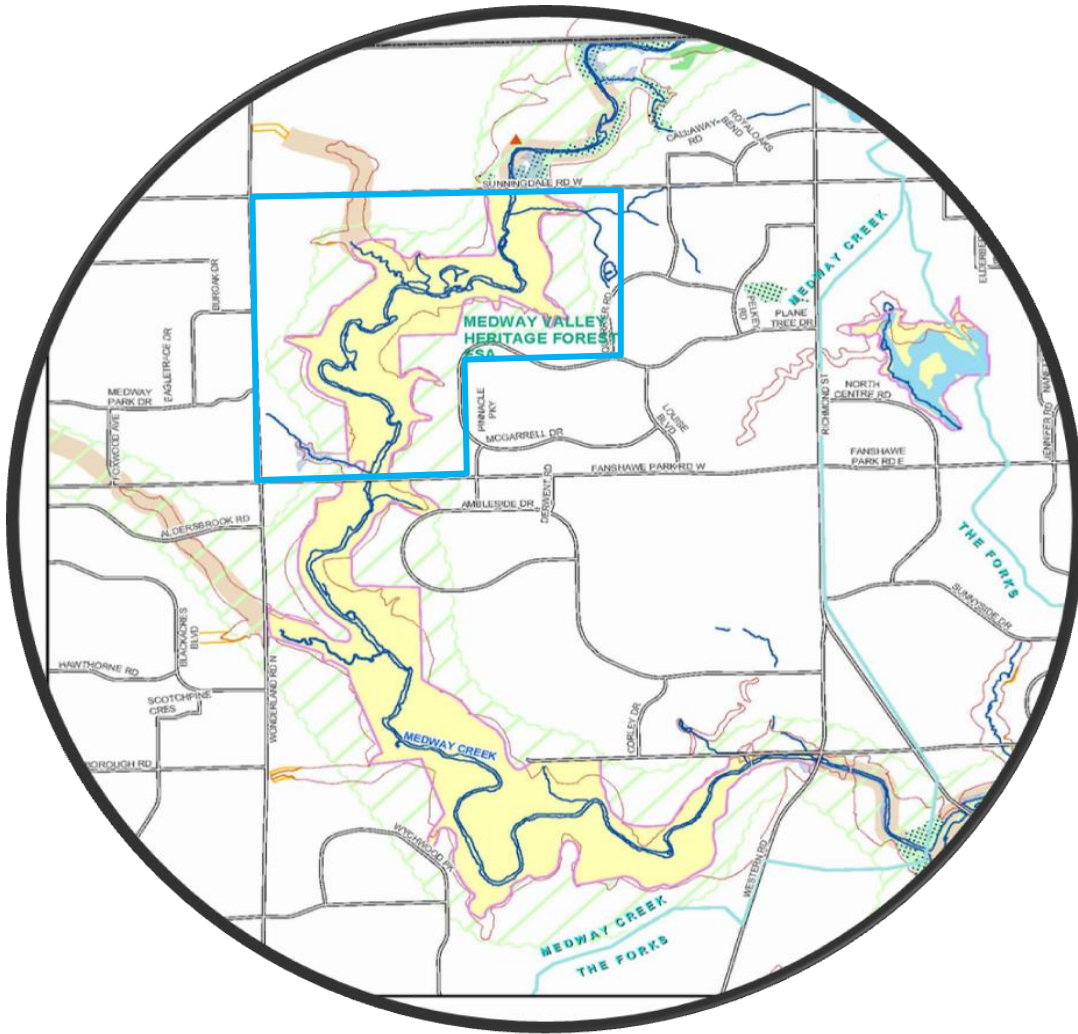


MEDWAY VALLEY HERITAGE FOREST NORTH

ENVIRONMENTALLY SIGNIFICANT AREA TRAIL MASTER PLANNING STUDY

March 2013



Prepared by: Environmental and Parks Planning
with Stantec Consulting Inc.

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PREFACE: What Makes This an Environmentally Significant Area?

The Medway Valley Heritage Forest Environmentally Significant Area (ESA) is one of eight largely publicly owned core natural areas in the City of London. ESAs are comprised of a number of features that are of provincial interest to protect for their long term biodiversity and connectivity. The Medway Valley contains significant habitat of endangered species and threatened species, significant woodlands, significant valleylands, significant wildlife habitat, fish habitat and water features and hydrological functions. Specific criteria in the City of London's Official Plan that this ESA meets based on historic and current ecosystem perspective and knowledge include:

CRITERION 2 – REPRESENTATION - The valleyland is represented by a natural post-glacial spillway with unique geomorphological features and supports a mosaic of creek, floodplain wetlands, and steep forested slopes. The area supports two areas of significant woodland comprised of a high quality mature upland Sugar Maple-Beech forest with “Carolinian” species and a mature Silver Maple swamp forest with wildlife breeding habitat.

CRITERION 3 – LARGE SIZE – The ESA is over 40 ha in area and supports wildlife species that require large blocks of suitable habitat. Historically it had interior habitat more than 100 m from any edge. The introduction of the sanitary sewer and maintenance access road has resulted in fragmentation of this interior habitat area, although the large size of the area still qualifies for this criterion.

CRITERION 4 – HYDROLOGICAL FUNCTIONS – The Medway Creek and floodplain provide water resources functions including conveyance of flows, water quality improvement, groundwater recharge and discharge zones.

CRITERION 6 – CORRIDORS AND LINKAGES – The valley contains important aquatic and terrestrial wildlife habitat, beaver impoundments, waterfowl staging areas, seepage areas, wildlife travel corridors and linkages to other natural areas.

CRITERION 7 – RARE SPECIES – The ESA provides significant habitat for Species-at-Risk (including 3 mussel species, and 1 fish), regionally rare plants and wildlife, and plant species sensitive to disturbance.

Protection of the natural features and ecological functions of the ESA is the principle governing all trail design for ESAs as elaborated in sections 8 and 15 of the Official Plan and embodied in

the Planning and Design Standards for Trails in Environmentally Significant Areas (adopted by Council June 26, 2012).

1.0 BACKGROUND: Why Are We Undertaking This Project?

The opportunity to provide for a recreational trail system in conjunction with sanitary sewer construction through the Medway Valley, in support of development in the Sunningdale and Fox Hollow areas, was linked to the approved 1999 Sewer Environmental Assessment (EA) and the 2004 Sewer EA Addendum. The 1999 EA also recognized that increased uncontrolled access to the valley would create negative environmental impacts over the long term. By formalizing a recreational trail system, impacts could be better controlled.

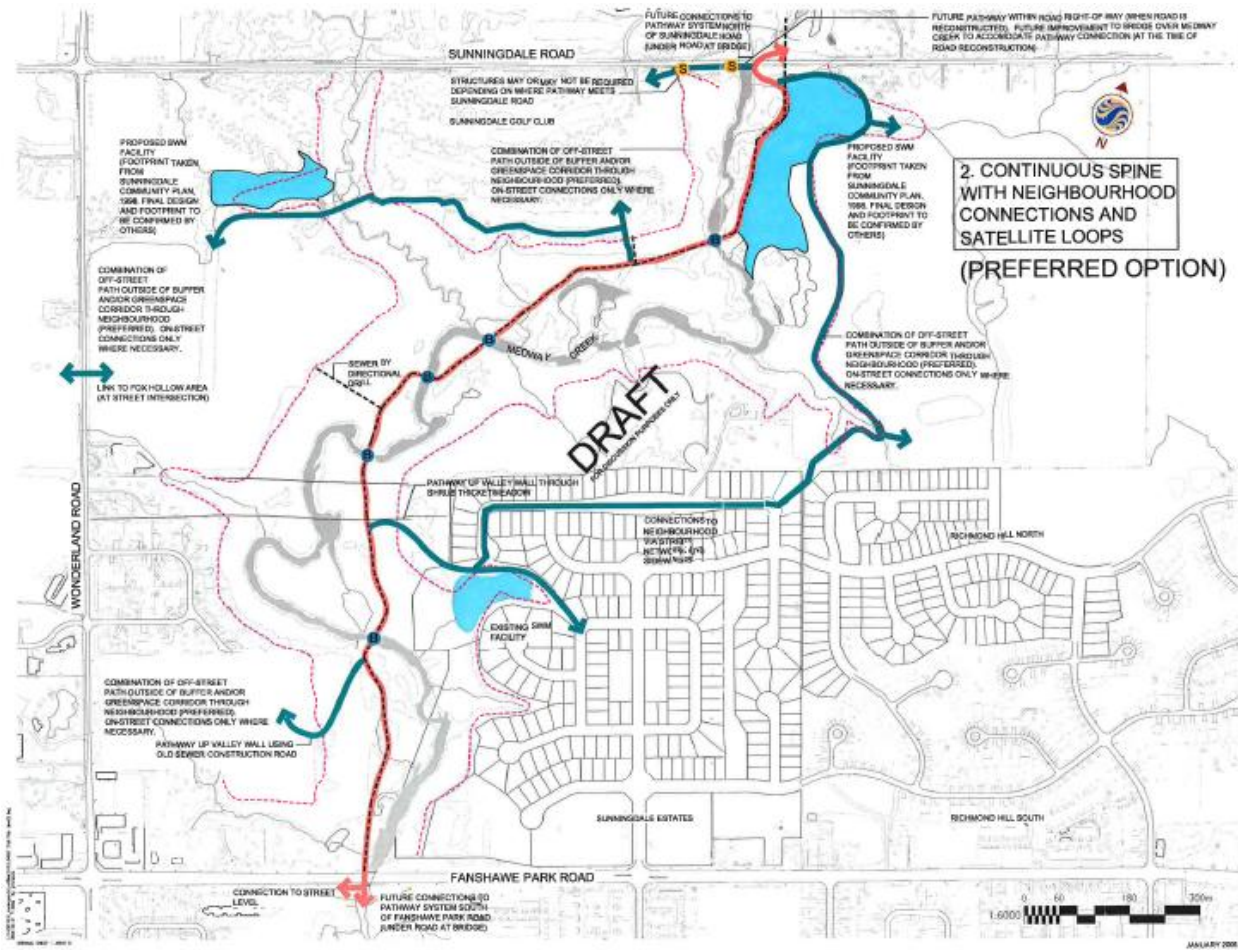
An addendum to the 1999 EA was required to be undertaken because of proposed servicing design changes including the addition of sub trunks, phasing of construction, construction timing, and the need to provide permanent access to the sanitary sewer manholes in the valley for maintenance and operations. The Environmental Assessment Addendum process in 2004 re-examined the potential impacts of these changes. As a result of community and agency input required by the EA process, compensatory mitigation for the additional intrusion and environmental impacts created by the sewer access system through the valley was tied to providing a public social benefit by incorporating the access system with a “multi-use recreational pathway system” where appropriate.

The community participated in developing the 2005 Medway Valley North Master Plan which followed an EA-like public process to evaluate trail/pathway system options. A preferred trail system alignment was selected from a number of different options. The preferred option was a continuous 4m wide asphalt pathway which doubled as sewer access road and included five (5) bridges required to access all sewer manholes (Figure 1).

Phase 1 of the sewer was installed in 2007 with an asphalt pathway/access road and 2 of the 5 bridges. The phase 2 sewer construction was undertaken in 2009-2010; however, without the added construction of the pathway/access road as approved in the 2005 Master Plan. The reason being, that experience gained from construction of the first phase and during the review process of the detailed design of the project, modifications were made that would result in significant reduction of long-term environmental impacts and greater enhancements to the environmental protection opportunities during construction. These changes were incorporated into the design drawings and resulted in a revised sewer access road alignment and the elimination of the other three (3) bridges originally required for access to sewer manholes. The Engineering Division also relaxed the requirement for asphalt paving of the sewer maintenance

access road. Therefore, the trail system would need to be redesigned and the cost of this recreational trail system incorporated into the Planning Division budget.

Figure 1: Medway Valley North Pathway Master Plan and Open Space Management Strategy (2005) preferred Trail System

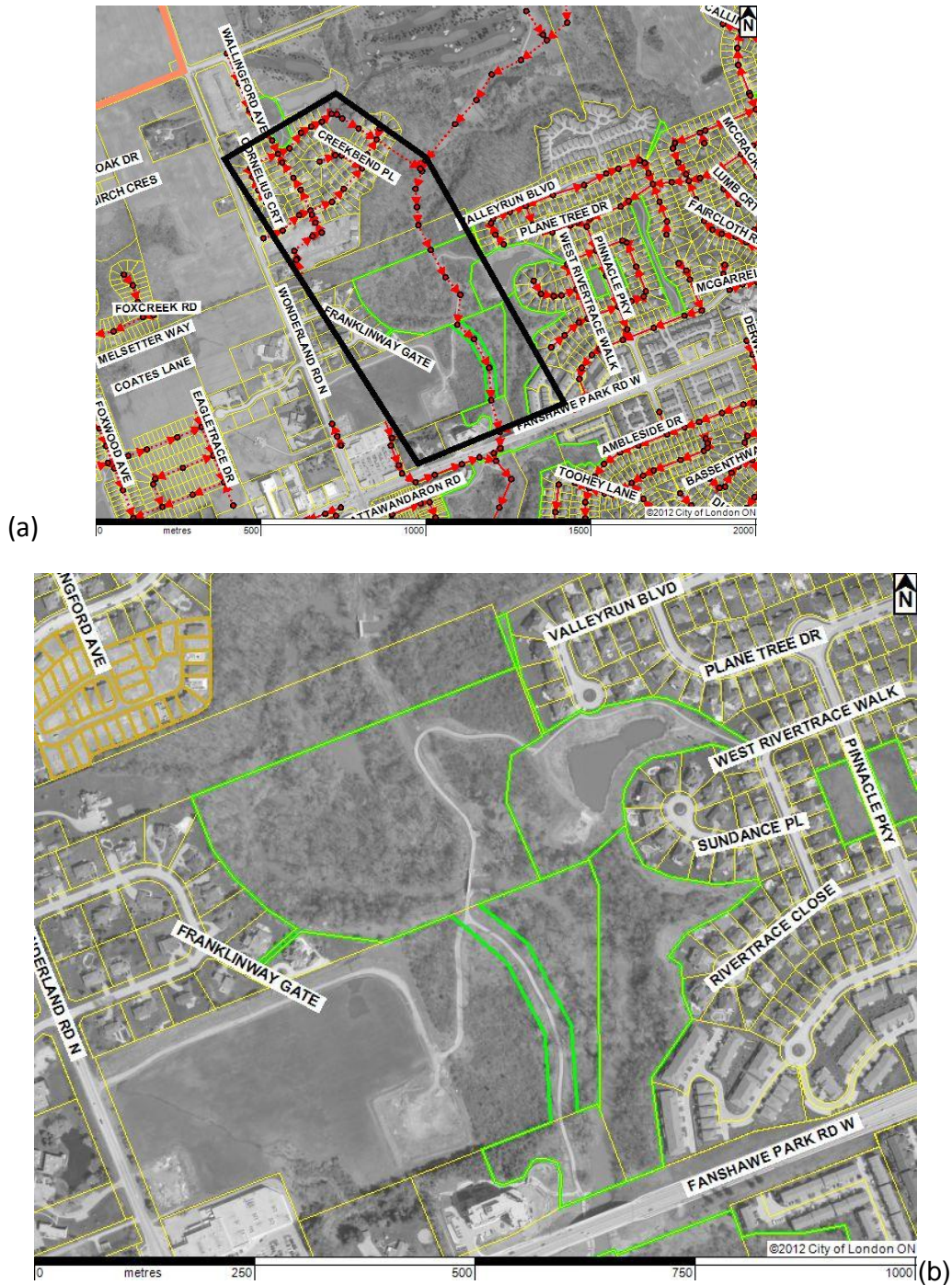


As there was insufficient budget and time to plan and implement an alternative trail system in conjunction with the sewer installation, the City removed the asphalt pathway/access road from the tender and delayed the finalization of the trail system.

Shortly after this decision was made, the use of asphalt was vetoed by the Council in November of 2009, placing a 'City-wide moratorium on any new paved pathways in Environmentally

Significant Areas (ESAs)'. Council directed staff to assess, review and report back on the issues raised by the public regarding the use of asphalt in ESAs.

Figure 2: (a) Construction of Phase 2A was completed in 2007 to service Sunningdale West and parts of Fox Hollow Subdivisions; (b) completion of the first phase of the pathway system with 4 m wide paved access and 2 bridges



2.0 ESA TRAILS FOCUS GROUP: WHAT is the Purpose of this Group?

A Trails Focus Group was engaged and four meetings were held between October 2009 and September 2010 with representation from interested and concerned citizens, “Friends of ESA” groups, other conservation organizations, development industry, advisory committees and community associations to discuss all issues related to trail planning and design in ESAs. These discussions and the issues raised regarding policy, process, and practice resulted in the production of the Planning & Design Standards for Trails in ESAs, completed and approved by Council in June 2012. This document is consistent with and in some areas, exceeds best practices surveyed from other urban municipalities in Canada and the United States.

At the September 2010 meeting of the Trails Focus Group, several case studies were presented where asphalt had been used within an ESA, or proposed to be used within an ESA. Generally, the use of asphalt in ESAs is linked to a requirement by Environmental Services Division for access to infrastructure, in some cases for emergency. The Medway Valley North sewer and recreational pathway was one of the examples presented. At the end of the discussion there was agreement that there was a need to resolve the problem and that it must be a public process larger than the Trails Focus Group.

The group also agreed that the Medway Valley North Trail plan could be used as one of the test areas for the developing trail standards document. However; it was recognized from the start that the Medway Valley is an exceptional situation due to the construction of a trunk sanitary sewer within the ESA and the resulting impacts that have had adverse impacts on the environment. Therefore, the Trail Standards document cannot be applied perfectly in this situation due to the infrastructure located within the valley and the resulting modified environment.

3.0 MEDWAY VALLEY TRAIL PUBLIC ADVISORY GROUP (PAG): Who Are They and What Did They Contribute to the Process?

The first meeting of the Medway Valley Trail Public Advisory Group (PAG) was held on January 12, 2011. There was a good representation of citizens with associations tied to the Medway Valley Heritage Forest ESA and two area Councillors. The purpose, goals and tasks of the meeting were:

- to present and circulate for public comment, the draft Trail Standards based on Council direction;
- to present a history of the Medway Valley including its designation as an ESA, and the various background reports, documents and construction activities related to the sewer and trail system projects;

- to review the first draft of proposed Management Zones for the Medway Valley ESA applied by the City Ecologist;
- to develop trail options and concepts;
- to develop the process for public participation;
- to assign homework for review the 2005 Trail Master Plan Assessment Criteria for the Evaluation of Options

All of the subsequent work completed during 2011 and up to the first Public Information Meeting in December of 2011 related to:

- 1) review of the Trail Standards document;
- 2) application of Management Zones; and
- 3) review of the Criteria for the Evaluation of trail options.

This work was completed by the City Ecologist with input from the public and members of the Trails Focus Group and the PAG.

A second and third meeting of the PAG were held on February 11, 2013 and March 6, 2013 to review the draft Trail Master Planning Study, take a closer look at the top three preferred options and reach a consensus, if possible, on a preferred option that would meet the majority of the planning objectives. Also discussed were implementation factors for consideration such as budget, landownership, approvals for work in the valley and timing of future development. Several new members were added to the group to represent the Sunningdale West Community Association and the Thames Valley Trail Association. Although the PAG was extremely helpful in resolving most issues and narrowing the options down, and more members preferred option 5B (as enhanced by the discussions), the PAG could not reach a consensus on a preferred option.

