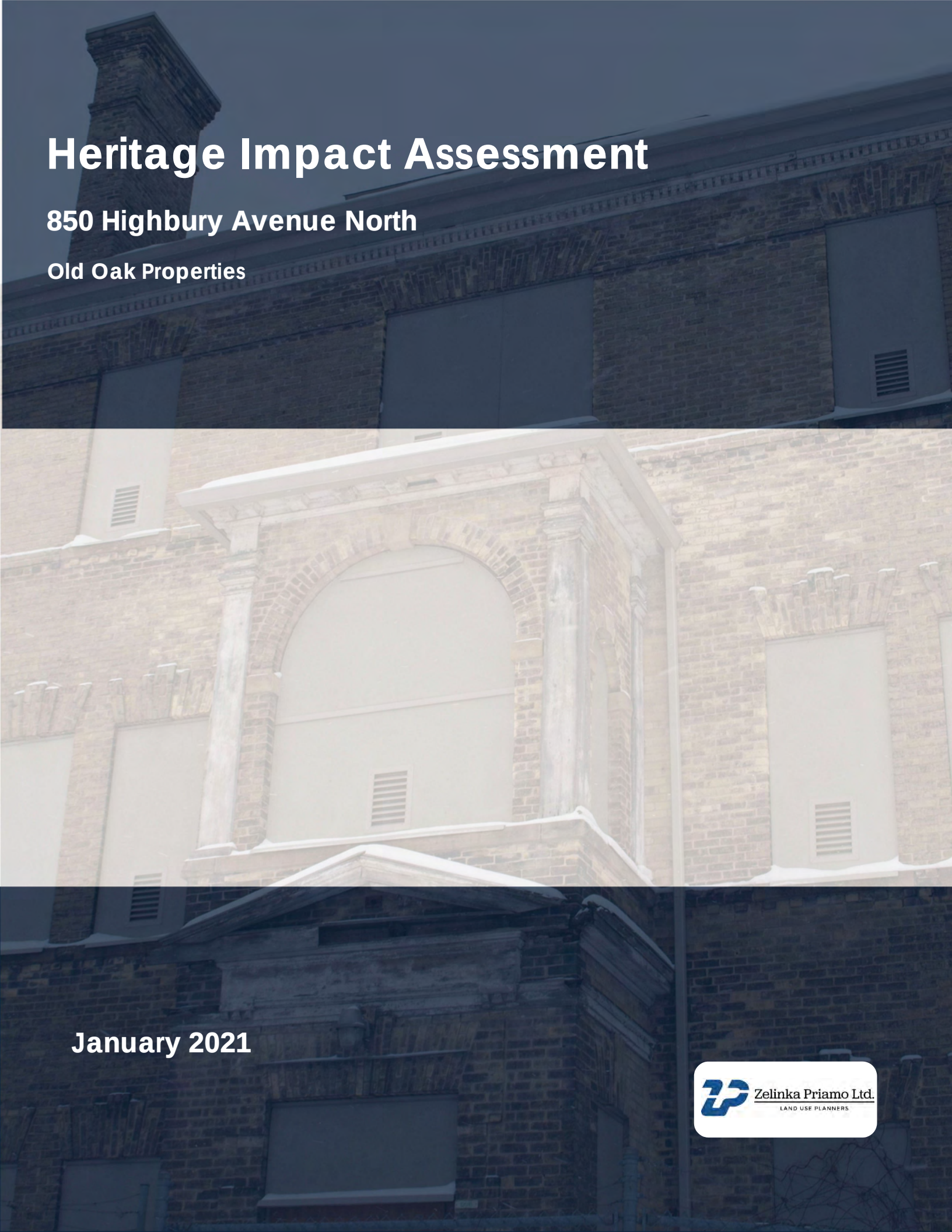


Heritage Impact Assessment

850 Highbury Avenue North

Old Oak Properties

January 2021

Zelinka Priamo Ltd.
LAND USE PLANNERS

TABLE OF CONTENTS

SECTION 1 - INTRODUCTION

1.1 Purpose of Heritage Impact Assessment

The lands located at 850 Highbury Avenue North have a Heritage Conservation Easement registered on the property as well as a part IV designation under the Ontario Heritage Act.

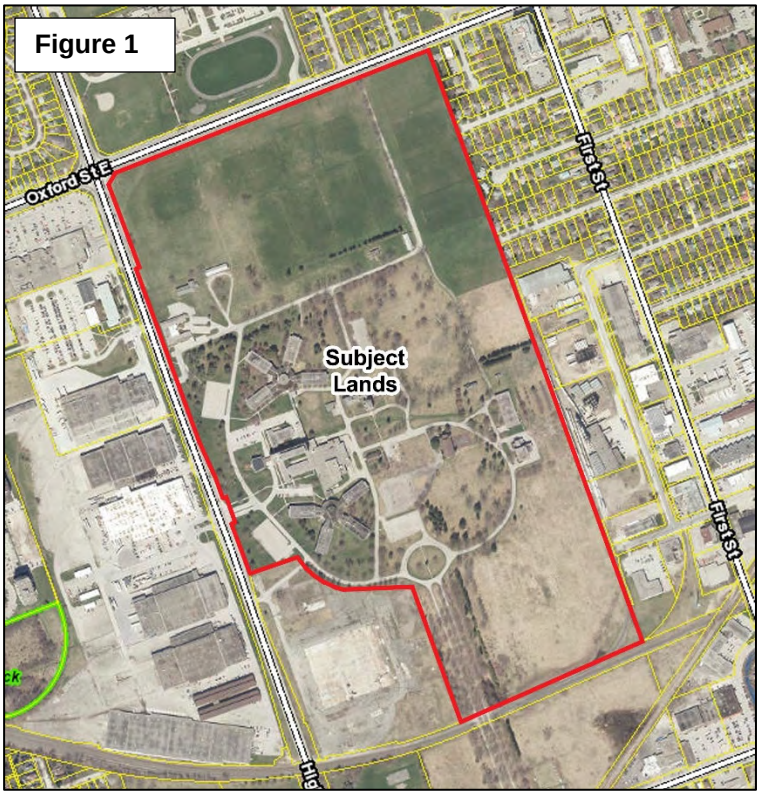
A Heritage Impact Assessment is required for the proposed subdivision plan.

SECTION 2 – SUBJECT LANDS

2.1 Subject Lands

The lands are known as the former London Psychiatric Hospital and contain a complex of buildings and landscape features that have been identified as having provincial and municipal cultural heritage value.

The subject lands are a generally rectangular parcel with frontage on Highbury Avenue, and Oxford Street East. The subject lands have an area of 58.13 hectares (143.64 acres) with a frontage of 730.4 m (2,395.0 ft) along Highbury Avenue North, and frontage of 584.9 m (1,919.0 ft) along Oxford Street East. The subject lands also have potential vehicular access to Howland Avenue, and Rushland Avenue to the east (Figure 1).



2.2 Proposed Subdivision Plan

The proposed development is intended to be a residential area which acts as a transition zone between the industrial areas west of Highbury Avenue North integrated with an existing low density residential community to the east. The proposed development is to be situated within walking distance of Fanshawe College and local sport fields at John Paul II Catholic Secondary School and will include a number of recreation spaces within the heritage easements and open space blocks. The proposed subdivision plan consists of fifteen (15) medium density blocks including four (4) that will include mixed commercial uses, four (4) high density/mixed use blocks, one (1) office space block and three (3) heritage blocks ranging in size from 0.49 to 3.61 ha. Densities within the subdivision will transition from the highest densities along the arterial roads (Highbury Avenue North and Oxford Street East) and dropping from west to east across the site.

The Heritage Conservation Easement creates unique road allowances that are intended to facilitate standard roadway profiles while placing heritage features into public ownership for protection and maintenance.

The subject lands are currently designated for a range of land uses, including: multi-family, medium density residential, multifamily, high density residential, office/residential, regional facility, and open space in the 1989 Official Plan. The subject lands are designated Transit Village, and Green Space in the London Plan (under appeal). The subject lands are currently zoned Regional Facility (RF) in the City of London Zoning By-law. The proposal seeks to re-designate under the 89 OP and rezone the subject lands to facilitate development consistent with the policies of the London Plan Transit Village Place Type policies.

The draft Plan is attached.

SECTION 3 – REVIEW OF EXISTING HERITAGE RESOURCES

In January of 2019 Golder Associates Ltd. was retained to conduct a review of the heritage documents that pertain to the subject lands.

The most notable one was the Ontario Heritage Trust identified the discrepancy of the boundaries of the Protected Lands within the Heritage Conservation Easement Agreement:

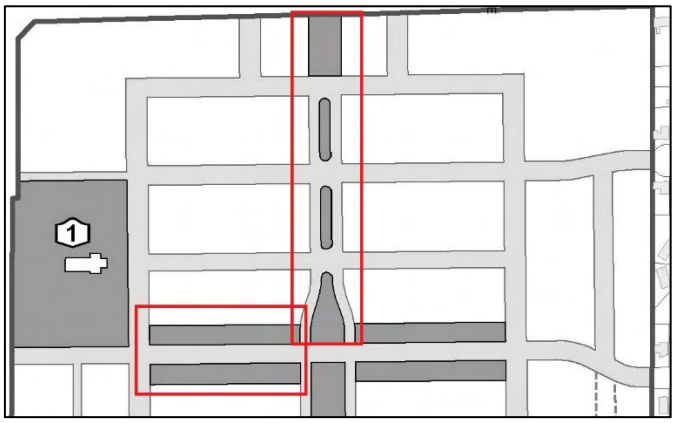
> *"The Owner and Trust jointly acknowledge that a secondary plan known as the London Psychiatric Hospital Lands Secondary Plan Official Plan Amendment 510 (the "Secondary Plan") was adopted on October 3, 2011 by the City of London for the Former Hospital Lands pursuant to City of London By-Law No. C.P. – 1284(rp)*

– 283 passed and that the boundaries of the Protected Lands and the Access Lands are not coincident with the parcels identified on the Secondary Plan."

A review of the Heritage Conservation Easement, designating By - law L.S.P.-3321-208 and the Secondary Plan heritage polices revealed discrepancies between all three documents.

There are discrepancies between the boundaries of the Heritage Sub Area Designation and the Heritage Conservation Easement. There is also lack of consistency with the heritage attributes identified for each of the cultural heritage resources on the property.

The following is an assessment of the polices for heritage conservation on the property as detailed in the Secondary Plan Section 20.4.3.6.

Secondary Plan Policy Section 20.4.3.6 Heritage Area Designation	Assessment
Schedule 7 - the boundaries of the Heritage Sub Area Designation. Mainly the area shown in red.  	The area within the Heritage Sub Area Designation is referred to as the area of significant cultural heritage landscape to be conserved. What was prepared to support this, most notably the areas north of the Infirmary building. This is not consistent with the boundaries of the Heritage Conservation Easement, nor is identified in designating By - law L.S.P.-3321-208. Page 9, Section 20.4.2.2, within the Secondary Plan states "Based on the conservation plan prepared for this Secondary Plan…" Is the assessment for the Heritage Sub Area Designation found in the conservation plan prepared for the Secondary Plan?
I. Function and Purpose The Heritage Area designation includes the cultural heritage landscapes as well as the individual heritage buildings and their landscape setting that exist on the LPH lands. These buildings, and the heritage landscape, will be conserved. Conservation allows for alterations to a property and buildings, if it can be demonstrated that the significant heritage attributes of the heritage resources are not negatively impacted by the change. The conservation and re-use of the potting shed, vegetable shorting shed and central heating plant is encouraged but not required. The following policies apply to areas identified on Schedule 7 – Cultural Heritage Framework of	The heritage attributes of the buildings and features to be conserved are not consistently defined. Please see the following charts that outline the lack of consistency for each of the buildings and features to be conserved.

this Plan. The buildings and features to be conserved include: a) Treed Allèe; b) Recreation Hall; c) Chapel of Hope; d) Infirmary Building; e) Horse Stable; f) Cultural Heritage Landscape.	
II. Character The areas identified within the Heritage Area designation area to be conserved and wholly integrated into the design of the neighbourhood. The Heritage Area designation includes cultural open space, which is part of the cultural heritage landscape. This includes the historic Allèe and the planned 'Village Green' which provide a major pedestrian corridor and opportunities for programmable events. As these elements and/or features form part of the public realm, the surrounding character of the area will respond, in architectural design, to these features and/or elements. All development adjacent to the Heritage Area designation will be developed with sensitivity to the cultural heritage landscape and its component parts. Important views and vistas, as shown on Schedule 8, will be conserved and will remain unobstructed by development. Permitted building heights will be lowest adjacent to the cultural heritage landscape and greatest in locations further from the cultural heritage landscape.	The heritage attributes of the Allèe and cultural landscape are not consistently defined. Please see the following charts that outline the lack of consistency for each of the buildings and features to be conserved. The "important views and vistas" identified in Schedule 8 have not been supported by historical research, visual assessment, nor rigorous analysis. Page 9, Section 20.4.2.2, within the Secondary Plan states "Based on the conservation plan prepared for this Secondary Plan…" Is the assessment for these views and vistas found in the conservation plan prepared for this Secondary Plan? The only "identified" views are from Dundas north to the Infirmary building. This could be disputed as not a historical view as it was blocked by a building. Also, the existing north/south tree-lined roadway framing a view of the north (rear) elevation of the Infirmary. Views from Oxford Street East have not been defined.

III. Permitted Uses The restoration and sensitive adaptation of significant heritage buildings for contemporary urban uses is encouraged. The Infirmary Building should be considered for office/or institutional uses, which may include an interpretive centre. The continued use of the Chapel of Hope as a place of worship, and the Recreation Hall for community uses is preferred. The stable should be adapted for food or farming-related uses such as a market, restaurant and/or education centre. The possible use of the stable for horticultural purposes associated with an established educational facility is encouraged. The Cultural Heritage Landscape is intended to be used for passive recreational uses and programmable events. In the area surrounding the Horse Stable, educational facilities related to horticultural or agricultural and/or community gardens, as shown on Schedule 2, may also be permitted.	'Restoration' as defined in the *Standards and Guideline for the Conservation of Historic Places in Canada,* is not the preferred conservation approach for any of the buildings or landscapes on the property. Instead, the preferred treatment is *rehabilitation,* defined as 'the action or process of making possible a continuing or compatible contemporary use of an historic plan, or individual component while protecting its heritage value.' This approach was supported in the December 2008 Conservation Plan. The Conservation Plan prepared for the Heritage Conservation Easement is attached. The uses presented are too prescriptive for the range of compatible options and do not take into account current social conditions (such as the declining church attendance), and also potentially introduce inauthentic uses. The Horse Stable was part of an institutional landscape, not an "agricultural" one, and as currently understood would have housed horses used for both farm work and transportation, and not be used for horticultural, food service or market purposes.
IV. Public Realm The Heritage Area, and the associated cultural heritage landscape is to form part of the public realm. Development adjacent to the areas identified as Heritage Areas are to orient the built form towards these features and/or the public right-of-way that bounds them. Specific urban design policies for the interface between	The heritage attributes of the Allèe and cultural landscape have not been consistently defined, nor has a comprehensive study correlating the vegetation inventory with cultural values. As currently understood not all rows of trees associated with the Allèe contribute to the cultural heritage landscape.

heritage areas and new development are found in Section 20.4.4.10 Urban Design, of this plan. Within heritage open space areas a tree management and planting strategy shall be established in order to conserve and sustain the significant landscape setting. Vegetation and greenspace contribute significantly to the cultural heritage landscape and provide a setting for its significant features. The following landscape features shall be established and/or conserved: • This historic central Treed Allèe including its parallel row of trees; • An open greenspace extending from the Allèe to the Infirmary Building;	Not all existing trees flaking street alignments can be assumed to contribute to the cultural heritage landscape and may in fact obscure potential historical views and vistas. A Scoped Tree Assessment Information report has been prepared. A tree management and planting strategy will be prepared.
Where possible, priority trees to be conserved include the ring of trees which surround the traffic circle, the row of trees which line the southern edge of the historic ring road, the two parallel rows of trees that extend northward from the rear of the Infirmary and the rows of trees which line both sides of the road that extends east-west through the site, south of the Horse Stable, as shown on Schedule 5. Existing trees will also be retained where they flank street alignments. These trees area a key defining element of the cultural landscape and must be managed. New buildings and streets must provide appropriate drip line setbacks.	Upgrading the road to city standards may alter the roads identified within the Heritage Conservation Easement and may damage or require the removal of trees that line the roads. Further discussions will be required between the Ontario Heritage Trust and City of London regarding detailed site design on upgrades to infrastructure.
The therapeutic landscape setting and its physical and visual relationships to the historic buildings shall be conserved and monitored to allow for meaningful interpretation of the cultural heritage resources. The following measures shall be taken to facilities interpretation of the site:	The ‘therapeutic landscape setting and its physical and visual relationship to the historic buildings’ has not been defined thoroughly, and likely changed significantly throughout the property’s history. The “therapeutic landscape setting and its physical and visual relationship to the historic buildings’ is not listed as a heritage attribute in the Heritage Conservation Easement, nor is

	identified in designating By - law L.S.P.-3321-208.
The established of an interpretive centre to tell the story of the mental health care in Canada. A possible location for such a use is the administrative wing of the Infirmary building;	The 'interpretive centre', which would require a clearly defined educational objective and rigorous feasibility planning to be sustainable, may be better located in one of the other heritage structures (considering factors such as size and accessibility). An 'interpretive education concept' could be within the Heritage Conservation Easement area, but not necessarily limited to a centre or one building. It could be in the form of interpretive signage.
A prominent street within the property should be named after Dr. Richard Bucke (superintendent, 1877-1902), if possible;	It may not be advisable to name a prominent street within the property after Dr. Richard Bucke given the controversial gynecological experiments on female patients he conducted without consent.
As trees mature and require replacement, new trees should be planted close to the original position. Within the Allèe, the replacement trees must be added in the same north/south alignment in order to maintain the existing definitive rows. Replanting of trees shall be based on the variety of species historically planted on the site, with the exception of ash trees. There should continue to be a variety of larger native and non-native trees, deciduous and coniferous species, that will create scale, provide shade and frame views.	A Scoped Tree Assessment Information report has been prepared. A tree management and planting strategy will be prepared. Upgrading the road to city standards may alter the roads identified within the easement and may damage or require the removal of trees that line the roads. Further discussions will be required between the Ontario Heritage Trust and City of London regarding detailed site design on upgrades to infrastructure.

New development on the west and east sides of the Allèe shall be set back a minimum of 5 metres from the limit of the root zone (drip line). The design for new infrastructure on the site including new streets and utilities shall be planned to minimize excavation or filling within the root zones of the major vegetation features. This may require the adoption of alternative road design standards along streets to be lined by existing trees. A detailed tree preservation plan showing tree protection measures shall be required for any development applications on lands abutting the Allèe or the Priority Tree Retention Areas as shown on Schedule 5. For clarity, "development" includes roads and driveways.	The extent of the cultural heritage attributes of the Allèe (and associated 5 m buffer) has not been defined. A comprehensive study correlating the vegetation inventory with cultural values has not been undertaken.
Archaeological assessments will be required in accordance with application Provincial policy prior to site redevelopment, to the satisfaction of the Ministry of Tourism and Culture. Of particular interest on the LPH lands, is the possibility of unmarked patient burial grounds associated with the asylum.	A Ground Penetrating Radar Survey was completed and concluded no evidence of a patient burial grounds was found. The report is attached.
V. Built Form and Intensity Significant alteration or additions to the heritage buildings affecting their form and massing or diminishing their cultural value shall not be permitted. Minor additions or alterations, which are visually distinguishable form and subordinate to the historic structure may be permitted. Permission is subject to approved by the City of London and/or the Province of Ontario in accordance with Provincial policy and procedures. As shown on Schedule 8, visual access shall be maintained between the Infirmary Building and the Allèe, as well as between in Infirmary Building and the Chapel of Hope. The Infirmary will continue to form the view terminus from the southern extent of the community. Height restrictions are shown on Schedule 4 of this Plan.	The heritage attributes of each building and landscape features have not been consistently defined, which hinders decision making for conservation and an understanding of negative impacts that may result from minor additions or alterations. This section will need to be updated as per the outcome of the discussions regarding updating the Secondary Plan to conform to the Heritage Conservation Easement. Further discussions may be required between the Ontario Heritage Trust and City of London. Please see the following charts that outline the lack of consistency for each of the buildings and features to be conserved.

VI. Transportation The Allèe shall be closed to vehicular traffic and will be used for linear park space, orientated to pedestrian leisure, cycling and passive recreation. Remnants of the historic ring road alignment should be retained and form the basis of circulation patterns arounds the centre of the site. Priority shall be given to retaining the historic alignment of the southern half of the ring road which will also facilities retention of many of the trees which line this portion of the road. A large traffic circle shall be retained at the terminus of the Allèe.	It is understood the Allèe shall be closed to vehicular traffic however, this is not historically correct. It was the main vehicular access to the site and was not only orientated to pedestrian leisure, cycling and passive recreation. The reason for Allèe to be closed to vehicular should be defined in another area of the Secondary Plan. Upgrading the road to city standards may alter the roads identified within the easement and may require the removal of trees that line the roads. Further discussions will be required between the Ontario Heritage Trust and City of London regarding detailed site design on upgrades to infrastructure.
Large surface parking lots shall not be permitted within this designation. On-street parking in close proximity to these areas is encouraged.	'Large' surface parking lots is not defined. Surface parking lots may be required to accommodate adaptive re-use of the heritage buildings and can be reviewed when a development proposal is submitted.
VII. Stewardship and Sustainability Prior to the disposition of lands of structure designated as Provincially Significant in accordance with the Final Conservation Plan, December 2008, prepared by Julian Smith and Associates, a stewardship plan shall be completed in accordance with Provincial policies and procedures. The stewardship plan shall identify how these Provincially Significant features are to be maintained, the costs associated with the maintenance and identify	The Final December 2008 Conservation Plan provided guidance to the preparation of the Heritage Conservation Easement and further reports should be in accordance with the easement agreement and the Statement of Cultural Heritage Value and Interest. Further discussions will be required regarding specific heritage

sources of funding to cover the maintenance costs.	conservation plans/heritage impact assessments for any development within or adjacent to the Heritage Conservation Easement.

The following is an assessment of the heritage attributes for each of the buildings and features to be conserved. Information from Technical Memorandum prepared by Golder, July 18, 2019.

Chapel of Hope – Heritage Attributes Comparison		
OHT Easement – Statement of Cultural Heritage Value and Interest	**By - law L.S.P.-3321-208**	**Secondary Plan**
• Local buff brick construction; • Gable roof topped with finial; • Double-lancet stained glass windows; • Large stained glass window above the alter depicting religious imagery and scenes from the London Psychiatric Hospital; • Bull's eye window with quatrefoil muntin in the gable end; • Seven bay side walls with buttresses; • Trefoil dormers; • Chimneys.	• White brick construction; • Four small dormers on each side of the gable roof, each featuring a trillium shaped stained glass window; • Seven Gothic arch-shaped stained glass windows on each side of the building; • Large stained glass window behind the altar; • Front and two side entrances roof peak is capped with a carved stone ornament.	• Built by patients as an interdenominational chapel, it is one of the only free-standing chapel buildings within a psychiatric hospital site in Ontario; • The chapel is a one-and-a-half storey brick structure with a gable rood, built in the Gothic Revival style.

Infirmary Building – Heritage Attributes Comparison		
OHT Easement – Statement of Cultural Heritage Value and Interest	**By - law L.S.P.-3321-208**	**Secondary Plan**
• Local Buff Brick construction; • Symmetrical composition – tall three - storey central administration block on a raised basement centre block flanked by two identical wards with rectangular wood verandahs; • Main front entrance topped with a pediment supported by pilasters, a large rounded arched window and two smaller rounded-arched windows and dentilated cornice; • Tall chimneys and skylights atop the hipped roof of the central block; • Dentilated cornice around the entire building; • Double-hung wood sash windows; • Flat arch buff-brick lintels and stone sills; • Louvered ventilators atop the flaking wards; • Pediments, dormer and Bull's eye windows of the wards; • The single rounded-arched window of the wards façade; • Decorative buff-brick quoins at the end walls and separating the slightly projection bays of the wards; • The simplified rear (north) elevation with projecting bays, dormers and chimneys; • Sun porches at the end of each ward.	• Three-storey white brick construction; • Hip roof; • Overall symmetry and balance; • Central surgical block attached by two passageways to mirror-image side pavilions, each featuring a gabled projection and cupola; • Corner quoins; • Plain pediment over the front entrance; • Voussoirs over windows; • Semi-circular window on second storey above front entrance; • Skylights; • Closed brick railing on entrance steps.	• Symmetrical, three storey Victorian yellow brick building is aligned on axis with the entrance avenue; • A central surgical block complete with a rare surviving operating room, is connected by two passageways to east and west patient wings; • Large skylights provided light for the surgical suite on the third floor; • Each patient wing features large sun rooms along the side building flankages.

Recreation Hall – Heritage Attributes Comparison		
OHT Easement – Statement of Cultural Heritage Value and Interest	**By - law L.S.P.-3321-208**	**Secondary Plan**
• Reddish-brown construction; • Symmetrical façade frontispiece – a central block and two flanking wings; • Central block with pediment, oculus window, a central rectangular shaped tripartite; • Window flanked with 6-paned window; • Flanking wings features a rounded-arched window with decorative dark-brown brickwork extending well beyond the base of the window; • Side walls with six multi-paned rectangular wood windows divided into three parts and set within a shallow rounded-arched niche; • Raised basement with multi-paned windows; • Projection bays on the side wall with a pediment, quoins, entrance door and six-over-six wood-sash windows; • Rear elevations features quoins and a rounded-arched window in the gable.	• Two-storey brown brick construction; • Gabled ends with a wide plain frieze and moulding; • Return eaves over broad pilasters at the south end and a pediment at the north end; • Four small wings, two at each end, with pediment gables; • Metal roof with ventilators; • Large and tall auditorium windows on the sides set in semi-circular headed brick panels, each with 40 panes arranged in 9 sections; • Double door centre entrance with an eight-light transom, windowed doors, small lanterns to each side, high and wide front steps, and a canopy supported by chains; • Performance stage in the interior of the building.	• This two-storey brown brick building was used to host recreational activities for patients, including a basement; • Swimming pool (now filled in) and a stage with a balcony; • The auditorium space features large tall windows on each side, and a double door centre; • Entrance which faces north.

Horse Stable – Heritage Attributes Comparison		
OHT Easement – Statement of Cultural Heritage Value and Interest	**By - law L.S.P.-3321-208**	**Secondary Plan**
• General massing and two intersecting gable roof sections; • “t” shaped footprint; • Local buff brick (also called white brick); • Five roof ventilators; • Brick chimney (east elevation); • Location of existing segmental – arched window and door openings; • Board and batten upper access doors to hay loft (west elevation).	• White brick construction; • White washed base; • Slate roof’ • Monumental size; • Nearly regular fenestration; • Classical proportions; • Ventilation cupolas.	• Built of buff-coloured brick with a slate roof, the Horse Stable is the last of three original agricultural buildings; • While the building was functional, the picturesque effect produced by its classical proportions and ventilation cupolas also make it a handsome landmark building; • The stable is a meaningful symbol of the hospital’s significant agricultural past, recalling the importance of farm work to patient therapy and community self-sufficiency.

Cultural Heritage Landscape – Heritage Attributes Comparison		
OHT Easement – Statement of Cultural Heritage Value and Interest	**By - law L.S.P.-3321-208**	**Secondary Plan**
The Cultural Heritage Landscape Features of the Allèe and Ring Road Zone include, but are not limited to, the following highlighted elements: • The 470-metre tree-lined Allèe that extends from the CPR Line and intersects with the circular drive; • Circular drive with internal green space and east/west access to the ring road; • Remnants of the ring road; • Mature trees that border the ring road on both sides. The Cultural Heritage Landscape Features of the Campus Zone include, but are not limited to, the following highlighted elements; • The location of the provincially significant buildings: Chapel of Hope, Infirmary and Recreation Hall within the landscape; • Their deliberate setback of the from the Dundas Street East to provide a serene and rural setting; • Strategically planted trees including the row of black walnut trees along east/west interior roadway leading to the Horse Stable; • North/south tree-lined roadways framing a view of the north (rear) elevation of the Infirmary; • The open space of the lawn with mature plantings directly south of the Infirmary. The Cultural Heritage Landscape Features of the Horse Stable Zone include, but are not limited to, the following highlighted elements: • Mature trees including sugar maples and walnuts • Surrounding open space providing unobstructed views of all four elevations of the Horse Stable.	• Farmland grounds that show the Hospital's early supervisor's vision on the treatment of patients with mental illness; • Sculptures and landscaping on the Hospital grounds reflecting the Hospital's approach to the treatment of the mentally ill patients; • Large Hospital grounds featuring landscaped areas, farmland and built structures; • Magnificent vista formed by the two-lane avenue with a centre walkway lined with eight rows of trees;	• Central Treed Allèe: an entry avenue consisting of two one-way roads and a wide median containing a pedestrian walk is lined with several parallel rows of trees. While originally planted with elms, the Allèe today consists of a variety tree species, both coniferous and deciduous. • The Allèe forms a magnificent vista north from Dundas Street into the lands and terminating at the Infirmary building.

SECTION 4 – CONCULSIONS

Given the results of the review completed by Golder, there needs to be a comprehensive understanding of the cultural heritage resources on the property; however, the discrepancies between heritage governing documents and policies makes that difficult.

Going forward the Statement of Cultural Heritage Value and Interest prepared for the Heritage Conservation Easement should be the principal heritage document that is used for conservation on the site.

The research done for the Heritage Conservation Easement was extensive and detailed and provides a clear understanding of the heritage attributes to be conserved for each of buildings and features identified as significant.

The heritage by-law for the subject lands was approved in 2000 and can be characterized as out of date because it does not conform with the current Ontario Heritage Act. It is also unknown what historical research, visual assessment, or analysis was done to prepare the By-law or some of the heritage policies with the Secondary Plan.

Amending the heritage By-law and the heritage policies within the Secondary Plan to conform to the Heritage Conservation Easement would allow for a clear and comprehensive understanding of the properties cultural heritage resources for when redevelopment proposals come forward.

Further discussions will be required regarding specific heritage conservation plans/heritage impact assessments for any development within or adjacent to the Heritage Conservation Easement.

C O N S E R V A T I O N P L A N
FINAL

LONDON PSYCHIATRIC HOSPITAL
LONDON, ONTARIO

FOR
THE ONTARIO REALTY CORPORATION
1 Dundas Street West, Toronto, Ontario

PREPARED BY
Julian Smith & Associates Architects
206 James Street, Ottawa, ON K1R 5M7
with
Wendy Shearer Landscape Architect
Guelph
Jacqueline Hucker Historian
Ottawa
Carolyn Samko & Rosi Zirger, Heritage Conservation Consultants
Hamilton and Niagara-on-the-Lake
Sandy Smallwood, Andrex Holdings
Ottawa

December 2008

Table of Contents

C O N S E R V A T I O N P L A N

LONDON PSYCHIATRIC HOSPTIAL
LONDON, ONTARIO

EXECUTIVE SUMMARY

This Conservation Plan sets out broad recommendations for treatment of the Regional Mental Health site at London, Ontario, originally known as the London Asylum and later as the London Psychiatric Hospital. It focuses on the cultural landscape zone within the site, as identified by ORC in 2004 as being of provincial heritage value.

The London complex is a major institutional landholding within the urban boundary of the City of London. It is currently a 65-hectare site with a 1964 psychiatric hospital complex superimposed on a late 19th Century psychiatric hospital complex. The more recent hospital is of little architectural or historical interest. But the underlying late 19th Century complex may be the most significant site in the history of mental health in Canada. Part of this significance derives from its association with Dr. Richard Burke, Superintendent from 1877 to 1902, who became internationally recognized for his work in moving from 'heroic treatment' to 'moral treatment' in the care of mental health patients.

Although the original central building from the late 19th Century has been demolished, the remnant architectural and landscape features still convey a strong sense of Dr. Burke's vision for the site and his work on the moral, spiritual, and scientific aspects of mental health care. Four components are of special significance – an extraordinary tree-lined entrance avenue with eight parallel rows of trees separating vehicle and pedestrian pathways; an Infirmary Building on axis with the entrance avenue, complete with a rare surviving operating room; one of the only free-standing Chapel building within a psychiatric hospital site in Ontario, built by patient labour; and a handsome brick and slate horse stable, recalling the importance of agricultural work to patient therapy and community self-sufficiency. All four of these features were designed to the specifications of Dr. Bucke. Equally important is the landscape of broad lawns, specimen trees and curvilinear roads and pathways that tie these elements together.

The history of mental health treatment in Ontario is complex and often troubling. But it is at London, more than anywhere else, that the story deserves to be told. So although the current psychiatric hospital is due to close, and 140 years of mental health care on this site will cease, there remains the question of how to interpret the London site while also looking at a major redevelopment of this large urban land parcel.

This Conservation Plan recommends a small interpretive centre within one wing of the Infirmary Building, and sympathetic treatment of related elements including the entrance avenue and the Chapel. These three need to remain visually interconnected, and with some measure of public access. Otherwise, it is assumed that the site will redevelop privately with a mix of uses reflecting existing adjacent land use patterns – industrial, commercial, residential, institutional and recreational. The stable is a logical building for a small but dramatic adaptive reuse project – the one qualification is that its silhouette should be maintained and some of the immediate surroundings left open to give it the farmland context for which it was so carefully designed. This open space could be parkland for community use. Also, the 1920s Recreation Hall, although not part of the Bucke legacy, is another candidate for continuing or adaptive reuse, most logically as some kind of ongoing community facility.

In terms of redevelopment, this plan recommends more intensive development around the perimeter of the site, particularly along Highbury and Oxford, and a shallower landscaped bowl in the middle of the site within which the Infirmary Building, the Chapel, and the entrance avenue can retain some of their heritage character and rich landscape setting. The access and circulation routes would logically build on the historic road patterns.

As an interim measure, this Conservation Plan recommends immediate stabilization of two of the buildings – the Infirmary and the Stable. The roof finishes on these two buildings have deteriorated to the point where there is major water infiltration into the building interiors. This originally caused damage to interior finishes and details, but is now starting to cause significant structural deterioration and even collapse. These components are too important architecturally and historically to risk further damage.

The attached plan shows the recommendations for the site overlaid on the existing site conditions. The shading indicates the proposed gradation in recommended building heights. The development areas are designed not only to protect the existing buildings, but also their landscape settings and the visual connections between them.

Proposed redevelopment of London site, including preservation of existing heritage resources. Shading is used to indicate progressively higher height limits.

INTRODUCTION

This Conservation Plan was commissioned by the Ontario Realty Corporation (ORC), in fulfillment of the requirements of the Cultural Heritage Management Process for ORC properties of provincial heritage significance. The London Psychiatric Hospital property was designated a heritage resource in 2007.

The study was carried out under the direction of Ellen Kowalchuk, Manager, Heritage Resources, ORC. The consultant team was led by Julian Smith of Julian Smith & Associates, Architects, together with landscape architect Wendy Shearer, project historian Jacqueline Hucker, and real estate consultant Sandy Smallwood of Andrex Holdings. Heather McArthur, Carolyn Samko, and Rosi Zirger of Julian Smith & Associates provided key research and administrative support.

Special acknowledgement is extended to ORC personnel who provided assistance in both the Toronto and London offices. In Toronto, John van Vliet provided input and review. In London, Daniel Beckett provided insights about the property and assistance in carrying out the assessments.

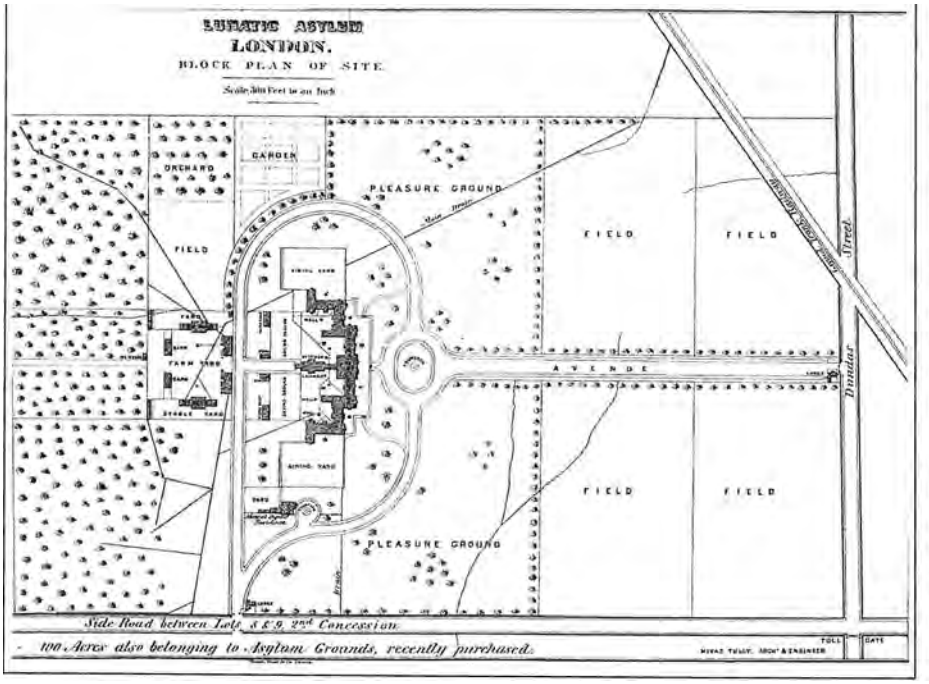
The Conservation Plan has three sections.

Section I of the Plan begins with a historical overview of the property. It then describes the current conditions of the buildings and the landscapes, and the larger urban context. It identifies planning and policy documents at the federal, provincial and municipal level that have a bearing on the maintenance and redevelopment of the property. It ends with a Statement of Significance, a summary of the values of the property and the features that must be sustained in order to protect and enhance its heritage character.

Section II provides a vision for the property, and an overview of redevelopment options compatible with the Statement of Significance and in line with applicable policies and planning frameworks. This section includes more detailed recommendations on occupancy and use, accessibility, servicing, and conservation treatments for the historic buildings and landscapes. It also provides related redevelopment options for the less significant land parcels outside the historic zone. It includes initial discussion of costs.

Section III provides a brief implementation strategy. It includes discussion of public consultation, demonstration plans, and development sequences.

This conservation plan recognizes that the heritage resources of the London Psychiatric Hospital compound are best served by sensitive redevelopment of the site, introducing new uses while protecting and interpreting some key historical components and themes.



Site plan, 1869, from the Report of the Commissioner of Public Works

BACKGROUND

London Psychiatric Hospital, or the London Asylum as it was called throughout much of its history, opened in 1870 and was the first purpose-built institution of its kind in Ontario, and one of the first in North America. It is a landmark facility in the history of mental health care, nationally and internationally. Of particular note is the close association of the site with Dr. Richard Bucke, Superintendent from 1877 to 1904, something of a legendary figure in the history of mental health treatment in Canada.

When the London Asylum opened, it was the centre for southwestern Ontario. London was one of only five centres in Ontario with a sufficient population to be called a city in the 1871 census – the others were Kingston, Ottawa, Toronto and Hamilton.

The London Asylum was built to house patients from restructured and amalgamated facilities – patients from Orilla and Malden (near Windsor) were transferred to London. Dr. Henry Landor had been superintendent of the Malden facility for 3 years before the transfer of patients to new London facility. He became the first Superintendent of the London Asylum in 1870, where he remained for 9 years until his death in 1877. Dr. Bucke took his place.

The London Asylum became known as facility for ‘moral treatment’. ‘Moral treatment’ of patients was the norm by the late 1870’s, the time of Bucke’s appointment, and

reflected Victorian values. It held that constant personal contact with empathetic keepers was key to the patient's recovery.

'Moral treatment' is contrasted with 'heroic treatment' of 1830-50s which was based on the idea that a patient's mental state could be rebalanced through physical shock, whipping, burning, etc and the use of force and physical restraint (see HAR Sep 2004 p30). Dr. Bucke's resistance to heroic treatment was influenced by his close friendship with American poet Walt Whitman. Bucke is considered by many to have been a humanizing force in the 19th century treatment of the mentally ill. He is attributed with initiating common practices in the handling of the insane: by 1879, he completely discontinued the use of alcohol and spirits for the patients, and by 1883, he discontinued the use of restraints and introduced an open door policy. More problematic was his development of surgical procedures for the mentally ill. He was convinced in certain cases that these could provide a cure.

Also, purpose-built facilities that began to appear in the 1870s were an improvement over earlier conditions when adults and children suffering from mental illness or developmental disabilities were locked up in jails and basements.

The grounds of the London Asylum would have provide, at least ideally, pleasant surroundings for patients. The asylum included 'cottages' for more passive, chronic patients. Bucke's later open door policy would have allowed patients increased access to the grounds.

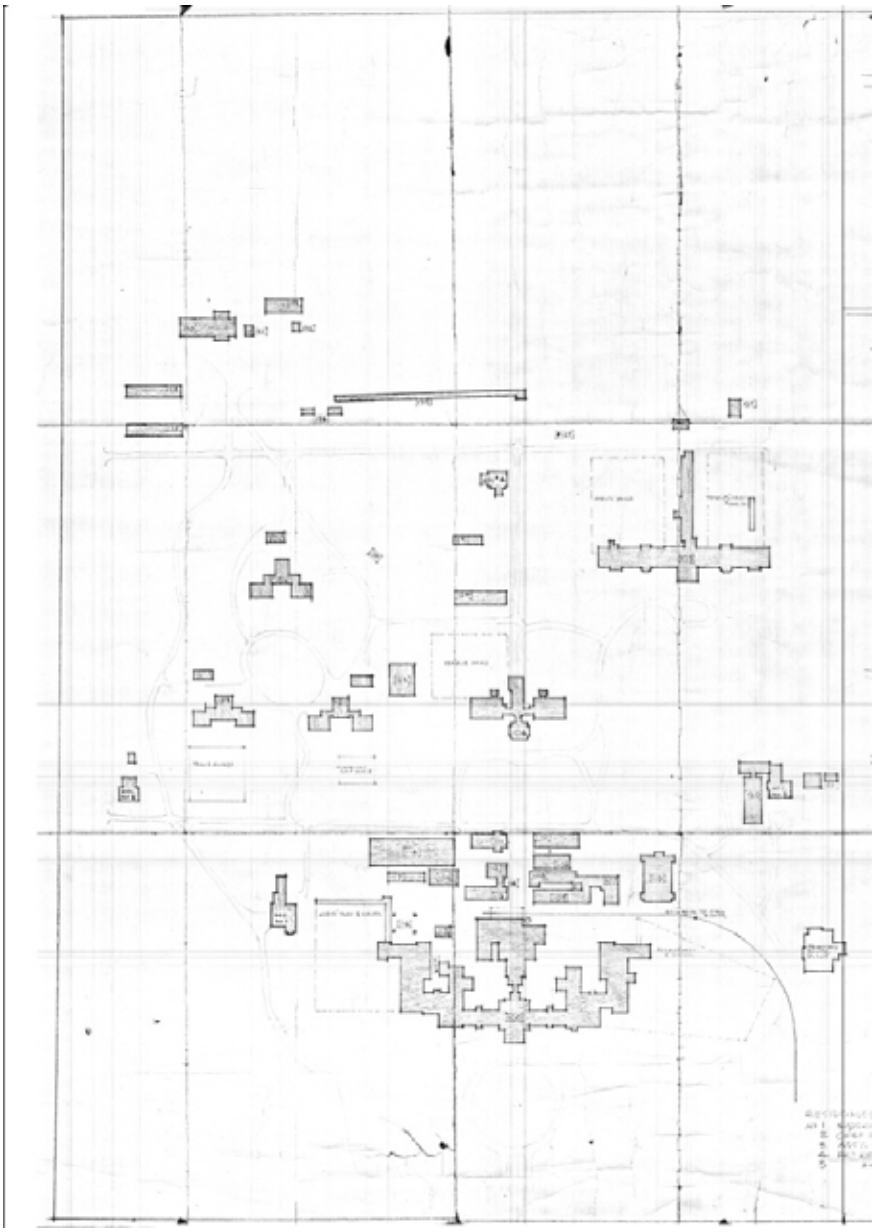
London Asylum is the only site in Ontario with a separate Chapel and Infirmary, both of which were built at the initiative and under the supervision of Dr. Bucke. The Chapel (1884) was built by patients as part of their treatment plan. Part of the notion of 'moral treatment' was the idea that structured and meaningful daily routines would aid their recovery. Therefore, able patients were expected to maintain a balance of work, leisure and worship

Historical description:

The following description of the London Asylum is taken from S.E.D. Shortt, *Victorian Lunacy: Richard M. Bucke and the Practice. of. Late Nineteenth-Century Psychiatry:*

> What struck me about the descriptions (and also site plans) of the London Asylum was the number of buildings on the site. Photos tend to focus on the Main Asylum building (demolished), but in fact the site was more like a small city.
>
> Located on 300 acres, 3 miles east of city. . . and surrounded by 50 acres of ornamental gardens, the institution was reached by a tree-lined avenue, 100 feet in width. The main building, of white brick and cut stone, capped by a slate roof, extended across a frontage of 61 feet from which symmetrical wings receded 220 feet to the rear. The central portion of the structure, four stories in height, housed

administrative offices and quarters for medical staff and attendants. If the exterior was awesome in its size, the institution's interior adopted the latest principles of institutional architecture, on which, according to the Inspector, "Asylums in the United States have recently been constructed". Steam heat, gas lighting, large wells producing one-half million gallons of water daily, 22-inch diameter brick sewers, and strategic ventilator shifts combined to promise a maximum of sanitary comfort for the 900 patients lodged in the institution by



1878. Though linked to the main building by a covered passage, the Medical Superintendent's house, perhaps symbolically, stood apart, as did a large number of outbuildings associated with the 100-acre farm. A short distance to the north of the asylum proper stood three large brick cottages, each designed

for 60 chronic patients, and a two-story structure housing 186 refractory patients. Taken together, the various buildings of the London Asylum, as Bucke observed in 1883, “almost reached the magnitude of a town.” Indeed, the institution bore more than a physical resemblance to a village: It was quite literally, a distinctive community.

Construction under Bucke’s supervision

The following buildings appeared during Bucke’s tenure as Superintendent:

1884- Chapel of Hope –

- constructed at Bucke’s insistent for an appropriate and separate place for worship (the Superintendent’s Annual Report of 1882 includes Bucke’s request for funds for construction of the Chapel).

1894 – Horse Stable

- Bucke had the orginal farm buildings behind the central complex demolished in the 1890s to make way for the new infirmary buildings. The new horse stable, of buff brick with a slate roof and distinctive rooftop ventilators, was built under his direction as part of a new farm complex to the northwest.

