CITY OF LONDON

THAMES VALLEY CORRIDOR PLAN

Final Report

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Preamble

The Thames River was one of the first rivers in the province formed after the last glacial retreat. As a 'gateway' river, with a direct link via Lake St. Clair, the Great Lakes and the St. Lawrence River to the Atlantic Ocean, it has played a significant role in the human settlement and development of south-western Ontario. In recognition of its outstanding natural and cultural contributions, quality recreational opportunities, and demonstration of a healthy river environment, the Thames River was recognized as a Canadian Heritage River in 2000.

The Thames watershed spans the Carolinian and Great Lakes-St. Lawrence floristic zones; and, with over 90% located exclusively in the Carolinian zone, the Thames River is unique among major Canadian rivers. Although much altered by time and human activities, the Thames watershed is considered one of the most biologically diverse regions in Canada, containing remnants of rare tallgrass prairie and supporting woodlands containing sycamore, black walnut and hackberry. Numerous species of wildflowers, ferns and sedges can be found in the understorey, including a number of rare species and species-at-risk. While the Thames River was nominated as a Canadian Heritage River on the basis of its cultural heritage and recreational attributes, its ecological values are also well recognized. It is by virtue of the dams located along the Thames that prevented the River's recognition under a natural heritage category.

At a visionary level, it is hoped that the Thames Valley Corridor through London will continue to exemplify these attributes, supporting environmental and economic vitality, tourism, and local and regional recreation initiatives. Functionally, the Corridor is a complex system of sensitive ecological habitats, intensive public recreation areas, and developed urban lands connected by multi-purpose trails and scenic by-ways. The balancing of these often competing demands to ensure the long-term sustainability of the river and the maintenance of its sensitive and vulnerable natural features is challenging. Effective management of land development, human uses and the natural environment will be important in maintaining this sensitive balance.

The City of London Official Plan Vision states that City Council will:

"protect and enhance natural features and attributes that are significant to the maintenance of ecosystem health in the Thames River and Kettle Creek watersheds"; and,

"an expanded system of parklands, natural areas and trails along the valley and ravines of the Thames River and Kettle Creek watersheds will provide continuous corridors for recreation, wildlife habitat and refuge from urban life."

This Thames Valley Corridor Plan has been developed in the spirit of this Vision, through consultation with City of London staff, the Upper Thames River Conservation Authority, community and environmental organizations, and residents.

Acknowledgements

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We would like to thank all those individuals and organizations that participated in the various consultation events and provided comments or completed questionnaires. We truly appreciate your time and input.

We would like also like to thank City staff and agency representatives not listed here whose efforts directly or indirectly contributed to the completion of this study.

London
CANADA

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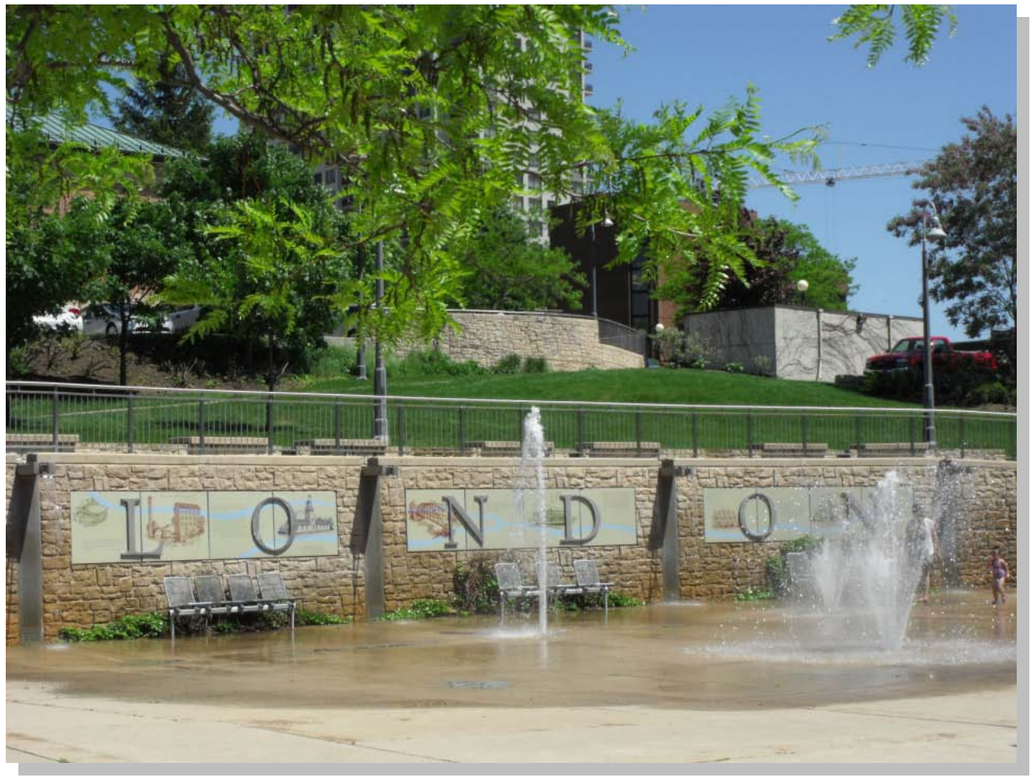


1.0 Introduction

1.1 Background

London has long recognized the important resources and multi-functional role that the Thames Valley Corridor contributes to the City's history and identity. The preparation of a "Thames River Valley Corridor Plan (OP 2.9.3)" was identified as a key strategic environmental planning policy in 1996 and confirmed by the Ontario Municipal Board in 2000 by approving Official Plan Amendment #88 that contained the following policy directive: "The City recognizes the Thames Valley Corridor as its most important natural, cultural, recreational and aesthetic resource. The City shall prepare a Thames River Valley Corridor Plan to optimize the multi-functional role of the river valley system in the City over the long term future."

In 2000, the Thames River was recognized as a Canadian Heritage River, based on its outstanding natural and cultural contributions, quality recreational opportunities, and demonstration of a healthy river environment.

To achieve this policy objective, and to be consistent with provincial policy and legislation, the City of London has prepared the Thames Valley Corridor Plan. The Plan is a long-range vision document and a key planning tool for the City over the next two decades. The Plan provides recommendations to address key land use planning and management issues, as well as, protecting and enhancing the corridor's features and functions. The overall corridor study has been divided into three phases; Phase 1 Scope and Background Study, Phase 2 Corridor Plan and Recommendations, and Phase 3 Implementation.

Thames Valley Corridor Plan: Phase 1

In 2007, the City and the UTRCA completed the Thames Valley Corridor Plan Phase 1 : Scope and Background Study . The study was undertaken in consultation with the Corridor Advisory Committee (CAC), comprised of agency representatives, community and interest groups, as well as through public meetings. The study consisted of four main tasks:

1. Defining the functional limits of the Thames Valley Corridor
2. Creating a Vision Statement and developing goals and objectives for the Corridor Plan.
3. Documentation of all relevant corridor information including the functional attributes of the corridor lands including their use for servicing, history and evolution of land uses and flood plain control measures , the regulatory environment which defines the corridor limits and directs the use and management of the floodplain and valley lands, the natural and cultural heritage elements located within and adjacent to the Thames River, aesthetic values, and parks, open space and recreation resources. This assemblage of information was used to identify information gaps needed to prepare the Corridor Plan. Background information from the Phase 1 study used in the preparation of this Corridor Plan is referenced.
4. Establishing the scope of study required for Phase 2.

The CAC was reconvened for the Thames Valley Corridor Plan Phase 2 study to provide opportunities for continued representation and input from stakeholders and interest groups.

Functional Limits of the Corridor

The definition of the limits of the Thames Valley Corridor (refer to Figure 1) was based on the following criteria:

1. Regulatory Hazard Lines – defined as the maximum hazard limits of the flood plain and the erosion lines, also including the City's Special Policy Areas.

2. Natural Heritage Features identified on Schedule B1 of the Official Plan including: ESA's, potential ESA's, unevaluated vegetation patches, significant woodlands, wetlands and significant river, stream and ravine corridors.

3. Logical topographical edges or extensions (e.g. roads, existing development patterns and natural topographic features).

4. Contiguous municipally- and UTRCA-owned parkland/ open space.

The boundaries of the corridor limits were established in Phase 1, however, opportunity for further review of these boundaries was included in objectives for Phase 2. The Phase 2 report reviewed a number of locations where expansions to the corridor boundary could justified. The recommendations for boundary expansion are included in Section 4 of this report.

1.2 Vision and Objectives

Vision

The following Corridor Vision Statement was established during the Phase 1 consultative process.

The Thames Valley Corridor is London's most important natural, cultural, recreational and aesthetic resource. The City and community partners will preserve and enhance the natural environment, Thames River health, vistas, beauty and cultural heritage while accommodating compatible infrastructure, accessibility and recreation.

Objectives

A series of Objectives for the Phase 2 work were established by the City and its partners during Phase 1 of the study which guided the preparation of the Thames Valley Corridor Plan. These objectives are quoted below (source Phase 1: Scope and Background Study, July 2007):

1. Establish a continuous corridor with a minimum width and identify linkages to tributary sub-watersheds.

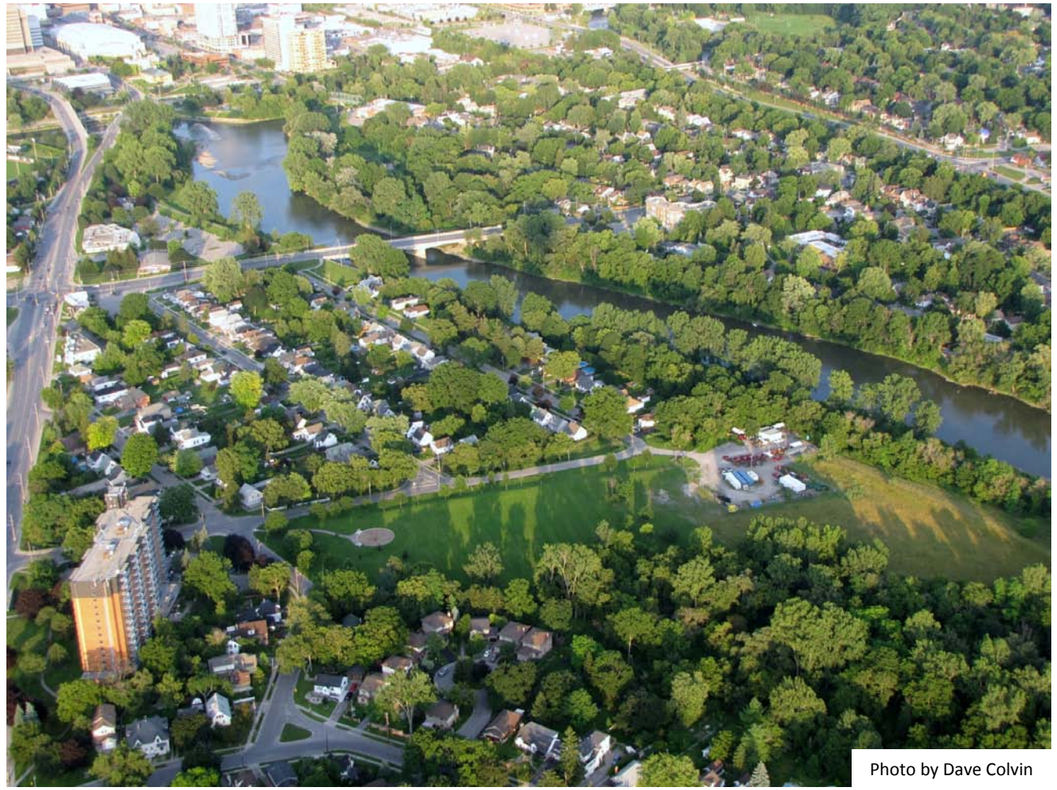


Photo by Dave Colvin

2. Preserve and enhance natural heritage features including vegetation, wildlife habitat, water quality, improved erosion control (storm/sewage impacts).
3. Preserve and enhance cultural heritage through educational signage, building preservation and identification of historical significance.
4. Develop guidelines and policies to ensure development along the corridor is compatible with the goals and objectives of the Plan.
5. Preserve and enhance the aesthetic beauty of the corridor.
6. Determine what infrastructure is compatible for inclusion in the corridor (such as utilities and buildings).
7. Determine and map compatible recreation uses. Identify suitable points of access, pathway and trail systems, lookout points and linkages to communities and Thames Valley Parkway.
8. Engage citizens in plans for the corridor through education, sharing of information and consultation. Create signage and promote stewardship and riverside clean-ups.

9. Determine what measures are necessary to ensure safe use of the Thames Valley Corridor (such as safe trails and access points).

10. Determine appropriate policies, regulations and enforcement through integration with the Official Plan.

1.3 Purpose of the Report

The City of London Thames Valley Corridor Plan establishes an overall concept plan for the Thames River, and the associated corridor lands defined through the Phase 1 process, along with key strategies and directions for management and use. The Thames Valley Corridor Plan is informed by the background review, issues identification and public input derived from both the Phase 1 and Phase 2 stages of the process.

The Phase 1 background review identified a gap in the level of available ecological attribute information. The Phase 2 scope of work included supplemental investigations to characterize and map the vegetation patches contained within the corridor. The information was used to inform the natural environment recommendations and management strategies and mapping contained within the Thames Valley Corridor Plan. The data is compiled in the Thames Valley Corridor Plan Phase 2: Technical Summary Report (April 2009) and supported by GIS map layers and a database provided under separate cover.

The results of the Phase 1 study documented a wide diversity of attributes that characterize the river and its valley lands. To best organize and present this information, the CAC established four broad categories, identified as “themes” that grouped related attributes under the planning categories of:

- **Natural Heritage, Stewardship, and Protection**
- **Celebration, Recreation, Leisure and Tourism**
- **Land Use Planning and Management**
- **The Working River**

Within each of these themes are presented a series of recommendations, guidelines, implementation strategies and policy modifications to better recognize and support the Vision for the Thames Valley Corridor. The implementation strategies establish priorities, action items and special projects that may require capital funding.

