110394936 CANADA INC.

TREE CONSERVATION REPORT

1299 Richmond Road

CIMA+ file number: A001359
May 29, 2023 – Review 000

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1299 Richmond Road

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Confidentiality and ownership

Table of involved resources

In addition to the signatories of this report, the following individuals have also been involved in the study and writing of the report as technical experts within the project team:

Name	Discipline
Amal Siddiqui	Environment Professional

Review and submission register			
Review No.	**Reviewed by**	**Date**	**Description of the change or submission**
000	ML	2023-05-29	QA/QC

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1. Introduction

CIMA+ has been retained by 110394936 Canada Inc. (Brigil) to prepare a Tree Conservation Report (TCR) for the planned development located at 1299 Richmond Road, Ottawa, ON K2B 8L2. This report follows the *City of Ottawa Tree Conservation Report Guidelines* (City of Ottawa, 2021). The field work was completed by Casey Little who has an Ecosystems Management Diploma and has 16 years of experience completing natural environment assessments, including tree inventories. Ms. Little is also a certified Butternut Health Assessor (#530) and is trained and certified in Ecological Land Classification (ELC) for Southern Ontario, and Ontario Wetland Evaluation System (OWES).

1.1 Project Location

Brigil is proposing to build a 2-tower, residential development at 1299 Richmond Road between Assaly Road and Starflower Lane, located at Part Lot 23, Concession 1, in Ottawa, Ontario.

Refer to **Figure 1** below to view the Site location.

1.2 Objective

The intention of this TCR is to determine what woody vegetation should be retained and protected on the site. In the paragraphs below, we have outlined the field methodology and findings of the tree inventory. Using the Topographical Plan of Survey (i.e., drawings; dated May 30, 2022) as reference, this report will help determine the project's potential impacts and provide general recommendations to avoid and/or mitigate tree loss and injury.

2. Limitations

The assessment presented in this report has been made using accepted standard arboriculture techniques as outlined in the *Council of Tree and Landscape Appraisers Guide for Plant Appraisal, 10th Edition, Second Printing* (2020). These techniques include visual examination of above-ground parts of each tree or trees in each group. The trees observed were not climbed, cored, or dissected, and excavation for detailed root crown inspection was not performed. Since some symptoms may only be present seasonally, the extent of observations that can be made may be limited by the time of year in which the inspection took place.

Since trees are living organisms, their health and vigour continually change over time due to seasonal variations, changes in site conditions, and other factors. For this reason, the assessment presented in this report is valid at the time of inspection, and no guarantee is made about the continued health of trees that are deemed to be in good condition. It is recommended that the trees be reassessed periodically to identify changes in condition. While every standing tree has the potential for failure and therefore poses some risk, a tree assessment is a good indication of present health and potential problems that could arise in the future.

CIMA+ has prepared this report for the sole use of the client. Any use of this report by a third party, as any decision based on this report, is the singular responsibility of the third party. CIMA+ will not be held responsible for eventual damages towards a third party resulting from decisions taken, or based, on this report.

