PRIME CONSULTANT:

| x | architecture inc.

CONSULTANT TEAM

ARCHITECT: 1x1 ARCHITECTURE INC
120 FORT STREET, SUITE 103
WINNIPEG, MANITOBA, R3C 1C7
TEL: (204) 318-2010

CIVIL ENGINEER CROSIER KILGOUR & PARTNERS LTD.
300-275 CARLTON STREET
WINNIPEG, MANITOBA, R3C 5R6
TEL: (204) 943-7501
FAX: (204) 943-7507

ELECTRICAL ENGINEER: EPP SIEPMAN ENGINEERING INC.
400-136 MARKET STREET
WINNIPEG, MANITOBA, R3B 0P4
TEL: (204) 453-1080
FAX: (204) 453-1335

BARKER AVENUE PARKING LOT UPGRADES

Barker Avenue - Regina, Saskatchewan

FEBRUARY 15, 2019
ISSUED FOR TENDER

ABBREVATIONS

A/FL	ABOVE FLOOR	LOC	LOCATION
ALUM	ALUMINIUM	MAS	MASONRY
ANOD	ANODIZED	MAX	MAXIMUM
BLDG	BUILDING	MECH	MECHANICAL
BM	BEAM	MIN	MINIMUM
BOT, BTM	BOTTOM	MISC	MISCELLANEOUS
B.S	BOTH SIDES	M.O.	MASONRY OPENING
BTWN	BETWEEN	MR	MIRROR
C.I.P	CAST IN PLACE	MTL	METAL
CL	CENTER LINE	N.I.C	NOT IN CONTRACT
C.P	CENTER POINT	O.C	ON CENTER
C.L.F	CHAIN LINK FENCE	O.D	OUTSIDE DIAMETER
COL	COLUMN	O/F	OUTSIDE FACE
C/W	COMPLETE WITH	O.H	OVERHEAD
CONC	CONCRETE	OPNG	OPENING
C.B	CONCRETE BLOCK	O.W.S.J	OPEN WEB STEEL JOIST
CJ	CONTROL JOINT	PL	PLATE
D	DEEP	P.LAM	PLASTIC LAMINATE
DTL	DETAIL	PLYW	PLYWOOD
DN	DOWN	PNL	PANEL
DWG, DRWG	DRAWING	PREFIN	PREFINISHED
EA	EACH	PS	PRESSED STEEL
ELEV	ELEVATION	PTD, PT	PAINTED, PAINT
ELEC	ELECTRICAL	R/CONC	REINFORCED CONCRETE
EPOX	EPOXY	R.D.	ROOF DRAIN
EQ	EQUAL	REINF	REINFORCED
EQUIP	EQUIPMENT	RM	ROOM
EXP	EXPOSED	R.O.	ROUGH OPENING
EXT	EXTERIOR	SHWR	SHOWER
FD	FLOOR DRAIN	SIM	SIMILAR
F.H.C	FIRE HOSE CABINET	SLP	SLOPE
FIN	FINISH	SPEC'D	SPECIFIED
FLR, FL	FLOOR	S.S	STAINLESS STEEL
GA	GAUGE	ST, STL	STEEL
GALV	GALVANIZED	STO, STOR	STORAGE
GLUM	GALVALUME	STRUC	STRUCTURAL
G.C	GENERAL CONTRACTOR	SURF MTD	SURFACE MOUNTED
G.L	GRID LINE	SUSP	SUSPENDED
GWB	GYPSUM WALL BOARD	TH	THICK / THICKNESS
H.W	HAZARDOUS WASTE	T.O.	TOP OF
H	HIGH	T.O.C.	TOP OF CONCRETE
H.D	HEAVY DUTY	TYP	TYPICAL
HT	HEIGHT	U/F	UNDER FLOOR
H.M	HOLLOW METAL	U/G	UNDER GROUND
HOR, HORIZ	HORIZONTAL	U/S	UNDER SIDE
HR	HOUR	V.B	VAPOUR BARRIER
HSS	HOLLOW STEEL SECTION	VEH	VEHICLE
HYDR	HYDRAULIC	VERT	VERTICAL
I.D	INSIDE DIAMETER	VEST	VESTIBULE
I/F	INSIDE FACE	W	WIDE
INT	INTERIOR	W/	WITH
INSUL	INSULATION	W.MEM	WATERPROOFED MEMBRANE
L.W	LIGHT WEIGHT	W.T.	WEEPING TILE
L	LONG		

SYMBOLS

- N — NORTH ARROW
- # / A#.# — BUILDING SECTION
- # / A#.# SIM — SECTION DETAIL
- # / A#.# — WALL SECTION
- # / A#.# — EXTERIOR ELEVATION
- 1/A — STRUCTURAL GRID
- # / A#.# TITLE Scale = 1: — DRAWING TITLE & REFERENCE
- A / D D# B / C — INTERIOR ELEVATION
- LOCATION 100 000 — BENCHMARK ELEVATION
- W# — EXTERIOR WALL TYPE
- W# — INTERIOR WALL TYPES
- W# R — SEPARATION WITH F.R.R.
- W# FH — FULL HEIGHT SEPARATION
- G# — GLAZING TYPE
- 0000 — CEILING HEIGHT A.F.F.
- D000 — DOOR NUMBER
- HR — FIRE RATING
- RM# ROOM NAME — ROOM NAME & NUMBER
- # — KEY NOTE
- # — REVISION NUMBER
- 100 000 LOCATION — ELEVATION POINTS IN PLAN

DRAWING LIST

A0 COVER SHEET/KEY PLAN
A1 SITE PLAN
A2 DETAILS
C1.1 GRADING PLAN, SECTION & DETAIL, GENERAL NOTES
S1.1 GENERAL NOTES, ELECTRICAL PANEL SLAB PLAN, SECTION AND DETAILS
E0.1 ELECTRICAL SYMBOLS & ABBREVIATIONS
EP2.1 MAIN FLOOR POWER PLAN
E4.1 ELECTRICAL DETAILS
E5.1 ELECTRICAL DIAGRAMS
E6.1 ELECTRICAL SCHEDULES

GENERAL DRAWING NOTES

THE DRAWINGS SHALL NOT BE SCALED. FOLLOW GIVEN DIMENSIONS ONLY.

THE CONTRACTOR SHALL SATISFY HIMSELF THAT ALL DIMENSIONS, ELEVATIONS, DATUMS, AND INFORMATION SHOWN ARE CORRECT. VERIFY ALL DIMENSIONS ON SITE. DIMENSIONS ARE AS FOLLOW UNLESS OTHERWISE NOTED:
- FACE OF MASONRY WALLS
- EXTERIOR FACE OF ALL INTERIOR WALLS

PRIOR TO COMMENCEMENT OF WORK, REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE.

VARIATIONS AND MODIFICATIONS TO WORK SHOWN WILL NOT BE ALLOWED WITHOUT THE WRITTEN PERMISSION OF THE DEPARTMENTAL REPRESENTATIVE.

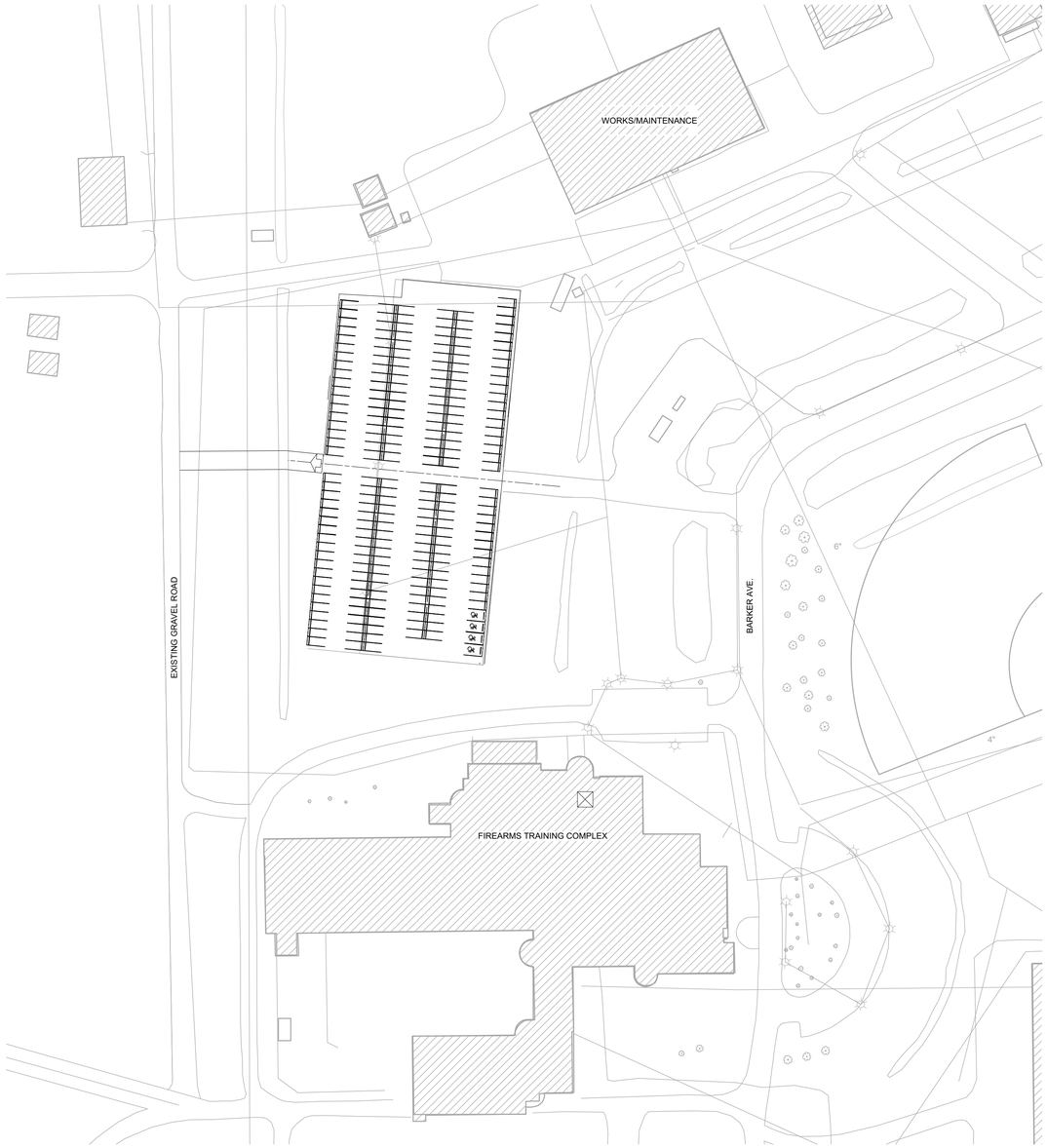
ALL DIMENSIONS ARE METRIC UNLESS OTHERWISE NOTED.

NO REPRODUCTION OF THE DRAWINGS MAY BE MADE WITHOUT THE WRITTEN CONSENT OF PARKS CANADA AGENCY AND ALL REPRODUCTION MUST BEAR THE NAME OF THE ARCHITECT.

FOR ROOM FINISH SCHEDULE SEE SPECIFICATIONS.

FOR DOOR AND FRAME SCHEDULE SEE SPECIFICATIONS.

GENERAL CONTRACTOR SHALL NOTIFY THE DEPARTMENTAL REPRESENTATIVE OF ANY MECHANICAL AND ELECTRICAL APPARATUS APPEARANCE WHICH MAY VARY FROM THAT INDICATED IN THE CONTRACT DOCUMENTS.