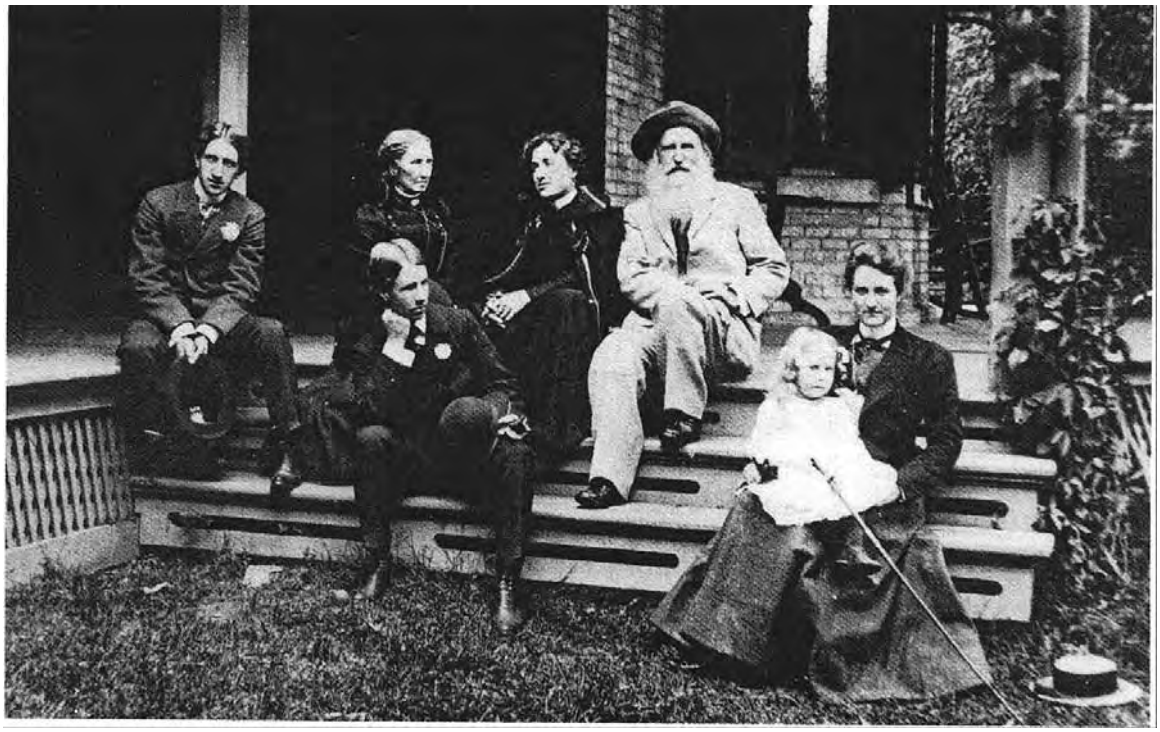
1900 – Tree-Lined Avenue

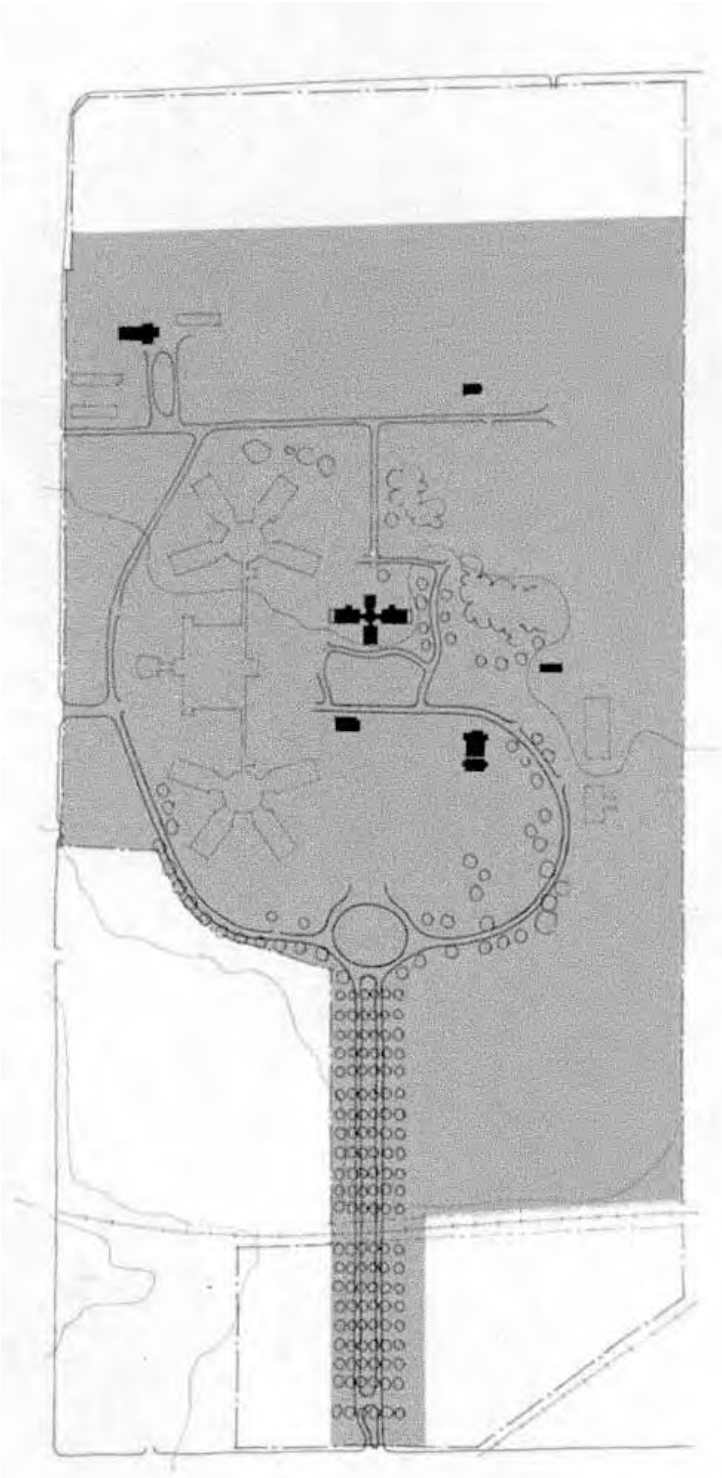
- The 1869 site plan and “Specifications for the Construction of an Avenue and Roads from the Governor’s Road to the Main Building” show a single lane avenue with trees on either side. The Tree-Lined Avenue, the original entrance to the hospital grounds, and still present, was completed under Bucke’s supervision in 1900.

1902 – Infirmary Building –

- Shortt (1986: 139-40) argues that the late 19th Century was a time when the treatment of the insane was becoming increasingly separated from the practice of medicine and “Asylum superintendents in Ontario were engaged in a desperate search for scientific legitimacy; only by modernizing their doctrines and treatments could their specialty be rescued from chronic professional obscurity.” One direction was for alienists to champion the creation of psychopathic hospitals, to support the mental hygiene movement or to endorse psychoanalysis. Bucke went in the other direction and in February 1895 launched his programme of aggressive therapeutics: the use of gynecological surgery to cure mental disease (Shortt 1986:141). In Bucke’s 1898 address as the newly elected

president of the American Medico-Psychological Association entitled “Surgery among the Insane in Canada” he is garnering the support of his colleagues for the surgery, and by 1902 had succeeded in raising the capital and having a facility constructed.





Dark grey zone indicates cultural landscape of provincial significance.

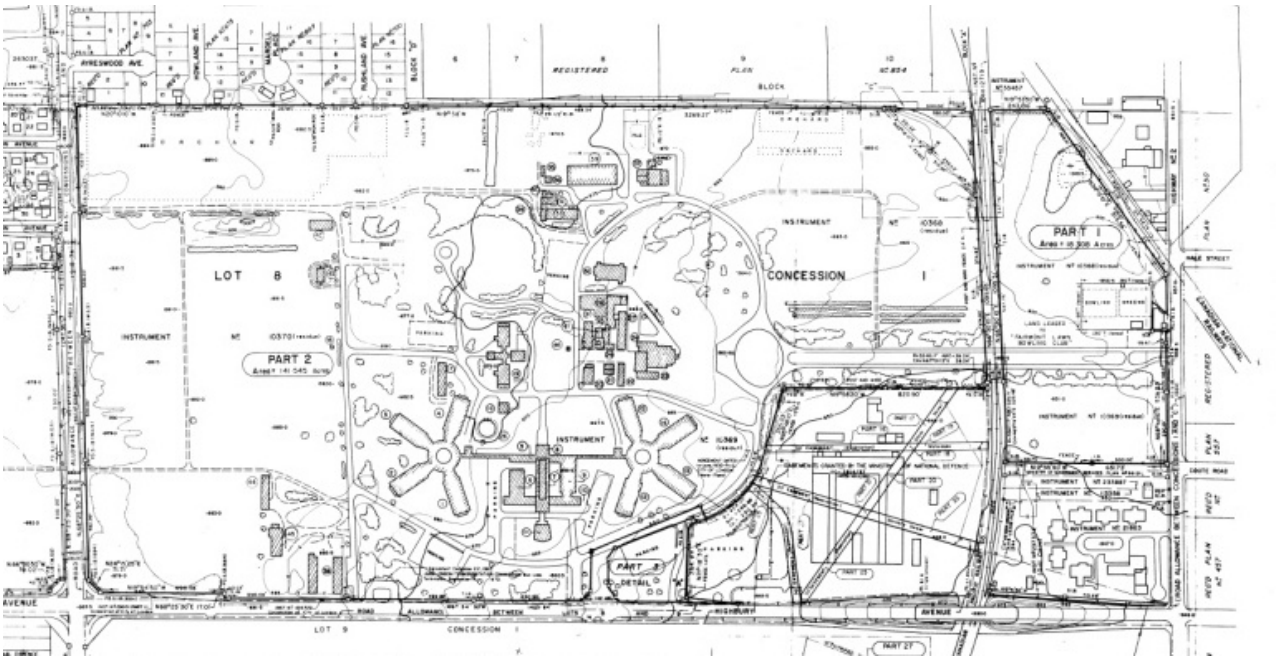
Significant buildings within the designated cultural landscape (listed clockwise starting at the far left)

Horse Barn B12035
Recreation Hall B12029
Infirmary Building B12018
Potting Shed B17057
Chapel B12019

CURRENT CONDITIONS

Site

The overall site has been reduced from its original identity as a large self-sufficient community, with extensive farmland, to a smaller urban campus marked by conflicting 19th and 20th Century identities. The original 19th Century layout, with its primary entrance along the tree-lined avenue from Dundas Street to the south, has been overlaid with a late 20th Century hospital complex accessed from Highbury Avenue to the west. There is no architectural, functional or landscape relationship between the two, other than some reuse of portions of the original road layout.



The more recent 1964 psychiatric hospital complex is of little architectural or historical interest. What is significant is the surviving 19th Century and turn-of-the-century landscape, particularly those buildings and landscape features associated with Dr. Bucke.

Particularly important are four distinct components, tied together by some of the original road layout and broad landscape features. These four components are the tree-lined entry drive, the infirmary building, the chapel, and the horse stable. All were built to Dr. Bucke's specifications, with the infirmary building opened just after his death. The massive central complex was built before his arrival, but was central to his reforms, and its loss is unfortunate both because of its historical associations and also because of its prime role in ordering the site.

A fifth component, the recreation building, has less significant historical associations but is representative of 20th Century developments in mental health care at the London site.

Tree-lined entry drive
This feature of the site is unique, both within Canada and perhaps across North America. Although tree-lined avenues in institutional settings are not rare, the boulevard arrangement with separate vehicle and pedestrian pathways between eight parallel rows of deciduous trees is very unusual and speaks to the importance of landscape in 19th Century psychiatric asylums generally and in Bucke's London facility in particular.

The London Insane Asylum was established in 1869 at a time when the city of London was experiencing a period of considerable expansion and upgrade of its public facilities. Already a well-established transportation and economic hub of Southwestern Ontario, with a network of good roads and two railways, the discovery of oil nearby gave the impetus for further growth. London's population nearly doubled in two decades, from 11,200 in 1860 to 19,941 in 1880. Some of the town's major engineering structures and institutional buildings were constructed in this era. They include the first two iron bridges, Victoria Hospital, a number of large schools and other institutions.

London's development can be attributed largely to efforts of the London-born entrepreneur and politician John Carling. Carling was involved in many business enterprises including head of his family's brewery, ownership of large land holdings, Director of the Great Western Railway, and founding member of London's Board of Trade. Politically, Carling's influence was evident on a local, provincial and national level. As Ontario's first commissioner of public works, Carling was responsible for the creation of much of the Province's social infrastructure, including the consolidation and improvement its mental institutions. The public works plan was to have three asylums in Ontario: Toronto was to be enlarged, one was to be established in the east (presumably Kingston) and under Carling's influence, London was the site chosen for the construction of a new institution in the west (Tausky 1986:201).

As was the case with many Canadian towns and cities in the 19th century, London's industrial development and expansion came at the expense of the surrounding countryside. By the 1870s the ugliness of the clear-cut lands eventually nudged John Carling to lead the effort to introduce improvements to the city. Municipal support for these endeavors is evident in council's 1871 street tree planting and beautification initiatives. In 1873, Carling was quoted in the local paper for his urging of London's citizens "to work and provide an expansive pleasure ground, a breathing place for the citizens, where they and their children may assemble and breathe purer air." (Quoted in Tausky 1986:124 - from Carling's speech: *Free Press*, 19 Dec 1873). In the same year, London's first park, Victoria Park, was established on former garrison lands. By the end of the century, London identified itself as the tree capital of Canada.

The London Asylum property dovetailed with the city's beautification schemes. It was laid out in the 1870s with ornamental grounds and a spectacular two-lane avenue with centre walkway lined with elms. By the end of the century under the asylum's superintendent Dr. Bucke, eight rows of elm trees lined the avenue. Bucke used the avenue as site for patient picnics and parties. The avenue remains a unique feature of the London Mental Health Institution. Its preservation speaks to the significant role of nature in the treatment of mental illness in the 19th century, and to London's determination to be the tree capital of Canada.

It is also interesting to note the connection between John Carling and William Saunders. Dr. Saunders, a London-based horticulturalist, was picked to be first superintendent of the Central Experimental Farm in Ottawa, a John Carling initiative during his time as a federal cabinet member. It is not known whether Dr. Saunders had any connections with the London site but he was active in London during its early development, including the first years of Bucke's superintendence.

The Infirmary Building

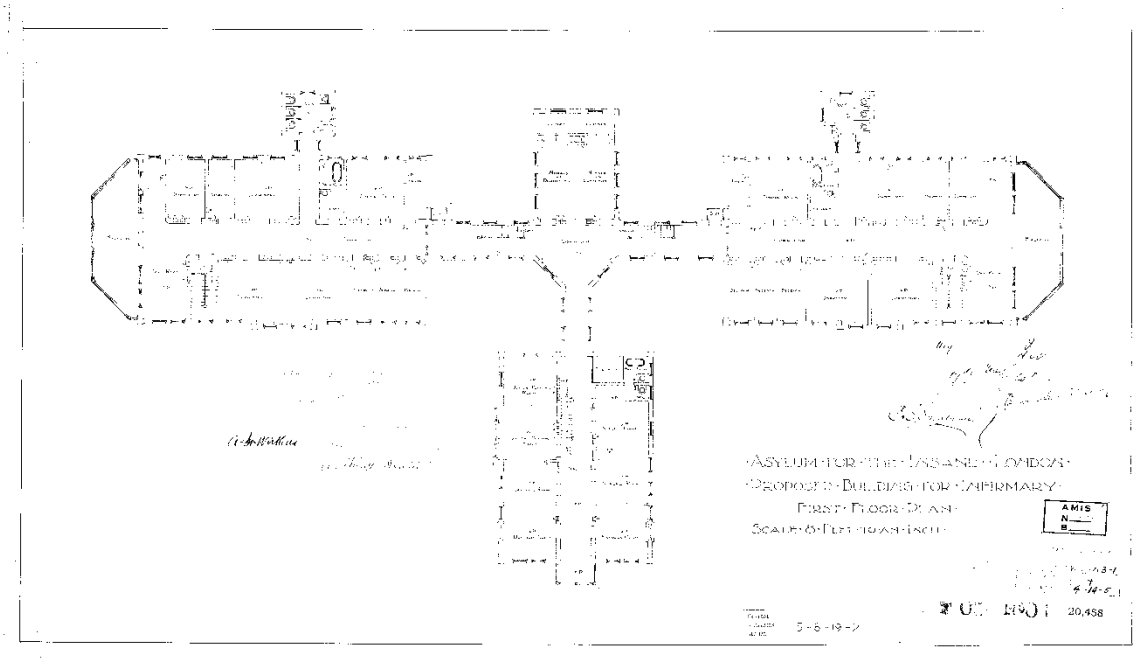
South Elevation, 2008

Exterior:

This large and architecturally impressive building was intended to house patients who needed intensive medical observation and treatment. The third floor operating room is one of the few remaining rooms of its kind left in Canada (RMH, London, p.9).

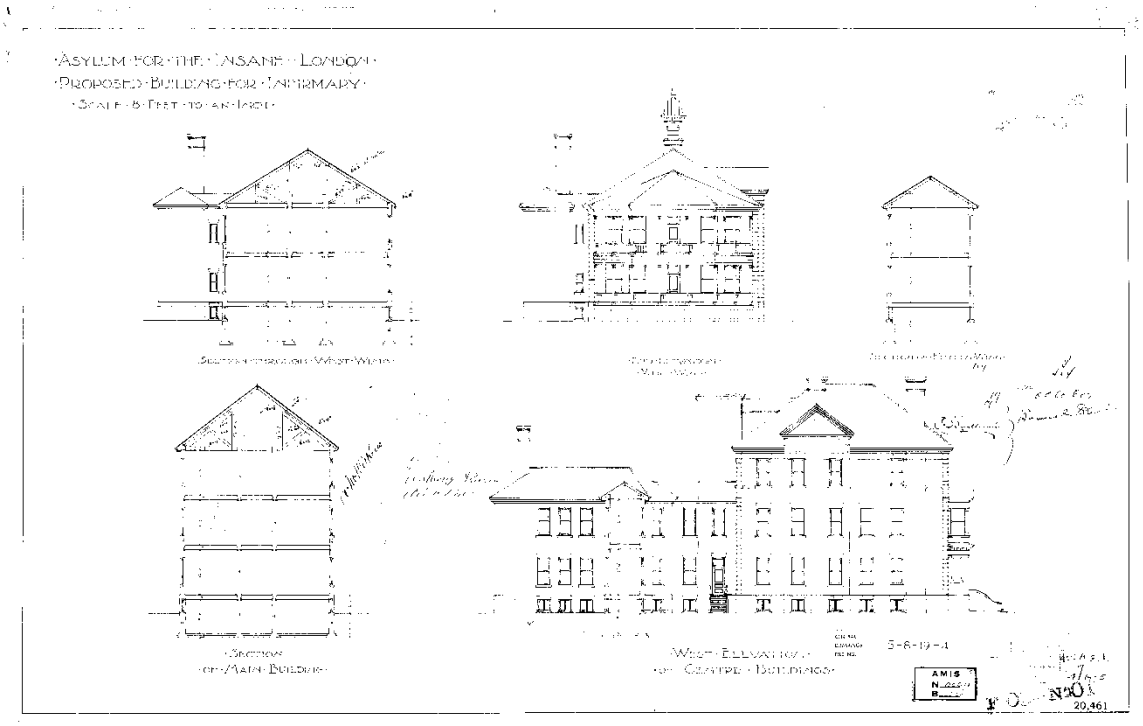
The building has a central administration block with two symmetrical wards on either side, used to house patients by gender. The central block is three stories high, on a raised basement. Its silhouette is marked by tall chimneys on its east and west walls. It has a hipped roof with a central skylight to light the operating theatre, and decorative projecting bays on the front and side elevations.

The 2-storey wings housing the wards are connected to the central block by a narrow corridor and small central pavilion. The wings are completely symmetrical and echo the stylistic cues of the main block, with paired windows, pedimented bays and arched windows at feature locations. There is a bellcast cupola centrally located at the apex of each roof. The original sunporches at the end of each wing were trapezoidal in shape; the existing porches are rectangular and date from 1945.



Original floor plan, Infirmary Building, showing administration block below, male and female wards above. Note octagonal sunrooms at east and west facades.

The style of this building reflects the institutional architecture of public works in both Ontario and Canada during this time. The robust forms of the late 19th Century were being simplified to reflect budgetary restrictions and changes in taste (Wright, Crown Assets, pp.45-46). New ideas borrowed from the Ecole des Beaux Arts and English Baroque were replacing the ideas of the last century. While the hipped roof is reminiscent of the Queen Anne style, the simple classical elements and lack of applied ornamentation suggest the new Edwardian Classical style. This is significant because it suggests that with new ideas related to treating mental illness as a medical condition, a progressive architectural style was needed.



Infirmary Building, original drawings, elevations and sections

West elevation, central block

South elevation, east wing

Interior:

The raised basement in the centre block housed preparatory areas such as baths and therapy rooms, while the basements in the wings housed the service areas. The walls are a combination of brick and stone, which have been parged and whitewashed in places. The floors appear to be concrete.

The ground floor in the central administrative block is the most formal area in the building. With wide baseboards and trim, random width hardwood strip flooring, and an

entrance hall with a soaring transom window and sidelights, this section was built to impress. The original set of double entrance doors with brilliant stained glass lights and an etched glass transom are now installed in the London Asylum Archives.

Entrance doors

Doctor's dining room

Arched window, 2nd floor

The functions of the main floor rooms were administrative: reception, a physician's office, pathological and surgery offices, the doctors' and nurses' dining rooms and the housekeeper's office. Three of the rooms have fireplaces with faience tile surrounds, each a different colour. The grand staircase with its carved newel post and decorative brackets on the stringers has been closed in to create a fire stair.

The middle floor of the centre block is similar in layout, with staff offices but a less public function. The decorative finishes are also similar. The main hall features a large roman-arched window above the main entrance. Several offices have fireplaces with tile surrounds.

The third floor is organized around the operating room function, with related workrooms, dressing rooms, instrument stations, anesthetic room and storeroom. It is a significant architectural and cultural space, related to an important if troubling phase in the search for cures to mental illness.

Decorative finishes are similar to those on other floors with a few exceptions. The floors, walls and ceilings in the operating theatre and the two workrooms are made to be easily cleaned and reflect the new awareness of hygiene in decorative choices at the time. The operating room has a white penny-round mosaic tile floor. The walls have a smooth, coved cornice and smooth plaster with a white ceramic wainscot and a blue ceramic dado.

Operating room, early 20th Century

East workroom, 2008

West workroom, 2008

The large skylight has an interior sash with ribbed glass in the operating room ceiling. There are no remnants of any operational sash, but there is evidence of casement swing arms that may have been used to direct light from mirrors. The east workroom, also lined with ceramic tiles, has a wash station from the early 20th century with taps for handless, sanitary washing. The west room houses has similar finishes and a utility sink and an autoclave for sterilizing instruments.

Wings:

The wings of the Infirmary building housed patient beds and have a simplified version of the decorative features of the administration block. Each floor on each wing has 4 single rooms, 4 dormitory rooms, a dining room, a day room and a sun porch. In the central pavilion are kitchen rooms on the main floor and the nurses' dormitory on the second floor.

East wing, looking east

Typical room, original

These wings have walls of solid brick masonry, painted, with shallow ribbing demarcating shoe, base and dado. Door and window openings have rounded brick reveals. The floors are hardwood and the ceilings have the same hierarchy of tin ceiling patterns as in the administrative wing. The sun porch areas have v-groove

tongue and groove paneling in the ceiling. Some of the bathrooms retain their early 20th century fixtures and fittings.

The staircases that service the wings are carefully detailed. They are well-lit, with roman-arched windows at the landings. There are detailed carvings on the stringers and the newel posts are moderately detailed with square balusters.

East stair, main level

Stringer detail

Condition:

The building is still structurally intact, overall, but its condition is deteriorating rapidly. Major roof leaks have led to damage throughout the interiors, and have caused complete collapse of the wood structure on the west sunroom. The ongoing damage threatens the architectural and structural integrity of the entire building, and will ultimately lead to a complete loss.

The asphalt shingle roof has failed in several places. The main structural members in the attic appear sound, despite the water infiltration, but the floor structures in parts of the wings and on the third level of the administrative block are showing areas of advanced rot. There is also significant damage to interior finishes in areas such as the original operating room.

Vandalism has led to additional interior damage. Several original fireplace mantels have been pried off, and metalwork has been stripped for salvage value.

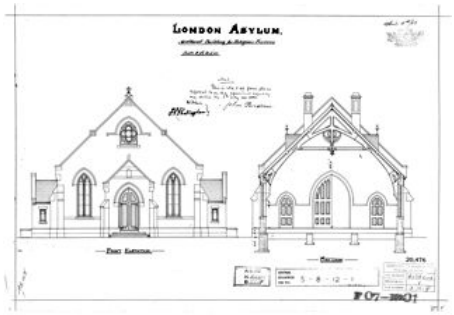
Other than the roof, the remainder of the exterior is in fair to good condition. The brick is sound and most decorative finishes are intact. The windows have suffered from vandalism but are intact and repairable. There is significant exterior damage in the front bay window area, from water infiltration. The paint finishes have failed and decorative wood trim is starting to fall off. Key information is in danger of being lost.

The Chapel of Hope

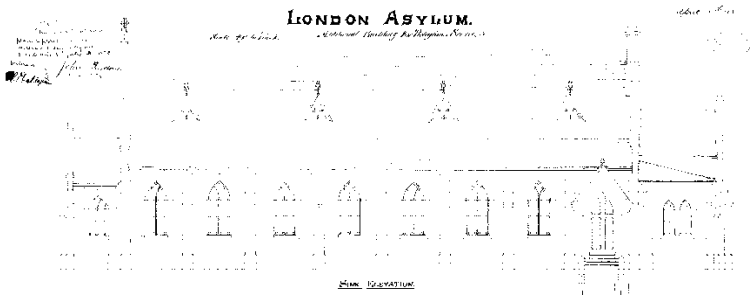
The Chapel of Hope was built in 1884 by patient labour, under the instructions of Superintendent Bucke. It was originally an interdenominational church but later became a Catholic Church because the Protestant congregation needed a larger space to worship in. It is one of the few stand-alone chapels built on the grounds of an asylum in Ontario. The main value of the church is associative because of its close relationship to the beliefs of Bucke. The architectural design of the building is typical amongst churches of this period across Ontario.

Exterior:

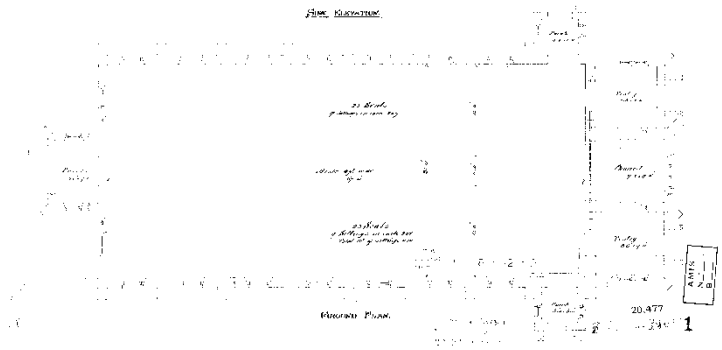
The church is a one-and-a-half storey structure with a gable roof, in the ecclesiastical Gothic Revival style. It has two chimneys at the east end inset towards the ridge, and a brick parapet wall at each end.



West elevation and n/s section



South elevation



Plan

The building is built from buff brick in a common header bond with pointed voussoirs and cut lug sills. The aisle windows have simple stained glass in pointed arch Gothic openings. On the east gable is a quatrefoil window and a large pointed arch window with recent pictorial scene incorporating the 1964 hospital. The roof is asphalt shingle, with four dormers featuring trefoil windows. The exterior is well maintained.

Window detail

Altar window

Interior:

The interior has a central nave facing the sanctuary at the east end. The altar area is flanked by two small rooms. The main nave is open to the rafters and allows light to come in from the dormer windows and the quatrefoil on the east side. To the west is a small transept with entrances on the north and south.

The interior has been recently renovated recently. Paint was removed from the exposed rafters and plaster from the brick walls. While pleasingly bright and well cared for, many of the historic surfaces (paint, plaster, flooring, furniture) have been removed and this reads as a modernized space. Some of these finishes survive in the east room beside the altar. The interior is also well maintained.

The Stable

Exterior:

The stable, built in 1894 under the direction of Superintendent Bucke, is an impressive 2 storey buff brick building with a slate roof. There are two intersecting gable roof sections, plus a 1-storey ell with small shed-roofed porch. Five cupolas along the ridgeline provide ventilation and give the building a distinctive silhouette. There is a brick chimney on the east side of the 1-storey ell. The segmental arch windows have decorative brick voussoirs, and most have stone sills. The eaves have tongue and groove soffits and ogee moldings on the vergeboards. A large second storey board and batten door provides access to the hay loft. The scale and quality of materials shows the importance of agriculture to the Asylum and reflects the simplified classical details common in industrial buildings in the late 19th century. The building's significance is as a support building to the main hospital.

South elevation, n.d., London Asylum Archives

On the interior, there are still some original sash in place beneath the plywood hoarding and even behind the bricked-in openings on the north wall. The most dramatic feature of the interior is the large queen-post trusses, with large diagonal braces. They divide the large east-west space into distinct bays, and limit headroom on the upper floor. The walls are whitewashed, with some areas covered in flush boarding, and there is evidence of various paint schemes.

Condition:

The overall condition of the building is good, but as with the infirmary it is deteriorating quickly because of major roof leaks. At the valley area between the two gable roof sections, water infiltration has rotted out the wood floor below and some of the joists. Around the ventilator bases, damaged and missing slates have created other areas of water leakage and deterioration of interior areas. Because the building is boarded up, the interior is humid and this contributes to the process of decay.

The ventilators themselves are in poor condition, particularly the ventilating panels on the side walls, and need to be removed, repaired, and reinstated.

The basic masonry structure is solid, and the roof trusses so far seem to be in reasonable condition.

Assembly Hall

The Assembly Hall or recreation building, built in 1920, is located to the east of the Chapel of Hope and within sight of the Infirmary building. Built in the modern classical style of reddish brown brick with white trim, it is a handsome and well-built structure. The design features of this building have consciously been copied from the Infirmary building: the pedimented roofline with round window, the roman-arched windows, the two-level ornamentation above the door, and the quoins at the corners of the building. Currently it has an asphalt roof . The original drawings for the building indicate cupolas

across the ridge but these are no longer there and may have been removed during re-roofing. This buildings façade faced the infirmary and was meant to be an accent to the visual landscape. That being said, the style is more austere and economies have been made such as partially filled in arched windows.

North elevation, original

East elevation, original

The interior is in similarly good condition with many original finishes and features including corbels, beams, doors and moldings.

Gymnasium

Stairs to gallery

Basement doors

While used by patients, this building has no great associative value. Its value lies in its pleasing architecture, its proximity to the infirmary building and its suitability for re-use.

Other buildings

Although some agricultural outbuildings on the east and north sides of the site are identified within the cultural landscape of the London Psychiatric Hospital complex, they are not considered significant enough architecturally or historically to be required components in any redevelopment scheme.

Overall, the site today is without its central ordering element, the large spreading main building that housed the central offices and most of the patient rooms. However, it retains enough in the way of architectural and landscape components, including its original axial layout and generous grounds, to suggest the intentions of its 19th Century designers. It also happens to contain most of the major components specifically associated with Dr. Bucke, the most significant person connected to the history of this hospital in particular and the development of mental health treatment in Canada and abroad more generally.

Both the buildings and the landscape are under threat – the landscape from Ash beetle attacking the surviving ash trees, and more general decay of lawn and road areas from changing uses; and the buildings from severe water infiltration due to leaking roofs and damaged exterior envelopes.

PLANNING AND POLICY FRAMEWORK

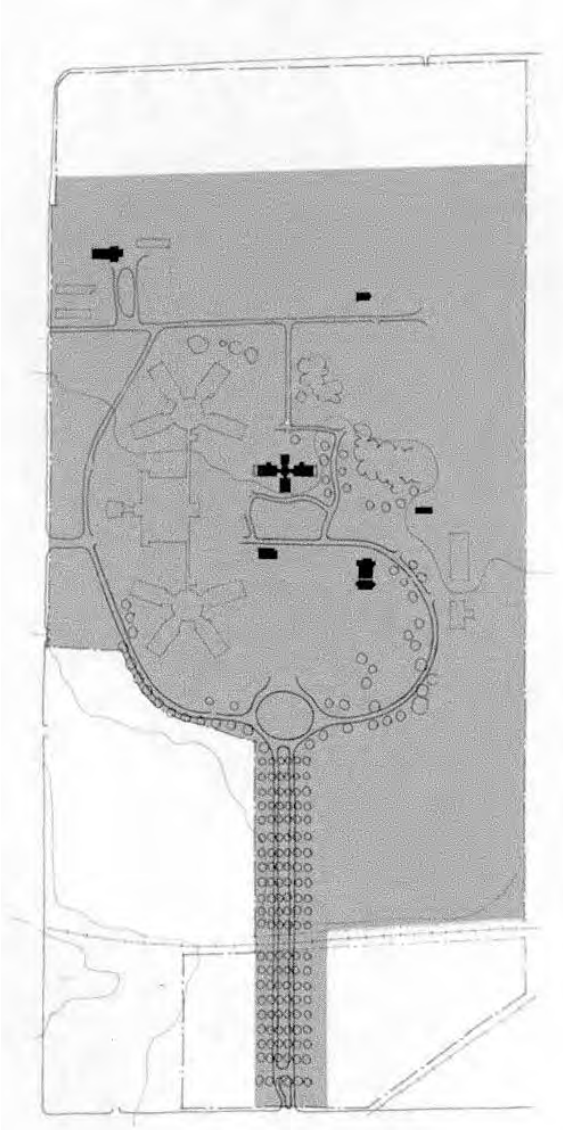
The overall cultural landscape of the London Asylum complex is protected under the ORC's Cultural Heritage Management system. This conservation plan is part of fulfilling the obligations under that system.

The central issue on the London site is protecting a historically significant legacy while accepting the ongoing decay and fragmentation of the original design. It is clear that redevelopment will be required once the current psychiatric hospital function is relocated. But that redevelopment must recognize an important and somewhat fragile set of tangible and intangible associations. This is the one psychiatric hospital site in Ontario where it makes sense for a public or non-profit agency to establish and maintain a centre for interpreting the history of mental health care in the province. Despite the loss of the original main building, it remains the most significant psychiatric hospital site in Ontario, and possibly in Canada, through its association with the country's most important mental health professional, Dr. Bucke. And the remnants that do survive have a direct association with Bucke and his 19th Century philosophy of 'moral treatment'.

As with all psychiatric hospital complexes, this history is complex and has its dark and troubling aspects. However, this seems to be the place where the story needs to be told. Although the overall site is a logical candidate for disposal, within ORC's overall portfolio management mandate, it may be important for the government to retain some small part as a centre for interpreting and presenting this aspect of Ontario history.

When a site is significant as much for its intangible historical associations as for its tangible design qualities, both must be recognized in planning for its future. The historical associations exist at the boundary between architecture and landscape, and demand an overall appreciation of its interdependent parts. It is therefore critical to adopt a cultural landscape approach to its redevelopment.

Unlike many of the psychiatric hospital sites, which are located in relatively remote rural or edge condition sites, the London site is within a relatively dense urban environment. This makes a variety of uses realistic, including residential, institutional, commercial and mixed use. The challenge is to balance private and public interests, and to stimulate imaginative uses while recognizing the fragile nature of the surviving heritage features.



Dark grey zone indicates cultural landscape of provincial significance.

Significant buildings within the designated cultural landscape (listed clockwise starting at the far left)

Horse Barn B12035 | Recreation Hall B12029 | Infirmary Building B12018

Potting Shed B17057 | Chapel B12019

STATEMENT OF HERITAGE VALUE

1. Level of Significance

Provincial Significance – complex (buildings and land)

2. Description of Historic Place

Regional Mental Health Centre, London, is a 65-hectare site, bounded by Dundas Street to the south, Highbury Avenue to the west, Oxford Street to the north, and developed lands to the east. It is located within the city of London, and is surrounded

by areas of suburban development. The rectangular site contains a range of hospital and agricultural buildings dating from the late-19th to the mid-20th centuries. Traces of the 19th Century hospital landscape are evident in a grand, tree-lined entrance boulevard leading from the southern end of the site to its core, with open lawns, specimen trees and curvilinear roadways surrounding older buildings, all oriented towards a southern entrance. Agricultural outbuildings and former farm (now soccer) fields are located towards the north end of the site. This landscape is interrupted by a Modern-style, radial-plan psychiatric hospital (1962-4) situated at the western edge of the site, and oriented towards a western entrance (Highbury Avenue). The southern portion of the site is intersected by a railway line, and the southwestern corner of the property has been appropriated by the Department of National Defence.

Early buildings at the site include: the Chapel of Hope (1884); the Infirmary or Examination Building (1902); and the Recreation Hall (1920), all located at the core of the site; and the Potting Shed (late 19th Century), situated with other service buildings (Power House, 1962; Laundry, 1962) to the east. Agricultural buildings located to the north include the Horse Stable (storage barn, 1894); an implement storage shed (1953), a tractor shed (1954), a pump house, and a roothouse and granary (1956).

3. Heritage Value of the Historic Place

Regional Mental Health Centre, London, is a landmark facility in the history of mental health care, nationally and internationally, because it reflects changing attitudes to the treatment and care of mental illness during the late 19th Century. The London site is closely associated with Dr. Richard Maurice Bucke, Superintendent from 1877-1902. Bucke is a significant figure in Canadian medical history because of his advocacy of 'moral' therapy and his innovative approaches to treatment. London Psychiatric Hospital was his most important institutional base.

The influence of Thomas Kirkbride's plan is still evident in remnants of the original ornamental grounds, working farm and associated agricultural outbuildings. Despite the demolition of the original main building, the landscape and outbuildings continue to retain some fo the early structure of the site, reflecting the original design by Kivas Tully as well as changes orchestrated by Bucke. The most important cultural remnant is the Infirmary, designed by Francis Heakes to Bucke's specifications. The third-floor operating room is one of the earliest surviving facilities of its kind in Canada. The Chapel is significant as the only extant example of a stand-alone chapel erected on the grounds of an asylum in Ontario. Built by patients under the direction of Bucke, it reflects his strong belief in the importance of a spiritual component in therapeutic treatment. Other important early components erected under the supervision of Bucke are the Horse Stable and the Potting Shed. The Recreation Hall, erected after Bucke's tenure, is of moderate interest for its functional layout and Neoclassical style.

4. Character-defining Elements

Key elements which relate to the heritage value of the Regional Mental Health Centre, London, are:

- Remnants of the 19th Century structure of the site, including: the central entry drive, the ring road, the southern orientation of the site, and the siting of buildings around a central, south-facing core with service and agricultural buildings to the north and east
- Remnants of the 19th Century circulation pattern, including the central, tree-lined entry drive from Dundas Street to the core of the site, vestiges of the original ring road around the core of the site, and other internal roadways leading to older buildings
- Remnants of the 19th Century ornamental grounds, including tress lining the entry drive, open lawns with mature specimen trees, and surviving gardens
- Remnants of the working farm, including the siting and orientation of outbuildings and the rectilinear geometry of fields
- The design, materials and siting of the Infirmary Building
- The design, materials and siting of the Chapel of Hope
- The design, materials and siting of 19th-Century agricultural outbuildings, including the Potting Shed and Horse Stable
- The design, materials and siting of the Horse Stable, including the scale, typical of animal husbandry buildings in institutional settings, its construction of local buff-coloured brick, its parged-stone foundation, its slate roof, and its siting to the north of the core area
- The design, materials and siting of the Recreation Hall, including its Neoclassical style, and its functional layout with a swimming pool in the basement and an auditorium on the floor above
- Landscape and building features associated with patient work, including the chapel, the potting shed, ornamental gardens and orchard remnants.

Key elements which relate to the heritage value of the Infirmary Building are:

- Its Queen Anne style, evident in its form, detailing and finishes
- Its complex but symmetrical composition, consisting of a tall, central block flanked by side pavilions with large wooden verandahs
- Detailing that enhances its vertical orientation, including tall chimneys on the central block, slender cupolas on the side pavilions and pedimented bays and dormers
- Its construction of local buff-coloured brick
- Surviving original exterior and interior materials and finishes
- Its surviving original layout, consisting of a central administrative and medical section, flanked by identical residential units
- The third-floor operating room, with its large north facing skylight, tiled floor and decorative tiled dado
- Its siting at the core of the site and on axis with the north-south entry drive

Key elements which related to the heritage value of the Chapel of Hope are:

- Its Gothic Revival style, evident in the stone-capped buttresses, small dormers on each side of the gable roof, and Gothic-arch stained-glass windows

- Its brick construction
- Its wood-panelled interior
- Its craftsmanship, evidence of the skill and occupation of patients
- Its siting within the central core of the site

DISCUSSION OF HERITAGE VALUE

To better understand the significance of the historic place, as outlined in the Statement of Heritage Value, it helps to tie the character-defining elements closely to the values that they embody. Recognizing the direct link between a character-defining element and the values it embodies provides guidance for planned interventions to the historic place. Without such an understanding, introducing change to a part of the cultural landscape has the potential to undermine the significance of the whole.

For instance, if an intervention (such as a new building complex) resulted in our inability to read the important roll played by the institution's extensive grounds in the treatment and care of mental illness during the late-19th century, the integrity of the cultural landscape would be undermined. Conversely, knowledgeable interventions can enhance the heritage value of the historic place. If instead of placing a building complex on the grounds, the intervention consisted of introducing new landscape work that was physically and visually compatible with the existing landscape, it would make the story of Ontario's treatment of the mentally ill in the 19th century much clearer. However, as it appears significant changes to the site are inevitable, an understanding of the relationship between value and character-defining elements, will help to mitigate their impact.

Heritage Values of the Historic Site

Two essential heritage values are identified. These values are:

First, that the Regional Mental Health Centre, London, is a landmark facility in the history of mental health care, nationally and internationally.

Second, that the London site is closely associated with Dr. Richard Maurice Bucke.

Interconnectedness of values and character-defining elements

The identified heritage values are bound together, since Bucke's contributions to the treatment of mental illness in the 19th Century took place at the London Institution. Values A and B above, could be expressed as follows: During Bucke's tenure as superintendent of the London Institution from 1877-1902, his "moral" therapy and other innovative approaches, reflecting changing attitudes in the treatment and care of mental illness during the late-19th Century, make the institution a landmark facility in the history of mental health.

The individual *in situ* parts of the historic place (its character-defining elements) are similarly interconnected and interdependent. This can mean that some character-defining elements embody both identified values. An obvious example is the Infirmary, whose design, influenced by Bucke's innovative ideas, reflects the changing approach to the housing and treatment of the mentally ill in the 19th Century.

Tying the character-defining elements to the heritage values they embody

As a landmark facility in the history of mental health care, nationally and internationally, the heritage value of the Regional mental Health Centre, London is specifically embodied in:

1. The rectangular 65-hectare site, whose surviving late 19th and early 20th century institutional buildings, surviving landscaped grounds, and surviving agricultural buildings, constitute the backbone of the most widely utilized plan for mental institutions in North America in the 19th. and early 20th centuries. Designed in support of the 'moral treatment' approach to mental illness, this plan was adopted internationally in the mid-19th century, and survived with modifications into the 20th century.

2. The organization of the historic site's plan and circulation pattern, consisting of the central entrance driveway, remnant ring road, main buildings sited around a central, south-facing core, and surviving agricultural/maintenance buildings to the north and east, reflect the relationship that existed between the institution's component parts.

3. The late 19th and early 20th century institutional buildings, including:
4.

   The Infirmary
   - Its central administrative block and symmetrical side wings, connected to the main block by all-weather corridors, illustrate a refinement of the Kirkbride plan.
   - Its large windows, open-porches, well-scaled rooms, fire-proof materials, and access to the grounds illustrate the theories behind the 'moral' treatment approach to mental illness, and the building's public function as the institution's Admitting Hospital and Outpatients' Department.
   - Its operating room with it large skylight and tiled finishes illustrates the search for physical sources of mental illness at end of 19th century.
   - Its prominent siting on axis with the north-south driveway, and its well-scaled symmetrical composition in a handsome, classical revival style, executed in good materials, illustrate the significance of the public institution for the Ontario public health system and the local community.

   The Chapel of Hope
   - Its construction by the inmates reflects the importance attached to physical activity and regular employment by the 'moral' treatment theorists.

- Its Gothic Revival style executed in good materials illustrates the importance attached to the spiritual needs of the staff and patients.

The Recreation Hall

- Its modern-classical style, interior plan, materials and features, illustrate changing ideals for patient facilities in early 20th century.

The Horse Stable

- Its design, large scale, fine natural materials, and siting, reflect its role as an animal husbandry building in an important institutional setting.

5. The remnants of the Ornamental Grounds, including the tree-lined driveway, open lawns with mature specimen trees and surviving gardens illustrate the importance attached to the presence of natural surroundings and physical work to the treatment of mental illness, as well as the importance of the institution in the Ontario Public Health System and to the local community.

5. The remnants of the Working Farm, including the Horse Stable, Potting Shed and rectilinear geometry of the fields, illustrate the need for the large institution to be self-supporting, and the 19th century belief in the value of rewarding physical activity in the treatment of mental illness.

As a site closely associated with Dr. Richard Maurice Bucke, the heritage value of the Regional mental Health Centre, London is specifically embodied in:

1. The rectangular 65-hectare site, with its surviving late 19th and early 20th century institution buildings, landscaped grounds, and surviving agricultural buildings, where Richard Bucke, a significant figure in Canadian medical history, was Superintendent from 1877-1902 during the institution's formative years. London Psychiatric Hospital was his most important institutional base.

2. The late 19th and early 20th century institutional buildings, including:
   The Infirmary
   - Designed to Bucke's specifications, it reflects through its design and features his advocacy of "moral" therapy and innovative approaches to treatment.

   The Chapel
   - Introduced by Bucke, it reflects his belief in the benefits of regular religious observances in the treatment of the mentally ill.

3. The remnants of the Ornamental Grounds, consisting of the tree-lined driveway, open lawns with mature specimen trees and surviving gardens, which were laid out and cultivated during his tenure and illustrate the importance he attached to the presence of picturesque landscaped grounds in the treatment of mental illness.

4. The remnants of the Working Farm, which illustrate Bucke's advocacy of 'moral' therapy, and its belief in the benefits of fulfilling physical work in the treatment of mental illness.

VISION

The vision for the London Psychiatric Hospital site is to promote a major redevelopment plan for the site while retaining enough public control to tell the story of its central place within the history of mental health treatment in Canada and internationally.

Of all the psychiatric hospital sites in Ontario, this is the one with the most important historical associations, reflecting the life and work of Dr. Richard Maurice Bucke during his time as Superintendent from 1877 to 1902. His legacy, complex and sometimes troubling, epitomizes a critical shift in mental health treatment during the late 19th Century. It is a legacy reflected in both the buildings and the landscape of the London site.

In terms of buildings, the most important in historical value are the Infirmary and the Chapel of Hope. Both were built to Bucke's specifications, and reflect different aspects of his belief system – the scientific and the spiritual. At least part of the Infirmary Building, most logically the three-storey administrative block with its rare surviving operating room and attendant facilities, should be developed as an interpretive centre for the history of mental health treatment in Ontario. At the same time, the Chapel of Hope should remain an interfaith worship centre reflecting Bucke's original convictions and honouring the patient labour that constructed it.

The stable building is the other Burke legacy that deserves to be retained as part of this significant historical period. Its complex and handsome massing and noble materials reflect the importance of farm work as part of the larger therapeutic use of the landscape during this period.