1.4 Existing Official Plan Policy Framework

There are a number of overarching documents that provide direction to the Thames Valley Corridor Plan and its implementation, including, but not limited to, the Provincial Policy Statement (2005), the City of London Strategic Plan (2007), the City of London Official Plan (2010), the City of London Parks and Recreation Master Plan Update (2009), the City of London Subwatershed Studies (1995), UTRCA Environmental Planning Policy Manual (2006) and the City of London Zoning By-law (1994). The City of London and the Upper Thames River Conservation Authority continue to update strategic plans and prepare new studies to address growth and development, and environmental issues. It will be important

to monitor and respond to any strategic changes in policy direction that affect the implementation of the Thames Valley Corridor Plan over its term. To keep the Thames Valley Corridor Plan current, a major review, consistent and/or coincident with the City of London Official Plan review, should be undertaken every five (5) years.

The Vision and strategies for the Thames Valley Corridor as presented in this document are consistent with London Official Plan policies. Relevant sections of the Official Plan that establish key goals and principles for the Thames Valley Corridor are summarized below and referenced in their entirety in Appendix 1 of this document. Refer to Figure 1 for the existing Land Use Context (Official Plan Schedule A). Suggested changes to the wording of some of these policies to support the objectives and recommendations of the Corridor Plan are outlined in this report in section 4.1 Official Plan Policy Directives and Recommendations. It is intended that a separate Official Plan amendment will be brought forward to Council to implement the recommended amendments.

The Official Plan embraces an ecosystem approach to planning with a mandate to maintain and enhance ecosystem health for the abiotic (physical elements such as soil, water, landform), the biotic (plants, wildlife and people) and the cultural (recreation, urban, transportation planning) aspects of the ecosystem. This level of ecosystem health will be supported by sustainable development forms and designs that are pedestrian-oriented, transit-supportive, accessible, safe, and that protect important ecological features and functions.

The City regards the valley lands of the Thames River and its tributaries as the primary open space resource, with the objective to provide a continuous, linear open space network of trails and pathways connecting people and communities with an equitably distributed open space system of natural areas, parks, activity areas and facilities. The Transportation policies support the planning and development of pedestrian paths and bicycle routes that provide linkages to this network.

Urban design principles for development near the corridor include the protection of significant natural features and their integration with urban form and community design, tree preservation and planting, maintaining open views of natural features and landmarks, and the creation of gateways at strategic and prominent locations.

The Official Plan defines **Gateways (11.1.xxi)** *as important elements in the creation of a sense of place and arrival, and provides visual signals that both define and distinguish an area. Gateways occupy strategic and prominent locations, and are primarily associated with major entrances to the City, districts or neighbourhoods. Gateways may be created through the placement of the buildings or structures themselves that frame or create the gateway or entrance.*

Objectives for enhancing the contribution of the Natural Heritage System to the urban matrix include maintaining, restoring and improving the diversity and connectivity of natural features and the long-term ecological integrity of the system. The City will develop and implement management and naturalization programs for publicly owned lands; the City will encourage private landowners with these efforts through education, stewardship, and incentives; the City requires ecological buffers to be established adjacent to new development.

Looking East on the South Branch of the Thames River toward the South Street Hospital Campus

The valley lands of the Thames River have some major limitations that must be considered in the development of a Corridor Vision. These limitations on development and land use activities are imposed by the natural flood plain, slope and erosion hazard areas, as mandated by provincial policy and regulated under the Conservation Authorities Act.

The Thames River is the receiving watercourse for sanitary sewerage effluent discharge and stormwater runoff. Objectives for infrastructure services must protect the natural environment and meet Ministry standards for water quality, fish habitat, erosion and sedimentation control, protection of groundwater recharge, discharge and stream baseflow.

Climate Change Report

In 2008, the City undertook a review to provide an evaluation of climate change impacts of extreme rainfall events on related municipal design standards and infrastructure; *Vulnerability of Infrastructure to Climate Change*. In the last 30 years London has had five severe flooding occurrences (March 1977, September, 1986, July 2000, April and December 2008). Climate modeling based on more up-to-date rainfall events and patterns suggests that the City of London can expect to experience more frequent and more severe precipitation events in the future which may seriously impact various public infrastructure. Current infrastructure was designed and constructed on the basis of standards and codes that were developed decades ago. These standards and codes were based on historic climate and design storms which are no longer representative of the predicted rainfall patterns. With the changes in these rainfall events, some infrastructure may no longer have the capacity to handle the new rainfall events loads and impacts.

In order to reduce the potential vulnerability to adverse impacts of climate change in particular under extreme rainfall events, it is necessary to anticipate the possible effects, and adapt. Municipal decision makers and stakeholders must be informed regarding projected effects, and develop suitable measures to deal with the effects of climate change under the extreme rainfall events in the future.

The completed study will update a number of municipal standards and sub watershed studies, develop a Green Infrastructure Plan incorporating an environment and ecological approach to water resource management and develop a long term climate change strategy.

The Role of the Report

This report is seen as a guideline document that will inform the Official Plan and other regulatory documents in the management of the valley lands. Any recommendations made in this document must be mindful and respect current policies, by-laws, regulations and approval authorities that govern them.

The recently constructed dike located along the west side of the Thames River, opposite Harris Park, won a design award in 2010. The dike protects residents from flooding events.

2.0 Thames Valley Corridor Plan

2.1 Character Areas and Strategies

For the purposes of establishing an overall framework or plan for the Thames Valley Corridor, a series of character areas or structuring elements have been established to describe the unique attributes and potentials within the Thames Valley Corridor. The character areas are described below. Their locations in each Branch of the Corridor are illustrated on the Corridor Concept Plans (Figures 2 – 5) following.

Please refer to Section 3 for specific recommendations on each aspect of the Thames Valley Corridor under headings of: Natural Heritage, Stewardship and Protection; Celebration, Recreation, Leisure and Tourism; Land Use Planning and Management; and The Working Thames River.

Thames Valley Corridor Gateways

The concept of 'Gateways to the Thames Valley Corridor' can be used to celebrate and promote the natural and cultural heritage of the Thames Valley Corridor and to mark entrances to the City as one first encounters the Thames River on approach from beyond its boundaries. As identified earlier in the report, gateways are defined by the Official Plan as, "important elements in the creation of a sense of place and arrival, and provide visual signals that both define and distinguish an area. Gateways occupy strategic and prominent locations, and are primarily associated with major entrances to the City, districts or to neighbourhoods. Gateways may be created through the placement of buildings, landscape features, or the design and architecture of the buildings or structures themselves that frame or create the gateway or entrance." In the London Downtown Master Plan Study, the Forks area is identified as a 'Gateway to the Downtown'.

Key Strategies:

Develop Gateways to mark the intersection of the Thames Valley Corridor along the three branches of the Thames River. Visually, these gateways would mark the first encounter of the Thames River on approach from outside the City's boundaries and would offer viewing and potentially physical access to the river valley.

Gateways should maintain or enhance existing views and screen undesirable aspects by focusing attention on positive elements or using vegetation as buffers or to enhance views.

Gateways are to be created through land use design and / or with physical landmarks or built form. These might include landscape elements such as plantings, sculpture, signage, public squares or bridge design, or high quality, and iconic building form.

This bridge in Winnipeg serves as both a crossing structure and a gateway feature.

Valley Crossings

The bridges and Thames River crossings are iconic features for the City of London. They provide opportunities for interactions with the Thames Valley Corridor, both visually and functionally. They offer frequent and best views of the Thames River – a daily occurrence for most residents, and often the only contact with the Thames River for visitors. Other valley crossings include trails through natural areas and the multi-use pathway system through parkland.

Key Strategies:

London's valley crossings and bridges are a distinctive part of the City's identity, and should be included in City plans as visual windows to the Thames River. Where space exists, distinctive and ecologically based landscape and urban design treatments that promote the Thames Valley Corridor should be incorporated into existing and planned valley crossings.

Valley crossings connect neighbourhoods and communities. Any planned improvements to the transportation network should provide for the continuation of pedestrian / cycling crossings and the integration of multi-modal uses on vehicular bridges.

New or reconstructed bridges or valley crossings should respect and protect the adjacent natural features and functions, and methods for minimizing impacts should be employed in the design and construction of all transportation, communication, sewerage or other infrastructure that cross the valley. Infrastructure will be strongly discouraged from locating in ESA's as per Official Plan policies. All environmental assessments must address the environmental sensitivity of the corridor lands.

Bridges are significant reminders of London's historical development. Many are historic structures or incorporate heritage features. A review of London's bridges should be undertaken to identify those that should be protected as part of a heritage conservation program. Bridges of significant heritage value should continue to be ranked in the City of London's Heritage Inventory (Priority 1, 2 or 3 as appropriate) and Heritage Bridge Evaluations should be completed for all bridges that have not been ranked.

The numerous bridges across the Thames River, both modern and historic, are iconic features of London.

Valley crossings should reinforce and celebrate the Thames River. Bridge replacements and improvements to existing bridges should support the Thames River aesthetics and maintain and enhance views. Consideration should be given to incorporating artistically designed bridge structures or components to serve as landmarks and public art elements. The City's history and stories of the river

Walter Blackburn Memorial Fountain located adjacent to the Kensington Bridge and functions as a gateway feature to the Downtown.

Environmentally Significant Areas (ESA's)

There are four large "core" natural areas that fall within the Thames Valley Corridor, as defined by this Plan, and these are designated as Environmentally Significant Areas or ESA's. These protected natural areas represent a variety of habitats and landforms associated with the Thames River Valley lands, including deciduous and mixed forests, wetlands and stream corridors. These ESA's include:

Meadowlily Woods (south branch of the Thames River)
Kains Woods (along the main branch)
Killaly Meadows (along the north branch on both sides of the river) and
Komoka Provincial Park (extension from Kains Woods)

Killaly Meadows area of the Thames River Corridor.

The lands that comprise these ESA's, with the exception of Komoka Provincial Park, are managed jointly by the City of London and the Upper Thames River Conservation Authority (UTRCA) through an ESA Management Committee. An ESA Management Team based out of the UTRCA implements general management objectives and specific projects identified in Council approved Conservation Master Plans.

The main duties of the ESA team are:

- to provide environmental protection and enhancement
- to ensure public safety;
- to encourage partnership and education, and;
- to promote and enforce proper use.

The Meadowlily Woods ESA also includes: Park Farm, a significant cultural heritage property; Meadowlily Bridge, a historic bridge c. 1910; and areas of archaeological significance. Management of this large natural area is directed by a Master Plan prepared in 1988. A Secondary Plan is being prepared for the lands south of Meadowlily Woods ESA, with anticipated completion in 2012. A new Conservation Master Plan for the ESA is anticipated to be completed within the next three years as more land comes into City ownership.

Public access within the Kains Woods ESA follows the recently formalized trail generally aligned with historic Thames Valley Trail Association route that has been in use since the early 1970's.

Killaly Meadows is managed for natural environment and public trails, guided by an Open Space Master Plan that was approved in 1999. The Thames Valley Parkway runs through portions of the ESA along the south side of the river providing neighbourhood linkages to the valley throughout the City. No further trails or pathways are proposed.

There are several other ESA's that, while not falling within the technical Thames Valley Corridor boundary, are part of the watershed "Big Picture" system of core natural areas and corridor connections that add to the ecological integrity and health of the Thames Valley Corridor (OP Schedule B-1).

The Big Picture vision is supported by London's Official Plan and is based on a concept plan prepared by Carolinian Canada with objectives to align the analyses and strategies of a broader regional watershed natural heritage system that transcends municipal boundaries.

The Coves
Warbler Woods
Sifton Bog
Westminster Ponds / Pond Mills
Medway Valley Heritage Forest

Near the end of the review process, The Coves ESA has been identified as being partially within the corridor boundary. Lengthy discussions were held debating the inclusion of The Coves within the corridor boundary. It was determined that The Coves ESA does extend into the corridor, however, a Special Policy Area designation has been approved for The Coves and a master plan is being prepared for the area which will better guide future land use and management of the ESA. A special character policy area has also been identified in this study that speaks to The Coves and its relationship to the corridor system.

Key Strategies:

All ESA's are primary or core components of the City's Natural Heritage System and are therefore subject to the Environmental Policies in the City's Official Plan. The protection, maintenance and ecological enhancement of these areas are paramount for their long term viability and integrity.

ESA's are significant natural areas. They will be managed following a consistent approach that: protects the features and functions of the ESA, and may provide for controlled use and access through marked trails, interpretive signage and compatible passive recreational opportunities. These areas are not intended for servicing corridors.

Conservation Master Plans should be developed and updated for identified ESA's. The Conservation Master Plan will serve as a guideline document for specific management recommendations to be implemented over a 10 year period.

Open Space

The existing open space areas of the Thames Valley Corridor are 'common grounds' where natural areas, managed open space, pathways and trails, and passive recreation pursuits intermingle. Although not specifically identified as ESA's these lands may include significant patches of vegetation and wildlife habitat that should be protected, maintained and enhanced as part of a Thames Valley Corridor natural area restoration program. This continues a practise of naturalizing lands in the corridor since 1993 – more than 12% of "parkland" has been planted with over 48,000 plants.

By comparison, the developed park areas that offer recreation facilities such as playing fields, picnic areas and other park amenities, and which serve as neighbourhood or community social gathering areas are identified as Activity Areas in the Thames Valley Corridor concept plan. The Thames Valley Parkway provides a link between these focal points.

Key Strategies:

Natural Areas

*(*see also Recommendations section on Natural Heritage, Stewardship and Protection, and the Restoration and Management Strategy Plans in Appendix B to this report).

Important non-ESA natural areas in the Thames Valley Corridor include existing vegetation patches within the parks and open space lands that were evaluated as components of the natural heritage system and classified using Ecological Land Classification (ELC) (MNR, 1998) as part of this study process. Of the 47 previously unclassified vegetation patches in the Thames Valley Corridor, which are largely unmanaged, all exhibited some signs of human disturbance. These included litter, presence of invasive species, and random trails which require management or possible closure. ELC mapping and datasheets that summarize the field conditions and evaluations for the vegetation patches in the Thames Valley Corridor are contained in the Appendices of the Technical Summary report that was prepared as background to this study. Recommended locations for restoration are identified on the **Restoration and Management Strategy Plans** contained in Appendix B to this report.

Develop an Environmental Action Plan that identifies opportunities and areas of priority for restoration management. The plan should identify key areas for restoration work with appropriate budgeting and timelines.

Preserving and Enhancing the Natural Areas of Thames River Valley and its associated tributaries as the backbone of the Natural Heritage system. An integrated and connected network of natural lands helps maintain ecological integrity and viable populations of indigenous species, and supports the linking of significant terrestrial, water and landform elements and features within naturalized corridors. Associated tributaries should be managed to preserve and enhance the ecological integrity and linkages within the Thames Valley Corridor.