4.0 COMPLIANCE WITH THE APPROVED ENVIRONMENTAL ASSESSMENT: Is This New Process Consistent With the Approved EA and EA Addendum?

There has been a concern expressed that because the EA Addendum included a requirement for pathways creating social benefits for people, any deviation from this commitment would not be consistent with the Environment Minister approved EA.

We reviewed the relevant planning documents for all references and recommendations related to the trail system design (see Text Box).

Sunningdale Community Plan (1998)

- Provision for passive recreation activities (hiking trails and bicycle paths) in a natural setting

Sanitary Sewer Class Environmental Assessment (1999)

- Recognized the opportunity for the sewer to provide a recreational trail system
- Recognized that increased uncontrolled access to the valley could create negative impact

City of London Bicycle Master Plan (2003-2005)

- Shows a 'secondary recreational route' conceptually through the Medway Valley

Sanitary Sewer Class Environmental Assessment Addendum Report (2004)

- Permanent access to sewer manholes for operations maintenance and emergency services
- Provide a social / public benefit from sewer impact in the Medway Valley ESA
- Where appropriate the sewer access system is to be incorporated into the pathway system

The EA Addendum Report (Sept 2004) characterized the potential negative impacts and positive impacts of the new requirement from EESD for permanent maintenance access to all sewer manholes. To recognize the intent of previous studies, the EA considered the request from Parks Planning & Design and the community (both whom were not supportive of the sewer alignment in the valley), that the required access route serve a dual purpose, an operational access as well as a valley land trail system. These were proposed as mitigation and compensation and to achieve the social benefits from a trail system as contemplated in the Sunningdale Community Plan (1998).

The assessment of this dual purpose system was described by Stantec as a "net environmental and socio-economic effects" analysis. The following impacts were assessed:

Negative

- Loss of vegetation restoration opportunities along the access route;
- Increased human presence and access to the whole ESA;
- Increased disturbance from human activities – garbage, vandalism, dogs off leash, non-native species, access to sensitive areas;
- Permanent fragmentation of wildlife habitat resulting in decrease of wildlife use.

Positive

- Minimize potential for sewage malfunction impacts;
- Permanent controlled access and safe, accessible travel corridor for pedestrians and cyclists to designated areas;
- Reduction in off-trail and uncontrolled use;
- Provision of nature viewing opportunities;
- Increased land value of surrounding communities because of the pathway system.

Their analysis concluded that *“the positive aspects of the access system, to serve a dual purpose of operational access and the control of inevitable human use of the area, outweighed the negative aspects from an environmental perspective”*.

The recommendation to marry the two access systems was carried forward in the final ESR as a modification to the original recommendations of the 1999 Class EA. The 2004 report clearly stated that *“the construction of the sewer should be in accordance with the original Class EA”*. It also stated that *“the (sewer maintenance) access system would be located along the cleared easement and that following construction activity and where appropriate, this access system would be incorporated into a community multi-use path system”*.

The Municipal Council, at its session held on June 28, 2004 resolved:

That on the recommendation of the Director, Wastewater & Treatment, Environmental and Engineering Services, the addendum to the Medway Trunk Sanitary Sewer Extension Class Environmental Assessment (EA) **BE APPROVED IN PRINCIPLE** but that the 30 day review process **BE DEFERRED** ... and on the attached (APPENDIX C) concerns of S. Levin, 59 Longbow Road; it being noted that S. Levin made a verbal presentation with respect to this matter.

The Municipal Council, at its session held on September 7, 2004 resolved:

That at the Environmental and Transportation Committee meeting held on August 30, 2004, the General Manager of Environmental and Engineering Services and the City Engineer recommended: that Civic Administration **BE DIRECTED** to expedite the thirty (30) day review period for the Medway Trunk Sanitary Sewer Extension Class Environmental Assessment Addendum, it being noted that concerns raised by S. Levin and the Attawandaron Residents Association (ARA) are duly addressed in this report.

It was acknowledged that the parties had concurred with the City’s changes to the EA Addendum that better addressed environmental issues, ecological restoration, and included a recreational pathway with the sewer construction to provide social/community benefits.

Summary

This review has assured us that the provision of a fully linked multi-use asphalt pathway through the ESA as proposed by the preferred option from the later 2005 plan was not a requirement of the EA adopted by Municipal Council and approved by the Environment Minister. What is required is the completion of a pathway system that will provide a social and public benefit and compensatory mitigation for negative environmental impacts to the valley and ESA caused by the sewer project, while aligning with the required maintenance access. The preferred option from 2005 was selected as the best option at the time to achieve these requirements based on the approved EA sewer alignment.

5.0 TYPE OF TRAIL REQUIRED BY THE EA: Was A Specific Type of Trail Approved in the EA?

There is no consistent message or outcome in all of the planning documents that state a desired width and type of trail surface that must be developed in the valley. These planning documents are also inconsistent in the description and definitions of *multi-use, trail and pathway*. These were concerns about appropriate trail widths and surfaces and definitions were raised by the ESA Trails Focus Group. The purpose of re-evaluating the 2005 preferred pathway system in the 2011 trail planning process was to recognize the changes made during the sewer construction to reduce the negative impacts on the valley. This would require identifying new possible options to evaluate based on current assumptions and planning tools. The goal was still the same as in 2005 which was to achieve an outcome that will protect the features and functions of the ESA, provide appropriate restoration activities and control and direct the use of the valley for recreational purposes that provide a social benefit as prescribed in the EA addendum.

6.0 MEDWAY VALLEY ESA NORTH TRAIL PLANNING 2011: What Issues must now be Addressed?

This current trail planning exercise must address the following issues:

- 1) the requirement of the original EA to implement the enhanced mitigation measures to achieve an improvement of the functional attributes of the valley ecosystem;
- 2) rationalize the extent of incorporating a multi-use asphalt pathway, or not, within the new trail plan to address the recommendations of the EA Addendum;
- 3) the design of a trail system consistent with the Community Plan (*trail system offering hiking opportunities in a natural setting*);
- 4) the provision of a linked community-based trail system by exploring opportunities to review the project relative to master planning of valley access for sewer maintenance and trails.

- 5) utilize the new Planning and Design Standards for Trails in ESA's to the greatest degree possible, given the above issues (This standard incorporates policies in the Official Plan relating to protection and use of ESAs, particularly Policy 15.3).

7.0 MANAGEMENT ZONES: What Types of Trails Are Permitted Based on the Application of Management Zones to the ESA?

Following the Council approved Planning and Design Standards for Trails in ESAs process, information from a life science inventory, analysis and assessment of the Medway Valley North completed in 2009 by Stantec Consulting and the results of this study plus other background studies completed by Bowles (1988) and by ESG (1998) for the Community Plan, formed the basis for the recommended management zones. Several iterations of the management zone map were produced while the application criteria and factors for defining the zone limits were refined during the trail standard document review process. The management zones provide the direction for public access and permitted trails. The final management zone map is provided in Figure 3.

NATURE RESERVE ZONE: The steep valley walls supporting seepage areas and concentrations of conservative and rare plant species, and a small area of interior floodplain with wetland depressions, and the Wonderland Road Tributary were identified as Nature Reserve where no trails are permitted. These are shaded pink on the final Management Zone map.

EEPAC recommended that the significant and sensitive ecological features depicted on page 24 of this report should be delineated within a Nature Reserve Zone rather than the Natural Area Zone 1 based as “two of the criteria which contribute to the Medway Valley being designated an Environmentally Significant Area are Hydrological Function (including groundwater discharge zones) and Corridors and Linkages” as specified in the Planning and Design Standards for Trails in Environmentally Significant Areas.

NATURAL AREA 1 ZONE: The majority of the floodplain habitat is identified as Natural Area 1 Zone (shaded green on the final Management Zone map) which permits Level 1 hiking trails on natural surface or augmented by wood chips and boardwalks only, due to the dynamic nature of this river system. The floodplain habitat has moderate to high sensitivity to disturbance and is subject to a range of surface water inputs and natural erosion processes from flashy flooding to periods of very low water volumes. The river bottom supports many mussel species including three that are Endangered or Threatened. The primary goal within this zone is to protect the significant features and functions for which the area has been identified. The secondary goal of this zone is to provide urban residents with regular contact with nature through environmentally and culturally compatible nature-based activities.

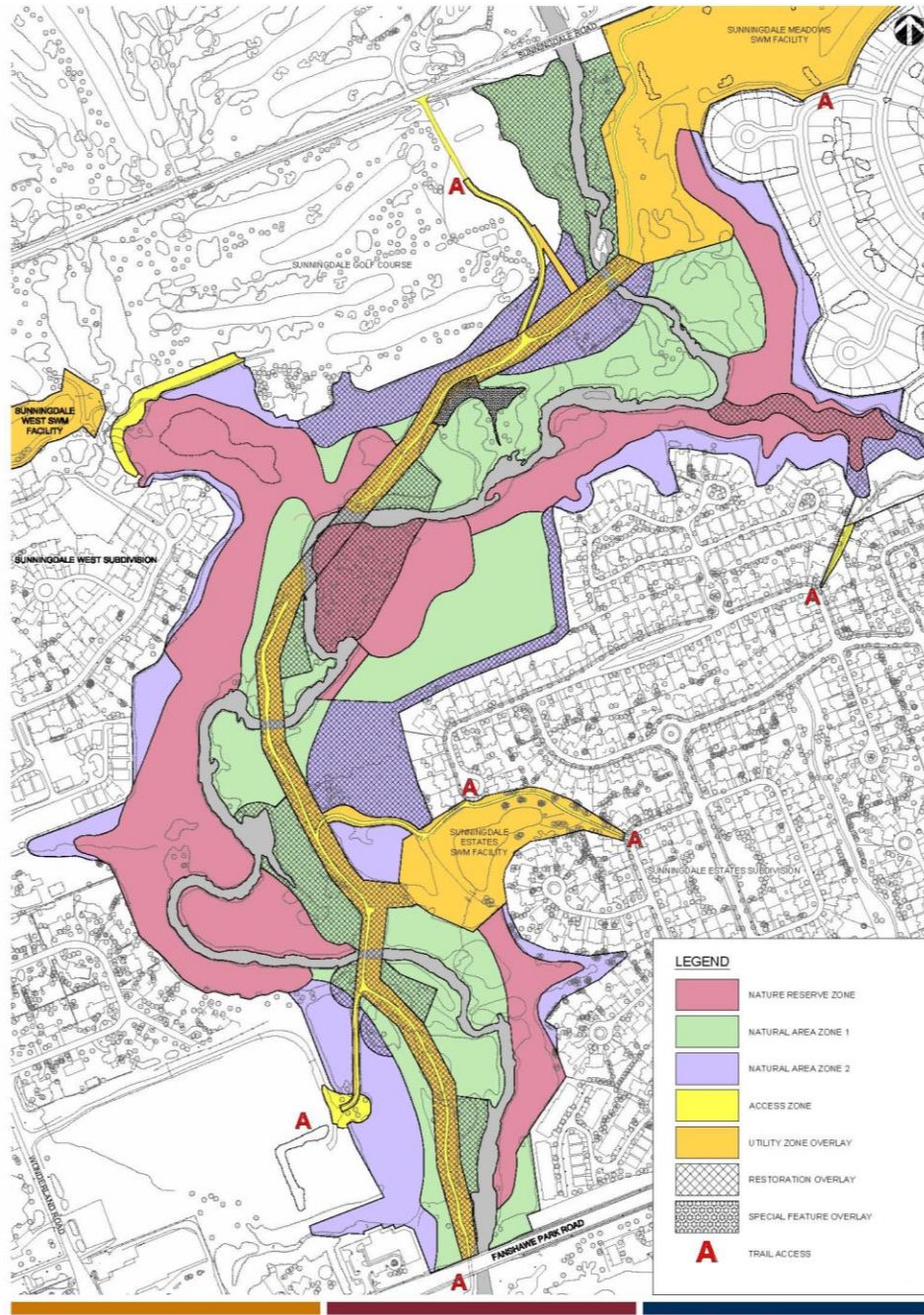
NATURAL AREA ZONE 2: Some of the less steeply inclined valley slopes and tableland areas are identified as Natural Area Zone 2 (shaded purple on the final Management Zone map). This zone permits Level 1 and Level 2 trails including hardened trails to permit access for persons with disability and seniors. These areas function primarily as buffer or supporting habitat to the more sensitive areas of the ESA.

ACCESS ZONE: The primary goal of an Access Zone is to provide a carefully planned and informative entrance for all visitors to an ESA for nature-based recreation. Access zones will be managed to include control structures at the entrance to the ESA and signage for orientation, interpretation and education. Access Zones are not designed or intended to be used as a travel corridor through an ESA. There is only one small access zone in the southwest of the ESA.

UTILITY OVERLAY: As you can see on the map, there are large areas of this ESA that are shaded yellow. This identifies areas that have been disturbed by the placement of infrastructure, in this case two large stormwater management facilities (SWMF) and the sanitary sewer. The trail standard requires that the trail type for Utility Overlay areas be consistent with the underlying and /or adjacent management zones, which in this case is an NA1 zone that permits a Level 1 hiking trail. There is only one small section along the sewer easement (island between the previously planned bridges 3 and 4) that has the potential to be restored to the underlying nature reserve zone, and none of the rest of the easement can be restored to natural area 1 zone due to the need for permanent maintenance access.

Sewer construction and the requirement for permanent maintenance access and the two SWMF have permanently altered and fragmented the ESA resulting in the loss of interior habitat (Figure 4). The construction of the SWMF blocks has also reduced the size of the ESA. Despite these adverse effects, the Medway Valley remains identified as an Environmentally Significant Area.

Figure 3: Management Zones applied to the ESA. Nature Reserve Zone (Pink); Natural Area Zone 1 (Green); Natural Area Zone 2 (Purple) and Utility Overlay Zone (Yellow)



**Medway Valley Trail North of Fanshawe Park Road
Management Zones For Trail Planning**

March 2013



Figure 4: Installation of the sanitary sewer through the floodplain habitat of the Medway Valley represents a permanent fragmentation of interior habitat



EXISTING SEWER MAINTENANCE ACCESS ROAD: The existing surface of the sewer access road north of Phase 1 is a 4.0 m wide granular base with 2" topsoil and grassed surface and an additional metre of natural vegetation on either side (photo 1). The entire length along both sides of the access road is identified by 1.5 m tall square wood posts spaced 10-15 m apart. In floodplain environments, granular trails are highly erodible and can actually create a greater negative impact on adjacent natural areas and waterways than asphalt. The granular access road is already showing signs of erosion and gullyng (photo 2) suggesting that granular trails in floodplains are not sustainable over the long term. An asphalt trail would not only be more sustainable by having a lower ecological impact than the existing granular surface, but it would also provide accessibility for the widest range of user groups. However, a 4 m wide asphalt pathway in an ESA seems excessive and unnecessary to provide the quality of experience for the greatest number of users (photo 3). This has been a main concern of many who have

commented and participated in the process. A typical recreational path is 3.2 m wide. Photo 4 shows the existing Level 1 type natural surface hiking trail that is present around the bend in the river. This trail is consistent with the Natural Area 1 Zone for this section of the ESA.

Photo 1



Photo 2



Photo 3



Photo 4



7.1 Application of the Trail Standards: The design standards recommend that the management consideration for a Utility Overlay Zone be consistent with the underlying or surrounding Management Zone, which in this case is a Natural Area Zone 1 (trail type 1 – natural surface trail). As stated in Section 5.0, this trail planning process is somewhat unique in that the Medway Valley has sewer infrastructure through it and an EA that requires a social benefit by way of a “pathway system” that incorporates maintenance access. However, it is well established that a continuous path ‘through’ an ESA encourages more intense impact on the ESA than does a recreational loop. Surfacing with asphalt is an immediate attractant for cycling.

Through the EA addendum process, the AWRA community fought for this social benefit and supported the 2005 pathway plan. City Council supported this community benefit in its’ endorsement of the EA addendum. To satisfy the planning issues raised in section 5, the process began with the understanding that a creative trail solution will be required that followed the Trails Standard document to the greatest degree possible, but also satisfied Council’s direction, the intent of the EA addendum and the community’s desire for a social benefit from the negative environmental impacts of sewer construction in the Medway Valley ESA.

8.0 TRAIL OPTIONS: How Many Options Were Identified For Evaluation?

With input from the PAG, eight trail route options were created to evaluate. Five sub-options were identified that varied only by the surface type proposed, i.e. asphalt (A), limestone (B), or natural surface (C) (Appendix A). The eight options included the Do Nothing Option (OPTION 1), the 2005 Preferred Option with three bridges (OPTION 2), Restricted Access (OPTION 3), a Continuous Trail System with one Bridge (OPTIONS 4A, 4B, 4C), North and South short pathway loops with one bridge and restricted access (OPTION 5A) or with only hiking trail around the bend (5B), North and South Looped Trails with one bridge (OPTIONS 6A, 6B), Looped Trails with no bridges (7A, 7B), and Hiking Only Trail with No Bridges (OPTION 8).

9.0 EVALUATION CRITERIA: What was the Process to Revise the Evaluation Criteria?

The Medway Valley Trail Public Advisory Group (PAG) was asked to review the evaluation criteria from 2005 to comment on their relevance and applicability to the 2011 trail options. The general consensus of the PAG was that the 2005 document was of historical interest but no longer offered an appropriate template for the new analysis. This was largely due to changes in the original assumptions for sewer construction, the introduction of new legislation and policy, and the new Trail Standards document. The 2005 template perhaps placed too much weight on the social and cultural criteria and not enough weight on the natural environment criteria. This was not consistent with the main goal for an ESA which is protection of natural features and functions. On this basis and for the reasons given below, it was necessary to revisit the evaluation criteria.

9.1 2005 Master Plan Assumptions

The 2005 process for route evaluation was established prior to the final construction of the sewer in the valley. This process was based on a number of assumptions, several of which were no longer applicable upon completion of the sewer construction, such as:

- the maintenance access no longer needs to be asphalt;
- level creek crossings are not permitted for ecological and safety reasons;;
- Manhole12 and Manhole13 were able to be re-located and bridges 3 and 4 were eliminated;
- -the options must consider the conservation/protection of the features and functions as the first priority and the provision of access/recreation as a secondary priority;

- Council approved a policy amendment to 18.2.13 to delete the requirement for Conservation Master Plans to be consistent with the Bicycle Master Plan for trail planning purposes.

All of the other assumptions listed were no longer valid as the sewer construction had been completed. Therefore, a new set of assumptions was required.

The assumptions for evaluation of the 2011 trail options were:

- I. The valleylands are designated as an Environmentally Significant Area with the primary goal to protect the significant features and functions.
- II. There will be a demand for use of these lands for recreation and this use must be directed and controlled through an appropriately designed trail system that will protect the significant features and functions.
- III. There are several established points of access to the valleylands that need to be addressed (i.e. either be incorporated or eliminated) in the overall trail system developed for the valley.
- IV. There is a permanent sewer in the valley that requires regular access for maintenance. This open access corridor will consist of a 4 m wide travel surface with up to 1 m of clearance on either side where required, to a maximum width of 6 m.
- V. There are previous studies that recommended a community trail system in the valley to provide recreation and to permit linkages south of Fanshawe Park Road and north of Sunningdale Road. These previous studies must be reviewed in light of:
 - a. Infrastructure changes made in phase 2 of sewer installation;
 - b. Recognition that an ESA Conservation Master Plan does not have to be consistent with the Bicycle Master Plan;
 - c. New federal and provincial Species at Risk legislation has been enacted to govern protection of native species at risk and their habitats;
- VI. The original 1999 EA for the Sanitary Sewer recommended restoration of certain areas within the valley in order to protect and enhance the features and functions post-construction.
- VII. To the greatest degree possible, the *Planning and Design Standards for Trails in Environmentally Significant Areas* will be applied in the process for developing the trail system in the north Medway Phase II.