More complex but equally important is the surviving evidence of the late 19th Century landscape that graced the London site. It carries the story of the importance given by Bucke and his soulmates, including Walt Whitman, to the healing power of nature. Bucke expanded and refined the original plan for the site, creating significant components such as the extraordinary entrance avenue with its eight parallel rows of trees and the simpler but equally important broad lawns and specimen trees. He also moved to release patients from the earlier practices of confinement, so that their relationship with this landscape was tangible and not just visual. It was the landscape, both ornamental and agricultural, that tied the buildings together and made sense of the overall goals for treatment.

Somehow the redevelopment of the site must protect and interpret this relationship between late 19th Century buildings, landscapes, and attitudes to mental health.

Although dark and troubling at times, the story deserves to be remembered and understood. The London site is the most important place in Canada for its telling.

Given the urban context of the site, redevelopment pressures should be sufficient to justify a range of creative design solutions. The properties surrounding the site currently support industrial, commercial, residential, institutional and recreational uses, and any or all of these uses could invade the site as the current mental health programs are terminated and relocated.

The challenge is to create a contemporary cultural landscape of active community engagement, while not denying or erasing the cultural landscape of the London Asylum during the last years of the 19th Century and beyond.

RECOMMENDATIONS

Emergency Stabilization

Before any other actions are taken on this site, it is recommended that immediate measures be taken to stabilize the Infirmary Building and the Stable. The roof finishes on these two buildings have deteriorated to the point where there is major water infiltration into the building interiors. This originally caused damage to interior finishes and details, but is now starting to cause significant structural deterioration and even collapse. These two buildings are too important architecturally and historically to risk any further damage. And they are fundamental to long term redevelopment of the site.

The Infirmary Building requires a temporary roof on firring strips applied to the existing roof surfaces and across existing cavities. The collapsed roof on the west porch needs to be rebuilt with a temporary structure and waterproof finish. The Stable building requires restoration of the existing slate roofing, after removing the decayed wood cupolas for storage inside the building. The cupola vents can be covered temporarily. The Stable also requires some localized repointing. Both buildings require some related landscape control and upgraded security provisions.

Policy and Development

The Statement of Heritage Value is a conservation tool to guide planned changes to a historic place. It functions with the *Standards and Guidelines for the Conservation of Historic Places in Canada*, which as its title suggests, provides principles and practices for the long term protection of Canada's historic places. The Ontario government is one of the partners in the development and application of the Standards. Conservation in the context of the Standards refers to retaining the heritage values of historic places and extending their physical life.

In the case of the London institution, Preservation as it is will not be possible once the existing psychiatric facility is closed. Restoration to its most significant period, the late 19th Century, is impossible because of the loss of some major components including

the original central building complex. The most appropriate conservation approach is Rehabilitation, which is characterized in the Standards as involving the sensitive adaptation of a historic place for a continuing or compatible contemporary use while protecting heritage value. Rehabilitation is achieved through repairs, alterations and additions.

When a Rehabilitation approach is adopted, Standards 1-12 of the Standards must be adhered to. Standards 10-12 apply especially to Rehabilitation. As Standard 11 states, new work should be compatible with, subordinate to, and distinguishable from, the historic place.

In rehabilitation, the design quality of the new work is critical to the success of the overall development. At the London site, this design quality applies equally to architecture and landscape, and at a more fundamental level to the planning process that creates the framework for development.

Use and occupancy

The imminent closing of the existing psychiatric facility will end 140 years of continuous use of the site for mental health care.

One related use that should continue is a small interpretive centre to tell the story of these 140 years at the London facility, and more generally the story of mental health care in Canadian history. The two stories are intertwined at this site. Immediate steps should be taken to secure the wealth of historical artifacts and records currently collected in the museum within the present 1964 facility. It has recently closed and some of its holdings are beginning to be given away or abandoned – this collection and this site are too important to allow this public memory to be lost.

At the same time, the larger site, including a number of interrelated buildings and their associated landscape, should continue to be used as a supporting element in this interpretive activity.

Beyond this interpretive mandate, the site can be redeveloped for any number of uses, reflecting the existing urban context and its mix of industrial, commercial, residential, institutional and recreational use. It is assumed that a mixed use pattern will be developed.

The historic buildings, particularly the Infirmary, the Chapel, the Stable, and the Recreation Building, should be integrated into this pattern of use and occupancy. The administrative wing within the Infirmary will perhaps be used as an interpretive centre, but the east and west wings are easily adapted for residential, office or institutional use. The stable is also a prime candidate for adaptive reuse, although its potential uses are more limited because of its unique design character. It has the advantage of separate or shared access from Highbury Avenue. The Recreation Hall should be fully integrated into the redevelopment plan, ideally continuing to function as a recreation hall or community facility of some sort to take advantage of its large interior spaces

and its iconic character. Unlike the other buildings, it has only modest historical associations with the most important period in the site's history.

The Chapel of Hope is a logical candidate for continuing use as a religious place, ideally returning to the interfaith operation that Bucke originally developed. It can also be integrated into the community spaces within any redevelopment plan.

Accessibility and Circulation Systems

The use of the magnificent tree-lined avenue at the south entrance to the site off Dundas should once again be integrated into the core activities on the site. There may be some question as to its suitability for extensive vehicle traffic, but it should be physically and psychologically accessible to the community as an organizing axis and point of entry for pedestrians and others. This should probably be the only access from Dundas.

Visual access should be maintained from this entrance avenue to the Infirmary Building, and conversely from the building back towards the avenue. This relationship is central to establishing the axial nature of the site, and to linking architecture and landscape. Both these components were developed by Bucke and need to be part of a shared interpretive story.

New points of access into the site may be created off Highbury or Oxford Road, or from the properties to the east.

Inside the site, the surviving road network should be reused as a circulation framework where possible. The primary components are the entrance drive, establishing the north-south axis, a circle of some kind at the core, and then roads branching out towards the northeast and northwest. Pathways can be redesigned as part of redevelopment strategies, but an axial pathway from the tree-lined avenue to the Infirmary Building should remain in some form.

Barrier-free movement within the landscape should not be an issue because of the relatively flat nature of the site. Accessibility to the buildings varies depending on their configuration.

The Infirmary Building, if it is to house a public interpretive function in the administrative block, will require a significant ramp at its south entrance because of the high basement. This should possibly be designed as a double ramp to continue the symmetrical and duplicating aspect of the original design. The existing elevator location can be maintained for internal vertical movement. A separate ramp and internal elevator system may be required for a completely separate redevelopment of the northern part of the building, including the east and west wings. These two wings might not be interconnected.

The Chapel of Hope is less problematic, as the grade changes are minimal. The Stable is also no problem, assuming an internal flooring system is developed close to or at grade.

The Recreation Hall, which would be best served by continuing in public use, requires significant ramping and vertical movement facilities.

Site Services
It is assumed that site services will be redone as part of any major site redevelopment. These will be considered within the broader urban context.

Landscape Treatments
The landscape should remain as an organizing principle within the site. The tree-lined entrance drive should not become an isolated fragment, but should open up into the great lawns and mature trees of the original scheme. New development should be kept towards the perimeter of the site, with greater height limits along Highbury and Oxford, so that the interior of the site remains a landscaped bowl with the Infirmary Building as the important axial landmark. Its distinctive silhouette should not be marred by adjacent developments.

As indicated, the landscape should be kept open between the tree-lined entrance drive and the infirmary building. Consideration should be given to a visual connection between the stable building and the infirmary building, but this may not be possible. What is important is that there be a feeling of landscape continuity.

One other open space should be retained, at the northwest corner of the site. This remnant farmland, which could continue in recreational use for soccer or other activity, provides an important foreground for the stable building. This impressive building, which shares with the Infirmary Building a memorable silhouette, needs to be visible from the corner of Oxford and Highbury, within the wide open context for which it was so carefully designed.

The other advantage of more intense development along the perimeter is the reduction in traffic through the centre of the site, allowing Bucke's idea of the therapeutic value of nature to survive somewhat intact.

Architectural Treatments

The remnant historical buildings should remain essentially as they are in terms of form and massing, without significant additions. This is particularly true of Bucke's buildings – the Infirmary Building, the Chapel of Hope, and the Stable – all of which are carefully designed as pavilions in the landscape. The Recreation Hall could become part of a larger complex, given its less significant architectural or historical associations.

The Infirmary Building:

This building is relatively complete in terms of its original exterior finishes and details. Some areas, particular in wood, have suffered from decay due to moisture, but these areas are logical candidates for restoration since the evidence survives. Brickwork will require localized repointing, but it appears that the building is relatively sound

structurally and has not suffered foundation movements or wall misalignments. The 1945 sunrooms can be maintained, with the one collapsed roof rebuilt. Paint colour analysis should be used to determine the original paint colours on the decorative wood elements – a return to original colours would significantly enhance the architecture and reflect the Bucke period. The existing wood windows in the administrative block should be restored; windows in the northern portion, including the east and west wings, could be restored or replaced depending on the ultimate use. Further investigation is required to determine the original roof finishes – presumably either slate or cedar shingle – and it is suggested that these finishes be put back. The skylight above the operating room should be restored.

The interior of the administrative block, if it is to be used as an interpretive centre, should be restored as well. Most of the original finishes and detailing survives, so the major task is undoing the damage caused by neglect, vandals, and water infiltration. Areas such as the operating room and its adjacent preparation spaces require special attention. The goal is to focus restoration efforts on just this one interior, as the basis for interpreting the story of Bucke in particular and mental health care more generally.

The interior of the larger northern portion of the building, including the east and west wings, can be redeveloped in any way that suits intended uses. The approach should be to retain, as much as possible, the internal brick bearing walls for reasons of both structural stability and cost. Otherwise, the materials, finishes and detailing can be a combination of salvaged original material where appropriate and compatible contemporary work.

Structural upgrading is required where water has damaged structural wood joists and rafters. There may be additional requirements for modifications to accommodate life safety requirements for exit stairs or elevators or other interventions.

The Chapel of Hope:

This building is not an appropriate candidate for restoration, given the extent of the changes to date. It should ideally stay in use as a religious space, but in its evolved state. It may continue to evolve to meet ongoing functional requirements. It appears to be structurally sound, with the exposed trusses as a feature of the interior.

The Stable:
The exterior of this building should be restored, but the interior should be rehabilitated as an adaptive reuse project. Only minor additions, if any, should be added to the exterior so as not to unbalance the current form and silhouette. The brick requires localized repair and complete repointing. The slate roof needs extensive repair, as do the wood venting cupolas. As with the Infirmary Building, paint analysis should be used to determine the original colour of wood elements, including cornices, gables, doors and windows, and this should guide the restoration process.

Inside, the building can be adapted for almost any viable use. The particular cross section with its limited second floor height suggests either removing the second floor, already in bad condition in areas of water infiltration, or developing residential uses where each bay is a separate vertical two-storey space. The heavy timber beams define the logical bay sizes. Because of the unusual truss design, a single open space would provide a dramatic setting for certain commercial or community uses. The trusses appear to be structurally sound, but at risk because of ongoing water problems.

The Recreation Hall:
This building seems most suited to an ongoing community use, with possible recreational, social and cultural events using both existing floors. Its exterior appears to be in reasonable condition and can be repointed and repainted as required. The interior can remain as a single large auditorium space or could be subdivided according to program needs. The structural conditions of the roof is not known.

Outbuildings such as the Potting Shed can be incorporated into certain developments but may not be appropriate for others.

New developments on the site should adopt an architectural vocabulary that is compatible, subordinate and distinguishable, to use the language set out in the Standards and Guidelines.

Building Envelopes and Environmental Controls
The historic buildings require upgrading of their building envelopes as part of the redevelopment process.

In the Infirmary Building, the emphasis in the administrative wing should be on retaining interior finishes. The walls do not need to have any additional insulation – these efforts can be focused on the attic and the basement, as well as upgrading of the wood windows. In the rest of the building, the wall assembly may be upgraded as part of more extensive interior rehabilitation and adaptive reuse.

The Chapel of Hope, the walls are likely to remain as they are, of exposed brick without insulation. Similary, the ceiling is part of the architectural interior, so that the only long-term possibility for insulation upgrades is on the upper deck side.

The Stable and the Recreation Hall may get significant envelope redesigns as part of their larger redevelopment strategies.

The environmental control systems for all buildings, including heating, ventilating and air conditioning, will depend on the building and the intended use. In the restored

interiors of the Infirmary Building, special provisions can be made for servicing from the basement up and the attic down. In other buildings, contemporary systems can be introduced.

Public interpretation

Mental health care involves all the faculties and senses. The London site has a number of places, both within some of the building and in certain parts of the landscape, where the relationship between tangible and intangible is very powerful – examples are the tree-lined avenue, seductive and foreboding as the forecourt to the original massive central complex; the Chapel, a simple but reflective space juxtaposed with the scientific pretensions of the Infirmary Building; the operating room, a place of both horror and a passionate belief that somehow in some way mental illnesses could be cured. The power of this site cannot be communicated by reducing it to a series of plaques or display panels. There needs to be both the obvious historical information and the much more subtle realities of the buildings, landscapes, pathways and views.

An unresolved issue related to the history and interpretation of the site is the question of patient burials. Some of the Ontario psychiatric hospitals had burial grounds with unmarked graves – it is not know whether such an area existed at the London Asylum. Ongoing archaeological investigation and monitoring should be undertaken as part of any redevelopment, and in the interim some measures should be taken to consider the possibility of unmarked burials and the most appropriate way of recognizing this probable reality.

The idea of public interpretation at this site is complex but rich in potential. The London Asylum exists in the public imagination through works such as the Hollywood film *Beautiful Dreamers*, about Richard Bucke and Walt Whitman. The brooding Infirmary Building is architecturally arresting and memorable. The tree-lined avenue is without equal in North America. The site can continue to be a layering of many meaning, even within the context of major redevelopment.

APPENDIX A: Stabilization

The following short-term stabilization is recommended for the Infirmary Building, and the Stable Building. This will protect these important resources from any further damage or loss, and allow them to remain viable for redevelopment.

Examination Building:

1. Inspection and partial repointing of chimneys
2. Removal of collapsed roof, west porch, and reconstruction of temporary framing & roof deck
3. Temporary strapping and corrugated steel roofing, all roof areas
3. Vented plywood covers at window openings
4. Cutting back of plant growth at base
5. Enhanced security cameras

Masonry Barn:

1. Inspection and partial repointing of chimney
2. Stabilizing, removal and interior storage of wood cupolas
3. Localized repair of roof deck
4. Repair and reinstatement of damaged slate roofing
5. Temporary strapping and corrugated steel roofing at cupola openings
6. Vented plywood covers at selected window openings
7. Cutting back of plant growth at base
8. Localized repointing of brick walls

LPH LANDS
LONDON, ONTARIO
SCOPED TREE ASSESSMENT INFORMATION

PREPARED BY:	RON KOUDYS LANDSCAPE ARCHITECTS INC
DATE:	OCTOBER, 2020
PROJECT #:	19-105

TM

Michelle Peeters
ON 2129A

MICHELLE PEETERS
LANDSCAPE ARCHITECT
BLA, DIP. HORT. TECH, OALA, ISA CERTIFIED ARBORIST

CONTENTS

1.0 Introduction and Executive Summary

1.1 Introduction

Ron Koudys Landscape Architects Inc. (RKLA) was retained to prepare a tree assessment report in conjunction with the proposed development of the LPH lands in London, Ontario. The full tree inventory and assessment was completed in late summer of 2019. Since that time RKLA has been working with the design team as the overall layout of the site is being refined.

The purpose of this report and associated drawings is to provide a scoped snapshot of detailed tree data to the design team as well as municipal / provincial authorities to inform design as it relates to the Ontario Heritage Trust Easement Lands (OHT Lands).

1.2 Executive Summary

The overall site inventory captured 982 individual trees and 20 vegetation units. This report is scoped to and divided into the following two categories:

- Trees (trunk or canopy) and vegetation units that are within the OHT Lands AND the proposed Right-of-Way. Herein referred to as 'OHT / ROW Trees'.
- Trees (trunk or canopy) and vegetation units that are within the OHT Lands, in the 'allee' area, limited to east of the central existing concrete path and north of the rail line. Herein referred to as 'OHT NE Allee Trees'.

OHT / ROW Trees	OHT NE Allee Trees
137 individual trees	82 individual trees
0 vegetation units	3 vegetation units

RKLA recommends that the final site design considers the arboricultural assessment alongside the perceived heritage value of the trees to ensure that an appropriate balance between tree longevity and site character is achieved.

2.0 Resource Evaluation

Tree preservation on a development site with heritage based constraints typically generates conflict. As the overall design of the LPH lands moves forward, it is imperative for all parties to understand that tree preservation just at the time of construction is worthless if long term preservation strategies are not also employed. Tree preservation efforts must begin at the design stage, continue through construction, and continue further post construction for successful and meaningful preservation.

2.1 Evaluating Suitability for Preservation

The goal of tree preservation is not to have trees just survive the construction phase of development, but to have trees remain thriving assets to the site and the community for years to come. Trees that are chosen for preservation, therefore, must be carefully selected to ensure that they can persist through the construction impacts, adapt to their new environment, and perform well in the new landscape.

RKLA has assessed the trees to provide our recommendations on whether individual trees and groups of trees are suitable for preservation. The recommendations are based on a number of physiological factors which range from broad species specific information to individual tree structure observations.

Of course, heritage and cultural value are also a factor to consider when making final decisions regarding tree preservation vs removal. However, it is important to understand that preservation of a tree in poor health for heritage reasons will likely result in no tree at all.

3.0 Tree Assessment Methodology

3.1 General Tree Inventory Process & Data Collection

Field work was completed over several days in September 2019 by RKLA staff member Michelle Peeters, ISA certified arborist ON 2129A, and support staff. A topographic survey prepared by AGM, dated January 6, 2009, supplied by Zelinka Priamo Ltd. was used as the base for the field work.

The following information was recorded for each individual tree:

- Species (Genus + specific epithet)
- Diameter at breast height (DBH) (centimetres)
- Crown radius (metres)
- Crown Condition
- Structural Condition

3.2 Tree Health Assessment

Trees were identified and assessed following accepted arboricultural techniques and best practices using a limited visual inspection. The inspection included a 360 degree visual examination of the above-ground parts of each tree for structural defects including cavities, wounds, scars, external indicators of internal decay, evidence of insect presence, discoloured or deformed foliage, canopy and root distribution, and the overall condition of the tree. Evaluation of tree health was based on visible tree health indicators including live buds, foliage condition, deadwood, structural defects, form, and signs of disease or insect infestation.

3.3 Quantified Health Assessment Definitions

The health assessment of each tree includes two quantified classifications along with observations and comments. They are defined as follows:

Crown Condition Classification

5 Healthy: less than 10% crown decline
4 Slight decline: 11% - 30% crown decline
3 Moderate decline: 31% - 60% crown decline
2 Severe decline: 61% - 90% crown decline
1 Dead - No visible indication of living foliage or buds in crown

Structural Condition Classification

Good: Defects if present are minor (e.g. twig dieback, small wounds); defective tree part is small (e.g. 5-8 cm diameter limb) providing little if any risk.

Fair: Defects are numerous or significant (e.g. dead scaffold limbs); defective parts are moderate in size (e.g. limb greater than 5-8 cm in diameter).

Poor: Defects are severe (trunk cavity in excess of 50%); defective parts are large (e.g. majority of crown).

Dead: Tree exhibits no signs of life.

Hazard: Defects are severe and acute; defective part or collective defective parts render the tree a high risk threat to potential targets.

4.0 Terminology and Classification

Over 20 different tree species were observed on the LPH lands. It is important to note that while some individual trees are in good health and condition, they may have inherent negative qualities that make them an undesirable species in terms of preservation efforts. Similarly, while some individual trees are in just fair health and condition, they may have inherent positive qualities that make them a desirable species in terms of preservation efforts.

The attached tree data tables include descriptive terminology that may not be familiar to those outside the arborist field. Further, some terms that are common to casual conversation and are sometimes used loosely, have a very specific definition that warrants clarification. The following definitions are intended to aid in the clear understanding of this report.

4.1 Arboriculture Technical Terminology

The following terms are included in the comments column of the tree data tables.

Loose crown	A canopy that is not as dense as is typical for the tree species.
Codominant leaders	Two or more, generally upright, branches or stems of roughly equal diameter and originating from a common point. Because they grow from a common point there may be limited branch attachment along the top of the stems and structural integrity can by reduced.
Included bark	The bark embedded in the union between a branch and the trunk or between two or more stems that prevents the formation of a normal branch bark ridge. Included bark has a higher likelihood of failure than a normal branch attachment.
Tight union	Can lead to included bark, not an ideal branch attachment.
Scaffold branches	Large main branches that form the structure of the crown.

Supressed	The result when tree canopy growth is limited or affected by nearby trees or structures. Can result in unbalanced or thin crowns.
Primary union	Typically the lowest union, where the primary scaffold branches emerge from the trunk.
Clustered union	When several scaffold branches emerge at the same height on the trunk rather than being spaced out along the length of the trunk.
Epicormic growth	New growth arising directly from dormant or new buds on main branches, stems, or trunks often in response to biotic or abiotic factors. Weak attachments and fast growth rate, undesirable form.
Tar spot	An aesthetic issue affecting foliage - common on Maples.
Sinuous	A trunk with multiple gentle bends
Seam	A crack or split running with the grain for part of or the full length of a the trunk or a branch.
Buttressing	Unexpected thickening of the trunk
Burl	A hard woody protuberance on a trunk with no protruding branches or twigs.
Cavity	A void within the solid structure of the tree, normally associated with decay or deterioration of the woody tissue.
Snags	Large dead branches in living trees
Root flare / Flare	A transition zone where the trunk flares out to meet the buttress, main, or structural roots.
Matted root flare	Wide spreading flare that extends out in a hard continuous mat at the base of the tree.
Basal damage	Biotic or abiotic damage to the base of the tree.
Elevated root plate	The ground at the base of the tree is markedly higher than the surrounding ground or other elements.
Girdling roots	A circling, bent, or straight root that touches or rests on the flare and becomes a permanent root. Can ‘strangle’ the tree by limiting resource flow through the stem or root that it is girdling.
Circling roots	Visible roots of any size that curl around the tree rather than radially away from the trunk.

4.2 Tree Origin Classification, Qualities, and Value Rating System

The following terms and classifications are included in the general tree species notes of the tree data tables and are colour coded on the drawings.

4.2.1 Tree Origin Classification

Native	Species that are indigenous to Southwestern Ontario
Naturalized	Species that were introduced to Southwestern Ontario and now occur naturally
Invasive	Species that were introduced to Southwestern Ontario and have the ability to spread into natural areas, displacing native species.
Cultivated	Non-native species that are commonly grown by the horticulture industry and do not have invasive qualities

4.2.2 Tree Qualities

The following terms are included in the general tree species notes of the tree data tables. They were included in the data table in an effort to provide accessible and general information about specific tree species. Note that each tree species has plethora qualities, both positive and negative - what RKLA has provided in the data table is intended to give the reader a very basic understanding of both a positive and negative attribute(s) of a particular species.

Positive Tree Qualities

Adaptable	Able to grow in a wide range of conditions (soil moisture, soil pH, light conditions, etc.)
Broad skirt	Describes the breadth of the lower canopy of a coniferous tree, particularly when not limbed up
Common street tree	Describes a species with generally good urban condition tolerance, reliable form, and minimal pests or diseases
Previous street tree	A species that had been commonly planted as a street tree, but has since been removed from approved street tree planting lists due to a pest or pathogen issue or change in status (ie. now considered invasive)
Fast growth rate	Potential annual growth rate (in youth) exceeding 24”
Hardy	Generic term that describes a species that can withstand harsh climactic conditions or adapt well to environmental stress
Large canopy	Species generally produces a desirable widespread canopy
Leaf blotch	Symptom of fungal disease commonly affecting Chestnut trees, causing brown spots on foliage, leaf curling and early leaf drop in the fall. Rarely threatens tree survival, but several consecutive years of severe defoliation will weaken a tree, and make it susceptible to other diseases, insect pests and environmental stress.

Picturesque	Describes a species known for architectural grandeur, notable fall foliage colour, or impressive mature size
Rugged	Describes a species known for architectural winter interest and desirable overall form
Showy fruit	Impressive fruit due to colour or abundance

Negative Tree Qualities

Brittle wood	Branches and stems will break apart easily under stress from wind, snow and ice
Cytospora canker	Fungal disease commonly affecting Picea pungens causing defoliation from the bottom up, eventual tree decline
Diplodia tip blight	Fungal disease commonly affecting Pinus nigra and Pinus sylvestris, targets new emerging growth leading to browning, loss of limbs, and potentially full tree decline
Emerald Ash Borer	Invasive insect that has infested Southern Ontario beginning in 2002. The host species Fraxinus has since been decimated across the province
Juglone toxicity	Trees in the Juglan genus produce and release a chemical called Juglone which inhibits the growth of many species
Maple decline	Commonly affecting Acer platanoides, combination of factors that causes sudden and complete branch decline
Oak wilt	Fungal disease that has not yet been observed in Ontario, but is significantly affecting Quercus, particularly Quercus rubra just south of the border. Fungus causes sudden and complete mortality
Rhizosphaera needlecast	Fungal disease commonly affecting Picea pungens causing defoliation from the bottom up, eventual tree decline
Scraggly	Describing a tree form that is generally not desirable, is shrub like, has poorly distributed branches, generally poor form, etc
Suckering	Epicormic or adventitious growth emerging from the base of the tree, typically with weak unions
Tar spot	Fungal disease common to Acer platanoides and other Acer spp, generally a cosmetic issue rather than a true health concern
Typically poor form	Species that generally do not have a desirable form - lean, poor apical dominance, regular epicormic growth, etc
Weak wooded	Typically a result of a fast growth rate, tree can be more prone to branch breakage under environmental stress
Windthrow	Trees uprooted by wind

4.2.3 Tree Area Value Rating System

The design team requested that RKLA use our individual tree assessment data to create groups of trees that could be generally categorized based on each groups overall physiological value. RKLA divided the trees into logical groups based on location, species composition, and relationship to existing features and placed them into one of the four value ratings.

Value Rating 'A' - Highly Valuable (green hatch on drawings)

Most trees in area are highly valuable in terms of health, condition, form, species, ecological benefit, arrangement in the landscape, and/or cultural heritage.
RKLA recommends that the design team explore potential alternate design approaches to preserve these trees.

Value Rating 'B' - Fairly Valuable (light blue hatch on drawings)

Most trees in area are fairly valuable in terms of health, condition, form, species, ecological benefit, arrangement in the landscape, and/or cultural heritage.
RKLA recommends that the design team consider opportunities to preserve these trees.

Value Rating 'C' - Neutral Value (yellow hatch on drawings)

Most trees in area do not have adequate physical or inherent qualities to warrant extraordinary preservation efforts.
RKLA recommends that limited consideration for preservation is warranted.

Value Rating 'D' - Minimal Value (orange hatch on drawings)

Most trees in area are considered undesirable due to poor health or condition, poor form, weak wooded species, species susceptible to common disease or pathogens, aggressive or invasive species.
RKLA recommends that preservation is not deemed necessary.

4.2.4 Notable Individual Trees

RKLA observed some trees that were particularly admirable or threatening. They have been identified and colour coded on the drawings. RKLA defines these two classifications of trees as:

Distinctive Tree (green outline on drawings)

In terms of species, form, health, condition, size, architectural interest, relationship to OHT buildings, and/or ecological benefit.
RKLA recommends that the design team consider opportunities to preserve these trees during the design process.

Hazard Tree (red outline on drawings)

Structural defects in tree present imminent risk of complete or partial failure.
RKLA recommends that these trees be removed regardless of site design due to risk of harm to nearby targets.
Note that there are instances where a 'distinctive tree' is located within a group of trees generally rated as 'D', and there are instances where a 'hazard tree' is located with a group of trees generally rated as 'A'.

5.0 Critical Root Zones

5.1 Critical Root Zones

The critical root zone of a tree is the portion of the root system that is the minimum necessary to maintain tree vitality and stability. Critical root zones are commonly prescribed by municipal bylaws based solely on DBH and/or drip line, and are typically expressed as a circular shape around the tree. There are a number of other factors, however, that ought to be considered when establishing a critical root zone.

5.1 Critical Root Zones - Fine Tuning

Factors that inform location and extent of tree preservation barriers to protect the critical root zone include: species tolerance to root loss and other construction impacts (as established by authoritative resources and professional experience), tree trunk size (DBH), tree age, tree health and vigour, structural condition, landscape context, soil type, moisture availability, topography, ground cover, crown size (drip line) and balance, current physical root restrictions, visible root arrangement, relationship to neighbouring trees, relationship between tree and proposed construction, type of proposed construction, etc.

Once it is decided that a certain tree or group of trees is to be protected, it must follow that all construction drawings clearly indicate the critical root zone and the location of the tree preservation barrier or other impact mitigation efforts. If the critical root zone cannot be adequately protected and preserved during construction, the tree(s) should not be preserved.

6.0 Potential Construction Impacts on Trees

It is imperative that the design team and the construction crew understand the potential for, and the causes of tree damage. Trees recommended for preservation may experience some or all of the following potential construction impacts. It must also be understood that impacts are cumulative, and stress on trees is compounded by the quantity of impacts as well as the severity of those impacts.

6.1 Soil Compaction

Soil compaction is caused by heavy or repeated compression or vibration of the soil around the tree. Soil compaction reduces the amount and size of macro and micro pore space that is vital for subsurface movement of air and water. The harmful effects of soil compaction include, but are not limited to: slower water infiltration, poor aeration, reduced root growth and an overall increased susceptibility to biotic and abiotic stressors.

6.2 Root Loss

Root loss occurs when roots are severed. The majority of roots are typically located within the top 60cm of soil and can extend outward up to three times the extent of the tree drip line. Excavation of any kind within the critical root zone* can sever roots. Two categories of roots need to be considered when evaluating impacts of root loss - small, fibrous absorbing roots, and large structural roots. Significant loss of either or

both of these functions can cause stress and/or affect the structural stability of the tree. Root loss can be caused by actual root severing, crushing of roots due to compaction or vibration from large equipment. Note, however, that it is commonly accepted that healthy trees can typically tolerate and recover from the removal of approximately 33% (up to a maximum of 50%) of their root mass. Thorough consideration regarding extent of acceptable root removal is dependent on individual species characteristics, root loss distribution, and site specific conditions *(ref. Trees and Development: A Technical Guide to Preservation of Trees During Land Development by Nelda Matheny and James R. Clark, 1998. Pg 72)*.

* Refer to 'Critical Root Zones" in this report for definition.

6.3 Grade Changes

Lowering of the grade around trees has immediate and long term effects on trees. Lowering of grade requires immediate root loss from cutting the roots which results in water stress from the root removal and potential reduced structural stability.

Raising the grade around a tree can be equally damaging. The addition of fill over the root zone of a tree alters the roots' ability for normal water and gas exchange that is necessary for healthy root growth and stability. Fill essentially suffocates the roots and can lead to the slow and eventual decline of the tree.

6.4 Mechanical Damage

Mechanical damage is caused by physical contact with a tree that damages the tree to any degree. During land development and construction activities, there is an increased risk of both minor and fatal mechanical damage to trees from construction equipment. Minor damage can create entry points for insects and pathogens, and fatal damage can cause irreparable structural damage.

6.5 Changes to Exposure - Sun and Wind

Trees can be negatively affected by increased exposure to sun or wind when neighbouring trees are removed. This can be of particular concern when 'interior trees' (trees that have developed surrounded by other trees) are suddenly exposed to forest edge conditions. These trees may experience higher intensity of direct sunlight resulting in leaf scald, and instability due to increased wind and snow loads.

Trees can be negatively affected by decreased exposure to sunlight. Proposed development that includes tall buildings located to the south and west of mature existing trees can greatly reduce the amount of daily direct sunlight. While this change in environment may not cause the immediate or eventual death of a tree, it can certainly slow development and alter growing habits and patterns, and must therefore be a consideration when evaluating trees for potential preservation.

6.6 Soil Contamination

Soil health around a tree can be compromised by contamination from spills or leaks of fuels, solvents, or other construction related fluids, or when construction equipment is cleaned on site near the root zone.

6.7 Water Availability

Grading and servicing requirements for development can affect water availability for trees. Trees may experience a loss of available water due to a lowered water table or the capture or redirection of subsurface and/or overland flow. Conversely, trees may experience an increase of available water due to changes in site grading and storm water retention efforts.

7.0 Tree Preservation Recommendations

See attached Tree Preservation and Heritage Review drawings

The drawings include photographs (photos captured by RKLA, September 2020) of key areas related to the OHT Lands.

The drawings are also colour coded to indicate the four 'tree area value ratings', as well as distinctive trees and hazardous trees.

The intent of the drawings is to assist the design team in making informed decisions regarding site layout. The drawings quickly indicate where there are groupings of high quality trees and low quality trees within the OHT Lands. Further, the tree data tables offer detailed information about each tree and vegetation unit.

Specific construction impact mitigation recommendations will be explored and specified upon further refinement of the site layout.

8.0 Disclaimer

The assessment of the trees presented within this report has been made using accepted arboricultural techniques. These include a visual examination of the above-ground parts of each tree for structural defects, scars, external indications of decay, evidence of insect presence, discoloured foliage, the general condition of the trees and the surrounding site, as well as the proximity of property and people. None of the trees examined were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

Notwithstanding the recommendations and conclusions made in this report, it must be realized that trees are living organisms and their health and vigour is constantly changing. They are not immune to changes in site conditions or seasonal variations in the weather.

While reasonable efforts have been made to ensure the trees recommended for retention are healthy, no guarantees are offered or implied, that these trees or any part of them will remain standing.

Note that this arborist report has been prepared using the latest drawings and information provided by the client. Any subsequent design or site plan changes affecting trees may require revisions to this report. Any new information or drawings are to be provided to RKLA prior to report submission to planning authorities.

9.0 Contact Information

Office:
Ron Koudys Landscape Architects Inc.
368 Oxford Street East
London, Ontario
N6A 1V7
Ph: 519-667-3322 Fax: 519-645-2474

Staff:
Field work and report author
Michelle Peeters - michelle@rkla.ca
Qualifications ISA Certified Arborist ON-2129A
ISA Tree Risk Assessment Qualified
Qualified Butternut Assessor BHA #710
OALA full member - landscape architect

10.0 APPENDIX A - TREE DATA TABLE - OHT / ROW TREES

SCOPED TREE INFO - OHT / ROW TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
83	*Juglans nigra*	Black Walnut	X	68	8	5	good	Canopy heavy to the north, low canopy, minor epicormic growth	native	hardy, large canopy, picturesque	Juglone toxicity, messy
84	*Juglans nigra*	Black Walnut	X	85	9	5	good	Old tag #993, one low scaffold branch	native	hardy, large canopy, picturesque	Juglone toxicity, messy
85	*Juglans nigra*	Black Walnut	X	83	11	5	fair	Clustered union with one poorly healing prune cut, canopy heavy to the north	native	hardy, large canopy, picturesque	Juglone toxicity, messy
86	*Juglans nigra*	Black Walnut	X	87	10	5	good	Clustered union	native	hardy, large canopy, picturesque	Juglone toxicity, messy
87	*Picea Abies*	Norway Spruce	X	59	3	4	good	Old tag #643, thin canopy, supressed, animal hole at base/under base of tree, limbed up	cultivated	broad skirt, picturesque	susceptible to windthrow
88	*Acer saccharum*	Sugar Maple	X	102	9	5	good	Tight unions, minor dieback, low crown, codominant leaders with seam at primary union	native	hardy, picturesque	
89	*Acer saccharinum*	Silver Maple	X	83	10	5	poor	Codominant leaders with included bark and butressing on both sides to base	native	fast growth rate	weak wooded
90	*Acer saccharinum*	Silver Maple	X	83	9	5	fair	Wide exposed root flare, codominant leaders with included bark, minor epicormic growth	native	fast growth rate	weak wooded
91	*Acer saccharinum*	Silver Maple	X	67	7	5	fair	Codominant leaders with good union, gnarly damaged root flare	native	fast growth rate	weak wooded
92	*Acer saccharinum*	Silver Maple	X	68	7	5	fair	Tight primary union with included bark, wide root flare	native	fast growth rate	weak wooded
93	*Acer saccharinum*	Silver Maple	X	72	6	5	good	Old tag #637, low branches, wide root flare, minor dead wood	native	fast growth rate	weak wooded
94	*Acer saccharinum*	Silver Maple	X	62	8	5	fair	Low primary union, loose crown, wide damaged root flare, clustered union with three leaders, minor bark damage at primary union	native	fast growth rate	weak wooded
95	*Acer saccharinum*	Silver Maple	X	72	7	5	poor	Codominant leaders with included bark and butressing, damaged root flare, broken branches, significant wound/cavity on one main stem	native	fast growth rate	weak wooded

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

Green = specimen tree
Red = hazard tree

SCOPED TREE INFO - OHT / ROW TREES

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
96	*Acer platanoides*	Norway Maple	X	39	5	5	good	Bottom of slope, mechanical damage at base, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
97	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	63	7	5	fair	Old tag #603, codominant leaders with included bark and butressing, bottom of slope, wide root flare	native	fast growth rate	weak wooded
98	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	45	5	5	good	Old tag #608, one low scaffold branch	native	fast growth rate	weak wooded
99	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	59	5	5	good	Old tag #607, gnarly base, on slope, old mechanical damage to trunk on SE side, one scaffold branch with weak attachment	native	fast growth rate	weak wooded
100	*Acer saccharinum*	Silver Maple	X	65	5	5	good	Old tag #606, bulge in trunk just below primary union, minor deadwood, wide matted root flare, on slope	native	fast growth rate	weak wooded
101	*Acer platanoides*	Norway Maple	X	63	7	5	poor	Low hanging branches, wide twisting circling root flare, seam from primary union to nearly the base, clustered union	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
102	*Acer platanoides*	Norway Maple	X	50	6	5	good	Old tag #604, 2m long bark crack on SW side, clustered primary union, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
103	*Acer platanoides*	Norway Maple	X	51	6	4	poor	Old tag #603, weak branch attachments, loose open crown, clustered primary union, vertical crack from base to primary union, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
104	*Acer platanoides*	Norway Maple	X	65	6	4	fair	Old tag #602, snags, clustered primary union, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
105	*Acer platanoides*	Norway Maple	X	49	5	5	fair	Thin crown, minor deadwood, scaffold diameter equal to leader diameter, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT / ROW TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
106	*Acer platanoides*	Norway Maple	X	56	7	5	good	Minor dead wood, bark splitting on branches, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
107	*Acer platanoides*	Norway Maple	X	51	6	5	good	Wide damaged root flare, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
108	*Acer platanoides*	Norway Maple	X	50	6	5	fair	Circling roots, gnarly attachment at one scaffold, 3m long vertical scar reaching primary union	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
109	*Acer platanoides*	Norway Maple	X	61	8	5	good	Exposed roots, low droopy branches	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
110	*Acer platanoides*	Norway Maple	X	73	8	4	hazard	Significant trunk split from base to primary union, girdling roots, low droopy branches, tree will fail - REMOVE	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
111	*Acer platanoides*	Norway Maple	X	50	6	4	good	Included bark at primary union, densely branched, minor dead interior	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
112	*Acer platanoides*	Norway Maple	X	46	5	3	hazard	Half of tree has split off and is gone from base to primary union, canopy heavy NW - REMOVE	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
116	*Juglans nigra*	Black Walnut	X	24	4	5	good	Old tag #575, open grown, full form	native	hardy, large canopy, picturesque	Juglone toxicity, messy
117	*Acer rubrum*	Red Maple	X	71	10	5	fair	Old tag # 566, 1 large scaffold, codominant leaders, 1 leader broken off, other leader has taken over	Native	hardy, picturesque	poor pollution tolerance
118	*Juglans nigra*	Black Walnut	X	29	4.5	5	good	Old tag #567, open grown, full form, low branched	native	hardy, large canopy, picturesque	Juglone toxicity, messy
158	*Juglans nigra*	Black Walnut	X	78	11	5	good	Full form	native	hardy, large canopy, picturesque	Juglone toxicity, messy

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT / ROW TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
159	*Acer platanoides*	Norway Maple	X	47	6	5	fair/good	Old tag #969, significant cavity in main scaffold, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
264	*Acer rubrum*	Red Maple	X	51	6	5	good	Thin crown	Native	hardy, picturesque	poor pollution tolerance
265	*Acer saccharinum*	Silver Maple	X	80	7	5	good	Exposed damaged root flare, clustered primary union	native	fast growth rate	weak wooded
266	*Acer platanoides*	Norway Maple	X	37	5	4	poor	Old tag #632, thin crown, 1m long wound and indent in trunk on SW side, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
267	*Acer platanoides*	Norway Maple	X	40	5	5	good	2 low scaffold branches, circling roots, tar spot, minor deadwood	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
268	*Acer platanoides*	Norway Maple	X	48	6	5	fair	Codominant leaders with included bark, circling roots	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
271	*Acer rubrum x saccharinum*	Red/Silver hybrid	X	42	5	5	good	Old tag #617, low primary union	native	fast growth rate	weak wooded
272	*Acer platanoides*	Norway Maple	X	40	5	5	good	Tar spot, clustered union	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
273	*Acer platanoides*	Norway Maple	X	42	6	4	fair	Old tag #614, 1 dead limb, slight lean E, minimal root flare	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
277	*Acer platanoides*	Norway Maple	X	54	5.5	5	good	Old tag #579, circling roots, droopy branches, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
280	*Acer saccharinum*	Silver Maple	X	83	8	4	fair	Codominant leaders with included bark, 1 splitting limb, damaged root flare	native	fast growth rate	weak wooded
281	*Acer saccharinum*	Silver Maple	X	91	9	5	good	Circling roots, double codominant leaders	native	fast growth rate	weak wooded

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT / ROW TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
318	*Acer saccharinum*	Silver Maple	X	97	9	4	hazard	Major cavity and cracking trunk from base to near primary union, lean W, canopy heavy W, epicormic growth	native	fast growth rate	weak wooded
319	*Acer saccharinum*	Silver Maple	X	106	7	5	fair	4 leaders, multiple cavities in leaders	native	fast growth rate	weak wooded
320	*Acer saccharinum*	Silver Maple	X	133	14	4	hazard	4 leaders with significant rot and cavity at previous 5th leader, cavities along limbs, low union, minor dieback, rot/cavity under primary union to grade	native	fast growth rate	weak wooded
321	*Acer saccharinum*	Silver Maple	X	118	12	5	fair	3 leaders, seam and bulge at primary union, loose open crown	native	fast growth rate	weak wooded
322	*Acer saccharinum*	Silver Maple	X	125	9	5	fair	3 leaders, cavity at previous 4th leader, multiple cavities at old branch attachments	native	fast growth rate	weak wooded
323	*Acer saccharinum*	Silver Maple	X	133	12	4	poor	3 leaders - 1 dead with epicormic growth, snags, cavity above primary union, epicormic growth	native	fast growth rate	weak wooded
324	*Acer saccharinum*	Silver Maple	X	123	10	5	good	4 leaders, dense canopy, epicormic growth, minor deadwood	native	fast growth rate	weak wooded
326	*Acer rubrum*	Red Maple	X	50	6	5	good	Old tag #465, thin crown	native	hardy, picturesque	poor pollution tolerance
327	*Acer rubrum*	Red Maple	X	78	7	5	fair	Old tag #466, codominant leaders with small wound at primary union, densely branched	native	hardy, picturesque	poor pollution tolerance
328	*Acer rubrum*	Red Maple	X	58	6	5	fair/good	Old tag #467, thin crown, double codominant leaders with tight unions	native	hardy, picturesque	poor pollution tolerance
329	*Acer saccharinum*	Silver Maple	X	113	11	5	poor	Old tag #466, 4 leaders, hollow trunk, major cavity in trunk, canopy heavy NW, old southern side stems gone, minor deadwood	native	fast growth rate	weak wooded
331	*Acer saccharinum*	Silver Maple	X	97	11	5	fair	Old tag #471, multiple cavities in main trunk and scaffolds, epicormic growth, snags, 3 leaders	native	fast growth rate	weak wooded
334	*Pinus nigra*	Austrian Pine	X	73	7.5	5	fair	Old tag #505, dead leader, clustered union, low primary union	cultivated	adaptable	Diplodia tip blight

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT / ROW TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
345	*Pinus nigra*	Austrian Pine	X	47	6	3	good	Old tag #491, thin, browning needles, bent over leader	cultivated	adaptable	Diplodia tip blight
350	*Pinus nigra*	Austrian Pine	X	63	9	5	fair	Old tag #486, lean SE, canopy heavy S, suppressed to the north, low scaffolds, multiple leaders	cultivated	adaptable	Diplodia tip blight
413	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	92	9	5	good	Old tag #376, on slight slope, even root flare	native	fast growth rate	weak wooded
414	*Acer platanoides*	Norway Maple	X	45	8	5	good	Old tag #369, tar spot, low droopy branches, minor deadwood	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
415	*Acer platanoides*	Norway Maple	X	63	8	5	good	Old tag #370, tight primary union	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
432	*Pinus sylvestris*	Scotch Pine	X	28	3.5	5	good	Old tag #368, low branched	cultivated, invasive (UTRCA)	hardy, picturesque	Diplodia tip blight
433	*Picea pungens var. glauca*	Colorado Blue Spruce	X	~40	3.5	5	good	Branched to grade, low area in ground immediately SE of trunk	cultivated	common specimen or hedge	Rhizosphaera needle cast and Cytospora canker
434	*Picea abies*	Norway Spruce	X	73	8	5	good	Old tag #362, limbed up approx.10m, minor deadwood	cultivated	broad skirt, picturesque	susceptible to windthrow
435	*Aesculus hippocastanum*	Horse Chestnut	X	~65	6	3	poor	Dead leader, all foliage from scaffold branches, crown heavy N	cultivated	rugged, picturesque	annual leaf blotch
436	*Ulmus spp.*	Elm	X	84	7	1	poor	Old tag #360, fully dead			
439	*Acer saccharinum*	Silver Maple	X	99	10	5	good	Wide matted root flare, elevated root plate, full form, codominant leaders	native	fast growth rate	weak wooded
450	*Aesculus hippocastanum*	Horse Chestnut	X	67	4.5	3	poor	Old tag #383, previously 2 leaders, 1 leader gone - cavity at old attachment, low drooping branches, cracked branches, dead wood	cultivated	rugged, picturesque	annual leaf blotch
471	*Aesculus hippocastanum*	Horse Chestnut	X	70	4	5	fair	Old tag #391, seam along south side with cavity, snags	cultivated	rugged, picturesque	annual leaf blotch

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

Green = specimen tree
Red = hazard tree

SCOPED TREE INFO - OHT / ROW TREES

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
472	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	63	7	5	good	Old tag #392, minor deadwood	native	fast growth rate	weak wooded
473	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	33	5	5	good	Old tag #393, bowed trunk, lean E	native	fast growth rate	weak wooded
474	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	54	7	5	good	Old tag #396, thin upper crown	native	fast growth rate	weak wooded
475	*Acer platanoides*	Norway Maple	X	47	7	5	fair	Significant trunk wound from base to primary union, clustered primary union, bark splitting - wound wood present	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
476	*Acer platanoides*	Norway Maple	X	42	5	5	good	Old tag #398, 1 low scaffold, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
477	*Acer saccharinum*	Silver Maple	X	78	7	5	good	Old tag #408, minor deadwood	native	fast growth rate	weak wooded
478	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	83	9	5	poor	Old tag #409, 3 leaders, seam from base to primary union, full form	native	fast growth rate	weak wooded
479	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	57	8	5	good	Old tag #410, 1 hanger, full form	native	fast growth rate	weak wooded
480	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	71	9	5	fair	Old tag #411, codominant leaders with included bark and butressing, several fused branches, full form	native	fast growth rate	weak wooded
481	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	68	8	5	good	Ascending branches	native	fast growth rate	weak wooded
482	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	76	8	5	good	Ascending branches, gnarly base, fused branches	native	fast growth rate	weak wooded

