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HAZARDOUS WASTE MATERIALS MANAGEMENT PLAN

Prepared for:

IQALUIT INTERNATIONAL AIRPORT IMPROVEMENT PROJECT

BOUYGUES-SINTRA JOINT VENTURE

June 2015

Final – Rev 3.1

O/Ref.: QE14-214-11

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LIST OF ABBREVIATIONS

WSCC:	Workman's Safety and Compensation Commission
TDG:	Transport of Dangerous Goods
TDGA:	Transport of Dangerous Goods Act
THWTF:	Temporary Hazardous Waste Transfer Facility
HWTF:	Hazardous Waste Transfer Facility
MSDS:	Material Safety Data Sheets
SDS:	Safety Data Sheets
WHMIS:	Workplace Hazardous Materials Information System
NIOSH:	National Institute for Occupational Safety and Health

1. GENERAL

1.1 OBJECTIVES

1.1.1 The release of any hazardous materials into the environment will be avoided during their handling.

1.1.2 Spills and/or incidents will be reported as per the Spill Emergency Plan.

1.1.3 In the event of a spill, the emergency response plan will be invoked and appropriate action will be taken as per the Spill Emergency Plan.

1.1.4 Hazardous materials will be stored in their original containers until their use. Intermediate containers used for hazardous materials will be certified for use with the type of hazardous material stored in it.

1.1.5 Hazardous waste materials will be placed in TDG approved containers, if required, for storage and transport to the disposal facility, and the containers will be transported to a THWTF.

1.1.6 Free product and other liquid hazardous waste materials will be pumped into TDG approved containers, if required, for storage and transport to the disposal facility, and containers will be transported to the THWTF.

1.1.7 Drums will be removed and sorted according to the contents. Where necessary, by the condition of the drum, or as required by TDG regulations. Drum contents will be repackaged into sound drums or overpack drums if required by TDG regulations.

1.1.8 Each “hazardous material” will be packaged and labelled in accordance with the “Class” and “Packing Group” as per the TDGA.

1.1.9 Hazardous waste materials will be shipped to the south for disposal a minimum of once per year, or more frequently if possible.

1.2 REGULATIONS

1.2.1 All work will be conducted in accordance with all appropriate Federal, Territorial and Provincial legislation, and international conventions.

1.2.2 The following federal laws, regulations, codes and guidance documents may apply to the management of hazardous materials:

- *Environmental Emergency Regulations SOR/2003-307*;
- *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations SOR/2005-149*;
- *Interprovincial Movement of Hazardous Waste Regulations SOR/2002-301*;
- *TRANSPORTATION OF DANGEROUS GOODS ACT*, 1992 S.C. 1992, c. 34:
  - *Transportation of Dangerous Goods Regulations SOR/2001-286*,

- *Transportation of Dangerous Goods Regulations - Schedules SOR/2001-286*.

1.2.2.1 The following Nunavut Territorial Legislation and Guidelines may apply to the management of hazardous materials:

- *ENVIRONMENTAL PROTECTION ACT*, R.S.N.W.T. 1988, c. E-7;
  - *A Guide to the Spill Contingency Planning and Reporting Regulations,* January 2002,
  - *Environmental Guideline for Contaminated Site Remediation*, November 2003,
  - *Environmental Guideline for Waste Lead and Lead Paint*,
  - *Guideline for Ozone Depleting Substances*,
  - *Guideline for the General Management of Hazardous Waste in the NWT*,
  - *Guideline for the Management of Waste Antifreeze*,
  - *Guideline for the Management of Waste Batteries*,
  - *Guideline for the Management of Waste Paint*,
  - *Guideline for the Management of Waste Solvents*,
  - *Guideline for Dust Suppression*, February 1998,
  - *Spill Contingency Planning and Reporting Regulations R-068-93*,
  - *Used Oil and Waste Fuel Management Regulations R-064-2003*;
- *Plain Language Guide to the Used Oil and Waste Fuel Management Regulations*;
- *TRANSPORTATION OF DANGEROUS GOODS ACT*, 1990 RSNWT (Nu) 1988, c 81 (Supp);
- *Transportation of Dangerous Goods Regulations 1991*, NWT Reg (Nu) 095-91;
- WSCC's *Northwest Territories & Nunavut Codes of Practice for Asbestos Abatement*.

