
# Figures


Stage 2 Study Boundary

N

0 30 60 90 120
Metres

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 1
Port Lands Study Area
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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N

0 20 40 60 80

Metres

- Address Points (From City Toronto Website)
- Existing Building
- Heritage Building
- Stage 2 Study Boundary

Current Land Use
- Road
- Industrial/Commerical

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 2
Current Land Use
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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N

0 20 40 60 80

Metres

Stage 2 Study Boundary
Heritage Building

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 3
Future Land Use
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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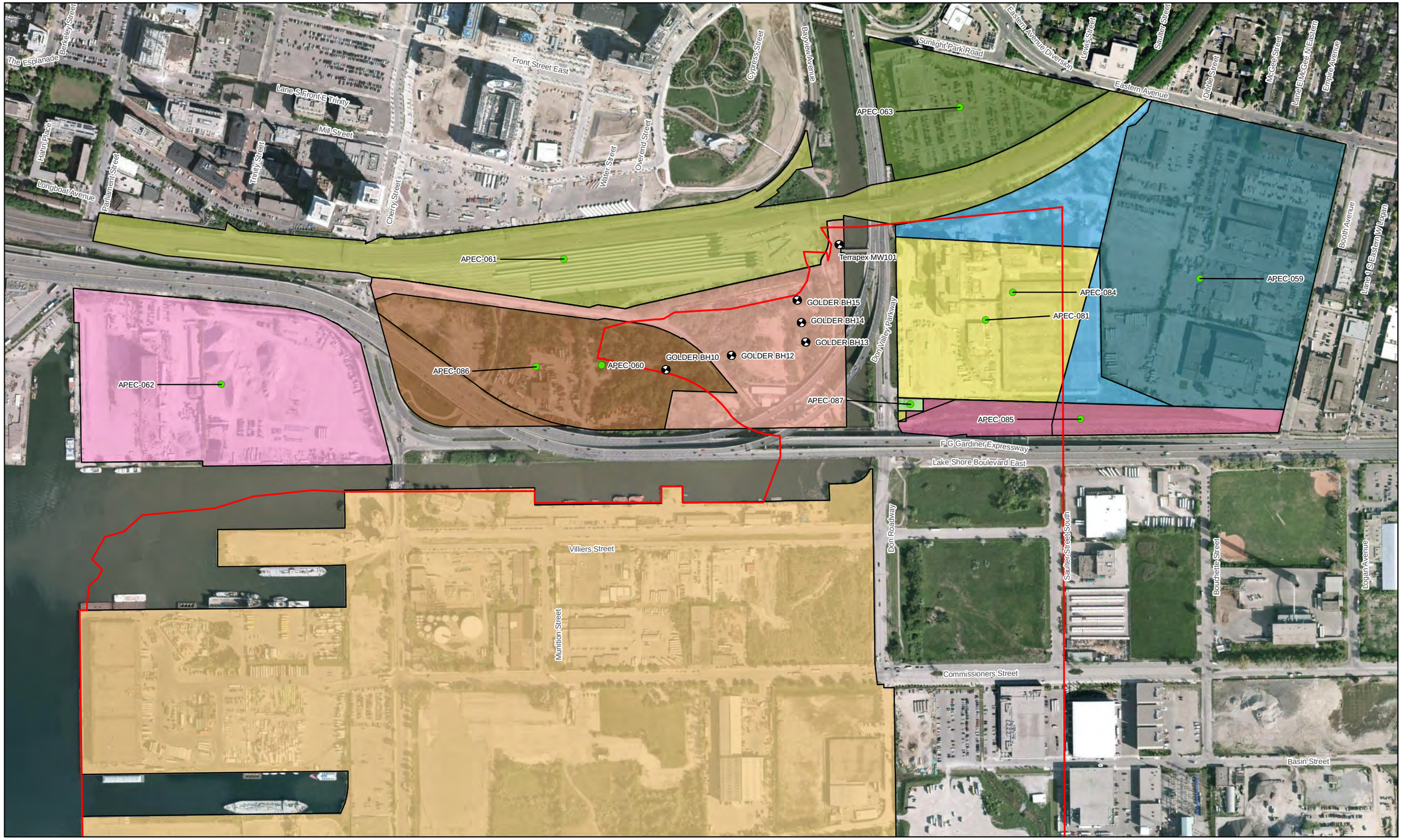


0 20 40 60 80

Metres

- Soil Sample
- Soil and Groundwater Sample
- PCA
- APEC
- Stage 2 Study Boundary

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. APECs identified offsite are shown for context and are upgradient PCAs that result in an APEC at the property boundary

Figure 4A
Areas of Potential Environmental Concern and Sampling Locations- North
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\APECS_NORTH.MXD KSCHONKNECHT 6/1/2016 5:13:34 PM


Soil Sample
Soil and Groundwater Sample
PCA
APEC
Stage 2 Study Boundary

0 15 30
Metres

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 4B
Areas of Potential Environmental Concern and Sampling Locations- West
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\APECS_WEST.MXD KSCHONKNECHT 6/1/2016 5:14:09 PM