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT / ROW TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
483	*Pinus nigra*	Austrian Pine	X	82, 67, 61	10.5	5	good	Multistem 3, ascending scaffolds, architectural interest	cultivated	adaptable	Diplodia tip blight
502	*Picea abies*	Norway Spruce	X	43	5	5	good	Old tag #437, limbed up 2m	cultivated	broad skirt, picturesque	susceptible to windthrow
503	*Picea abies*	Norway Spruce	X	52	5	5	good	Old tag #438, limbed up 3m, scraggly, elevated ground plane	cultivated	broad skirt, picturesque	susceptible to windthrow
504	*Acer platanoides*	Norway Maple	X	46	5	4	good	Dead branches, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
505	*Acer platanoides*	Norway Maple	X	42	6	5	fair	Tight twisting fused primary union, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
507	*Acer platanoides*	Norway Maple	X	45	7	5	good	Circling roots, full form, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
508	*Acer platanoides*	Norway Maple	X	46	7.5	5	fair	Dead leader, dead interior, scaffolds taken dominance, open know just below primary union	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
509	*Acer platanoides*	Norway Maple	X	55	6	5	fair	Circling roots, matted roots, included bark at primary union, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
510	*Acer platanoides*	Norway Maple	X	43	6	5	good	Old tag #442, minor dead wood, slightly gnarly base, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
511	*Acer saccharum*	Sugar Maple	X	77	8	5	fair	Old tag #441, tight fused primary union with ascending scaffolds, no root flare on W side	native	hardy, picturesque	
512	*Acer saccharum*	Sugar Maple	X	71	7	4	good	Old tag #440, no root flare on W side, open crown, tight primary union	native	hardy, picturesque	
513	*Acer saccharum*	Sugar Maple	X	74	10	3	poor	Dead leader and upper scaffolds, large snags	native	hardy, picturesque	

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT / ROW TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
514	*Acer platanoides*	Norway Maple	X	34	4.5	5	good	Circling roots, squat canopy	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
515	*Acer platanoides 'Royal Red'*	Royal Red Norway Maple	X	39	4.5	5	good	Damaged root flare, cracked branches, thin crown	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
516	*Picea pungens var. glauca*	Colorado Blue Spruce	X	42	3.5	3	good	Old tag #357, thin and scraggly, in small island	cultivated	common specimen or hedge	Rhizosphaera needle cast and Cytospora canker
517	*Acer platanoides 'Royal Red'*	Royal Red Norway Maple	X	46	5	5	good	Tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
518	*Aesculus hippocastanum*	Horse Chestnut	X	73	4	5	fair	Old tag #844, beginning of row of trees along driveway, codominant leaders with included bark, low branched, epicormic from trunk	cultivated	rugged, picturesque	annual leaf blotch
519	*Aesculus hippocastanum*	Horse Chestnut	X	72	4.5	5	fair	Old tag #845, 3 leaders, tight unions, minor root flare damage	cultivated	rugged, picturesque	annual leaf blotch
520	*Aesculus hippocastanum*	Horse Chestnut	X	75	4.5	5	fair	Old tag #846, minor root flare damage, codominant leaders, epicormic from trunk	cultivated	rugged, picturesque	annual leaf blotch
521	*Aesculus hippocastanum*	Horse Chestnut	X	71	5	4	fair	Old tag #847, codominant leaders, minor deadwood, epicormic from trunk, minor root flare damage	cultivated	rugged, picturesque	annual leaf blotch
522	*Aesculus hippocastanum*	Horse Chestnut	X	77	4	2	poor / hazard	Old tag #849, nearly dead, trunk cavity with frass, codominant leaders	cultivated	rugged, picturesque	annual leaf blotch
523	*Aesculus hippocastanum*	Horse Chestnut	X	63	5	5	good	Old tag #850, codominant leaders, canopy heavy SW	cultivated	rugged, picturesque	annual leaf blotch
524	*Aesculus hippocastanum*	Horse Chestnut	X	70	6	3-4	fair	Old tag #851, codominant leaders with included bark, dead limbs, vertical wound on main trunk, minor root flare damage	cultivated	rugged, picturesque	annual leaf blotch
525	*Aesculus hippocastanum*	Horse Chestnut	X	63	5	5	good	Old tag #852, minor root flare damage, epicormic from trunk, full form	cultivated	rugged, picturesque	annual leaf blotch

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT / ROW TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
526	*Aesculus hippocastanum*	Horse Chestnut	X	87	6	3	poor	Old tag #853, small fungal growth at base and along trunk, dead limbs and partial dead leader, tight unions, 3 leaders, epicormic from trunk	cultivated	rugged, picturesque	annual leaf blotch
527	*Aesculus hippocastanum*	Horse Chestnut	X	91	6	5	fair	Old tag #854, 4 leaders, tight unions with included bark, epicormic from trunk	cultivated	rugged, picturesque	annual leaf blotch
528	*Aesculus hippocastanum*	Horse Chestnut	X	69	6	5	good	Codominant leaders, vertical fissure from base, minor deadwood	cultivated	rugged, picturesque	annual leaf blotch
529	*Aesculus hippocastanum*	Horse Chestnut	X	64	5.5	5	good	Epicormic from trunk, singl stem	cultivated	rugged, picturesque	annual leaf blotch
530	*Pinus nigra*	Austrian Pine	X	62	7.5	5	good	Old tag #857, canopy heavy SW, high crown	cultivated	adaptable	Diplodia tip blight
531	*Aesculus hippocastanum*	Horse Chestnut	X	69	5	5	good	Old tag #858, epicormic from trunk, single stem, indented root flare	cultivated	rugged, picturesque	annual leaf blotch
532	*Aesculus hippocastanum*	Horse Chestnut	X	70	5	5	good	Old tag #859, full form, epicormic from trunk, codominant leaders with tight union	cultivated	rugged, picturesque	annual leaf blotch
533	*Aesculus hippocastanum*	Horse Chestnut	X	68	6	5	poor/fair	Old tag #860, epicormic from trunk, minor deadwood, spiraling fissure/split, 3 leaders with tight union	cultivated	rugged, picturesque	annual leaf blotch
534	*Pinus nigra*	Austrian Pine	X	76	8	5	good	Old tag #861, canopy heavy SW, high crown, flat top crown	cultivated	adaptable	Diplodia tip blight
635	*Acer platanoides*	Norway Maple	X	40	6	5	good	Old tag #791, on slight slope, epicormic growth along limbs, tar spot, exposed roots	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
636	*Pinus nigra*	Austrian Pine	X	48	7	5	good	Old tag #792, limbed up 4m	cultivated	adaptable	Diplodia tip blight
637	*Acer platanoides*	Norway Maple	X	36	5.5	5	fair	Old tag #793, on slight slope, exposed roots, sealed scar on E side	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
638	*Acer rubrum*	Red Maple	X	57	8	5	good	Old tag #794, wide flare, low primary union	Native	hardy, picturesque	poor pollution tolerance

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT / ROW TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
640	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	46	6	4	fair	Old tag #800, crooky trunk, epicormic at base, wide matted flare on the W, no flare on the E	native	fast growth rate	weak wooded
641	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	99	8	4	poor	Old tag #801, loose open crown, codominant leaders with included bark, splitting seam to base, thin crown	native	fast growth rate	weak wooded
643	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	64	6	5	fair	Old tag #803, low forked union, thin crown	native	fast growth rate	weak wooded
644	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	71	9	5	good	Old tag #804, included bark and butressing at primary union, tar spot	native	fast growth rate	weak wooded
646	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	54	5.5	5	good	Old tag #806, thin open crown, low primary union	native	fast growth rate	weak wooded
647	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	67	8	5	good	Old tag #807, exposed roots, wide root flare	native	fast growth rate	weak wooded
668	*Pinus nigra*	Austrian Pine	X	42	4.5	3	poor/fair	leader topped, bowed trunk	cultivated	adaptable	Diplodia tip blight
686	*Acer platanoides*	Norway Maple	X	41	6	4	fair	Loose crown caused by removed limbs	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
689	*Acer platanoides*	Norway Maple	X	43	6.5	4	poor	Old tag #458, loose crown, sealing wound SW side	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
690	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	66	7	5	fair/good	Old tag #455, low primary union, wide matted root flare, 2 low scaffolds	native	fast growth rate	weak wooded
691	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	61	7	5	fair	Old tag #456, low primary union with included bark, ascending scaffolds	native	fast growth rate	weak wooded
702	*Acer saccharinum*	Silver Maple	X	65	9	5	fair/good	Location approximate (not on survey), wide matted root flare, scaffold diameter equal to leader diameter	native	fast growth rate	weak wooded

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT / ROW TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands & PROPOSED ROW	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
705	*Acer platanoides*	Norway Maple	X	66	6.5	5	hazard	Old tag #831, clustered primary union with included bark, rot/cracked trunk/cavity, long vertical wound NE side	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
706	*Aesculus hippocastanum*	Horse Chestnut	X	95	10	3	poor	Old tag #838, canopy is mostly epicormic growth, general crown decline, large prune cuts, canopy heavy E	cultivated	rugged, picturesque	annual leaf blotch
707	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	~70	8	2	hazard	Previously codominant leaders - one leader torn off leaving large cavity into trunk, unbalanced canopy	native	fast growth rate	weak wooded
748	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	100	8	5	good	Codominant leaders, full form	native	fast growth rate	weak wooded
753	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	64	7	5	fair/good	Codominant leaders with butressing	native	fast growth rate	weak wooded

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

11.0 APPENDIX B - TREE DATA TABLE - OHT NE ALLEE TREES

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT NE ALLEE TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands - in allee E of central conc. walk, N of RR	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
708	*Acer saccharum*	Sugar Maple	X	47	6	3	fair	Old tag #236, bark splitting, dead leader still standing	native	hardy, picturesque	
709	*Acer platanoides*	Norway Maple	X	25	3	5	good	Thin crown, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
710	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	47	3	4	poor	Old tag #228, low primary union, significant basal damage, codominant leaders with U shaped union	native	fast growth rate	weak wooded
711	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	51	6.5	5	fair/good	Old tag #225, basal damage E side, supressed	native	fast growth rate	weak wooded
712	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	35	5	5	good	Old tag #218, minor basal damage	native	fast growth rate	weak wooded
713	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	38	4	4	fair	Old tag #213, supressed, codominant leaders with weak union, basal damage	native	fast growth rate	weak wooded
714	*Acer saccharum*	Sugar Maple	X	66	7	5	good	Old tag #206, gnarly base, full form	native	hardy, picturesque	
715	*Acer saccharinum*	Silver Maple	X	41	5	5	fair/good	Old tag #203, codominant leaders with included bark	native	fast growth rate	weak wooded
716	*Acer saccharinum*	Silver Maple	X	59	6	5	good	Wide root flare, minor deadwood, 1 hanger	native	fast growth rate	weak wooded
717	*Acer platanoides*	Norway Maple	X	36	6	5	good	Old tag #180, minimal root flare, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
718	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	49	6	5	fair/good	Low ascending scaffolds, minor basal damage	native	fast growth rate	weak wooded
719	*Acer saccharum*	Sugar Maple	X	73	10	5	good	Old tag #168, wide root flare, location approximate (not on survey)	native	hardy, picturesque	
720	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	42	8	5	fair/good	Old tag #163, codominant leaders, basal scar with minor epicormic growth	native	fast growth rate	weak wooded

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT NE ALLEE TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands - in allee E of central conc. walk, N of RR	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
721	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	71	6	4	hazard	Old tag #148, several cavities in leaders, codominant leaders with included bark and seam to base, fused branches, weak attachments	native	fast growth rate	weak wooded
722	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	34	4	5	good	Old tag #145, codominant leaders with included bark, small crown for trunk size, high crown	native	fast growth rate	weak wooded
723	*Acer saccharum*	Sugar Maple	X	82	9	4	poor/fair	Old tag #130, included bark at primary union, large snags, dead lower branches	native	hardy, picturesque	
724	*Acer platanoides*	Norway Maple	X	58	10	5	good	Old tag #127, wide root flare, exposed roots, seam from base to primary union on W side, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
725	*Acer platanoides*	Norway Maple	X	54	10	5	good	Old tag #117, minor dead wood, multiple small oozing wounds on trunk SE side	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
726	*Acer saccharinum*	Silver Maple	X	96	10	4	poor	Extensive epicormic growth, die back of scaffolds and limbs	native	fast growth rate	weak wooded
727	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	75	8	5	fair/good	Old tag #106, ascending scaffolds	native	fast growth rate	weak wooded
728	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	~85	8	4	hazard	Previously codominant leaders - one leader torn off leaving large cavity into trunk, unbalanced canopy heavy W	native	fast growth rate	weak wooded
729	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	83	10	5	good	Old tag #119, full form	native	fast growth rate	weak wooded
730	*Acer platanoides*	Norway Maple	X	26	5	1	hazard	Fully dead, wound near base	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
731	*Quercus rubra*	Red Oak	X	36	7	5	good	Old tag #129, slight lean E	native	rugged, picturesque	future concern for Oak Wilt
732	*Acer saccharum*	Sugar Maple	X	85	12	5	good	Old tag #146, wide root flare, full form, buttressing at primary union	native	hardy, picturesque	

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT NE ALLEE TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands - in allee E of central conc. walk, N of RR	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
733	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	74	10	5	poor	Old tag #147, codominant leaders with included bark and seam, multiple burls, significant rot in one limb	native	fast growth rate	weak wooded
734	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	77	9	5	fair	Old tag #164, ascending scaffold branches, 1 scaffold laying on ground	native	fast growth rate	weak wooded
735	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	71	10	5	fair/good	Ascending scaffolds, minor dead wood	native	fast growth rate	weak wooded
736	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	87	9	4	fair	Old tag #177, loose crown, ascending scaffolds, minor epicormic growth, small fungal growth at base	native	fast growth rate	weak wooded
737	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	72	9	4	poor	Old tag #179, hollow/cavity at base, dead branches and snags	native	fast growth rate	weak wooded
738	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	84	9	4	poor	Old tag #194, multiple small trunk cavities, exposed damaged roots, ascending scaffolds, burls, snags	native	fast growth rate	weak wooded
739	*Acer saccharum*	Sugar Maple	X	84	11	5	good	Codominant leaders with included bark and butressing, wide root flare, full form	native	hardy, picturesque	
740	*Acer platanoides*	Norway Maple	X	34	8	5	good	Tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
741	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	28	6	5	good	Old tag #205, basal damage, thin, some dead lower branches	native	fast growth rate	weak wooded
742	*Acer saccharum*	Sugar Maple	X	66	8	5	good	Old tag #214, minor deadwood, some weak attachments	native	hardy, picturesque	
743	*Acer saccharum*	Sugar Maple	X	82	10	5	good	Old tag #217, some dead lower branches	native	hardy, picturesque	
744	*Acer saccharum*	Sugar Maple	X	99	10	5	good	Old tag #226, wide hefty root flare, included bark at primary union	native	hardy, picturesque	
745	*Acer saccharum*	Sugar Maple	X	79	10	5	good	Sealed seam on S side	native	hardy, picturesque	

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT NE ALLEE TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands - in allee E of central conc. walk, N of RR	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
746	*Acer saccharum*	Sugar Maple	X	91	10	5	good	Crooky limbs, minor exposed damaged roots, wide hefty root flare	native	hardy, picturesque	
747	*Acer saccharum*	Sugar Maple	X	72	10	5	good	Minor basal damage	native	hardy, picturesque	
749	*Picea Abies*	Norway Spruce	X	55	6	5	good	Old tag #215, wide root flare, limbed up 5m	cultivated	broad skirt, picturesque	susceptible to windthrow
750	*Picea Abies*	Norway Spruce	X	50	5	5	good	Old tag #178, wide root flare, limbed up 6m	cultivated	broad skirt, picturesque	susceptible to windthrow
751	*Picea Abies*	Norway Spruce	X	48	4	5	good	Old tag #166, wide root flare, limbed up 7m	cultivated	broad skirt, picturesque	susceptible to windthrow
752	*Picea Abies*	Norway Spruce	X	53	3	5	good	Old tag #165, wide root flare, limbed up 7m	cultivated	broad skirt, picturesque	susceptible to windthrow
754	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	51	7	5	good	Old tag #346, thin crown	native	fast growth rate	weak wooded
755	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	87	7	5	poor	Codominant leaders with included bark and split to near base of tree	native	fast growth rate	weak wooded
756	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	55	7	5	fair	Old tag #349, canopy heavy W, low primary union, tar spot	native	fast growth rate	weak wooded
757	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	57	7	4	poor/fair	Old tag #348, codominant leaders with included bark, cavity at primary union, canopy heavy W	native	fast growth rate	weak wooded
758	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	58	6	4	poor/fair	Old tag #344, low primary union, 1 dead leader of 3, snag	native	fast growth rate	weak wooded
759	*Catalpa speciosa*	Northern Catalpa	X	45	5	5	good	Dead lower branches, sinuous trunk	cultivated	fast growth rate, large canopy	brittle wood, weak wooded
760	*Catalpa speciosa*	Northern Catalpa	X	50	5.5	5	good	Old tag #340, low branched, dead lower branches	cultivated	fast growth rate, large canopy	brittle wood, weak wooded
761	*Catalpa speciosa*	Northern Catalpa	X	55	5	4	good	Low branched, elevated root plate, dead lower branches	cultivated	fast growth rate, large canopy	brittle wood, weak wooded

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT NE ALLEE TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands - in allee E of central conc. walk, N of RR	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
762	*Catalpa speciosa*	Northern Catalpa	X	63	7	5	poor	Low primary union, hollow at base, 1m long vertical cavity on trunk, dead lower branches	cultivated	fast growth rate, large canopy	brittle wood, weak wooded
763	*Catalpa speciosa*	Northern Catalpa	X	34	6	5	good	Old tag #325, 1m long trunk pucker along S side	cultivated	fast growth rate, large canopy	brittle wood, weak wooded
764	*Catalpa speciosa*	Northern Catalpa	X	45	5	5	good	Old tag #323, low branched, codominant leaders	cultivated	fast growth rate, large canopy	brittle wood, weak wooded
765	*Catalpa speciosa*	Northern Catalpa	X	46	5	5	good	Low branched, minor epicormic growth	cultivated	fast growth rate, large canopy	brittle wood, weak wooded
766	*Catalpa speciosa*	Northern Catalpa	X	44	4	5	good	Old tag #319, sealing vertical wound	cultivated	fast growth rate, large canopy	brittle wood, weak wooded
767	*Catalpa speciosa*	Northern Catalpa	X	72	6	5	good	Low branched	cultivated	fast growth rate, large canopy	brittle wood, weak wooded
768	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	56	7	5	good	Full form	native	fast growth rate	weak wooded
769	*Fraxinus spp.*	Ash spp.	X	10, 9, 7, 6	3	5	poor	Old tag #4291, multistem 4 - 1 is dead, union at grade	native	previously a common street tree	devastated by Emerald Ash Borer
770	*Fraxinus spp.*	Ash spp.	X	10, 8, 7, 4	2.5	5	poor/fair	Multistem 4, bark splitting, union at grade	native	previously a common street tree	devastated by Emerald Ash Borer
771	*Sorbus aucuparia*	Rowan Tree	X	39	4	2	poor	Snags, burls, epicormic growth	invasive (UTRCA)	showy fruit	numerous pests and disease
772	*Quercus rubra*	Red Oak	X	38	5	5	good	Minor dead wood, Buckthorn understory	native	rugged, picturesque	future concern for Oak Wilt
773	*Sorbus aucuparia*	Rowan Tree	X	~50	5	3	hazard	Old tag #294, rot at base and through trunk, significant epicormic growth, dead leader	invasive (UTRCA)	showy fruit	numerous pests and disease
774	*Sorbus aucuparia*	Rowan Tree	X	~40	4	2	hazard	Most foliage from epicormic growth from base, snags	invasive (UTRCA)	showy fruit	numerous pests and disease

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT NE ALLEE TREES

Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands - in allee E of central conc. walk, N of RR	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
775	*Ulmus pumila*	Siberian Elm	X	89	10	5	fair	Clustered primary union, low branched, grape vine climbing up one low branch	invasive (UTRCA)	adaptable	scraggly appearance, typically poor form
776	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	54	5	5	fair	Old tag #351, low primary union with included bark, tar spot	native	fast growth rate	weak wooded
777	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	33	4	5	good	Old tag #352, supressed, tar spot	native	fast growth rate	weak wooded
778	*Ulmus spp.*	Elm spp.	X	59	7	4	fair	Old tag #354, low clustered primary union, snags, supressed			
779	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	78	7	3-4	poor/fair	Multiple snags, butressing at primary union	native	fast growth rate	weak wooded
780	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	62	6	5	fair	Minor dead wood, snags, tar spot	native	fast growth rate	weak wooded
781	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	49	6	5	good	Circling girdling roots, tar spot	native	fast growth rate	weak wooded
782	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	66	6.5	5	good	Low branched, supressed, minor dead wood	native	fast growth rate	weak wooded
783	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	67	7	5	good	1 low scaffold branch, minor deadwood	native	fast growth rate	weak wooded
784	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	55	6	5	good	Thin crown, 1 low scaffold, trunk butressing	native	fast growth rate	weak wooded
785	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	78	6	4	fair	Old tag #175, double codominant leaders, snags, basal damage	native	fast growth rate	weak wooded
786	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	44	6	5	fair/good	Root circling, codominant leaders, canopy heavy E	native	fast growth rate	weak wooded
787	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	70	7	5	fair	3 leaders, low crown, wide root flare, tar spot	native	fast growth rate	weak wooded

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

RKLA PROJECT #19-105 LPH LANDS

SCOPED TREE INFO - OHT NE ALLEE TREES

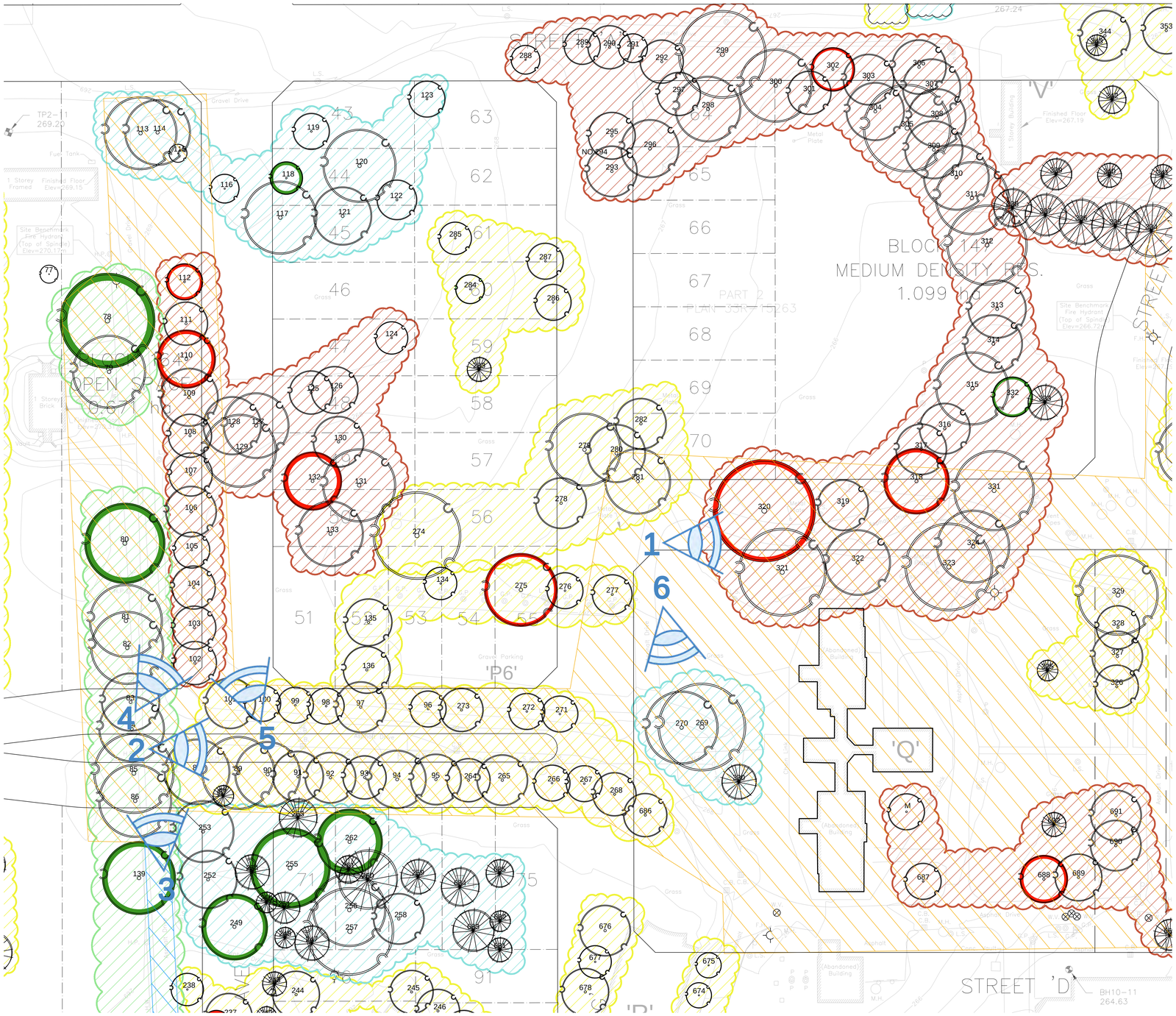
Green = specimen tree
Red = hazard tree

GENERAL INFORMATION			HERITAGE	SIZE		TREE HEALTH & NOTES			GENERAL TREE SPECIES NOTES		
TAG #	BOTANICAL NAME	COMMON NAME	Trunk OR canopy within OHT Lands - in allee E of central conc. walk, N of RR	DBH (cm) ~= approx.	CANOPY RADIUS (m)	CROWN COND.	STRUCT COND.	COMMENTS	NATIVE NATURALIZED INVASIVE (to SW Ontario) CULTIVATED	POSITIVE QUALITY	NEGATIVE QUALTIY
788	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	85	8	5	good	Wide root flare, minor epicormic growth, tar spot	native	fast growth rate	weak wooded
789	*Acer platanoides*	Norway Maple	X	50	9	5	fair	Exposed damaged roots, poor prune cuts, scaffold diameter equal to main leader diameter, low hanging branches	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
790	*Acer rubrum x saccharinum*	Red/Silver Maple hybrid	X	75	7	4	fair	3 leaders, low primary union, wide gnarly flare, burls, supressed, snags	native	fast growth rate	weak wooded
791	*Acer platanoides*	Norway Maple	X	34	7	5	good	Circling roots, tar spot	invasive in woodland setting (UTRCA)	common street tree, hardy	threat of Maple decline, annual tar spot on foliage (typ.)
VEGETATION UNITS - Groups of trees or hedges that were assessed as units											
Veg 11	*Picea glauca*	White Spruce hedge	X	30-40	4	4-5	fair/good	17 individuals, buckthorn, ash, and norway maple understory, generally thin crowns	native	thinning hedge	invasive species in understory
Veg 15	*Fraxinus spp.*	Ash spp.	X	<10	2-3	2-3	poor	Group of ash trees that have died, shrubs have formed from epicormic growth emerging from the base - all with poor weak form.	native		suckering from base produces weakly formed shrubs
Veg 16	*Fraxinus spp.*	Ash spp.	X	<10	2-3	2-3	poor	Group of ash trees that have died, shrubs have formed from epicormic growth emerging from the base - poor weak form.	native		suckering from base produces weakly formed shrubs

Refer to definitions page for details

Completed by: M Peeters
Field work: Summer 2019

12.0 Appendix C - Tree Preservation and Heritage Review Drawings T-7 - T-10

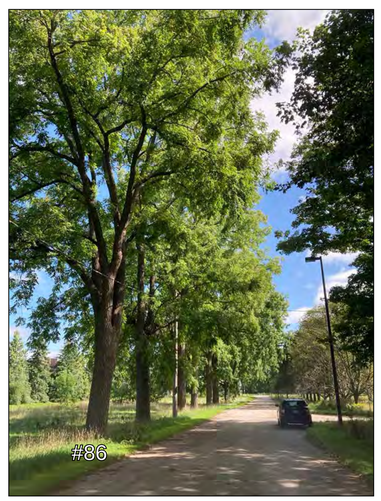


TREE PRESERVATION & HERITAGE REVIEW - PLAN A

SCALE = 1:500

IMG 1. VIEW SOUTH TO TREES 320 - 324

IMG 2. VIEW SOUTH TO TREES 89 - 95 & 101 - 96

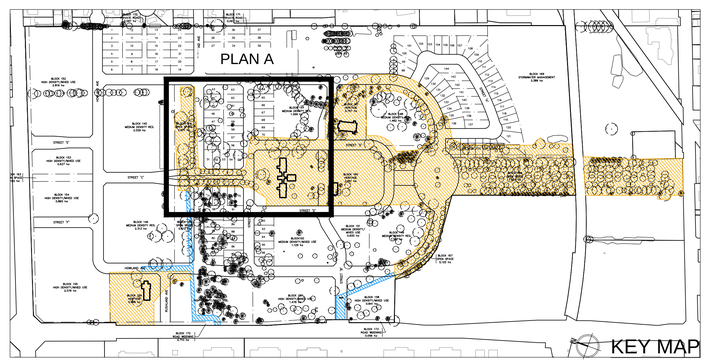


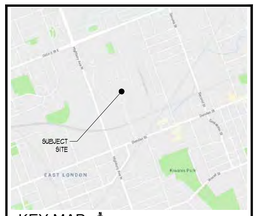
IMG 3. VIEW EAST TO TREES 86 - 80
(within OHT Easement, not within proposed ROW - image included to provide context)

IMG 4. VIEW EAST TO TREES 102 - 112

IMG 5. VIEW NORTH EAST TO TREES 102 - 112

IMG 6. VIEW WEST TO TREES 269 & 270
(within OHT Easement, not within proposed ROW - image included to provide context)





KEY MAP

LEGEND

- EXISTING DECIDUOUS TREES
- EXISTING CONIFEROUS TREES
- EXISTING VEGETATION UNITS AND HEDGES
- SPECIMEN TREES FOR PRESERVATION EFFORTS
- HAZARDOUS TREES TO BE REMOVED
- 1 — RKLA TREE TAG *
- A — RKLA TREE ID LETTER (NOT TAGGED)
- V1 — RKLA VEGETATION UNIT * (NOT TAGGED)
- TREE AREA VALUE RATING 'A'
- TREE AREA VALUE RATING 'B'
- TREE AREA VALUE RATING 'C'
- TREE AREA VALUE RATING 'D'
- EASEMENT - OHT LANDS
- EASEMENT - OHT ACCESS
- # — IMAGE CAPTURE LOCATION

Ronald H. Koudys, O.A.L.A. C.S.L.A. — DATE

DATE	DESCRIPTION	No.
2020.09.25	ISSUED FOR INFORMATION	3.
2019.11.05	ISSUED FOR COORDINATION	2.
2019.10.03	ISSUED FOR PRELIMINARY TREE REPORT	1.

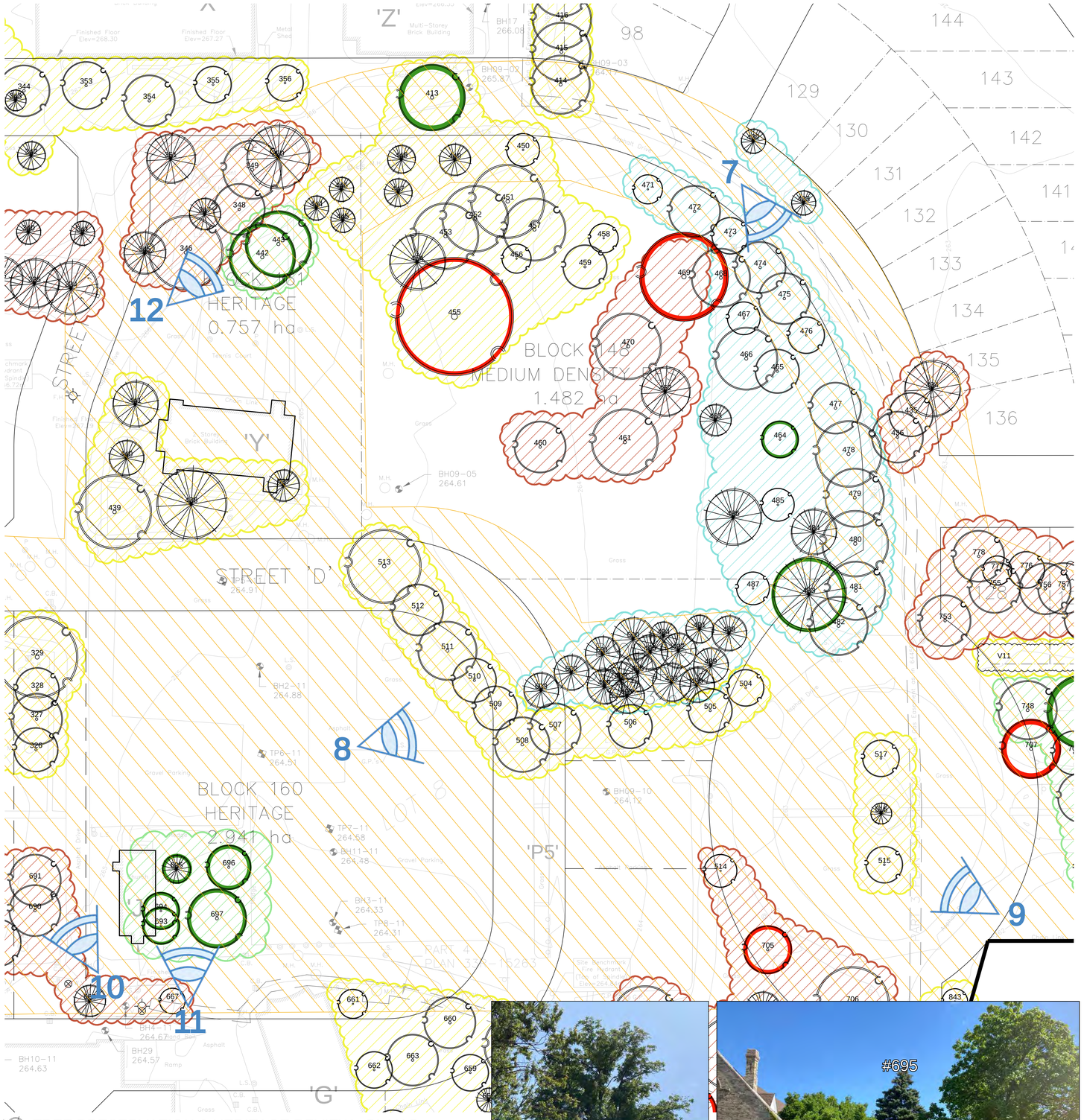
PLOTTING INFORMATION:
PLOTTED DATE = SEPTEMBER 25, 2020
PLOTTED SCALE = 1:1

INFORMATION ONLY

PROJECT TITLE:
LPH LANDS
PROPOSED DEVELOPMENT
OLD OAK PROPERTIES

DRAWING TITLE:
TREE PRESERVATION & HERITAGE REVIEW

DATE:	SCALE:	DRAWING No.
JUNE 2019	AS NOTED	T-7
DRAWN: RKLA Inc.	CHECKED BY: RHK.	
PROJECT No. 19-105Lg		



TREE PRESERVATION & HERITAGE REVIEW - PLAN B
SCALE = 1:500

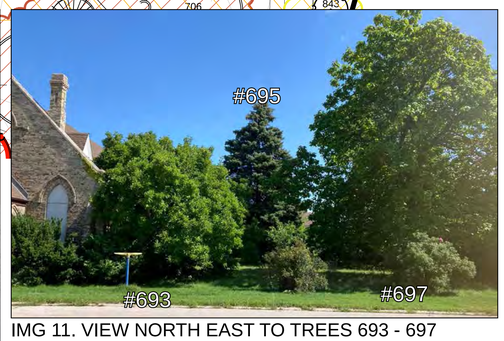
IMG 7. VIEW SOUTH TO TREES 474 - 476

IMG 8. VIEW SOUTH EAST TO TREES 510 - 508

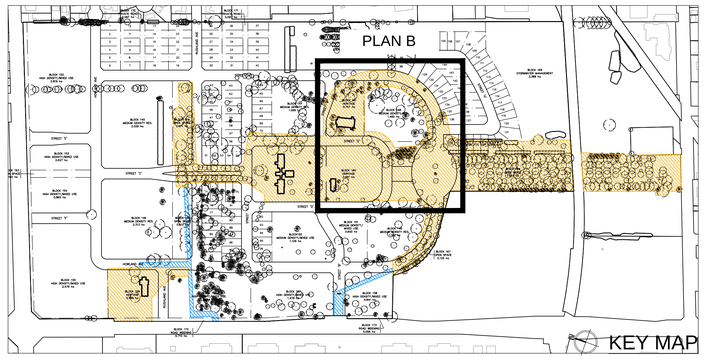
IMG 9. VIEW NORTH TO TREES 515 - 517

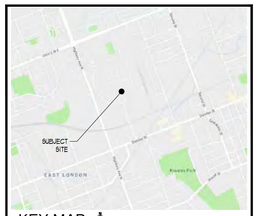
IMG 10. VIEW NORTH EAST TO TREES 690 & 691 & 326-329

IMG 12. VIEW EAST TO TREES 442 & 443 (within OHT Easement, not within proposed ROW - image included to provide context)



IMG 11. VIEW NORTH EAST TO TREES 693 - 697 (within OHT Easement, not within proposed ROW - image included to provide context)





LEGEND

- EXISTING DECIDUOUS TREES
- EXISTING CONIFEROUS TREES
- EXISTING VEGETATION UNITS AND HEDGES
- SPECIMEN TREES FOR PRESERVATION EFFORTS
- HAZARDOUS TREES TO BE REMOVED
- 1 — RKLA TREE TAG *
- A — RKLA TREE ID LETTER (NOT TAGGED)
- V1 — RKLA VEGETATION UNIT * (NOT TAGGED)
- TREE AREA VALUE RATING 'A'
- TREE AREA VALUE RATING 'B'
- TREE AREA VALUE RATING 'C'
- TREE AREA VALUE RATING 'D'
- EASEMENT - OHT LANDS
- EASEMENT - OHT ACCESS
- # — IMAGE CAPTURE LOCATION

RON KOUDYS LANDSCAPE ARCHITECTS INC.

Ronald H. Koudys, O.A.L.A. C.S.L.A. — DATE

2020.09.25	ISSUED FOR INFORMATION	3.
2019.11.05	ISSUED FOR COORDINATION	2.
2019.10.03	ISSUED FOR PRELIMINARY TREE REPORT	1.
DATE	DESCRIPTION	No.

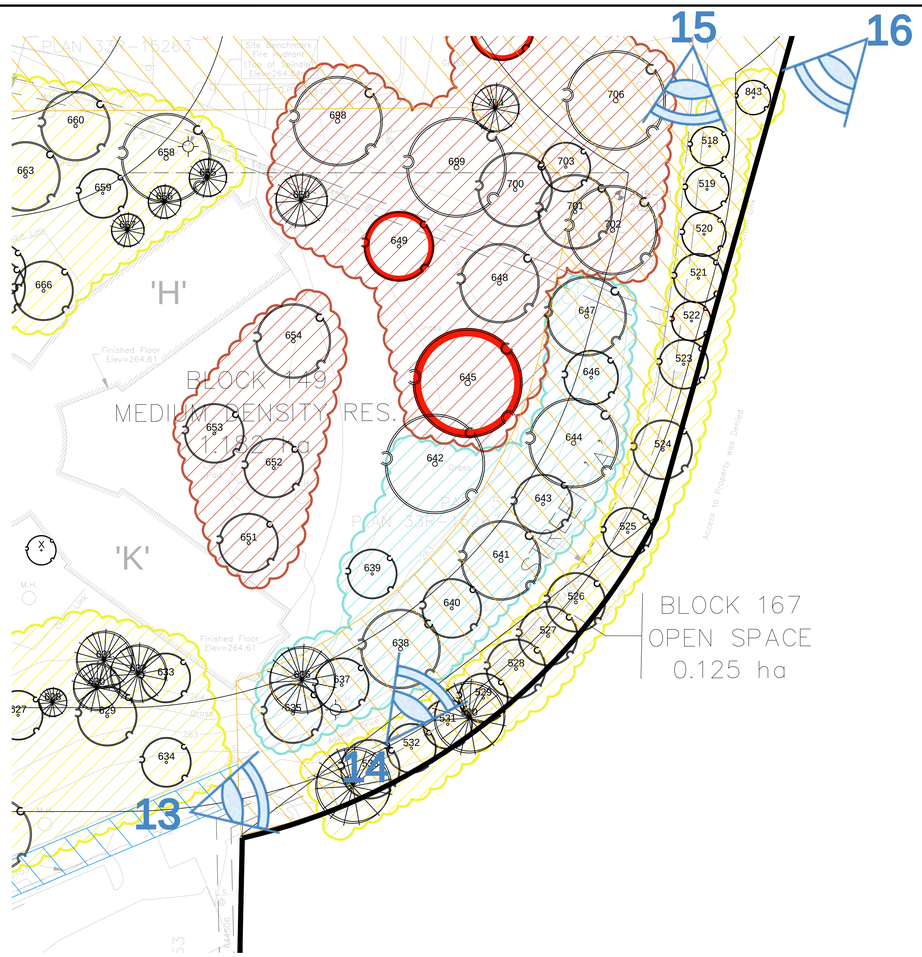
PLOTTING INFORMATION:
PLOTTED DATE = SEPTEMBER 25, 2020
PLOTTED SCALE = 1:1

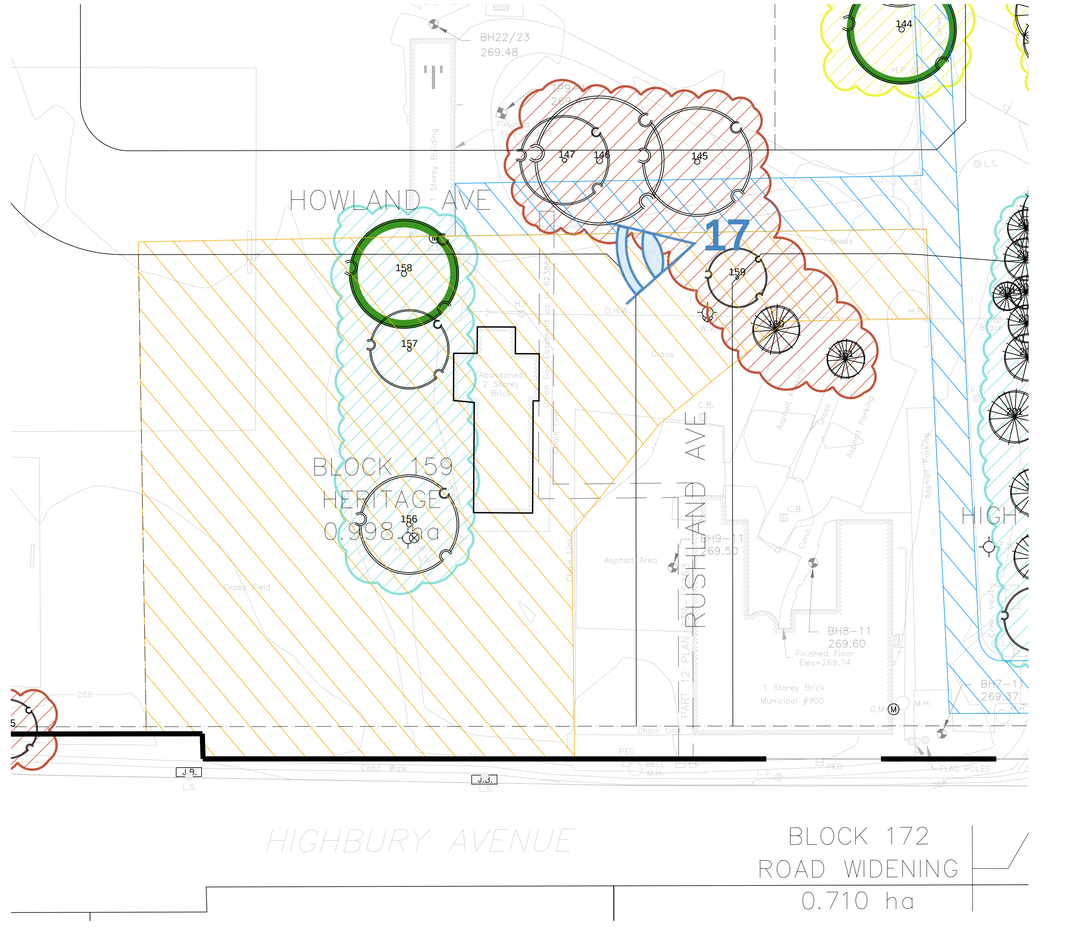
INFORMATION ONLY

PROJECT TITLE:
LPH LANDS
PROPOSED DEVELOPMENT
OLD OAK PROPERTIES

DRAWING TITLE:
TREE PRESERVATION & HERITAGE REVIEW

DATE: JUNE 2019	SCALE: AS NOTED	DRAWING No. T-8
DRAWN: RKLA Inc.	CHECKED BY: RHK.	
PROJECT No. 19-105Lg		





TREE PRESERVATION & HERITAGE REVIEW - PLAN C

SCALE = 1:500

TREE PRESERVATION & HERITAGE REVIEW - PLAN D

SCALE = 1:500

IMG 13. VIEW SOUTH EAST TO TREES 534 - 526

IMG 15. VIEW WEST TO TREES 518 - 525 & 702

IMG 14. VIEW EAST TO TREES 638 - 641 & 529 - 524

IMG 16. VIEW NORTH WEST TO TREES 843, 518-524, 706, etc.

RKLA TREE VALUE RATING SYSTEM FOR LPH LANDS

TREE AREA VALUE RATING SYSTEM

TREE AREA VALUE RATING 'A' - HIGHLY VALUABLE
EXPLORE POTENTIAL ALTERNATIVE DESIGN APPROACHES TO PRESERVE TREES
MOST TREES IN AREA ARE HIGHLY VALUABLE IN TERMS OF HEALTH, CONDITION, FORM, SPECIES, ECOLOGICAL BENEFIT, ARRANGEMENT IN THE LANDSCAPE, AND/OR CULTURAL HERITAGE

TREE AREA VALUE RATING 'B' - FAIRLY VALUABLE
CONSIDER OPPORTUNITIES TO PRESERVE TREES DURING DESIGN PROCESS
MOST TREES IN AREA ARE FAIRLY VALUABLE IN TERMS OF HEALTH, CONDITION, FORM, SPECIES, ECOLOGICAL BENEFIT, ARRANGEMENT IN THE LANDSCAPE, AND/OR CULTURAL HERITAGE

TREE AREA VALUE RATING 'C' - NEUTRAL VALUE
LIMITED CONSIDERATION FOR PRESERVATION WARRANTED
MOST TREES IN AREA DO NOT HAVE ADEQUATE PHYSICAL OR INHERENT QUALITIES TO WARRANT EXTRAORDINARY PRESERVATION EFFORTS.