9.2 Evaluation Criteria

The evaluation criteria must address the particular sensitivities of this portion of the Medway Valley Heritage Forest ESA. The evaluation criteria must also consider the potential impact to the ecological integrity of the whole ESA and to the potential impact on the criteria for which the ESA was recognized. Therefore, the specific criteria below were based on the potential for the recreational trail system to impact areas with identified features or functions. In order to be fair, the total number of natural environment criteria was the same as social/cultural criteria.

9.2.1 Natural Environment Criteria: Potential to Impact or Create Impact on:

- a) Area of contiguous forest habitat (Criterion 3a).
- b) Areas of seepage or aquatic habitat at the bend in the creek (Criterion 4a, 4b).
- c) Wildlife movement trails and corridors (Criterion 6a).
- d) Total area of interior habitat located more than 100 m from the ESA edge (Criterion 3b).
- e) Floodplain vegetation through site alteration (Criterion 4b).
- f) Habitat for Species-at-Risk (Criterion 7).

9.2.2 Social / Cultural Criteria

- a) Creates the least user conflicts.
- b) Provide accessible passive recreation with convenient connections between neighbourhoods.
- c) Provides best opportunity to increase health and fitness benefits.
- d) Number of opportunities to highlight points of educational interest and vistas (e.g. view from the midpoint of the large bend in the river - Photo 5).
- e) Provides quietude and 'wilderness' experience.
- f) Meets public preference (as provided through three public input steps – Appendix B).

9.2.3 Economic factors for consideration in construction and maintenance

- a) Minimize the cost to construct trails that will protect the natural features of the ESA and provide suitable and appropriate recreation benefits.
- b) Minimize the cost to maintain trails that will protect the natural features of the ESA and provide suitable and appropriate recreation benefits.
- c) Minimize time to implement the trails.



Photo 5: View from bend in the river across to the Nature Reserve area – a potential lookout to a Special Feature Overlay?

9.3 Weighting of Criteria

The overall goal of the total evaluation process should be the protection of the ecological integrity of the ESA. In other words, social, cultural and economic evaluation criteria should be measured with the protection of ecological integrity (features and functions) in mind. **Therefore it is recommended that, in normally, as per the City’s Official PPlan, the natural environment criteria be given more weight than the social/cultural criteria and the economic criteria.** The PAG recommended that the criteria be weighted as 75% Environmental and 25% Social. Economic criteria should not have any weights assigned, but rather costs associated with each option for construction and maintenance.

However, there was much community discussion regarding this weighting (more heavily on the Environment criteria). As the outcome of the EA decision to place infrastructure through the ESA was based on a positive social benefit of the recreational pathway; we therefore, asked for comments on what the appropriate weight should be. We received the following in response:

- **Environmental 100 : Social 0 3.5 %**
- **Environmental 75 : Social 25 19 %**
- **Environmental 60 : Social 40 3.5 %**
- **Environmental 50 : Social 50 72 %**
- **Environmental 25 : Social 75 2 %**

Many thought that it is not necessarily a social benefit to have pathways and bridges through the natural valleys and ravines of the City in order to meet our personal objectives. One respondent commented that “there is a significant social value in encouraging future generations to appreciate natural beauty from a distance, to tread lightly upon the earth’s fragile natural areas, to respect its wild inhabitants, and to actively support the preservation of such areas.”

On the other hand, some felt that it was unfair or inconsistent that the environmental criteria were not weighted more heavily for the sewer EA (which has caused the greatest damage to the ecosystem), and now weighted environmental criteria are going to trump the completion of a social-recreational opportunity.

Another opinion expressed was that the social element of finishing some form of trail system was a given need, and that cost should be the most important criteria since the environmental damage has already been done and will increase if a trail system is not completed. Most respondents recognized that the two centre bridges were an unnecessary cost and could easily be replaced by developing a continuous trail around the large, north-western “bend” in the creek.

EEPAC recommended the weighting of environmental and social criteria in evaluating trail options should be 75% environmental and 25% social. This is an accurate reflection of the management priorities of all City-owned Environmentally Significant Areas. They noted that any weighting of criteria which does not give precedence to environmental factors over social factors is, at the base of it, contrary to Section 15.4.1.4 of London’s Official Plan (and sections 16.1.xi and 16.2.8). Also, the Planning and Design Standards for Trails in Environmentally Significant Areas state that “The ecological integrity and ecosystem health of the ESA shall have priority in any trail use or design-related decision.” (p. 4)

While other “special circumstances” may support a higher weighting for environmental over social criteria, in this case it seems fair to weigh them equally. This will be more consistent with the rationale of the EA addendum that required a high social benefit to compensate for the high environmental impact of sewer construction.

This weighting of 50:50 is specific for this particular project. In other assessments of trail options for community connections, the weighting will be more in favour of Environmental over Social criteria.

9.4 Evaluation Process

The evaluation process is governed by the new *Planning and Design Standards for Trails in Environmentally Significant Areas* to the greatest degree possible, given the existence of sewer infrastructure, the EA process and previous direction from Council on this matter. The steps for the proposed evaluation process included:

Step 1: mapping of management zones

Step 2: overlay trail options on management zone map

Step 3: Identify sensitive features and functions within the study area (Figure 5)

Step 4: evaluation of options based on the criteria in Section 8.2

9.5 Evaluation Ratings

9.5.1 Rating Scale

All evaluation criteria must be measurable on some scale (nominal, ordinal, interval) and these measurable scales must be identified for each of the criterion. A five point scale (positive, mildly positive, neutral, mildly negative, negative) was proposed. The five point scale was proposed by the ecologist as a Fibonacci sequence* generally written as 0, 1, 1, 2, 3, 5, 8, 13. [adding the 1st two numbers equals the 3rd, adding the 2nd and 3rd number equals the 4th, etc...] This series recognizes the degree of difference between indirect and direct impacts and the cumulative impact of multiple stressors on natural systems.

9.5.2 Changes to the Preliminary Evaluation Scoring Based on Comments Received After the Third Public Meeting

During the third public meeting it came to our attention that the application of the Fibonacci sequence to the evaluation criteria was not equally applied to the environment and social criteria. This error has been duly and credibly noted and the final evaluation matrix presented in this report reflects the assignment of equal number of criteria that could achieve a score of 13 - either negative for environmental criteria or positive for social criteria.

Based on public comments received, some changes were made to the evaluation criteria scoring. The best suggestion resulting in a new assumption for evaluation of options was made regarding the potential trail design around the bend in the creek. All trail types were expected to have impact on the seepage slopes and tributary crossing at the bend in the river. Extending a boardwalk around the entire bend in the creek (to connect the approximately 250 m gap between the two existing granular surface pathways) would minimize the impact on the sensitive slopes, seeps and riparian habitat in the valley. This boardwalk idea should be implemented regardless of the final surface of the trail itself. The following excerpt from page 39 of the Trail Standard describes why a boardwalk would be the best design response for the portion of the trail around the bend in the Medway Creek.

Where trails must pass through wetland vegetation communities, such as swamps or marshes, or through areas with a proliferation of large roots that are exposed to the surface, or through a very damp, clayey area (e.g. Westminster Ponds), a boardwalk structure may be required to maintain the integrity of the trail and to minimize environmental damage.

If trails are not appropriately surfaced, users will walk around wet areas, creating wider trails through the surrounding vegetation. Trampled vegetation and soil disturbance can also alter surface water flow, causing increased erosion

In wetter areas, low profile boardwalks are relatively easy to construct and install. Where the trail is in a high-profile location, and it is necessary to provide a fully accessible trail, or where the trail surface must be above standing water or greater than 60 cm above the surrounding grade, a more sophisticated design and installation is necessary. This may include engineered footings or abutments, structural elements and railings.

Based on the modified scoring for two social criteria (2 and 6) to achieve a maximum of 13 points (rather than maximum of 8 points) and many options having less environmental impact with a boardwalk around the 'bend', the options were rescored (see Table 1).

9.5.3 Final Assessment of Trail Options

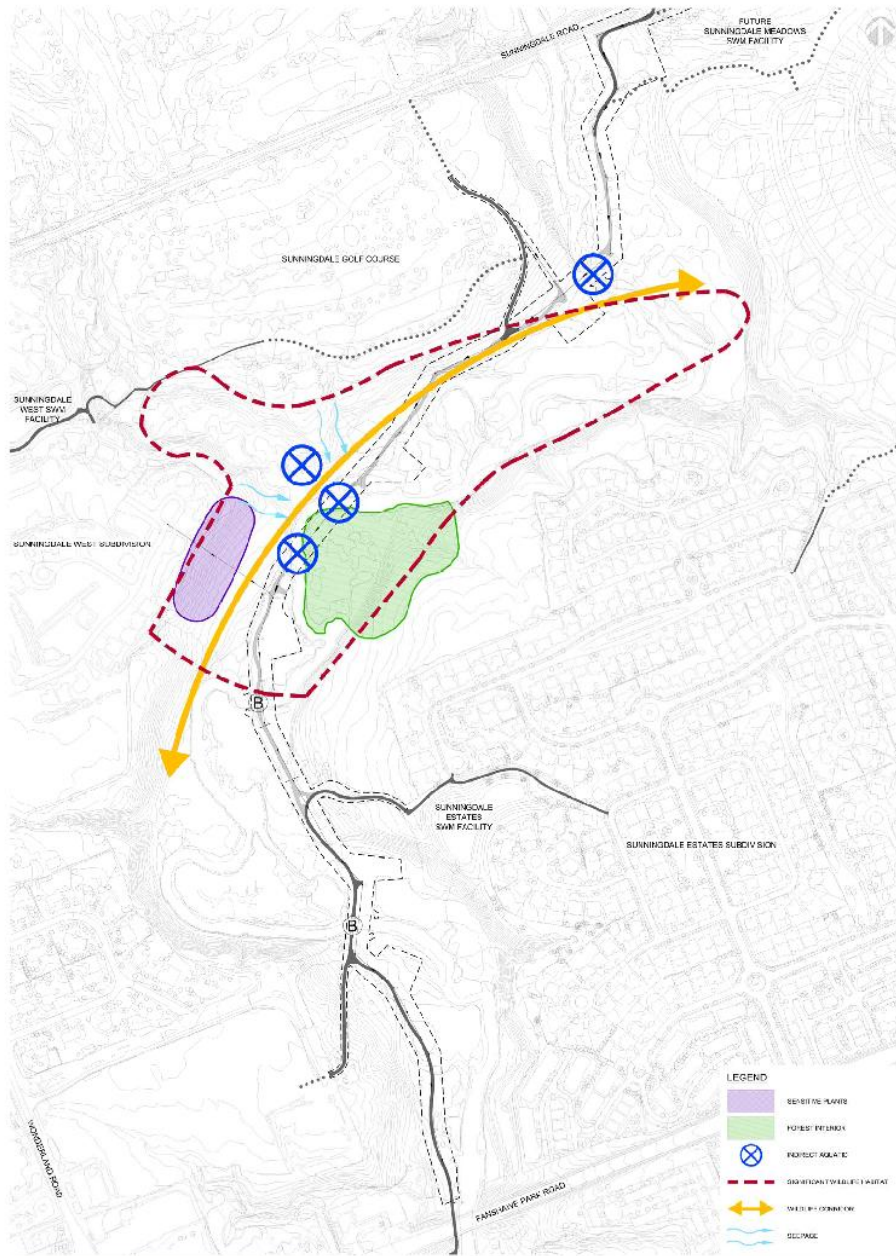
The assessment of trail options was undertaken by applying scores to all measurable environmental and social/cultural criteria in the Evaluation Matrix. The scoring places a negative value for potential impacts to the natural environment with the objective to select for options that will have the least harmful impacts on the ESA. The scoring for social/cultural criteria places a positive value for potential benefits to the public for recreation, education and health with the objective to select for options that will have the greatest public benefit. The sum of the two scores for each option is added together. Options that have a final negative score will be excluded from further evaluation. Options with the highest positive scores will be the best overall options. The rationale for scoring for each of the evaluation criteria is presented in Appendix B.

The final Evaluation Matrix for the thirteen trail options is presented in Table 1.

The best option with respect to the highest positive score achieved was Option 4C (score 17). The second highest was Option 4A (score 13). Another option that scored favourably was Option 5B (score 12).

The difference between option 4A and 4C with respect to environmental impact is the use of asphalt that would permit greater number of users and thus potentially more disturbance to wildlife in the valley. Otherwise, all other impacts are the same. The social score is higher for Option 4A mainly due to the fact that the trail would be fully accessible and is the preference of the majority of the local community.

Figure 5: Sensitive features and ecological functions of the Medway Valley Heritage Forest ESA that have the potential to be negatively affected by the trail and trail use: Area of significant wildlife habitat – dashed red line; general wildlife corridor – yellow arrow; seepage areas – blue wavy arrows; aquatic habitat – blue circles with X; forest interior – green; sensitive plants –purple



**Medway Valley Trail North of Fanshawe Park Road
Significant Environment Features**

September 2012

Scale 1:2000



Medway Valley Trail North of Fanshawe Park Road
EVALUATION MATRIX

CRITERIA	TRAIL OPTIONS:													
		1	2	3	4A	4B	4C	5A	5B	6A	6B	7A	7B	8
ENVIRONMENTAL (Potential to impact or create impact on)		Do Nothing More												
Area of Contiguous Forest Habitat C3a		-5	-13	0	-13	-13	-8	0	-8	-13	0	-8	-13	-8
Areas of seepage and aquatic habitat at the bend in the river C4a, C4b		8	0	0	3	-3	0	0	-3	0	0	0	0	-3
Wildlife Movement Trails and Corridors C5a		-5	-8	0	-8	-5	-3	-3	-5	-3	-3	-5	-5	
Total Area of Interior Habitat C3b (> 100m from Edge)		0	-13	0	0	0	0	0	0	0	0	0	0	
Floodplain Vegetation through site alteration C4b		0	-8	0	-3	-3	-3	-3	-3	-3	-3	-3	0	
Habitat for Species-at-Risk Whistlers C7		0	-3	0	-1	-1	-1	-1	-1	-1	-1	-1	0	
		-18	-45	0	-28	-25	-20	-25	-20	-25	-17	-21	-13	-16
SOCIAL / CULTURAL		ENVIRONMENTAL SUBTOTAL												
Creates Least User Conflicts		0	1	0	1	2	8	3	3	1	8	1	5	8
Provides Accessible Passive Recreation with convenient connections between Neighbourhoods		0	13	0	13	5	3	2	5	2	1	2	1	
Provides Best Opportunity to Increase Health and Fitness Benefits		0	8	0	8	5	3	1	3	5	1	5	1	
Number of Opportunities to Highlight Points of Educational Interest or Values		0	8	0	5	5	5	1	5	3	2	2	3	
Provides Quietude and 'Wilderness' Experience		0	1	0	1	3	5	1	3	1	8	1	8	
Meets Public Preference		1	3	1	13	5	13	3	13	3	5	2	3	
		1	34	1	41	25	37	11	32	15	25	13	24	
		SOCIAL/CULTURAL SUBTOTAL												
		Ranked per Survey Results												
		1	3	1	13	5	13	3	13	3	5	2	3	
		1	34	1	41	25	37	11	32	15	25	13	24	
		COMBINED TOTAL												
		-17	-11	1	13	0	17	4	12	-10	8	-8	8	
		RANK												
		OMIT	OMIT	7	2	OMIT	1	6	3	OMIT	4	OMIT	5	4
ECONOMIC														
Cost to Construct		Low	High+++	Low	High+	Medium+	Medium+	Medium+	Medium+	Medium	Low	Medium	Low	High+++
Cost to Maintain		High	High	Medium	High	High	High	Medium	Medium	Low	Low	Medium	Low	
Time to Practically Implement:		None	High	None	High	High	High	Medium	Medium	Low	Medium	Low	High+++	

- Notes:
1. Probable construction costs are not to be used for budgeting purposes, but have been prepared to provide an order of magnitude related to the possible value of construction.
 2. Cost to Construct does not include temporary Creek crossings or site restoration.
 3. Cost to Construct assumes a bridge design similar to Stage 2A, that is not constructed to accommodate vehicular traffic.

10.0 PUBLIC INFORMATION SESSION: Did we Achieve Transparency of Process and Representation of the Community?

The tally of public responses to specific questions asked is included in Appendix B. The following represents a summary of each of the three public meetings hosted by the City of London.

10.1 Public Information Meeting One

The first Public Information Meeting was held on December 7, 2011. Notification of the meeting was put in the London Free Press, on a sign located at the trailhead at Fanshawe Park Road, and in a letter circulated to all residents living within a City standard 200 m radius notification from the entire Medway Valley Heritage Forest ESA (Figure 6).

The meeting was well attended with 109 individuals representing 88 families. Comment sheets were available to fill in and return that evening or by mail. Fifty-four (54) comment sheets were returned.

The purpose of the meeting was to begin the public engagement process of the trail master plan study and to seek input from the public to help foster an understanding of the goals, objectives and need to revisit the 2005 Trail Master Plan. A brief presentation was made to:

- review five W's of the project including a timeline;
- present the planning context and background history of the sewer EA project and the development of a pathway system in conjunction with the sewer;
- why the Medway Valley was identified as an Environmentally Significant Area;
- the relationship of this trail master plan project to the new Planning and Design Standards for Trails in ESAs being developed by the City;
- the concept and first version map of the Management Zones for ESAs ;
- the 13 trail system options that were developed by the PAG;
- receive comments / direction from the Public on the trail concepts, trail design guidelines within ESAs and the evaluation criteria;
- provide a forum for the public to ask questions and obtain answers.

All the information was posted on the City web site. In mid-December an online survey was posted and available for comment and response until mid-January 2012. There were a total of 77 respondents to the on-line survey.

10.2 Public Information Meeting Two

In response to concerns raised by the Sunningdale North community (Figure 7) with respect to lack of notification and their desire to be more involved in the trail planning process, the City held a second Public Information Meeting on March 28, 2012.

The meeting was again well attended with 92 people representing 79 families. We received a total of 76 comment sheets and e-mails in response to this meeting. All information was placed on the City web site.

The purpose of this meeting was similar to the first one; however, more time was spent on providing a detailed history of the sewer expansion in the Medway Valley and the significant ecological features and functions that are present in the Medway Valley. The tasks of the meeting were to:

- present the results of comments received from the first public meeting;
- clarify the distinction between the Trail Standards project and this Trail Planning project; present the second version of the Management Zone map;
- present and seek input on the Evaluation and Assessment Criteria;
- present the thirteen trail options for evaluation; and
- receive comments and input from the Public.

10.3 Public Information Meeting Three

A third public meeting was held on November 7, 2012. Notification for this meeting was made by e-mail or by letter to all meeting attendees or individuals who had commented previously. This meeting reviewed the background information and presented the evaluation of thirteen options and how each of the assessment criteria was applied to select the most preferred options. There were 57 people in attendance. Following the meeting people were asked to select one of two preferred options that scored highest at that time (Option 4C and Option 5B) and to send comments and preferences to the City by December 7, 2012. We received 45 comments from that meeting.

