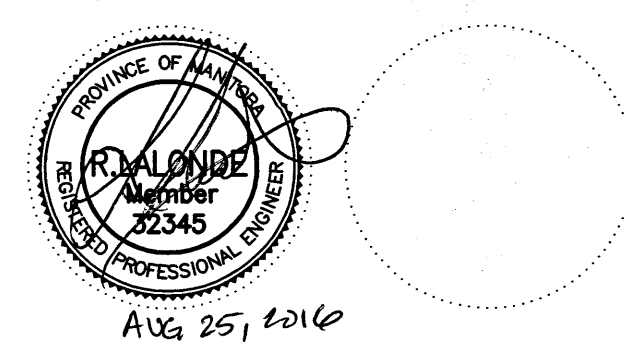


1	2016/08/24	RE-ISSUED FOR CONSTRUCTION
0	2016/08/18	ISSUED FOR CONSTRUCTION
#	date	issue notes



SEVEN OAKS POOL RENOVATION & ADDITION

444 Adsum Drive
Winnipeg, MB
Canada

City of Winnipeg
4th Floor - 86 King Street
Winnipeg, MB

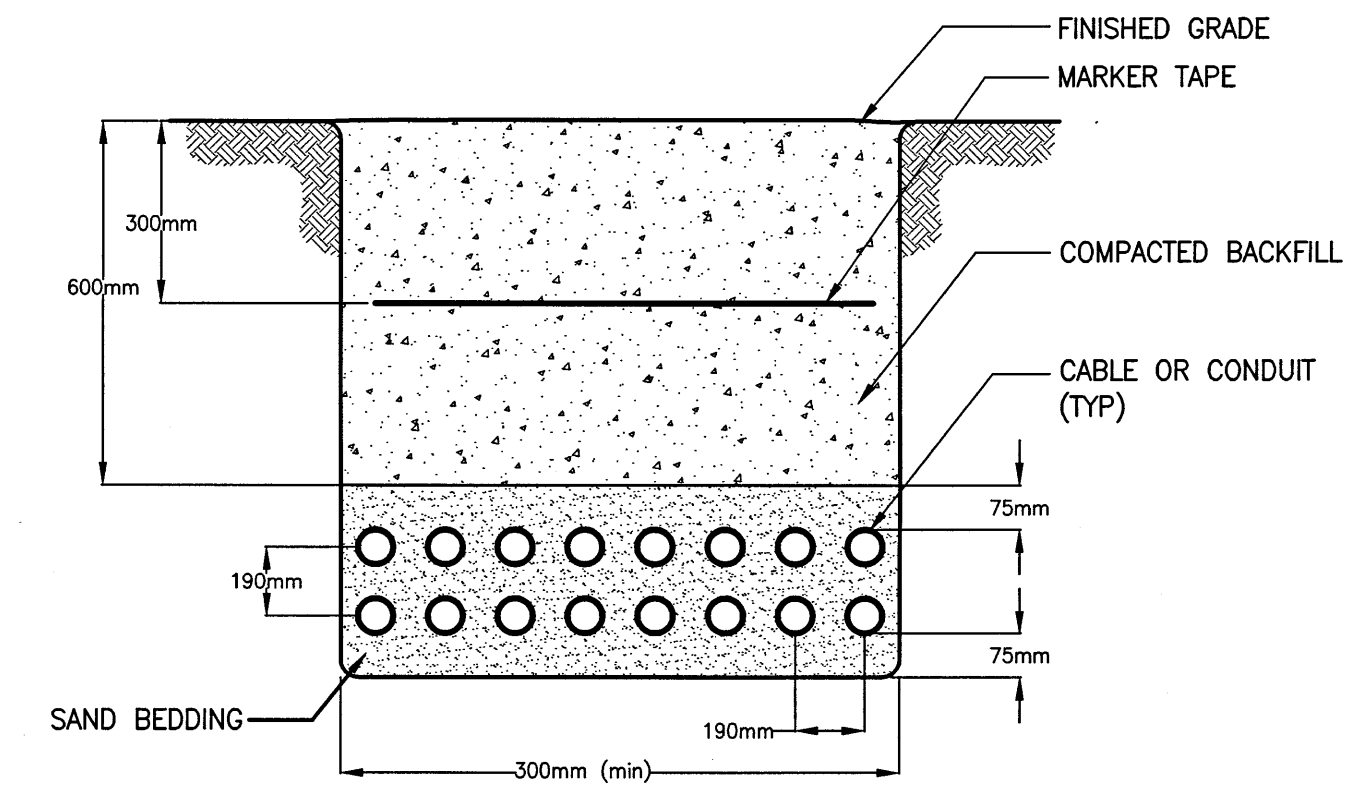
ELECTRICAL SINGLE LINE DIAGRAM & LOAD CALCULATIONS

drawn by: GCN

approved by:

