

APPENDIX 'B'

Draft Top Soil Removal Site Alteration By-law

BY-LAW 2009-XXX

**A BY-LAW OF THE CITY OF GREATER SUDBURY
TO REGULATE THE REMOVAL OF TOPSOIL, THE
PLACING OR DUMPING OF FILL, AND THE
ALTERATION OF GRADES OF LAND**

WHEREAS the City wishes to protect and preserve agricultural lands within its boundaries in accordance with its Official Plan;

AND WHEREAS the City wishes to protect bodies of water and adjoining lands that may be adversely affected by activities related to the removal of topsoil, placing or dumping of fill and/or the alteration of grades of land;

AND WHEREAS the City wishes to protect its residents and property owners from adverse effects related to the removal of topsoil, placing or dumping of fill and/or the alteration of grades of land;

AND WHEREAS Section 142 of the *Municipal Act, 2001*, S.O. 2001, c.25, allows municipalities to prohibit or regulate the placing or dumping of fill, to prohibit or regulate the removal of topsoil, to prohibit or regulate the alteration of the grade of land, to require that a permit be obtained for the placing or dumping of fill, the removal of topsoil, or the alteration of the grade of land, and to impose conditions to such permits;

**NOW THEREFORE THE COUNCIL OF THE CITY OF GREATER SUDBURY
HEREBY ENACTS AS FOLLOWS:**

PART I – SHORT TITLE

1. This By-law shall be known as the Site Alteration By-law.

PART II - INTERPRETATION

2. (1) In this By-law,

“Adequate Performance” of a Control Plan means that:

1. All stormwater or snowmelt on a Site passes through a Final Control Device before reaching any Protected Area;

2. Stormwater or snowmelt downgradient of a Final Control Device contains less than 100 mg/l of suspended solids, except during or within thirty minutes of precipitation of more than 12 ml in one hour, and
3. There is no apparent sedimentation in a Protected Area;

"Alteration" means changes in elevation of 25mm or more from Existing Grade or Finished Grade resulting from the Placing or Dumping of Fill, the Removal of Topsoil or any other action that alters the Grade of land;

"Body of water" includes any brook, creek, stream, river, lake, pond, waterway, and water course, canal, or other flowing or standing water;

"Control Plan" means a Plan to control erosion and sedimentation prepared and implemented by a Professional to comply with this By-law and the Control Plan Requirements attached at Schedule "B";

"Director" means the Director of Building Services/Chief Building Official of the City of Greater Sudbury or his or her designates;

"Erosion" means the detachment and movement of soil, sediment or rock fragments by water, wind, ice or gravity;

"Fill" means any type of material capable of being removed from or deposited on lands, such as soil, topsoil, stone, sod, turf, concrete, and asphalt either singly or in combination as acceptable to the Director;

"Final Control Device" means the most downgradient erosion or sedimentation control device between a Site and a Protected Area;

"Grade" means the elevation of the ground surface and shall be more particularly defined as follows:

- (i) "Existing Grade" means the elevation of the existing ground surface of the Land or Site upon which Placing or Dumping of Fill, Alteration of the Grade or Removal of Topsoil is proposed and of abutting ground surface up to three

metres wide surrounding such Land or Site, except that where such activity has occurred in contravention of this By-Law, Existing Grade shall mean the ground surface of such Land or Site as it existed prior to the said activity;

(ii) "Finished Grade" means the approved elevation of ground surface of Land or a Site upon which Fill has been placed or dumped, the Grade altered, or Topsoil removed, in accordance with this By-Law;

(iii) "Proposed Grade" means the proposed elevation of ground surface of the Land or Site upon which fill is proposed to be placed or dumped, the grade altered or topsoil removed;

"Land" or "Property" means real property within the boundaries of the City of Greater Sudbury;

"Owner" includes any person, partnership, organization or corporation who or which is the registered owner of Land;

"Permit" means an authorization granted in writing by the Director pursuant to this By-law, to perform a Site Alteration on a defined Site and subject to the conditions in Schedule "C" attached to this By-law and such other conditions as the Director may impose;

"Placing or Dumping" means the depositing of Fill in a location other than where the Fill was obtained and includes the movement and depositing of Fill from one location on a Property or Site to another location on the same or another Property or Site;

"Professional" means a professional engineer who is licensed to practice in the Province of Ontario, and who is retained by an applicant to prepare and implement a Control Plan;

"Protected Area" includes a body of water, an environmental protection area, a designated protection zone and any area outside the Land or Site on which Site Alteration is occurring, has occurred or will occur;

"Removal of Topsoil" means the removal of Topsoil from Land or a Site or from any part thereof and includes the movement of Topsoil from one Property or Site to another as well the movement of Topsoil to another location on the same Property or Site;

"Site" means real property where Site Alteration is occurring, has occurred or will occur;

"Site Alteration" means one or more of the following activities in relation to a Property:

1. placing or dumping fill,
2. removal of topsoil, or
3. alteration of the grade

"Topsoil" means those horizons in a soil profile, commonly known as the "O" and the "A" horizons, containing organic material and includes deposits of partially decomposed organic matter such as peat.

(2) References in this By-law to words in the singular shall be deemed to include the plural.

PART III - EXEMPTIONS

3. This By-law does not apply to:

- (1) activities or matters undertaken by the City of Greater Sudbury or a local board of the City of Greater Sudbury;
- (2) the Placing or Dumping of Fill, Removal of Topsoil or Alteration of the Grade of Land imposed after December 31, 2002 as a condition to the approval of a site plan, a plan of subdivision or a consent under section

41, 51 or 53, respectively, of the *Planning Act*, R.S.O. 1990, c. P.13, as amended, or as a requirement of a site plan agreement or subdivision agreement entered into under those sections;

- (3) the Placing or Dumping of Fill, Removal of Topsoil or Alteration of the Grade of Land imposed after December 31, 2002 as a condition to a development permit authorized by regulation made under Section 70.2 of the *Planning Act* or as a requirement of an agreement entered into under that regulation;
- (4) the Placing or Dumping of Fill, Removal of Topsoil or Alteration of the Grade of Land undertaken by a transmitter or distributor, as those terms are defined in Section 2 of the *Electricity Act*, 1998, S.O. 1998, c. 15, as amended, for the purpose of constructing and maintaining a transmission system or a distribution system, as those terms are defined in that Section;
- (5) the Placing or Dumping of Fill, Removal of Topsoil or Alteration of the Grade of Land undertaken on land described in a licence for a pit or quarry or a permit for a wayside pit or wayside quarry issued under the *Aggregate Resources Act*, R.S.O. 1990, c. A.8, as amended;
- (6) the Placing or Dumping of Fill, Removal of Topsoil or Alteration of the Grade of Land undertaken on Land in order to lawfully establish and operate or enlarge any pit or quarry on Land,
 - (i) that has not been designated under the *Aggregate Resources Act* or a predecessor of that Act, and
 - (ii) on which a pit or quarry is a permitted Land use under a By-law passed under section 34 of the *Planning Act*;

- (7) the Placing or Dumping of Fill, Removal of Topsoil or Alteration of the Grade of land undertaken as an incidental part of drain construction under the *Drainage Act*, R.S.O. 1990, c. D.17, as amended or the *Tile Drainage Act*, R.S.O. 1990, c. T.8, as amended;
- (8) the Removal of Topsoil as an incidental part of a normal agricultural practice including such removal as an incidental part of sod-farming, greenhouse operations and nurseries for horticultural products but does not apply to the Removal of Topsoil for sale, exchange or other disposition;
- (9) the Removal of Topsoil as an incidental part of the construction, renovation, replacement or demolition of a basement, foundation or septic bed for residential purposes;
- (10) any Site Alteration where Fill is placed or dumped on lands for the purpose of lawn dressing, constructing a fence, pool or other accessory structure, landscaping or adding to flower beds or vegetable gardens, provided that the Existing Grade elevation of the land is not increased by more than 600mm and there is no Alteration to the volume, direction, intensity or form of storm water run-off to adjacent properties and provided that where the Land or Site are located in a plan of subdivision the approved grading plan is maintained;
- (11) any Site Alteration as an incidental part of the construction of any form of underground service where the Fill or Topsoil is removed and properly held or stored for subsequent replacement; or,
- (12) any approved Site Alteration undertaken by a Permit Holder in relation to a Road Occupancy Permit issued by the City.