After the cut-off date or submitting comments, the City received one petition signed by 207 individuals from the Sunningdale West Resident's Association favouring Option 4A (see Text Box).

Figure 6: Notification Map for First Public Information Meeting, December 7, 2011

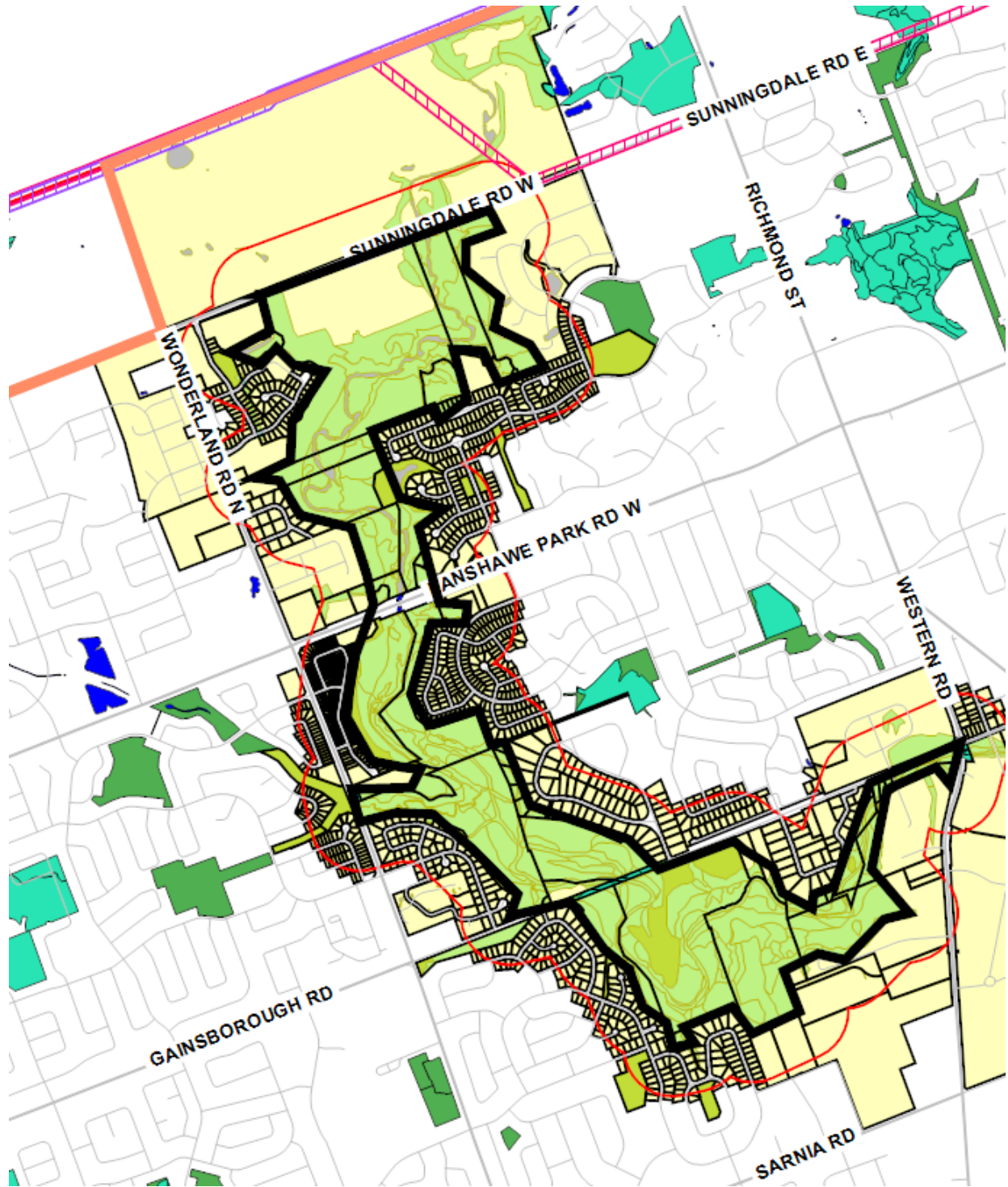
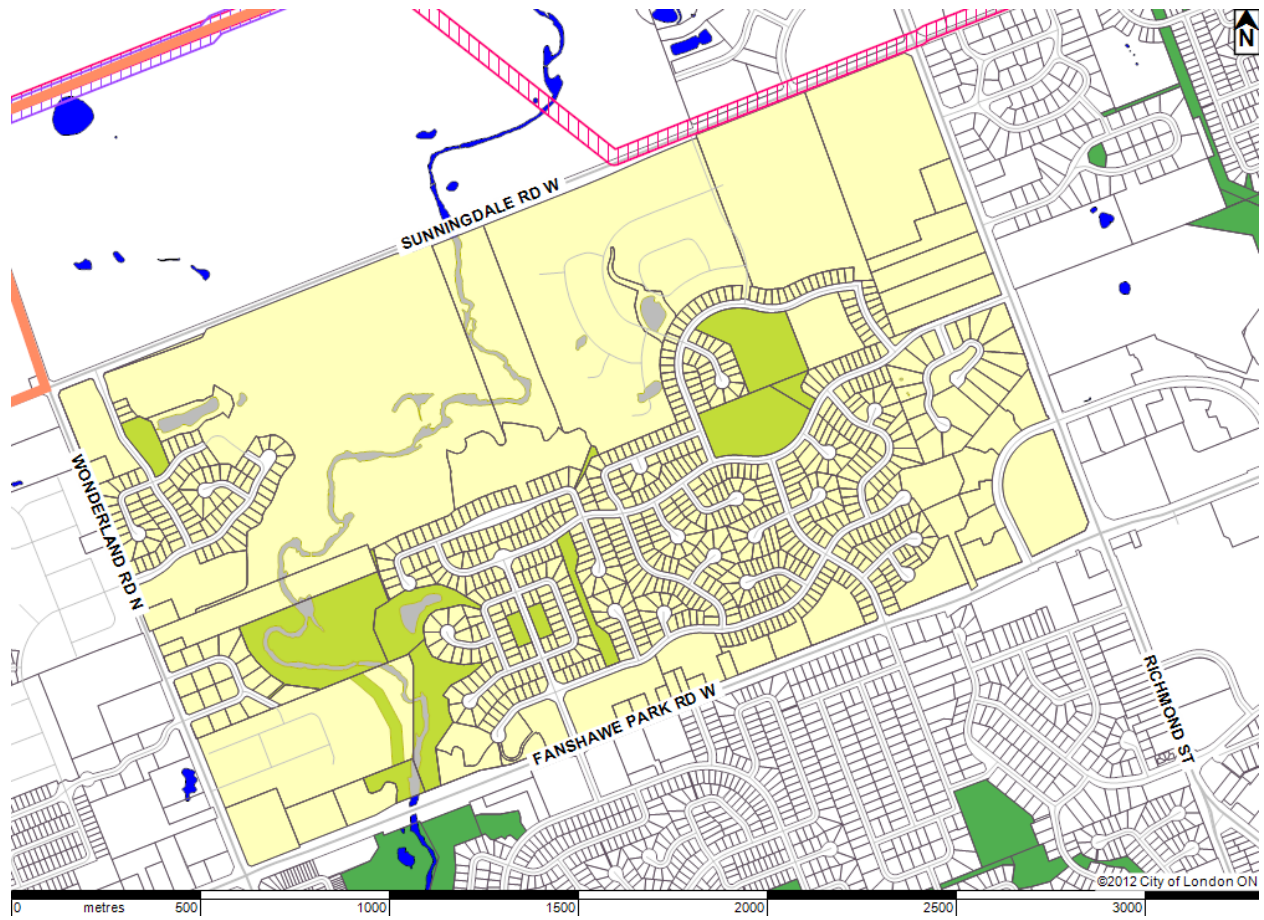


Figure 7: Notification Map for Second Public Information Meeting, March 28, 2012



Petition of the Sunningdale West Residents Association on the Medway Valley Trail Planning Project

Whereas the 2005 Medway Valley Master Plan identified a 3.5 to 4.0 metre continuous multi-use asphalt pathway with five bridges and connections to adjacent communities be developed alongside Medway \Creek and to be installed in conjunction with the sewer trunk installation;

Whereas the City of London's Accessibility Advisory Committee reviewed and endorsed the Medway Valley Master Plan that included a paved recreational pathway;

Whereas the City of London sought and received an Environmental Assessment for the sewer trunk extension and paved recreational pathway project in the Medway Valley;

Whereas many residents of the Sunningdale West Subdivision made purchasing decisions based on the approved 2005 Medway Valley Master Plan, as the subdivision provided a safe and enjoyable place for families and residents to exercise and enjoy the valley, while providing access to the City's trail network;

Whereas the City of London completed the North portion of the sewer trunk line in 2011 but did not install the recreational pathway in conjunction with the sewer line installation as planned;

Whereas the City of London deferred from the 2005 Medway Valley Master Plan and embarked on a public consultation aimed at limiting recreation and access in the Medway Valley to protect the environmentally significant area;

Whereas the installation of the sewer trunk line was installed in the environmentally significant area providing stress to the local ecosystem;

Whereas the Parks and Recreation Department is moving forward two options (4C & 5A) for public consultation and approvals with both options limiting access and not providing maximum accessibility;

Whereas the two planned options call for a one metre wide hiking trail through the natural terrain that will significantly limit access and use by the local communities and tax base;

Whereas the City of London completed Phase I of the continuous link trail system and installed two bridges, connections to adjacent communities, and a multi-use asphalt pathway in the southern portion of the valley;

Whereas one in seven people in Ontario have a disability;

Whereas the Accessibility for Ontarian's with Disabilities Act (2005) Built Environment Standard's goal is to remove barriers in public spaces - including recreational trails - to make it easier for all Ontarians including people with disabilities, seniors and families to access the places where they work, travel, shop and play.

Whereas not all Environmentally Significant Areas naturally allow themselves to provide full accessibility for a wide variety of users and the topography and terrain of the Medway Valley does allow for broad access as was previously planned;

Whereas the residents of the Sunningdale West Subdivision pay property taxes, some of which should be directed to provide the safe recreational paved pathway that the City had committed to;

Therefore be it resolved that the residents of the Sunningdale West Subdivision have organized themselves and formed the Sunningdale West Resident's Association to represent the resident's collective interests and demand the City of London finish the job they already started and implement Option 4A - by installing a continuous 3.0m multi-use asphalt pathway through the valley with one new bridge crossing.

10.4 Summary of Public Comments

The following represents a summary of some of the commentary included with responses to specific questions and reflects the range of opinions expressed by citizens who seek the best solution for the Medway Valley Heritage Forest ESA.

Many respondents noted that the installation of the sewer infrastructure and clear-cutting of trees for access (site alteration) has already irreparably compromised the ecosystem of the Medway Valley and that the short and long-term effects of this permanent facility places serious constraints on future decision-making. “The future of the Medway Valley is shadowed by a mistake of the past” – the decision to construct a sewer topped by an asphalt path constructed to maintain the sewer. This has important implications with respect to the “testing” of the trail planning and design standards for Environmentally Significant Areas as it reflects an anomalous situation. It is true that the sewer installation and the 4-m wide paved permanent access route resulted in the loss of a function for which the ESA was identified (contiguous interior/unfragmented habitat).

There were two dialectically opposing viewpoints about the extension of trails in the ESA due to this observation:

- In light of this, we should just pave the rest of the trail system to achieve the planned and desired social benefits.
- In light of this, we should do as little additional damage as possible, with no more asphalt, no more bridges, and install bike barricades at all access points to limit further impact on the ESA from recreational use.

Both viewpoints have some face validity. It has become very clear that the majority of people favour the development of a formal, continuous trail system, with multiple access points from each surrounding subdivision to the ESA. It is a reality that if sufficient trails and access are not provided, people will make their own. Another reality is that there is already an existing paved pathway, with access to neighbourhoods and bridges to cross the creek in the south portion of the valley. The north portion of the sewer alignment will be permanently cleared with at minimum a 4 m wide accessible gravel-based trail with grass surface. Finally, much environmental impact has already resulted, most notably from effects of habitat fragmentation.

Despite these adverse effects, the Medway Valley remains identified as an Environmentally Significant Area.

Most current trail users agree that a well-designed trail system generally keeps the majority of the users on the trail. This being said, others were concerned that the natural features and

functions of the ESA not be further impacted by the trail system. One respondent noted that; “the sewer alignment through this area will be a permanent blight on the landscape, but it should not be used to justify a continuous trail from north to south to join Sunningdale Road to the existing paved pathway in Phase 1 of the sewer installation”. Another respondent commented that; “it would be nice if two looped trails would be respected, but I don’t think they would be and the land surrounding the river curve would be constantly trampled and habitat destroyed. “

There is already an informal hiking trail around the bend in the river. Respondents preferred this trail over the installation of two bridges, and a few suggested a boardwalk around the bend in the river would be the best solution to minimize the impact and keep users on the trails.

Many respondents commented on potential negative aspects of paved trails, including:

- They are hot in summer attracting turtles and snakes which are easily run over by fast moving bicycles.
- A paved multi-use pathway in the valley will result in more people, particularly bicyclists, using the ESA as a means of going “through” the area from A to B rather than a means to step carefully along a narrow unimproved trail to go “in” the ESA.
- Wide paved trails are not natural.
- Development of paved paths and installation of other infrastructure lowers the value of ESAs.

These issues have been raised previously and have been addressed in the Trail Standards document in determining appropriate uses in ESAs where ecological integrity and ecosystem health are the first priority that can be best achieved by directing suitable public use and fostering a natural resource stewardship ethic among users. A stewardship ethic refers to the thoughtful care of ecological systems to preserve or enhance their natural qualities and recognizes that the values and goals of all users of natural areas are more similar than they are different. The vast majority of people value natural areas for their natural scenery and respite from the built form and do not enter a natural area with the intention of causing harm. A properly designed trail system is required to meet the needs of a wide mix of trail users in an urban setting.

Despite both positive and negative comments regarding the type of trail that would best protect the ESA, the majority favoured either Option 4A (continuous asphalt with one bridge) or Option 4C (continuous hiking with one bridge) or Option 5B (continuous hiking with asphalt north and south community connections). All respondents who preferred the original concept

(Option 2) recognized the high cost (\$\$ and environmental impact) of the two middle bridges and therefore chose Option 4A as the best option that would meet the intent of the 2005 study. There were some suggested modifications to some of the options.

- a) Install an improved or multi-use trail from the north to the look-out at the oxbow special feature. Natural surface hiking from there south and around the bend in the river.
- b) Install a boardwalk over sensitive features around the “bend” in all options.
- c) Many people liked the idea of having a bridge at the northern end; majority supported no bridges in the middle section.
- d) use “short paved trail segments” restricted to certain zones and not exceeding 2.5 m width (from Trail Standards).
- e) Install bike barricades at all access points to the valley.
- f) Install more signage.

In reviewing all of the comments provided, it became very clear that the majority of people would be satisfied with a lower impact (narrower), relatively non-intrusive trail system, to complement and protect the natural beauty of the valley, provided that it would:

- offer pedestrian travel in carefully designated areas,
- be a high priority to make the trails easily walkable (accessible) to minimize off-trail traffic and permit wheelchairs, strollers and young children on bicycles, and
- provide some connections to surrounding neighbourhoods as promised by the developer.

11.0 ESA MANAGEMENT DECISION: What is the best way to Protect the ESA for the Future and Permit Appropriate Public Use?

This is the key management decision for all ESAs in the City. Environmentally Significant Areas, by definition, are areas that require more ecological protection than other parkland or greenspaces. The title as ESA for the Medway Valley is still accurate and appropriate based on meeting a minimum of two or more evaluation criteria. The primacy of protecting these patches of significant natural environment as natural environments in urban areas needs to be recognized and respected.

The key responsibility of urban conservation land managers is to find the best way to protect and restore, as much as possible, a healthy functioning ecological community in the face of fundamentally altered ecology of the urban environment and public pressure for access (Davis 2010).

The ideal trail system in this situation is one that recognizes this reality, provides protection of significant features of the ESA, satisfies the EA process in providing permanent maintenance access with social benefit and recognizes Council's support of the local community's 10 year desire for recreational use of the valley.