N — 1 / A0 KEY PLAN SCALE: 1:1000

0 10 20 30 40 50 60 70 80 90 100mm

THE ROYAL ARCHITECTURAL INSTITUTE OF CANADA — THE ASSOCIATION OF ARCHITECTS — REGISTERED ARCHITECTURAL TECHNOLOGIST PROVINCE OF SASKATCHEWAN
2019.02.15
Glen F. Gross
Winnipeg, MB SAA #991

| x | architecture inc.
120 Fort Street, Suite103 Winnipeg, Manitoba R3C 1C7 204 318 2010

Revision	Description	Date
5		
4		
3		
2		
1		
0	ISSUED FOR TENDER	2019 02 15

Client: client

GOVERNMENT OF CANADA

Project title / Projet

**BARKER AVE.
REGINA, SK**

BARKER AVENUE PARKING LOT UPGRADES

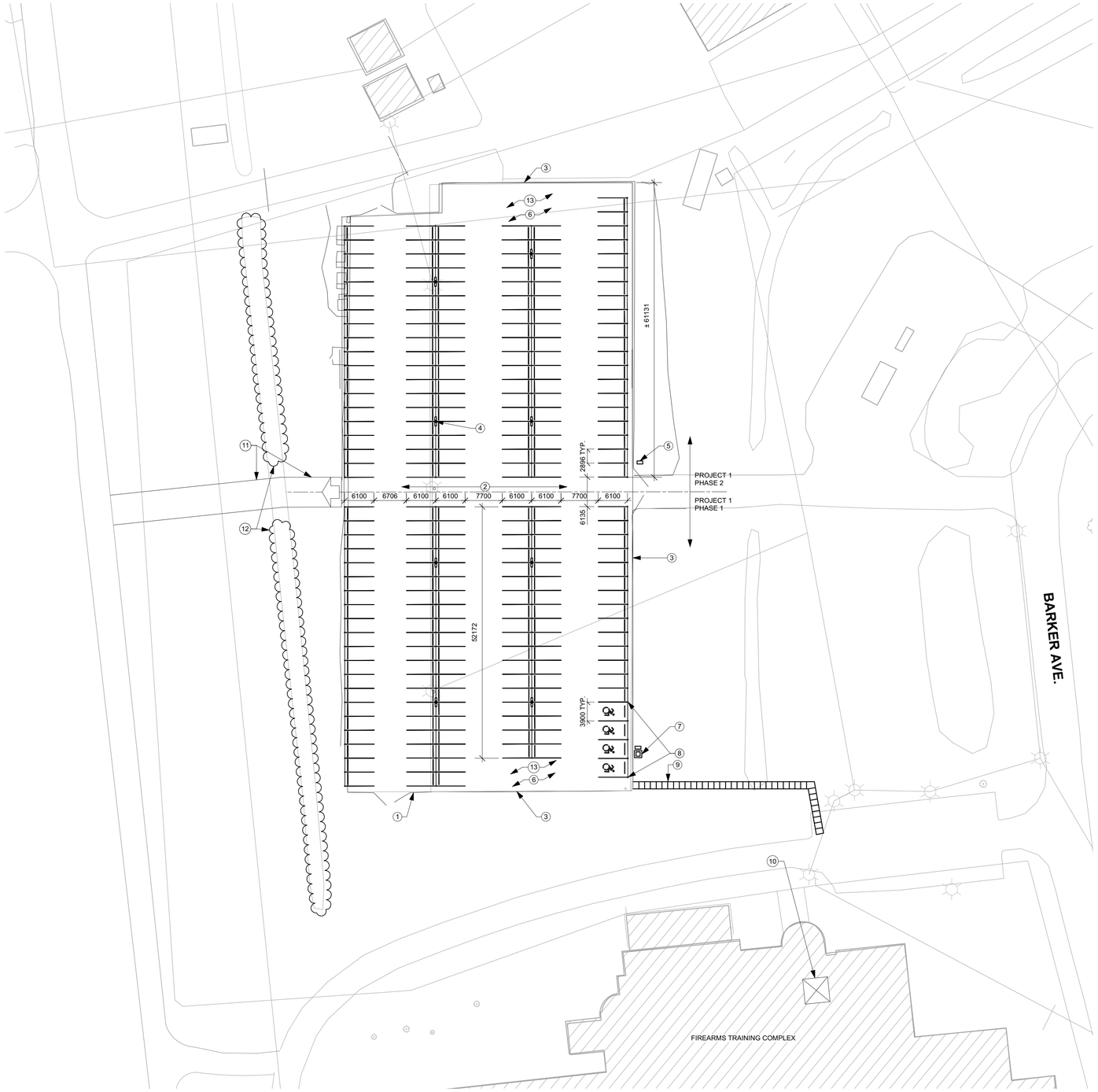
Designed by / Conçu par: **G Gross**
Drawn by / Dessiné par: **J Pauls**
Approved by / Approuvé par: **G Gross**

Drawing title / Titre du dessin

TITLE SHEET

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
1005896	A0 OF XX	0

A000



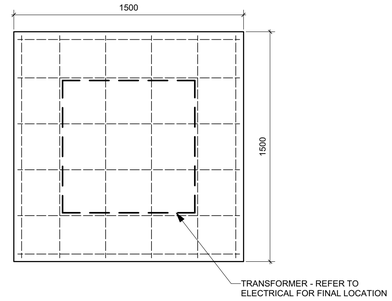
N

1/A1 SITE PLAN
SCALE: 1:500

KEYNOTES

1. DEMOLISH EXISTING PERIMETER FENCE
2. MAINTAIN AISLE TO LOT, C/W SIGNAGE
3. APPROX. LINE OF EXISTING/NEW ASPHALT TO BE MAINTAINED
4. NEW POLE MOUNT LUMINAIRE, REFER TO ELEC. (TYP. OF 8)
5. NEW ELECTRICAL DISTRIBUTION PANEL, REFER TO ELEC. FOR DETAILS
6. ALL STALLS ELECTRICAL PEDESTALS/SUPPORT FENCE C/W CAST-IN-PLACE CONCRETE BASE. REFER TO DETAILS ON DRAWING A2
7. NEW PAD-MOUNTED TRANSFORMER AND ELECTRICAL DISTRIBUTION PANEL, REFER TO ELEC. FOR DETAILS AND DRAWING A2 FOR FOUNDATION DETAILS
8. BARRIER-FREE PARKING STALLS, x 4 MIN. x 3900mm WIDE
9. NEW 1500mm WIDE PEDESTRIAN WALKWAY TO FIREARMS TRAINING FACILITY
10. APPROX. LOC. OF ELECTRICAL ROOM FEEDING NEW PEDESTALS. REFER TO ELEC.
11. NEW APPROACH FOR PARKING LOT
12. CLEAR EXISTING TREES TO ACCOMMODATE NEW DRIVE AISLE AS REQUIRED
13. ALL STALLS TO RECEIVE NEW PAINTED LINES AND SYMBOLS ON ASPHALT SURFACE AS SHOWN AND NEW RECYCLED RUBBER CURB STOPS (2400mm WIDE)

— PROJECT 2, REFER TO SEPARATE PRICES



2/A1 ELEC. PANEL SLAB
SCALE: 1:20

SASKATCHEWAN ASSOCIATION OF ARCHITECTS
2019·02·15
Glen F. Gross
Winnipeg, MB SAA #991
REGISTERED ARCHITECT SASKATCHEWAN

| x | architecture inc.
120 Fort Street, Suite103 Winnipeg, Manitoba R3C 1C7 204 318 2010

Revision	Description	Date
5		
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Client: client

GOVERNMENT OF CANADA

Project title / Projet

BARKER AVE.
REGINA, SK

BARKER AVENUE PARKING LOT UPGRADES

Designed by / Conçu par: **G Gross**
Drawn by / Dessiné par: **J Pauls**
Approved by / Approuvé par: **G Gross**

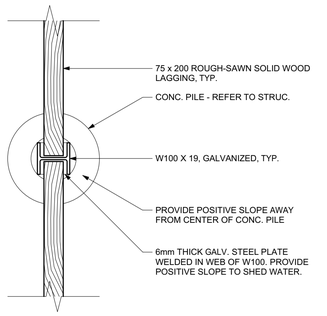
M Kealey

Drawing title / Titre du dessin: **SITE PLAN**

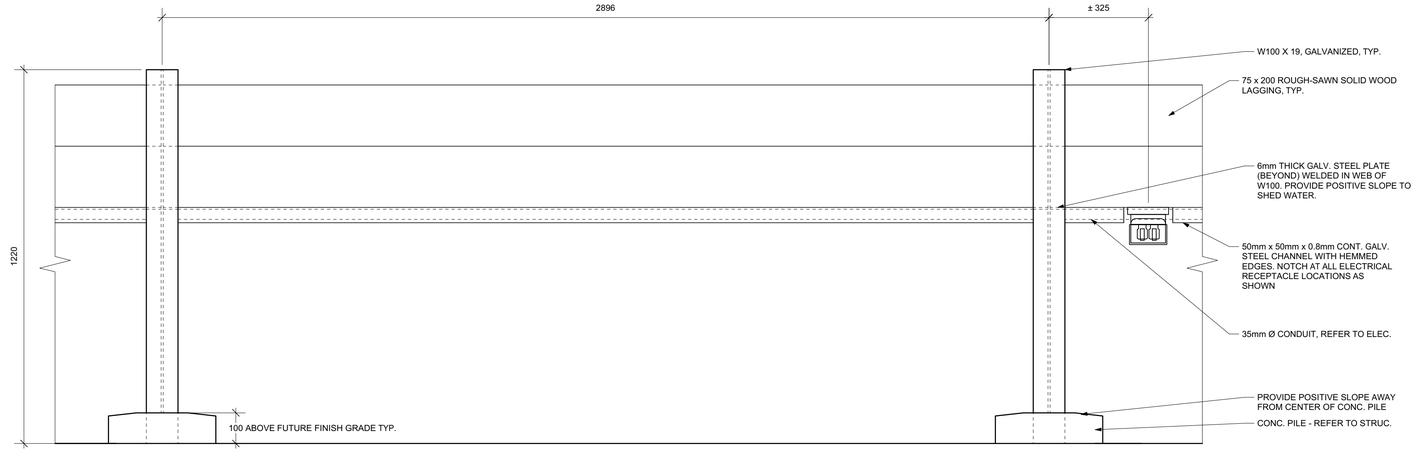
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
1005896	A1 OF XX	0

0 10 20 30 40 50 60 70 80 90 100mm

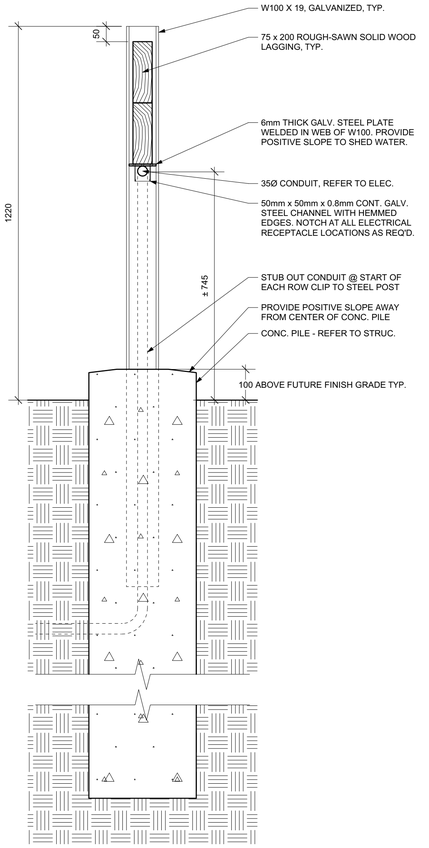
A000



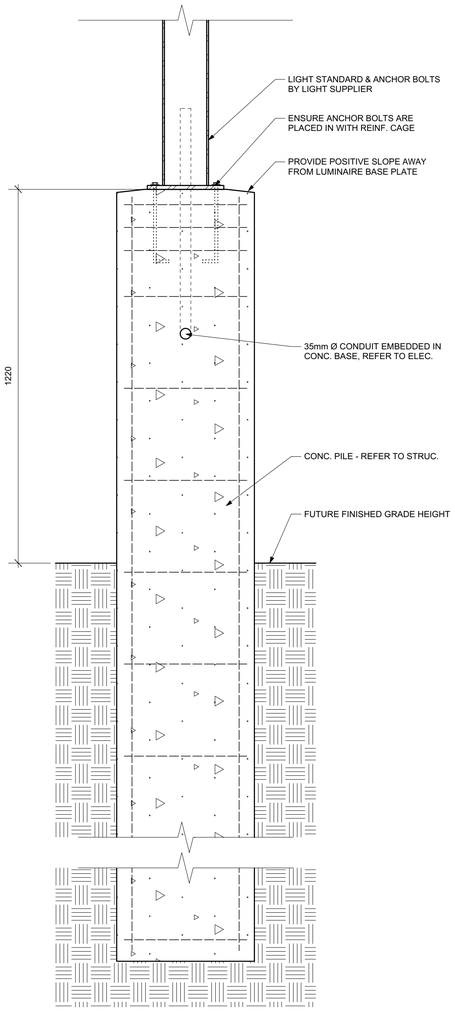
1 A2 Plan Detail, Typical Fence Post
Scale: 1:10