Strategic restoration of open space lands to buffer and enhance existing remnant natural areas is an important management strategy for the Thames Valley Corridor.

Preserve and protect the Thames River's outstanding natural resources. These include existing areas of vegetation**,** at risk plant and animal species and their habitats, river islands, steep slopes, riverbanks and other natural features within the Thames Valley Corridor and along the tributaries.

Enhance existing vegetation patches and habitat areas through restoration. Focus planting in underutilized areas of the Thames Valley Corridor parkland and open space, and manage public access to maintain a low level of disturbance and to protect existing and new habitat areas.

Restoration priorities should be first focused on the most significant natural areas, as identified by criteria from the Official Plan including: presence of rare vegetation communities and species, identified locations of Species at Risk, and areas that support interior habitat for breeding birds.

Preserve/enhance/create ecological corridors and linkages, to areas outside the Thames Valley Corridor, such as other ESA's and significant woodlands, significant wetlands, major tributaries, and subwatershed linkages, to enhance the natural function of the Thames Valley Corridor system.

Acquisition efforts should be made to purchase natural area land within or adjacent to the corridor as an opportunity to preserve/enhance /create natural heritage areas. Mapping of these areas should be included in the environmental action plan.

Parks, Pathways, Trails and Open Space

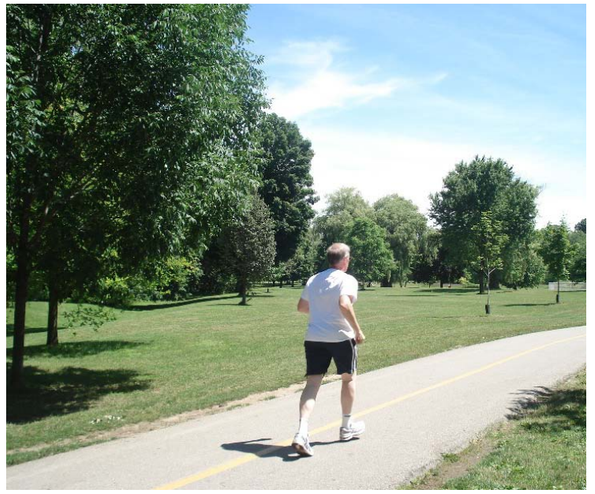
The parks and open space system should continue to support places where people and nature co-exist as part of the same ecosystem. Passive, nature-oriented parkland, valleyland open space, and the system of pathways and trails in the Thames Valley Corridor support healthy lifestyles; promote wellness, provide for affordable, unstructured recreational pursuits; promote tourism opportunities; and foster cultural and natural heritage appreciation.

The open space areas are generally intended to support pathways, trails, and passive, informal and nature-oriented use areas only. More intensive, built recreation facilities requiring infrastructure or supporting large groups of recreation users should generally be directed into areas that can sustain additional activities. (See Section on Activity Areas following).

An appropriately located and designed system of pathways and trails can form an integral part of an environmental management strategy by directing access and trail and pathway users through or around natural areas in ways that protect the ecological attributes. Pathways will be generally located outside ESA's and only considered in ESA's under unique circumstances through public planning processes.

Protect and respect natural heritage features. All trails should avoid sensitive features, and where established through natural areas should be designed in a manner that is appropriate to the use and context. Any trails proposed for ESA's shall conform to the final *"Planning and Design Standards for Sustainable Trails in ESA's"* being developed by the City.

Promote community access to the Valley. Completion of gaps and establishment of secondary pathways and trail connections should focus on neighbourhoods with socio-demographic indicators that suggest



The Thames Valley Parkway offers a diversity of recreational experiences. Additional benches, rest areas, shade trees, washrooms and drinking fountains should be developed at strategic locations.

access to no or low-cost, or unstructured outdoor recreation would be most beneficial, and those that are presently underserved by other parks and recreation program opportunities.

Complete the planned gaps in the Thames Valley Parkway. The Thames Valley Parkway (TVP) is a distinct part of London's identity. Completing the Thames Valley Parkway between key parks and other destinations within the Thames Valley Corridor is an important priority for the public. There are four main gaps in the City's current pathway system. They are as follows:

1. TVP North Branch: Richmond to Adelaide.
2. TVP Main Branch: West end of Springbank Park to Oxford/Riverbend Area.
3. Meadowlily Bridge to City Wide Sports Park.
4. Highbury Avenue to Clarke Road

The conceptual layout of the TVP is illustrated on the Thames Valley Corridor Concept Plan figures. It is a first principle that the TVP shall be located outside of ESA's. Where this is not feasible, an environmental study shall be undertaken in accordance with the final *"Planning and Design Standards for Sustainable Trails in ESA's".*

Provide for an accessible, age-friendly and multi-use pathway system within the Thames Valley Corridor to address current and future recreation and social needs and projected demographic changes. This includes providing additional or expanded amenities such as benches and rest areas, shade trees, washrooms and drinking fountains, at parks and other strategic locations along the Thames Valley Parkway.

Develop a strategy to incorporate/create trails into existing Activity Areas that offer recreational activities in a natural setting that are not seen as desirable within ESA's.

Preserving and Enhancing the Thames Valley Parkway and its associated tributaries as the backbone of the Parks, Pathways, Trails system.

Activity Areas

Activity Areas are existing parks or recreation areas within the Thames Valley Corridor that have been developed with recreational facilities, (e.g. Ivey Park, Springbank Park, Labatt Park; Thames Park, Vauxhall Park, St. Julien Park, Gibbons Park, and selected areas of Fanshawe Conservation Area). Activity Areas within the Thames Valley Corridor currently include a range of recreational amenities including sports fields, tennis courts, swimming pools, washrooms, water fountains, picnic areas, splash pads, fishing docks, a canoeing club, cultural sites and children's play areas. Subject to the findings of a Master Plan, Harris Park, see Figure 2, has been identified as a potential Activity Area due to its location at the Forks, and proximity to downtown.

Springbank Gardens (formerly Wonderland Gardens) is an activity area within Springbank Park that dates to the 1930's.

Key Strategies:

Facilities, amenities or infrastructure that are needed to support existing or new recreation or cultural uses or social gathering spaces should be clustered in Activity Areas. Notwithstanding this objective, the TVP (and other components of the pathway and trail system) which support linear recreational activities also traverse open space areas of the Thames Valley Corridor outside of Activity Areas.

The location of any new Activity Areas will avoid significant natural heritage areas and implement sustainability objectives including: ease of access by existing roads or trails, proximity to existing parking areas, access to transit, avoidance of impacts to other natural areas and wildlife habitat, and appropriate setbacks and buffers to the Thames River. Several sites that have been identified as having the potential to expand, or be future Activity Areas have been identified on the Thames Valley Corridor Concept Plans.

Provide appropriate separation of uses and buffers to existing vegetation in areas containing developed recreational components.

An artistic rendering of a redevelopment possibility of the South Street Hospital Complex along the South Branch of the Thames River in the SOHO District.

Development of any new constructed facilities in the Thames Valley Corridor including servicing should include objectives for overall environmental enhancement, using sustainable design measures, green technologies (LEED certification is an example) and compliant with appropriate regulations (see Green Development Standards pg 12).

Thames River Edge Access

There are only a few places along the Thames Valley Corridor where provisions for interaction with the Thames River have been made. The existing locations include: Springbank Pumphouse area, the Riverside boat launch, rowing club, canoeing club, and fishing docks. At a number of locations informal access points to the river's edge have been 88888created.

The multi-functional Amphitheatre area at the Forks National Historic Site in Winnipeg serves as event space and dragon boat viewing area.

Providing access to the Thames River's edge for viewing, fishing, dipping feet, or exploring nature is a way to get users more concerned about the Thames River's stewardship and restoration efforts. Formalization of Thames River edge access points at strategic locations is important to limiting random trail development, and preventing trampling of riverbank vegetation. Some opportunities already exist in the Thames River park system in the form of viewing areas, fishing docks and launch ramps.

Some interest was expressed during the consultation process for the creation of a blueway or blue trail program and additional facilities to support recreational boating, including an additional launch ramp on the South Branch; more locations for canoe / kayak hand launching; and improved opportunities for dragon boating and viewing (dependant on the operation of the Springbank Dam). There are already several locations along the Thames River where these activities can take place including: up stream of the Springbank Dam, at Fanshawe Conservation Area (park fee required), and the boat launch and fishing docks at Wonderland and Riverside Drive.

Boat launches typically require parking and other support facilities and have a large environmental footprint. It is recommended that if any new recreational boating facilities are contemplated that consideration be given first to upgrading existing locations to accommodate additional uses as may be desirable or locating them in areas where they are supported by existing facilities.

Existing and potential locations for Thames River edge access points are illustrated on the Thames Valley Corridor Concept Plans. Further study will need to be undertaken for the development of new access points or enhancement of existing ones to determine technical feasibility and the design of the site to address local conditions, public safety, desired uses and maintenance of ecological integrity.

Key Strategies:

Note: the strategies listed below are based upon the Springbank Dam being operational. Should the dam not be replaced, Rivers Edge Access opportunities will have to be re-examined.

Provide additional opportunities along the Thames River's edge for viewing, fishing, and river contact in locations that are safe, accessible from main pathways and trails, and ecologically responsible.

New Thames River edge access points should generally be informal in nature and low-impact. They can be created with natural elements and accessed by secondary trails as off-shoots from the main TVP. If more formal entry points are anticipated they should be directed to urban nodes such as the Forks of the Thames and Activity Areas.

Create a formal Blueway or Water Trail where various aspects of the valley corridor can be emphasized and promoted. The trail provides an alternative vantage point to view the City and the corridor.

If new recreational boating facilities are contemplated they should be accommodated by upgrading existing locations or developing in locations where there are existing facilities such as parking, washrooms, and picnic areas to support them.

Ensure that some Thames River edge access points are barrier free in appropriate locations such as Activity Areas where there is access to parking, paved accessible pathways and other public amenities.

This river's edge access point on London's Thames River is in keeping with the surrounding landscape and discourages informal trail development and trampling of riverbank vegetation.

Heritage Sites

The Thames River is recognized as a Canadian Heritage River for its significant cultural heritage resources and contribution to the settlement history of south-western Ontario. The presence of the Thames River has heavily influenced the development of London. As such the Thames Valley Corridor contains numerous archaeological sites, heritage structures, and cultural landscapes that are important to the City's history. The Vision statement for the Thames Valley Corridor Plan includes the preservation and enhancement of cultural heritage resources.

The Pumphouse in Springbank Park is a historic structure on the Thames River remaining from the original London Waterworks and could house a river's edge cafe.

Historic residence at The Forks was integrated into the revitalization of Ivey Park.

Important objectives include: the preservation of buildings and structures of historical significance; the identification and incorporation of significant cultural heritage landscapes as identified in the Official Plan; and the enhancement of heritage awareness and stewardship through educational signage, and other means of interpretation such as public art.

Key Strategies:

Preserve the City's heritage character through preservation of historic buildings and structures, bridges, streets/districts, mill sites and other ruins, and landscapes, within, adjacent, and associated with the Thames Valley Corridor.

Thoughtful and complementary adaptive re-use of heritage buildings and structures as productive elements of the City should be a priority.

Formally recognize significant cultural heritage landscapes through designation, or policy. Previously identified candidate cultural heritage landscapes that should be recognized, include: the Springbank Cultural Heritage Landscape (including historic structures and sites, Reservoir Hill, lookout and the Thames Valley Golf Course); Park Farm; and the Forks of the Thames.

Investigate and confirm the significance of other candidate cultural heritage landscapes: Killaly Road Area; Killaly Meadows; and Kilworth Area.

Protect registered archaeological sites in the Thames Valley Corridor, and employ best practices to confirm and protect unregistered and potential sites, as identified in the Stage 1 Archaeological Assessment Study for the Thames River Valley Corridor Plan (DR Poulton and Associates, 2009).

Promote, celebrate and convey the City's history and evolution through such means as interpretive programs, public art, self guided tours and design of new buildings and spaces.

Encourage heritage tourism and develop programs that will promote the history of the corridor. Continue to work with the variety of public groups and/or individuals that have invested substantial time in preparing the history of the corridor and work with these groups to develop a functional and interesting method of displaying the history.

Urban Nodes

The Thames Valley Corridor and its adjacent areas have been used for a wide range of land uses over the course of the City's evolution. There are a number of vacant or underutilized commercial, industrial and institutional sites in close proximity to the Thames Valley Corridor. Some such sites are already undergoing changes in land use, while others are non-conforming with respect to future desired land uses, as reflected in the Official Plan. With a view to infilling and increasing population density in the urban core, these sites are prime locations for future redevelopment.

In the past most urban uses within and adjacent to the Thames Valley Corridor have turned their back to the Thames River, deriving little benefit from a 'Thames River address'. Redevelopment offers an opportunity to reverse this and to encourage land uses and built form that are more compatible with the Thames River Valley context, and to enhance the aesthetics of the urban structure. The public has expressed a strong interest in managing new development adjacent to the Thames Valley Corridor toward these objectives.

Sites with urban redevelopment potential are characterized as Urban Nodes in the Thames Valley Corridor Plan, based on the following criteria:

- Located within or partially within the Thames Valley Corridor boundary and / or a 100m limit of the normal water line of the Thames River (see Edge Zones);
- Located within the existing urban structure and zoned for urban uses;
- Under consideration for redevelopment.

Several examples of Urban Nodes are identified in Section 2.2 Sites Requiring Special Consideration, following. Other potential sites will undoubtedly be identified through the City's Downtown Master Plan and other land use planning processes.

The City has embarked on a process of defining 'Green Development Standards' as part of its Environmental Leadership initiatives. The Urban Nodes and Edge Zones (following) of the Thames Valley Corridor are key places for the applications of such standards.

Key Strategies:

The values and principles articulated in the Thames Valley Corridor Plan should be considered in the review and approval of all development and redevelopment that may occur within the Thames Valley Corridor. Matters relating to land use change, and the character and form of development in urban nodes will be reviewed and decided through appropriate planning processes. In addition these processes lands within / adjacent to the Thames Valley Corridor will be subject to the scrutiny of the City of London Design Review Panel.

Integration of soft landscape areas to increase permeability and use of native plant material are elements of green development standards.

An urban wetland with interpretive signage established in Toronto's Harbourfront area.

This infill development site in Port Credit provides continuous public amenity space along the waterfront.