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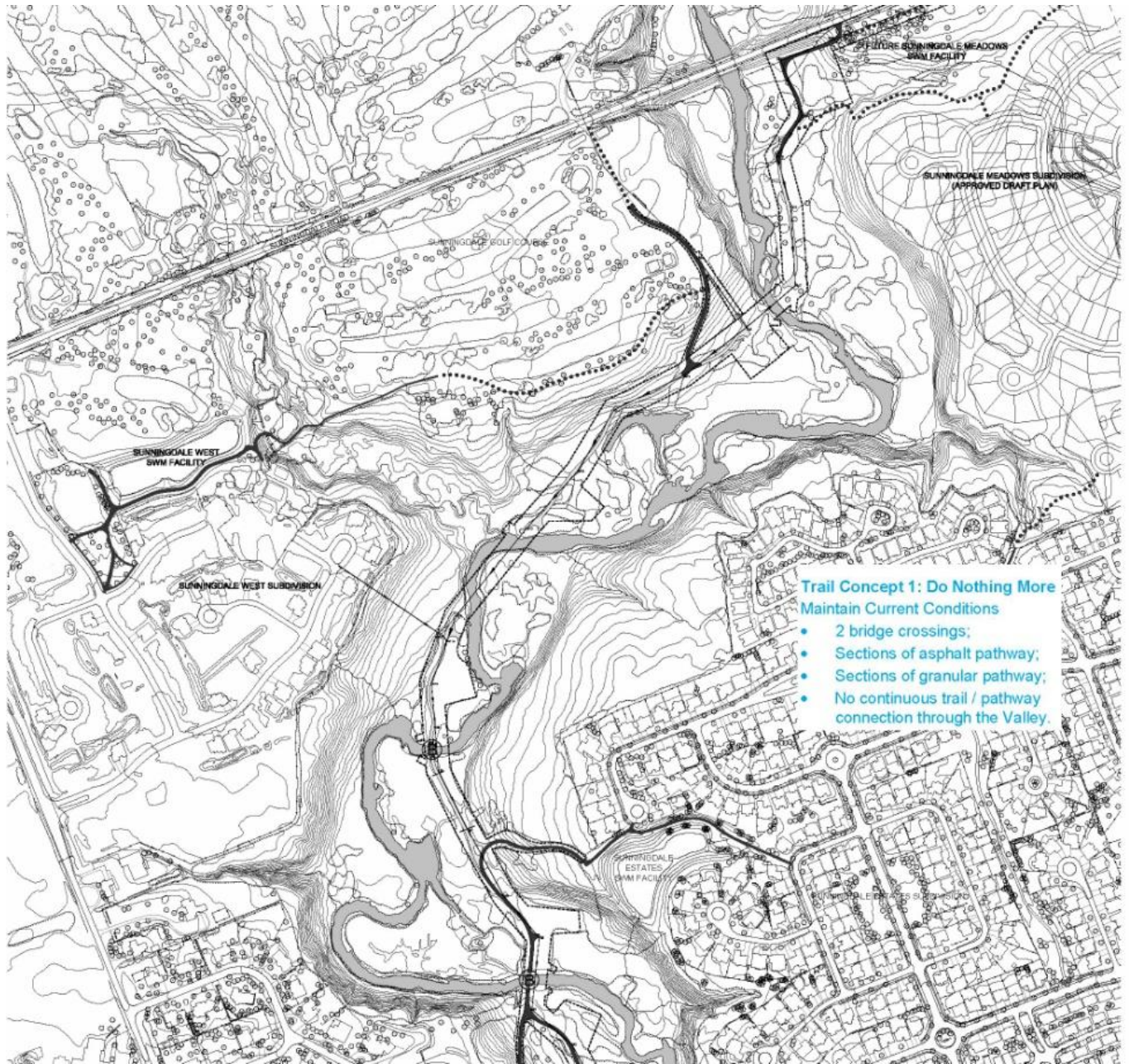
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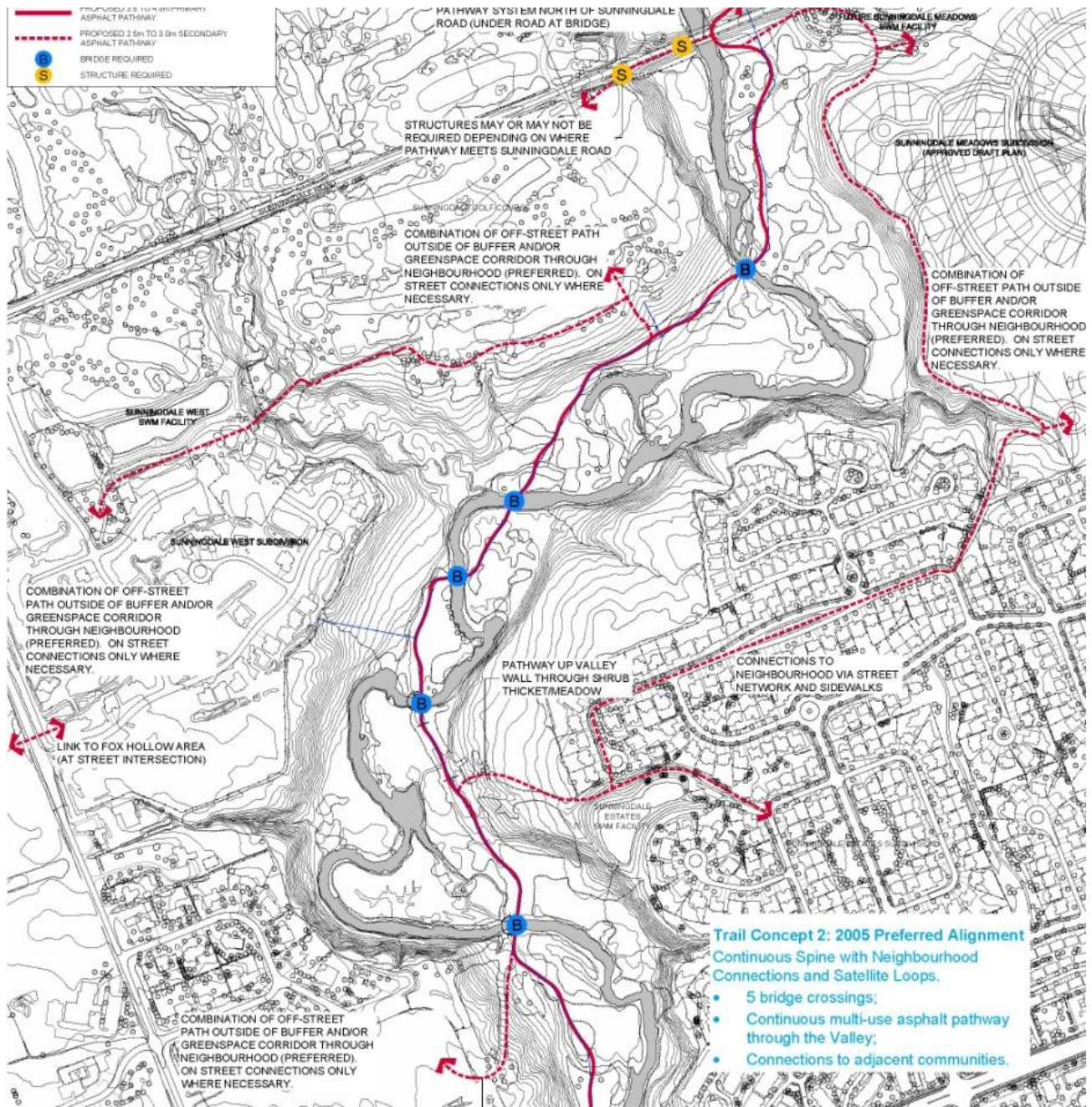
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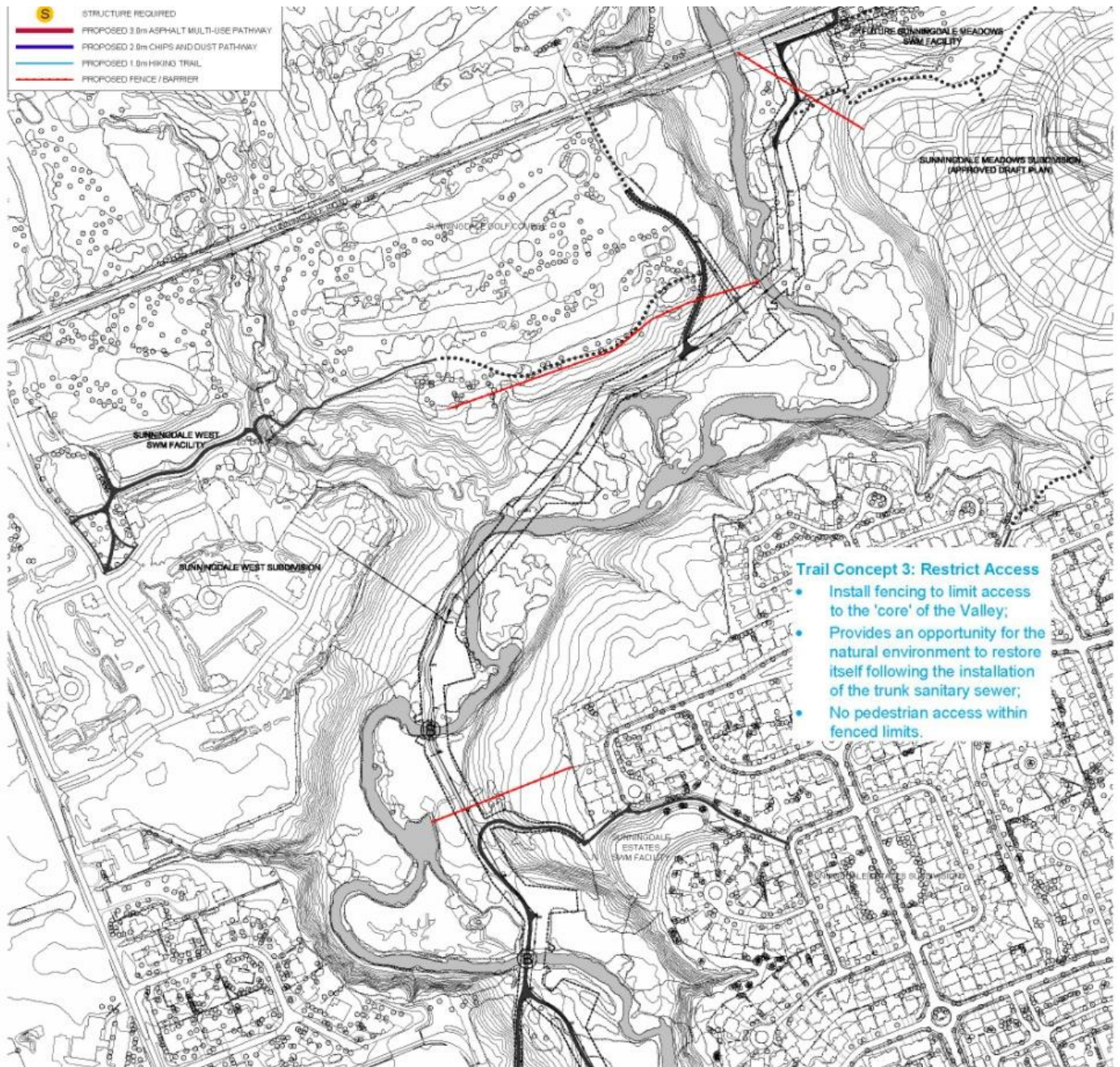
APPENDIX A: THIRTEEN TRAIL OPTIONS FOR EVALUATION



