

**Natural & Human Hazards/Constraints – Brownfield Sites, Mine Hazards and Land Use Compatibility**

**BACKGROUND:**

- Human constraints are human-made situations that present impediments, restrictions, or limits to development. In some cases, if development occurs within a specific area of constraint, it may result in a hazard to life, health or property.
- Restrictions or limits to development must sometimes be imposed to ensure public health and safety, avoid conflicts between different land uses, and mitigate “adverse effects” as defined in the Environmental Protection Act. Often, development can be sited or designed to mitigate the influence of a constraint.
- Land uses, infrastructure or other situations can impose a constraint to development due to the potential for land use conflicts. Land use conflicts created in those situations may present a hazard or particular adverse effects such as noise, dust, odour, ground water contamination, traffic, pests, litter, methane gas, or visual impact. These impacts may present a hazard to health, safety or the use or enjoyment of property, particularly for sensitive land uses such as residences, hospitals, schools, and recreation areas. Consequently, sensitive uses need to be protected from industrial and public facilities, which may cause adverse effects.
- Conversely, the location of sensitive uses near industrial uses or public facilities may reduce the viability of that operation and its potential for expansion. The need for, and cost of, mitigation may be imposed upon that facility or operation in accordance with the Environmental Protection Act. Industrial operations often provide an important contribution to the economy of the Town and should be protected from sensitive uses. Similarly, where there is substantial public investment in essential facilities such as landfill sites, sewage facilities, or significant roadways, these uses should be protected from sensitive uses to ensure their continued viability and avoid public expense to mitigate a conflict. Within the Town, the Stisted Landfill and the Stephenson sewage lagoon sites need to be protected from sensitive sites. Old non-active dumps and landfill sites also exist on private land throughout the Town, which could affect any development proposed in the area.
- Adverse effects can often be prevented or mitigated by location and design of development, specifically the separation of uses, the use of setbacks and buffering.

**POLICY CONTEXT:**

**Environmental Protection Act:**

- 14.1 Prohibits the discharge of any contaminants into the natural environment which cause or may cause adverse effects.
- 17 Requires that any discharge of contaminants that causes or may cause injury, damage, or endangerment to land, water, property, animal life, plant life, or human health and safety , be prevented, repaired, or remediated.

### **Ontario Regulation 153/04 – Records of Site Condition:**

- Sets out technical requirements for conducting Phase 1 and Phase 2 Environmental Site Assessments (ESAs), Site Remediation, and Risk Assessments.
- Filing of a Record of Site Condition (RSC) is necessary whenever a property changes to a more sensitive land use (e.g. industrial/commercial to residential) [Part IV].
- RSCs are required to indicate that the site has been assessed and whether or not they meet the soil, groundwater, and sediment quality criteria applicable for the proposed new use of the property.
- Requires that the ESA reports completed to support the filing of an RSC be conducted or supervised by a qualified person [26.1].

### **Mining Act:**

- Part VII Requires the rehabilitation of mining lands, wherever a mine hazard exists, in accordance with prescribed standards so that the site is either restored to its previous condition or to a condition deemed suitable for a specific use.
- 1 (1) “Mine Hazard” means any feature of any mine, of any disturbance of the ground that has not been rehabilitated to the prescribed standard, which includes abandoned sites.
- 143.3.1 Requires the submission of both closure and rehabilitation plans to be submitted.
- 148.1 Outlines the “Duty to Act” which requires the proponent of a mine hazard that causes or is likely to cause an immediate and dangerous adverse effect to prevent, eliminate, or ameliorate it.

### **Provincial Policy Statement (2014):**

- 1.2.1.f Recommends that a coordinated, integrated and comprehensive approach be taken when dealing with cross-jurisdictional planning matters such as human-made hazards.
- 1.7.1.e States that long term economic prosperity should be supported by promoting the redevelopment of brownfield sites.
- 3.1.5 Prohibits certain types of development (e.g. institutional uses such as hospitals, retirement homes, and schools), essential emergency services, and uses associated with hazardous substances, to locate in hazardous lands and hazardous sites.
- 3.1.7 Requires that development and site alteration which may be permitted in portions of hazardous lands and hazardous sites where the effects and risk to public health and safety are minor, be mitigated in accordance with provincial standards and meet a number of criteria including no adverse environmental impacts.