TREE AREA VALUE RATING 'D' - MINIMAL VALUE
PRESERVATION NOT DEEMED NECESSARY
MOST TREES IN AREA CONSIDERED UNDESIRABLE DUE TO POOR HEALTH OR CONDITION, POOR FORM, WEAK WOODED SPECIES, SPECIES SUSCEPTIBLE TO COMMON DISEASE OR PATHOGENS, AGGRESSIVE OR INVASIVE SPECIES, ETC.

NOTABLE INDIVIDUAL TREES

DISTINCTIVE TREE - CONSIDER OPPORTUNITIES TO PRESERVE DURING DESIGN PROCESS
DISTINCTIVE TREE IN TERMS OF SPECIES, FORM, HEALTH, CONDITION, SIZE, ARCHITECTURAL INTEREST, RELATIONSHIP TO HERITAGE BUILDINGS, AND/OR ECOLOGICAL BENEFIT

HAZARD TREE - TO BE REMOVED
STRUCTURAL DEFECTS IN TREE PRESENT IMMINENT RISK OF COMPLETE OR PARTIAL FAILURE. TREE TO BE REMOVED REGARDLESS OF SITE DESIGN

IMG 17. LOOKING NW TO TREES 157 & 158

KEY MAP

LEGEND

○	EXISTING DECIDUOUS TREES
✳	EXISTING CONIFEROUS TREES
☁	EXISTING VEGETATION UNITS AND HEDGES
🟢	SPECIMEN TREES FOR PRESERVATION EFFORTS
🔴	HAZARDOUS TREES TO BE REMOVED
1	RKLA TREE TAG #
A	RKLA TREE ID LETTER (NOT TAGGED)
V1	RKLA VEGETATION UNIT # (NOT TAGGED)
🟩	TREE AREA VALUE RATING 'A'
▨	TREE AREA VALUE RATING 'B'
🟨	TREE AREA VALUE RATING 'C'
🟥	TREE AREA VALUE RATING 'D'
🟧	EASEMENT - OHT LANDS
🟦	EASEMENT - OHT ACCESS
#	IMAGE CAPTURE LOCATION

RON KOUDYS LANDSCAPE ARCHITECTS INC

THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION OR TENDER PURPOSES UNLESS SIGNED AND DATED BY RONALD H. KOUDYS, OALA, CSLA, LANDSCAPE ARCHITECT, LONDON, ONTARIO (519) 667-3322.

Ronald H. Koudys, O.A.L.A. C.S.L.A.
DATE

DATE	DESCRIPTION	No.
2020.09.25	ISSUED FOR INFORMATION	3.
2019.11.05	ISSUED FOR COORDINATION	2.
2019.10.03	ISSUED FOR PRELIMINARY TREE REPORT	1.

PLOTTING INFORMATION:
PLOTTED DATE = SEPTEMBER 25, 2020
PLOTTED SCALE = 1:1

INFORMATION ONLY

RONALD H. KOUDYS
MEMBER

PROJECT TITLE:
LPH LANDS
PROPOSED DEVELOPMENT
OLD OAK PROPERTIES

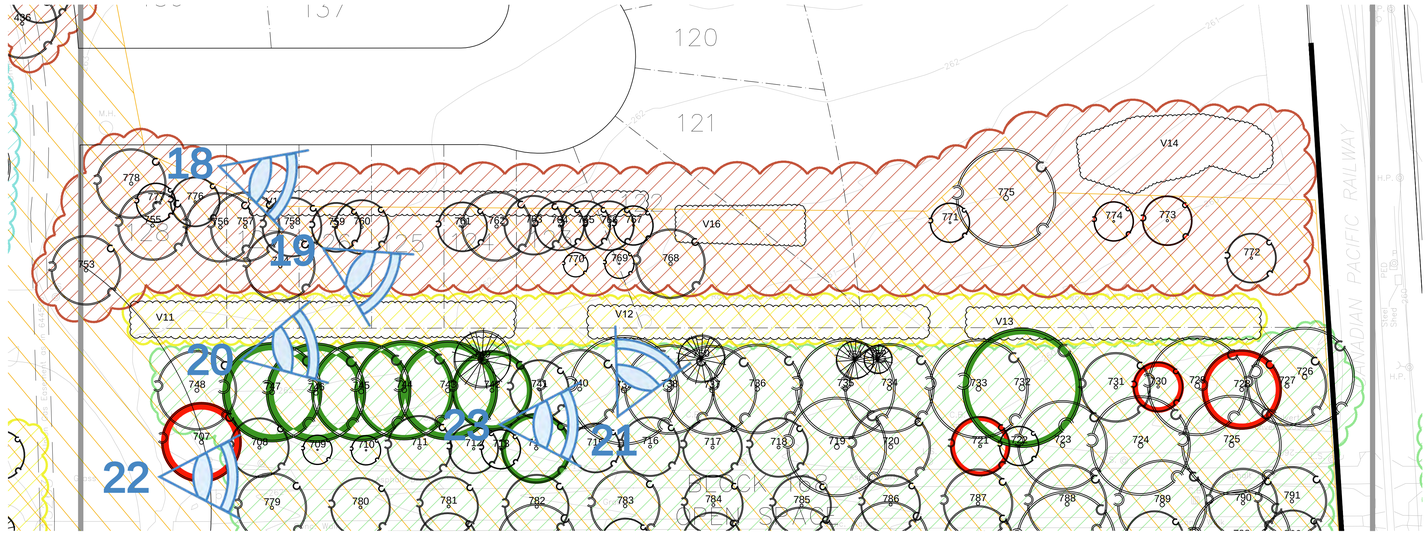
DRAWING TITLE:
TREE PRESERVATION
& HERITAGE REVIEW

DATE: JUNE 2019
SCALE: AS NOTED
DRAWN: RKLA Inc.
CHECKED BY: RHK
PROJECT No. 19-105Lg
DRAWING No. T-9

IMG 18. VIEW SOUTH ALONG VEG UNIT #15

IMG 19. VIEW SOUTH ALONG VEG UNIT #11

IMG 20. VIEW SOUTH EAST ALONG VEG UNIT #11



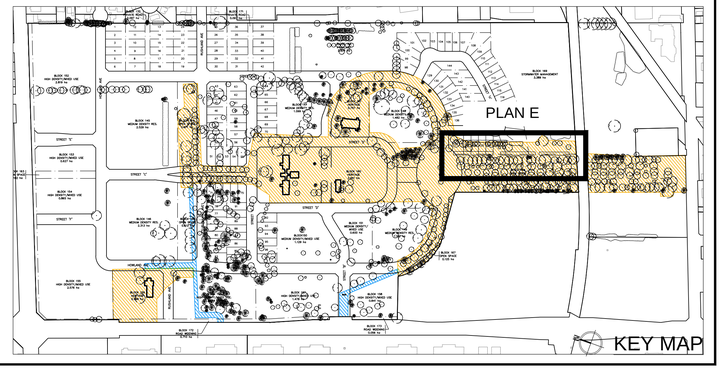
TREE PRESERVATION & HERITAGE REVIEW - PLAN E (ALLEE EAST OF CONCRETE PATH, WEST OF RAIL WAY)

SCALE = 1:500

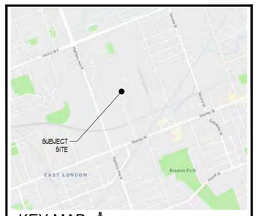
IMG 22. VIEW SOUTH DOWN THE EASTERN ASPHALT LANE THROUGH THE ALLEE

IMG 23. VIEW SOUTH THROUGH THE TREES IN THE EASTERN SIDE OF THE ALLEE

IMG 21. VIEW EAST TO VEG UNIT #12



KEY MAP



KEY MAP

LEGEND

EXISTING DECIDUOUS TREES

EXISTING CONIFEROUS TREES

EXISTING VEGETATION UNITS AND HEDGES

SPECIMEN TREES FOR PRESERVATION EFFORTS

HAZARDOUS TREES TO BE REMOVED

1 RKLA TREE TAG *

A RKLA TREE ID LETTER (NOT TAGGED)

V1 RKLA VEGETATION UNIT * (NOT TAGGED)

TREE AREA VALUE RATING 'A'

TREE AREA VALUE RATING 'B'

TREE AREA VALUE RATING 'C'

TREE AREA VALUE RATING 'D'

EASEMENT - CHT LANDS

EASEMENT - CHT ACCESS

IMAGE CAPTURE LOCATION

Ronald H. Koudys, O.A.L.A. C.S.L.A. DATE

DATE	DESCRIPTION	No.
2020.09.25	ISSUED FOR INFORMATION	3.
2019.11.05	ISSUED FOR COORDINATION	2.
2019.10.03	ISSUED FOR PRELIMINARY TREE REPORT	1.

PLOTTING INFORMATION:

PLOTTED DATE = SEPTEMBER 25, 2020

PLOTTED SCALE = 1:1

INFORMATION ONLY

PROJECT TITLE:

LPH LANDS
PROPOSED DEVELOPMENT
OLD OAK PROPERTIES

DRAWING TITLE:

TREE PRESERVATION & HERITAGE REVIEW

DATE:	SCALE:	DRAWING No.
JUNE 2019	AS NOTED	T-10
DRAWN: RKLA Inc.	CHECKED BY: RHK.	
PROJECT No. 19-105Lg		

Ground Penetrating Radar Survey
Infrastructure Ontario
London Psychiatric Hospital Lands (D00014)
St. Joseph's Health Care London
Part Lot 8, Concession 1, Geog. Twp. of London, Middlesex County
Now 850 Highbury Avenue North
City of London

Submitted to

Infrastructure Ontario
1 Dundas Street West, Suite 2000
Toronto, ON M5G 2L5

and

The Ontario Ministry of Tourism, Culture and Sport

Prepared by

Timmins Martelle
Heritage Consultants Inc.

@ the Museum of Ontario Archaeology
1600 Attawandaron Road, London, ON N6G 3M6
Phone: (519) 641-7222 Fax: (519) 641-7220

Archaeological License: John Sweeney, M.A., P349
Our File: 2013-052
PIF Number: P349-101-2013

August 2013
(Original report submitted to Ministry of Tourism, Culture and Sport 18 August, 2013)

Executive Summary

A Stage 1 archaeological assessment was previously conducted for the London Psychiatric Hospital Lands in the City of London (DRP 2004) which now house the St. Joseph's Mental Health Care facility at 850 Highbury Avenue. This study established that portions of the facility grounds had potential for the discovery of archaeological resources. This was followed by a Stage 2 test pit assessment of a roughly 58 ha portion of the original 65.2 ha (161 acre) complex by Timmins Martelle Heritage Consultants Inc. (TMHC) in 2011 (TMHC 2013a). Archaeological material was discovered in eight locations, none of which met provincial standards for further investigation. Nonetheless, the property once housed the original London Asylum for the Insane, established in 1870 and therefore the grounds contain the footprints of extant or demolished late-19th and early-20th century institutional structures. As such, exploratory trenching for deeply buried archaeological deposits related to these buildings was undertaken in 2011 and 2012 (TMHC 2013b). No further assessment was recommended following the exploratory trenching. During the course of the 2011 and 2012 studies it was also established that there may have been an asylum cemetery in the north portion of the property in the vicinity of a former chicken coop, west of the extant Granary Building. Although no written documentation of this could be found, as a precaution it was recommended that a ground penetrating radar (GPR) survey be undertaken in this area. This report presents the results of a GPR survey, undertaken for a roughly 0.62 ha area in July of 2013. Our assessment was carried out as part of Infrastructure Ontario's due diligence process and to facilitate long-term planning for the property. It was done in accordance with the 2011 *Standards and Guidelines for Consultant Archaeologists*.

The GPR survey was undertaken across a roughly 30 metre (north-south) by 205 metre (east-west) area, segmented into 10 different survey grids of varying dimensions. These were systematically arranged in two longer linear swaths separated by a small row of trees that created obstacles for the survey equipment. A 400 MHz system was used for the survey with survey transects running north every 25 cm. The raw data from the survey was downloaded and processed through various time windows (indicating different depths) in RADAN 6.6.

A number of subsurface features were identified during survey, none of which represent confirmed or potential burials. The features include the footprint of a long, narrow chicken coop or "chicken house" that once resided in the survey area but was demolished sometime after 1965, a well and pumphouse, laneways, a fence line and underground services. The potential footprint of the implement shed was also identified in the western portion of the survey area.

All work met provincial standards and the GPR survey was carried out using conventions suitable for archaeological applications. No potential grave shafts were identified at any depth within the survey area, although signatures for the former chicken coop, tool shed and buried utilities that were present were identified. However, it should

be made clear that remote sensing surveys such as this are not always 100% accurate for detecting subsurface features and the collected data is subject to some level of interpretation. Nonetheless, as the survey was able to detect other forms of significant ground disturbance it seems likely that if graves were present these would also have been identified by the radar.

Given that no evidence of graves was present in any maps, photographs, or written records examined for this study and the ground penetrating radar survey did not discover any potential shafts, no support for the hearsay account of a potential burial ground in this location was gathered. As such, no further investigation is recommended for this area and it should be considered free of archaeological concern.

Table of Contents

List of Images

List of Maps

List of Tables

Project Personnel

TMHC would like to thank the following staff members who contributed to this project:

Project Coordinators:	Holly Martelle, Ph.D. (P064) John Sweeney, M.A. (P349)
Report Production:	Holly Martelle, Ph.D. (P064) John Sweeney, M.A. (P349)
GIS Technician:	Tomasz Porawski, M.A. (R320)
Field Directors:	Tomasz Porawski, M.A. (R320) Janet Gardner, M.A. (R363)
GPR Analyst :	John Sweeney, M.A. (P349)
Field Technicians:	Matthew Beaudoin, M.A. (P324) Noel (Alex) Grasso, B.A.A.

Acknowledgements

TMHC would like to acknowledge the assistance of the following individuals:

Frank Dieterman	*Archaeologist/Aboriginal Consultation* Infrastructure Ontario, Toronto, ON
Joe O'Neil	*O'Neil Funeral Home* London, ON
Jeff Davis	*Portfolio Performance Manager* Infrastructure Ontario – Asset Management, South Region Guelph, ON
Edward Eastaugh	*Sustainable Archaeology Facility* London, ON

Ground Penetrating Radar Survey
Infrastructure Ontario
London Psychiatric Hospital Lands (D00014)
St. Joseph's Health Care London
Part of Lot 8, Concession 2
Geographic Township of London
Middlesex County
Now 850 Highbury Avenue North
in the City of London

1.0 PROJECT CONTEXT

1.1 Development Context

1.1.1 Introduction

A Stage 1 archaeological assessment was previously conducted for the London Psychiatric Hospital Lands in the City of London (DRP 2004) which now house the St. Joseph's Mental Health Care facility at 850 Highbury Avenue. This study established that portions of the facility grounds had potential for the discovery of archaeological resources. This was followed by a Stage 2 test pit assessment of a roughly 58 ha portion of the original 65.2 ha (161 acre) complex by Timmins Martelle Heritage Consultants Inc. (TMHC) in 2011 (TMHC 2013a). Archaeological material was discovered in eight locations, none of which met provincial standards for further investigation. Nonetheless, the property once housed the original London Asylum for the Insane, established in 1870 and therefore the grounds contain the footprints of extant or demolished late-19th and early-20th century institutional structures. As such, exploratory trenching for deeply buried archaeological deposits related to these buildings was undertaken in 2011 and 2012 (TMHC 2013b). No further assessment was recommended following the exploratory trenching. During the course of the 2011 and 2012 studies it was also established that there may have been an asylum cemetery in the north portion of the property in the vicinity of a former chicken coop, west of the extant Granary Building. Although no written documentation of this could be found, as a precaution it is recommended that a ground penetrating radar (GPR) survey be undertaken in this area. This report presents the results of the GPR survey, undertaken in July of 2013. Our assessment was carried out as part of Infrastructure Ontario's due diligence process and to facilitate long-term planning for the property. It was done in accordance with the 2011 *Standards and Guidelines for Consultant Archaeologists*.

All archaeological consulting activities were performed under the Professional Archaeological License of John Sweeney, M.A. (P349) and in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). Permission to enter the property and commence the study was given by Frank Dieterman of Infrastructure Ontario.

1.1.2 Purpose and Legislative Context

The *Ontario Heritage Act* makes provisions for the protection and conservation of heritage resources in the Province of Ontario. Our archaeological assessment work is part of an environmental review which is intended to identify areas of environmental interest as specified in the *Provincial Policy Statement*. Heritage concerns are recognized as a matter of provincial interest in Section 2.6.2 of the *Provincial Policy Statement* which states:

> development and site alteration shall only be permitted on lands containing archaeological resources or areas of *archaeological potential* if the *significant archaeological resources* have been conserved by removal and documentation, or by preservation on site. Where *significant archaeological resources* must be preserved on site, only *development* and *site alteration* which maintain the heritage integrity of the site may be permitted. (emphasis in the original)

Within the context of Infrastructure Ontario's internal regulatory process for realty activities, if a property is deemed to have potential for archaeological sites, a Stage 2 archaeological assessment is required as part of a larger "environmental" review process. The Stage 2 field assessment involves the search for archaeological sites. If significant sites are found, a strategy (usually avoidance, preservation or excavation) must be put forth for their mitigation.

1.2 Archaeological Context

1.2.1 Project Lands: Overview and Physical Setting

The general subject property is a roughly 58 ha portion of the original London Asylum or London Psychiatric Hospital grounds occupying part of Lot 8, Concession 1 in the Geographic Township of London, Middlesex County, now at 850 Highbury Avenue in the City of London (Maps 1 to 3). The property is irregular but largely rectangular in shape and is bounded to the north by Oxford Street, to the south by the CPR Railway, to the west by Highbury Avenue and is fenced along its eastern extent. There are commercial and industrial properties surrounding it, as well as institutional grounds to the north, south and east. The property includes many original 19th century institutional structures, as well as numerous 20th century ones, combined with service roads, landscaped lawns and garden areas as well as recreational facilities. Excluded from the parcel but forming part of the original facility grounds, is a government building complex at 900 Highbury Avenue and a large commercial/industrial plaza in the southwest, north of the railway spur line that crosses Lot 8 in an east-west direction. The latter was once occupied by the Department of National Defense. Facility lands to the south of the

railway were previously severed and former institutional lands beyond Lot 8 were formerly sold.

The central portion of the property contains a large cluster of institutional buildings, winding paved and graveled service roads and parking areas. Open fields are present in the southeast corner whereas soccer fields are situated in the north and northeast. The institutional buildings are surrounded by landscaped treed and grassed areas that provide a park-like setting. Numerous entrances provide access into the property, although not all are currently in use. The grandest of these extends north from Dundas Street and is the historic Tree-lined Avenue that was designed in 1900. It led up to a major fountain feature and ring road in front of the former Main Building within the institution, the latter of which is no longer standing. The Avenue is one of two original entrances to the facility, the second being off Highbury Avenue where there is now a divided two lane traffic-controlled entrance. A separate entrance and laneway extends into the north portion of the facility at the 900 Highbury Avenue building complex. A former entrance also extended south from Oxford Street to the soccer fields; however, this has now been closed off to incoming and outgoing traffic. Within a well-developed portion of the City of London, the London Psychiatric Hospital grounds resemble a small urban campus or park.

The specific focus of this study is a roughly 0.62 ha rectangular grassed parcel identified as a potential asylum graveyard (Map 4). The parcel extends west from just south of the extant "Granary" building in the northeast portion of the property to the former farm complex near the government buildings at 900 Highbury Avenue (Images 1 and 2). It is situated north of the most northerly of the east-west arterial roads through the property. A row of mature deciduous trees lines the roadway and south boundary of the survey area (Image 3), while an intermittent row of conifers lines the north boundary and separates it from soccer fields to the north. There are a few smaller, scattered trees located centrally within the survey area and paralleling the latter named tree rows. At one time this area was former agricultural land. In more recent times it has been maintained lawn. Currently, the grass in the survey area is generally allowed to grow longer and is not regularly cut.

The subject property falls within the London Annex of the Caradoc Sand Plain physiographic region, a small pocket of deltaic sands between the Mount Elgin Ridges and the Stratford Till Plain (Chapman and Putnam 1984:113). The Caradoc Sand Plain consists of small, light-textured sandy plains derived from waterlain deposits formed as glacial deltas (Chapman and Putnam 1984:146). This physiographic region is separated from the Mount Elgin Ridges by an ancient glacial spillway closely paralleling the current alignment of the Thames River (Map 5). The Ingersoll Moraine borders the spillway to the south. The soils within the property are sandy loam to loam, although formal soils data maps them as urban lands. The urban nature of the property makes it difficult to establish the natural drainage of the area. However, the Thames River and its tributaries drain the general vicinity of the property. Pottersburg Creek is 200 metres to

the southeast of the property and is the closest source of potable water (Map 6). Historic mapping of the facility shows that a branch of the creek ran through the southeastern portion of the parcel.

1.2.2 Summary of Registered or Known Archaeological Sites

According to the Ministry of Tourism, Culture and Sport's database (information received June 27, 2013) there are two registered archaeological sites within one kilometre of the subject property. One of these is AfHh-363 on the former facility grounds and associated with a former 19th and 20th century gatehouse (see discussion in Section 1.2.3 below) and the other is the Kiwanis Park site (AfHh-251). This is a Woodland period site overlooking Pottersburg Creek in Kiwanis Park that was subject to Stage 4 excavation in 1999 by Archaeologix Inc.

As noted in the 2004 Stage 1 D.R. Poulton & Associates report, there have been previous reports of archaeological discoveries on the London Psychiatric Hospital grounds and adjacent lands. The Royal Ontario Museum currently houses two "celts" described as being found on the London "Asylum Property." These were donated in 1903. Pearce (1995) also notes that a former employee of the institution, Dr. McCallum, donated artifacts to Wilfrid Jury of the Museum of Indian Archaeology in the 1930s; it is thought that these artifacts could have derived from the London facility grounds but this cannot be confirmed and their precise provenience (Lot 8, 9 etc.) is not known. John Bycraft, an avocational archaeologist, also donated a collection to the Museum that included an artifact (a projectile point) described as originating from the London facility. Poulton notes that the artifact finds have only very general provenience information provided and they could have been found anywhere within the original 300 acre asylum parcel.

1.2.3 Summary of Past Archaeological Investigations Within 50 Metres

During the course of this study it was established that several previous archaeological assessment projects have been undertaken for the London Psychiatric Hospital Lands or areas within 50 metres of it. However, as the Province currently does not maintain and accessible database of archaeological assessment areas *per se*, it is not known if this is a complete listing of all archaeological activity undertaken within 50 metres of the subject property. The previous studies are summarized briefly below, alongside their implications for the current project. A summary of the City of London's *Archaeological Master Plan* designation for the property is also provided.

Stage 1 and 2 Assessment of Proposed Demolition Footprints – Archaeological Services Inc. (ASI) 2003 (ASI 2003)

In 2003, Archaeological Services Inc. (ASI) undertook a Stage 1 background study and Stage 2 field assessment for four building demolition footprints, namely those of the 1902 constructed Examination Building, the 1894 Storage Barn (Horse Stable), the

1912 Potting Shed, and the 1956 Granary. The focus of the work was a 10 metre buffer surrounding each building. The background review included a study of previous archaeological research, physiography and historic mapping. This established that the property had potential for the discovery of precontact archaeological resources due to the proximity (within 200 metres) of Pottersburg Creek, as well as potential for the discovery of EuroCanadian archaeological sites due to proximity to early transportation routes and historic structures. The 10 metre buffer surrounding each of the above named buildings was test pitted at a five metre interval. This work demonstrated the presence of disturbed soils in some areas and seemingly pristine soils in others. No artifacts were recovered. Specific observations were made in the examined areas associated with each of the four buildings:

- 1902 Examination Building – all surfaces were reported as paved with asphalt or concrete or otherwise extensively altered; the lands were deemed to exhibit no archaeological potential due to prior disturbances resulting from building, grading, underground servicing and landscaping; no survey was undertaken for this building;

- 1894 Storage Barn – two thirds of the buffer zone around this building was established as disturbed from grading, paving, landscaping, servicing and so on; test pitting was only undertaken for the remaining one third that was deemed to contain relatively pristine soil horizons;

- 1912 Potting Shed – one third of the buffer zone around this building was established as disturbed from grading, paving, landscaping, servicing and so on; test pitting was undertaken for the remaining two thirds of the buffer zone that was deemed to contain relatively pristine soil horizons;

- 1956 Granary – the buffer zone around this building was established as disturbed from grading, paving, landscaping, servicing and so on; no survey was undertaken for this building.

The report recommended that no further work be undertaken in the 10 metre buffer zones. It should be noted that none of the above-noted structures have yet been demolished.

This assessment work was summarized in a report entitled, *Stage 1 & 2 Archaeological Assessment, London Psychiatric Hospital, 850 Highbury Avenue, City of London (Former London Township), Middlesex County, Ontario. Part 1: Buildings to be Demolished* (Archaeological Services Inc. December 2003; P061-022; licensee Frank Dieterman, P061).

Stage 1 and 2 Assessment of Proposed Severance - Archaeological Services Inc. (ASI) 2003 (ASI 2005)

In 2003, Archaeological Services Inc. (ASI) also undertook a Stage 1 archaeological assessment for a proposed severance parcel (7.4 ha or 18.26 acres) in the southern portion of the facility. The background review included a study of previous archaeological research, physiography and historic mapping. This established that the property had potential for the discovery of precontact archaeological resources due to the proximity (within 200 metres) of Pottersburg Creek, as well as potential for the discovery of EuroCanadian archaeological sites due to proximity to early transportation routes and historic structures. The Stage 2 assessment was not undertaken until 2004, at which time a test pit survey was initiated (5 to 10 metre intervals). Roughly 60% of the lands investigated had relatively undisturbed soil profiles, while the remaining areas had disturbed soils.

One archaeological site was discovered during the course of this work, designated H1 (AfHh-363). It consisted of 28 positive test pits within a 30 x 25 metres located adjacent to Dundas Street. One hundred and fifty three artifacts were collected from the area which also generated evidence of an extensive coal and slag deposit below the surface. The artifacts reflected a late 19th and early 20th century occupation. It was surmised that the deposit related to waste disposal activities at the hospital (i.e., the archaeological deposit represented a midden) and therefore Stage 3 testing was recommended. The balance of the property was considered free of archaeological concern.

This assessment work was summarized in a report entitled, *Stage 1 & 2 Archaeological Assessment, London Psychiatric Hospital, 850 Highbury Avenue North, City of London (Former London Township), Middlesex County, Ontario. Part 2: Lands to be Severed* (Archaeological Services Inc. January 2005; P061-022 and P117-029; licensees Frank Dieterman, P061 and Robert MacDonald, P117).

Stage 3 Assessment, H1 AfHh-363 – Timmins Martelle Heritage Consultants Inc. 2007 (TMHC 2007)

In 2007, a Stage 3 archaeological assessment was undertaken for H1 AfHh-363 identified by Archaeological Services Inc. during Stage 2 survey of the proposed 7.4 ha severance parcel. This involved the hand excavation of 29 one-metre units within a 40 metre by 45 metre area. The material collected include a large portion of modern remains, as well as some late 19th and early 20th century items. The unit excavations revealed heavily disturbed soil horizons, in many cases bearing deposits of concrete, gravel, slag and asphalt. Concrete foundations were also identified. A review of fire insurance maps and plans indicated that the site was associated with a gate house at the Dundas Street entrance. It was estimated that the structure was demolished sometime between 1962 and 1975.

This assessment work was summarized in a report entitled, *Stage 3 Archaeological Assessment, Ontario Realty Corporation, London Psychiatric Hospital, City of London, Middlesex County* (Timmins Martelle Heritage Consultants Inc. November 2007; P064-168-2007; licensee Holly Martelle, P064).

Stage 1 Assessment of the London Psychiatric Hospital Lands – D.R. Poulton & Associates Inc. 2004 (DRP 2004)

In 2004, a Stage 1 archaeological assessment was undertaken for the Regional Mental Health Centre in London (65.2 ha or 161 acres) as part of a larger Cultural Heritage Assessment for the property. The work was undertaken by D.R. Poulton & Associates Inc. on behalf of the Ontario Realty Corporation and formed part of a larger study of 15 mental health care facilities across Ontario. The D.R. Poulton & Associates background study (DPA 2004) included a review of environmental and existing conditions, historic land use, regional and local settlement, as well as known and potential archaeological concerns. A preliminary field reconnaissance was also undertaken. The focus of the study was the entire psychiatric facility grounds, extended east from Highbury Avenue and bounded to the north by Oxford Street East and to the south by Dundas Street East.

The background study indicated that, while no archaeological sites had been previously registered on the property, oral histories and archival documents hinted that archaeological discoveries had been made on the property and adjacent lands, as recorded prior to 1930.

The Stage 1 report acknowledged and recommended the following:

1) that extensive areas within the grounds have at least moderate potential for as-yet undiscovered archaeological remains;
2) that a detailed archaeological assessment be carried out on any portions of the property that should be subject to future impact or severance; and
3) that additional archival research be undertaken.

The Stage 1 report did not include a map of archaeological potential, as it was intended to be a general planning study and followed on the 2003 work by Archaeological Services Inc. The Stage 1 background study was summarized in a report entitled *The Stage 1 Archaeological Component of the Cultural Heritage Assessment of the Regional Mental Health Centre, London, 850 Highbury Avenue, London, Ontario* (D.R. Poulton & Associates September 2004; P116-008; licensee Dana Poulton, P116).

Summary of Evaluations of Archaeological Potential: Archaeological Master Plan – City of London (Wilson & Horne 1995) and Stage 1 Archaeological Assessment by D.R. Poulton & Associates (2004)

The City of London's Archaeological Master Plan does not indicate that the subject property has archaeological potential. Only some areas within the original Lot 8 parcel along Dundas Street (an historic transportation route) are noted as having potential for the discovery of archaeological resources but these are outside of the current subject property. Nonetheless, it should be noted that the premises upon which the 1995 Master Plan were created are outdated and are not keeping with current provincial standards. Further, the Master Plan eliminates all "developed" and "urban" properties from having archaeological potential, despite the fact that this is not considered to be the case today. Obviously, the Master Plan was done at a high level that could not take property-specific details into account.

D.R. Poulton's 2004 study considers archaeological potential in more detail, taking into consideration existing conditions and history of land use. The study notes that prior building construction within the psychiatric facility undoubtedly had a significant impact on archaeological potential on the central portion of the property where numerous structures were built or are still standing. It also noted that other areas had not been significantly developed in the past and had likely suffered little to no significant impact from the time of original land clearing in the mid-19th century, through the Asylum period and through their modern use for recreational purposes. Acknowledging the varying degrees of prior development on the property, the study acknowledged that a field-based archaeological assessment would be needed to more confidently determine the extent of past impacts and extent to which various portions of the property retain archaeological potential. With respect to the former buildings on the property, the report notes that significant information already exists for these, including blueprints, photographs, annual reports and other documents. Therefore, D.R. Poulton & Associates concluded that below-ground remains of the former buildings that occupied the property were not considered to represent significant cultural remains. However, the report also acknowledges that standards and knowledge may change and alter this opinion (2004:13).

Stage 2 Assessment of the London Psychiatric Hospital Lands – Timmins Martelle Heritage Consultants Inc. 2011 (TMHC 2013a)

The Stage 2 archaeological assessment was undertaken for a 58 ha portion of the original London Asylum grounds, now occupied by St. Joseph's Health Care Centre. This involved a field review and documentation of existing conditions as well as a test pit survey of all grassed and treed areas. The Stage 2 field assessment involved a field review, photo-documentation of existing buildings, built features and disturbances as well as a test pit survey of all grassed areas. A five metre transect interval was initially used for test pit survey but this was widened to 10 metres where extensively disturbed soil horizons were noted. In total, 21.55% (12.5 ha) of the subject property was not surveyed

due to prior disturbance and therefore low archaeological potential. This survey category included footprints for standing buildings, roadways, sidewalks and other areas where there was significant surface disturbance. Another 64.35% of the property, representing 37.6 ha, was test pitted at a five metre interval (grassed, treed lands). The final 13.62% (7.9 ha) was test pitted at a ten metre interval due to documented disturbed soils. Concentrations of artifacts and material were recorded in eight areas (Locations 1 through 8; 6 finds of isolated native artifacts, two scatters of 19th and 20th century material), none of which met provincial standards for further investigation.

Nonetheless, due to the former presence of significant 19th century institutional structures on the property, further investigation through mechanical trenching was recommended for areas that have not witnessed re-development or servicing since building demolition. Based on overlays of an 1869 plan and 1887 plan of the facility, it was recommended that further investigation be undertaken for the following buildings of historical interest:

1) The Refractory or North Building (est. 1878, demolished 1970s);
2) The Main Building (est. 1869, demolished 1975) and its airing yard;
3) The Infirmary or Exam Building (est. 1902-4; still standing) – airing yard only;
4) The Gardener's Complex (est. 1869; some buildings still standing); and
5) The Root House or Vegetable Storage House Northwest of the Infirmary (pre-circa 1880s).

While the Stage 1 assessment report (DRP 2004) for the property indicated that these buildings *per se* may not represent significant archaeological resources due to the fact that they have been well documented in various architectural and site plans, there was still a concern that associated outbuildings or midden deposits of interest could exist. It was acknowledged that institutional waste clean-up practices may have limited the amount of refuse deposited in building peripheries. Further, the fact that even the earliest of the institutional buildings had indoor plumbing may render the discovery of privies less likely.

During the course of this study it was also established that there may have been an asylum cemetery in the north portion of the property in the vicinity of a former chicken coop, west of the extant Granary Building. Although no written documentation of this could be found, it was recommended that a ground penetrating survey be undertaken in this area, as well as additional research. The Stage 2 test pit survey of this area did not generate evidence of archaeological resources (Map 7).

The areas away from the potential graveyard and building locations recommended for further investigation were considered free of archaeological concern and no further assessment was recommended for these lands.

The results of this assessment work were summarized in a report entitled *Stage 2 Archaeological Assessment, Infrastructure Ontario, London Psychiatric Hospital Lands (D00014), St. Joseph's Health Care London, Part of Lot 8, Concession 1, Geog. Twp. of London, Middlesex County, Now 850 Highbury Avenue North, City of London* (May 2013; PIF: P349-078-2011; John Sweeney, M.A., licensee P349).

Stage 2 Assessment of the London Psychiatric Hospital Lands – Timmins Martelle Heritage Consultants Inc. 2011-2012 (TMHC 2013b) - Historic Building Trenching

In 2011 and 2012, Timmins Martelle Heritage Consultants Inc. also undertook exploratory mechanical trenching across five historic building footprints and associated yards within the London Psychiatric Hospital facility that had not been substantially redeveloped. Cumulatively, 1694.35 metres of roughly one-metre wide trenching was excavated within five investigation areas: 1) the 1878 Root House; 2) the Gardener's Complex; 3) the airing yard of the Infirmary Building (ca. 1902); 4) the Refractory Building (ca. 1878) and Idiot Asylum; and 5) the Main Building (ca. 1869). No intact artifact deposits were identified in any of the investigation areas. With the exception of the Infirmary airing yards, all investigation areas contained intact basal foundations of their associated structures. Many of these were heavily modernized or retrofitted and most matched construction specifications and existing drawings. Because the structural remains will not produce a large amount of new information, these were deemed to be of limited cultural heritage value and further assessment was not recommended.

Following trenching, the only outstanding archaeological concern on the grounds was considered to be the potential presence of an asylum graveyard in the north-central portion of the property, as identified in an oral hearsay account.

1.2.4 Dates of Archaeological Fieldwork

The ground penetrating radar survey was undertaken on July 18, 22, 24 and 25, 2013.

1.3 Historical Context

1.3.1 Brief History of the Grounds

The previous reports for this project (DRP 2004; TMHC 2013a, b) provided a substantial amount of historical background on the creation and evolution of the facility over time. Only a brief summary is provided again here and if more detail is desired the reader is referred to the original reports. Herein we provided an overview of the history of the London Psychiatric Hospital grounds, from their first use for the London Insane Asylum to their current use as the St. Joseph Mental Health Care facility. Various sources were consulted during the compilation of this summary, including a built heritage assessment by a conglomerate of firms headed by Julian Smith & Associates (2004), a conservation plan for several buildings (JSA et al. 2008), local archives at the London

Public Library and Western University, local history accounts and Provincial holdings. A Master's thesis prepared by Cheryl Krasnick (1981) was consulted, in addition to an early 20th century publication on institutional care for the insane (Hurd et al. 1917). Inspector's reports for the Asylum were also briefly reviewed. Detailed late-19th century and 20th century site plans were also provided by Infrastructure Ontario and the facility. The London Psychiatric facility maintained their own archives for some time, although these documents have now been handed over to Western University. The documents are not yet sorted or inventoried in any systematic way to permit review. Nonetheless some basic sources were made available for this and the earlier study.

Development of the Asylum

The original Asylum lands, comprising part of Lot 8, Concession 1 of London Township, were initially Clergy Reserve, although they came under private ownership in 1839 when the Crown granted a 200 acre parcel to William Hale. The vision for a new psychiatric facility in the London area came after Confederation and the passing of the 1868 *The Prison and Asylum Inspection Act*. The *Act* gave the Office of the Inspector of Prisons and Public Charities authority over institutional regulation. In 1869, the first provincial inspector, J.W. Langmuir, made his first report and recognized the need for increased accommodation for the insane, especially in the Western part of Ontario (Hurd et al. 1917). A fund was subsequently established for the creation of a new facility therein and a site was chosen in London, as it was "most central to the population it was intended to benefit" (Hurd et al. 1917). A 300 acre site was selected two miles outside the existing City limits at the time. The 300 acres included all 200 acres of Lot 8, Concession 1 that were purchased by the Crown from William Hale in 1869, as well as another 100 acres to the west on Lot 9, Concession 1. Both parcels fronted what is now Highbury Avenue and extended north-south between the Governor's Road (Dundas Street) in the south and Oxford Street in the north. A rural site was chosen for the Asylum as it was thought that a country setting was best for the treating and healing of the insane, while it was also essential for permitting the facility to be self-sustaining through the raising of livestock and crops to supply its kitchens.

In 1869 a plan for the facility was developed (Map 8) by Kivas Tully, Chief Architect for Ontario. As originally conceived, the "Lunatic Asylum of London" (as it was to be called) would have a grand entrance off Dundas Street and another, lesser entrance, off Highbury Avenue. To the north of the main building and laneway a farm yard and series of farm buildings were planned, including barns, a cow house, woodshed, coal shed and ice house. Following Kirkbride's model, the asylum would have all administrative and medical functions occurring in one central building. Given this, the "Main Building" at the London Asylum housed kitchens, reception areas, offices, staff rooms, male and female patient wards, storage areas (JSA et al. 2004:4). The grounds were beautified to provide desirable scenery and the facility was supported by its own farm and greenhouses. The facility was to be surrounded by a picket fence. The facility was officially opened in November of 1870 and soon became the major southwestern

Ontario asylum (JSA et al. 2008:7).

Changes Through Time

Over time, new facilities were added to the asylum, to meet the growing need for housing additional patients, for managing specific types of ailments, and for servicing the institution. In 1872, a separate department was created for "idiots" and was set apart from the Main Building. In 1874 an additional cottage was built to house 60 of the most manageable asylum patients (30 men, 30 women). The cottage was intended to be as "homelike" as possible and had the external appearance and internal organization of a Victorian household. Between 1877 and 1878 two additional cottages were erected in the same general area, designed in the same general way and for the same basic purpose; at least one of these would eventually become a nurses' residence. In 1878, only six years after its founding, the 60 patient "Idiot Asylum" was enlarged and converted into a "refractory" for "violent and dirty" patients (Krasnick 1982:20). The 1878 "Refractory" Building (also known as the North Building) included its own laundry facilities and a coal shed, which were attached to the main structure. In 1884 the facility saw the construction a new chapel, a multi-denominational building that would open in 1885 and be dubbed the "Chapel of Hope".

A major fire hit the Main Building in 1887, destroying the laundry and kitchen. This precipitated the rebuilding of the affected service wing, with a new kitchen on the second floor, new laundry on the third and new amusement hall on the fourth storey. In 1893 a potting shed was built adjacent to existing greenhouses by the gardener's residence to the northeast of the Main Building. A year later a horse stable was added to the farm buildings. 1904 saw the building of a new carpenter's shop and by 1905 the asylum had established shops for engineers, carpenters, butchers, painters, plasterers and cobblers (Krasnick 1982:19). Also constructed between 1902 and 1904 was a new Infirmary Building (also known as the Exam Building), designed by Provincial Architect Francis Heakes. The building and its purpose were expanded in 1908 when it also became a reception hospital, nurses' residence and training school (JSA et al. 2004:8). To facilitate the construction of the new infirmary, the Superintendent of the time (Bucke) had many of the original farm buildings removed and a new farm centre was developed further north and closer to Highbury Avenue. A new brick barn was constructed in the farm complex in 1907. This was followed by a skating and curling rink in 1910 and remodeled cold storage building in 1911. Another fire hit the Main Building's laundry and kitchen in 1912, this time destroying the kitchen, bakery, and amusement hall. A new kitchen, bakery and cannery will built in the same year, although the recreation centre was not immediately replaced. Another fire hit in 1913 destroying the ca. 1907 brick barn, with yet another in 1920 destroying two pig barns. Between 1917 and 1920 a new recreational hall was built, with a swimming pool in the basement and courts on the main floor.

During the 1930s the majority of civil works that took place at the asylum consisted of improvements to heating and electrical servicing, as well as modifying or enhancing existing structures and features to make them more fire resistant. Another major fire hit the facility in 1941, when its cattle barn was destroyed. A number of small, supportive outbuildings were erected in the 1950s, including an implement storage shed (1953), tractor shed (1954), pump house (1955), root house and granary (1956; brick and concrete construction). A new power house and laundry were erected in 1962, at the time when major new upgrades were planned. Numerous recreational facilities were also present on the property at various times, including baseball, cricket and soccer fields, tennis and badminton courts, miniature golf course, and pond/pool.

Between 1962 and 1975 the asylum grounds witnessed a major transformation. Many of the original buildings were demolished (including the cottages, Refractory or North Building) and new administrative and patient care buildings were erected, based on a radial plan. Provisions were made for the creation of new paved entrances and roadways, new sewer lines and electrical services. In 1965 these changes were associated with the building of a new water reservoir and pump house. In 1990 the Infirmary or Exam Building was closed and in 2001 the facility was assumed by St. Joseph's Health Care and renamed the "Regional Mental Health" centre (JSA et al. 2004:6).

Throughout time, the name of the psychiatric facility has changed according to fashion and the sensibilities of the time. The various names for the facility include: 1) London Insane Asylum (1875-1907); 2) the London Hospital for the Insane (1907-1919); 3) the Ontario Hospital (1919-1966); and 4) the London Psychiatric Hospital (1966-2001). The latter is still used informally to describe the property.

The Asylum Farm

The Lot 8 lands surrounding the Main Building and other structures were long used for agricultural purposes and formed part of the Asylum Farm. Nineteenth and early 20th century maps show actively cropped fields in the north, along Oxford Street, and in the south near Dundas Street. At one time the farming operation was significant, with crops of oats, rye, hay, potatoes, peas, corn, turnips and other vegetables produced. The greenhouses and orchards also produced fruit and flowers. While the farming operations were overseen by a professional, the general labour was provided by patients.

With a change in attitude toward asylum operations provincially, the farming operations on the grounds eventually ceased. Many of the farm fields were sold or used for other purposes. Some were sodded over and converted to park-like areas or soccer fields. The northern portion of Lot 8 is currently used for soccer fields, which are maintained by the London Soccer Club.

Through time the farm buildings included storage sheds, livestock barns, a chicken coop, implement housing and other basic structures, as well as a concrete

encased manure tank. In addition to cultivated fields for seed and root crops, as well as pasture lands, the farm housed a dairy, piggery, poultry operation and vegetable garden.

Today only a handful of the original 19th century institution buildings still stand (Map 9). These include:

- Chapel of Hope (B12019) (1883-1884)
- Horse Stable (1894) (B12035) (lone survivor of farmyard buildings)
- Infirmary or Exam Building (B12018) (1902-04)
- Potting Shed (B17057) – the header house for a set of greenhouses that are now demolished
- Recreation Hall (B12029) – built between 1917 and 1920

The 1900 designed Tree-lined Avenue (entrance from Dundas Street) also remains. Some later, 20th century (pre-1965) institutional buildings still stand (Map 10), exclusive of the main administration buildings and patient wards:

- Implement Storage Shed (B17059) (1953)
- Tractor Shed (B16182) (1954)
- Pump House (B12017) (1956)
- Root House and Granary (B12016) (built 1956)
- Power House (B12034) (built 1962)
- Laundry (B12033) (built 1962)

The Chapel, Infirmary (Exam Building), Recreation Hall, Horse Stable and Tree-Lined Avenue were all municipally designated under Part 4 of the *Ontario Heritage Act* in 2000. These features are also protected by a Cultural Heritage Protocol Agreement between the Ministry of Tourism, Culture and Sport and the Infrastructure Ontario. Two other buildings are also protected by the latter agreement, namely the Potting Shed and the Vegetable Sorting Shed (JSA et al. 2004:10). A protected cultural heritage landscape has also been established (Image 4) that incorporates the Tree-Lined Entrance and main late-19th and early-20th century buildings with their landscaped grounds. The current survey area falls within the cultural heritage landscape. An Ontario Heritage Trust plaque is present on the Chapel grounds and commemorates Superintendent Bucke.

1.3.2 Potential Burial Ground

During the course of this study and through a public consultation process, it was brought to the attention of Infrastructure Ontario that a burial ground may exist on the property. Local historian and funeral home director, Joe O'Neil, provided an account for consideration. O'Neil's grandmother was born in the London Asylum and therefore he has taken a special interest in the history of the property. According to O'Neil, he was told by the daughter of a former groundskeeper that there was an unmarked graveyard on the property, located in an open area south of the current soccer fields (Maps 4 and 9).

Staff from TMHC met with Mr. O'Neil on site to identify the potential burial ground location and discuss this information. No record of this graveyard could be found on any of the 19th or 20th century maps that were reviewed during this and other studies and no written records could be found in the sources consulted. However, institutional records on matters such as burial are poor and not always available, so the lack of documentation on the graveyard does not mean that such a feature did not exist on the property. It is this identified potential burial ground that is the focus of the current study and GPR survey.

A review of relevant maps was undertaken to reconstruct former land use in the vicinity of the potential burial ground. As shown on both the 1869 and 1887 maps (Map 8 and 10), this area was originally not part of the facility proper, although it may have been within the active farm fields. Therefore, it is not depicted on the facility maps of the time as no buildings presumably stood here. A 1922 aerial photograph (Image 5) shows that active agricultural lands were present here at that time and extended up to the main service road that led west to Highbury Avenue. The complex of farm buildings was well established along Highbury Avenue at that time, with a few small implement sheds and outbuildings present near the west end of the survey area. As indicated by an aerial photograph (Image 6), by 1942 the southern portion of the active agricultural fields was divided into several smaller fields, lined in places by trees. Within the potential burial area there was a long narrow chicken coop that ran east from the extant farm implement sheds and outbuildings and rested north of the service road. Some ground disturbance is also visible at the east end of the building, where lighter soils are visible in the photo.