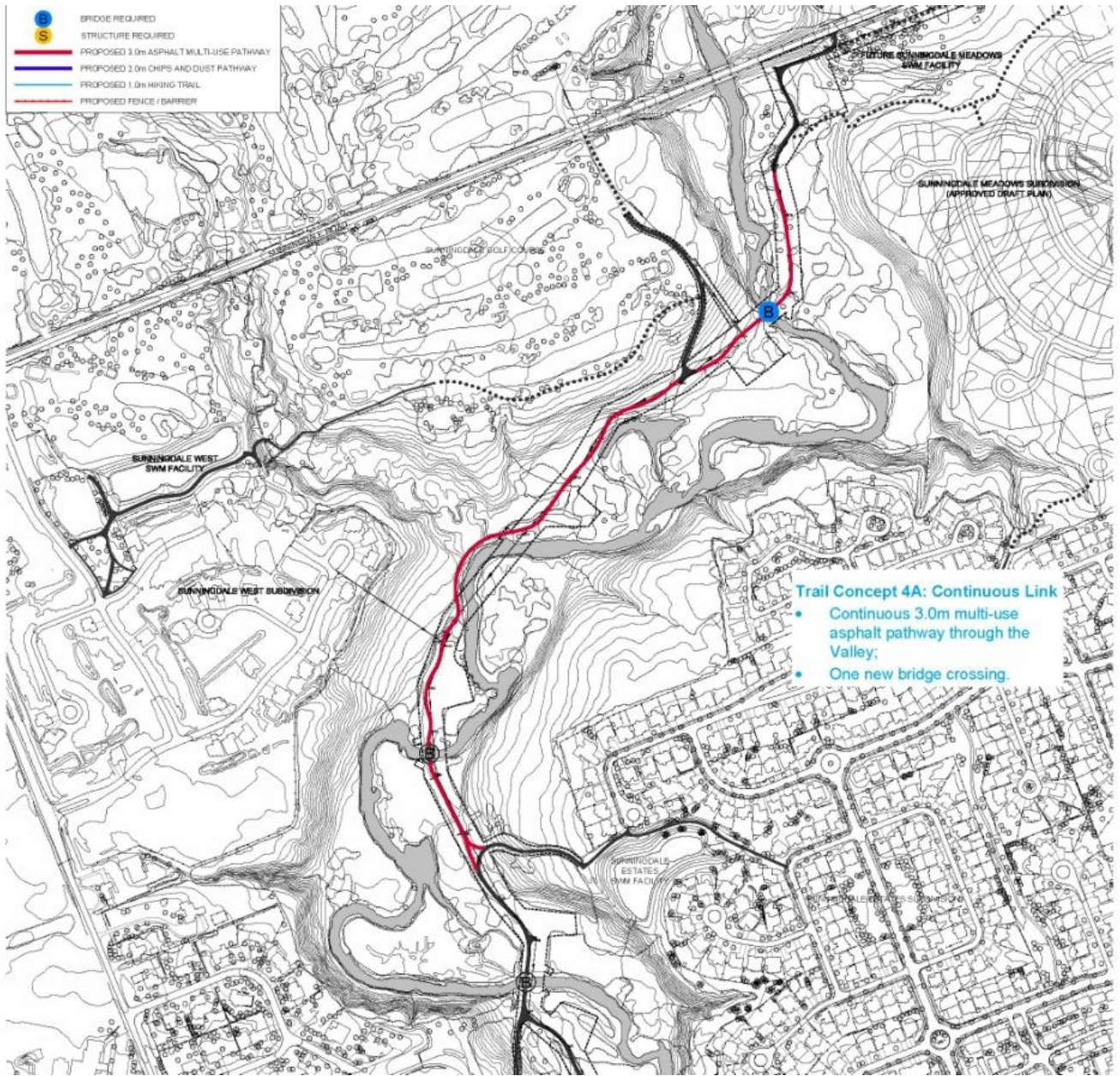
OPTION 1: Do Nothing More



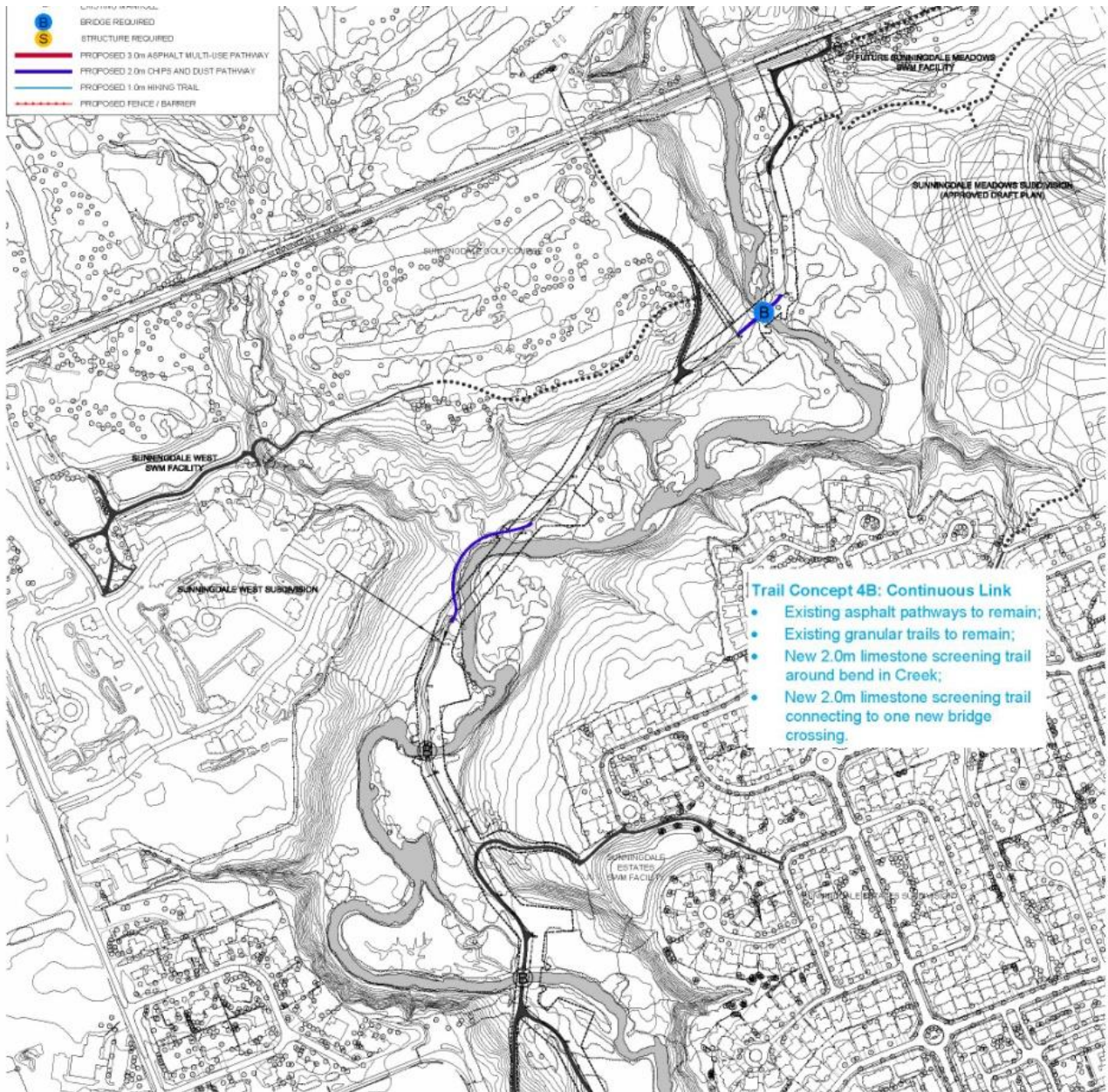
OPTION 2: 2005 Preferred Alternative



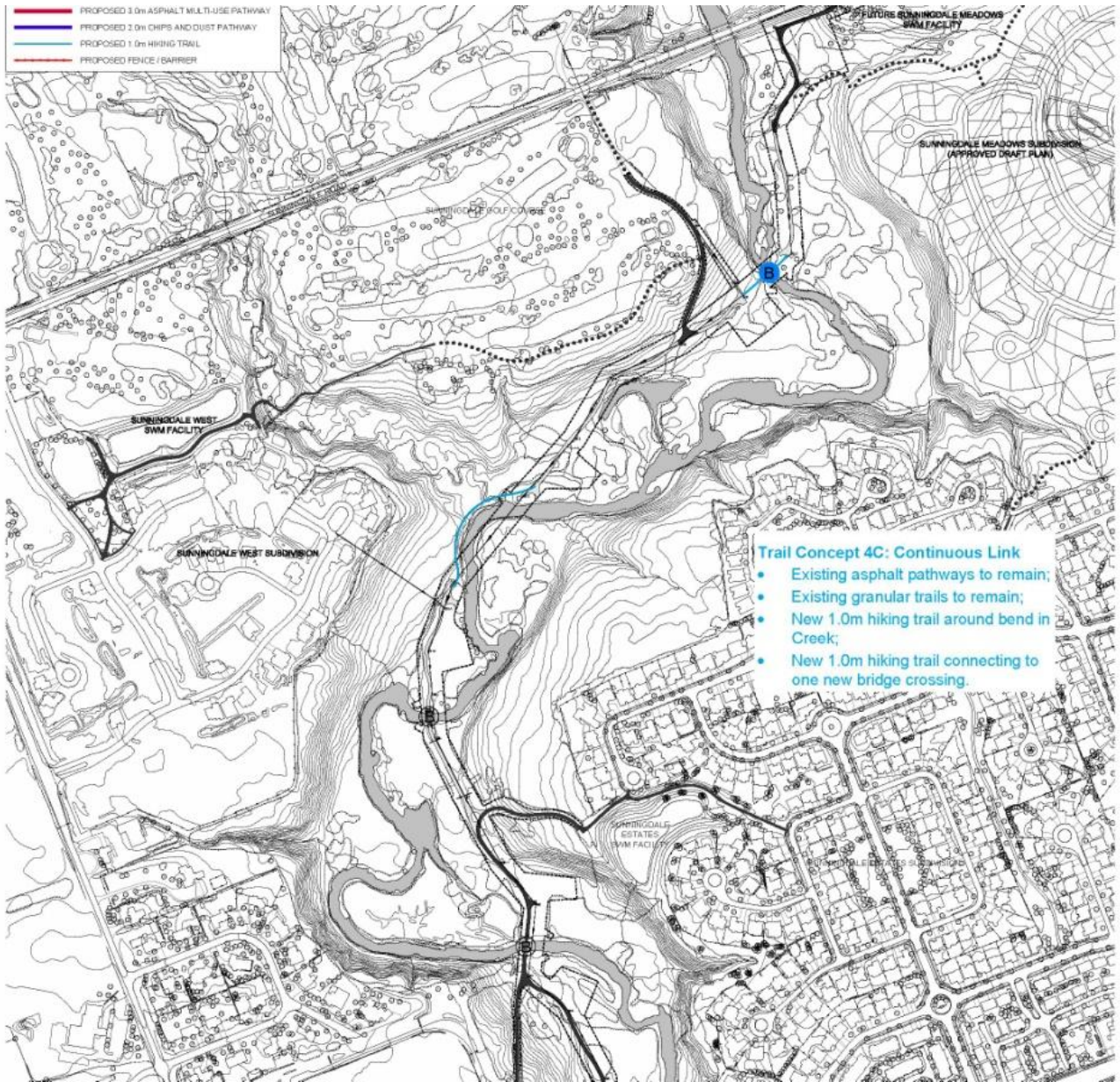
OPTION 3: Restrict Access



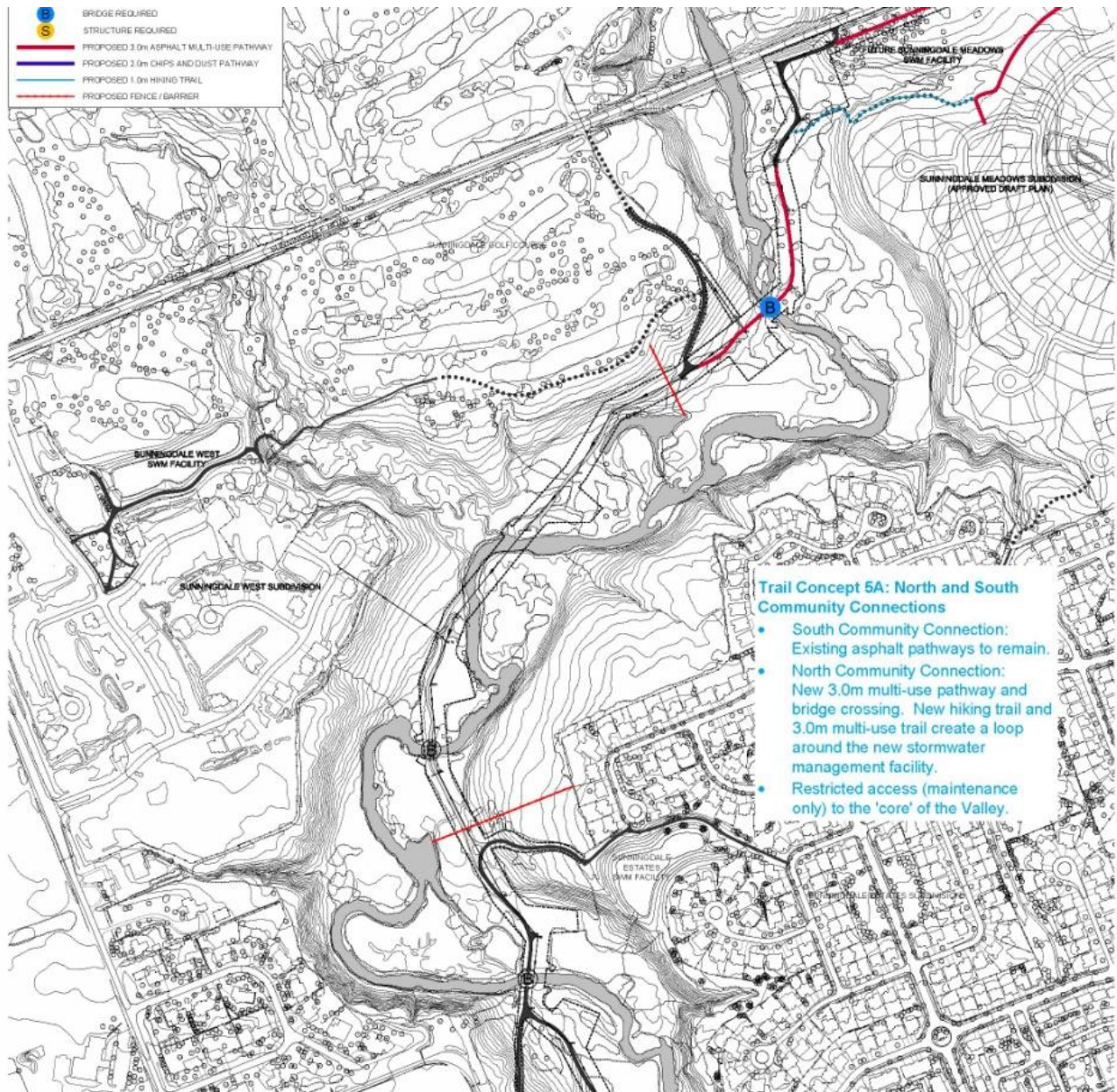
OPTION 4A: Continuous Asphalt Link



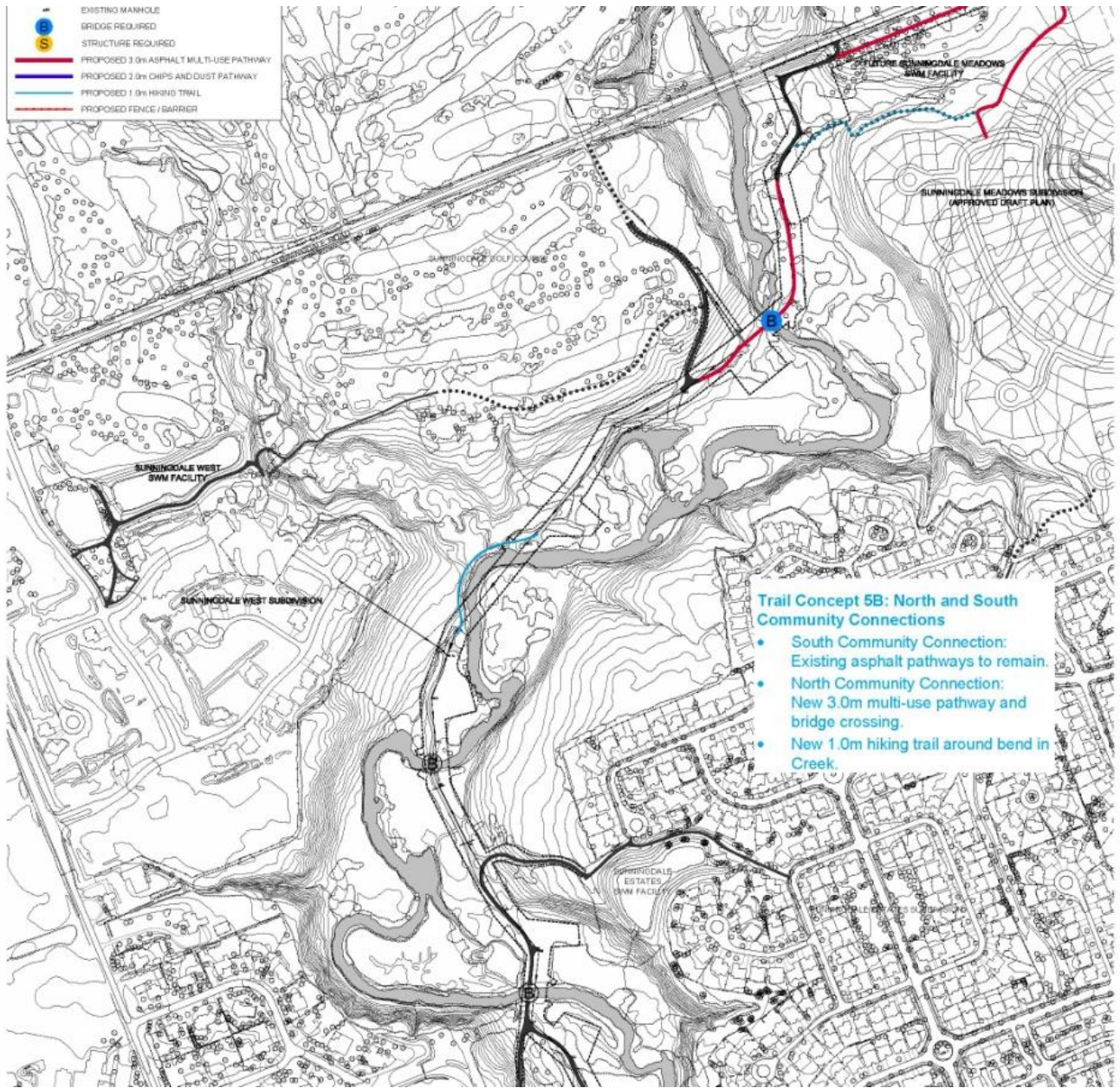
OPTION 4B: Continuous Limestone Link



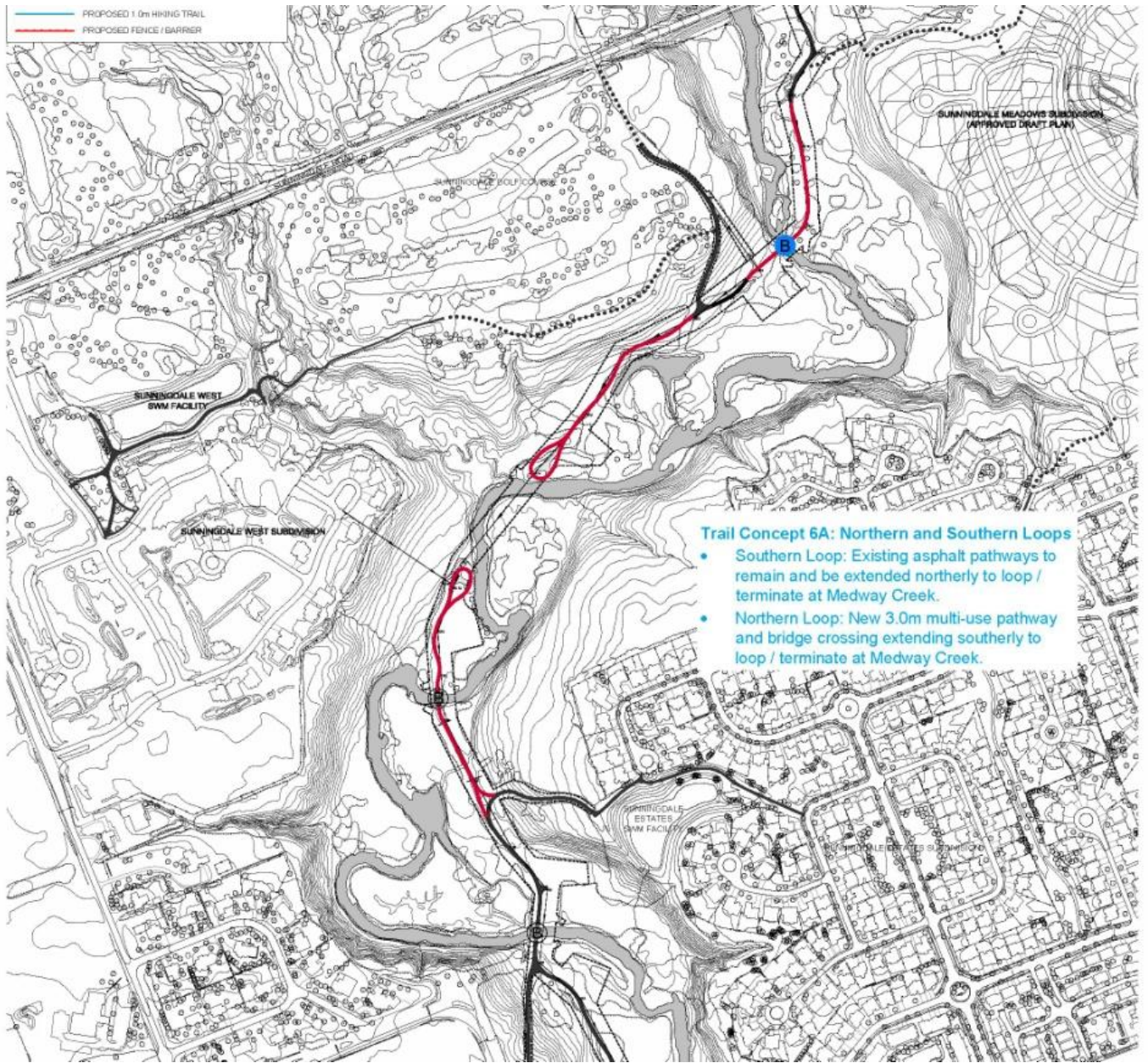
OPTION 4C: Continuous Hiking Link



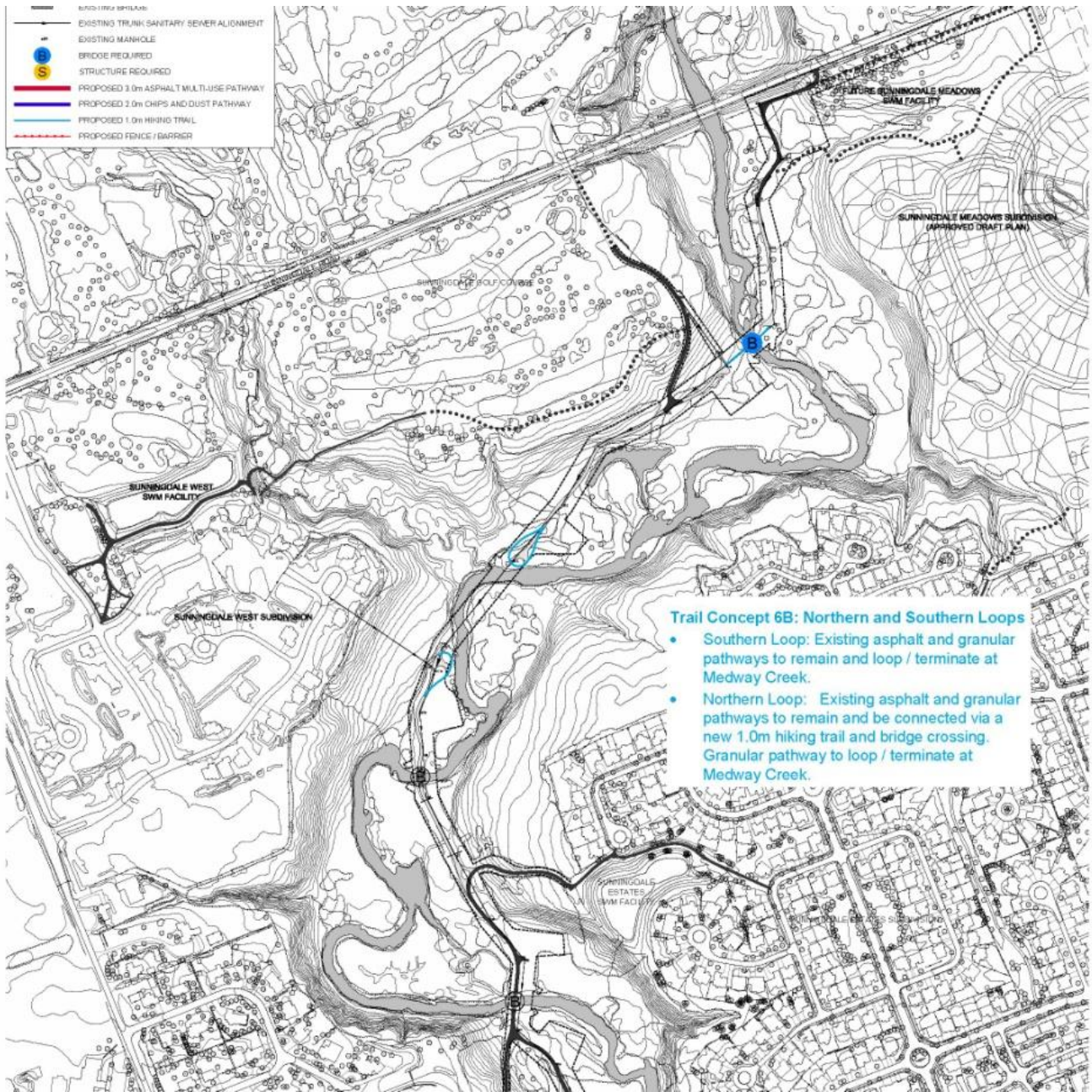
**OPTION 5A: North and South Asphalt Community Connections
with Restricted Access**



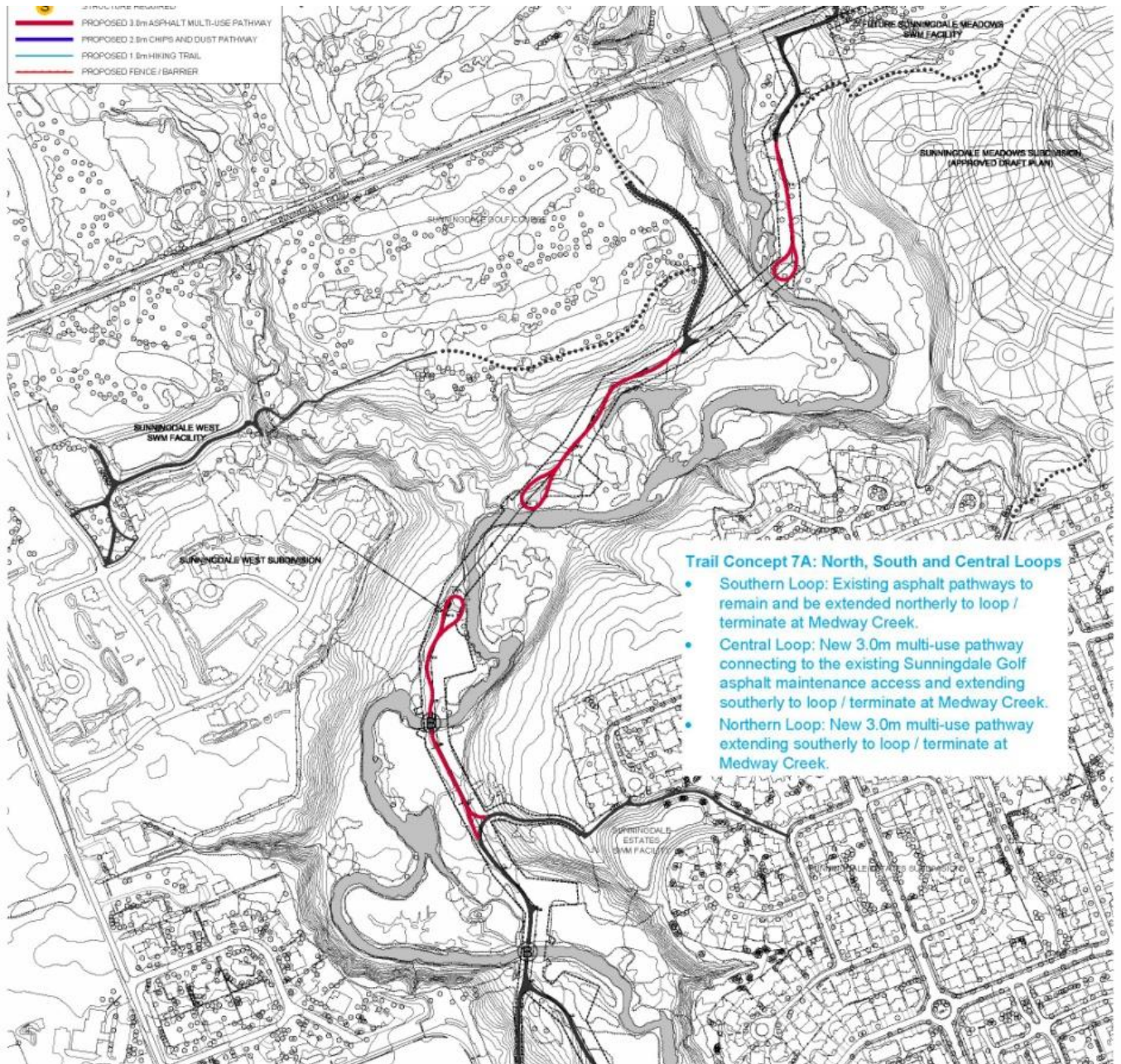
**OPTION 5B: North and South Asphalt Community Connections
with Hiking Tail Link**