The Humber Bay Shores redevelopment in Toronto includes extensive naturalized waterfront parkland with urban pathways and natural surface walking trails.

Challenge new development to create a positive relationship with the Thames River. New development must be sensitive to the topography, natural hazards and environmental features of the Thames Valley Corridor by defining appropriate uses and access points, protecting and enhancing visual aesthetics and providing substantial and appropriate buffers to surrounding natural areas or conflicting land uses.

Promote design excellence and innovation through building and site design to create legacy buildings. New development should seek ways to draw inspiration from and enhance the Thames River character with architecture and landscape that contributes to the Thames River valley aesthetic, while addressing other urban design and building program objectives.

Promote visual and physical access to the Thames River. London's relationship to the Thames River is important to the City's sense of place. Within new urban development every opportunity should be seized to allow people to have visual and / or physical contact with the Thames River, whether by pathways and trails or from vantage points such as public promenades, public open space areas, bridges, or new overlooks located at key viewing locations, from nearby buildings or heights of land.

Form and design of new development shall complement and protect significant natural features such as ESA's, river and creek valleys, wetlands, ravines, wooded areas and parklands that form part of, or are located adjacent to, the site.

Apply sustainable green technologies to building and site design to support the natural heritage objectives of the Thames Valley Corridor, and minimize environmental impacts.

Develop specific urban design guidelines to be applied to new or re-development within or adjacent to the corridor that include specific concepts for river celebration and river interaction.

Edge Zones

As noted in Section 1.1 of the Thames Valley Corridor Plan the boundaries of the Thames Valley Corridor were derived from criteria that were developed in Phase 1 of the planning exercise. The criteria included applying the greater limits of topographic features, natural hazard lands, boundaries of other environmental regulation areas such as ESA's, and the boundaries of publicly owned parks and open space. This exercise resulted in a corridor of varying width.

Through the Phase 1 process it was directed that the Phase 2 Thames Valley Corridor study review 'chokepoints' defined as areas where the Thames Valley Corridor falls below a width measured as 100m from the normal waterline of either bank. The concept of a 100 m buffer to the river reflects contemporary research on the natural heritage requirements for maintaining a full range of ecological corridor functions. Several of the reference studies are specific to the Thames River, and include:

- The *London Official Plan (Policy 15.5, Table 15-1)*, which requires environmental impact studies for areas that fall within 100m of known location of endangered, threatened or vulnerable species.
- The *Thames Valley Areas Subwatershed Study* (Aquafor Beech, 1995), which recommended that "the establishment of a natural heritage system that is representative of the biodiversity of the area, that provides key subwatershed functions, and is sustainable requires: corridors of continuous vegetation 100-200 m wide; and "islands" of natural habitat over 35 ha in size."
- The *City of London Guideline Document for ESA Identification, Evaluation and Boundary Delineation* (approved by Council in 1993). Boundary Delineation Guideline #4 recommends that the larger watercourses such as the Thames River should include 100 m minimum corridor width.

Other scientific studies that consider minimum widths needed for ecological sustainability include the Ministry of Natural Resources publication *The Natural Heritage of Southern Ontario's Settled Landscapes* (Riley and Mohr 1994). The report identifies corridors of greater than 200m in width as having a higher probability of providing a full range of ecological functions.

With the application of the Phase 1 criteria, much of the Thames Valley Corridor boundary provides, at a minimum, a 100 meter delineation from the river. Where this is achieved, and the nominal 30m width of the river is considered, this represents a total corridor width of approximately 230m. Through some reaches where there is a broad floodplain, the corridor exceeds this distance, attaining as much as a 500m total width in several locations, while in other areas it is narrower and defined by limits of the steep valley walls. Areas that lie within 100m of the river but outside of the Thames Valley Corridor boundary are illustrated on the Thames Valley Corridor Concept Plans (Figures 2 through 5), and are identified as Edge Zones.

Because of the environmental hazards and open space limits used to delineate the boundary, much of the Thames River Corridor is currently, and will remain as, open space land. However, it is situated within an existing urban setting, with expectations of intensification. In terms of achieving a minimum corridor width that reflects a 100m distance from the river it is impractical to assume that large areas of private, developed land that lie adjacent to the river valley could easily be returned to a natural state to achieve a minimum ecological corridor width. However it is possible, within areas that are slated for redevelopment, to change and influence the new development to be more compatible with the natural heritage objectives for the Thames Valley Corridor, and to support the increasing public and City interest in 'green', sustainable, environmentally sound design. As well, it is possible through education and stewardship programs to encourage landowners who live within close proximity to the river valley to adopt environmentally sustainable practices that provide a positive influence on the corridor's ecological functions. As areas that fall within the minimum desired 100m buffer to the river, the Edge Zones are identified in the Thames Valley Corridor Plan as potential areas for the application of such measures.

Three types of Edge Zones and treatments are envisioned:

1. Areas within 100m of the Thames River in existing urban areas.
2. Areas within 100m of the Thames River where infill development or brownfield redevelopment is anticipated.
3. Greenfield development areas within 100m of the Thames River.

Three types of edge zones and treatments are envisioned for the corridor; existing/established urban areas where stewardship incentives will be promoted; infill sites in which urban design and ecological management principles will be applied; and greenfield sites where the retention of the natural corridor will be pursued.

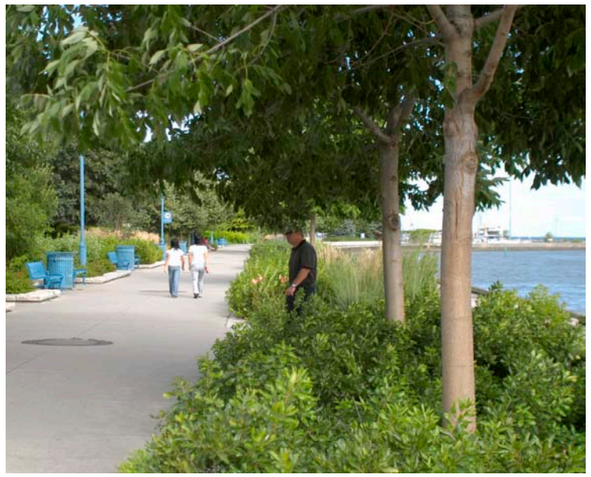
Key Strategies:

Edge zones in existing urban development areas should be the initial focus for any existing or new community education and stewardship programs relating to best practices on public or private lands (see Recommendations under Education and Stewardship for examples).

The values and principles concerning urban design, natural heritage and public use that are articulated in the Thames Valley Corridor Plan should be considered in the review of all development, redevelopment and urban infilling that takes place on sites adjacent to the Thames Valley Corridor and comprised of, or containing a portion of an Edge Zone (within 100m of the normal water line of the Thames River). Measures for consideration include the application of sustainable technologies and green development standards to site development and built form, integration of greening strategies and natural area buffers, and the incorporation of public open space elements, as outlined under Urban Nodes.

Consider allocating a portion of the Edge Zone as linear open space for vegetated buffers, ecological enhancement and public use purposes. Setbacks from the valley top of bank and extent of the open space will vary according to local conditions, geotechnical constraints, environmental considerations, site functions, and desired program for the space.

In 'greenfield' areas, new urban development should be required to maintain a 100m setback from the Thames River (as measured from the normal water line or bank full high water mark)**.** For the purpose of this plan greenfield areas shall mean lands that have not been developed for traditional urban uses and reside outside the existing urban area.



Development and redevelopment areas within the 'Edge Zones' of the Thames Valley Corridor could incorporate public open space areas and promenades together with native vegetation that contributes to the ecology of the Thames River.

Target Edge Zones for city greening initiatives, including the expansion of urban leaf cover through street tree or private yard planting programs.

Demonstrate leadership by continuing to enhance the natural environment in City-owned parks and open space lands that are in proximity to the Thames Valley Corridor, e.g. incorporating sustainable design measures in any planned facilities or landscape improvements, use of best practices in parks maintenance. Establish a program to replace non-native, invasive trees within the Thames Valley Corridor (i.e. on valley edges, streets, public lands) especially within the first 30m distance from the Thames River.

2.2 Sites Requiring Special Consideration

The following are sites located partially within and/or immediately adjacent to the Thames Valley Corridor that warrant special consideration on the basis of their attributes or issues. Refer to Figures 2 through 5, Thames Valley Corridor Concept Plans (following) for locations.

Main Branch

1 Pollution Control Plants (Figure 3a, 3c, 4b, 5b)

- Five of the City's six pollution control plants (PCP) are located within the Thames Valley Corridor and provide vital infrastructure functions. The facilities are Greenway PCP, Oxford PCP, Vauxhall PCP, Pottersburg PCP, and Adelaide PCP.

Recommendation: These sites represent opportunities for demonstration of sustainable measures in landscaping and site maintenance, as well as the integration of green technologies in any plant expansions or new development. The City's commitment to this is demonstrated by past and ongoing initiatives as part of plant expansions. The City should also continue to work through the Thames River Clear Water Revival initiative to focus watershed restoration efforts watershed-wide to effect water quality improvements.

2 Child and Parent Resource Institute property (3b)

- This is a publicly owned institutional facility with heritage buildings in park-like grounds on provincially owned lands with a strategic location on the edge of the valley.

Recommendation: Investigate opportunity for potential future acquisition in whole or in part to support the required Thames Valley Parkway and other recreation needs and to meet corridor natural heritage objectives, if possible.

3 Springbank Park (Figure 3b)

- This is one of London's premier parks since its development in the late 1800s, and largest recreational activity area in the Thames Valley Corridor containing significant cultural and natural features, and visitor attractions.
- Use and management of the site has been governed by the Springbank Park Master Plan (June, 1996).
- A number of improvements were undertaken in recent years, including the restoration and enhancement of Springbank Gardens (former Wonderland Gardens), improvements to Storybook Gardens, and roadway, pathway and parking improvements.

  Recommendation: Undertake heritage research and documentation necessary to evaluate whether Springbank Park and environs, including Reservoir Park and the Thames Valley Golf Course, meets provincial criteria for designation as a Cultural Heritage Landscape. Through heritage designation or planning policy, take necessary steps to formally recognize, delineate the boundaries of and establish policies or guidelines to protect any identified cultural heritage landscape(s).

  Further investigate the opportunity for the conversion of the Springbank Pumphouse into a café as discussed in the 2000 independent study reviewing this opportunity.

4 Thames Valley Golf Course (Figure 3b)

- This is a significant historic site with scenic location overlooking Thames River and recommended for consideration as a cultural heritage landscape in association with Springbank Park.
- Site history includes Ward Hotel and Thames Riverboat stop in the late 1800s; provision of clean drinking water in the 1920s; use as a military barracks during Second World War. The first footbridge was constructed in 1928 with course green fees.
- As a municipal public golf course the site provides opportunity to serve as a demonstration of best management practices in support of ecological objectives.

  Recommendation: The golf course is currently excluded from the technical Thames Valley Corridor Boundary. The site is municipally owned and managed open space, is located at a chokepoint where the Thames Valley Corridor falls below a 100m offset from the Thames River, and is significant from a cultural heritage perspective. It is recommended that the Thames Valley Corridor boundary be adjusted to include the Thames Valley Golf Course.

5 Boat Launch at Wonderland Rd and Riverside Drive (Figure 3a)

- The majority of this site is occupied by a large gravel parking area and a launch ramp for small trailered boats and hand-launched canoes and kayaks.
- The boat launch site includes a dock for fishing and viewing of the river. However there is no amenity space and shoreline and other vegetation is limited.
- The site has a high profile, visible location at one of the major Thames Valley Crossings.
- Aesthetic and ecological improvements and other landscape enhancements are needed.

  Recommendation: Undertake a Master Plan to evaluate current and future potential site uses with objectives for improvements to overall appearance, amenities, landscaping, and site ecology (Subject to the Springbank Dam resolution).

6 The Coves (Figure 3a)

- A small subwatershed of the greater Thames River Watershed, the Coves main feature is a series of former oxbow ponds representing a historical channel of the Main Branch of the Thames River. The feature has a controlled hydrological connection to the Thames River, and was not included in the technical Thames Valley Corridor boundary.

- The Coves is however; important to the natural and cultural history of London and is designated an ESA in recognition of its distinctive landform, diversity and sensitivity of species, hydrologic characteristics, and linkage functions. Recent studies have shown that The Coves ESA boundary extends north to the river's edge and could form part of the Corridor Boundary (North-South Environmental 2011).

- Much of the land in The Coves is privately owned, however strategic land acquisitions by the City and the establishment of nature trails have improved community access adjacent to the East and South Ponds. Although severed from The Coves subwatershed by Springbank Drive, Greenway Park which lies adjacent to the Thames River provides for some public appreciation of feature and encompasses a segment of the West Pond.

- The 'Friends of the Coves Subwatershed inc.' organization was established to promote protection and rehabilitation of the natural areas, and to enhance community enjoyment, appreciation and management of The Coves by bringing lands into public ownership and by creating a managed trail system. Strategic land acquisitions by the City are helping in this regard. One area of uncertainty is the centre of the oxbow, the site of a former paint factory, now abandoned and buildings demolished.

Recommendation: Continue efforts to protect the Coves ESA and other terrestrial features through continued land acquisition, education programs, land stewardship, and best management practices and terrestrial rehabilitation and enhancement initiatives as recommended in The Coves Subwatershed Plan, 2004.

7 City Works Yard in Cavendish Park (Figure 3a)

- This site is the City works yard located within parkland in the Thames Valley Corridor, with facilities in close proximity to the Thames River. The site is a former landfill.

Recommendation: Consider relocation of works yard functions, or site improvements as a demonstration of City commitment to sustainable measures in landscaping and site maintenance in support of Thames Valley Corridor objectives.

North Branch

8 Harris Park (Figure 4a)

- Harris Park is one of the City's best used and premier urban parks. Although well-served by its current facilities in its use as a City-wide events park, the site's profile and image could be enhanced to be more in keeping with its strategic downtown Forks location. As well there are a number of physical issues which should be addressed including: annual spring flooding, geese management, impacts from events use, conflicts with pedestrian and vehicular circulation, and the lack of riparian edge.

- Potential improvements to the park include: restoration of the Thames River's edge; introduction of urban elements such as a water's edge promenade or overlook; pathways and lighting upgrades and landscape planting and other improvements to enhance the overall aesthetic qualities of the park.

