Legend

- ▢ Subwatershed Boundary
- ▢ Remaining KNL Development Phases 7, 8 & 9
- ▢ Northtech Lands
- ▢ Proposed Major System (Overland Flow) Catchment Area
- ▢ Proposed Minor System (Storm Sewer) Catchment Area
- → Proposed Direction of Minor System Drainage
- → Proposed Direction of Major System Drainage
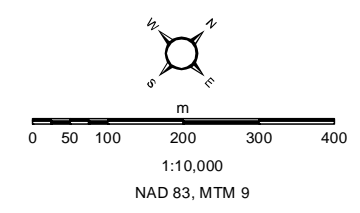- ● Proposed Storm Sewer Outfall
- ● Existing SWM Facility (no change)
- ● Modifications to Existing SWM Facility
- ● New SWM Facility
- ▦ Proposed Shirley's Brook Realignment
- — · — Existing Watercourse
- ▢ Pond

Proposed realignment of Shirley's Brook

Minor system (5-yr storm) north and south of CN Rail directed to Kizell Cell (Proposed SWM Facility)

Major system drainage (>5-yr storm) north of CN Rail directed to Shirley's Brook

Major system drainage (>5-yr storm) south of CN Rail directed to Kizell Cell (Proposed SWM Facility)

Major system drainage (>5-yr storm) maintained to Shirley's Brook

Minor system drainage (5-yr storm) directed to existing Beaver Pond SWM Faciltiy

Northtech Lands

Shirley's Brook

Major system drainage (>5-yr storm) north of CN Rail directed to existing outlet(s)

Proposed KNL Phase 7 & 8 storm outlet to Kizell Cell

Kizell Cell - Modify existing pond to provide water quality treatment and quantity control for KNL Phase 7 (minor & major system) & KNL Phase 8 (minor system)

Proposed KNL Phase 9 & Northtech Lands storm outlet to existing Beaver Pond

Beaver Pond - Modify existing SWM pond to provide water quality treatment and quantity control for KNL Phase 9 (minor & major system) & Northtech Lands (minor system)

Minor and major system drainage south of CN Rail directed to existing Beaver Pond

Kizell Drain

Basemapping and orthophotography provided by the City of Ottawa.

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SWM Servicing Alternative 1
Shirley's Brook & Watt's Creek
Phase 2 SWM Study

