATOR BASE TANKS

GENERATOR SUB BASE TANK SHALL MEETS UL 142 REQUIREMENTS AS SECONDARY

SECONDARY CONTAINMENT (MINIMUM OF 110%) SUB BASE TANK MEETS BOTH NFPA AND IFC

EMERGENCY PRESSURE RELIEF VENT CAP - MEETS OR EXCEED UL REQUIREMENTS. INSURES

ADEQUATE VENTING AND PRESSURE RELIEF FOR INNER AND OUTER TANK UNDER EXTREME

LOW FUEL LEVEL SWITCH - ACTIVATE AT 50% REMAINING USABLE FUEL. FDEP APPROVED.

SECONDARY CONTAINMENT BASIN SWITCH - ACTIVATES WITH PRIMARY CONTAINMENT FAILURE.

ATMOSPHERIC VENT CAP - ACCOMMODATES NORMAL VENTING (OVERSIZE 2" VENT IS RAISED

RAISED FUEL FILL - INCLUDES LOCKABLE FLIP TOP TO PREVENT TAMPERING AND/OR FUEL

CONTAMINATION. MAY BE INSTALLED INSIDE OR OUTSIDE GENERATOR SET SKID RAILS.

ENCLSURE COMPATIBLE - ACCEPTS EXISTING CPG WEATHER PROTECTIVE AND SOUND

TANK TOP MOUNTING BRACKET - PROVIDES MOUNTING FOR PUMP AND CONTROL FOR DAY

SPILL FILL CONTAINMENT - ALL FUEL TANKS EXCEED 125% SECONDARY CONTAINMENT.

OVER FILL PREVENTION VALVE 95% ACTIVATION. INCLUDES DOWNTUBE AND 2" CAM LOCK

ELECTRICAL CONTRACTOR SHALL PROVIDE SUB BASE FUEL TANK SHOP DRAWINGS FROM

CRITICAL LOW FUEL SWITCH, WITH SIGNALS AT 10% FUEL REMAINING.

NORMAL VENT EXTENSION, MEETS IFC CODE OF 12' ABOVE GRADE

TANK TO FOUNDATION GROUND CLEARANCE - BOLT ON RISERS ALLOW FOR VISUAL

FUEL LEVEL GAUGE - PROVIDES DIRECT READING, TOP MOUNTED.

WITH A MEDIUM TEXTURE FINISH T-GLICOPOLYESTER POWDER PAINT

SUB BASE TANK SHALL BE COMPATIBLE WITH GENERATOR ENCLOSURE.

TANKS SHALL BE PRESSURE WASHED WITH AN IRON PHOSPHATE SOLUTION AND THEN COATED

GENERATOR SPECIFICATIONS

WITHSTAND WIND GUST UP TO 186 MPH.

POUNDS OF LOAD BEARING.

COMPLYING WITH UL 142.

CONTAINMENT (MIN. 110%)

TEMPERATURE AND EMERGENCY CONDITIONS.

REQUIREMENTS.

FDEP APPROVED.

ABOVE THE FUEL FILL).

ATTENUATED ENCLOSURES.

OTHER FEATURES -

CONNECTOR.

SPILL FILL BOX (5 GALS)

RUPTURE BASIN SWITCH.

HIGH FUEL SWITCH 90%

FUEL GAUGE WITH SENDER

EMERGENCY VENT EXTENSIONS

PUMP, CNTROL, MOTOR, AND SWITCH KIT.

MANUFACTURER TO AHJ FOR APPROVAL.

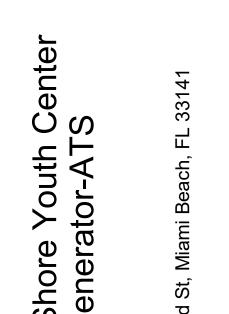
FILL DOWN TUBE

5 FLOAT SWITCHES.

OVER FILL PREVENTION VALVE 90%

HIGH FUEL ALARM PANEL, NEMA 3R

CONTAINMENT LEAK DETECTION.



**ENGINEERING** 

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THINK. LISTEN. CREATE

TLC Project No.: 619056

Consultants:

Revisions: No. Date Description 1 09-05-19 BD COMMENTS

> Manuel Mollinedo, P.E. Florida License # 63096

Project No.: 619056 Issue Date: 08/09/2019 Author Drawn By: Approver Approved By Scale: 1/4" = 1'-0"

> Drawing Title: **ELECTRICAL GENERATOR**

E3.100

KOHLER CO., Kohler, Wisconsin 53044 USA For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444 KOHLERPower.com

Generator Heater

Paralleling System Voltage Sensing

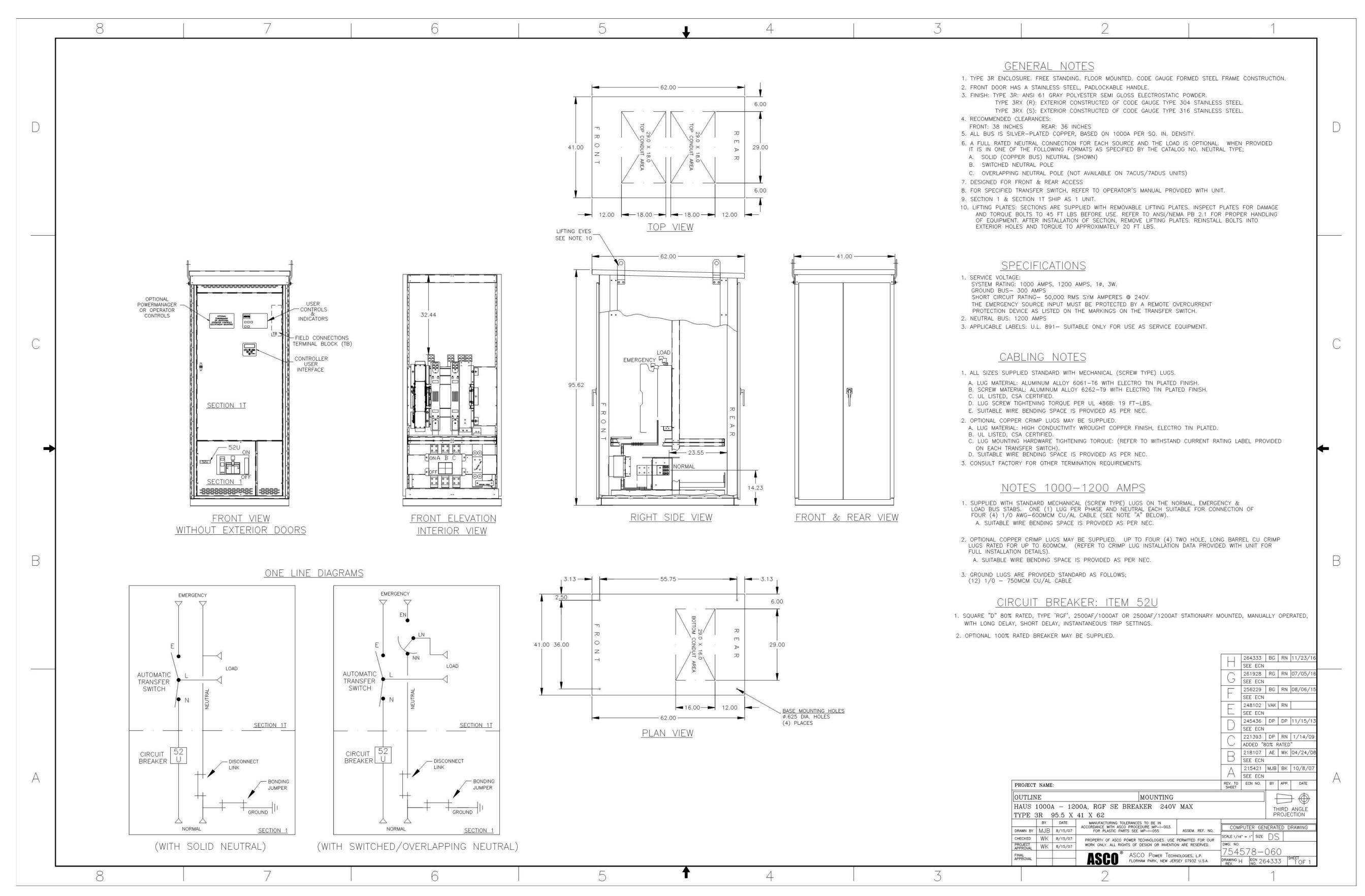
Literature ☐ General Maintenance ☐ NFPA 110