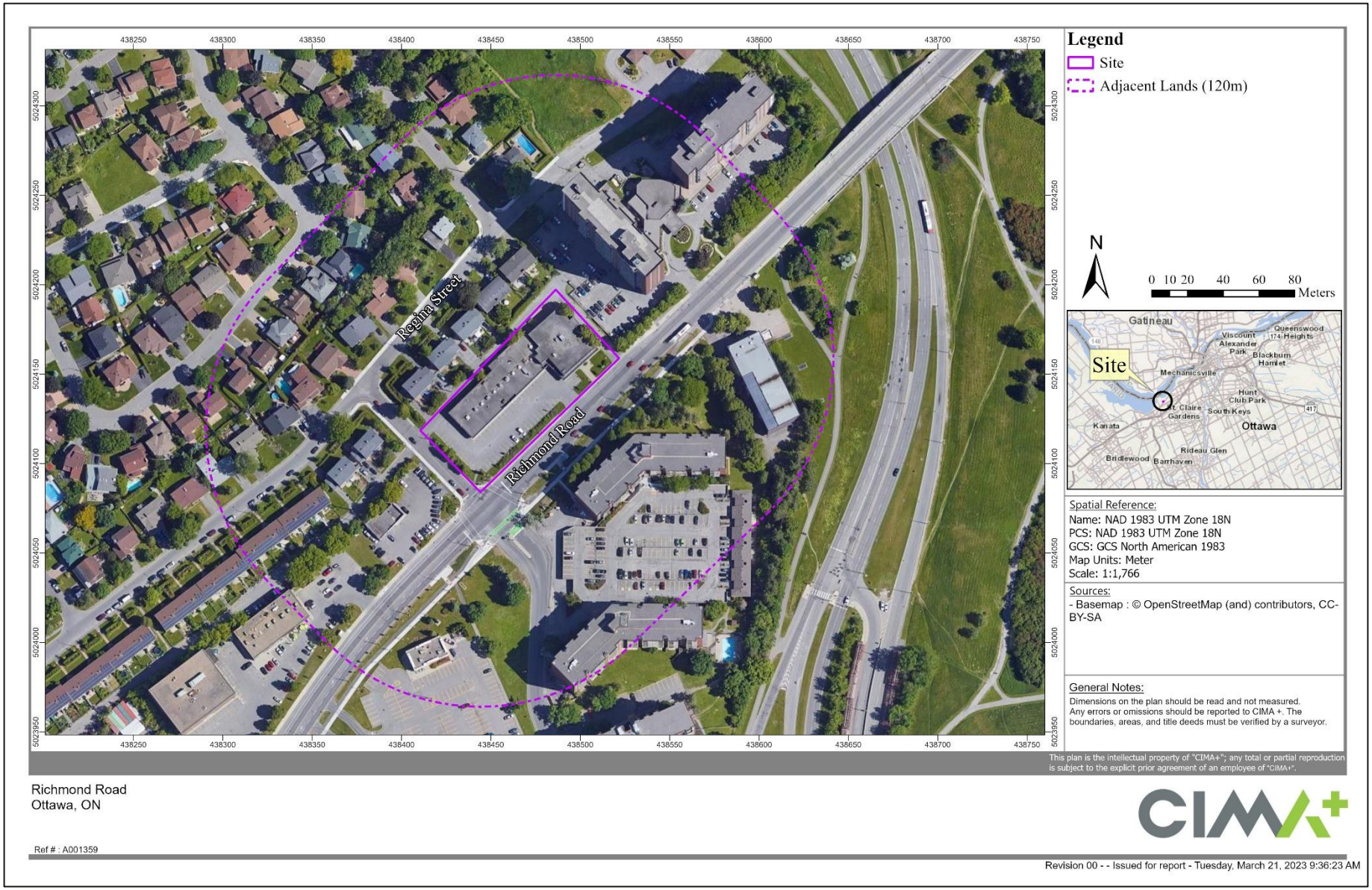

Figure 1: 1299 Richmond Road Site Location

3. Methodology

The tree inventory was undertaken on February 27, 2023. Trees were numbered, identified, measured, and assessed for condition. Information collected on the individual trees included:

- Species;
- Diameter at breast height (DBH);
- Approximate crown spread;
- Height; and
- Condition.

The assessment methodology is outlined in the sections below. The tree inventory table containing this information is included in **Appendix A** along with the drawings that show the locations of the numbered trees assessed.

3.1 Tree Size

Size refers to trunk diameter at breast height (DBH or caliper) measured in centimetres at 1.4 m above the ground. Where trees had more than one trunk from the base, the size of each trunk was recorded. Where trees forked to codominant trunks, each trunk was measured, or the diameter was measured at the narrowest point below the fork.

3.2 Observations

Several structural defects and health problems are included in the Tree Inventory and Assessment Table (Appendix A). The following list provides an explanation of the short forms used in the table of the top eight (8) deficiencies observed on Site;

- CA – Cavities are often the result of an injury followed by decay. Decay can begin by injury to the trunk, the loss of a large limb, topping or improper pruning. The inner dead wood begins to decay but living wood is protected by a barrier zone that compartmentalizes damage;
- MBR – When a tree has multiple branches from the same point of attachment, the branches usually have characteristics of weakly attached branches;
- SMD - Small dead branches are an indicator of crown dieback and can be an early sign of stress;
- ADV - Adventitious shoots are vigorous growth of shoots from pruning cuts, inner branches, or along the trunk that usually occur in response to stress;
- INC - Included bark is bark that has become embedded in a crotch where limbs join and causes weakened branch attachments. As the trunk and branch increase in diameter,

the bark of each stem in the tight crotch begin to push apart, increasing the likelihood of failure;

