

FINAL

SPENCER GORGE - WEBSTER'S FALLS CONSERVATION AREA MASTER PLAN



2013

GSP Group Inc.
Paradigm Transportation Solutions Inc.
S. Llewellyn & Associates Limited

TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	i
SECTION ONE: BACKGROUND.....	1
1.1 Study Area Boundary.....	1
1.2 Master Plan Purpose.....	4
1.3 Previous Studies.....	5
1.4 Cultural History.....	6
1.5 Key Issues.....	7
SECTION TWO: GOALS AND OBJECTIVES.....	8
SECTION THREE: PLANNING AND DEVELOPMENT CONTROLS.....	10
3.1 Greenbelt Plan.....	10
3.2 Niagara Escarpment Plan.....	10
3.2.1 Escarpment Natural Areas.....	11
3.2.2 Escarpment Protection Area.....	12
3.2.4 Minor Urban Centre.....	13
3.3 UNESCO.....	16
3.4 Rural Hamilton Official Plan.....	17
SECTION FOUR: INVENTORY and ASSESSMENT.....	19
4.1 Natural Areas/Environmentally Sensitive areas.....	19
4.1.1 Vegetation Communities.....	20
4.1.2 Flora.....	22
4.1.3 Fauna.....	23
4.1.4 Geology.....	25
4.1.5 Topography.....	25
4.1.6 Hydraulic Characteristics.....	25
4.2 Spencer Creek Watershed.....	26
4.3 Site Features.....	26
4.3.1 Trails.....	26
4.3.2 Stairs to the Gorge.....	29
4.3.3 Lookouts.....	30
4.3.4 Parking Lots.....	30
4.3.5 Fencing.....	31
4.3.6 Picnic Pavilion.....	31
4.3.7 Bridges.....	31
4.3.8 Washroom Facilities.....	31
4.3.9 Garbage.....	31
4.3.10 Barbeques/Fire Place.....	31

4.3.11	Noise.....	32
4.3.12	Gates	32
4.3.13	Signage.....	32
4.3.14	Winter Maintenance.....	32
4.3.15	Pedestrian Access	32
4.4.1	Trails	33
4.4.2	Family Picnic Areas	34
4.4.3	Stairs to the Gorge.....	35
4.4.4	Hours of Operation.....	35
4.4.5	General Safety.....	36
4.5	Emergency Services.....	38
4.5.1	Calls to Webster's Falls and/or the Gorge	38
4.5.2	Calls to Dundas Peak and Tew's Falls.....	39
4.5.3	Summary and Recommendations.....	39
4.6	Right of Way Privileges.....	39
4.6.1	Webster's Fall Road (private)	39
4.6.2	Trails – Private Land.....	40
4.6.3	Lafarge Lands.....	40
4.7	Market Analysis	40
4.7.1	Regional Significance	40
4.7.2	Market Survey.....	41
SECTION FIVE: TRANSPORTATION		42
5.1	Existing Transportation System	42
5.1.1	Road Network Characteristics	42
5.1.2	Site Access	44
5.1.3	Existing Parking Conditions	44
5.1.4	Emergency Service Access	45
5.2	Analysis	45
5.2.1	Traffic Analysis	45
5.2.2	Driveway Operations.....	46
5.2.3	Parking Utilization	47
5.3	Parking Management Strategies.....	50
5.3.1	Identified Constraints	50
5.3.2	Tourist Transportation Management.....	50
5.3.3	Parking Demand Management	51
5.3.4	Development of Improvement Alternatives	53
5.4	Transportation/Parking Recommendations.....	55
5.4.1	Recommended Traffic/Parking Improvement Strategy	55

5.4.2	Shuttle Service Implementation Plan	56
5.4.3	Next Steps	58
SECTION SIX: OPERATING COSTS/FINANCIAL OVERVIEW		59
6.1	Administration	59
6.2	Capital and Maintenance Funding	59
6.3	Visitation to the Park/Trends and Park Use	59
6.4	Revenue: Parking	60
6.4.1	Visitor Volume:	60
6.4.2	Revenue:	60
6.5	Pay Structure:	60
6.6	Maintenance	61
6.6.1	Washroom Facilities	61
6.6.2	Bruce Trail and HCA	61
6.6.3	Garbage	61
SECTION SEVEN: CONCEPT DEVELOPMENT		62
7.1	Option A: Do Nothing	62
7.2	Option B	64
7.3	Option C	68
7.4	Option Summary - Site Features	72
7.4.1	Gorge Access	72
7.4.2	The Gorge Trail	72
7.4.3	Bruce Trail Side Trails/ Other Trails	72
7.4.4	Accessible Trail	73
7.4.5	Spencer Creek	73
7.4.6	Landscape Character	73
7.4.7	Picnic Areas	73
7.4.8	Signage	73
7.4.9	Fencing	74
7.4.10	Overlooks	74
7.4.11	Washrooms	74
7.4.12	Garbage/Ash Bins	74
7.4.13	Emergency Services	74
7.4.14	Parking	75
SECTION EIGHT: MASTER PLAN		76
8.2	Cost Estimates and Development Phasing	80
8.3	Funding	82
SECTION NINE: MANAGEMENT		83
9.1	Relationship to Watershed Management Program	83

9.2	Environmental Management Techniques	83
9.2.1	Protection and Management Techniques for Sensitive Areas and Species	83
9.2.2	Priority Protection Areas.....	84
9.2.3	Invasive Species	84
9.2.4	Trails and Overlooks	84
9.2.5	Wayfinding/Interpretive Signage:.....	85
9.2.6	Risk Management :	85
SECTION TEN: PUBLIC CONSULTATION		86
10.1	Public Information Centre #1 (March 21, 2012)	86
10.2	Public Information Centre #2 (April 6, 2012) and Survey #1	86
10.3	Public Survey #2 (Sunday May 20, 2012).....	86
10.4	Public Information Centre #3 (Tuesday June 26, 2012)	87
10.5	Public Information Summary.....	89
10.6	Master Plan Review and Approval.....	89
SECTION ELEVEN: RECOMMENDED MASTER PLAN POLICIES:.....		90
11.1	Species at Risk Monitoring Strategies	90
11.2	Restoration	90
11.3	Trail Development, Uses and Management.....	90
11.4	Trail Cuts and Trailhead Closures	90
11.5	Park Operations.....	90
11.6	Accessibility	91
11.7	Sustainability.....	91
11.8	Park Classification	91
11.9	Park Management Zones	91
11.10	Park Zone Management Policies:	94
11.10.1	Nature Reserve Zone Management Policy	94
11.10.2	Natural Zone Management Policy.....	94
11.10.3	Historic Zone Management Policy	94
11.10.4	Access Zone Management Policy.....	94
11.10.5	Development Zone Management Policy	94
SECTION TWELVE: APPROVAL STATEMENT.....		95

List of Figures:

- Figure 1: Regional Context
- Figure 2: Location Map
- Figure 3: Webster's Falls
- Figure 4: Tew's Falls
- Figure 5: Study Area Limits
- Figure 6: Niagara Escarpment Plan (Map 2 excerpt)
- Figure 7: Rural Hamilton Official Plan - Schedule B: Core Areas
- Figure 8: Areas of Natural and Scientific Interest
- Figure 9: Environmentally Significant Area #30
- Figure 10: Municipal Road Network
- Figure 11: On-Site Parking Duration
- Figure 12: Option B – Functional Relationships
- Figure 13: Option B – Master Plan
- Figure 14: Option C – Functional Relationships
- Figure 15: Option C – Master Plan
- Figure 16: Recommended Master Plan
- Figure 17: Park Management Zones

List of Tables:

- Table 1: NEPOSS Zones
- Table 2: Species at Risk and Provincially Rare Plant Species
- Table 3: Trails
- Table 4: Trail Classification
- Table 5: Trail Capacity
- Table 6: Picnic Area Capacity
- Table 7: Gorge Stair Count
- Table 8: Origin Destination Surveys
- Table 9: Roadway Characteristics
- Table 10: Existing Traffic Operation
- Table 11: Off-Street Parking Demand
- Table 12: On-Street Parking Demand
- Table 13: Parking Demand/Supply
- Table 14: Tourist Transportation Management Strategies
- Table 15: Parking Demand Management Strategies
- Table 16: Short-term Improvements
- Table 17: Public Comment and Response
- Table 18: Shuttle Service Cost Estimates
- Table 19: Revenue from Falls
- Table 20: Option A: Do Nothing
- Table 21: Option B
- Table 22: Option C
- Table 23: Short Term Parking Capital Costs
- Table 24: Long Term Parking Capital Costs
- Table 25: Short Term Gorge Capital Costs
- Table 26: Long Term Gorge Capital Costs
- Table 27: Overall Capital Costs
- Table 28: Park Management Zones

EXECUTIVE SUMMARY

The Spencer Gorge-Webster's Falls Conservation Area Master Plan will be the principal guiding policy document for the planning, development and resource management of the Spencer Gorge-Webster's Falls Conservation Area.

The Master Plan sets out park zoning and Conservation Area policies for resource management and operations as well as development policies to guide proposed Conservation Area management over the next 10 years.

The development of concepts and alternatives and management considerations were released for circulation and response from the public and related agencies in June 2012.

Upon approval of this Master Plan by the Hamilton Conservation Authority Board of Directors, submission will be made to the Ministry of Natural Resources and Niagara Escarpment Commission for review and approval that the plan conforms to the Niagara Escarpment Plan.

Vision Statement

The Spencer Gorge-Webster's Falls Conservation Area, with its spectacular waterfalls, escarpment views, , extensive natural habitat supporting rare species and vegetation communities, trails and cultural heritage features, provides both local and out of town visitors, of all ages and abilities, a memorable and educational experience, while also balancing protection of sensitive natural environments.

Significant Site Attributes

- two impressive waterfalls, Webster's and Tew's Falls and two smaller waterfalls
- a 100 metre deep gorge measuring 1 kilometre in length from the Escarpment edge;
- a topography ranging from gently rolling tableland above the waterfalls to vertical cliffs and talus slopes of the creek-cut gorge;
- significant biological communities exhibited within the Webster's Falls-Spencer Gorge Conservation Area, unique to southern Ontario;
- tempered climate due the proximity to Lake Ontario and south facing orientation of the Escarpment;
- Bruce Trail side trail networks that link Tew's and Webster's Falls with the Dundas Peak and main Bruce Trail;
- Trail connection between the Greensville Optimist Community Park and the historic Crooks Hollow Trail;
- designation as part of a World Biosphere Reserve by UNESCO and as a Natural Environment Park under the Niagara Escarpment Parks and Open Space System;
- identification as a provincially significant Area of Natural and Scientific Interest (ANSI)
- over 500 plant species (4 Species at Risk, 9 provincially rare, 14 regionally rare and 51 locally rare), 42 bird species (1 Species at Risk), 13 mammal species, 27 Lepidoptera species(1 Species at Risk, 1 provincially rare and one locally uncommon), 13 Odonata species, and 6 herpetofauna species can be found in the Conservation Area and immediate surrounding area;
- several cultural heritage features providing evidence of the important role of this area had in the early industrialization of Upper Canada.

Existing Policy Framework

The Master Plan for the Spencer Gorge-Webster's Falls Conservation Area builds on and supports Hamilton Conservation Authority strategic directions and provincial policy documents including the Niagara Escarpment Plan and Greenbelt Plan. Within the Niagara Escarpment Plan, the Spencer Gorge-Webster's Falls Conservation Area is recognized as a well-established component of the Niagara Escarpment Parks and Open Space System.

Summary of Significant Issues and Challenges

- **Natural Heritage Protection:** This Conservation Area's unique and diverse natural heritage system is generally well protected and secure. This Area has been designated a Provincial Area of Natural and Scientific Interest and an Environmentally Significant Area. However, some deterioration was identified at certain heavily used locations along the trail system and at the bottom of the Gorge, highlighting the need for protection measures to be put in place.
- **Increased Visitations:** Spencer Gorge-Webster's Falls Conservation Area has experienced an ongoing increase in visitations with a current estimated annual visitation of 80,000. This growth represents regional resident's positive attitude towards participation in healthy-lifestyle pursuits and interest in the waterfalls, but also represents a threat to the sensitive natural ecology of the site unless properly managed and serviced with appropriate facilities.
- **Facilities and Amenities:** The Conservation Area has three parking lots, trails, open lawn areas, a picnic pavilion, bridge structures, overlooks, a maintenance facility, protective fencing, and a range of interpretive and informational signage. Washroom facilities are currently limited to portable washrooms.
- **Financial Constraints:** Over the past 20 years, with changes in government priorities, provincial funding for park development and enhancement has been eliminated. The City of Hamilton provides capital and major maintenance funding to the HCA, from which the HCA must maintain projects or develop new ones on the 11,000 acres HCA owns or manages. This limited funding has resulted in the deterioration of some natural heritage features, facilities and amenities as well as the quality of the visitor experience.

Recommended Policies

The master plan that has been developed continues to support the Spencer Gorge-Webster's Falls Conservation Area as a significant natural heritage area as well as regional destination for local visitors and tourists:

- Ensures protection and enhancement of the natural heritage of the site;
- Promotes environmental values, healthy lifestyles, outdoor recreation and education;
- Prescribes a management strategy for vehicular traffic, parking and emergency services access;
- Promotes trail linkages beyond the site, and alternate modes of transportation.

Highlights of the Development Recommendations

The master plan identifies a range of new facilities to provide enhanced natural heritage protection, visitor experience, amenities, interpretive opportunities and recreational conveniences. The main elements of the master plan are summarized as follows:

- A system of directional, entrance, interpretive and other signage that is consistently branded across the Conservation Area and standardized to meet accessibility, readability, risk management and marketing objectives;
- Reduced impacts to local residents through transportation planning and off-site parking management;
- Promote alternate forms of transportation to the area including trail linkages and shuttle service from Christie Lake Conservation Area;
- Closure of the Webster's Falls stairs, with long term targets for re-establishing visitor access while balancing environmental protection;
- Improved visitor facilities including new year-round washroom facility;
- Accessibility upgrades for identified pathways and washroom facilities to meet AODA standards;
- Improve trail safety through re-surfacing, fencing, signage and trail closures;
- Improved orientation for visitors and emergency services through area identification markers;
- Promote trail linkages between Christie Lake, Crooks Hollow and Spencer Gorge-Webster's Falls Conservation Areas;

- Environmental protection-restoration, mitigating impacts and on-going environmental monitoring;
- Expand on public educational /interpretive opportunities;

Cost Summary

Parking

The Transportation Study provides a comprehensive analysis of the traffic and parking related issues and has determined that the volume of vehicular traffic to the site and lack of space on site to meet existing and future anticipated parking demand cannot be met through on-site improvements.

The transportation recommendations provide improved vehicular access to the site, minimize impacts to local residents, reduce congestion on local roads, improve access for emergency services, while also providing a more positive visitor experience. It is recommended that a shuttle from Christie Lake Conservation Area be established. implementation of site specific operational improvements at both Webster's Falls and Tew's Falls entrances which will improve traffic and parking operations and enhance site circulation.

Capital Costs

\$157,000.

- Includes area and road signage, improve driveway configuration, landscape restoration, improved accessibility, visitor kiosk

Lower Gorge Access:

Re-instating safe access to the lower gorge from Webster's Falls park area and Dundas is recommended as a part of this Master Plan. This step requires the construction of a new stairway and overlook, habitat restoration and management and a solution to a pedestrian crossing of the CN rail corridor in Dundas.

Capital Costs

\$539,000.

- Includes stairway installation, lower area viewpoint, interpretive & warning signage, restoration of valley trail and disturbed natural areas and safety fencing.

Overall General Improvements

There are a number of other recommendations included in the Master Plan that will provide improvements including new washroom facilities, trail improvements, signage, fencing, new stairs (between Tew's Falls and Webster's Falls parking lot), vegetation restoration, overlooks, picnic pavilion repairs, cobblestone bridge repairs, a new gatehouse, and bicycle parking. The following cost is associated with these improvements:

Capital Costs

\$640,000.

Total Capital Costs Estimate:

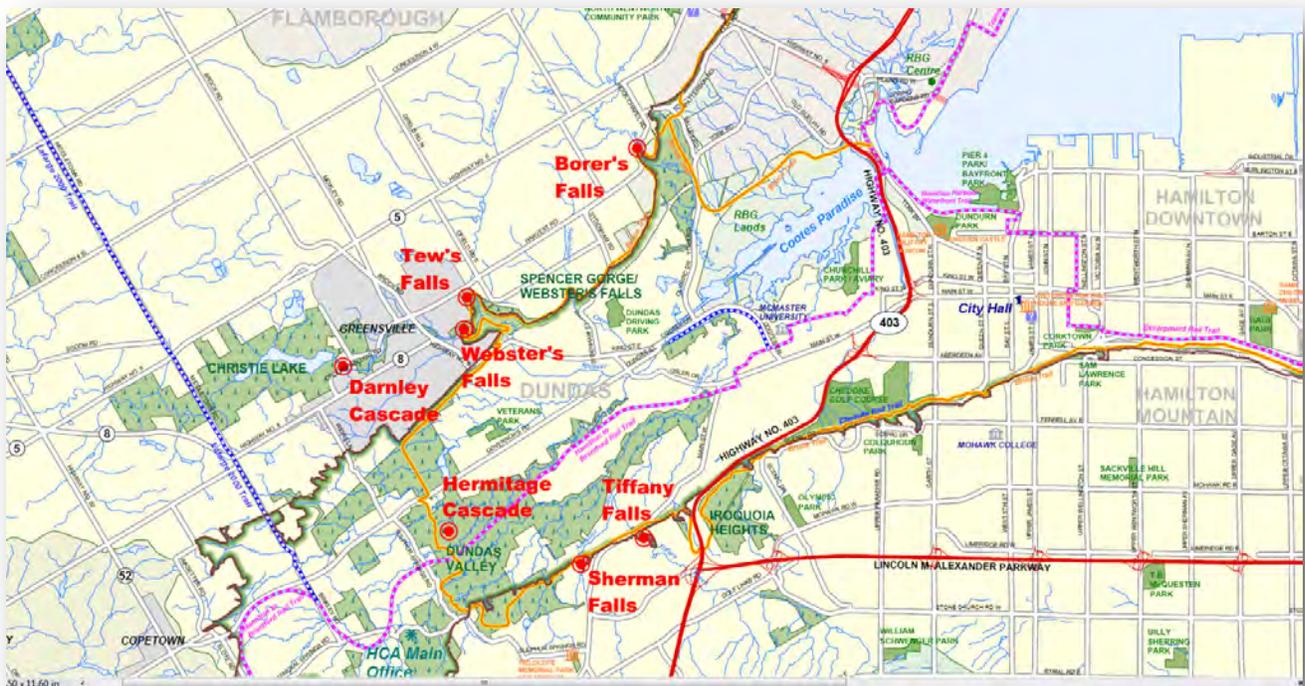
\$1,345,000.00.

SECTION ONE: BACKGROUND

1.1 Study Area Boundary

The Spencer Gorge-Webster's Falls Conservation Area is generally located south of Harvest Road and east of Highway No. 8 in the community of Greensville in the City of Hamilton on the Niagara Escarpment. Figure 1a and 1b illustrates the location of this 66.35 acre Conservation Area which includes Spencer Gorge (Tew's Falls, and Webster's Falls), the former Webster's Park and the Greensville Optimist Community Park. These lands are owned by the Hamilton Conservation Authority.

Figure 1: Regional Context



Source: City of Hamilton, iMapper 2012

Vehicular access to the Conservation Area can be obtained from Harvest Road, Fallsview Road and Highway No. 8. There are also a number of pedestrian access points to the site.

Figure 2: Location Map



Source: Urban Corridor Map, City of Hamilton, GIS Services 2011

The Conservation Area encompasses a south-facing segment of the Niagara Escarpment overlooking the Town of Dundas. The central feature of the area is Spencer Gorge, a 'Y' shaped Gorge with two scenic waterfalls Webster's Falls (Figure 2) and Tew's Falls (Figure 3) located on Spencer Creek and Logie's Creek respectively. The Gorge itself is a distinctive landform which provides a near complete section of the bedrock formations of the southern Niagara Escarpment and several unique geological features.

Figure 3 – Webster's Falls**Figure 4 – Tew's Falls**

The west Spencer Creek tumbles over the Escarpment at Webster's Falls with a waterfall height of 22m ht (72 ft) and width of 30m width (98ft). Equally as impressive is Tew's Falls on the east branch of the Spencer Creek with a waterfall height of 41m ht (134 ft)/9m width (29.5 ft).

Millions of years of erosion have resulted in the formation of an approximate 100 metre deep Gorge, measuring 1 kilometre in length from the present escarpment edge. The topography of the area ranges from gently rolling tableland above the valley above the waterfalls to the vertical cliffs and talus slopes of the creek-cut Gorge.

The Spencer Creek bottomlands exhibit significant biological communities which are unique for this area of Southern Ontario. Two examples of species, The 'Walking Fern' and 'Louisiana Waterthrush' reach the northern limit of their respective ranges in southern Ontario. Both species also occur in Grey and Bruce County.

The Niagara Escarpment Study prepared in 1968 by Professor L.O. Gerther of the University of Waterloo identified areas of extremely sensitive Escarpment land imminently threatened by urban development pressure. The report recommended to the Ontario Government that sensitive lands be purchased and preserved on a priority basis either through complete control or by the use of easements and lease arrangements. As a result of this study, the Authority developed a comprehensive Escarpment land acquisition program for the preservation of the Niagara Escarpment within its areas of jurisdiction. As a part of the Escarpment Acquisition program, the Authority has acquired recreational land for the following reasons:

- To preserve the landscape character of significant physical features of the Niagara Escarpment.
- To provide recreational access at specific locations along the Escarpment.

On a regional scale the site is readily accessible by provincial Highways #5, #6, #403 and the QEW located in relatively close proximity. Highway #8 is located to the immediate west of the Wilderness Area providing direct access from the above-noted transportation corridors. (Refer to Figure 9-Municipal Road Network)

The east branch of the Spencer Creek (or Logie's Creek) flows over the Escarpment at Tew's Falls. The west, or main branch of the Spencer Creek has formed Webster's Falls, one lot and one concession to the west.

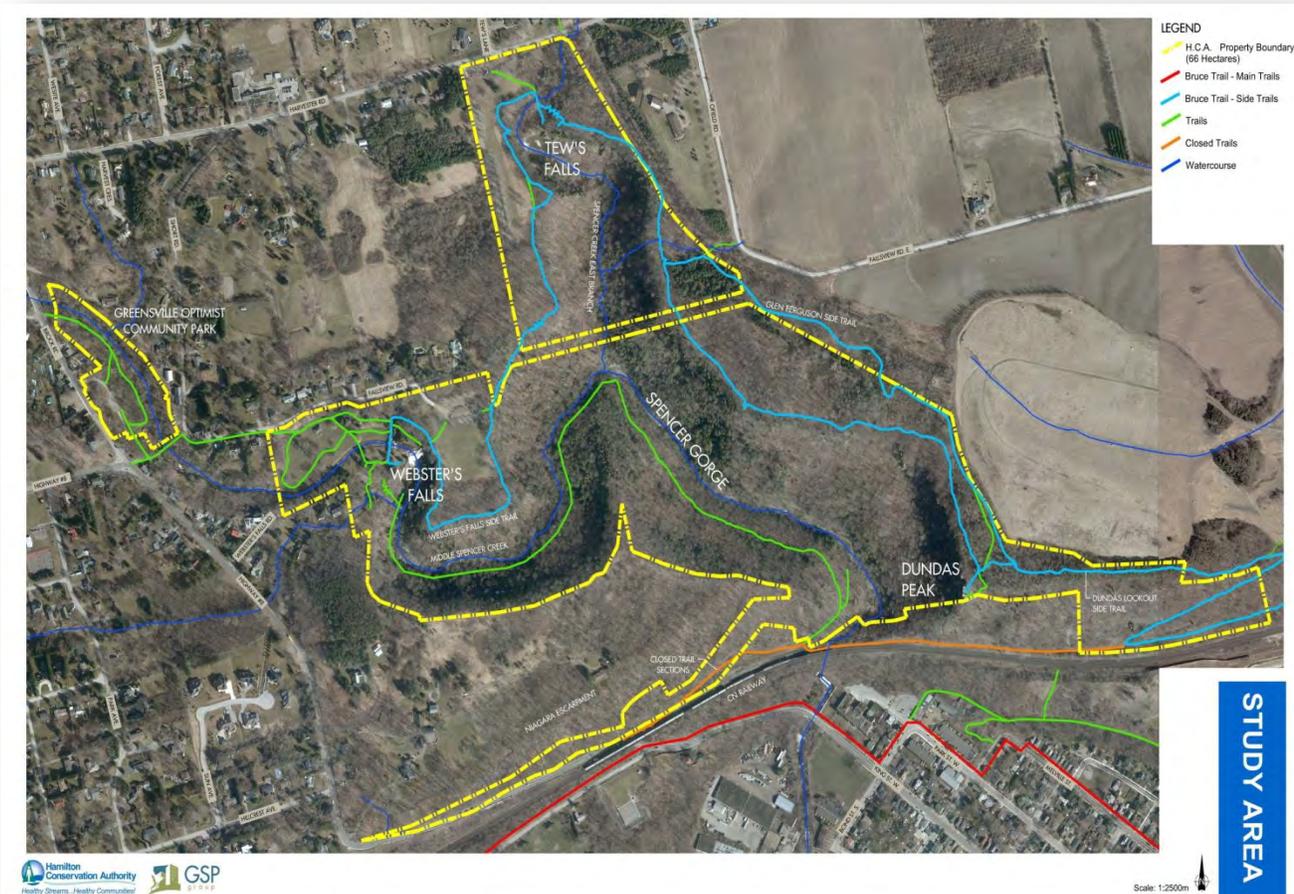
The Hamilton Conservation Authority estimates the current annual visitation levels at this Conservation Area at approximately 80,000 visitors. More and more visitors from outside of the Region are attracted to Hamilton's Waterfalls and the Spencer Gorge-Webster's Falls Conservation Area includes two of the most spectacular waterfalls. The park is also a popular hiking destination, with connections to both the Crooks Hollow Heritage Trail to the west, and the Bruce Trail side trails to the east. People are drawn to Spencer Creek, either picnicking on the grassy open areas or sitting on the rocks at the base of Webster's Falls.

The Hamilton Conservation Authority manages four other Conservation Areas within the immediate vicinity. The largest, The Dundas Valley Conservation Area, lies 3 kilometres to the west. The Christie and Crooks Hollow Conservation Areas are located 2 kilometres upstream along the main branch of the Spencer Creek and, the Borer's Falls Conservation Area lies along the Escarpment 3 kilometres to the east.

1.2 Master Plan Purpose

A Master Plan describes an overall management concept including present uses and future actions for land management over a period of time. The overall purpose of the master planning process is to protect and enhance the significant natural features and ecological functions of the Conservation Area while providing opportunities for the public to enjoy this spectacular area, appreciate its outstanding scenic beauty and participate in recreational opportunities. This master planning exercise will be the first comprehensive plan for the entire lands identified as the *Spencer Gorge-Webster's Falls Conservation Area*. The outcome will be a single management plan for the Spencer Gorge, Webster's Falls, and the Greenville Optimist Community Park and will illustrate that the grouping of protected areas are based on common criteria. The Master Plan will serve as the principal guiding document for the future planning, design, development and resource management of the Conservation Area in accordance with all relevant acts and regulations. Figure 4 illustrates the limits of the study area.

Figure 5: Study Area Limits



The study will identify issues, objectives and opportunities for the Spencer Gore Webster's Falls Conservation Area. The Master Plan will include an assessment and documentation of development and management requirements with public input guiding concept development. A key objective will be to ensure the plan conforms to the Niagara Escarpment Plan (NEP). Generally the Master Plan is to provide the following:

1. Establish policy guidelines for long term protection, development and management of the Conservation Area in accordance with the Master Management Planning Policy (Policy 3.1.6) in the NEP.
2. Contain appropriate zoning and planning policies.
3. Establish an appropriate park classification in accordance with the NEP's Classification Policy (Policy 3.1.4).
4. Identify the Bruce Trail Corridor and provide policies for managing the corridor in cooperation with the Bruce Trail Conservancy.
5. Develop in accordance with guidelines contained in the Niagara Escarpment Parks and Open Space System (NEPOSS) Planning Manual

1.3 Previous Studies

The Spencer Gorge Wilderness Area (144 acres/58.35ha) was acquired by the Hamilton Conservation Authority in 1966. Following its acquisition the Hamilton Conservation Authority prepared the Spencer Gorge Wilderness Area-Preliminary Designs and Calculations - Phase 1 study dated 1967 which culminated in 1979 as The Spencer Gorge Wilderness Area Master Plan.

In addition, Webster's Falls Park (14 acres/5.6 ha) has a rich cultural history dating back to the early 1800's. The park was transferred to the Hamilton Conservation Authority in 2000. The Hamilton Conservation Authority prepared Concept Options for the Park in 2000 as part of the Webster's Falls/Spencer Gorge Draft Management Plan.

Finally, the Greensville Optimist Community Park (5.0 acres/2.4 ha) was constructed in 2002-2003, with the help of community volunteers and donations. The site also has a rich cultural/industrial history dating back to the mid-1800's.

This Master Plan references studies and reports prepared since the first lands within the study area were acquired in 1966. These background documents include life sciences inventories and master plan reports. Plans have been prepared for different portions of the area in 1980, 1988, 2000 and 2002. A list of background documents referenced in the preparation of the Spencer Gorge-Webster's Falls Conservation Area Master Plan is included in Appendix A, while Appendix B includes a list of reports and a summary of their purpose, goals and objectives.

1.4 Cultural History

The west branch of Spencer Creek tumbles over the Escarpment forming a waterfall that has been known, at various times as: Flamborough, Hatt's, Spencer's and Fisher's Falls. "Websters Falls" though, has been the accepted name for over 180 years. The history of Webster's Falls goes back to the early 1800's with the purchase of the waterfall and surrounding land by H.S. Mackay for the development of a grist mill and small distillery. In 1808, all water rights and mills built along the Spencer Creek from Webster's Falls through to the south end of the former Town of Dundas were owned by Richard Hatt, an early industrial pioneer. After Hatt's death in 1819, Joseph Webster Senior purchased 32 hectares of land, the distillery and water rights along the Creek from Hatt's executors.



In 1830 Joseph Webster Jr. built the Ashbourne Grist Mill and constructed a mill dam across the Creek. In 1848, Joseph Webster Jr. constructed the first road on the Escarpment face linking Greensville to the former Town of Dundas (presently Highway #8) below the escarpment.

In 1831 Joseph Spencer purchased part of the Webster property on the Spencer Creek and built a dam north of the CNR right-of-way to supply his Gore Grist Mill with power. Construction was completed in 1834 at the foot of the mountain. The mill was closed in 1923 and the former Dundas High School now stands on the mill grounds.

In 1855 Joseph Webster Jr. added a mill for the manufacturing of cotton batting and a copper shop at the Ashbourne Mill complex. Fire destroyed the mill enterprise in 1898. George Harper built the second Hydro generating electric power plant in Ontario, completing it in 1899, using the mill dam as a head of water. This plant provided the Town of Dundas with its first street light electricity. Unfortunately, fire ravaged the mill in both 1898 and 1901 and ultimately destroyed it.

The Webster family cemetery is located in Lot 11, concession 1 on property owned by the Conservation Authority. The area contains both marked and unmarked graves with five headstones, three of which are no longer legible. The cemetery is highly vulnerable to vandalism and few stones have been damaged. The Escarpment section of the Bruce Trail traverses through the cemetery.

In 1874 Henry Tew purchased the southern half of Lot 12, concession 2, including the falls and Gorge.

Members of the family were one of the first to lay the railway siding of the Grand Trunk Railroad (now the CNR) at the Dundas Station in 1904. In that same year, the largest single industry in the area, the Canada Crushed and Cut Stone Corporation, commenced operations although dynamiting and stripping of stone did not begin until 1905.

In 1917, Webster's Falls and its surrounding areas were purchased by the Public Utilities Commission of Dundas for the town's waterworks department. The area was bequeathed by the mayor to the town to be made into a public park known as Webster's Falls Park. Subsequently, a foundation was formed to channel revenue into park improvements. In 1933, the grounds were landscaped, and a cobble-stone bridge was constructed across the creek above the falls (restored in 2000 by the Greensville Optimist Club). The lands were transferred to the Hamilton Conservation Authority in 2000 as part of the Spencer Gorge Conservation Area.

There have been significant contributions by clubs and individuals in the establishment and restoration of park features. Historic, commemorative and interpretive signage is located throughout the park to identify those efforts.

Overall, Webster's Falls provides an excellent example of a man-made heritage landscape. The Conservation Area is used for hiking, picnicking and photography.

1.5 Key Issues

Key issues were identified at the beginning of the Master Planning process. The main issues that have been identified at the onset of the project include:

- Traffic volume on local roads, and number of vehicles trying to find parking in parking areas exceed capacity and cause issues with the local residents;
- illegal on-street parking;
- parking on private property;
- road congestion;
- misuse/overuse of Webster's Falls lane – a private and gated road which provides Emergency Service Access to the site;
- restricted emergency services access to main parking areas and trails;
- aging park structures, trails, stairs, drives, signage, vegetation and infrastructure;
- requirement to replace main stairway from the Webster's park area to the valley Gorge;
- requirement to provide substantial improvements to several sections of the main trail to prevent ongoing erosion;
- management of litter/garbage and maintenance of temporary washroom facilities;
- enforcement of 'no parking' areas; and
- regional tourism destination promotion (Due to the success of private promotions and Hamilton Tourism, in promoting the 'City of Waterfalls', The Hamilton Conservation Authority must manage the large numbers of people who wish to come to see two of the most spectacular waterfalls in Hamilton, while also balancing environmental protection; and
- concern about use versus protection, in the management of the Spencer Gorge-Webster's Falls Conservation Area

Additional issues may be identified throughout of the master planning process which includes significant public input. These issues will be considered as well as opportunities for resolving them.