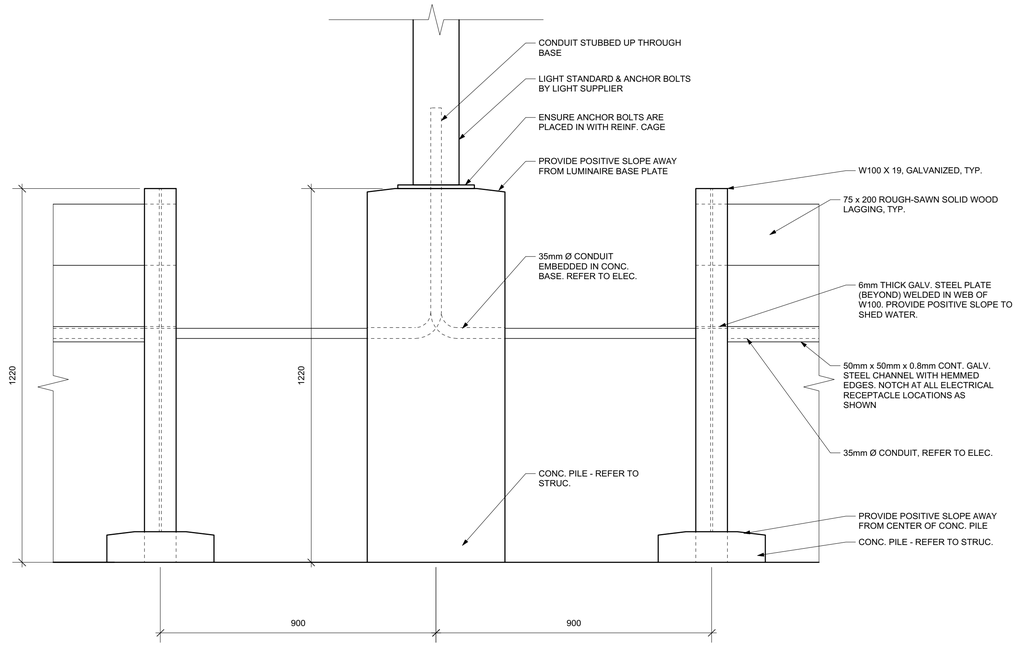
2 A2 Elevation, Typical Fence
Scale: 1:10



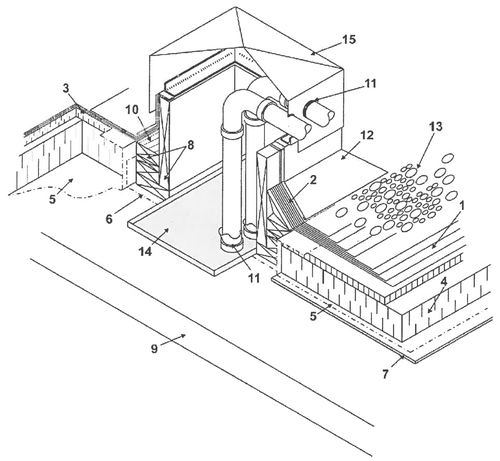
3 A2 Section, Typical Fence Post and Pile
Scale: 1:10



4 A2 Section, Typical Fence Post and Pile
Scale: 1:10



5 A2 Elevation, Typical Fence
Scale: 1:10



CURB DETAIL LEGEND
1. BUILT UP ROOF MEMBRANE, LAP AND SEAL TO EXISTING
2. MEMBRANE FLASHING, LAP AND SEAL TO NEW CURB
3. COVER BOARD (IF PRESENT)
4. PRIMARY ROOF INSULATION (IF PRESENT)
5. EXISTING VAPOUR RETARDER
6. NEW VAPOUR RETARDER CARRIED UNDER BLOCKING. LAP AND SEAL TO EXISTING
7. SUPPORT PANEL (IF PRESENT)
8. PRESSURE TREATED WOOD BLOCKING
9. ROOF DECK
10. PRESSURE TREATED WOOD CANT STRIP
11. SEALANT, DOW CORNING 795 SILICONE, OR SIMILAR
12. 0.6mm (24 GA) PRE-FIN. METAL FLASHING CARRIED OVER AND SEALED TO TOP OF NEW CURB FRAMING
13. AGGREGATE, REINSTATE AS REQUIRED FOLLOWING INSTALLATION OF NEW CURB ASSEMBLY
14. 0.6mm (24 GA.) GALVANIZED STEEL PAN TO FIT TIGHT WITHIN NEW CURB FRAMING
15. 0.6mm (24 GA.) PRE-FIN STEEL HOOD, MIN. 2% SLOPE. FASTEN TO CURB BLOCKING WITH GASKETED FASTENERS AT 150mm O.C.

GENERAL CURB NOTES:
1. SIZE OF CURB OPENING TO BE APPROX. 300mm x 300mm.
2. CONDUITS SHOWN FOR REPRESENTATION ONLY. REFER TO ELEC. FOR SIZE AND QUANTITY OF ELEC PENETRATIONS
3. PROVIDE WRITTEN 2 YEAR MANUFACTURERS WARRANTY FOR ENTIRE ASSEMBLY
4. FIELD VERIFY ALL EXISTING ASSEMBLY COMPONENTS AND MODIFY DETAILS TO SUIT

6 A2 TYP. CURB DETAIL AT BUR ROOF
N.T.S.

GENERAL NOTES:
1. ALL FENCE POSTS TO BE SHOP FABRICATED. GRIND ALL WELDS SMOOTH AND REMOVE SPATTER PRIOR TO GALVANIZING. TOUCH UP ALL DAMAGED GALVANIZED FINISHES ON SITE WITH A ZINC-RICH GALVANIZING PAINT.
2. REFER TO DRAWING C1.1 FOR ALL FINISH GRADE ELEVATIONS FOR FUTURE (PROJECT 2 N.I.C.) ASPHALT SURFACES.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR HEATING AND HOARDING ALL CONCRETE WORK- REFER TO CIVIL

0 10 20 30 40 50 60 70 80 90 100mm

SASKATCHEWAN ASSOCIATION OF ARCHITECTS
2019-02-15
Glen F. Groes
Winnipeg, MB SAA #991
REGISTERED ARCHITECT SASKATCHEWAN

| x | architecture inc.
100 Fort Street, Suite103 Winnipeg, Manitoba R3C 1C7 204 318 2010

Revision	Description	Date
5		
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0	ISSUED FOR TENDER	2019 02 15

Client: client

GOVERNMENT OF CANADA

Project title / Projet

BARKER AVE.
REGINA, SK

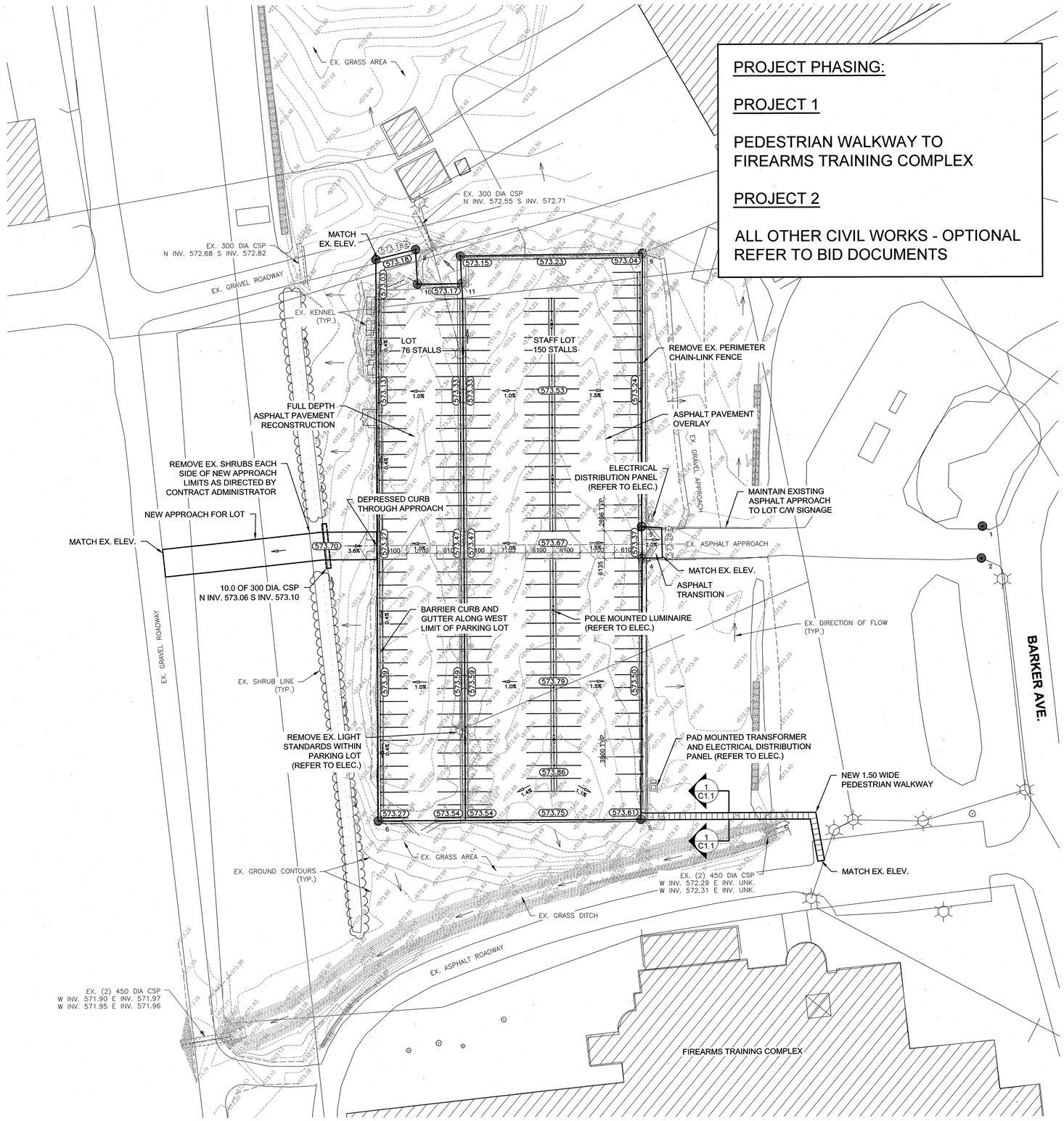
BARKER AVENUE PARKING LOT UPGRADES

Designed by / Conçu par: **G Gross**
Drawn by / Dessiné par: **J Pauls**
Approved by / Approuvé par: **G Gross**
M Kealey

Drawing title / Titre du dessin: **DETAILS**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
1005896	**A2** OF **XX**	**0**

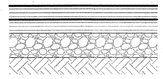
A000



GENERAL CONSTRUCTION NOTES:

1. ALL CONSTRUCTION AND MATERIALS INCORPORATED IN THE WORK SHALL CONFORM TO THE LATEST EDITION OF THE SASKATCHEWAN MINISTRY OF HIGHWAY AND INFRASTRUCTURE DESIGN MANUAL, UNLESS NOTED OTHERWISE.
2. LOCATIONS 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, EXACT LOCATION AND DEPTH OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.
3. LOCATIONS OF PROPERTY LIMITS AND EXISTING AND/OR PROPOSED FEATURES RELATIVE TO THESE LIMITS AS SHOWN DO NOT REPRESENT A LEGAL SURVEY. NO REPRESENTATION OR GUARANTEE IS GIVEN THAT THE PROPERTY LIMIT INFORMATION SHOWN IS ACCURATE, AND NO RESPONSIBILITY IS ACCEPTED FOR ANY DAMAGES SUFFERED BY ANY THIRD PARTY AS A RESULT OF DECISIONS OR ACTIONS BASED ON THIS DRAWING.
4. ALL SURFACES AND ANY EXISTING UTILITIES DAMAGED OR DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO IT'S ORIGINAL CONDITION OR BETTER, OR REPLACED, AT THE CONTRACTOR'S EXPENSE.
5. SUBGRADE MUST NOT BE FROZEN AT TIME OF WORK
6. ALL ICE, SNOW, AND FROST SHALL BE COMPLETELY REMOVED FROM SUBGRADE, AND TEMPERATURE OF SUCH SURFACES SHALL BE RAISED TO AND MAINTAINED AT 5°C MINIMUM. THE EARTH SHALL BE COMPLETELY FREE OF FROST WHEN THE CONCRETE IS PLACED THEREON.
7. HEATING ENCLOSURES SHALL BE STRONG AND WINDPROOF.

