Report to Civic Works Committee

To: **Chair and Members**
Civic Works Committee
From: **Kelly Scherr, P.Eng., MBA, FEC**
Deputy City Manager, Environment and Infrastructure
Subject: **Contract Amendment: Dingman Creek Subwatershed Stage 2 Lands: Schedule C Municipal Class Environmental Assessment**
Date: **May 22, 2024**

Recommendation

That, on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions **BE TAKEN** with respect to the additional engineering fees for the detailed design of the Bradley Avenue Extension:

(a) The contract with Kontzamanis Graumann Smith MacMillan Inc. **BE INCREASED** by $178,398.00 to a total amended value of consulting engineers to complete the detailed design for the Dingman Creek Stage 2 EA project in accordance with the estimate, on file, at an upset amount of $876,927.21 (including contingency), excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;

(b) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached, hereto, as Appendix 'A';

(c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;

(d) the approval given, herein, **BE CONDITIONAL** upon the Corporation entering into a formal contract in connection with this contract amendment; and,

(e) The Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

This report seeks to increase the existing Dingman Creek Subwatershed Stage 2 Lands Schedule C Municipal Class Environmental Assessment (Dingman Stage 2 EA) engineering consultant contract with Kontzamanis Graumann Smith MacMillan Inc. (KGS Group). The budget increase will cover additional modeling efforts required to recognize existing and proposed municipal infrastructure.

The Dingman Stage 2 EA and associated modeling includes an update of the floodplain limits along Dingman Creek and its tributaries. This work evaluates and proposes flood mitigation options to be implemented as municipal infrastructure resulting in alleviated flood impacts to existing properties and future development lands, all within the Urban Growth Boundary. The updated floodplain modeling recognizes potential flood impacts due to climate change.

Linkage to the Corporate Strategic Plan

This project supports the 2023-2027 Strategic Plan focus areas of:

- Building a Sustainable City by:
  - improving London's resiliency to respond to potential future challenges; and
  - building infrastructure to support future development and protect the

environment; and,

- Climate Action and Sustainable Growth by:
  - London's infrastructure is built, maintained, and secured to support future growth and protect the environment.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

CWC – June 22, 2021 – Appointment of Consulting Engineer for the Dingman Creek Subwatershed Stage 2 Lands: Schedule C Municipal Class Environmental Assessment

CWC – February 4, 2020 – Dingman Creek Subwatershed: Stormwater Servicing Strategy for Stage 1 Lands Municipal Class Environmental Assessment: Notice of Completion

PEC – March 18, 2019 – Upper Thames Conservation Authority Dingman Creek Subwatershed Screening Area Mapping – Update

PEC – November 12, 2018 – Upper Thames River Conservation Authority Dingman Creek Subwatershed Screening Area Mapping

CWC – October 6, 2015 – Dingman Creek Subwatershed Stormwater Servicing Strategy Schedule C Municipal Class Environmental Assessment

2.0 Discussion and Considerations

2.1 Background

Dingman Creek Stage 1 EA

The recommendations of the Dingman Creek Stage 1 EA (Aquafor Beech, 2020) focused on stormwater servicing solutions for lands scheduled for development within the 10-year timeline in accordance with the City's Growth Management Implementation Strategy (GMIS).

Recommendations from the Stage 1 study includes Low Impact Development (LID) infiltration targets to meet water quality, water balance, and erosion requirements, as well as several traditional "dry pond" SWM facilities and three Complete Corridors.

Complete Corridors support the movement of water, people, and wildlife. The corridors are comprised of a wide engineered natural channel with a pathway and may contain natural heritage features such as meadows, wetlands, or treed areas to provide additional habitat. The following website includes the full EA report and additional information: https://getinvolved.london.ca/dingmancreek

During the Stage 1 EA, the UTRCA's draft flood line modelling outputs significantly increased stormwater flow estimates and, in conjunction with relatively flat topography outside of the channel, resulted in a significantly expanded regulatory area throughout the watershed.

The draft regulatory limit expansion was presented to Council as a "Screening Area" at the Planning and Environmental Committee in November 2018. The Screening Area includes an additional 1,787 hectares of land area in the floodplain and impacts nearly 3,000 properties over the current floodplain that is shown in the City's Official Plan Hazard Mapping.

Dingman Creek Stage 2 EA

The Dingman Creek Stage 2 EA is currently reviewing the regulatory flooding conditions and will propose a municipal Level of Service that balances flood protection with infrastructure investment. This study recognizes the role and function of municipally

engineered infrastructure such as culvert upsizing, flood control facilities, constructing an expanded floodplain or other controls that contribute to reduce flood impacts, as well as considering the City's short and long-term future development scenarios and climate change impact on the uncontrolled regulatory flood event. The outcome of this study will allow the City to proceed with mitigation assessments, critical infrastructure management plans, and emergency preparedness planning to protect properties from flooding and erosion.

Since the initial award of the consulting assignment in 2021, there has been a significant level of effort to refine the modelling assumptions in Dingman Creek. The modeling has been refined to with the primary effort to include more culverts identified through detailed background review and as recently made available by MTO, and inclusion of existing and future proposed municipal infrastructure (e.g. stormwater attenuation ponds) that were previously not included in the model. The modeling approach has changed to simplify model processing where possible. This has resulted in additional updates to the simplified components. Additional budget has been included for the mitigation strategy modeling as the complexity is greater than originally anticipated.

