

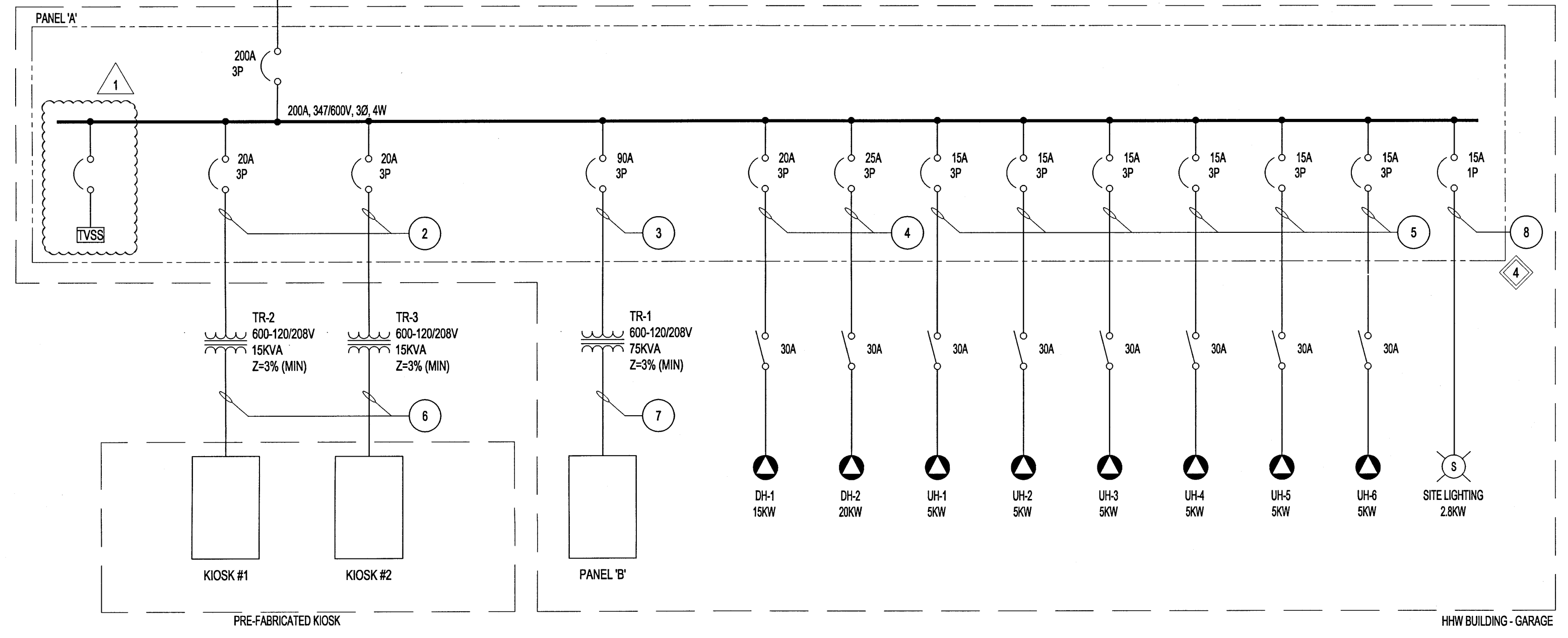
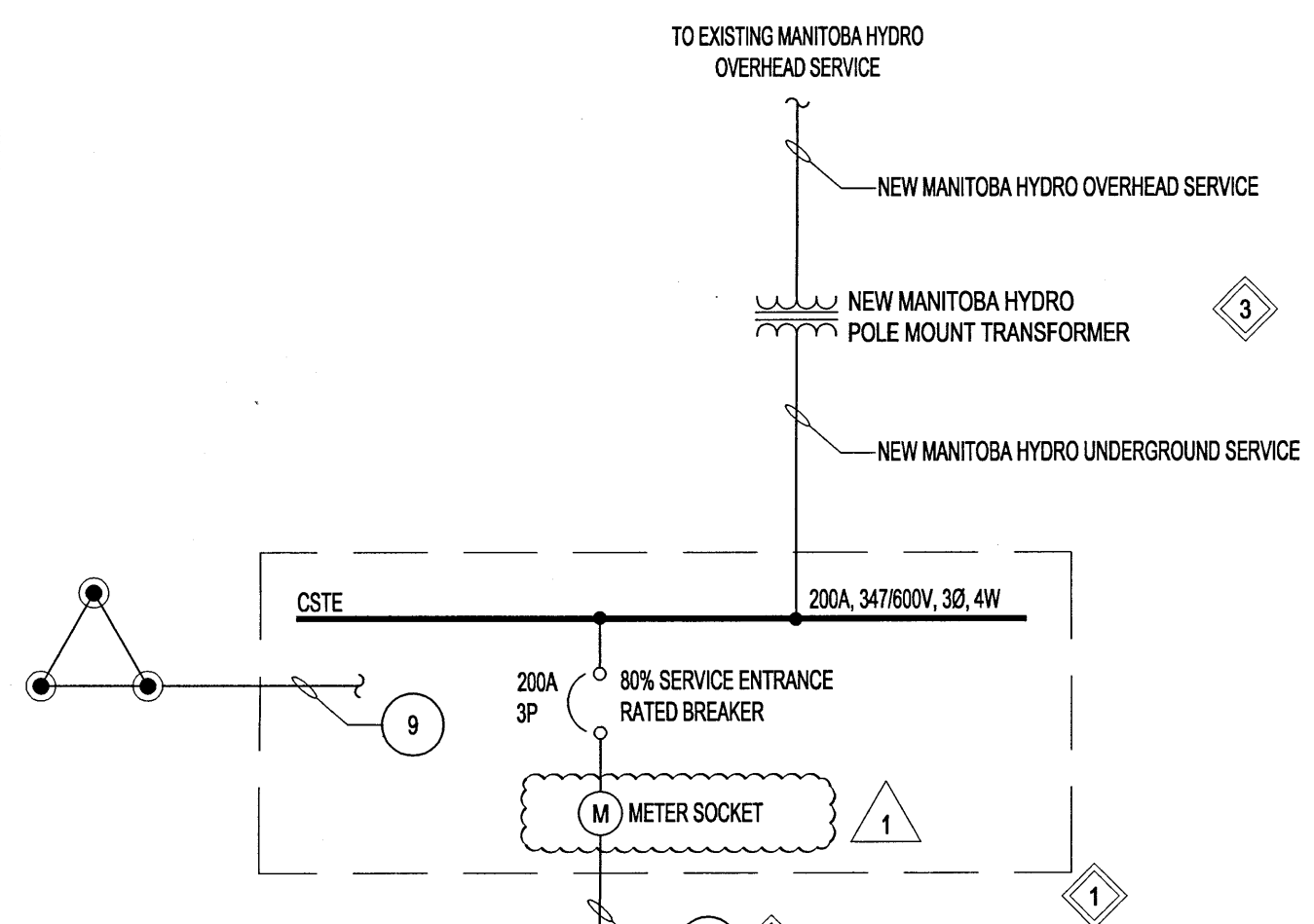
DESIGN BASIS LOAD	
ESTIMATED MECHANICAL LOAD	= 110 KVA
ESTIMATED LIGHTING LOAD	= 4 KVA
ESTIMATED AREA LOADS	= 5 KVA
ESTIMATED MISCELLANEOUS LOADS	= 10 KVA
TOTAL	= 129 KVA

