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LEGEND

- Proposed Access Road
- Rascal Stream Realignment Berm
- Proposed Airstrip Extension
- Proposed Umwelt Quarry
- Proposed Site Preparation Quarry
- Water Crossing / Culvert Location
- Winter Road
- Airstrip Access Road
- Laydown Area / Existing Camp / Fuel Storage
- Explosive Magazine Location
- Existing Quarry
- Existing Airstrip

NOTES
Base data source:
Imagery from Sabina (2006/2011)
Infrastructure provided by JDS Energy and Mining Inc. (2014)

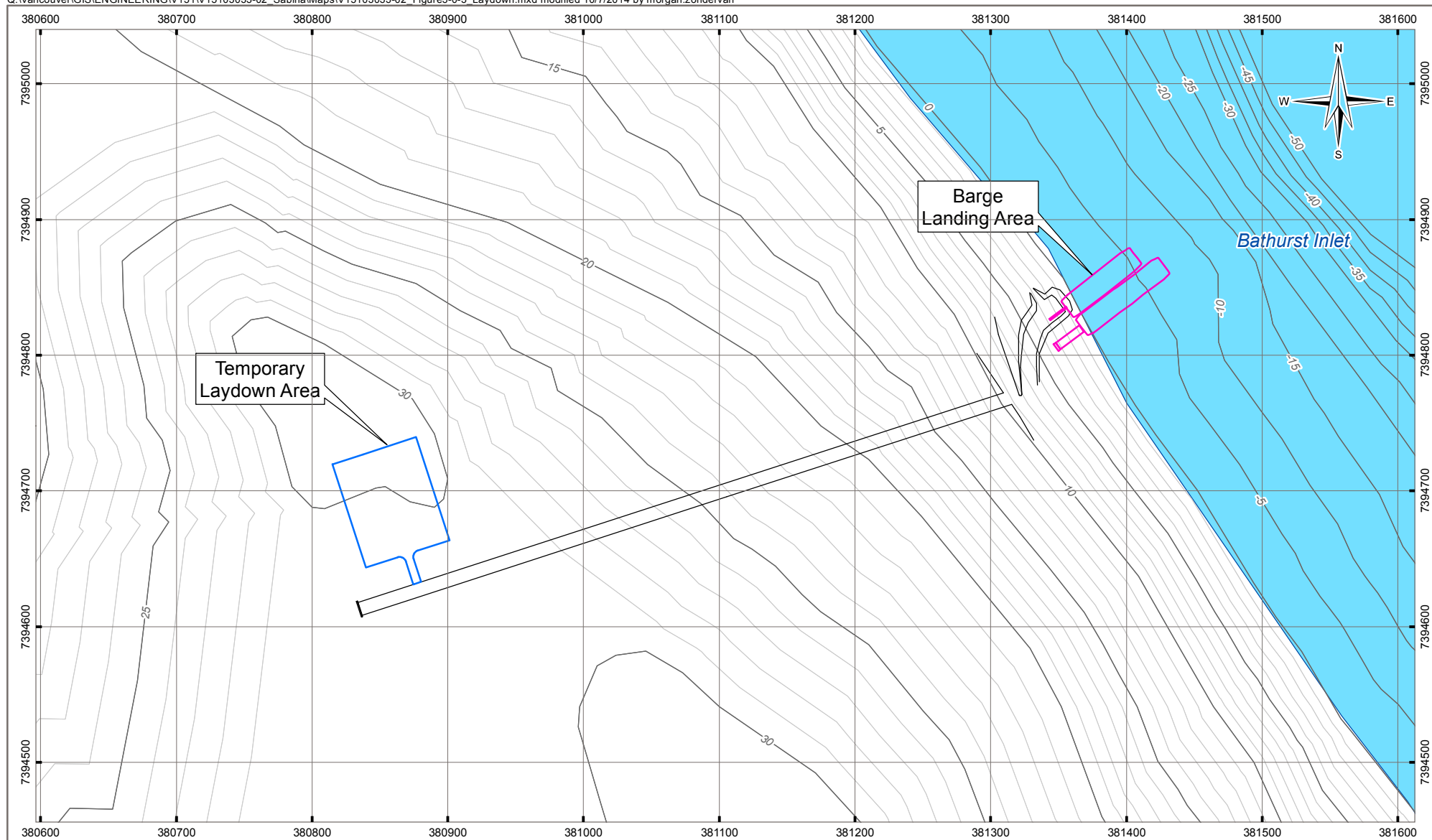
SABINA BACK RIVER PROJECT, NUNAVUT

**Goose Property
Site Preparation Plan**

PROJECTION UTM Zone 13	DATUM NAD83	CLIENT
Scale: 1:15,000 200 100 0 200 Metres		
FILE NO. V15103033-02_Figure5-0-2_Goose.mxd		
PROJECT NO. V15103033-02	DWN MEZ	CKD SL
OFFICE T1 EBA-VANC	APVD AR	REV 0
DATE October 7, 2014		

Figure 5.0-2

STATUS
ISSUED FOR REVIEW



LEGEND

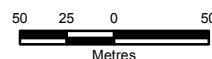
- Temporary Laydown Area
- Barge Landing Area
- Road
- Major Contour (5 m)
- Minor Contour (1 m)
- Waterbody

NOTES

Base data source:
MLA Plan provided by JDS Energy &
Mining Inc. (2014)
CanVec sheet 076J12

STATUS
ISSUED FOR REVIEW

Scale: 1:4,000



PROJECTION
UTM Zone 13

DATUM
NAD83

FILE NO.
V15103033-02_Figure5-0-3_Laydown.mxd

CLIENT



SABINA BACK RIVER PROJECT, NUNAVUT

Temporary Laydown Area Site Preparation Plan

PROJECT NO. V15103033-02	DWN MEZ	CKD SL	APVD AR	REV 0
OFFICE Tt EBA-VANC	DATE October 7, 2014			

Figure 5.0-3

5.1.2 Diesel Fuel Resupply and Storage

Additional fuel may be required for the proposed site preparation activities; this fuel will be supplied via aircraft and stored in the existing Goose Camp fuel storage area.

Arctic-grade diesel fuel will be used by motor vehicles and mining equipment on the site. Limited quantities of propane and gasoline will be used in maintenance facilities for smaller motorized equipment and machinery. All fuel to be used during the 2015 site preparation activities will be stored within the existing 75,000 L tanks, within secondary containment. The Goose Camp fuel storage currently includes six 75,000 L tanks in tertiary containment and seven 75,000 L tanks that will require installation of a lined containment area, if used in 2015.