4. If a regulation is made under section 28 of the *Conservation Authorities Act*, R.S.O. 1990, c. C.27, as amended, respecting the Placing or Dumping of Fill, Removal of Topsoil or Alteration of the Grade of Land in any area of the City of Greater Sudbury, this By-law is of no effect in respect of that area.

PART IV – SITE ALTERATION

Application

5. No person shall perform any Site Alteration on any Land or Site, or, being the Owner of the Land or Site, cause or permit any Site Alteration from such Land or Site, unless the person or Site Alteration is exempt from the provisions of this By-Law or a Permit has been obtained in compliance with this By-law.
6. No permit shall be issued for the Removal of Topsoil from any Site being Land designated as "Agricultural Reserve" by the City of Greater Sudbury Official Plan which Lands are identified in Schedule "D" to this By-law.

Permits and Issuance of Permits

7. All applications for Site Alteration Permits shall be made to the Director who:
- (1) shall receive and process all applications for Permits and renewal of Permits required under this By-law;
 - (2) shall administer the issuance of Permits in accordance with the provisions of this By-law;
 - (3) shall sign all Permits issued pursuant to this By-law;
 - (4) shall maintain and keep records of all applications received, all Permits issued and renewed, any suspension or revocation of a Permit, and of any other status change to a Permit issued under this By-law;
 - (5) shall enforce this By-law together with the Bylaw Enforcement Officers for the City of Greater Sudbury; and,

(6) shall generally perform all functions incidental to and necessary for the due administration and enforcement of this By-law.

8. All applications for Permits shall include the following and shall be filed with the Director:

- (1) a signed and completed application by the Owner of the land comprising the Site in the general form attached as Schedule "A" to this By-law, which form may be amended from time to time by the Director;
- (2) the fixed fee for a Site Alteration Permit as established in Section 12 of this By-law and as amended from time to time by Council;
- (3) a current copy or copies of the parcel registry showing the legal owner of the Site;
- (4) a Control Plan, the requirements of which are set out in Schedule "B" of this By-law;
- (5) security in a form and amount to be determined in accordance with sections 25 and 26 of this By-law, to secure performance of the Applicant's obligations under this By-law and any Permit that is issued; and,
- (6) a certificate by a qualified Professional, signed within 30 days of the date of the Application, that:

1. The Control Plan complies with the Control Plan Requirements attached as Schedule "B" of this By-law and will achieve Adequate Performance;

2. The amount of security referred to in Section 25 of this By-law or the higher amount indicated in the Control Plan by the Professional is sufficient to implement the Control Plan and rehabilitate the Site;

3. The Professional will notify the Director in writing within one business day if the Professional ceases to be retained to monitor and enforce compliance with the Control Plan; and,
4. Until the Professional gives such notice, the Professional will monitor and enforce compliance with the Control Plan until the Site is rehabilitated; and
5. An undertaking signed by the Owner that the proposed Site Alteration will be conducted in accordance with the Control Plan and this By-law.
9. An applicant shall not submit or cause or permit an Application for a Permit to be submitted to the City that is misleading or contains false information.
10. Where it is discovered or revealed that the holder of a Permit issued under this By-law has provided misleading or false information on the Application for a Permit, as determined by the Director, the said Permit shall be revoked by the Director and the Permit Holder shall forthwith cease all Site Alteration which was the subject of the revoked Permit.
11. The Director or his or her designates shall, subject to the provisions of this By-law, upon receipt of the application referred to above, make or cause to be made all investigations which he or she deems necessary.
12. Site Alteration Permit fees shall be the greater of \$500 or \$10 per hectare of Site Alteration area and the same fees shall apply to the new area for Site Alteration where an Applicant wishes to extend an existing Permit to a larger area than initially applied for.
13. The amount of \$250 is hereby fixed as an application fee for the renewal or transfer of an existing Site Alteration Permit to a new Owner of the Land or Site using a previously approved Control Plan.

14. A Permit issued pursuant to this By-law shall be valid for a period of twelve months from the date of issuance.

15. The Director shall issue a Site Alteration Permit when:

- (1) the Director is satisfied that the Application and attached documentation are complete and in accordance with this By-law;
- (2) the Applicant has provided the security required by sections 25 and 26 of this By-law;
- (3) the Director is satisfied that the Proposed Grade and resulting drainage pattern, the type of Fill proposed to be used, if any, and the proposed method of Placing and Dumping of Fill, Alteration of the Grade, or Removal of Topsoil, are all in accordance with the City of Greater Sudbury's standards and proper engineering and environmental standards and practices;
- (4) the Director is satisfied that the Site will be rehabilitated to a condition which is substantially similar to or improved from the condition of the Site prior to the undertaking of the work contemplated by the Site Alteration Permit; and
- (5) all other concerns of the Director have been satisfied.

16. All Permits issued pursuant to this By-law shall be subject to the terms and conditions set out in Schedule "C" to this By-law.

17. Notwithstanding the issuance of a Permit pursuant to this By-law, an Applicant shall comply with all other applicable legislation.

18. No person shall enjoy a vested right in the continuance of a Permit and upon the issue, renewal, transfer, cancellation or suspension thereof, the Permit shall be the property of the City of Greater Sudbury.

19. No Permit shall be transferred to another person, or be valid at any Site except as indicated thereon, except with the written consent of the Director acting on the authority of Council.

20. A Site Alteration Permit or a copy thereof shall be posted in a visible location on the Site at all times during which the Permit is valid and in effect.

Refusal to Issue Permit

21. Where the Director refuses to issue a Site Alteration Permit, the Applicant shall be informed in writing of the refusal by the Director. The Director may reconsider the Application if additional information or documentation required by the Director is submitted by the Applicant.

Appeal

22. An applicant for a Permit under this By-law may appeal a refusal to issue a Permit, a condition in a Permit, a failure to make a decision on an Application for a Permit or a revocation of a Permit to the Hearing Committee of the Council of the City of Greater Sudbury which shall have all the powers of the Director pursuant to this By-law. The decision of the Committee shall be final.

23. Notwithstanding any other provisions of this By-law, the Director may waive the requirement for a Control Plan or certain requirements thereof and/or may reduce the application or security fee for a Site Alteration Permit in appropriate cases after taking into consideration the cost of the proposed works, the anticipated impact on any protected area, and the use of the Site.

24. No person shall fail to comply with the Control Plan Requirements set out in Schedule "B", the Permit Conditions set out in Schedule "C", any other condition of a Permit imposed by the Director or with any other requirement of this By-law.