**Dimensions and Weights** 

Weight (radiator model), wet, max., kg (lb.): Note: See ADV drawing for specific dimensions based on accessory selections. DISTRIBUTED BY:

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SUB BASE TANK 2 SPECIFICATIONS N.T.S.



**AUTOMATIC TRANSFER** 

1 SWITCH 1/4" = 1'-0" ENGINEERING SOLUTIONS®

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004.45

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TLC Project No.: 619056
THINK. LISTEN. CREATE.

North Shore Youth Center Generator-ATS

Consultants:

Revisions:

No. Date Description

Seal

Manuel Mollinedo, P.E. Florida License # 63096

Project No.:	61905
Issue Date:	08/09/201
Drawn By:	Autho
Approved By:	Approve
Scale:	1/4" = 1'-0
Drawing Title:	

ELECTRICAL DETAILS

Drawing No.:

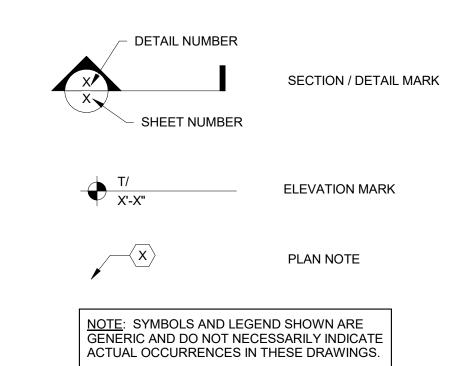
E3.200

# STRUCTURAL ABBREVIATIONS

	STRUCTURAL ADDI	<u> </u>	<u>IONS</u>
ABBREV ACI ADD ADDL	ABBREVIATION AMERICAN CONCRETE INSTITUTE ADDITIVE ADDITIONAL	LB LGTH LL LONG.	POUND LENGTH LIVE LOAD LONGITUDINAL
ALT ARCH ASTM	ALTERNATE/ALTERNATIVE ARCHITECTURE/ARCHITECTURAL AMERICAN SOCIETY OF TESTING MATERIALS	LT WT	LIGHT WEIGHT  MATERIAL
B/ BLDG BOT	BOTTOM OF BUILDING BOTTOM	MAX MECH MET MFR	MAXIMUM MECHANICAL METAL MANUFACTURE/MANUFACTURER
BTWN CF	BETWEEN CUBIC FEET (FOOT)	MID MIN MISC	MIDDLE MINIMUM MISCELLANEOUS
CIP CJ CL	CAST IN PLACE CONTRACTION JOINT CENTERLINE	MPH NGVD	MILES PER HOUR  NATIONAL GEODETIC VERTICAL DA
CLR CO CONC CONT	CLEAR/CLEARANCE COMPANY CONCRETE CONTINUOUS	NIC NO. NS NTS	NOT IN CONTRACT NUMBER NEAR SIDE NOT TO SCALE
CONST COORD CSJ CTR	CONSTRUCTION COORDINATE CONSTRUCTION JOINT CENTER	OC OPNG OPP	ON CENTERS OPENING OPPOSITE
CTRD DEPT DET	CENTERED  DEPARTMENT  DETAIL	PLF PSF PSI	POUNDS PER LINEAR FOOT POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH
DIA DIM DL DN DWG	DIAMETER DIMENSION DEAD LOAD DOWN DRAWING	R/W REF REINF REQD REV	REINFORCED WITH REFERENCE REINFORCING REQUIRED REVISION
EA EE EF EJ ELEC	EACH EACH END EACH FACE EXPANSION JOINT ELECTRIC/ELECTRICAL	S.F. SIM SPC SPECS	SQUARE FEET SIMILAR SPACE/SPACES SPECIFICATIONS
EL, ELEV ENGR EOR EQ SP	ELEVATION ENGINEER ENGINEER OF RECORD EQUAL SPACED	STD STRUCT T/	STANDARD STRUCTURAL TOP OF
ES EW EXIST EXP EXT	EACH SIDE EACH WAY EXISTING EXPANSION EXTERIOR	T&B TE TEMP TENS THD THK	TOP AND BOTTOM THICKENED EDGE TEMPERATURE TENSION THREAD/THREADED THICK
F FDN FF FIN FIN GR	FOUNDATION FOUNDATION FINISHED FLOOR FINISH FINISH GRADE	TOL TRANS T.S. TWF TYP	TOLERANCE TRANSVERSE THICKENED SLAB THICKENED WALL FOUNDATION TYPICAL
FLR FS FT	FLOOR FAR SIDE FEET/FOOT	UNO	UNLESS NOTED OTHERWISE
FTG GA GALV	FOOTING  GAGE/GAUGE GALVANIZED	VERT VIF W/	VERTICAL VERIFY IN FIELD WITH
GB GC GEN	GALVANIZED GRADE BEAM GENERAL CONTRACTOR GENERAL	W/O WF	WITHOUT WALL FOOTING
GL HT	GRID LINE HEIGHT	@ # +/-	AT DESIGNATION POUNDS / REBAR SIZE NUMBER PLUS OR MINUS
I ID I.F. IN. INT	MOMENT OF INERTIA INSIDE DIAMETER INSIDE FACE INCH INTERIOR	C.L. &	CENTER LINE AND
JT	JOINT		
K KLF KSI	KIP (1000 LB) KIPS PER LINEAL FOOT KIPS PER SQUARE INCH		