- FC - Frost cracking is a winter injury caused by temperature fluctuations on bark and inner wood when the sun warms a tree trunk and then temperatures drop quickly, causing splitting of the bark that can extend into the wood below. Frost cracking can be associated with snow reflection and southwest-facing trunk exposures, and particularly affects young trees and species with thin bark;
- COD – Codominant leaders (2 trunks or branches of approximately equal size) often have narrow branch angles and are associated with weak branch attachment. Strong branch attachments occur between 2 limbs of unequal size with enough space for branch enlargement and formation of a branch bark ridge;
- SC – Scarring or wounds are areas on a tree where the bark has been stripped away to the wood that had been underneath that bark, and the bark has grown up scar tissue around the sides of the wound.

3.3 Tree Condition

Each tree was given an overall health condition rating of: Excellent, Good, Fair, Poor, or Dead. The following is a summary of how the ratings are determined:

- EXCELLENT: no apparent health problems; good structural form;
- GOOD: minor problems with health and/or structural form;
- FAIR: significant problems with health and/or structural form;
- POOR: major problems with health and structural form;
- DEAD: dead.

3.4 Tree Protection

The minimum Critical Root Zone (CRZ) of each tree canopy is illustrated on the drawings to help determine possible injury and branch pruning that may be required (Appendix A). The Comments section of the Tree Inventory Table also includes notes about tree form and canopy location that can help to determine pruning that may be required to accommodate construction equipment.

The CRZ was determined using the City of Ottawa's Tree Conservation Report Guidelines. The CRZ is established as being 10 centimetres from the trunk of a tree for every centimetre of trunk DBH measured in a radius around the tree. The CRZ is calculated as DBH x 10 cm.

Tree Impact (retain, injury, or removal) has been determined and is included in the Tree Inventory and Assessment Table in **Appendix A**.

4. Results

The dates, timing, and environmental conditions at the time of the assessments are presented below in Table 1.

Table 1: Site Investigation Details

Date	Start/End Time	Field Surveys	Weather Conditions
2023/02/22	1400 ~ 1500 hrs	Visual assessment of all trees ≥10 cm dbh on-site	Temperature: -13°C Cloud cover / Precip: mixed sun/clouds, moderate wind.

The approximate 1.2-acre site is currently a min-mall comprised of several commercial businesses. The property is located along a busy arterial road surrounded by residential and commercial properties. All trees assessed were situated along the perimeter of the site.

A total of 10 trees were assessed as part of this inventory, all of which were alive. The only species observed on site was small-leaved linden. The condition of the trees on site ranged from Excellent to Poor.

A summary of the trees surveyed on site is provided in **Table 2** below.

Table 2: Summary of Tree Inventory

Species	Count	Size Range (DBH cm)	Height Range (m)	Crown Spread (m)
small-leaved linden	10	27-43	8-20	3-10

5. Impact Assessment

An impact assessment was undertaken to determine impacts to the trees within the site because of the proposed project construction. Trees recommended for removal include trees within or outside the limit of work that would not be able to withstand construction-related impacts. Trees identified as being injured require work within the minimum CRZ; however, impacts to these trees are anticipated to be minor and it is likely that these trees will survive post construction. Trees identified as being retained are expected to be minimally damaged by the project and are proposed to be protected through mitigation measures outlined below.

Based on the species and conditions of the trees located within the site and the extent of the grading limits of the proposed project design it has been decided to retain 4 trees and remove 6 trees on site.

The results of the impact assessment are summarized below in **Table 3**. These details are also included in the Tree Inventory and Assessment Table and Figure 1 included in **Appendix A**.

Table 3: Impact Assessment for Trees on Site

Trees to be Removed	Trees to be Injured	Trees to be Retained
6	0	4

6. Mitigation Measures and Construction Management

6.1 Tree Protection Measures

The most typical construction damage to trees is a root damage from compaction and severance. While the drip line of a tree's canopy is typically thought to be associated with the root area, the root zones can extend significantly beyond the drip line of the tree, sometimes up to 2 or 3 times the height of the tree. Some of the trees inventoried are growing close to the edge of the proposed construction and will be at risk of contact with, and damage from, heavy equipment. Generally, to protect trees, grade changes and construction activities that could cause soil compaction should be kept away from trees as much as possible.