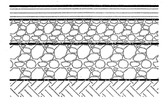
PAVEMENT REHABILITATION STRUCTURE (EAST LOT)



90 TO 180 mm SURFACE COURSE ASPHALT OVERLAY
~50 mm EX. ASPHALT
~310 TO 380 mm EX. GRANULAR FILL
CLAY SUBGRADE

ASPHALT PAVEMENT OVERLAY STRUCTURE
N.T.S.

FULL DEPTH PAVEMENT STRUCTURES (WEST LOT)



50 mm SURFACE COURSE ASPHALT
150 mm TYPE 33 BASE COURSE
200 mm TYPE 8 SUB-BASE
SUITABLE SUBGRADE

NOTE:
BASE COURSE AND SUB-BASE TO EXTEND MIN. 300 mm FROM EDGE OF ASPHALT

LIGHT DUTY ASPHALT PAVEMENT STRUCTURE
N.T.S.

(PARKING STALLS ONLY)

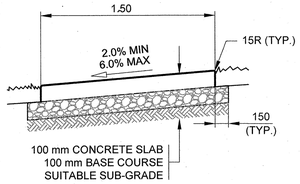
100 mm SURFACE COURSE ASPHALT
150 mm TYPE 33 BASE COURSE
350 mm TYPE 8 SUB-BASE
NON-WOVEN GEOTEXTILE (GEOTEX 1201)
SUITABLE SUBGRADE

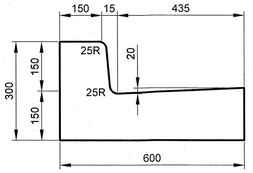
NOTE:
BASE COURSE AND SUB-BASE TO EXTEND MIN. 300 mm FROM EDGE OF ASPHALT

HEAVY DUTY ASPHALT PAVEMENT STRUCTURE
N.T.S.

PAVEMENT STRUCTURES AS SHOWN PROVIDED BY GROUND ENGINEERING CONSULTANTS LTD.

REFER TO GEOTECHNICAL REPORT FOR PARKING LOT MATERIAL REQUIREMENTS AND CONSTRUCTION METHODS





BARRIER CURB AND GUTTER DETAIL
N.T.S.

NOTES:
- PROPOSED ELEVATIONS TO BE FIELD DETERMINED BY CONTRACT ADMINISTRATOR PRIOR TO CONSTRUCTION
- TRAVERSE JOINTS AT 1500 O.C. (MIN=1250/MAX=1750)
- SIDEWALK SURFACE SHALL BE GIVEN A TEXTURED BROOM SURFACE AND NO EDGER MARKS SHALL BE LEFT

SECTION 1 C1.1
N.T.S

SURVEY INFORMATION AS SHOWN PROVIDED BY AECOM AND DATED SEPTEMBER 2018.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

PROFESSIONAL ENGINEER
T.W. SAWELL
MEMBER 21210
19 02 15
YR. MN. DAY
SASKATCHEWAN

ASSOCIATION OF PROFESSIONAL ENGINEERS OF SASKATCHEWAN
CERTIFICATE OF AUTHORIZATION
CROSIER, KILGOUR & PARTNERS LTD.
NUMBER 47
PERMISSION TO CONSULT HELD BY:

DISCIPLINE	SASK. REG. No.	SIGNATURE
STRUCTURAL	21210	

| x | architecture inc.
130 Fort Street, Suite103 Winnipeg, Manitoba R3C 1C7 204 318 2910

300-275 Carlton Street
Winnipeg, Manitoba R3C 5R6
T 204. 943. 7501
F 204. 943. 7507

2018-1035

Crosier Kilgour & Partners Ltd.
CONSULTING STRUCTURAL ENGINEERS

150 WM	WATERMAIN	150 WM
250 WWS	WASTEWATER	150 WWS
300 LDS	LAND DRAINAGE SEWER	300 LDS
	HYDRANT ASSEMBLY	
	GATE VALVE	
	CURB STOP	
	REDUCER	
	MANHOLE	
	CATCH BASIN	
	CATCH PIT	
	CLEAN OUT	
	TESTHOLE	
	SURVEY BAR	
	SIGN	
	UTILITY POLE	
	UTILITY PEDESTAL	
	HYDRO	
	GAS	
	MTS	
	TREE LINE	
	CULVERT	
	SWALE	
	DIRECTION OF FLOW	
235.380	GROUND ELEVATION	235.38
235.38	DITCH ELEVATION	235.38
235.400	ROAD ELEVATION	235.400
	BARRIER CURB	
	MOUNTABLE CURB	
EXISTING	LEGEND	PROPOSED

Revision	Description	Date
0	ISSUED FOR CONSTRUCTION	19/02/15

Client: client

GOVERNMENT OF CANADA

Project title: Projet

BARKER AVE.
REGINA, SK

PROJECT 2
BARKER AVENUE PARKING LOT UPGRADES

Designed by / Conçu par	TWS
Drawn by / Dessiné par	MPP
Approved by / Approuvé par	TWS
PWGSC Project Manager / Administrateur de Projets TPSGC	M Kealey
Drawing title / Titre du dessin	GRADING PLAN SECTION & DETAIL GENERAL NOTES

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
1005896	C1.1 OF 1	0

PWGSC - A1 - 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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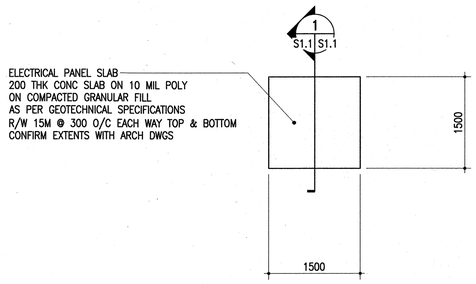


ELECTRICAL PANEL SLAB PLAN

1 : 50

GENERAL NOTES

1. STRUCTURAL DESIGN BASED ON THE NATIONAL BUILDING CODE OF CANADA 2010 EDITION.
   A) IMPORTANCE CATEGORY: NORMAL
   B) WIND LOAD: q50 = 0.49 kPa
   C) GROUND SNOW LOAD: Ss = 1.4 kPa
   D) ASSOCIATED RAIN LOAD: Sr = 0.1 kPa
2. DO NOT SCALE DRAWINGS.
3. ALL DIMENSIONS ARE TO BE VERIFIED WITH THE PROJECT DRAWINGS AND EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
4. SUBGRADE PREPARATION TO BE IN ACCORDANCE WITH GEOTECHNICAL REPORT DATED AUGUST 23, 2018 BY GROUND ENGINEERING CONSULTANTS LTD,
5. NOTWITHSTANDING THE INFORMATION PROVIDED IN THE GEOTECHNICAL REPORT THE FOUNDATION AND GENERAL CONTRACTORS SHALL SATISFY THEMSELVES AS TO THE PREVAILING CONDITIONS AT THE SITE AS NO EXTRAS SHALL BE GRANTED SHOULD CONDITIONS DIFFER FROM THOSE INDICATED.

CAST-IN-PLACE CONCRETE

I CONCRETE

1. ALL CONCRETE IS TO BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF CSA-A23.1-14 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION" AND CSA-A23.2-14 "METHOD OF TEST FOR CONCRETE".
2. PROVIDE CERTIFICATION THAT MIX PROPORTIONS SELECTED WILL PRODUCE CONCRETE OF QUALITY, YIELD AND STRENGTH AS SPECIFIED IN CONCRETE MIXES, AND WILL COMPLY WITH CSA-A23.1. CERTIFICATION LETTER TO BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF SASKATCHEWAN.
3. PROVIDE CERTIFICATION THAT PLANT, EQUIPMENT, AND MATERIALS TO BE USED IN CONCRETE COMPLY WITH REQUIREMENTS OF CSA-A23.1. CERTIFICATION LETTER TO BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF SASKATCHEWAN.
4. CONCRETE PROPERTIES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON THE DRAWINGS.

PILES:	32 MPa MIN. AT 56 DAYS CLASS OF EXPOSURE: S-2 ENTRAINED AIR/CATEGORY: 2 (4% TO 7%) CEMENT TYPE: HS AGGREGATE: MAX. 20 mm CURING TYPE: TYPE 2 – ADDITIONAL SLUMP: MIN. 120 mm
EXTERIOR SLABS-ON-GRADE:	32 MPa MIN. AT 28 DAYS CLASS OF EXPOSURE: C-2 ENTRAINED AIR/CATEGORY: 1 (5% TO 8%) AGGREGATE MAX. 20 mm CURING TYPE: TYPE 2 – ADDITIONAL

UNLESS INDICATED OTHERWISE THE CONTRACTOR SHALL SPECIFY CONCRETE SLUMP APPROPRIATE WITH PLACEMENT METHODS AND SITE CONDITIONS. THE CONTRACTOR SPECIFIED SLUMP MUST BE SHOWN ON THE CERTIFICATION LETTER AND CONCRETE DELIVERY TICKET.

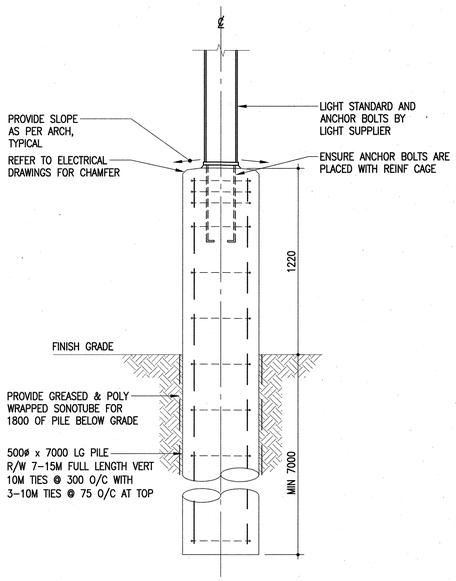
5. UNLESS NOTED OTHERWISE CONCRETE CURING TO CONFORM TO THE LATEST EDITION OF CSA-A23.1-14 AS FOLLOWS:
   A) TYPE 1 – BASIC: 3 DAYS ≥ 10°C AND FOR A TIME NECESSARY TO ATTAIN 40% OF THE SPECIFIED STRENGTH.
   B) TYPE 2 – ADDITIONAL: 7 DAYS ≥ 10°C AND FOR A TIME NECESSARY TO ATTAIN 70% OF THE SPECIFIED STRENGTH.
   C) TYPE 3 – EXTENDED: 7 DAYS WET CURING ≥ 10°C.
6. AIR ENTRAINING ADMIXTURES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C260/C260M-10a "STANDARD SPECIFICATION FOR AIR ENTRAINING ADMIXTURES FOR CONCRETE". SUPERPLASTICIZING ADMIXTURES SHALL CONFORM TO ASTM C494/C494M "STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE". AIR ENTRAINED ADMIXTURES TO HAVE A DURABILITY FACTOR GREATER THAN 75, WHEN TESTED TO ASTM STANDARDS C666/C666M PROCEDURE A. SPACING FACTOR FOR ANY AIR ENTRAINING ADMIXTURE MUST BE 0.17mm OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM C457 "STANDARD TEST METHOD FOR MICROSCOPICAL DETERMINATION OF PARAMETERS OF THE AIR-VOID SYSTEM IN HARDENED CONCRETE".
7. BEFORE ANY CONCRETE IS PLACED, ALL ICE, SNOW, AND FROST SHALL BE COMPLETELY REMOVED FROM ALL FORMWORK AND OTHER SURFACES AGAINST WHICH CONCRETE SHALL BE PLACED, AND TEMPERATURE OF SUCH SURFACES SHALL BE RAISED TO AND MAINTAINED AT 5°C MINIMUM, PRIOR TO AND DURING CONCRETING. WHERE CONCRETE WORK IS TO COME IN CONTACT WITH EARTH, THE SURFACE OF THE EARTH SHALL BE COMPLETELY FREE OF FROST WHEN THE CONCRETE IS PLACED THEREON.
8. CONCRETE AGGREGATES AND WATER SHALL BE HEATED TO NOT OVER 80°C. CONCRETE SHALL NOT BE LESS THAN 20°C NOR MORE THAN 30°C IN TEMPERATURE WHEN DEPOSITED. CONCRETE WHEN PLACED DURING FREEZING WEATHER (OR IF FREEZING IS ANTICIPATED DURING CURING PERIOD) SHALL BE FULLY ENCLOSED, AND THE TEMPERATURE OF SAME MAINTAINED AT NO LESS THAN 20°C FOR THREE (3) DAYS AND NOT LESS THAN 5°C FOR AN ADDITIONAL FOUR (4) DAYS.
9. ALL PROTECTING COVERINGS SHALL BE KEPT CLEAR OF THE CONCRETE AND FORM SURFACES TO PERMIT FULL CIRCULATION OF AIR, AND SHALL BE MAINTAINED INTACT FOR AT LEAST 24 HOURS AFTER THE ARTIFICIAL HEAT IS DISCONTINUED.
10. HEATING ENCLOSURES SHALL BE STRONG AND WINDPROOF BUT WELL VENTILATED, AND HEATING UNITS SO LOCATED AS TO PREVENT LOCAL OVERHEATING, DRYING OF THE CONCRETE, OR DAMAGE FROM COMBUSTION GASSES. UNITS MUSTY BE VENTED OUTSIDE THE BUILDING. NO DIRECT-FIRED UNITS WILL BE ACCEPTABLE.