# STRUCTURAL SYMBOLS AND LEGEND

KIPS PER SQUARE INCH



STRUCTURAL SHEET INDEX			
SHEET#	SHEET # SHEET TITLE		
S-001	S-001 STRUCTURAL NOTES AND ABBREVIATIONS		
S-100 FOUNDATION PLAN & ELEVATED SLAB PLAN			
S-102	SECTIONS		

### 010000 GENERAL NOTES

- 1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND ELECTRICAL DRAWINGS. CONSULT THESE DRAWINGS FOR OPENINGS, DEPRESSIONS, EQUIPMENT WEIGHTS AND LOCATIONS, EMBEDDED ITEMS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL
- 2. DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK
- 3. NO STRUCTURAL MEMBER OR COMPONENT SHALL BE CUT, NOTCHED, OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INCURRED BY THE ENGINEER OF RECORD FOR REVIEW OF ANY SUCH DEVIATIONS.
- 4. DO NOT SCALE DRAWINGS.
- 5. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS.
- 6. DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.
- 7. THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL PLUMBING, CIVIL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
- 8. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCE AND SAFETY. THE ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 9. THE STRUCTURAL ENGINEER'S OBLIGATIONS TO REVIEW SHOP DRAWINGS AND OTHER SUBMITTALS AND TO RETURN THEM IN A TIMELY MANNER ARE CONDITIONED UPON THE PRIOR REVIEW AND APPROVAL OF THE SHOP DRAWINGS OR SUBMITTALS BY THE CONTRACTOR AS REQUIRED IN THE CONSTRUCTION CONTRACT AND THE CONTRACTOR'S SUBMITTAL OF THE SHOP DRAWINGS AND OTHER SUBMITTALS IN ACCORDANCE WITH A WRITTEN SCHEDULE DISTRIBUTED IN ADVANCE TO THE ENGINEER IDENTIFYING THE DATES FOR THE SUBMITTAL OF THE VARIOUS SHOP DRAWINGS AND SUBMITTALS.
- 10. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXCEED LIFE SPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE OWNER. THIS PROGRAM SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO, PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATINGS FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.
- 11. IN THE PROFESSIONAL OPINION OF TLC ENGINEERING SOLUTIONS. THE STRUCTURAL CONTRACT DOCUMENTS FOR THIS PROJECT HAVE BEEN PREPARED IN ACCORDANCE WITH THE DESIGN CRITERIA AS SET FORTH IN THE FLORIDA BUILDING CODE (FBC) 6th EDITION (2017).

## 010002 DESIGN LOADS

- I. THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, 6th EDITION (2017), AND AS SUPPLEMENTED BY LOCAL AMENDMENTS.
- 2. THE FOLLOWING SUPERIMPOSED LOADINGS HAVE BEEN UTILIZED:
- 2.1 DEAD LOADS

M/E/P LOADS	19,212 LBS
LIVE LOADS	

## 2.2 WIND LOADS: PER FLORIDA BUILDING CODE, SECTION 1609.

ULTIMATE DESIGN WIND SPEED, Vult

NOMINAL DESIGN WIND SPEED, Vasd

SEISMIC DESIGN CATEGORY

SEISMIC IMPORTANCE FACTOR

	RISK CATEGORY	II
	EXPOSURE	D
2.4	SEISMIC LOADS: PER FLORIDA BUILDING CODE, SECTION 1610.	
	SPECTRAL RESPONSE ACCELERATION, SHORT DURATION (Ss)	0.041
	SPECTRAL RESPONSE ACCELERATION, 1.0 SECOND DURATION (S1)	0.02
	SITE CLASSIFICATION	D
	SEISMIC USE GROUP	I

175 MPH (3 SEC. GUST)

136 MPH (3 SEC. GUST)

## 013100 REQUEST FOR INTERPRETATION (RFI)

- 1. RFI SHALL ORIGINATE WITH CONTRACTOR AND SHALL BE SUBMITTED IN THE FORM SPECIFIED WITHIN CONTRACT DOCUMENTS. RFI SHALL BE SUBMITTED IN A PROMPT MANNER AS TO AVOID DELAYS IN CONTRACTORS WORK.
- 2. RFI SHALL BE SUBMITTED AS SPECIFIED WITHIN THE CONTRACT DOCUMENTS AND SHALL BE FORWARDED TO THE ENGINEER VIA THE ARCHITECT OR DIRECTLY TO THE ENGINEER BY THE CONTRACTOR WHEN APPROVED BY THE ARCHITECT.
- 3. ENGINEER SHALL TAKE UP TO 5 BUSINESS DAYS TO REVIEW AND RETURN RFI'S. HOWEVER, THE ENGINEER WILL ATTEMPT TO EXPEDITE THE REVIEW OF ALL RFI'S WITHIN A REASONABLE TIME
- 4. RFI RESPONSES ARE NOT INTENDED TO AUTHORIZE ANY INCREASE IN CONSTRUCTION COST. SCHEDULE OR TIME EXTENSIONS, OR CONSTRUCTION IN CONFLICT WITH ANY APPLICABLE CODES OR SPECIFIED DESIGN STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DESIGN TEAM IMMEDIATELY OF ANY PERCEIVED SCOPE, SCHEDULE, OR COST IMPACTS OR ADJUSTMENTS. IF CONTRACTOR REQUESTS ANY ADDITIONAL COST, INCREASE IN SCHEDULE OR ADJUSTMENT IN SCOPE, THE CONTRACTOR SHALL NOT PROCEED WITH ADDITIONAL WORK UNTIL APPROVED IN WRITING BY THE CONSTRUCTION ADMINISTRATOR.

# STRUCTURAL NOTES

### 013301 SHOP DRAWING REVIEW

- 1. SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR AND MARKED "APPROVED" PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. NON-CONFORMING DRAWING SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
- 2. SHOP DRAWING SUBMITTALS SHALL INCLUDE, AT A MINIMUM, ONE GOOD QUALITY REPRODUCIBLE AND THREE SETS OF BLUEPRINTS. ONE SET OF PRINTS WILL BE RETAINED BY THE ENGINEER OF RECORD, ONE BY THE ARCHITECT, ONE BY THE LOCAL BUILDING DEPARTMENT (WHERE REQUIRED) AND THE CONTRACTOR SHALL MAKE PRINTS FROM THE REPRODUCIBLE AS REQUIRED FOR DISTRIBUTION.
- 3. THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN WRITING BY THE ENGINEER OF RECORD.
- 4. CHANGES AND ADDITIONS MADE ON RE-SUBMITTALS SHALL BE CLEARLY FLAGGED AND NOTED. THE PURPOSE OF THE RE-SUBMITTALS SHALL BE CLEARLY NOTED ON THE LETTER OF TRANSMITTAL. ARCHITECT/ENGINEER OF RECORD REVIEW WILL BE LIMITED TO THOSE ITEMS CAUSING THE RE-SUBMITTAL. CONTRACTOR IS RESPONSIBLE FOR COSTS CAUSED BY MULTIPLE RE-SUBMITTALS (MORE THAN ONE) AT ARCHITECT/ENGINEERS' CURRENT HOURLY RATES.