1.2.3 Hazardous Waste is defined as any waste that may cause contamination to the environment or is regulated by the federal TDGA Regulations.

1.2.4 Materials containing asbestos will be handled in accordance with all applicable regulations and guidelines.

2. MANAGEMENT

2.1 SAFETY

2.1.1 Only trained individuals or individuals working under the direct supervision of trained persons will be allowed to handle or transport dangerous goods.

2.1.2 Site personnel handling hazardous waste materials will be required to wear personal protection equipment in accordance with The MSDS (or the SDS under the WHMIS-GHS) guidelines and/or Federal, Territorial or NIOSH guidelines, whichever is the most stringent.

2.1.3 Appropriate protection to the potential type and level of exposure will be provided to all workers. Specific safety protocols will be established prior to commencing activities involving Hazardous Materials.

2.1.4 Suitable safety clothing and equipment will be provided, as required during the course of the work. Sufficient quantities of protection equipment will be supplied to fit all site personnel.

2.2 TRANSPORTATION & STORAGE

2.2.1 Individuals shipping and receiving hazardous waste materials will be licensed under the TDGA Regulations.

2.2.2 Hazardous materials will be transported to and from Iqaluit via sealift or aircraft. The hazardous materials will be packaged according to all applicable regulations. The carrier of the hazardous materials will be required to obtain all permits and licences required for the transport of dangerous goods.

2.2.3 Hazardous materials will be stored at the hazardous materials storage area until use. The location of the hazardous materials storage area can be found on figure CC-115 in Appendix C. The area is identified in orange on the drawing.

2.2.4 Hazardous Waste Materials will be transported and stored at a HWTF in Iqaluit when awaiting sealift. The location of the HWTF is shown on figure CC-115 in Appendix C. The locations of the HWTF are shown in yellow in the figure. This site will be for the storage of potential hazardous waste materials for inspection, testing, classification and packaging, as well as for the building and packaging of drum liquids and sediments. Should the Hazardous Waste Materials need to be stored for more than 180 days, they are planned to be stored at Qikiqtaaluk Environmental's Hazardous Waste Transfer Facility located at 1571 Kakivak Court, located in the North 40 Area of Iqaluit.

2.2.5 All Hazardous Waste Materials will be transported to the south for disposal according to the requirements of the provincial authority where the disposal will occur.

2.2.6 All storage locations for Hazardous Waste will be inspected once per week. Inspection reports will be completed and stored at the site office.

2.2.7 Hazardous waste storage containers shall be placed so that each can readily and easily be inspected for signs of leakage, corrosion or deterioration. Leaking, corroded or deteriorated containers shall be immediately be removed and their contents transferred to a sound container.

2.2.8 All waste shall be temporarily stored on a firm working surface that is impervious to leaks while waiting for transport. If this is not possible the ground under the storage area will be sampled prior to the storage of hazardous waste and immediately following the removal of hazardous waste to show that the storage of the waste did not have a negative impact on the soil in the storage area. Sampling will be done according to the parameters presented in section 3.1.1.1. Should products be stored with potential contaminants that have not been the subject of past sampling, then these parameters will also be sampled prior to and immediately floowing the temporary storage of the waste.

2.2.9 Records shall be maintained indicating the type and quantity of waste being stored along with the date, type and quantity of hazardous waste brought into or removed from the facility.

2.2.10 Drainage into and from the storage facility site should be controlled to prevent spills or leaks from leaving the site and to prevent run-off from entering the site.

2.2.11 Incompatible waste shall be stored in a manner that contact in the event of a spill or accidental release is not possible.

2.2.12 Emergency response plans shall be developed in cooperation with local emergency response personnel and emergency response equipment shall be locally available in the event of a spill, fire or other emergency situation.

2.2.13 Please refer to the Spill Contingency Plan for the location and maintenance of storage locations.

2.3 PRODUCTS AND EQUIPMENT ONSITE

2.3.1 All storage containers will satisfy requirements of the latest Transportation of Dangerous Goods Act and Regulation (marine and ground transportation).

