

Tree Clearing Construction Methodology

Construction Methodology:

The following is a summary of the steps that will be followed to complete the tree removal works within the Big Bay Point Resort site:

- ➔ The owner will obtain the necessary approvals to complete the tree removal works from the Town of Innisfil (Project Schedule Item 11).
- ➔ The contractor will install the tree preservation and construction fence in the locations delineated on the Tree Removal Control Plans for Stage 1A, and as per the details provided on the plans. The tree preservation fence will be installed at the direction of the site arborist (Schollen and Company) and will typically be provided at the drip line location of the trees to be preserved. The trees to be preserved are as denoted on the Tree Inventory and Clearing Plans (Drawings TC-0 thru TC-8).
- ➔ Two construction site access roads (#1 and #2) will be installed from Big Bay Point Road at the locations shown on Tree Removal Control Plans, Stage 1A and 1B Drawings 701A and 702A and as per the detail provided on Drawing 705. The construction access roads will utilize the existing paved and gravel surface roadways which currently exist on site. The existing surfaces are in good condition and will minimize any mud and silt tracking onto local municipal roadways as well as minimize any potential dust generated from the on-site vehicle traffic. Construction access #3 will be utilized for Stage 1B-2 tree clearing and will be subject to further approvals and acquisition of the existing gravel pit from the Town.
- ➔ Tree removal work will be completed within the proposed golf course, collector road and marina resort area and these works shall be phased as indicated on the Tree Inventory and Clearing Plans as well as the Tree Removal Control Plans, Stage 1A and 1B.
- ➔ Stage 1A works are primarily the marina resort Areas excluding buffer areas the public road alignment and golf course areas. The Stage 1A works will be completed in the winter/spring period 2010.
- ➔ Stage 1B tree removal works are the areas within the public road alignment. These works will be carried out as soon as possible in the late summer/early fall of 2010 to facilitate the construction of the haul/access road prior to the onset of winter conditions in 2010. These works will be subject of further approvals by the Town.
- ➔ The Stage 1B-2 works are the tree removal operations within the golf course and the interim buffer areas in the marina resort and residential areas as noted on the drawings. These works will be subject to further approvals by the Town.
- ➔ The permanent Buffer edges (existing trees to remain) will be maintained along the perimeter of the BBPRD as designated on the Tree Inventory and Clearing Plans.
- ➔ The trees designated for removal (as per Drawings TC-0 thru TC-8) will be cut at the tree base. No grubbing or stump removal operations will be undertaken during the winter/spring period 2010. Tree



removal work will be completed such that all trees to be protected are not impacted by the tree removal work, and shall be monitored as per the attached Tree Clearing Monitoring Program Matrix, December, 2009.

- Any salvageable timber from the removed trees that can be reused will be processed into pieces suitable for offsite transport. Logging trucks will transport this material to the appropriate offsite location. All other unusable tree parts will be suitably processed on site and transported offsite to the contractor's approved disposal facility or left on-site to be further utilized or incorporated into the topsoil material.
- A suitable supply of processed wood chips (mulch) will be retained and utilized on site as erosion control measures in areas as directed by the project administrator to reduce exposure of bare soil to weathering and potential erosion.
- The removal of the tree stumps/roots and grubbing works within the Stage 1A area (Marin Resort Area) will be carried out in the summer/fall months of 2010 to allow for removal, stockpiling and drying of the roots and stumps for further processing on site. These works must occur in advance of the topsoil stripping operations so that the topsoil can be utilized in landscape construction for the resort and golf course areas and to facilitate movement of conventional construction equipment
- The Stage 1A topsoil stripping and earthworks program remains scheduled for Spring 2011, (Project Schedule Item 13) to reduce the potential for sediment transport from exposed and/or disturbed areas of the site. These works will be the subject of further approvals anticipated for the Spring of 2010.
- The grubbing of the public road ROW as well as the topsoil stripping operations within the public road ROW and the Golf Course lands will be completed in summer/fall 2010 following installation of the remainder of the erosion and sediment control measures as shown on Dwg. 701 to 705 (Project Schedule Item 13). These works will be the subject of further approvals anticipated for the Spring of 2010.