- 3.2.1 States that development on, or abutting, lands affected by human-made hazards may be permitted only if rehabilitation or other mitigation measures to address known or suspected hazards are underway or have been completed.
- 3.2.2 Requires that sites with contaminants in land or water be assessed and remediated as necessary prior to any activity on the site such that there will be no adverse effects.

**Current Muskoka Official Plan & Policy Directions Report:**

Vision, Objective to minimize potential costs, social disruption, and risks to public health and safety by  
B.11 directing development away from natural and human-made hazards.

**First Draft - Muskoka Official Plan:**

- H2.1 a) Development on, abutting or adjacent to lands affected by **mine hazards, oil, gas and salt hazards**, or former **mineral mining operations, mineral aggregate operations** or **petroleum resource operations** may be permitted only if rehabilitation or other measures to address and mitigate known or suspected hazards are under way or have been completed.
- b) The District shall consult with the Provincial Ministries with jurisdiction for **development** applications within one kilometre of former **mineral mining operations** (i.e. abandoned mines) as shown on Schedule \_\_\_\_\_ and for **development** applications within 75 metres of any identified former **petroleum resource operations**, including abandoned wells. The District shall utilize information made available by the Province and other sources to determine if human-made hazards are present on or adjacent to **development** applications.
- c) As new information becomes available, updated mapping provided by the Province will be relied upon to assist in determining the locations of human-made hazards.
- H2.2 Sites with contaminants in land or water shall be assessed and remediated as necessary prior to any activity on the site associated with the proposed use such that there will be no **adverse effects**.
- H2.3 a) The development or redevelopment of potentially contaminated sites shall be assessed and remediated in a manner consistent with the Environmental Protection Act and relevant regulations, and the relevant Provincial Ministry with jurisdiction's guidelines and procedures.
- b) Sites known or suspected to have soils contaminated with residues of current or previous industrial or commercial land uses must have the environmental condition of the site assessed. When managing development on potentially contaminated sites, a Record of Site Condition (RSC) either prior to the development approval, at the time of release of conditions of approval, or at the time of issuance of building permits, as required or

stipulated by the Area Municipality must be received.

- c) When considering applications for development that include sites suspected or known to be contaminated, the approval authority will require at its discretion that a Phase 1 Environmental Site Assessment (ESA) be undertaken by the applicant in accordance with Ontario Regulation 153/04. This would require sampling and analysis of the site to confirm and delineate the presence or absence of contamination suspected by the ESA report.
- d) As a condition of approval, the approval authority will require that remediation, where required, is undertaken to appropriate standards of the MOECC, as specified in Ontario Regulation 153/04 and in the guideline Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, or other regulator requirements of the Provincial Ministry with jurisdiction, as amended from time to time.
- e) Mandatory filing of a Record of Site Condition in the Registry, by a qualified person, as defined in O. Reg. 153/04, as amended, is required for a change in use of a property from industrial or commercial to residential or parkland, as defined in the regulation, and will be acknowledged by the Provincial Ministry that has jurisdiction. A site clean-up plan may be required and the site may need to be cleaned-up in accordance with the O. Reg. 153/04, as amended and with the Provincial Ministry with jurisdiction's guidelines (e.g. "Records of Site condition – A Guide on Site Assessment, the Clean-up of Brownfield Sites and the Filing of Records of Site Condition" dated October 2004).
- f) A Record of Site Condition may, at the approval authority's discretion, be a required condition of approval under this Plan. In addition to changes of use prescribed by the Environmental Protection Act as uses for which a Record of Site condition is mandatory (a change of use to a more sensitive land use), the Area Municipality may require a RSC to be filed where the application does not involve a change of use to a more sensitive land use as defined in the Environmental Protection Act.