Recommendation: A Master Plan is recommended to review the park's potential and to develop recommendations and a plan for upgrading the park. The Plan should consider hydrological functions; address the site's physical issues; and identify an appropriate program and design that responds to current recreation needs and trends (as identified in the Parks and Recreation Strategic Master Plan) along with better integration with the Downtown.

9 Industrial Commercial Site North of Oxford St. E (Lafarge Property) (Figure 4a)

- The site is located just south of Oxford St. E and is noted as an example of an industrial /commercial site partially within and adjacent to the Thames Valley Corridor. Schedule A of the London Official Plan supports future land uses on this site as multi-family residential.
- The site is an example of a potential Urban Node in the Thames Valley Corridor Plan, and a portion of the Lafarge site lies within a 100m Thames Valley Corridor 'Edge Zone'.

Recommendation: Should land uses change, this site provides an opportunity to demonstrate the principles and objectives of the Thames Valley Corridor Plan, and the design considerations noted for Urban Nodes and Edge Zones would apply. Flooding considerations should also be reviewed.

10 University of Western Ontario (Figure 4a)

- Planning and development for the University is guided by the Campus Master Plan for the University of Western Ontario, prepared in 2007.

- The Master Plan contains guiding principles including: "Preserve Existing Natural Features and Maintain and Enhance Landscaped Open Spaces". This principle provides for "enhancing the visibility and defining character of the Thames River".
- The Master Plan identifies potential development in the "Baldwin Flats" (located on the east side of the Thames River, across from the stadium). Plans show three new recreation & sports fields, along with a new foot bridge and asphalt pathway. The plan states the sports fields could be used in partnership with the City when the University is not using them.
- The University of Western Ontario presents both opportunities and possible issues with its location along the Thames River edge. Any further development adjacent to the river could potentially affect views, impact ecological functions and limit public access along this area of the North Branch.

Recommendation: Continue dialogue and collaboration between the University of Western Ontario and the City with regard to any facility or infrastructure development or re-development along this area of the Thames River. Campus planning needs should be considered in establishing pathways and trails and uses within the Thames Valley Corridor and a concerted effort should be made toward environmental stewardship in the management of the Campus lands that fall within the Thames Valley Corridor.

11 Combined Landbase of the London Scouts/Tri-shores Councils, and Sisters of St. Joseph properties (Figure 4b)

- The site comprises the combined properties of Mount St Joseph Motherhouse Congregational Centre, Windermere on the Mount retirement community, and Tri-Shore Council of Scouts Canada, located on the north side of the Thames Valley Corridor, south of Windermere Road.
- The Sisters of St. Joseph's residence on Windermere Road was London's first building designed and built to LEED (Leadership in Energy and Environmental Design) Gold standard.
- Through this reach of the Thames Valley Corridor, the Thames Valley Parkway is located on the south side of the Thames River, but is incomplete, with limited and costly opportunities for a continuous connection through open space lands. These properties on the north side have extensive open space landholdings within the Thames Valley Corridor, making them of particular interest for the establishment of the Thames Valley Parkway and a passive recreation use area. The City has an easement for public access through these lands.

Recommendation: Continue efforts to extend the Thames Valley Parkway or a recreational linkage through this area using easements or through potential acquisition of the valley lands should land use changes be contemplated. Natural features will require further evaluation and identification of measures for protection.

12 Open Space Lands along Adelaide Street North of Windermere Road (Figure 4b)

- This area comprises private open space lands with development pressures that would have the effect of removing natural vegetation and intensifying land uses. The City of London Tree Conservation By-law protects the lands from being clear cut.

- This site is an example of the issue regarding lands in the Thames Valley Corridor zoned OS4 which are generally comprised of flood plain lands and erosion hazards. The adequacy of the OS4 zoning regulations as they relate to the protection of significant environmental features on riverine hazard lands versus the more stringent requirements of 0S5 has been raised, and are being addressed through separate study.

13 Aggregate Resource Lands North of the Thames River, East of Clarke Road (Figure 4c)

- These lands comprise a large extraction operation on the edge of the Thames Valley Corridor, with future potential aggregate resource extraction identified east of Clarke Road. This area falls within a scenic vista and is identified as a potential Gateway to the Thames River.

  Recommendation: Any future land use change and restoration of the lands once operations cease should consider the site's potential contribution to the ecological connectivity and functions of the Thames Valley Corridor, and support the concept of a gateway in this location.

14 Linkage to Fanshawe Conservation Area (Figure 4d)

- In addition to its flood control functions, Fanshawe Conservation Area is a major open space and recreational resource for the City. Located on the North Branch of the Thames River at the northerly extent of the Thames Valley Corridor Plan study lands, the conservation area offers many facilities including trails for hiking and biking, boating on the reservoir, fishing, picnicking and a campground (current users of the conservation area pay a fee to access the facilities and amenties).
- The Killaly Meadows Environmentally Significant Area (ESA) is located along the North Branch of the Thames River. The publicly owned portion of the lands (approximately 146 ha) extend between Adelaide Street and Highbury Avenue. The south side contains the paved, multi-use Thames Valley Parkway while the north side contains a network of walking and nature trails. The ESA extends eastward beyond Highbury Avenue to the Fanshawe Dam.
- Linking Fanshawe Conservation Area to the City's open space and trail network has been identified in various studies including the Thames Valley Areas Study, past Parks and Recreation Master Plans, the City of London Subwatershed Studies Implementation Plan and the Pottersburg Creek and Crumlin Drain Subwatershed Study.

  Recommendation: The potential to create an open space and recreational linkage between the Killaly Meadow publicly owned lands and Fanshawe Conservation Area should be investigated for construction, prior to development activities, if possible. The development of a linkage will need to consider: land ownership; the Killaly Meadow ESA; and the impact of adding on UTRCA's operational budget of adding any additional conservation lands.

SOUTH BRANCH*

* Note: Although inconsistent with the official nomenclature for the Thames River as defined by Natural Resources Canada, this reach of the Thames River through London is commonly referred to as the South Thames River or 'South Branch'.

15 London Hydro Lands (Figure 5a)

- The industrial storage area for this public utility is located within the Thames Valley Corridor lands. Issues in this area include: the proximity of the storage yard facilities to the Thames River; the unsightliness of the parking, storage area and associated fencing as seen from the TVP.
- There is minimal vegetated open space buffering the Thames River and what exists there is scrubby and unattractive. The Thames River is hidden yet there are clear views across the parking lot all the way to the Labatt brewery.
- This is also a highly urban area with limited opportunities to access the TVP and a need for better wayfinding signage.

Recommendation: In its current use as a public utility, this site provides an opportunity to demonstrate a more positive relationship to the Thames Valley Corridor through site improvements, landscaping and buffer. Should the site become an area for redevelopment the design parameters noted for Urban Nodes and Edge Zones would apply, and better connections to the TVP and river's edge are needed.

Artistic rendering of the possible re-development along the existing London Hydro lands.

16 Former South Street Hospital Property (Figure 5a)

- This site is a City-owned former hospital property with redevelopment potential on a premier site adjacent to the Thames Valley Corridor overlooking the Thames River Valley.
- The location has been identified as an Urban Node in the Thames Valley Corridor Concept plan, with design parameters to include consideration of views, building form and scale, setbacks from the valley edge (as determined through a geotechnical study), and other urban design guidelines.

A portion of the South Street site falls within a brownfield Edge Zone (within a 100m distance of the Thames River), suggesting the need for incorporation of sustainable design measures for the building site that consider inclusion of public open space, appropriate setbacks from the valley edge, and opportunities to enhance the natural Thames Valley Corridor connection.

Artistic rendering of the possible re-development along the north shore of the Thames River in the SOHO district.

- The Soho Community Improvement Plan Study, completed in 2011, provides land use direction for the former South Street Hospital site and surrounding area and identifies opportunities for integration of the community with the river valley corridor.

17 Watson Street Park (Figure 5a)

- Passive park located east of Wellington Street at bend in the Thames River (with remnants of a former oxbow). Formerly a residential neighbourhood, houses were removed from this area of the floodplain following London's 1937 flood.

Recommendation: The large expanses of mown open space for undefined purposes provides opportunities for restoration to infill gaps in the vegetation canopy, and expand/buffer the existing vegetation community. Management recommendations for the natural area include control of invasive species, management of random trails and litter removal. Opportunities to improve stormwater quality may require reconfiguration of portions of this land. Watson Street Park is also identified as a potential location for a new Thames River edge access point.

18 Open Space Area Adjacent to South Branch Park 1 (Figure 5a)

- Open space lands located adjacent to South Branch Park 1, containing a granular parking lot with access from a local road, and informal access to the Thames Valley Parkway.

Recommendation: The site has been identified by the City as a site of interest for acquisition for recreation purposes. Opportunities for the site include trailhead facilities, improved access to the Thames Valley Parkway, enhancement of passive recreation and park facilities suited to the local neighbourhood.

19 Meadowlily Area - Park Farm/Meadowlily Woods ESA (Figure 5b)

- The tract of land encompasses extensive natural areas; Park Farm, a significant cultural heritage property, established in 1849; a number of significant archaeological sites; and the remains of the Meadowlily Mill, built in 1856. Nearby is the c. 1910 Meadowlily Bridge that once served as a road bridge and later a pedestrian bridge, and now under a City Council Resolution to protect, preserve and restore the 100 year old bridge in its centennial year.
- Included is an extensive Environmentally Significant Area managed by UTRCA for the City. Management of the natural area is directed by the Meadowlily Woods Master Plan (UTRCA, 1988). The publicly-owned portion of the ESA covers 44 ha. The site contains marshes and floodplain woods along the Thames River, old fields, shrub thickets and mature woodlands on higher, rolling land, and some active and retired agricultural fields. To the west of Meadowlily Road along the Thames River is the Meadowlily Nature Preserve, owned by the Thames Talbot Land Trust.
- In 2010, several separate but interrelated studies were underway for lands in the Meadowlily area:

  Meadowlily Secondary Plan and Environmental Assessment: A city led and funded area study that is providing a comprehensive assessment of the opportunities and constraints for the planning and development of approximately 95 hectares of land bounded by the Thames River, Highbury Avenue and Commissioners Road. As set out in London's Official Plan (Sect. 2.6.8), the area study will provide the basis for an Official Plan amendment that will identify or refine environmental features, areas and natural resources; apply specific land use designations; and evaluate transportation routes (including pedestrian and bicycle routes and multi-use pathways) and servicing infrastructure requirements.

  The Meadowlily Bridge Study: A study of the 1910 bridge which included: determining if there is a basis for heritage designation, both municipally and provincially; a detailed structural inspection and load capacity evaluation; and recommendations for future rehabilitation and maintenance. The consultant is currently nearing completion of the Meadowlily Bridge Restoration and Cultural Heritage Evaluation Study Report. This report will catalogue the bridge's historical significance through the completion of a Cultural Heritage Evaluation Study report, and rank using the Ontario Ministry of Transportation Heritage Bridge Evaluation and Rating System. It will also contain a detailed structural analysis of the bridge and recommend necessary upgrades to allow the site to continue usage as a pedestrian bridge. This report is to address previous Council resolutions about the bridge that include the bridge being recognized as an important cultural heritage resource and being recognized in perpetuity as a footbridge.

  City-wide Sports Park Improvements: Recent improvements to City-wide Sports Park on Commissioners Road included upgrading of 2 soccer fields to artificial turf and the development of a field house with washrooms.

20 River Road Golf Course (Figure 5c)

- The publicly owned River Road Golf Course is located on the South Branch with facilities located partly within and adjacent to the Thames Valley Corridor. It is situated at a 'chokepoint' in the Thames River where the corridor width falls below 100 m on one side.

Recommendation: The golf course is currently excluded from the technical Thames Valley Corridor boundary. Consistent with the identified Phase 1 criteria, the site is municipally owned and contiguous with the Thames Valley Corridor. It is recommended that the boundary be adjusted to include the golf course lands and Clarke Road Park. As a municipal operation, the River Road Golf Course also provides an opportunity to serve as a demonstration of best management practices in support of ecological objectives.

3.0 Recommendations

3.1 Natural Heritage, Stewardship, and Protection

General

NH-1 Adjust the Thames Valley Corridor boundary to include the Thames Valley Golf Course and the Thames River Road Golf Course / Clarke Road Park. As municipally-owned open space contiguous with the Thames Valley Corridor, these lands meet the criteria outlined in Phase 1 of the study. The two golf courses are also located at chokepoints where the Thames Valley Corridor width falls below 100m, on one side. These extensive open space lands adjacent to the Thames River provide opportunities for the City to continue to demonstrate and promote its commitment to environmental leadership in municipal operations through such ongoing measures as best maintenance practices, restoration / tree planting on public lands, and the use of environmentally sustainable development standards for any new facilities or landscape improvements.

NH-2 Consistent with Conservation Authorities Act and UTRCA policy, the development of municipal infrastructure or services should avoid natural hazard lands and components of the natural heritage system and should only be undertaken where no other viable alternative exists, and where supported by studies and environmental reports prepared according to requirements under the Official Plan, Environmental Assessment Act, and other applicable legislation.

NH-3 Internally, identify potential private land acquisition areas that may facilitate the restoration and/or expansion of forest cover and contiguous natural vegetation along the length of the Thames Valley Corridor. Priority areas for acquisition are those with a high diversity of Carolinian plant species or SAR as identified on the City's Ecological Land Classification (ELC) database (updated through this report – refer to Phase 2 Thames Valley Corridor Plan Technical Summary Report, April 2009), or that support interior forest habitats, or provide natural connections to the larger system.

NH-4 Develop and implement a Cumulative Effects Assessment as part of the development review process for lands adjacent to natural heritage areas. This will allow for the cumulative impacts of development on natural heritage features to be accounted for.

NH-5 Develop a strategy to encourage, through financial or other means, the re-location of industrial or other non-desirable uses outside of the corridor area.

Aquatic Resources

AR-1 All future planning and management decisions for the Thames Valley Corridor should support the implementation of findings contained in the Recovery Strategy for the Thames River Aquatic Ecosystem (Thames River Recovery Team, 2005), and actions for improvement as identified in the Watershed Report Cards. These ongoing management strategies through the combined efforts of the City and UTRCA include:

a. Promoting and supporting farms to complete Nutrient Management Plans (NMP's).

b. Promoting Environmental Farm Plans (EFP's) and implementation of Best Management Practices (BMP's) on farms.

c. Enhancing riparian cover by planting / protecting buffers (grassed or treed) to filter runoff and provide shade as part of natural heritage restoration programs.

d. Increasing quality and quantity of wetlands in the watershed.

e. For new development, implement urban stormwater planning and monitoring using approaches such as municipality-wide strategies, subwatershed catchment and area planning.

f. For existing development, implementing pollution prevention and control planning to manage all aspects of stormwater runoff (e.g. reduce storm-sanitary overflows, retrofit stormwater systems).

g. Continuing to upgrade sewer systems where risk of contamination is greatest (e.g., extend sanitary sewers to urban properties on septic systems).

h. Ensuring sediment control during construction.

i. Controlling off-road recreational vehicle use to protect upstream river reaches and associated tributary watercourses.

j. Continuing to monitor conditions and implement recommendations to address algae blooms in the Fanshawe Reservoir.