Next Steps

The focus of the Dingman Creek Stage 2 EA is to identify municipal infrastructure to allow new development to proceed and mitigate impacts of an increasing flood limit. The proposed alternatives are to align with the complete corridor concept adopted in the Stage 1 Dingman EA (Aquafor Beech, 2020).

It is anticipated that the Dingman Stage 2 EA will recommend applying a two-zone floodplain approach in Dingman Creek, as recently adopted for Mud Creek at the UTRCA Board Meeting on April 16th, 2024. Dingman Creek and Mud Creek exhibit similar characteristics of having relatively flat topography which creates shallow and low velocity areas suitable for fringe classification. In coordination, an Official Plan Amendment will be required to update planning policies and adopt a two-zone floodplain approach, which is anticipated for Fall 2024.

2.2 Recent Public Communications

On October 19, 2023, a public meeting was held to provide a project update and receive input from the Community. The public meeting was held in open house format at the South London Community Centre with a series of posters board and preliminary updated floodplain mapping available for review. The material presented the study, timelines, discussion of floodplain mapping and 2-zone concept, and associated policies. Material presented at the public meeting is available at https://getinvolved.london.ca/dingmancreek.

A second public meeting will be held to present the updated draft floodplain and two-zone approach in Fall 2024. A third public meeting to present mitigation measures will be held in 2025. First Nation consultation is ongoing as part of the EA process.

The Dingman Creek project is of high interest to property owners with lands that lie within the increased floodplain limits. The Dingman Creek Get Involved website will continue to be updated throughout the EA process.

Updated Timeline

- Step 1 – Define Problem / Opportunity (completed)
- Step 2 – Public Consultation: Draft Floodplain and Mitigation Strategies, Fall 2023 (completed)
- Step 3 – Publish updated Draft Floodplain Mapping online, Fall 2024
- Step 4 – Official Plan Amendment for Regulatory Floodplain, Fall 2024
- Step 5 – Publish Alternative Solutions and Select Preferred Alternative/s for Flood Mitigation, Fall/Winter 2024

- Step 6 – Targeted Consultation with Impacted Landowners and Neighbourhoods, Fall/Winter 2024
- Step 7 – Develop Design Concepts for the Preferred Alternative/s, Winter 2025
- Step 8 – Complete the Environmental Study Report | Spring 2025
- Step 9 – EA Approval | Summer/Fall 2025

3.0 Financial Impact/Considerations

3.2 Funding Sources

There is adequate funding in the existing budget to accommodate the consultant fee increase.

Conclusion

The Dingman Creek Subwatershed Stage 2 Lands EA and associated floodplain modeling includes updates to the floodplain limit within the subwatershed and options for flood mitigation measures to protect existing properties and lands designated for growth. The budget increase will cover additional modeling efforts required to recognize existing and proposed municipal infrastructure not previously recognized in floodplain modeling assessments.

The final floodplain model update is anticipated to be completed in 2024. Results of this study will be used to in coordination with an Official Plan Amendment to recommend a two-zone floodplain policy, as well as to inform the 2028 Development Charges Update.

Prepared by:	**Shawna Chambers, DPA, P.Eng., Division Manager, Stormwater Engineering**
Submitted by:	**Ashley Rammeloo, MMSc., P.Eng., Director, Water, Wastewater, and Stormwater**
Recommended by:	**Kelly Scherr, P.Eng., MBA, FEC, Deputy City Manager, Environment and Infrastructure**

CC: A. Sones, S. Mollon, KGS Group

Appendix ‘A’ – Sources of Financing

Appendix ‘B’ – Public Meeting Information

Appendix "A"

#24086
May 22, 2024
(Appoint Consulting Engineer)

Chair and Members
Civic Works Committee

RE: Dingman Creek Subwatershed Stage 2 Lands: Schedule C Municipal Class Environmental Assessment
(Subledger NT21ES11)
Capital Project ES3212 - Stormwater Dingman Creek Floodplain Corridor EA
Kontzamanis Graumann Smith MacMillan Inc. - $178,398.00 (excluding HST)

Finance Supports Report on the Sources of Financing:

Finance Supports confirms that the cost of this project can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the recommendation of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing is:

Estimated Expenditures	Approved Budget	Committed To Date	This Submission	Balance for Future Work
Engineering	718,152	497,576	181,538	39,038
Total Expenditures	$718,152	$497,576	$181,538	$39,038
Sources of Financing				
Federal Grants - National Disaster Mitigation Program	218,152	218,152	0	0
Drawdown from City Services - Corporate Growth Studies Reserve Fund (Development Charges) (Note 1)	500,000	279,424	181,538	39,038
Total Financing	$718,152	$497,576	$181,538	$39,038

Financial Note:

Contract Price	$178,398
Add: HST @13%	23,192
Total Contract Price Including Taxes	201,590
Less: HST Rebate	-20,052
Net Contract Price	$181,538

Note 1: Development charges have been utilized in accordance with the underlying legislation and the approved 2019 Development Charges Background Study and the 2021 Development Charges Background Study Update.