A 1953 plan (Map 11) provides more detail of the "chicken house" and its environs. This map indicates that the three buildings to the west of the "chicken house" were a smaller chicken coop, a tool shed and an implement shed. Chicken hutches were present to the east of the house and northwest of the Root House (i.e., Granary, still extant). Between the Root House and chicken house was a well and pump house, north of the service road. A fence extended from the chicken house to the roadway and extended to the implement shed in the west and a laneway leading to the chicken house in the east. Drains are shown along the south side of the chicken house where lamp posts and underground hydro lines were also present. A main hydro line fed into the building at its east end. Water lines are shown running to the tool shed/small chicken coop and chicken house, with a storm sewer and drain extending to a connection point to the southeast, east of the well.

The chicken house appears in a 1964 oblique view aerial photograph (Image 7) and 1965 aerial photo (Image 8) and therefore was still standing during these years. The building was likely torn down not long after, as it does not appear on a 1978 aerial photograph (Image 9).

In sum, none of the aerial photographs or maps reviewed shows a cemetery or standing grave stones in the potential burial area, which is known to have contained a chicken coop or chicken house (erected sometime between 1922 and 1942; demolished

after 1965) and fenced chicken pen or yard.

2.0 FIELD METHODS

Geophysical survey is a cost-effective and nondestructive method of identifying potential buried features, including archaeological features and grave shafts. There are different techniques used for geophysical survey, including ground penetrating radar (GPR), magnetometry, electrical resistance, and electromagnetic survey. All of these vary in technique and usefulness in certain contexts and are affected by a variety of factors. However, none of these involve soil disturbance making them useful for burial ground investigations because they protect the integrity of any graves that may be present. Because of its nonintrusive nature, geophysical survey is often the first step in any cemetery investigation. A GPR survey was carried out for the area located in the north portion of the property in the vicinity of a former chicken coop, west of the extant Granary Building. The work was undertaken in warm weather and there were no weather or lighting conditions that were detrimental to the task at hand.

GPR functions by emitting a high frequency radio signal that is transmitted into the ground up to one thousand times per second. Reflected signals are returned to a receiver when objects or different types and densities of materials are encountered within the soil matrix. These signals are recorded by a computer which measures the amount of time required for a single pulse to travel to and from a particular object which indicates location and approximate depth (Global GPR Services Inc. 2010). Variations in the dielectric constant can then be mapped through increasing levels of amplitude equalization. This allows data to be represented visually at different depths over the survey areas.

The frequency of the antenna will also determine the size of the object that you can identify. Low frequency antennas (e.g. 10MHz) transmit energy with wavelengths of many meters and though they can penetrate up to 50m, only very large subsurface features can be identified (Conyers 2004) making them unsuitable for archaeological use. Archaeological prospection generally employs antennas with a centre frequency ranging from 900 MHz (ca.1 m penetration) to 250 MHz (ca.9m penetration), with antennas ranging between 250Mhz-500 MHz preferred for grave prospection. A 400 MHz system was used for this survey and is one of the most commonly used GPR systems used in archaeological contexts (including cemeteries). Survey results depend on several factors, including surface conditions, soil types, moisture content of those soils, and the composition of the targets themselves. Under ideal conditions, a 400 MHz antenna can provide between two to four metres of ground penetration (Conyers 2004).

The ability of GPR to identify buried objects also depends on the degree to which the physical and chemical properties of the target objects differ from the material they are buried in. All soils and archaeological features have particular electrical and magnetic properties that will affect the velocity of a radar wave (Conyers and Goodman 1997), known as their relative dielectric permittivity (RDP). As a radar wave travels from one

material to another with differing RDP, some of the radar wave is reflected back to the surface receiver. The greater the differences in the RDP of materials at their interface, the greater the recorded amplitude of the reflected wave and the more visible the object is to the GPR receiver. Therefore, the degree to which a GPR survey will be successful is site specific.

In GPR survey, the antennas are moved along the ground in parallel linear transects within a grid. Each transect records the buried subsurface layers and features as a single two dimensional profile. When a series of transects are recorded they can be stacked together and processed to produce a detailed three dimensional map of the subsurface features and stratigraphy.

To begin our survey and establish precise geographical reference points we used our Topcon GRS-1 survey system, with sub-centimetre accuracy and total station to establish survey areas, erect grids and record fixed points on the landscape (Images 10 to 12). This allowed the GPR survey results to be accurately overlaid on and tied to a general landscape map. For the purposes of this survey, ten distinct rectangular-shaped grids of various sizes were established in order to achieve maximum survey coverage over the suspected 0.62 ha burial area (Map 12). Five of the grids (designated *Grids 1,2, 5, 6* and *10*) were established north of a line of walnut trees running alongside a paved hospital roadway and south of a line of immature trees located roughly 15 metres away. The other five survey grids (*Grids 3,4,7,8* and *9*) were established north of the latter and south of a row of coniferous trees located just south of the soccer fields. The dimensions of each grid and date of survey are provided in Table 1.

Table 1: GPR Survey Grid Sizes and Dates of Survey

	Date	North-South	East-West	Start	Traverse Direction
Grid 1	18-Jul-13	10 m	30 m	SW	North
Grid 2	18-Jul-13	10 m	60 m	SW	North
Grid 3	22-Jul-13	17 m	30 m	SW	North
Grid 4	22-Jul-13	17 m	50 m	SW	North
Grid 4b	22-Jul-13	17m	10 m	SW	North
Grid 5	24-Jul-13	12 m	50 m	SW	North
Grid 6	24-Jul-13	12 m	50 m	SW	North
Grid 7	24-Jul-13	16 m	50 m	SW	North
Grid 8	25-Jul-13	16 m	50 m	SW	North
Grid 9	25-Jul-13	15 m	21 m	SW	North
Grid 10	25-Jul-13	16 m	21 m	SW	North

Coordinates for two datum points were recorded with a TopCon GRS Glonass Network Rover to map and secure landscape points and the survey grid (Table 2). These are presented in the table below based on NAD 83 and at the best accuracy achievable under the weather conditions (sunny and warm). Datum 1 was recorded as northwest corner of the extant Granary building located to the east of the survey area. The southwest corner of the building was used as Datum 2.

Table 2: GPS Coordinates for Datum Points

Point	Zone	UTM	Elevation	Accuracy
Datum 1 – NW corner Granary	17T	0483408.815 E 4761614.888 N	270.278 m asl	+/- 1 m
Datum 2 – SW Corner Granary	17T	0483411.865 E 4761605.268 N	270.319 m asl	+/- 1 m

A composite image of the GPR results from each survey area was prepared and overlaid on a high-resolution aerial (Map 13). The same information is compared to the 1953 service plan (Map 14); the plan contains errors and could not be accurately georeferenced. The location and orientation of photographs appearing in this report appear on Map 15.

The survey was conducted using a GSSI 400 MHz antenna with SIR-3000 controller configured with a distance measuring wheel. Readings were logged along traverses spaced at 25 cm running south to north (Image 13). Survey string was used to maintain a consistent path of machine travel over each transect (Image 14).

The raw data from the GPR survey were downloaded and processed through various time windows (indicating different depths) in RADAN 6.6. Instrument returns are initially recorded by their strength and the amount of time elapsed between return transmission and receipt by the antenna. The first step in processing the data is to establish "time zero" which determines the true location of the ground surface. This is important for determining the approximate depths of anomalies identified during the survey. By increasing amplitude equalization values, variance in the dielectric constant (the ratio of permittivity of an object or substance to the permittivity of the surrounding material which expresses the degree of electric flux) can be depicted visually in gray-scale and colour-differentiated mapping, indicating the potential presence of archaeological features (including burials) (see Appendix A). Older burials and those of infants may demonstrate less variance in the dielectric constant from the raw data than more recent ones adults.

3.0 RECORD OF FINDS

No artifacts were collected as only a GPR survey was undertaken. Table 3 lists the documentary records generated during this project.

Table 3: Documentary Records

- Project field notes and field maps, July 18, 22, 24, 25, 2013, Topcon GRS-1 survey notes July 18, 2013.
- Photo catalogue - images July 18, 2013 (IMG_4750-4776), July 22 (IMG_4777-4779), July 24, 2013 (IMG_4780-4781), July 25, 2013 (IMG_4782-4784).

4.0 ANALYSIS AND CONCLUSIONS

The results of the ground penetrating survey, based on the analysis of the raw data, are summarized below, organized by survey grid.

Grid 1 (Image 15)

This grid measured 30 metres by 10 metres and was placed north of the service road, in the south-central portion of survey area. The processed data collected in *Grid 1* indicate a series of highly reflective anomalies occurring throughout the survey area. These are particularly evident at roughly 100 cm (19 ns) beneath the ground surface. The edges of the majority of the reflections are poorly defined and lack distinct form, suggesting that they were likely produced by differentiated soil composition and stratigraphy. More clearly defined anomalies in the southern limits of the grid were likely caused by roots of the adjacent walnut trees and/or groundhog burrows, as there is a very large and active groundhog population throughout the facility. A relatively well-defined reflection measuring roughly 2 metres (north-south) by 3 metres (east-west) can be seen in the south-central portion of the grid. This is likely a remnant foundation or pad from a previous structure, underground service box or lamp post. A reflection indicating the former laneway leading to the east end of the chicken house was evident in the east end of the survey grid. Reflections recorded at increased depths became increasingly weaker and indicated variation in soil composition.

No anomalies were identified to suggest the potential presence of grave shafts.

Grid 2 (Image 16)

This grid measured 60 metres (east-west) by 10 metres (north-south) and occupied the southwesternmost corner of the survey area, situated east of the extant Granary. Data collected from *Grid 2* produced anomalies similar to those seen in *Grid 1* as far as strength of signal and reflective intensity are concerned. Natural variation in the stratigraphy of the substrate was reflected at the west end of the survey area, extending 15 metres to the east. This is clearly seen at roughly 130 cm (26 ns) below the ground surface. Near the eastern limits of *Grid 2*, two stacked linear anomalies are evident. The deeper feature is oriented roughly to grid northwest while the feature above runs slightly northeast (based on grid north). The latter forms the southern portion of a utility line that can be more clearly seen in results from *Grid 4B* (see below). The latter may also

represent a utility line but indicate the presence of a tree root related to the line of trees/bushes running down the centerline of the survey area. Another structural anomaly was identified in the central portion of the survey grid along its southern limits. The rectangular anomaly measures roughly 3.5 metres square, and extends beyond the southern boundary of the survey area. This may represent the actual location of the former well and pump house that are depicted on the 1953 plan of this area (Map 12).

No anomalies were identified to suggest the potential presence of grave shafts.

Grid 3 (Image 17)

This grid measured 30 metres long (east-west) by 17 metres wide (north-south) and was located in the north-central portion of the survey area. Results from *Grid 3* at roughly 64 cm below the surface of the ground demonstrated the presence of a large linear anomaly with an east-west orientation running across the centre of the survey grid. The anomaly measured 30 metres (east-west) by 5 metres (north-south) and bends to the south exiting the survey grid in the south-east corner. There are several poorly defined and highly reflective anomalies in the vicinity of the latter. Based on the size and definition of the feature, the feature depicted in *Grid 3* is likely associated with the former chicken house footprint. The darker areas running along the south edge of the footprint are likely indicative of the underground services (drains, hydro, sewer) known to have been present here. The anomalies at the southern edge of the survey grid likely relate to the southern extension of the chicken coop and the laneway that extended south of it to the service road leading to Highbury Avenue.

No anomalies were identified to suggest the potential presence of grave shafts.

Grid 4/4b (Images 18 to 20)

Grid 4/4b is located in the northeast corner of the survey area, north of the extant Granary Building. The main portion of Grid 4 measured 50 metres (east-west) by 17 metres (north-south), with a smaller 10 metres (east-west) by 17 metres (north-south) area appended to the east and referred to as Grid 4b. Data collected from Grid 4 resulted in the identification of very few anomalies with the strongest reflections recorded at depths ranging from roughly 90 to 110 cm (17-21 nS; Image 18). The reflections that were produced occurred predominantly in the northeast corner of the survey area. Given the lack of clearly defined margins, these anomalies likely represent natural features occurring within the substrate. A faint linear anomaly is also present in the west end of the grid and runs north-south. This is likely a former path or buried utility. The value difference (i.e., difference in image colour) appearing in Image 18 is a result of a recalibration of the radar and does not represent a below ground feature.

In Grid 4, no anomalies were identified to suggest the potential presence of grave shafts.

Results obtained from the survey of Grid 4b were expectedly similar to those seen in *Grid 4*. However, at a time slice recorded at 27nS (roughly 143 cm below ground surface) a highly reflective linear anomaly appears in the southeast corner on the survey area (Image 19). Given the strength of the signal this feature likely represents a modern metal utility line (e.g. pipe). This feature represents the northern portion of the same anomaly depicted in the northeast corner of *Grid 2*. The line continues to run to the northeast and extends beyond the eastern limits of the survey area. At a depth of roughly 175cm (34nS), another similar although less reflective anomaly can be seen in the northwest portion of the grid (Image 20). It is a continuation of a similar linear anomaly identified in *Grid 2*. Measuring 5 metres (north-south) by less than 0.5 metres (east-west), this feature may represent a section of another buried utility.

No anomalies were identified to suggest the potential presence of grave shafts.

Grid 5 (Images 21 to 23)

Grid 5 was situated in the northwest portion of the survey area and measured 50 metres long by 12 metres wide. Results obtained from data collected *Grid 5* identified several features at various depth levels and time slices. At roughly 40 cm (7 nS) below the surface of the ground, a linear anomaly measuring 12 metres (north-south) by roughly 2 metres (east west) was recorded in the central portion of the survey grid (Image 21). A small circular and highly reflective anomaly can also be seen about 4 metres east of the larger feature, with another rectangular one roughly 10 metres further east of the latter. The linear anomaly likely represents the presence of a buried farm pathway leading from the road to the south through the chicken pen. Identification of the two smaller feature to the east is difficult given their small size, however based on the strength of the signal, their composition is significantly different than that of the surrounding soil and therefore they could be metallic objects. These features disappear at roughly 50 cm (11nS) below the surface. At a depth of 95 cm (18nS), two similarly reflective anomalies located roughly 8 metres from each other were recorded in the central portion of the survey area (Image 22). The western anomaly is oriented east-west and measures roughly 3 metres by 0.75 metres, while the anomaly to the east is slightly larger measuring roughly 4 metres by one metre. These have a tube-like appearance and are likely groundhog burrows. They are not shaped like grave shafts, are longer than most and are not well-defined.

Additional anomalies appear from processed data recorded at 24 nS or 127 cm below the surface of the ground (Image 23). At this depth, two linear anomalies running north-south were identified running parallel to each other just east of the survey grid centerline. Additionally, a number of small, roughly circular reflections measuring approximately 0.25 metres in width were recorded to the west of the larger linear anomalies. The anomalies are aligned in a row, with another smaller section running perpendicular to the main row. The linear features are likely a double track travelled lane, as one might find in a well-used farm lane. The smaller, circular anomalies may reflect a fence line and/or gate running along the laneway.

No anomalies were identified to suggest the potential presence of grave shafts.

Grid 6 (Image 24)

This grid measured 12 metres wide (north-south) by 50 metres long and was located in the north-central portion of the survey area. Results for *Grid 6* show a series of narrow and densely packed anomalies occurring predominantly across the entire east side of the survey grid (a distance of over 25 metres). A small section of nearly identical reflections can be seen in the southwest corner of the survey grid and form a dendritic pattern. These are undoubtedly tree roots from the trees adjacent to the survey area. These features were displayed most clearly at roughly 45 cm (12 nS) below ground surface. No other anomalies were identified in this section. A linear buried utility line is also visible at 27nS/145 cm. No anomalies were identified to suggest the potential presence of grave shafts.

Grid 7 (Image 25)

This survey grid measured 16 metres wide (north-south) by 50 metres long (east-west) and was located in the north-central portion of the survey area. *Grid 7* survey results clearly show the presence of a well-reflected, roughly 4 metres wide linear anomaly extending across the entire length of the survey area (44 cm, 8.5 nS). It extends beyond the east and west limits of the grid. This feature is likely also related to the chicken house footprint.

No anomalies were identified to suggest the potential presence of grave shafts.

Grid 8 (Image 26)

This grid measured 50 metres (east-west) by 16 metres (north-south) and was located in the north-central portion of the survey area. Results for *Grid 8* indicate that the same chicken coop footprint identified in *Grid 7* to the east also extends nearly the entire length of this survey area (67 cm, 13 nS). Similar anomalies like those depicted in results from Grid 6 are evident in the northwest corner of the grid and once again likely represent either tree roots of tunnels created by the abundant groundhog population on the grounds.

No anomalies were identified to suggest the potential presence of grave shafts.

Grid 9 (Image 27)

Grid 9 occupies the southwest corner of the survey area and measured 15 metres (north-south) by 21 metres (east-west). The collected data for *Grid 9* indicated the presence of very few anomalies or the presence of features that could represent potential burials. At 90 cm below ground surface, a circular feature with poorly defined margins

was identified in the northeast corner of the grid. Measuring over 1 metre across, this feature likely represents another refuse or rock pile.

No anomalies were identified to suggest the potential presence of grave shafts.

Grid 10 (Images 28 and 29)

This grid occupied the northeastern corner of the survey area and measured 16 metres (north-south) by 21 metres (east-west). Results for *Grid 10* show the presence of the fenced roadway that led west from the west end of the chicken coop, as shown on the 1953 plan (43 cm, 8 nS; Image 28). Another feature of interest was identified at 15.5 nS or 85 cm below ground surface (Image 29). A series of anomalies was recorded which form a relatively well designed feature measuring roughly 6 metres (north-south) by 11 metres (east-west). This is the in the same general area as the tool shed that appears on the 1953 map and 1942 aerial photograph (Image 6).

No anomalies were identified to suggest the potential presence of grave shafts.

5.0 RECOMMENDATIONS

All work met provincial standards and the GPR survey was carried out using conventions suitable for archaeological applications. No potential grave shafts were identified at any depth within the survey area, although signatures for the former chicken coop, tool shed and buried utilities that were present were identified. However, it should be made clear that remote sensing surveys such as this are not always 100% accurate for detecting subsurface features and the collected data is subject to some level of interpretation. Nonetheless, as the survey was able to detect other forms of significant ground disturbance it seems likely that if graves were present these would also have been detected by the radar.

Given that no evidence of graves was present in any maps, photographs, or written records examined for this study and the ground penetrating radar survey did not discover any potential shafts, no support for the hearsay account of a potential burial ground in this location was gathered. As such, no further investigation is recommended for this area and it should be considered free of archaeological concern.

6.0 SUMMARY

A ground penetrating radar survey was undertaken for a 0.62 ha area within the London Psychiatric facility grounds. A hearsay oral account indicated that this area may contain burials from the asylum, although no maps or written records were found that could confirm this. A review of existing records shows that this area was active agricultural land until a chicken coop was built here, forming part of the larger asylum farm complex. A long, linear chicken house stood on the grounds until sometime after

1965 and was associated with a fenced chicken pen or yard to the south. The ground penetrating radar survey detected the former footprint of the chicken coop, other facility structures and buried utilities but did not identify any potential grave shafts. While it should be noted that remote sensing techniques are not always 100% accurate in their identification and depiction of buried features, it seems unlikely that burial shafts would go undetected when other subsurface and deeply buried features were otherwise clearly visible in the survey data. As such, the likelihood of burials in this area is considered to be minimal and no further investigation is recommended. The area should be considered free of archaeological concern.

7.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ministry of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*. Further, archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the

Registrar of Cemeteries at the Ministry of Small Business and Consumer Services. The Registrar of Cemeteries, Cemeteries Regulation Unit can be reached at (416)326-8404 or (416)326-8393.

8.0 BIBLIOGRAPHY

Archaeological Services Inc. (ASI)
2003 *Stage 1 and 2 Archaeological Assessment, London Psychiatric Hospital, 850 Highbury Avenue, City of London (Former London Township), Middlesex County, Ontario. Part 1: Buildings to be Demolished* (December 2003; P061-022; licensee Frank Dieterman, P061).

2005 *Stage 1 & 2 Archaeological Assessment, London Psychiatric Hospital, 850 Highbury Avenue North, City of London (Former London Township), Middlesex County, Ontario. Part 2: Lands to be Severed* (January 2005; P061-022 and P117-029; licensees Frank Dieterman, P061 and Robert MacDonald, P117).

Archaeologix Inc.
1999 *Archaeological Assessment (Stage 1, 2 & 3) Kiwanis; Archaeological Assessment (Stage 3) AfHl-251; Archaeological Assessment (Stage 4) AfHl-251, The Kiwanis Park Site, City of London, Middlesex County, Ontario.* Reports on file with the Ministry of Tourism, Culture and Sport, Toronto.

Bing Maps
2012 Aerial Photographs for the Province of Ontario.

Chapman L.J. and D.F. Putnam
1984 *The Physiography of Southern Ontario*. Third Edition. Ontario Ministry of Natural Resources: Ontario.

City of London
2008 Aerial Photographs for the City of London.

Conyers. L. B.
2004 *Ground Penetrating Radar for Archaeology*. AltaMira: Walnut Creek, California.

Conyers, L. B. and D. Goodman
1997 *Ground-Penetrating Radar: An Introduction for Archaeologists*. AltaMira: Walnut Creek, California.

D.R. Poulton and Associates (DRP)
2004 *The Stage 1 Archaeological Component of the Cultural Heritage Assessment of the Regional Mental Health Centre, London, 850 Highbury Avenue, London, Ontario*. Report on file with the Ministry of Tourism, Culture and Sport, Toronto. (September 2004; P116-008; licensee Dana Poulton, P116).

Geographynetwork.ca
2011 OBM Maps for the Province of Ontario.

Global GPR Services Ltd.
2010 www.global-gpr.com; accessed October 29, 2011.

Hurd, Henry M, William F. Drewry, Richard Dewey, Charles W. Pilgrim, G. Alder Blumer, and T.J.W. Burgess
1917 *The Institutional Care of the Insane in the United States and Canada.* Baltimore: The Johns Hopkins Press.

Julian Smith & Associates (JSA), Contentworks Inc., Wendy Shearer Landscape Architect, and D.R. Poulton & Associates
2004 *Heritage Assessment of ORC Mental Health and Developmental Services Facilities, N00014 – Regional Mental Health, London, Site Specific Report.* Report on file with Infrastructure Ontario.

Julian Smith & Associates Architect (JSA), Wender Shearer Landscape Architects, Jacqueline Hucker Historian, Carolyn Samko & Rosi Ziger Heritage Conservation Consultants and Sandy Smallwood Andrex Holdings
2008 *Conservation Plan. Final. London Psychiatric Hospital.* On file with Infrastructure Ontario.

Krasnick, Cheryl L.
1981 *Insanity as a Reflection of Morality and Social Values in Nineteenth Century Canada: The London, Ontario Asylum for the Insane 1870-1902.* Master's Thesis. University of Western Ontario.

1982 "In Charge of the Loons":* A Portrait of the London, Ontario Asylum for the Insane in the Nineteenth Century. *Ontario History* 74(3):138-184.

Ministry of Tourism and Culture (MTC; now Ministry of Tourism, Culture and Sport)
2011 *Standards and Guidelines for Consultant Archaeologists.* Toronto.

Natural Resources Canada (NRC)
2010 *Lucan, Ontario*. 1:50,000 Scale Topographic Map. Section 040-P/03. Electronic version.

2010 *St. Thomas, Ontario*. 1:50,000 Scale Topographic Map. Section 040-I/14. Electronic version.

Ontario Department of Mines and Northern Affairs
1972 *Physiography of the Southwest Portion of Southern Ontario*. Map 2225. Ontario.

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
2006 GIS Layers for Soils and Physiography in the Province of Ontario.

Infrastructure Ontario (IO)
2011 Regional Mental Health Centre. Project Mapping.

Pearce, Robert
1995 *Contributions to the Prehistory of London, Volume 2*. Archaeological Investigations in the City of London Prior to 1972. On file at the Museum of Ontario Archaeology.

Province of Ontario
1869 *Report of the Commissioner of Public Works for the Province of Ontario for the Year 1869*.

1887 *London Asylum Plan of Grounds*. Dated February 15, 1887. On file and the University of Western Ontario Archives.

1953 *Ontario Hospital London – 1st Sheet*. Plan by C.W. Paice, O.L.S. dated March 1953. Courtesy of Infrastructure Ontario.

Timmins Martelle Heritage Consultants Inc. (TMHC)
2007 *Stage 3 Archaeological Assessment, Ontario Realty Corporation, London Psychiatric Hospital, City of London, Middlesex County.* Report on file with the Ministry of Tourism, Culture and Sport, Toronto. (November 2007; P064-168-2007; licensee Holly Martelle, P064).

2013a *Stage 2 Archaeological Assessment, Infrastructure Ontario, London Psychiatric Hospital Lands (D00014), St. Joseph's Health Care London, Part Lot 8, Concession 1, Geog. Twp. of London, Middlesex County, Now 850 Highbury Avenue North, City of London.* Report on file with the Ministry of Tourism, Culture and Sport, Toronto. (May 2013; P349-078-2011; licensee John Sweeney, P349).

2013b *Stage 2 Archaeological Assessment, Historic Building Trenching, Infrastructure Ontario, London Psychiatric Hospital Lands (D00014), St. Joseph's Health Care London, Part Lot 8, Concession 1, Geog. Twp. of London, Middlesex County, Now 850 Highbury Avenue North, City of London.* Report on file with the Ministry of Tourism, Culture and Sport, Toronto. (July 2013; P349-077-2011; licensee John Sweeney, P349).

Wilson, James and Malcolm Horne
1996 *The City of London Archaeological Master Plan*. Department of Planning and Development, City of London. (Prepared 1995, Adopted by Council as "Guideline Document" October 7, 1996)

9.0 IMAGES

Image 1: Overview of the Survey Area (looking west)

Image 2: Overview of the Survey Area (looking east)

Image 3: Service Road and Tree Row Marking South Boundary of Survey Area (looking west)

Image 4: Protected Cultural Heritage Landscape (JSA et al. 2004)

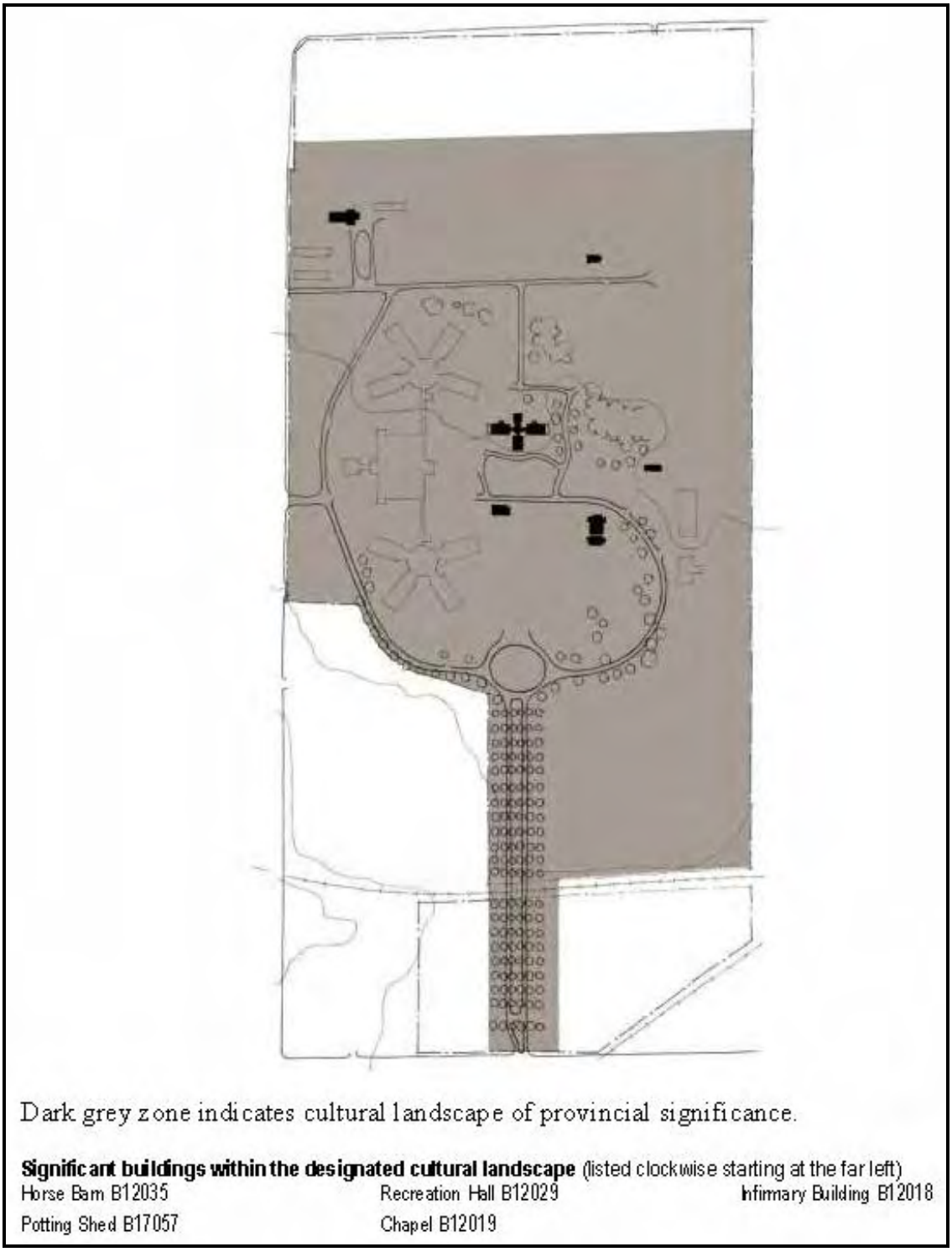


Image 5: 1922 Aerial Photograph Showing the Survey Area as Agricultural Field (UWO Map Library)

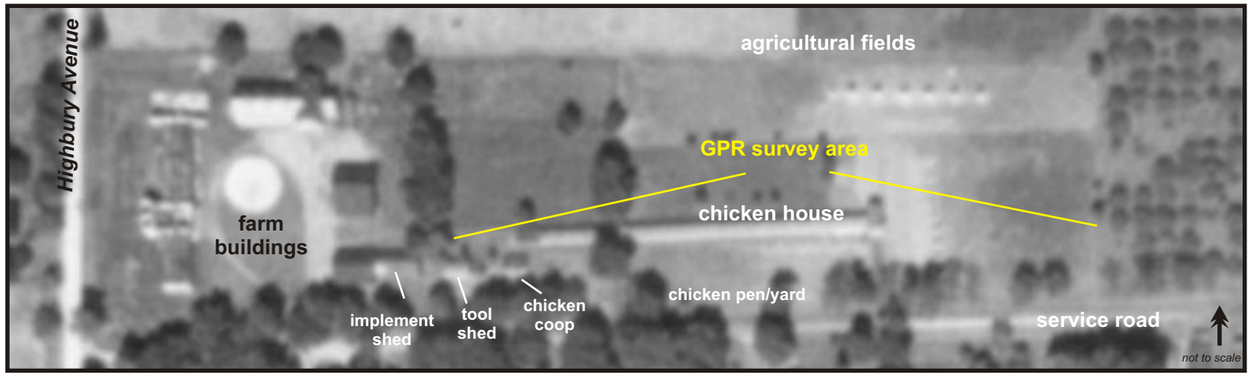


Image 6: 1942 Aerial Photograph Showing the Survey Area Containing Chicken Raising Facilities (UWO Map Library)

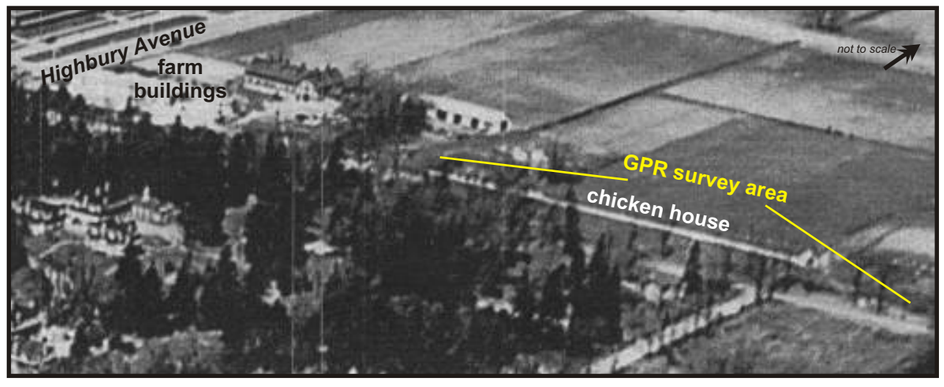


Image 7: 1964 Oblique Aerial Photograph Showing the Survey Area Containing Chicken House (UWO Map Library)

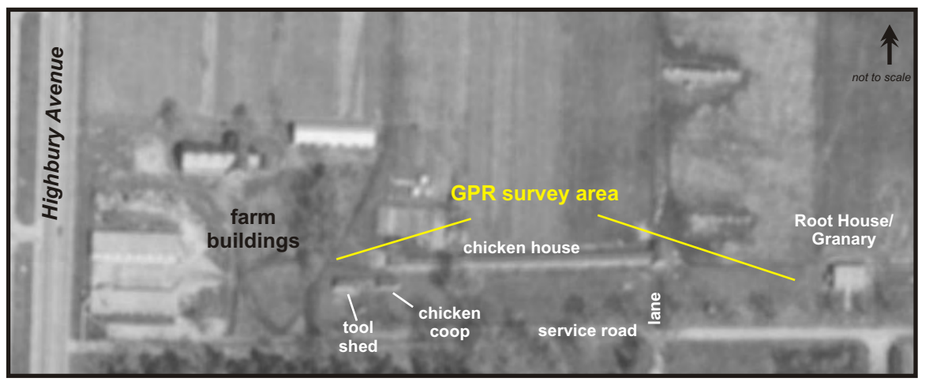


Image 8: 1965 Aerial Photograph Showing the Survey Area Containing Chicken House (UWO Map Library)

Image 9: 1975 Aerial Photograph Showing the Survey Area as Vacant Land (UWO Map Library)

Image 10: Landscape Survey with TopCon Unit (looking northwest)

Image 11: Grid Survey with Total Station (looking southwest)

Image 12: Laying Measuring Tapes for Grid Limits (looking west)

Image 13: Ground Penetrating Radar Survey in Progress (looking northwest)

Image 14: Ground Penetrating Radar Transect Line (looking south)

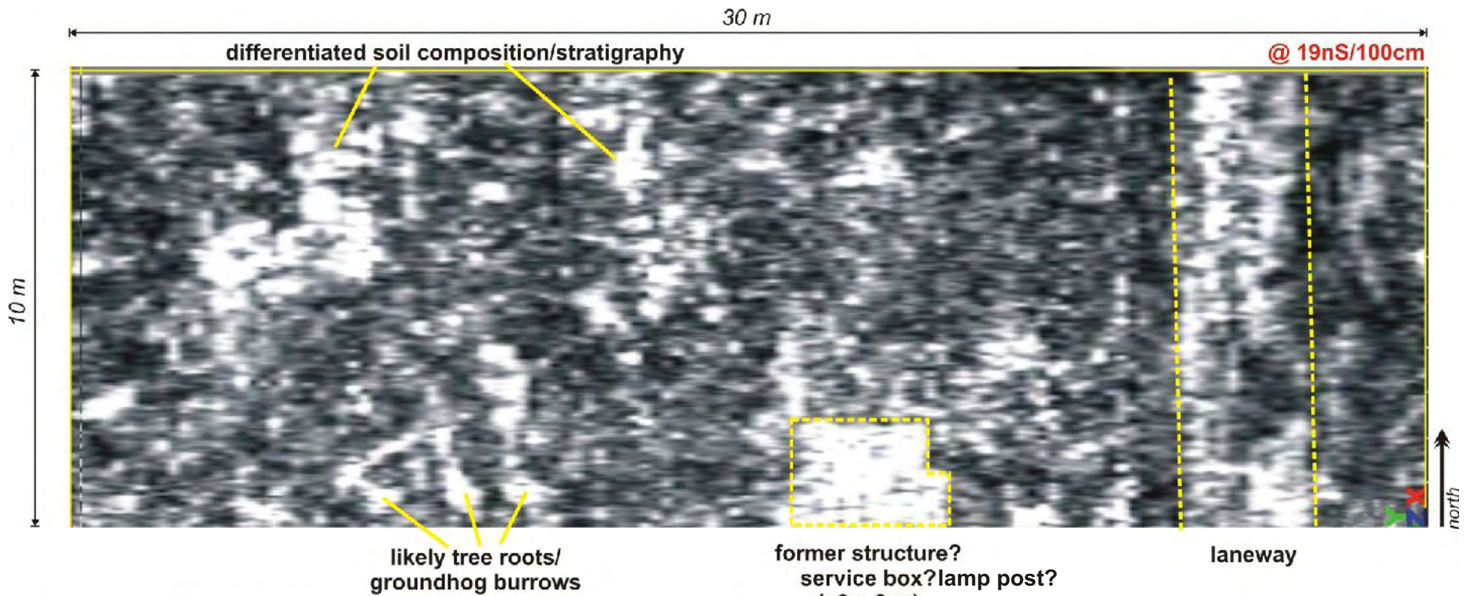


Image 15: Grid 1 Results

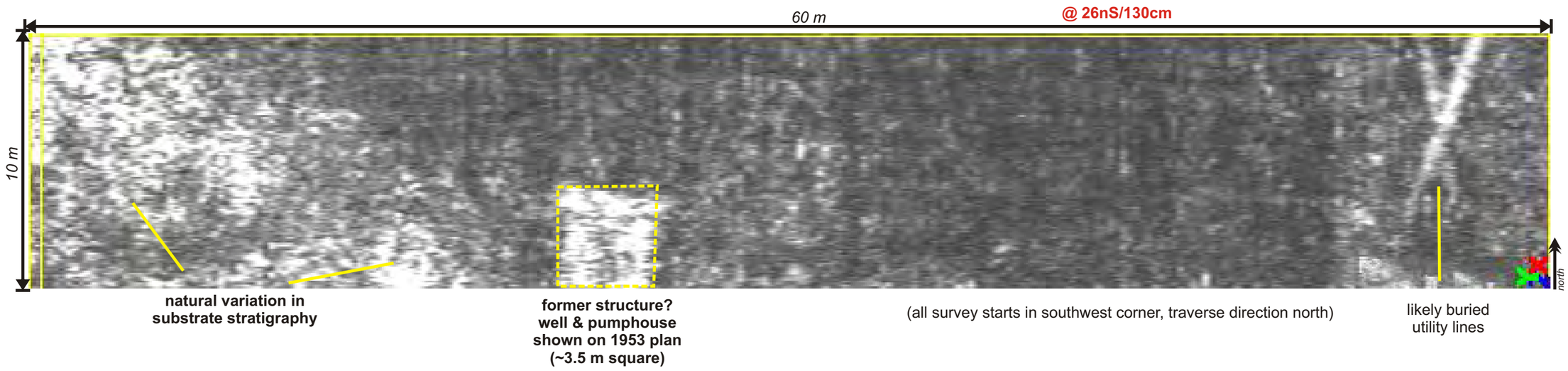
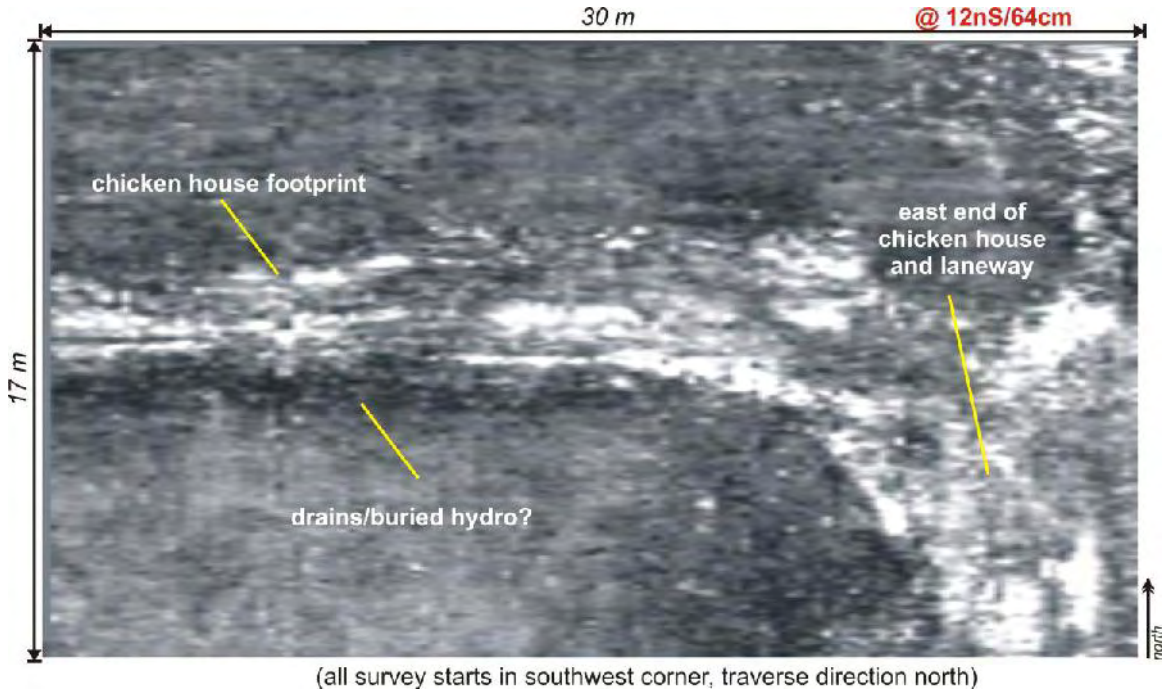


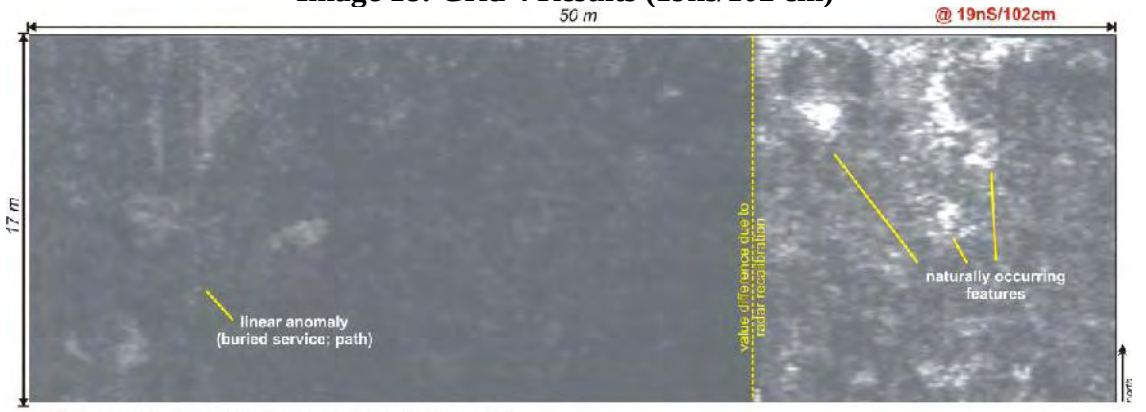
Image 16: Grid 2 Results

Image 17: Grid 3 Results



(all survey starts in southwest corner, traverse direction north)

Image 18: Grid 4 Results (19ns/102 cm)



(all survey starts in southwest corner, traverse direction north)

Image 19: Grid 4b Results (@ 25nS/143 cm)

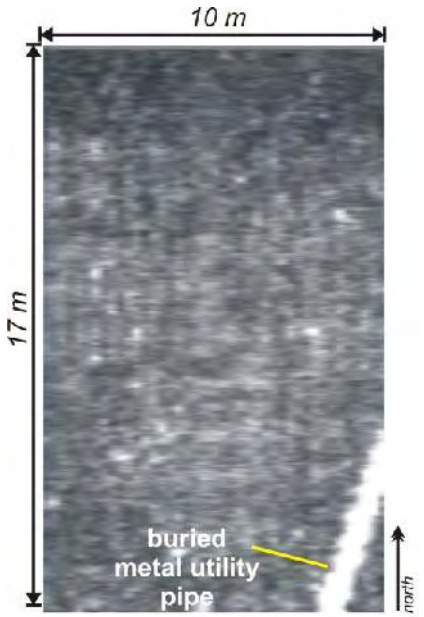


Image 20: Grid 4b Results (@ 34nS/175 cm)

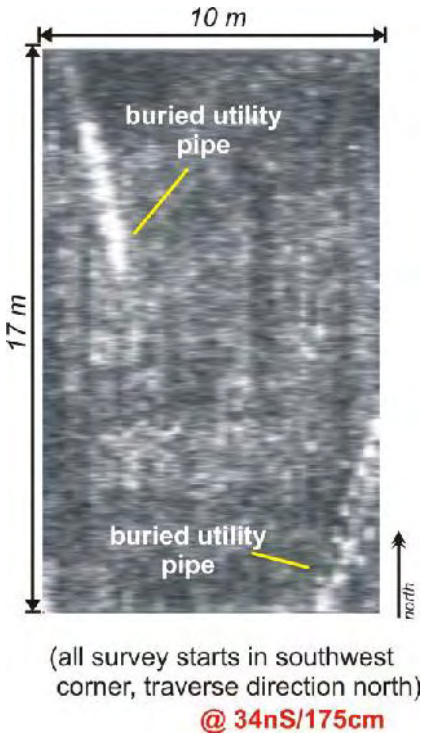


Image 21: Grid 5 Results (@ 7nS/40 cm)

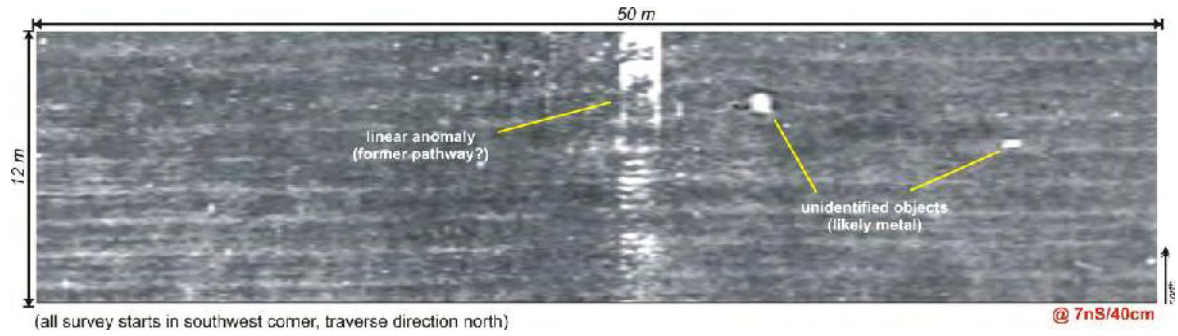


Image 22: Grid 5 Results (@ 18nS/95 cm)

