

Soil contamination may remain in place in these locations under the storm and sanitary line after the excavation is complete. In locations where soil contamination remains, Placement of 30 mil HDPE liner with at least 2 metre overlap along those slopes will be required

NOTES:
 REFERENCED FROM GOVERNMENT OF YUKON GIS DATA AND CITY OF WHITEHORSE GIS OPEN DATA, 2015 NORTH APRON REMEDIATION, WHITEHORSE INTERNATIONAL AIRPORT, WHITEHORSE, YUKON TERRITORY CONDUCTED BY ARCADIS CANADA INC. DATED MARCH 2016. IMAGERY: © 2016 GOVERNMENT OF YUKON (IMAGE DATE: 2011).

UTILITY LOCATIONS ARE APPROXIMATE.
 UTILITIES ON THIS SITE ARE BASED OFF UTILITY MAPS AS SUCH UTILITIES ARE NOT VERIFIED FOR CURRENT CONFIGURATION AND MUST BE PROPERLY LOCATED IN THE FIELD

- LEGEND:
- PROPERTY BOUNDARY
 - 2016 PROPOSED AIRSIDE WORK AREA
 - PROPOSED SITE ACCESS ROUTE
 - x FENCE
 - PROPOSED 2016 EXCAVATION
 - 2015 EXCAVATION
 - 2013 EXCAVATION
 - 2010 EXCAVATION
 - 2009 EXCAVATION
 - 2008 EXCAVATION
- UTILITIES
- U/G FUEL PIPELINE
 - U/G ELECTRICAL LINE
 - U/G ELECTRICAL LINE (ABANDONED)
 - U/G SANITARY SEWER LINE
 - U/G SANITARY SEWER LINE (ABANDONED)
 - U/G STORM SEWER LINE
 - U/G STORM SEWER LINE (ABANDONED)
 - U/G WATER LINE (ABANDONED)
 - U/G UNKNOWN LINE



SCALE 1:600
 WHEN PLOTTED CORRECTLY ON A 11 x 17 PAGE LAYOUT
 NAD 1983 UTM Zone 8 V
 THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

PUBLIC WORKS AND GOVERNMENT SERVICES
 ON BEHALF OF TRANSPORT CANADA
 WHITEHORSE INTERNATIONAL AIRPORT
 316-75 BARKLEY GROW CRESCENT
 WHITEHORSE, YUKON

2016 NORTH APRON REMEDIAL EXCAVATION

KNOWN UTILITIES

Date: October 17, 2016	Drawing No. 4
Project No. 205.03819.00000	



Cadfile name: S_205-03819-00001-A1.dwg

Max Soil Concentrations Identified within Excavation Limits		Max Groundwater Concentrations Identified within Excavation Limits	
mg/kg		mg/kg	
VPH	910	VPH	13,000
EPH (C10-19)	2000	VH	21,000
		Toluene	2,200
		LEPH	6,680
		Naphthalene	90
		Phenanthrene	3.7
		Pyrene	1.9
		Benzo(a)Pyrene	0.71

OVERBURDEN STOCKPILE AREA
 • Clean overburden, client supplied backfill, and imported material management area

OVERBURDEN STOCKPILE AREA
 STAGING AND PARKING AREA

PHASE I 2015 FIX AREA
 • Low profile barriers required
 • Excavate in stages to 1.5 mbgs
 • Backfill with imported drain rock as directed by departmental representative
 • Drain rock must range from 50mm to 150 mm in size
 • A layer of 8 oz. non-woven geotextile (min 1.0 m overlaps) to be placed over the drain rock prior to placement of the Gran D
 • Finish with 0.3 m of GRAN D (80 mm minus) and compact to 98% of Standard Proctor
 • GRAN D is defined as 80 mm minus screened pit run as specified by the Government of Yukon materials specifications for granular courses, base course, and sub base course GRAN A, B, C, D, E, F included in appendix B