Jason Davies
Manager of Financial Planning & Policy

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Appendix 'B'

WELCOME

Dingman Creek Subwatershed Stage 2 Schedule C
Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

Open House — 6:00 to 7:30 p.m.
Thursday, October 19, 2023

Presented by: London CANADA KGS GROUP

The City of London is situated on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Attawandaron. We honour and respect the history, languages and culture of the diverse Indigenous people who call this territory home. The City of London is currently home to many First Nations, Métis and Inuit today. As representatives of the people of the City of London, we are grateful to have the opportunity to work and live in this territory.

Dingman Creek Subwatershed Stage 2 Schedule C Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

WHAT IS THE PURPOSE OF THE PROJECT?

The objective of the Dingman Creek Subwatershed Stage 2 Environmental Assessment (EA) is to:

- Establish stormwater servicing strategy by accommodating future growth
- Assess potential flood mitigation and stormwater servicing alternatives to address imminent and future flooding and erosion risks
- Propose an approach that aligns with the City's vision of a complete corridor that integrates natural heritage, stormwater management and recreational uses

In parallel with the EA, an update of the Dingman Creek Regulatory Floodplain is under review and will conclude through an Official Plan Amendment process.

Jeffery the Salamander is the mascot for the Dingman Creek EA study! He is based on the Jefferson Salamander, which is an endangered species in Ontario.

Dingman Creek Subwatershed Stage 2 Schedule C Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

WHAT IS DINGMAN CREEK EA STAGE 2?

Dingman Creek Master Plan

Stage 1 Lands: Schedule B EA — Tributary 12 — Thornicroft Drain — Pincombe Drain — White Oaks Drain

Stage 1: lands less impacted by floodplain expansion to:

- Recommend Stormwater Servicing solutions for developable lands within 5-7 year Growth Period
- Generally outside of Dingman Creek zone of influence
- For more information on the Stage 1 EA visit: https://getinvolved.london.ca/DingmanCreek

Stage 2 Lands: Schedule C EA — Complete Corridor — Flood Mitigation

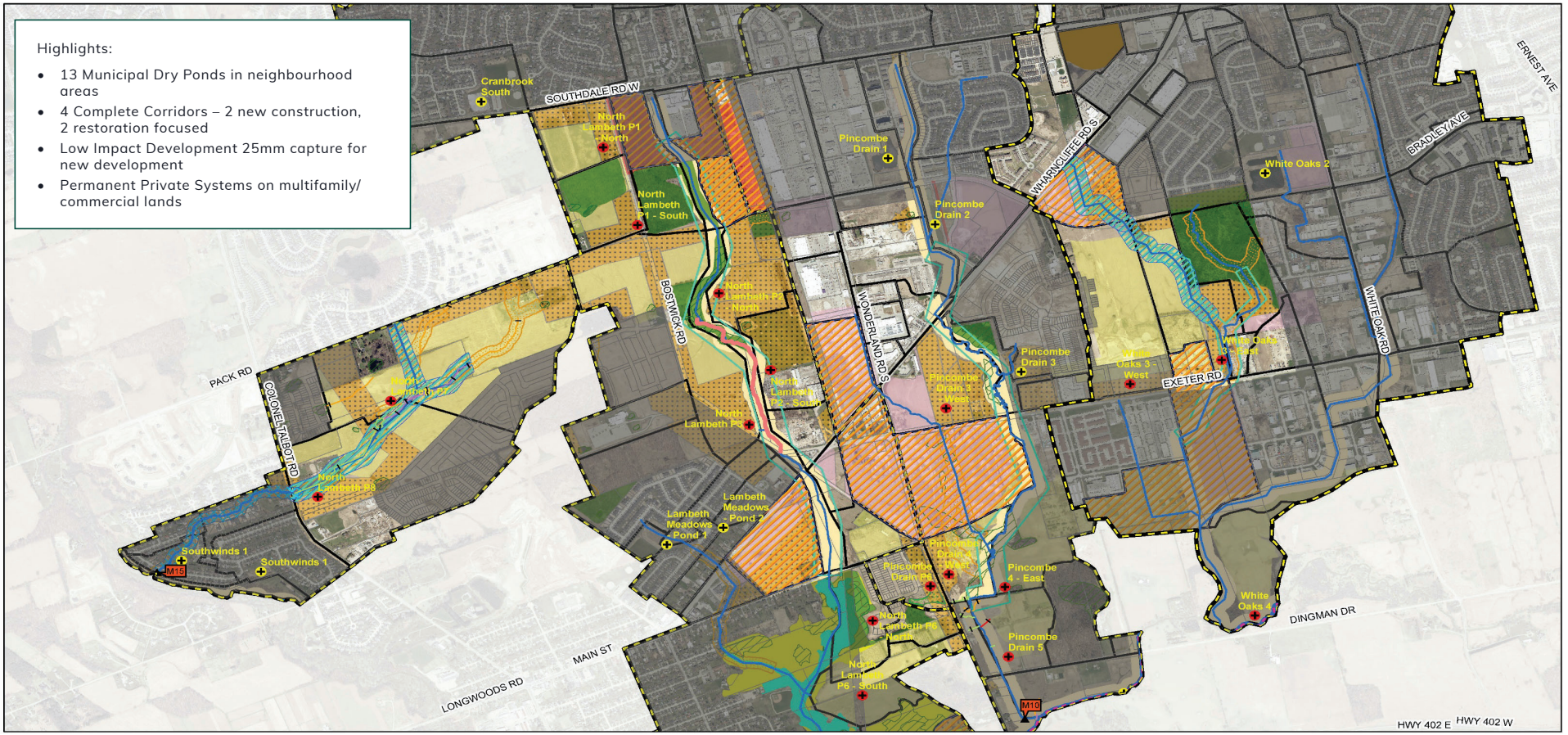
Stage 2: lands directly impacted by the proposed floodplain (by 2024)

