

**PUBLIC WORKS AND GOVERNMENT
SERVICES CANADA**

Royal Canadian Mounted Police RCMP Hangar 190 Veteran's Way Aircraft Fueling System Modifications

**Prince Albert, Saskatchewan
Project No. R042523.006**

ISSUED FOR TENDER

DRAWING LIST

<u>GENERAL</u>	
<u>TITLE</u>	<u>COVER AND DRAWING LIST</u>
G-100	LOCATION PLAN
G-101	GENERAL ARRANGEMENT
<u>CIVIL</u>	
C-100	PLAN AND DETAILS
C-101	PLAN AND DETAILS
<u>STRUCTURAL</u>	
S-101	PLAN AND DETAILS
<u>MECHANICAL</u>	
P-101	PLAN AND DETAILS
<u>ELECTRICAL</u>	
E-101	DETAILS



Public Works and
Government Services
Canada

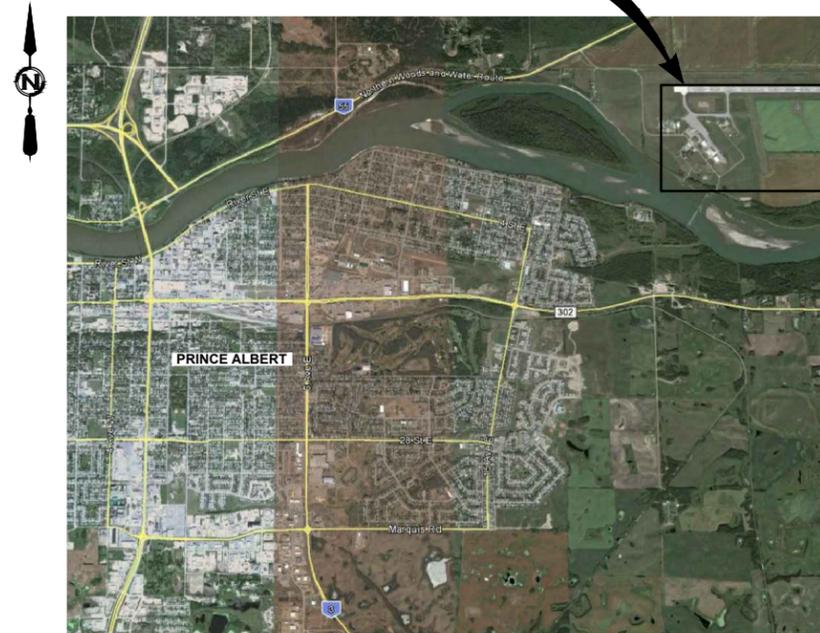
Travaux publics et
Services gouvernementaux
Canada

**EGE Engineering Ltd.
Engineering,
Geosciences and
Environmental**





PRINCE ALBERT AIRPORT



1 PLAN NTS
PRINCE ALBERT AIRPORT
LOCATION PLAN



2 PLAN NTS
PRINCE ALBERT RCMP
HANGAR LOCATION PLAN

0	ISSUED FOR TENDER	5/27/16
---	-------------------	---------

Revision	Description	Date
----------	-------------	------

Client	client
--------	--------

Project title / Projet

**AIRCRAFT FUELING SYSTEM
MODIFICATIONS
RCMP HANGAR
PRINCE ALBERT, SK**

Designed by / Conçu par
M. AKISTER

Drawn by / Dessiné par
N. MARKHAM

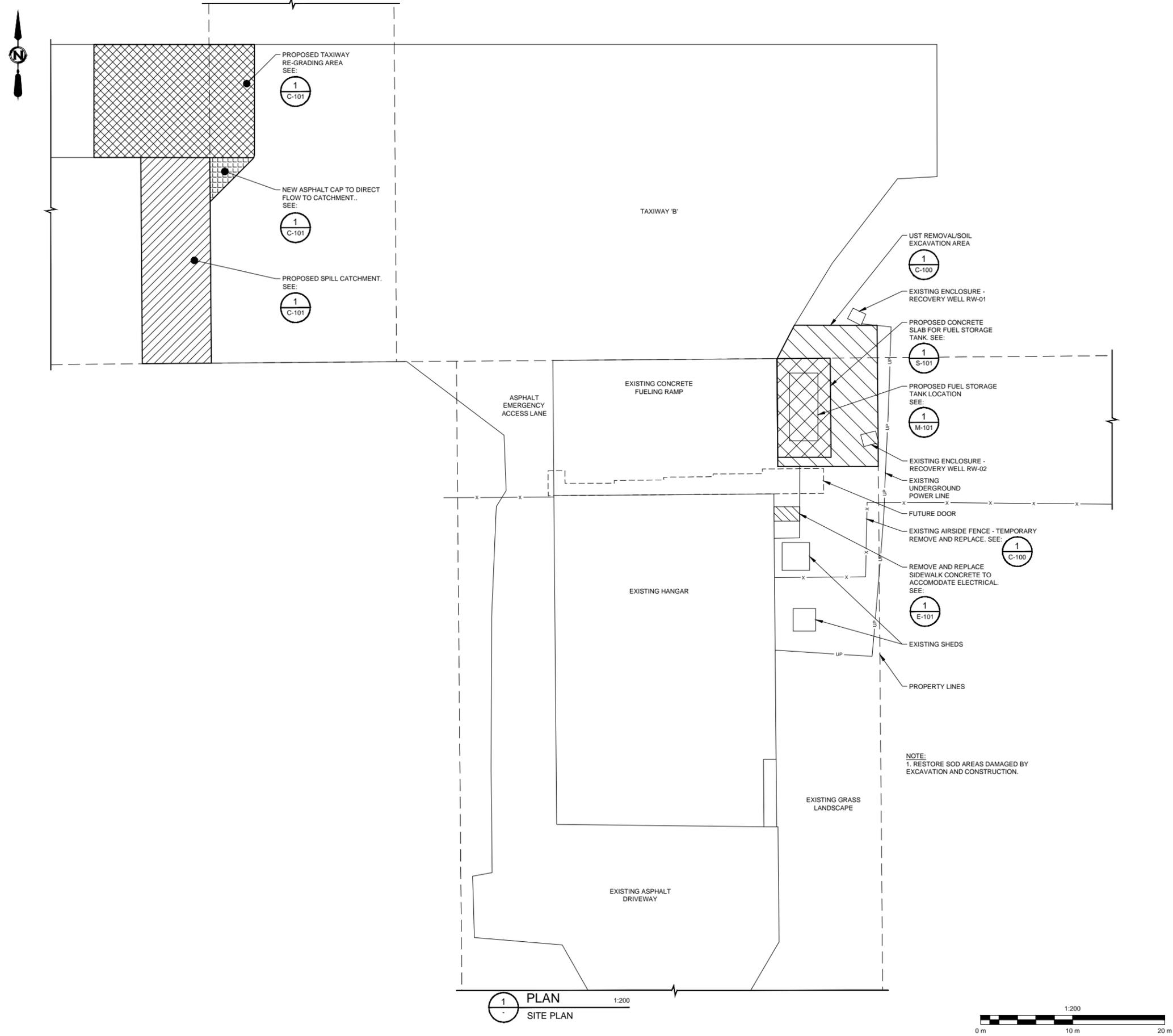
Approved by / Approuvé par

PWGC Project Manager / Administrateur de Projets TPSGC
J. LA RUE-VAN ES

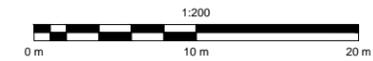
Drawing title / Titre du dessin

LOCATION PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	G-100	0



1 PLAN SITE PLAN 1:200



Revision	Description	Date
0	ISSUED FOR TENDER	5/27/16

Client: client

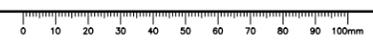
Project Title: **AIRCRAFT FUELING SYSTEM MODIFICATIONS RCMP HANGAR PRINCE ALBERT, SK**