### 013303 SUBMITTALS

- ALL SHOP DRAWINGS MUST BE REVIEWED AND STAMPED APPROVED BY THE GENERAL
- CONTRACTOR PRIOR TO SUBMITTAL THE GENERAL CONTRACTOR SHALL SUBMIT FOR ENGINEER REVIEW SHOP DRAWINGS FOR THE
  - ITEMS MARKED (D) SHALL HAVE SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA (IN WHICH THE PROJECT RESIDES).
- ITEMS MARKED (#) SHALL BE SUBMITTED FOR ENGINEERS RECORD ONLY.
- A. REINFORCING STEEL
- B. CONCRETE MIX DESIGNS
- C. METAL STAIRS (D)
- D. GUARDRAILS (D)

FOLLOWING ITEMS:

3. MANUFACTURER'S LITERATURE. SUBMIT TWO COPIES OF MANUFACTURER'S LITERATURE FOR ALL MATERIALS AND PRODUCTS USED IN CONSTRUCTION ON THE PROJECT.

## 032000 REINFORCING STEEL

- SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS.
- PROVIDE CONCRETE COVER OVER PRIMARY REINFORCEMENT, TIES, AND STIRRUPS, AS FOLLOWS, UNLESS OTHERWISE NOTED

	LOCATION AND CONDITION	MINIMUM COVER
A.	CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	ALL BARS 3"
B.	CONCRETE EXPOSED TO EARTH OR WEATHER	#6 OR GREATER 2" #5 OR SMALLER 1.5"
C.	CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
1.	SLABS, WALLS, AND JOISTS	#11 OR SMALLER 3/4"
2.	BEAMS AND COLUMNS	ALL BARS 1.5"

- 3. SECURE APPROVAL OF SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.
- 4. PROVIDE STANDARD HOOKS AT DISCONTINUOUS ENDS OF ALL TOP BARS.
- WHERE REINFORCING IS SHOWN CONTINUOUS, SPLICE BOTTOM BARS OVER SUPPORTS AND TOP BARS AT CENTER OF SPAN. ALL OTHER LAP SPLICES SHALL BE IN ACCORDANCE WITH SPLICE TABLES AND DETAILS SHOWN ON DRAWINGS.
- PROVIDE DOWELS INTO FOOTINGS, PILE CAPS, SUPPORT BEAMS, ETC. TO MATCH VERTICAL BARS WITH CLASS B TENSION LAP SPLICES, U.N.O.
- 7. LENGTH OF LAP SPLICES AND BAR EMBEDMENT SHALL BE AS SHOWN IN TABLE, UNLESS

	BAR SIZE	3000 PSI	4000 PSI	5000 PSI
T<12"	#6 OR LESS	57 Db	49 Db	44 Db
	#7 OR MORE	71 Db	61 Db	55 Db
T>12"	#6 OR LESS	74 Db	65 Db	57 Db
	#7 OR MORE	81 Db	79 Db	72 Db

### WHERE "T" IS DEPTH OF CONCRETE UNDER BARS AND "Db" IS BAR DIAMETER UTILIZE CLASS "B" SPLICE FOR ALL SPLICES, U.N.O. ON PLANS OR DETAILS.

- AT CHANGES IN DIRECTION OF CONCRETE WALLS AND TIE BEAMS, PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL STEEL.
- WHERE HOOKS ARE SHOWN ON THE PLANS OR DETAILS. HOOKS SHALL BE DETAILED TO EXTEND DEEP ENOUGH INTO SUPPORTING STRUCTURE TO DEVELOP THE FULL STRENGTH OF THE HOOKED BAR. PROVIDE ADDITIONAL TIES OR STIRRUPS IN SUPPORTING STRUCTURE AS REQUIRED TO SATISFY ACI 318 HOOK DEVELOPMENT, CONFINEMENT, AND ANCHORAGE CRITERIA.

# 033001 CONCRETE - SINGLE STRENGTH

- CONCRETE SHALL BE PER AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS OF 4,000 PSI WITH A PLASTIC AND WORKABLE MIX.
- 2. CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ACI STANDARDS AND SPECIFICATIONS.
- 3. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE.
- 4. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION.
- 5. MIX SHALL MEET THE REQUIREMENT OF ASTM C33 FOR COARSE AGGREGATE.

## 033003 CONCRETE TESTING

- 1. AN INDEPENDENT TESTING LABORATORY SHALL PERFORM THE FOLLOWING TESTS ON CAST IN PLACE CONCRETE:
- A. ASTM C143 "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE."
- B. ASTM C39 "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED LAB CURED CYLINDER QUANTITIES AND TEST AGE AS FOLLOWS:

(2) AT 7 DAYS

(2) AT 28 DAYS

ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28-DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

### 042200 MASONRY WALLS

- 1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO TMS 402 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" AND TMS 602 "SPECIFICATION FOR MASONRY STRUCTURES", LATEST
- MASONRY UNITS SHALL MEET ASTM C-90 FOR HOLLOW LOAD BEARING TYPE MASONRY WITH UNIT STRENGTH OF 2000 PSI ON THE NET AREA (f'm = 2000 PSI). MORTAR SHALL BE TYPE "M" OR "S" AND
- 3. GROUT SHALL BE 3000 PSI MINIMUM COMPRESSIVE STRENGTH AND MEET ASTM C-476 AND HAVE A SLUMP BETWEEN 8" AND 11" WITH WATER CM RATIO OF 0.55 MAXIMUM AND WITH 3/8" MAXIMUM
- 4. PROVIDE HOOKED DOWELS IN FOUNDATIONS FOR VERTICAL REINFORCING ABOVE. LAP SPLICES SHALL BE PER LAP SPLICE SCHEDULE SHOWN IN TYPICAL DETAIL.
- 5. BLOCK CELLS SHALL BE GROUT FILLED WITH VERTICAL REINFORCING BARS AT CORNERS, INTERSECTIONS, EACH SIDE OF OPENINGS AND AS SHOWN ON THE DRAWINGS.
- DOWELS SHALL BE USED TO PROVIDE CONTINUITY INTO THE STRUCTURE ABOVE AND/OR BELOW, UNLESS NOTED OTHERWISE.
- 7. MASONRY SHALL BE LAID IN RUNNING BOND PATTERN UNLESS NOTED OTHERWISE. AT FILLED CELLS LAY UNITS WITH FULL BED JOINTS AROUND CELLS.
- SUBMIT PROPOSED GROUT MIX DESIGNS FOR REVIEW PRIOR TO USE. MIX NUMBER OR OTHER
- 9. USE OF SUPERPLASTICIZER IS PROHIBITED.

POSITIVE IDENTIFICATION SHALL UNIQUELY IDENTIFY MIX.