- Update floodplain and assess mitigation options

Stormwater Strategy – Stage 1 EA Preferred Alternative (completed 2020)

Highlights:

- 13 Municipal Dry Ponds in neighbourhood areas
- 4 Complete Corridors – 2 new construction, 2 restoration focused
- Low Impact Development 25mm capture for new development
- Permanent Private Systems on multifamily/ commercial lands



Date: November 2019
Source: City of London, 2016

Dingman Creek Subwatershed Study

Implementation Plan - Overview

Municipal Stormwater Facilities:
- Existing
- Future
- Slope Stability Hazard
- Meander Belt
- Private Permanent Systems (PPS)
- Property Parcels

- Control Point
- Stream
- Dingman Creek

HDF Management Recommendation:
- Protection
- Conservation
- Mitigation
- No Management Required

Developments - Nov 2019:
- EMPLOYMENT
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- RESIDENTIAL GROWTH

- Channel Reconstruct
- Complete Corridor Width to be confirmed at functional design stage
- Provincially Significant Wetlands
- Unevaluated Wetland
- Locally Significant Wetlands
- Significant Woodlands
- Woodlands
- Environmentally Significant Areas
- Significant Valleylands
- Potential ESAs
- Valleylands

- Dingman Creek EA Stage 1
- Dingman Creek EA Stage 2
- Subcatchments
- Tributaries

Notes:
Stream System Studies for White Oaks Fluvial Geomorphic Assessment - to be updated
HDF Assessments- to be completed
Erosion Hazards - meander belt assessment provided, stable slope hazard to be confirmed
Maps are representative and do not include all features

N W E S

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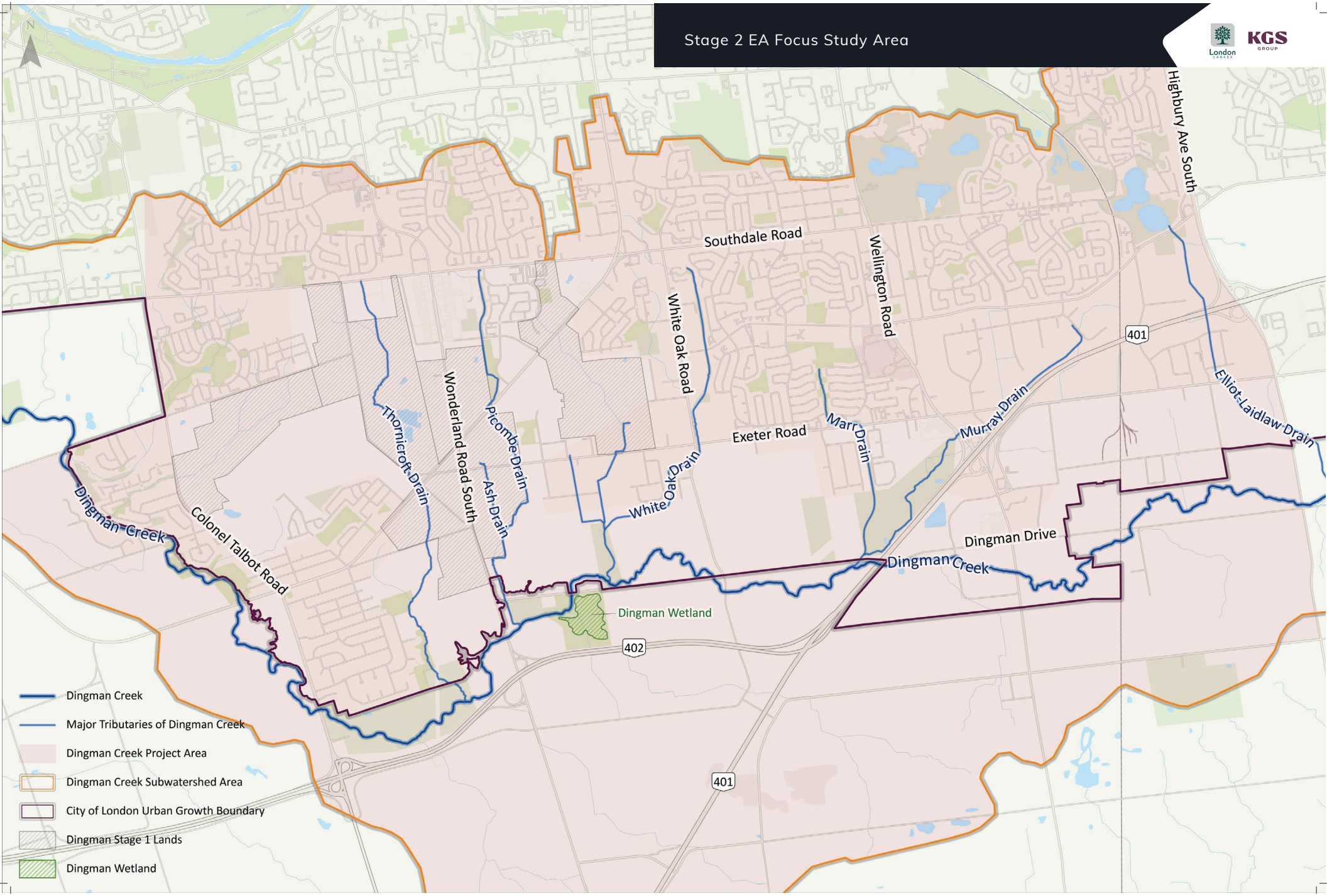
Meters