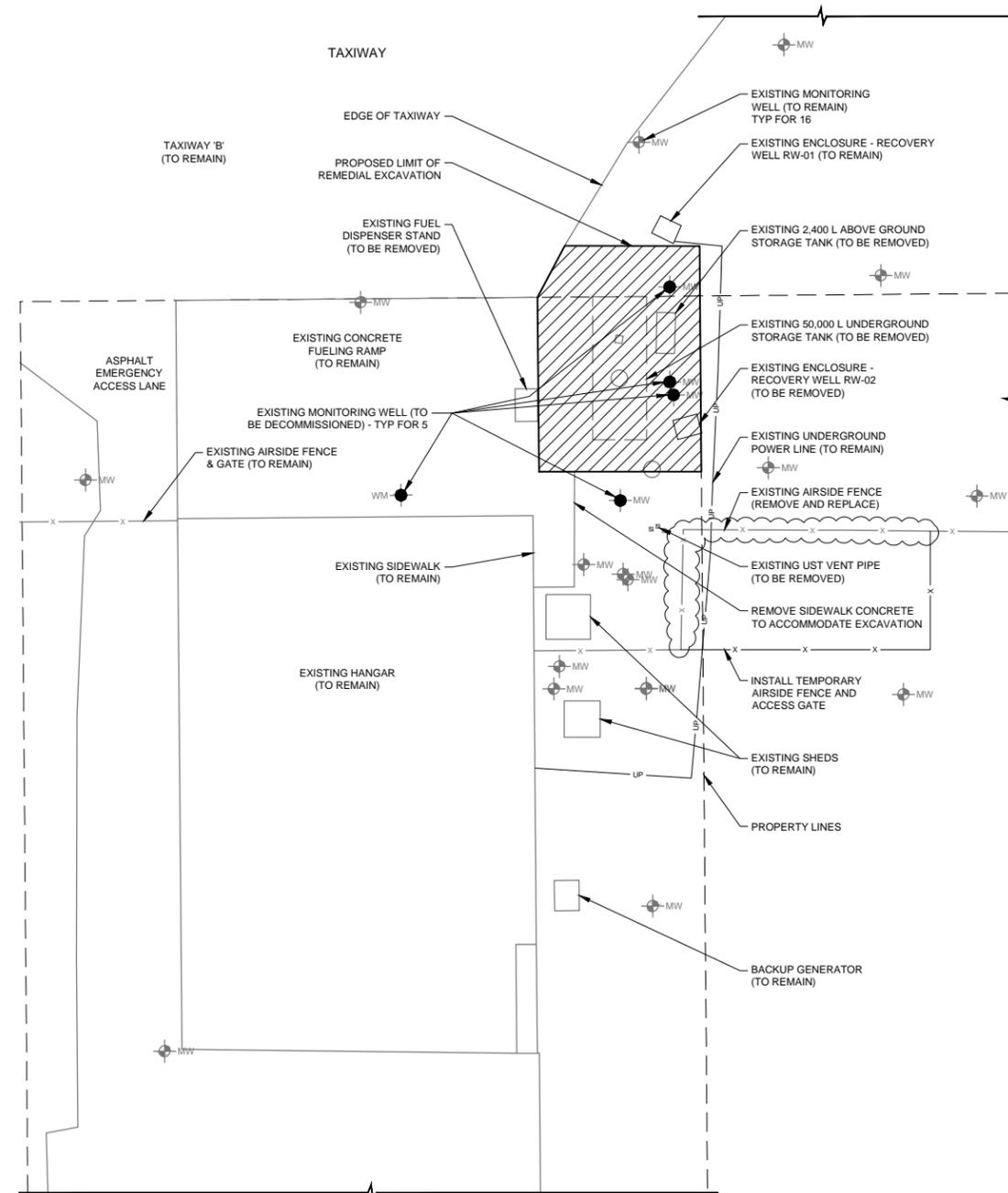
Designed by: M. AKISTER
 Drawn by: N. MARKHAM
 Approved by:

PWGS Project Manager: J. LA RUE-VAN ES
 Administrateur de Projets TPSGC

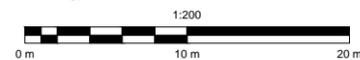
Drawing Title: **GENERAL ARRANGEMENT**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	G-101	0





1 PLAN
SITE PLAN



NOTES:

1. SHORING AND PROTECTION OF EXCAVATIONS ADJACENT PROPERTIES, AND EXISTING STRUCTURES TO PRE-CONSTRUCTION CONDITION REMAIN THE RESPONSIBILITY OF THE CONTRACTOR.
2. DESIGN AND PROVISION OF SHORING REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE SHORING DESIGN ENGINEER IS RESPONSIBLE TO ENSURE THAT ALL EXISTING STRUCTURES AND PAVED SURFACES ARE TO REMAIN WITHOUT DISRUPTION OF SERVICE. CONTRACTOR TO MAINTAIN THE INTEGRITY OF ALL BUILDINGS AND PAVED SURFACES ONSITE TO PRE-CONSTRUCTION CONDITIONS THROUGH THE USE OF SHORING AND PROTECTION DURING EXCAVATION AND CONSTRUCTION. ENGINEER SHALL SUBMIT SHORING DETAIL DESIGN DRAWING(S) TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK. THE DESIGN AND DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF SASKATCHEWAN AND HOLDS A CURRENT 'CERTIFICATION OF AUTHORIZATION' OF APEGS.
4. PROTECT ALL MONITORING WELLS NOT IDENTIFIED TO BE DECOMMISSIONED.