SECTION TWO: GOALS AND OBJECTIVES

The Hamilton Conservation Authority is governed by the Conservation Authorities Act. Section 19 of the Act states:

“The objectives of an Authority are to establish and undertake in the area over which it has jurisdiction, a program designed to further the conservation, restoration, development of natural resources other than gas, oil, coal and minerals”

The Hamilton Conservation Authority is the area’s largest environmental management agency, and is dedicated to the conservation and enjoyment of watersheds lands and water resources. The HCA responsibilities involve water resources management to maintain water quality and prevent flooding, the preservation of environmentally sensitive areas, efficient management of recreational resources, and development and delivery of outdoor education programs. The HCA Vision and Mission Statement provide the fundamental framework for this work.

Vision: Hamilton Conservation Authority will work to ensure healthy streams and healthy communities in which human needs are met in balance with the needs of the natural environment, now and in the future.

Mission Statement: To lead in the conservation of our watershed’s natural environment.

The Hamilton Conservation Authority Strategic Plan, is a plan to safeguard water, natural environment and recreational facilities, and updated every five years.

The Strategic Plan identifies five areas of responsibility in the management of their lands, and has developed goals for each.

Responsibilities
<p>Water Management: Goal: Protect watershed citizens, property, wildlife and natural resources through flood and erosion control, low-flow augmentation and water quality improvement</p>
<p>Natural Areas and Built Heritage: Goal: Protect, restore and enhance natural areas, ecological systems and built heritage through land acquisition, stewardship and environmental planning</p>
<p>Outdoor Recreation: Goal: Provide high quality, diverse Conservation Areas to promote greater physical activity, health and well-being for all, and to act as tourist destinations.</p>
<p>Conservation Education and Awareness: Goal: Strengthen public awareness of the important benefits of conservation through outdoor education and initiatives such as HCA’s website and the Conservation Review.</p>
<p>Corporate Sustainability: Goal: Ensure HCA is a financially viable, community relevant, corporate entity that is positioned to provide best practices and business advancements for the citizens it serves.</p>

The primary goal of this Master Plan is to demonstrate how it meets or advances these objectives and creates an optimum balance between environmental protection, resource management, and public use.

Objectives of the Master plan include:

- Establish priority protection areas for the protection of all significant natural and cultural heritage features;
- Develop appropriate park zoning, development guidelines and management policies;
- Recommend species at risk monitoring and habitat management;
- Conduct inventory of recreational facilities;
- Address physical and financial accessibility barriers; and
- Conduct a financial assessment of necessary capital costs.

The interests of visitors and the objective of maintaining ecological integrity are connected. The goal of the Master Plan is to provide recommendations that ensure that visitors enjoy the Conservation Area in ways that leave it unimpaired for future generations.

SECTION THREE: PLANNING AND DEVELOPMENT CONTROLS

The Conservation Authority must recognize and adhere to a number of provincial policies as it seeks to realize its goals and objectives. These include the; Greenbelt Plan, Niagara Escarpment Plan, UNESCO, and the Rural Hamilton Official Plan.

3.1 Greenbelt Plan

The Greenbelt Plan 2005 identifies where urban development should not occur in order to provide permanent protection to the province's agricultural land base and the ecological features and functions within the Greenbelt Plan area. In Hamilton, the area identified for protection includes the Niagara Escarpment Plan Area and the Protected Countryside. The policies of the Niagara Escarpment Plan are the policies of the Greenbelt Plan for the Niagara Escarpment Plan Area.

3.2 Niagara Escarpment Plan

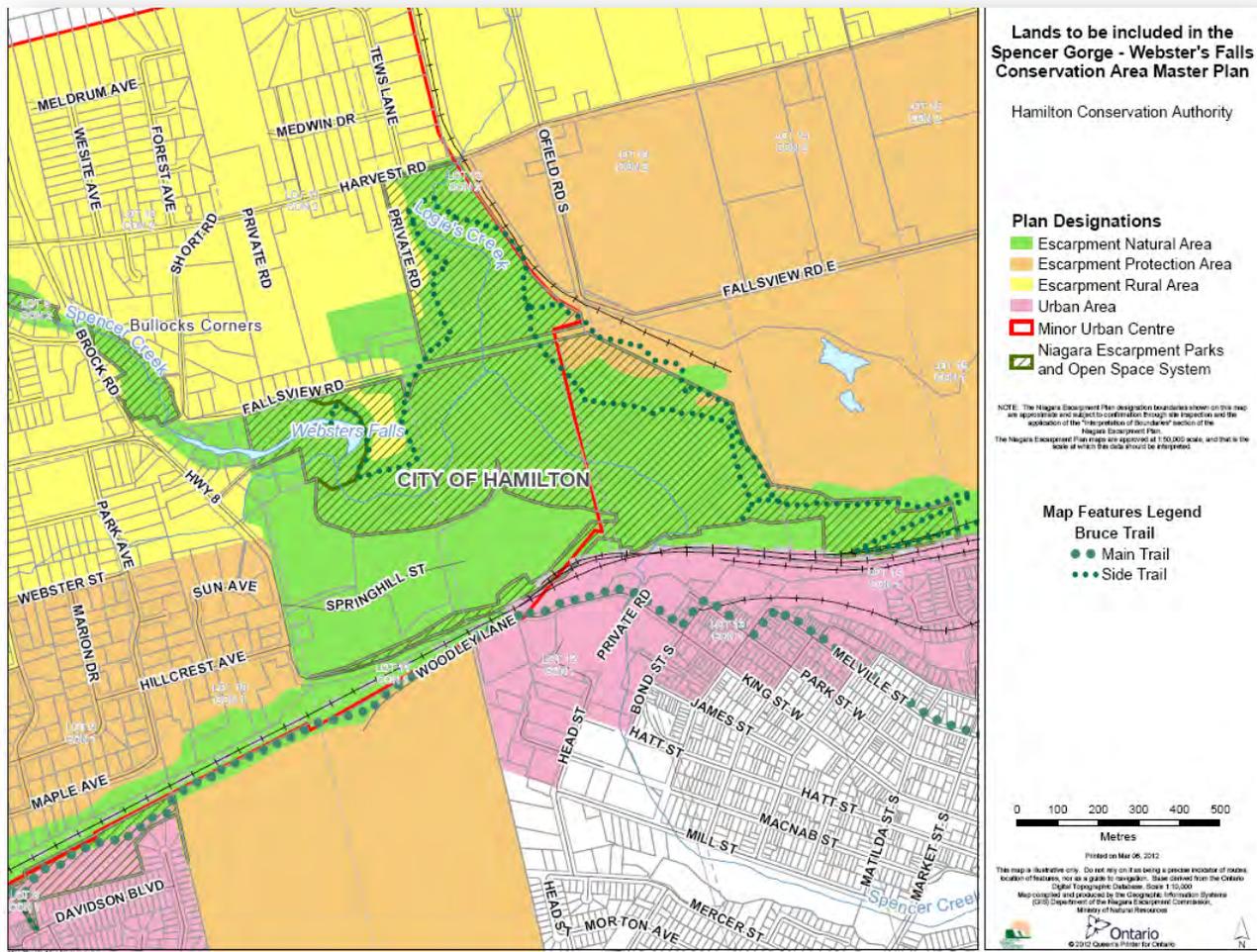
The Niagara Escarpment includes a variety of topographic features and land uses extending 725 kilometres from Queenston on the Niagara River to the islands off Tobermory on the Bruce Peninsula. The Niagara Escarpment is the most prominent natural feature that traverses the City of Hamilton and divides its urban communities into two groups with very different characteristics.

The Niagara Escarpment Planning and Development Act established a planning process to ensure that the area would be protected. From this, emerged the *Niagara Escarpment Plan* which serves as a framework of objectives and policies to strike a balance between development, preservation and the enjoyment of this important resource. The objectives and policies of the *Niagara Escarpment Plan* (1985, last amended 2005) strike a balance between development, preservation and the enjoyment of this important resource. The Niagara Escarpment Plan (NEP) provides for the protection of the Niagara Escarpment and adjacent lands as a continuous natural environment and to ensure that development within these lands under the jurisdiction of the Niagara Escarpment Plan is compatible with the natural environment. The NEP is the principal provincial planning document to which the Spencer Gorge-Webster's Falls Conservation Area must conform. The natural and physical features of the Escarpment should be protected through policies which apply to the physical features themselves and to the protective buffer.

Any development within the NEP Area must meet the requirements of the NEP and the Parkland, Open Space and Trails policies of the Greenbelt Plan.

Figure 5 illustrates that the majority of the study area is identified as *Escarpment Natural Area* (green), as well as a narrow strip of land along the eastern boundary identified as *Escarpment Protection Area* (orange) and two pockets of *Escarpment Rural Area* (yellow) generally in the vicinity of the existing parking lots. In addition, the Study Area is identified as being partially within the *Minor Urban Centre* known as Greenville and is considered *Public Land* (Green hatched lines) within the NEPs Parks and Open Space System.

Figure 6: Niagara Escarpment Plan Designations



Source: Niagara Escarpment Plan, Map 2

3.2.1 Escarpment Natural Areas

The *Escarpment Natural Area* designation illustrated in green on Figure 5 includes features which are in a relatively natural state and are the most significant natural and scenic areas of the Escarpment. The three main objectives of these areas are to:

- Maintain the most natural Escarpment features, stream valleys, wetlands and related significant natural areas and associated cultural heritage features;
- Encourage compatible recreation, conservation and educational activities; and
- Maintain and enhance the landscape quality of Escarpment features. (NEP Policy 1.3).

Some of the permitted uses of relevance to the Master Plan Area include:

- non-intensive recreation uses such as nature viewing and trail activities except motorized vehicle trails or the use of motorized trail vehicles;
- forest, wildlife and fisheries management;
- essential transportation and utility facilities;
- accessory buildings, structures and facilities;
- uses permitted in Park or Open Space master/management Plans which are not in conflict with NEP; and

- the Bruce Trail corridor including the pedestrian footpath and, where necessary, bridges, boardwalks and other trail-related construction and un-serviced overnight rest areas and access point for Bruce Trail users.

3.2.2 Escarpment Protection Area

Escarpment Protection Areas noted in brown on Figure 5 along the eastern table land above the escarpment are important because of their visual prominence and their environmental significance. They are often more visually prominent than Escarpment Natural Areas and include Escarpment features that have been significantly modified by land use activities such as agriculture or residential development, land needed to buffer prominent Escarpment Natural Areas, and natural areas of regional significance.

The four main objectives of these protection areas are to:

- Maintain and enhance the open landscape character of Escarpment features
- To provide a buffer to prominent Escarpment features;
- To maintain natural areas of regional significant and cultural heritage features; and
- To encourage agriculture, forestry and recreation. (NEP Policy 1.4)

Some of the permitted uses of relevance to the Master Plan area include:

- Recreational uses oriented towards the land which requires minimal modification of the existing natural, topographic and landscape features and which do not required the building of major structures (eg. Picnic sites, day use sites, un-serviced camp sites, trail uses);
- forest, wildlife and fisheries management;
- transportation and utility faculties;
- accessory buildings, structures and facilities;
- uses permitted in Park or Open Space Master/Management Plans which are not in conflict with NEP; and
- the Bruce Trail corridor including the pedestrian footpath and, where necessary, bridges, boardwalks and other trail-related construction and un-serviced overnight rest areas and access points for Bruce Trail users.

3.2.3 Escarpment Rural Area

Escarpment Rural Areas noted in yellow on Figure 5 correspond with the two existing entrance and parking areas that service the Master Plan area as well as the overflow parking areas. Pursuant to this NEP designation, these lands are intended to provide a buffer to the more ecologically sensitive areas of the Escarpment.

Three of the main objectives of these rural areas are to:

1. Maintain scenic values of lands in the vicinity of the Escarpment;
2. Maintain the open landscape character by encouraging the conservation of the traditional cultural landscape and cultural heritage features; and
3. To provide a buffer for the more ecologically sensitive areas of the Escarpment. (NEP Policy 1.5)

Some of the permitted uses of relevance to the Master Plan area include:

- Recreational uses such as campgrounds, golf courses and associated golf course country clubs and trail uses provided that any detrimental impact of these uses on the Escarpment scenic qualities and natural environment is kept to a minimum;
- forest, wildlife and fisheries management;
- transportation and utility faculties;
- accessory buildings, structures and facilities;
- uses permitted in Park or Open Space master/management Plans which are not in conflict with NEP; and

- the Bruce Trail corridor including the pedestrian footpath and, where necessary, bridges, boardwalks and other trail-related construction and un-serviced overnight rest areas and access point for Bruce Trail users.

3.2.4 Minor Urban Centre

The western half of the Spencer Gorge-Webster's Falls Conservation Area is also located within the Greenville Minor Urban Centre. The principal objective of NEP Policy 1.6 of relevance to the Master Plan Area is to generally direct the growth of the Greenville settlement area away from the Escarpment Natural and Protection areas into Escarpment Rural areas *"in a logical manner with the least possible environmental and agricultural disruption"*.

3.2.5 Bruce Trail

The Niagara Escarpment Plan recognizes the Bruce Trail corridor and requires that all trail activities be compatible with the natural and cultural character of the area. Further, all uses within the trail corridor are to be located and designed where possible, to avoid steep slopes, wetlands, erosion prone soils and ecologically sensitive areas such as sensitive plant and animal habitats and sensitive areas within Areas of Natural and Scientific Interest. (NEP Policy 2.16)



3.2.6 Niagara Escarpment Parks and Open Space System (NEPOSS)

Part Three of the NEP addresses the Niagara Escarpment Parks and Open Space System (NEPOSS) and sets out policies for a NEPOSS as a framework for the establishment and coordination of a system of publicly owned lands along the escarpment. The concept is for a linear public park system that protects distinctive features and significant areas along the Niagara Escarpment.

The Niagara Escarpment includes more than 130 existing and proposed parks and open space areas within the system, which are generally intended to be linked by the Bruce Trail. The Ministry of Natural Resources (MNR) coordinates the development and administration of the Niagara Escarpment parks and Open Space System.

The lands that form NEPOSS are owned and managed through the cooperation of seven conservation authorities, including the Hamilton Conservation Authority, Ministry of Natural Resources, the Ontario Heritage Trust, the federal Department of the Environment – Parks Canada, the St. Lawrence Seaway Authority, the Niagara Parks Commission, the Royal Botanical Gardens, municipalities and other bodies capable of management areas in the public interest (e.g. The Bruce Trail Association, local service clubs, approved conservation organizations).

The objectives of the Niagara Escarpment Plan and Open Space System are:

1. To protect unique ecological and historical areas;
2. To provide adequate opportunities for outdoor education and recreation;
3. To provide for adequate public access to the Niagara Escarpment;
4. To complete a public system of major parks and open space through additional land acquisition and park and open space planning;
5. To secure a route for the Bruce Trail;
6. To maintain and enhance the natural environment of the Niagara Escarpment;
7. To support tourism by providing opportunities on public land for discovery and enjoyment by Ontario's residents and visitors;
8. To provide a common understanding and appreciation of the Niagara Escarpment; and
9. To show leadership in supporting and promoting the principles of the Niagara Escarpment's UNESCO World Biosphere Reserve Designation through sustainable park planning, ecological management, community involvement, environmental monitoring, research and education. (NEP Policy 3.1.1)

The System is based on public lands acquired to protect distinctive features and significant areas along the Escarpment such as waterfall, distinctive landforms, associated with the Escarpment and special plant communities and animal habitats. The Bruce trail corridor serves as the common public linkage tying the parks, open space areas, distinctive natural features and land form together into the System.

Classification

NEPOSS assigns a classification of the parks and open spaces based on the predominant characteristics of the property. These classifications are intended to serve as a guide to management and use of the park or open space area. The NEP further states the classifications “will be subject to confirmation at the time Park or Open Space Master/Management Plans are prepared or revised”. Through the subject Master Plan process the classifications identified for the Study area will be confirmed.

There are six park and open spaces classes: nature reserve, natural environment, recreation, historical, escarpment access and resource management area.

The Spencer Gorge Wilderness Area (104) is classified as a **Natural Environment** containing Provincially Significant Earth Science (Spencer Creek Bedrock Gorge) and Life Science (Spencer Gorge Escarpment Valley) ANSIs. The Plan notes that this area includes the Bruce Trail and is used for hiking, viewing and picnicking.

According to the NEP, lands classified as *Natural Environment* are characterized by a variety and combination of outstanding natural features, historical resources and outstanding landscape; these areas provide opportunities for the protection of important natural and cultural features. Approved activities may range from back country hiking in the interior of these areas to car-camping and day use activities in the more developed or accessible areas.

Webster's Falls (105) is also included within the NEPOSS and is classified as **Escarpment Access** providing “an excellent example of a [hu]man-made heritage landscape”. The Plan notes that the area is used for hiking, picnicking and photography and that the park's main natural attractions are the falls, incised Escarpment valley Gorge and southern flora. Finally, the Plan notes that the park includes lands identified as provincially significant Earth and Life Science ANSI.

Currently there are no further designations included for the Spencer Gorge-Webster's Falls Conservation Area.

Zoning

There are six zones in the NEPOSS each of which serves a specific purpose and provides planning and management direction to agencies. The six types of zones are as follows: Nature Reserve Zone, Natural Zone, Access Zone, Historical Zone, Development Zone and Resource Management Zone. The zones can be applied to all parks and open space classifications previously noted, except that Natural/Development and/or Resource management Zones are NOT permitted in the Nature Reserve. (Niagara Escarpment Plan (2005) Section 3.1.6).

“The land use designation of the Niagara Escarpment Plan and Development Criteria in Part 2 of the NEP are to be used as guide in the planning process instead of a final statement on permitted uses. Zoning Development through the park and open space planning process takes precedence over land use designations in the Niagara Escarpment Plan once a Parks Master/management Plan is approved and not in conflict with the Niagara Escarpment Plan.” (Niagara Escarpment Plan (2005) Section 3.1.6.2)

Table 1: NEPOSS Zones

ZONE	DESCRIPTION	MANAGEMENT DIRECTION	PERMITTED USES
Nature Reserve	<ul style="list-style-type: none"> • Include significant natural heritage features or areas that require careful management to ensure long-term protection of their natural features. • This zone should ensure ecological diversity and provide long-term protection for significant natural heritage features such as: habitat of endangered, threatened and rare species; wildlife and fish habitat; hydrological systems (streams, wetlands), woodlands, ANSI's • Escarpment features (e.g. Brow, slope, toe, and related landforms). 	<ul style="list-style-type: none"> • These zones are predominantly natural and should contain naturally functioning ecosystems. • Should project natural heritage features in the long term 	<ul style="list-style-type: none"> • Visitor uses are limited or restricted (to protect, preserve and rehabilitate identified natural heritage features). • Development is generally restricted to trails, necessary signs, interpretative facilities (where warranted), temporary research facilities and conservation practices.
Natural	<ul style="list-style-type: none"> • Include aesthetic landscapes in which a minimum of development is permitted to support low- to moderate-intensity recreational activities. • Includes natural landscapes and high-quality natural settings 	<ul style="list-style-type: none"> • Can function as a buffer between Development zones and Historical or nature Reserve zones. • Not permitted in Nature Reserve class parks 	<ul style="list-style-type: none"> • Low- to moderate-intensity recreational activities are permitted • Minimal level of development (e.g. Trails, backcountry campsites, necessary signs and minimal interpretive facilities) to support low-intensity recreational activities.
Access	<ul style="list-style-type: none"> • Sever as staging areas (e.g. Trailheads, parking lots) where minimal facilities support the use of Nature Reserve Zones and relatively undeveloped Natural and Historical zones. 	<ul style="list-style-type: none"> • Intended to support the use of and access to adjacent zones. 	<ul style="list-style-type: none"> • Minimal facilities to support Nature Reserve, Natural and Historical Zones (e.g. Rods, signs, trailheads and parking lots.)
Historical	<ul style="list-style-type: none"> • Include significant archaeological or cultural heritage features or areas that require management that will ensure the long-term protection of the significant features 	<ul style="list-style-type: none"> • May range from maintaining their present condition to restoring and/or reconstructing the site 	<ul style="list-style-type: none"> • Protection and interpretation of archaeological or cultural heritage features. • Interpretive, educational, research and management facilities, trails, signs and historical restorations or reconstructions.
Development	<ul style="list-style-type: none"> • Provide the main access to the park or open space, and facilities and services to support the recreational activities available • May allow for the development 	<ul style="list-style-type: none"> • Oriented to the provision of recreational opportunities that are suited to the natural character of the particular park or open space and are conducted in an environmentally sustainable 	<ul style="list-style-type: none"> • Roads, parking lots and gates, beaches, picnic areas, campgrounds and commercial service facilities, ad orientation, interpretive, educational, research and maintenance facilities

ZONE	DESCRIPTION	MANAGEMENT DIRECTION	PERMITTED USES
	of visitor and park facilities	manner <ul style="list-style-type: none"> • This zone should have minimal negative impact on natural heritage features and cultural heritage features, the natural landscape or watershed. • Not permitted in Nature Reserve class parks 	<ul style="list-style-type: none"> • Development of facilities must be designed and undertaken in a way that will minimize their environmental and visual impact.
Resource management	<ul style="list-style-type: none"> • Include certain public lands that are managed primarily to provide resource-related benefits such as forest products, fish and wildlife, or floor control • Previously disturbed sites (e.g. Abandoned quarries, old fields) where active measures are being taken to re-establish natural vegetation should also be considered • May include land that has traditionally been managed under long-term resource agreements (e.g. Forest management agreements or agricultural leases). 	<ul style="list-style-type: none"> • Sustainably managed for many diverse values, such as wildlife, fisheries, forestry and outdoor recreation • May be places for experimenting with alternative resource management practices and developing a better understanding of ecosystem structures and functions in a scientifically sound manner • Should demonstrate exemplary conservation and stewardship • Should not be established in Nature Reserve parks, provincial parks or in life science ANSIs, 	<ul style="list-style-type: none"> • To demonstrate ecologically sustainable resource management practices • Establishing permanent research plots for monitoring purpose (e.g. Permanent sample plots for growth and yield studies) • Water may be controlled for purposes related to flood protection, watershed management or municipal water supply • The recreation uses of resource management zones are subject to park management planning

The inventories undertaken in the research phase will determine the classification assigned to Spencer Gorge Wilderness Area, Webster’s Falls, and the Greensville Optimist Community Park.

3.3 UNESCO

On February 8, 1990 the Bureau of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Man and Biosphere (MAB) program named Ontario’s Niagara Escarpment a World Biosphere Reserve. This designation recognizes the natural features and ecological importance of the Escarpment and endorses the Niagara Escarpment Plan.

Collectively, UNESCO “Man and the Biosphere” reserves form a network of the world’s main ecological systems. They provide excellent opportunities to study and compare preserved, natural areas and development areas and contain land used for a variety of purposes. Recognized by UNESCO, they support research, share the resulting knowledge broadly and inform policy-makers. Biosphere reserves address one of the most challenging issues we face today: how to maintain the health of natural systems while meeting needs of communities? Accordingly, the purpose of Biosphere Reserves is to establish and promote a well-balanced relationship between human beings and biosphere and to provide an example of this well-balanced relationship.

Biosphere Reserves must fulfill their functions regarding conservation, development and logistic support through appropriate “zones” including one or several *core area(s)*, one or several *buffer zones(s)* and one external *transition area*. These zones must reflect the long-term conservation objectives and take into consideration ecosystems services.

The Niagara Escarpment Biosphere Reserve follows the Niagara Escarpment Plan Area, stretching 725 km from Lake Ontario (near Niagara Falls) to the tip of the Bruce Peninsula (between Georgian Bay and Lake Huron) and includes more than 190,000 hectares of land including two national parks. Much of the escarpment corridor is forested and crosses two major biomes: boreal needle leaf forests in the north and temperate broadleaf forests in the south. The biosphere reserve also includes wetland complexes, cliff faces, slopes and aquatic ecosystems.

Biosphere reserves demonstrate a balance between conservation and development. A reserve must have one or more protected core areas that conserve significant ecological features. The Niagara Escarpment is well suited for biosphere reserve designation. There is a backbone of heavily protected lands at and near the cliff face. Moving away from this area, there is a series of land use designations with decreasing levels of protection, corresponding to the core, buffer and cooperation zones of a biosphere reserve.

The *core area* consists of areas designated "Natural" by the Niagara Escarpment Plan (NEP) and include natural land cared for not only by municipalities and conservation authorities, but by thousands of individual private landowners as well. The Niagara Escarpment Biosphere Reserve also involves a *buffer area* of limited resource use and consists of areas designated "Protection" and "Rural" by the Niagara Escarpment Plan. Finally, the *area of cooperation* (also known as the transition area) involves the Niagara Escarpment Plan designations of "Urban," "Minor Urban," "Recreation", and "Mineral Resource". The cooperation zone is the large outer part of the biosphere reserve where people live and work, using the natural resources of the area in a sustainable manner.

3.4 Rural Hamilton Official Plan

The Greenbelt Plan identifies a natural Heritage System within the Protected Countryside. Consistent with the Greenbelt Plan policies, the Rural Hamilton Official Plan¹ identifies *Core Areas* which include lands with the most important components in terms of biodiversity, productivity, and ecological and hydrological functions. The intent of the Rural Official Plan is to preserve and enhance Core Areas and to ensure that any development or site alteration within or adjacent to them will not negatively impact their environmental features or ecological functions. (Chapter C Policy 2.3.2).

No development is permitted within or adjacent to a Core Area unless it has been evaluated through an Environmental Impact Statement and has been demonstrated that there shall be no negative impacts on the natural features of their ecological functions.

As noted in Figure 6, all of the Study Area is designated as "Core Area" in Rural Official Plan and includes a number of key natural heritage, hydrologic and local natural areas.

Figure 7: Core Areas



¹ Approved by the OMB on March 7, 2012.

Source: Rural Hamilton Official Plan, Schedule B: Natural Heritage System, 2011

Within the *Core Areas* is a designated Life Science ANSI, Significant Woodland, and Local Environmentally Significant Area. All of these designations essentially preclude development in order that maximum protection of the natural resource is guaranteed.

SECTION FOUR: INVENTORY and ASSESSMENT

The Hamilton Conservation Authority has undertaken a number of Natural Area Inventories which include extensive inventories of natural areas throughout the City of Hamilton including the Master Planning area. These Natural Areas Inventories (NAIs) include current information on plant and wildlife species, and vegetation communities. As a result, limited inventory and field work were undertaken in the field as a part of this Master Plan process, as a substantial base of ecological information already exists. Accordingly, the Master Plan includes a review and assessment of the existing conditions, facilities, activities and needs of the following:

- identification of Natural Areas protection and buffer zones;
- park infrastructure including buildings, structures, pedestrian bridges, roads, parking lots, trails, utilities and signage;
- park facilities, programs, activities, uses and maintenance operations;
- needs of the HCA, City of Hamilton and Greensville community;
- adjacent uses; and
- traffic.

The resulting inventory will be used to:

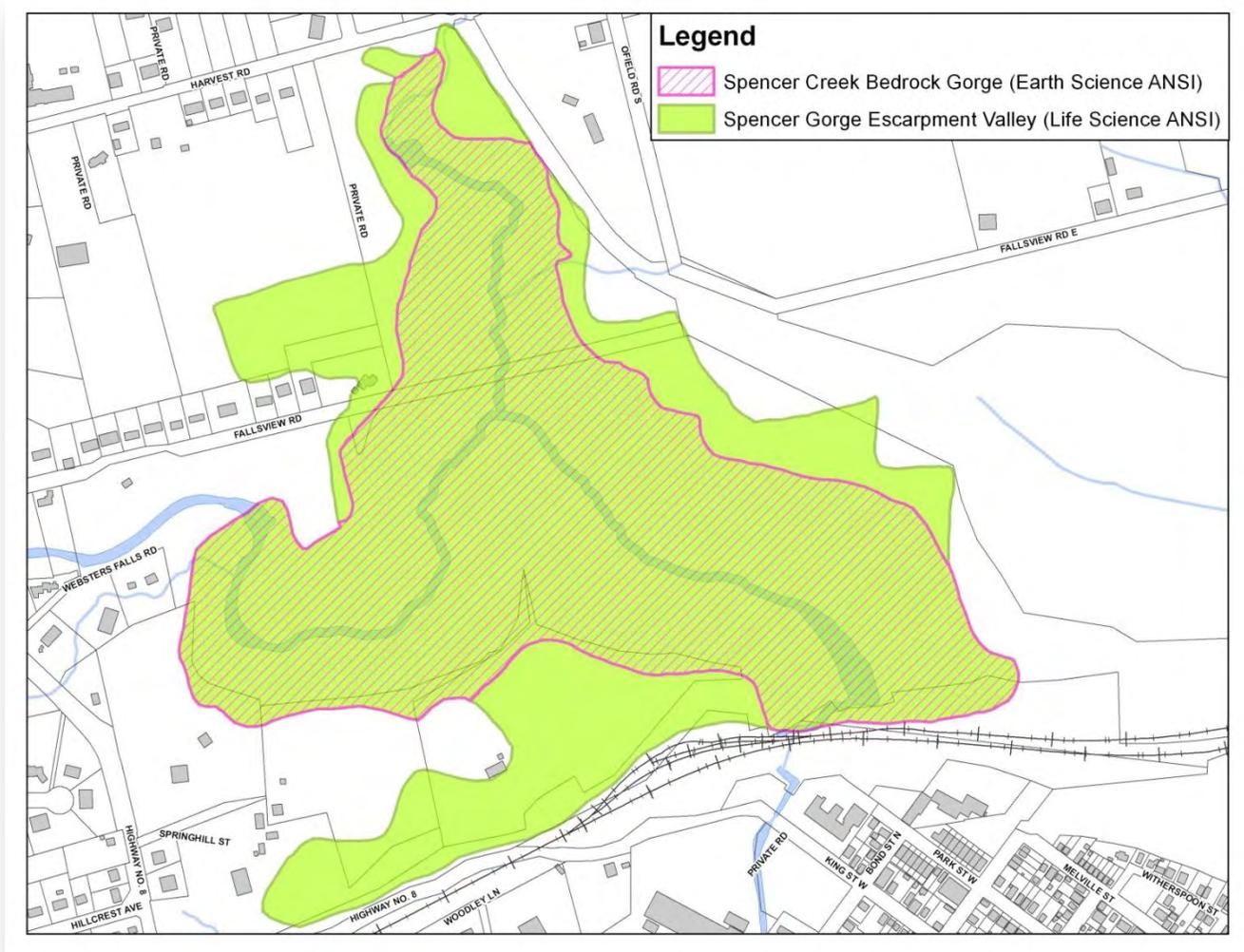
- assess the natural heritage features and cultural heritage features, uses, infrastructure and related pressures on and issues relating to the property;
- help articulate planning objectives and determine zoning and management direction and actions;
- determine what areas are best suited for development; and
- help define baseline conditions against which managers can evaluate the effectiveness of management plan actions and adapt them as required in the future.

4.1 Natural Areas/Environmentally Sensitive areas

The Spencer Gorge-Webster's Falls study area encompasses a south-facing segment of the Niagara Escarpment overlooking the Town of Dundas. The central feature of this area is Spencer Gorge, a 'y' -shaped bedrock Gorge with two very scenic waterfalls: Webster's Falls, created by the main trunk of Spencer Creek, and Tew's Falls, formed by Logie's Creek (also known as East Spencer Creek). This bedrock Gorge is a distinctive landform and provides a near-complete section of the bedrock formations of the southern Niagara Escarpment.

Major portions of the Conservation Area are designated as a Provincially Significant Life Science Area of Natural and Scientific Interest. (refer to Figure 7 and Appendix C).

Figure 8: Areas of Natural and Scientific Interest



Source: City of Hamilton

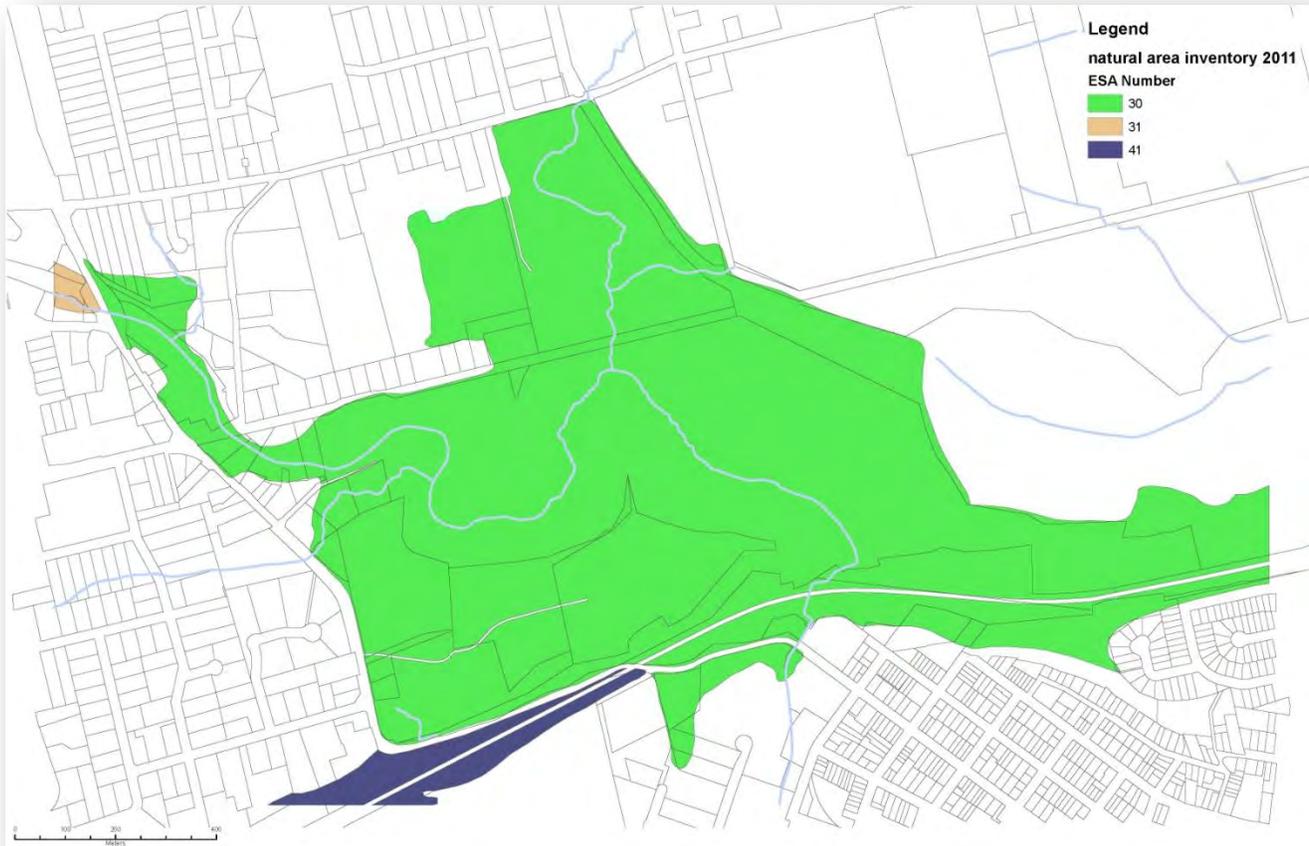
4.1.1 Vegetation Communities

Substantial ecological inventories have been undertaken between 1991, 1993, 2001, 2002 and 2011 as part of the Area Natural and Scientific Interest inventory (McDonald, 1990), Ecological Survey of the Niagara Escarpment (Varga et al., 1996) and Hamilton’s Natural Areas Inventory (HCA, 2012).