In order to successfully preserve trees that are recommended for on-site retention, as well as those identified as being impacted, the following series of mitigation measures is recommended. These recommended measures largely center on the minimum CRZ of trees, as defined by the City's *Tree Conservation Report Guidelines*. The following measures are being recommended to protect the CRZ of all trees slated for retention and/or impact:

- Delineation of the disturbance limits within work areas will be clearly defined on drawings and on the site prior to construction;
- Install Tree Protection Fencing prior to commencement of construction activities, and retain fencing until construction activities have been completed, as per City of Ottawa's Tree Protection (By-law No. 2020-340), Part VI:
  - Tree protection fencing shall be at least 1.2 metres in height and installed in such a way that the fence cannot be altered.
- Do not place any material or equipment within the CRZ of a tree;
- Do not raise or lower the existing grade within the CRZ of a tree;
- Do not extend any hard surface or significantly change landscaping;
- If the construction will have to encroach into a tree's minimum CRZ, installing a temporary layer of 150 mm deep partially composed wood chips mulch over the root zone can help to protect roots from compaction damage, and conserve soil moisture levels;
- Equipment and materials should not be stored near trees;
- Ensure that exhaust fumes from all equipment are not directed towards any tree's canopy;

- Do not attach any signs, notices, or posters to trees;
- Ensure that site clearing is carried out only in areas where it is specifically required, and that the areas to be cleared are carefully and clearly delineated.

6.2 Tree and Root Pruning

- Do not damage the root system, trunk, or branches of any tree; if any roots are encountered during excavation while working outside the CRZ, they should be cut off cleanly with sharp pruning tools rather than allowing them to be torn by large equipment; clean cuts will help to minimize decay and entry points for disease;
- All exposed roots of trees to be retained should be covered in a minimum of 5 cm of firm soil within 24 hours of exposure;
- If root pruning is implemented, the crown of the tree should be reduced proportionately under the direction of a Certified Arborist or Registered Forester, to decrease wind sail. Pruning should be kept to thinning cuts (no major limb removal), and crowns should be monitored, and maintenance carried out for two (2) years after root pruning to remove any dieback under the direction of a Certified Arborist or Registered Forester;
- If branches are likely to hang in the way of passing equipment, the branches should be pruned by a Certified Arborist or Registered Forester to avoid tearing and undue injury to the tree;
- All pruning work must be performed under the supervision and guidance of a qualified tree professional in accordance with the latest ANSI A300 Pruning Standards and best management practices identified by the International Society of Arboriculture.

7. Permits and Approvals

The City of Ottawa's Tree Protection By-law No. 2020-340 describes the rules that govern tree ownership in Ottawa and the responsibility of tree maintenance, including administration and enforcement. As per Part IV: Sections 42 – 44 Prohibition, *No person shall injure or destroy a tree without a permit*. Sections 45 to 48 - Application for tree permit stipulates the process to apply for a permit under this by-law.

Therefore, it is recommended that consultation should be undertaken with the City prior to construction to confirm the requirements for tree removal permits associated with the municipal tree protection by-law. Where required, tree removal permits must be obtained from the City prior to the start of construction.

8. Certification and Closure

We certify that all the statements of fact in this assessment are true, complete, and correct to the best of our knowledge and belief, and that they are made in good faith