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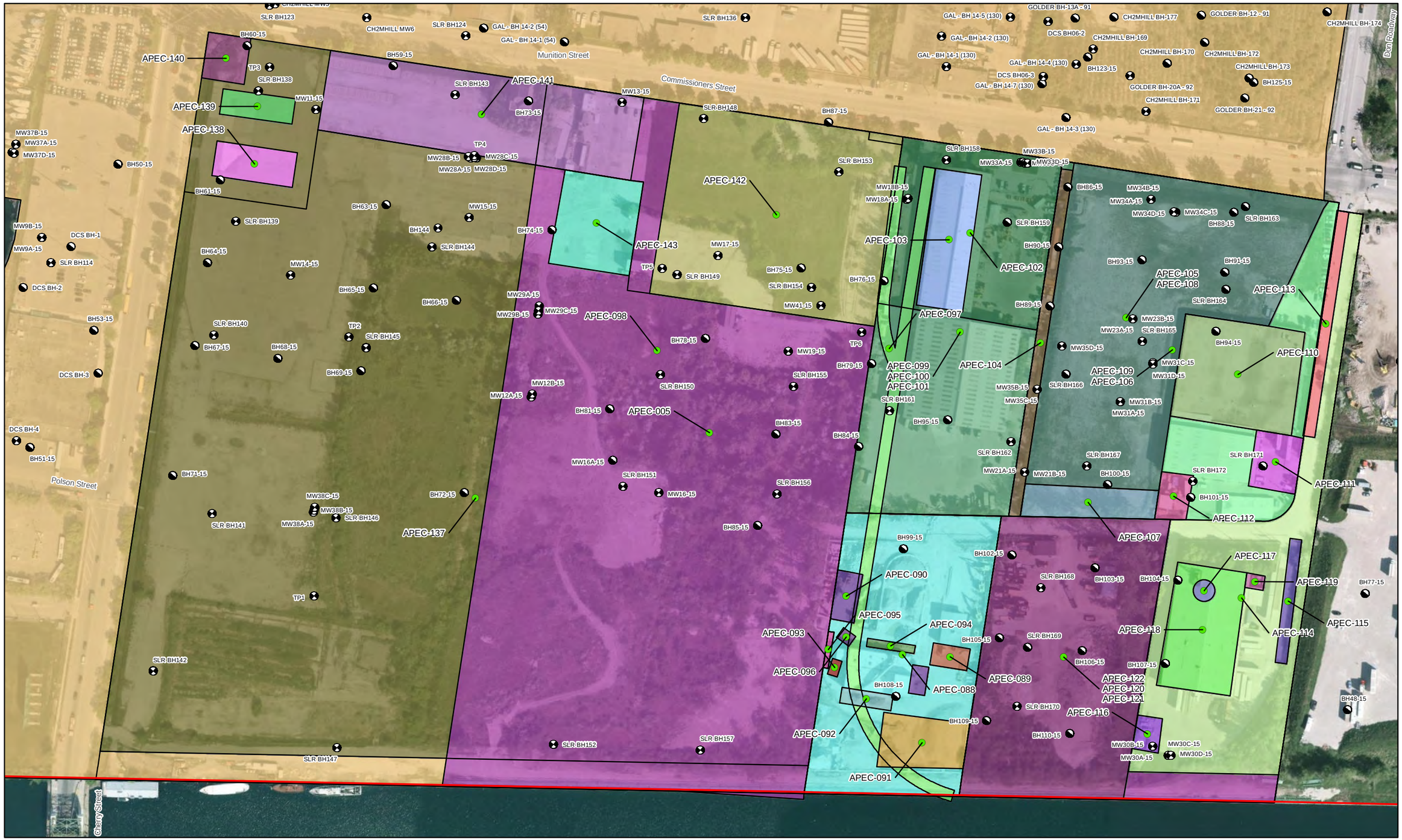



Soil Sample
Soil and Groundwater Sample
PCA
APEC
Stage 2 Study Boundary

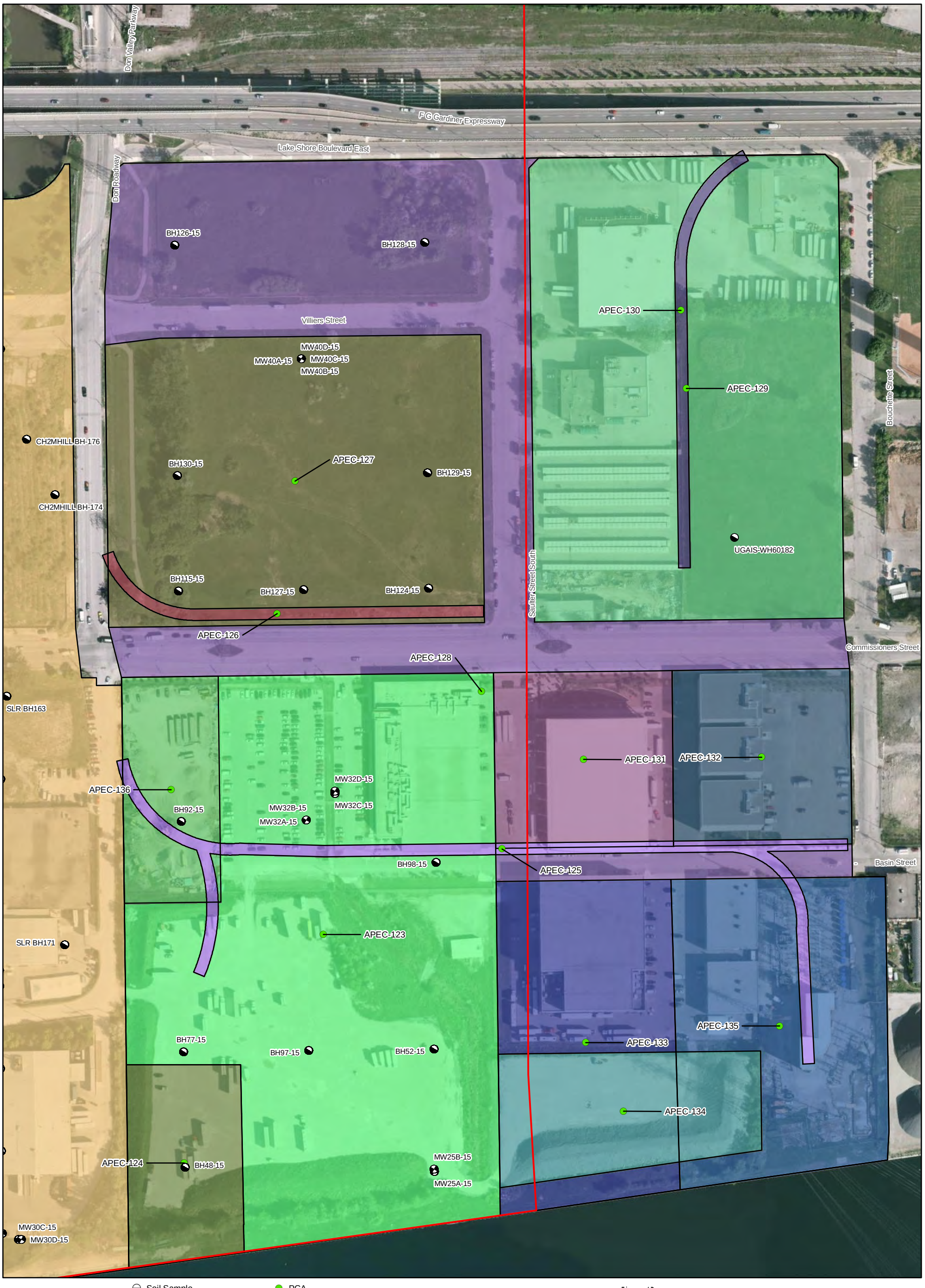
0 10 20 30 40
Metres

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 4C
Areas of Potential Environmental Concern and Sampling Locations- South
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\APECS_SOUTH.MXD KSCHONKNECHT 6/1/2016 5:13:05 PM




