APPENDIX S
VISUAL AESTHETICS TECHNICAL SUPPORT DOCUMENT

CÔTÉ GOLD PROJECT
TECHNICAL SUPPORT DOCUMENT
VISUAL AESTHETICS

FINAL

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GLOSSARY AND ABBREVIATIONS

ASCII	American Standard Code for Information Interchange
EA	Environmental Assessment
GPS	Global Positioning System
km	Kilometre
LiDAR	Light Detection and Ranging
MRA	Mine Rock Areas
MNR	Ontario Ministry of Natural Resources
NAD83	North American Datum of 1983
TSD	Technical Support Document
TMF	Tailings Management Facility
UTM	Universal Transverse Mercator

EXECUTIVE SUMMARY

The Côté Gold Project (the Project) is an advanced stage gold exploration project located in the Chester and Neville Townships, District of Sudbury, in northeastern Ontario, approximately 20 kilometres (km) southwest of Gogama, 110 km southwest of Timmins, and 120 km northwest of Sudbury.

Visual aesthetic is of particular interest for the cottagers near the Project, as the Project has the potential to alter their visual landscapes. Given the distance of the Project with the nearby communities, visual aesthetics is not a concern for people living in Gogama, Timmins or Sudbury. Government agencies also expressed interest in being provided results of the visual aesthetics effects assessment. Similarly, Aboriginal communities have expressed interest in the potential visual effects of the Project on their traditional territories.

This visual aesthetics technical support document presents the current visual landscape at select receptor locations near the Project site as well as the rendering of the visual landscape based on the current Project design. No standalone baseline report has been prepared for this discipline.

The existing landscape in the vicinity of the Project site is typical of Northern Ontario's landscape. This landscape is characterized by densely populated coniferous and deciduous trees, rivers and lakes.

Two fieldwork campaigns were carried out to capture the existing winter and summer visual landscapes. Twenty receptor locations were visited during the winter field campaign based on the initial selection of potential receptors. The number of receptors was reduced to nine during the summer field campaign based on the results of the viewshed analysis, which indicated that the additional receptor locations had no potential to be visually affected by the Project.

The components that were initially identified to have the potential to be seen from receptor locations included: the low-grade ore stockpile, the Tailings Management Facility (TMF) and the Mine Rock Area (MRA). Details of these components are provided in Chapter 5 of the Environmental Assessment (EA) report. With further understanding of the existing topography and tree heights in the vicinity of the Project, only the MRA was identified as having a potential to be seen from receptor locations due to its height. All three Project components identified above have been considered when predicting the visual effects on other areas that could be used by other stakeholders.

In order to determine whether the proposed low-grade ore stockpile, TMF and/or MRA would be visible from specific receptor locations, a hypothetical 3D surface was generated with the current design specifications for the stockpiles and TMF dams, existing LiDAR data as well as information on the estimated canopy height in the vicinity of the Project.

Using the 3D model and the baseline photographs, altered photographs were generated to show an accurate representation of how the Project will affect the visual footprint from the nine receptor locations. The renderings were created using a photo editing/enhancement software to make the visible portion of the MRA look realistic. The result is a potential visual effect portrayal of what the MRA could look like at the end of the operations phase.

Activities performed at the Project site during the construction phase do not have the potential to affect the visual landscape of nearby receptors such as cottages. Activities that may have potential to affect landscape during the construction phase for land users include watercourse realignments and dam construction on Bagsverd Lake, Chester Lake, Clam Lake and Upper Three Duck Lake. This is expected to result in a perceptible change in landscape, but which should not affect enjoyment of the viewscape.

The MRA, TMF and low-grade ore stockpile will be constructed gradually during the operations phase of the Project. To simplify the visual aesthetics model, one scenario was modelled, which is when the Project components have reached maximum heights. This scenario allows for a conservative assessment of visual effects on nearby receptors. It is important to note that for many locations, the MRA and TMF will likely not be seen until several years into the operations phase.

Generally, the visual landscapes will be more affected during the summer months as the MRA will often be somewhat camouflaged by the snow in the winter season.

Mitigation and management measures inherent within the Project design that limit the extent of the visual effects includes: selection of one MRA, located further away from receptors and limit the design height of the MRA to 150 meters. Additionally, the trapper's cabin on Three Duck Lakes, given its location with respect to Project components, will be purchased and removed to limit visual aesthetics, air quality and noise and vibration effects from the Project.

Based on these measures, the effect of the Project on the visual landscape during the operations phase will be perceptible to six receptor locations, but will not affect enjoyment of the viewscape.

Modelling results also indicate that the Project components may be partially visible from one or more of the following lakes: Clam Lake, Chester Lake, Three Duck Lakes, Bagsverd Lake, Delaney Lake, Unnamed Lake #1and portions of Unnamed Lake #2, Schist Lake, Dividing Lake and Mesomikenda Lake. This visual effect is likely to be perceptible but will not affect enjoyment of the viewscape.

During the closure phase, mitigation inherent in the Project design includes partial vegetation of the MRA, especially on the faces of the MRA that will be seen by receptors. The revegetation will improve the look of the MRA and in turn will become part of the natural landscape. It is

anticipated that the affect of the Project on the visual landscape during closure will be perceptible but will not affect enjoyment of the viewscape.

During the post-closure phase, the vegetation on the MRA planted during the closure phase, will continue to grow and the MRA will increasingly become part of the natural landscape. Further details on the closure plan for the MRA are included in Chapter 5 of the EA report. The effects of the Project on the visual landscape during post-closure will be perceptible but will not affect enjoyment of the viewscape.

The transmission line constructed during the construction phase will be visible within the right-of-way of the transmission line alignment from construction until post-closure, where vegetation is expected to grow back to natural conditions. This effect is characterized as being perceptible but will not affect enjoyment of the viewscape.

1.0 INTRODUCTION AND PROJECT OVERVIEW

The Côté Gold Project (the Project) is an advanced stage gold exploration project located in the Chester and Neville Townships, District of Sudbury, in northeastern Ontario, approximately 20 kilometres (km) southwest of Gogama, 110 km southwest of Timmins, and 120 km northwest of Sudbury (direct distances; see Figure 1). IAMGOLD proposes to construct, operate and eventually rehabilitate a new open pit gold mine on the property.

This technical support document (TSD) has been prepared by AMEC and is one of a series of technical reports to support the environmental assessment (EA) for the Project.

1.1 Overview of the Project

IAMGOLD is planning to construct, operate and eventually reclaim a new open pit gold mine at the Côté Gold Project site.

The proposed site layout places the required mine-related facilities in close proximity to the open pit, to the extent practicable. The proposed site layout is presented in Figure 2 showing the approximate scale of the Côté Gold Project. The site plan will be refined further as a result of ongoing consultation activities, land purchase agreements and engineering studies.

As part of the proposed development of the Project, several water features will be fully or partially overprinted. These include Côté Lake, portions of Three Duck Lakes, Clam Lake, Mollie River/Chester Lake system and Bagsverd Creek. As a consequence, these water features will need to be realigned for safe development and operation of the open pit.

The major proposed Project components are expected to include:

- open pit;
- ore processing plant;
- maintenance garage, fuel and lube facility, warehouse and administration complex;
- construction and operations accommodations complex;
- explosives manufacturing and storage facility (emulsion plant);
- various stockpiles (low-grade ore, overburden and mine rock area (MRA)) in close proximity to the open pit;
- concrete batch plant;
- aggregate extraction with crushing and screening plants;
- Tailings Management Facility (TMF);
- on-site access roads and pipelines, power infrastructure and fuel storage facilities;
- potable and process water treatment facilities;
- domestic and industrial solid waste handling facilities (landfill);

- water management facilities and drainage works, including watercourse realignments; and
- transmission line and related infrastructure.