AR-2 Identified locations of aquatic Species at Risk (locations to remain confidential), the habitat associated with them, and the area surrounding the occurrence are the highest priority for protection and restoration efforts.

AR-3 Investigate opportunities for reasonable cost design modifications to the Hunt Weir (refer to map 5A) to improve Thames River health and fish passage.

(see also recommendations on Water Quality under Working Thames River)

Terrestrial Resources

TR-1 Protect and manage areas with unique or rare plant and animal species.

TR-2 Develop and implement a comprehensive restoration and management program focused on existing and new vegetation patches with objectives to protect, maintain and enhance natural areas and habitats.

TR-3 Target management efforts on vegetation patches with evidence of invasive species presence. Management initiatives should include invasive species removal, litter clean-up, and management of random trail use. (refer to Restoration and Management Strategies maps in Appendix 2 for potential locations) The target habitats for invasive species management are those natural areas in good condition that currently have low abundance of invasive/non-native species. Containment of non-native species is more effective and less costly if control can begin at the first detection of invasion. The sites with heavy abundance are lowest priority unless they are associated with rare species or unusual communities or wildlife habitat that is compromised by their presence.

TR-4 Continue restoration activities, supported by allocation of annual budgets for planting and any increased operational costs. Focus efforts on areas with identified Species at Risk; passive use open space lands, stormwater ponds and underutilized park areas adjacent to existing vegetation patches where restoration will have the greatest effect. Priority areas for restoration are: (refer to Restoration Strategies maps in Appendix B for potential locations).

a. Identified locations of terrestrial Species-at-Risk (locations to remain confidential), the habitat associated with them, and the area surrounding the occurrence are the highest priority for protection and restoration efforts.

b. Vegetation patches with a heavy disturbance index are also priority candidates for restoration.

c. Locations where there are opportunities to maximize forest size within or adjacent to the Thames Valley Corridor and other public lands to facilitate interior conditions (>100m from treed edge).

d. Repairing incised edges of forest communities to improve shape (perimeter to area ratio), where possible.

e. Areas where gaps in natural vegetation prevent or constrain contiguous vegetation cover. These areas should be considered strategic restoration sites to facilitate continuous natural vegetation along the entire extent of the Thames Valley Corridor.

f. Enhancement or buffering of sensitive ELC vegetation types, such as FOD 4-3 (Dry-Fresh Hackberry Deciduous Forest), FOD 7-4 (Fresh-Moist Black Walnut Lowland Deciduous Forest) and SWT 2-9 (Grey Dogwood Mineral Thicket Swamp) should be implemented. Where possible, expand habitat surrounding these sites and identify them as natural areas with limited connection to the pathway and trail system.

g. Areas identified on Schedule B-1 of the Official Plan as potential restoration areas or potential upland corridors.

TR-5 Continue efforts to develop a system of appropriately located, designed and marked pathways and trails to define locations for human travelways through the Thames Valley Corridor, in locations that are compatible with ecological objectives and consistent with the principles within London's *Planning and Design Standards for Sustainable Trails in ESA's*.

TR-6 Identify conflicts between existing trails and terrestrial and aquatic Species at Risk locations within the Thames Valley Corridor. Consider permanent or seasonal closures, where needed for habitat protection.

TR-7 Identify public and private lands in the 'edge zones' adjacent to the Thames Valley Corridor which have the potential for stewardship efforts and restoration initiatives such as tree planting to increase the urban forest canopy and soften edges adjacent to the Thames River Valley.

TR-8 Develop and update Conservation Master Plans for all publicly owned ESA lands within or adjacent to the corridor.

Education and Stewardship

E-1 Develop a Thames River Stewardship Program to inform the public of the Thames River's sensitive resources and unique management requirements; encourage volunteer and community service programs.

E-2 Incorporate stewardship and educational information/facts into the trails signage system.

E-3 Continue programs and activities such as Earth Day Canada, the Great Canadian Shoreline Clean-up and the Thames River Clean Up that facilitate and encourage participation by local businesses, schools, community organizations and environmental groups for litter control, clean-up, planting initiatives, and ecological monitoring. Work with local schools and outdoor education programs to utilize the Thames River as an outdoor classroom.

E-4 Produce an informational brochure such as the UTRCA 'Living With Natural Areas' pamphlet for residents living near the Thames River and its feeder tributaries, concerning impacts of household products on water quality, illegal dumping, managing yard waste, promoting use of native species in landscaping, responsible use of natural areas.

E-5 Consider the development and implement a 'Downspout Disconnect Program' to help homeowners redirect rain from their roofs onto lawns and gardens.

E-6 Encourage community involvement in the Yellow Fish Road Program or other form of marking storm drains to heighten awareness about the impacts of pollutants and household hazardous wastes on the Thames River (e.g. 'The Friends of Coves Inc.' implements the program in The Coves area).

E-7 Where possible, fund the purchase of existing floodplain lands within the corridor possibly using a rejuvenated Scheme 43 Agreement Program in order to protect the corridor and avoid incompatible development.

3.2 Celebration, Recreation, Leisure and Tourism

Recreation and Activity Areas

R-1 Undertake a Master Plan for Harris Park to review the park's potential and to develop recommendations and a plan for upgrading the park. The Plan should address recreation trends and physical issues of spring flooding, geese management, events use, pedestrian / vehicular circulation, and the lack of riparian edge.

R-2 Undertake a site evaluation and Landscape Plan for the boat launch at Wonderland Rd and Riverside Drive. The Plan should review current uses as a launch for boats, and overall site design with objectives for improvements to overall appearance, amenities, landscaping, and riparian ecology.

R-3 Investigate opportunities for the integration of additional food service areas or a café within existing activity areas, heritage building, such as the Springbank Pumphouse, and / or as part of new development lands along the Thames Valley Corridor.

Pathways, Trails and Amenities

Note: In City of London 'pathways' refers to paved surface, multi-use routes. 'Trails' are natural dirt, or woodchip surfaced. TVP refers to Thames Valley Parkway, a multi-use pathway.

PT-1 The TVP should continue to be developed not just to forge City-wide connections but, with a view to providing a safe and positive recreational experience within a well-defined and visually aesthetic landscape or natural Thames Valley Corridor.

PT-2 In order to complete the pathway system, the City should continue to seek opportunities to incorporate necessary linkages as a component of new development applications. Access across private lands through easements or other negotiations should be considered.

An artistic rendering of the Springbank Pumphouse converted into a riverside café.

PT-3 The TVP passes by a wide variety of land uses. Care must be taken to screen views from the pathway that will detract from the recreational experience, provide security to adjacent property owners where needed.

PT-4 Continue to use best practices in the design and management of the TVP and other pathways and trails within the Thames Valley Corridor, e.g. appropriately scaled, designed and surfaced with materials appropriate to the use and environmental context.

PT-5 In areas where the TVP is heavily used, a widened or split pathway should be considered, adding capacity and providing for separation of conflicting uses. Pathway widening or splitting should be limited to high-use Activity Areas and avoid environmental impacts.

PT-6 The City should continue to plan for and implement safe connections to the TVP as part of its city-wide pathway system, focusing on off-road connections using other parks and open space lands where spatially and ecologically feasible. Connections may also include, as feasible, multi-use pathways in roadway boulevards, in-pavement bike lanes, or signed cycling routes.

PT-7 Major entrance points to the TVP should be marked with trailheads, wayfinding and rest stops. Secondary entrances should be marked with wayfinding.

PT-8 Transit locations should be coordinated to support valley access points.

PT-9 In locations where off-road pathways intersect with roads, or become road-based routes, the design needs to address clear route marking and signage, visibility, open sightlines and safe access between on and off-road portions.

PT-10 The Thames Valley Parkway (TVP) and other recreational linkages should be completed as funds and opportunities permit, and should address:

a. Completion of "gaps" in the planned TVP alignment, as follows:

1. TVP North Branch: Richmond to Adelaide
2. TVP Main Branch: West end of Springbank Park to Oxford/Riverbend Area.
3. Meadowlily Bridge to City Wide Sports Park and the TVP.
4. Highbury Avenue to Clarke Road

b. Establishment of secondary connections that focus on neighbourhoods with socio-demographic indicators that suggest access to no or low-cost, unstructured outdoor recreation would be most beneficial, and those that are presently underserved by other parks and recreation program opportunities;

c. Improving universal community access to identified Activity Areas within the Thames Valley Corridor and other City destinations.

d. Newly developed pathways should follow the principles within the Planning and Design Standards for Sustainable Trails in ESA's

PT-11 Develop a family of park and pathway signage for the Thames Valley Corridor consistent with an overall theme or 'brand', and coordinated with other parts of the City Parks system. New branding should be incorporated into *CityMap* on the City of London's website.

Cultural Heritage

CH-1 Continue to ensure continued protection and integration of cultural heritage resources by employing available planning and conservation tools including:

a. heritage impact assessments;
b. conservation plans;
c. community improvement plans;
d. Secondary Plans;
e. special zoning by-laws;
f. site plan controls;
g. subdivision agreements;
h. management plans (e.g. for parks, nature areas or Thames Valley Corridors).

CH-2 Through designation or planning policy, formally recognize cultural heritage landscapes identified as candidates in the Official Plan. These include:

a. Springbank Park and its inherent heritage features including the Pumphouse, ponds and Dam; and potentially Thames Valley Golf Course, and Reservoir Park;
b. Forks of the Thames.

CH-3 Undertake investigations to confirm the following areas as cultural heritage landscapes:

a. the Killaly Road area
b. Commissioners Road
c. Meadowlily area (includes the heritage remains of Meadowlily Mill built in 1856, Park Farm which included the Harrison Fraser Estate / Masonry house, constructed in 1849; the 1910 Meadowlily Bridge)
d. Killaly Meadows area

CH-4 Protect from disturbance known, registered archaeological sites in the Thames Valley Corridor, and employ best practices to confirm and protect unregistered and potential sites, as identified in the Stage 1 Archaeological Assessment Study for the Thames River Valley Corridor Plan (DR Poulton and Associates, 2009).

CH-5 Celebrate the Canadian Heritage Thames River designation and convey the City's history and evolution through such means as: interpretive programs; plaques / signs; public art; and design of new structures, buildings, and landscaped spaces.

Bridges and Valley Crossings

B-1 Maintain and enhance views from the bridges into the Thames River Valley, and views of the bridges from existing vantage points. New or reconstructed bridges or valley crossings should create new vistas into the valley and create additional vantage points where possible.

B-2 New or reconstructed bridges or valley crossings should respect and protect the adjacent natural heritage features and functions, and methods for minimizing impacts should be employed in the design and construction of all transportation, communication, sewerage or other infrastructure that cross the valley.

B-3 Preserve / maintain historic features, proportions and structural attributes of the existing bridges, where feasible and with consideration to public safety and structural integrity.

B-4 Consider aesthetic bridge design in the bridge structure and components such as decorative railings, columns or panel treatments as enhancement to existing bridges, or in bridge reconstruction as part of a program of public art. Aesthetic bridge design should be in accordance with the 'Aesthetic Guidelines for Bridges' produced by the Ministry of Transportation, or design guidelines prepared by the City in the future.

B-5 Continue to celebrate and promote awareness of the history of London's bridges through bridge naming, heritage and interpretive plaques, and published material such as the Urban League of London's 'Celebrate the Thames' Thames Topics brochures (Booklet #6 Bridges). Bridge signage should be visible to vehicular traffic, boaters and users of the Thames Valley Parkway system.

B-6 Identify key areas adjacent to Thames River bridges and crossings for urban design and ecological and / or decorative landscape enhancements, e.g. within the valley, or in open space lands associated with road network.

B-7 For new or reconstructed bridges, consider opportunities for divided lane bridges to allow natural valley vegetation to penetrate road infrastructure (example: City of Mississauga – Burnhamthorpe Road Bridge over the Credit River).

B-8 Urban land uses adjacent to the crossings and the Thames River should consider the maintenance of views to the river valley and demonstrate a high quality of design and aesthetics in built form and landscape.

B-9 Protect historic and distinctive bridges and features, including those of the modern period, through formal recognition. Heritage Bridge Evaluations should be completed for all bridges that have not been ranked, in order to identify their heritage value. Until such time as the City develops heritage bridge assessment guidelines, the assessments should completed following the Ontario Heritage Bridge Guidelines for be Provincially Owned Bridges (2008). The London Advisory Committee on Heritage shall review all Heritage Bridge Evaluations.

B-10 Integrate pedestrian / bike friendly measures into all bridge crossings and underpasses to facilitate connectivity.

Tourism & Visitation

TV-1 Update the logo or brand for the Thames Valley Corridor for wayfinding signage and communications. Consult with other groups such as the Thames Canadian Heritage River Committee.

TV-2 Continue to support community-based efforts that promote awareness of the Thames River through media outreach and events such as: the Urban League of London's "Celebrate the Thames" initiative, Thames Topic brochures, and Downtown Bridge Tour; art events; guided historic or nature walks, etc.

TV-3 Continue the process of regular updates about the Thames Valley Corridor projects via the newspaper and media.

TV-4 Continue to support festivals and events within the Thames Valley Corridor parks. Consider an annual Thames River festival or event.

TV-5 Establish an information base about what there is to see and do along the Thames River, and to convey the stories of the river and its legacy, e.g. a printed guide, interpretive signage. Consult with other groups such as the Thames Canadian Heritage River Committee.

3.3 Land Use Planning and Management

Urban Development / Redevelopment

UD-1 Identify the Thames Valley Corridor boundary and associated policies in the Official Plan (OP) and cross-reference the guidelines and strategies of the Thames Valley Corridor Plan in relevant sections of the OP (refer to Section 4.1, following for detailed recommendations).

UD-2 Support the discontinuation of inappropriate industrial uses in and adjacent to the Thames Valley Corridor over the long term.