Soil Sample
Soil and Groundwater Sample
PCA
APEC
Stage 2 Study Boundary

0 15 30
Metres

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 4D
Areas of Potential Environmental Concern and Sampling Locations- East
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 4E
Areas of Potential Environmental Concern and Sampling Locations- Central
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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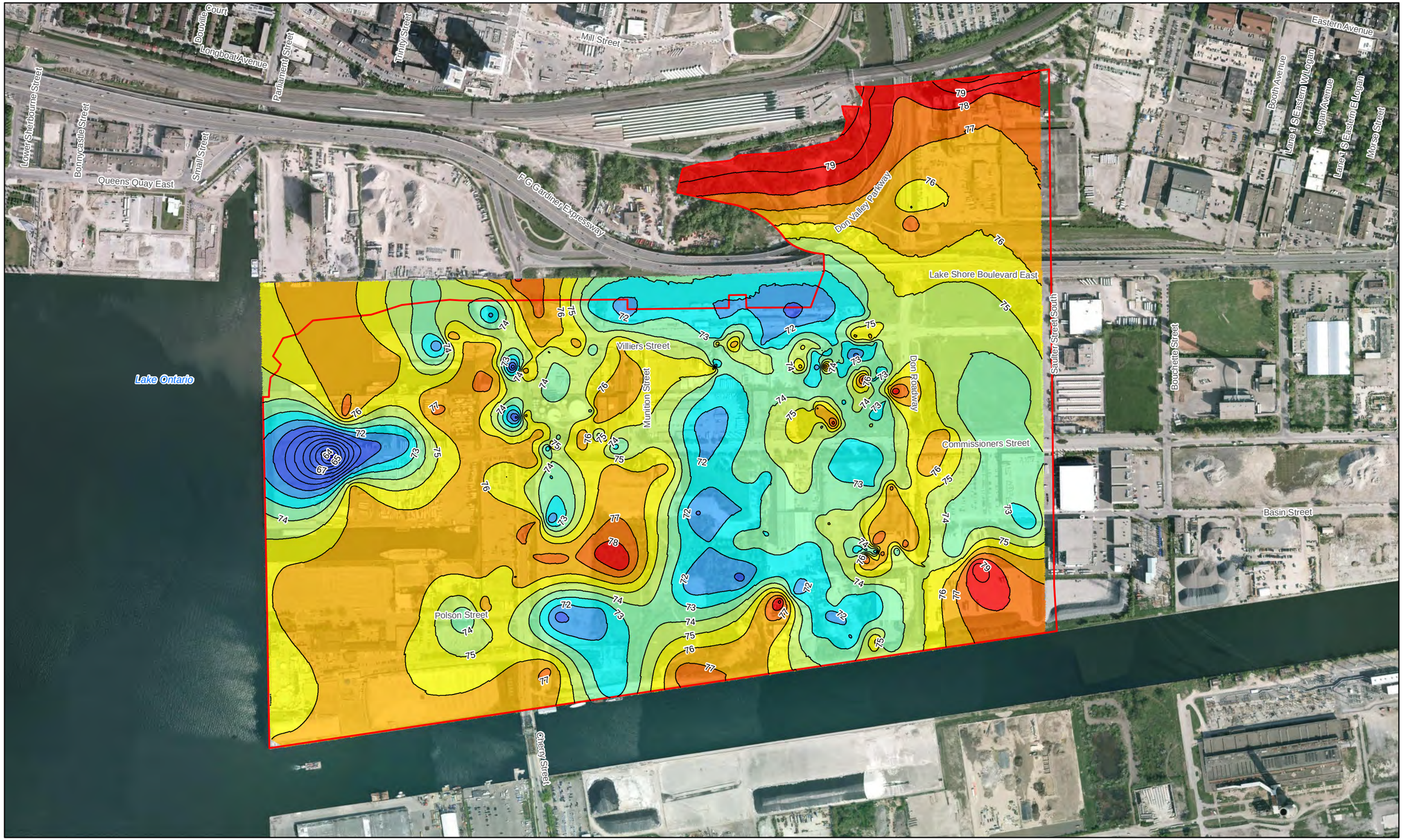