II REINFORCING STEEL

1. ALL REINFORCING STEEL TO BE CSA-G30.18M-09 GRADE 400R DEFORMED BARS EXCEPT COLUMN TIES AND BEAM STIRRUPS WHICH SHALL BE GRADE 400W STEEL.
2. ALL REINFORCING IS TO BE DETAILED IN ACCORDANCE WITH THE LATEST EDITION OF THE REINFORCING STEEL INSTITUTE OF CANADA – MANUAL OF STANDARD PRACTICE, EXCEPT OTHERWISE NOTED.
3. WELDED STEEL WIRE MESH SHALL BE TO ASTM A185/A185M-07, 400 MPa YIELD, FLAT SHEETS ONLY.
4. REINFORCING STEEL COVER IS TO CONFORM TO CAN/CSA A23.3-14 "DESIGN OF CONCRETE STRUCTURES FOR BUILDINGS" AND AS FOLLOWS:

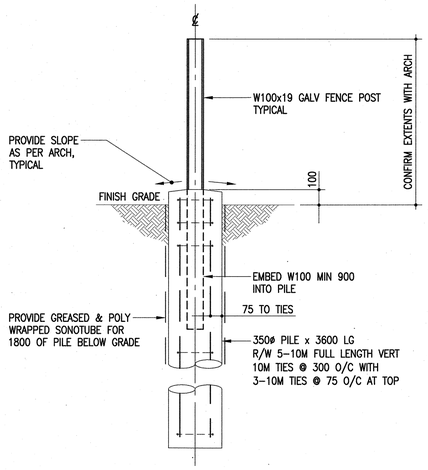
PILES:		
EXPOSURE CLASS: S-2	75 mm	TO TIES.
EXTERIOR SLABS-ON-GRADE:		
EXPOSURE CLASS: C-2	60 mm	75 mm

5. ALL REINFORCING TO BE HELD IN PLACE, AND TIED BY THE USE OF PROPER ACCESSORIES, SUCH AS HI-CHAIRS, SPACERS, ETC. TO BE SUPPLIED BY THE REINFORCING STEEL FABRICATOR. HI-CHAIRS TO HAVE 4 LEGS AND TO BE STAPLED OR NAILED TO THE FORMWORK.
6. ALL OPENINGS IN CAST-IN-PLACE CONCRETE FLATWORK TO BE TRIMMED WITH 2-15M ALL AROUND ON BOTH FACES, EXCEPT AS NOTED.
7. ACCESSORIES SUCH AS HI-CHAIRS, SPACERS, ETC. SHALL BE SUPPORTED BY PADS OF PLYWOOD OR TEMPERED HARDBOARD TO PREVENT PUNCTURING THE VOIDFORM.



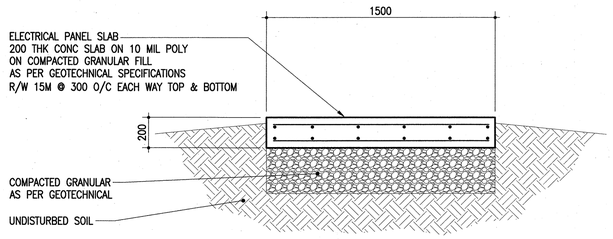
TYPICAL LIGHT STANDARD PILE

1 : 20 REFER TO ARCH DWGS FOR LOCATION



TYPICAL FENCE POST DETAIL

1 : 20



1 SECTION
S1.1 S1.1 1:20

PROFESSIONAL ENGINEER SASKATCHEWAN
T.W. SMEALL
MEMBER 21210
19 02 15
YR. MN. DAY

ASSOCIATION OF PROFESSIONAL ENGINEERS OF SASKATCHEWAN
CERTIFICATE OF AUTHORIZATION
CROSIER, KILGOUR & PARTNERS LTD.
NUMBER 47
PERMISSION TO CONSULT HELD BY:

DISCIPLINE	SASK. REG. No.	SIGNATURE
STRUCTURAL	21210	

x architecture inc.
130 Fort Street, Suite 103 Winnipeg, Manitoba R3C 1C7 204 318 2010

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2018-1035

Crosier Kilgour & Partners Ltd.
CONSULTING STRUCTURAL ENGINEERS

Revision	Description	Date
5		
4		
3		
2		
1		
0	ISSUED FOR CONSTRUCTION	19/02/15

Client client

GOVERNMENT OF CANADA

Project title Projet

BARKER AVE
REGINA, SK

BARKER AVENUE PARKING LOT UPGRADES

Designed by / Conçu par	TWS
Drawn by / Dessiné par	MPP
Approved by / Approuvé par	TWS
PWGSC Project Manager / Administrateur de Projets TPSGC	M Keasley

Drawing title Titre du dessin

GENERAL NOTES
ELECTRICAL PANEL SLAB PLAN
SECTION AND DETAILS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
1005896	S1.1 OF 1	0

PWGSC - A1 - 841X594

0 10 20 30 40 50 60 70 80 90 100mm

A000

ELECTRICAL SYMBOL LEGEND

HT AFF	SYMBOL	DESCRIPTION
		LIGHTING
		FUSED DISCONNECT SWITCH
		POWER
400mm		DUPLEX RECEPT.
900mm		DUPLEX RECEPT C/W INTEGRAL GFI
900mm		DUPLEX RECEPT C/W WET LOCATION COVERPLATE
		FUSED DISCONNECT SWITCH

ELECTRICAL ABBREVIATIONS LIST

1P 1 POLE (2P, 3P, 4P, ETC.)	DISC DISCONNECT	GND GROUND	NEC NATIONAL ELECTRICAL CODE	UE UNDERGROUND ELECTRICAL
A AMPERE	DWG DRAWING	HORIZ HORIZONTAL	NIC NOT IN CONTRACT	UG UNDERGROUND
AMP AMPERE	EC ELECTRICAL CONTRACTOR	J-BOX JUNCTION BOX	NTS NOT TO SCALE	V VOLT
APPROX APPROXIMATELY	EMT ELECTRICAL METALLIC TUBING	KV KILOVOLT	PED PEDESTAL	VA VOLT-AMPERES
C CONDUIT	EQUIP EQUIPMENT	KVA KILOVOLT-AMPERE	PH PHASE	W WATT
CKT CIRCUIT	EXIST EXISTING	LTG LIGHTING	PNL PANEL	WP WEATHERPROOF
CONST CONSTRUCTION	FIXT FIXTURE	MCB MAIN CIRCUIT BREAKER	R RELOCATED	XFMR TRANSFORMER
CONTR CONTRACTOR	FLR FLOOR	MDC MAIN DISTRIBUTION CENTER	RCPT RECEPTACLE	XFR TRANSFER
CU COPPER	GC GENERAL CONTRACTOR	MFR MANUFACTURER	SP SPARE	
DIA DIAMETER	GFI GROUND FAULT CIRCUIT	MLO MAIN LUGS ONLY	TYP TYPICAL	

ELECTRICAL SYMBOL NOTES

FL01 A-12b

THE LIGHTING FIXTURE TYPE IS INDICATED BY UPPER CASE LETTERS AND NUMBERS. THE CIRCUIT DESIGNATION IS INDICATED BY LETTERS AND NUMBERS SEPARATED BY DASH. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER.

EXAMPLE 1: LIGHTING FIXTURE TYPE "FL01" IS CONNECTED TO PANEL A, CIRCUIT 12 AND CONTROLLED BY SWITCH "b".

" P001 " A-2abb

EXAMPLE 2: THE FIXTURE TYPE SHOWN AS A NUMERATOR INDICATES ALL LIGHTING FIXTURES IN THE ROOM OR SPACE ARE THE SAME TYPE. THE CIRCUIT NUMBER AND SWITCH DESIGNATION SHOWN AS A DENOMINATOR INDICATES ALL LIGHTING FIXTURES IN THE ROOM OR SPACE ARE CONNECTED TO THE SAME CIRCUIT, CONTROLLED BY THE SAME SWITCHES, CENTER/OUTBOARD MULTILEVEL SWITCHING.

T1

TRANSFORMERS. THE TRANSFORMER TYPE IS INDICATED BY A NUMBER FOLLOWING THE UPPER CASE LETTER "T". SEE THE TRANSFORMER SCHEDULE OR THE SINGLE LINE DIAGRAM FOR THE TRANSFORMER DESCRIPTION AND REQUIREMENTS. EXAMPLE: TRANSFORMER TYPE "T1".

LPN-102

PANELBOARDS. PANELBOARD DOORS MAY BE SHOWN TO INDICATE OPENING SIDE OF RECESSED PANELBOARDS. SEE PANELBOARD IDENTIFICATION FOR DESIGNATION CODES.

1 (TYP)

KEYNOTE. SEE THE KEYED NOTES ON THAT SHEET FOR THE NOTE NUMBER INDICATED. (TYP) INDICATES THAT THE NOTE IS TYPICAL OF THE APPLICATION.