SEVEN OAKS POOL RENOVATION & ADDITION
BID OPPORTUNITY NO. 645-2016

- NOTES:**
- GREY LINE WEIGHT DENOTES EXISTING.
 - EXISTING LOAD INFORMATION WAS PROVIDED BY HYDRO UP TO JUNE OF 2014. THE VALUE SHOWN WAS DETERMINED FROM THE PEAK VALUE WITHIN A FIVE YEAR RANGE.
 - THE ELECTRICAL DISTRIBUTION EQUIPMENT SUPPLIER SHALL PROVIDE AN ARC FLASH STUDY AND UV/WATER RESISTANT VINYL LABELS FOR ALL NEW EQUIPMENT. CONTRACTOR SHALL COORDINATE INSTALLED CABLE LENGTHS AND SIZES WITH THE VENDOR.
 - PANELS A,B,C, AND E SHALL BE REPLACED WITH NEW PANELS TO MATCH EXISTING. NEW PANELS SHALL BE RELOCATED IN THE MEZZANINE. EXTEND ALL EXISTING CIRCUITS TO NEW PANEL LOCATION.
 - INDICATED RUNS SHALL HAVE 100% SPACING BETWEEN CONDUITS. CONTRACTOR SHALL MOUNT NEW CONDUITS TO BASEMENT CEILING AS REQUIRED C/W A UNISTRUT AND P-CLAMO CONSTRUCTION. ALL STRUTS SHALL BE SUPPORTED TO THE CONCRETE DIRECTLY OR IN A TRAPEZE METHOD.
 - CABLE SIZED ACCORDING TO CEC TABLE D8A. INSTALL CABLES IN ACCORDANCE WITH DETAIL 5 OF DIAGRAM D8.
 - PROVIDE INFORMATION METERING ON THE SIX (6) BRANCHES INDICATED. METERING SHALL BE SQUARE D POWER LOGIC 5000 SERIES. REFER TO SPEC SECTION 26 24 13 FOR DETAILS.
 - INDICATED CABLES SHALL BE C/W 1000V RATED INSULATION.
 - N/A.
 - PANEL SD-1 SHALL BE A 30 CIRCUIT PANEL.
 - PROVIDE AND INSTALL A NEW OUTDOOR PAD MOUNT CSTE.
 - ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCHING AND RETURNING SITE TO EXISTING CONDITIONS.



(B) CABLE TRENCH DETAIL
SCALE: N.T.S. (NOTE 12)

LOAD CALCULATION

EXISTING FACILITY DEMAND LOAD	= 770kVA
ESTIMATED NEW ADDITION LOAD	= 304kVA
FUTURE (25%)	= 268kVA
ESTIMATED TOTAL LOAD	= 1342kVA

FAULT CURRENT CALCULATION

* 1500kVA TRANSFORMER: Z = 4%		PROVIDE 18kA MINIMUM
208V SYSTEM SHORT CIRCUIT AMPACITY	$\frac{1}{\sqrt{3} \left(\frac{1.8\%}{1500kVA} \right) 208} = 23.13kA$	
$\left(\frac{1}{23.13kA} \right) + \left(\frac{1}{36.10kA} \right) = 14.10kA$		PROVIDE 42kA MINIMUM
600V SYSTEM SHORT CIRCUIT AMPACITY	$\frac{1}{\sqrt{3} \left(\frac{4\%}{1500kVA} \right) 600} = 36.10kA$	