0 20 40 60 80
Metres

Stage 2 Study Boundary

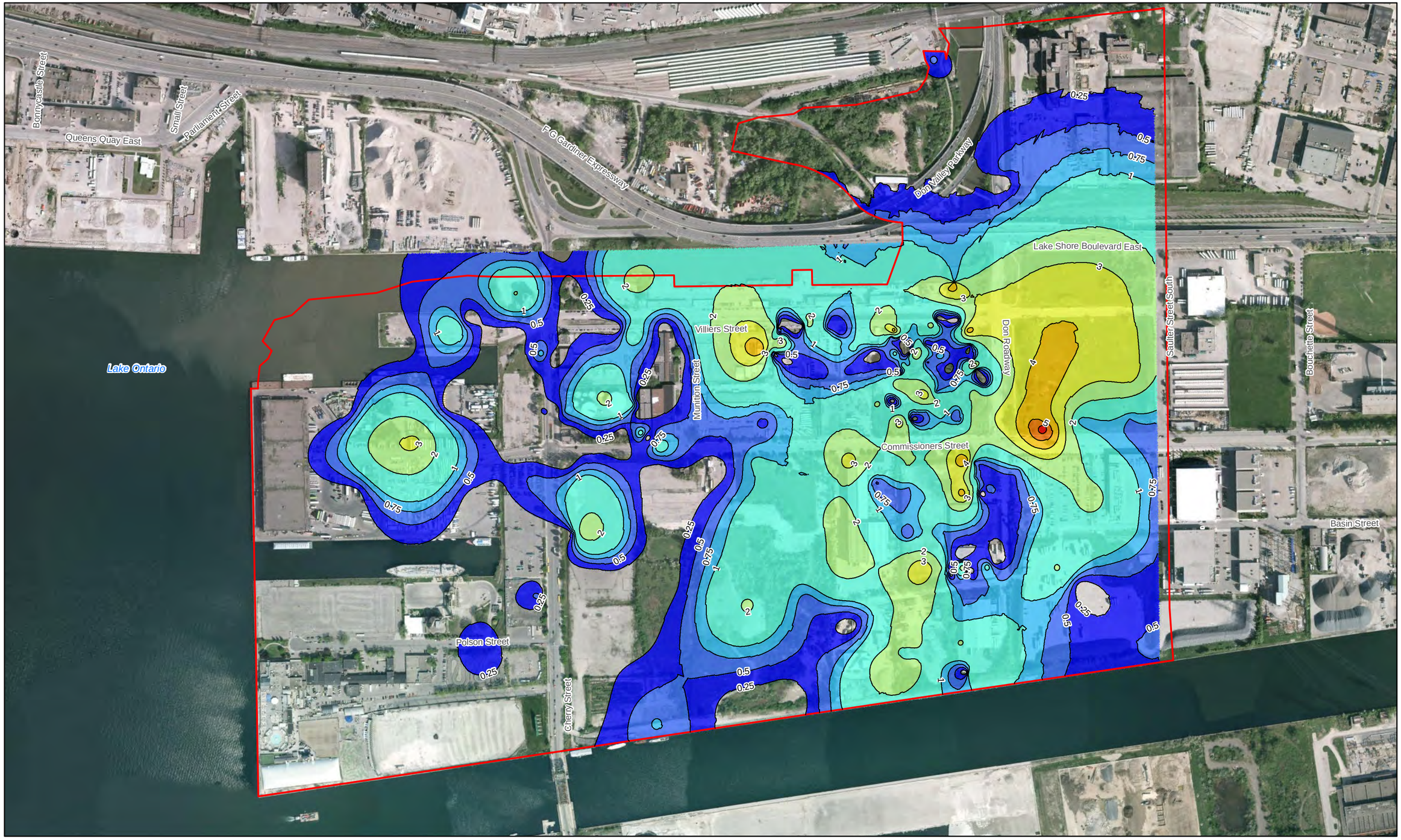
**Elevation (masl)**

| | | |
|---|---|---|
| < 64 | 73 | 77 |
| 64 - 71 | 74 | 78 |
| 72 | 75 | 79 - 82 |
| | 76 | |

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Elevations are in metres above sea level.

Figure 5
Organic Layer Surface Elevation
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\FINAL\ORGANICELEVATION.MXD KSCHONKNECHT 6/1/2016 4:51:44 PM




Stage 2 Study Boundary

| Thickness (m) | |
|---|---|
| 0.25 - 0.5 | 2 - 3 |
| 0.5 - 0.75 | 3 - 4 |
| 0.75 - 1 | 4 - 5 |
| 1 - 2 | 5 - 6 |
| | 6 - 7 |

0 20 40 60 80
Metres

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 6
Organic Layer Thickness
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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0 20 40 60 80
Metres

- Stage 2 Study Boundary
- Investigation Location with Bedrock Elevation Information Used in Bedrock Interpretation
- Interpreted Top of Bedrock Elevation Contour

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Elevations are in metres above sea level.

Figure 7
Bedrock Surface Elevation
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m.

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\BEDROCKELEVATION.MXD KSCHONKNECHT 6/1/2016 5:17:59 PM


0 20 40 60 80
Metres

Cross-section Location
Stage 2 Study Boundary

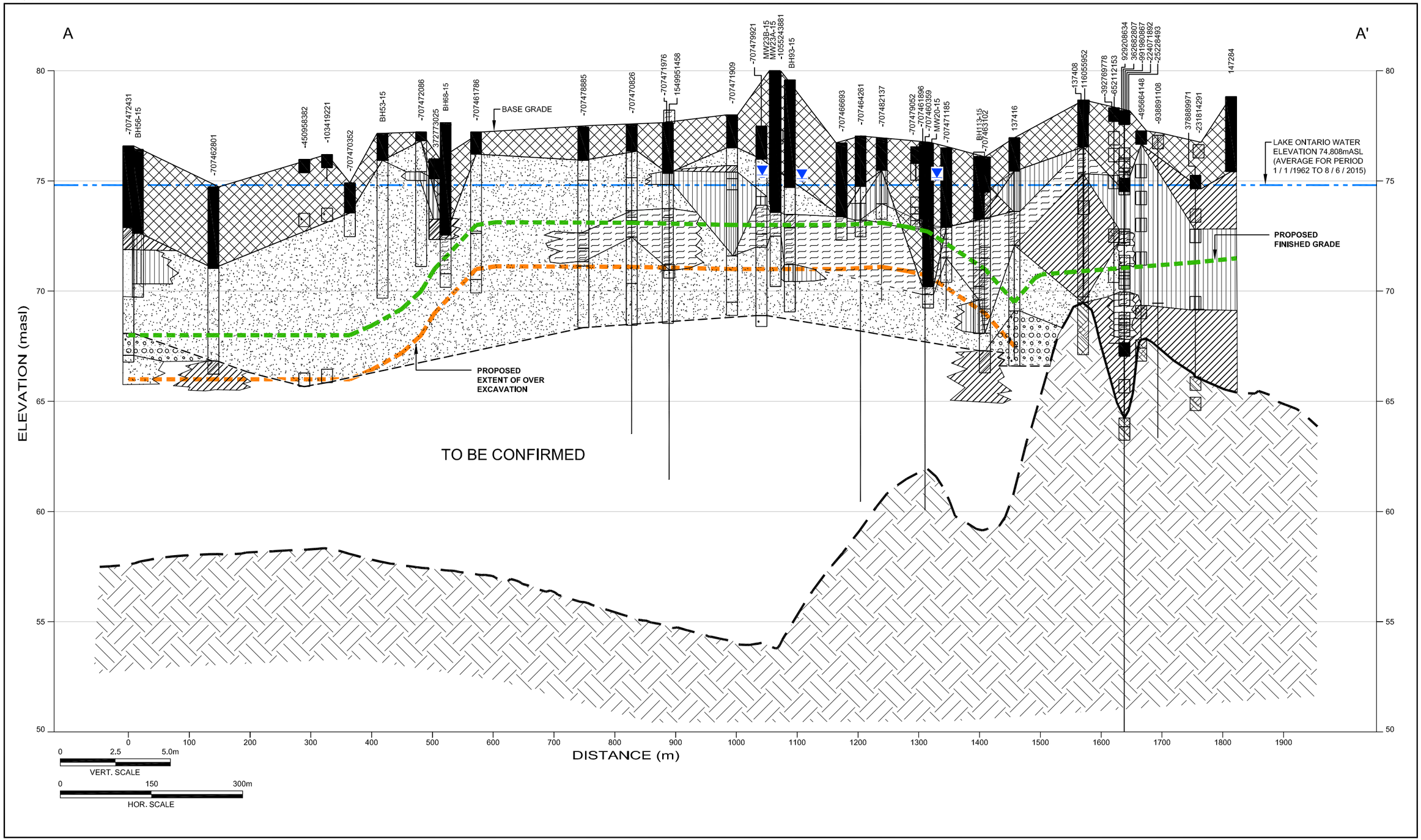
Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 8
Cross-section Locations
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\CROSSSECTIONLOCATIONS.MXD KSCHONKNECHT 6/1/2016 5:06:48 PM