Security

25. An applicant for a Site Alteration Permit shall provide security in the amount of \$500 per hectare. The Director may, however, prior to the issuance of a Permit under this By-law, require the Applicant to provide additional security for the Applicant's obligations under this By-law and any Permit issued if the Professional retained by the Applicant is of the opinion that a higher amount would be required to properly rehabilitate the Site in accordance with proper engineering standards and practice, this By-law, the Control Plan and the terms and conditions of the Permit.

26. Security determined in accordance with Section 25 shall be provided by way of an irrevocable letter of credit, certified cheque, or cash.

27. Where the Permit Holder has complied with all of the requirements of this By-law to the satisfaction of the Director and where the Professional has certified that the Control Plan has been fully implemented and achieves Adequate Performance, the City shall release the Permit Holder's security.

Enforcement

28. Every person obtaining a Permit under this By-law when so requested by the Director or his or her designates, a By-law Enforcement Officer, or by any other person authorized by Council, shall produce the Permit for inspection.

29. A Site Alteration Permit may be revoked by the Director under the following circumstances:

- (2) if it was obtained on mistaken, false or incorrect information;
- (3) if it was issued in error;

- (4) if the Permit Holder requests in writing that it be revoked; or,
- (5) if a Permit Holder fails to comply with the provisions of this By-law or the conditions of any Permit.

30. The Director or his or her designates, a By-law Enforcement Officer or any other person authorized by Council may at any reasonable time enter and inspect any Land to determine whether this By-law or any Permit issued thereunder is being complied with, but this section does not allow the entry into any building.

31. No person shall obstruct the Director or his or her designates, a By-law Enforcement Officer or any other person authorized by Council with respect to the administration and enforcement of this By-law.

Order to Discontinue Activity

32. If the Director is satisfied that a contravention of this By-law or Permit issued thereunder has occurred, the Director may make an Order requiring the Owner of the Land or the person who caused or permitted the Site Alteration in contravention of the By-law or permit to discontinue the activity and the Director shall set out the municipal address or the legal description of the Land and reasonable particulars of the contravention and the period within which there must be compliance.

Work Order

33. If the Director is satisfied that a contravention of this By-law or a Permit issued thereunder has occurred, the Director may make an Order requiring work to be done to correct the contravention and the order shall set out the municipal address or the legal description of the Land, reasonable particulars of the contravention and of the work to be done and the period within such there must be compliance with the Order and a notice stating that if the work is not done in compliance with the Order within the period,

the City may have the work done at the expense of the Owner and added to the tax roll for the Land, to be collected as taxes.

34. If the work required by an Order set out above is not done within the specified period, the Director is hereby authorized to perform the work at the Owners' expense and to enter upon the Land for this purpose, either personally or by way of contractors, and to use the security provided, if applicable, and to transfer the cost, or remaining cost of such work to the tax roll for the Land.

35. The costs set out above incurred by the City shall include interest accrued to the date payment is made at the rate of 15% per annum, and may include a 10% administration fee, if the work is performed by the City for someone under the City's direction.

36. Before the City enters on Land to perform the work set out above, the Order shall be served upon the Owner of the Land personally or by prepaid registered mail to the last known address of the Owner of the Land, or as set out in any Permit application.

37. If the City is unable to effect service as set out above, the Director may place a placard containing the terms of the order in a conspicuous place on the Land and may enter upon the Land for this purpose.

Penalty

38. Any person who contravenes this By-law, a condition of a Permit or an Order as set out herein is guilty of an offence and is liable:

- (1) on a first conviction to a fine of not more than \$10,000; and
- (2) on any subsequent conviction to a fine of not more than \$25,000.

39. Despite Section 38 above, where the person convicted is a corporation, the maximum fines shall be \$50,000 on a first conviction and \$100,000 on any subsequent conviction.

40. A director or officer of a corporation who knowingly concurs in the contravention of this By-law, a condition of a Permit or an Order as set out in this By-law is guilty of an offence.

41. Any offences pursuant to this By-law shall be prosecuted in accordance with the Provincial Offences Act, R.S.O. 1990, c. P. 33, as amended from time to time.

PART V - GENERAL

42. (1) By-Law No. 82-141 of the former Regional Municipality of Sudbury and By-Law No. 92-21 of the former Town of Valley East are hereby repealed.

(2) The repeal of By-laws by this Section shall not be deemed to include any opinion by the City as to those By-laws.

(3) The repeal of By-laws by this Section does not affect any offence committed against any By-law so repealed or any penalty or forfeiture or punishment incurred in respect thereof;

(4) The repeal of By-laws by this Section does not affect any investigation, legal proceeding or remedy in respect of such privilege, obligation, liability, penalty, forfeiture or punishment.

(5) Any valid permit issued pursuant to By-law 92-21 of the former Town of Valley East shall expire on the date of passage of this By-law.

43. Schedule "A" to "D" attached hereto form a part of this By-law.

44. This By-law shall come into force and take effect on the date it is adopted by Council.

READ A FIRST AND SECOND TIME IN OPEN COUNCIL this day of
, 2009.

Mayor

Clerk

READ A THIRD TIME AND FINALLY ENACTED AND PASSED IN OPEN
COUNCIL this day of , 2009

Mayor

Clerk

DRAFT FOR DISCUSSION PURPOSES

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To By-Law 2009-XX of the City of Greater Sudbury

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File: _____

The City of Greater Sudbury
Application For a Site Alteration Permit
By-law 2009 _____

New Permit _____	Regular Permit _____
Renewal _____	
Transfer _____	

Permit Is To: Place or Dump Fill _____
Remove Topsoil _____
Alter the Grade of Land _____

Site Location: Lot # _____ Plan # _____
Address _____ Size: _____
Hectares _____

Applicant:

Registered Owner: _____
Contact Person: _____
Address: _____
Telephone: _____ Fax: _____
Email Address: _____
Contractor: _____
Name: _____
Address: _____
Telephone: _____ Residence: _____ Business: _____
After Hours Contact Telephone No: _____

Engineer:

Name: _____
Firm: _____
Address: _____
Telephone: _____ Fax: _____
Email Address: _____
After Hours Contact Telephone No: _____

Project Schedule:

Start Date (Y/M/D): _____ Completion Date (Y/M/D) _____

Included With This Application Are:

(a) Control Plan	
(b) Calculation of the Annual Cost of Implementing the Control Plan, plus rehabilitating the Site.	
(c) Engineer's Certificate	
(d) Application Processing Fee \$ _____	
(e) Environmental Protection Deposit \$ _____	
(f) If this is an application to transfer or renew an existing Permit, a copy of that Permit.	

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Applicant's Certificate

I, _____, declare that:

- (a) I am the Owner of the Site,
- (b) I have read By-Law 2009 _____ and agree to comply with it,
- (c) I understand that I am responsible to prevent erosion and sedimentation from or at the Site,
- (d) The information contained in this Application and the supporting documents is complete and accurate,
- (e) The proposed Site Alteration will be conducted in accordance with the Control Plan,
- (f) If this is an application for renewal, to date the Site Alteration has been conducted in accordance with the Control Plan, and has complied with the Performance Measure, and
- (g) I authorize the Director, his or her designates and the City's By-law Enforcement Officers to enter the Site to determine compliance with the Control Plan or to perform any work necessary to bring the Site into compliance with the Control Plan.