UD-3 Prepare Development Guidelines for urban development and redevelopment located within/adjacent to the Thames Valley Corridor. Guidelines should address the following:

a. High standards of design in the building form and landscape to reflect the prominence of the location.

b. Spatial relationship of development to the Thames River as well as the surrounding urban form in a manner that complements the river valley and adjacent wooded areas or parklands, e.g. consider stepping back of architecture away from the valley, establishing a setback proportional to building size and scale.

c. A 'Green Infrastructure' approach to urban planning, using policy and other mechanisms to evaluate ecosystem functions and implement mitigation measure through design and engineering solutions.

d. Consideration of allocating a portion of the area within the 100 metre 'edge zone' (as measured from the normal bank or bank full high water mark) along the Thames Valley Corridor edge as linear open space for vegetated buffers, ecological enhancement and public use purposes. Development setbacks from the valley top of bank and the extent of the open space will vary according to local conditions, environmental considerations, site functions, and desired program for the space and should be determined, as appropriate in accordance with OP policy that directs the application of the Council approved *Guidelines for Determining Setbacks and Ecological Buffers* as part of a secondary plan and/or an environmental impact study.

e. Employing sustainable site design and green building technologies;

f. Provision of a public access route (depending on topography) to facilitate physical connection to, and / or visual contact with, the Thames River valley;

g. Impact of development on local and distant views within the Thames Valley Corridor, including opportunities to create new landmarks that enhance views, and the creation of opportunities to take advantage of views, e.g. public overlooks;

h. Overall character or theme of the development should be cognizant of, and complement the Thames River Valley including consideration of types of building materials, cladding and lighting.

UD-4 Collaborate with the University of Western Ontario and the UTRCA to realize the objectives of both the Campus Master Plan and the Thames Valley Corridor Plan.

Views and Vistas

V-1 The form and design of new development adjacent to the Thames Valley Corridor should consider and complement any views of natural features such as the Thames River, wooded areas and parklands that form part of, or are located adjacent to the site.

V-2 Emphasis will be placed on the promotion of a high standard of design of buildings to be constructed at strategic or prominent locations such as near the edge of the Thames River valley or along major entryways to the City.

V-3 All areas of the Thames Valley Corridor should be considered visually sensitive. New development that is potentially seen within the Thames Valley Corridor viewshed (as viewed from within, or toward the Thames Valley Corridor), should be subjected to a visual impact analysis, as identified and provided for in the City's design review process, to ensure that significant views are protected.

V-4

V-5 Protect and enhance street-end views of the Thames River valley.

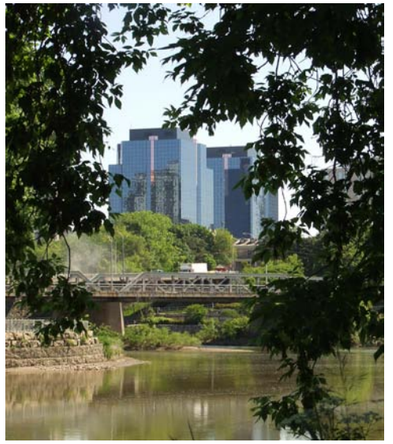
V-6 In new development, align new streets to enhance visual and physical access to the Thames River valley.

V-7 Views and vistas to new and existing landmarks and focal points along the Thames River Valley should be preserved, including:

a. Significant Architecture
   - Buildings or structures that are of architectural or historic importance;
   - Buildings or structures which are significant examples of a particular architectural type or period (such as historic industrial architecture);
   - Buildings or structures which are familiar landmarks, or are particularly well integrated into the natural setting of the Thames River valley, or re-enforce the natural and urban context.

b. Traditional Landmarks
   - Features which can be seen for a great distance along the Thames River and are therefore valuable as orientation points;
   - Features whose visual dominance establishes a 'sense of arrival' at important points of the Thames River/City continuum, such as the Court House as seen from Dundas Street;
   - Features whose setting gives them a symbolic importance in identifying certain parts of the City, such as the Middlesex College Clock Tower of the University of Western Ontario.

V-7 Consider ways of buffering and screening of obtrusive or incompatible elements, particularly as seen from the Thames Valley Parkway, other trails and pathways, and parkland areas within the Thames Valley Corridor, e.g. loading and storage areas, parking lots, unsightly fencing.



3.4 The Working River

Water Quality

WQ-1 Recognize the relationship between upstream and downstream watershed conditions and Thames River and stream health when planning and designing development.

WQ-2 Promote low impact, sustainable development principles in all new development, and demonstrate leadership on public lands and facilities.

WQ-3 Continue Clean Water programs and initiatives (such as the City's Pollution Control Plant (PCP) Discharge Strategy and Community of London Environmental Awareness Reporting (CLEAR) Network that promote improvements to water quality, and address pollution at its source through waste reduction and source control measures.

WQ-4 Continue / expand efforts to educate the public on ongoing City initiatives and how they can contribute to improving water quality in the Thames River Watershed (see also section on Natural Heritage Stewardship and Protection).

Dams, Weirs and Dykes

D-1 In conjunction with the completion of an updated Fisheries Management Plan, consider the need for, and ways of, improving fish passage including: opportunities for reasonable cost design modifications to the Hunt Weir; and, managing the seasonal operation of the Springbank Dam.

D-2 Continue to assess the condition of, and need for, the system of flood dykes surrounding the river with a view to increasing flood storage capacity, improving natural environment conditions (e.g. vegetating dykes, reducing erosion along the riverbanks), and for cost savings.

Erosion Control

EC-1 In collaboration with UTRCA, undertake a study to update geomorphology and slope stability study along the Thames Valley Corridor for the purpose of identifying where erosion spots are likely to occur in the future based on river and valley erosion morphology, and to inform ravine rehabilitation, and erosion and sediment control plans.

EC-2 Develop standards for rivers edge erosion control projects that consider bio-engineering solutions first, and that aesthetics of the river are maintained.

Former Landfill Sites

LS-1 Continue City's ongoing program to monitor former landfill sites.

Municipal infrastructure in Springbank Park

4.0 Implementation Strategy

4.1 Official Plan Policy Directives and Recommendations

General

- Lands within / adjacent to the Thames Valley Corridor have been placed under the jurisdiction of the City of London Design Review Panel. The values and principles articulated in the Thames Valley Corridor Plan should be considered in review of development within the Thames Valley Corridor.
- City should consider a 5 year review and update of the Thames Valley Corridor Plan, in order to maintain its relevancy.

Schedule A, "Land Use Plan"

- Amend Schedule A to show the boundaries of the Thames Valley Corridor (technical boundary (as derived in Phase 1, with the inclusion of the Thames Valley and River Road Golf Course Lands) This would be an "overlay" designation. The underlying Residential, Downtown, Industrial and Open Space designations and policies will not be changed.
- Add "Thames Valley Corridor" to legend before "Open Space" where applicable.

Schedule B1, "Natural Heritage Features"

- Amend Schedule B1 to show boundaries of Thames Valley Corridor. Again, this is an overlay designation and the underlying Natural Heritage System, Natural Hazards and Natural Resources designations and policies will not be changed.
- With respect to placement in the legend, the "Thames Valley Corridor" designation should have its own line on the legend, since it does not fit under the existing headings.

Text Amendments

The following are suggested text amendments within the Official Plan policy structure.

Chapter 2 - Planning Framework

2.4.1 City Structure Policies, x) Public Open Space. Add reference to Thames Valley Corridor Plan.

2.9.3 Environmental Strategies, iv) Natural Heritage. Revise to indicate Thames Valley Corridor Plan has been completed, such as, "The City recognizes the Thames Valley Corridor as its most important natural, cultural, recreational and aesthetic resource. The comprehensive Thames Valley Corridor Plan (2010) was prepared to optimize the Thames River's multi-functional role in supporting environmental and economic vitality, tourism and local and regional recreation initiatives."

Chapter 8 – Open Space

Add reference to Thames Valley Corridor Plan in Chapter 8, as part of the Introduction. For example:

"The City has prepared a comprehensive Thames Valley Corridor Plan (2010) to optimize the Thames River's multi-functional role. The Thames Valley Corridor through London will continue to support environmental and economic vitality, tourism, local and regional recreation initiatives. Much of the lands within the Thames Valley Corridor are designated Open Space. The Thames Valley Corridor Plan encourages the parks and open space system to continue to support places where people and nature co-exist."

Information on key strategies of the Common Grounds, Activity Areas and Thames Rivers Edge Access character areas could be included.

Chapter 15 – Environmental Policies

Add reference to the Thames Valley Corridor Plan in the Chapter's Introduction.

<u>15.B.1 - GOAL AND OBJECTIVES</u>

Based on the Planning Framework included in Section 2 of the Official Plan, the City and Community Partners will preserve and enhance the Thames River's natural environment, Thames River health, vistas, beauty and cultural heritage, while accommodating compatible infrastructure, public service facilities, development, access and recreation.

This goal will be implemented by the following objectives, as included in the Thames Valley Corridor Plan:

- *Establish a continuous Thames Valley Corridor along the Thames River and enhance linkages to tributary watersheds as shown on Schedule B-1.*
- *In partnership with UTRCA, protect the natural erosion and flooding processes thereby minimizing the potential loss of life, property damage, social disruption and environmental impacts.*
- *In partnership with all land owners, maintain and enhance natural heritage features, including vegetation, wildlife habitat and water quality within the Thames Valley Corridor.*
- *Improve erosion control, manage stormwater and sanitary sewage impacts and minimize the impacts of necessary municipal infrastructure and public service facilities in the Thames Valley Corridor.*
- *Provide for ecological (and as appropriate) recreational linkages and connectivity throughout the Thames Valley Corridor and to adjoining areas, such as Fanshawe Conservation Area, Komoka Provincial Park, other ESA's in the City, and downtown. Additional lands and/or easements will be dedicated / provided for parkland and linkages, as a condition to development.*
- *Permit compatible recreational development in the Thames Valley Corridor. Points of access, multi-use trails, lookout points and linkages to neighbourhoods, communities, adjoining areas and the Thames Valley Parkway will be established.*
- *Maintain and enhance cultural heritage through educational signage, building preservation and identification of historical significance*
- *Permit compatible residential, institutional and commercial development in the Thames Valley Corridor. Development Guidelines will be prepared to ensure development is compatible with the City's goals, objectives and policies for the Thames Valley Corridor.*
- *Maintain and enhance the aesthetic beauty of the Thames Valley Corridor. Bonus zoning may be used to implement the Thames Valley Corridor Plan's recommendations.*

15.B.2 - POLICIES

This section of the Official Plan Amendment should include a summary of each of the character areas, with reference to the Thames Valley Corridor Plan for further detail on each area.

Suggested introductory text for this section is, as follows:

Policies for the Thames Valley Corridor have been organized into a series of character areas or structural elements to reflect the unique attributes and potentials of the Thames Valley Corridor. These include:

- *Environmentally Significant Areas (ESA's) and Open Space*
- *Common Grounds*
- *Activity Areas*
- *Thames River Edge Access*
- *Heritage Sites*
- *Urban Nodes*
- *Gateways*
- *Valley Crossings*
- *Edge Zones:* - *100m from the Thames River as measured from the normal bank or bank full at high water mark
  - *Existing developed areas within 100m of the Thames River* where redevelopment is not anticipated (focus on opportunities for stewardship activities)*
  - *Greenfield development areas within 100m of the Thames River (subject to application of a 100m setback and sustainable development standards)*
  - *Existing development areas, such as brownfield sites, within 100m of the Thames River and with potential for redevelopment (subject to application of Thames Valley Corridor guidelines and sustainable development standards)*

15.B.3 - SITES OF POTENTIAL FUTURE REDEVELOPMENT

This section of the Official Plan Amendment should include considerations for development or redevelopment of lands within or in proximity to the corridor and include reference to the need for a **visual impact assessment studies**, **cultural heritage impact assessment studies**, and the Urban Design Review Panel as the review body. The developments should be sympathetic to all the impacts on the valley corridor.

15.B.4 - IMPLEMENTATION

An integrated, coordinated approach will be taken to development, infrastructure and public service facilities planning in the Thames Valley Corridor. The Thames Valley Corridor Plan will be implemented through:

- *Other City planning initiatives, such as special studies, and Urban Design Review Panel*
- *The efforts of the City's Community Partners, including UTRCA regulations, education and stewardship programs and special studies*
- *The Zoning By-law*
- *Development approvals process*
- *Implementation of City municipal infrastructure, servicing and public service facilities projects."*

4.2 Action Plan

The Action Plan is a tool that will be used in conjunction with the Thames Valley Corridor Plan to inform project planning and annual budgets. A number of key actions have been identified for special projects that support the recommendations of the plan.

The Action Items are grouped under four (4) theme areas: **Natural Heritage, Stewardship, and Protection; Celebration, Recreation, Leisure and Tourism; Land Use Planning and Management;** and **The Working River.** Each theme area is further divided into three (3) categories: **Capital Projects; Policies, Programs, Studies and Plans;** and **Standards and Best Practices.**

The following parameters are addressed:

Recommendation Reference

Identifies the key recommendation or strategy in the Thames Valley Corridor Plan that supports the Action Item.

Implementation Trigger / Related Items

This refers to pre-requisites and related items in the Action Plan that should be considered prior to initiating the Action Item.

Suggested Timing

Refers to the year that implementation of an Action Item should commence. Three time frames are used:

- Short Term (1 - 3 years)
- Medium Term (3 – 7 years)
- Long Term (Beyond 7 years).

Short Term projects focus on early, achievable, and practical actions that raise the profile of the Thames Valley Corridor and provide immediate ecological benefit or physical improvement to the Thames Valley Pathway or Activity Area. Funding for these activities could be undertaken in association with the efforts of other departments or community organizations.

Medium and Long Term projects typically are those that have higher capital costs and greater operational demands and require more detailed planning, design and consultation. They may be piggybacked on other capital or development projects as they come on stream. Long Term capital projects may be the outcome of planning or design studies undertaken for specific areas in the Short to Medium term.

Responsible Departments/Divisions

Identifies City departments that have a role in implementing each action.

Capital and Operating Costs

Identifies recommendations with capital costs that are not currently in the 10 Year Capital Budget and Forecast. These costs are in 2010 dollars and are considered preliminary estimates and subject to further evaluation of the project parameters, regulatory policies, and budget review / approvals. A number of the proposed capital works projects will need to be preceded by a plan or study. Action Items requiring additional operating costs are noted.