Revision	Description	Date
0	ISSUED FOR TENDER	5/27/16

Client	client
--------	--------

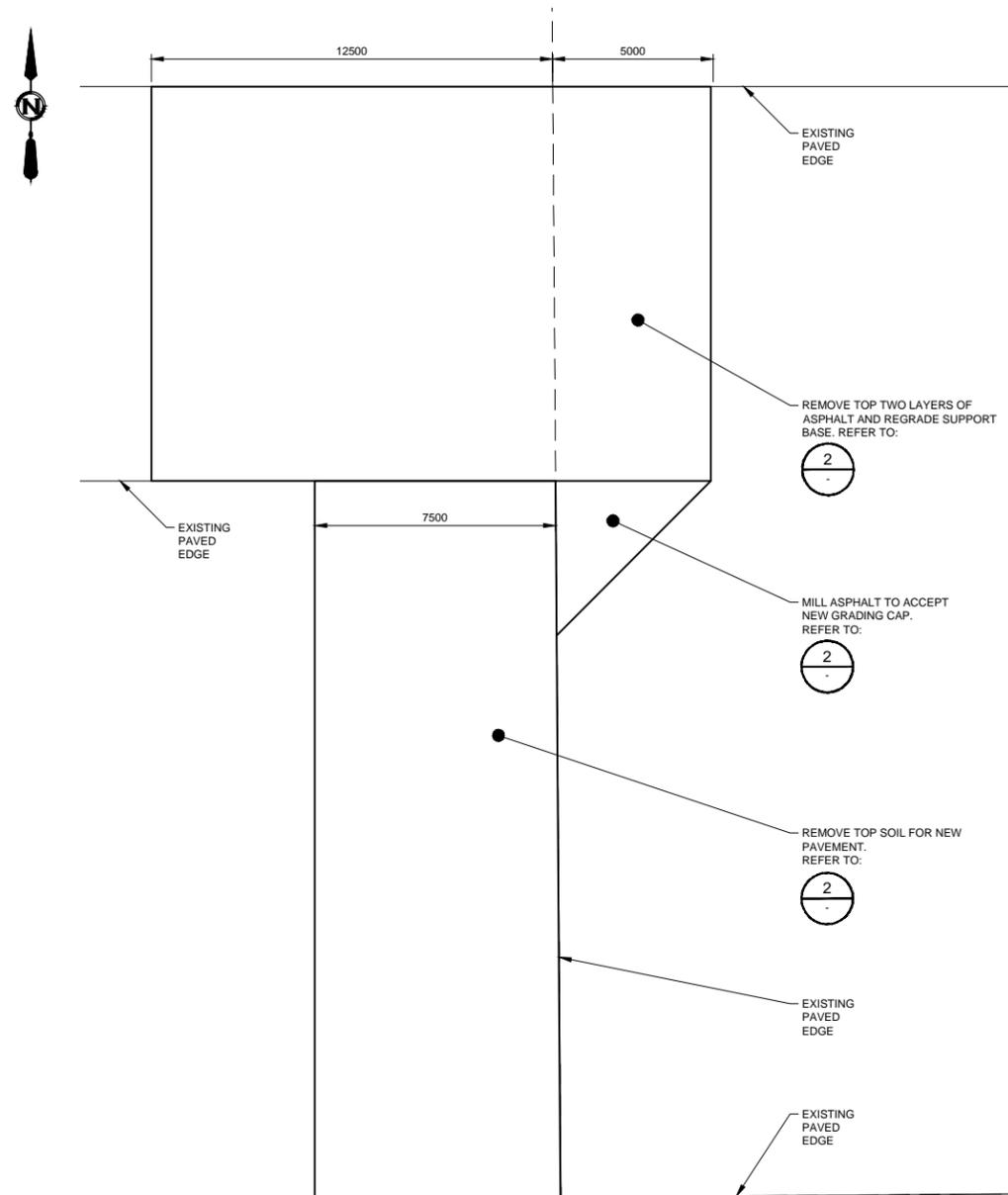
Project Title
AIRCRAFT FUELING SYSTEM MODIFICATIONS RCMP HANGAR PRINCE ALBERT, SK

Designed by A. PASSALIS (EGE)	Conçu par
Drawn by N. MARKHAM	Dessiné par
Approved by	Approuvé par

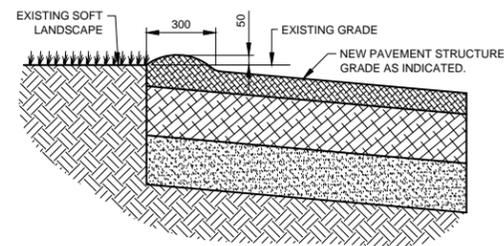
PWSC Project Manager / Administrateur de Projets TPSGC
J. LA RUE-VAN ES

Drawing Title / Titre du dessin
EXCAVATION PLAN

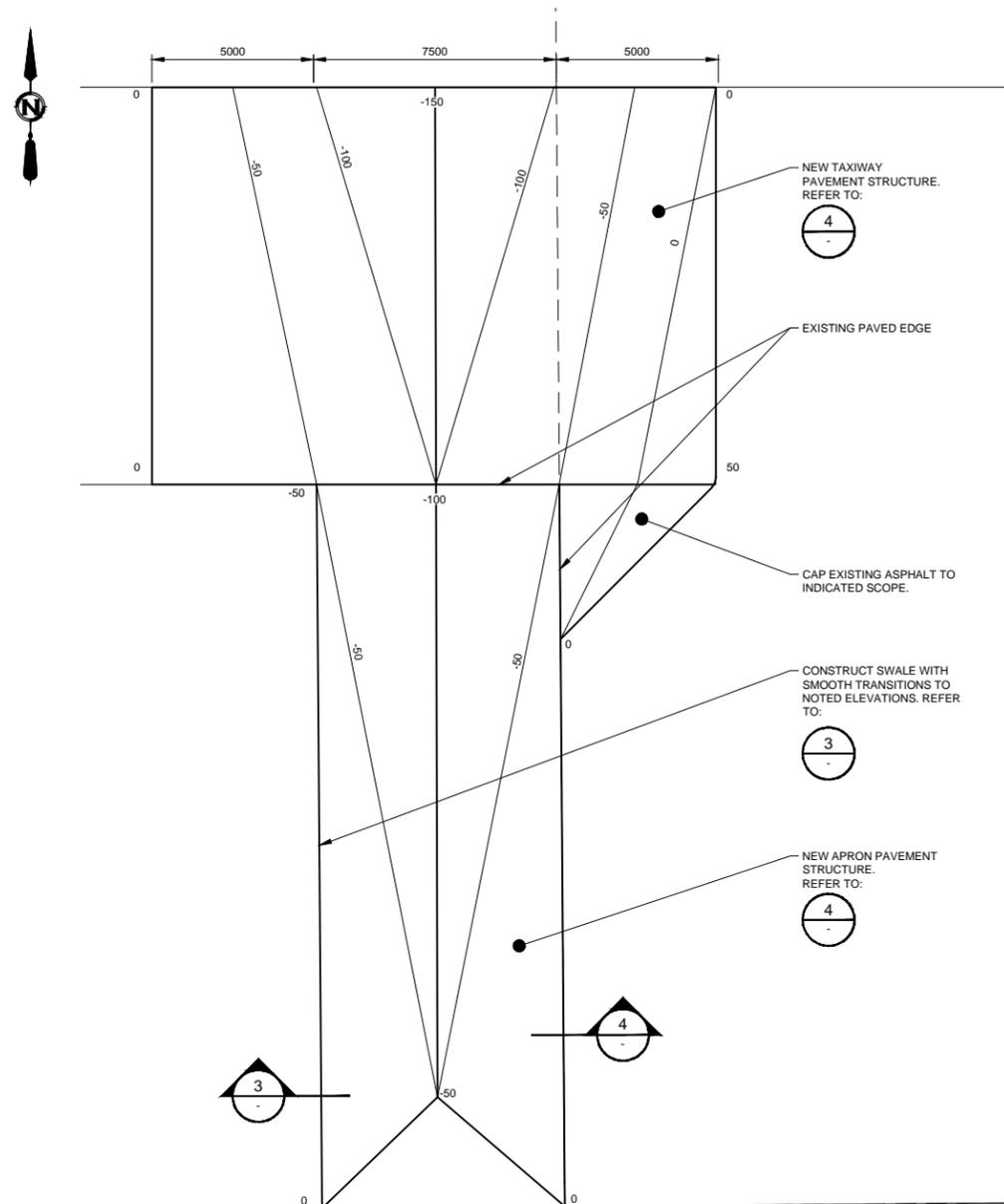
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	C-100	0