- 10. CELLS TO BE GROUT FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED, CONTINUOUS VERTICAL GROUT SPACE.
- 11. ANY OVERHANGING MORTAR OR OTHER OBSTRUCTION OR DEBRIS SHALL BE REMOVED FROM THE
- INSIDES OF SUCH CELL WALLS 12. VERTICAL REINFORCEMENT SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS
- NOT EXCEEDING 192 BAR DIAMETERS. 13. CELLS CONTAINING REINFORCEMENT SHALL BE FILLED SOLIDLY WITH GROUT. SAMPLE AND TEST
- GROUT PER ASTM C1019. 14. GROUT SHALL BE POURED IN LIFTS OF 4 FEET MAXIMUM HEIGHT. GROUT SHALL BE CONSOLIDATED AT TIME OF PLACING BY VIBRATING AND RECONSOLIDATED LATER BY VIBRATING
- BEFORE PLASTICITY IS LOST. 15. WHEN THE GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION
- JOINTS SHALL BE MADE BY STOPPING THE POUR OF GROUT NOT LESS THAN 1-1/2 INCH BELOW THE TOP OF THE UPPERMOST UNIT GROUTED.
- . REINFORCING SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS.
- 17. PROVIDE DOWELS INTO FOOTINGS, PILE CAPS, SUPPORT BEAMS, ETC. TO MATCH VERTICAL BARS WITH LAP SPLICES PER SPLICE TABLE IN TYPICAL DETAIL, UNO.

### 312001 FOUNDATIONS - W/O SOIL REPORTS

- 1. IN THE ABSENCE OF ANY GEOTECHNICAL RECOMMENDATIONS, THE FOUNDATIONS ARE DESIGNED FOR A PRESUMPTIVE ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF VERTICAL AND 150 PSF LATERAL WITH A COEFFICIENT OF FRICTION OF 0.25 ON COMPACTED FILL
- 2. PRESUMPTIVE SOIL CONDITIONS ARE IN ACCORDANCE WITH TABLE 1806.2 OF THE 6TH EDITION (2017) FLORIDA BUILDING CODE FOR FOUNDATIONS BEARING ON SAND.
- 3. IN THE ABSENCE OF ANY GEOTECHNICAL RECOMMENDATIONS, NO WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY TLC FOR THE PERFORMANCE OF THE FOUNDATION.
- 4. AT A MINIMUM. SITE PREPARATION WORK SHALL INCLUDE:
- A. STRIPPING AND GRUBBING OF THE BUILDING FOOTPRINT PLUS A MARGIN OF 5 FEET AROUND THE BUILDING, REMOVING ALL ORGANIC MATERIALS.
- B. PROOF ROLLING THE BUILDING SITE TO LOCATE ANY UNFORESEEN SOFT AREAS. ANY SOFT AREAS SHALL BE\ EXCAVATED AND REPLACED WITH CLEAN FILL. A DENSITY OF AT LEAST 95% FOR A DEPTH OF 2 FEET IS REQUIRED UNDER THE BUILDING FOOTPRINT
- C. ALL FILL SHALL BE CLEAN SAND AND FREE OF ORGANIC MATERIALS. COMPACT FILL IN 12 INCH (UNCOMPACTED THICKNESS) LIFTS TO A MINIMUM OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY VALUE
- D. EXCAVATIONS FOR FOUNDATIONS SHALL BE COMPACTED TO 95% FOR A DEPTH OF AT LEAST 2 FEET BELOW THE BOTTOM OF THE FOUNDATION.
- E. DEWATERING MAY BE REQUIRED TO ACHIEVE THE REQUIRED COMPACTION VALUES, AND IF USED, SHOULD DRAW DOWN THE WATER LEVEL TO AT LEAST 2 FEET BELOW THE BOTTOM OF THE EXCAVATION.

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Consultants:

Revisions: Description

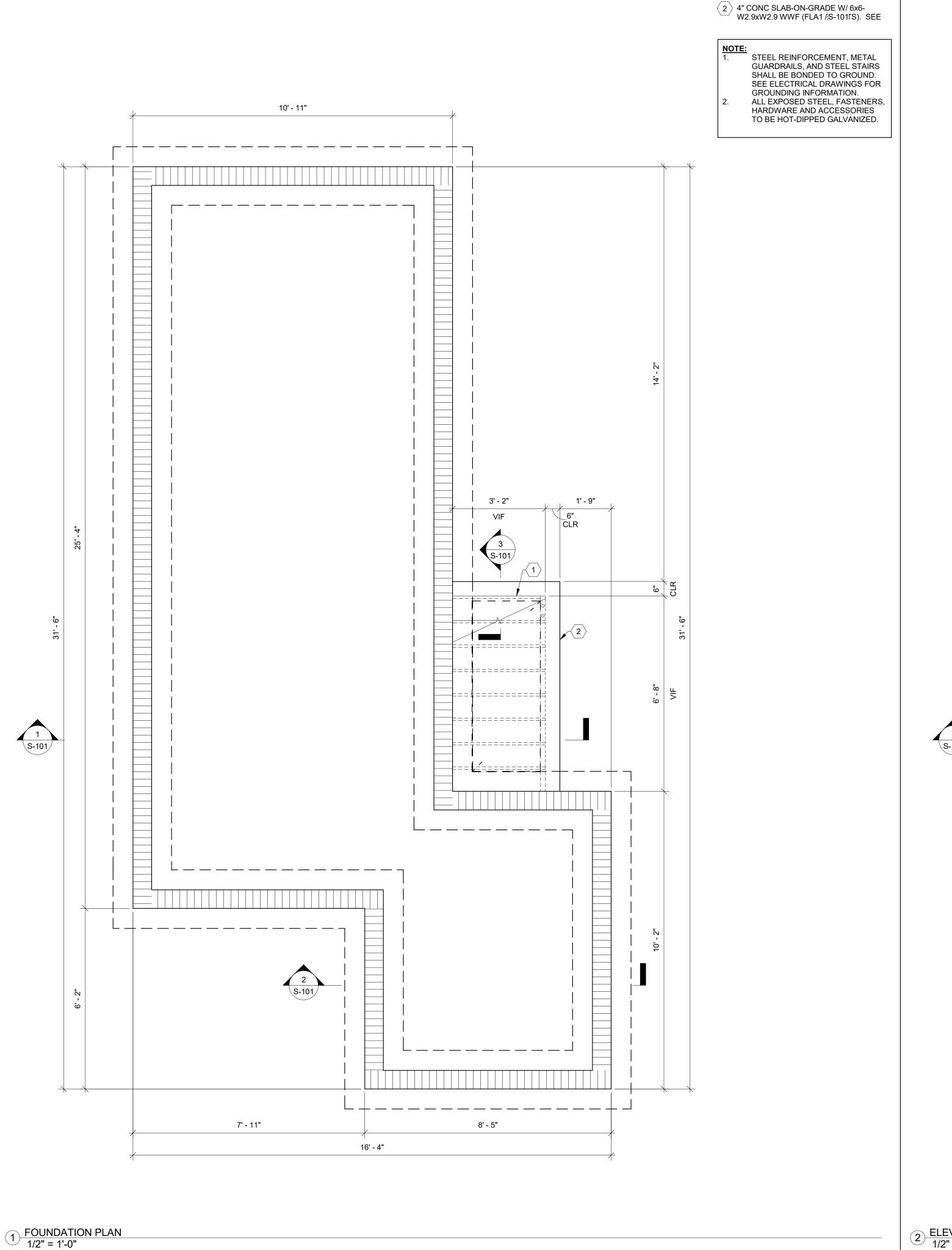
CATHY TIEDGE, P.E.