Stage 2 EA Focus Study Area
London
KGS GROUP
Highbury Ave South
Southdale Road
Wellington Road
White Oak Road
401
Elliot-Laidlaw Drain
Murray Drain
Marr Drain
Exeter Road
White Oak Drain
Thornicroft Drain
Wonderland Road South
Picombe Drain
Ash Drain
Dingman Creek
Colonel Talbot Road
Dingman Drive
Dingman Creek
Dingman Wetland
402
401
Dingman Creek
Major Tributaries of Dingman Creek
Dingman Creek Project Area
Dingman Creek Subwatershed Area
City of London Urban Growth Boundary
Dingman Stage 1 Lands
Dingman Wetland

Dingman Creek Subwatershed Stage 2 Schedule C Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

CLASS EA PROCESS AND PROJECT TIMELINE

The Dingman Creek Stage 2 Lands is following the Class EA Process for Ontario Environmental Assessment Act and will cover all necessary phases of the Schedule 'C' EA Process.

- Step 1 – Define Problem / Opportunity (completed)
- **Step 2 – Public Consultation: Draft Floodplain and Mitigation Strategies | Fall 2023 (this event)**
- Step 3 – Publish updated Preliminary Draft Floodplain Mapping online | October 2023
- Step 4 – Targeted Consultation with Impacted Landowners and Neighbourhoods | Fall/Winter 2023
- Step 5 – Develop Alternative Solutions and Select Preferred Alternative/s | Winter 2023/24
- Step 6 – Develop Design Concepts for the Preferred Alternative/s | Winter 2023/24
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Dingman Creek Subwatershed Stage 2 Schedule C Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

STAGE 2 - EA OPPORTUNITY / PROBLEM STATEMENT

The Dingman Creek Subwatershed (DCS) suffers from poor water quality, lack of wildlife habitat, loss of trees and vegetation as well as flooding and erosion issues.

Sustainable growth within the Urban Growth Boundary of the DCS is a City of London priority. To maintain, enhance, and restore the DCS, the City needs a comprehensive plan to support both environmental and development goals.

This plan must:

- Build on the 1995 and 2005 Dingman Creek Subwatershed Studies and be consistent with the goals and objectives of the Official Plan and Southwest Area Secondary Plan
- Meet the targets established in the Environmental Compliance Approval
- Create a complete corridor that provides a continuous natural area for the movement of water, wildlife and people.

Dingman Creek Subwatershed Stage 2 Schedule C Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

WHY IS THE FLOODPLAIN CHANGING?

The floodplain map was developed over 30 years ago. The updated floodplain considers the following:

Climate Change

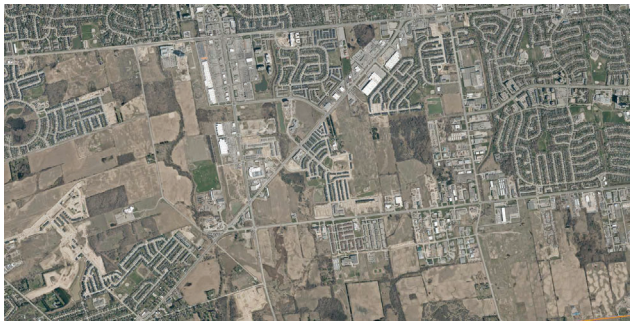
- The climate is changing
- The new model incorporates potential effects of climate change
- Large storm events continue to happen in urban areas. The City needs to prepare for flooding in existing and new development areas

Better Technology and Data

- More advanced and accurate analysis and mapping tools have become available
- New and improved data includes meteorological / hydrological records and topographic base maps

Development within the Urban Growth Boundary

- Existing and future changes to the landscape in the Dingman Subwatershed have been included in the update
- The updated floodplain targets the City's 20-year growth boundary



Dingman Creek Subwatershed Stage 2 Schedule C Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

WHAT IS A REGULATORY FLOODPLAIN?

What is a floodplain?

During normal conditions, the flow in the creek is contained within the main channel (i.e. within the creek banks).