The biological communities in the Gorge are considered high-quality representative examples of an escarpment valley vegetation pattern. The valley and associated forests provide habitat for many provincial and national species at risk along with locally uncommon species. The Conservation Area and adjacent lands are designated ESA #30, a local Environmentally Significant Area (Refer to Figure 7 and Appendix C). The area includes both provincially and locally significant land forms and provides significant ecological functions. The area contains significant species, interior forest habitats, a high diversity of native plant species and rare biota. The area also serves as a link between natural areas along the Niagara Escarpment.

Figure 9: Environmentally Significant Areas

Source: City of Hamilton



The Ecological Land Classification (ELC) has been completed for the Spencer Gorge within the context of the Natural Areas Inventory. The following are excerpts from this summary. Refer to Appendix C, for the Spencer Gorge Ecological Land Classification mapping. The Spencer Gorge encompasses a relatively mature and undisturbed array of escarpment-associated plant communities, and encompasses one of the few south-facing segments along the Niagara Escarpment corridor through the City of Hamilton. Although the communities along this south face are variously disturbed due to the proximity of the CN railway and roadcuts, the relatively warm and dry climate along this slope supports a regionally rare habitat situation.

Escarpment-associated communities include dolomite cliff's, extensive talus slopes, screen valley slopes, and dry rim forests. Red Oak and white oak dominate the mature escarpment rim community. Associates include red maple, sugar

maple, and black cherry. Witch-hazel, serviceberry, choke cherry, hop hornbeam and white cedar occur in the open sub canopy. Occasional open rims on the valley crest sustain small prairie patches.

- Below the rim forest, Spencer Gorge exposes dry-moist dolostone cliffs with occasional seepage zones. Stunted white cedars dominate the exposed cliff faces. A red cedar cliff community occurs around Dundas Peak.
- Extensive talus slopes of diverse aspect terminate at large punchbowls carved out by Webster's Falls and Tew's Falls. Cool north-facing slopes support sugar maple-hemlock forests. Associates are yellow birch and white cedar. Choke cherry, mountain maple and red berried elderberry. Herbaceous species include zigzag goldenrod, false Solomon's seal, garlic mustard and herb robert. A dry red oak community occurs along the valley crest. Talus and cliff communities are provincially rare and provide habitat for nationally, provincially and locally rare species.
- Spencer Creek and Logie's Creek pass through maintained parkland above the escarpment. A small cattail-mixed marsh is sustained along Logie's Creek.
- Tallgrass oak woodlands and prairie remnants are naturally occurring within the Spencer Gorge-Webster's Falls Conservation Area. The dry oak woodlands along the top of the Gorge and the prairie remnants along the Gorge rim are very sensitive and significant biological communities. These communities of tallgrass oak woodland and prairie remnants are considered provincially rare in Ontario. These vegetation communities provide habitat for provincially and locally rare species. Most of the prairie and savanna species remaining in Hamilton are considered regionally rare, mainly due to their habitat conservatism and the scarcity of such habitats in the region (Goodban 1995). These rare and significant communities suffer from degradation due to trail widening, invasive species, lack of fire and overall high use of the area.
- 12 ancient Easter White Cedars that in the cliff of Webster's and Tew's Falls. The oldest known cedar in the watershed is 510 years old and occurs at Webster's Falls.
- The presence of *Tufa Mound* was confirmed in 2011 by HCA Ecology and MNR staff. This feature is considered to be rare in Ontario, therefore should be protected against negative impacts such as off trail uses, soil compaction, and erosion.²

The Spencer Creek and Niagara Escarpment corridors intersect in this study area and, therefore, serve an important ecological function as a critical node in the system of linked natural areas. The Niagara Escarpment greenbelt is continuous through this study area, connecting with the Dundas Valley (DUND-14) study area west of Highway 8, and with the Borer's Falls-Rock Chapel (DUND-16) study area east of Sydenham Road.

Spencer Gorge has about 11 ha. of interior forest and is part of a significant natural escarpment corridor which, with several breaks, extends east for 9km (Varga et al., 1996). A large number of species typical of prairie or savannah habitats occur in the drier oak plain forests and open rims.

4.1.2 Flora

As previously stated there have been a number of ecological inventories of the Spencer Gorge Conservation Area in the context of the ANSI report, ESA designation and NAI report. These reports have recorded a variable number of vascular plants for the area. The most comprehensive vascular plant list and summary is provided in The Ecological Survey of the Niagara Escapement Biosphere Reserve Volume 1. Significant Areas (Varga et al., 1996). This report incorporates the species recorded for the ANSI report in 1990 (McDonald, 1990). As a result 531 plant species have been recorded within the Conservation Area and associated ANSI. Of these 4 are considered Species at Risk (nationally and provincially), 9 are provincially rare, 14 are regionally rare and 51 are locally rare. The following table includes a brief list of the plant species at risk and those considered provincially rare. Please see the flora and fauna summary provided in Appendix C for more

² Site Summary from the 2002 Natural Areas Inventory done under the 2002 Nature Counts

details. In addition, 132 (25%) are introduced species while 18 are Carolinian species. A large number of species typical of prairie or savannah habitats occur in the drier oak plain forests and open rims.

Table 2: Species at Risk and Provincially Rare Plant Species.

Common Name	Global Rank (Grank)*	Provincial Rank (Srank)*	COSEWIC ^t	SARO ^x
Butternut	G4	S3	Endangered	Endangered
American chestnut	G4	S2	Endangered	Endangered
Red mulberry	G5	S2	Endangered	Endangered
Green dragon	G5	S3	Special concern	Special concern
Downy yellow false foxglove	G5	S1		
Perfoliate bellwort	G5	S1		
Slender satin grass	G5	S2		
Yellow false foxglove	G5	S2		
Sharp-scaled oak sedge	G5T4T5	S3		
Hairy buttercup	G5T5	S3		
Sharp-leaved goldenrod	G5	S3		
Rue-anemone	G5	S3		
Triploid wood fern	GNA	S3S4		

*An explanation of Granks and Srank is provided in appendix C, t – COSEWIC – Committee on the Status of Endangered Wildlife in Canada, x- SARO – Species at Risk in Ontario.

The Vascular Plant Flora of the Spencer Gorge Area of Natural and Scientific Interest, was completed in 1991 and recommended the following:

1. The area should be protected from development or other impacts.
2. Existing linkages with other natural areas should be maintained and enhanced.
3. Buffer strips should be maintained or created around the periphery of this site and along the upstream riparian corridors to protect the integrity of the natural vegetation patterns and to protect water quality in the stream systems flowing through this natural area.
4. Future field work should include monitoring of groundwater and surface water conditions and the monitoring of significant species.

4.1.3 Fauna

- Birds: Between 1990 and 2011 a number of bird surveys have occurred within the Conservation Area. As a result 42 bird species have been recorded. Of these 3 are locally rare, one of which, the Louisiana Waterthrush is a national and provincial species at risk, ranked special concern. Ten bird species are also considered locally uncommon (HCA, 2012).

As the habitat is fairly uniform deciduous forest, the bird species variety is low. In 2011, A significantly large population of the declining neotropical Wood Thrush was noted. Eight singing males were counted which indicated approximately 10 breeding pairs on this site. However, the Louisiana Waterthrush was not counted during the 2011 surveys, there is concern regarding their absence. In addition, no warblers were identified during the 2011 survey. (Source: Hamilton Conservation Authority-2012)

The Louisiana Waterthrush breeding range extends across much of the eastern United States. It is rare in Canada, where it is designated as a species of special concern. (Committee on the Status of Endangered Wildlife in Canada, Ottawa-COSEWIC 2006a). In Ontario, the Louisiana Water Thrush occurs primarily in the Carolinian region and adjacent areas of the Great Lakes-St. Lawrence Forest south of the Canadian Shield. It is largely confined to the areas below 300m in elevation, with the mean annual temperature exceeding 6 degrees (COSEWIC 2006a). Within these tolerances, the presence of clean, cold water streams that flow through mature forest is a very important factor.

(Source: Atlas of the Breeding Birds of Ontario, **2001-2005**). The larger falls (within Hamilton-'the City of Waterfalls'), are graced, in many years, with one or more pairs of Louisiana Water Thrush. (Source: Birds of Hamilton and Surrounding Areas', Robert Curry, 2006)

- Mammals: Thirteen mammal species have been recorded during a number of surveys starting in 1976. None of these are nationally, provincially, regionally or locally rare.
- Lepidoptera: Between 1989 and 2011, 27 species of Lepidoptera (butterflies and moths) have been recorded, including the nationally and provincially special concern species, the Monarch. In addition, two locally uncommon species have also been recorded, the Silver-spotted Skipper and Hickory Hairstreak. The Hickory Hairstreak is also ranked S3, provincially rare.
- Odonata (Dragonflies and Damselflies) - During surveys between 1996 and 2011, 13 odonata have been recorded.
- Fish: Fish have been assessed in Spencer Gorge between 1986 and 1997. In total, 15 species have been collected with seven species recorded since 1990. None of the recorded species are considered nationally or provincially significant. Of the seven species recorded since 1990, two are uncommon in the city of Hamilton.
- Herpetofauna: Six species of Herpetofauna were recorded from 1987 to 2011. Including locally Eastern Milksnake, a provincial and national species at risk, ranked special concern.

The Nature Counts project conducted small mammal trapping in 2000 and 2001, as well as bat mist netting in 2002. Ten species were recorded, seven of which are new records for the area. Two common species were recorded during the 1991 NAI surveys and two species were observed before 1976. (Source: Summary-Spencer Gorge, FLAM-41)

A summary of Flora and Fauna within the Conservation Area is included in Appendix C

- Flora and Fauna Summary: Based on surveys between 1976 and 2011 for the ANSI report and NAI there have been seven National and Provincial Species at Risk observed in Spencer's Gorge:
 - Butternut – *Endangered*
 - American chestnut – *Endangered*
 - Red Mulberry – *Endangered*
 - Green Dragon – *Special Concern*
 - Louisiana Water thrush – *Special Concern*
 - Monarch – *Special Concern*
 - Eastern Milk Snake – *Special Concern*

Examples of provincially rare species include perfoliate bellwort and downey false foxglove. These species are considered very rare in Ontario and have been observed within the open oak woodland restoration area. Other species that have been observed, and are considered rare in Ontario include Hickory hairstreak, Slim-flowered Muhly and Rue-anemone.

In addition to those species considered national and provincial species at risk there are also 10 provincially rare species, as detailed in Appendix C and Section 4.1.2.

Unfortunately the majority of the species listed have not been geo-referenced; therefore it is difficult for the HCA to locate these species for future monitoring. HCA is developing a monitoring program for all Species at Risk and rare species in the Conservation Area. Over the next five years all species will be re-located, georeferenced and placed into a monitoring program.

4.1.4 Geology

The variety of rock layers comprising the Escarpment face were created by the deposition of mud, silt and muck on the floor of ancient glacial seas. This build up of sedimentary material started approximately 450 million years ago and ended approximately 150 million years later, or during the Silurian and Ordovician geological periods.

According to Significant Natural Areas Along the Niagara Escarpment, prepared by MNR in 1976, one general physiographic pattern is described as characterizing this section of the Niagara Escarpment. The predominant exposure is a linear cliff face of erosion resistant Silurian rock, ranging between 33m and 100m in height, subtended by talus slope. The upper slopes contain a variety of boulder and cobble sizes while the lower section grades into a loam slope, very often with one or more terraces of assorted sizes and dimensions. Near the junction of the east and west branch of the Spencer Creek, caves existing within the Ordovician layer brought about through millions of years of erosion.

4.1.5 Topography

The central feature of the study area is Spencer Gorge, a narrow bedrock Gorge that includes three waterfalls created by branches of the Spencer Creek system. The topography is moderately rolling above the Escarpment ranging from 229 metres at Harvest Road to approximately 221 metres at the crest of Tew's Falls.

Slopes range from 10 to 15 percent above the Escarpment to nearly 100% in the Gorge. At the brink of the falls, the water drops 33 metres with the East Spencer Creek flowing down slope an additional 500 metres to a point where the main branch of the creek joins with it. From that point, the Creek advances to the southeast through the deepening Gorge to the Canadian National Railway (CNR) line. At the CNR embankment, the Gorge reaches 90 metres in depth.

The geomorphology of the 1km long, 'y'-shaped Gorge is unique to the Niagara Escarpment and provides an excellent example of the process of waterfall recession. At Webster's Falls along the main branch, the waterfall is approximately 30 metres high. From the base of the falls, the Creek winds its way 700 metres to the confluence of the East Spencer Creek.

4.1.6 Hydraulic Characteristics

The Spencer Creek system is the longest regulated watercourse under the Authority's jurisdiction. The main branch drains an area of 170 square kilometres to the culvert under the CNR embankment. The east branch drains an area of approximately 12 square kilometres. Generally, the flow of water in the creek watershed is from the northwest to the southeast discharging into Cootes Paradise. The headwaters of the east branch originate north of Highway #5 with Tew's Falls approximately 3.7 kilometres downstream.

After periods of heavy rain and during spring snow melt, both Webster's and Tew's Falls provide picturesque waterfall scenes for nature lovers and photographers. However, during dry summer conditions, the flow on the Spencer Creek East branch is maintained by a discharge of water into the Creek from the open pit quarry along Highway #5. The quarry collects groundwater and process water in a central location at the bottom of the quarry floor. Its level must be controlled so it does not flood the working bottom elevation of the quarry. When pond water reaches a certain elevation, the pumps are triggered by a float switch and the water is pumped back down to a "starting" elevation. This pump activation is not on a scheduled basis as it depends on many factors. An unexpected high flow of water down the creek can occur at any time and only lasts a few hours, however quarry management has tried to limit the pump discharge and pump more frequently, to give a more steady flow of water each day. It is likely that without this source of water, the east branch would dry up completely over hot, dry summers.

The flow of water in the west branch of the Spencer Creek was previously maintained by flow augmentation through the operation of the flood control structures of the Christie and Crooks Hollow Conservation Areas. In periods of low summer flows, water levels in both the Christie and Crooks Hollow reservoirs would drop to ensure a constant flow of water into the Creek. Consequently, during high flow periods, the flood control structures and reservoirs would cause a delay in the transmission of flood peaks by safely storing water to be released through the Creek at a later date.

Crooks Hollow Dam was located on Spencer Creek, west of Webster's Falls and downstream from a series of historic dams that were built in the late 18th century to provide water power to a number of grist mills, sawmills and paper mills. The Crooks' Hollow Dam was constructed in 1916 for the purpose of supplying water to the community of Dundas, a

function that ceased when municipal water supply was established for Dundas. Between 1959 and 2001 the Dundas Valley Golf and Curling club used the reservoir as a source of water for irrigation. The Golf course no longer uses the reservoir for irrigation and the surrounding lands are currently used for recreation including hiking, fishing and limited boating. In 2000, the ownership of the Crooks' Hollow Dam along with 9.9 hectares of land was transferred from the Town of Dundas to the Hamilton Conservation Authority.

Over the years, several dam condition assessments identified concerns relating to the integrity and stability of the dam. These studies, along with a Dam stability and Assessment Study conducted in 2005 further confirmed the need to rehabilitate, modify or remove the dam to ensure its safety during major storm events. Responding to the need for action, in 2005, the Hamilton Conservation Authority initiated a Class Environmental Assessment (Class EA) to review the options for the dam. The Class EA concluded that the dam should be removed as this will address safety concerns regarding the dam's deteriorated condition, eliminate long-term operating and maintenance costs and enhance local and downstream environmental conditions with no net long-term negative impacts to the environment. Decommissioning and removal of the existing dam and related structures would eliminate the structural stability problem and associated environmental and public safety issues, restore water levels back to natural "pre-dam" levels, eliminate a barrier to fish movement, and improve water quality and environmental conditions within the former reservoir area. The Class EA was approved by the Minister of the Environment in 2009.

The restoration of the dam site and creek included restoration of the creek banks, sediment management, fish habitat enhancement and the construction of a steel foot bridge to allow the connectivity of the trails along both sides of Spencer Creek. The work was completed in the spring of 2012.

4.2 Spencer Creek Watershed

The Spencer Gorge-Webster's Falls Conservation Area is within the Middle Spencer Creek Subwatershed and the Logie's Creek Subwatershed. The Spencer Creek Watershed Management Plan is an integrated watershed management plan for the Spencer Creek ecosystem. It is a project of the Hamilton Conservation Authority, the City of Hamilton, and the Ministry of Natural Resources. The goal of the Spencer Creek Watershed Plan is to identify the natural environmental attributes of the watershed, and recommend appropriate strategies for the protection, restoration and enhancement of these features, with consideration for social and economic needs of watershed residents. The Vision for the Spencer Creek Watershed Plan is a healthy stream in a healthy landscape. It is intended that there continue to be high biodiversity in both terrestrial and aquatic habitat, protected wetlands and limited erosion, as well as a place for agriculture and limited urban and residential development. According to the Watershed Management Plan, an informed community of citizens, industry and government will achieve this through a co-operative and ecological approach.



4.3 Site Features

A detailed inventory and analysis of existing park facilities is included in Appendix B. The following is a summary of the major elements of the Spencer Gorge-Webster's Falls Conservation Area.

4.3.1 Trails

There are 4.5 kilometres of trails within the Master Plan Area. The Hamilton Conservation Authority has rated trails for "difficulty" and signage is posted noting danger in different sections. The distance from the Webster's Falls parking lot to Tew's Falls is 0.75 kilometres (approximately a 20 minute walk) and from Tew's Falls to the Dundas Peak is a further 1.25 kilometres (approximately a 40 minute walk).

Construction of the Bruce Trail started 50 years ago in 1962 with the construction of new trails and also incorporation of existing trails in the Spencer Gorge area. The trails and their width was based on the expected usage and standards at that time. The existing trails in the study area include the Bruce Trail side trails identified in Table 2:

Table 3: Trails

BRUCE TRAIL SIDE TRAILS	CONDITION	Length Level of Difficulty*
Glen Ferguson Side trail	This trail provides a 1.8km loop with Webster's Falls Side Trail	900m Moderate to difficult (narrow)
Webster's Falls Side Trail	Leaving Sydenham Rd at 57.4 km, this side trail crosses under a trestle bridge, then climbs to the ridge of the Spencer Gorge and follows the rim to finally reach the top of Webster's Falls.	4.5km (approx. 3.2km within HCA lands) Very difficult (narrow, with steep gradients)
Dundas Lookout Side Trail	From the Webster's Lookout Side Trail, this trail leads to Dundas Peak and offers a panoramic view of the town and valley.	40m Moderate
OTHER TRAILS	CONDITION	Length/Level of Difficulty*
Webster's Park Walkways	asphalt and screenings, varying widths.	0.55km easy
Greensville Optimist Community Park	screenings, dirt trails	0.2km easy

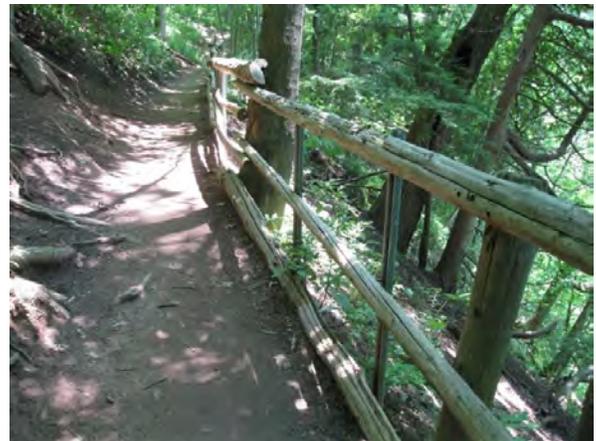
The existing trail system has been laid out to provide the trail user with optimal views of the Spencer Gorge and the surrounding area. The majority of the trail system follows the brow of the escarpment. Signs have been posted outlining the dangers involved with using the park and trail facilities. Sections of the trail are fenced, and there are overlooks with railings. Although sections of the trail are Bruce Trail side trails, the majority of the visitors are casual trail users.

The HCA undertook a trail review and improvement plan in 1992³ (the "Improvement Plan"). The issues that were identified include trail safety, erosion, trail surface, barriers to entry, fences, bridges, trail location, environmental conservation and the Dundas Peak.

• Trail Safety:

The "Improvement Plan", dated 1992 identified areas on the trail that are potentially dangerous for the casual user. The photo to the right, shows a portion of the trail between Tew's Falls and Dundas Peak along the brow, where the HCA has reinforced the fencing; however, there is still no buffer between the Gorge and the trail beyond this fence section. Authority staff recognized the potential danger in this area and developed an alternate trail that swings away from the escarpment brow. This is the Glen Ferguson Side Trail.

However, the trail between Tew's Falls and Dundas Peak is still the main trail being used. There is no visible sign directing people to the alternate Glen Ferguson Side Trail. In the spring the trails are particularly poor and muddy and hikers often walk off and around the narrow trails. There continues to be the risk of people getting too close to the escarpment edge, and there are many places where people have worn informal trails to the cliff edge. As per the Implementation Plan, this section of the trail is recommended to be closed, with hikers diverted to the Glen Ferguson side trail.



³ Spencer Gore Wilderness Area Trail review and Improvement Plan – Dundas Peak Design and development Plan, 1009.

- Barriers to Entry:

The “Improvement Plan” identified the need to establish barriers to restrict access (i.e. “barriers to entry”) to unauthorized lookout areas and party locations. In addition, barriers to entry are required to assist and promote natural regeneration in areas and for the purposes of closing trails entirely. The recommended barriers are to consist of rock, boulder and vegetative material.

This plan also noted the trail located in the lower Gorge following Spencer Creek, as being unsafe. In addition to the physical characteristics of the trail, several rare species of plants are located in this area. Accordingly, the 1992 “Improvement Plan” recommended that this lower trail (following Spencer Creek), be closed permanently.

The Bruce trail previously entered the lower Gorge from Dundas with pedestrians crossing the CN lands and following the lower Gorge to the base of Webster’s Falls. In 2008, due to a pedestrian fatality at the CN crossing, the Bruce trail was re-routed through Dundas and north along Sydenham Road. There is no longer an official Bruce trail into the lower Gorge.

- Dundas Peak

The Dundas Peak viewing area provides a spectacular view to Dundas and the lower Gorge. A seat/viewing wall has been constructed a safe distance back from the cliff face. This is a comfortable viewing distance. The HCA had installed railings in this area which were vandalized.

- Bruce Trail

The Bruce Trail Comprehensive Plan, Volume 1: The Plan Final Draft June 1989, outlines the Criteria for the Location and Design of the Bruce Trail. This document outlines the criteria for maximizing the quality of the trail, and criteria for the protection and enhancement of the environment. The Bruce Trail club is responsible for maintaining the trails as a footpath and does not support biking on these trails or allow fires or barbeques along the trails.

- Niagara Escarpment Plan

The Niagara Escarpment Plan (Policy 3.2) recognizes the importance of securing a continuous route for the Bruce Trail. This objective is afforded the same priority as establishing the Niagara Escarpment Parks System since the Trail is considered an essential component of the system, linking parks and natural features. As such, the Bruce Trail Corridor is to be identified in all Niagara Escarpment Park Management Plans (Policy 3.1.6).

Table 3 illustrates the classification of trails. Level 1 trails are passive interpretive hiking trails or boardwalks that provide access to the most sensitive natural or cultural resources. They are designed to accommodate single or restricted uses such as hiking, walking and running.

Table 4: Trail Classification

Trail Type	Width	Carrying Capacity per 1500m	Surface	Experience
Level 1: Hiking Primitive Nature Trail	0.5-1.5m	10 groups of 2 people	Soil, vegetation or rock, boardwalk	A sense of being immersed in a natural landscape.
Level 1: Hiking Medium Service nature trails	No more than 2m wide	10 groups of 2 people	Natural, though modified, surface featuring indigenous materials	Some resource modifications are evident, they harmonize with the natural environment. Few recreation facilities are provided, and those that exist are minimal.
Level 2: High capacity/service	No more than 3m	20 groups of 2 people	Natural surface of packed limestone chips,	High use trail corridors that access prime Conservation Area features and that provide

Trail Type	Width	Carrying Capacity per 1500m	Surface	Experience
access trail	wide		asphalt or concrete or boardwalks and may be designed for universal accessible	emergency access as required. Resources are modified for essential visitor and Conservation Area operation needs, but they are changed in a way that harmonizes with the natural environment.

Most of the Bruce Trail side trail would be classified at Level 1 trails. The accessible trail from Webster’s parking lot is classified as a Level 2 trail, as well as the section of trail leading down to the Cobblestone Bridge.

4.3.2 Stairs to the Gorge

The existing stairs to the Gorge are comprised of steel, wood and stone, with non-continuous handrails. There are 90 formal steps and approximately 30 “informal” (i.e. rocks) steps to the bottom of the Gorge. The stairs are narrow and do not allow passing easily. There are no areas for visitors to rest while ascending or descending the stairs as the landings are quite small. Visitors are required to ascend/descent the stairs in single file. As a result, on busy weekends, visitors are required to wait for a clear opportunity to move along. The stairs have been used for an estimated 60 years without incident directly related to the stairs. There is a sign at the top of the stairs warning visitors from descending into the Gorge if they have health problems, as this is a lengthy descent and ascent.

Hamilton Emergency Services use the stairs to assist their rescue operations, to evaluate the type of incident at the base of the Falls’s and to determine the type of rescue required.

The descent to the lower Gorge and base of Webster’s Falls is a tourist destination and becoming more and more popular. However, due to the sensitivity of the environment in the Gorge, the large number of visitors who gather at the base of the Gorge, scramble up embankments, and ‘walk under the falls, has resulted in environmental degradation, which is a serious concern.



As noted in the photograph, on busy weekends there is two-way steady traffic up and down the stairs. Visitors often descend the stairs without realizing the difficulty of the descent, regardless of the warning signs posted at the top of the stairs. Many visitors descend the stairs who are not physically prepared for the challenging climb, and/or wear inappropriate footwear. As a result, slips and falls on the rocks have occurred. People also scramble around and up the embankment to cut into line and/or to avoid the long line. In addition, many visitors scramble up the embankments to get closer to Little Webster’s Falls or other vantage points, on either side of the creek.

In May 2012, due to the large numbers of visitors who were using the stairs at one time, the HCA made the decision to close the stairs as a safety measure, pending the recommendations from the Master Plan and further public input.

While the Hamilton Conservation Authority has identified the need to replace the stairs and has prepared a design which has been approved by the Niagara Escarpment Commission, to date no major reconstructive work has occurred on the stairs due to budget limitations.

4.3.3 Lookouts

There are two lookout structures at Tew's Falls (pictured to the right) and one structure on the Glen Ferguson Side Trail toward Dundas Peak. The lookouts and their associated stairs are in good condition, although some of the galvanized railings appear to be rusting. The vegetation in proximity to the third overlook obscures the view to the valley.

At Dundas Peak there is a leaning/seat wall as an overlook area. In the past railings were installed at Dundas Peak; however, over the years they were vandalized.

There is an accessible overlook to Webster's Falls, along the north east escarpment brow, which is constructed of stone and metal railings that extend along the brow on either side. In 2000 the railings at the Webster's Falls overlook were replaced due to their condition



4.3.4 Parking Lots

There are three gravel parking lots within the Conservation Area

- Community Optimist Park Parking Lot: This gravel parking lot is accessed by a one-way drive off Brock Road/Highway No.8 and has been designed to accommodate 22 vehicles.
- Webster's Falls Parking Lot: This gravel parking lot accessed off Fallsview Road has been designed for 78 vehicles including 3 handicap stalls. In addition, this lot has a solar pay kiosk and a gate attendant during peak season. There is a grass/paved system drive leading up to a lawn area, which has been used for overflow parking. This lawn overflow area has a capacity for 190 vehicles. The overflow parking area has generally been open to the public on peak season weekends; however, currently this overflow parking is closed pending final master plan recommendations.
- Tew's Falls Parking Lot: This gravel parking lot is located off Harvest Road and has been designed for 77 vehicles. The lot has a pay and display system during off peak periods, and a gate attendant/pay station during peak weekends. The gravel drive extends south into the site with a bus turn-around loop at the end. Lawn overflow parking can accommodate up to 200 vehicles; however, this overflow parking is, at times, in conflict with picnicking near shade trees.

The HCA has also considered using other lands in proximity to this Conservation Area for parking purposes. For example, the HCA owns a parcel of land off of Highway No. 8 across from Webster's Lane which was considered for parking purposes; however, this parcel was not considered suitable for off-site parking because visitors would be required to cross Highway No. 8. In addition, the City-owned Johnson Tew's Park, located at the end of Tew's Lane was considered. However, this Park included an arboretum, but not an extensive increase in parking. Although this park parcel may have presented an opportunity for parking to serve the HCA, the Master Plan does not recommend visitors walk to the site by crossing Harvest Road, as there are no sidewalks, and traffic can be heavy and moving quickly. In addition, poor vehicular site lines along Harvest Road in the vicinity are hazardous to pedestrian safety.

Off -site parking that requires visitors to walk along narrow busy roads, or off -site parking that would result in additional traffic congestion on the local residential roads is not recommended.

4.3.5 Fencing

Ornamental metal fencing exists at the overlook above Webster's Falls. This fencing was refurbished in 2001, and extends to the bridge crossing Little Webster's Falls. Black chain link and split rail fencing align the path/trail that leads up to the Webster's Falls parking lot.

Despite the length of black chain link fencing, there is a section along this path/trail where pedestrians continue to cut down the embankment to get to the top of Webster's Falls above the Creek on the north east side of the falls. As an interim measure, to address safety issues, the Conservation Authority has installed temporary fencing in this area, and has closed off the walkway near the Cobblestone Bridge. However, since this time there have been concerns raised that the fencing is detracting from the picturesque view of the falls and will decrease the physical and emotional access to nature.

4.3.6 Picnic Pavilion

A picnic pavilion is located just west of Webster's Falls and was constructed in the early years of the park development. The roof was replaced in 2010. The pavilion is in good condition. Minor repairs to the tile flooring are required.

4.3.7 Bridges

There are 6 bridges within the Master Plan area as well as one pedestrian bridge crossing within the City of Hamilton's road allowance/right of way connecting the Greensville Optimist Community Park to Fallsview/Short Road. The six bridge crossings include:

- the Cobblestone Bridge, restored in 2000;
- the narrow stone footbridge –Spencer Creek;
- the abutment bridge crossing over Little Webster's Falls;
- the wooden bridge crossing over Logie's Creek (East Spencer Creek) just above Tew's Falls; and
- two wooden bridge crossing along the trail leading to Dundas Peak.

All of these structures are in relatively good condition. The walkway leading to the wooden bridge above Tew's Falls is eroding and requires repair/retention. Some of the stone pavers on the Cobblestone Bridge are lifting and require repair. This trail bridge could be made more accessible with minor adjustments.

4.3.8 Washroom Facilities

There are currently six portable toilets available to visitors. Three are located at the Webster's Falls Parking Lot along the accessible asphalt trail, and three are located near the old washroom/ maintenance building on the south side of Webster's falls. These facilities are maintained throughout the day, and pumped out at the end of a busy day on long weekends. There are no washrooms at the Tew's Falls parking lot.

Portable toilets are owned, and serviced by the HCA as a part of their total operational costs. These facilities are generally installed in April with three installed at the beginning of the 'season' and three more added for Easter Weekend. These facilities are usually available through the summer until November.

4.3.9 Garbage

Garbage throughout the Master Plan area is contained within 170 litre (45 gallon) cans. These cans are attended to by staff on a regular basis. Large garbage trucks are not required to empty dumpsters on site. Sealed garbage and recycling containers are not used at this time. In addition, Conservation Authority Staff remove garbage from the creek and Gorge by hand on a regular basis. When staff leave the area at the end of each day, the garbage cans are emptied, but get filled again as people leave their garbage behind instead of 'packing it out'.

4.3.10 Barbeques/Fire Place

Picnic and barbeque use has been a tradition in the Conservation Area for many years. However, in the summer of 2012 the use of barbeques in the Conservation Area was prohibited. This measure was taken in response to resident concerns for smoke/smell and fire hazard, and also for visitor complaints about smell and smoke. In addition, there are issues with the disposal of hot coals/ashes as visitors often put the coals in the garbage cans, as there are not sufficient ash bins.

This 2012 ban also included the use of the stone fire place. This fire place was a popular place for youth to gather and have open fires. HCA staff is also aware of illegal open fires occurring in the Gorge which are difficult to monitor.

There has been negative public response to the prohibition of barbeques and use of the fire place. Family groups that come to the Conservation Area on peak season weekends are often looking to picnic and barbeque in the open lawn areas along Spencer Creek, above the falls. While many families organize picnics that do not require cooking; other visitors indicated to the consultants⁴ that they would not picnic in this area if they could not barbeque.

Input from the public at the first public information session, responses received from the questionnaire as well as ongoing email public input, suggests that local residents wish to see picnic activity in the park continue. Some residents supported retention of the stone fire place and allowing barbeques in the park, while others indicated they did not like the smell and smoke from the barbeques and were concerned about inappropriate use of the fireplace and potential for fires in such close proximity to their residences.

4.3.11 Noise

There have been occasions where the volume of sound generated from music, amplifiers and microphones have carried on after hours into the night. This has been an annoyance to local residents. Noise generated by park users in the form of loud music and amplifiers is a concern, particularly when they occur beyond dusk until the Conservation Area is closed. Officially, the use of sound equipment in the Conservation Area is not allowed; there is a sign posted at the gatehouse stating no radios.