June 1, 2016




LEGEND

| | |
|---|---|
| -707472431 | DRILL HOLE IDENTIFICATION |
| masl | METRES ABOVE SEA LEVEL |
| ▼ | APPROXIMATE GROUNDWATER ELEVATION (masl) |

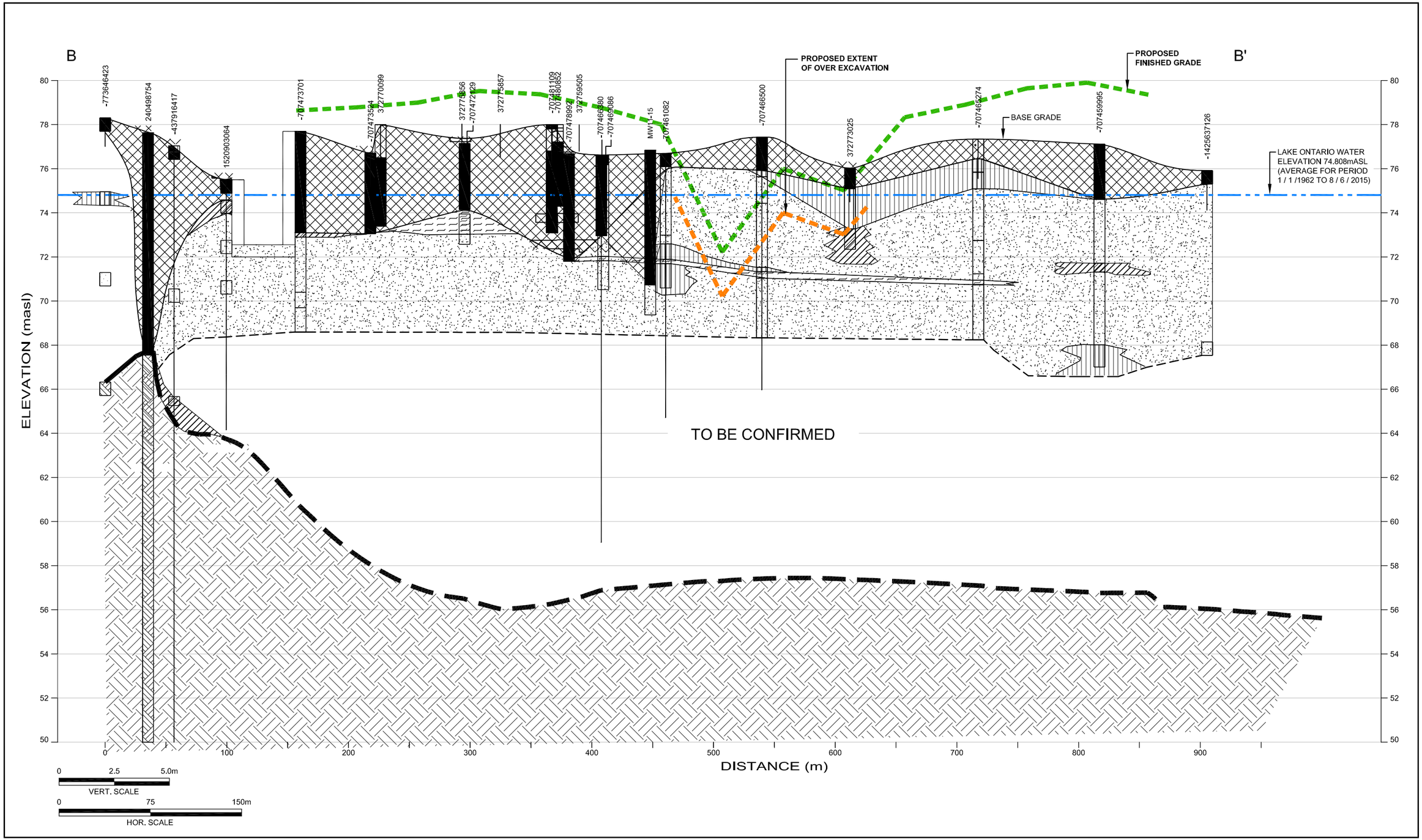
- FILL (MADE GROUND) (FILL)
- GLACIAL TILL (TILL)
- BR-LEAN CLAY (CLAY)
- POORLY GRADED SAND (SAND)
- POORLY GRADED GRAVEL (GRAVEL)
- ORGANIC
- SILT (SILT)
- BEDROCK (BEDROCK)

**Figure 9A**
Geologic Cross-section A - A'

Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

665331_F001.dwg

June 1, 2016




LEGEND

| | |
|---|---|
| 240498754 | DRILL HOLE IDENTIFICATION |
| masl | METRES ABOVE SEA LEVEL |
| ▼ | APPROXIMATE GROUNDWATER ELEVATION (masl) |

- FILL (MADE GROUND) (FILL)
- SILT (SILT)
- BR-LEAN CLAY (CLAY)
- POORLY GRADED SAND (SAND)
- POORLY GRADED GRAVEL (GRAVEL)
- ORGANIC
- BEDROCK (BEDROCK)

**Figure 9B**
Geologic Cross-section B - B'

Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

665331_F002.dwg

June 1, 2016

C

C'

ELEVATION (masl)

90
85
80
75
70
65
60
55
50

-707480971
-707478475
-1525238186
-732999393
-2121065356
-1911790517
1068557513
1533733510
300377273
1577646455
-1403853518
648247912
-1802176415
765294048
137407
983413603
137410
-1455817281
741098213
219912566
137417
137416
MW39A-15
BH113-15
BH113-15
115775
-707467696
-707464297
-707460359
-707461896
-707479052
-707477451
-707462096
-707473682
65515126
-707463480
1597968832
372759970
-707469959
-707465964
-707473953
-707482047
-707465810
BH104-15
BH107-15
240562362