PHASE II 2016 EXCAVATION
 • Low profile barriers required
 • Excavate in stages the overburden approximately 0 - 3 m or otherwise directed
 • Excavate in stages contaminated zone approximately 3 - 5 m or otherwise directed
 • Transport contaminated soil to owner supplied facility shown on drawing 1
 • Backfill with imported drain rock as directed by departmental representative
 • Drain rock must be 50mm to 150mm drain rock
 • A layer of 8 oz. non-woven geotextile (min 1.0 m overlaps) to be placed over the drain rock prior to placement of the Gran D
 • Finish with 0.3 m of GRAN D (80 mm minus) and compact to 98% of Standard Proctor
 • GRAN D is defined as 80 mm minus screened pit run as specified by the Government of Yukon materials specifications for granular courses, base course, and sub base course GRAN A, B, C, D, E, F included in appendix B

PROPANE TANK
 • Remove tank, concrete pad, buried electrical lines and any other associated infrastructure
 • Propane tank not empty

FUEL AST
 • Must remain active and accessible, or temporary tanks and fuel must be made available
 • Will require relocation of the buried electrical lines

NOTES:
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UTILITY LOCATIONS ARE APPROXIMATE.

- LEGEND:**
- PROPERTY BOUNDARY
 - ▭ 2016 PROPOSED AIRSIDE WORK AREA
 - PROPOSED SITE ACCESS ROUTE
 - X FENCE
 - ⊕ MONITORING WELL
 - ⊕ TEST PIT
 - EXCEEDS FOR SOIL OR GROUNDWATER PARAMETER
 - COMPLIANT
 - ▭ PROPOSED 2016 EXCAVATION
 - ▭ 2015 EXCAVATION
 - ▭ 2013 EXCAVATION
 - ▭ 2010 EXCAVATION
 - ▭ 2009 EXCAVATION
 - ▭ 2008 EXCAVATION
 - UTILITIES
 - U/G FUEL PIPELINE
 - U/G ELECTRICAL LINE
 - U/G ELECTRICAL LINE (ABANDONED)
 - U/G SANITARY SEWER LINE
 - U/G SANITARY SEWER LINE (ABANDONED)
 - U/G STORM SEWER LINE
 - U/G STORM SEWER LINE (ABANDONED)
 - U/G WATER LINE (ABANDONED)
 - U/G UNKNOWN LINE



PERMIT TO PRACTICE
 TETRA TECH EBA INC.
 SIGNATURE: [Signature]
 Date: Oct 17/16
 PERMIT NUMBER PP003
 Association of Professional Engineers of Yukon