4.3.12 Gates

There is a private access gate at Highway No. 8 and Webster's Falls Road (private lane), which is open Monday to Friday for vehicular access, but closed on the weekends. Only pedestrians and cyclists can gain access to the Conservation Area through this gate on the weekends and others who have access to the gate code.

At the park entrance off Webster's Falls Road is an historic stone and metal gate which is open during park hours, but serves pedestrians only on the weekends. The gates are closed at the end of the day. There are vehicular gates at the Webster's and Tew's parking lot. There are no other access gate restrictions.

4.3.13 Signage

The Conservation Area has interpretive signs of the areas rich cultural and natural history, entrance signs, commemorative signs, trail information signs, maps, warning signs and handicap parking signs. Pedestrian and vehicular pay stations are also signed.

4.3.14 Winter Maintenance

The parking lots are cleared in the winter, however the trails and stairs are not.

4.3.15 Pedestrian Access

Pedestrian entry points include:

- the lower Gorge and the Webster's Falls Side trail,
- Glen Ferguson Side Trail and Ofield Road,
- Crossing the LaFarge lands to the east,
- Webster's Falls (private) Road,
- Fallsview Road, and
- Harvest Road.

The number of people entering the Master Plan Area from these locations is not available. On May 20th, 2012 the number of pedestrians parking at the Greensville Optimist Community Park or off site and walking into the site from Greensville Public School, Forest Avenue, Medwin Drive, Tew's Lane and Ofield was approximately 500 people.

⁴ May 20th, visitor survey

4.4 Park Use

Parks Canada maintains that *"The carrying capacity or threshold value is the maximum number of people who may visit a tourist destination at the same time, without causing destruction of the physical, economic and socio-cultural environment"*. However, there is a diversity of subjective factors including visitor experience, physical and natural resources, operations and management, that effect carrying capacity of a park, and it is difficult to reference standards.

- *Physical Carrying Capacity (PCC)* defines the maximum number of people that can be safely supported by a destination site at any given time. The challenge is in determining physical carrying capacities in a park setting and areas with sensitive natural environments.
- *Biological Carrying Capacity (BCC)* must take into account the site's ability to regenerate or tolerate visitor interference to the environment. The carrying capacity cannot exceed the site's own natural ability to maintain its ecological systems.
- *Social Carrying Capacity (SCC)* is the capacity beyond which visitor experience can be compromised due to overcrowding, conflicting uses, and degradation of the site and/or natural areas.

With the increased popularity of the Spencer Gorge-Webster's Falls Conservation Area, primarily during peak season weekends from May until the end of October, there are concerns that the carrying capacity of the area trails, open spaces, facilities, parking lots, and operations are being exceeded. As well, there are concerns for impacts on the environmental, visitor safety and a degraded visitor experience of the area.

The carrying capacity of the parking lots to service the Master Plan area is described in Section Five.

4.4.1 Trails

All of the trails within the Conservation Area are well used by the surrounding residents, community and those making the Spencer Gore-Webster's Falls Conservation Area a destination from outside the Region. The majority of the trails are single lane.

Table 5 illustrates pedestrian counts taken on June 17, 2012 of visitors leaving Tew's Falls to walk to Dundas Peak, and the number of individuals coming from the Peak to Tew's Falls. The walk to Dundas Peak from Tew's Falls is 1.25km and the recommended time is 40 minutes; however, rates vary. The Table illustrates that in the morning; hikers are travelling one way to the Peak, but continue beyond. In the afternoon, more visitors are travelling to the Peak and returning to Tew's Falls.

Table 5: Trail-Tew's Falls to Dundas Peak on June 17th 2012

Time	To Peak	Back from Peak
9-10 am	2	5
10-11 am	16	1
11-12 pm	52	14
12-12:30 pm	15	24
1-2 pm	54	77
2-3 pm	69	77
Totals	208	198

The trails have higher use on peak weekends and are often crowded. Many visitors from outside the Region are bringing strollers on these trails, and wearing inappropriate footwear for the slippery, and sometimes difficult conditions. Better education and warning signage is required to ensure that visitors understand the hazards associated with the trails. In this regard, further monitoring and pedestrian counts are needed.

4.4.2 Family Picnic Areas

Picnic areas include the open lawn along Spencer Creek, and open lawn areas. Picnic tables are located in the Webster's Park area near the pavilion. There are six picnic tables in this area. Groups also picnic on the open lawn area. There is one permanently mounted metal accessible table located at the Webster's Falls lookout and one 2.5 metre (8 foot) long wooden table in the open lawn area.

In 2012 the number of tables in the Webster's Falls Park Area were reduced to four. There are two picnic tables at the Greenville Optimist Club and one at Tew's Falls.



During peak period weekends, from May to the Fall, families are attracted to the area. These families often plan their day in the park to meet up with friends and families, to have a picnic, barbeque, enjoy water play, and play lawn games as activities. These groups seek out shady open lawn areas, and prefer picnic tables, views of the water and also access to the water. Walking to the base of Webster's Falls as well as walking behind the fall's is also a planned destination activity. Young children accompanied by their parents walk in the creek above the falls, or are told to stay upstream from the cobble bridge. Many of the groups observed are from the Toronto area.

There are no standards available to base a calculation of the carrying capacity of picnic areas which include open lawn areas for informal family activities. The Master Plan study has estimated picnic area capacity based on the following:

Time Saver Standards for Landscape Architects, 1998 - picnic units are generally designed in clusters of 10 to 100 units, with 10.7m (35') between units. A maximum density of 50 units/ha (20units/acre) is desired, with a buffer strip of 60m (200ft) between picnicking and other activities.

Table 5 illustrates the approximate capacity of the open lawn picnic areas of the Master Plan area.

Table 6: Picnic Area Capacity

OPEN LAWN AREAS-PICNIC	APPROXIMATE AREA	APPROX. CAPACITY/UNITS
Webster's Falls Park along the Creek	1.8ha (4.5 acres)	90 units
Webster's Falls open lawn adjacent to parking lot	0.69ha (1.70 acres)	34.5 units
Greenville Optimist Community Park	0.06 ha (0.15 acres)	3 units
Tew's Falls	0.24ha (0.60 acres).	12 units
Tew's Falls open lawn (area used for overflow parking)	0.48ha (1.20 acres)	24 units

(Assume each unit is 10 people=1,635 people)

The open spaces at Webster's Falls can accommodate a large number of group picnic areas. In the Webster's Falls open lawn areas, there are shaded areas for large groups as well as areas for individuals who are simply walking through the area, or relaxing on a bench to read for example. Webster's Falls is the principal destination within the Conservation Area for visitors, due to the following characteristics:

- Proximity to water - being near moving water;
- Webster's falls – ability to walk to the base of the falls;
- Spectacular views/scenery;
- Open lawn areas, and beautiful pastoral setting;
- Barbeque facilities;

- Proximity to Toronto - popularity as a destination is growing; and
- Opportunity for hiking.

Families picnic on the open lawn area, seeking shade during the warmer months. The Greenville Optimist Club has held an annual Canada Day Picnic for a number of years.

4.4.3 Stairs to the Gorge

Since the closure of the Bruce Trail along the bottom of the Gorge, the Webster's Falls staircase provides the only access to the bottom of the Gorge. The existing stairs have been identified for replacement by the Conservation Authority in order to safely accommodate the growing demand for access to the Gorge; however, there has been some debate as to whether the stairs should be closed permanently as well as eliminating access to the Gorge on a permanent basis.



The design of the stairs, their width, tread rise/run ratio and length, all affect the carrying capacity and speed/comfort of the user. Another factor that contributes to stair capacity and visitor comfort is the provision of landings for rest and/or viewing. The acceptable time it would take to ascend/descend, and waiting time are factors that affect the visitor experience. The length, width and condition of the existing staircase limit their capacity, and, in the peak season, the existing staircase is significantly over capacity. These stairs are more appropriate for single file use. At peak times, there is a two way steady movement of pedestrians on the stairs. Movement is slow with many stoppages, and there is no passing or reverse movement possible. The current numbers are over the capacity of these stairs for comfortable movement.

There is approximately 65 linear meters of stairs to descend the Gorge. Table 7 documents the number of people who ascended and descended the stairs on May 12th and May 19th, 2012.

Table 7: Gorge Stair Count

Time	May 12 Down	May 12 Up	May 19 Down	May 19 Up
10 to 11 a.m.	18	13	30	9
11 to 12 a.m.	61	31	76	41
12 to 1 p.m.	141	83	203	118
1 to 2 p.m.	142	123	187	149
2 to 3 p.m.	163	159	252	228
TOTAL*	525	409	748	545

Note: The total number of visitors going to down into the Gorge do not necessarily align with the number coming up because some visitors either continue along the lower Gorge or come up from the lower Gorge; or some visitors stayed at the bottom of the Gorge in excess of 1 hour.

4.4.4 Hours of Operation

The hours of operation of the Spencer Gorge-Webster's Falls Conservation Area are from sunrise to sunset; the entrance gates open at 8 am.

4.4.5 General Safety



As with all public places, safety is important. Placement of warning signage, implementing trail re-alignments and installing fencing to delineate pedestrian areas away from steep cliff edges, and sensitive natural areas, have all been employed at Spencer Gorge-Webster's Falls Conservation Area. The two overlook structures at Tew's Falls are examples of design improvements that have made viewing the falls safer. Trail diversions away from the cliff edge to access Dundas Peak as well as the construction of a wall at Dundas Peak at a safe distance away from

the cliff edge are also examples of measures to manage risk. In addition, the replacement of decorative fencing above Webster's Falls in 2001 was done due to the condition of the fence. However, risk management includes ongoing monitoring of park facilities.

Risk Management

An inventory and analysis of existing conditions of trails, overlooks, natural areas, visitor access areas, signage, and site feature has led to recommendations to improving visitor safety in the Conservation Area. Ongoing monitoring of site conditions is a recommendation in the Management Plan.

Fencing and signage has been installed in the Conservation Area to warn of dangers and physically block access to the cliff face. Some visitors ignore these barriers and signs. In some locations the existing railings have been broken, circumvented, and signs ignored. Other issues include off leash dog-walking in conflict with the Conservation Area regulations. In addition, conflict between pedestrians and joggers needs to be mitigated through additional regulation signage in more prominent locations.

Visitor Use/Safety

Visitors enjoy walking the trails throughout this Conservation Area as well as accessing the base of Webster's Falls and enjoying the water fall. However, visitors are walking off of the trails, causing damage to sensitive environments at the rim of the escarpment, and cliff faces in the Gorge.

Visitors access the cliff rim for better views of the Gorge and are wearing paths through fragile habit and above sheer dangerous cliff faces. Visitors climb the cliff faces in the Gorge to access Little Webster's Falls and to 'Walk behind the Falls' as a recreation destination. Large numbers of visitors, who come to the Conservation Area during the peak season, seek the experience of accessing the lower Gorge, and lower Spencer Creek and are causing degradation to the cliff faces as they climb the areas.

Visitors are also accessing the lower Gorge from the unofficial trail that was formerly the Bruce Trail Main Trail until it was closed in 2008. There is no official marked trail access into the lower Gorge across the CN tracks.

In May 2012, the stairs to the base of Webster's Falls were closed due to their condition, and concern for visitor safety and concern for environmental degradation in the Gorge. However, Hamilton Emergency Services, continue to have access through a locked gate.



Through public input as part of this Master Plan process, providing access to the lower Gorge, both to access the base of the falls and to hike out to Dundas, was preferred to closing access.

Visitors seek out opportunities to access cliff edges and overlooks, as well as accessing water above and below the Falls. The falls are becoming a destination for 'Walking behind the Falls' as was observed through the site surveys and inventories in 2012. The primary visitor safety concerns are cliff edges, moving water; and, waterfall danger. Most hikers take precautions and stay clear of cliff edges; however some visitors look for opportunities to view the Gorge or waterfall from the cliff edge.

Monitoring the number of people using the Bruce Side Trail between Tew's Falls and Dundas Peak is recommended, to determine appropriate fencing replacement/locations, and trail improvements which could include trail closures and re-routing.

With the increase in people using the Conservation Area at peak times, the 'crowding' has been seen as a risk to visitors using the existing stairs. During winter/spring months, the stone stairs are also wet and slippery.

The installation of chain link fencing has been the most effective in deterring access to the cliff edges. However, the installation of 1.2 metre (4 foot) high black vinyl fence along sections of the trail between the pathway and the escarpment edge, in the most heavily travelled areas has also been effective. Additional sections of fencing are recommended from Webster's Falls Park, all the way to Dundas Peak in the heaviest used sections where pedestrians have tried to access the cliff edge.

Temporary deterrents are also in place above the Falls' on the north side of the Creek, similar to the south side.

The objective is to mitigate risk to both visitors and the environment; provide environmental protection of the lower Gorge; and, provide safe access through the site and out of the site.

Spencer Creek

Also of concern are the water levels and velocity of Spencer Creek which are not constant. This is equally an issue with Spencer Creek above and below the falls. Along the Creek above the falls are human made stone edges that are comfortable for seating. In addition, the Creek's stone bottom and its shallowness, make it appealing for wading. Generally families feel it is safe to allow their children to wade into the water, upstream from the cobblestone bridge. The currents vary through different times of the year. Although there is no known incident of a visitor accidentally going over the falls, risk management does call for greater measures to inform the public that water access is dangerous and habitat degradation is also occurring.

There are various risk management concerns associated with the Creek:

- signed "do not enter water" ignored;
- concern for habitat degradation;
- safety concern, with proximity of falls, and moving water; and
- lack of recognition by the public that wading into the Creek *is* a dangerous activity.



4.5 Emergency Services

The City of Hamilton's Emergency Services (HES) include police, fire, ambulance and paramedics. The City's Emergency Management Program is responsible for the development and implementation of preparedness, mitigation, response and recovery initiatives for emergencies or disasters that occur within the City of Hamilton. Through proper planning, training, exercising, and coordinating with agencies across the City, Hamilton's Emergency Services are ready to respond during a crisis; however, everyone has a role to play in preparing for emergencies. In any and all emergencies across the City, the HES is, by law, permitted, and will take, the most direct means to access the situation. They have the legislative right to use any access, whether private or public, to access the situation in the most expedient manner.

In 2011 there were 9 Emergency Services Calls to the Master Plan Area, which is higher than the average experienced. These included calls to police, fire and/or ambulances for the following incidents: heat exhaustion, broken/sprained ankle, falls, and convulsion. When someone in need calls 911, the centralized call centre dispatches the necessary services based on where the caller is calling from (i.e., where the emergency is located) and the nature of the call.

Those calls specific to the hazards of the escarpment edge occur when people try to lean out over the cliff or the fragile shale shelf gives way. Also the escarpment face looks climbable and many individuals have been known to attempt to climb the face; however, the degree of steepness varies to the bottom. There are also rock ledges which are eroding and form a ledge which potentially could break off. Rock is predominantly shale, and easily fragmented. In addition, some individuals who do climb down into the Gorge misjudge the difficulty in getting out or how quickly it can get dark. All of these situations result in calls to HES.

There are 6 points of entry to the Conservation Area utilized by HES: Webster's Falls Road (private laneway), Webster's Falls parking lot, Tew's Falls Parking lot, LeFarge lands (private), Oldfield Road and the CN lands at the base at the lower Gorge. HES will always choose the closest point of access to the incident and will remove any intentional barriers in its path to access the incident.

4.5.1 Calls to Webster's Falls and/or the Gorge

It is known by HCA staff and also local residents that the majority of Emergency service calls to the site are directed to the Gorge. The incidents in general occur due to physical stress (heat stroke), inability to ascent back up the stairs due to health limitations, or minor injuries related to the activities at the base of the falls including scrambling up the rocks, jumping the rocks, or slipping on wet rocks. All calls related to incidents in the Gorge or in proximity to Webster's Falls are accessed by Webster's Falls Road (private laneway). This is the primary and most direct access point. While this is a private laneway, it provides the quickest and most direct access to the falls and/or the Gorge. Calls related to people falling from the escarpment or injured below the escarpment in the Gorge require *Fire Rope Rescue*. This type of rescue requires special equipment (e.g., stretchers, harnesses, ropes, pulleys), vehicles and services and can include as many as 14 vehicles responding to one incident. The location of the laneway, the size of the parking area, the stairs to the Gorge and the space available at the top of the falls provides the best resources for emergency services to effectively do their jobs.

The existing stairs to the Gorge assist in rescues. The first HES workers who respond to the call usually walk down the stairs to access the situation. Once at the bottom of the Gorge they can assess the nature of the emergency and dispatch any additional emergency personnel required. From that point, the rope system may be implemented to transport the victim from the Gorge to the top of the escarpment. The proximity of the parking area to the stairs and escarpment edge is extremely helpful as there is extensive equipment that must be transferred from the emergency vehicles to the escarpment edge and Gorge bottom.

According to discussions with HES the stairs represent an integral resource for Gorge rescues. HES have access through the locked gate to the Gorge stairs. However, the current design of the stairs has shortcomings from the HES perspective; because the stairs are so narrow, a stretcher must be walked up with a person on either end rather than all four sides. Alternately this requires a rope rescue, and more vehicles to assist.

A preliminary stair design has been prepared for HCA indicating a 1.2m width. Widening the stair to 1.5m is recommended to accommodate HES rescue operations however that is only one factor to consider. There are a number of site constraints that dictate the alignment and design. Further review and discussion on the final detail design to be coordinated between the various agencies.

Finally, there may be calls dispatched to Webster's Falls when the incident occurs in other locations as visitors are not able to clearly articulate where they are in the Conservation Area. For example, a fall at Tew's Falls may simply be identified by the 911 caller as a fall at Webster's falls. A series of numbered wayfinding markers throughout the Conservation Area would assist in orienting visitors to their location when seeking help from HES.

4.5.2 Calls to Dundas Peak and Tew's Falls

Incidents at Dundas Peak are sometimes accessed from the Lafarge lands along Fallsview Road, while incidents along the escarpment between Tew's Falls and Dundas Peak are accessed from Ofield Road. Both of these locations provide sufficient space for emergency vehicles. However, HES advises that improvements to the shoulder of Ofield Road is recommended to provide more support for the weight of the emergency vehicles who need to park there to access the site.

Emergency service calls to Tew's Falls are accessed from the Tew's parking lot. The existing gravel drive and turn around in Tew's parking lot is adequate for emergency services to turn around and provides sufficient space for all emergency vehicles.

4.5.3 Summary and Recommendations

CA Staff is not always aware of HES activity; especially if HCA staff is not present in the area at the time of the emergency. When an accident occurs on the site Hamilton Emergency Services will respond the call. If HCA staff is made aware of the accident, senior management is made aware of the situation and a follow-up investigation is done as required.

Through discussions with HES it is apparent that improvements are necessary to ensure the continued safety of visitors to the Conservation Area. The key improvements and recommendations include:

- Replacement of the stairs to the Gorge;
- Installation of fencing and signage to warn of fall hazards along shale ledges with under cropping or erosion of the rocks; and
- Consultation with Emergency Services to provide a system of emergency signage throughout the master plan area for quick and easy identification by the public to convey to EMS.

4.6 Right of Way Privileges

There are specific locations within and/or abutting the Master Plan area that are subject to right-of way privileges to provide access to the Spencer Gorge-Webster's Falls Conservation Area: Webster's Fall Road, Trails over private land, the LaFarge lands; .

4.6.1 Webster's Fall Road (private)

Webster's Falls Road is a *private* road. The six owners of abutting properties have legal right-of-way in order to gain access from and to Highway No .8 and their respective properties.

The portion of Webster's Falls Road that is owned by the HCA includes the stone entry gates and extends 120 metres to the west with a right-of-way granted to the parties abutting it, to use this as an access to their properties. The portion of road between Highway No. 8 and the HCA lands, is a private lane with a right-of-way to all parties abutting it and the HCA portion of the road to use as an access to their properties and to Highway No. 8.

The residents along the private road have purchased, installed and maintained a security gate. Walking and cycling visitors to the Conservation Area can access the private road through this gate; however, visitors driving to the Conservation Area are restricted access. HCA-owned/leased vehicles which are operated by HCA staff for maintenance and security purposes have access to the private road through the security gate. In addition, vehicular use for pre-

arranged special activities (e.g., HES training) are permitted to use the private laneway where gaining access to the Conservation Area from other points is considered to be impractical.

4.6.2 Trails – Private Land

A section of trail between Tew's Falls and Webster's Falls is on private property. The Conservation Authority has posted signs instructing trail users to stay on the trail and that the trail is on private property. To date there have been limited incidents of trespassing beyond the trail by overly curious trail users.

Access from Greensville Optimist Community Park to Fallsview Road is obtained by crossing a Pedestrian Bridge over Spencer Creek and proceeding through to Fallsview Road on City owned lands via a registered easement.

One of the Bruce Trail side trails enters the Master Plan area from the LaFarge Lands. There is no registered easement; rather LaFarge allows access over their lands. There is no access to the lower Gorge from the CN rail lands to the south. In 2008, the six-kilometer stretch of the Bruce Trail was closed. The Iroquoia Trail Club, a local chapter of The Bruce Trail Conservancy, shut down the section on July 1, 2008 and created a 2.5-kilometre detour. To date, hikers and walkers still unofficially access the Gorge at this location. Barriers continue to be removed by the public; regardless of signage. This access continues to be a cause of concern for the Bruce Trail Conservancy, the Conservation Authority and CN Rail.

4.6.3 Lafarge Lands

The Glen Ferguson side trail enters the site across the Lafarge lands to the east. Once an active quarry, the Lafarge lands to the east of the park, have been used as a landfill site. The site is now closed. There is a gated vehicular access from Ofield road. During the analysis of on site and off site conditions, these lands were considered an opportunity to provide off-site parking in proximity to the park, and within easy access of the Bruce Trail Side Trail. However, both the HCA and the Bruce Trail Association have concerns about this location for a visitor parking lot. The site would bring visitors in direct access to Dundas Peak. The easy vehicular access to the Peak is of a safety concern, and there is potential for overuse of these primitive hiking trails. There is also concern for the potential costs associated with remediation and management of the landfill site, in order to provide this public access. Lastly, the parking would be over 6 km walking to Webster's Falls, where the majority of visitors wish to arrive. The trail from Tew's Falls to Webster's Falls also passes through the section that is not owned by the HCA.

4.7 Market Analysis

Conservation Areas were originally designed to serve mainly as day-use areas for the people of the watershed. There has been an ever increasing use and need for recreation land due to increases in leisure time, increased mobility, population changes and size of urban centres. Ontario Recreation Survey data indicates that an increasing market is to be filled by natural environment recreation areas as evidenced by an increasing number of participants engaged in passive sporting activities. These conservation areas/parks provide for passive recreational activity yet require limited facilities. The Spencer Gorge-Webster's Falls Conservation Area fulfills this function and is located in close proximity to an intensively urbanized area.

4.7.1 Regional Significance

The most important feature in this area, outside of the waterfalls, is the 'Y'-shaped Gorge. The combination of these two products-of-nature produces a most picturesque and relatively undisturbed setting in the City of Hamilton. With the successful marketing by The City of Hamilton Tourism and other organizations, the area is becoming a tourist destination for the Region with many tourists coming from Toronto.

The popularity of the Area is undoubtedly attributed to its scenic beauty when viewed in the context of the neighbouring highly urbanized area. The Bruce Trail is perhaps responsible for an influx of photographers, hikers and recreational walkers to the Conservation Area. The uninterrupted scenic vistas, the rugged topography, the water features and the opportunity for occasional moments of solitude, all serve to enhance one's trail-oriented experience.

The Hamilton Conservation Authority also manages five other Escarpment-related properties within a 10 kilometre distance of this Conservation Area: the Dundas Valley, Crooks Hollow, Christie Lake, Tiffany Falls and Borer's Falls Conservation Areas represent a significant portion of Escarpment area in the western end of the City of Hamilton.

4.7.2 Market Survey

The market area is defined as the geographical region from which the users of a recreational resource facility are expected to originate. The Spencer Gore area lies at the approximate centre of an area supporting the greatest concentration of population in Ontario. The urban centres of Hamilton, Burlington, Guelph, and the former Towns of Dundas and Ancaster lie within a one hour drive from the area. Other urban municipalities such as Kitchener, Waterloo, Cambridge, Brantford, Mississauga, St. Catharines and Toronto lie within a one to two hour travel time distance.

In 1979 an origin destination survey was undertaken by Conservation Authority Staff. The 1976 survey was undertaken on four separate weekends in July and indicated that 63% of the visitors lived within a one hour travel time distance, and 31% lived within a one to two hour distance. Approximately 52% of area users resided within the Authority watershed.

On Sunday May 20, 2012 of the Victoria Day long weekend a similar survey was undertaken. On May 20th 24% of the visitors lived within a one hour travel time (east to Mississauga), and 76% lived within a one to two hour distance. Approximately 6.6% of area users resided within the Authority watershed. The results of these surveys are as follows:

Table 8: Origin Destination Surveys

ORIGIN	1976		2012 May 20	
	No.	%	No.	%
Ancaster	1	2		
Barrie/Orillia	0	0	7	.6
Brantford/Paris	3	6	11	1
Burlington	1	2	27	2.5
Campbellville	1	2	0	0
Cambridge	2	3	11	1
Dundas	3	6	13	1.2
Dunnville	1	2	0	0
Flamborough	4	8	0	0
Grimsby	0	0	5	.45
Guelph	1	2	0	0
Hamilton	19	36	47	4.4
Kitchener	1	2	8	.7
London/Woodstock	0	0	32	2.9
Mississauga	0	0	138	12.7
North of Kitchener	5	10	12	1.1
Oakville	0	0	15	1.4
Ottawa	1	2	0	0
Outside Ontario	3	6	5	.45
Toronto area	6	11	757	69.6
TOTAL	52	100	1088	100

*2012 Survey taken at entrance to Webster's Falls car park on Falls View Road

4.8 Summary

A growing number of visitors are coming to the Spencer Gorge-Webster's Falls Conservation Area from the greater Toronto area and Mississauga. The percentage of visitors recorded on May 20, 2012 was 82.3% of total visitors, as compared to 11% recorded in 1976. The percentage of visitors on May 20, 2012 from Hamilton was just under 5%, which is a decrease in the overall percentage of 52% of visitors from Hamilton (Flamborough, Stoney Creek, Dundas, Ancaster and Hamilton) recorded in 1976.

SECTION FIVE: TRANSPORTATION

With an estimated 80,000 annual visitors, the popularity of Spencer Gorge – Webster's Falls Conservation Area as a recreation and tourist destination has resulted in substantial traffic increases and parking demand. In 2011 visitation might have been as high as 96,000. The increased parking demand has resulted in the use of open field/lawn areas to accommodate overflow parking during peak periods and the occurrence of on-street parking along local roadways adjacent to the site. The increased traffic and parking activities contribute to site congestion, poor circulation, impeded emergency access and illegal parking activities, resulting in the creation of overall neighbourhood traffic management issues.

The primary objective of the Transportation Study is to identify traffic impacts associated with the movement of people to, within and out of the area, including neighbourhood and emergency service impacts, and the subsequent development of measures that will mitigate identified impacts and improve both quality of life for adjacent residents and the natural experience for visitors to the Conservation Area.

5.1 Existing Transportation System

5.1.1 Road Network Characteristics

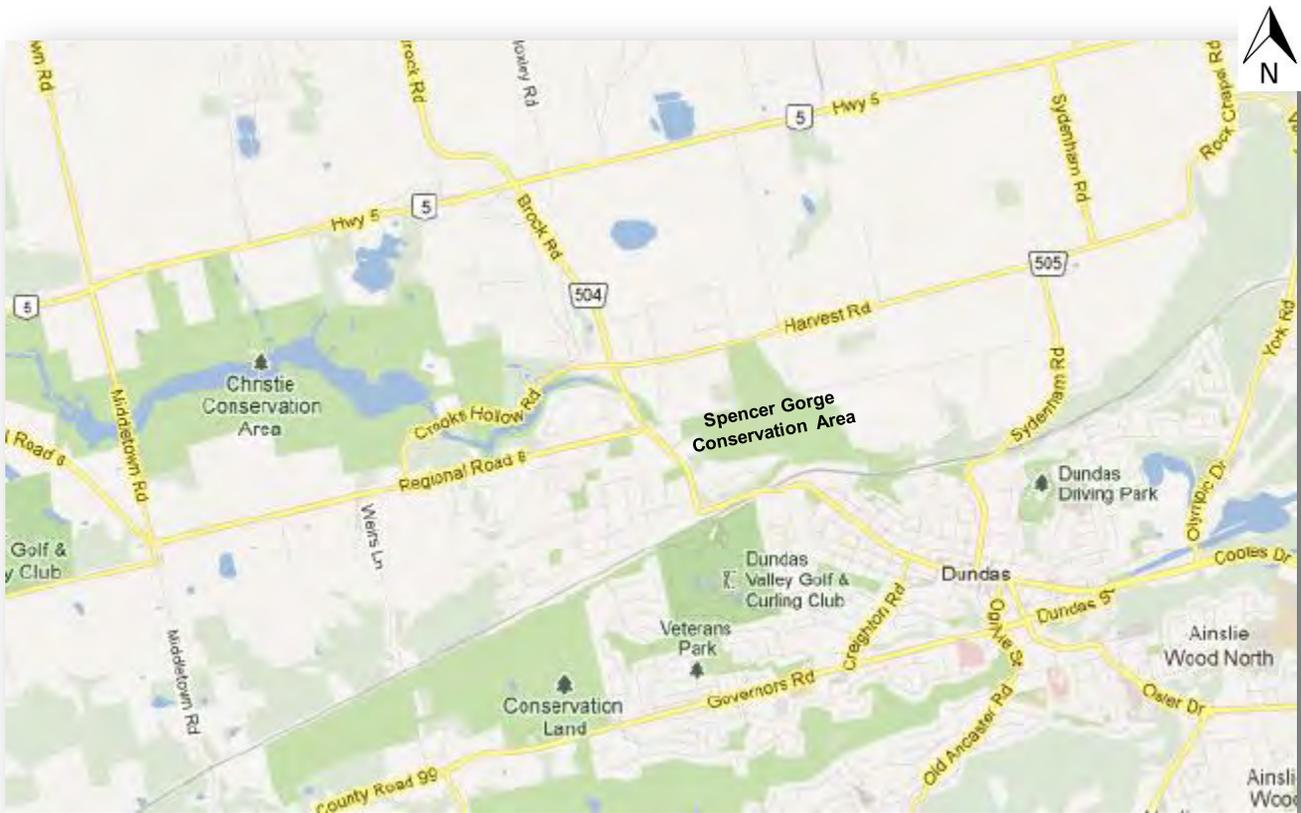
The network of municipal roads adjacent to the Spencer Gorge–Webster's Falls Conservation Area is illustrated in Figure 10. An inventory was completed through field investigations and supplemented by a review of relevant information provided by the Hamilton Conservation Authority and City of Hamilton. The general characteristics of the adjacent road network are summarized in Table 9.

Table 9: Roadway Characteristics

Road Name	Functional Classification	No. Of Lanes	Cross-Section	Speed Limit
Regional Road 8	Major Arterial	2	Rural	60 km/h
Brock Road	Major Arterial	2	Rural	60 km/h
Harvest Road	Arterial	2	Rural	50 km/h ⁵
Short Road	Local	2	Rural	50 km/h
Fallsview Road	Local	2	Rural	50 km/h
Webster's Falls Road	Private Laneway	1	Rural	N/A
Ofield Road South	Collector	2	Rural	60 km/h
Tew's Lane	Local	2	Rural	50 km/h

⁵ Posted maximum speed limit on Harvest Road is 50 km/h reducing to 40 km/h within vicinity of Greenville Elementary School.

Figure 10: Municipal Road Network



Spencer Gorge - Webster's Falls Conservation Area

Within the study area, Regional Road 8 is a two-lane major arterial roadway that runs north-south and operates under the jurisdiction of the City of Hamilton. Within the area immediately adjacent to Webster's Falls, Regional Road 8 is commonly utilized for on-street parking given its direct pedestrian access to the Conservation Area and absence of parking prohibitions.

Harvest Road is a two-lane arterial roadway that runs east-west through the study area and operates under the jurisdiction of the City of Hamilton. Access to both Webster's Falls and Tew's Falls is clearly signed and parking is prohibited on the north side of the roadway. However, parking restrictions are not signed on the south side of the roadway, thereby resulting in the occurrence of on-street parking during peak periods which contributes to congestion and visibility issues.

Vehicular access to Spencer Gorge - Webster's Falls Conservation Area is provided by way of Short Road/ Fallsview Road, a two-lane rural local roadway which operates under the jurisdiction of the City of Hamilton. The current cross section is approximately 7.0 metres wide (edge of pavement to edge of pavement) and there is a significant narrowing of the cross-section at the intersection of Short Road and Fallsview Road (right-angle intersection). Parking is prohibited along both sides for the entire length of roadway, however during peak periods vehicles have been observed to park on-street when parking at Webster's Falls is at capacity. The combination of a limited right-of-way, horizontal roadway constraints, substandard dead end roadway length and absence of a paved turn-around area significantly impacts vehicular access to Webster's Falls and negatively impacts response times and manoeuvrability of emergency vehicles when accessing the site.

Webster's Falls Road is a private laneway located east of Regional Road 8 which provides pedestrian and emergency access to the Spencer Gorge - Webster's Falls Conservation Area. The laneway was deemed a "private" road in 1968, at which time public access to Spencer Gorge was restricted. To limit public access to the Conservation Area by way of

**Figure 2
Municipal Road Network**

Webster's Falls Road, the local residents erected an electronic gate which restricts vehicular access to the Conservation Area at all times. However, the gate does not restrict pedestrian or cyclist traffic and permits the use of the laneway by the Hamilton Conservation Authority for maintenance and security vehicles.

Emergency Medical Services (EMS) currently utilize Webster's Falls Road as the primary access to the Conservation Area in the event of an emergency, as this location is best suited from an accessibility perspective and can accommodate numerous emergency vehicles and associated equipment. Emergency vehicles can enter the gate by use of a "YELP" siren or by manually inputting the security code. However, the ongoing use of this private roadway for emergency vehicles has led to neighbourhood concern and complaints with respect to traffic volume and noise.