Signature of Owner

Copy to: Applicant
City of Greater Sudbury Development Services Department

City of Greater Sudbury Acknowledgement

Signature

Print Name

Date

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Control Plan Requirements

The following requirements shall apply to all Control Plans prepared pursuant to this By-law:

Code for the Design and Maintenance of Erosion and Sedimentation Control Measures

1. Introduction

- 1.1 This Code sets out minimum standards for erosion and sedimentation control in a Control Plan.

2. Definitions

- 2.1 All capitalized terms have the meaning set out in By-Law 2009 _____.

3. General Requirements

- 3.1 Every control measure must meet or exceed the specifications set out in this Code and shown on the drawings attached as Appendix A. The Owner shall install and maintain all control measures set out in the Control Plan.
- 3.2 A Control Plan shall include a Monitoring and Inspection Plan to ensure that the Control Plan achieves Adequate Performance at all times. The Professional shall implement the Monitoring and Inspection Plan. A Control Plan shall be enhanced as required to achieve Adequate Performance. Any control measure that fails to achieve Adequate Performance shall be promptly repaired, replaced or upgraded as required to achieve Adequate Performance.
- 3.3 Any sedimentation or erosion damage to adjoining surfaces and watercourses resulting from the Site Alteration must be repaired forthwith.

4. Pre-Construction Information

- 4.1 The Control Plan shall include the following descriptive information with respect to the pre-construction state of the Site:
- (a) A 1:2000 scale Site map and key map or agreed to by the Director.
 - (b) Flood susceptibility information, including:

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- i latest flood plain mappings supplied or agreed to by the Nickel District Conservation Authority (NDCA);
 - ii a Regional Storm Flood Line; and
 - iii Nickel District Conservation Authority Fill Regulation lines
- (c) Detailed drainage information, including:
 - i existing storm water drainage;
 - ii existing drainage areas that extend beyond the Site property line so as to prove no adverse affect to adjoining properties;
 - iii natural drainage channels on Site;
 - iv natural drainage channels within 30 metres of the Site boundary; and
 - v the estimated runoff volumes and times of concentration of the drainage areas – based upon 12 mm/hr storm;
- (d) Information about receiving water sensitivity, including:
 - i Preconstruction water quality including total phosphorous and total dissolved solids
 - ii cold water fishery, and
 - iii Areas of Natural and Scientific Interest (ANSI)
- (e) The location of all water courses and bodies of water on and within 30 metres of the boundaries of the Site;
- (f) Overland flow paths and identification of flow concentration zones that affects the Site including those that originate off-Site;
- (g) Detailed mapping of the soil presently on Site, including:
 - i identification of erosion susceptible soils,
 - ii location of main soil types
 - iii exploratory soil borings and their logs prepared by a Engineer and/or a licensed Agrologist qualified in soil identification and characterization;
- (h) Location and type of existing vegetative cover;

5. Site Alteration Activities

5.1 The Control Plan shall include the following information relating to the proposed Site Alteration.

- (a) A detailed description of the location and dimensions of all proposed Site Alteration activities.
- (b) A land alteration sequencing Plan, setting out;
 - i timing of construction activities;

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- ii sequencing of installation and removal of all control measures; and
 - iii measures taken to minimize exposed areas.
- (c) The location and dimensions of all temporary soil or dirt stockpiles; and
 - (d) The location of designated haul routes and construction access points to the Site.
 - (e) The location of all erosion and sedimentation control measures to be installed on the Site.
 - (f) The location of all main haul routes on site.
 - (g) The field location of any utilities on site – sewer/water/gas/hydro/Phone/Cable TV.
 - (h) Any utility requirements regarding utility crossings.

6. Performance of Control Plan

- 6.1 The Control Plan shall be designed and implemented to achieve Adequate Performance at all times.
- 6.2 Every Control Plan shall specify which erosion and sedimentation control devices and techniques should be used to achieve the performance measure, and shall specify the location, dimensions, design details and design calculations of all proposed erosion and sediment measures.
- 6.3 Any erosion and sedimentation control device or technique that is to be used must meet the minimum standards set out in Section 7 of this Code.
- 6.4 All erosion and sedimentation control devices and techniques identified in an approved Control Plan must be installed prior to any upgradient Site Alteration.
- 6.5 An up-to-date copy of the Control Plan, as well as a record of all inspections conducted under the Monitoring and Inspection Plan, must be at all times kept on site.

7. Standards for Erosion and Sedimentation Control Devices and Techniques

7.1 General

All Site Alterations shall be conducted in a phased manner whenever possible, to minimize the area of the Site that has bare soil exposed at any one time.

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7.2 Temporary Sediment Control Ponds ("Ponds")

- (a) Ponds must be installed prior to upgradient Site Alteration at all Sites greater than 5 hectares in gross area under construction.
- (b) Ponds shall be located at one or more points as required to intercept runoff from the entire disturbed area.
- (c) Where it is not physically possible to place Ponds that will capture all of the runoff from the entire disturbed area,
 - i the reasons for the failure must be documented in the Control Plan
 - ii the Plan must include equivalent or better sediment control measures that will achieve Adequate Performance.
- (d) A Pond shall consist of:
 - i a permanent pool to contain accumulated sediment and post-storm waters;
 - ii a water quality treatment volume (Water Quality Treatment Volume) that allows settlement of suspended sediment from storms; and
 - iii a forebay to quiet incoming flow if the construction project is anticipated to take place over more than one year.
- (e) Water Quality Treatment Volumes (or pond active storage volumes) shall be calculated based on the proposed ultimate development area to a minimum volume standard as per the current requirements of the City, Ministry of the Environment and the Nickel District Conservation Authority.
- (f) Outlet works shall be designed to release storage volumes gradually over a 24 hour period.
- (g) Where a forebay is required pursuant to 7 (d) (iii), it shall:
 - i be sized to accommodate 20 percent of the Water Quality Treatment Volume;
 - ii incorporate sediment depth indicators;
 - iii have a stable bottom to allow mechanical clean out; and
 - iv allow access to loaders or other heavy equipment to clean it out.
- (h) The Pond shall incorporate maintenance benchmarks such as marked posts to indicate sediment depth.
- (i) The Pond shall be cleaned out when the removal efficiency has been reduced by 5% that is when 30% of the permanent pool volume has become filled with sediment.

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- (j) The Pond outlet shall be through a perforated riser system.
- (k) The permanent pool shall:
 - i contain at least 50% of the Water Quality Treatment Volume;
 - ii be a minimum of 0.6 metres in depth; and
 - iii not exceed 2.4 metres in depth
- (l) The transition from the permanent pool to the Water Quality Treatment Volume shall be benched to prevent internal Pond erosion and to allow equipment access to clean out the permanent pool.

7.3 Silt Fences

- (a) Every silt fence shall be:
 - i aligned with Site contours to prevent the development of high water velocities that cause soil erosion.
 - ii A minimum height of 900 mm.
 - iii Constructed of suitable woven or non-woven permeable geotextile fabric fastened with wire fasteners to page wire fencing or acceptable equivalent. Fabric shall be placed on the upslope side and a minimum of 300 mm of the fabric shall be toed into the ground to a minimum depth of 150 mm.
 - iv Supported with steel T bar fence posts with a separation distance of no more than 2.5 metres.
 - v Accompanied by a vegetive buffer strip as described in 7.4.
 - vi Free of deterioration due to physical damage or ultraviolet breakdown.
 - vii Cleared of sediment when sediment depth reaches 150 mm at the base of the fence.