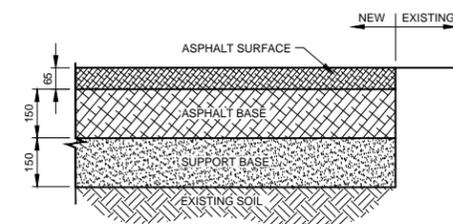
1 DETAIL 1:100
SITE DEMOLITION PLAN
1:100
0 m 5 m 10 m



3 SECTION 1:10
ASPHALT SWALE
1:10
0 mm 500 mm 1 m



2 DETAIL 1:100
SITE PLAN
1:100
0 m 5 m 10 m



4 SECTION 1:10
PAVEMENT STRUCTURE
1:10
0 mm 500 mm 1 m

- NOTES:
- EXISTING ASPHALT BASE MATERIAL CAN BE SALVAGED FOR USE AS NEW SUPPORT BASE MATERIAL AS REVIEWED AND ACCEPTED IN WRITING BY THE DEPARTMENTAL REPRESENTATIVE
 - ASPHALT CAP AREA TO BE ESTABLISHED IN FIELD BASED ON EXISTING ELEVATIONS

0	ISSUED FOR TENDER	5/27/16
Revision	Description	Date
Client		client

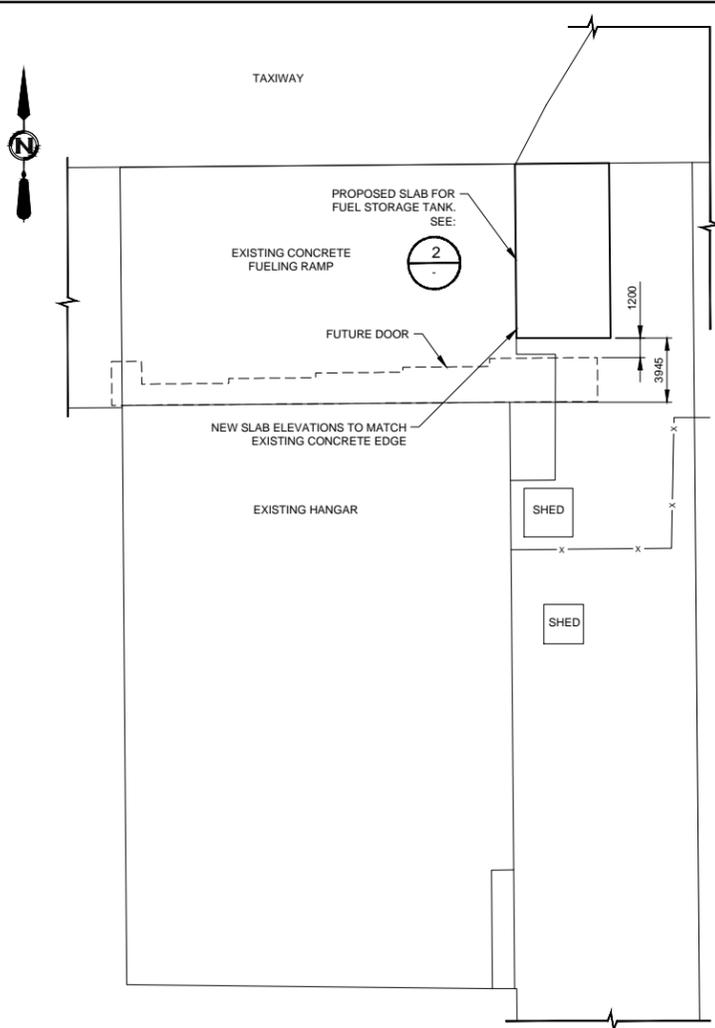
Project title
**AIRCRAFT FUELING SYSTEM MODIFICATIONS
RCMP HANGAR
PRINCE ALBERT, SK**

Designed by M. AKISTER / Conçu par
Drawn by N. MARKHAM / Dessiné par
Approved by / Approuvé par
PWGSC Project Manager J. LA RUE-VAN ES / Administrateur de Projets TPSGC

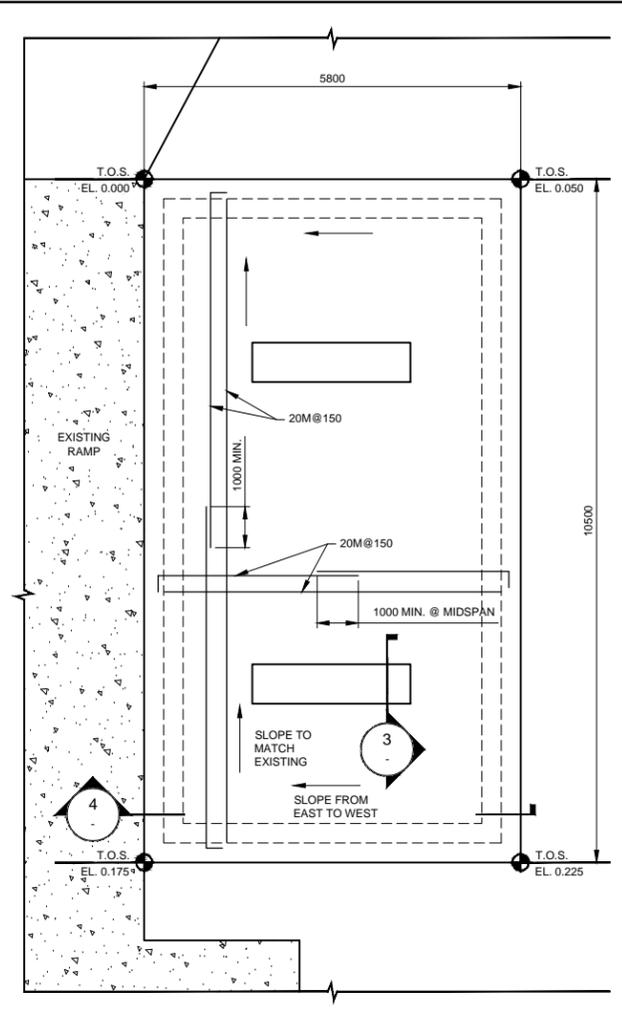
Drawing title / Titre du dessin

**CIVIL
PLAN & DETAILS**

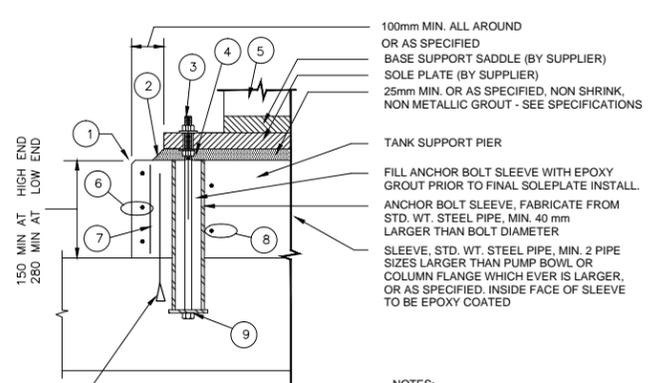
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	C-101	0