Project No.: 619056 Issue Date: 08/08/19 MTO Drawn By: Approved By Scale: 3/32" = 1'-0"

STRUCTURAL NOTES AND ABBREVIATIONS

S-001



FOUNDATION PLAN NOTES

 $\langle 1 \rangle$  STEEL STAIRS BY OTHERS.

ELEVATED SLAB PLAN NOTES

1 VERIFY EQUIPMENT PAD LOCATION W/ ELECTRICAL DRAWINGS.

2 NEW STANDBY GENERATOR, ENCLOSURE AND SUB-BASE TANK -SEE ELECTRICAL DRAWINGS FOR SIZE AND LOCATION.

3 3/4" Ø ASTM F1554 GRADE 36 ANCHOR BOLTS W/ MIN EMBEDMENT = 6". REFER TO GENERATOR BASE SHOP DRAWING FOR ANCHOR BOLT LOCATION AND SPACING.

4 NEW AUTOMATIC TRANSFER SWITCH - SEE ELECTRICAL DRAWINGS FOR SIZE AND LOCATION.

5 1/2" Ø ASTM F1554 GRADE 36 ANCHOR BOLTS W/ MIN EMBEDMENT = 6". REFER TO AUTOMATIC TRANSFER SWITCH SHOP DRAWING FOR ANCHOR BOLT LOCATION AND SPACING.

6 NEW PULL BOX - SEE ELECTRICAL DRAWINGS FOR SIZE AND LOCATION.

 $\overline{\left<7\right>}$  GUARDRAIL ALL AROUND BY OTHERS.

GUARDRAIL ALL AROUND BY

8 STEEL STAIRS BY OTHERS.

STEEL REINFORCEMENT, METAL GUARDRAILS, AND STEEL STAIRS SHALL BE BONDED TO GROUND. SEE ELECTRICAL DRAWINGS FOR GROUNDING INFORMATION.

ALL EXPOSED STEEL, FASTENERS, HARDWARE AND ACCESSORIES TO BE HOTDIPPED GALVANIZED.

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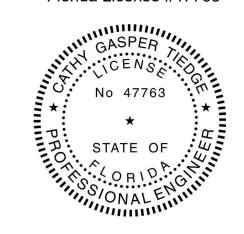
orth Shore Youth Cente Generator-ATS

Consultants:

Revisions:

No. Date Description

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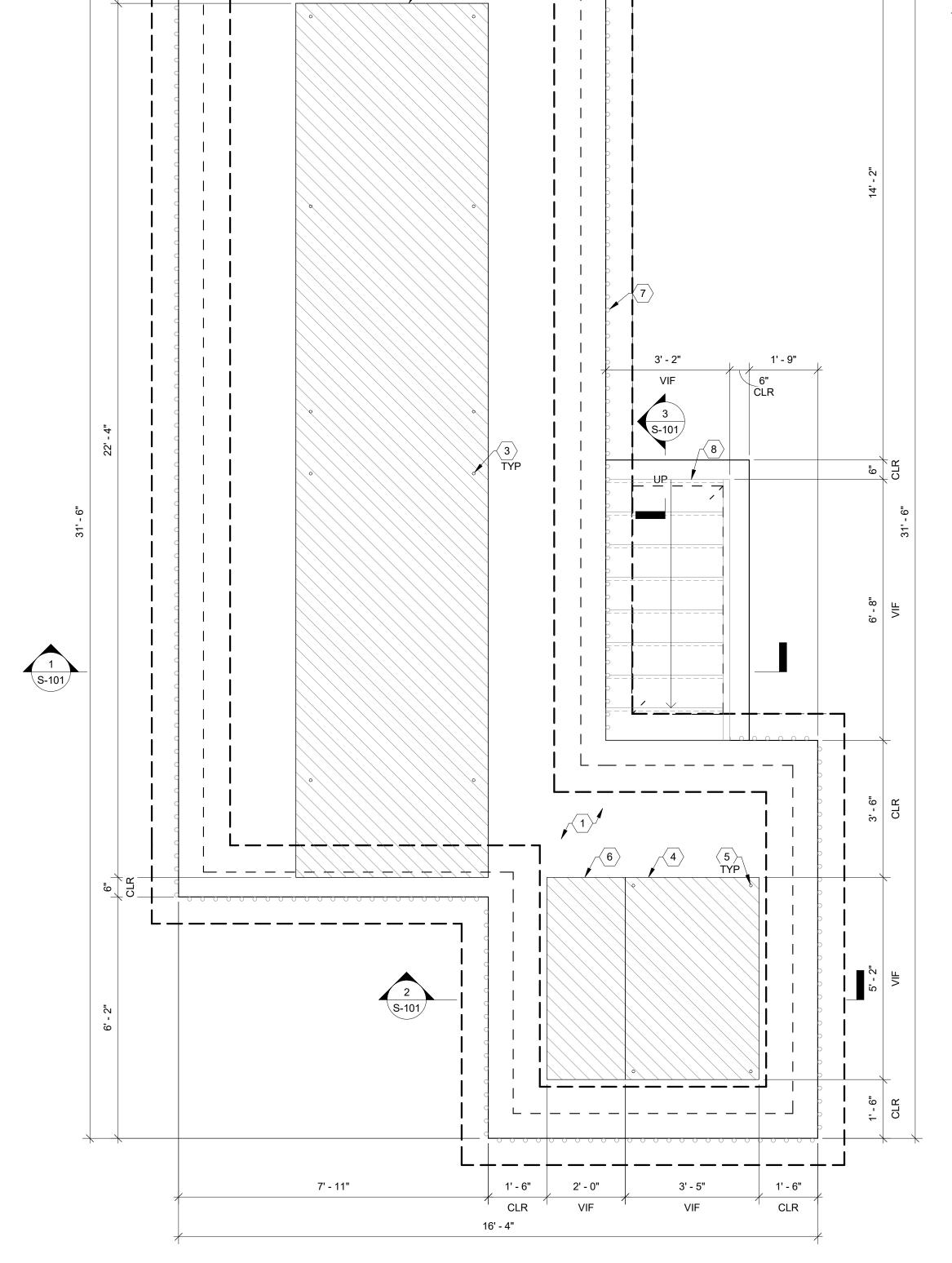