Diversion of Minor System Drainage for Phases 7 & 8 to Kizell Cell
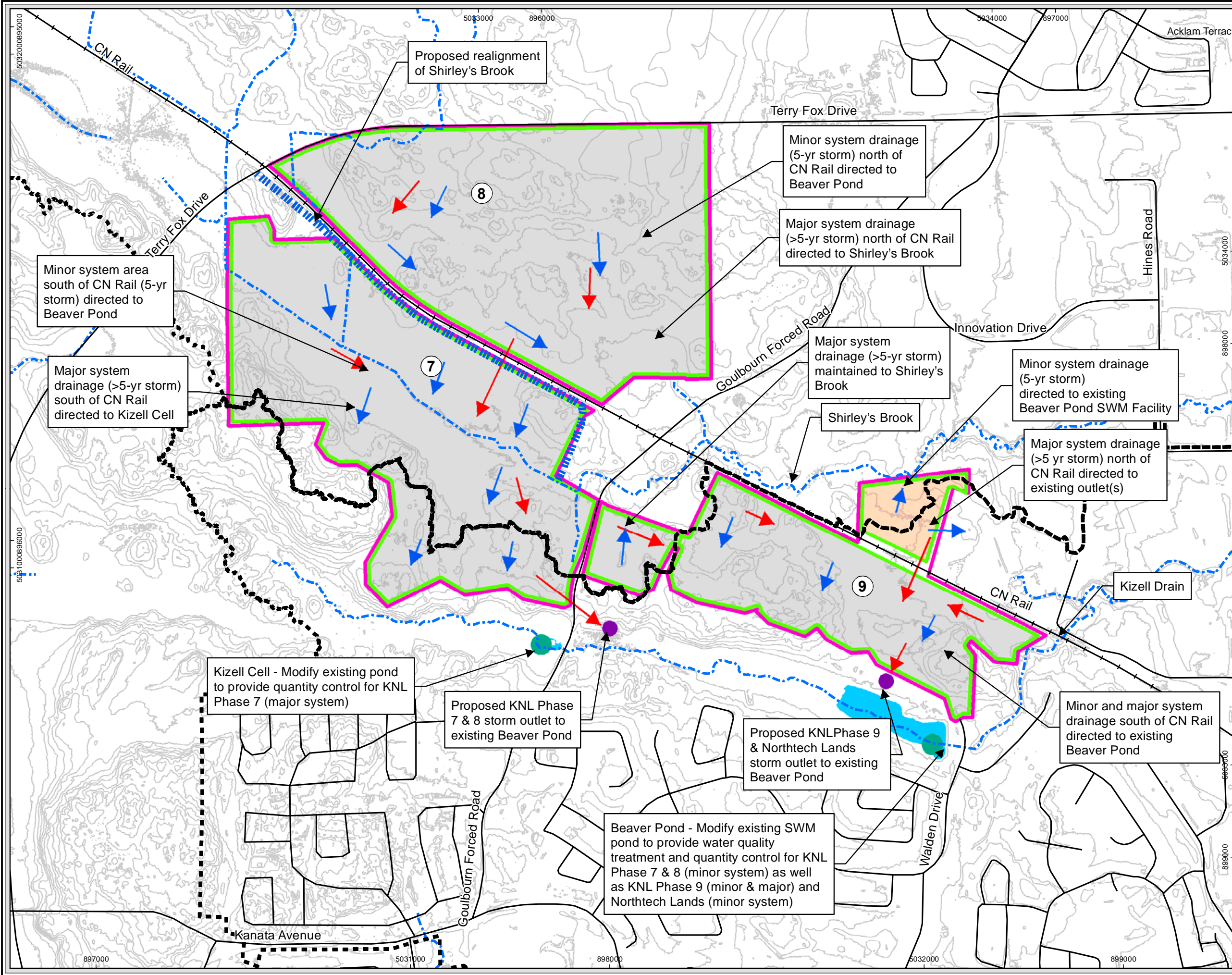Diversion of Portion of Major System Drainage for Phase 7 to Kizell Cell.
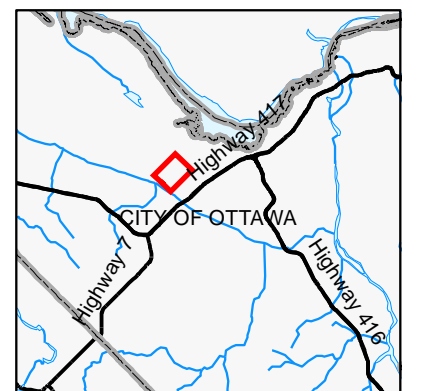
April 2013
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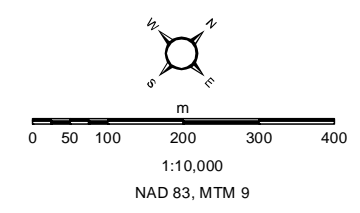
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Figure F-1

Legend

- ▦ Subwatershed Boundary
- ▦ Remaining KNL Development Phases 7, 8 & 9
- ▦ Northtech Lands
- ▭ Proposed Major System (Overland Flow) Catchment Area
- ▭ Proposed Minor System (Storm Sewer) Catchment Area
- ➜ Proposed Direction of Minor System Drainage
- ➜ Proposed Direction of Major System Drainage
- ● Proposed Storm Sewer Outfall
- ● Existing SWM Facility (no change)
- ● Modifications to Existing SWM Facility
- ● New SWM Facility
- ▮▮▮ Proposed Shirley's Brook Realignment
- —·— Existing Watercourse
- ▬ Pond