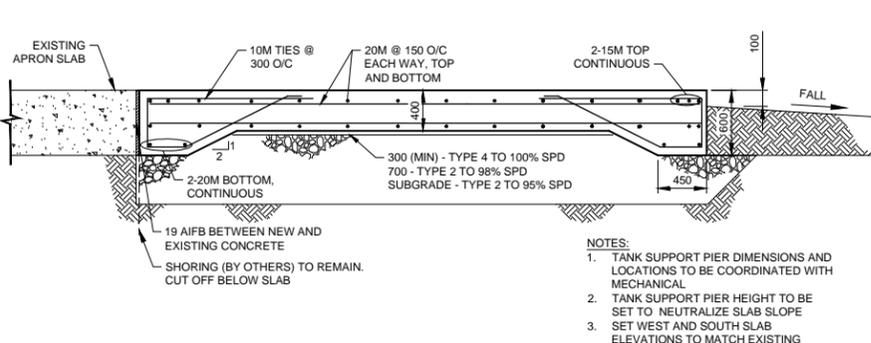
1 PLAN
1:200
ABOVE GROUND STORAGE TANK LOCATION
1:200
0 m 10 m 20 m



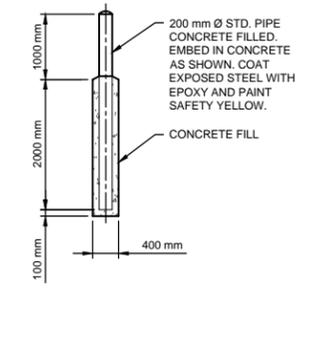
2 DETAIL
1:50
STORAGE TANK SUPPORT SLAB
1:50
0 m 1 m 5 m



- 3 SECTION**
1:10
TANK SUPPORT PIER
1:10
0 m 500 mm 1 m
- 100mm MIN. ALL AROUND
OR AS SPECIFIED
BASE SUPPORT SADDLE (BY SUPPLIER)
SOLE PLATE (BY SUPPLIER)
25mm MIN. OR AS SPECIFIED, NON SHRINK,
NON METALLIC GROUT - SEE SPECIFICATIONS
- TANK SUPPORT PIER
FILL ANCHOR BOLT SLEEVE WITH EPOXY GROUT PRIOR TO FINAL SOLEPLATE INSTALL.
ANCHOR BOLT SLEEVE, FABRICATE FROM STD. WT. STEEL PIPE, MIN. 40 mm LARGER THAN BOLT DIAMETER
SLEEVE, STD. WT. STEEL PIPE, MIN. 2 PIPE SIZES LARGER THAN PUMP BOWL OR COLUMN FLANGE WHICH EVER IS LARGER, OR AS SPECIFIED. INSIDE FACE OF SLEEVE TO BE EPOXY COATED
- NOTES:**
- BOLT SLEEVE MAY BE OMITTED FOR SMALL PUMPS WITH DRIVERS UNDER 20KW, BUT STAKE BOLT TO PREVENT TURNING.
 - ANCHOR BOLT, NUTS AND WASHERS - SIZE, NUMBER REQUIRED, THREAD PROJECTION AND LENGTH TO SUIT PUMP MANUFACTURERS SPECIFICATIONS. 150mm MIN FLOOR PENETRATION.
 - JACKING NUTS MAY BE REPLACED WITH LEVELING SHIMS. SHIMS ARE TO REMAIN IN PLACE, THEN PLACE GROUT.
 - FOUNDATION BOLTS TO BE GR, B8 OR B&M S.S. AND SHALL BE AT LEAST EQUAL IN SIZE TO PUMP DISCH HEAD BOLTS.
 - FOUNDATION BOLTS **MUST BE INSIDE** OF REINF. BARS PERIMETER.
 - SIZE AND LOCATION OF PIERS TO BE COORDINATED WITH MECHANICAL.
- 10M HILTI ANCHORS @ 200 O.C. C/W 250 LG. TREADED ROD (MIN. 3 EACH SIDE)
- CHAMFER ALL BASE EDGES
 - 45° FINISHING EDGE ON GROUT BED
 - HILTI ANCHOR BOLT C/W NUT & WASHER
 - JACKING NUT C/W WASHER (OR SHIMS)
 - STUD BOLT C/W NUT AND WASHER
 - 15M-TIES @ 200
 - 15M@200
 - 2-10M INSIDE BOLTS 300 LAP
 - TACK WELD BOLT TO PREVENT TURNING