GENERAL ELECTRICAL NOTES

A. THE GENERAL NOTES AS DESCRIBED HEREIN, APPLY TO ALL DRAWINGS IN THIS PACKAGE WHERE APPLICABLE.
B. PENETRATIONS IN WALLS OR SEPARATIONS, REQUIRING PROTECTED OPENINGS SHALL BE FIRESTOPPED WITH AN APPROVED MATERIAL. REFER TO ARCHITECTURAL SPECIFICATIONS FOR PRODUCT REQUIREMENTS.
C. EXPOSED WIRING SHALL NOT BE PERMITTED. WIRING SHALL BE RECESSED IN WALL, OR WHERE WALLS ARE NOT ACCESSIBLE DUE TO WALL CONSTRUCTION (CONCRETE BLOCK, CONCRETE, BRICK, ETC), PROVIDE CONDUIT AS REQUIRED TO CONCEAL SAME.
D. REFER TO ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND DETAILS, INCLUDING MILLWORK DETAILS AND SHOP DRAWINGS FOR COORDINATION OF ELECTRICAL DEVICE LOCATIONS, METHOD OF INSTALLATION & MOUNTING HEIGHTS. ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.
E. EQUIPMENT SHUTDOWN AND THE INTERRUPTION OF ANY SERVICES SHALL BE COORDINATED IN ADVANCE WITH THE BUILDING END USER AND SHALL BE KEPT TO A MINIMUM.
F. PROVIDE LOCKABLE ENCLOSURES WITH COMMON KEY ON ALL STARTERS AND DISCONNECT SWITCHES LOCATED IN PUBLIC AREAS. KEYS SHALL BE HANDED OVER TO OWNER AT END OF PROJECT.
G. PROVIDE HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED AND GRADE MOUNTED ELECTRICAL EQUIPMENT. MINIMUM REQUIREMENTS: 100mm (4") HIGH, 4% AIR ENTRAINED, POLY FIBER REINFORCED CONCRETE, 100mm (4") LONGER THAN EQUIPMENT TO BE PLACED ON IT. REFER TO ARCHITECTURAL/STRUCTURAL/ELECTRICAL DETAIL DRAWINGS FOR TRANSFORMER, GENERATOR, OR SWITCHGEAR PADS THAT MAY EXCEED THESE REQUIREMENTS.
H. UNLESS NOTED OTHERWISE, THE CIRCUITING INDICATED ON THE DRAWINGS IS REPRESENTATIONAL ONLY. CONFIRM CIRCUITING REQUIREMENTS ON SITE.
I. CIRCUIT NUMBERS AT DEVICES CORRESPOND TO PANELBOARD BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING AND VOLTAGE DROP REQUIREMENTS, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL EQUIPMENT SCHEDULE.
J. MINIMUM CONDUIT SIZE SHALL BE 21mm (3/4") UNLESS NOTED OTHERWISE.
K. CONDUIT AND WIRE SHALL NOT BE INSTALLED BELOW FLOOR SLAB UNLESS INDICATED ON PLAN BY DASHED CONDUIT/LINE.
L. EMPTY CONDUIT SHALL BE C/W PULL WIRE AND PLASTIC BUSHINGS.
M. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN RACEWAY. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE PVC.
N. VERIFY LOCATIONS AND ROUGH-IN REQUIREMENTS OF ALL OWNER FURNISHED EQUIPMENT PRIOR TO ROUGH-IN.
O. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PHASES OF DEMOLITION AND CONSTRUCTION. COORDINATE WITH GENERAL CONTRACTOR.
P. ALL LIFE-SAFETY SYSTEMS SHALL BE MAINTAINED AND OPERABLE AT ALL TIMES DURING CONSTRUCTION.
Q. AS INDICATED IN THE GENERAL NOTES, DEMOLITION NOTES, AND KEYNOTES IN THIS DRAWING PACKAGE, UNLESS NOTED OTHERWISE, THE TERM "DEMOLISH" SHALL INCLUDE THE COMPLETE REMOVAL OF THE EXISTING ITEM IDENTIFIED, C/W ASSOCIATED WIRING, CONDUIT AND JUNCTION BOXES BACK TO LAST REMAINING DEVICE OR SOURCE. CIRCUITS FREED UP FROM DEMOLISHED ELECTRICAL, SHALL BECOME SPARE. REFER TO THE RENOVATION DRAWING KEY NOTES FOR FURTHER REQUIREMENTS.
R. AS INDICATED IN THE GENERAL NOTES, DEMOLITION NOTES, AND KEYNOTES IN THIS DRAWING PACKAGE, UNLESS NOTED OTHERWISE, THE TERM "REMOVE & REPLACE" SHALL INCLUDE THE COMPLETE REMOVAL & REPLACEMENT OF THE EXISTING ITEM IDENTIFIED IN ITS CURRENT LOCATION, WITH A NEW ITEM, UTILIZING THE EXISTING OUTLET BOX AND WIRING. REFER TO THE RENOVATION DRAWING KEY NOTES FOR FURTHER REQUIREMENTS.
S. AS INDICATED IN THE GENERAL NOTES,DEMOLITION NOTES, TYPICAL SUITE NOTES, AND KEY NOTES, UNLESS NOTED OTHERWISE, THE TERM "RELOCATE" SHALL INCLUDE THE COMPLETE RELOCATION OF THE EXISTING ITEM IDENTIFIED IN ITS CURRENT LOCATION ON THE DEMOLITION DRAWINGS, TO THE NEW LOCATION AS INDICATED ON THE RENOVATION DRAWINGS. INCLUDE ALL LABOUR AND MATERIALS TO REROUTE/EXTEND/REFEED THE EXISTING CIRCUITRY AS REQUIRED TO ACCOMMODATE THE RELOCATION. REFER TO THE RENOVATION DRAWING KEY NOTES FOR FURTHER REQUIREMENTS.
T. SITE CONFIRM ANY ELECTRICAL WITHIN AREAS OF RENOVATION REQUIRING RELOCATION TO ACCOMMODATE THE RENOVATION.
U. PROVIDE WIRE AND CONDUIT AS REQUIRED FOR CONTINUITY OF ANY FEEDERS OR BRANCH CIRCUITS ORIGINATING OUTSIDE THE DEMOLITION AREA THAT SERVES ANY ELECTRICAL EQUIPMENT OR DEVICES TO REMAIN AFTER DEMOLITION. MODIFY OR REPLACE AS REQUIRED.
V. PROVIDE BLANK COVERPLATES OVER ALL EXISTING UNUSED OPENINGS.
W. DEMOLISH ALL ELECTRICAL DEVICES IN WALLS, FLOORS OR CEILINGS TO BE DEMOLISHED. CONFIRM EXTENT OF DEMOLITION WITH ALL DISCIPLINE DRAWINGS. REROUTE/EXTEND/RE-FEED EXISTING ELECTRICAL AS REQUIRED TO MAINTAIN EXISTING SYSTEMS NOT INDICATED TO BE REMOVED.
X. REMOVE ANY UNUSED OR ABANDONED WIRING AND CONDUIT WITHIN RENOVATION AREA, INCLUDING BRANCH CIRCUIT WIRING, VOICE/DATA CABLING AND SYSTEMS CABLING TO SOURCE OF SUPPLY.
Y. WHERE EXISTING WIRING AND CONDUIT ARE RE-USED, VERIFY EXISTING CONDITIONS. MODIFY AND SUPPLEMENT EXISTING FASTENING AND SUPPORT TO MEET CODE REQUIREMENTS.
Z. CONTRACTOR SHALL CONFIRM ALL EXISTING SYSTEMS TO BE IN WORKING CONDITION PRIOR TO CARRYING OUT MODIFICATIONS. WHERE EXISTING SYSTEMS ARE NOT OPERABLE, NOTIFY THE CONSULTANT PRIOR TO CARRYING OUT WORK.
AA. ALL NEW WIRING SHALL BE CONCEALED WHERE POSSIBLE. UTILIZE CRAWLSPACE AND/OR ACCESSIBLE CEILING SPACE TO RUN NEW WIRING AS REQUIRED AND FISH INTO WALLS/MILLWORK.
BB. WHERE EXISTING WALLS ARE TO BE OPENED FOR INSTALLATION OF NEW WIRING, COORDINATE WITH GENERAL CONTRACTOR ROUTING OF SAME. ARRANGE AND PAY FOR ALL CUTTING/REPAIR/PATCHING AS REQUIRED.
CC. WHERE BRANCH CIRCUIT BREAKERS ARE REMOVED, PROVIDE FILLER PLATES FOR BREAKER SPACES.
DD. CIRCUIT BREAKERS SHALL MATCH EXISTING. CONFIRM SHORT CIRCUIT RATING AND TYPE ON SITE, PRIOR TO FINALIZING PRICING.
EE. UTILIZE SPARE/FREED UP CIRCUITS FROM DEMOLITION AS REQUIRED TO ACCOMMODATE THE ADDITIONAL CIRCUITING REQUIREMENTS IN THE RENOVATION.
FF. PROVIDE NEW TYPEWRITTEN PANEL DIRECTORIES TO ACCOMMODATE UPDATED CIRCUITING. NEW BREAKERS IN DISTRIBUTION PANELS SHALL BE LABELLED USING LAMACOIDS.
GG. RISER DIAGRAMS ARE SCHEMATIC AND REPRESENTATIONAL ONLY. LOCATIONS AND QUANTITIES OF EQUIPMENT/DEVICES/LUMINAIRES SHALL BE COORDINATED WITH THE ELECTRICAL FLOOR PLANS.
HH. ALL LIGHTING AND POWER CONDUCTORS SHALL BE INSTALLED BETWEEN 24" (MINIMUM) AND 36" (MAXIMUM) BELOW FINISHED GRADE.
II. ALL CONDUCTORS FOR EXTERIOR LIGHTING AND POWER CIRCUITS SHALL BE #10 AWG MINIMUM.
JJ. PROVIDE TRANSFORMER BASE AT ALL POLE MOUNTED FIXTURES, TAP 2 LEGS OF THREE PHASE FEEDER (CIRCUITS DENOTED), PROVIDE BALLAST FUSES AT TAP, AND PROVIDE BRANCH CIRCUITS TO FIXTURES.
KK. OUTLETS OR EQUIPMENT SHALL BE MOVED TO ANY POINT WITHIN A 10' RADIUS WHEN THE CONSULTANT REQUESTS RELOCATION BEFORE THE WORK HAS BEEN SUBSTANTIALLY COMPLETED, WITHOUT ADDITIONAL COST.

SPECIFIC CODE NOTES

FIRE PROTECTION REQUIREMENTS

A. PENETRATIONS IN WALLS REQUIRING PROTECTED OPENINGS MUST BE FIRESTOPPED WITH AN APPROVED MATERIAL.
   1. CONDUITS MAY PENETRATE WALLS OR PARTITIONS, PROVIDED THEY ARE FIRE-STOPPED.
   2. OPENINGS FOR STEEL ELECTRICAL BOXES NOT EXCEEDING 100cm² ARE PERMITTED PROVIDED OPENINGS DO NOT AGGREGATE MORE THAN 645cm² FOR ANY 9.3m² OF WALL OR PARTITION.

ELECTRICAL DRAWINGS

SYMBOLS & ABBREVIATIONS
E0.1 ELECTRICAL SYMBOLS AND ABBREVIATIONS

POWER PLANS
EP2.1 MAIN FLOOR - POWER PLAN

DETAILS
E4.1 ELECTRICAL DETAILS

DIAGRAMS
E5.1 ELECTRICAL DIAGRAMS

SCHEDULES
E6.1 ELECTRICAL SCHEDULES

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Association of Professional Engineers & Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
Epp Siepman Engineering Inc.
Number 22814
Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
Electrical	31291	

PROFESSIONAL ENGINEER M.G. PRINCE MEMBER OF APEGS 2019-02-13 SASKATCHEWAN

Revision	Description	Date
0	ISSUED FOR CONSTRUCTION	19-02-15

Client: client

GOVERNMENT OF CANADA

Project title / Projet

BARKER AVE.
REGINA, SK

BARKER AVENUE PARKING LOT UPGRADES

Designed by: **JP**
Drawn by: **JP**
Approved by: **MP**

Drawing Title / Titre du dessin

ELECTRICAL SYMBOLS AND ABBREVIATIONS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
19002	E0.1 OF	

A000

0 10 20 30 40 50 60 70 80 90 100mm

1 / EP2.1 MAIN FLOOR PLAN - POWER
SCALE: 1 : 500

GENERAL NOTES

A. ALL LIGHTING AND POWER CONDUCTORS SHALL BE INSTALLED BETWEEN 24" (MINIMUM) AND 36" (MAXIMUM) BELOW FINISHED GRADE.
B. ALL CONDUCTORS FOR EXTERIOR LIGHTING AND POWER CIRCUITS SHALL BE #10 AWG MINIMUM.
C. PROVIDE TRAENCHING AND BACKFILLING AS REQUIRED.
D. REFER TO CIVIL DRAWINGS FOR FURTHER REQUIREMENTS.