FAULT CURRENT CALCULATION		
* 225KVA TRANSFORMER: Z=1.8%		
* 75KVA TRANSFORMER: Z=3%		
600V SYSTEM SHORT CIRCUIT AMPACITY	$\frac{1}{\sqrt{3}} \left(\frac{1.8\%}{225KVA} \right) 800V = 12kA$	PROVIDE 14kA MINIMUM
208V SYSTEM SHORT CIRCUIT AMPACITY	$\frac{1}{\sqrt{3}} \left(\frac{3\%}{75KVA} \right) 208V = 6.9kA$	PROVIDE 10kA MINIMUM
* 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.		

FEEDER CABLE SCHEDULE		
TYPE	DESCRIPTION	LOCATION USE
1	4C #20 AWG AL AC90 + GROUND	DIRECT BURIED
2	3C #10 AWG CU TECK90 + GROUND	ARMORED
3	3C #1 AWG AL RW90 + GROUND	CONDUIT
4	4C #10 AWG CU RW90 + GROUND	
5	3C #12 AWG RW90 + GROUND	
6	4C #4 AWG AL RW90 + GROUND	
7	2x4C #20 AWG AL RW90 + GROUND	ARMORED
8	2C #10 AWG CU TECK90 ARMORED + GROUND	ARMORED
9	#40 AWG STRANDED BARE CU WIRE + GROUND	DIRECT BURIED

- GENERAL NOTES:**
- REFER TO THE PANEL SCHEDULES FOR ADDITIONAL LOADS.
 - COORDINATE ALL BREAKER AND FEEDER SIZES WITH THE MECHANICAL SHOP DRAWING MSCP AND FLA VALUES PRIOR TO ORDERING AND INSTALLING NEW EQUIPMENT.

- KEYNOTES:**
- PROVIDE A LITTLE JRS OR EATON FUSE NEMA 3R CUSTOMER SERVICE TERMINATION ENCLOSURE (CSTE) COMPLETE WITH 200A SERVICE ENTRANCE BREAKER AND METERING SECTION. MOUNT METER TO MB HYDRO STANDARDS.
 - CABLES ARE TO BE DIRECT BURIED AS PER DIAGRAM D10, DETAIL 1 AND RATED FOR 203A AT 70°C AS PER TABLE D108 IN THE 2015 CANADIAN ELECTRICAL CODE.
 - COORDINATE WITH MANITOBA HYDRO TO PROVIDE A NEW 200A OVERHEAD SERVICE.
 - PROVIDE A MINIMUM OF 20% SPARE PHYSICAL SPACE IN PANEL 'X'.



SUPPLY: 208V 3Ø 4W
 MAINS AMPACITY: 60
 INCOMING: BREAKER LUGS
 MAIN BREAKER REQUIRED: YES NO
 MAIN BREAKER AMPS: 50
 BUS MATERIAL: COPPER ALUMINUM
 BUS AND BREAKER RATING: 10kA

NAME PLATE:

PANEL ' K1 '

REV/CCT	VA	P	BKR	A	B	C	BKR	P	VA	CCT/REV
1	1	15					25	2	4000	2
3	1	15					20	1		4
5	1	15								6
7	1	15								8
9	1	15					25	2	4000	10
11	1	15								12
13	1	15								14
15	1	15								16
17										18
LOAD 'A' 2,000 LOAD 'B' 4,000 LOAD 'C' 4,000										

LOCATION: KIOSK
 MOUNTING: SURFACE FLUSH
 MANUFACTURER:
 MODEL NO:
 BREAKER: PLUG-IN BOLT-ON
 SPD: YES NO
 SERVICE ENTRANCE RATED: YES NO

SUPPLY: 208V 3Ø 4W
 MAINS AMPACITY: 60
 INCOMING: BREAKER LUGS
 MAIN BREAKER REQUIRED: YES NO
 MAIN BREAKER AMPS: 50
 BUS MATERIAL: COPPER ALUMINUM
 BUS AND BREAKER RATING: 10kA

NAME PLATE:

PANEL ' K2 '

REV/CCT	VA	P	BKR	A	B	C	BKR	P	VA	CCT/REV
1	1	15					25	2	4000	2
3	1	15					20	1		4
5	1	15								6
7	1	15								8
9	1	15					25	2	4000	10
11	1	15								12
13	1	15								14
15	1	15								16
17										18
LOAD 'A' 2,000 LOAD 'B' 4,000 LOAD 'C' 4,000										