Ofield Road is a two-lane rural collector roadway with a posted speed limit of 60 km/h south of Harvest Road. Given its close proximity to Tew's Falls and the ability to access the Spencer Gorge – Webster's Falls Conservation Area by foot, Ofield Road has been identified as an informal access point to the Conservation Area.

a) Pedestrian and Cyclist Facilities

Within the study area, a concrete sidewalk is provided along the north side of Harvest Road from the intersection of Harvest Road and Brock Road to a point approximately 500 metres east of the intersection, terminating in front of Greenville Public School. Concrete sidewalk is also provided on the west side of Brock Road from the intersection of Harvest Road and Brock Road, continuing southerly to Regional Road 8. In its current condition, the existing sidewalk network does not provide for a continuous pedestrian link between Webster's Falls and Tew's Falls.

A review of the City of Hamilton Bike Route, Parks and Trails mapping (2011) indicates that within the study area, Regional Road 8 is designated as a cautionary un-signed bike route with additional indication that the section of route south of Harvest Road is high in volume and/or narrow in roadway width. Harvest Road is also designated as a cautionary un-signed bike route. The cycling map indicates that both routes provide direct access to walking and/or hiking trails within the Spencer Gorge – Webster's Falls Conservation Area.

b) Transit Facilities

The community of Greenville and surrounding areas are not currently serviced by municipal transit.

5.1.2 Site Access

Vehicular site access is provided at both Webster's Falls and Tew's Falls, facilitating movement into and out of each park and corresponding on-site parking facilities. Access to Webster's Falls is provided via Fallsview Road by way of a narrow, two-lane paved driveway which leads to the pay attendant / pay station located within the parking area. Field observations have noted that during peak periods, the Webster's Falls driveway becomes congested, resulting in queuing along the driveway and spilling back onto Fallsview Road. Given the limited opportunity for vehicles to turn around when the parking area is at capacity, site circulation becomes impeded during peak periods resulting in congestion and queuing which in turn has the potential to negatively impact emergency access. The Hamilton Conservation Authority attempts to mitigate the congestion by providing a paid police officer at the intersection of Harvest Road and Short Road to manage traffic, as well as through temporary signage which indicates when the parking area is full. Unfortunately, neither of these mitigation measures has proven to be entirely successful in redirecting traffic to alternate parking facilities.

Access to Tew's Falls is provided via Harvest Road by way of a narrow, two-lane paved driveway located immediately west of Tew's Lane. The site driveway provides access to the gravel parking area located adjacent to Harvest Road, as well as access to the overflow and bus parking areas. During peak conditions it was noted that driveway operations deteriorate, primarily due to the high volume of vehicular traffic and relatively short driveway length, which results in queuing and spill back onto Harvest Road.

5.1.3 Existing Parking Conditions

a) Webster's Falls

Parking is currently provided by way of a formalized gravel parking lot which accommodates approximately 85 vehicles. Two informal grassed overflow parking areas are commonly utilized during weekend periods to accommodate parking

demand under peak conditions. The first overflow area is located west of the driveway which accommodates approximately 40 vehicles, and the second overflow area is located south of the gravel parking lot and can accommodate approximately 150 vehicles. Combined, the estimated parking supply at Webster's Falls can accommodate approximately 275 vehicles. However, it is recognized that the use of grassed areas for overflow parking has been opposed by some area residents who have expressed a continued desire to protect the natural character of the lands. As such, this study will examine alternatives to the use of overflow areas and recommend a preferred strategy to accommodate parking demand.

b) Tew's Falls

Parking at Tew's Falls is currently provided by way of a formalized gravel parking lot located adjacent to Harvest Road. The parking lot accommodates approximately 26 vehicles. An informal grassed overflow parking area is utilized during weekend periods to accommodate additional parking demand, as well as bus parking, and can accommodate approximately 200 vehicles. Combined, the estimated parking supply at Tew's Falls can accommodate approximately 226 vehicles.

c) Greenville Optimist Community Park

Greenville Optimist Community Park includes provision of a small gravel parking lot that is accessed by way of Brock Road. There is no charge to park at this facility. The parking lot accommodates an approximate yield of 25 vehicles and provides access to Spencer Gorge – Webster's Falls by way of a pedestrian pathway into the Conservation Area.

d) Greenville Public School

The staff parking lot at Greenville Public School is frequently utilized during peak periods when the parking facilities at Webster's Falls are at capacity. In its current configuration the paved lot provides a parking yield of approximately 32 stalls. This parking area is owned and operated by the Hamilton-Wentworth District School Board and is not formally part of the overall parking supply for the Spencer Gorge – Webster's Falls Conservation Area.

5.1.4 Emergency Service Access

Through discussions with Emergency Medical Services (EMS) it has been determined that approximately 6 – 8 incidents occur within the Spencer Gorge each year (inclusive of approximately 5 rope rescues per year). Webster's Falls Road is currently the preferred access point as it provides emergency teams with a direct route to Webster's Falls. Emergency calls pertaining to incidents at either Tew's Falls or Dundas Peak are immediately directed to the Tew's Falls parking lot through dispatch.

Given the ongoing traffic congestion and illegal on-street parking along Short Road and Fallsview Road, combined with the limited accessibility to the parking lot at Webster's Falls and long haul distance for first responders to carry equipment, EMS representatives have confirmed that Webster's Falls Road will remain the preferred access in the case of an emergency at Webster's Falls.

However, it was noted that any improvement that could potentially alleviate congestion along Short Road and Fallsview Road, and any improvements that would improve circulation of the gravel parking lot at Webster's Falls, would benefit emergency services and positively impact their ability to respond to calls in a timely manner should they require access to Webster's Falls by way of Short Road / Fallsview Road.

5.2 Analysis

5.2.1 Traffic Analysis

Operation of the unsignalized intersections of Harvest Road at Brock Road; and Harvest Road at Short Road, were evaluated based on methodology and procedures described in the Highway Capacity Manual (HCM) and were performed using Synchro version 7.

Capacity analysis of unsignalized intersections focuses on quantifying the efficiency of traffic flow and is based on the delay experienced by individual vehicles executing a particular moment. Capacity and delay are both functions of gap availability in opposing traffic flows and driver acceptance of those gaps.

The highest possible unsignalized rating is Level of Service (LOS) A, under which the average total delay is equal or less than 10 seconds per vehicle. When the average delay exceeds 50 seconds the movement is classified as LOS F and indicates that remedial measures are to be considered, where feasible. The resulting intersection analysis considered two separate measures of performance:

- Volume to capacity (v/c) ratio for each movement; and
- The LOS for each movement (based on average control delay per vehicle).

Table 10 summarizes the performance measures for each intersection under existing operational conditions and detailed Synchro 7.0 outputs are contained in **Appendix F**.

Table 10: Existing Traffic Operations

Intersection	Traffic Control	Approach / Movement	Analysis Period					
			Easter Weekend			Victoria Day Weekend		
			Measure of Effectiveness			Measure of Effectiveness		
V/C Ratio	Delay (s)	LOS	V/C Ratio	Delay (s)	LOS			
Brook Road at Harvest Road	All Way Stop Control	EB Left / Through / Right	0.11	8.6	A	0.11	9.2	A
		WB Left / Through / Right	0.23	9.6	A	0.34	11.1	B
		NB Left / Through / Right	0.34	9.8	A	0.46	11.8	B
		SB Left / Through / Right	0.22	9.3	A	0.34	11	B
		Intersection Summary		9.5	A		11.2	B
Brook Road at Short Road	Minor Road Stop Controlled (South Leg)	EB Through/Left	0.1	0	A	0.15	0	A
		WB Through/Right	0.02	1.5	A	0.03	1.5	A
		NB Shared Left/Right	0.11	10.5	B	0.17	12.5	B
		Approach Summary		10.5	B		12.5	B

The study area intersections were found to be operating with acceptable levels of service on all approaches under peak weekend / holiday traffic conditions. There is no indication that geometric improvements or changes to traffic control are required.

5.2.2 Driveway Operations

a) Webster’s Falls Parking Area

The Webster’s Falls site driveway was observed to be operating under congested conditions during peak periods. Given the limited circulation within the gravel parking lot, vehicles were observed to be queued along the driveway and out onto Fallsview Road during peak periods. Upon discovering that the gravel parking lot and grassed overflow areas were full, vehicles were observed to be making numerous-point turns within the driveway, private driveways, and the terminus of Fallsview Road in order to turn around and exit the site. It was noted that although the “lot full” signs were erected at the intersection of Harvest Road and Short Road, the police officer continued to allow vehicles to access Short Road, thereby adding to the congestion experienced at the driveway. A number of vehicles were also observed to be stopping along Fallsview Road at the pedestrian entry gate, unloading passengers and equipment (coolers, sporting gear, BARBEQUE’s, etc.) then proceeding to park on-street (notably Forest Avenue and the Greenville Elementary School parking lot). In essence, the pedestrian gate was operating as a short term pick-up/drop-off area (approximately 5 vehicles were observed to be “picking-up” at the 5:00 p.m. period with a queue of vehicles waiting to stop at this location). It is important to highlight that this is a potential source of lost revenue for the HCA given the fact that entry fees are not collected at this location, nor is its use monitored.

b) Tew’s Falls Parking Area

Field observations during peak hour site operations revealed that the Tew’s Falls site driveway experiences significant operational and safety concerns related to vehicle queuing, driveway congestion and restricted manoeuvrability on-site. The current driveway arrangement is limited to one combined inbound/outbound lane and is unable to accommodate high demands on entering vehicles. HCA staff were observed to be staggering entry and collecting fees at two locations in

attempts to expedite the processing of inbound vehicles, however this did little to mitigate the occurrence of queuing along Harvest Road during periods of high demand.

In particular, eastbound queues along Harvest Road were observed to be 5 to 6 car lengths during peak periods, resulting in potential safety concerns given the vertical alignment of Harvest Road and speed of oncoming eastbound vehicles. The presence of queued vehicles at the Tew's Falls driveway, combined with the vertical alignment of Harvest Road, results in potential for increased likelihood of rear-end collisions at this location. Furthermore, the occurrence of on-street parking along Tew's Lane resulted in significant pedestrian movements across Harvest Road in order to access Tew's Falls by foot – further contributing to the safety issues experienced as a result of driveway operations and queuing.

In their current condition, the site driveways at both Webster's Falls and Tew's Falls are unable to satisfactorily accommodate peak vehicle demands during weekend operations. The deterioration of operations at each of these driveways leads to increased operational and safety concerns on adjacent roadways and increased pressure on neighbouring residential properties as the impacts are felt well beyond the immediate site. Opportunity exists to improve driveway design to better accommodate the increased demands and minimize impacts to the adjacent roadway system.

c) Greenville Optimist Community Park Parking Area

Although the Greenville Optimist Community Park gravel parking lot is intended to operate in a one-way loop fashion, the absence of signage at the site driveways leads to driver confusion. A number of drivers were observed to be violating the one-way operation during the peak period which resulted in driveway congestion, delays and impeded site access. Furthermore, a number of vehicles were found to be parked along both sides of the inbound and outbound driveways, further contributing to the operational difficulties and restricted movement within the parking lot. Signage improvements (i.e. provision of standard one-way signs which clearly indicate the direction of travel at each site driveway), and potential implementation of no parking signage along the inbound and outbound driveways, would significantly improve circulation and overall driveway operations at this location.

5.2.3 Parking Utilization

a) Survey Approach

A parking utilization survey of specified lot facilities and on-street parking areas within the Spencer Gorge – Webster's Falls Conservation Area was undertaken in order to confirm the current level of parking accumulation, duration and utilization during peak weekend / holiday conditions.

Parking surveys were completed on Friday April 6, 2012 of the Easter Weekend and Sunday May 20, 2012 of the Victoria Day Weekend which represented "long weekend" peak conditions. Given the significantly lower visitation over Easter weekend, the results of the Victoria Day weekend survey have been used for analysis purposes. Survey data is provided in **Appendix B** for further reference.

The surveys were conducted from 11:00 a.m. to 5:00 p.m. and consisted of turning movement counts at each parking lot driveway, a license plate trace of inbound and outbound vehicular movements at both the Webster's Falls and Tew's Falls parking lots, and a roving patrol of on-street parking areas every 15 minutes during the 6-hour survey period. The collected data was entered into Microsoft Excel to determine the following parking utilization statistics:

- Average and maximum parking accumulation (average and maximum number of vehicles parked in each parking lot);
- Maximum parking occupancy (maximum number of parked vehicles to parking capacity, expressed as a percent); and
- Average duration (average length of time vehicles were parked in designated parking lots).

b) Study Area

The study area consists of the immediate vicinity of the Spencer Gorge – Webster's Falls Conservation Area and consists of a number of formal and informal parking lots which offer free and paid parking, as well as a number of on-street areas. The following summarizes the on-street and off-street parking locations that were surveyed:

Parking Lots Surveyed:

- Webster's Falls parking lot;
- Tew's Falls parking lot;
- Greenville Optimist Park parking lot;
- Greenville Elementary School parking lot.

On-Street Parking Sites Surveyed:

- Harvest Road, north and south sides from Brock Road to Ofield Road;
- Short Road, east and west sides from Harvest Road to Fallsview Road;
- Fallsview Road, north and south sides from Short Road to Webster's Falls driveway;
- Forest Avenue, north and south sides from Harvest Road to Meldrum Avenue;
- Webster's Falls Road, north and south sides (at the gate);
- Tew's Lane, east and west sides from Harvest Road to its northerly limits;
- Medwin Drive, north and south sides from Tew's Lane to its westerly limits; and
- Ofield Road South, east and west sides from Harvest Road to Fallsview Road East.

c) Study Results

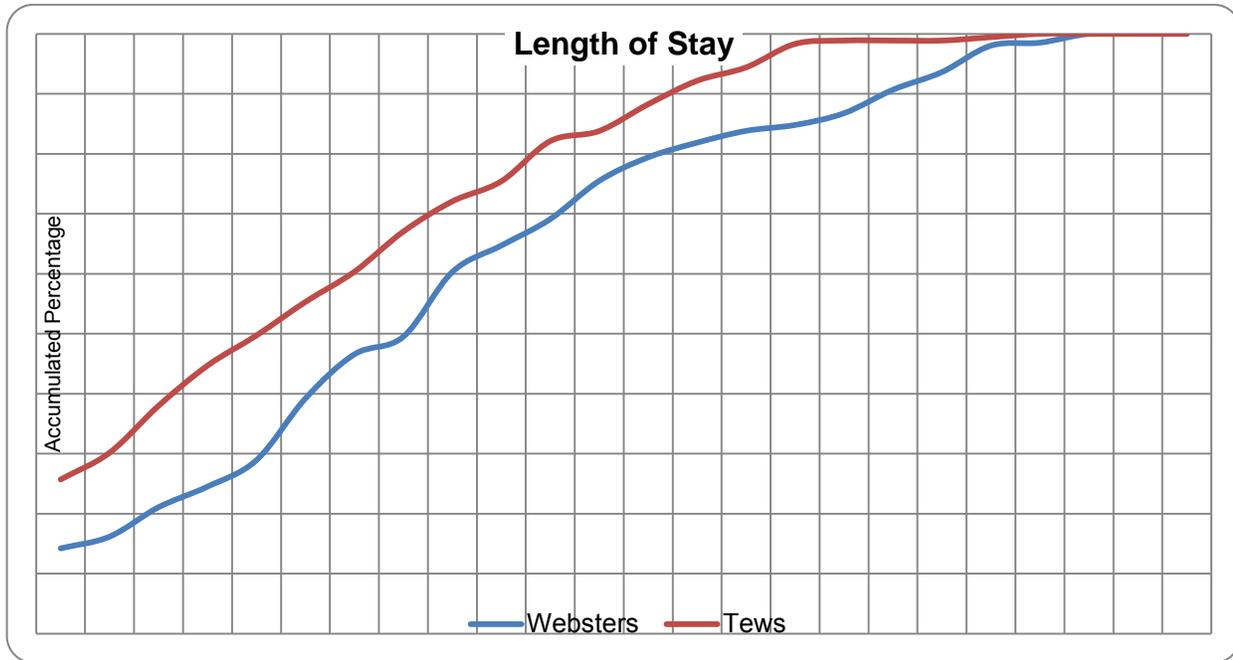
Off-street parking demand is summarized in Table 11 and illustrates parking accumulation during peak conditions (3:30 p.m. on Sunday May 20, 2012).

Table 11: Off-Street Parking Demand

Facility	Type	Parking Supply	Peak Accumulation
Webster's Falls Parking Lot	Gravel Lot	85	85
	Overflow	190	190
Tew's Falls Parking Lot	Gravel Lot	26	26
	Overflow	200	200
Greenville Optimist Park	Gravel Lot	25	48
Greenville Elementary School	Asphalt Lot	32	50
Resulting Off-Street Parking Supply and Demand		558	599

License plate data was recorded as vehicles entered and exited each of the Webster's Falls and Tew's Falls parking lots. Data obtained through the license plate trace study has been used to estimate the duration of stay for each vehicle entering the site. As illustrated in Figure 11, approximately 80 percent of recorded vehicles at Webster's Falls stayed for a duration of 3.5 hours, while approximately 80 percent of recorded vehicles at Tew's Falls stayed for a duration of 2.75 hours.

Figure 11: On-Site Parking Duration (Length of Stay)



On-street parking demand is summarized in Table 12 and illustrates the maximum parking accumulation (maximum demand throughout the survey period) as well as the peak parking accumulation (which was confirmed to be at 3:30 p.m.).

Table 12: On-Street Parking Demand

Block Face	From	To	Maximum Accumulation	Peak Accumulation
Harvest Road	Brock Road	Ofield Road	6	2
Short Road	Harvest Road	Fallsview Road	0	0
Fallsview Road	Short Road	East Limits	4	0
Forest Avenue	Harvest Road	Meldrum Avenue	42	42
Webster's Falls Road	Area in front of gate		2	0
Tew's Lane and Medwin Drive	Harvest Road	Limits	58	58
Ofield Road	Harvest Road	Fallsview Road East	4	4
Resulting On-Street Peak Parking Demand				107

d) Parking Demand – Supply Relationship

Once summarized, the data collected from the May 20, 2012 parking survey confirmed a peak parking demand of approximately 706 spaces with an available off-street supply of only 558 spaces (this includes the use of naturalized overflow areas in both the Webster's Falls and Tew's Falls areas), resulting in a maximum demand of approximately 1.26 times the available off-street parking supply.

In terms of "formalized" parking supply within the Spencer Gorge – Webster's Falls Conservation Area, non inclusive of overflow areas or use of other area parking lots not under the ownership of the Hamilton Conservation Authority, the available off-street parking supply is approximately 111 spaces (85 spaces at Webster's Falls and 26 spaces at Tew's

Falls), resulting in a maximum peak parking demand of approximately 6.36 times the available parking supply within formalized HCA parking lots. Table 13 below summarizes these statistics.

Table 13: Parking Demand/Supply

Parking Demand	Total Off-Street Parking Supply	"Formal" Parking Supply
706	558	111
Difference (+/-)	-148	-595

5.3 Parking Management Strategies

5.3.1 Identified Constraints

The key constraints identified through field observations and parking surveys are described as follows:

- Available parking supply does not adequately accommodate peak parking demand which results in congestion, queuing and poor site circulation;
- Inadequate parking supply results in an increase of on-street parking during peak periods which has, on occasion, lead to illegal parking activities, blocking of private driveways, increased on-street congestion and increased pedestrian volumes;
- Availability of alternate parking facilities (i.e. Tew's Falls) is not clearly signed when Webster's Falls parking lot is full, nor are directions to Tew's Falls easily understood;
- Design of existing parking facilities results in restricted circulatory flow on-site. The current location of attendant booths / pay stations contributes to queuing and a deterioration of driveway and site operations. Specifically, operation of the driveway at Tew's Falls during peak periods results in stopped vehicles queued along Harvest Road and increased potential for rear-end collisions; and
- The ability to accommodate large size groups for picnics encourages longer-duration stays and limits vehicle turn over within the parking lots.

It is recognized that there is no "quick fix" which will immediately solve the current parking supply and demand issues. However, opportunity exists to develop alternative solutions based on fundamental tourist transportation management and parking demand management principles which will result in improved parking efficiency both on-site and within the immediate area, promote alternate modes of transportation and satisfy local residents by reducing traffic volumes, reducing parking demand and minimizing/eliminating the use of naturalized areas for overflow parking use. It is believed that a truly effective solution to the problem will serve both the HCA and local community while continuing to highlight this unique destination and accommodate out-of-town visitors.

5.3.2 Tourist Transportation Management

Given the current level of visitation (an estimated 80,000 visitors per year), the popularity of Spencer Gorge – Webster's Falls Conservation Area has rapidly become a prime recreation and tourist destination. Ongoing promotion of the City of Hamilton as being the "Waterfall Capital of the World" (source: www.cityofwaterfalls.ca) has led to a continued growth in tourism and interest in the recreational facilities maintained by the Hamilton Conservation Authority.

Given the tourist and recreational nature of the site, it is prudent to consider tourist transportation management strategies which will aim to improve transportation options for recreational travel while reducing automobile traffic within environmentally and socially sensitive areas.

Tourist travel has predictable patterns and parking needs and often occurs in areas that have unique environmental features that are particularly sensitive to degradation by excessive automobile traffic and parking demands. Tourist Transportation Management (TTM) includes the examination of a wide range of strategies that improve available transportation options, integrates alternate modes of travel and promotes active transportation.

Table 14 summarizes a wide range of TTM initiatives that were considered in the development of alternative parking solutions:

Table 14: Tourist Transportation Management Strategies

Strategy	Description	Potential Benefit
Shuttle Services	<ul style="list-style-type: none"> Provision of a shuttle service from a remote parking area to the Conservation Area during peak periods. Shuttle service could be granted priority access to the Conservation Area as an incentive for patrons to park off-site. 	<ul style="list-style-type: none"> Addresses overflow parking issues by providing remote parking; Reduces automobile traffic to and from the site; Reduces on-site parking demand.
Pedestrian and Cyclist Improvements	<ul style="list-style-type: none"> Improvement of current pedestrian and cycling infrastructure and possible provision of enhanced crosswalks, multi-use paths and provision of on-road bike lanes in attempts to increase road and pedestrian connectivity and encourage alternate modes of travel. 	<ul style="list-style-type: none"> Improved facilities enhances connectivity to and from the Conservation Area; Reduces automobile traffic and promotes the use of alternate modes.
Bicycle Parking	<ul style="list-style-type: none"> Provision of convenient, secure, and readily accessible bicycle parking at key locations. 	<ul style="list-style-type: none"> Promotes the use of alternate modes of travel; Potentially reduces automobile traffic and subsequent on-site parking demand.
Parking Management	<ul style="list-style-type: none"> Implementation of strategies that encourage efficient use of existing parking facilities. Strategies may include provision of remote parking, improving walkability to the site, increasing existing parking capacity, installing a time-limited parking system, and development of an overflow parking plan. 	<ul style="list-style-type: none"> Maximizes existing parking; Has potential to significantly reduce on-site parking demand; Potential to reduce auto trips to the site.
Restrict Parking	<ul style="list-style-type: none"> Implementation of parking restrictions along key streets to prohibit on-street parking, thereby eliminating undesirable effects of peak on-street parking. 	<ul style="list-style-type: none"> Restriction of on-street parking alleviates neighbourhood parking concerns and allocates more road right-of-way for pedestrian and cyclist facilities, however the restriction would apply to local residential traffic, thereby restricting residents from parking on-street.
Access and Wayfinding	<ul style="list-style-type: none"> Use of signs, maps, guidebooks, websites and a number of other forms of media that provides information on travel options including the presence of nearby pedestrian and cyclist facilities, availability of remote parking areas, availability of on-site parking, associated fees, etc. 	<ul style="list-style-type: none"> Has potential to promote alternate modes of travel and encourage use of remote parking areas which may result in a reduced auto demand and a reduction of on-site parking demand.

The resulting goal of Tourist Transportation Management is to encourage continued visitation to the Spencer Gorge – Webster's Falls Conservation Area while minimizing use of a private automobile and traffic to and from the site by providing detailed information regarding travel choices available and how they can be used.

5.3.3 Parking Demand Management

Parking Demand Management (PDM) refers to the implementation of various strategies that result in more efficient use of parking resources. When appropriately applied, parking management can significantly reduce the number of parking

spaces required in a particular location and provide a variety of economic, social and environmental benefits. When all impacts are considered, improved management is often the best solution to parking problems.

The implementation of cost-effective parking demand management can result in a number of benefits including facility cost savings, revenue generation, reduction of land requirements and preservation of green-space, support of alternate modes of transportation and ultimately result in more livable communities.

Recognizing that providing too much parking supply can be as harmful as too little, a number of parking management strategies (as described in Table 15) will be considered in the development of alternative parking solutions for the Spencer Gorge – Webster’s Falls Conservation Area.

Table 15: Parking Demand Management Strategies

Strategy	Description	Potential Benefit
Optimize Existing Facilities	<ul style="list-style-type: none"> Optimize existing layout and utilize currently wasted areas. 	<ul style="list-style-type: none"> May achieve slight increase in available parking supply at low cost with little impact to adjacent lands.
Remote Parking	<ul style="list-style-type: none"> Use of an off-site parking facility to accommodate longer duration trips and/or overflow parking during peak weekend conditions and special events. Shuttle buses may be used to connect destinations with remote parking facilities, allowing them to be farther apart than what would otherwise be acceptable. Remote parking requires the provision of adequate use information and incentives to encourage motorists to use a more distant facility. 	<ul style="list-style-type: none"> Accommodates overflow parking, reduces on-site parking demand, and results in less automobile traffic visiting the site; Results in little to no additional impact to the site; Results in improved quality of life for local residents as vehicle trips are minimized.
Time Limited Parking	<ul style="list-style-type: none"> Limit on-site parking duration by use of time-limited parking regulations (i.e. maximum of 2 hour parking) and/or time of day rates (higher rates during weekends and special events). 	<ul style="list-style-type: none"> Encourages shorter stay visits and promotes site turn-over; Longer duration stays can be accommodated at a remote location.
Overflow Parking Plan	<ul style="list-style-type: none"> Development of an overflow parking plan which will be applied during peak periods and special events ensuring that overall parking demand can be accommodate without providing additional permanent parking supply. 	<ul style="list-style-type: none"> Continues to address temporary overflow parking without providing permanent facilities.
Mitigating Spillover	<ul style="list-style-type: none"> Addressing “spillover” parking problems by providing information indicating where motorists may and may not park, use of parking regulations to control impacts (i.e. no parking/stopping during certain periods), and establishing a monitoring program. 	<ul style="list-style-type: none"> Mitigates effects of on-street parking and provides local residents with opportunities to report problems.

On their own, most parking demand management strategies have modest impact, typically reducing parking requirements by 5 to 15%, but impacts are cumulative and synergistic when combined, resulting a in cost-effective comprehensive parking management program that achieves a reduction in parking demand while providing additional social and environmental benefits.

5.3.4 Development of Improvement Alternatives

Based on the constraints described in Section 4.1, a number of short-term and long-term improvements have been developed which address, to varying degrees, the need to reduce on-site parking demand while improving upon the current transportation and parking conditions during peak periods. These include:

a) Short-Term Improvements

Immediate implementation of minor, site-specific operational improvements at both Webster's Falls and Tew's Falls which will improve traffic and parking operations and enhance site circulation. Proposed improvements are summarized in Table 16.

Table 16: Short-Term Improvements

Proposed Improvement	Webster's Falls	Tew's Falls
Wayfinding	<ul style="list-style-type: none"> Improved conspicuity of "Lot Full" signage by providing larger signs with standard font and text sizes, consistent with the guidance provided in the Ontario Traffic Manual (OTM) Book 2 – Sign Design, Fabrication and Standards; Improved wayfinding signage to direct visitors to alternate parking areas (Tew's Falls or Christie Conservation Area); Use of Variable Message Signs to indicate when parking lots are full and what alternatives exist. 	<ul style="list-style-type: none"> Provide advance, directional signage to Tew's Falls (consistent with guidance contained in the OTM Book 8 – Guide and Information Signing) which will clearly indicate presence of alternate parking facility when the Webster's Falls parking lot is at capacity; Improve conspicuity of "Lot Full" signage by providing larger sized signs with standard font and text sizes (as per standards contained in the OTM Book 2).
Enforcement	<ul style="list-style-type: none"> Hamilton Police to continue to prohibit vehicular access to Short Road when Webster's Falls parking lot is full. Local residents may be granted access, but visitor traffic is to be restricted when the lot is at capacity. Hamilton Police enforce parking by-laws in the area. 	<ul style="list-style-type: none"> Continued enforcement of no parking areas along Harvest Road.
Accessibility and Circulation	<ul style="list-style-type: none"> Re-designed driveway that provides for improved access and egress as well as a turn-around area for inbound vehicles wishing to exit the lot before approaching the pay station; Optimized parking layout within the existing gravel lot; Improve accessibility by paving areas adjacent to the pay-and-display fare machine and accessible parking stalls. 	<ul style="list-style-type: none"> Re-designed driveway that provides multiple entrance lanes and additional exit lane east of the parking area in order to better facilitate movement of emergency vehicles and buses; Improve site operation by relocating pay stations to provide more stacking area, mitigating queuing impacts along Harvest Road;
Parking Cost and Payment	<ul style="list-style-type: none"> Increase parking rate during peak periods; Provide alternate payment methods (i.e. debit and credit). 	<ul style="list-style-type: none"> Increase parking rate during peak periods; Provide alternate payment methods (i.e. use of debit and credit).
Other	<ul style="list-style-type: none"> Provide attendant at the walk-in gate adjacent Fallsview Road to monitor drop-off/pick-up activity and unpaid entry; Provision of bicycling parking facilities. 	<ul style="list-style-type: none"> Provision of bicycling parking facilities.

b) Long-Term Improvements

The development of a long-term parking management strategy was heavily influenced by the need to accommodate a large volume of vehicles, primarily during weekend and holiday periods between the months of April and October. After reviewing a variety of parking management strategies it was determined that the development of a remote parking area with provision of a shuttle service would best address the peak parking demand, mitigate identified traffic operations and safety concerns, as well as satisfy the desire to preserve naturalized areas and minimize environmental impacts associated with the use of green-space to accommodate overflow parking demand.

In response to public comment and concern, Table 17 summarizes the anticipated benefit achieved by implementation of a remote parking area and associated shuttle service.

Table 17: Public Comment and Response

Comment / Concern	Mitigation
1) Increased traffic volumes along Harvest Road, Short Road and Fallsview Road during weekends due to increased use of the park.	<ul style="list-style-type: none"> Although park demand will remain high, the closure of on-site parking areas and provision of a shuttle service during weekend and holiday periods will accommodate the increased visitor demand while alleviating the traffic impacts experienced to-date.
2) Concern that emergency response teams will be unable to access Webster's Falls due to congestion along Fallsview Road and within the parking lot.	<ul style="list-style-type: none"> During weekend periods the on-site parking areas will be closed. Both Webster's Falls and Tew's Falls will be inaccessible by personal auto as travel to the site will rely on the use of a shuttle service. Emergency Services will have unimpeded access to Webster's Falls and full use of the gravel parking lot should an emergency in that area arise.
3) Illegal parking occurring on private property and within no-parking areas during peak periods due to lack of on-site parking. Results in an inconvenience to local residents and impacts quality of life.	<ul style="list-style-type: none"> The use of remote parking areas and the proposed shuttle service will eliminate the occurrence of illegal parking as the site will be inaccessible by personal auto. However, signage and enforcement efforts will continue throughout the transition period in order to ensure that visitors are aware of, and utilize, the remote parking area. Continued police enforcement during peak periods will ensure that non-local traffic is limited, thereby improving quality of life to local residents and mitigating traffic impacts.
4) Overall traffic congestion and delay experienced by local residents due to increased park traffic.	<ul style="list-style-type: none"> Traffic congestion and delay will be minimized during peak periods given the closure of on-site parking and shift to accommodating the parking demand at a remote location.
5) Improved enforcement required to limit vehicles from accessing Short Road and Fallsview Road when the Webster's Falls parking lot is at capacity.	<ul style="list-style-type: none"> It has been recommended that the police officer stationed at the intersection of Harvest Road and Short Road be directed to prohibit non-local traffic from utilizing Short Road when the parking areas are at capacity, thereby minimizing impact to local residents.
6) Concern for pedestrian and cyclist safety given the increased traffic volumes during peak periods.	<ul style="list-style-type: none"> The use of a shuttle service will decrease traffic volumes during peak periods as well as decrease the need for on-street parking, thereby reducing pedestrian traffic to and from the site.
7) Inadequate signage indicating when parking lots are full. Improved enforcement needed to limit access to Short Road.	<ul style="list-style-type: none"> The need for improved signage has been noted and it is recommended that the use of variable message signs be used to indicate that remote parking is available. Continued police presence is recommended through the transition period in which visitors become familiar with the

	remote parking areas and shuttle service.
8) General feeling that too much green-space is being utilized for parking. Would prefer that it be used for recreational / passive uses.	<ul style="list-style-type: none"> The recommended remote parking area / shuttle service to Webster’s Falls and Tew’s Falls will eliminate the current practice of using green-space as overflow parking areas, providing the opportunity to reclaim these lands for recreational / passive uses.
9) Concern that parking and traffic congestion are negatively impacting emergency response efforts and restricting access to the area.	<ul style="list-style-type: none"> It has been confirmed that EMS is in support of the recommended shuttle service and restriction of personal vehicle use during peak periods. EMS realizes the benefit of reducing traffic volumes and has confirmed that the availability of the Webster’s Falls gravel parking lot would positively impact response efforts should an emergency arise which requires access from this area.
10) Limited opportunities to accommodate parking demand during weekends and holidays.	<ul style="list-style-type: none"> The limited opportunity to accommodate peak parking demand is well documented. The recommended implementation of a remote parking area and shuttle service to/from Webster’s Falls and Tew’s Falls serves to address the parking concerns by accommodating vehicles off-site at a remote location while providing a shuttle service to the site, thereby mitigating the parking and traffic issues currently experienced by local residents and visitors to the area.

It is recognized that a long-term, sustainable solution has to meet the needs of both the Hamilton Conservation Authority and those of area residents who are directly impacted by the operation of the Spencer Gorge – Webster’s Falls Conservation Area.

The preferred long-term recommendation of developing a remote parking area and providing a shuttle service to Webster’s Falls and Tew’s Falls during peak weekend periods, from April to October, provides a balanced approach in meeting the needs of all concerned. The proposed recommendation continues to provide access to this distinct and unique tourist destination while minimizing the traffic and parking impacts experienced during peak weekend conditions which negatively impact area residents. The proposed remote parking area and shuttle service achieves the goal of eliminating the use of green-space for overflow parking and contributes to minimized environmental impacts on the whole. The recommended improvement strategy is further discussed in **Section 5.4**.