1.2 Visual Aesthetics

This visual aesthetics TSD presents the current visual landscape at select receptor locations near the Project site as well as the rendering of the visual landscape based on the current Project design. The only Project components that have the potential to be seen, based on the location of receptors near the Project site as well as the design of those components include: the low-grade ore stockpile, the TMF and the MRA.

1.2.1 Government, Aboriginal and Public Comments and Concerns

Visual aesthetics is of particular interest for the cottagers near the Project, as the Project has the potential to alter the visual landscapes. During conversations with cottagers near the Project, visual aesthetics was identified as an important part of the enjoyment of the natural environment.

Additionally, during an inter-ministerial meeting, government agencies specifically asked whether IAMGOLD was modelling the visual effects of the Project, which indicates interest in the subject.

Agencies also requested that future tree cutting plans be taken into consideration in the modelling. EACOM is in charge of the forest management area where the Project is located. EACOM put together a 5-year Forest Management Plan, which is accessible on their website (EACOM, 2013). None of the forestry activities planned for the next 5 years will have any effect on the visual modelling, given the location of the forest harvest as well as the location of receptors.

Aboriginal communities, during consultation activities, showed interest in the results of the visual aesthetics prediction of effects. Specifically, Aboriginal communities want to understand where Project components will be visible from and how this may affect them. Aboriginal communities are not only interested in visual effects on receptors but also from other land near the Project. This is addressed in Sections 4.1.2, 4.2.2, 4.3.2 and 4.4.2. They have also shown interest in understanding the visual effect of the transmission line. Those issues and concerns are addressed in Sections 4.1.3, 4.2.3, 4.3.3 and 4.4.3.

2.0 BASELINE CONDITIONS

2.1 Methodology

2.1.1 Selection of Receptors

The visual aesthetics receptors were initially selected based on a 5 km buffer around the Project site. Additional receptors were included beyond the 5 km buffer for contingency. This area is considered the local study area (see Figure 3). The majority of the receptors are seasonal cottages or trapper's cabins. The locations of the cottages were acquired from the Mesomikenda Lake Cottagers Association and local knowledge.

2.1.2 Fieldwork

Two fieldwork campaigns were carried out to capture the existing winter and the summer visual landscape during 2013. Twenty receptor locations were visited during the 2013 winter field campaign based on the initial selection of receptors (see Figure 3). This included locations along Highway 144 where there were existing forest clearings near the road. The number of receptors was reduced to nine during the 2013 summer field campaign (see Figure 3) based on the results of the viewshed analysis (see Section 2.1.4), which indicated that the additional receptor locations would not have the potential to be visually affected by the Project. The viewshed analysis also indicated that the Project components could not be seen from Highway 144.

One or more photographs were taken in the direction of the Project for each of the receptor locations. A levelled tripod was set up to hold the camera (Canon T3i Rebel) for each photograph. The following information was recorded for each photograph: date and time, Global Positioning System (GPS) coordinates, azimuth, height above sea level and the height of the camera above the ground.

Most of the receptors were located on the periphery of a lake. Photographs were taken from either the dock of the cottages or from the shore towards the planned MRA in order to get a clear shot.

2.1.3 Building the 3D model

In order to determine whether the proposed low-grade ore stockpile, TMF and/or MRA would be visible from specific receptor locations, a hypothetical 3D surface was generated with the current design specifications for the stockpiles and TMF dams.

The first step consisted of creating an existing conditions 3D surface that included detailed tree height data and potential other visual impedance information throughout the entire local study area. IAMGOLD provided AMEC with the full feature Light Detection and Ranging (LiDAR) American Standard Code for Information Interchange (ASCII) XYZ text files. This LiDAR survey was conducted in the summer of 2012. The ASCII XYZ raster surface tiles were georeferenced to North American Datum of 1983 (NAD83) Universal Transverse Mercator (UTM) zone 17N,

used the Canadian Geodetic Vertical Datum of 1928 and had a spatial resolution of 1 metre. Typical vertical accuracy for such LiDAR data is approximately +/- 15 to 20 cm.

Approximately 63% of the visual aesthetics local study area was covered by the high resolution full feature LiDAR data. Areas within the local study area that did not have LiDAR data coverage (37% of the local study area) were modeled using Ontario Ministry of Natural Resources (MNR) data to build a hypothetical full feature 3D surface. The provincial digital elevation model in conjunction with forest resource inventory tree stand data was used. The digital elevation model data served as the bare earth topographic surface. Forest stand polygon information and its associated average canopy height attribute information were used to generate approximate tree height for the areas outside of LiDAR coverage within the local study area. These estimated canopy height areas were then merged with the provincial digital elevation model data to produce a best approximation 3D surface of forest visual impedance regions for areas outside of LiDAR coverage. The LiDAR 3D surface and the MNR estimated 3D surface were combined to create a full 3D digital elevation raster surface for the local study area with full feature information necessary for modeling viewsheds from specific locations.

The outer toe and crest 3D polyline information for the TMF dams was provided by Knight Piésold in March 2013 as AutoCAD .dwg files. The low-grade ore stockpile design information and MRA design information were extracted from BBA general arrangement AutoCAD drawing 501-G-0110-0C.dwg in May 2013. The height of the MRA was increased by 8 metres in order to mimic a maximum overall MRA height of 150 metres above the existing ground surface. The 3D polyline information was used to interpolate a 3D raster surface for all three Project components being modeled. The Project component raster surfaces were then combined with the existing conditions full feature 3D surface creating a hypothetical 3D surface with the low grade ore stockpile, TMF dams and MRA embedded into the hypothetical 3D landscape based on the current Project component design specifications. This hypothetical 3D surface could be used to model viewshed locations from any position within the local study area.

2.1.4 Viewshed Analysis

Selected receptor locations within the local study area were visited during the winter field campaign. Photographs were taken from these receptor locations pointed in the general direction of the proposed Project components (low grade ore stockpile, TMF and MRA). The specific position data for the photograph locations were collected by GPS receiver and then mapped onto the hypothetical 3D raster surface. The 1 metre by 1 metre raster cells directly underneath these photograph locations were then raised by 1.5 metres in order to estimate average eye height above the ground surface. Viewshed analysis was then performed for each photograph location resulting in 21 viewshed raster outputs.

These output datasets are essentially categorical raster datasets where every location within the local study area is determined to be “visible” or “not visible” from the specified location. This method was used to determine which of the 21 investigated receptor locations had a line of sight to the proposed Project components. This resulted in portions of the proposed Project

components to be highlighted as “visible” on the 3D surface if they were part of the photograph location’s viewshed.

The viewshed analysis determined that 7 of the 20 receptor locations had a clear line of sight to the MRA. The TMF dams and the low grade ore stockpile were not visible from any of the receptor locations. Six of the seven locations had suitable 2013 winter photographs pointed in the correct direction of the MRA. Two additional receptor locations were deemed potential receptors and were re-visited during the 2013 summer field campaign. Therefore, nine locations were re-visited during the 2013 summer field campaign.

Additional viewshed analysis was conducted from these locations after the 2013 summer field campaign and it was established that only six receptor locations have a clear line of sight to the MRA (see Figure 4).

2.2 Results

The landscape in the vicinity of the Project site is typical of Northern Ontario’s landscape. This landscape is characterized by densely populated coniferous and deciduous trees, rivers and lakes.

The climate during the 2013 winter fieldwork campaign was overcast with snow. Most of the rivers and lakes were frozen and had a thick layer of snow covering them. Similarly, the ground had a thick snow cover.

The climate during the 2013 summer fieldwork campaign was sunny with a few clouds and overcast. The forest seemed more densely populated as the deciduous trees had leaves. The landscape had a reflection on the water as the lakes were calm and the sky was clear.