KEY NOTES

1 EXISTING POLE MOUNTED LIGHTS TO BE DEMOLISHED BACK TO SOURCE.
2 REFER TO DRAWING E4.1 FOR MOUNTING REQUIREMENTS FOR EXTERIOR WEATHER PROOF PANEL, TRANSFORMER AND DISCONNECT.
3 REFER TO DRAWING E4.1 FOR MOUNTING REQUIREMENTS FOR EXTERIOR WEATHER PROOF PANEL.
4 ROUTE NEW PARKING PANEL FEED TO EXISTING ELECTRICAL ROOM, CONDUIT TO BE ROUTED UP THE SIDE OF THE BUILDING ONTO THE ROOF INTO MECHANICAL ROOM ON SECOND LEVEL, AND THEN DOWN INTO ELECTRICAL ROOM ON THE MAIN LEVEL, FIELD VERIFY EXACT ROUTING, AND COORDINATE WITH OWNER PRIOR TO ROUGH-IN.
5 MOUNT IPLC RECEPTACLES TO FENCE POST AND RAIL SYSTEM, REFER TO ARCHTECTURAL DRAWING.
6 REFER TO DRAWING 4.1 AND A2 FOR MOUNTING REQUIREMENTS OF LIGHT STANDARD.

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Association of Professional Engineers & Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
Epp Siepman Engineering Inc.
Number 22814
Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
Electrical	31291	

PROFESSIONAL ENGINEER M.G. PEPPER LICENCE 31291 SASKATCHEWAN
2019-02-13

Revision	Description	Date
0	ISSUED FOR CONSTRUCTION	19-02-15

Client: client

GOVERNMENT OF CANADA

Project title / Projet
BARKER AVE.
REGINA, SK

BARKER AVENUE PARKING LOT UPGRADES

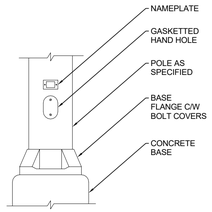
Designed by: JP
Drawn by: JP
Approved by: MP

Drawing Title / Titre du dessin
MAIN FLOOR - POWER PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
19002	EP2.1 OF	

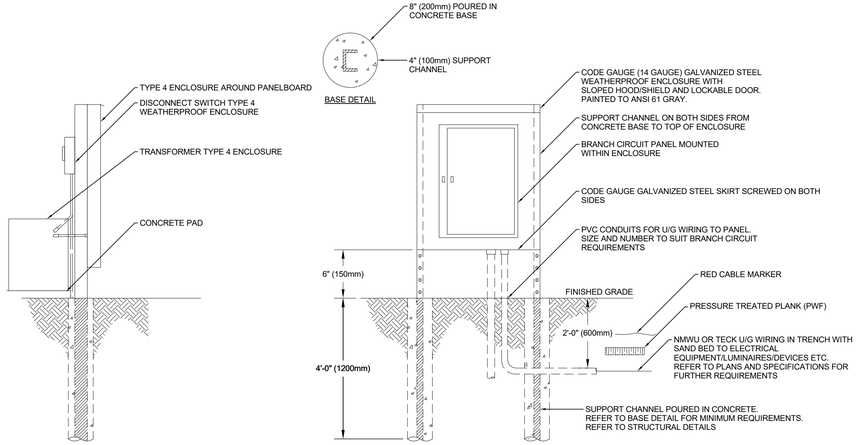
A000

0 10 20 30 40 50 60 70 80 90 100mm

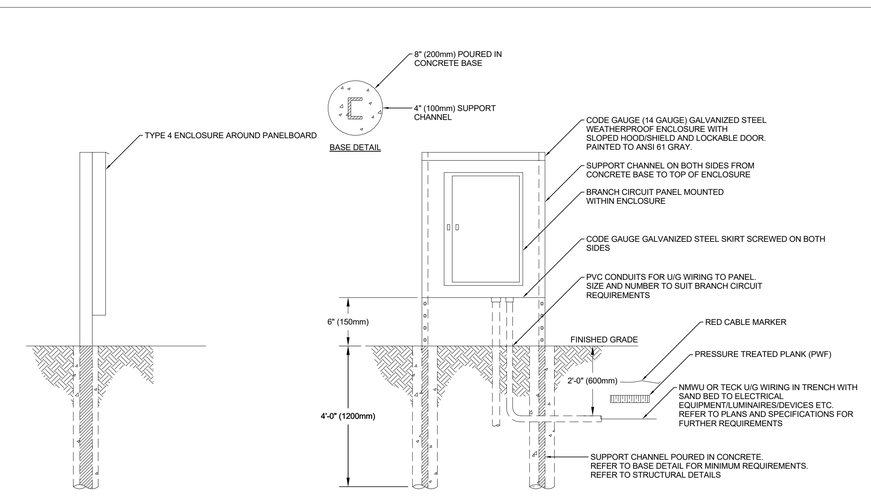


PARTIAL POLE ELEVATION

POLE MOUNTED LUMINAIRE BASE DETAIL



EXTERIOR WEATHERPROOF PANEL PK1



EXTERIOR WEATHERPROOF PANEL PK2

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CERTIFICATE OF AUTHORIZATION
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Discipline	Sk. Reg. No.	Signature
Electrical	31291	

PROFESSIONAL ENGINEER
M.G. PENNER
MEMBER 31291
2019-02-13
SASKATCHEWAN

Revision	Description	Date
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Client: client

GOVERNMENT OF CANADA

Project title / Projet

BARKER AVE.
REGINA, SK

BARKER AVENUE PARKING LOT UPGRADES

Designed by: **JP**
Drawn by: **JP**
Approved by: **MP**

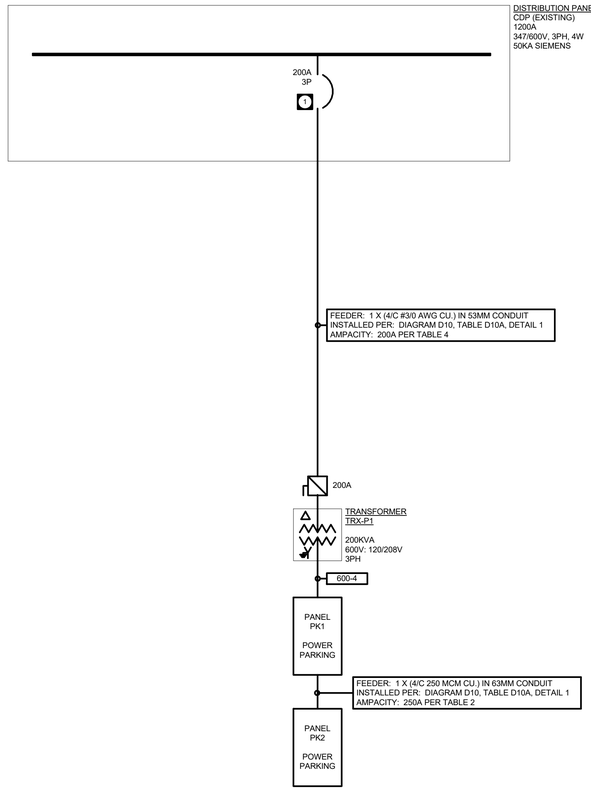
Drawing Title / Titre du dessin

ELECTRICAL DETAILS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
19002	**E4.1** OF	

0 10 20 30 40 50 60 70 80 90 100mm

A000



1 / E5.1 ELECTRICAL SINGLE-LINE DIAGRAM
SCALE: NTS

TRANSFORMER CALCULATION

	TRX-P	184630 VA
TOTAL DEMAND VOLT AMPERES		155077 VA
SIZE FOR 65% OF ESTIMATED DEMAND LOAD		100800 VA
EXISTING TRANSFORMER		

ELECTRICAL LOAD ESTIMATE

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND LOAD
LITES	2773 VA	100.00%	2773 VA
PKG-RCPT	146990 VA	81.95%	120454 VA
EV	41600 VA	90.96%	37840 VA
TOTAL VOLT AMPERES	184630 VA		155077 VA
CALCULATED AMPERES	178 A		149 A

DEMAND FACTOR DETERMINATION:

GENERAL LIGHTING (LITES): 100% OF CONNECTED LOADS.
PARKING RECEPTACLES (RCPT): 81.95% OF CONNECTED LOADS..
ELECTRIC VEHICLE CHARGERS (EV): 91.67% OF CONNECTED LOADS.

KEY NOTES

1. PROVIDE NEW CIRCUIT BREAKER WITHIN EXISTING CDP.

CONDUIT AND WIRE SCHEDULE - COPPER

FEEDER NAME	WIRE SIZE		MIN. CONDUIT SIZE (MM)			MAX LENGTH (M) @80%		CIRCUIT AMPACITY (A)
(# DENOTES NO. OF CONDUCTORS)	PHASE & NEUTRAL	BOND (AS REQ'D)	2C	3C	4C	208V	600V	
20-#	#12	#14	21	21	21	19	55	20
30-#	#10	#12	21	21	21	21	61	30
50-#	#8	#10	21	21	21	19	55	50
60-#	#6	#8	21	27	27	24	70	65
70-#	#4	#8	27	27	35	31	91	85
80-#	#4	#8	27	27	35	27	80	85
90-#	#3	#6	27	35	35	29	86	100
100-#	#3	#6	27	35	35	26	77	100
115-#	#2	#6	27	35	35	28	81	115
125-#	#1	#6	35	35	41	31	90	130
150-#	1/0	#6	41	41	53	32	94	150
175-#	2/0	#6	41	41	53	32	93	175
200-#	3/0	#4	53	53	53	33	97	200
225-#	4/0	#4	53	53	63	34	100	230
250-#	250 MCM	#4	53	53	63	34	98	255
300-#	350 MCM	#3	63	63	78	34	99	310
400-#	600 MCM	#3	78	78	91	34	99	420
450-#	(2) 4/0	(2) #4	(2) 53	(2) 53	(2) 63	34	100	460
500-#	(2) 250 MCM	(2) #4	(2) 53	(2) 53	(2) 63	34	98	510
600-#	(2) 350 MCM	(2) #3	(2) 63	(2) 63	(2) 78	34	99	620
700-#	(2) 500 MCM	(2) #3	(2) 63	(2) 78	(2) 91	34	100	760
800-#	(2) 600 MCM	(2) #2	(2) 78	(2) 78	(2) 91	32	94	840
1000-#	(3) 500 MCM	(3) #3	(3) 63	(3) 78	(3) 91	36	105	1140
1200-#	(3) 600 MCM	(3) #2	(3) 78	(3) 78	(3) 91	32	94	1260
1600-#	(4) 600 MCM	(4) #2	(4) 78	(4) 78	(4) 91	32	94	1680
2000-#	(5) 600 MCM	(5) #2	(5) 78	(5) 78	(5) 91	32	94	2100
2500-#	(6) 600 MCM	(6) #2	(6) 78	(6) 78	(6) 91	31	94	2520
EQ	EQUIPMENT FEEDER - REFER TO ELECTRICAL EQUIPMENT SCHEDULE							

200 - 4A FEEDER DESIGNATION

- CONDUCTOR MATERIAL: (BLANK) - COPPER, (A) - ALUMINUM
- CONDUCTOR QUANTITY: (2) - 1Ø 2W, (3) - 1Ø 3W OR 3Ø 3W, (4) - 3Ø, 4W
- CONDUCTOR AMPACITY: (SEE FEEDER SCHEDULE)

GENERAL NOTES:

A. THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDERS AND SOME SIZES MAY NOT BE UTILIZED.

B. ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 2 OF THE CEC FOR COPPER CONDUCTOR TYPE RW90.

C. FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DERATION FACTORS REQUIRED BY CODE AND/OR ARE OVERSIZED FOR VOLTAGE DROP.

D. WHERE MULTIPLE CONDUITS AND CONDUCTORS ARE INDICATED FOR A SINGLE FEEDER, EACH CONDUIT SHALL CONTAIN 1 PARALLEL PHASE, NEUTRAL, AND GROUND CONDUCTORS INDICATED.

E. CONDUIT ABOVE GRADE INDOORS SHALL BE EMT. CONDUIT ABOVE GRADE OUTDOORS SHALL BE GALVANIZED IMC OR RMC. CONDUIT BELOW GRADE SHALL BE PVC WITH GALVANIZED RMC ELBOWS. CONDUIT SIZE INDICATED IS MINIMUM SIZE REGARDLESS OF CONDUIT TYPE.