7.4 Buffer Strips

- (a) Vegetative Buffer Strips shall:
 - i Be provided between the Site Alteration and every downgradient protected area.
 - ii Be protected from upgradient erosion by silt fences as described in 7.3.
 - iii Consist of established vegetation that is growing whenever possible on undisturbed soil.
 - iv Be a minimum of 3 m wide between the perimeter of the property and a disturbed area and a minimum of 15 metres wide between surface water and a disturbed area.
- (b) Non Vegetative Buffer Strips shall be installed where there is not a minimum undisturbed area of established vegetation downgradient of the Site Alteration. They shall:

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- i Be a minimum of 2 m wide between the perimeter of the property and a disturbed area and a minimum of 15 metres wide between surface water and a disturbed area.
- ii Consist of a second silt fence no closer than 1 metre to the primary silt fence, as described in 7.3.
- iii Provide space for access for clean out of trapped sediment and repair of the fence.

7.5 Channel Low Point Protection

(a) Channel Low Point Protection Devices shall be:

- i Constructed in channels that will contain concentrated flows during storm events.
- ii Constructed so that the crest of the downstream device is at the same elevation as the downstream base of the device further upstream.
- iii Constructed of 100 mm to 150 mm clear crushed limestone with a downstream slope not to exceed 1 vertical in 4 horizontal and an upstream slope not to exceed 1 vertical in 1.5 horizontal.
- iv Constructed with a 2.5 metre long excavated sediment trap approximately 600 mm in depth at the upstream face.
- v Constructed with a non-woven geotextile on the upstream face which is covered with 150 mm of 50 mm minimum diameter clear stone and which extends 300 mm or more downstream along the top of the device.
- vi Cleared of all accumulated sediment as soon as sediment has accumulated to a depth greater than 50 percent of the upstream sediment trap.

7.6 Construction Access Mats

(a) Construction Access Mats shall be installed at all exits from the Site, and shall be designed and maintained to remove most of the sediment accumulated on vehicle tires.

(b) Construction Access Mats shall:

- i Be constructed prior to any other Site Alteration
- ii Be constructed of 300 mm of 100 mm to 200 mm quarry stone placed on a geotextile material suitable for allowing ex-filtration of water and preventing the quarry stone from becoming contaminated with the substrate soil.
- iii Be a minimum of 8 m in width and extend a minimum of 30 m onto the Site.
- iv Be flanked by silt fences and vegetative buffers as specified in Section 7.3 and 7.4 from the property line to the start of on-Site roadways.

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7.7 Topsoil and Spoil Pile Management

- (a) Topsoil and spoil piles shall:
 - i Not be constructed in low areas where water may accumulate.
 - ii Be surrounded with one or more silt fences to prevent sediment runoff during storms.
 - iii Piles containing more than 100 m³ of material shall be a minimum of 15 metres from a roadway or channel.
- (b) If topsoil or dirt storage piles are to be left in place for more than 60 days, they shall be stabilized by mulching, vegetative cover, tarps or other equivalent means.

7.8 Site Dewatering:

- (a) Effluent from Site dewatering operations must not discharge directly into receiving bodies of water or streams;
- (b) Water pumped from the Site shall be treated by control devices such as sediment control pond, temporary sedimentation pond, grit chambers, sand filters, upflow chambers, swirl concentrators or other appropriate controls, and must not contain particles more than 40 microns in size, or more than 100 mg/L of suspended solids.

7.9 Drain Inlet and Catchbasin Protection

- (a) All potentially affected storm drain inlets and catchbasins shall be protected with filter fabric or equivalent barriers, as a short term temporary sediment reduction measure.
- (b) Filter cloth protection may be used over the catchbasin inlet where ponding of water will not occur and where traffic will not affect the filter cloth.
- (c) In all other cases, catchbasin inserts shall be used constructed of filter cloth with or without a metal support structure.

7.10 Runoff Control

- (a) Drainage courses from adjacent areas to remain generally undisturbed throughout the site.

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(b) Concentrated runoff from adjacent areas passing through the Site shall be diverted around disturbed areas. If this is not possible, runoff shall be directed into armoured channels with appropriate low point protection per Section 7.5, and shall empty into a storm water management pond prior to discharge. The channel shall be protected from receiving on-Site erosion by placement of silt fencing along its perimeter.

(b) Runoff from the entire disturbed area on the Site shall be controlled as follows:

- i. All disturbed ground left inactive shall be promptly stabilized by seeding, sodding, mulching or covering, or other control measure. The maximum period of inactivity shall be at the discretion of the Professional but shall not exceed 60 days;
- ii. For Sites without Sediment Control Ponds per Section 7.2, sediment control fences and cut-off swales/channels or equivalent control measures shall be placed along all downgradient boundaries of the Site;
- iii. For Sites adjacent to existing residential areas, a fence and a cut-off swale/channel shall be placed around the entire perimeter of the Site to prevent drainage onto private lands. A fifteen (15) metre wide buffer strip and/or sediment control fence shall be provided along the perimeter of the downgradient boundaries of the Site.

8. Stabilization and Rehabilitation

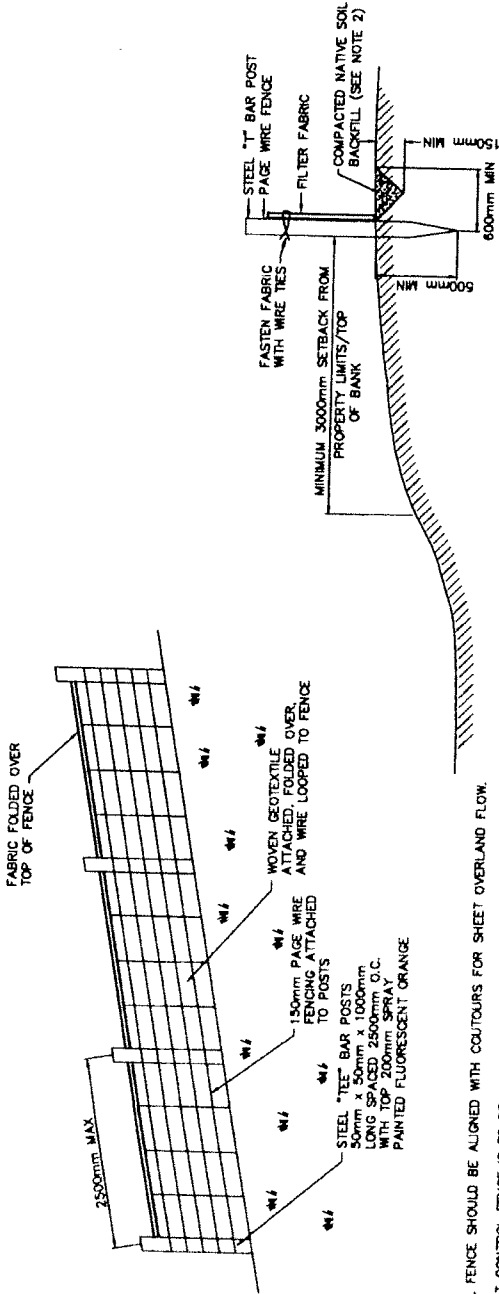
8.1 The Control Plan shall specify how the Site will be rehabilitated and stabilized, and how the Professional will determine when the Site is sufficiently stable that erosion and sedimentation control measures are no longer required.

9. Contingency Plan

9.1 The Control Plan shall include a contingency Plan for repair, replacement and upgrading of control measures as required to achieve Adequate Performance at all times.

9.2 If an amendment of the Plan becomes necessary to achieve Adequate Performance, the Professional shall forthwith update the Control Plan and notify the City of the updates in writing.