Timing:

- The tree removal work must be completed prior to approximately April 30, 2010 to ensure compliance with the nesting bird season (as per the Migratory Bird Act).
- The fencing/construction access road installation works will take approximately 2 weeks to complete.
- The tree removal works for Phase 1A will take approximately 13 weeks to complete.
- The grubbing and stumping of Phase 1A is anticipated to take approximately 8 weeks to complete plus applicable processing time.
- Therefore, to meet the April 30, 2010 deadline, the above works need to be initiated no later than January 25, 2010.
- The site must be cleared of trees in the phases as noted to facilitate the bulk earthworks operation in 2011 in accordance with the project schedule and due to economic considerations. Extensive cuts are proposed and due to the nature of the soil and site conditions several excavation areas are required to be underway at all times to facilitate mixing of the available materials and select use of excavated materials. These operations are further elaborated on in the site preparation methodology detailed separately.

Mitigation Strategies:

- ➔ No construction activity or machinery will be permitted beyond the tree preservation fence or limits of the development.
- ➔ The contractor will not refuel any equipment within 100 metres of the marina basin, Lake Simcoe, the existing drainage swales or in close vicinity to existing trees to be preserved or sensitive environmental features.
- ➔ Appropriate ESC measures will be implemented in accordance with the approved plans and the monitoring plans as proposed by SCS Consulting Group and Hutchinson Environmental Sciences Ltd. These measures shall include, but not necessarily be limited to: rock check dams in existing on-site drainage channels immediately adjacent clearing limits, sedimentation control and tree preservation fencing as indicated on drawings, straw bale check dams installed in downstream areas of existing drainage channels before entering the marina basin, mulching of exposed soils adjacent sensitive areas during the tree removal operations and installation of geotextile silt curtains within the marina basin as noted in the Hutchinson Environmental report.
- ➔ The contractor is responsible for maintaining all construction fences, tree preservation fence, Erosion and sedimentation control measures etc. in working conditions at all times. The contractor and SCS Consulting Group along with Hutchinson Environmental Sciences Ltd. and representatives of the Town of Innisfil shall routinely inspect the Erosion and Sedimentation Control Measures a minimum of once a week and prior to and/or after each significant rainfall event or significant snow melt event to ensure that all ESC measures are in proper working conditions. Any damages will be repaired within 24 hours or sooner as warranted.
- ➔ All works shall be carried out and monitored in accordance with the Monitoring Matrix developed for each aspect of the project (to be reviewed separately).
- ➔ No works shall be undertaken in close proximity to the existing marina basin except for purposes of installing and maintaining ESC measures as noted herein.
- ➔ All construction vehicles must enter and exit the site only from the approved access routes as per the locations shown on the Erosion and Sediment Control Drawings 701 and 702 and the detail shown on Erosion and Sediment Control Drawing 705.
- ➔ The contractor is responsible to implement dust and mud tracking/control measures and construction practice guidelines as approved by the Town and LSRCA. Dust and mud tracking shall also be monitored by the consultants to ensure compliance with approved protocol and in accordance with the accepted monitoring program matrix.

Phasing:

- ➔ The tree removal work within the proposed golf course, collector road and marina resort area will be completed in accordance with the phasing plans as noted on drawings TC-0 thru TC-8 and as noted on Tree Removal Control Plan Stage 1A and 1B Drawings 701A and 702A. Stage 1A works are scheduled to be completed in winter/early spring 2010. Stage 1B works are scheduled to be completed in summer/early fall 2010, with the Stage 1B-2 works carried out at a later date subject to Town approval.
- ➔ Buffer areas along the limits of the BBPRD will be maintained as shown on drawings TC-0 thru TC-8.
- ➔ Tree removal in the golf course area will be deferred until fall/winter 2010 once the golf course plans are far enough advanced to accurately identify specific trees requiring removal.



- Grubbing and enabling works along the public road alignment as well as construction of the haul road base and interim drainage culverts will begin in summer 2010 following installation of the remaining erosion and sediment control measures and concurrent with stripping and stockpiling of topsoil from the golf course lands. These works will be the subject of further approvals anticipated for the Spring of 2010.
- Stumping and grubbing of the Phase 1A lands will be carried out during the summer/fall months of 2010.

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