5.1.3 Explosives and Ammonium Nitrate Storage

Prepackaged explosives will continue to be delivered by air transport, sited and stored in accordance with legislative requirements and best management practices. Two magazines are currently located at Goose Camp; it is anticipated that additional magazines may be required.

5.1.4 Exploration and Study Support

Ongoing exploration and scientific studies to support the permitting and engineering phases will continue onsite. These may include geological mapping, drilling, geophysics, environmental baseline studies, and engineering studies. These activities, although based out of Goose Camp, may occur over the entire Project area.

5.1.5 Ice-based Airstrip

An ice-based airstrip on Goose Lake will be required for the delivery of equipment and materials necessary for site preparation activities. The ice-strip, which has been constructed in previous seasons on Goose Lake, will be built to Transportation Canada regulations and standards. No additional water use is currently anticipated for this activity.

5.2 Description of Proposed Site Preparation Activities

Proposed site preparation activities include:

- Ice road and associated water use;
- All-weather airstrip extension;
- Rascal Lake outflow stream realignment;
- Construction and use of a 6km all –weather road and associated crossings; and
- Quarry development and operation; and
- Staging of a TLA at the site of the proposed MLA.

5.2.1 Ice Roads and Water Use

Ice roads, totalling approximately 6 km in length, will be required to connect and access the proposed quarries and explosives storage locations at the Goose Property. To support this work, water for construction will be necessary. Up to 120m³/day of water will be required to build and maintain the ice road during winter, and for dust suppression and compaction of placed construction materials during the open water season.