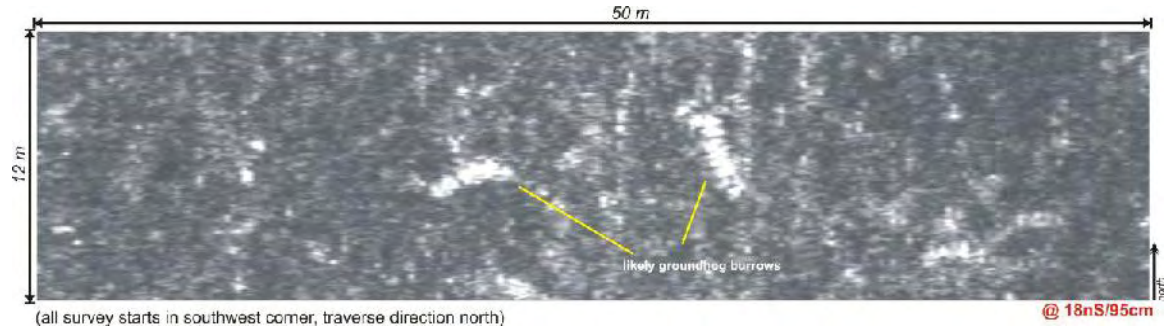


Image 23: Grid 5 Results (@ 24nS/127 cm)

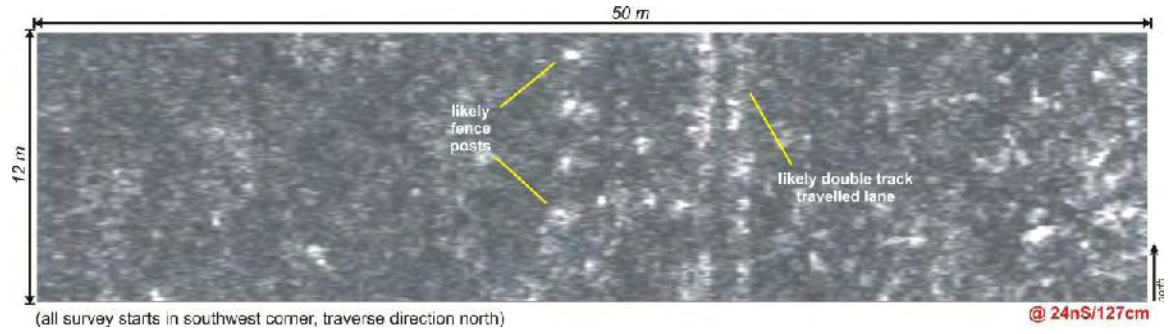
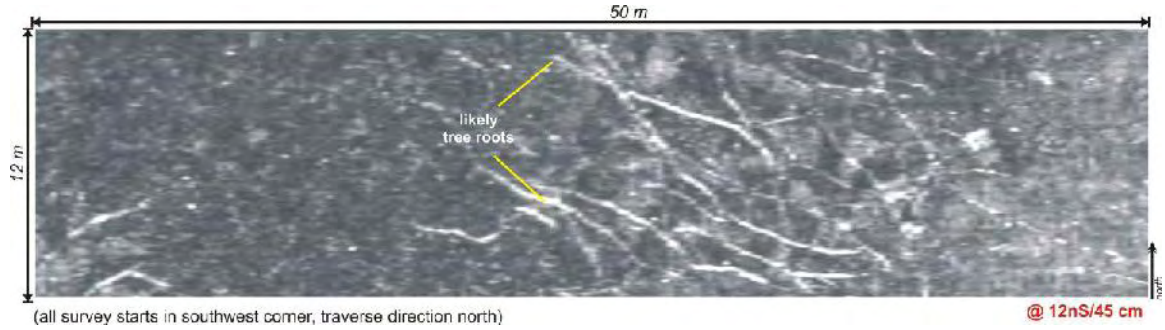


Image 24: Grid 6 Results

a) 12nS/45 cm



b) 27nS/145 cm

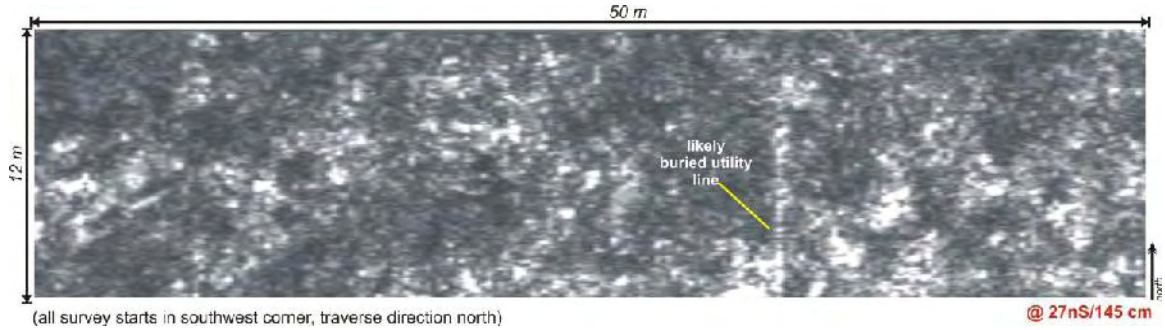


Image 25: Grid 7 Results

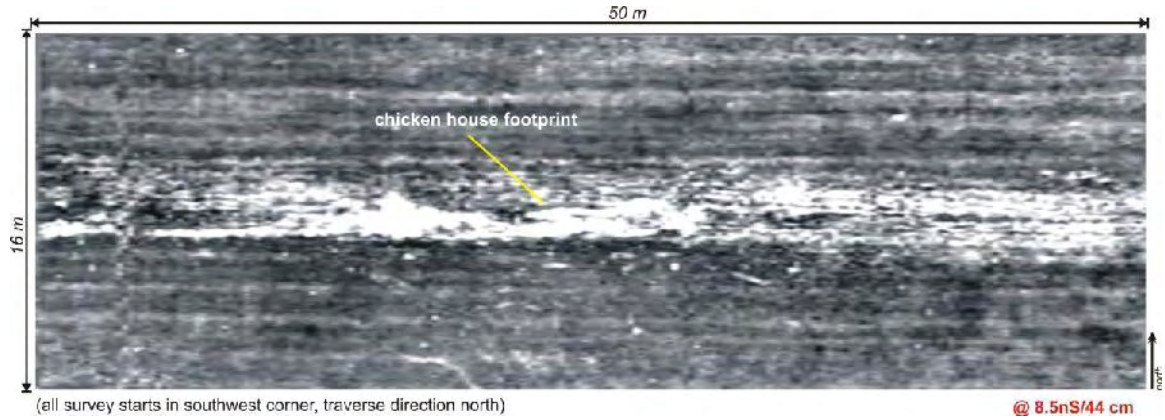


Image 26: Grid 8 Results

Image 27: Grid 9 Results

Image 28: Grid 10 Results (@ 8nS/43 cm)

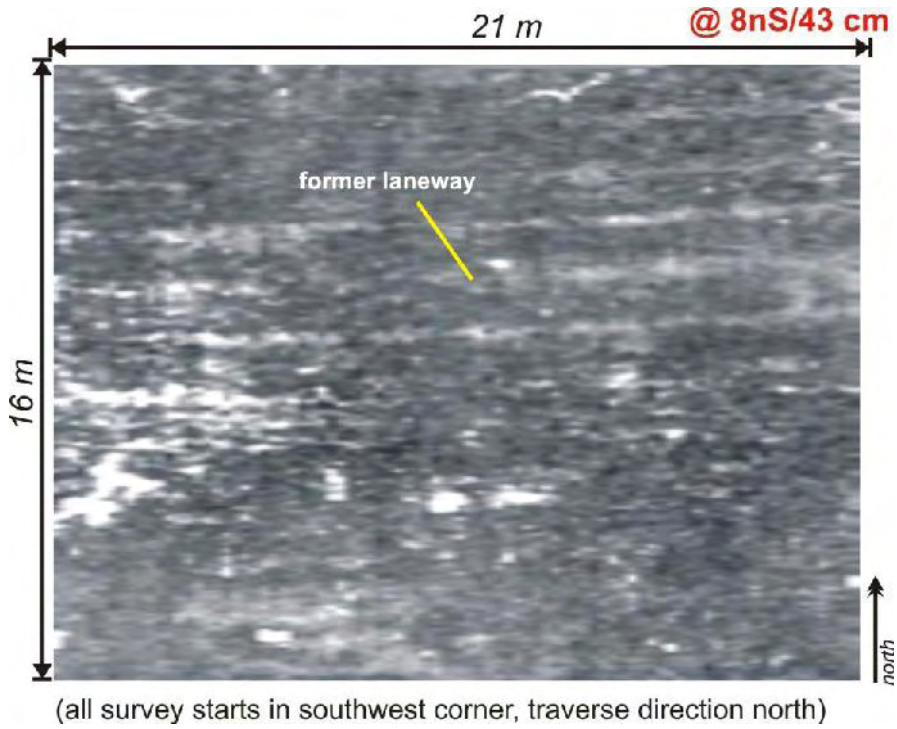
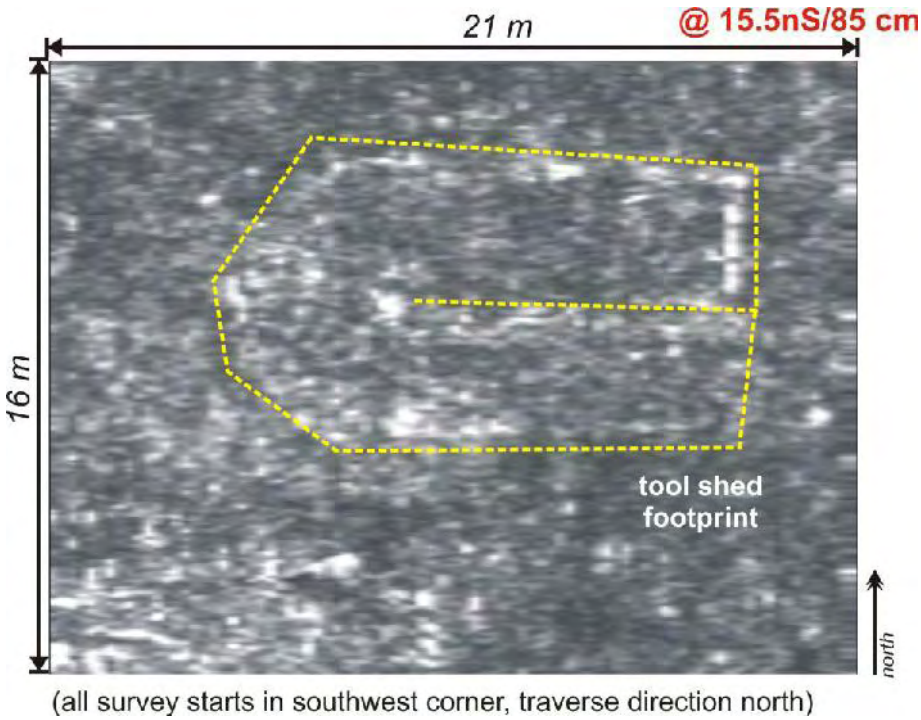
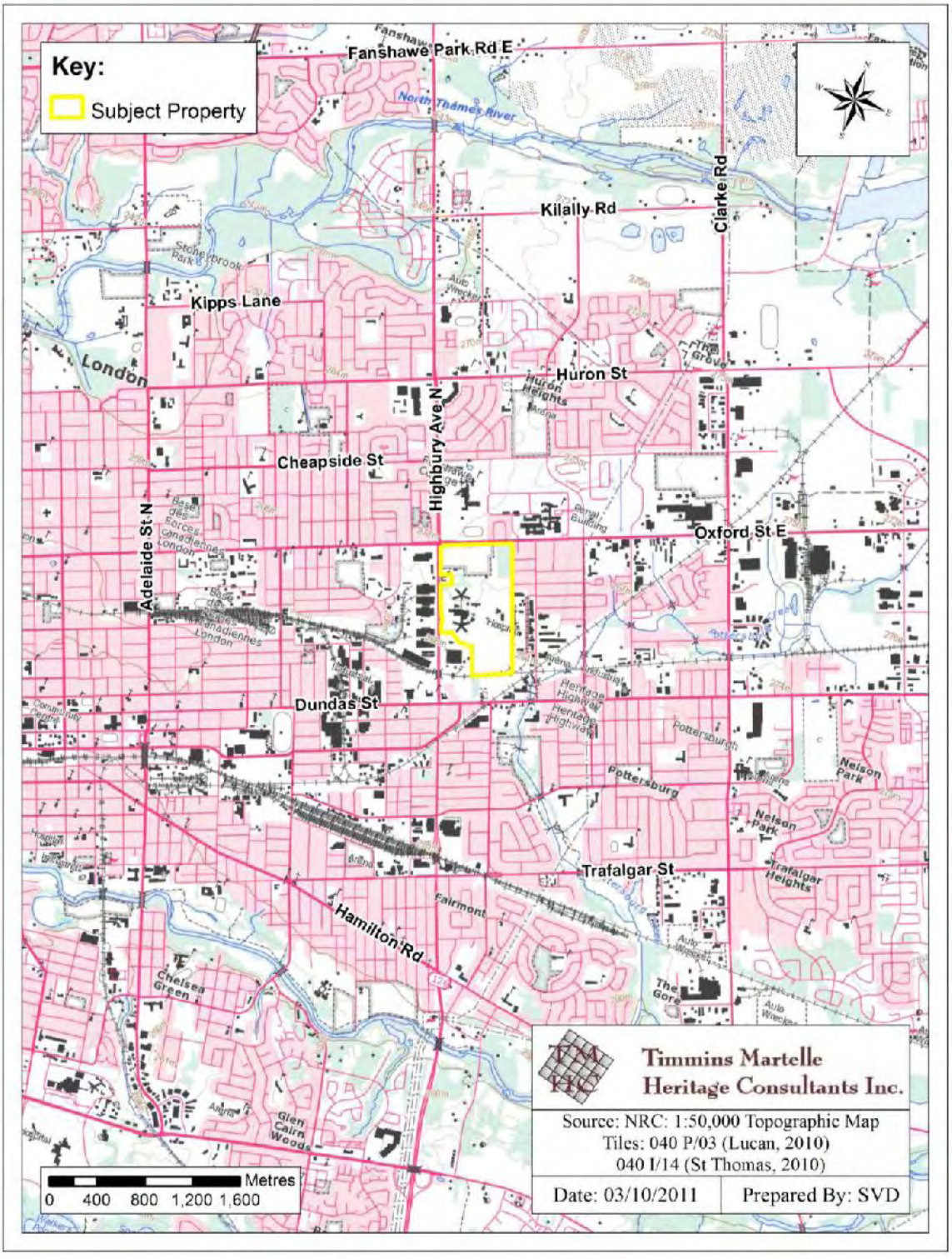


Image 29: Grid 10 Results (@ 15.5 nS/85 cm)



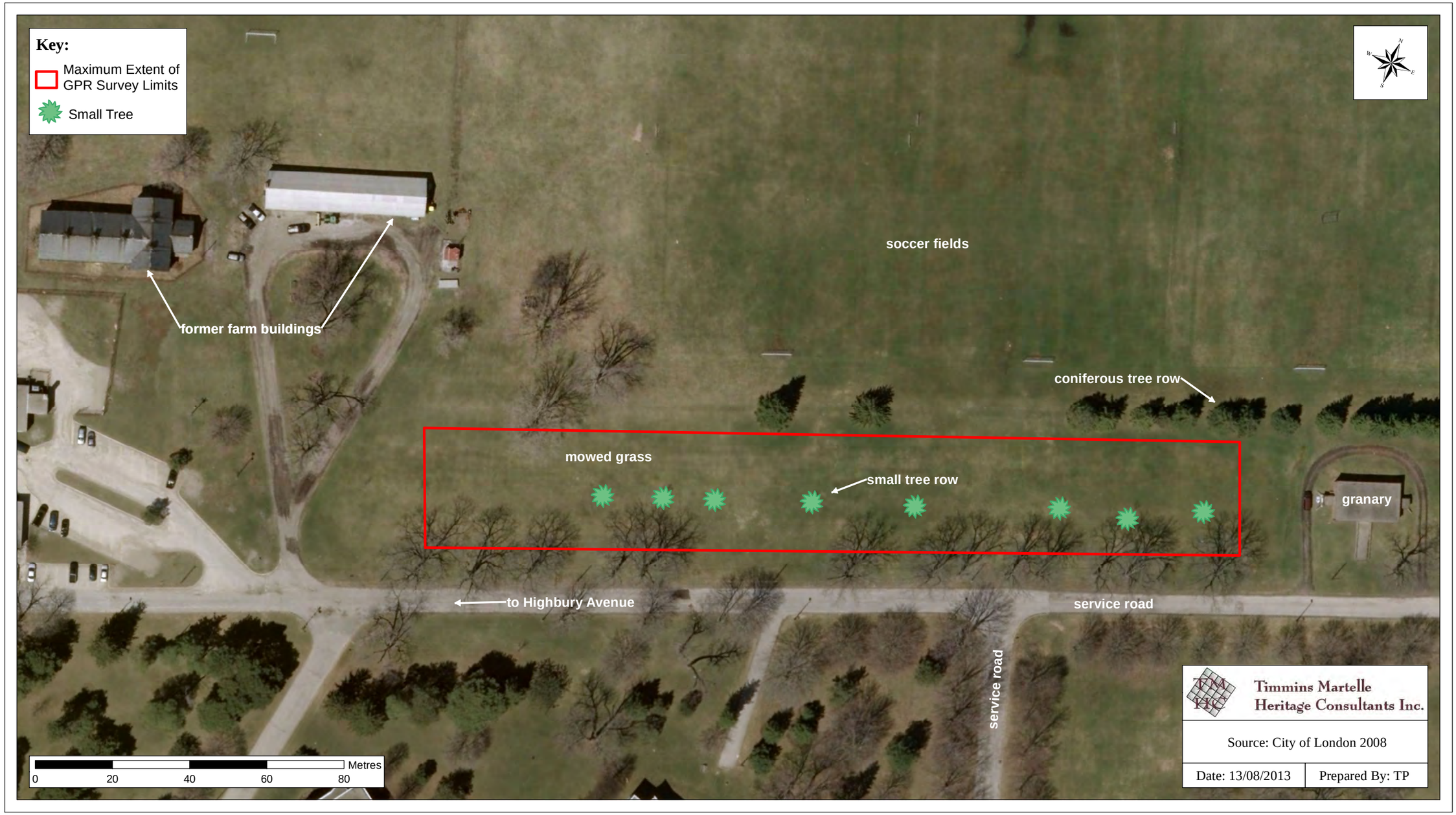
10.0 MAPS



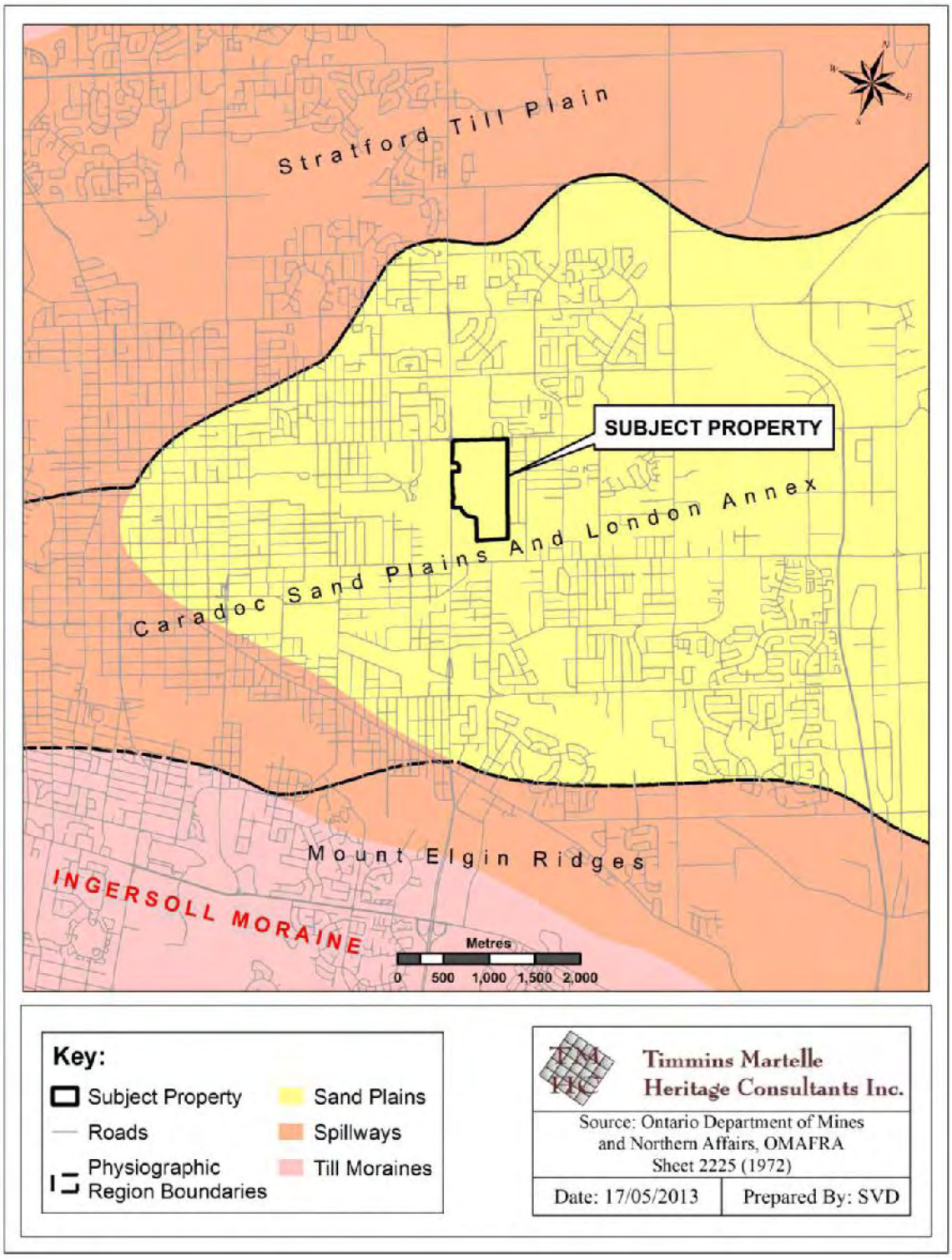
Map 1: Location of the Subject Property in London, ON

Map 2: Aerial Photograph Showing the Location of the Subject Property in London, ON

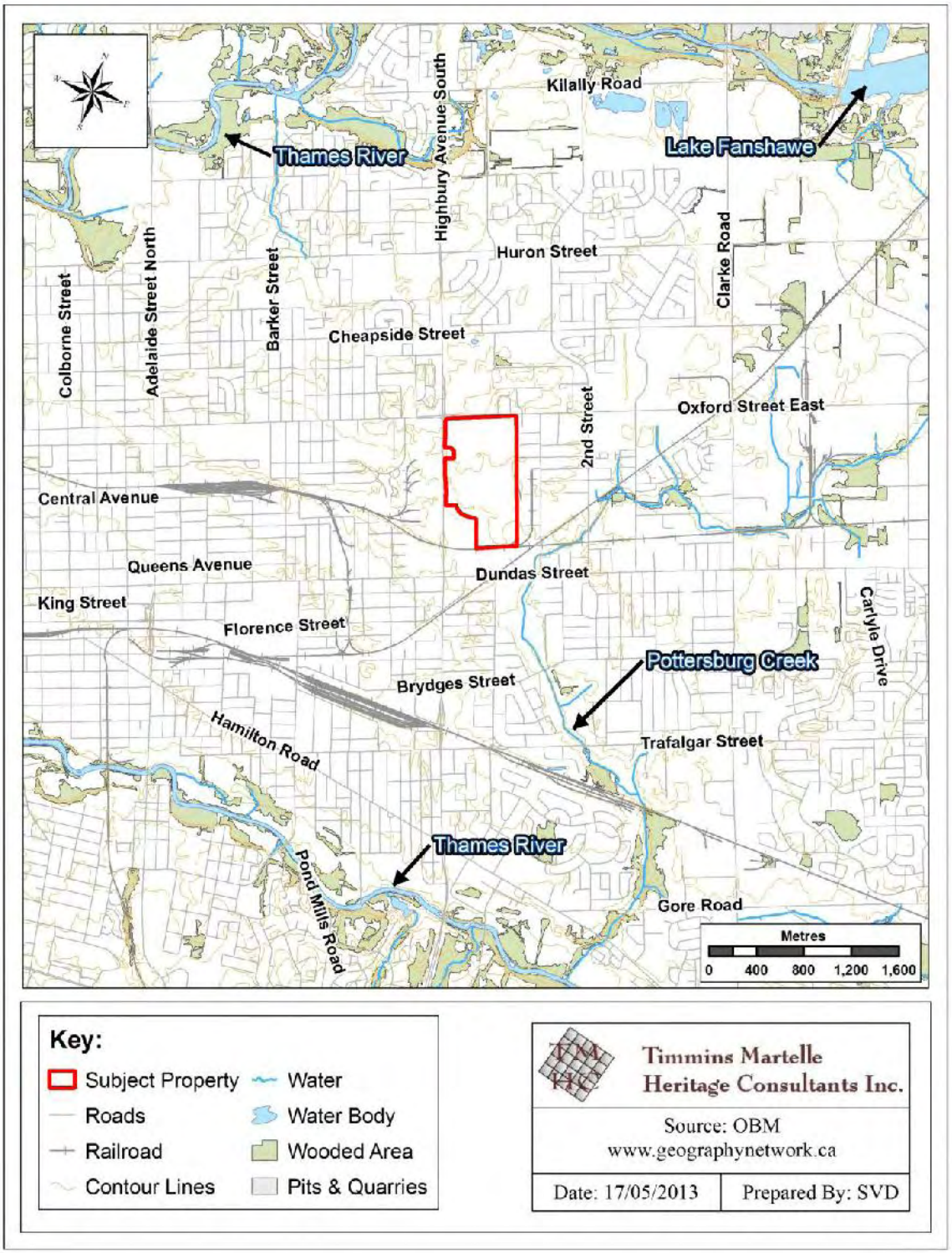
Map 3: Proponent Map Showing Limits of Subject Property



Map 4: Aerial Photograph of the GPR Survey Area Showing Existing Conditions



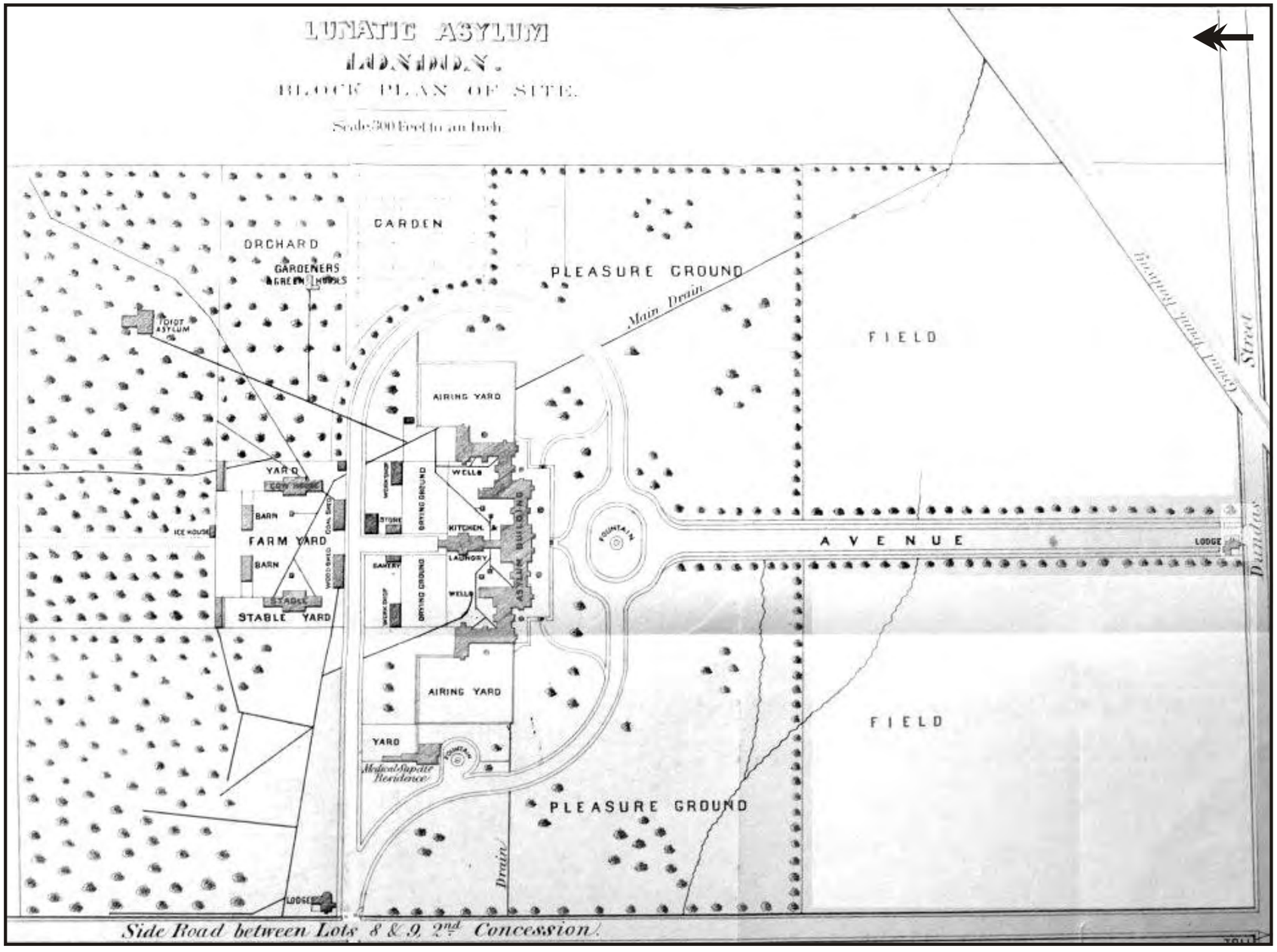
Map 5: Physiography Within the Vicinity of the Subject Property



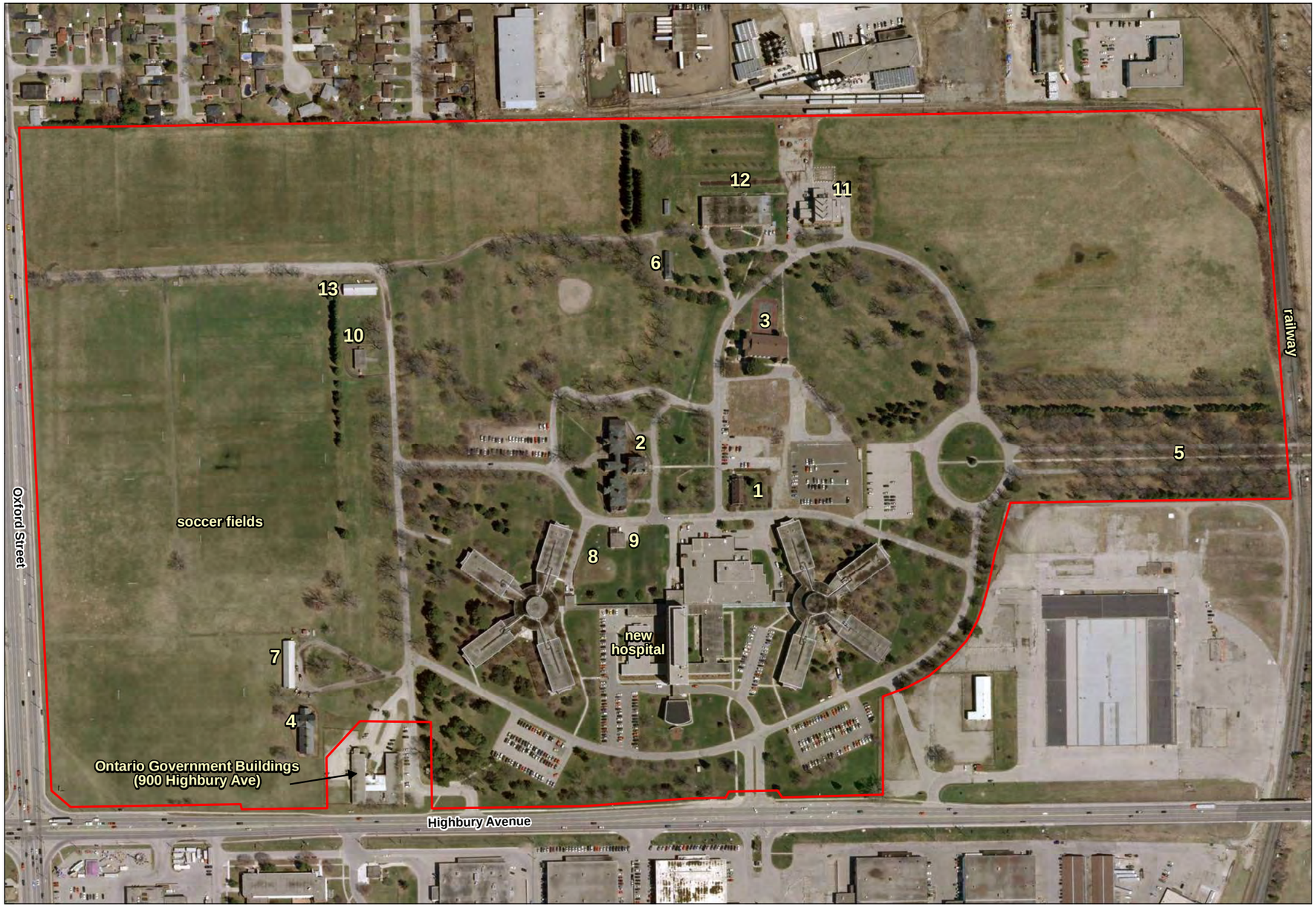
Map 6: Drainage Within the Vicinity of the Subject Property

Map 7: Previous Stage 2 Assessment Results (TMHC 2013a) for Current Survey Area

Map 8: Proposed Site Plan for Lunatic Asylum London Dated 1869



Report of the Commissioner of Public Works for the Province of Ontario for the Year 1869



Key:

Subject Property

OHA Designated Buildings/Features

1 Chapel
2 Infirmary (Exam)
3 Recreation Hall
4 Horse Stable
5 Tree-lined Avenue

Non-Designated/ Protected Buildings

6 Potting Shed

Pre-1965 Buildings/Features

7 Implement Storage
8 Reservoir
9 Pump House
10 Roothouse & Granary
11 Power House
12 Laundry
13 Implement Shed

Metres
0 100 200

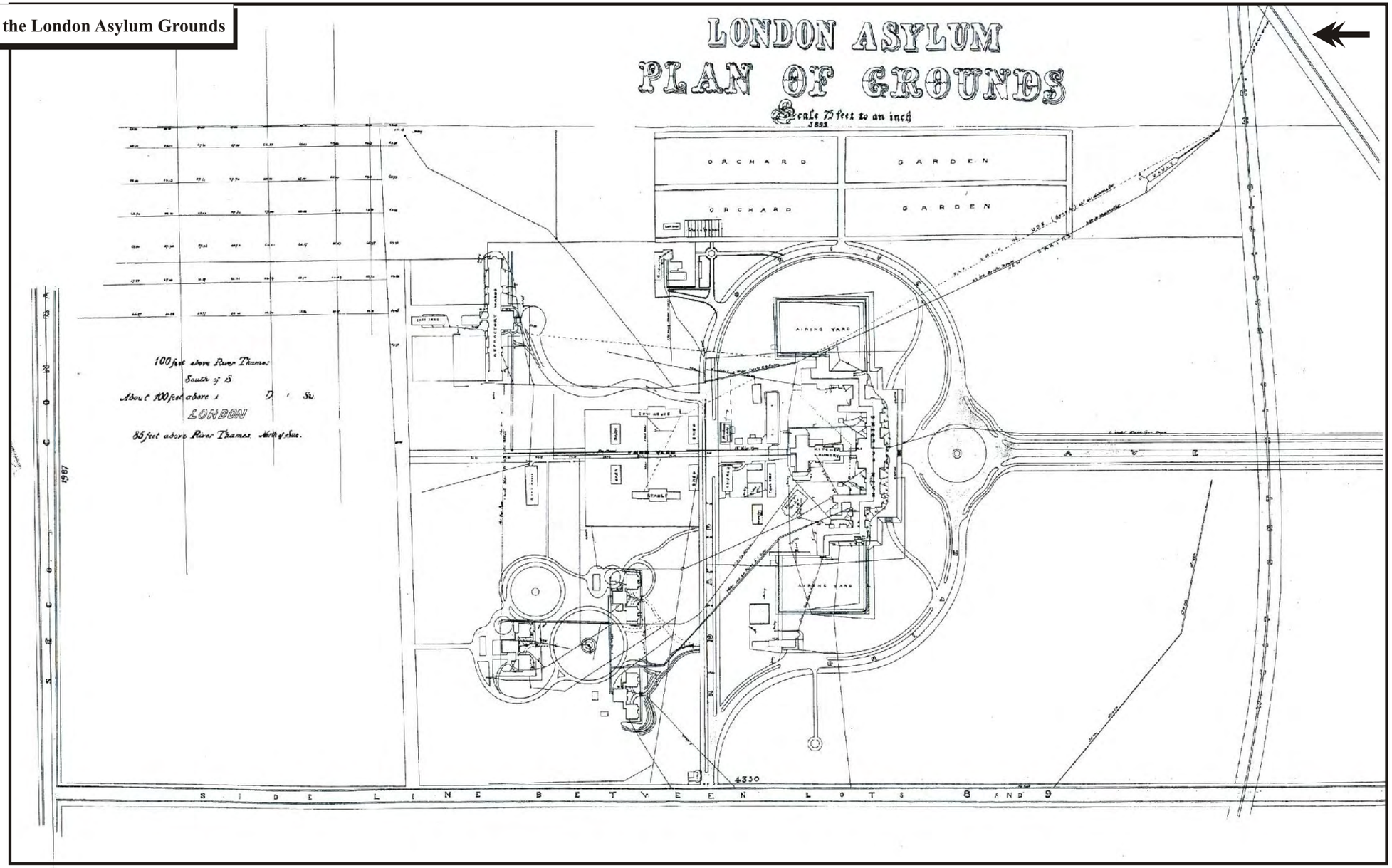
Timmins Martelle Heritage Consultants Inc.

Source: Bing Maps

Date: 17/05/2013 | Prepared By: SVD

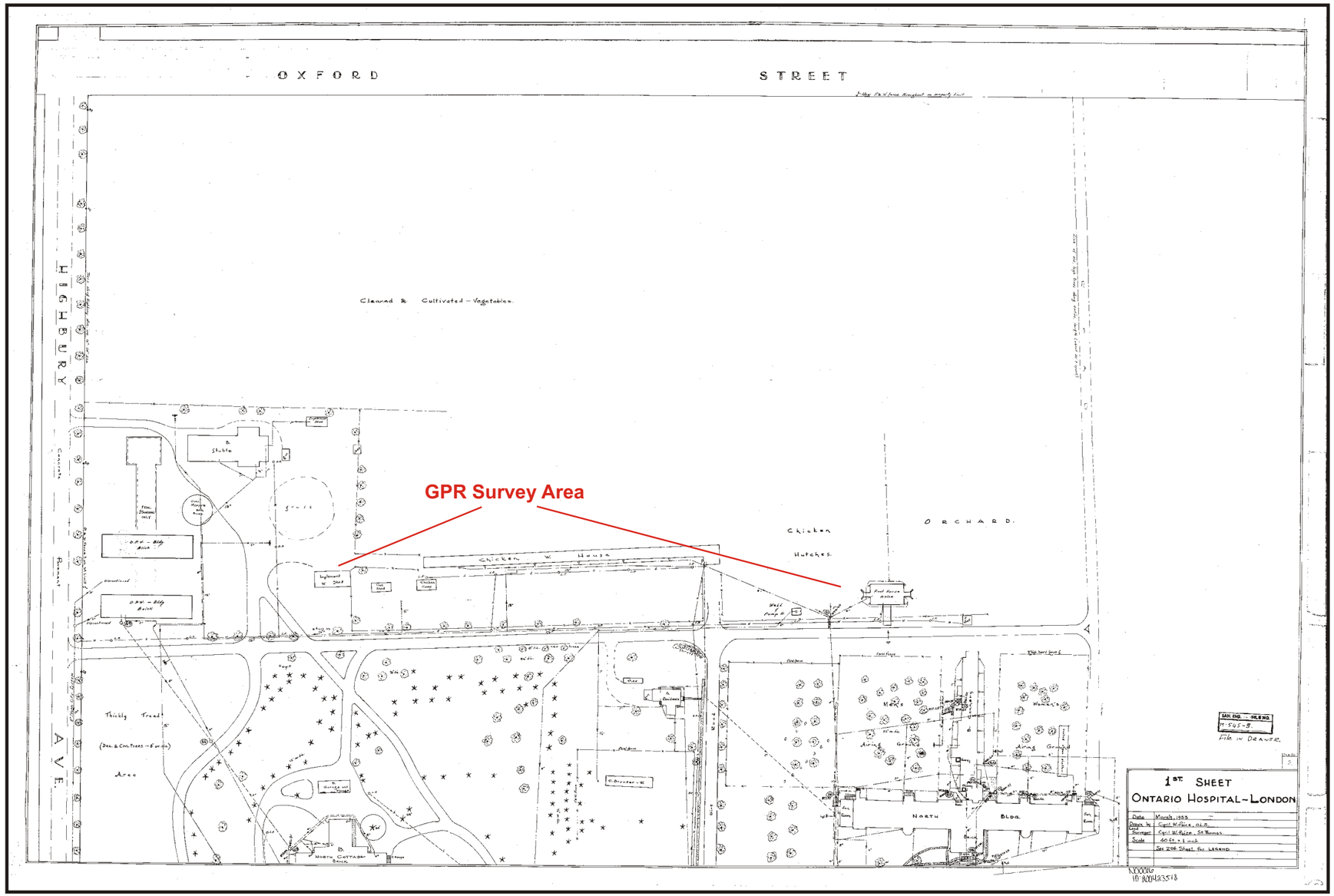
Map 9: Existing Buildings and Features of Significance

Map 10: 1887 Plan of the London Asylum Grounds

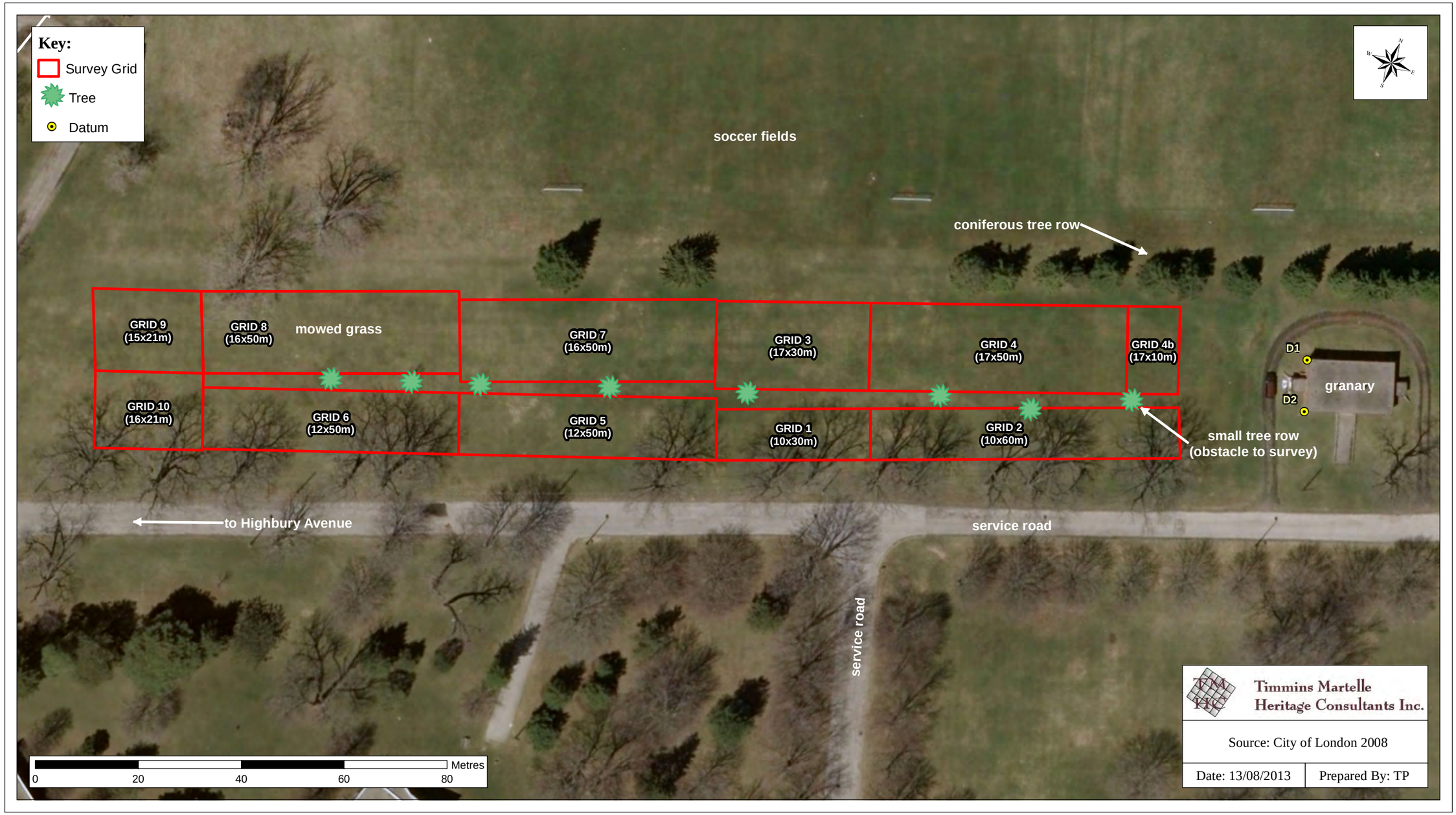


Courtesy of Infrastructure Ontario

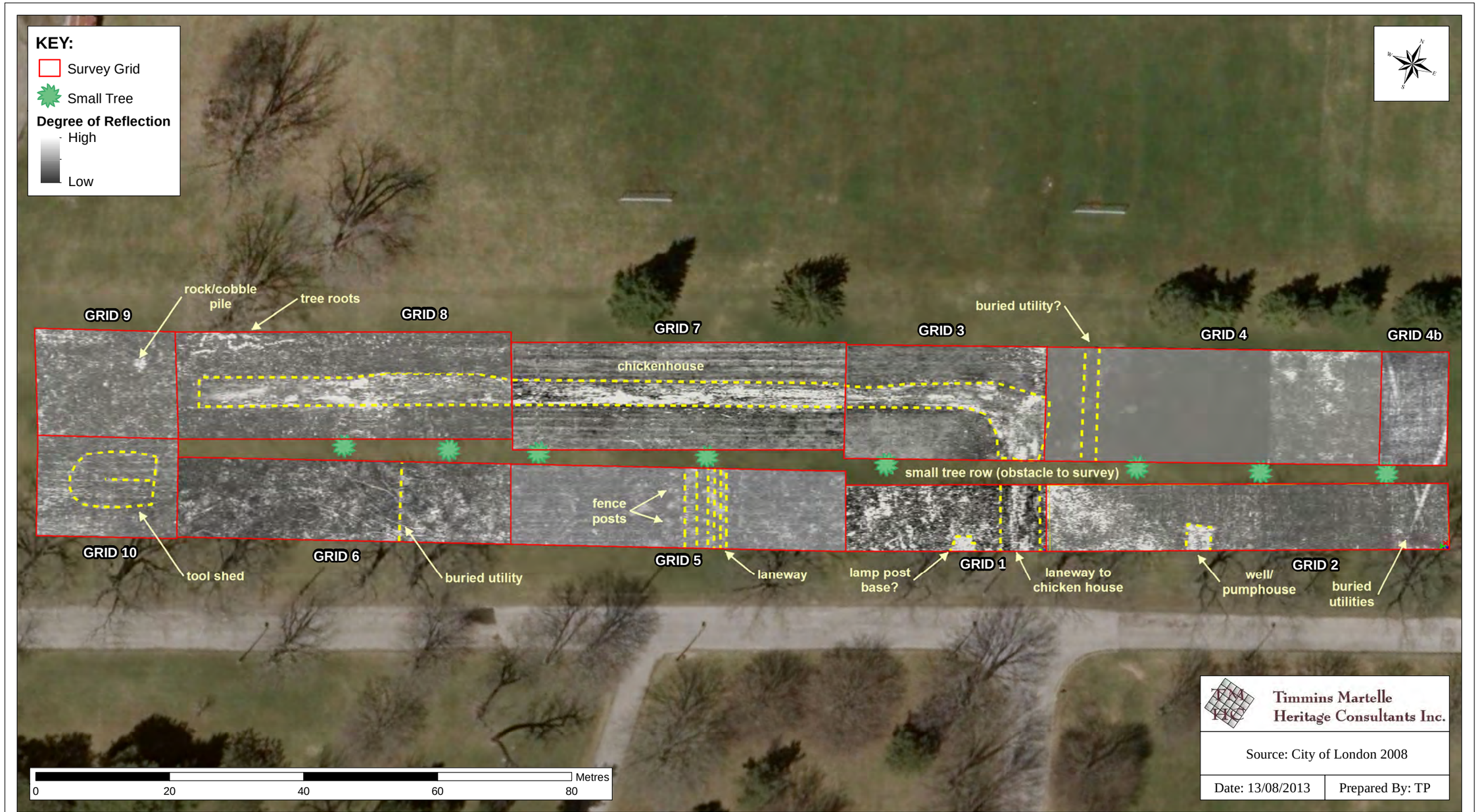
Map 11: 1953 Service Plan Showing the GPR Survey Area