Receptor sheets for each of the receptors with the potential to be affected by the Project components are presented in Appendix I. Each receptor sheet contains the receptor description, location, baseline photograph and visual rendering of the view as at the end of the operations phase.

3.0 EFFECTS ASSESSMENT METHODOLOGY

3.1 Spatial Boundaries

3.1.1 Regional Study Area

No regional study area is required for the visual aesthetics component as no visual effects beyond the local study area are expected.

3.1.2 Local Study Area

Based on initial analysis of Project component height, it was identified that an area of approximately 5 km around the Project site could potentially experience visual effects. To be conservative, this buffer was slightly expanded on the North, East and West to include receptors on Mesomikenda Lake, Annex Lake and Schist Lake.

The local study area (see Figure 3) also includes a 1 km buffer on either side of the selected transmission line alignment.

3.2 Temporal Boundaries

The temporal boundaries of the EA will span all phases of the Project:

- construction;
- operations;
- closure; and
- post-closure.

3.3 Effects Assessment Indicators

The effects assessment indicators selected for the visual aesthetics TSD and the rationale for selection is presented in Table 3-1.

Table 3-1: Effects Assessment Indicator Selected for Visual Aesthetics

Effect Assessment Indicator	Rationale for Selection	Magnitude		
		Level I	Level II	Level III
Change in landscape from receptor locations	Project components have the potential to modify the visual landscape for nearby receptors.	No perceptible change in landscape.	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Perceptible change in landscape, which may affect enjoyment of the viewscape.

Effect Assessment Indicator	Rationale for Selection	Magnitude		
		Level I	Level II	Level III
Change in landscape from non-receptor locations	Project components have the potential to modify the visual landscape from the nearby lakes and clearings used by Aboriginal communities and other stakeholders.	No perceptible change in landscape.	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Perceptible change in landscape, which may affect enjoyment of the viewscape.
Change in landscape due to the transmission line	The transmission line has the potential to modify the visual landscape for nearby stakeholders.	No perceptible change in landscape.	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Perceptible change in landscape, which may affect enjoyment of the viewscape.

Source: AMEC (2013).

3.4 Prediction of Effects

3.4.1 Visual Rendering from Receptor Locations using 3D model

In order to produce altered photographs that show an accurate representation of how the MRA will affect the visual footprint from the receptor locations, the hypothetical 3D model was used. Accurate position information was recorded for each photograph during the 2013 field campaigns. This position information was then applied to the exact same location within the 3D model. The 3D model allows you to select an exact location and compare the view from this position in the 3D model to real world photographs taken during the 2013 summer and winter field campaigns. As the MRA was built into the hypothetical 3D model, it was then visualized along the tree-canopy skyline in the distance. Comparing these 3D model views with the real world photographs allows for accurate skyline footprint areas to be established within the real world photographs.

The renderings were created using a photo editing/enhancement software to make the visible portion of the MRA look realistic. The result is a potential visual effect portrayal of what the MRA is expected to look like at the end of the operations phase. The renderings are presented in the receptors sheets in Appendix I.

4.0 PREDICTION OF EFFECTS

This section presents the prediction of effects based on the current understanding of the Project components for the different phases of the Project and the mitigation measures inherent in the Project design. Effect mitigation and management measures are presented for each phase of the Project, where relevant.

4.1 Construction Phase

4.1.1 Change in Landscape from Receptor Locations

Activities performed during the construction phase of the Project do not have the potential to affect the visual landscape of nearby receptors. No change in landscape is expected during the construction phase of the Project.

4.1.2 Change in Landscape from Non-Receptor Locations

Activities performed during the construction phase of the Project will be limited to activities performed at the ground level. As such, only activities performed near water bodies or forest clearings have the potential to affect the landscape from non-receptor locations. Those activities include watercourse realignments and dam construction on Bagsverd Lake, Chester Lake, Clam Lake and Upper Three Duck Lake. This is expected to result in a perceptible change in landscape, which does not affect enjoyment of the viewscape.

4.1.3 Change in Landscape due to the Transmission Line

Construction activities along the transmission line alignment will consist of clearing the right-of-way (maximum 50 m) and installing the poles and transmission lines. Those activities are expected to be visible only from the cleared right-of-way as forests in this area of Ontario have a high canopy height and are quite dense. This is expected to result in a perceptible change in landscape, which does not affect enjoyment of the viewscape.

4.2 Operations Phase

4.2.1 Change in Landscape from Receptor Locations

As previously mentioned, the components that were initially identified to have the potential to be seen from receptor locations included: the low-grade ore stockpile, the TMF and the MRA. With further understanding of the existing topography and tree heights in the vicinity of the Project, only the MRA was identified as having a potential to be seen from receptor locations due to its height.

The MRA will be constructed gradually during the operations phase of the Project. To simplify the visual aesthetics model, one scenario was modelled, which is at the end of operations phase, once the MRA has reached its final height. This scenario allows for a conservative assessment of visual effects on nearby receptors. It is important to note that for many locations, the MRA will likely not be seen until several years into the operations phase.

Mitigation and management measures inherent within the Project design that limit the extent of the visual effects includes: selection of one MRA, located further away from receptors and limiting the design height of the MRA to 150 meters. Additionally, the trapper's cabin on Three Duck Lakes, given its location with respect to Project components, will be purchased and removed to limit visual aesthetics, air quality and noise and vibration effects from the Project.

Appendix I presents the results of the visual rendering done for the winter and summer seasons. Based on the mitigation presented above, a total of 6 receptors will have their landscape affected by the MRA, to various degrees. Generally, the visual landscapes will be more affected during the summer months as the MRA will often be camouflaged by the snow in the winter season.

As a result, the effect of the Project on the visual landscape during the operations phase is perceptible but will not affect enjoyment of the viewscape for the receptors.

4.2.2 Change in Landscape from Non-Receptor Locations

As identified in Section 4.2.1, changes in landscape during the operations phase have been modelled conservatively to represent the maximum heights of the MRA, TMF and low-grade ore stockpile .

Figure 5 presents the results of the model which looks at identifying the areas that will view the TMF, MRA and low-grade ore stockpile. Results indicate that the MRA will be the main visible Project component, being visible from Clam Lake, Chester Lake, Three Duck Lakes, Bagsverd Lake, Delaney Lake, and portions of Schist Lake, Dividing Lake and Mesomikenda Lake. The TMF, which is not as tall of a structure, will be seen from Unnamed Lake #1 and portions of Unnamed Lake #2 and Bagsverd Lake. The low-grade ore stockpile will be seen from portions of Bagsverd Lake and Three Duck Lakes.

Based on the modelling and the current understanding of the Project components, it is expected that the changes in the visual landscape during the operations phase will be perceptible but will not affect enjoyment of the viewscape.

4.2.3 Change in Landscape due to the Transmission Line

The visual effects experienced during the construction phase are expected to continue into the operations phase. The transmission line is expected to be visible from within the right-of-way (maximum 50 m). Photograph 4-1 presents an existing 230 kV transmission line. It is expected that the transmission line for the Project will be similar. The presence of this transmission line is expected to result in a perceptible change in landscape, which does not affect enjoyment of the viewscape.

Photograph 4-1: Typical 230 kV Transmission Line and Poles

Source: Detour Gold

4.3 Closure Phase

4.3.1 Change in Landscape from Receptor Locations

During the closure phase, mitigation inherent in the Project design includes partial vegetation of the MRA, especially on the faces of the MRA which will be seen by receptors. The revegetation will improve the look of the MRA and in turn will become part of the natural landscape. It is anticipated that the effect of the Project on the visual landscape during closure will be perceptible but will not affect the receptors' enjoyment of the viewscape.