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Association of Professional Engineers & Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
Epp Siepman Engineering Inc.
Number 22814
Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
Electrical	31291	

PROFESSIONAL ENGINEER M.A. PEPPER 31291 2019-02-13 PROVINCE OF SASKATCHEWAN

Revision	Description	Date
0	ISSUED FOR CONSTRUCTION	19-02-15

Client: client

GOVERNMENT OF CANADA

Project title: Projet

BARKER AVE.
REGINA, SK

BARKER AVENUE PARKING LOT UPGRADES

Designed by: **JP**
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ELECTRICAL DIAGRAMS

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19002	E5.1 OF	

0 10 20 30 40 50 60 70 80 90 100mm

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LIGHTING FIXTURE SCHEDULE

TYPE	Description	LENS-LOUVER	MOUNTING	LAMP	BALLAST / DRIVER	VOLT	WATT	MFR	CATALOG SERIES	NOTE
P1	RECTANGULAR CUTOFF SHOEBOX FIXTURE WITH ALUMINUM HOUSING, GASKETED ALUMINUM DOOR, BLACK FINISH, TYPE R3 DISTRIBUTION, UL LISTED FOR WET LOCATION, ARM MOUNTED.	TEMPERED GLASS	SURFACE	LED 4000K 41000 LUMENS	LED DRIVER	208 V	312 W	LITHONIA	RSX3 LED P4 40K R3	1,2
P2	RECTANGULAR CUTOFF SHOEBOX FIXTURE WITH ALUMINUM HOUSING, GASKETED ALUMINUM DOOR, BLACK FINISH, TYPE R5 DISTRIBUTION, UL LISTED FOR WET LOCATION, ARM MOUNTED.	TEMPERED GLASS	SURFACE	LED 4000K 41000 LUMENS	LED DRIVER	208 V	312 W	LITHONIA	RSX3 LED P4 40K R5	1,2

SCHEDULE NOTES:

1. PROVIDE ACCESSORY DLL127F1.5JU PHOTOCELL-SSL TWIST LOCK, FIXTURE TO HAVE PER7, AND EXTERNAL GLARE SHIELD.
2. PROVIDE 30' POLE FOR EACH FIXTURE,.

PANELBOARD: PK2

LOCATION: **VOLTAGE:** 120/208V. 3 ø 4W.
MOUNTING: SURFACE NEMA 4 **A.I.C. RATING:** 10,000 AMPS SYMMETRICAL
MAIN DEVICE 400 A MLO **SPECIAL:**
BUS AMPS: 250 AMPS

Notes:

LOAD DESCRIPTION	BKR	P	Circuit Number	A	B	C	Circuit Number	P	BKR	LOAD DESCRIPTION
RCPT	15 A	1	PK2-1	130...	130...		PK2-43	1	15 A	RCPT
RCPT	15 A	1	PK2-2		130...	130...	PK2-44	1	15 A	RCPT
RCPT	15 A	1	PK2-3			130...	130...	PK2-45	1	15 A	RCPT
RCPT	15 A	1	PK2-4	130...	130...		PK2-46	1	15 A	RCPT
RCPT	15 A	1	PK2-5		130...	130...	PK2-47	1	15 A	RCPT
RCPT	15 A	1	PK2-6			130...	130...	PK2-48	1	15 A	RCPT
RCPT	15 A	1	PK2-7	130...	130...		PK2-49	1	15 A	RCPT
RCPT	15 A	1	PK2-8		130...	130...	PK2-50	1	15 A	RCPT
RCPT	15 A	1	PK2-9			130...	130...	PK2-51	1	15 A	RCPT
RCPT	15 A	1	PK2-10	130...	130...		PK2-52	1	15 A	RCPT
RCPT	15 A	1	PK2-11		130...	130...	PK2-53	1	15 A	RCPT
RCPT	15 A	1	PK2-12			130...	130...	PK2-54	1	15 A	RCPT
RCPT	15 A	1	PK2-13	130...	130...		PK2-55	1	15 A	RCPT
RCPT	15 A	1	PK2-14		130...	693...	PK2-56	2	15 A	LITES
RCPT	15 A	1	PK2-15			130...	693...	PK2-57			
RCPT	15 A	1	PK2-16	130...	693...		PK2-58	2	15 A	LITES
RCPT	15 A	1	PK2-17		130...	693...	PK2-59			
RCPT	15 A	1	PK2-18			130...	0 VA	PK2-60	1	15 A	Spare
RCPT	15 A	1	PK2-19	130...	0 VA		PK2-61	1	15 A	Spare
RCPT	15 A	1	PK2-20		130...	0 VA	PK2-62	1	15 A	Spare
RCPT	15 A	1	PK2-21			130...	0 VA	PK2-63	1	15 A	Spare
RCPT	15 A	1	PK2-22	130...	0 VA		PK2-64	1	15 A	Spare
RCPT	15 A	1	PK2-23		130...	0 VA	PK2-65	--	--	Space
RCPT	15 A	1	PK2-24			130...	0 VA	PK2-66	--	--	Space
RCPT	15 A	1	PK2-25	130...	0 VA		PK2-67	--	--	Space
RCPT	15 A	1	PK2-26		130...	0 VA	PK2-68	--	--	Space
RCPT	15 A	1	PK2-27			130...	0 VA	PK2-69	--	--	Space
RCPT	15 A	1	PK2-28	130...			PK2-70			
RCPT	15 A	1	PK2-29		130...		PK2-71			
RCPT	15 A	1	PK2-30			130...	PK2-72			
RCPT	15 A	1	PK2-31	130...			PK2-73			
RCPT	15 A	1	PK2-32		130...		PK2-74			
RCPT	15 A	1	PK2-33			130...	PK2-75			
RCPT	15 A	1	PK2-34	130...			PK2-76			
RCPT	15 A	1	PK2-35		130...		PK2-77			
RCPT	15 A	1	PK2-36			130...	PK2-78			
RCPT	15 A	1	PK2-37	130...			PK2-79			
RCPT	15 A	1	PK2-38		130...		PK2-80			
RCPT	15 A	1	PK2-39			130...	PK2-81			
RCPT	15 A	1	PK2-40	130...			PK2-82			
RCPT	15 A	1	PK2-41		130...		PK2-83			
RCPT	15 A	1	PK2-42			130...	PK2-84			
			TOTAL LOAD:	25341 VA	24670 VA	24040 VA				
			TOTAL AMPS:	212 A	206 A	200 A				

LOAD CLASSIFICATION	CONNECTED	DEMAND	ESTIMATED	PANEL TOTALS	
LITES	2773 VA	100.00%	2773 VA		
PKG-RCPT	71544 VA	93.18%	66666 VA	**CONNECTED LOAD:**	74050 VA
				ESTIMATED DEMAND:	69173 VA
				CONNECTED...	206 A
				EST. DEMAND...	192 A

Notes:

PANELBOARD: PK1

LOCATION: **VOLTAGE:** 120/208V. 3 ø 4W.
MOUNTING: SURFACE NEMA4 **A.I.C. RATING:** 10,000 AMPS SYMMETRICAL
MAIN DEVICE 600 A MLO **SPECIAL:**
BUS AMPS: 600 AMPS

Notes:

LOAD DESCRIPTION	BKR	P	Circuit Number	A	B	C	Circuit Number	P	BKR	LOAD DESCRIPTION
EV	40 A	2	PK1-1	416...	130...		PK1-43	1	15 A	RCPT
			PK1-2		416...	130...	PK1-44	1	15 A	RCPT
EV	40 A	2	PK1-3			416...	130...	PK1-45	1	15 A	RCPT
			PK1-4	416...	130...		PK1-46	1	15 A	RCPT
EV	40 A	2	PK1-5		416...	130...	PK1-47	1	15 A	RCPT
			PK1-6			416...	130...	PK1-48	1	15 A	RCPT
EV	40 A	2	PK1-7	416...	130...		PK1-49	1	15 A	RCPT
			PK1-8		416...	130...	PK1-50	1	15 A	RCPT
EV	40 A	2	PK1-9			416...	130...	PK1-51	1	15 A	RCPT
			PK1-10	416...	130...		PK1-52	1	15 A	RCPT
RCPT	15 A	1	PK1-11		130...	130...	PK1-53	1	15 A	RCPT
RCPT	15 A	1	PK1-12			130...	130...	PK1-54	1	15 A	RCPT
RCPT	15 A	1	PK1-13	130...	130...		PK1-55	1	15 A	RCPT
RCPT	15 A	1	PK1-14		130...	130...	PK1-56	1	15 A	RCPT
RCPT	15 A	1	PK1-15			130...	130...	PK1-57	1	15 A	RCPT
RCPT	15 A	1	PK1-16	130...	130...		PK1-58	1	15 A	RCPT
RCPT	15 A	1	PK1-17		130...	130...	PK1-59	1	15 A	RCPT
RCPT	15 A	1	PK1-18			130...	130...	PK1-60	1	15 A	RCPT
RCPT	15 A	1	PK1-19	130...	130...		PK1-61	1	15 A	RCPT
RCPT	15 A	1	PK1-20		130...	130...	PK1-62	1	15 A	RCPT
RCPT	15 A	1	PK1-21			130...	130...	PK1-63	1	15 A	RCPT
RCPT	15 A	1	PK1-22	130...	130...		PK1-64	1	15 A	RCPT
RCPT	15 A	1	PK1-23		130...	130...	PK1-65	1	15 A	RCPT
RCPT	15 A	1	PK1-24			130...	130...	PK1-66	1	15 A	RCPT
RCPT	15 A	1	PK1-25	130...	130...		PK1-67	1	15 A	RCPT
RCPT	15 A	1	PK1-26		130...	130...	PK1-68	1	15 A	RCPT
RCPT	15 A	1	PK1-27			130...	253...	PK1-69			
RCPT	15 A	1	PK1-28	130...	246...		PK1-70	3	250 A	PK2
RCPT	15 A	1	PK1-29		130...	240...	PK1-71			
RCPT	15 A	1	PK1-30			130...	0 VA	PK1-72	1	15 A	Spare
RCPT	15 A	1	PK1-31	130...	0 VA		PK1-73	1	15 A	Spare
RCPT	15 A	1	PK1-32		130...	0 VA	PK1-74	1	15 A	Spare
RCPT	15 A	1	PK1-33			130...	0 VA	PK1-75	1	15 A	Spare
RCPT	15 A	1	PK1-34	130...	0 VA		PK1-76	1	15 A	Spare
RCPT	15 A	1	PK1-35		130...	0 VA	PK1-77	--	--	Space
RCPT	15 A	1	PK1-36			130...	0 VA	PK1-78	--	--	Space
RCPT	15 A	1	PK1-37	130...	0 VA		PK1-79	--	--	Space
RCPT	15 A	1	PK1-38		130...	0 VA	PK1-80	--	--	Space
RCPT	15 A	1	PK1-39			130...	0 VA	PK1-81	--	--	Space
RCPT	15 A	1	PK1-40	130...			PK1-82			
RCPT	15 A	1	PK1-41		130...		PK1-83			
RCPT	15 A	1	PK1-42			130...	PK1-84			
			TOTAL LOAD:	63578 VA	60542 VA	60542 VA				
			TOTAL AMPS:	530 A	505 A	505 A				

LOAD CLASSIFICATION	CONNECTED	DEMAND	ESTIMATED	PANEL TOTALS	
LITES	2773 VA	100.00%	2773 VA		
PKG-RCPT	146990 VA	81.95%	120454 VA	**CONNECTED LOAD:**	184630 VA
EV	41600 VA	90.96%	37840 VA	**ESTIMATED DEMAND:**	155077 VA
				CONNECTED...	512 A
				EST. DEMAND...	430 A

Notes:

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Discipline	Sk. Reg. No.	Signature
Electrical	31291	

PROFESSIONAL ENGINEER
M.A. PEPPER
SASKATCHEWAN
2019-02-13
TRL MEL ONLY

Revision	Description	Date
0	ISSUED FOR CONSTRUCTION	19-02-15

Client: GOVERNMENT OF CANADA

Project title: BARKER AVE. REGINA, SK

BARKER AVENUE PARKING LOT UPGRADES

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Drawn by: JP
Approved by: MP

Drawing Title: ELECTRICAL SCHEDULES

Project no./No. du projet: 19002
Drawing no./No. du dessin: E6.1 OF
Revision no.:

0 10 20 30 40 50 60 70 80 90 100mm

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