5.2.2 Quarries

A total estimated volume of 550,000 m³ of quarried material will be required to complete the outlined site preparation activities. Two quarries have been identified for use: the existing quarry next to the airstrip and a new quarry located within the footprint of the future Umwelt open pit (Figure 5.0-2). Up to 550,000 m³ of rock will be required to support site preparation activities, and this material will be extracted from one or both of these quarries. As such, Sabina is seeking approval to extract up to 550,000 m³ of rock from each of the existing quarry and the proposed Umwelt quarry. The total volume of rock extracted from one or both quarries, however, will not exceed 550,000 m³.

Only geochemically and physically suitable material will be developed, and handled per current quarry management plans.

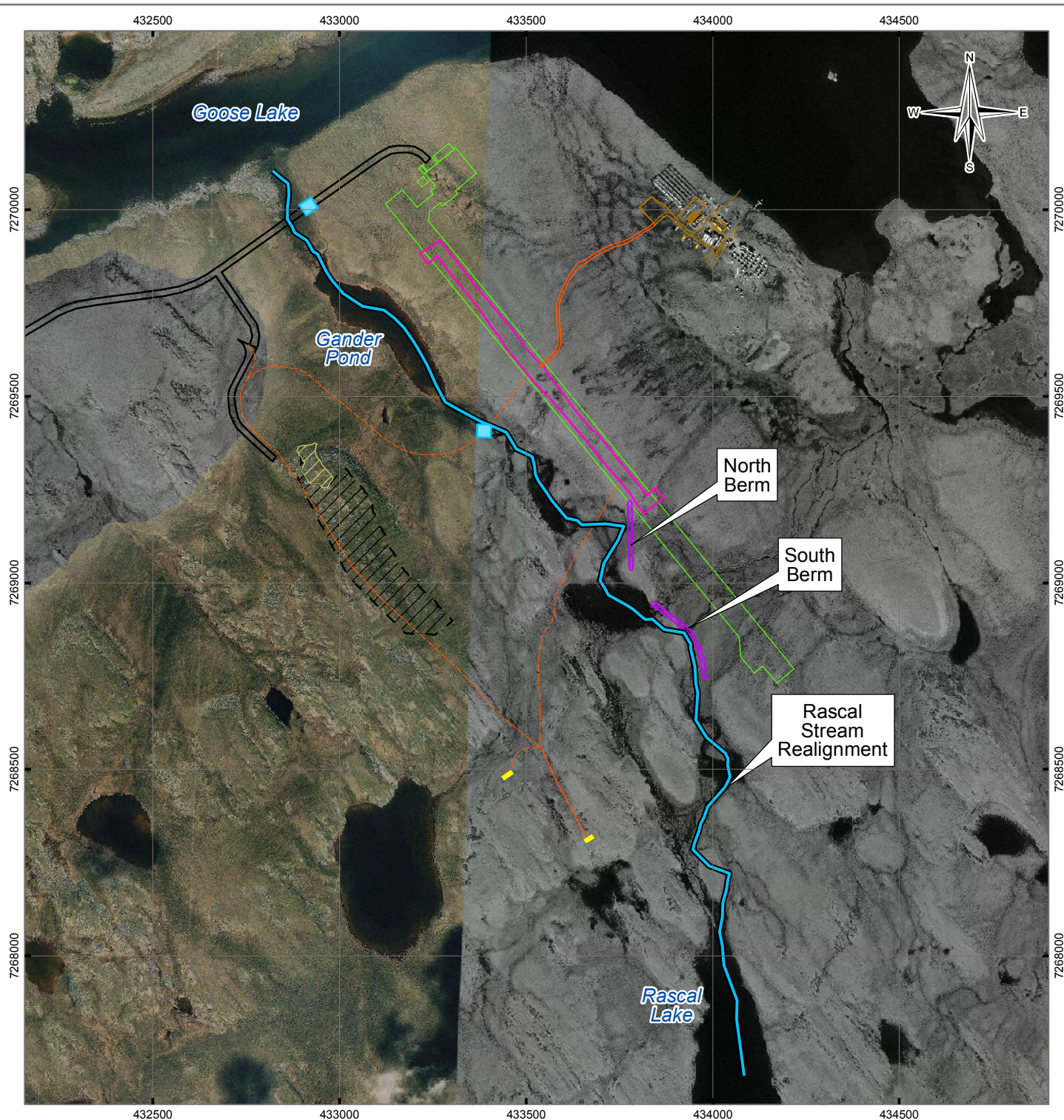
5.2.3 All-weather Airstrip Extension

The current airstrip will be extended to allow for servicing passenger and cargo aircraft. This airstrip will serve as the main air access to the Goose Property throughout the life of the Project. The all-weather airstrip will be designed to Transport Canada standard TP 312 Aerodrome Standards and Recommended Practices (2005). The airstrip will be approximately 1,524 m long and 45 m wide.

5.2.4 Rascal Lake Outflow Stream Realignment

One of the Rascal Lake outflows currently intersects the extended airstrip footprint. A realignment of the natural watercourse will be required to divert the water currently flowing from Rascal Lake directly to Goose Lake, to flow via Gander Pond to Goose Lake. This realignment will require the construction of two berms to divert 100% of the flow from Rascal Lake through Gander Pond to discharge into a nearby area of Goose Lake. Berm construction material will be sourced from an approved quarry source. An overview of the realignment plan is shown on Figure 5.2-1. Details of the Rascal Lake Outflow Stream Realignment are described in Appendix K, Fisheries Assessment of Rascal Stream Realignment.

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LEGEND

- Rascal Stream Realignment
- Rascal Stream Realignment Berm
- Water Crossing / Culvert Location
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NOTES

Base data source:
Imagery from Sabina (2006/2011)
Infrastructure provided by
JDS Energy and Mining Inc. (2014)
Realignment from
SRK Consulting (2014)

STATUS
ISSUED FOR REVIEW

SABINA BACK RIVER PROJECT, NUNAVUT