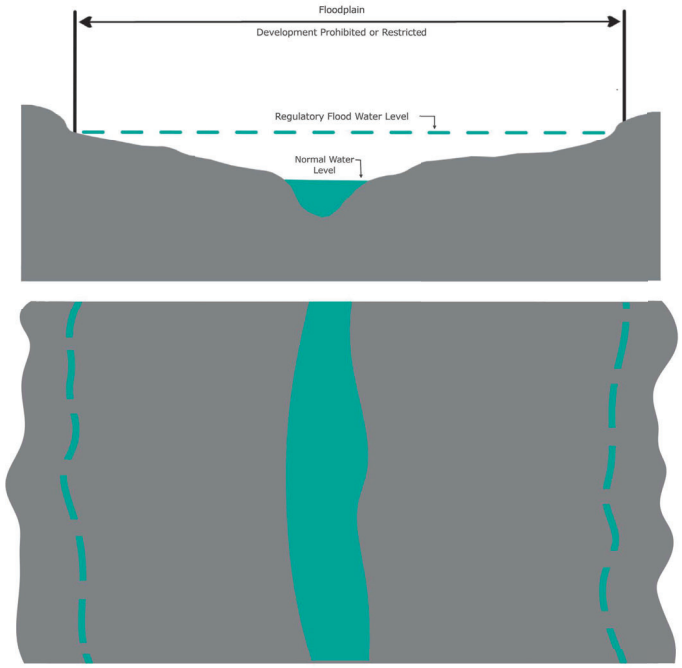
The floodplain is the area next to the main channel that is occupied by water during a flood, when the creek banks are overtopped.

What is a Regulatory Floodplain?

The floodplain that corresponds to the Regulatory Flood event.

In London, the Regulatory Flood is based on the flood of 1937. This event has an annual chance of 0.4% (250-year return period).

Within the Regulatory Floodplain, development is restricted to protect people and properties.



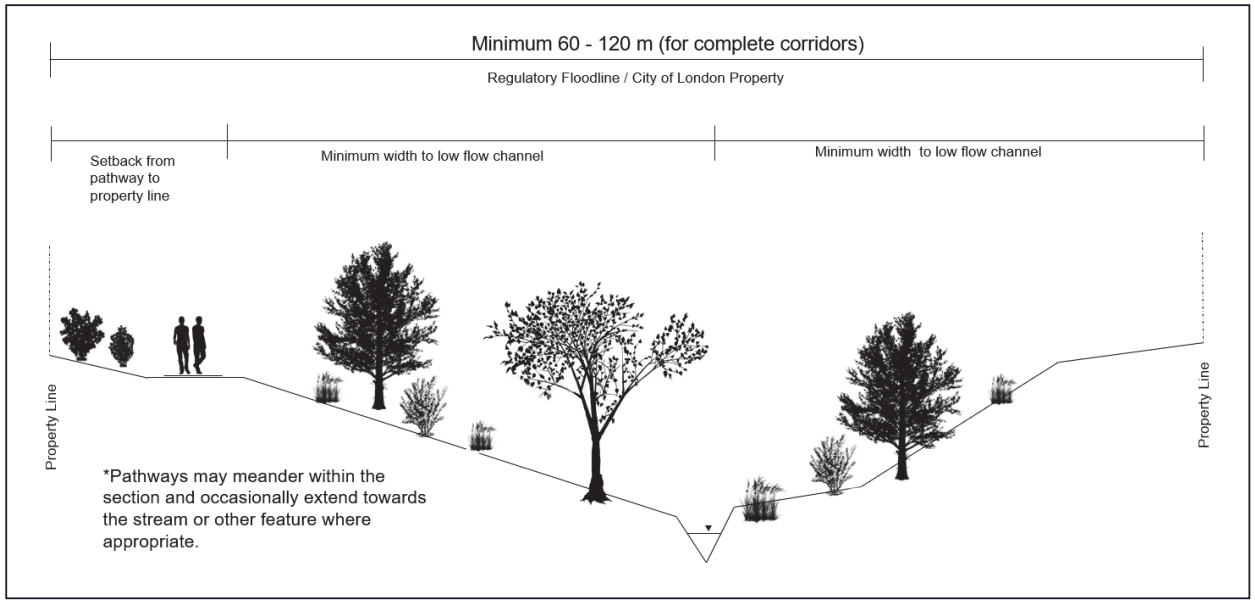
Dingman Creek Subwatershed Stage 2 Schedule C Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

WHAT IS A COMPLETE CORRIDOR?

An overarching concept of the project is to create a naturalized corridor within South London, that promotes movement of water, wildlife and people.

The 3 components of the complete corridor:

- Natural Heritage – to connect significant natural features
- Floodplain Corridor – to convey water, provide habitat for aquatic life and expand flood storage
- Multiuse Pathway – to encourage physical activity, such as walking, running, and cycling



Dingman Creek Subwatershed Stage 2 Schedule C Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

WHAT IS A TWO ZONE FLOODPLAIN?

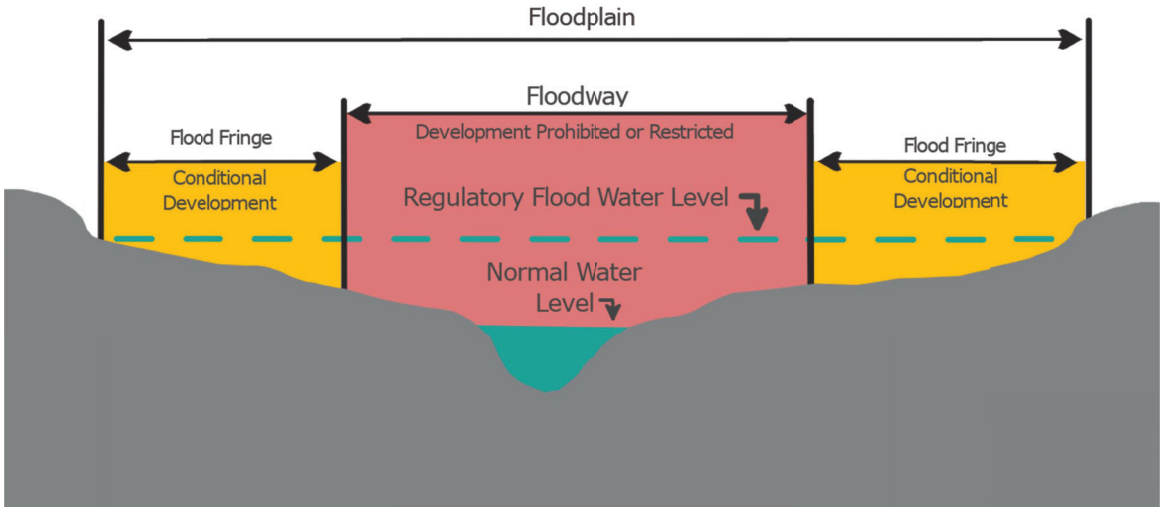
The previous Dingman Creek floodplain employed a one-zone that limited development anywhere in the floodplain.