- H2.4
- a) Existing operating and known closed or non-operating waste disposal sites are shown on Appendix # \_\_\_\_\_ to this Plan. The District, Area Municipalities, and relevant stakeholders (including Provincial ministries as necessary) shall work collaboratively in identifying an inventory of closed or non-operating waste disposal sites for the purposes of implementing this policy.
  - b) No new development will be permitted within 30 metres of an operating, nonoperating, or closed waste disposal site.
  - c) The **development** of new uses or new or enlarged buildings or structures within 500 metres or other potential influence area distance as determined by the Province and/or District to existing and known closed or non-operating waste disposal site sites may be permitted, provided an assessment is completed to determine:
    - i) Whether the proposed use will be adversely affected by noise, odour, dust or other nuisance factors from the adjacent land use;

- ii) Whether human health will be adversely affected by ground and surface water contamination or gas migration; and
  - iii) That there are no other environmental issues associated with the site that would make the lands unsuitable for development;
- d) While an assessment will generally be required for all new development or land use changes within a potential influence area to evaluate the presence and impact of any adverse effects or risks to health and safety and to identify any mitigation or remedial measures required, there are some situations where an assessment may not be required or could be scoped through consultation with the Provincial Ministry with jurisdiction and/or the District.
- e) The assessment required in sub-section c) is intended to address these matters and other items outlined in the Province's Guideline D-4, April 1994, or its successor as required to ensure that the proposed land uses are compatible in nature and do not adversely impact upon each other.
- f) No use shall be made of land or land covered by water that has been used for the disposal of waste within a period of twenty-five years from the year that such land ceased to be used for such purposes unless the approval of the Provincial Ministry with jurisdiction has been granted.

H2.5 The **development or redevelopment** of potentially contaminated sites shall be assessed and remediated in a manner consistent with the Environmental Protection Act and relevant regulations, and the relevant Provincial guidelines and procedures.

### **Town Strategic Documents:**

#### **Strategic Plan**

Natural Environment and Sustainability

Goal #1: Demonstrate the Town's commitment to protecting the quality and character of the natural environment.

Goal #2: Integrate sustainability principles into planning and development policies and processes.

#### **Unity Plan**

Goal #1 Environment: The community will protect, preserve, restore and enhance the terrestrial and aquatic environments and biodiversity of Huntsville and surrounding area by being responsible stewards of the environment.

Goal #5 Land Use Planning: Huntsville will become a model of sustainable community development, by incorporating the principles of smart growth, sustainable design and green buildings into all land use planning decisions. This will include a commitment to the protection and maintenance of Huntsville's rural small town character and vibrant downtown, both of which are valued by the community.

**Huntsville Official Plan:**

**10.5 Railways:**

10.5.2 All proposed development adjacent to railways shall ensure that appropriate safety measures such as setbacks, berms and security fencing are provided, to the satisfaction of the Town and CN. Where applicable, the Town will ensure that sightline requirements of Transport Canada are addressed.

10.5.3 The Town may require noise studies for residential or other sensitive land uses located within 300 metres (1,000 feet) of the railway right-of-way, to be prepared to the satisfaction of the Town and CN.

10.5.4 The Town may require vibration studies for residential or other sensitive land uses located within 75 metres (246 feet) of the railway right-of-way, to be prepared to the satisfaction of the Town and CN.

10.5.5 New residential development may be permitted within 300 metres (1,000 feet) of a rail yard provided that applicable provincial policies and guidelines, including MOE noise assessment and land use compatibility guidelines, have been addressed and the Town and CN are satisfied that appropriate measures to mitigate any adverse effects have been undertaken and it has been demonstrated that there will be no negative impacts on the long term function of the rail yard.

10.5.6 The Town may require noise studies for residential or other sensitive land uses located within 1,000 metres (3,300 feet) of a rail yard, to be prepared as required, and to the satisfaction of the Town and CN, to support the feasibility of the development.

10.5.7 Implementation and maintenance of any required rail noise, vibration and safety impact mitigation measures, along with any required notices on title such as warning clauses and/or environmental easements, will be secured through appropriate legal mechanisms, to the satisfaction of the Town and CN.

10.6 Airports: The Town encourages Transport Canada to consult with the Town prior to making decision on new airports in the Town.

**10.7 Pipelines & Other Utilities:**

10.7.1 The Town or other public utilities may use any land for the purpose of public service subject to the following criteria:

- Any building or structure shall be required to comply with the height, coverage and yard requirements prescribed in the Zoning By-law for the area;
- Satisfactory parking standards are maintained;
- Outside storage of goods, material or equipment shall only be permitted if otherwise permitted in the Zone in which the use is located; and
- Any building or structure in a residential area shall be designed and maintained in general

harmony with the type permitted in any residential area.