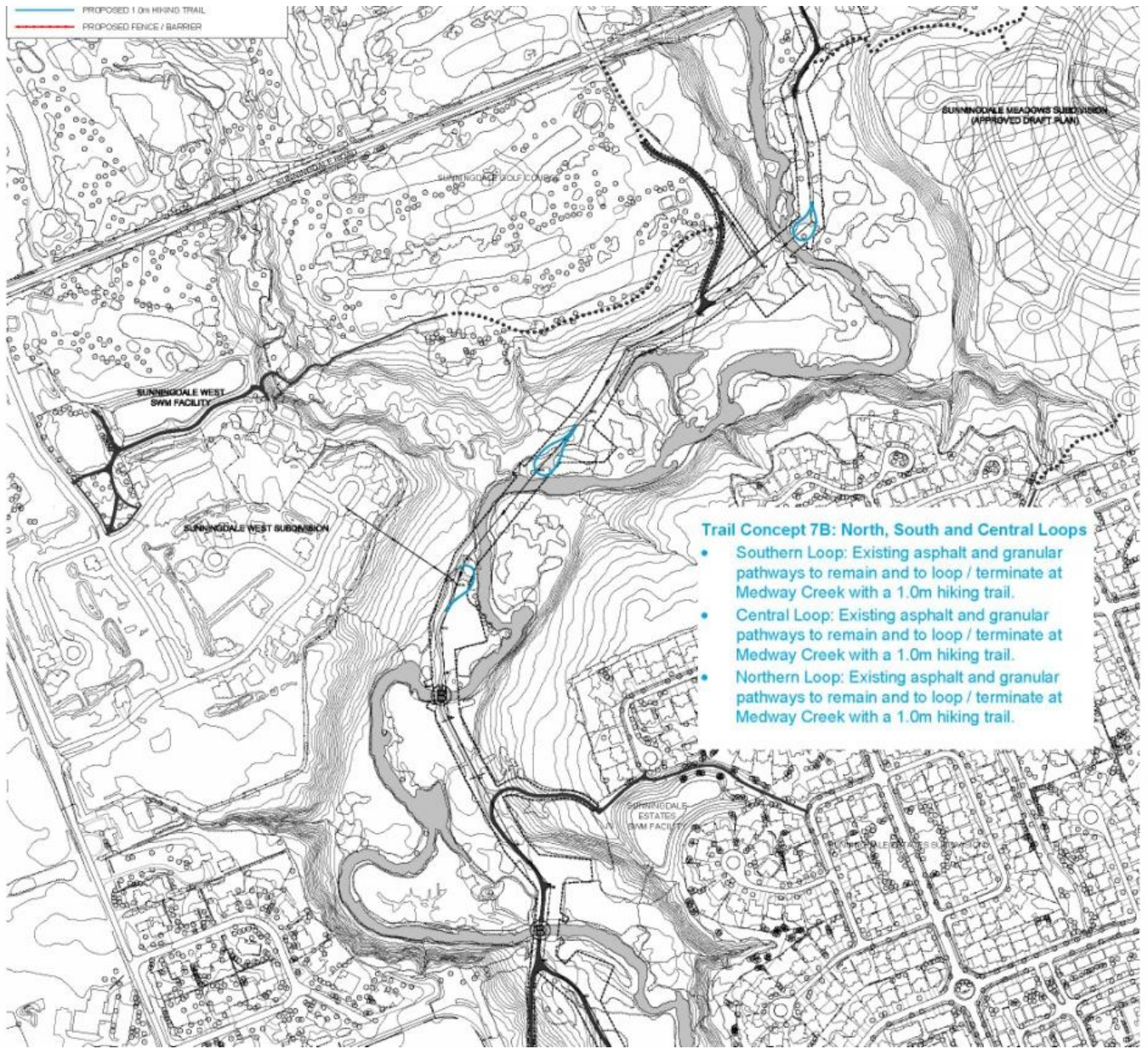
OPTION 6A: Northern and Southern Asphalt Loops



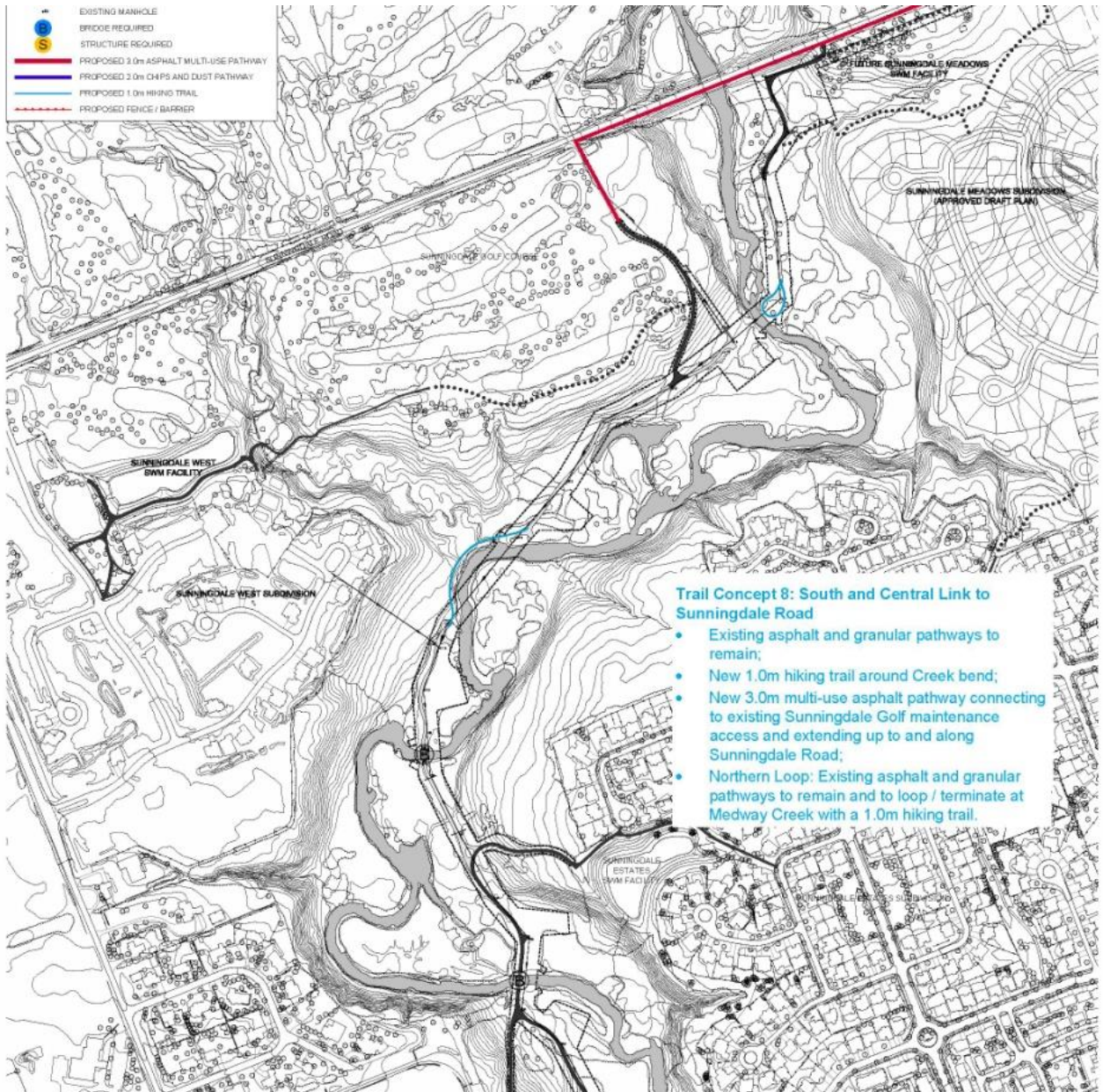
OPTION 6B: Northern and Southern Hiking Loops



OPTION 7A: North, South and Central Asphalt Loops



OPTION 7B: North, South and Central Hiking Loops



OPTION 8: South and Central Hiking Link to Sunningdale Road

APPENDIX B: EVALUATION OF OPTIONS

B1 Evaluation Methodology for Environmental Criteria

ENVIRONMENTAL – Scored as *negative numbers* based on Impacts – Direct, Indirect, and Magnitude (minor, significant) and Extent (short-term or long-term)

Definitions

Impact – human generated activity that affects the characteristics of an ecosystem

Direct Impact – impact that results in the immediate loss or removal of a feature or function

Indirect Impact – Impact that results in stress or impairment of a feature or function over time and space.

Magnitude of Impact – relates to the type and degree of impact i.e. the intensity (minor or significant) and amount of area affected (small or large).

Extent of Impact – relates to frequency (continuous or intermittent) and time duration (short-term or long-term). Generally short-term impacts are related to construction activities, while long-term impacts are related to use.

Each of the Environmental Criteria will be assessed as a potential negative impact. The magnitude of impact will be measured and scored using a Fibonacci type number sequence where :

no impact or change from existing = 0

short-term indirect impact affecting a small area = -1

long-term indirect impact affecting a larger area = -2

minor short-term direct impact = -3

significant long-term indirect impact or significant short-term direct impact = -5

significant direct impact with potential for indirect impacts over a small area = -8

significant direct impact with potential for long-term indirect impacts over a large area = -13

Existing Condition for the “Do-Nothing” Option: permanently open gravel-based maintenance access road with grass surface over sanitary sewer; informal hiking trail around the bend; asphalt pathway/access road within southern third over sanitary sewer; two bridges over Medway Creek; three storm water management facilities within the original ESA boundary; residential development surrounding the valley; golf course (future development) in the north with barrier gate to control access; discontinuous and unsanctioned trails; barrier gate across private property in the middle section with access for sewer maintenance only.

B2 Environmental Criteria

1. Potential to impact area of contiguous forest habitat (not broken by gaps > 40 m) Criterion 3a):

Assumptions: All continuous trail options will create a significant direct impact through the permanent disruption of wildlife habitat generated by trail use. The area has supported breeding birds that are sensitive to forest fragmentation (Blue-gray Gnatcatcher, Warbling Vireo, Hairy Woodpecker, Eastern Wood-peewee, Red-eyed Vireo, Ovenbird, and Great Crested Flycatcher). The degree of potential impact will increase with extent of surface hardening permitting higher use. The continuous use of the valley for recreation creates a long-term indirect impact that may result in the loss of these breeding bird species over time.

-13 significant direct impact with long-term indirect impact over a large area (continuous or looped asphalt or limestone trails)

-8 significant direct impact with long-term indirect impact over a smaller area (continuous or looped hiking trail)

2. Potential to impact areas of seepage or erosion and significant aquatic habitat at the tributary Criterion 4a) and Criterion 4c):

Assumptions: All trail options around the bend will be constructed as a boardwalk over the seepage areas located on the slope approaches on both sides of the tributary stream as well as crossing the stream. This will result in short-term indirect impacts during construction with the overall impact predicted as minor.

-3 minor short-term direct impact (any trail type with boardwalk around the bend)

3. Potential to impact wildlife movement trails and corridors Criterion 6a):

Assumptions: the Medway Valley is an important north-south corridor for the movement of wildlife such as White-tailed Deer, coyotes, foxes and east-west corridor for movement of amphibians, reptiles and beaver. Undisturbed areas of the valley are required to be protected to provide wildlife with safe passage, feeding, and stopping/resting. Continuous trails through the valley will create the potential for significant long-term indirect impacts; with the degree of impact increasing with trail surface type. Asphalt trails will create a permanent direct long-term impact for the movement of smaller mammals, reptiles and amphibians.

-8 minor direct impact with potential for significant long-term indirect impacts (continuous or looped asphalt trail)

-5 significant long-term indirect impact (continuous or looped limestone screenings or hiking trail)

-3 minor short-term direct impact (asphalt trail community connections)

-2 long-term indirect impact (limestone screening or hiking trail community connections)

4. Potential to impact (create loss) to area of interior habitat Criterion 3b):

Assumption: There is a small area of habitat that is located more than 100 m from any edge of the ESA. The construction of the two central bridges to provide a continuous trail would result in a permanent loss of interior habitat area and long-term indirect impact to the surrounding area through disturbance. If the bridges are not built, this area may be restored to treed vegetation.

-13 significant direct impact with potential for indirect impacts over a large area (any trail associated with the construction of the two central bridges)

5. Potential to impact floodplain vegetation through site alteration Criterion 4b):

Assumptions: Based upon number of bridge crossings proposed. [all trails types would require the same size of bridge due to *Federal Navigational Waters Act* specifications]. The more bridges installed, the greater will be the potential for short-term direct alteration of floodplain habitat and vegetation. However, the degree of impact will not be as great for these bridges in this situation, since the alteration of floodplain habitat has already occurred due to installation of the sewer. The provision of a boardwalk linkage around the bend will create potential for short-term indirect impact as per number 2 above and therefore will not be double-counted here.

-8 cumulative short-term direct impacts (any trail with Three Bridges)

-5 moderate short-term direct impacts (any trail with Two Bridges)

-3 minor short-term direct impact (any trail with One Bridge)

6. Potential to impact habitat for SAR mussels Criterion 7:

Assumptions: Installation of any of the bridges has the potential to create a short-term indirect impact resulting from any breach of sedimentation fencing during construction. The risk of impact and area potentially affected increases with number of bridges.

-3 short-term indirect impacts affecting a large area (three bridges)

-2 short-term indirect impacts affecting a moderate area (two bridges)

-1 short-term indirect impact affecting a small area (one bridge)

B3 Social/Cultural Criteria

The criteria for assessment focus on the potential benefits of public use of the valley for appropriate recreation, education and social interaction for local neighbourhoods. Points to consider are:

- Provide recreation opportunities that are consistent with policies for access to ESAs established by the City's OP and that all planned trails within the ESA are consistent with management zone permitted uses.
- Recognize Council direction and sewer EA requirements to provide a recreational pathway system.
- Minimize user conflicts and take into account safety and risk.
- Accommodate appropriate existing and anticipated future accesses and uses.
- Optimize opportunities for education and interpretation.
- Consider access to views and vistas.
- Minimize number of managed trails.

Evaluation Methodology for Social/Cultural Criteria

All criteria scored as *positive numbers* from 0 to 13 measured and scored using a Fibonacci type number sequence based on Amenity Levels and User Experiences:

1. Creates least user conflicts

Assumptions: the widest range of user types will create the potential for greater user conflict

- +8 hiking only trails
- +5 combination hiking and limestone screening trails
- +3 combination hiking and asphalt trails
- +2 limestone screening trail
- +1 asphalt trail
- 0 no new trails

2. Provides accessible passive recreation opportunity with convenient connections between Neighbourhoods / Communities

Assumptions: continuous, accessible trails will create the best opportunities for connecting communities and neighbourhoods)

- +13 continuous asphalt trail (most convenient for the widest range of users)
- +8 continuous limestone screening trail (full accessibility may be limited; provides all connections)
- +5 asphalt loops with continuous hiking or northern asphalt connection (limited users; all connections)

- +3 continuous hiking trail (limited users; all connections)
- +2 discontinuous or restricted access with short asphalt or limestone connections (accessible with limited access and some connections)
- +1 discontinuous hiking loops (provides very limited opportunity; some connections)
- 0 no new trails

3. Provides best opportunity to increase health and fitness benefits

Assumptions: highest scores are achieved by the most connected trails and the greatest types of users permitted. Note: A concept with a loop trail and an additional connection (1 bridge) may achieve a score of +3.

- +8 continuous asphalt trail (opportunity for the most user types)
- +5 continuous limestone screening trail (opportunity for some user types) or several asphalt loops with community connections
- +3 continuous hiking trail with short limestone or asphalt loop trails providing community connections
- +2 continuous hiking trail (opportunity for hikers only)
- +1 discontinuous hiking trail loops (one new connection)
- 0 no connection (no increased opportunity)

4. Number of Opportunities to Highlight Points of Educational Interest or Vistas

Assumptions: people generally pause for enjoyment and views of the river from bridges. There is a nice view of the interior habitat area and valley wall from the bend in river and the oxbow pond has been identified as a special educational feature. Scores are based on whether trails of any type intersect with any one of these features.

- +8 five or more opportunities
- +5 four opportunities
- +3 three opportunities
- +2 two opportunities
- +1 one opportunity
- 0 no new opportunities

5. Provides Quietude and ‘Wilderness’ Experience

Assumptions: Trails with the lowest potential user types will create the opportunity for most undisturbed experiences.

- +8 looped hiking trails with restricted access
- +5 continuous hiking trail
- +3 continuous limestone screening or separated asphalt and hiking trails
- +2 combination of looped trails, separated by type
- +1 asphalt trails only (bikes and user volume undermine quietude and ‘wilderness’ experience)
- 0 no new trails

6. Meets Public Preference

Assumptions: All results from the surveys were tabulated and results presented in order of preference. In the final analysis, comments were screened to avoid duplication of respondents. In total, there were 214 independent responses, with little duplication from the first two meetings. This reflects the difference in the mail-out notification between the first and second public meetings. After the final meeting, only 7 new responses were provided. This indicates that we successfully obtained input from a wide variety of residents surrounding the Medway Valley Heritage Forest ESA.

The City also received a petition signed by 207 individuals with a preference for Option 4A.

In general, the majority of people favoured a low impact, relatively non-intrusive but continuous trail system that will provide access for people with disabilities and families with young children. They would like multiple access points from each subdivision surrounding the ESA. They understand the need to protect the ecosystem and desire a narrow based improved trail that complements the natural beauty of the valley. While it was raised as a desirable opportunity, many people did not support the design of trails to accommodate bicycles travelling through the ESA.

The final rank scores based on public preferences are:

- +13 OPTION 4A and OPTION 4C and OPTION 5B
- +8 none
- +5 OPTION 4B and OPTION 6B
- +3 OPTION 2 and OPTION 5A and OPTION 6A and OPTION 8
- +2 OPTION 7A and OPTION 7B
- +1 OPTION 1 and OPTION 3

Detailed rationale for determining the public preference scores is provided below.

B4 Public Preference Surveys

We received 54 comment sheets from the December 7 2011 meeting from a total number of 88 families represented by 109 participants. There were 77 respondents to the on-line survey posted in December to mid-January 2012. The April 28 2012 meeting was attended by 92 people representing 79 families. We received 76 comment sheets and e-mails from that meeting. The following are the results from the first meeting.

RESULTS

Q1 What level of trail / surface type would you prefer to use in an ESA?

No Trail = 4%

Level 1 or Hiking Trail = 50%

Level 2 or Combination of Materials = 17%

Level 3 or Asphalt Pathway = 29%

Q2 What is Your Preferred Option?