PROPOSED
FINISHED GRADE

PROPOSED EXTENT
OF OVER EXCAVATION

BASE
GRADE

LAKE ONTARIO WATER
ELEVATION 74.808mASL
(AVERAGE FOR PERIOD
1 / 1 /1962 TO 8 / 6 / 2015)

TO BE CONFIRMED

0 100 200 300 400 500 600 700 800 900 1000

DISTANCE (m)

0 2.5 5.0m
VERT. SCALE

0 75 150m
HOR. SCALE

LEGEND

240498754 DRILL HOLE IDENTIFICATION

masl METRES ABOVE SEA LEVEL

APPROXIMATE GROUNDWATER ELEVATION (masl)

FILL (MADE GROUND) (FILL)

SILT (SILT)

BR-LEAN CLAY (CLAY)

POORLY GRADED SAND (SAND)

POORLY GRADED GRAVEL (GRAVEL)

ORGANIC

BEDROCK (BEDROCK)

**Figure 9C**
Geologic Cross-section C - C'

Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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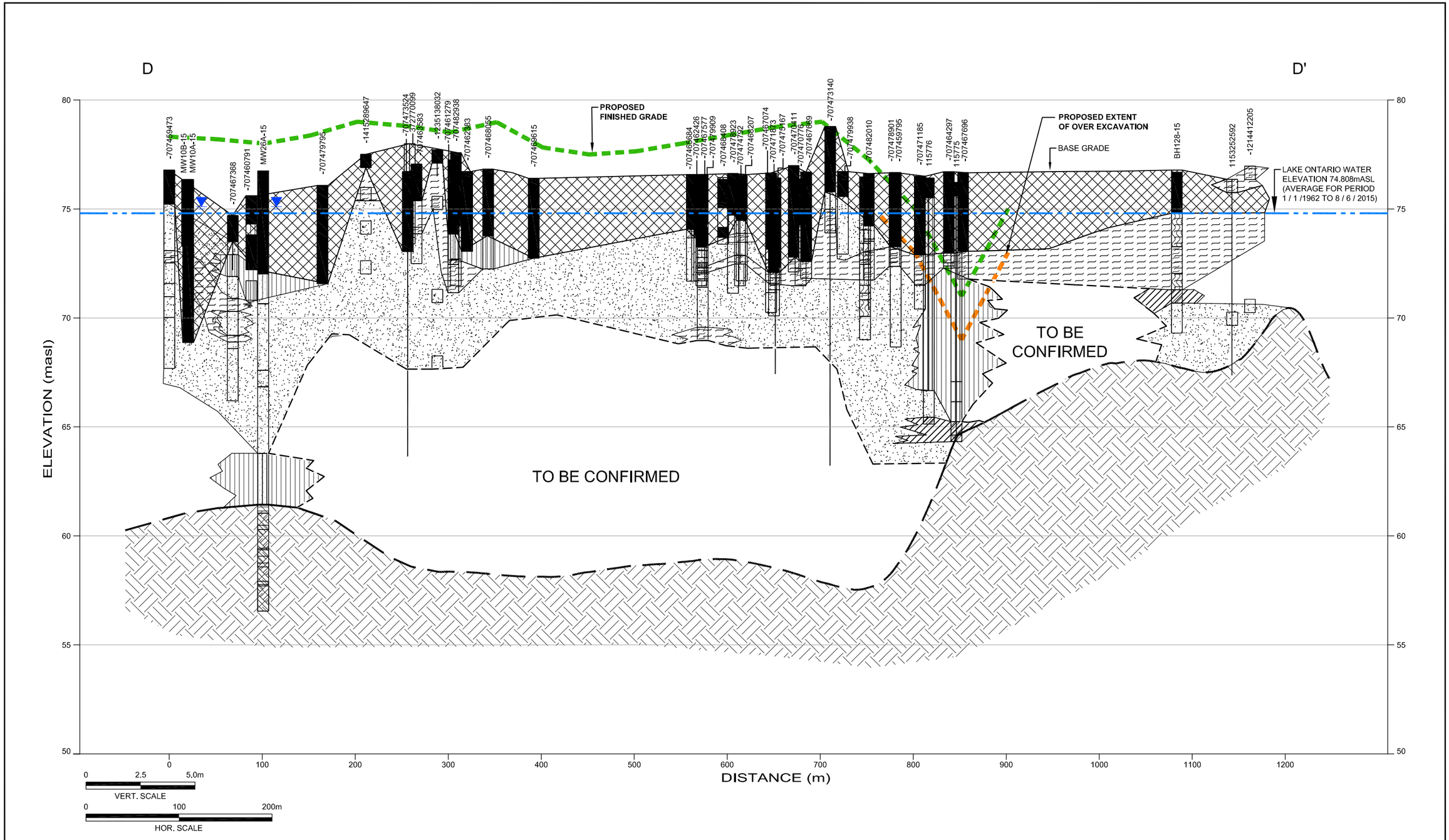


LEGEND

| | |
|---|---|
| 240498754 | DRILL HOLE IDENTIFICATION |
| masl | METRES ABOVE SEA LEVEL |
| | APPROXIMATE GROUNDWATER ELEVATION (masl) |

- FILL (MADE GROUND) (FILL)
- SILT (SILT)
- BR-LEAN CLAY (CLAY)
- POORLY GRADED SAND (SAND)
- POORLY GRADED GRAVEL (GRAVEL)
- ORGANIC
- BEDROCK (BEDROCK)

**Figure 9D**
Geologic Cross-section D - D'

Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

665331_F004.dwg

February 10, 2016

E

E'

PROPOSED EXTENT OF OVER EXCAVATION

BASE GRADE

PROPOSED FINISHED GRADE

PROPOSED EXTENT OF OVER EXCAVATION

LAKE ONTARIO WATER ELEVATION 74.808mASL (AVERAGE FOR PERIOD 1 / 1 /1962 TO 8 / 6 / 2015)

TO BE CONFIRMED

ELEVATION (masl)

DISTANCE (m)

VERT. SCALE

HOR. SCALE

LEGEND

-707472431 DRILL HOLE IDENTIFICATION

masl METRES ABOVE SEA LEVEL

APPROXIMATE GROUNDWATER ELEVATION (masl)

FILL (MADE GROUND) (FILL)

GLACIAL TILL (TILL)

BR-LEAN CLAY (CLAY)

POORLY GRADED SAND (SAND)

POORLY GRADED GRAVEL (GRAVEL)