- 10.7.2 TransCanada PipeLines Limited operates high pressure natural gas pipelines within its rights-of-way which cross through the Town and are identified on Schedule C to this Plan. Any development within 200 metres (656 feet) of the TransCanada's facilities may affect the safety and integrity of the pipelines.
- 10.7.3 TransCanada is regulated by the National Energy Board which, in addition to TransCanada, has a number of requirements regulating development in proximity to the pipelines. This includes approval requirements for activities on or within 30 metres (100 feet) of the right-of-way such as excavations, blasting and any movement of heavy equipment.
- 10.7.4 The Town shall require early consultation with TransCanada for any development proposals within 200 metres (656 feet) of its facilities.
- 10.7.5 All permanent structures and excavations shall be located at least 7 metres (23 feet) from the limits of TransCanada's right-of-way. Accessory structures and lots with side yards abutting the right-of-way shall have a minimum setback of at least 3 metres (10 feet) from the limit of the right-of-way.
- 10.7.6 In areas of urban development, the Town will encourage the development of TransCanada's right-of-way for passive parkland or open space purposes subject to TransCanada's easement rights.
- 10.8 **Public Landfill Sites & Sewage Lagoons**  
The District of Muskoka has responsibility for solid waste management. As such, proposals that negatively impact on the ability of the District to provide an efficient and cost effective service will not be permitted.
- 10.8.2 No development will be permitted within 30 metres (100 feet) of any waste disposal site. Conversely, no waste disposal site will be permitted within 30 metres of any other development.
- 10.8.3 Where new development is proposed within 500 metres (1,640 feet) of a waste disposal site or a waste disposal site is proposed within 500 metres (1,640 feet) of any development, a preliminary technical report will be prepared. The report will evaluate the presence and impact of any adverse effects or risk to health and safety, and identify any remedial measures that should be taken to mitigate any concerns.
- 10.8.4 A preliminary technical report may also be required where there is reason to believe that the influence area of a waste disposal site extends beyond the 500-metre (1,640-foot) distance. In the case of operating sites, a modified influence area may be applied where information such as monitoring or a closure plan is available to justify a change in the radius or shape of the 500-metre (1,640-foot) area of influence.
- 10.8.5 A comprehensive technical report will be prepared and implemented where a need for further analysis is identified in or through the review of a preliminary technical report.

10.8.6 Prior to development proceeding in close proximity to an abandoned waste disposal site, the authority having jurisdiction to approve the application and the District of Muskoka will be satisfied that there will be no adverse effects or risk to health on the development from the waste disposal site.

## 10.9 **Private Waste Disposal Sites**

10.9.1 New private tire disposal sites and hazardous waste sites will not be permitted in the Town. Tire transfer sites will only be permitted where they are ancillary to a tire recycling operation located on the site.

10.9.2 The establishment of other types of private waste disposal or transfer sites will be discouraged. However, where an application for a new waste disposal or transfer site, has been received, the following review process will be implemented:

- a) Where a site is over 2.5 hectares (5 acres) or includes ignitable waste a District Official Plan Amendment is required.
- b) Where a site is 0.4 hectares to 2.5 hectares (5 acres), a local Official Plan Amendment is required.
- c) Where a site is less than 0.4 hectares (1 acre), a local approval process that includes a public review will be required.
- d) Hydrogeological and Environmental Impact Studies are submitted to and approved by the authority having jurisdiction.

In addition, new private waste disposal or transfer sites with outside storage or fill areas will only be permitted in the Rural Area.

10.9.3 The following are minimum standards for the location of new private solid waste disposal sites:

- a) The site will not be subject to flooding and will be located so that no direct drainage leads to a watercourse.
- b) Drainage from the site that may cause pollution will not be discharged into any watercourse or leach into the groundwater.
- c) Drainage from the site will not adversely affect adjoining property owners and natural drainage will not be obstructed.
- d) The site will be at least 500 metres (1,640 feet) from any watercourse.
- e) The site will not be located on fractured bedrock without appropriate mitigating measures to ensure the long term protection of the groundwater in the area.