2.3.2 A full range of cleanup and protective equipment will be provided at the site to contain and cleanup spills, and protect personnel, as required. The cleanup equipment will include booms (sorbent and containment), sorbents for cleanup, fire extinguishers for A-B-C fires, waste bags for contaminated soils, pumps, hand shovels, picks and containment barriers, such as plastic sheeting. Personnel protective equipment will include clothing, protective suits, respirators, etc. to comply with potential emergency conditions and in accordance with NIOSH guidelines.

2.3.3 List of known hazardous materials and hazardous waste to be managed on site is presented in Appendices A and B.

2.4 INVENTORY, INSPECTION & RECORD KEEPING

2.4.1 An up to date inventory of hazardous materials stored at the work site will be maintained by Quality/Safety/Environment (QSE) Manager for IIAIP. These records will be updated daily, and kept at the Design-Builder Iqaluit office.

2.4.2 All unsecured storage areas used for the storage of hazardous materials will be visually inspected at a minimum of once per week during operations by the Superintendent for IIAIP. Observations will be logged, dated and kept in the Design-Builder Iqaluit office.

2.4.3 Drums and storage containers will be inspected to ensure that symbols, words or other marks identifying the contents are present and legible. They will also be inspected for signs of deterioration or damage or signs that the drum/container is under pressure such as bulging and swelling, leaks or discoloration of the drum/container material. If leaks or deterioration are encountered they will be noted and addressed in a timely manner as per the spill plan.

2.5 DISPOSAL

2.5.1 As agreed with the City of Iqaluit non-hazardous wastes will be disposed of at the City's landfill, according to the City's procedures and requirements (segregation of wood and paper from metals and plastic wastes).

2.5.2 All hazardous and non-hazardous wastes to be disposed of outside Iqaluit will be sent to a facility registered with the applicable territorial or provincial jurisdiction to manage that type of waste.

2.5.3 All hazardous waste to be shipped south will be managed by QE through its waste transfer centre in Iqaluit, licensed with the Government of Nunavut., or other approved operator. The final disposal sites used for disposal or recycling will be provided in the annual report to the Nunavut Water Board. This will include the certificates of authorisation from authorities having jurisdiction that the disposal sites can receive the types of waste disposed of at their facility. Final certificates of disposal or recycling will also be provided in the annual report.

APPENDIX A

HAZARDOUS MATERIALS TO BE USED AND STORED AT THE WORK SITE

Item	UNIT	2014	2015	2016	2017	COMMENTS
SOLID						
BITUMEN DRUM	Drums		12,111	8,881	8,558	29,550 drums
TACK COAT DRUM	Drums		206	174	158	538 drums
BATTERIES	Units		5	3	2	10 batteries
LIQUID						
OIL & LUBRICANTS	Liters		4,600	4,600	4,600	
COOLANT	Liters		1,150	1,150	1,150	

APPENDIX B

HAZARDOUS WASTE EXPECTED TO BE GENERATED AND STORED AT THE WORK SITE

ITEM	UNIT	2014	2015	2016	2017	Remediation Method
SOLID WASTE						
BATTERIES	kg	0	50	50	100	Package in container and ship south
BITUMEN DRUM	Metric tonnes	0	75	55	53	Place in container and ship south
TACK COAT DRUM	kg	0	13	11	10	Place in container and ship south
TIRE	kg	0	500	500	500	Municipal Solid Waste
OILY RAGS	kg	50	100	100	100	Package in container and ship south
OIL FILTERS	kg	100	250	250	250	Package in container and ship south
LIQUID WASTE						
USED OIL AND LUBRICANT	Liters	-	4,000	4,000	4,000	Package in container and ship south
COOLANT	Liters	-	1,000	1,000	1,000	Package in container and ship south
PORTABLE WASHROOM WASTE (5 UNITS)	Metric tonnes	2.0	6.8	6.8	3.4	Disposal with the City of Iqaluit