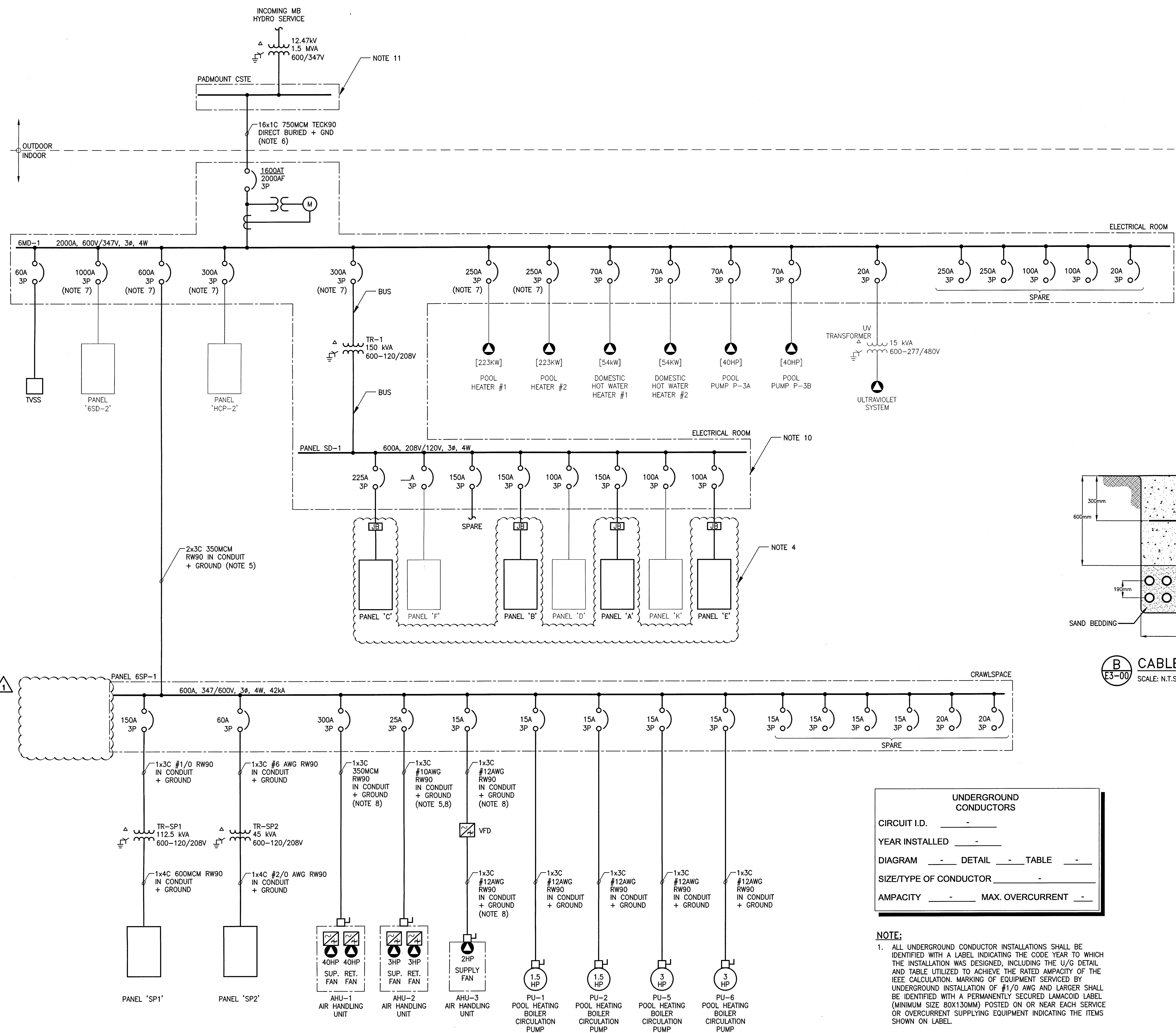
* THIS IMPEDANCE VALUE IS BASED ON THE VALUE PROVIDED UNDER THE MANITOBA HYDRO ELECTRICAL CODE, 11th EDITION.
* CONTRACTOR AND MANUFACTURER TO ENSURE ALL FUSES AND BREAKERS ARE AN APPROVED CSA SERIES TESTED COMBINATION.

UNDERGROUND CONDUCTORS

CIRCUIT I.D.	-
YEAR INSTALLED	-
DIAGRAM	- DETAIL - TABLE -
SIZE/TYPE OF CONDUCTOR	-
AMPACITY	- MAX. OVERCURRENT -

NOTE:
1. ALL UNDERGROUND CONDUCTOR INSTALLATIONS SHALL BE IDENTIFIED WITH A LABEL INDICATING THE CODE YEAR TO WHICH THE INSTALLATION WAS DESIGNED, INCLUDING THE U/G DETAIL AND TABLE UTILIZED TO ACHIEVE THE RATED AMPACITY OF THE IEEE CALCULATION. MARKING OF EQUIPMENT SERVICED BY UNDERGROUND INSTALLATION OF #1/0 AWG AND LARGER SHALL BE IDENTIFIED WITH A PERMANENTLY SECURED LAMACOID LABEL (MINIMUM SIZE 80x130MM) POSTED ON OR NEAR EACH SERVICE OR OVERCURRENT SUPPLYING EQUIPMENT INDICATING THE ITEMS SHOWN ON LABEL.

(A) BURIED CABLE LAMACOID LABEL
SCALE: N.T.S.



(1) SINGLE LINE DIAGRAM - NEW
SCALE: N.T.S.

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