5.4 Transportation/Parking Recommendations

5.4.1 Recommended Traffic/Parking Improvement Strategy

The recommended improvement strategy consists of a two-pronged approach in which the implementation of minor, site specific improvements are recommended in the short-term to mitigate existing traffic and parking issues. The short-term recommendations consist of minor geometrical improvements to each of the Webster’s Falls and Tew’s Falls site driveways including redesigned entry lanes, provision of turn-around areas and relocated pay stations in attempts to improve access / egress to the site, circulation and overall site operations.

General improvements also include improved wayfinding signage, implementation of parking prohibitions along Regional Road 8 (adjacent to Webster’s Falls Road) and along the south side of Harvest Road (from Short Road to Ofield Road), continued enforcement, increased parking rates during peak periods and provision of alternate payment methods. These short-term improvements are also required as part of the successful implementation of the long-term improvement strategy and will contribute to the safe and efficient operation of the proposed shuttle service.

However, the implementation of short-term improvements will achieve little benefit in providing additional parking supply and as such, these improvements are unable to accommodate peak parking demands.

The recommended long-term improvement strategy consists of the development of a remote parking area which will have the parking supply available to accommodate peak parking demands, and includes the provision of a shuttle service that will transport visitors from the remote parking area to Webster's Falls and Tew's Falls. The proposed shuttle service would be available during peak periods (i.e. Saturday, Sunday and holiday service from April to October) at which time on-site parking would be prohibited during weekends at both Webster's Falls and Tew's Falls, effectively eliminating vehicular access to the site. The recommended long-term improvement strategy effectively resolves the existing traffic and parking issues experienced during peak periods of demand.

5.4.2 Shuttle Service Implementation Plan

The following summarizes the key components to the proposed remote parking / shuttle service and provides guidance with respect to the implementation of the shuttle service.

a) Location of Remote Parking Area

- Through conversations with the Hamilton Conservation Authority it has been confirmed that Christie Lake Conservation Area is the preferred location for a remote parking area. Christie Lake is easily accessible via Highway 5, is located within a 5 kilometer radius of the Spencer Gorge – Webster's Falls Conservation Area, and has sufficient capacity to accommodate the anticipated peak weekend parking demands. Potential exists for the Hamilton Conservation Authority to develop a Visitors Centre at Christie Lake which could serve as a transit hub for the shuttle service.

b) Wayfinding

- In order to successfully redirect traffic to Christie Lake, it is recommended that variable message signs be used along key corridors in order to provide direction as to how the remote parking area is accessed as well as highlighting the availability of a shuttle service to the Spencer Gorge – Webster's Falls Conservation Area. Key locations for the placement of variable message signs would include Highway 5 (east of Brock Road) and Regional Road 8 (south of Harvest Road) in order to capture westbound and northbound traffic destined for the site. Signage requirements are to be reviewed with regulatory agencies (MTO and City of Hamilton) prior to installation and use of variable message signs.
- Variable Message Signs (also referred to as changeable message signs or electronic message signs) are devices installed along the roadside to display messages of special events. They are often used to provide information regarding alternative routes, need to limit travel speed, warn of special conditions or inform the motorist of general traffic conditions and are commonly used in conjunction with parking guidance and wayfinding systems to guide motorists to available parking facilities. Portable or trailer-mounted variable message signs are commonly utilized for special events and would be appropriate for use by the HCA.

c) Shuttle Service to Spencer Gorge

- The shuttle service is proposed to operate during peak periods, presumably weekends and holiday, commencing in April (Easter Weekend) and running until October (Thanksgiving Weekend).
- It is anticipated that the shuttle service would be operational between the hours of 9:00 a.m. to 6:00 p.m. at which time vehicular access to Webster's Falls and Tew's Falls will be prohibited. Peak parking demand will be accommodated at Christie Lake in order to minimize traffic and parking impacts throughout the peak weekend periods. During the off-peak (hours prior to 9:00 a.m. and from 6:00 p.m. to dusk), parking will be permitted on-site within the gravel parking lots.
- Continued police enforcement is recommended during the transition period in which only local traffic and shuttle buses would be permitted access to Short Road and Fallsview Road. All non-local traffic would be redirected to Christie Lake. The Hamilton Conservation Authority will have to work in conjunction with the City of Hamilton to develop and

implement a resident permit parking system which restricts on-street parking activities during weekends and holidays, as well as obtain a commitment for by-law enforcement of the signed parking restrictions.

d) Proposed Route

- The proposed shuttle route would originate at Christie Lake and operate on a fixed schedule with stops at designated platform areas at both Webster's Falls and Tew's Falls, providing a one-way direct route back to Christie Lake from Tew's Falls.
- The proposed route is approximately 13 kilometres in length and has an estimated travel time of approximately 30 minutes round trip.

e) Shuttle Vehicle

- Given the varied demographics of visitors to the site, it is recommended that the shuttle vehicle be accessible and have the ability to accommodate both personal mobility devices as well as bicycles.
- The standard 12.2 metre low-floor bus is an accessible, "kneeling" vehicle that seats up to 35 people, with a maximum capacity of 45 people (seated plus standing), can accommodate up to two personal mobility devices, and is equipped with bicycle racks. Entry to the passenger cabin is achieved without requiring the use of stairs and the vehicle is accessed at curb height, making it an ideal vehicle for shuttle services.

f) Service Contract

- Prior to committing to the purchase of fleet vehicles, it is recommended that the Hamilton Conservation Authority examine the potential to contract charter services from a local transit provider (i.e. Hamilton Street Railway, Coach Canada, First Student Canada, etc.).
- A review of charter services available from the Hamilton Street Railway (HSR) has confirmed a standard rate of \$94/hour (2012 charter rate). Services provided by the HSR include use of the low-floor accessible fleet vehicles and includes scheduling, route planning and provision of time tables.
- Route plans, schedules and vehicle requirements are to be determined and finalized as part of the service contract with a selected provider.

g) Costing

The following parameters were used in the determination of a rough order of magnitude cost estimate for the proposed shuttle service:

- Shuttle operation during weekends and holidays from April (Easter Weekend) to October (Thanksgiving Weekend) resulting in an estimated 66 shuttle days for the 2013 calendar year;
- Spring Season (March 31st to May 12th, 2013) – shuttle service operating from 10:00 a.m. to 5:00 p.m.;
- Summer Season (May 18th to September 2nd, 2013) – shuttle service operating from 9:00 a.m. to 6:00 p.m.;
- Fall Season (September 7th to October 27th, 2013) – shuttle service operating from 10:00 a.m. to 5:00 p.m.;

As illustrated in Table 18, the estimated daily shuttle cost (based on nine hours of operation) is approximately \$850 to run a single shuttle. Given the current level of visitation (in the order of 80,000 annual visitors), it is anticipated that two shuttle buses would be required to adequately accommodate the peak weekend and holiday demands at Spencer Gorge – Webster's Falls Conservation Area, resulting in a daily shuttle operating costs of approximately \$1,700. The ultimate operating cost may vary if it is determined that only one shuttle is required in the Spring and/or Fall seasons given the lower rate of visitation.

Table 18: Shuttle Service Cost Estimates

SEASON	TOTAL SHUTTLE DAYS	HOURS OF OPERATION	COST PER HOUR	APPROXIMATE COST	
				1 BUS	2 BUSES
Spring	13	7	94	8,554	17,108
Summer	36	9	94	30,456	60,912
Fall	17	7	94	11,186	22,372
TOTAL				50,196	100,392

Given an estimated daily operating cost of approximately \$1,700, and assuming the entry rate for vehicles remains at \$10 per vehicle, approximately 170 paid entries would be required on a daily basis in order to cover the costs of the shuttle service.

The shuttle implementation plan is high-level and developed for costing purposes. Developing a contract for charter services will involve internal planners to confirm numbers and to develop a detailed plan, confirm routing, route times, etc

The shuttle implementation plan is based on an annual visitation of 80,000. The two shuttle option is representative of typical operations and could be dropped down to 1 bus during the less busy seasons if it was found that visitation was less.

For peak visitation (as recorded on Victoria Day 2012) 2 buses would be required throughout the day (9 hours of operation during the "summer" season) plus an additional peak-period shuttle which would operate for approximately 5 hours of the day.

It is estimated that 2 shuttles would be sufficient for typical operating conditions throughout the summer months (resulting in 4 trips per hour).

Example Scenario #1 - 2 Shuttle Buses in operation:

2 trips/hour=18 round trips
 18 round trips x 2 buses (90 people occupancy) =1,620 visitors

Example Scenario #2 - 2 Shuttle Buses in operation w/ additional shuttle during peak period:

2 shuttles running 9:00am-6:00pm (9 hrs operation)
 3 shuttles running 11:00am – 4:00pm (5 hrs. operation)
 2 trips/hours=18 round trips x 2 Buses (90ppl) = 1,620
 1 add'l trip/hour during peak = 10 round trips x 1 bus (45ppl) = 45-
 Total = 2,070 visitors

To confirm the ultimate shuttle requirements detailed visitor information including a break-down of arrival times and car occupancy is required.

h) Other Factors

- Further to the location of the remote parking area, it has been recommended that a “one fee” payment system be considered by the Hamilton Conservation Authority which would permit vehicle entry, parking, and use of facilities at Christie Lake, as well as permit use of the shuttle service and pedestrian entry into the Spencer Gorge – Webster’s Falls Conservation Area, thereby promoting synergy between the sites.

5.4.3 Next Steps

It is recommended that the Hamilton Conservation Authority monitor the impacts of the implemented changes to ensure that the desired traffic and parking benefits have been achieved, and that area residents are provided with opportunities to report problems and provide input throughout the monitoring program.

SECTION SIX: OPERATING COSTS/FINANCIAL OVERVIEW

6.1 Administration

From an administrative perspective, Spencer Gorge, Webster’s Falls and Tew’s Falls operate as one reporting unit within the Christie Lake Conservation Area business unit which is managed primarily by one superintendent and one assistant superintendent located at the Christie Lake Conservation Area. A number of services are provided by Christie Lake that is not shown in the operational costs of the Spencer Gorge reporting unit. For example, services such as central security from the Dundas Valley and garbage disposal are taken care of through the Christie Lake accounts. In addition, all senior management costs and central administration such as accounting, payroll, human resources, marketing, communications and planning, are not shown in the operational accounts for Spencer Gorge.

6.2 Capital and Maintenance Funding

Financial Constraints: Over the past 20 years, with changes in government and priorities, the Hamilton Conservation Authority’s funding for park development and enhancement from the Province has almost disappeared. The City of Hamilton provides capital and major maintenance funding to the HCA called block funding. Block funding has been set at \$2,000,000 annually, for the last 3 years and is projected to remain that amount (no adjustments for inflation) for the next 10 years according to City projections. From this money the HCA needs to maintain projects or develop new ones on the 4,450 hectares (11,000 acres) HCA owns or manages as well as undertake water management projects which are no longer funded by the province or municipality. Within this \$2 million budget the HCA also undertakes major maintenance and development of two City owned properties under management agreements – Confederation Park and Westfield Heritage Village. The money is roughly divided on average annually as follows:

Confederation Park	\$510,000.00
Westfield	120,000.00
All HCA Properties	<u>1,370,000.00</u>
TOTAL	\$2,000,000.00

The Master Plans currently developed for all other projects to be completed in a 10 year time frame would require funding of approximately \$5,600,000 annually. The HCA is falling behind at an estimated rate of \$3,600,000 a year as of 2012. This number will likely increase again in 2013 as another list of delayed/unfunded projects is pushed back and with the recommendations for the additional capital expenditures recommended in the Spencer Gorge-Webster’s Falls Master Plan of \$1.24 million.

The HCA is concentrating most of its funding on major maintenance items (77% in 2011, 57% in 2012) to keep existing facilities operational and/or in compliance with changing regulations as well as adding a few new facilities.

Funding for HCA operations consists of approximately 68% to 70% self generated revenues with roughly 29% to 31% from the City and 1% from the province. The City has provided no increases in each of the last 2 years and is requiring this for 2013.

6.3 Visitation to the Park/Trends and Park Use

As noted, with so many different access points to and from the Master Plan Area by foot, it is difficult to monitor exactly how many people actually visit the park on an annual basis. Accordingly, the only reliable data is based on car load estimates. Specifically, the number of cars that park within the two parking lots at Webster’s and Tew’s falls.

The HCA has been using the overflow parking lots for at least 20 years. Originally the HCA was only required to handle fall crowds; however, the overflow parking areas have been used for parking regularly on weekends in the summer for approximately 10 years.

6.4 Revenue: Parking

6.4.1 Visitor Volume:

An estimate of the number of visitors on an annual basis was calculated based on vehicles entering the site and the assumption that there were, on average, 2.5 people in each vehicle.

- 2010 – 28,761 cars (@ 2.5ppl/car = 71,902 ppl/year)
- 2011 – 38,403 cars (@ 2.5ppl/car = 96,008 ppl/year)

Between 2010 and 2011 there was a 25% increase in the number of people who visited the Conservation Area. In addition, an estimate of the number of visitors to the Master Plan Area on two busy long weekend days was calculated based on vehicles entering the site:

- 2011 - Thanksgiving Monday: 650 cars @ 2.5ppl/car = 1,625 ppl for the day
- 2012 - Victoria Day Weekend: 706 cars @ 2.5ppl/car = 1,765 ppl for the day

These estimates illustrate a modest increase in 8%.

6.4.2 Revenue:

Table 19 illustrates the revenue, expenditures and net profits/loss that the Conservation Area have experienced occurred since 2004. These figures indicate that the Conservation Area has generated an increase in revenue since 2007 that exceeds the expenses resulting in a yearly profit. The greater profit occurred in 2011 which is likely due, in part, to the increase in visitors to the Conservation Area.

Table 19: Revenue from Webster’s Fall and Tew’s Falls Area

Year	Revenue	Expense (estimate)	(loss)	Net
2004	35,200	68,800	33,600	
2005	33,700	72,500	38,800	
2006	63,900	95,700	31,300	
2007	136,300	124,250		12,050
2008	139,700	120,600		19,100
2009	168,300	150,900		17,400
2010	180,000	168,100		11,900
2011	256,000	153,800		102,200

It should be noted that in June and July of 2012 \$4,540 and \$5,050 respectively was spent on pay for police officers to assist with traffic and parking associated with the Conservation Area.

6.5 Pay Structure:

The HCA owns and maintains 4,451 hectares (11,000 acres) of Conservation Areas, and 140 km of trails. Many of these areas have no fees associated with their use. All 4,451 hectares are supported by revenues made at the few Conservation Areas that do charge a fee. Therefore, when a visitor pays a fee at one Conservation Area, they are, in fact, paying to support *all* of the properties. Upper levels of government do not provide funds for the annual operational costs of the Conservation Areas.

6.6 Maintenance

6.6.1 Washroom Facilities

The six portable toilets that service the Conservation Area are owned and serviced by the HCA. The cost of maintaining these washrooms is part of the total operational cost. They are installed in April and generally removed before the ground freezes in November. In 2012 three additional units were added at the Webster's Falls parking lot.

6.6.2 Bruce Trail and HCA

The Bruce Trail Conservancy has a written License Agreement with Conservation Hamilton that covers the responsibilities of both parties. The Iroquoian Bruce Trail Club's trail maintenance group is responsible for maintaining the trail as a footpath. This includes basic tread way maintenance to ensure it is passable (e.g. cutting back brush, repairing holes or wet areas).

6.6.3 Garbage

Garbage bags are removed from the 170 litre (45 gallon) cans on a daily basis throughout the day on the weekends, and as needed on week days. Staff remove garbage from the Creek and Gorge on a regular basis.

SECTION SEVEN: CONCEPT DEVELOPMENT

A thorough inventory and analysis was undertaken for the study area. Input from the Iroquois Bruce Trail Club, Hamilton Emergency Services, out of town visitors and local residents has been documented, and has led to an overview of the “do nothing” option, as well as two concept options with specific recommendations. The following is a description of the concept options and pros and cons for each that have led to preliminary recommendations.

It is noted that in April 2012 the HCA initiated visitor services changes to manage safety concerns, and until such time as the Master Plan recommendations were put forward. These short term changes included closing the stairs to the base of Webster’s Falls; banning the use of barbeques, the fire pit and amplified music; and restricting overflow parking at Webster’s Falls parking lot. However, the Master plan recommendations are based on a thorough review of all relevant background information and studies, relevant regulations and policies, a traffic study, and public input.

7.1 Option A: Do Nothing

The first option is the “do nothing” approach. The purpose of presenting this as an option is to demonstrate clearly what the key issues are and identify the consequences of not taking any action. The first column of Table 20 illustrates a specific key feature (eg. Parking) associated with the Conservation Area, while the remaining two columns articulate the opportunities that are created, as well as the consequences (i.e. the cons) of making no changes (i.e. by doing nothing).

Table 20: Option A: “Do Nothing” - Existing Conditions

OPTION A: DO NOTHING		
No Action/Changes	Pros (opportunities)	Cons (Issues)
Parking	<ul style="list-style-type: none"> None achieved 	<ul style="list-style-type: none"> Insufficient parking capacity Use of naturalized areas to accommodate overflow parking Occurrence of on-street parking and/or illegal parking within restricted areas which impacts area residents.
Vehicular Access	<ul style="list-style-type: none"> None achieved 	<ul style="list-style-type: none"> Impeded site access due to congested traffic and parking conditions Poor site circulation Restricted access results in queuing on adjacent roadways – leads to safety concerns.
Hamilton Emergency Services	<ul style="list-style-type: none"> Vehicle access to site via Webster’s Falls Road, Ofield Road, CN lands, Lafarge lands, Harvest Road or Short/Fallsview Road 	<ul style="list-style-type: none"> Visitors have difficulty indicating where they are on site when incidents occur
Off-site Parking	<ul style="list-style-type: none"> None achieved 	<ul style="list-style-type: none"> Limited parking supply results in occurrence of on-street parking Volume and extent of on-street parking negatively impacts area residents Occurrence of on-street parking during peak periods impacts adjacent traffic operations
Trails	<ul style="list-style-type: none"> Escarpment Views; extensive; range of difficulty; linkages off site 	<ul style="list-style-type: none"> Trail erosion Unofficial trails created to cliff edge; Trail users not adhering to warning on trail difficulty
Pedestrian access	<ul style="list-style-type: none"> many points of access 	<ul style="list-style-type: none"> Lost revenue -many points of access
Fencing	<ul style="list-style-type: none"> Varying appropriate materials; delineate 	<ul style="list-style-type: none"> Fencing being vandalized; climbable;

OPTION A: DO NOTHING		
No Action/Changes	Pros (opportunities)	Cons (Issues)
	pedestrian trails and lookouts;	
Signage: Wayfinding Interpretive and Warning/Regulation	<ul style="list-style-type: none"> Two site maps for orientation; warning signage and interpretive signage 	<ul style="list-style-type: none"> Directions sought out, both on and off-site Warning signs ignored; not enough; no signage at the base of Webster's Falls to deter activities that are harmful to the environment or unsafe
Picnicking	<ul style="list-style-type: none"> Adequate capacity in Webster's Falls Park 	<ul style="list-style-type: none"> Conflicts with picnic's and cars in open lawn when used for overflow parking at both Webster's and Tew's falls
Barbequing-currently prohibited use	<ul style="list-style-type: none"> Reduction in barbeque odours, smoke; 	<ul style="list-style-type: none"> a traditional and popular park use
Fire Place -current use restrictions	<ul style="list-style-type: none"> open fire concerns 	<ul style="list-style-type: none"> a traditional and popular park use
Amplified Music-prohibited use	<ul style="list-style-type: none"> reduce neighbour impacts 	
Safety/Risk Management	<ul style="list-style-type: none"> warning signage, fencing, and monitoring 	<ul style="list-style-type: none"> Extensive escarpment cliff face and informal trail cuts to the cliff edges Habitat degradation through visitor impacts Condition of Gorge stairs and overcrowding/slippery conditions Spencer Creek-water access attraction
Gorge Access-Closed	<ul style="list-style-type: none"> visitor safety with overcrowding on stairs and activity at the base of the falls reduced environmental impacts and degradation of embankments along creek 	<ul style="list-style-type: none"> Decreased visitor experience and opportunity Tourist attraction
Washrooms (6 portable toilets)	<ul style="list-style-type: none"> Increased number and location in 2012; frequency of maintenance 	<ul style="list-style-type: none"> Frequent maintenance required Visitor expectations
Environment	<ul style="list-style-type: none"> Extensive, and diverse habitat; Environmentally protected through planning controls Spectacular views 	<ul style="list-style-type: none"> Degradation occurring with uncontrolled access at the base of Webster's Falls Lack of Riparian edge for shade and habitat along Spencer Creek above the falls Erosion and visitor impacts along unofficial trails Loss of Native Carolinian Trees in Webster's Falls Park and lack of shade
Spencer Creek	<ul style="list-style-type: none"> Water access/ enjoyment of the creek 	<ul style="list-style-type: none"> creek habitat degradation; lack of shade/Riparian edges;
Landscape	<ul style="list-style-type: none"> Continuation of established landscape character 	<ul style="list-style-type: none"> Lack of shade trees; degradation

Table 20 illustrates is that unless changes are made in the operation of the Master Plan area, existing problems and concerns will not be addressed, and in some cases, environmental degradation will continue to occur.

Two Options were prepared for the Master Plan area for consideration by the Conservation Authority and the public. These two Options were not be viewed as “either” “or” scenarios; rather, elements from each Option could be considered in the final “preferred” recommended option. The intent was for all recommendations to be considered and evaluated.

7.2 Option B

Option B seeks to provide a recommendation to address each of the issues identified throughout the master planning process. Table 21 illustrates the pros and cons of each of the recommendations in order to better evaluate the recommendations made; while Figure 12 illustrates conceptually the functional relationship between the site features, the uses and the park users. Finally, Figure 13 illustrates the location of the various changes that have been recommended for greater clarity.

Table 21: Option B

OPTION B		
Recommendations -Peak Season /weekends	Pros	Cons
Parking <ul style="list-style-type: none"> Webster's /Tew's add 'escape lane' Tew's-add lanes and 2nd pay kiosk 	<ul style="list-style-type: none"> Improved site circulation and ability to accommodate vehicle queues on-site; Additional pay station results in quicker processing of vehicles and reduces queues on Harvest Road. 	<ul style="list-style-type: none"> Does not accommodate peak parking demand; Continued need to use naturalized areas for overflow parking;
Vehicular Access <ul style="list-style-type: none"> Improve entrances to provide turn-around when lot is full 	<ul style="list-style-type: none"> achieves improved site circulation and improves access at site driveways. 	<ul style="list-style-type: none"> Does not address parking demand or traffic volume; Continued congestion and impeded site access; Requires continued police control at the intersection of Harvest Road and Short Road.
Hamilton Emergency Services <ul style="list-style-type: none"> add wayfinding markers; extend vehicular access 	<ul style="list-style-type: none"> improve response w/location markers; provides for improved access for emergency vehicles 	
Off-site Parking <ul style="list-style-type: none"> consider adjacent Lands i.e: closed <i>land fill</i> 	<ul style="list-style-type: none"> remote parking area will have the capacity to accommodate peak parking demands 	<ul style="list-style-type: none"> Site remediation concerns: trail impacts from additional load to Dundas Peak; safety concerns
Trails <ul style="list-style-type: none"> improve trail alignment, surfaces, drainage and safety 	<ul style="list-style-type: none"> improved visitor experience and safety 	
Pedestrian access <ul style="list-style-type: none"> provide bike parking Improve visibility of pay stations Provide wayfinding signage for trail linkages 	<ul style="list-style-type: none"> Improve orientation and promote trail linkages to Crooks Hollow Heritage Trail and the Bruce Trail Improved pedestrian and cycling safety with reduction of traffic on local roads 	
Fencing <ul style="list-style-type: none"> Decorative fence along upper Webster's creek south side, and new overlook (decorative, heritage style fencing/lookouts) 	<ul style="list-style-type: none"> Enhanced safety and reduction in risk management 	

OPTION B		
Recommendations -Peak Season /weekends	Pros	Cons
Signage: Wayfinding Interpretive and Warning/Regulation <ul style="list-style-type: none"> • Directional to site • Directional to Webster's/Tew's • warning signage and regulation signage-international symbols 	<ul style="list-style-type: none"> • Improved visitor services -directional and interpretive • safety 	
Picnicking	<ul style="list-style-type: none"> • Additional trash receptacles; • additional open lawn designated areas 	
Barbeque <ul style="list-style-type: none"> • allow 	<ul style="list-style-type: none"> • Continue to meet expectation of visitors who come to picnic • Traditional park use 	<ul style="list-style-type: none"> • Promotion of picnic facility and potentially larger gatherings, where other facilities are better equipped at present with washrooms, and concession
Fire Place <ul style="list-style-type: none"> • Removal of fireplace 	<ul style="list-style-type: none"> • Reduce vandalism and after-hours activity 	<ul style="list-style-type: none"> • Elimination of a facility previously enjoyed by visitors
Safety/Risk Management <ul style="list-style-type: none"> • location markers for HES response • additional fencing and warning signage 	<ul style="list-style-type: none"> • quicker response for HES as they will not waste time sending response teams to the wrong part of the Conservation Area 	<ul style="list-style-type: none"> • Still cannot guarantee that visitors are truly aware of the signification of location markers. • People will still ignore fencing and warning signage if they choose to
Gorge Access <ul style="list-style-type: none"> • Closed • establish a habitat and wildlife management plan • Suggest City of Hamilton consider stairs in another location, and potentially as part of Highway No. 8 review. 	<ul style="list-style-type: none"> • Cost savings • Reduce impacts to sensitive areas • Reduce risk of activities in Gorge including open fires, 'walking behind the falls' and visitors slipping on sleek rocks 	<ul style="list-style-type: none"> • Removal of key HES access • Visitors will no longer be able to appreciate lower Gorge • Eliminate any future connections to Dundas (pending CN rail crossing) • encourages access down steep embankments as visitors will still try and access the Gorge or get closer to the falls • Pedestrian access from bottom to top of the escarpment from Dundas-
Washroom <ul style="list-style-type: none"> • New permanent w/tile bed 	<ul style="list-style-type: none"> • Improve Visitor Services 	<ul style="list-style-type: none"> • Cost significant
Spencer Creek <ul style="list-style-type: none"> • Moderate riparian creek planting 	<ul style="list-style-type: none"> • Existing pastoral landscape character along Spencer Creek • Some shade for creek/habitat 	<ul style="list-style-type: none"> • Lack of extensive shaded riparian zone planting for habitat restoration
Environmental restoration <ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Habitat restoration • erosion control • restore sections impacted by informal trails • restore Tall Oak Woodland and prairie remnant communities 	

OPTION B		
Recommendations -Peak Season /weekends	Pros	Cons
Landscape <ul style="list-style-type: none"> • Native Shade Trees • Resurfaced walkways; benches 	<ul style="list-style-type: none"> • maintain views and vistas to features; defined mown lawn areas, • Provide additional site features: benches, trash receptacles 	

Option B proposes changes to both parking areas to improve access, but not necessarily the volume of traffic. There is limited benefit to neighbouring property owners as it does not address the capacity of the parking lots; rather it allows for more efficient movement of the traffic once the lots are full. However, from an environmental perspective this Option provides the greatest protection as it proposes the elimination of the stairs to the Gorge as well as future access to the Gorge. It also proposes reduced public access to Spencer Creek above the escarpment through the naturalization of both sides of the Creek above the falls.

Figure 12 is a functional diagram that represents the relationship between site features and uses. It shows how the pedestrian and vehicular circulation relates to the various features within the Master Plan area and is used in the development of the more detailed master plan option:

- The blue and purple bubbles relate to vehicular circulation and parking. The diagram illustrates that improved vehicular stacking is recommended as well as the addition of exit lanes at the two parking lots. A pay kiosk is recommended, as well as improved stacking at the Tew’s Parking lot, while improvements to accessible parking and the provision of an exit lane is recommended for Webster’s Falls parking lot. Overflow parking in the lawn areas would continue based on this Option on peak season weekends. Improved signage is recommended at the Optimist Park parking lot.
- The green bubble relates to the primary open space/picnic area of Webster’s Falls park. The following recommendations are made: close sections of walkways that are unsafe, moderate riparian creek plantings to naturalize the creek adjacent to the open picnic lawn area, and add more shade trees to enhance the historical park-like.
- The yellow bubbles relate to site features including overlooks, signage, the stairs, barbeque facilities, and washrooms. A range of improvements are recommended including: add section of railing at Dundas Peak, improved signage throughout the park, add permanent washrooms and close the stairs to the Gorge.
- The orange triangles indicate a recommended way-finding marker system to assist HES by dividing the Master Plan area into 7 primary, identifiable areas. Once people are made aware of the numbering system, it is hoped that when 911 calls come in, that visitors will be better able to articulate where they are in the Park.

Figure 12: Option B – Functional Relationship

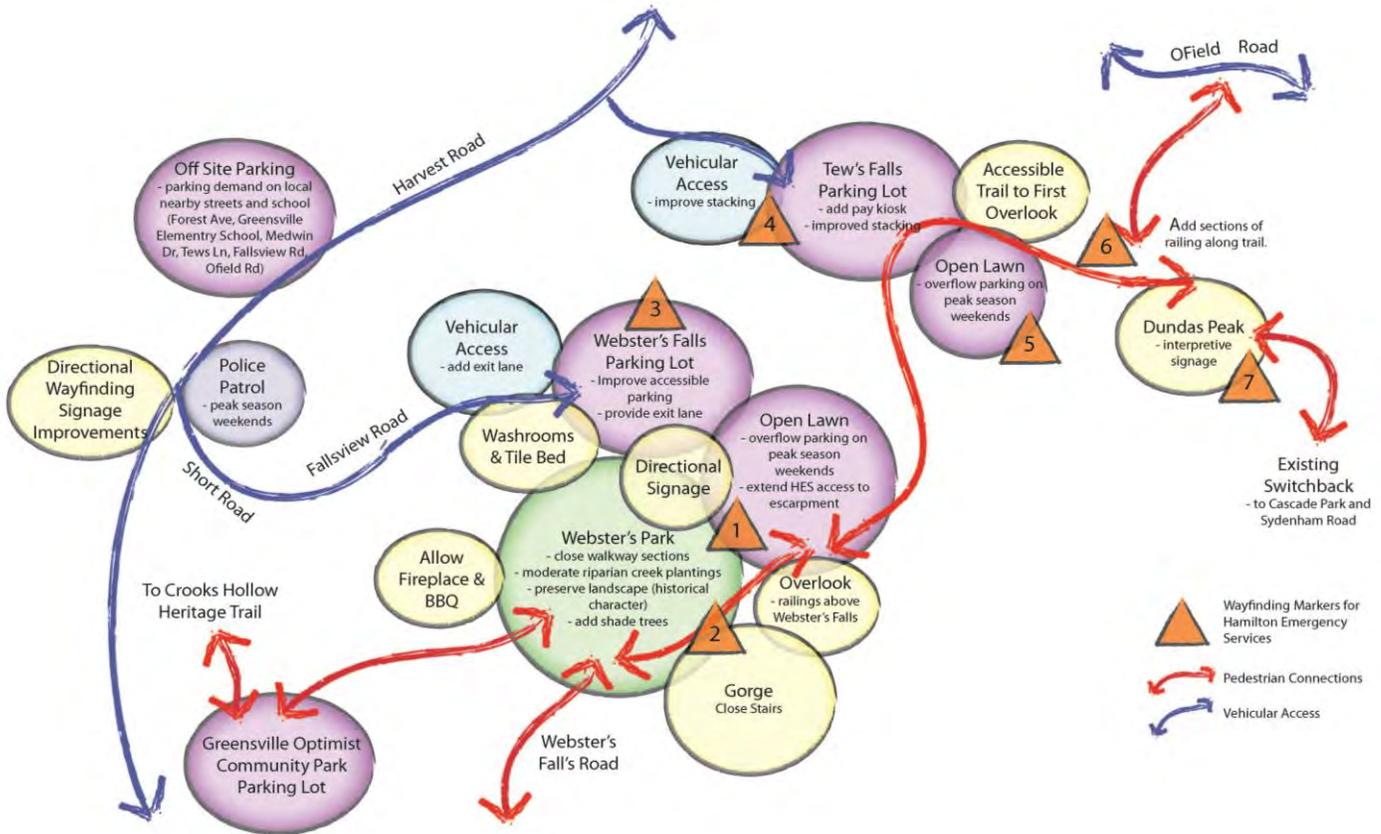


Figure 13 illustrates how the bubble diagram can more specifically be applied to the Master Plan Area by identifying where the improvements are recommended.

7.3 Option C

As with the previous option, Option C seeks to address the issues identified throughout the master planning process. Table 22 illustrates the pros and cons of each of the recommendations in order to better evaluate them; while Figure 14 illustrates conceptually the functional relationship between the site features, the uses and the park users. Finally, Figure 15 illustrates the location of the various changes that have been recommended.