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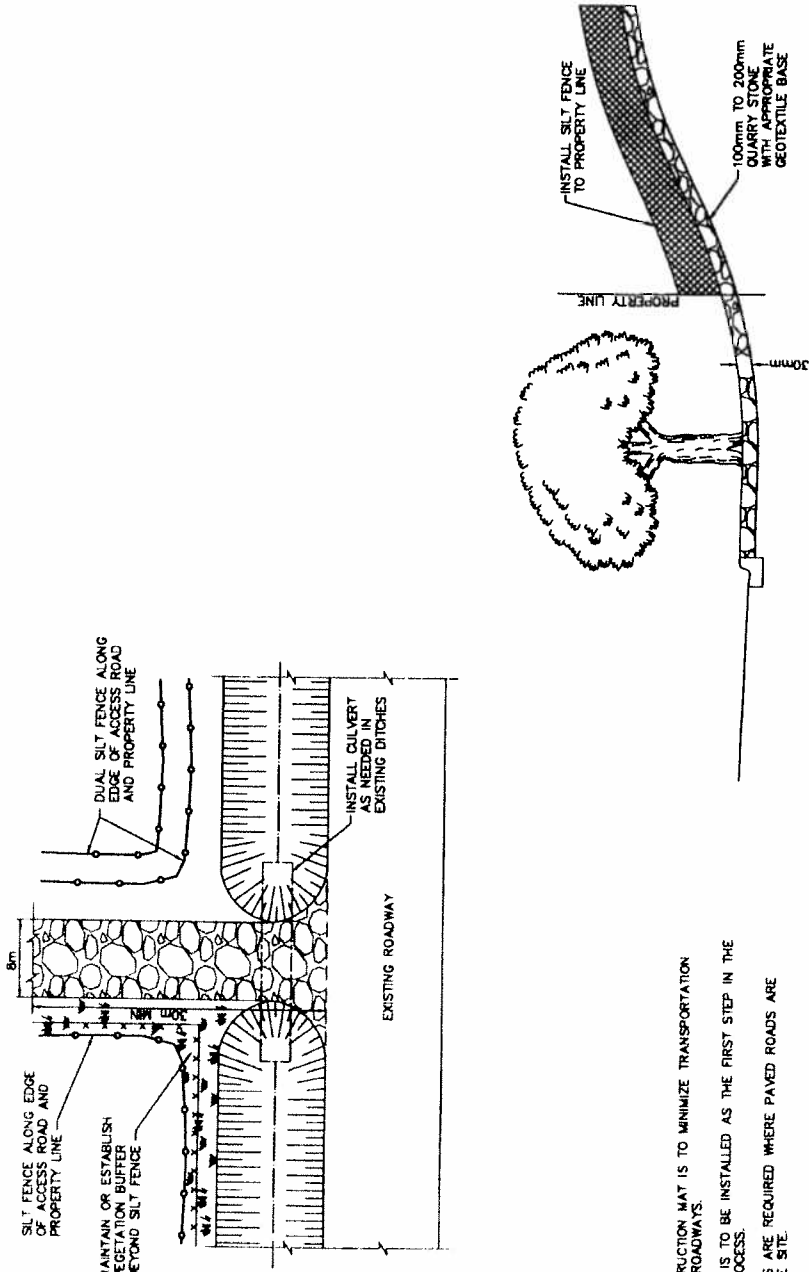
NOTES

1. SILT CONTROL FENCE SHOULD BE ALIGNED WITH COUTOURS FOR SHEET OVERLAND FLOW.
2. SILT/SEDIMENT CONTROL FENCE IS TO BE LOCATED IN AREAS OF LOW SEDIMENT YIELD ON SLOPES THAT CONFORM TO MTO DRAINAGE MANUAL VOLUME 2 "CHART F4-3C TOPOGRAPHIC FACTOR" IS BASED ON SLOPE LENGTH AND GRADIENT.
3. SILT/SEDIMENT CONTROL FENCE SHALL BE INSTALLED WITH FILTER MEDIA FABRIC TOED INTO THE SOIL A MIN OF 100mm BY EITHER STATIC PLUNGING OR TRENCH METHODS WITH COMPACTION OF TRENCH MATERIAL MEETING 95% STANDARD PROCTOR DENSITY.
4. STEEL "T" BAR POSTS ARE TO BE SPACED MAX 2500mm ON CENTER.
5. FROZEN GROUND CONDITIONS REQUIRE FILTER FABRIC TO BE BACKFILLED IN TRENCH WITH CLEAR STONE.
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
7. GEOTEXTILE FABRIC TO BE COMPRISED OF WOVEN OR NON-WOVEN U.V. STABILIZED MATERIAL FABRIC TO BE FOLDED OVER TOP OF FENCE MIN 300mm AND WIRE FASTENED.

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SILTATION CONTROL FENCE		DRAWN BY DEN CON	REV No	1
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		SCALE	N.T.S.	CAD/FILE No.
		APP'D		1 of 1

SCHEDULE "B"
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NOTES

1. PURPOSE OF CONSTRUCTION MAT IS TO MINIMIZE TRANSPORTATION OF SEDIMENT ONTO ROADWAYS.
2. CONSTRUCTION MAT IS TO BE INSTALLED AS THE FIRST STEP IN THE SITE ALTERATION PROCESS.
3. CONSTRUCTION MATS ARE REQUIRED WHERE PAVED ROADS ARE WITHIN 300M OF THE SITE.

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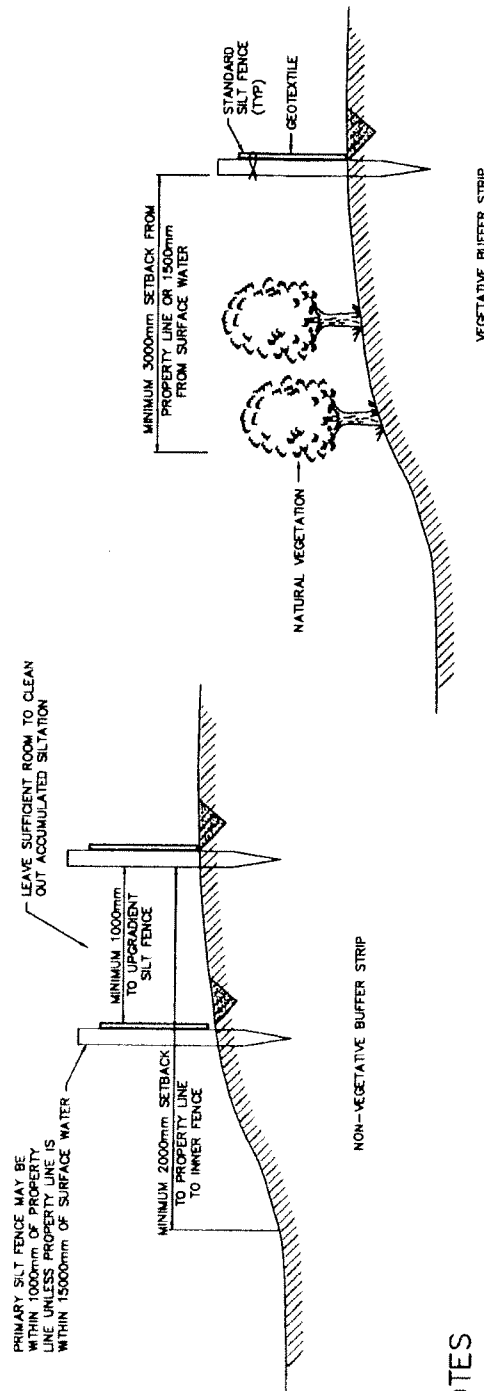
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CONSTRUCTION ENTRANCE
MAT