4.3.2 Change in Landscape from Non-Receptor Locations

During the closure phase, mitigation inherent in the Project design includes partial vegetation of the MRA, especially on the faces of the MRA which will be seen by receptors. The revegetation will improve the look of the MRA and in turn will become part of the natural landscape.

At closure, the low-grade ore stockpile will no longer exist, as the ore will be processed prior to closure of the process plant.

It is anticipated that the effect of the Project on the visual landscape during closure will be perceptible but will not affect enjoyment of the viewscape.

4.3.3 Change in Landscape due to the Transmission Line

During the closure phase, the transmission line will be removed and natural vegetation will be allowed to grow within the right-of-way. Once the removal of the transmission line is completed,

there will be no more manmade equipment in the transmission line right-of-way. It is anticipated that this effect will be perceptible but will not affect enjoyment of the viewscape.

4.4 Post-Closure Phase

4.4.1 Change in Landscape from Receptor Locations

During the post-closure phase, the vegetation on the MRA planted during the closure phase, will continue to grow and the MRA will increasingly become part of the natural landscape. The effects of the Project on the visual landscape during post-closure will be perceptible but will not affect the receptors' enjoyment of the viewscape.

4.4.2 Change in Landscape from Non-Receptor Locations

During the post-closure phase, the vegetation on the MRA planted during the closure phase, will continue to grow and the MRA will increasingly become part of the natural landscape. The effects of the Project on the visual landscape during post-closure will be perceptible but will not affect enjoyment of the viewscape.

4.4.3 Change in Landscape due to the Transmission Line

During the post-closure phase, the vegetation will continue to grow in the right-of-way. It is anticipated that at some time into post-closure, the right-of-way will return to its original state. Compared to current baseline conditions, it is anticipated that this effect will no longer be perceptible.

5.0 CONCLUSIONS

Based on the current design, the TMF will not be visible from receptor locations. The MRA will be visible from seven receptor locations in the vicinity of the Project site. One of those receptors (the trapper's cabin located on Three Duck Lakes) will be purchased and removed given its proximity to Project components and to prevent any visual aesthetics, air quality and noise and vibration effects. With this mitigation measure implemented, the Project components will be visible from six receptor locations. Rendered photographs of what the predicted view from the receptor locations are presented in Appendix I.

Similarly, the MRA, TMF and low-grade ore stockpile will be visible from multiple lakes around the Project site, mainly: Three Duck Lakes, Clam Lake, Chester Lake, Bagsverd Lake, Delaney Lake, Unnamed Lake #1, as well as portions of Unnamed Lake #2 Mesomikenda Lake, Dividing Lake and Schist Lake.

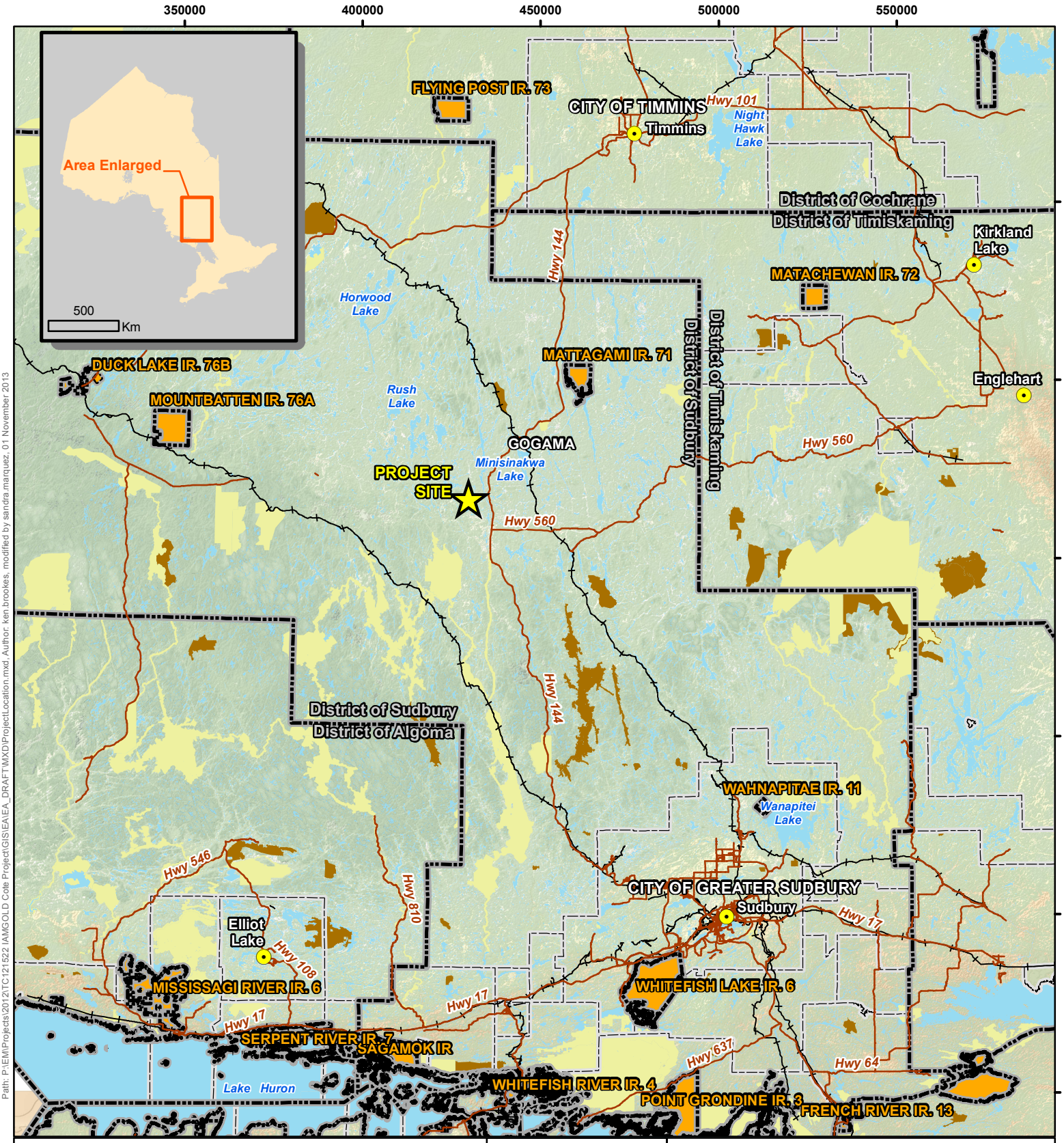
Based on those results, it is expected that overall Project will result in a visual effect on select receptors and areas in the local study area starting late in the operations phase until post-closure. This effect is characterized as being perceptible but will not affect enjoyment of the viewscape.

The transmission line will be visible within the right-of-way of the transmission line alignment from closure until post-closure, where vegetation is expected to grow back to natural conditions. This effect is characterized as being perceptible but will not affect enjoyment of the viewscape.

6.0 REFERENCES

EACOM. (2013). *Forestry Maps*. Retrieved 09 18, 2013, from EACOM Timber Corporation: http://www.eacom.ca/wood/forest/forestry-maps

FIGURES



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LEGEND

- Project Site Location
- Regional Communities
- Major Roads
- Railway
- Lower Tier Municipality Boundary
- Upper Tier Municipality Boundary
- First Nation Reserve
- Conservation Reserve (Regulated)
- Provincial Park
- Waterbody / Large Watercourse
- Wooded Area

NOTES:
- All base data on this map was extacted from Land Information Ontario, MNDM, OBM Ontario Digital Geospatial Database and Ontario Road Network Database.