- f) Access roads and on-site roads will be provided so that vehicles hauling waste to an on the site may travel readily on any day under normal weather conditions.
- g) A green belt or natural zone will be provided around the site and the site will be screened from public view.
- h) The site will be at least one kilometre (0.6 miles) from the nearest residential dwelling and at least 500 metres (1,640 feet) from the nearest public road.
- i) Emergency services can access all portions of the site effectively and efficiently.

#### 10.9.4

In reviewing a new private solid waste disposal site the following matters, among other, will be addressed on site and in the surrounding area to the satisfaction of the approval authority:

- a) Compatibility with surrounding uses;
- b) Geologic, biologic and hydrologic conditions and suitability;
- c) Location, condition, traffic and loading capacity of haul routes;
- d) Progressive rehabilitation sequences during the life cycle of the site including after active use management and use;
- e) Buffering, screening and security of the site;
- f) Monitoring program for on-site and off-site impacts with a mitigation plan to address potential problems; and
- g) Posting of performance securities.

#### 11.9.1

Where a land use change or new residential lot creation is proposed that is likely to adversely affect existing uses or be adversely affected by existing uses, a feasibility study that assesses the impacts of odour, noise, vibration, particulate or other emissions may be required in accordance with provincial guidelines. Some uses (e.g., residential) may be sensitive to the odour, noise, vibration or other emissions associated with facilities such as highways, arterial roads, railway corridors, pits and quarries, various types of industries and sewage treatment facilities. The feasibility study shall include recommendations on how impacts can be mitigated. The approval of the development proposals shall be based upon the achievement of adequate separation distances between land uses and other mitigation recommendations.

#### 11.9.2

Development adjacent to a railway corridor shall ensure that appropriate safety measures, such as setbacks, berms, and security fencing are provided to the satisfaction of the Town, in consultation with the appropriate railway company.

#### 11.9.3

In order to minimize and alleviate, wherever feasible, the conflicts of the railway network with adjacent lands uses and with the road network, the Town will require that adequate visual and/or

physical separation or other techniques be provided to screen or mitigate impact of a railway right-of-way from adjacent residential land uses, as determined by the Town in consultation with the Ministry of Environment and other concerned public agencies.

- 11.9.4 If the site of a proposed land use is known or suspected to be contaminated, a study may be required in accordance with provincial guidelines to determine the nature and extent of the contamination and the identification of a remedial plan, if required. Where the need for remediation is identified, the site shall be restored in accordance with the remedial plan before development occurs to ensure there will be no adverse effects on the proposed use or adjacent land uses.

#### **CONSIDERATIONS:**

- The Ministry of Northern Development and Mines (MNDM) maintains an Abandoned Mines Information System (AMIS) which identifies abandoned mine sites. The AMIS database includes over 5,700 abandoned mine sites throughout Ontario. Of these, approximately 4,000 sites are further identified as potentially hazardous to public health and safety, or to the natural environment. There are three mine hazard sites administered under the Mining Act located within the Town. However, only two are considered to be active hazards.
- Brownfield and contaminated sites are more likely to be located in areas of intensification and redevelopment, areas where a large proportion of growth is being encouraged. It is therefore becoming increasingly important to utilize available tools in the development application review process to ensure that development takes place only where the environmental conditions are suitable for the proposed use.
- The protection and retention of existing commercial and industrial uses throughout the Town is crucial to the economic health of the Town.

#### **SUMMARY:**

A review of best practices from other municipalities across the province has revealed that the following policy approaches may assist in addressing some of the considerations:

- Provide a framework of policies for potentially and confirmed contaminated sites that would require information to be compiled by the landowner prior to approval and require verification that a contaminated site has been restored and made suitable for the use proposed.
- Known active mine hazards should be identified utilizing the MNDM AMIS database and policies require that MNDM be contacted in order to determine the scope and terms of reference of any technical studies that may be required.
- To ensure that employment and other community facility/infrastructure uses may continue and are protected from the intrusion of sensitive land uses within close proximity of their location, and vice versa, the requirement for a study documenting impacts should be mandatory.