ORGANIC

SILT (SILT)

BEDROCK (BEDROCK)

**Figure 9E**
Geologic Cross-section E - E'

Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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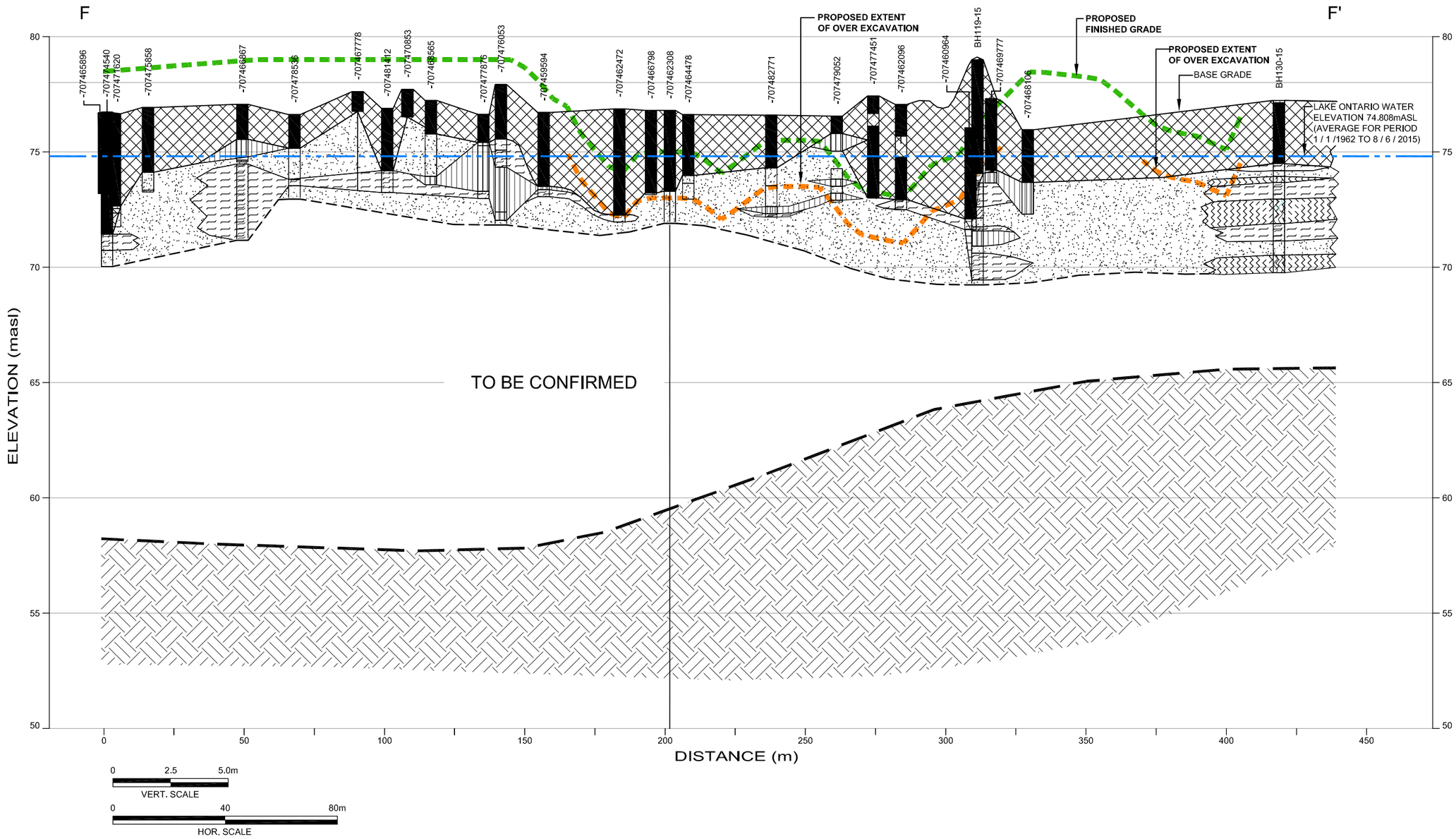