Table 22: Option C Recommendations

OPTION C		
Recommendations -Peak Season /weekends	Pros	Cons
Parking <ul style="list-style-type: none"> shuttle service –weekends Parking supply available at Christie Conservation Area, to accommodate peak parking demands On-site parking closed peak season weekends with prominent information signage located along access roads 	<ul style="list-style-type: none"> Pros in report -Refer to Section 5 Christies HCA is easily accessible; in close proximity to SGWF; provides good existing visitor services ; shuttle ‘hub’ /visitor services opportunity; promotion of other Conservation Areas –expanding and improving the visitor experience Easier to organize family groups Accessible transit to site 	<ul style="list-style-type: none"> Wait and travel time Transport of strollers, walkers, coolers, lawn chairs
Vehicular Access	<ul style="list-style-type: none"> Pros in report -Refer to Section 5 Reduced automobile traffic to and from the site 	
Hamilton Emergency Services <ul style="list-style-type: none"> add way finding markers; extend vehicular access at Webster’s Falls Parking Lot Improve shoulder at Ofield Rd. pending City of Hamilton approval 	<ul style="list-style-type: none"> improve response w/location markers at seven key locations Gorge stair and boardwalk designed to provide improved HES access 	
Off-site Parking <ul style="list-style-type: none"> City of Hamilton sign no-parking on side streets Suggest to the City of Hamilton that a ‘Parking Plan’ be done by the City of Hamilton for the surrounding residential area 	<ul style="list-style-type: none"> Reduce the existing parking on side streets and reduce the numbers of pedestrians walking down Short/ Fallsview Road or Harvest Road where there are no sidewalks 	<ul style="list-style-type: none"> Parking restrictions and controls not currently in place
Trails <ul style="list-style-type: none"> improve trail surfaces Improve drainage close trail section north east of Cobblestone Bridge 	<ul style="list-style-type: none"> improve surfaces and erosion control; increase carrying capacity of trail from Webster’s parking lot to the Cobblestone Bridge 	
Pedestrian access <ul style="list-style-type: none"> provide bike parking Improve visibility of pay stations Provide wayfinding signage for trail linkages 	<ul style="list-style-type: none"> Improve orientation and promote trail linkages to Crooks Hollow Heritage Trail and the Bruce Trail Improved pedestrian and cycling safety with reduction of traffic on local roads 	

OPTION C		
Recommendations -Peak Season /weekends	Pros	Cons
Fencing <ul style="list-style-type: none"> Decorative fence upper Webster's- 4' black chain link fencing along trail sections 	<ul style="list-style-type: none"> Decorative, heritage style fencing/lookouts Trail fencing along cliff at strategic locations-improve safety 	
Signage: Wayfinding Interpretive and Warning/Regulation <ul style="list-style-type: none"> Directional to site Directional to Webster's/Tew's warning signage and regulation signage-international symbols 	<ul style="list-style-type: none"> Improved visitor services and HES services safety 	
Picnicking	<ul style="list-style-type: none"> Additional trash receptacles; in-ground units; Recycle units additional open lawn designated areas 	
Barbeque <ul style="list-style-type: none"> Restricted 	<ul style="list-style-type: none"> Reduce prolonged park use reduce resident concerns re: fire/smell/smoke; 	<ul style="list-style-type: none"> prohibits traditional park use
Fire Place <ul style="list-style-type: none"> removed 	<ul style="list-style-type: none"> Reduce vandalism and afterhours activity 	
Safety/Risk Management <ul style="list-style-type: none"> location markers for HES response additional fencing and warning signage 	<ul style="list-style-type: none"> improved emergency response increase safety 	
Gorge Access <ul style="list-style-type: none"> New stairs boardwalk and railings in lower Gorge to protect sensitive environment 	<ul style="list-style-type: none"> accommodate capacity of peak season use HES access to lower Gorge Pedestrian appreciation of the lower Gorge 	<ul style="list-style-type: none"> promotes use of lower Gorge trail: Future connection to Dundas pending, therefore unofficial lower Gorge trail to be signed-fence off CN lands access to base of Waterfall, and 'walking behind the falls' or other risky activity promotes further degradation of the Spencer Creek and surrounding forested habitat cost of stairs and boardwalk
Washroom <ul style="list-style-type: none"> New permanent w/tile bed 	<ul style="list-style-type: none"> Improve Visitor Services 	<ul style="list-style-type: none"> cost of stairs and boardwalk
Spencer Creek <ul style="list-style-type: none"> Expand Riparian Edge planting Provide interpretive signage on watershed 	<ul style="list-style-type: none"> shade watercourse, keeping it cool and providing breeding conditions naturalized edge to discourage water 'recreation' reducing mown lawn areas 	<ul style="list-style-type: none"> reducing mown lawn areas
Environmental restoration <ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Habitat restoration erosion control restore sections impacted by informal 	

OPTION C		
Recommendations -Peak Season /weekends	Pros	Cons
	trails <ul style="list-style-type: none"> • restore Tall Oak Woodland and prairie remnant communities 	
Landscape <ul style="list-style-type: none"> • Native Shade Trees • Resurfaced walkways; benches 	<ul style="list-style-type: none"> • maintain views and vistas to features; defined mown lawn areas, • Provide additional site features: benches, trash receptacles 	

Figure 14 is a functional diagram that represents the relationship between site features and uses in Option C. It shows how the pedestrian and vehicular circulation relates to the various features within the Master Plan area and is used in the development of the more detailed master plan option.

Once again, the blue and purple bubbles relate to vehicular circulation and parking. The diagram illustrates the removal of weekend parking at all parking lots and the implementation of a shuttle service from Christie Conservation Area to the Master Plan area.

The green bubbles relate to the primary open space/picnic area of Webster's Falls park. The following recommendations are made: close sections of walkways that are unsafe, add moderate riparian creek plantings to naturalize the creek adjacent to the open picnic lawn area, and add more shade trees to enhance the historical park-like.

The yellow bubbles relate to site features including overlooks, signage, the stairs, barbeque facilities, and washrooms. A range of improvements are recommended including: the removal of barbeque and fire place facilities, the addition of sections of railing at Dundas Peak, improved signage throughout the park, the addition of permanent washrooms and the replacement of the stairs to the Gorge.

The orange triangles indicate a recommended way-finding marker system to assist HES by dividing the Master Plan area into 7 primary, identifiable areas. Once people are made aware of the numbering system, it is hoped that when 911 calls come in, that visitors will be better able to better articulate where they are in the Park.

Figure 14: Option C - Functional Relationship

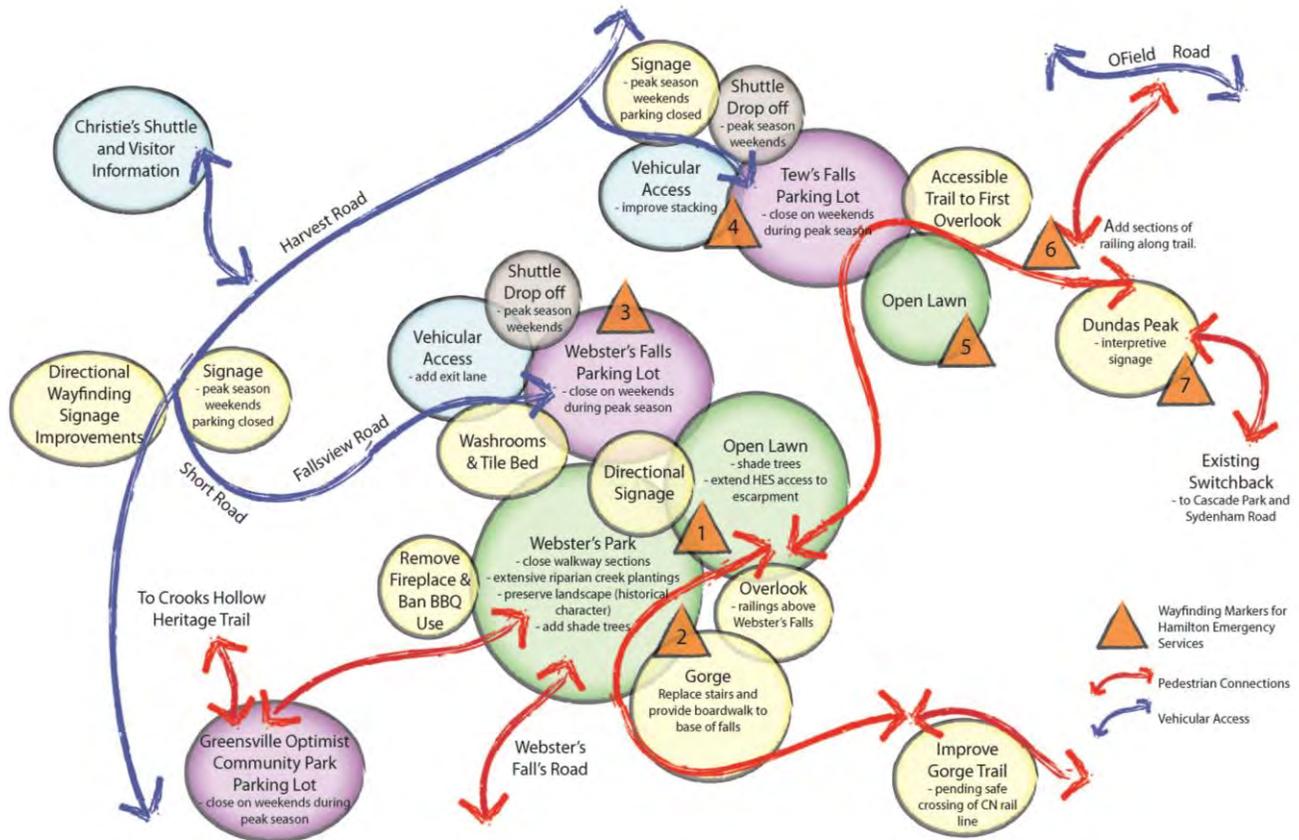


Figure 15 illustrates how the bubble diagram can more specifically be applied to the Master Plan Area by identifying where the Option C improvements are recommended.

7.4 Option Summary - Site Features

This section of the report provides a summary and comparison of principal differences between the recommendations made in Options B and C.

7.4.1 Gorge Access

Option B - Access to the lower Gorge is closed. This provides the greatest environmental protection to the lower Gorge and sensitive area where degradation of the embankments has occurred as a result of 'recreational' water activities occurring at the base of the falls. Emergency access is only afforded to staff and Hamilton Emergency Services.

Option C - New metal stairs to the Lower Gorge is recommended to replace the existing stairs. The stair design would allow access by Hamilton Emergency Services with 1.5 metre wide stairs and large rest landing/overlooks to reduce the degree of difficulty for the descent to the Gorge, and provide a safe landing opportunity with rest stations (possibly including benches). At this point the visitor can choose to either descend further or go back up without feeling that they are in the way of other visitors.

A boardwalk and lookout are recommended at the base of the falls to reduce visitor impacts to the creek and vegetated embankments, with interpretive signage to describe the sensitive natural areas, and highlight restoration efforts.

Option C would also minimize environmental degradation, by restricting pedestrian disturbance to the cliffs and vegetation. Warning signage to identify the danger in climbing the cliff faces or walking behind the falls is recommended. Relocating the stairs was considered; however, the existing location is most viable due to the topography and relatively open viewing area at the bottom of the falls. In this Option, environmental impacts are mitigated, while also providing visitor experience of accessing the Gorge. It is noted that Hamilton Emergency Services access and rescue operations are supported through stair design. A viewing area at the bottom of the stairs and information about the fragile ecology is also recommended.

7.4.2 The Gorge Trail

Option B - The lower Gorge trail is closed to provide the greatest environmental protection. Of particular concern is the environmentally sensitive flora and fauna in the Gorge, and the recently discovered Tufa mound which is within 100 metres of the base of the falls. The remnant trail skirts the edge of this formation; however when the Creek water levels are higher, hikers walk through the tufa formation.

Option C - The provision of fencing and a boardwalk to move visitors through this sensitive area is recommended. This will provide the best visitor experience of the lower Gorge, and potential for future connection to Dundas, while better protecting the natural features within the Gorge.

7.4.3 Bruce Trail Side Trails/ Other Trails

Options B and C - The primary trail between Webster's Falls to the cobblestone bridge is recommended to be resurfaced with textured concrete, and constructed with a drainage sub-drain and gutters. A recycled option to consider is the reuse of crushed recycled concrete as the dry aggregate for new concrete work.

The Bruce Trail Side Trails are recommended to be re-aligned where appropriate away from the cliff edge, and as determined on site, and/or fence sections on the cliff's edge where trails are particularly narrow and have a cross slope toward the cliff. A 1.2 metres (4 foot) high chain link fencing or split rail and metal bar is recommended. Consideration should be given to providing sections of wood steps and landings with screenings for access to Dundas Peak. Trails should also be better signed to indicate level of difficulty as well as the need for proper hiking shoes. Finally, sections of trail cut into cliff edges should be fenced, replanted, and signed as restoration areas.

7.4.4 Accessible Trail

Option B and C – Both Options recommend the provision of concrete or asphalt surfaces for an accessible trail from the Tew's parking lot to the first overlook. This will require the adjustment of the bollard location and ramp up to the overlook.

For the hard surface trail leading down from Webster's parking lot area, to the Cobblestone bridge, gutters are recommended for erosion. In addition, the fence location should be adjusted to the base of slope of the east side, to reduce pedestrian impacts.

7.4.5 Spencer Creek

Option B - Moderate planting along Creek above the falls are recommended; however, no access to the lower Gorge is recommended. These riparian creek enhancements follow the Hamilton-Halton Watershed Stewardship recommendations, which support a vegetated riparian buffer to provide shaded edges to the creek.



Option C – Option C recommends the addition of warning signs including universal symbols to stay out of the creek in the area above the falls. In addition, defined lookouts and boardwalks in the lower Gorge at the base of Webster's Falls is recommended.

While the HCA has already signed a warning to “stay out of the water”, additional signage is required. This section of Spencer Creek leads to a waterfall and is unsafe for pedestrians as the level of water and velocity can fluctuate, posing a danger. However the man-made stone embankments, stone bottom and shallow depth are enticing for visitors who feel that the water is accessible and safe for their families to wade in. Accordingly, multi-language signage featuring no-water activity is recommended to be placed along the creek

7.4.6 Landscape Character

Option B and C - The heritage landscape character of Webster's Park is an important cultural legacy and features open vistas to site features such as the cobblestone bridge, set off by large expanses of open lawn. This landscape can be further enhanced through design to enhance this character, while also providing additional shade through the planting of native shade trees and planting along the creek to provide cooling shade and habitat enhancement within the creek. The natural balance of the creek, planting, open lawns and heritage elements are all important elements and can be designed to enhance the space. Native Trees such as Sugar Maple, Hickory, and Oak, are recommended. In order to assist in the funding of this recommendation, is suggested that the tree recognition program which began at Greenville Optimist Community Park with memorial plaques in memory of local residents.

7.4.7 Picnic Areas

Option B and C - There is enough capacity in the existing open lawn areas to accommodate the numbers of visitors who are currently picnicking, as well as capacity for an increase in the numbers. However, in order to improve visitor services it is recommended that additional shade trees, picnic tables, drinking water (vending machine) and washrooms be provided.

The recommended removal of the fire place may reduce the evening after-hours unsupervised use of this area, and may reduce the vandalism to some extent. Therefore, it is recommended that the fire place be removed, and staff monitor how many picnic tables can safely be placed in the park.

7.4.8 Signage

Option B and C – Appropriate and consistent signage is key to the functional operation, safety and enjoyment of the Master Plan area. It is recommended that universal graphic symbols for warning, and trail classification be provided as well as much needed way-finding, directional signage and maps. This will assist visitors to identify where they are and relative distances to and from parts of the park. In addition, Hamilton Emergency Services markers are recommended for locating visitors within the Conservation Area.

The following demonstrates where and for what reasons signage is recommended throughout the Master Plan area.

- Indicate water danger – above, below and around the falls because the rocks are slippery and the current can be strong;
- Educate park and trail users about sensitive areas and desired conduct, as well as, information about points of interest;
- Discourage encroachment into natural areas (e.g., dumping of landscape maintenance refuse);
- Provide adjacent land owners with information regarding invasive and undesirable species to avoid when planting in proximity to the Conservation Area;
- Provide directional/wayfinding signage at the top of the walkway leading to Webster’s Falls Park and showing trail to Tew’s Falls;
- Provide additional wayfinding signage between the Crooks Hollow Heritage Trail links to the Greensville Optimist Community Park and to Webster’s Falls, as well as wayfinding signage from Christie Conservation Area; and
- Install wayfinding markers for orientation and Emergency Services reference.

7.4.9 Fencing

Option B – The extension of the metal fencing at Webster’s Falls lookout, on both sides of the creek is recommended.

Option C – The extension of the metal fencing at Webster’s Falls lookout is recommended, as well as a new lookout along the trail beyond the accessible lookout above Webster’s Falls. In addition, a black 1.5 metre (5 foot) decorative steel fencing is recommended along the trail/cliff edge. (Note: a more detailed inventory of conditions is required to determine the exact placements of fencing.)

7.4.10 Overlooks

Option B and C – Both options propose overlooks at bench locations just past the accessible overlook for safety purposes and to discourage visitors from climbing down to the edge.

7.4.11 Washrooms

Option B and C - Permanent washrooms are recommended to be installed at the Webster’s parking lot. The proposed washrooms and associated tile bed should be located just inside and adjacent to the accessible walk and in proximity to the parking lot. The septic tile bed could be located in the current open lawn area, or adjacent to the reconfigured entry drive.

7.4.12 Garbage/Ash Bins

Option B – Encourage pack in /pack out policy. Additional trash bins at trail leading from Tew’s to Webster’s as well as dog litter bags.

Option C – Encourage pack in-pack out policy.

7.4.13 Emergency Services

Option B and C – One of the key issues identified by Emergency Services pertains to the early identification of exactly where an emergency incident occurs in the Conservation Area. Those who call 911 for help have difficulty describing where they are. HES suggests seven markers be installed in the Conservation Area, to help define the area where an incident has occurred. The markers would be numbered, and referenced to wayfinding maps located in the Conservation Area. The signs would be as follows:

Area Marker No.	Location
1	Top of Webster’s Falls at lookout
2	Bottom of Webster’s Falls
W3	Webster’s Parking Lot
T4	Tew’s’ Parking Lot
5	Tew’s far end of open lawn area and gravel turn

Area Marker No.	Location
	around
6	Junction of trails between Tew's Falls and Dundas Peak, where walk in from Ofield
7	Dundas Peak

7.4.14 Parking

Option B - Short Term Improvements. Refer to Section 5.4.

Short Term improvements are proposed as an interim step until the shuttle service can be implemented.

Option C – This Option recommends a long term solution to the parking, access, congestion, capacity and safety issue centred around vehicular traffic. This recommendation includes the closure of all 3 parking lots on weekends. Instead of on-site parking, a shuttle service is recommended from Christie Conservation Area to Webster's and Tew's Parking lots. This service would be offered every weekend between the May long weekend through to Thanksgiving.

With such large numbers looking for open space, water and family picnic areas, the HCA and Tourism Hamilton have an opportunity to promote the Christie Lake Conservation Area, while making family group gatherings more enjoyable and convenient. Christie Lake is easier to find, and large family groups can meet in the large parking lots and ensure all members going to venture to the Spencer Gorge-Webster's Falls Conservation Area are in one group.

The shuttle service would also be with-in walking tour/shuttle distance to Crooks Hollow, which, it has been discovered, many of the visitors surveyed on May 20th, were not aware of. HCA can promote Christie Lake Conservation Area as a family destination including open lawn for games, beach water activities and washroom and concession buildings.

SECTION EIGHT: MASTER PLAN

8.1 Recommended Master Plan

As a result of the review of all public consultation, site opportunities and constraints, environmental conditions, user needs, and direction from the Conservation Advisory Board, a final concept plan illustrated in Figure 16 recommends the following:

Recommendations	Implementation Tasks
Role of the Conservation Area	<ul style="list-style-type: none"> • The main role of this natural environment park is to protect significant natural features while providing public access to the Niagara Escarpment including the Bruce Trail. • The key recreational activities will be of a passive nature such as hiking, viewing, photography and nature appreciation with a secondary role as a passive picnic area. • Collaborate with other agencies promoting the Spencer Gorge-Webster's Falls Conservation Area and collectively develop a consistent vision and messaging approach which complements this role.
Access and Parking	<ul style="list-style-type: none"> • Re-design entrance driveway for Webster's parking lot to provide exit lane. • Resurface Webster's parking lot with tar & chip between washroom facilities, accessible walkway and pay station. • Continued but reduced use of the overflow parking area south of the Webster's parking lot during peak periods with addition of landscape buffers to the east and west. • Webster's Falls Road and parking area will be limited to local resident access as well as HES emergency and HCA maintenance vehicle use. • Re-design driveway at Tew's parking lot to provide multiple stacking/pay lanes and an additional exit lane east of the parking area to Harvest Road subject to City of Hamilton approval. • Re-grading and landscape improvements at Tew's are parking lot area. • Relocate pay and display station at Tew's main parking lot while adding a second station for the second lot. • Improve 'Lot Full' signage and location. • Improve entrance and exit signage at Greensville Optimist Community Park parking lot and install pay and display station. • Consider alternative parking fee rates which encourage visits of one to two hours rather than all day use. • Spills management equipment and staff training to be provided for all parking areas.
Off- Site Parking	<ul style="list-style-type: none"> • Request the City of Hamilton to prepare and implement a comprehensive Community Parking Plan to address on-street parking in the areas in proximity to Spencer Gorge-Webster's Falls Conservation Area. • Identify additional off-site parking areas on HCA lands to accommodate peak parking demands at the conservation area with prominent directional and way finding signage.

Recommendations	Implementation Tasks
	<ul style="list-style-type: none"> • Identify availability of off-site parking at Crooks Hollow CA and improve trail conditions to encourage passive use of this 1.4 km trail connection to Spencer Gorge-Webster's Falls.
Trail Improvements	<ul style="list-style-type: none"> • Improve surface and drainage of main walkway from Webster's parking lot to the cobblestone bridge. • Close the stairs and public access to the area north east of the cobblestone bridge and Spencer Creek. • Re-route short section of Bruce Trail that drops below the table land in the area south of the Dobson-McKee lookout and take necessary restoration efforts to discourage pedestrian access to this area. • Install accessible asphalt pedestrian path from Tew's front parking lot to main overlook at Tew's Falls. • Implement clear signage indicating the Glen Ferguson Side trail as an alternative route to access Dundas Peak. • Assess Webster's Falls Side trail section along the rim between Tew's Falls and Dundas Peak to determine where trail relocation and rehabilitation is necessary due to safety concerns and environmental degradation. • Assess the lower Gorge trail conditions and determine what improvements are required.
Pedestrian Access	<ul style="list-style-type: none"> • Improve trail orientation and promote trail linkages to Crooks Hollow Heritage Trail and the Bruce Trail with improved wayfinding signage. • Encourage pedestrian and bicycle transportation modes as a viable way to access the area including provisions for bike parking.
Fencing	<ul style="list-style-type: none"> • Develop a unified theme of fencing for visitor safety and environmental protection. • Use a decorative black steel picket fence style for all fencing in the area surrounding Webster's Falls heritage area. • Extend protective fencing along escarpment edge south of the Dobson-McKee lookout to prevent access to fragile slope. • Replace temporary fencing along Spencer Creek with permanent fencing. • Remove existing chain-link and rail fencing where it is redundant or no longer serves a management function. • Install fencing to protect population of provincially rare Downy False Foxglove on the Bruce Trail. • Ensure all remaining fencing is in brought into good repair.
Safety/Wayfinding/ Interpretive/Sign Strategy	<ul style="list-style-type: none"> • To enhance safety/risk management at the conservation area, coordinate with the HES the installation of location markers at seven key locations within the Conservation Area to assist HES response. • Install warning signage and regulation signage using Universal language including "no rock climbing"; "fall danger"; "steep cliff", etc. • Prepare an overall signage/wayfinding strategy to ensure consistent theme for directional, information and warning signs for the conservation area.

Recommendations	Implementation Tasks
	<ul style="list-style-type: none"> • Provide additional directional signage at the head of trails location from the Webster's Falls parking lot to both Webster's Falls and Tew's Falls. • Provide a new head of trails map at Tew's parking lot with additional directional information to complement the interpretive message. • Incorporate QR technology into informational signage including information on the presence of sensitive habitats.
Picnic Areas	<ul style="list-style-type: none"> • Prohibit use of barbeques in the conservation area except by special permit for certain community events. • Maintain stone fire place in picnic area but render it inoperable for use by the general public. • Maintain the open lawn area at Webster's Park as picnic and open space area. • Develop a planting plan to replace mature shade trees as they are removed for safety or tree health reasons. • Promote a 'green and sustainable' approach to picnicking activities. • With the new restrictions in barbeques and picnic uses, identify nearby facilities such as Christie Lake CA where customers can enjoy this type of activity.
Restrict Access to Spencer Creek	<ul style="list-style-type: none"> • Restrict access to Spencer Creek and Logie's Creek both above and below the falls. • Remove or close off all stair and ramp access to Spencer Creek in the picnic area. • Maintain the existing stone wall along the creek edge from west of the small pedestrian bridge to the top of the falls for the protection of the bridge abutments. • Reduce mowing areas-above Webster's Falls and along Spencer Creek and expand riparian edge plantings in these areas. • Enforcement of this restriction will be aided by the installation of additional permanent fencing, signage, buffer and riparian edge plantings and active management. • With the new restrictions on water play and access to the Creek above and below the falls, identify nearby facilities such as Christie Lake CA where customers can enjoy numerous water activities in the reservoir.
Habitat Restoration	<ul style="list-style-type: none"> • Inventory species at risk and provincially rare species to better access the condition of their populations and their exact location. • Develop a restoration plan for the Dry Oak Woodlands which should include reintroduction of a fire regime. • Restore habitats negatively affected by human interaction. • Remove priority invasive species such as Tree of Heaven and Black Locust in the short term to mitigate habitat degradation.
Permanent Washroom Facilities	<ul style="list-style-type: none"> • Construct permanent washroom facilities west of Webster's Falls entrance road and parking lot. • Consider removal of existing former washroom building adjacent to staff maintenance building.

Recommendations	Implementation Tasks
<p>Access to Gorge Short Term Management</p>	<ul style="list-style-type: none"> • Continue the closure of the unsafe existing stair access to the lower Gorge. • Assess the extent of damage to the ecology of the Gorge and establish objectives for protection and restoration. • Determine methods to mitigate environmental damage through design and control of pedestrian movements, prior to replacement of the stairs. • Establish a benthic invertebrate and fish monitoring station in close proximity to Webster’s Falls. • Implement a collaborative public education program emphasizes respect for the natural and sensitive areas of the Falls and Gorge. • Prohibit creek access below the falls and as well as “walking behind the falls” • Erect an information sign at the overlook near the top of the stairs to describe the unique habitat, flora and fauna around in the Gorge, explain reasons for closure of the stairs and steps the HCA is taking to ensure long term protection and restoration of this area • Assess current use of the Gorge for bouldering activities and mitigate that use if necessary
<p>Unresolved Management Issues</p>	<ul style="list-style-type: none"> • Continue discussions between HCA, CN Rail, Iroquoia Bruce Trail Club and the City of Hamilton, to determine an appropriate trail link from Dundas to Spencer Gorge-Webster’s Falls and examine ways to reinstate the Bruce Trail main trail through this area. • Requests the City of Hamilton to consider installation of pedestrian-activated signalized crossing of Hwy. #8 in the area of the CN rail bridge corridor in order to reinstate the Bruce Trail main trail through this area. • Determine the long term need or desirability to replace the Gorge stair access considering the need to balance the desire for public access to this scenic landmark, Bruce Trail access and the protection of the significant ecological features. • Potential addition of a third viewing platform for viewing Webster’s Falls to reduce impact of visitors scrambling on the valley walls. • Identify additional off-site parking areas on adjacent or nearby lands to accommodate peak parking demands at the conservation area with prominent directional and way-finding signage.

8.2 Cost Estimates and Development Phasing

The following section provides a cost estimate of the capital costs (2013 dollars) associated with recommendations in the master plan.

Parking and Access	
• Webster's Falls re-align asphalt entry drive and exit lane (800 m ²)w/grading allowance	\$35,000
• Re-design driveway that provides lengthened vehicle stacking distances at Tew's gravel parking lot (500 m ²)	\$25,000
• Re-grade and landscape restoration of Tew's parking lot area	\$10,000
• Relocate manned pay station enclosure at Tew's; add second station	\$15,000
• Provide new asphalt surface for accessible parking (250 m ²)	\$6,000
• Provision of bike parking facilities at Tew's and Webster's parking lots	\$4,000
• Add additional pay & display pay station	\$10,000
Subtotal	\$105,000
Walkways and Trails	
• Upgrade 3m wide walkway between Webster's parking lot and the cobblestone bridge with asphalt surface and improved drainage	\$25,000
• Provide asphalt surface for accessible path from Tew's parking lot to first overlook (250 m ²)	\$10,000
• Rehabilitate or relocate sections of the Dundas Peak trail away from the escarpment edge	\$15,000
Subtotal	\$50,000
Signage	
• Improve wayfinding, directional and 'lot full' signage to area access points	\$7,000
• Provide additional safety and regulation signage including HES markers	\$20,000
• Provide additional information, education and interpretive signage	\$15,000
• Create trail markers system to delineate trail system	\$12,000
Subtotal	\$54,000
Facilities	
• Washroom with 1,100 m ² tile bed and water supply including design, permits	\$275,000
• New Staff Gatehouse (3m x 3m) at Webster's Falls Entrance	\$15,000
• Pavilion Floor repair; Cobblestone Bridge stone paving repair; remove concrete ramp access to Spencer Creek	\$30,000
• Stairway replacement between Tew's Falls and Webster's parking lots with galvanized steel stair and rail construction	\$80,000
Subtotal	\$400,000
Fencing	
• Improve steel fencing and gate at Webster's lower stairs top and bottom to prevent public access other than for HES access or maintenance purposes	\$10,000
• Replace existing escarpment chain link and cedar rail fences /w 1.5m black steel picket fencing to match heritage wrought iron fencing including new sections along Spencer Creek and escarpment edge south of the Dobson lookout 270m @ 160./l.m.	\$43,000
• Replace existing chain link fencing at small picnic area above Little Webster's Falls 100m @ 100./l.m.	\$10,000

Subtotal	\$63,000
Restoration and Planting	
<ul style="list-style-type: none"> • Restoration plantings along creek riparian zones, escarpment edge, and reduced mown areas 	\$40,000
<ul style="list-style-type: none"> • Buffer plantings adjacent to both overflow parking areas 	\$15,000
<ul style="list-style-type: none"> • Replacement shade tree planting in picnic area 	\$8,000
<ul style="list-style-type: none"> • Protection and maintenance of the Oak Savannah forest unit 	\$5,000
Subtotal	\$67,000
Grand Total	\$739,000

The cost estimate does not include an allocation for replacement of the Webster's Falls stairway or for costs associated with reinstatement of the trail connection between Dundas and Webster's Falls as solutions and alternatives are considered.

Development Phasing

2013	Stairway replacement between Webster's & Tew's Falls	\$80,000
	Fencing	\$63,000
	Wayfinding & safety signage	\$17,000
	Buffer plantings	\$8,000
	Creek access ramp removal	\$2,000
	Total	\$170,000
2014	Tew's parking and access road improvements	\$60,000
	Washroom design and permits	\$30,000
	Trail restoration	\$7,500
	Safety and regulation signage, trail markers	\$18,000
	Restoration and buffer plantings	\$20,000
	Pavilion floor repairs	\$15,000
	Total	\$150,500
2015	Washroom building construction and servicing	\$245,000
	Main walkway improvements at Webster's	\$25,000
	Trail restoration	\$7,500
	Cobblestone bridge walking surface repairs	\$13,000
	Restoration and buffer plantings	\$10,000
	Total	\$300,500
2016	Webster's entrance road and parking lot improvements	\$58,000
	Tew's parking lot area improvements	\$12,000

	Restoration and buffer plantings including oak savannah	\$16,000
	Trail markers	\$6,000
	Interpretive signage	\$11,000
	Total	\$103,000
2017	Restoration & shade tree plantings	\$14,000
	Total	\$14,000

8.3 Funding

The development of the site features including fencing, stair replacements, interpretive signage, trail improvements, installation of safety fencing, and restoration plantings, will depend on available funding, grants, and donations.

With respect to donations, the Conservation Authority currently has a recognition program in place as does the HCA Foundation. Based on the size of the donation donors may be recognized with signage onsite, in media releases, on the HCA Conservation Foundation websites and Facebook page. Donors may also be recognized in person at a media event and ceremony (eg. a ceremony to officially re-open the stairs). HCA Conservation Foundation recognition policies require a minimum of 60% of project costs as donation for a naming opportunity. The Conservation Foundation and Hamilton Conservation Authority will also issue a charitable receipt for cash donations, most in-kind donations, as well as gifts of securities.

SECTION NINE: MANAGEMENT

An ecosystem is the interrelationship of all living and non-living elements in a natural system. The three basic elements in the ecosystem approach to planning are environmental, social and economic. The goals for management of the Spencer Creek-Webster's Falls Conservation Area are to manage the ecosystem through the identification of appropriate park management zones, endorsement from the public on the strategic directions to ensure user needs are met, and finally in the preparation of a staging plan with recommendation on implementation of improvements as funds become available.

9.1 Relationship to Watershed Management Program

The Spencer Creek Watershed is composed of several natural components functioning together as a system. Each component is related to, and influences the other in some way. The Spencer Creek Watershed Management Plan was prepared in 1997. The attributes of the watershed are divided into three categories: water, nature and community.

The primary stresses of the watershed were identified within the Mid Spencer Creek and Logies' Creek sub-Watershed as well as opportunities for management. Stresses included encroachment into riparian zoned areas, and recreational activity. The opportunities identified included an increase in riparian vegetation, the promotion of stewardship, a recreation management plan, the promotion of trail user education and detailed water monitoring.

There are many challenges and opportunities in the management of the watershed including:

- Terrestrial habitat, including rare and significant habitat in the watershed, is being threatened by human activity.
- Competition with non-native species is threatening some indigenous vegetation and wildlife.
- Some well defined corridors along valley systems and the Niagara Escarpment link significant open spaces.
- Increased public demand for recreation opportunities is placing additional stress on natural areas.
- The Spencer Creek Watershed has a good natural heritage database already completed.
- The Regional Official Plan and new Urban Hamilton Official Plan (pending OMB approval) contain strong policy recommendations based on ecosystem planning.
- Some Environmentally Significant Areas are protected by public ownership.

9.2 Environmental Management Techniques

9.2.1 Protection and Management Techniques for Sensitive Areas and Species

There are a range of management techniques for the protection of sensitive areas and species. Diverting foot traffic from sensitive rim communities along the Escarpment is the challenge in the study area, where visitors are attracted to the cliff edges for the best views and often step away from the designated trail. However, the Bruce Trail side trail is also strategically aligned along the cliff rim to capture the best views. Techniques within the study area to alleviate visitor impacts include trail closures to allow regeneration. The master plan recommends the closure of the access to the Gorge to allow natural regeneration and to determine the capacity of use that will be sustainable for the future. The master plan also recommends trail diversions away from the rim along the trail to Dundas Peak, where safety and degradation are issues, and providing additional links to the Glen Ferguson side trail.