Potential Partnerships

Identifies where there may be an opportunity or a partnership between agencies, community groups, committees or organizations to assist in implementing for funding the action item.

Public art in River Forks Park

Thames Valley Corridor Plan

Action Plan

For full text and rationale for each recommendation, refer to Section 3.0 Recommendations of the Thames Valley Corridor Plan.

Thames Valley Corridor Plan

Figures


THAMES VALLEY CORRIDOR PLAN

Thames Valley Corridor Plan

Appendix

Appendix A – Official Plan Policies

Official Plan Vision (OP Section 2.2)

- *iv) Protect and enhance natural features and attributes that are significant to the maintenance of ecosystem health in the Thames River and Kettle Creek watersheds.*
- *v) Promote an urban form that features a strengthened and revitalized Downtown serving as the commercial, cultural and administrative centre for the City and region. The more intensive forms of residential and commercial development outside of the Downtown will continue to be focused along sections of major transportation corridors and in designated nodes to facilitate public transit. An expanded and enhanced system of parklands, natural areas and trails along the valleys and ravines of the Thames River and Kettle Creek watersheds will provide continuous corridors for recreation, wildlife habitat and refuge from urban life.*

Planning Principles (OP Section 2.3)

- *ii) Land use planning should promote compatibility among land uses in terms of scale, intensity of use and potentially related impacts.*
- *iii) Land use planning should be conducive to the maintenance and enhancement of environmental quality and conservation of natural, cultural and built heritage resources.*

City Structure Policies (OP Section 2.4)

- *Public Open Space x) The valley lands of the Thames River and its tributaries shall continue to be regarded as the primary open space resource in the City of London, and programs to increase public ownership, accessibility and use of these lands shall be pursued.*
- *Sustainable Development xxi) Forms of development that are designed to be pedestrian-oriented, supportive of public transit service and within the bounds set by the need to maintain or sustain environmental health, shall be supported through redevelopment and in planning for areas of new development.*

Environmental Planning (OP Section 2.9)

- *Natural Heritage (2.9.1) The Natural Heritage System is an important recreation and aesthetic resources for the City. The Thames River Valley in particular is closely linked with the City's history and identity. It is a patchwork of public parks and recreation areas, private open spaces, natural areas and public infrastructure. The City anticipates that the Thames River Valley will continue to perform this multi-functional role over the long-term future.*
- *Environmental Strategies (2.9.3) The City recognizes the Thames Valley Corridor as its most important natural, cultural, recreational and aesthetic resource. The City shall prepare a Thames River Valley Corridor Plan to optimize the multi-functional role of the river valley system in the City over the long term.*

Open Space Land Use (OP Section 8)

- *Objectives for the Open Space Designation (8A.1) i) Provide a continuous, linear open space network which generally follows the Thames River and its tributaries. iv) Enhance accessibility of publicly-owner open space areas, where there is no danger to public safety and where significant natural features and ecological functions can be protected.*
- *Open Space (8A.2.2) Permitted uses include district, City-wide and regional parks; cemeteries and private golf courses; agriculture; woodlot management; horticulture; conservation; essential public utilities and municipal services; recreational and community services.*
- *Public Access (8A.2.3) i) Accessibility to public open space areas will be provided where possible, provided that such access will not have a negative effect on the natural features or ecological functions of the area as determined by the City in consultation with the appropriate agencies.*
- *Environmental Review Land Use Designation (8B) In addition to the natural heritage areas which are included in the Open Space designation in Chapter 8A, there are additional lands which may contain significant natural features and important ecological functions which should be protected. These areas, which have been identified through the Subwatershed Planning Studies, are designated as Environmental Review on Schedule "A" and shall be protected from activities that would diminish their functions pending the completion of a detailed environmental study.*
- *Environmental Review areas or portions of areas that are determined to satisfy the criteria for significance under Section 15.4. shall be re-designated as Open Space on Schedule "A" (refer to Figure 1)*

Urban Design (OP Section 11)

Urban Design Principles (OP Section 11.1)

- *Natural Features i) The form and design of new development should complement any significant natural features such as river valleys, ravines, wooded areas and parklands that form part of, or are located adjacent to, the site.*
- *Trees ii) To the extent feasible, existing trees of desirable species should be retained and incorporated into the landscaping plans for new development through the adoption and implementation of tree preservation policies. Also, designs for new development will consider the need for suitable locations to accommodate the planting of street trees.*
- *Open Views iii) To the extent feasible, new development should minimize the obstruction of views of natural features and landmarks.*
- *High Design Standards iv) Emphasis will be placed on the promotion of a high standard of design for buildings to be constructed in strategic or prominent locations such as within, and at the perimeter of, the Downtown, near the edge of the river valleys, or along the major entryways to the City.*
- *Architectural Continuity v) The massing and conceptual design of new development should provide for continuity and harmony in architectural style with adjacent uses which have a distinctive and attractive visual identity or which are recognized as being of cultural heritage value or interest.*
- *Gateways xxi) Gateways are important elements in the creation of a sense of place and arrival, and provide visual signals that both define and distinguish an area. Gateways occupy strategic and prominent locations, and are primarily associated with major entrances to the City, districts or to neighbourhoods. Gateways may be created through the placement of buildings, landscape features, or the design and architecture of the buildings or structures themselves that frame or create the gateway or entrance.*

Area Design Guidelines (11.1.3)

- *Council may, from time to time, direct that detailed design guidelines be prepared for specific areas of the City. These design guidelines may be adopted by resolution of Council, and may be used to assist in the preparation and review of new development, redevelopment, rehabilitation and renovation proposals, community improvement plans and Heritage Conservation District Plans.*

Pumphouse in Springbank Park

Environmental Policies (OP Section 15)

- *Natural Heritage Objective (15.1.1) iv) Enhance the contribution of the Natural Heritage System to urban form and community design; v) Maintain, restore and improve the diversity and connectivity of natural features and the long-term ecological function and biodiversity of natural heritage systems; vi) Encourage, through education and incentive programs, the co-operation of property owners in the maintenance of or enhancement to the naturalization of lands*
- *Natural Hazard Objectives (15.1.2) Minimize the possibility of property damage, social disruption and danger to life from flooding, by restricting the uses and activities permitted on lands susceptible to flooding and/or erosion processes; ii) Provide for limited and controlled development on flood plain lands in accordance with provincial policies, where such development would be safe and appropriate, and would not reduce flood storage capacity. iii) Through acquisition and agreement, provide for the use of flood plain lands as public open space. iv) Identify flood plain , slope and erosion hazard areas, and prohibit or regulate land use activity in areas where public safety may be affected by natural hazards, in accordance with Provincial natural hazard management policies, and regulations under the Conservation Authorities Act. v) Minimize the risk to public safety and to property due to erosion and slope instability.*

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- *Permitted uses in Natural Heritage Areas Designated as Open Space (15.3.2) include recreational uses associated with the passive enjoyment of natural features including pathways and trails provided that such uses are designed, constructed and managed to minimize their impact on the natural heritage area.*
- *Public Ownership / Acquisition (15.3.4) ii) The City shall develop a program for the long term acquisition of natural heritage areas. Acquisition may occur as properties become available primarily through the following methods: purchase; dedication; and donation or bequest.*
- *Stewardship (15.3.5) i) Where natural heritage areas are privately owned, the City will encourage individual property owners to provide for their protection and conservation through such means*
- *as: stewardship agreements, conservation easements, education, land trusts, modification of property tax assessment and facilitation of Provincial Conservation Land Tax Incentive Program or the Managed Forest Tax Incentive Program. ii) Where natural heritage areas are owned by the City, the City will encourage community groups and individuals to take an active role in their protection, rehabilitation and enhancement.*
- *Ecological Buffers (15.3.6) i) Ecological buffers will be required around, or adjacent to, and other components of the Natural Heritage System, based upon the recommendations of an approved Environmental Impact Study. ii) The location, width, composition and use of ecological buffers necessary to protect natural heritage areas from the impacts of development on adjacent lands will be specified through application of the Council approved Guidelines for Determining Setbacks and Ecological Buffers as part of a secondary plan and/or an environmental impact study.*
- *Management and Rehabilitation Priorities (15.3.7) i) The City's highest priority for rehabilitating the Natural Heritage System shall be those areas linking or adjacent to natural heritage areas that are subject to flood or erosion hazard constraints. ii) With respect to specific components of the Natural Heritage System, the City's management and rehabilitation priorities are:*
  - *a) Environmentally Significant Areas - to protect the existing ecosystem features and functions, to increase the amount of interior forest habitat, and to strengthen corridors.*
  - *b) Wetlands; to protect the functions of all existing wetlands.*
  - *c) Woodlands - to protect existing ecosystem features and functions, to increase the amount of interior forest habitat, and to retain or restore linkages between isolated natural areas.*
  - *d) River, Stream and Ravine Corridors - to protect existing ecosystem features and functions, and to rehabilitate degraded shorelines.*
  - *e) Upland Corridors - to retain or create linkages between isolated natural areas.*
  - *f) Wildlife Habitat - to protect wildlife habitat.*
  - *g) Fish Habitat - to protect, rehabilitate and/or create fish habitat, and to encourage a net gain of productive capacity of fish habitat where possible.*
  - *h) Potential Naturalization Areas - to naturalize areas within fill regulated areas of streams, rivers and ravine corridors.*

Parks and Recreation Policies (OP Section 16)

- *General Objectives for Parks and Recreation (16.1) iii) Strive towards an accessible and equitable distribution of parks, recreation areas and services throughout the City. iv) Improve recreational potential as well as the aesthetic qualities of City parks. v) Promote concept of a continuous or linked public open space system. vi) Recognize and develop the Thames River Valley and tributaries as major public recreational resources.*
- *Continuity (16.3.4) Where possible, the creation of a continuous linked open space system utilizing linear parks in addition to more traditional block shaped parks will be achieved by: ii) striving towards a continuous park system along Thames River valley and tributary lands.*

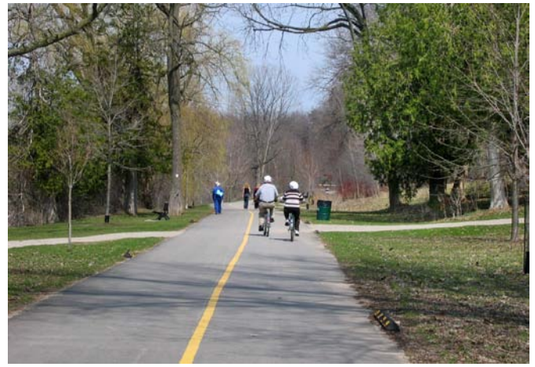
Services and Utilities (OP Section 17)

- *General Objectives (17.1.1) i) Protect the natural environment while providing the required services and utilities.*
- *Sanitary Sewerage Objectives (17.1.2)ii) Provide sewage treatment to meet standards for an acceptable quality of effluent discharge to the Thames River and its tributaries.*
- *Solid Waste Management Objectives (17.1.3) i) Provide for the disposal of solid waste materials generated or produced by City residents and businesses, at acceptable locations and in a manner which will minimize negative impacts on the environment and surrounding land uses. ii) Promote the recovery, reduction, re-use, recycling and recovery of materials from solid waste, wherever possible through the use of innovative means, new technology, conservation measures and public education programs.*

- *<u>Stormwater Management Objectives (17.1.4)</u> iv) Protect and enhance hydrology, geomorphology, water quality and the quality of aquatic and fish habitat. v) Minimize the effects of erosion, soil loss, and sedimentation from construction activity on sewerage systems and receiving watercourses.*
- *<u>Stormwater Management Studies (17.6.2) i)</u> Secondary Plans shall include the preparation of a Storm Drainage and Stormwater Management Plan …….including but not limited to:*
    - *a) provisions to prevent loss of life and reduce property damage;*
    - *b) provisions to mitigate the impact of proposed development on the environment and on existing overland stormwater flows;*
    - *c) provisions to control erosion, sedimentation, and pollution likely to result from development projects;*
    - *d) provisions to reduce on-site and downstream surface ponding and flooding;*
    - *e) provisions to protect and enhance water quality and baseflow in receiving watercourses;*
    - *f) provisions to protect groundwater recharge/discharge areas;*
    - *g) provisions to reduce the total cost of a stormwater drainage system and its related works;*
    - *h) provisions to consider the integration of stormwater retention, detention or other management facilities into public park and open space areas, provided the overall function of the park or open space area is protected; and,*
    - *i) any other criteria or guidelines which, in the opinion of Council, may be required to regulate development in order to achieve effective stormwater management in the subcatchment or tributary.*
- *<u>Older Services and Facilities (17.2.11)</u> The City will continue an ongoing program for the upgrading, maintenance and/or replacement of older sanitary sewerage facilities as required. Where practical, existing combined sanitary and storm sewers shall be separated as a part of an redevelopment or upgrading of sanitary facilities.*

Transportation (OP Section 18)

- *<u>Transportation Objectives</u> (18.1) xii) Support the planning and development of bicycle routes and pedestrian paths that provide linkages among open space areas, major activity centres, employment nodes and the public transit system and that enhance the convenience, safety and enjoyment of these modes of travel.*



Implementation (OP Section 19)

- *<u>Boundaries Between Land Use Designations</u> (19.1.1) i) The boundaries between land use designations as shown on Schedule "A" - the Land Use Map, are not intended to be rigid, except where they coincide with physical features (such as streets, railways, rivers or streams). The exact determination of boundaries that do not coincide with physical features will be the responsibility of Council. Council may permit minor departures from such boundaries if it is of the opinion that the general intent of the Plan is maintained and that the departure is advisable and reasonable. Where boundaries between land use designations do coincide with physical features, any departure from the boundary will require an Official Plan amendment.*
- *<u>Delineation of Flood Plain, Environmental Features</u> ii) The delineation of the flood plain fill and erosion lines and other environmental features as shown on Schedule "B1" – Natural Heritage Features and Schedule "B2" – Natural Resources and Natural Hazards, is not intended to be precise delineation of the flood plain and fill regulated areas shall be as shown on the flood plain and fill line mapping available through the appropriate Conservation Authority. The 100 Year Erosion Line is more accurately shown on mapping available through the City of London Planning and Development Department. The precise delineation of other environmental features shall be determined through area studies or environmental impact studies undertaken in conformity with the policies of this Plan.*
- *<u>Secondary Plans and Guideline Documents</u> (19.2) Area studies (also known as community plans and area plans) and guideline documents may be used to assist in the implementation and refinement of the Plan.*

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