APPENDIX C

FIGURE SHOWING LOCATION OF STORAGE AREAS

BITUMEN BARRELS STORAGE AREA

		1	2	3	4
BITUMEN AREA	X	521750,433	521819,46	521811,02	521741,959
	Y	7070366,09	7070354,44	7070305,153	7070316,783

CLIENT

Nunavut

ARCTIC INFRASTRUCTURE PARTNERS

INFRARED CAPITAL PARTNERS

BOUYGUES BUILDING Canada

COLASCANADA

WINNIPEG AIRPORTS AUTHORITY

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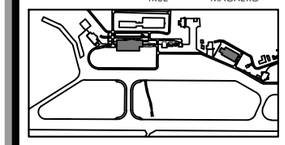
Keyplan

N TRUE

N MAGNETIC



Legend

- PROPERTY LINE
- AIRPORT PROPERTY LINE
- FENCE
- CULVERT
- OVERHEAD POWER LINE

Revision	By	Appd	YYYY.MM.DD
ISSUED FOR FINAL DESIGN	LEN	BEN	2015.06.05
Issued	By	Appd	YYYY.MM.DD

Permit-Seal

SEE ORIGINAL REVISIONS FOR PERMITS & SEALS

Project

IQALUIT INTERNATIONAL AIRPORT IMPROVEMENT PROJECT

IQALUIT - NUNAVUT - CANADA

Title

EXISTING SITE GRADING PLAN

Project No.
144313128

Scale: 1:1,500
Date: 2015-JUN-05
Revision: 6

Drawing No.
IIAIP-CD-EXT-STA-PLN-CC-102-6

CC-102

HAZARDOUS WASTE STORAGE

HOLDING BASSINS (width: HDPE Geomembrane Roll [est. 7 meters]; length: determine by desire volume

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CONTAINMENT CELL

WATER EXTRACTION FOR DUST SUPPRESSION AND SOIL COMPACTION (less than 100m3/day between July and October 2014 to 2017)

WATER EXTRACTION FOR DUST SUPPRESSION AND SOIL COMPACTION (less than 100m3/day between July and October 2014 to 2017)

HOLDING BASSINS (width: HDPE Geomembrane Roll [est. 7 meters]; length: determine by desire volume

X WATER DISCHARGE POINTS

		1	2	3	4	5	6	7
HOLDING BASSINS	X	522106,1	522057,5	522467,01	522457,153	522375,59	522683,8	522815,778
	Y	7069974,8	7070037,8	7070222,94	7070232,87	7069802,73	7069546,6	7069198,41
WATER DISCHARGE POINTS	X	522113,6	522052,9	522449,797		522369,49	522694	522815,137
	Y	7069966,6	7070016,4	7070203,37		7069806,03	7069538	7069184,86
CONTAINMENT CELL	X	522117,732	522160,264	522231,52	522188,947			
	Y	7069908,38	7069950,71	7069880,49	7069838,21			
WATER EXTRACTION ZONE #1	X	522286,57						
	Y	7069742,04						
WATER EXTRACTION ZONE #2	X	522702,8						
	Y	7069407,5						

CLIENT

Nunavut

ARCTIC INFRASTRUCTURE PARTNERS

INFRARED CAPITAL PARTNERS
BOUYGUES BUILDING Canada
COLASCANADA
WINNIPEG AIRPORTS AUTHORITY

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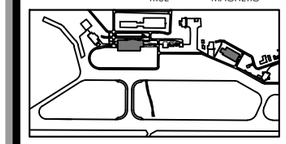
Keyplan

N TRUE N MAGNETIC



Legend

- PROPERTY LINE
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Revision	By	Appd	YYYY.MM.DD
ISSUED FOR FINAL DESIGN	LM	KH	2014.05.13
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Permit-Seal

SEE ORIGINAL REVISIONS FOR PERMITS & SEALS

Project

IQALUIT INTERNATIONAL AIRPORT IMPROVEMENT PROJECT

IQALUIT - NUNAVUT - CANADA

Title

EXISTING SITE GRADING PLAN

Project No.
144313128

Scale	Date	Revision
1:4,500	2015-JUN-05	6

Drawing No.
IIAIP-CD-EXT-STA-PLN-CC-103-6

CC-103