SCALE 1:1,500
 WHEN PLOTTED CORRECTLY ON A 11 x 17 PAGE LAYOUT
 NAD 1983 UTM Zone 8 V
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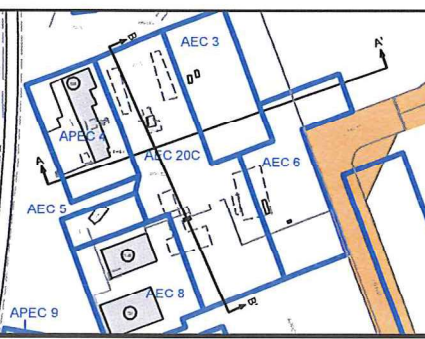
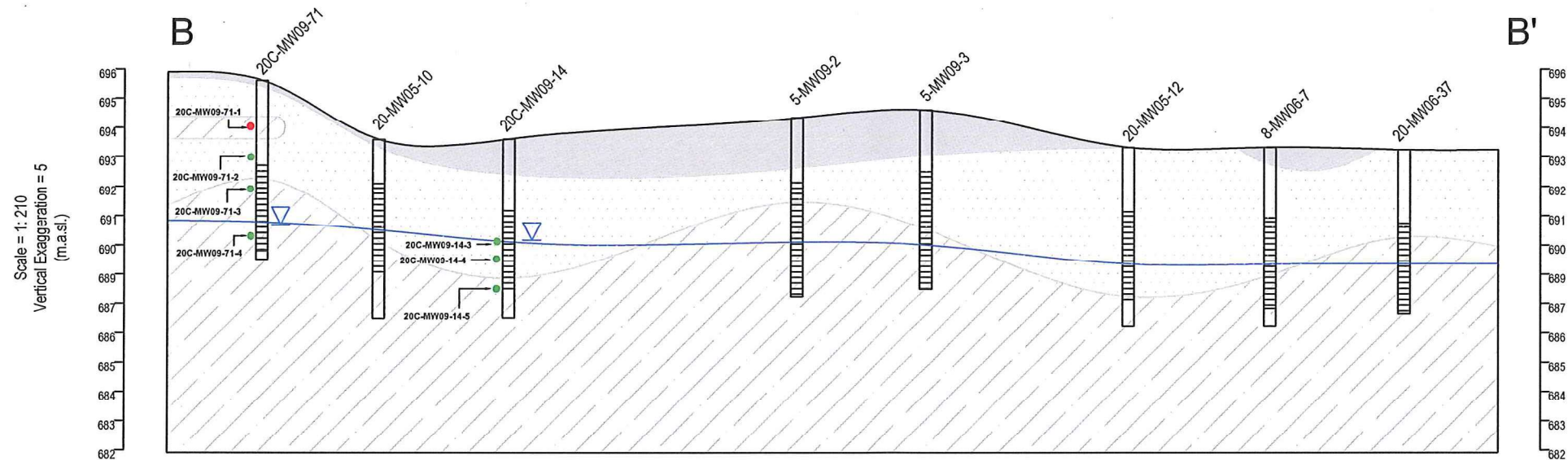
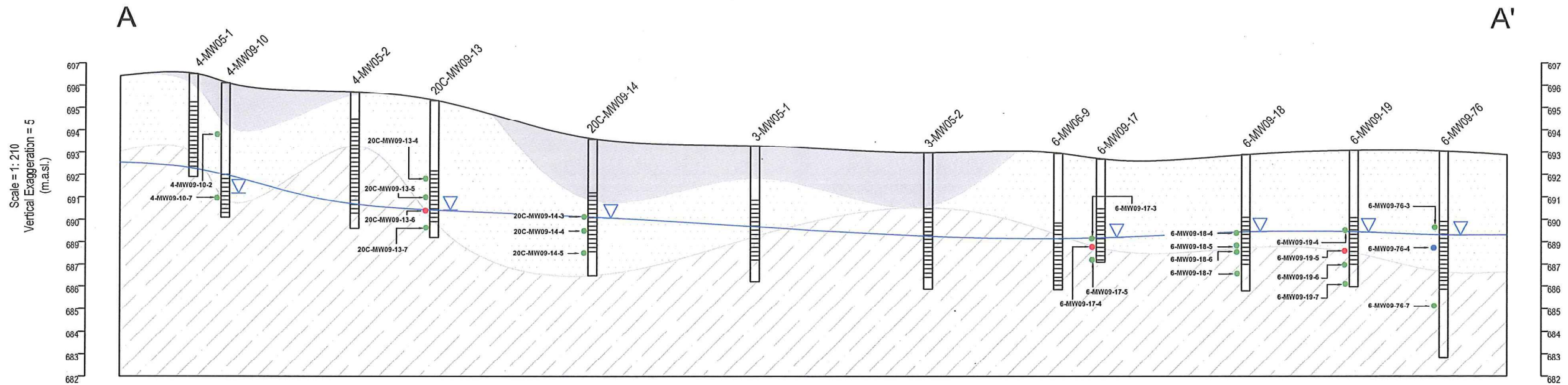
PUBLIC WORKS AND GOVERNMENT SERVICES
 ON BEHALF OF TRANSPORT CANADA
 WHITEHORSE INTERNATIONAL AIRPORT
 316-75 BARKLEY GROW CRESCENT
 WHITEHORSE, YUKON

2016 NORTH APRON REMEDIAL EXCAVATION

WORK DESCRIPTION

Date: October 17, 2016 Drawing No. 5
 Project No. 205.03819.00000

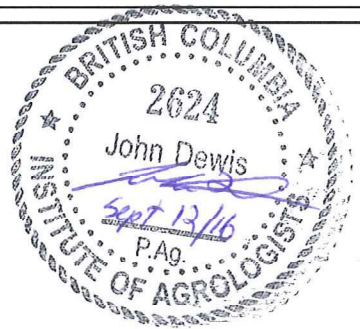
Base Work					
area	surface area (m ²)	Approximate Contaminated Soil Depth interval (m)	Estimated Contaminated Soil Volume (m ³) in-situ	Overburden depth interval (m)	Estimated non-impacted overburden Soil Volume (m ³) in-situ
1	1500	3.0 to 5.0	3000	0 to 3.0	4500
Phase I 2015 Fix area	1750	N/A	N/A	0 to 1.5	2625
Optional Work					
Optional Work	700	0.5 to 2.5	1400	0 to 0.5	350