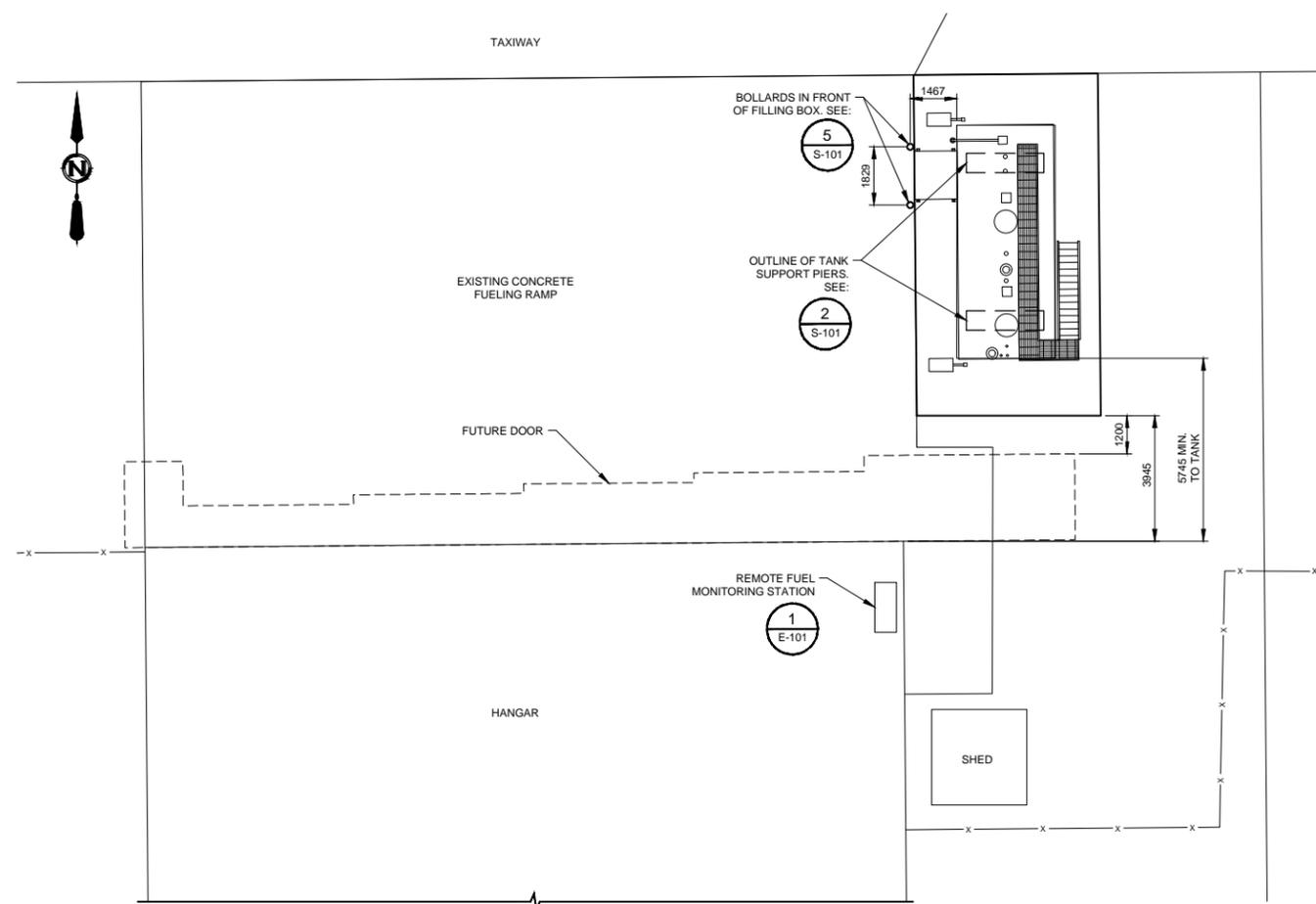
4 SECTION
1:20
STORAGE TANK SUPPORT SLAB
1:20
0 m 1 m 2 m



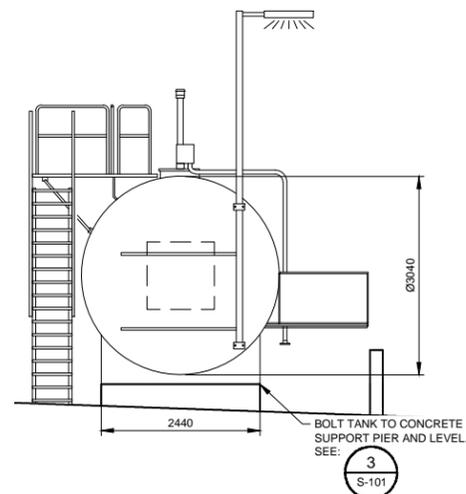
5 DETAIL
SCALE: N.T.S.
BOLLARD

- GENERAL NOTES**
- A. COORDINATION
- ALL WORKMANSHIP, COMPONENT DESIGN AND MATERIAL SHALL BE TO THE NATIONAL BUILDING CODE OF CANADA - NBC2010 OR BETTER.
 - CHECK ALL DIMENSIONS, ELEVATIONS AND DETAILS PRIOR TO CONSTRUCTION OR FABRICATION. REPORT ANY DISCREPANCIES OR DESIRED MODIFICATIONS TO THE DEPARTMENTAL REPRESENTATIVE.
 - FOR ATTACHMENT AND LEVELLING OF TANK, THE ANCHOR BOLTS, NUTS AND WASHERS - SIZE, NUMBER REQUIRED, THREAD PROJECTION AND LENGTH TO SUIT TANK MANUFACTURERS SPECIFICATIONS.
 - SLEEVE TYPE ANCHOR BOLT MAY BE REPLACED WITH J-BOLT TYPE ANCHOR OR EPOXY ADHESIVE ANCHOR BOLT IF APPROVED BY DEPARTMENTAL REPRESENTATIVE AND PUMP SUPPLIER.
- B. FOUNDATIONS
- FOUNDATION DESIGN IS BASED UPON THE FOUNDATION INVESTIGATION SOILS REPORT PREPARED BY P. MACHIBRODA ENGINEERING LTD, TITLED "GEOTECHNICAL INVESTIGATION PROPOSED SHORED EXCAVATION, RCMP HANGAR - PRINCE ALBERT AIRPORT, 190 VETERANS WAY, PRINCE ALBERT, SASKATCHEWAN, PMEL FILE NO. 10121" DATED NOVEMBER 30, 2015. ENSURE THAT THE REQUIREMENTS OUTLINED IN THIS REPORT ARE READ & UNDERSTOOD PRIOR TO COMMENCING WITH FOUNDATION WORK.
 - SOIL CONDITIONS ARE ASSUMED TO HAVE AN ALLOWABLE BEARING PRESSURE = 50 kPa.
 - UNDER NO CIRCUMSTANCE IS THE SOIL UNDER THE STRUCTURE TO BE ALLOWED TO FREEZE, DRY OUT OR BECOME SATURATED PRIOR TO, DURING OR SUBSEQUENT TO CONSTRUCTION.
 - EXCAVATION AND BACKFILL.
 - EXCAVATE AND BACKFILL TO THE DETAILS ON THIS DRAWING, REFER TO SPECIFICATIONS FOR REQUIREMENTS.
 - REINFORCED CONCRETE
 - REINFORCING STEEL: GRADE 400 DEFORMED BARS. HOOK BARS AT OPPOSITE FACE AT DISCONTINUOUS ENDS. PROVIDE CLASS 'B' LAP SPLICES THROUGHOUT EXCEPT WHERE OTHER DIMENSIONS ARE SHOWN. TIE AND SECURE IN PLACE PRIOR TO PLACING CONCRETE. WHERE REINFORCING IS SHOWN IN ONE DIRECTION ONLY, PROVIDE 15M @ 250 O/C EACH FACE AND PERPENDICULAR TO THAT SHOWN.
 - CONCRETE COVER TO REINF. STEEL:
 - 75 mm FOR CONCRETE CAST AGAINST SOIL.
 - 50 mm FOR CONCRETE CAST AGAINST ALL OTHER SURFACES UNLESS SPECIFICALLY NOTED.
 - ENSURE ALL REINFORCING STEEL IS 50 mm CLEAR OF ANY EMBEDDED ITEMS.
 - ACCURATELY PLACE REINFORCEMENT AND SECURE AGAINST DISPLACEMENT DURING CONCRETE PLACING. SUPPORT BY MEANS OF EPOXY COATED OR PLASTIC CHAIRS AND SPACERS, AND THE RECOMMENDATIONS OF "REINFORCING STEEL - MANUAL OF STANDARD PRACTICE" (REINFORCING STEEL INSTITUTE OF CANADA).
 - USE TOP BAR CLASS 'B' TENSION SPLICES UNLESS NOTED OTHERWISE.
 - CONCRETE MIXES SHALL BE PROPORTIONED IN ACCORDANCE WITH CSA A23.1. SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS.
 - PROVIDE 20 mm CHAMFER AT ALL EXPOSED CONCRETE EDGES UNLESS NOTED OTHERWISE.
 - CONCRETE MIXES SHALL BE PROPORTIONED IN ACCORDANCE WITH CSA A23.1/A23.2 TO MEET THE FOLLOWING REQUIREMENTS:
 - EXPOSURE CLASS: s-1
 - 56 DAY COMPRESSIVE STRENGTH: 35 MPa
 - MAX W/CM RATIO: 0.4
 - NOMINAL AGGREGATE SIZE: 20 mm
 - MAX SLUMP: 120 mm - ON SITE SLUMP TEST TO BE DONE BY 3RD PARTY HIRED BY CONTRACTOR.
 - CONCRETE SLAB FINISHED BY FLOATING FOLLOWED BY TROWELING.
 - SANDBLAST, CLEAN AND ROUGHEN ALL EXISTING CONCRETE AND CONSTRUCTION JOINTS TO A FULL 5 mm AMPLITUDE PRIOR TO POURING NEW CONCRETE. APPLY EPOXY BASED BONDING AGENT PRIOR TO POUR.
 - MAKE AND TEST FOUR CYLINDERS FOR EACH CONCRETE PLACEMENT (1@7 DAYS, 3@28 DAYS).
 - HONEYCOMB OR EMBEDDED DEBRIS IN CONCRETE IS NOT ACCEPTABLE. NOTIFY THE DEPARTMENTAL REPRESENTATIVE UPON DISCOVERY. REMOVE AND REPLACE DEFECTIVE CONCRETE AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.
 - VIBRATE FRESH CONCRETE AND/OR FORM WORK ADEQUATELY TO PRODUCE SOUND CONCRETE WITHOUT HONEYCOMBS.