Project No.:	619056
Issue Date:	08/08/19
Drawn By:	MTO
Approved By:	CGT
Scale:	Δs indicated

FOUNDATION PLAN & ELEVATED SLAB PLAN

Drawing No.:

S-100



3' - 0"

CLR

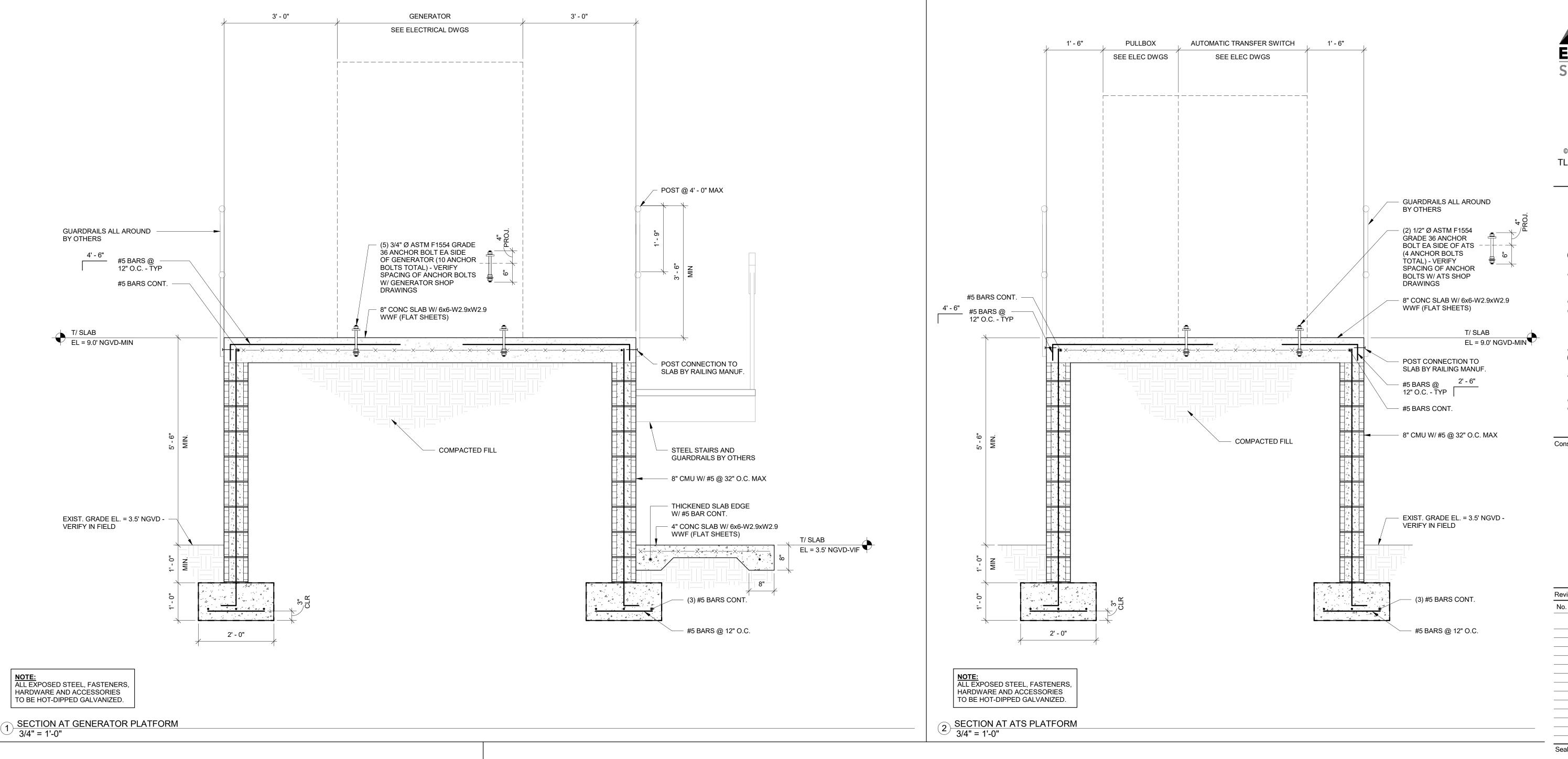
4' - 11"

VIF

3' - 0"

CLR

2 ELEVATED SLAB PLAN 1/2" = 1'-0"



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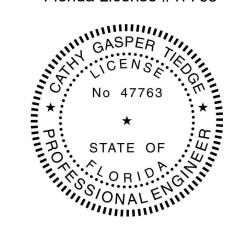
North Shore Youth Center Generator-ATS 501 72nd St, Miami Beach, FL 33141

Consultants:

Revisions:

No. Date Description

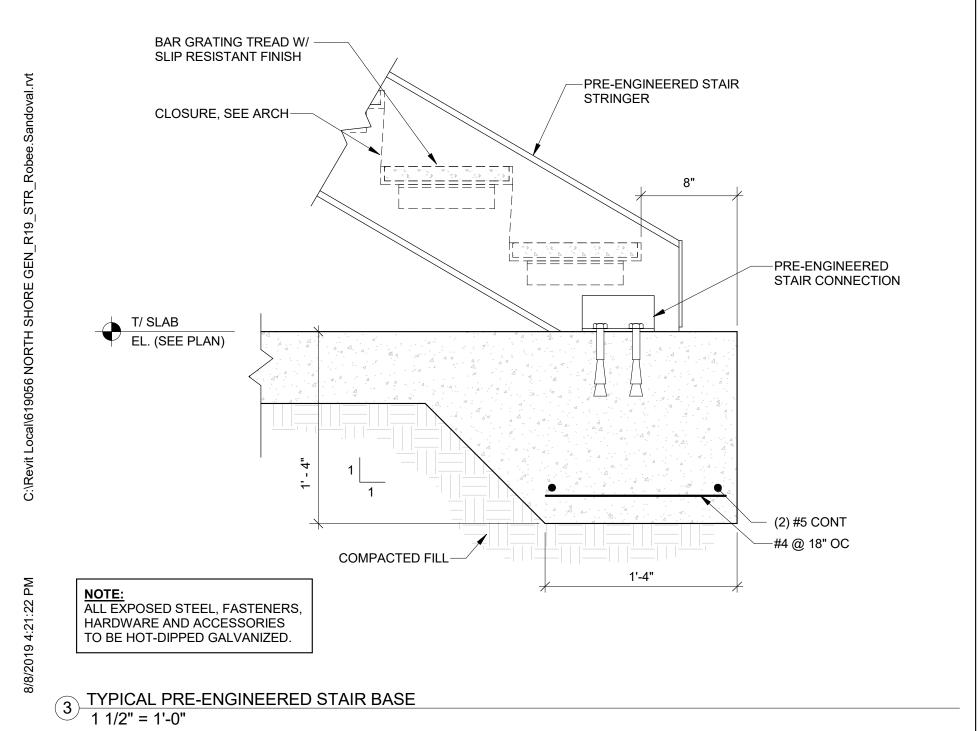
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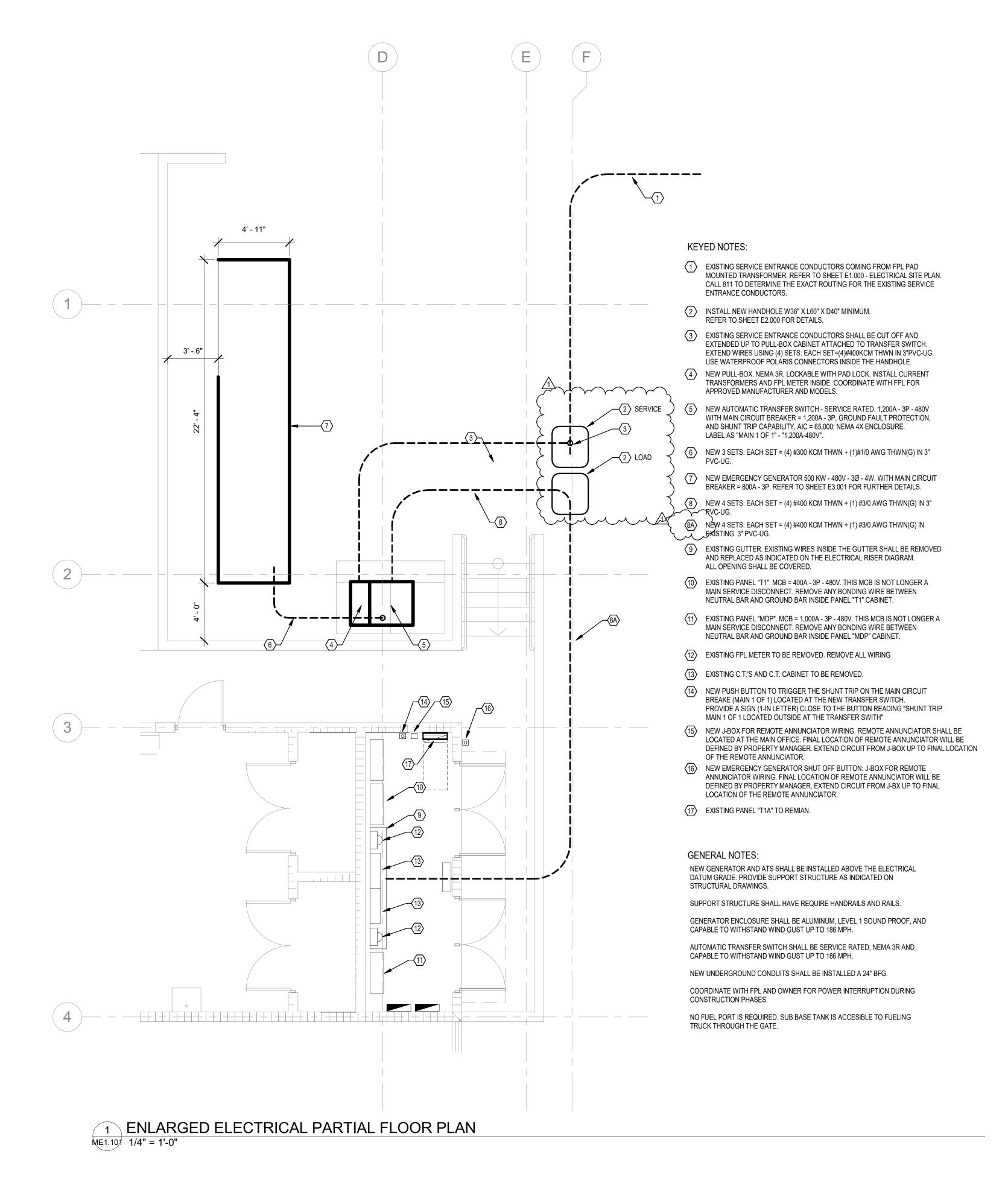


Droject No :	
Project No.:	619056
In a constant	
Issue Date:	08/08/19
	00/00/13
Drawn By:	RYS
Approved By:	CGT
Scale:	As indicated
Drawing Title:	
SECTIONS	
0_00.10	

Drawing No.:

S-101





# FAULT CURRENT CALCULATIONS POINT TO POINT METHOD FOR 3-PHASE SERVICE

		POIN'	Т
Utility Transformer Capacity (Kva)	Kva	1500	
Utility Transformer in per-cent (%Z)	%Z	3	
Volts Line to Line (On Secundary of Utility Transformer) (Volts)	$V_{(L-L)} =$	480	
Nominal Secondary Current (Calculated) (Amps)	I (SC) =	1805	
Distance from Xfrm to calculated point (in feet)	L =	150	
Number of sets	# sets	4	
Conductor size	KCM	400	•
Conduit metal or non-magnetic	Metallic?	NO	•
Value equals to one over the impedance per foot of values found in IEEE 241-1990 tables for conductors & bussway	"C" =	24,29	7
Sum of the full load current of all contributing motors	MC	140	

ITEM	CALCU	LATION
Nominal Current @ Xmer Secondary	1,805	Amps
Transformer multiplier = 100/(%Z)	30	
(*) Fault current at Xfmr location:	54,150	Amps
Factor "f" for 3-phase	0.3016	
Multiplier "MF"	0.7683	
Symmetrical RMS fault at location	41,603	Amps
Motor contribution	560	Amps
Total fault current at Point "A" location	42,163	Amps

(\*) If the available short-circuit current in the secondary of the transformer is known enter this number in the cell and discard the transformer capacity and impedance value

## MECHANICAL SPECIFIC NOTE:

FLUE EXHAUST TERMINATION POINT OUTDOOR:

- FLUE EXHAUST TERMINATION POINT OUTDOOK.
- FLUE EXHAUST TERMINATION POINT SHALL BE 30 FEET FROM PROPERTY LINES AND FROM COMBUSTIBLE WALLS AND OPERABLE OPENINGS INTO BUILDINGS WHICH ARE IN THE DIRECTION OF THE EXHAUST DISCHARGE; 10 FEET FROM OPERABLE OPENINGS INTO BUILDINGS AND ABOVE ADJOINING GRADE; 6 FEET FROM EXTERIOR WALLS AND ROOFS. FBC M-501.3.1. ITEM 1.

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ONE-LINE

DIAGRAM

North Shore Youth Center Generator-ATS 501 72nd St, Miami Beach, FL 33141

tor Revisions:

No. Date Description

1 09-05-19 BD COMMENTS

Consultants:

Manuel Mollinedo, P.E. Florida License # 63096

Project No.:	61905
Issue Date:	08/09/201
Drawn By:	Autho
Approved By:	Approve
Scale:	1/4" = 1'-0

Drawing Title:
ENLARGED
ELECTRICAL
PARTIAL FLOOR
PLAN

Drawing No.:

A 1.101