A

Appendix A
Tree Inventory and Assessment Table and Figure

APPENDIX A: 1299 Richmond Road Tree Inventory and Assessment Table

Tree No.	Common Name / Scientific Name	No. Stems	DBH (cm)	Height (m)	Crown Spread (m)	Structural Defects								Overall Condition	Comments	Ownership	Recommendation	CRZ (m)
						CA	MBR	SMD	ADV	INC	FC	COD	SC					
1	Small-leaved linden / *Tilia cordata*	1	36	12-15	6	☐	☐	☐	☑	☑	☑	☐	☐	Good		City	Retain	3.6
2	Small-leaved linden / *Tilia cordata*	1	30	8-11	3	☐	☐	☑	☐	☑	☑	☐	☑	Poor	Scarring on majority of trunk	City	Retain	3.0
3	Small-leaved linden / *Tilia cordata*	1	33	12-15	6	☐	☐	☐	☐	☐	☑	☐	☐	Good		City	Retain	3.3
4	Small-leaved linden / *Tilia cordata*	1	27	12-15	6	☐	☐	☐	☐	☐	☑	☐	☐	Good		City	Retain	2.7
5	Small-leaved linden / *Tilia cordata*	1	41	16-20	6	☐	☐	☑	☐	☐	☑	☐	☐	Fair	Dying / dead leader	City	Remove	-
6	Small-leaved linden / *Tilia cordata*	1	36	16-20	8	☐	☐	☑	☐	☐	☑	☐	☐	Good		Private	Remove	-
7	Small-leaved linden / *Tilia cordata*	1	35	16-20	5	☐	☐	☑	☐	☑	☑	☑	☑	Poor	Scarring on majority of trunk	Private	Remove	-
8	Small-leaved linden / *Tilia cordata*	1	43	16-20	10	☑	☐	☐	☐	☑	☐	☐	☐	Good		Private	Remove	-
9	Small-leaved linden / *Tilia cordata*	1	36	16-20	10	☐	☑	☐	☐	☐	☐	☐	☐	Good		Private	Remove	-
10	Small-leaved linden / *Tilia cordata*	1	35	16-20	10	☑	☑	☑	☐	☐	☐	☐	☐	Good		Private	Remove	-

TOPOGRAPHICAL PLAN OF SURVEY OF
PART OF LOTS 1 and 2
REGISTERED PLAN 408456
CITY OF OTTAWA
Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

Scale 1 : 250
10 7.5 5.0 2.5 0 5 10 Metres

Metric
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

Surveyor's Certificate

I CERTIFY THAT :
1. This survey and plan are correct and in accordance with the Surveys Act and the Surveyors Act and the regulations made under them.
2. The survey was completed on the 9th day of May, 2022.

May 30, 2022
Date

A.J. Broxham
Andrew J. Broxham
Ontario Land Surveyor

Notes & Legend

	Denotes	
—□—	"	Survey Monument Planted
—■—	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
IBø	"	Round Iron Bar
CC	"	Cut Cross
(WIT)	"	Witness
Meas.	"	Measured
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
(P)	"	Registered Plan 408456
(P3)	"	(AOG) Plan May 16, 2007
(P4)	"	(1287) Plan May 13, 1994
MH-ST	"	Maintenance Hole (Storm Sewer)
MH-S	"	Maintenance Hole (Sanitary)
MH-T	"	Maintenance Hole (Traffic)
MH-H	"	Maintenance Hole (Hydro)
FH	"	Fire Hydrant
WV	"	Water Valve
VC	"	Valve Chamber (Watermain)
TSP	"	Traffic Signal Post
HH	"	Handhole
OHW	"	Overhead Wires
UP	"	Utility Pole
AN	"	Anchor
LS	"	Light Standard
CB	"	Catch Basin
CBI	"	Catch Basin Inlet
B	"	Bollard
S	"	Sign
CLF	"	Chain Link Fence
T/G	"	Top of Grate
GV	"	Gas Valve
GM	"	Gas Meter
AC	"	Air Conditioner
WRW	"	Wooden Retaining Wall
BRW	"	Brick Retaining Wall
CRW	"	Concrete Retaining Wall
ø	"	Diameter
+ 65.00	"	Location of Elevations
+ 65.00*	"	Top of Curb / Wall Elevations
C/L	"	Centreline
	"	Deciduous Tree

Bearings are grid, derived from the southerly limit of Part 1 Plan 5R-9362, shown to be N44°35'50"E thereon and are referred to Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

SITE AREA =4142.3 m^2

Trees to be Retained
Trees to be Removed
Not Included (DBH <10 cm/Absent)

ELEVATION NOTES

1. Elevations shown are geodetic, derived from the Vertical Control Monument 2016-0135 having an elevation of 68.405 metres and are referred to the CGVD28 geodetic datum.
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that it's relative elevation and description agrees with the information shown on this drawing.

UTILITY NOTES

1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-27616
THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29 (3).

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Job No. 22957-22 Brigil PtLt 1 PL 408456 T F | ig