0 20 40 60 80 100 Kilometres

Datum: NAD83
Projection: UTM Zone 17N

N W E S

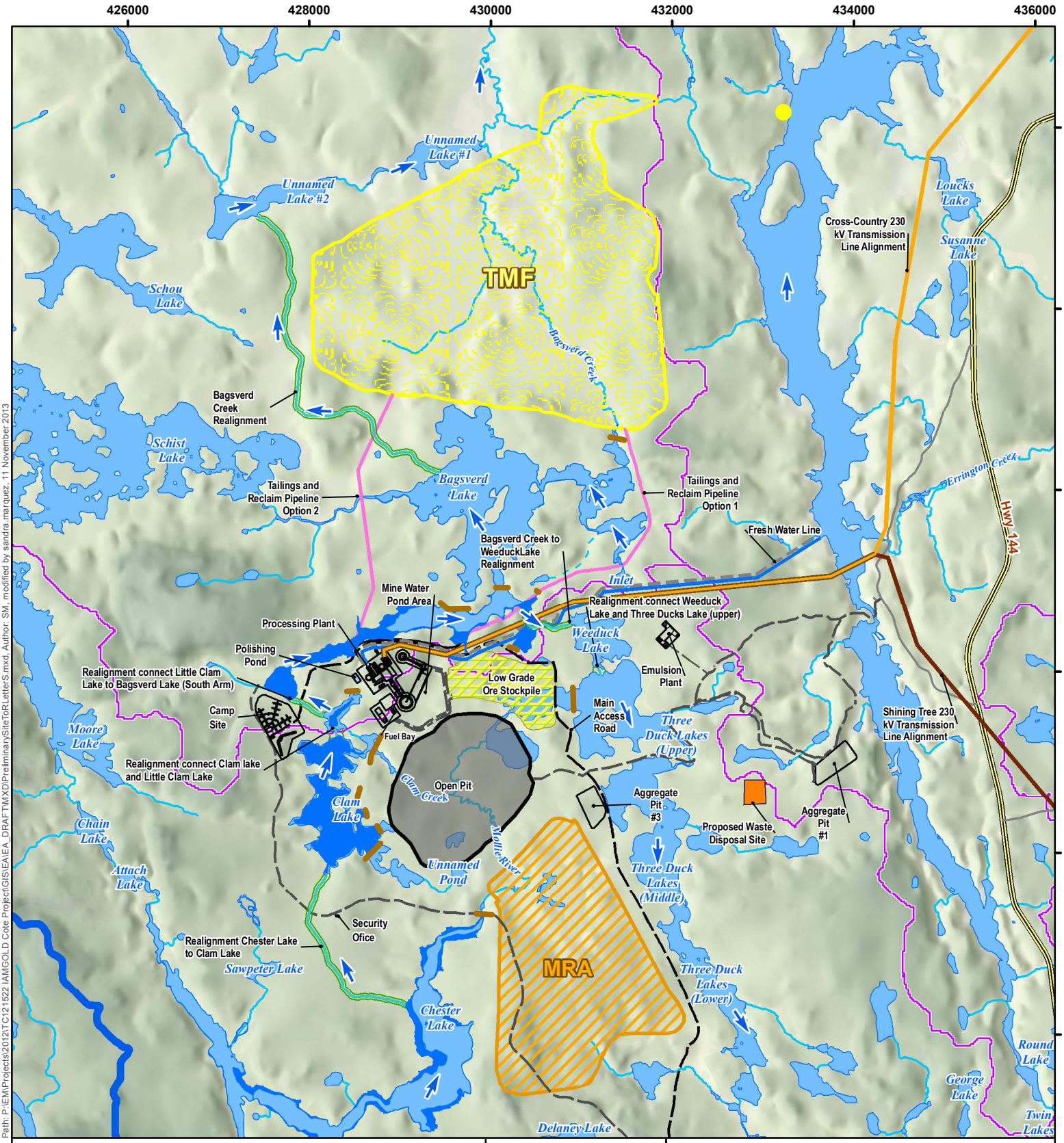
IAMGOLD CORPORATION

amec

CÔTÉ GOLD PROJECT

Project Location

PROJECT N°: TC121522	FIGURE: 1
SCALE: 1:1,450,000	DATE: December 2013



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LEGEND

- Existing Intermittent Watercourse
- Existing Permanent Watercourse
- Existing Waterbodies
- Highway
- Local Road
- Subwatershed Boundary
- Wooded Area
- Open Pit
- Potential Discharge Location
- Facilities
- Dam
- Main Access Road
- Access Road
- Cross-Country 230 kV Transmission Line Alignment
- Shining Tree 230 kV Transmission Line Alignment
- Tailings and Reclaim Pipeline
- Fresh Water
- Water Realignment
- Proposed Water Flow Direction
- Proposed Lake Area
- Polishing Pond
- Low Grade Ore Stockpile
- Proposed Mine Rock Area (MRA)
- Proposed Tailings Management Facility (TMF)
- Proposed Landfill

NOTES:
- Ontario base data extracted from Land Information Ontario (MNR)
- TMF and subwatershed provided by Golder Associates.
- Watercourse realignment and proposed lake area provided by Calder Engineering.
- Surface infrastructure, open pit, landfill, MRA and transmission lines provided by IAMGOLD.
- Mesomikenda Lake is preferred discharge option, but others are being investigated.

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CÔTÉ GOLD PROJECT

Preliminary Site Plan

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 3 4 5 Kilometres

N W E S

PROJECT N°: TC121522	FIGURE: 2
SCALE:1:57,000	DATE: December 2013

424000 428000 432000 436000

5280000 5276000 5272000 5268000 5264000 5260000

TMF

Low Grade Ore Stockpile

MRA

Somme Lake
Somme River
Neville Lake
Wizard Creek
Skidway Lake
St-Louis Creek
Little Somme River
Loucks Lake
Domestic Waste
Tennewis Creek
Bennewis Creek
Moore Lake
Clam Creek
Clam Lake
Chain Lake
Bernice Lake
Bernice Creek
Benneweis Lake
Chester Lake
Bourne Lake
Fire
Dividing Lake
Communication
Little Mollie Creek
Azure

P:\EM\Projects\2012\TC121522 IAMGOLD Cote Project\GIS\Visual Impact Assessment\MXD\Selected Receptor Locations Visited 2.mxd

LEGEND

- Visual Aesthetics Local Study Area
- Project Components being Modeled for Visibility
- Potential Receptor Locations Visited During the Winter Field Campaign
- Potential Receptor Locations Visited During the Winter and Summer Field Campaigns

NOTES:
- Ontario base data extracted from Land Information Ontario (MNR)

Datum: NAD83
Projection: UTM Zone 17N

0 1.25 2.5 5 7.5 10 Kilometres

IAMGOLD® CORPORATION amec

CÔTÉ GOLD PROJECT

Selected Visual Receptor Locations Visited During Field Campaigns

DRAFT

PROJECT N°: TC121522	**FIGURE: 3**
SCALE: 1:68,000	DATE: September 2013

424000 428000 432000 436000

5280000 5276000 5272000 5268000 5264000 5260000

C14 C7 C6 C4 C12 C11 C16 C15 VS1

TMF

Low Grade Ore Stockpile

MRA

Somme Lake Somme River Neville Lake Wizard Creek Skidway Lake St-Louis Creek Little Somme River Loucks Lake Domestic Waste Benneweis Creek Moore Lake Clam Creek Chain Lake Clam Lake Benneweis Lake Bernice Lake Bernice Creek Chester Lake Rowna Lake Fire Dividing Lake Communication Little Mollie Creek Azure

P:\EM\Projects\2012\TC121522 IAMGOLD Cote Project\GIS\Visual Impact Assessment\MXD\Selected Receptor Locations with Visual 2.mxd