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NOTES

1. SILT CONTROL FENCE SHOULD BE ALIGNED WITH COUTOURS FOR SHEET OVERLAND FLOW.
2. SILT/SEDIMENT CONTROL FENCE IS TO BE LOCATED IN AREAS OF LOW SEDIMENT YIELD ON SLOPES THAT CONFORM TO MTO DRAINAGE MANUAL VOLUME 2 "CHART F4-3C TOPOGRAPHIC FACTOR" IS BASED ON SLOPE LENGTH AND GRADIENT.
3. SILT/SEDIMENT CONTROL FENCE SHALL BE INSTALLED WITH FILTER MEDIA FABRIC TOED INTO THE SOIL A MIN OF 100mm BY EITHER STATIC PLUMBING OR TRENCH METHODS WITH COMPACTION OF TRENCH MATERIAL MEETING 93% STANDARD PROCTOR DENSITY.
4. STEEL "T" BAR POSTS ARE TO BE SPACED MAX 2500mm ON CENTER.
5. FROZEN GROUND CONDITIONS REQUIRE FILTER FABRIC TO BE BACKFILLED IN TRENCH WITH CLEAR STONE.
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
7. GEOTEXTILE FABRIC TO BE COMPRISED OF WOVEN OR NON-WOVEN U.V. STABILIZED MATERIAL FABRIC TO BE FOLDED OVER TOP OF FENCE MIN 300mm AND WIRE FASTENED.

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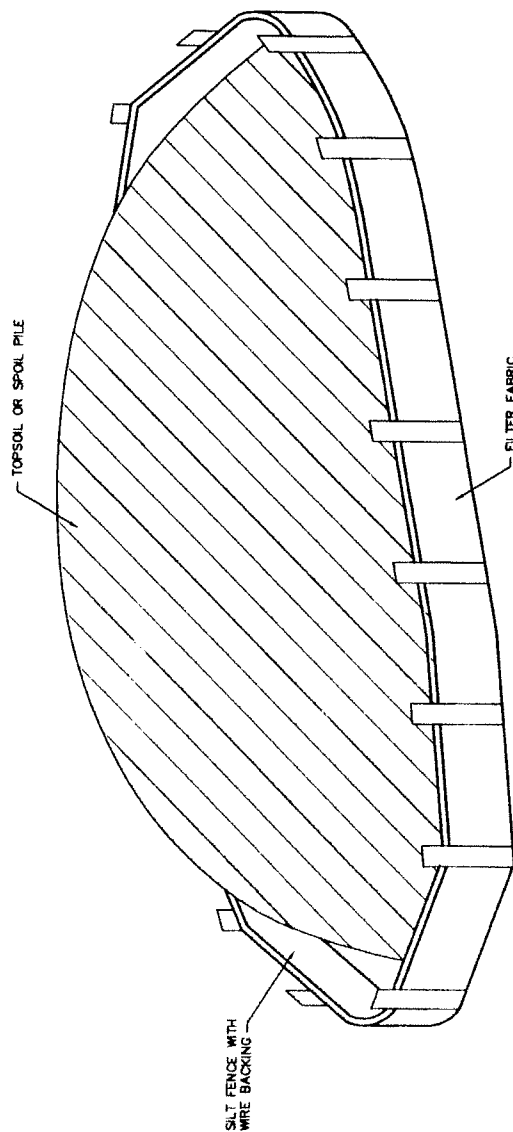
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BUFFER STRIPS


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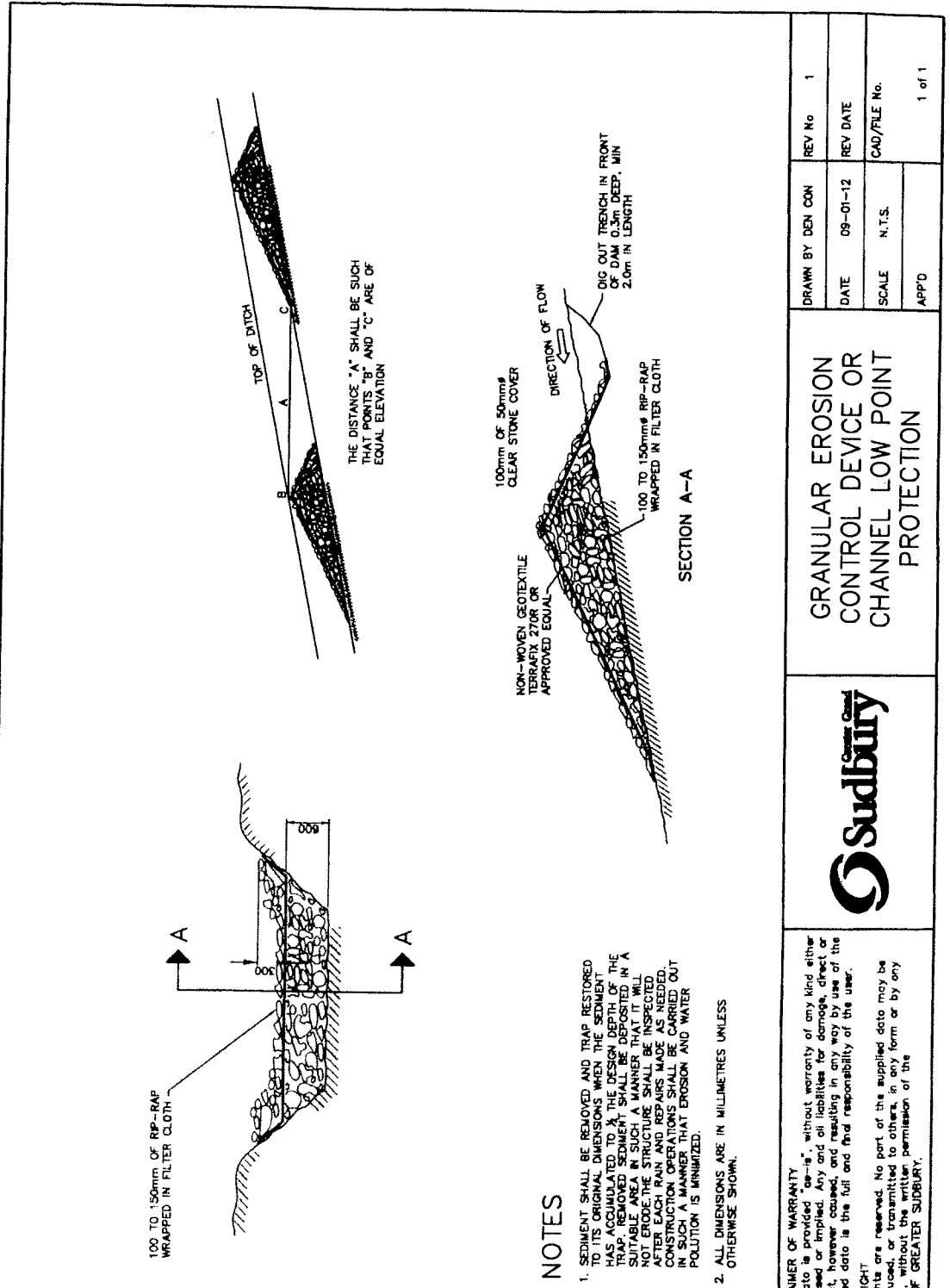


NOTES

1. PILES CONTAINING MORE THAN 100 CUBIC METRES OF TOPSOIL OR SPOIL SHALL BE LOCATED A MINIMUM OF 15 METRES FROM A ROADWAY OR CHANNEL.
2. PILES LEFT IN PLACE FOR MORE THAN 60 DAYS SHALL BE STABILIZED WITH A TARP, MULCH, VEGETATIVE COVER OR OTHER ACCEPTABLE MEANS.