LOCATION: KIOSK
 MOUNTING: SURFACE FLUSH
 MANUFACTURER:
 MODEL NO:
 BREAKER: PLUG-IN BOLT-ON
 SPD: YES NO
 SERVICE ENTRANCE RATED: YES NO

SUPPLY: 208V 3Ø 4W
 MAINS AMPACITY: 400
 INCOMING: BREAKER LUGS
 MAIN BREAKER REQUIRED: YES NO
 MAIN BREAKER AMPS:
 BUS MATERIAL: COPPER ALUMINUM
 BUS AND BREAKER RATING: 10kA

NAME PLATE:

PANEL ' B '

REV/CCT	VA	P	BKR	A	B	C	BKR	P	VA	CCT/REV
1	9000	3	35				15	2	1000	2
7	1176	1	15				15	2	1000	4
9	696	1	15				15	2	1500	4
11	1176	1	15				15	2	1500	4
13	696	1	15				15	2	2000	4
15	800	1	15				15	1	660	4
17	800	1	15				15	1		4
19	800	1	15				15	1		4
21	800	1	15				15	1		4
23	800	1	15				20	1		4
25		1	20				20	1		4
27		1	15				20	1		4
29		1	15				15	1		4
31	3500	2	30				15	1		4
33							20	1		4
35							20	1		4
37							20	1		4
39							20	1		4
41							15	1		4
LOAD 'A' 12,204 LOAD 'B' 11,901 LOAD 'C' 11,901										

NAME PLATE:

PANEL ' B '

REV/CCT	VA	P	BKR	A	B	C	BKR	P	VA	CCT/REV
2	432	1	15				20	1		44
4	864	1	15				20	1		44
6	700	1	15				20	1		48
8		1	15				15	1		50
10	516	1	15				15	1		52
12		1	15				15	1		54
14		1	15				15	1		56
16		1	15				15	1		58
18		1	15				15	1		60
20		1	15							62
22		1	15							64
24		1	15							66
26		1	15							68
28		1	15							70
30		1	15							72
32	850	1	15							74
34										76
36	950	2	15							78
38										80
40										82
42										84
LOAD 'A' 12,204 LOAD 'B' 11,901 LOAD 'C' 11,901										

LOCATION: HHW BUILDING GARAGE
 MOUNTING: SURFACE FLUSH
 MANUFACTURER:
 MODEL NO:
 BREAKER: PLUG-IN BOLT-ON
 SPD: YES NO
 SERVICE ENTRANCE RATED: YES NO



NOTE:
 LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

LOCATION APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY
1	RE-ISSUED FOR TENDER	17/04/25	CLS
0	ISSUED FOR TENDER	17/03/14	CLS

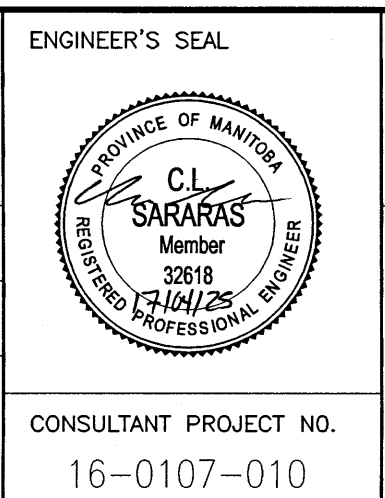
KGS GROUP CONSULTING ENGINEERS

DESIGNED BY: CLS CHECKED BY: CFS
 DRAWN BY: SOC APPROVED BY: CLS

HOR. SCALE: AS NOTED
 VERTICAL: AS NOTED

RELEASED FOR CONSTRUCTION: _____

DATE: 16/08/17



THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT

PROJECT TITLE: 4R WINNIPEG DEPOT EAST WINNIPEG COMMUNITY RESOURCE RECOVERY CENTRE

CONSULTANT PROJECT NO: 16-0107-010

SHEET OF: 28 OF 41

COMPUTER FILE NAME: 16-0107-010

CONSULTANT DRAWING NUMBER: E03

SINGLE LINE DIAGRAM AND PANEL SCHEDULES