LEGEND

- Visual Aesthetics Local Study Area
- Receptor Locations where Line-of-sight is Unobstructed (Labelled with ID)
- Receptor Locations where Line-of-sight is Obstructed (Labelled with ID)
- Combined Modeled Visible Areas from all 7 Receptor Locations

NOTES:
- Ontario base data extracted from Land Information Ontario (MNR)

Datum: NAD83
Projection: UTM Zone 17N

0 1.25 2.5 5 7.5 10 Kilometres

IAMGOLD CORPORATION amec

CÔTÉ GOLD PROJECT

Modeled Visible Areas from Visual Receptors

DRAFT

PROJECT N°: TC121522	**FIGURE: 4**
SCALE: 1:68,000	DATE: September 2013

424000 428000 432000 436000

5280000 5276000 5272000 5268000 5264000 5260000

TMF

Low Grade Ore Stockpile

MRA

Somme Lake
Somme River
Little Somme River
Moore Lake
Chao Lake
Clam Creek
Clam Lake
Oasis Lake
Wizard Creek
Skidway Lake
St-Louis Creek
Loucks Lake
Domestic Waste
Bennetweis Creek
Bennetweis Lake
Bernice Lake
Bernice Creek
Fire
Dividing Lake
Communication
Little Mollie Creek
Azure

P:\EM\Projects\2012\TC121522 IAMGOLD Cote Project\GIS\Visual Impact Assessment\EN_Comments_Analysis\MXD Maps\Viewshed Analysis for Entire StudyArea 2.mxd

LEGEND

- Visual Aesthetics Local Study Area
- Waterbody Outline

Outward Looking Modelled Observer Points:

- Top of MRA
- Top of Low-grade Ore Stockpile
- Top of TMF Dams

Locations Visible from:

- Top of TMF Dams, top of Low-grade Ore Stockpile and top of MRA
- Top of Low-grade Ore Stockpile and top of MRA
- Top of TMF Dams and top of MRA
- Top of TMF Dams and top of Low-grade Ore Stockpile
- Top of MRA
- Top of TMF Dams
- Top of Low-grade Ore Stockpile

TK / TLU Identified Areas:

- Wildlife (Eagle Nest)
- Waterfowl Hunting Area
- Portage Route
- Waterfowl Hunting Route
- Sensitive Areas (1Km Buffer)

Viewshed Analysis Interpretation Key:

- Speckled colour areas indicate forest canopy visual, not ground level visual
- Solid colour areas indicate ground or water surface visual, not canopy visual

NOTES:
- Ontario base data extracted from Land Information Ontario (MNR)
- Portage route, Waterfowl Hunting route, Sensitive Areas, Wildlife and Hunting points provided and extracted by Wildlife Mattagami/Flying Post TK/TLU