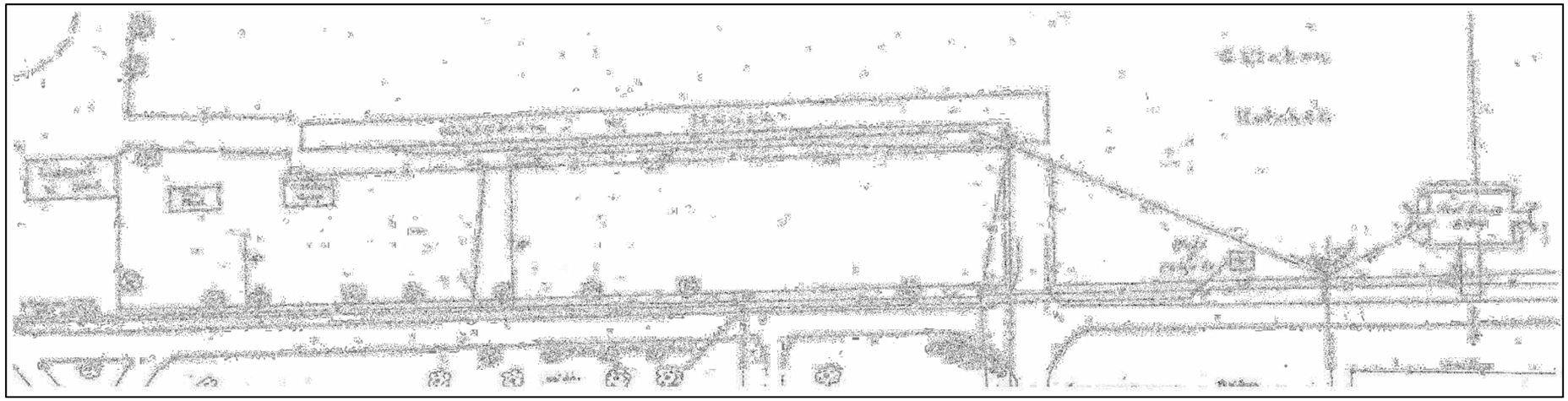
Service Plan. ~1st Sheet~ Ontario Hospital London. Dated March 1953. Courtesy of Infrastructure Ontario. File N00016 ID 200423518

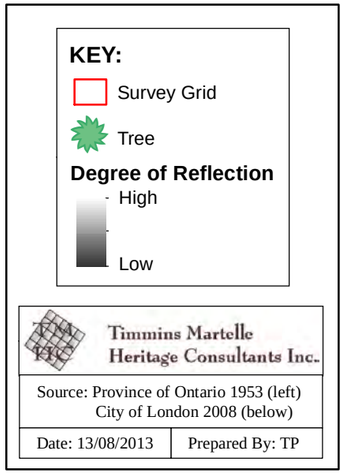


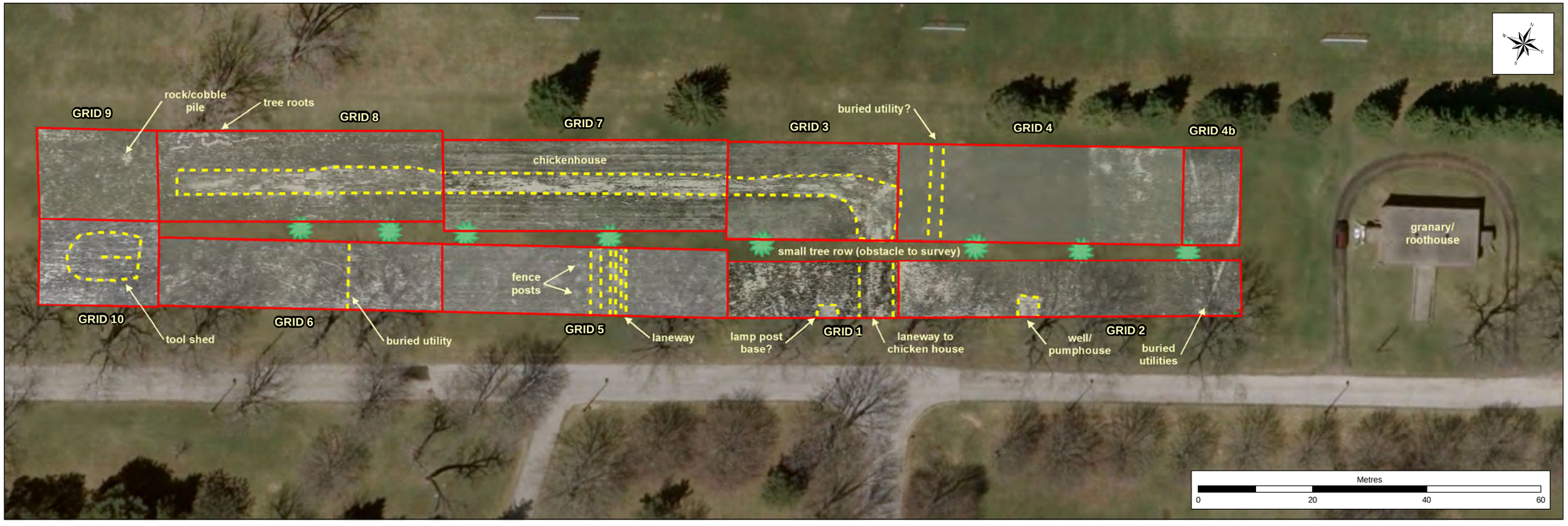
Map 12: Location of GPR Survey Girds



Map 13: Composite Map of GPR Survey Results Overlaid on Aerial Photograph







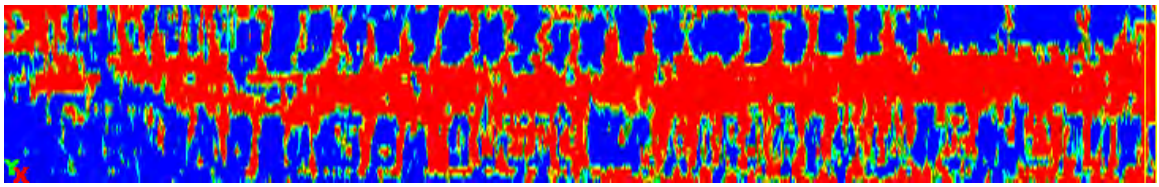
Map 14: Composite Map of GPR Survey Results Compared to 1953 Service Plan

Map 15: Location and Orientation of Photographs Appearing in this Report

Appendix A: Sample Images of GPR Results Showing Confirmed Grave Shafts

a) well-marked active cemetery (identity withheld for privacy) (TMHC collected data)

- two rows are shown, one at top of image and one at bottom; grave shafts appear as distinct rectangular to ovoid features in blue



a) poorly-marked cemetery area with less regular gravel placement (identity withheld for privacy) (TMHC collected data)

- multiple rows are shown, one at top of image and one at bottom; grave shafts appear as distinct rectangular to ovoid features in white and light grey

SCHEDULE "B1"

STATEMENT OF CULTURAL HERITAGE VALUE AND INTEREST

DESCRIPTION OF HISTORIC PLACE:

The former London Psychiatric Hospital is located at 850 Highbury Avenue North on a 26.3-hectare (65-acre) parcel of land in the City of London. The rectangular-shaped property is bounded by Highbury Avenue North, Oxford Street East, Dundas Street East and a Canadian Pacific Railway spur line. The Former Hospital Lands contain a complex of 23 buildings and a number of landscape features. Four of the buildings have been identified as having provincial heritage value: the Chapel of Hope (1884), Horse Stable (1894), Infirmary (1902), and the Recreation Hall (ca.1920). A number of landscape features have been as identified having provincial heritage value. These include remnants of a ring road and a circular drive, open space, remnants of an ornamental landscape containing mature plantings of black walnut trees and the grand, tree-lined Allée. The facility opened in 1871 as the London Asylum for the Insane and operated under a number of names over the course of its history including the Ontario Hospital London, London Psychiatric Hospital and Regional Mental Health Care Centre.

STATEMENT OF PROVINCIAL SIGNIFICANCE FOR THE LONDON PSYCHIATRIC HOSPITAL

The London Psychiatric Hospital represents the theme of mental health treatment. Large government-run institutions such as the one in London transformed treatment of individuals with mental illness to a province-wide system. Four public asylums had opened at Toronto, London, Kingston and Hamilton by 1871. Until the middle of the 20th century, institutionalization of individuals with mental illness and developmental disabilities was a common practice and form of treatment. These institutions were self-sufficient, located in rural areas adjacent but outside of urban areas where patients[1] lived and received treatment. The rural location of the London Psychiatric Hospital was part of "moral therapy," an approach to the care and treatment of mental illness popular in the mid to late nineteenth century. Moral therapy promoted activities such as gardening, woodworking, games, sewing and reading in addition to medical care. Religion was also an important aspect of moral therapy and Superintendent R.M. Bucke had the Chapel of Hope constructed using patient labour, which was also part of the treatment. As mental health care and treatments evolved, the grounds of the London Psychiatric Hospital transformed. The practice of moral therapy and use of the Kirkbride Plan (i.e. all activities take place in one centralized building) was replaced by the idea that specialized facilities for each activity were needed for patients and staff. It was at this time that the Infirmary Building was constructed as part of Superintendent R.M Bucke's modernization of the facility. The ideals of moral therapy led to the development of occupational therapy after the First World War.

The London Psychiatric Hospital is the only mental health facility in Ontario that has a standalone chapel. The Chapel of Hope was a core to providing moral therapy treatment. The London Psychiatric Hospital is associated with an era of mental health care when the government was constructing self-sufficient institutions built in strategic locations throughout the province. The large, segregated, self-sufficient institutional campus represents a rare aspect of Ontario's history and is no longer used to treat individuals with mental illness.

The Allée with mature trees and the large imposing Victorian-era Infirmary contribute to the property's visual and aesthetic importance. The Infirmary is monumental in size and the most substantial building remaining on site. Its prominent features include the tall chimneys, central block and symmetrical wings. The Infirmary's haunting Victorian architecture has allured photographers and videographers who capture the intrinsic aesthetic beauty of the building. The horse stable also contributes to the aesthetic importance of the property and is the last remaining building associated with the property's agricultural past. It retains a significant amount of its original design aesthetic including its distinctive ventilators. The large scale of the building and quality of materials of the stable show the importance of agriculture to the London Psychiatric Hospital.

Superintendent Richard Maurice Bucke (1837-1902), was a significant figure and contributor to mental health treatment in Canada. Bucke held the post of Superintendent from 1877 until his death in 1902 and made several important contributions to patient treatment and the design and layout of London Psychiatric Hospital. Bucke developed recreational and occupational therapy programming as part of treatment, eliminated the use of restraints and ended the use of alcohol as a treatment – all progressive reforms for his time. Superintendent Bucke also had a significant impact on the design and layout of the site. Many of the significant heritage features that remain today were built under his tenure and were due to his influence, including the Chapel of Hope,

[1] The accepted term for a recipient of mental health services is "client". For the purposes of this report, which is a discussion of the history of the site, patient will be used unless discussing present-day client care.

Stable, Infirmary and the Allée. Bucke is also a controversial figure and the source of great debate among historians and mental health professionals for his encouragement and use of gynaecological surgeries on women for treatment of mental illness.

BACKGROUND:

Historic Value:
Prior to the 19th century, people with mental illnesses were housed in jails, workhouses or the family home and many had no choice but to live on the streets. The Victorian era saw social change, and came to depend upon institutions to solve the social problems of the day. Large institutions were supposed to be places of refuge where patients were separate from the rapidly changing outside world. The London Psychiatric Hospital followed the Kirkbride Plan and moral therapy treatment – patients were to be placed in a natural environment with a significant amount of farm and parkland. When opened in 1871, the London Psychiatric Hospital was located on 300 acres just outside city limits. The City of London was chosen as the location for a new institution partially due to the influence of John Carling – Ontario's first commissioner of public works. He directed the construction of the institutions on land he had sold to the government in 1870.

The institution was self-sufficient and significant farming operations were located on the northern portions of the site with stables, greenhouses, orchards, fields full of crops and a root house for storage. While various employment opportunities were available at the London Psychiatric Hospital, patient labour was used as part of moral therapy treatment and as a way of keeping costs down. In the early years patient labour was separated by gender – men worked in the field and tended to the animals while women worked in the laundry, cleaned and sewed. There were numerous clubs, sporting events, annual picnics and other special occasions for patients and staff thus giving the London Psychiatric Hospital a sense of community.

Religion was an important part of moral therapy treatment and the new chapel was constructed by patient labour as part of their treatment plan. The Chapel was built in 1884 at the behest of Dr. Bucke who petitioned the provincial government to fund its construction. Regular church services were part of treatment at the London Asylum with religious services held in the general recreation facilities prior to the Chapel's construction. The London Psychiatric Hospital is the only mental health facility in Ontario that has a stand-alone Chapel.

The Infirmary or Exam Building, completed in 1902 was intended to house patients who needed more enhanced medical care and offered dormitories and individual rooms for patients and common rooms and sunrooms. Superintendent Bucke toured similar facilities in the United States and helped design the building plan with provincial architect Francis R. Heakes. In 1908 the building was converted to use as a reception hospital to house new and short-term patients. These short-term patients might stay for a few months to a few years, and had access to advanced treatments such as showers, massages and continuous baths.

Following the First World War, a large number of Canadian veterans were admitted to London Psychiatric Hospital suffering from psychological effects of the war. They were treated for "shell-shock" for which symptoms are now associated with post-traumatic stress disorder. Overcrowding was an issue at the London Psychiatric Hospital and by 1924 it accommodated almost 1200 patients. Maintaining a peaceful and idyllic setting for patients was difficult for the superintendents due to the overcrowding. Many common and sun rooms were used as wards to accommodate patients instead of places of rest and relaxation. R.M Bucke is the most well-known and controversial superintendent at the London Psychiatric Hospital for his encouragement and use of gynecological surgeries on women. Some argue the surgeries were an attempt by Bucke to find a successful treatment for his patients – but there seems to be little merit of such surgeries on mentally ill women. Upon his death, the use of gynecological surgery came to an end at London Psychiatric Hospital. The London Psychiatric Hospital is also associated with eight superintendents who were the chief administrators and medical directors of the London Psychiatric Hospital from 1870-1970. They had an array of responsibilities including supervising staff, medical services, training nurses, therapies, property and facilities maintenance and medical study of all patients. .

These institutions evolved to providing occupational and vocational therapies. In the early 1960s, new medications were developed to treat mental illness thereby starting the de-institutionalization process. While these drugs might not cure patients suffering from mental illness, they helped reduce and control symptoms allowing patients to be discharged and to live in the community. The move away from institutionalization to community living made these large, self-sufficient facilities obsolete.

Architectural Value:

Chapel of Hope

The Chapel of Hope was built in 1884 by patient labour under instruction by Superintendent Bucke. It is a 1 ½ storey buff-brick structure in the Gothic Revival style and features two chimney's at the east and west elevation. The gable roof is interrupted with four dormers on the north and south elevations with trefoil shaped windows. The side walls feature seven gothic-arched stained glass windows separated by buttresses. The stained glass window over the alter features a combination of religious and London Psychiatric Hospital images.

Horse Stable
The Horse Stable was built in 1894 under the direction of Superintendent Bucke and the scale and quality of materials shows the importance of agriculture to the self-sufficiency and practice of moral therapy at London Psychiatric Hospital. It is a large two-storey buff brick building. There are two intersecting gable roof sections and five ventilators along the apex to provide ventilation and give the building a distinct silhouette. The segmental arched window openings (bricked over) have brick voussoirs and most have stone sills. The eaves have tongue and grove soffits. A large second storey board and batten door provides access to the hay loft on the building's west elevation .

The Infirmary
The Infirmary is an imposing building with a combination of architectural styles popular in the Victorian-era including Beaux-arts Classicism, Edwardian Classicism and Colonial Revival. The Infirmary is constructed of local buff brick with a central administration block with two recessed symmetrical wards on either side (one for men and one for women). The three-storey central block sits on a raised basement. It has a hipped roof with a central skylight to the operating theatre and tall distinctive chimneys. The main front entrance is topped with a pediment supported by pilasters, a large rounded arched window and two smaller rounded-arched windows and a dentilated cornice. The symmetrical wards are connected to the central block by a narrow corridor. The wards feature Colonial Revival influence seen in the projecting central bay with a pediment and coins, ventilators, dormer windows and dentillated cornice. The sun porches at the end of each wing were originally in the shape of a trapezcid. The current ones are rectangular and date from 1945. The rear (north) elevation of the Infirmary is simplified with projecting bays, dormer windows and tall chimneys. All of the window openings are flat-arched and many of the double-hung wood-sash windows survive. The exception is a singular rounded-arch window on both ward façades above an off-centered entrance door.

Recreation Hall
The Recreation Hall was constructed in 1920 and is located directly east of the Chapel of Hope. It was constructed in a Classical Revival style of reddish-brown brick laid in common bond. It features a symmetrical façade frontispiece – a central block and two flanking wings. The central block features a pediment with an oculus window, a central rectangular shaped tripartite window flanked with 6-paned window. The flanking wings feature a rounded-arched window. The brickwork that surrounds the windows is dark brown and extends well beyond the base of the window. Each of the six multi-paned rectangular wood windows are divided into three parts on the side-walls and set within a shallow rounded-arched niche. The austere rear elevation features coining and a singular rounded-arched window in the gable.

Contextual Value:
The London Psychiatric Hospital is deliberately setback from the main street to provide a serene and rural setting – core to moral therapy and the Kirkbride Plan. The historic main entrance to the Former Hospital Lands is off Dundas Street East where the Allée leads visitors from the street and into the complex of institutional buildings. The Former Hospital Lands were originally surrounded by a rural farming landscape. They are now bordered by three extremely busy thoroughfares (Highbury Avenue North, Oxford Street East and Dundas Street East) and the surrounding neighbourhood has evolved to become the home to several business and industries along Highbury Avenue North and Dundas Street East and a residential subdivision to the east.

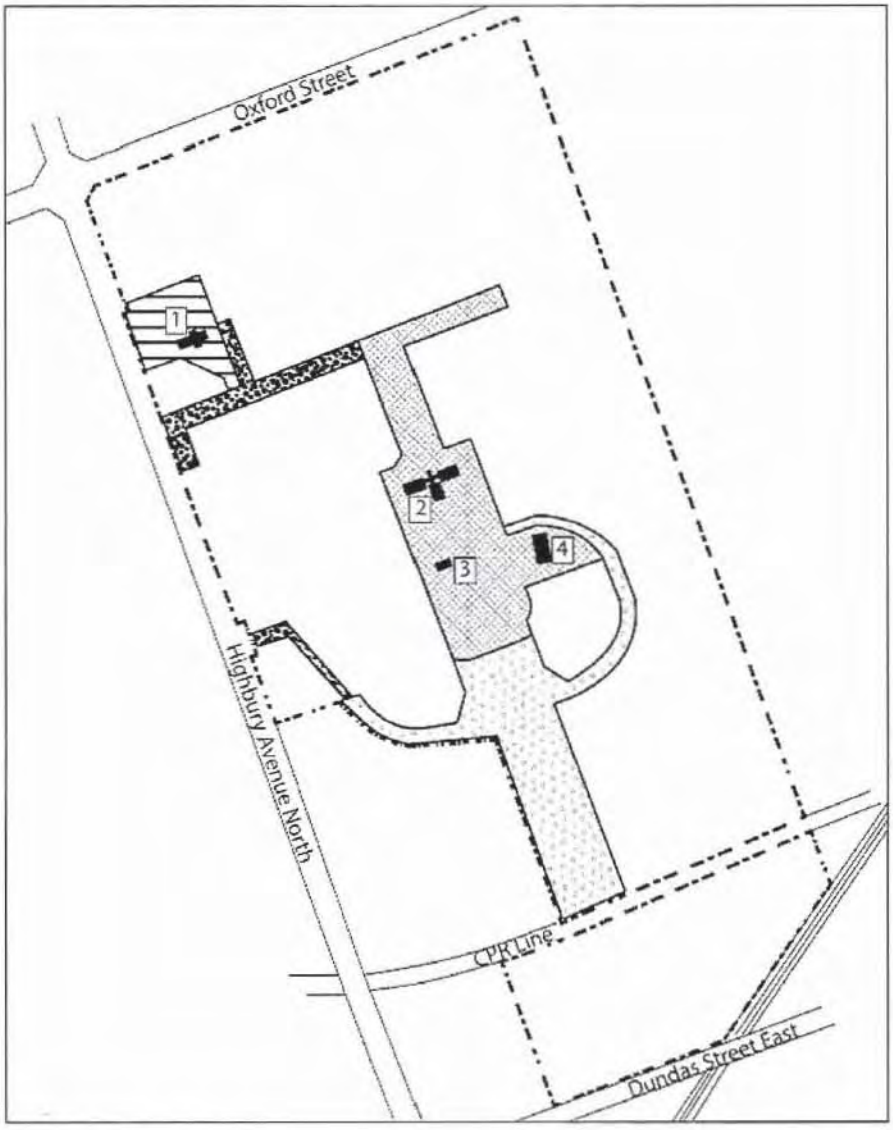
Archaeological Value:
The London Psychiatric Hospital has archaeological value due to the below ground resources associated with the evolution mental health care. The main building, airing yard, portions of the root house represent the era in the 19th century when use of the Kirkbride Plan and self-sufficiency was the norm at these large-scale government run mental health institutions.

:SF August 23 2017

SCHEDULE "B2"

SITE SKETCH SHOWING

A. THE APPROXIMATE LOCATION AND CONFIGURATION OF THE PROTECTED LANDS AND THE ACCESS LANDS ON THE FORMER HOSPITAL LANDS
B. THE APPROXIMATE LOCATION AND CONFIGURATION OF THE ALLÉE AND RING ROAD ZONE ON THE PROTECTED LANDS
C. THE APPROXIMATE LOCATION OF BUILDINGS ON THE PROTECTED LANDS



SKETCH NOT TO SCALE

SKETCH NOT A PLAN OF SURVEY

LEGEND

- Access Lands
- Allée and Ring Road and Zone
- Campus Zone
- Horse Stable Zone

1. Horse Stable
2. Infirmary
3. Chapel of Hope
4. Recreational Hall

— · — · Boundaries of the Former Hospital Lands

SCHEDULE "B3"

DESCRIPTION OF THE HERITAGE FEATURES

The Heritage Features referred to in this Agreement are comprised of the exteriors of the Buildings on the Protected Lands which include, but are not limited to, the following highlighted elements which contribute to their heritage value:

The Horse Stable:

- General massing and two intersecting gable roof sections
- "t"-shaped footprint
- Local buff brick (also called white brick)
- Five roof ventilators
- Brick chimney (east elevation)
- Location of existing segmental-arched window and door openings
- Brick voussoirs and stone sills above and below window openings
- Board and batten upper access doors to hay loft (west elevation)

Chapel of Hope:

- Local buff brick construction
- Gable roof topped with a finial
- Double-lancet stained glass windows
- Large stained glass window above the alter depicting religious imagery and scenes from the London Psychiatric Hospital
- Bull's eye window with quatrefoil muntin in the gable end
- Seven bay side walls with buttresses
- Trefoil dormers
- Chimneys

The Infirmary:

- Local buff brick construction
- Symmetrical composition - tall three-storey central administration block on a raised basement centre block flanked by two identical wards with rectangular wood verandahs
- Main front entrance topped with a pediment supported by pilasters, a large rounded arched window and two smaller rounded-arched windows and dentilated cornice
- Tall chimneys and skylights atop the hipped roof of the central block
- Dentilated cornice around the entire building
- Double-hung wood-sash windows
- Flat arch buff-brick lintels and stone sills
- Louvered ventilators atop the flanking wards
- Pediments, dormer and Bull's eye windows of the wards
- The single rounded-arched window of the wards façade
- Decorative buff-brick quoins at the end walls and separating the slightly projecting bays of the wards
- The simplified rear (north) elevation with projecting bays, dormers and chimneys
- Sun porches at the end of each ward

Recreation Hall:

- Reddish-brown brick construction
- Symmetrical façade frontispiece – a central block and two flanking wings.
- Central block with pediment, oculus window, a central rectangular shaped tripartite window flanked with 6-paned window
- Flanking wings feature a rounded-arched window with decorative dark-brown brickwork extending well beyond the base of the window.
- Side walls with six multi-paned rectangular wood windows divided into three parts and set within a shallow rounded-arched niche
- Raised basement with multi-paned windows
- Projecting bays on the side wall with a pediment, quions, entrance door and six-over-six wood-sash windows
- Rear elevation features quions and a rounded-arched window in the gable

DESCRIPTION OF CULTURAL HERITAGE LANDSCAPE FEATURES

The provincially significant cultural heritage landscape on the Protected Lands is composed of three zones:

1. **The Allēe and Ring Road Zone:** This zone contains the grand tree-lined Allēe that stretches from the historic entrance at Dundas Street East northward to the circular drive and ring road that connects the Infirmary, the Chapel of Hope and the Recreational Hall. With its open spaces and rows of mature trees, it evokes a designed rural setting and framed vista for the key institutional buildings of the Hospital which are set back from the main entrance off Dundas Street East.

2. **The Campus Zone:** This zone contains three (3) buildings associated with the London Psychiatric Hospital of provincially significant heritage value: the Infirmary, the Chapel of Hope and the Recreational Hall as well as associated open spaces, landscape and plantings. These elements are located within a ring road at the end of a long Allēe stretching south to Dundas Street.

3. **The Horse Stable Zone:** This zone is comprised of open space, mature trees and unobstructed views of all sides of the horse stable.

The Cultural Heritage Landscape Features of the Allēe and Ring Road Zone
The Cultural Heritage Landscape Features of the Allēe and Ring Road Zone include, but are not limited to, the following highlighted elements:

- The 470-metre tree-lined Allée that extends from the CPR Line and intersects with the circular drive
- Circular drive with internal green space and east/west access to the ring road
- Remnants of the ring road
- Mature trees that border the ring road on both sides

The Cultural Heritage Landscape Features of the Campus Zone
The Cultural Heritage Landscape Features of the Campus Zone include, but are not limited to, the following highlighted elements:

- The location of the provincially significant buildings: Chapel of Hope, Infirmary and Recreation Hall within the landscape
- Their deliberate setback of the from the Dundas Street East to provide a serene and rural setting
- Strategically planted trees including the row of black walnut trees along east/west interior roadway leading to the Horse Stable
- North/south tree-lined roadways framing a view of the north (rear) elevation of the Infirmary
- The open space of the lawn with mature plantings directly south of the Infirmary

The Cultural Heritage Landscape Features of the Horse Stable Zone
The Cultural Heritage Landscape Features of the Horse Stable Zone include, but are not limited to, the following highlighted elements:

- Mature trees including sugar maples and walnuts
- Surrounding open space providing unobstructed views of all four elevations of the Horse Stable

---

:SF August 23, 2017

SCHEDULE "A"
To By-law No. L.S.P.-3321-208

CON 1 Pt Lot 8 S/S Oxford E and N/S Dundas 160.35 AC

SCHEDULE "B"
To By-law No. L.S.P.-3321-208

Reasons for Designation
London Psychiatric Hospital (850 Highbury Avenue)

Historical Reasons

The first asylum in southwestern Ontario was set up in 1860 at Fort Malden, Amherstburg, as a branch of the Toronto Asylum, which was already overcrowded. Dr. Henry Landor was appointed superintendent of Fort Malden, a former military barracks converted into an asylum to house inmates and incurables. After Confederation in 1867, politicians decided to build an asylum two miles outside the London city limits. The Asylum was modeled on Thomas Kirkbride's landmark Pennsylvania Asylum. The London Asylum for the Insane opened at the present site November 18, 1870 on 300 acres of farmland. The hospital grew in size and by 1914 there were 1,130 patients. In 1968 the hospital was renamed the London Psychiatric Hospital. The hospital was joined to St. Thomas Psychiatric Hospital to operate under a single administration in 1995. The original main hospital building was demolished in 1975.

Dr. Richard Maurice Bucke was the second superintendent of the London Asylum for the Insane (1877 to 1902). Acting on his convictions that the mentally ill respond favourably to humanitarian and sympathetic treatment, he elaborated on the efforts of his predecessor, Dr. Henry Landor, to provide therapeutic activity for patients by making the asylum into a working farm. Bucke provided improved farm facilities and he created grounds that were more ornamental. He implemented an elaborate plan for the beautification of the grounds, in keeping with his theory that beautiful surroundings were conducive to mental health and provided many social occasions. He also reduced the use of alcohol and mechanical constraints as means of controlling patients. His innovative ideas are reflected in the buildings and grounds of the London Psychiatric Hospital.

Architectural Reasons

Tree-lined Avenue (entrance off Dundas Street)

Built under Bucke's supervision, (circa 1900) the original entrance to the hospital grounds is a two-lane avenue with a centre walkway lined with eight rows of elm trees. (Three rows of trees on either side of the lanes and one row on either side of the walkway) Some trees have been replaced with coniferous varieties but the form remains the same. It forms a magnificent vista north from Dundas Street to where the original hospital building stood and is still on axis with the 1902 Infirmary building further back. This was the site for patient picnics on Sundays.

Infirmary Building

Also known as the 1902 Building, Exam Building, Bucke Research Institute, Outpatient Department and Admitting Hospital, this tall Victorian three storey yellow brick building with a hip roof, is a classical example of balance and symmetry. The central surgical block is attached by two passageways to mirror -image side pavilions, each featuring a gabled projection and cupola. This classical organization is appropriately accompanied by numerous classical details like the corner quoins, the plain pediment over the front entrance, voussoirs over windows and a semi-circular window on the second level above the front entrance. Huge skylights provided light for the surgical suite on the third floor. Entrance steps have closed brick railings.

Recreation Hall

This two storey brown brick building was built around 1920 and was used to host recreational activities for patients including a basement level swimming pool (now filled in) and a stage for performances. The building has gable ends with a wide plain frieze and molding with return eaves over broad pilasters at the south end and a pediment at the north end. There are four small wings, two at each end, with pediment gables. The metal roof has two ventilators. The auditorium windows on the sides are large and tall, and are set in semi-circular headed brick panels, and each has 40

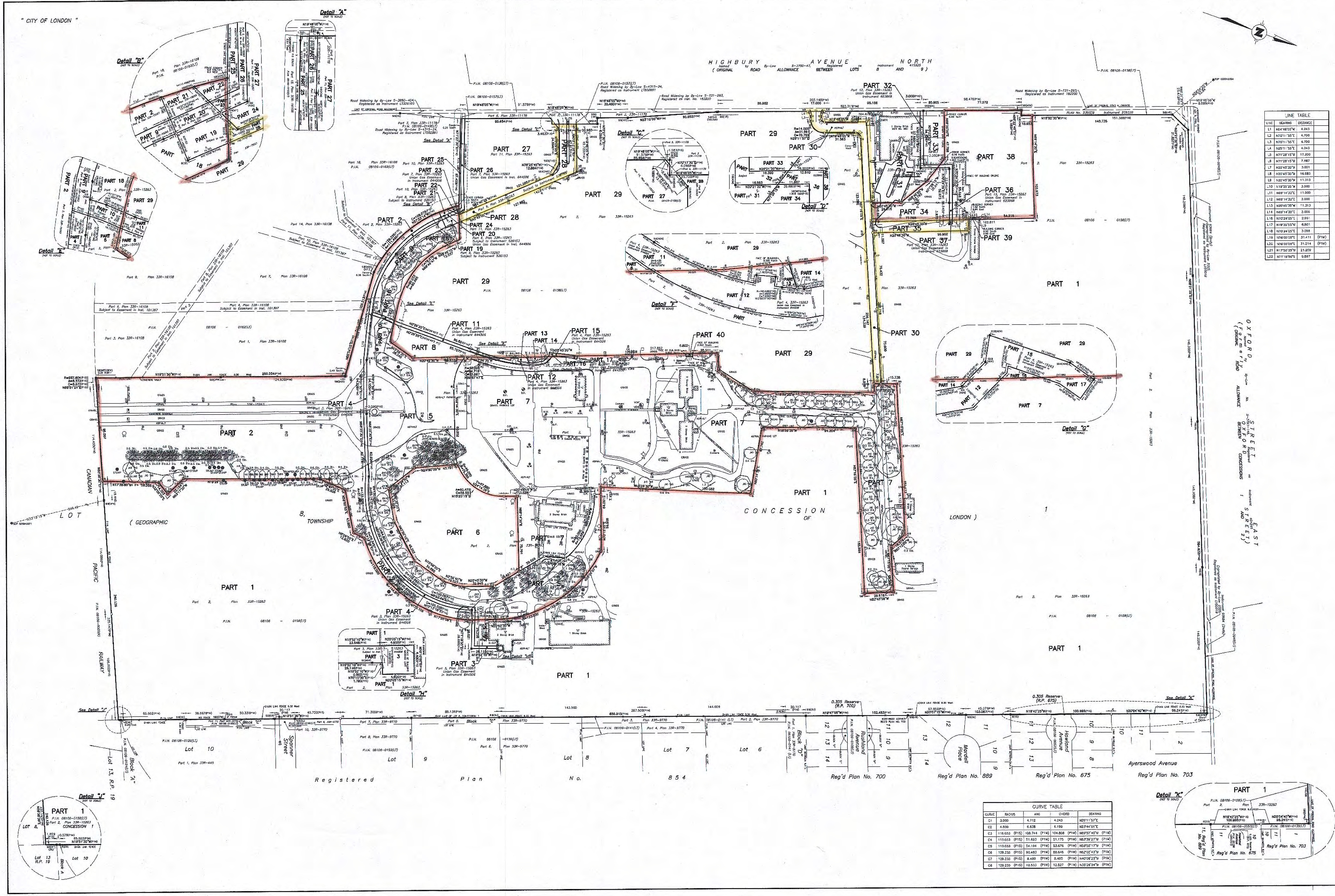
panes arranged in nine sections. The double door centre entrance way has an eight-light transom, windowed doors, small lanterns to each side, high wide front steps, and a canopy supported by chains.

The Chapel

The Chapel of Hope was built by patients in 1884. Originally built as an Interdenominational chapel, it was later only a Catholic place of worship since the Protestant congregation had grown so large. In 1965 it was again made into an Interdenominational chapel. This Gothic revival brick structure has seven stone-capped buttresses on each side. It has four small dormers on each side of the gable roof, each featuring a trillium shaped stained glass window. There are seven Gothic arch shaped stained glass windows on each side of the building and a large stained glass window behind the altar. The front entrance roof peak is capped with a carved stone ornament as is the two smaller side entrances.

Horse Stable

The 1894 horse barn located on the hospital grounds is close to Highbury Avenue and Oxford Street. It is the last remaining building of the farmyard built by Bucke. Built of white brick, white washed at the base and with a slate roof, the barn is the last of three original buildings. It was obviously intended to be functional rather than decorative but its almost monumental size, its nearly regular fenestration, its classical proportions and the picturesque effect produced by the ventilation cupolas make it a strikingly handsome building, as well as a meaningful symbol of the last vestige of the hospital's significant agricultural past.



I REQUIRE THIS PLAN TO BE DEPOSITED UNDER THE LAND TITLES ACT	PLAN 33R-
DATE ______	RECEIVED AND DEPOSITED
J. ANDREW SMITH, O.L.S.	DATE ______
	REPRESENTATIVE FOR LAND REGISTRAR FOR THE LAND TITLES DIVISION OF MIDDLESEX (No. 33)

SCHEDULE

PART	LOT	CONCESSION	P.I.N.	AREA
1	Part of LOT 8	1	Part of 08106-0258(LT)	32.6104 ha
2	Part of LOT 8	1	Part of 08106-0258(LT)	3.1584 ha
3	Part of LOT 8	1	Part of 08106-0258(LT)	170.4 sq.m
4	Part of LOT 8	1	Part of 08106-0258(LT)	1099.1 sq.m
5	Part of LOT 8	1	Part of 08106-0258(LT)	2.0344 ha
6	Part of LOT 8	1	Part of 08106-0258(LT)	1.1893 ha
7	Part of LOT 8	1	Part of 08106-0258(LT)	5.5814 ha
8	Part of LOT 8	1	Part of 08106-0258(LT)	1468.4 sq.m
9	Part of LOT 8	1	Part of 08106-0258(LT)	379.2 sq.m
10	Part of LOT 8	1	Part of 08106-0258(LT)	72.2 sq.m
11	Part of LOT 8	1	Part of 08106-0258(LT)	314.1 sq.m
12	Part of LOT 8	1	Part of 08106-0258(LT)	202.6 sq.m
13	Part of LOT 8	1	Part of 08106-0258(LT)	66.4 sq.m
14	Part of LOT 8	1	Part of 08106-0258(LT)	92.5 sq.m
15	Part of LOT 8	1	Part of 08106-0258(LT)	62.4 sq.m
16	Part of LOT 8	1	Part of 08106-0258(LT)	2.3 sq.m
17	Part of LOT 8	1	Part of 08106-0258(LT)	25.9 sq.m
18	Part of LOT 8	1	Part of 08106-0258(LT)	2971.0 sq.m
19	Part of LOT 8	1	Part of 08106-0258(LT)	148.7 sq.m
20	Part of LOT 8	1	Part of 08106-0258(LT)	43.7 sq.m
21	Part of LOT 8	1	Part of 08106-0258(LT)	53.5 sq.m
22	Part of LOT 8	1	Part of 08106-0258(LT)	36.0 sq.m
23	Part of LOT 8	1	Part of 08106-0258(LT)	13.6 sq.m
24	Part of LOT 8	1	Part of 08106-0258(LT)	2.2 sq.m
25	Part of LOT 8	1	Part of 08106-0258(LT)	128.4 sq.m
26	Part of LOT 8	1	Part of 08106-0258(LT)	284.2 sq.m
27	Part of LOT 8	1	Part of 08106-0258(LT)	6976.1 sq.m
28	Part of LOT 8	1	Part of 08106-0258(LT)	1712.6 sq.m
29	Part of LOT 8	1	Part of 08106-0258(LT)	9.7400 ha
30	Part of LOT 8	1	Part of 08106-0258(LT)	2474.2 sq.m
31	Part of LOT 8	1	Part of 08106-0258(LT)	5282.1 sq.m
32	Part of LOT 8	1	Part of 08106-0258(LT)	217.0 sq.m
33	Part of LOT 8	1	Part of 08106-0258(LT)	1126.2 sq.m
34	Part of LOT 8	1	Part of 08106-0258(LT)	2423.8 sq.m
35	Part of LOT 8	1	Part of 08106-0258(LT)	1056.3 sq.m
36	Part of LOT 8	1	Part of 08106-0258(LT)	199.0 sq.m
37	Part of LOT 8	1	Part of 08106-0258(LT)	11.7 sq.m
38	Part of LOT 8	1	Part of 08106-0258(LT)	9189.7 sq.m
39	Part of LOT 8	1	Part of 08106-0258(LT)	22.6 sq.m
40	Part of LOT 8	1	Part of 08106-0258(LT)	20.6 sq.m

PARTS 1 TO 40 INCLUSIVE COMPRISES ALL OF P.I.N. 08106-0258(LT).
PARTS 3, 4, 9, 10, 11, 12, 15, 17, 20, 23, & 26 ARE SUBJECT TO EASEMENT AS IN INSTRUMENT 644506.
PARTS 19, 20, 21, & 28 ARE SUBJECT TO EASEMENT AS IN INSTRUMENT 526153.
PARTS 32, 36, & 37 ARE SUBJECT TO EASEMENT AS IN INSTRUMENT 623868.

LINE TABLE

LINE	BEARING	DISTANCE	
L1	N64°48'05"W	4.243	
L2	N70°11'55"E	4.700	
L3	N70°11'55"E	4.700	
L4	N25°11'55"E	4.243	
L5	N71°28'15"W	17.200	
L6	N71°28'15"W	7.887	
L7	N20°45'30"W	3.001	
L8	N20°45'30"W	16.683	
L9	N20°45'30"W	11.313	
L10	N19°35'25"W	3.000	
L11	N69°14'30"E	11.000	
L12	N69°14'30"E	2.000	
L13	N20°45'30"W	11.313	
L14	N69°14'30"E	2.000	
L16	N70°24'05"E	2.951	
L17	N19°35'55"W	6.801	
L18	N70°24'05"E	3.098	
L19	N76°00'00"E	31.411	(P1M)
L20	N76°00'00"E	31.214	(P1M)
L21	N17°58'35"W	21.209	
L22	N71°19'50"E	9.867	

CURVE TABLE

CURVE	RADIUS	ARC	CHORD	BEARING
C1	3.000	4.712	4.243	N25°11'57"E
C2	4.500	6.838	6.199	N23°44'01"E
C3	115.033 (P1S)	106.744 (P1M)	104.808 (P1M)	N69°57'40"W (P1M)
C4	113.033 (P1S)	51.623 (P1M)	51.175 (P1M)	N63°39'27"W (P1M)
C5	113.033 (P1S)	54.194 (P1M)	53.676 (P1M)	N56°50'17"W (P1M)
C6	129.235 (P1S)	90.483 (P1M)	88.646 (P1M)	N62°02'43"W (P1M)
C7	129.235 (P1S)	8.480 (P1M)	8.480 (P1M)	N40°06'23"W (P1M)
C8	129.235 (P1S)	12.533 (P1M)	12.527 (P1M)	N35°26'54"W (P1M)

PLAN OF SURVEY

OF PART OF

LOT 8, CONCESSION 1

(GEOGRAPHIC TOWNSHIP OF LONDON)

IN THE

CITY OF LONDON

COUNTY OF MIDDLESEX

SCALE 1:1000 (METRIC)

(SCALE IN METRES)

J. ANDREW SMITH
ONTARIO LAND SURVEYOR

NOTES:

UNLESS OTHERWISE NOTED ALL DIMENSIONS SHOWN ARE MEASURED.

BEARINGS ARE U.T.M. GRID DERIVED FROM SPECIFIED CONTROL POINTS 02819942054 AND 02819942071, UTM ZONE 17, NAD83 (CSRS-2010.0).

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99956692.

SPECIFIED CONTROL POINTS (SCP's): UTM ZONE 17, NAD83 (CSRS-2010.0) COORDINATES TO URBAN ACCURACY PER SEC. 14 (2) OF O.REG. 216/10		
POINT ID	NORTHING	EASTING
SCP 02819942054	4761757.220	482913.680
SCP 02819942071	4760640.583	483819.509
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN		

LEGEND:

▫	DENOTES SURVEY MONUMENT SET
▪	DENOTES SURVEY MONUMENT FOUND
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON BAR
IB	DENOTES IRON BAR
RIB	DENOTES 16mm DIAMETER ROUND IRON BAR
CC	DENOTES CUT CROSS
OU	DENOTES ORIGIN UNKNOWN
WIT	DENOTES WITNESS
M	DENOTES MEASURED
S	DENOTES SET
C.L.F.	DENOTES CHAIN LINK FENCE
R.P.	DENOTES REGISTERED PLAN
CD	DENOTES CALLON, DIETZ, O.L.S.'s
AGM	DENOTES ARCHIBALD, GRAY & McKAY, O.L.S.'s
DPW	DENOTES ONTARIO DEPARTMENT OF PUBLIC WORKS
FKS	DENOTES FARNCOMB, KIRKPATRICK, & STIRLING, O.L.S.'s
HR	DENOTES HOLSTEAD & REDMOND, O.L.S.'s
MGS	DENOTES MINISTRY OF GOVERNMENT SERVICES
P1	DENOTES PLAN 33R-15263

SURVEYOR'S CERTIFICATE:

I CERTIFY THAT:

(1) THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.

(2) THE SURVEY WAS COMPLETED ON THE

PRELIMINARY - NOT MONUMENTED

DATE ______

J. ANDREW SMITH
ONTARIO LAND SURVEYOR

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

C:_CDvault\DWG\2016s\2017\17-21702\RPlan_E-915.dwg February 2, 2018

Callon Dietz INCORPORATED
ONTARIO LAND SURVEYORS
LONDON NORTH BAY ST. THOMAS
info@callondietz.com callondietz.com

D00014-London
Psych, North of CPR

ISO9001

SURVEY BY:	DRAWN BY: Ian S	FILE No: 17-21702	PLAN No: E-915

STREET 'E'
BLOCK 153
HIGH DENSITY/MIXED USE
0.626 ha
BLOCK 154
HIGH DENSITY/MIXED USE
0.846 ha
BLOCK 155
HIGH DENSITY/MIXED USE
2.452 ha
BLOCK 145
MEDIUM DENSITY RES.
2.498 ha
BLOCK 144
OPEN SPACE
0.618 ha
BLOCK 146
MEDIUM DENSITY RES.
2.283 ha
PART 3
PLAN 33R-15263
BLOCK 158
OPEN SPACE
0.608 ha
BLOCK 159
HERITAGE
0.900 ha
BLOCK 156
HIGH DENSITY/MIXED USE
1.437 ha
BLOCK 172
ROAD WIDENING
1.036 ha
OXFORD STREET
RUSHLAND AVE
HOWLAND AVE
STREET 'A'
STREET 'C'
STREET 'F'
HIGHBURY AVENUE
'P1'
'P6'