OPTION 1: = 3% [No Trail, no bridge]

OPTION 2: = 16.5% Many respondents who preferred Option 2 recognized the high cost (\$\$ and environmental impact) of the two middle bridges and therefore would choose Option 4A as the preferred alternative [Asphalt Level 3, three bridges]

OPTION 3: = 5.5% [Restrict Access = No Trail, no bridge]

OPTION 4A = 15% [Asphalt Level 3, one bridge]

OPTION 4B = 5% [combination Level 2, one bridge]

OPTION 4C = 45% [Hiking Level 1, one bridge]

OPTION 5A = 4% [Restrict Access = No Trail, one bridge]

OPTION 5B: = 2% [Hiking Level 1, one bridge]

OPTION 6A, 6B = 0%

OPTION 7A = 0%

OPTION 7B = 2% [Hiking Level 1, no bridge]

OPTION 8 = 3% [Hiking Level 1, no bridge]

Combined results of Q 1 and Q2 for Trail Surface Type

No Trail/Restrict Access = $(4 + 3 + 5.5) / 219 = 6\%$

Level 1 or Hiking Trail = $(50 + 45 + 2 + 2 + 3) / 219 = 47\%$

Level 2 or Combination of Materials = $(17 + 5 + 22) / 219 = 20\%$

Level 3 or Asphalt Pathway = $(29 + 16.5 + 15) / 219 = 28\%$

Q3 Do you prefer a Trail that is Continuous or Discontinuous?

Continuous = 89%

Discontinuous = 11%

Q4 Bridge Preferences for a Continuous Trail?

Three Bridges = 5%

One bridge with a pathway or trail around the bend = 95%

In total there were 214 independent comments for tabulation and to gauge the public preferences for the various questions/areas asked from each of the surveys where we were seeking input. The following is the combined result from all questions and survey responses, including the final vote choice.

COMBINED SURVEY RESULTS TO DETERMINE CITY-WIDE PUBLIC PREFERENCE

*Hiking trail for this system means the existing granular maintenance access road surface; any new hiking trails would be natural surface, wood chips or boardwalk

1a Trail System continuous = 89

1b Trail system discontinuous = 11

1c Restrict Access = 6

2a Three bridges = 5

2b One bridge = 95

2c No Bridges = 14

3a no trails = 8

3b hiking* only (Level 1) = 47

3c limestone (Level 2) = 20

3d asphalt pathway (Level 3) = 28

4 Final numbers of votes for Options

- OPTION 1: = 3
- OPTION 2: = 20
- OPTION 3: = 17
- OPTION 4A = 101
- OPTION 4B = 0
- OPTION 4C = 68
- OPTION 5A = 0
- OPTION 5B: = 3
- OPTION 6A: = 0
- OPTION 6B = 0
- OPTION 7A = 1
- OPTION 7B = 0
- OPTION 8 = 0

For each option scores for the trail features listed are added for a total number of points.

OPTION 1 – Do Nothing: $1c + 2c + 3a + 4 = 31$

OPTION 2 – 2005 Preferred Alternative: $1a + 2a + 3d + 4 = 142$

OPTION 3 - Restrict Access: $1c + 2c + 3a + 4 = 45$

OPTION 4A – Continuous Asphalt: $1a + 2b + 3d + 4 = 313$

OPTION 4B – Continuous Limestone: $1a + 2b + 3c + 4 = 204$

OPTION 4C – Continuous Hiking: $1a + 2b + 3b + 4 = 299$

OPTION 5A – Restricted Access with Asphalt Link North: $1c + 2b + 3a + 3d + 4 = 137$

OPTION 5B – Continuous Hiking with Asphalt Link North: $1a + 2b + 3b + 3d + 4 = 262$

OPTION 6A – Discontinuous Asphalt Loops with Asphalt Link North: $1b + 2b + 3d + 4 = 134$

OPTION 6B - Discontinuous Hiking Loops with Hiking Link North: $1b + 2b + 3b + 4 = 153$

OPTION 7A - Discontinuous Asphalt Loops: $1b + 2c + 3d + 4 = 54$

OPTION 7B - Discontinuous Hiking Loops: $1b + 2c + 3b + 4 = 72$

OPTION 8 - Continuous Hiking with Hiking Loop North: $1a + 2c + 3b + 4 = 150$

Final Rankings for Public Preference for Each Option from Lowest to Highest

RANGE FOR RANK SCORE	RANK SCORE	OPTIONS RAW SCORE
0-50	1	1 (31) and 3(45)
51 – 100	2	7A (54) and 7B (72)
101 – 150	3	2 (142) and 5A (137) and 6A (134) and 8(150)
151 – 200	5	4B (204) and 6B (153)
201 -250	8	
➤ 250	13	4A (313) and 4C (299) and 5B (262)

B5 Economic Criteria

Recommendations from the Public

While the cost for maintaining trails should be kept as reasonable as possible, the bottom line is the best protection of the natural features of the ESA. Rather than using the economic criteria from the 2005 process, simply show the estimated cost for each alternative. With this approach, the evaluation team can compare the performance of each alternative against the other criteria, and see the estimated cost that applies.

Recommended Objectives for Trail Planning in ESAs (not criteria to be evaluated, but factors for consideration in construction and maintenance)

- Minimize the cost to construct trails that will protect the natural features of the ESA and provide suitable and appropriate recreation benefits.
- Minimize the cost to maintain trails that will protect the natural features of the ESA and provide suitable and appropriate recreation benefits.

Evaluation Methodology for Economic Criteria

The Economic criteria will be generally measured as Low, Moderate, or High cost. This will consider the cost to construct the trails and the cost to maintain the trails over the long-term. The economic criteria are not given a numerical value in as much as they will be used as an overarching consideration for evaluation of the most preferred options with the intent that the selection of the most preferred option overall will be influenced to some degree by the overall cost and available budget to implement.

1. Cost to Build

High – bridges and asphalt

Medium – limestone and continuous trail

Low – discontinuous hiking

Note: Each bridge was given a symbol of “+” to indicate extra cost

2. Cost to Maintain

High -Limestone Screening Trail

Medium - Hiking Trail

Low – Asphalt

3. Time to Practically Implement

High - Bridge and connection along Fanshawe Park Road

Medium – Trails with bridge crossing

Low – Trails with no bridge crossings

APPENDIX C: EA ADDENDUM RESOLUTION TO TRAIL/ACCESS ISSUES RAISED BY S. LEVIN AND THE ATTAWANDARON RESIDENTS ASSOCIATION , JULY/AUG 2004.

Concerns raised by S. Levin

HIGHLIGHTS OF REMAINING CONCERNS WITH MEDWAY ESR ADDENDUM

Incomplete responses to my questions - see Appendix D-2, questions 2, 3, 8, 12, 13, 26).

The trunk sewer route is inconsistent with the city's Official Plan (15.3.3.i), see Appendix D-2, #6.

Other than reducing one creek crossing, it is not clear what enhanced environmental protection opportunities this Addendum creates (pg i).

The Addendum talks about but does not show any designs for, "low level crossing areas" for emergency access which will change stream morphology (page 6.1). There is no indication of how this will be mitigated or compensated.

Increased needs for access requires added access to the valley and the Addendum does not indicate where access to manholes will be required, making it difficult to determine environmental impacts. It only indicates that they should be developed in conjunction with the recently started (not completing as stated on page 4.6) Master Planning process. (pg. iii) which has no funding for implementation and it is not clear if it will be completed before the location of access to manholes will be determined.

While there is a suggestion that the previous recommendations in the ESR should be enhanced (pg iii and 6.4), there are no details of what these might be.

It is silly to indicate that the Valley Floor of the ESA is low sensitivity. Taking a Natural Heritage Area and subdividing it is silly (pg. 4.3).

June 21, 2004, Sandy Levin, 59 Longbow Road, London, N6G 1Y5

Responses To Concerns Raised By S. Levin And The Attawandoron Residents Asociation With Respect To The ESA And Trail Management Plan

Concern 1 (S. Levin): *The original EA document did not contemplate maintenance access through the valley. The Addendum required access which will prejudge the location of trails in the yet to be initiated management plan. Why isn't the management plan part of the project?*

Response:

The Management Plan "Medway Valley North Pathway Master Plan and Open Space Management Strategy" for the Sunningdale area is now underway. The plan is being completed concurrently and in consideration of the Addendum findings and recommendations.

The proposed "maintenance access" route for the Medway trunk sewer provides opportunities for recreational paths in the Sunningdale area. The Master Plan will take into consideration path alignments that will create the least disturbance and provide the greatest enhancement to the area. Multi use path systems for pedestrian and bike traffic typically cause relatively minimal disturbance to natural features. The use of the proposed sewer "maintenance access" as part of a path system will avoid the more sensitive environmental features documented in the ESR and will further reduce potential impacts. Combining the sewer access and multi use path locations where possible and reasonable, will allow sewer restoration and path development to occur at the same time thereby reducing construction access requirements and minimizing additional costs related to multi use path development.

It is proposed that the portions of the Master Plan that occur within the rehabilitation area of the MTSS be incorporated into the final design rehabilitation plans for the MTSS. This will compliment the design of the proposed access routes described in the Addendum. Other sections of the master plan will be subject to implementation through other means.

Concern 6 (S. Levin): *The ESR preceded the OMB adoption of Official Plan which restricts infrastructure in ESAs unless there are no reasonable alternatives. Given the new OP, why isn't there a review of options?*

Response:

The new OP states that *"new or expanded infrastructure shall only be permitted within Natural Heritage areas including stream corridors where it is clearly demonstrated through an environmental assessment process or an environmental impact study that there is no reasonable alternative for locating that infrastructure elsewhere."*

Planning for Medway trunk sewer extension was carried out under the Class EA process. Alternative alignments were considered and the impact on the Medway ESA was considered.

Concern 9 (S. Levin): *Why should the work go ahead prior to completion of the management plan as the original EA document indicates that restoration concepts and structural habitat features can be planned and implemented in conjunction with a management plan for the valley?*

Response:

The Medway Valley North Pathway Master Plan and Open Space Management Strategy is currently being prepared. The plan is being completed in consultation with and consideration of all planning components associated with the Sunningdale area (the ESR Addendum, final design consideration, development EIS reports, etc...). Efforts to capture cost savings opportunities related to

implementation where design plans and strategies overlap for initiatives such a trail system and an operational access route are being reviewed and will be undertaken where possible.

Concern 18 (S. Levin): *The original EA document noted that one of the significant potential negative impacts would be the introduction of human access along the easement. Access will now occur yet there is no management plan in place to mitigate impacts.*

Response:

- a) A Master Plan and Open Space Strategy is underway and is being developed in consideration of the access opportunities associated with the sewer alignment.

Concern 2 (ARA): **ESA MANAGEMENT PLAN OPPORTUNITY:** *Given the ruling to provide an ESA management plan, we would like to see two specific outcomes from this Class EA addendum. First, the process associated with this required ESA management plan should be properly outlined. Secondly, this addendum presents an opportunity to implement whatever process elements are associated with this development effort. Prior to the addendum, it was decided that no sewer access would be required. Now that access is an engineering requirement, the need to implement the ESA management plan is crucial. It should also be noted that no management plan has been formulated, and that the ruling to introduce this plan was raised several years ago. What is the rationale behind the gross delay in conforming to this ruling?*

Response:

With regards to access, a management plan for the Sunningdale ESA would presumably incorporate the planning objectives found in the Sunningdale Community Plan. The Sunningdale Community Plan states that a trail system is to be developed in the Medway Valley between Fanshawe Park Road and Sunningdale Road. The proposed trail system would provide access to the Medway Valley. An access may provide a good opportunity for a multi-purpose function (recreation and operations) and conforms to the greater planning objectives found in the Community Plan.

The underlying goal of the maintenance access system is to provide operational and emergency access to minimize the potential for future sewer problems. In addition, the alignments discussed thus far for an access are proposed along the sewer alignment and as such protect the environmental features within the ESA. These objectives are again consistent with overall environmental protection goals that would be part of a management plan.

Concern 4 (ARA): SOCIAL ENHANCEMENT OPPORTUNITY: *In conjunction with the rehabilitation, there should be established walkways for public access. This serves to protect the restoration efforts and it greatly elevates the social opportunities for citizens who frequent the Medway area.*

Defined walkways would also assist in establishing the perception that London's development efforts within environmentally sensitive areas are truly intended to establish a net environmental/social gain.

This opportunity should also be revisited south of Fanshawe Park Road. Plans for established walkways had been proposed, but such plans never were realized. How will you address this cleanup issue within this addendum?

Response:

A Medway Valley North Pathway Master Plan and Open Space Management Strategy for the Sunningdale area is now underway. The plan is being developed in consideration of a number of opportunities including: the need for operational access; the need to minimize disturbance to the natural features; need and desire to provide human access to the valley that will have recreational and educational benefits and avoidance of topographical constraints found within the ESA. The plan will also be consider links to the greater London trail systems (including potential linkages south of Fanshawe Park Road).

As part of that work, the opportunities and process requirements to establish a path system south of Fanshawe Park Road are to be considered.

APPENDIX D: Comments from Environmental and Ecological Planning Advisory Committee

RECOMMENDATIONS

Trail Options

1) EEPAC supports option 3 or 5A or 7B as the top three preferred trail options

Page 24 of the draft report identifies the significant environmental features. These features would receive the highest level of protection if one of option 3, 5A and 7B were implemented. This approach is consistent with Section 15.4.1.4 of London's Official Plan. *(Where necessary, public access to identified ESAs within public ownership will be controlled such that access will not be detrimental to the significant features of the property.)*

We also note that these are likely the least costly options and also score highest on the environmental factors.

Weight of Environmental and Social Criteria

2) The weighting of environmental and social criteria in evaluating trail options should be 75% environmental and 25% social. This is an accurate reflection of the management priorities of all City owned Environmentally Significant Areas.

Any weighting of criteria which does not give precedence to environmental factors over social factors is, at the base of it, contrary to Section 15.4.1.4 of London's Official Plan (and sections 16.1.xi and 16.2.8).

The priority of ecological protection over all other uses within an ESA is established by several City documents and guidelines, not the least of is the recent Planning and Design Standards for Trails in Environmentally Significant Areas "The ecological integrity and ecosystem health of the ESA shall have priority in any trail use or design-related decision." (p. 4)

Consistent with these city policies, we do not support the equal weighting between social and environmental criteria. We have attached a spreadsheet showing the outcomes of other weightings.

Delineation of Nature Reserve Lands

3) The significant and sensitive ecological features depicted on page 24 include should be delineated within a Nature Reserve Zone not a Natural Area 1.

The Planning and Design Standards for Trails in Environmentally Significant Areas very clearly state that features such as seepages and critical wildlife habitat areas shall be delineated Nature Reserve.

The Nature Reserve Zone is also applicable to “areas of highest sensitivity which sustain important ecological features and functions that meet the minimum standard of significance for one or more ESA criteria.” Two of the criteria which contribute to the Medway Valley being designated an Environmentally Significant Area are Hydrological Function (including groundwater discharge zones) and Corridors and Linkages. The seepages and the wildlife corridor depicted on page 24 seem prime examples of the reasons why the Medway Valley is designated an ESA. This provides even further rationale as to why the features on page 24 should be within a Nature Reserve Zone.

Inappropriate Width of Utility Overlay

- 4) The utility overlay should be aligned tightly with the location and width of the sewer access grassed roadway, and should be ‘expanded’ along its length to include the surface access areas to the manholes.**

As currently depicted, the Utility Overlay seems very oversized. It is unlikely the width of the sewer is as wide as the width of the Utility Zone. We believe it should be no wider than what is needed for maintenance and the rest zoned appropriately. It is likely that a Restoration Overlay is appropriate along the entire length of the Utility Overlay (whether it the Utility Overlay is narrowed or not). It would be perfectly appropriate to implement restoration measures to minimize the fragmentation caused by the installation and ongoing access to the sewer line.

We are also concerned that the map shown on page 14 of the report is from March 2012. Isn’t the August 2012 map the current version?

Both Continuous Trail and Asphalt Surface Encourages Non-Permitted Cycling in the ESA

- 5) The trail option evaluations and the report should address the non-permitted use of bicycles in the ESA.**

It is well established that a continuous path ‘through’ an ESA encourages more intense impact on the ESA than does a recreational loop. Surfacing with asphalt is an immediate attractant for cycling.

We recommend that the report include commentary that the use of bicycles in Environmentally Significant Areas is contrary to the Parks-By Law. It is also noted that there is little that can be done to stop bicycle use completely, but that a paved pathway encourages the use by bicycles, rollerblades and skateboards.

Accessibility for those with Disabilities

- 6) The report should more clearly state that there is no regulatory requirement to make the entire Valley accessible, and therefore should not be a pressing factor in choosing trail surfacing.**

There are a variety of access points already that provide access to the ESA for those in wheelchairs. We further note that none of these access points conform with the City’s FADS for slopes as they are much steeper than permitted for buildings. We also note that the Integrated Accessibility Standards of the

AODA (Regulation 413/12) only requires the surface of a recreational trail to be firm and stable. It does not mandate material. There are also exceptions to the requirements of the Regulation which are germane to the city's Natural Heritage System as noted in Section 80:15:

80.15 Exceptions to the requirements that apply to recreational trails and beach access routes are permitted where obligated organizations can demonstrate one or more of the following:

5. There is a significant risk that the requirements, or some of them, would adversely affect water, fish, wildlife, plants, invertebrates, species at risk, ecological integrity or natural heritage values, whether the adverse effects are direct or indirect.

Ecological Compensation Required by Environmental Assessment

7) The legally required “compensatory mitigation for negative impacts to the valley and ESA caused by the sewer project” should be defined and implemented.

Page 11 in the Summary section notes that the EA adopted by Council and approved by the Minister required not only a social and public benefit of a pathway, but also “... compensatory mitigation for negative impacts to the valley and ESA caused by the sewer project...” EEPAC is not aware of any compensatory mitigation (as defined in Section 15.3.3 of the Official Plan) and see adopting one of the options it supports as meeting this requirement of the EA. It also is consistent with the Trails Standard document which notes on page 4 that “The ecological integrity and ecosystem health of the ESA shall have priority in any trail use or design-related decision.”

Clarification of Public Preference Results

8) The report should provide a clear explanation as to how the conflicting results on page 57 and 58 can be reconciled.

p 57 - almost 60% of respondents indicated support for no trail or for a Level 1 trail.

p 57 - 45% supporting option 4C (continuous hiking trail)

p 58 – 101 votes for option 4A (continuous asphalt)

We find the information contained on page 57 and 58 to be confusing. While we note that options 4A and 4C score the same for public preference, there is conflicting information shown. For example, on page 56 it states that the public agreed that designing a trail for bikes was not desired. On page 57 it states that almost 60% of respondents indicated support for no trail or for a Level 1 trail. However, it is unclear why the results shown on page 57 (45% supporting option 4C) are different than the results for the “combined survey” on page 58. It is recognized that the data methods used are not valid and reliable statistically (for example, it was possible to submit scoring on paper and on line) but can only be used for guidance; however, it would be helpful to be able to follow the information presented and how it lead to the information found in section 10.4 on page 32 where the public comments are summarized. It is also noted that there were different areas circulated for each meeting (pages 29 and 30). This would also skew the data and should be noted.

Guiding Policies

- 9) The report should include in the Preface (or elsewhere) reference to the most important guiding City policies regarding Environmentally Significant Areas, namely Official Plan sections 8 and 15 and the Planning and Design Standards for Trails in Environmentally Significant Areas**

Other policy and requirement drivers are mentioned in the report (e.g. EA) and so should the ESA policies.

Ownership of Lands

- 10) The non-City owned property should be shown on the maps in the report. This will assist both councillors and the public in showing where the private property is, and why any recommendation will take time to implement.**