Datum: NAD83
Projection: UTM Zone 17N

0 1.25 2.5 5 7.5 10 Kilometres

N W E S

IAMGOLD CORPORATION amec

CÔTÉ GOLD PROJECT

Modeled Project Component Visible Areas in the Local Study Area

DRAFT

PROJECT N°: TC121522	**FIGURE: 5**
SCALE: 1:68,000	DATE: November 2013

APPENDIX I

RECEPTOR SHEETS

RECEPTOR LOCATION C4

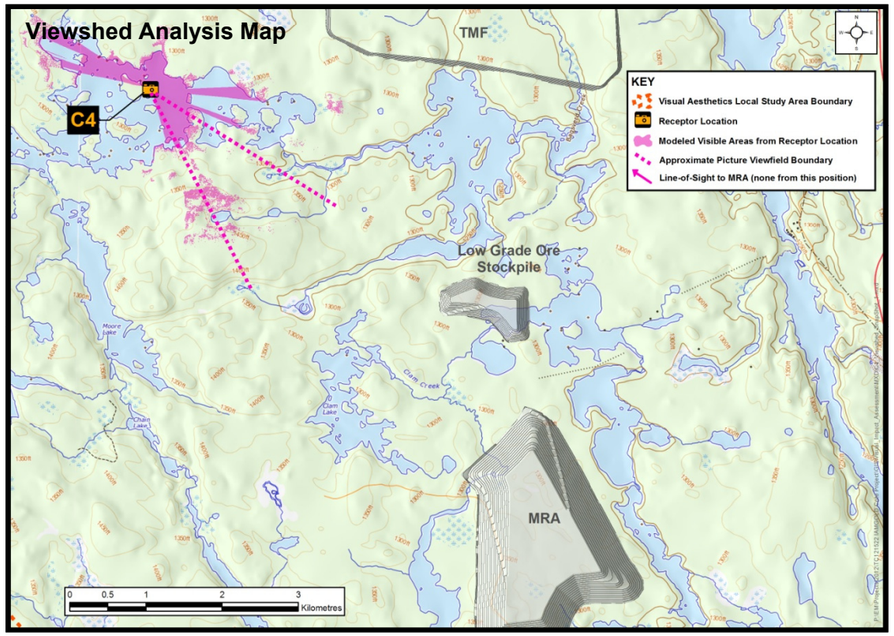
Description: Cabin on Schist Lake

Longitude: 81° 59' 15.6" W

Latitude: 47° 35' 7.3" N

Distance from MRA: 6.6 km

Angle of View: Southeast




Receptor View – Winter Photograph Rendering


Baseline Photograph – Winter 2013


Receptor View – Summer Photograph Rendering

RECEPTOR LOCATION C6

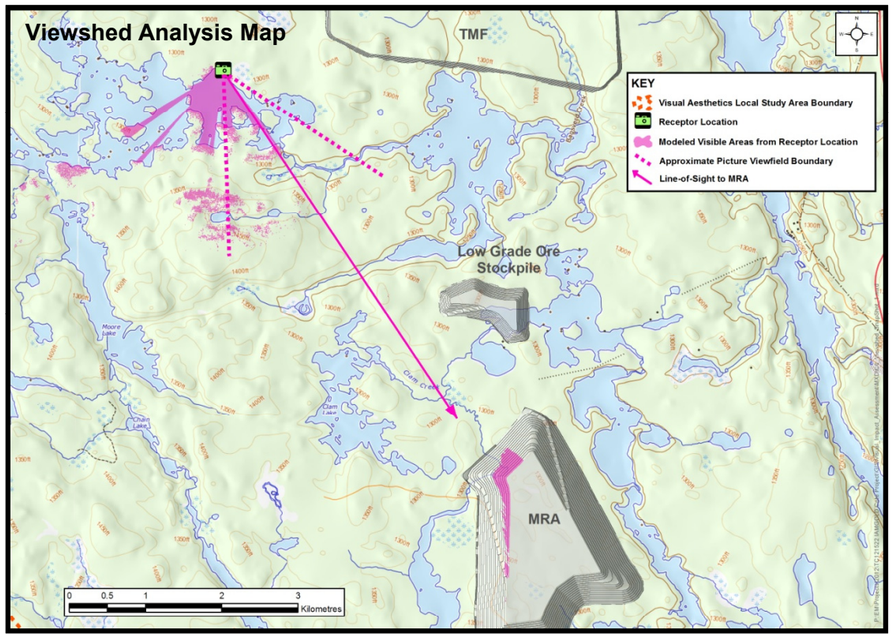
Description: Cabin on Schist Lake

Longitude: 81° 58' 29.9" W

Latitude: 47° 35' 16.4" N

Distance from MRA: 6 km

Angle of View: Southeast



No Comparable Winter Photograph Available

Baseline Photograph – Summer 2013

Receptor View – Summer Photograph Rendering

RECEPTOR LOCATION C7

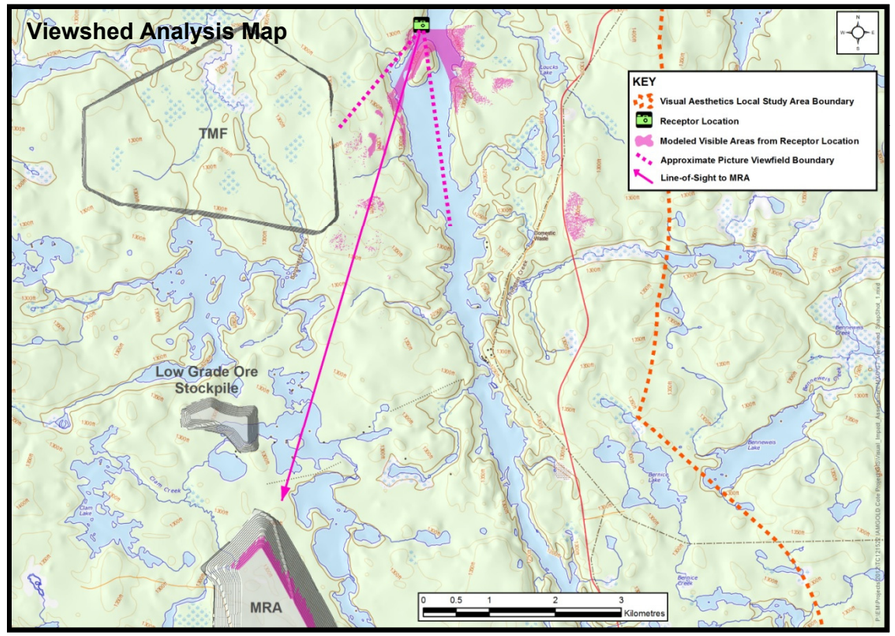
Description: Dock on Mesomikenda Lake for Cottage Located in the Forest

Longitude: 81° 53' 20.8" W

Latitude: 47° 36' 52.9" N

Distance from MRA: 8 km

Angle of View: Southwest



Receptor View – Winter Photograph Rendering

Baseline Photograph – Winter 2013

Receptor View – Summer Photograph Rendering

RECEPTOR LOCATION C11

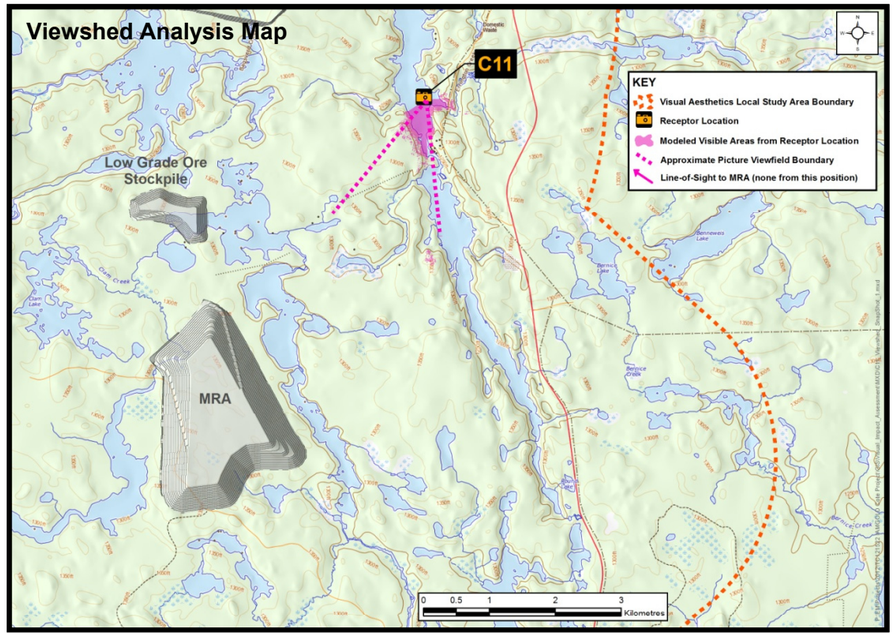
Description: Island Cottage on Mesomikenda Lake

Longitude: 81° 52' 39.5" W

Latitude: 47° 34' 35.6" N

Distance from MRA: 4.9 km

Angle of View: Southwest




Receptor View – Winter Photograph Rendering


Baseline Photograph – Winter 2013


Receptor View – Summer Photograph Rendering

RECEPTOR LOCATION C12

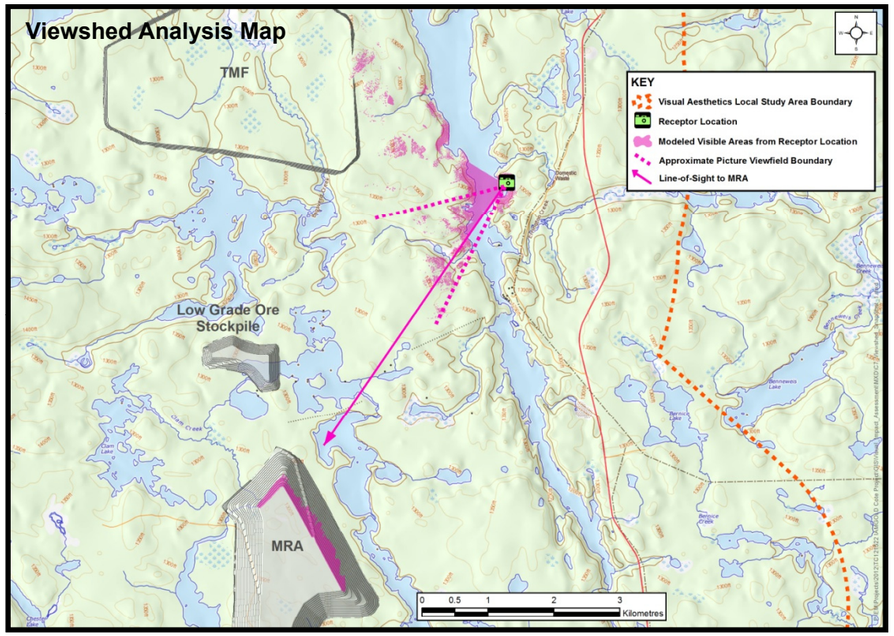
Description: Multiple Cottages on Mesomikenda Lake

Longitude: 81° 52' 32.5" W

Latitude: 47° 35' 6.1" N

Distance from MRA: 5.5 km

Angle of View: Southwest



Receptor View – Winter Photograph Rendering

Baseline Photograph – Winter 2013

Receptor View – Summer Photograph Rendering

RECEPTOR LOCATION C14

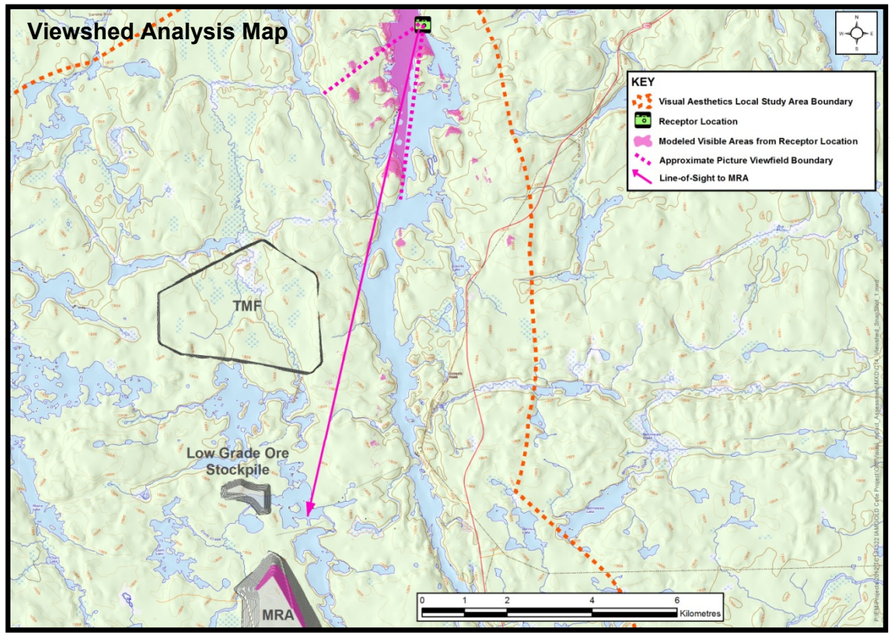
Description: Multiple Cottages on Mesomikenda Lake