A new approach is proposed to differentiate the floodplain into two zones, the floodway and flood fringe.

The use of the two-zone concept may allow for some new development within the flood fringe subject to policies and criteria to be developed through the Official Plan Amendment process.

Floodway

- Inner portion of the floodplain
- High hazard to human life and property
- Development prohibited or highly restricted
- Area required for the safe passage of flood flow



Flood fringe

- Outer portion of the floodplain
- Low hazard to human life and property
- New conditional development may occur as defined by provincial flood management policies and the Official Plan

WHAT IS THE LONDON PLAN?

The London Plan is the official plan for the City of London, adopted in 2016. An official plan describes policies on how land should be used.

An official plan deals mainly with issues such as:

- Where new housing, industry, offices and shops will be located
- What services like roads, watermains, sewers, parks and schools will be needed
- When, and in what order, parts of your community will grow
- Where natural heritage or hazard lands (such as floodplain) are located and how to maintain/protect them

The London Plan includes:

- Policies that apply city-wide, such as urban design, or servicing
- Policies that apply to areas specified on the map (designations or “place types”)
- The guiding principles for growth and development over a set planning horizon
- Mapping to implement the above policies and place types

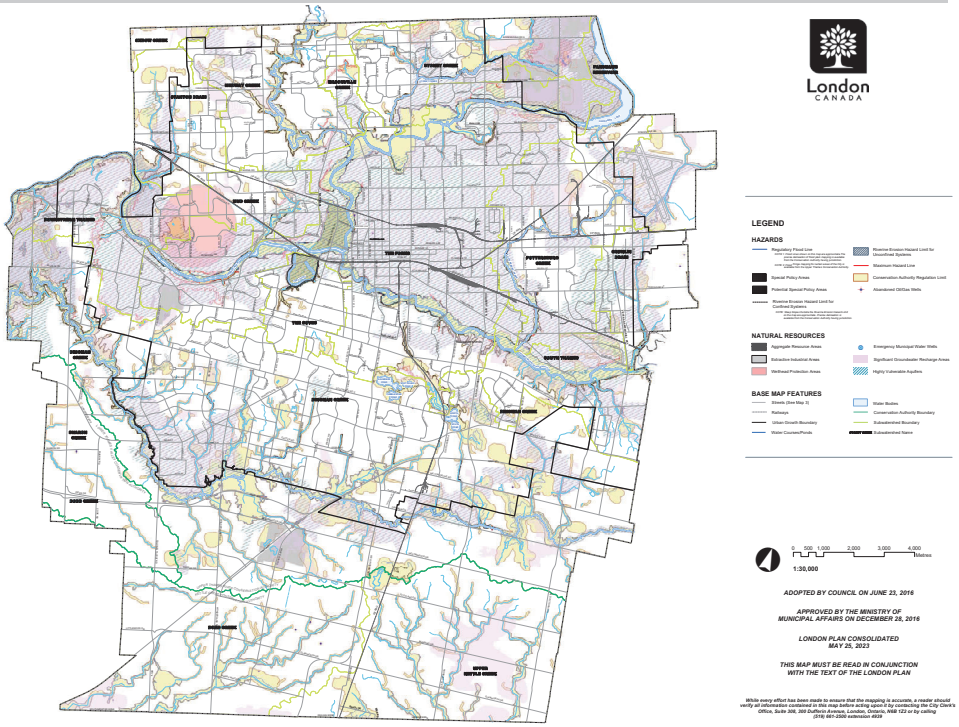
All by-laws and public works must conform with the official plan. Amendments can be made to the Official Plan/ London Plan at any time, subject to a mandatory public meeting, and Council approval.