Map labels:

- Proposed realignment of Shirley's Brook
- Minor system drainage (5-yr storm) north of CN Rail directed to Beaver Pond
- Major system drainage (>5-yr storm) north of CN Rail directed to Shirley's Brook
- Minor system area south of CN Rail (5-yr storm) directed to Beaver Pond
- Major system drainage (>5-yr storm) south of CN Rail directed to Kizell Cell
- Major system drainage (>5-yr storm) maintained to Shirley's Brook
- Shirley's Brook
- Minor system drainage (5-yr storm) directed to existing Beaver Pond SWM Facility
- Major system drainage (>5 yr storm) north of CN Rail directed to existing outlet(s)
- Kizell Drain
- Kizell Cell - Modify existing pond to provide quantity control for KNL Phase 7 (major system)
- Proposed KNL Phase 7 & 8 storm outlet to existing Beaver Pond
- Proposed KNL Phase 9 & Northtech Lands storm outlet to existing Beaver Pond
- Minor and major system drainage south of CN Rail directed to existing Beaver Pond
- Beaver Pond - Modify existing SWM pond to provide water quality treatment and quantity control for KNL Phase 7 & 8 (minor system) as well as KNL Phase 9 (minor & major) and Northtech Lands (minor system)

Roads/features: CN Rail, Terry Fox Drive, Acklam Terrace, Hines Road, Innovation Drive, Goulbourn Forced Road, Kanata Avenue, Walden Drive

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Basemapping and orthophotography provided by the City of Ottawa.