Longitude: 81° 52' 30.9" W

Latitude: 47° 39' 36.7" N

Distance from MRA: 13 km

Angle of View: Southwest



Receptor View – Winter Photograph Rendering

Baseline Photograph – Winter 2013

Receptor View – Summer Photograph Rendering

RECEPTOR LOCATION C15

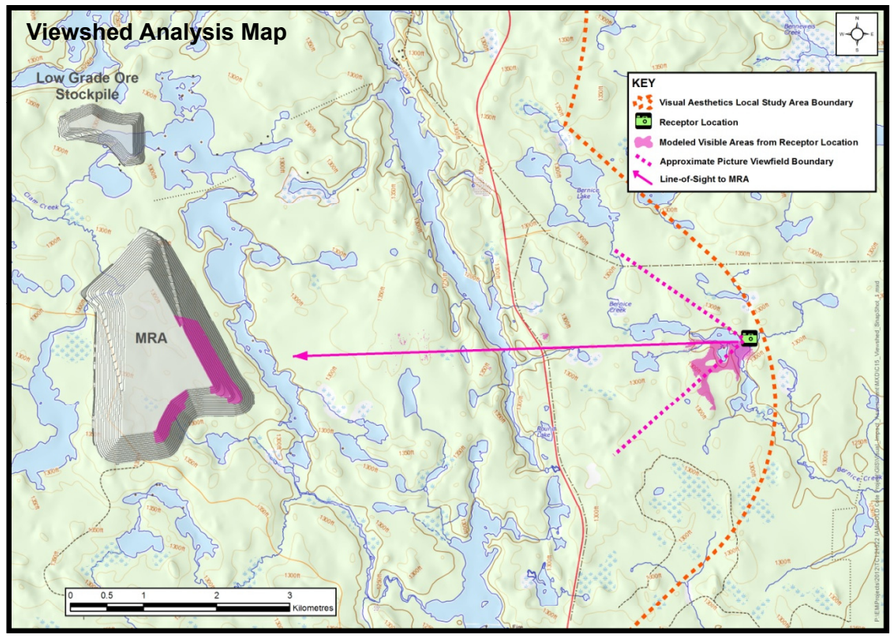
Description: Cabin on Annex Lake

Longitude: 81° 48' 38.8" W

Latitude: 47° 32' 8.4" N

Distance from MRA: 7 km

Angle of View: West




Receptor View – Winter Photograph Rendering


Baseline Photograph – Winter 2013


Receptor View – Summer Photograph Rendering

RECEPTOR LOCATION C16

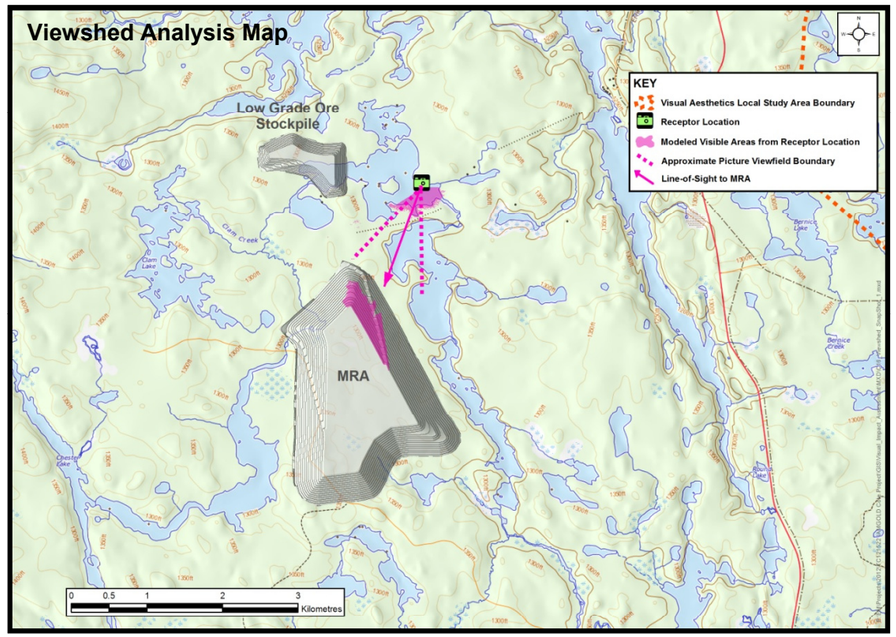
Description: Trapper's Cabin on Three Duck Lakes

Longitude: 81° 54' 28.4" W

Latitude: 47° 33' 28.6" N

Distance from MRA: 1.8 km

Angle of View: Southwest



Receptor View – Winter Photograph Rendering

Baseline Photograph – Winter 2013

Receptor View – Summer Photograph Rendering

RECEPTOR LOCATION VS1

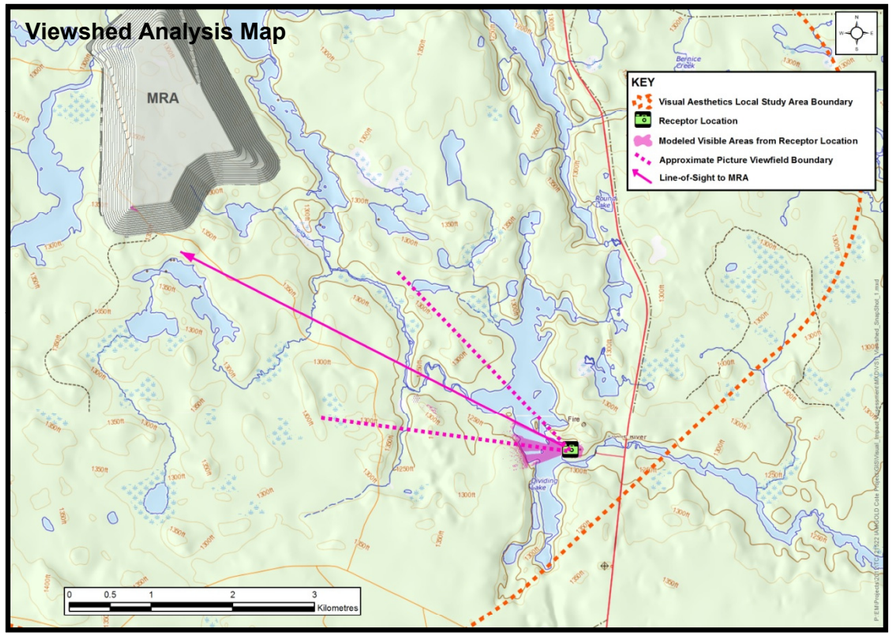
Description: Rangers Camp on Dividing Lake

Longitude: 81° 51' 10.1" W

Latitude: 47° 29' 47.2" N

Distance from MRA: 6 km

Angle of View: Northwest




Receptor View – Winter Photograph Rendering


Baseline Photograph – Winter 2013


Receptor View – Summer Photograph Rendering