Dingman Creek Subwatershed Stage 2 Schedule C Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

OFFICIAL PLAN AMENDMENT PROCESS

- An Official Plan Amendment (OPA) will update Map 6 (Hazards and Natural Resources) based on updated existing conditions modeling i.e. new floodplain limits
- The OPA may update potential Place Types (land use designations) within the Dingman Creek floodplain
- The OPA may add criteria to permit certain types of development within the “flood fringe” of the Urban Growth Boundary
- As City-led mitigation measures are constructed, OPA’s will be initiated to reflect revised floodplain mapping
- A future public meeting will present a draft Official Plan Amendment including policies on the 2-zone floodplain
- Any policy change will require Council approval and a statutory public meeting

MAP 6 - HAZARDS AND NATURAL RESOURCES



Dingman Creek Subwatershed Stage 2 Schedule C Municipal Class Environmental Assessment and Proposed Official Plan Amendment for Regulatory Floodplain Mapping

YOUR FEEDBACK IS IMPORTANT TO US!

https://getinvolved.london.ca/dingmancreek

To provide comments, request additional information, or receive future correspondence related to the project, please contact a member of the project team below:

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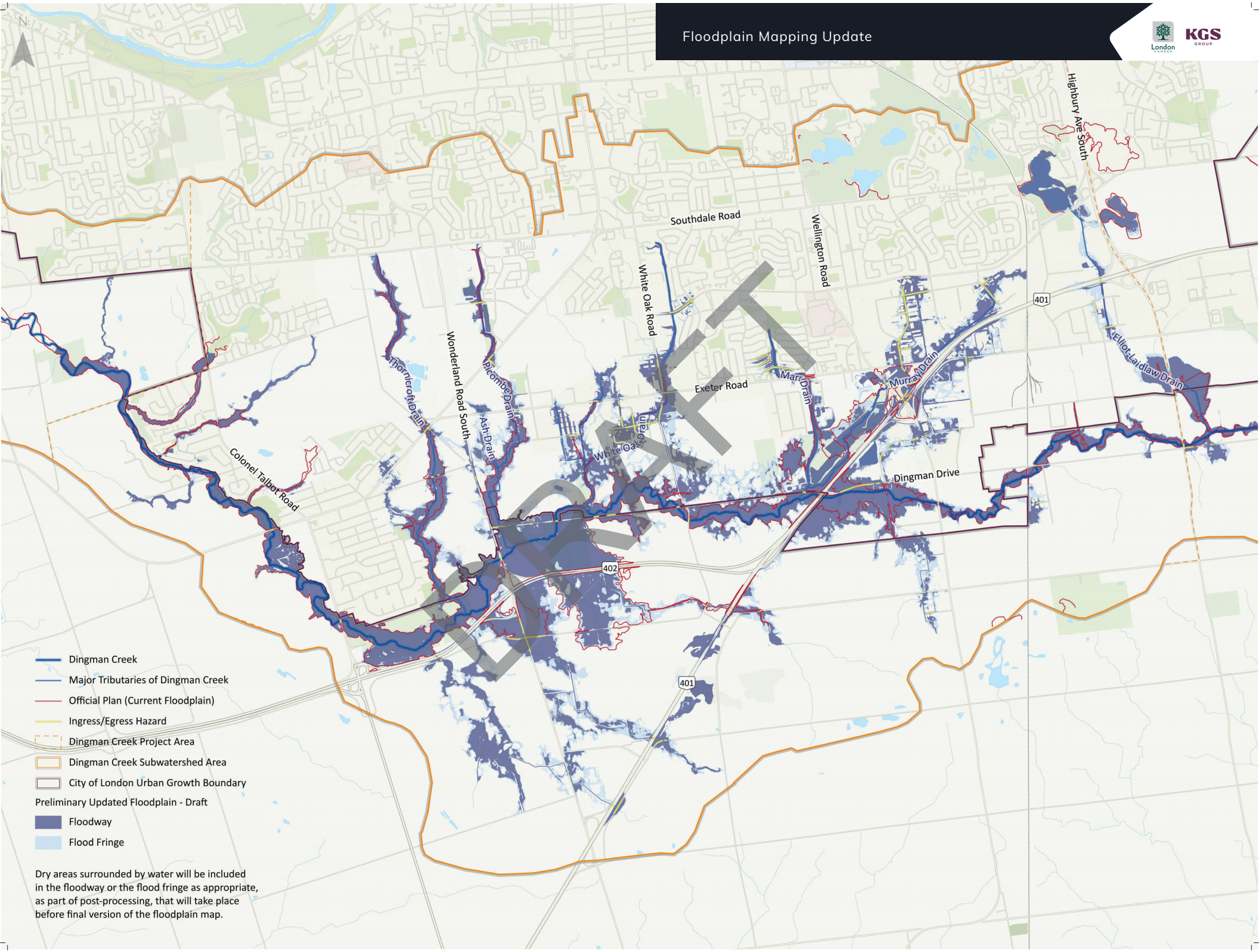
asones@london.ca

Fuad Curi, P.Eng.
Project Manager
KGS Group
(905) 848-7884 ext.516
fcuri@kgsgroup.com

DINGMAN CREEK


N
Southdale Road
Wellington Road
Highbury Ave South
White Oak Road
Exeter Road
Marr Drain
Murray Drain
Elliot-Laidlaw Drain
401
Thornicroft Drain
Wonderland Road South
Ascombe Drain
Ash Drain
White Oak Drain
Colonel Talbot Road
Dingman Drive
402
401
DRAFT
Dingman Creek
Major Tributaries of Dingman Creek
Official Plan (Current Floodplain)
Ingress/Egress Hazard
Dingman Creek Project Area
Dingman Creek Subwatershed Area
City of London Urban Growth Boundary
Preliminary Updated Floodplain - Draft
Floodway
Flood Fringe
Dry areas surrounded by water will be included in the floodway or the flood fringe as appropriate, as part of post-processing, that will take place before final version of the floodplain map.

Dingman Creek EA - Stage 2 Potential Mitigation Measures