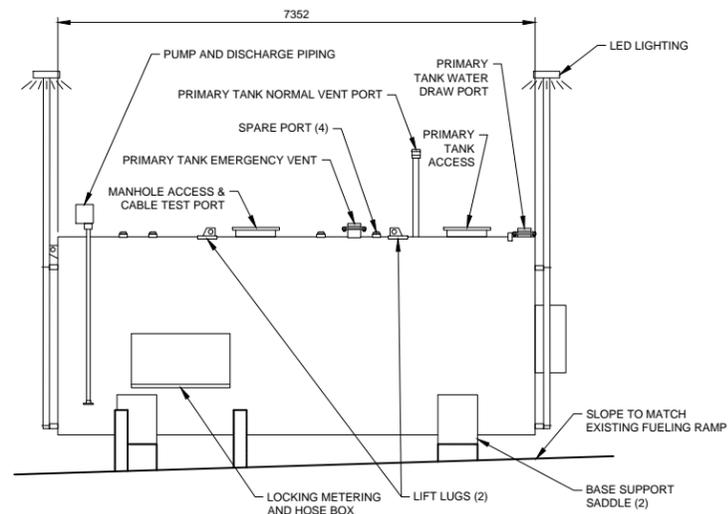
0	ISSUED FOR TENDER	5/27/16
Revision	Description	Date
Client		client
Project Title		
AIRCRAFT FUELING SYSTEM MODIFICATIONS RCMP HANGAR PRINCE ALBERT, SK		
Designed by	S. CHIASSON	Conçu par
Drawn by	N. MARKHAM	Dessiné par
Approved by		Approuvé par
PWGSC Project Manager	J. LA RUE-VAN ES	Administrateur de Projets TPWGC
Drawing Title	Titre du dessin	
STRUCTURAL PLAN & DETAILS		
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	S-101	0



1 PLAN 1:100
ABOVE GROUND STORAGE TANK
1:100
0 m 5 m 10 m



2 ELEVATION 1:50
ABOVE GROUND STORAGE TANK SOUTH ELEVATION
1:50
0 m 1 m 5 m



3 ELEVATION 1:50
ABOVE GROUND STORAGE TANK WEST ELEVATION
1:50
0 m 1 m 5 m

NOTES:

1. ABOVE GROUND STORAGE TANK TO INCLUDE THE FOLLOWING:
 - 1.1. 45,000 L CAPACITY FOR JET "A" FUEL
 - 1.2. COMPLY WITH ULC-S601
 - 1.3. 100% SECONDARY CONTAINMENT
 - 1.4. 30m HOSE WITH MOTORIZED REEL AND DISPENSING METER IN LOCKING CABINET
 - 1.5. ACCEPTABLE HOSES: API BULL 1529 TYPE C, F, OR CT
 - 1.6. DUAL 2 STAGE FILTRATION WITH AUTOMATIC SWITCHOVER
 - 1.7. ACCESS STAIRS AND INSPECTION PLATFORM TO PROVIDE ACCESS TO ALL TOP OPENINGS
 - 1.8. CONTINUOUS PRODUCT LEVEL AND LEAK DETECTION MONITORING SYSTEMS, INCLUDING AUDIBLE AND VISUAL ALARMS, DISPENSING VOLUME RECORDING LOGS & REMOTE CONTROL CONNECTION PROVISIONS.
 - 1.9. ON TANK LIGHTING
 - 1.10. GRAVITY FILLING WITH SPILL BOX FOR TANK TRUCKS
 - 1.11. SECURITY AGAINST THEFT AND VANDALISM
 - 1.12. FACTORY PRE-WIRED
 - 1.13. WEATHER PROOF CABINET FOR ELECTRICAL CONNECTIONS AND DISCONNECTS
2. TURN OVER STATUS MONITORING AND DISPENSING RECORDER TO ELECTRICAL TRADE FOR INSTALLATION INSIDE HANGAR
3. COORDINATE CONCRETE PIER DIMENSIONS AND ANCHOR BOLT PLACEMENT WITH STRUCTURAL
4. BOLT TANK BASE SUPPORT TO CONCRETE PIER. LEVEL AND GROUT.
5. COORDINATE SIZE AND LOCATION OF EACH PIER WITH STRUCTURAL TO MINIMIZE GROUTING REQUIREMENTS
6. PAD ELEVATION TO MATCH FUELING RAMP