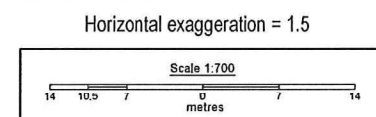
LEGEND

- Sand and Gravel
- Sand
- Silt
- Water Level* (mbgs)
- Water Table**

- One or more analytical parameters are greater than the applicable YT CSR CL soil standards
- All analytical parameters are less than the applicable YT CSR CL soil standards
- One or more analytical parameters are greater than the applicable YT SW soil standards
- Screen



* Water level from direct measurement in the field
 ** Water table inferred from water levels measured in the field



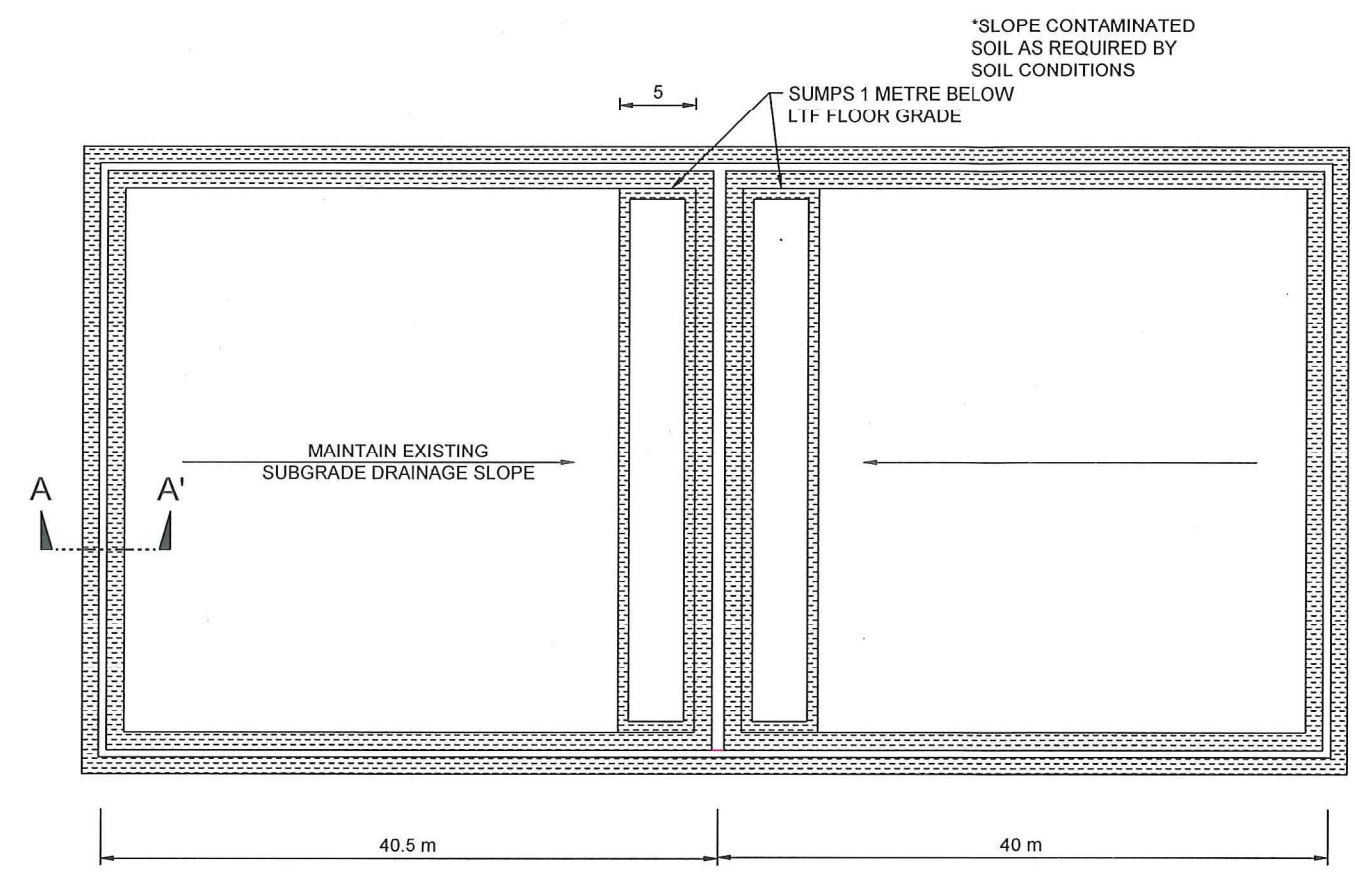
Title:	CROSS-SECTION
Project:	WHITEHORSE AIRPORT 2009 INVESTIGATION PROGRAM
Client:	PUBLIC WORKS AND GOVERNMENT SERVICES CANADA
Date:	MARCH 2010
Drawing 6	