SWM Servicing Alternative 2
Shirley's Brook & Watt's Creek
Phase 2 SWM Study

Diversion of Minor System Drainage for Phase 7 & 8 to Beaver Pond. Diversion of Portion of Major System Drainage for Phase 7 to Kizell Cell.
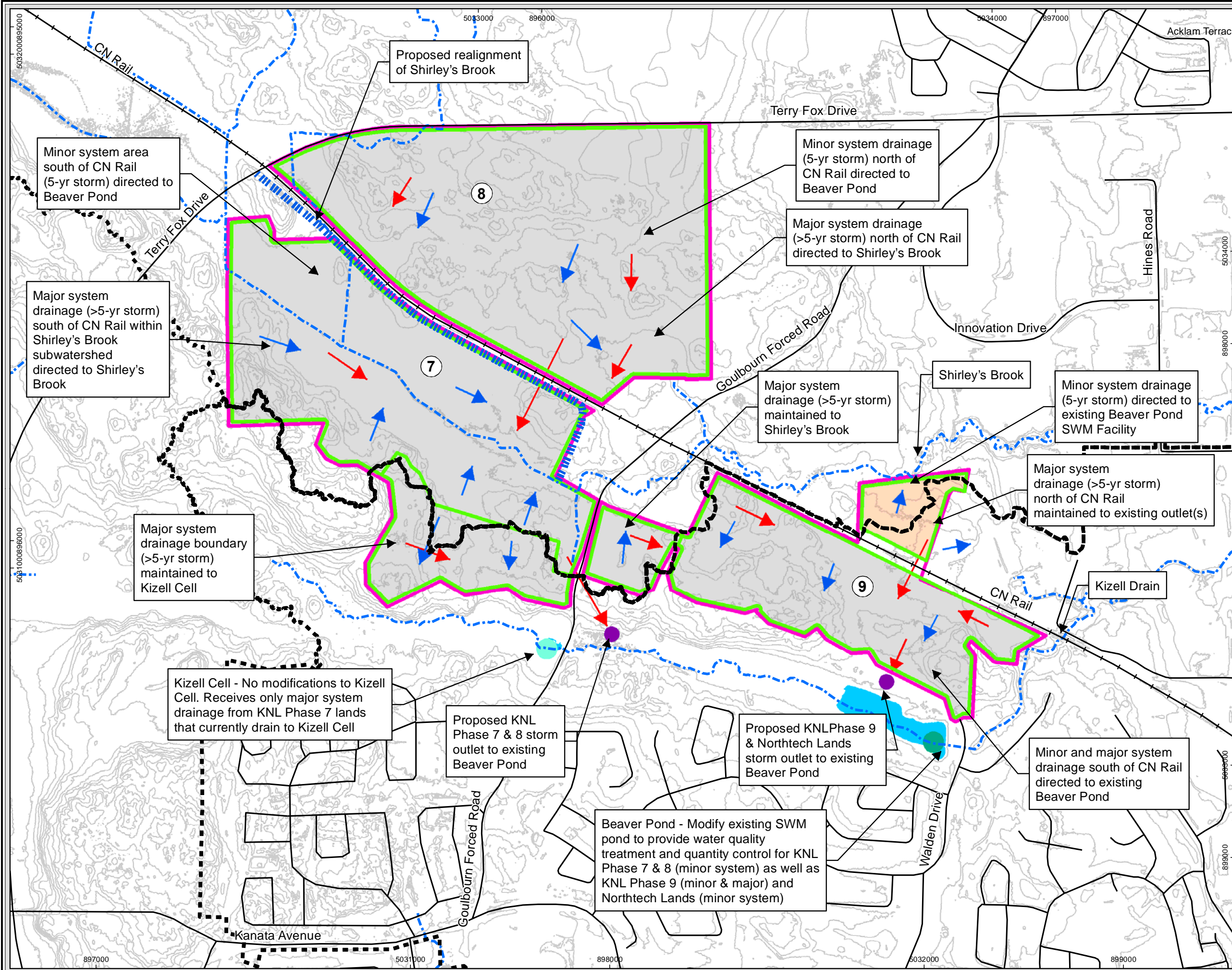
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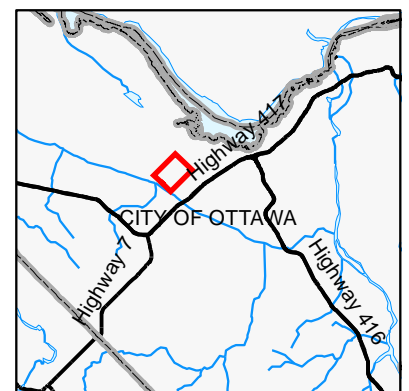Figure F-2

Legend

- ▨ Subwatershed Boundary
- ▨ Remaining KNL Development Phases 7, 8 & 9 Northtech Lands
- ▭ Proposed Major System (Overland Flow) Catchment Area
- ▭ Proposed Minor System (Storm Sewer) Catchment Area
- → Proposed Direction of Minor System Drainage
- → Proposed Direction of Major System Drainage
- ● Proposed Storm Sewer Outfall
- ● Existing SWM Facility (no change)
- ● Modifications to Existing SWM Facility
- ● New SWM Facility
- ▥ Proposed Shirley's Brook Realignment
- ─·─ Existing Watercourse
- ▮ Pond

Proposed realignment of Shirley's Brook

Minor system area south of CN Rail (5-yr storm) directed to Beaver Pond

Minor system drainage (5-yr storm) north of CN Rail directed to Beaver Pond

Major system drainage (>5-yr storm) north of CN Rail directed to Shirley's Brook

Major system drainage (>5-yr storm) south of CN Rail within Shirley's Brook subwatershed directed to Shirley's Brook

Major system drainage (>5-yr storm) maintained to Shirley's Brook

Minor system drainage (5-yr storm) directed to existing Beaver Pond SWM Facility

Major system drainage (>5-yr storm) north of CN Rail maintained to existing outlet(s)