Where visitors frequently cut down embankments for views of the falls (eg. which occurs above Webster's falls) a formal overlook is recommended, as well as restoration planting and placement of barriers such as extensive galvanized or iron rail fencing. In the area between the cobblestone bridge and rim of the falls, the Master Plan recommends allowing the area to naturalize (no mowing), and extending rail fencing along the top of the rim further than existing. This is such a popular cut through location, that it will be difficult to stop this entirely. In other locations, continued monitoring, and installation of galvanized metal rail fencing and barriers such as rocks and logs to impede access as well as installation of interpretive and warning signage is recommended.

These recommendations are consistent with the 1991 study on Vascular Plant Flora of the Spencer Gorge Area of Natural and Scientific Interest, which recommended that:

- The area should be protected from development or other impacts;
- Existing linkages with other natural areas should be maintained and enhanced;
- Buffer strips should be maintained or created around the periphery of this site and along the upstream riparian corridors to protect the integrity of the natural vegetation patterns and to protect water quality in the stream systems flowing through this natural area; and
- Future field work should include monitoring of groundwater and surface water conditions and the monitoring of significant species.

9.2.2 Priority Protection Areas

Priority Protection Areas include the Spencer Gorge, the Spencer Creek subwatershed, dry oak woodlands and prairie remnants. The Ecological Survey of the Niagara Escarpment Biosphere Reserve Volume 1. Significant Areas (Varga et. Al., 1996) includes a site summary for the Spencer Gorge and recommends that trails and foot traffic be diverted from the sensitive rim communities near Webster's Falls. The Dry Oak Woodlands along the top of the Gorge and the prairie remnants along the Gorge rim are two rare and significant communities that are being degraded due to trail widening, invasive species, and overall high use of the area. Monitoring programs have already been established by the Conservation Authority for the tallgrass oak woodland and prairie remnants, including restoration efforts (e.g., removal of undesirable woody species to help facilitate growth of desired species). These programs have been advanced over the last 15 years through various restoration projects.

Unfortunately the majority of the seven national and provincial species at risk listed in the 1996 Ecological Survey were not geo-referenced; therefore it is difficult for the HCA to locate these species for future monitoring. However, the HCA will be implementing a Species at Risk monitoring program at which time, the seven species at risk listed will be relocated, geo-referenced and monitored regularly.

The Tufa Mound is a feature considered to be rare in Ontario and was recently identified in the along the unofficial lower Gorge trail. This feature is vulnerable to human impact and needs to be protected against negative impacts including off trail users, soil compaction, and erosion. Any future considerations to re-instate the lower Gorge trail must ensure that protection measures such as a raised and fenced section of walkway are implemented.

9.2.3 Invasive Species

The Conservation Authority has already established a monitoring program for sensitive areas, including restoration efforts (removal of undesirable woody species to help facilitate growth desired species). There are various management techniques that can be employed to reduce the negative impact of undesirable woody and herbaceous species. These management techniques include educating adjacent landowners on undesirable and invasive species to avoid when planting their gardens.

Specific areas abutting the boundaries of the Conservation Area are subject to the invasive species that have been introduced by adjacent land owners. The use of door to door direct mailing of educational brochures for adjacent homeowners to discourage encroachment into natural areas by dumping of landscape maintenance refuse and information on invasive and undesirable species to plant, as well as posting of regulation signage to deter dumping of yard waste into natural areas is recommended in these areas.

9.2.4 Trails and Overlooks

Trails and overlooks must be properly designed using appropriate materials and constructed to avoid puddling, drainage and erosion of trails. The management techniques recommended in the Master Plan include trail edge delineation such as fencing and boardwalks in sensitive or regenerating areas, to encourage correct trail use. In addition, trail diversions away from sensitive or steep sections as well as the installation of 1.5 metre high (5 foot) galvanized fencing is recommended as further protection along steep sections of trail.

The Bruce Trail is a footpath generally of an "unimproved" type. Improvements should be made only under the following circumstances:

- to permit safe unobstructed passage for pedestrians in all seasons;
- to protect property, whether public or private; and/or
- to prevent erosion and otherwise minimize or eliminate adverse environmental impacts.

9.2.5 Wayfinding/Interpretive Signage:

The use of signage to educate park and trail users about sensitive areas and desired conduct, as well as information about points of interest is strongly recommended in this Master Plan.

9.2.6 Risk Management :

Universal symbol signage, educational signage, sturdy fencing, and trail re-alignment as well as controls to pedestrian access within sensitive natural areas including raised boardwalks are recommended.

Water access in the area is a popular attraction; however, this perception must change. Playing in the Creek above or below the falls is *not* acceptable or safe. The overuse of this area has led to the deterioration of the natural area that many are unaware of.

SECTION TEN: PUBLIC CONSULTATION

Consultation plays a key role in not only generating ideas from the outset but also generating community support for the project. Given this importance, the Consultant Team included extensive consultation to actively engage the broad spectrum of stakeholders that have an interest in the Master Plan. Public consultation and input was achieved through 3 public information centres/workshops, two on-site surveys, comments sheets and emails.

10.1 Public Information Centre #1 (March 21, 2012)

The first Public Information Centre (PIC) was well attended by approximately 54 people including individuals from outside the immediate Greenville Community. The meeting included a short presentation followed by a workshop session. The purpose of this PIC was to introduce the project, provide background information and to identify key issues.



The key issues identified were broken into 5 categories:

- Parking/Vehicular Access and Signage
- Hamilton Emergency Services (HES) Access
- Trails/Walkways/Stairs and Overlooks
- Open Space, Picnic Area and Infrastructure
- Natural Areas Protection

Appendix D includes a summary of the PIC including the format, method of advertisement and copies of the comment sheets received.

10.2 Public Information Centre #2 (April 6, 2012) and Survey #1

The second PIC was more informal in that a tent, including the information panels provided at the first PIC, was set up adjacent to the Webster's Falls parking lot for visitors to review and comment on. In addition, comments sheets were made available for the public to either fill out on site, or take home and return to the Consultant team later. The April 6th date was chosen as it represented one of the peak users days of the Conservation Area (i.e., Easter weekend).

The purpose of this consultation was to inform the park users of the Master Planning process that was underway and to obtain input from park users to determine the purpose of their visit and the duration of their stay. 54 visitors were interviewed casually and asked where they were coming from and how long they planned on staying in the area.

Appendix E includes a summary of the information obtained from this PIC.

10.3 Public Survey #2 (Sunday May 20, 2012)

An on-site survey was undertaken on May 20, 2012⁶ to identify where visitors were coming from, how long they intended on staying in the Conservation Area that day, and what activities they would be doing (picnicking, hiking/walking). Visitors were also asked if they had any difficulty in finding the Conservation Area, or issues while at the Conservation Area.

The Traffic Consultants identified that during the peak period from 2:45p.m. to 4:30 p.m. there were 705 cars parking in the Conservation Area, and off site. Generally there were three people for each car during this peak period, as well as visitors

⁶ May 20, 2012 of the Victoria Day long weekend.

who walked into the Conservation Area from the Gorge/Dundas and Webster's Falls Road. During the peak period on May 20, 2012 it is estimated that there were approximately 2,500 visitors at Spencer Gorge-Webster's Falls Conservation Area.

The traffic /parking survey presents an analysis of the impacts and issues related to the vehicular traffic and reflects the issues that have been experience during the peak periods over the last few years as the area is becoming a bigger regional attraction. The following is an analysis of the visitor experience and issues seen May 20, 2012 and also reflecting the issues that have been identified by the local residents

Visitors who came to the Conservation Area before 10:00 a.m. were generally hiking or walking. Members of family groups starting arriving at the Webster's Parking lot around 10:00 a.m. and their first point of orientation was at the top of the walkway leading down to Webster's Park. Because the accessible trail is asphalt, many visitors started to walk toward the accessible overlook before they were redirected. Most visitors to the Conservation Area were looking for Webster's Falls picnic area as their primary destination, and asking where the picnic tables were to be found. These visitors were part of family groups who were meeting at the Webster's Falls parking lot. As the Webster's parking lot and overflow parking area filled up, people were directed by police officers and HCA staff, to the Tew's parking lot. As a result, some family members had difficulty locating their extended families as some were relocated to the Tew's parking lot, while others who were turned away from the Tew's parking lot, parked on side streets and walked in.

Some families were drove down Short/Fallsview Road and dropped off their family members and picnic supplies at the pedestrian entrance, and then drove on to find a place to park. Many pedestrians ended up walking into the park along Short/Fallsview Road, because they were required to park off site.

Those visitors interviewed were asked if they had difficulty finding the Conservation Area. Many said that they did, and that they could not locate the site through a GPS coordinate. Others suggested better signage from Highway No. 8 and Brock Road would be beneficial.

By mid afternoon the parking lots were full and remained full with very little turn over. Visitors still continued to arrive, parking off site and walking in. However, this was less convenient for families comprised of seniors and young children. Overall, many visitors came to set up a family picnic including games, and planned on staying for the day and into the early evening. People were seeking shade opportunities in the main, lower open lawn area and by the Spencer Creek. In the lower Webster's Park area near the creek, visitors sought out shade and picnicked under shade trees. Family groups ranged from two up to approximately 50. Although there were a number of large groups, Webster's Falls Park area did not exceed its capacity for picnicking, based on the amount of open space and ease of movement around this area. The walkways, bridge crossing and overlook were not overly congested.

10.4 Public Information Centre #3 (Tuesday June 26, 2012)

The third public information centre was held at Christ Church, Flamborough. 46 people attended this open house which began at 6:30 p.m. with a display of the Draft Master Plan and Concept Options panels. A presentation of the draft Master plan was held from 7:00 until 7:30 and was followed by open discussion for one hour. At the end of the question and answer period, the public was asked to consider the two concept options, and place a red dot beside the features proposed that they did not like. The meeting concluded at 9:00 p.m.

In summary there was support for the shuttle proposal, as a means to deal with the volume of traffic in the area, but also concern for visitors parking on local streets. The consultant team explained that parking restrictions are proposed for all residential lands east of Brock Road, and west of Ofield. The intent is to implement a comprehensive traffic control plan all at the same time. Extra enforcement will be required during the initial stages of implementation.

The public expressed concerns about the number of people the park can handle. The consultant team responded that there are many pedestrian access points and that it is extremely difficult to assess the number of visitors using the park. Capacity of a natural park setting is difficult to calculate. The shuttle will also provide an opportunity to monitoring the

numbers of visitors to the Conservation Area. Documentation of impacts by visitors and recommendations for mitigation have been included in the Master Plan.

At the PIC, the consultant team explained that these are public lands. It is not the intention of the Niagara Escarpment Plan to restrict access based on where people originate from.

There was concern that the stairs were closed, and local residents suggested the stairs be open during weekdays, when the issue of overcrowding is reduced. However, the consultant team explained that the stairs were closed because of safety concerns and environmental concerns.

There was also a question to the consultant team if an inventory had been done of the places that the Spencer Gorge-Webster's Falls Conservation Area is being promoted. The popularity of the area, has been a result of the success of these promotions. Tourism Hamilton, and City of Waterfalls are two organizations who promote the area. Part of the implementation of the Master Plan will be to work with the major people/organizations to properly and consistently promote the area as a natural wilderness area to be respected.

The public was given six red dots (3 per concept) to place on an illustrated feature that they did not like. A tabulation of the number of dots placed on the illustrated feature is noted below. In summary, participants did not like parking on the local residential roads, by park visitors. They did not like the current stair closure to the Gorge, although some did not like the proposal to replace the stairs. Re-opening the existing stairs was not a long term recommendation by the consultant team due to the condition of the stairs. A follow up questionnaire has been posted on the HCA website asking this question once again.

Option B: Residents comment of what they do not like	
Off site Parking – <i>continue to allow parking on local residential roads</i>	50
Add Directional Signage	1
Vehicular Access- Webster's – <i>add exit lane</i>	1
Webster's Falls Parking Lot – <i>improve accessible parking – add exit lane</i>	2
Webster's Falls Parking Lot – <i>allow overflow parking on peak season/weekends</i>	10
Open Lawn-Tew's – <i>allow overflow parking on peak season/weekends</i>	11
Allow fireplace and BBQ	9
Gorge-Close Stairs	31
Option C: - Residents comment of what they do not like	
Christie Lake Conservation Area Shuttle	7
Add Directional Signage (road)	2
Shuttle Drop-Off at Webster's parking lot	1
Shuttle Drop-Off at Tew's parking lot	1
Webster's Falls Parking Lot - <i>close on Weekends</i>	4
Greenville Optimist Community Park – <i>close parking lot on weekends</i>	4
Improve/add Directional Signage (park)	1
Remove Fireplace and ban BBQ use	3
Webster's Park-close walkway sections	1
Extensive riparian plantings	1
Railings above Webster's falls	1
Gorge-replace stairs and provide boardwalk	10
Improve Gorge Trail	2
Total	153

10.5 Public Information Summary

Local residents generally would like to see the character of the Conservation Area remain the same as it has historically been, with picnicking, hiking and site-seeing as the park uses. Local residents would like to see the numbers who use the Conservation Area capped at an appropriate level to what the area can sustain, with concerns for the degradation of the environment, safety concerns for visitors who access the cliff edges, and concerns about traffic congestion on local roads. There was also concern regarding Hamilton Emergency Services access through the area. Local and out of town visitors come to experience the waterfalls, especially Webster's Falls, enjoy family gatherings, and the natural setting. The public input was documented and is included in Appendix E.

10.6 Master Plan Review and Approval

The draft plan and recommendations from the consultant were presented to the Conservation Advisory Board at their December 13, 2012 meeting. The Advisory Board made a recommendation to the Board of Directors that the public consultation period on the plan be extended to January 18, 2013 and that staff be directed to prepare a report for the February meeting of the Conservation Advisory Board which was approved by the Board of Directors at their meeting of February 7, 2013.

At the February 14th meeting of the Conservation Advisory Board, the committee members determined that they required an on-site meeting to further review the recommendations put forth by the consultant and staff. The site visit was conducted on Saturday, March 23, 2013. At the site meeting, the committee members provided specific direction of many of the key master plan components and recommendations. The main departure from the consultant's recommendations was the non-acceptance of the concept for a shuttle system which would operate between Christie Lake and Spencer Gorge-Webster's Falls during peak visitation times. There was little support for this approach at the Board level as well as with the general public. Eliminating this approach made it necessary to examine other ways for accommodating and managing traffic and parking both on and off site. Otherwise, most of the plan components recommended by the consultants were included in the recommendations from staff as well as the recommendations from the Advisory Board.

At their meeting on May 2, 2013, the Board of Directors adopted the revised master plan for Spencer Gorge-Webster's Falls Conservation Area under resolution BD12,1841 and directed the revised master plan and approval statement be submitted for formal approval by the Ministry of Natural Resources and the Niagara Escarpment Commission.

SECTION ELEVEN: RECOMMENDED MASTER PLAN POLICIES:

11.1 Species at Risk Monitoring Strategies

Seven species at risk were documented as occurring within the Spencer Gorge-Webster's Falls Conservation Area. These species have been identified as "at risk" in Canada and/or Ontario by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and/or the Committee on the Status of Species at Risk in Ontario (COSSARO). The Conservation Area also contains several species and vegetation communities that are considered provincially rare. It is recommended that appropriate management and monitoring of these species/vegetation communities continue, and that development of specific visitor impact management plans be undertaken as a high priority.

Provincially rare species should be examined in more detail during the on-going management of the Conservation Area to establish appropriate management protocols.

11.2 Restoration

The habitat restoration recommended should be directed towards improving habitat in key areas for targeted species, improving prairie oak woodlands, escarpment rim buffers, and eroded slopes.

11.3 Trail Development, Uses and Management

No new trails are proposed in the Master Plan. The Webster's Falls side trail between Tew's Falls (where the trail juncture with the Glen Ferguson Side Trail) and Dundas Peak should be further monitored, to provide recommendations for re-routing sections of this trail for safety and environmental restoration.

The stairs to the lower Gorge are to remain closed to allow for regeneration of the lower Gorge and to allow further monitoring and development of a visitor impact management plan.

Recreational uses should not exceed the carrying capacity of an area. It is recommended that further monitoring be undertaken to determine the number of visitors hiking the trails.

11.4 Trail Cuts and Trailhead Closures

Where unauthorized access to the escarpment cliff and embankments have occurred, HCA has undertaken measures to fence off these access points; however ongoing monitoring, and more sections of fencing is required. The installation of galvanized fencing, as well as the placement of vegetation, rocks, logs, and other deterrents is recommended.

Unauthorized access from the lower Gorge along the creek is occurring. The adjacent landscape in the immediate area needs to be rehabilitated to discourage entry. For the lower Gorge, near the CN lands, the trail closures will allow restoration of interior portions of the trail to progress naturally. Trailhead closures, fencing and vegetation planting will be executed by HCA operations staff.

11.5 Park Operations

Conservation Area activities are subject to the *Conservation Authorities Act* (RRO 1990, Regulation 116) and Ontario Regulation 365/88. In addition, the following general policies are recommended for adoption for the Spencer Gorge-Webster's Falls Conservation Area:

- a) Trail use and any other recreational or educational activity shall be permitted provided the capacity of the proposed facility is not exceeded, no significant environmental degradation of the natural resource base occurs, and a visitor management program is prepared and implemented to monitor impacts and provide management with a means to curtail recreational overuse and provide corrective measures.
- b) Event activities shall generally be restricted to the Development Zone with the exception of specialized activities that may require utilization of the trail system such as group hikes. Permitted events will only include those that are deemed compatible with the general nature and capacity of the Conservation Area without negatively affecting Conservation Area resources or users. Permits or bookings shall be negotiated and approved by HCA staff under the supervision of the Conservation Area manager.
- c) The staging or hosting of special, historic or tourism events shall typically be organized and operated by Hamilton Conservation Authority staff as an integral component of natural and cultural education services. Additional special events will also be permitted by private groups or individuals at various locations subject to negotiation and issuance of a special-use permit by the CA. Additional special events permits shall be negotiated on a case-by-case basis.

11.6 Accessibility

As a public agency, the Hamilton Conservation Authority has an obligation to make its resources and services available to all members of the public. Accordingly, the Hamilton Conservation Authority shall, to the greatest extent possible, remove financial barriers to the enjoyment of the Spencer Gorge-Webster's Fall Conservation Areas. In addition, the HCA will ensure that its infrastructure is consistent with *Accessibility for Ontarians with Disabilities Act 2005* (AODA) standards where feasible and possible.

11.7 Sustainability

Hamilton Conservation Authority will provide, to the greatest extent possible, facilities and services that protect and enhance the natural heritage system. This includes locating trails in non-sensitive areas and may include restricting access and/or closing trails that have caused degradation to the natural environment. In addition, the CA will include utilize best practices for managing on-site rainwater, the use of native vegetation in landscaping, high energy and water efficiency in building design, the use of alternative "green" sources of energy and reuse or recycling of existing materials.

11.8 Park Classification

The Existing Park Classifications under the Niagara Escarpment Open Space System (NEPOSS), within the study area includes: Natural Environment (Spencer Gorge Wilderness Area); Escarpment Access (Webster's Falls Park), and Historical (Greensville Optimist Community Park). The Spencer Gorge-Webster's Falls Conservation Area Master Plan proposes that the entire study area be classified Natural Environment.

11.9 Park Management Zones

The Spencer Gorge-Webster's Fall Conservation Area Master Plan employs the zoning system of the NEPOSS. There are five recommended zones in the Spencer Gorge-Webster's Falls Conservation Area system: Nature Reserve Zone, Natural Zone, Access Zone, Historical Zone, and Development Zone. Park zones are intended to fulfill the following functions:

- Identify and provide recognition of the natural and cultural features and attributes of the Conservation Area;
- Delineate areas on the basis of differing requirement for management; and
- ensure park users get the most out the Conservation Area, within environmental protection constraints.

The boundaries of the zones have been determined through a process of inventory and analysis. Under the Niagara Escarpment Plan, zoning is stipulated as essential to the orderly planning, development and effective management of the Conservation Area. Figure 17 illustrates the recommended park management zones assigned to different portions of the Master Plan area. Table 28 includes the purpose of the various zones, articulates their purpose and the uses permitted.

Figure 17: Park Management Zones

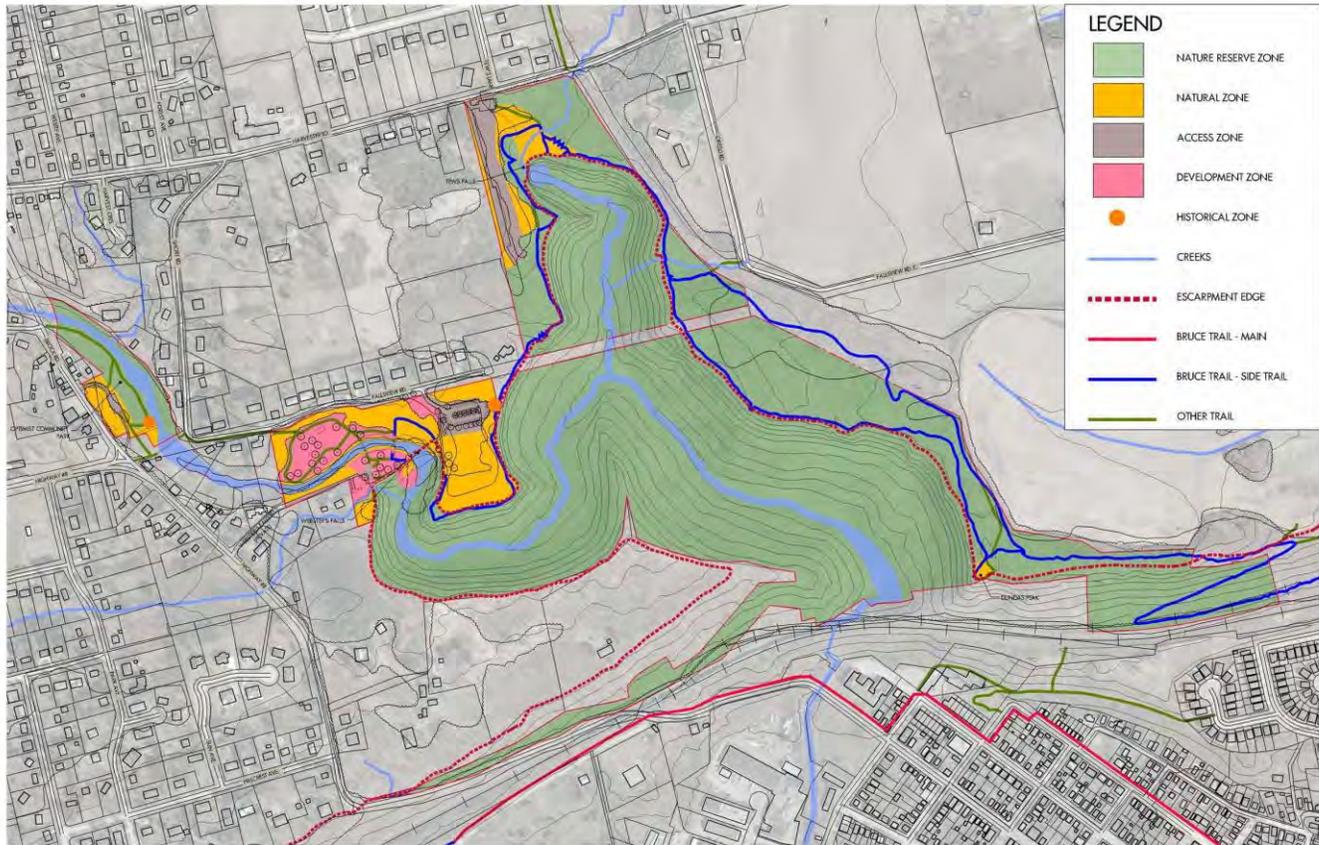


Table 28: Park Management Zones

Zone	Purpose ⁷	Area included in ha	Permitted Uses
Nature Reserve	<ul style="list-style-type: none"> To provide for the long term protection of the escarpment face and Gorge including provincially significant features and to ensure appropriate adjacent uses. 	<ul style="list-style-type: none"> With the exception of the Webster's falls stairs and the lands immediately below the falls, all of the lands below the escarpment edge including the Gorge area are included in this zone. Includes the Spencer Gorge Escarpment Valley ANSI. All lands above the escarpment not identified as natural, access or historical. 57.27 hectares (86%) of the Master Plan Area. 	<ul style="list-style-type: none"> Passive and low intensity recreation including hiking trails Forest and wildlife management practices that contribute to the sustainability and or enhanced of the natural system. Trails and signage.
Natural	<ul style="list-style-type: none"> To provide for the predominant protection and maintenance of Tew's and Webster's Falls and their provincially significant features, while providing for low intensity recreational activities and support facilities. This zone will also serve as a buffer between the Development and the Nature Reserve Zone. 	<ul style="list-style-type: none"> Tew's Falls lookout and interpretive areas. Open area south of Webster's Falls parking lot and area abutting Development Zone. 5.6 hectares of the Master Plan Area 	<ul style="list-style-type: none"> Hiking, walking and education. Development is generally restricted to trails, stairs, necessary signs/fencing and minimal interpretive facilities to support the permitted uses.
Historical	<ul style="list-style-type: none"> To provide long-term protection and management of historical park resources. 	<ul style="list-style-type: none"> This zone includes an historical cemetery located immediately east of the Webster's Falls parking lot. 0.08 hectares of the Master Plan Area 	<ul style="list-style-type: none"> cemetery Interpretive and educational facilities Trails and signage Fencing
Access	<ul style="list-style-type: none"> To provide the main access to parking lots, trail heads, open space, facilities and services. 	<ul style="list-style-type: none"> The access driveways and parking lots associated with Webster's Falls and Tew's Falls. 1.66 hectares of the Master Plan Area 	<ul style="list-style-type: none"> Access roads, signs, trailheads and parking lots
Development	<ul style="list-style-type: none"> To support the principal recreational activities for day-use including hiking, picnicking, and limited special events. 	<ul style="list-style-type: none"> This zone has been assigned to current day use areas including the manicured area of Webster's Falls Park, the stairs to the Gorge and a limited area at the base of Webster's Falls. 1.74 hectares of the Master Plan Area 	<ul style="list-style-type: none"> Hiking, picnicking, picnic shelters, washrooms Stairs to the base of Webster's Falls Trails and signage Look out areas Fencing Maintenance building/structures

⁷ NEP, Section 3.1.5, 2005

11.10 Park Zone Management Policies:

11.10.1 Nature Reserve Zone Management Policy

The *Nature Reserve Zone* shall preserve and protect provincially significant features of the Niagara Escarpment including provincially and locally significant land forms and ecological function, with emphasis on the long-term protection and management. Permitted activities include passive and low intensity recreation; environmentally appropriate scientific research and forest and wildlife management techniques that contribute to the sustainability and or enhancement of the natural system. Development will generally be restricted to trails and signage only.

11.10.2 Natural Zone Management Policy

The *Natural Zone* shall generally provide for the protection and enhancement of provincially significant features that establish the landscape, while providing for low intensity recreational activities and support facilities. Development will generally be restricted to the minimum necessary to support the low intensity recreational activities. This zone will also serve as a buffer between the Development Zone and the Nature Reserve Zone to protect the integrity of the natural vegetation and water quality in the stream systems.

11.10.3 Historic Zone Management Policy

New development shall be restricted in the *Historical Zone* with only the cemetery, trails, fencing and interpretive signage permitted.

11.10.4 Access Zone Management Policy

The *Access Zone* shall provide basic infrastructure support facilities for the associated recreational activities such as entrance roads, parking, and kiosks. All development shall be kept to a minimum and shall not conflict with the general landscape character.

11.10.5 Development Zone Management Policy

The *Development Zone* shall permit passive recreational facility needs including picnic areas, barbeques, washroom facilities, and maintenance facilities. All facilities and infrastructure shall be designed, sited, constructed and maintained in an environmentally appropriate and sustainable manner in keeping with natural landscape character of the Escarpment Park setting.

SECTION TWELVE: APPROVAL STATEMENT

Description

The Spencer Gorge-Webster's Falls Conservation Area is generally located south of Harvest Road and east of Highway No. 8 in the community of Greensville in the City of Hamilton on the Niagara Escarpment. Figure 1a and 1b illustrates the location of this 66.35 acre Conservation Area which includes Spencer Gorge (Tew's Falls, and Webster's Falls), the former Webster's Park and the Greensville Optimist Community Park. These lands are owned and managed by the Hamilton Conservation Authority. Spencer Gorge-Webster's Falls is blessed with spectacular waterfalls, Escarpment views, extensive natural heritage features and numerous trails that all provide a memorable experience for its visitors.

Approval

I am pleased to submit the Spencer Gorge-Webster's Falls Conservation Area Master Plan which has been approved by the Board of Directors of the Hamilton Conservation Authority as the policy for the management and development of this park. The plan reflects the Hamilton Conservation Authority's intent to protect the natural environment of the Niagara Escarpment and the natural and cultural features of Spencer Gorge-Webster's Falls Conservation Area and to maintain and develop high-quality opportunities for natural and cultural interpretation, recreation and enjoyment of the Niagara Escarpment by Ontario residents and visitors.

Chief Administration Officer, Hamilton Conservation Authority

_____ Date: _____

I am pleased to confirm that this park management plan is in conformity with the general intent and purpose of the Niagara Escarpment Plan.

Assistant Deputy Minister, Niagara Escarpment Commission

_____ Date: _____

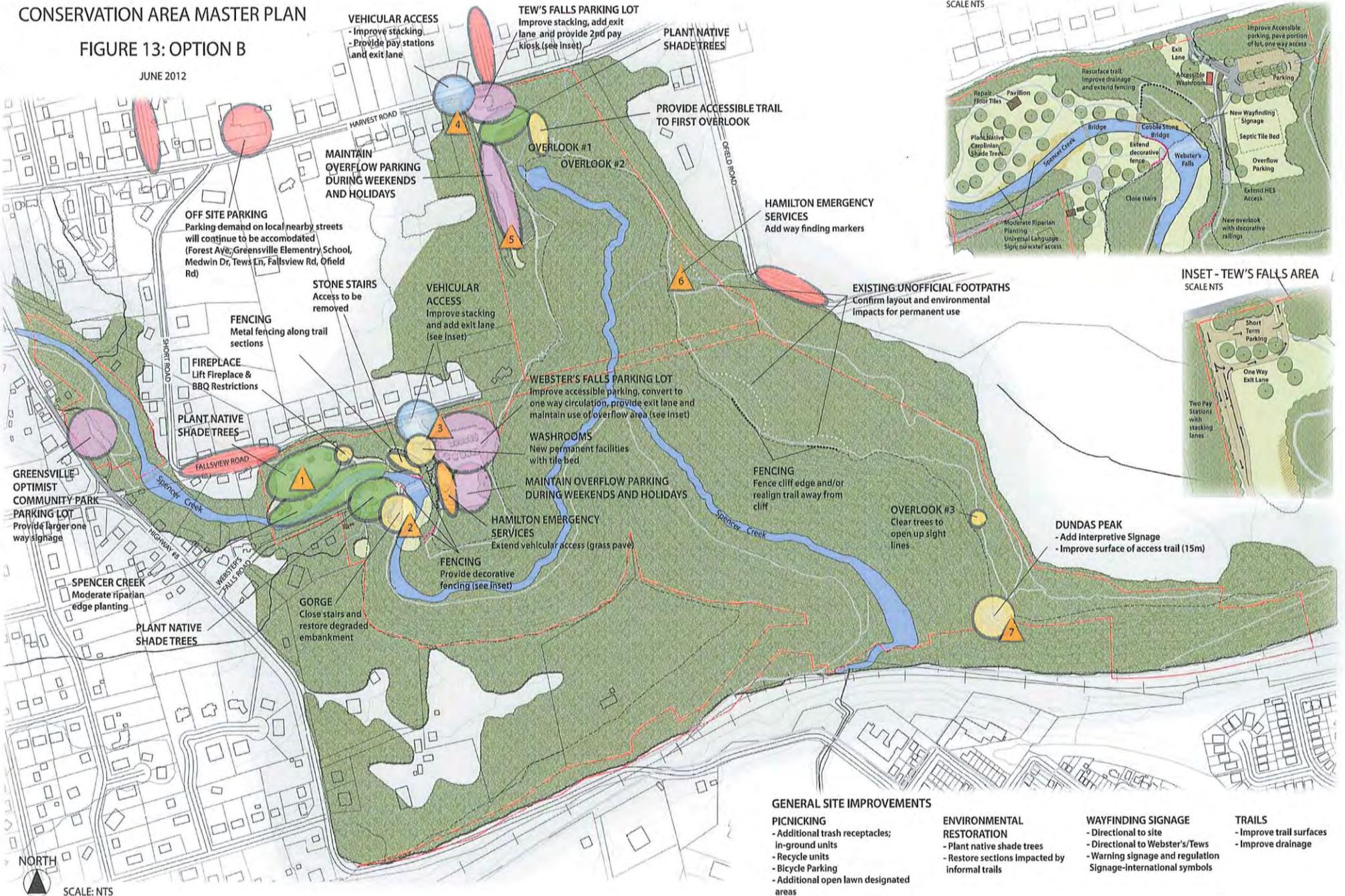
Director, Natural Heritage, Lands and Protected Spaces Branch, Ministry of Natural Resources

_____ Date: _____

SPENCER GORGE - WEBSTER'S FALLS CONSERVATION AREA MASTER PLAN

FIGURE 13: OPTION B

JUNE 2012



INSET - WEBSTER'S FALLS AREA
SCALENTS



INSET - TEW'S FALLS AREA
SCALENTS



GENERAL SITE IMPROVEMENTS

- PICNICKING**
- Additional trash receptacles; in-ground units
 - Recycle units
 - Bicycle Parking
 - Additional open lawn designated areas

- ENVIRONMENTAL RESTORATION**
- Plant native shade trees
 - Restore sections impacted by informal trails

- WAYFINDING SIGNAGE**
- Directional to site
 - Directional to Webster's/Tews
 - Warning signage and regulation Signage-international symbols

- TRAILS**
- Improve trail surfaces
 - Improve drainage

SPENCER GORGE - WEBSTER'S FALLS CONSERVATION AREA MASTER PLAN

FIGURE 15: OPTION C

JUNE 2012



**SPENCER GORGE - WEBSTER'S FALLS
CONSERVATION AREA MASTER PLAN**
**FIGURE 16: RECOMMENDED
MASTER PLAN**

APRIL 2013