Rascal Lake Outflow Realignment

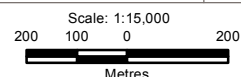
PROJECTION

UTM Zone 13

DATUM

NAD83

CLIENT



FILE NO.

V15103033-02_Figure5-2-1_Realignment.mxd

PROJECT NO.

V15103033-02

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DATE

October 8, 2014

Figure 5.2-1

5.2.5 All-weather Road and Associated Water Crossings

The proposed road alignment at the Goose Property will be constructed as an all-weather road. This road alignment, totaling approximately 5 km in length, is required to access the existing rock quarry, the new Umwelt quarry, and the extended all-weather airstrip.

The all-weather road will be constructed with run-of-quarry rock placed directly onto the tundra to preserve the permafrost. A layer of graded surfacing material will be placed to provide a protective trafficking layer. Construction materials will consist of geochemically suitable rock sourced from the existing quarry and/or Umwelt quarry.

Stream flow through the road alignment will be conveyed using appropriately sized culverts. Proposed water crossings are illustrated on Figure 5.0-2. A schematic of the road construction profile is presented in Figure 5.2-2.

Some of the key, common design criteria for all-weather access roads are:

- Design speed: 50 km/h;
- Maximum super-elevation: 4%;
- Side slopes: 2:1;
- Maximum grade: 10% for short lengths, 6% normal;
- Minimum horizontal curve radius: 100 m;
- Drainage: major culverts to be designed to a 1-in-20-year return period;
- Design vehicle: B-train;
- Travelling surface: 6 m for site preparation; and
- Safety berms: where required.

Due to safety considerations, all site road networks within the Goose Property will be restricted to Sabina's use. Visitors (hunters arriving by snowmobile) to the site will be asked to register their presence at the camp's administration centre. Sabina's community engagement activities will emphasize this requirement.

5.3 Temporary Laydown Area

A TLA will be staged at the site of the future MLA location. Activities will include the offloading of two barges containing materials, equipment, and fuel for future use; these materials will be stored at the TLA. Explosives magazines will also be offloaded to the TLA and stored empty for 2015.

Arrival and offloading of the barges and staging of the TLA will occur in the open-water season of 2015 over a period of approximately 25 days. The barges will come from a western route, either from the Lower Mainland or from Hay River.