Major system drainage boundary (>5-yr storm) maintained to Kizell Cell

Kizell Drain

Kizell Cell - No modifications to Kizell Cell. Receives only major system drainage from KNL Phase 7 lands that currently drain to Kizell Cell

Proposed KNL Phase 7 & 8 storm outlet to existing Beaver Pond

Proposed KNL Phase 9 & Northtech Lands storm outlet to existing Beaver Pond

Minor and major system drainage south of CN Rail directed to existing Beaver Pond

Beaver Pond - Modify existing SWM pond to provide water quality treatment and quantity control for KNL Phase 7 & 8 (minor system) as well as KNL Phase 9 (minor & major) and Northtech Lands (minor system)

Shirley's Brook

Basemapping and orthophotography provided by the City of Ottawa.

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SWM Servicing Alternative 3
Shirley's Brook & Watt's Creek
Phase 2 SWM Study

Diversion of Minor System Drainage for Phases 7 & 8 to Beaver Pond. Maintain existing Major System Drainage Boundaries

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Figure F-3

Path: P:\60264539\000-CADD\050 GIS WIP\MXDs\WorkingMXDs\60264539_SWM_Servicing_Alternatives.mxd
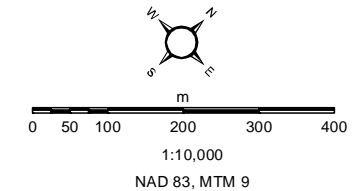Time: 10:38:24 AM Date: 04/10/2013

Legend

- - - (dashed black) **Subwatershed Boundary**
- (grey fill) **Remaining KNL Development Phases 7, 8 & 9**
- (orange fill) **Northtech Lands**
- (green outline) **Proposed Major System (Overland Flow) Catchment Area**
- (magenta outline) **Proposed Minor System (Storm Sewer) Catchment Area**
- (red arrow) **Proposed Direction of Minor System Drainage**
- (blue arrow) **Proposed Direction of Major System Drainage**
- (purple dot) **Proposed Storm Sewer Outfall**
- (cyan dot) **Existing SWM Facility (no change)**
- (green dot) **Modifications to Existing SWM Facility**
- (blue dot) **New SWM Facility**
- (blue hatch) **Proposed Shirley's Brook Realignment**
- (blue dash-dot) **Existing Watercourse**
- (light blue fill) **Pond**

Map labels:

- Minor and major system drainage directed to Shirley's Brook
- Proposed realignment of Shirley's Brook
- New SWM pond(s) to provide water quality treatment and quantity control for area north of CN Rail to Shirley's Brook
- Proposed storm outlet to Shirley's Brook
- New SWM pond(s) to provide water quality treatment and quantity control for area south of CN Rail to Shirley's Brook
- Shirley's Brook
- Minor system area south of CN Rail (5-yr storm) directed to Shirley's Brook SWM Pond(s)
- Proposed storm outlet to Shirley's Brook
- Minor system drainage (5-yr storm) directed to existing Beaver Pond SWM Facility.
- Major system drainage (>5-yr storm) north of CN Rail directed to existing outlet(s)
- Major system drainage boundary (>5-yr storm) maintained to Kizell Cell
- Kizell Cell - No modifications to Kizell Cell. Receives only major system drainage from KNL Phase 7 lands that currently drain to Kizell Cell
- Major system drainage (>5-yr storm) maintained to Shirley's Brook
- Proposed KNL Phase 9 & Northtech Lands storm outlet to existing Beaver Pond
- Minor and major system drainage south of CN Rail directed to existing Beaver Pond
- Kizell Drain
- Beaver Pond - Modify existing SWM pond to provide water quality treatment and quantity control for KNL Phase 9 & Northtech Lands (minor system)

Basemapping and orthophotography provided by the City of Ottawa.

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**SWM Servicing Alternative 4
Shirley's Brook & Watt's Creek
Phase 2 SWM Study**

Maintain Minor and Major Drainage System Boundaries (No Diversion)

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Figure F-4