

## **Part 2 - Other Issues**

*The Review Board identified a number of areas where additional information would be helpful in assessing the likelihood of significant impacts on the environment. The Developer should provide any additional information that is available on the items listed below. The remainder of this section provides the relevant sections of the terms of reference and the Review Board's questions in relation to those sections.*

### **IR Number: 1-2-2**

**Source:** Mackenzie Valley Review Board  
**To:** Tyhee  
**Issue:** **Existing Surface and Subsurface Water Flow**

#### **Terms of Reference - 3.2.1 Existing Environment and Baseline Conditions**

*2. Topographical maps to indicate the direction of surface and subsurface watershed flows from the proposed development's basin to the Yellowknife River.*

#### **Request**

- 1. Figure 6.2.1 is a good indication of surface flow for the Round-Winter-Narrow watershed down to connection with the Yellowknife River. However, the following water bodies will need flow identification in the same manner for surface flows downstream to Yellowknife River from: Nicholas Lake; Eclipse Lake; Maguire Lake; Brien Lake, Giauque Lake. Include similar flow patterns for all lakes Tyhee refers to in the baseline assessment or impact assessment section.*

### **Tyhee NWT Corp Response**

1) NTS maps at a scale of 1:50,000 were the prime source of information used for defining the water courses and obtaining the lake elevations specified below. In some areas which were poorly defined by the NTS maps, Google Earth was used to confirm the route of the water course.

Nicholas Lake (el. 325 masl) discharges west to Eclipse Lake (el. 311 masl). Maguire Lake (el. 312 masl) located just south of Eclipse Lake and north of the Ormsby Zone flows north also into Eclipse Lake. Discharge out of Eclipse Lake continues in a general south by south west direction through a number of small unnamed lakes until reaching an unnamed lake (estimated el. 275 masl) where it merges with the discharges leaving the West Ormsby Zone as described below. The combined discharge continues to flow south of south west to Barker Lake (el. 243 masl), Johnstone Lake (el. 232 masl), Clan Lake (el. 216 masl), and the Yellowknife River.

Surface discharges north and west of Ormsby exit from Brien Lake (el. 295 masl) and enter Shona Lake (el. 291 masl), then generally flow to the southwest through two unnamed lakes until reaching the unnamed lake (estimated el. 275 masl) where it merges with the discharge from the Nicholas Lake basin (described previously) and flows south of south west, eventually reaching Barker Lake (el. 243 masl), Johnstone Lake (el. 232 masl), Clan Lake (el. 216 masl), and the Yellowknife River.

Giauque Lake (el. 266 masl) discharges east into Thistlethwaite Lake (el. 264 masl). The McCrea River flows south, providing drainage for Thistlethwaite Lake, and flows into Wagenitz Lake (el. 258 masl). The McCrea River flows out of Wagenitz Lake to Duncan Lake (el. 221 masl), west to Neck Lake (el. 208 masl), Short Point Lake (el. 199 masl), north to Angle Lake (el. 199 masl), southwest to Quyta Lake (el. 193 masl), then merges with the Yellowknife River just north of Bluefish Lake (el. 191 masl).

Figure 6.2-1a (updated) shows the surface hydrology/flow direction described above.