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		DATE	09-01-12	REV DATE	
		SCALE	N.T.S.	CAD/FILE No.	
		APP'D			1 of 1
<p align="center">SPOIL PILE SILTATION CONTROL</p>					
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NOTES

1. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA IN SUCH A MANNER THAT IT WILL NOT ERODE THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

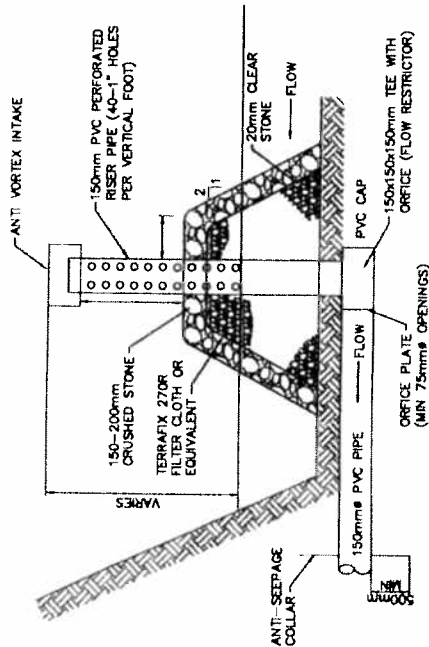
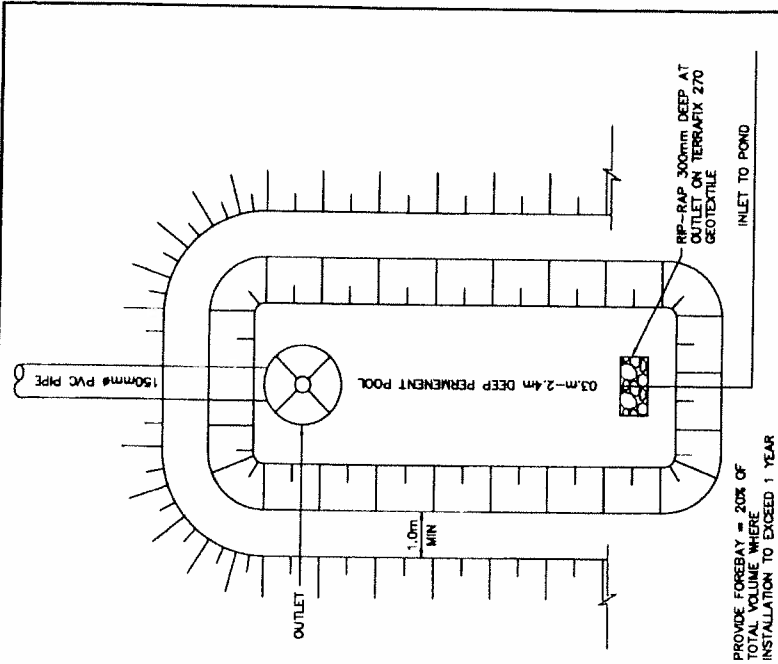
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**GRANULAR EROSION
CONTROL DEVICE OR
CHANNEL LOW POINT
PROTECTION**

SCHEDULE "B"
To By-Law 2009-xxx of the City of Greater Sudbury



NOTES

1. POND BERMS TO BE CONSTRUCTED USING IMPERVIOUS MATERIAL COMPACTED TO 95% S.P.D. AND INSPECTED BY A PROFESSIONAL ENGINEER.
2. A 1.5m HIGH BARRIER FENCE SHALL BE ERRECTED ALONG PERIMETER OF SEDIMENT BASIN. WARNING SIGNS SHALL BE ATTACHED TO THE FENCING STATING THE AREA IS OFF LIMITS TO THE GENERAL PUBLIC AND ADVISING THAT THE BASIN IS USED FOR SEDIMENT CONTROL PURPOSES AND THAT THE SUBJECT AREA IS SUBJECT TO FLASH FLOODING.
3. THE BASIN IS TO BE CONSTRUCTED ON THE BASIS OF A MIN. LENGTH OF WIDTH RATIO OF 4 TO 1.
4. APPROPRIATE PESTICIDE AND LARVICIDE CONTROLS SHOULD BE MAINTAINED TO CONTROL MOSQUITO BREEDING.

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**TEMPORARY SEDIMENT
BASIN AND OUTLET
DETAILS**

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SCHEDULE "C"
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Topsoil Removal Permit Conditions:

It shall be a condition of all Site Alteration Permits that:

- (a) the Director shall be notified within 48 hours of the commencement of any Site Alteration activity;
- (b) the Director shall be notified of the completion of any control measures within days after installation;
- (c) the Permit Holder shall not modify the Control Plan without approval;
- (d) the Permit Holder shall install all control measures as identified in the approved Control Plan and shall ensure that it achieves Adequate Performance at all times;
- (e) the Permit Holder shall maintain all road drainage systems, stormwater drainage systems, control measures and other facilities identified in the Control Plan to ensure Adequate Performance;
- (f) the Permit Holder shall repair any situation or erosion damage to adjoining surfaces and drainageways resulting from Site Alteration activities to ensure Adequate Performance;
- (g) the Permit Holder shall inspect the control measures at least once per week and after each rainfall of at least one centimetre and make the needed repairs to ensure Adequate Performance;
- (h) the Permit Holder shall allow employees of the City to enter the Site for the purpose of inspecting for compliance with the Control Plan, to ensure Adequate Performance, or for performing any work necessary to bring the Site into compliance with the Control Plan;
- (i) the Permit Holder shall request that the City carry out a final inspection of the Site and to obtain the approval of the Director that this By-law and the terms and conditions of the Permit have been complied with by the Permit Holder;
- (i) the Permit Holder shall maintain a copy of the Control Plan on the Site; and,
- (j) the Permit Holder shall ensure that the work that is the subject of the Permit does not soil or otherwise foul any public road.
- (k) the Site Alteration activity will not result in:
 - i) soil erosion;
 - ii) blockage, siltation or pollution of a protected area;
 - iii) flooding or ponding or adverse impact of a protected area;
 - iv) a detrimental effect on any trees of a calliper of 75 mm or more located on the Site;

SCHEDULE "C"

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- v) a detrimental effect on matters of inherent biological sensitivity such as an aquifer recharge, water quality, unusual plants or wildlife and overwintering habits;
- vi) a detrimental effect on any environmentally significant lands or areas of natural or scientific interest, wetland or wetland complex identified by the Nickel District Conservation Authority or the Ministry of Natural Resources;
- vii) any contravention of regulations, standards, or guidelines established pursuant to the Environmental Protection Act;
- viii) a level of waste or a nuisance unacceptable to the City or nearby residents;
- ix) contravention of any other applicable law or regulation.

DRAFT FOR DISCUSSION PURPOSES

Schedule 'D'
To By-Law 2009-XXX

**Agricultural Reserve as
 designated in the New Official Plan**