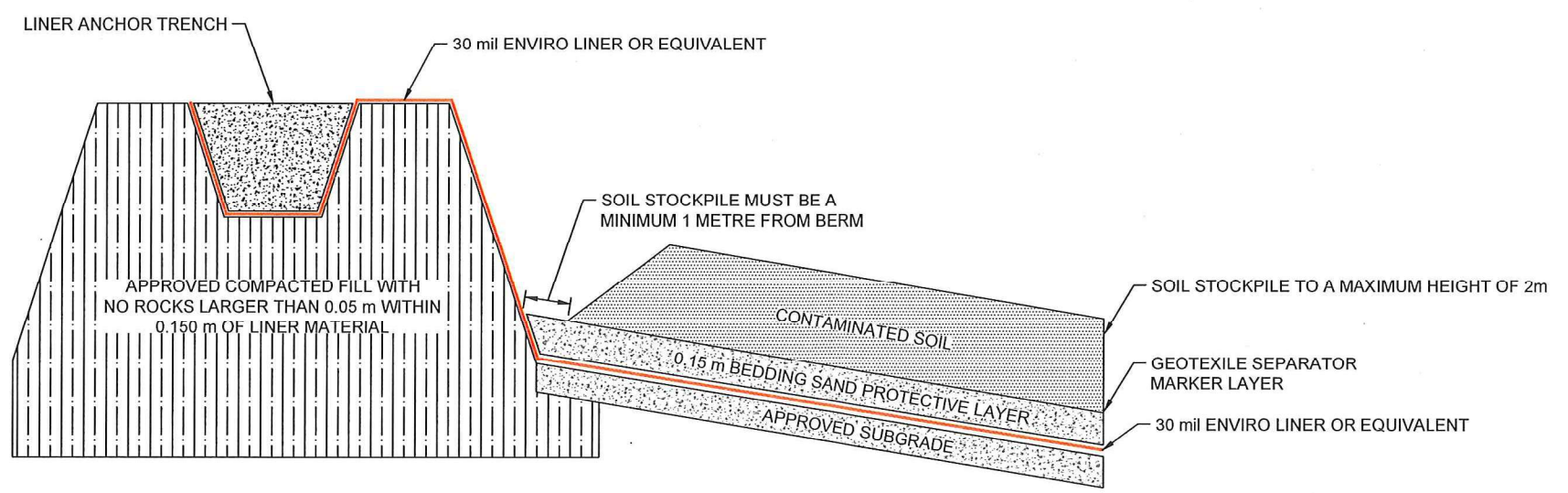
NOTES:
 REFERENCED FROM: CITY OF WHITEHORSE OPEN DATA CATALOGUE, SNC LAVALIN DRAWING NO. 2 TITLED: SUMP WATER COLLECTION AND DISCHARGE LOCATION (09_16_15), FRANZ ENVIRONMENTAL INC. DRAWING 3 TITLED: LTF 1 & 2 DETAIL PLAN AND BERM CROSS SECTION (06_14) AND SITE RECONNAISSANCE INFORMATION.

LEGEND:

 BERM
 CROSS SECTION LINE



A A'



NOTES:
 -FILL COMPACTED TO 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY
 -BERM SLOPES TO BE OVERBUILT, COMPACTED TO 95%, AND CUT BACK TO FINAL DESIGN CONFIGURATION



NOT TO SCALE
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PUBLIC WORKS AND GOVERNMENT SERVICES
 WHITEHORSE INTERNATIONAL AIRPORT
 WHITEHORSE, YUKON

2016 LTF TREATMENT PROGRAM

Owner Supplied Land Treatment Facility
 Details

Date: August 8, 2016	Drawing No. 7
Project No. 205.03820.00000	



Cadfile name: S_205-03820-00000-A1.dwg