0	ISSUED FOR TENDER	5/27/16
Revision	Description	Date

Client: _____
Client: _____

Project Title: _____

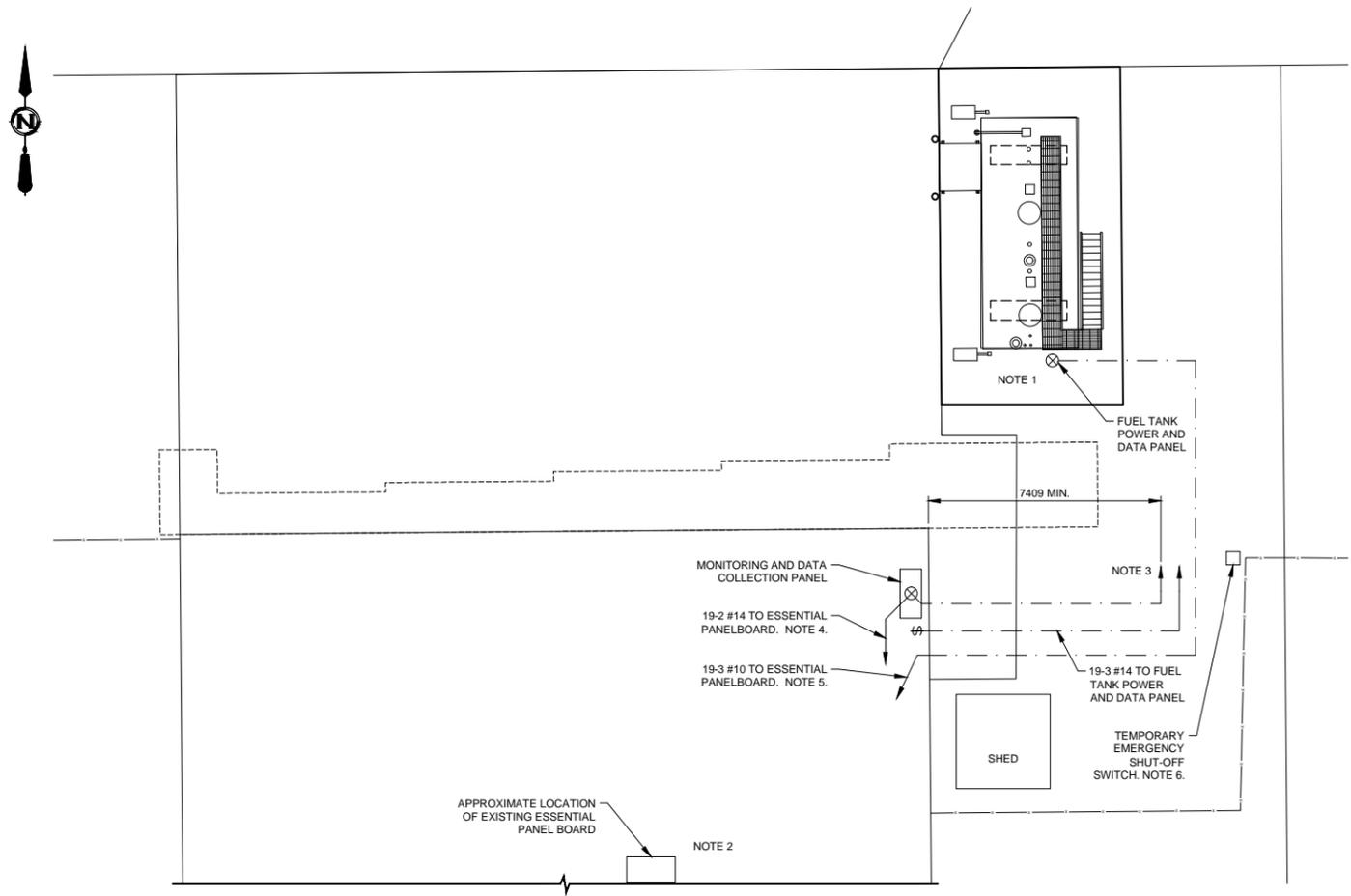
**AIRCRAFT FUELING SYSTEM MODIFICATIONS
RCMP HANGAR
PRINCE ALBERT, SK**

Designed by: M. AKISTER
Drawn by: N. MARKHAM
Approved by: _____

PWSC Project Manager: J. LA RUE-VAN ES
Administrateur de Projets: J. LA RUE-VAN ES

**MECHANICAL
PLAN & DETAILS**

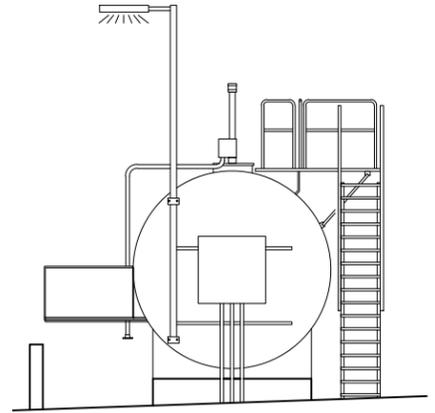
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	P-101	0



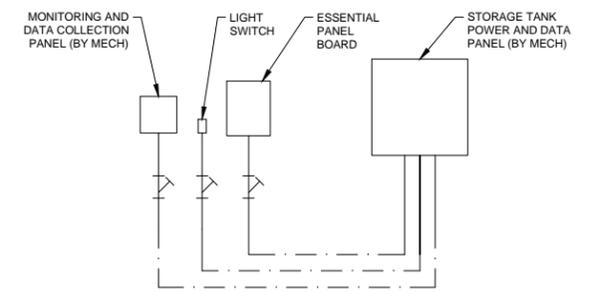
- ELECTRICAL LEGEND**
- ⊗ EQUIPMENT CONNECTION
 - SURFACE CONDUIT
 - - - BURIED CONDUIT
 - \$ SPST SWITCH
 - ⌋ EYS FITTING

- NOTES:**
1. ROUGH IN CONDUITS IN SLAB. COORDINATE LOCATION WITH STRUCTURAL AND MECHANICAL.
 2. USE EXISTING 3P-30A FUEL DISPENSING BREAKER IN ESSENTIAL PANELBOARD TO FEED NEW FUEL TANK CONNECTIONS TO FUEL TANK
 3. PROVIDE INSULATION SEALS ON CONDUITS CONNECTIONS TO FUEL TANK
 4. ROUTE NEW CONDUIT IN HARMONY WITH EXISTING
 5. SALVAGE OF EXISTING FUEL DISPENSING FEEDER INSIDE THE HANGAR IS ACCEPTABLE
 6. STORAGE TANK EMERGENCY SHUT-OFF SWITCH AND LABELING SHALL BE RELOCATED AFTER HANGAR DOOR MODIFICATION. PERMANENT LOCATION TO BE CONFIRMED ON-SITE WITH OWNER.

1 PLAN 1:100
ABOVE GROUND STORAGE TANK
1:100
0 m 5 m 10 m



2 ELEVATION 1:50
ABOVE GROUND STORAGE TANK NORTH ELEVATION
1:50
0 m 1 m 5 m



3 SCHEMATIC NTS
STORAGE TANK CONNECTIONS

Revision	Description	Date
0	ISSUED FOR TENDER	5/27/16

Client	client
--------	--------

Project Title
**AIRCRAFT FUELING SYSTEM MODIFICATIONS
RCMP HANGAR
PRINCE ALBERT, SK**

Designed by M. AKISTER Conçu par

Drawn by N. MARKHAM Dessiné par

Approved by Approuvé par

PWSC Project Manager J. LA RUE-VAN ES Administrateur de Projets TPSGC

Drawing title Titre du dessin

**ELECTRICAL
DETAILS**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	E-101	0