LEGEND

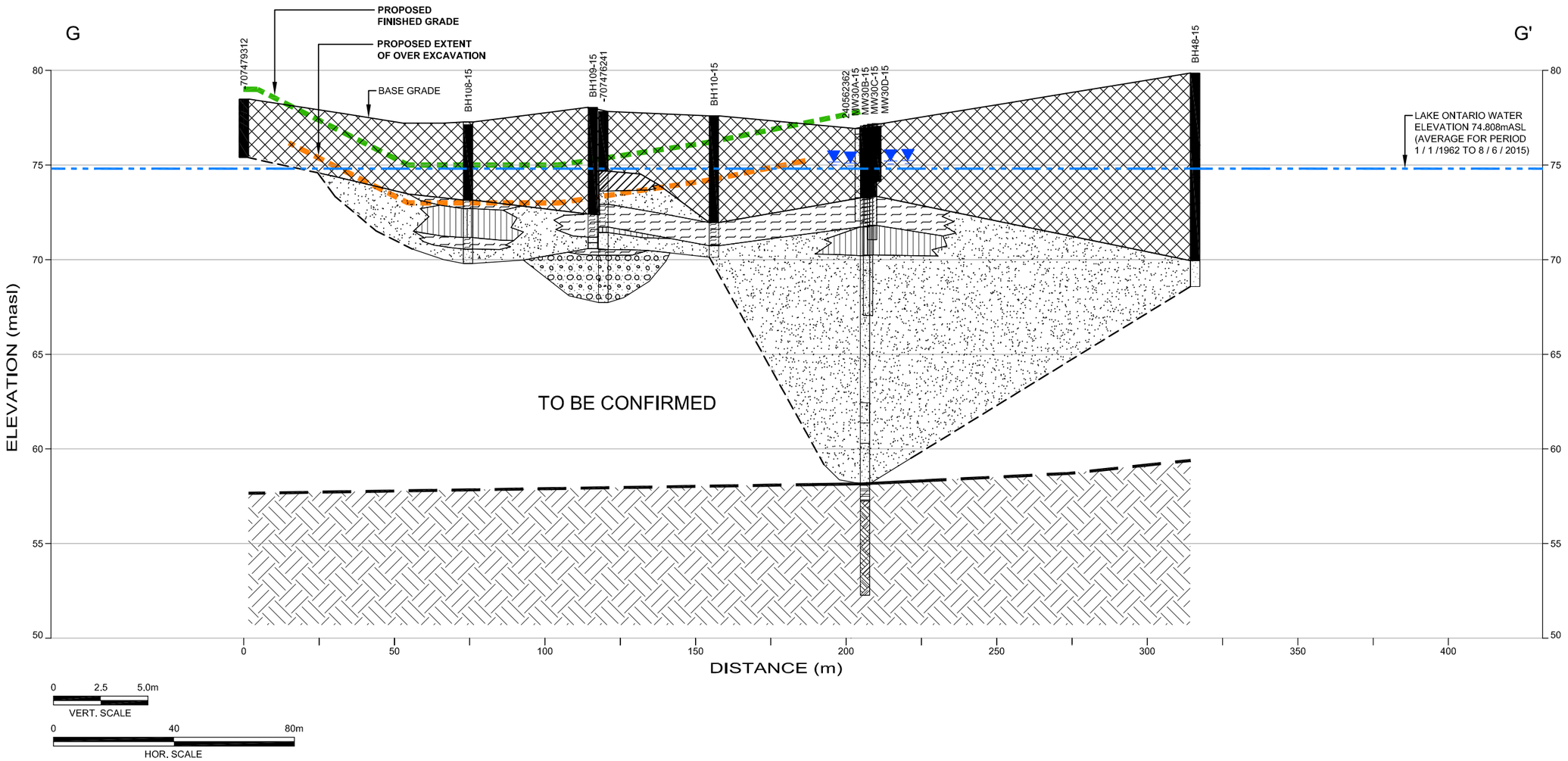
240498754 DRILL HOLE IDENTIFICATION

masl METRES ABOVE SEA LEVEL

- FILL (MADE GROUND) (FILL)
- SILT (SILT)
- BR-LEAN CLAY (CLAY)
- POORLY GRADED SAND (SAND)
- POORLY GRADED GRAVEL (GRAVEL)
- ORGANIC
- BEDROCK (BEDROCK)
- ORGANICS

**Figure 9F**
Geologic Cross-section F - F'

Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*




LEGEND

| | |
|---|---|
| 240498754 | DRILL HOLE IDENTIFICATION |
| masl | METRES ABOVE SEA LEVEL |

- FILL (MADE GROUND) (FILL)
- SILT (SILT)
- BR-LEAN CLAY (CLAY)
- POORLY GRADED SAND (SAND)
- POORLY GRADED GRAVEL (GRAVEL)
- ORGANIC
- BEDROCK (BEDROCK)

**Figure 9G**
Geologic Cross-section G - G'

Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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February 10, 2016

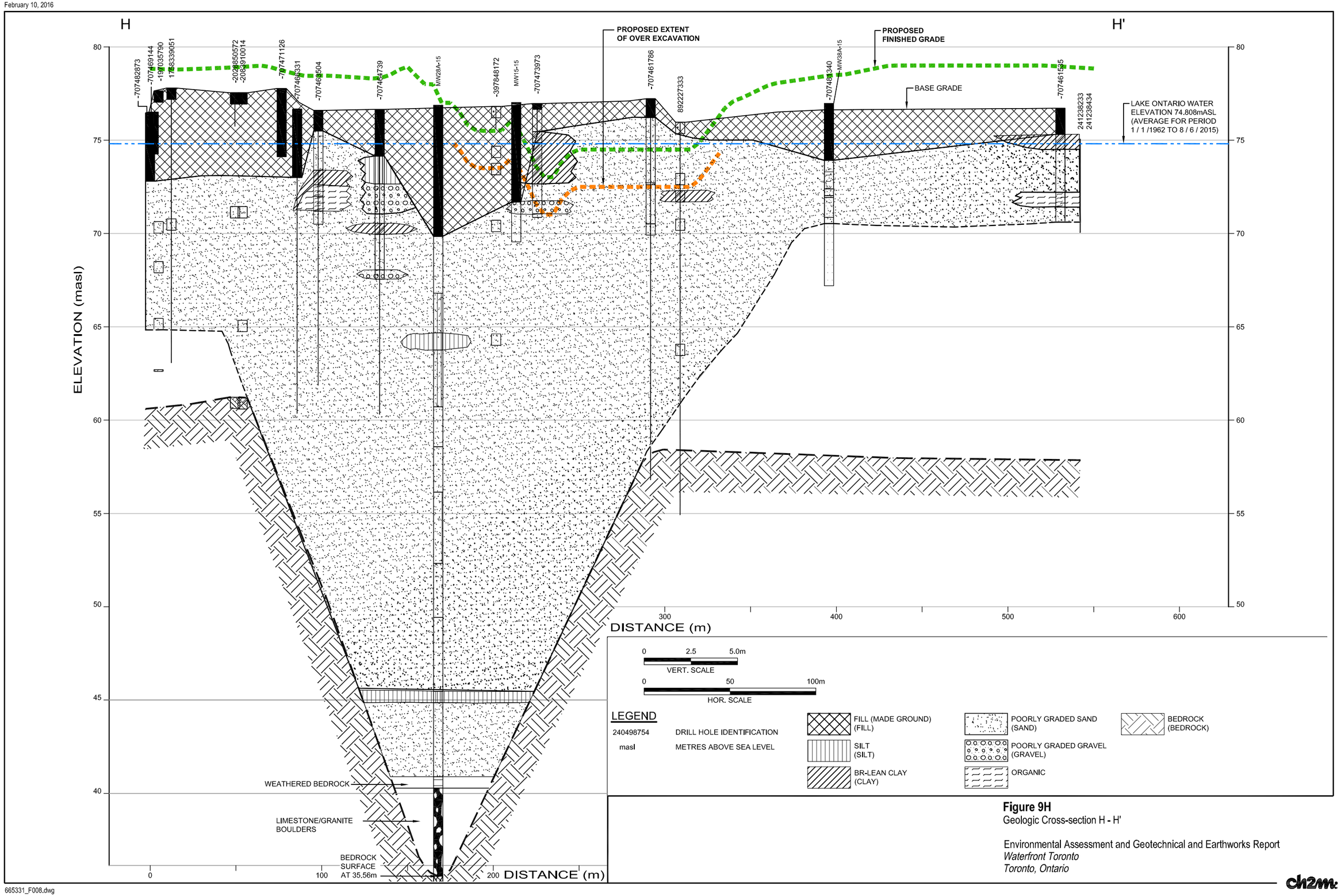


**Figure 9H**
Geologic Cross-section H - H'

Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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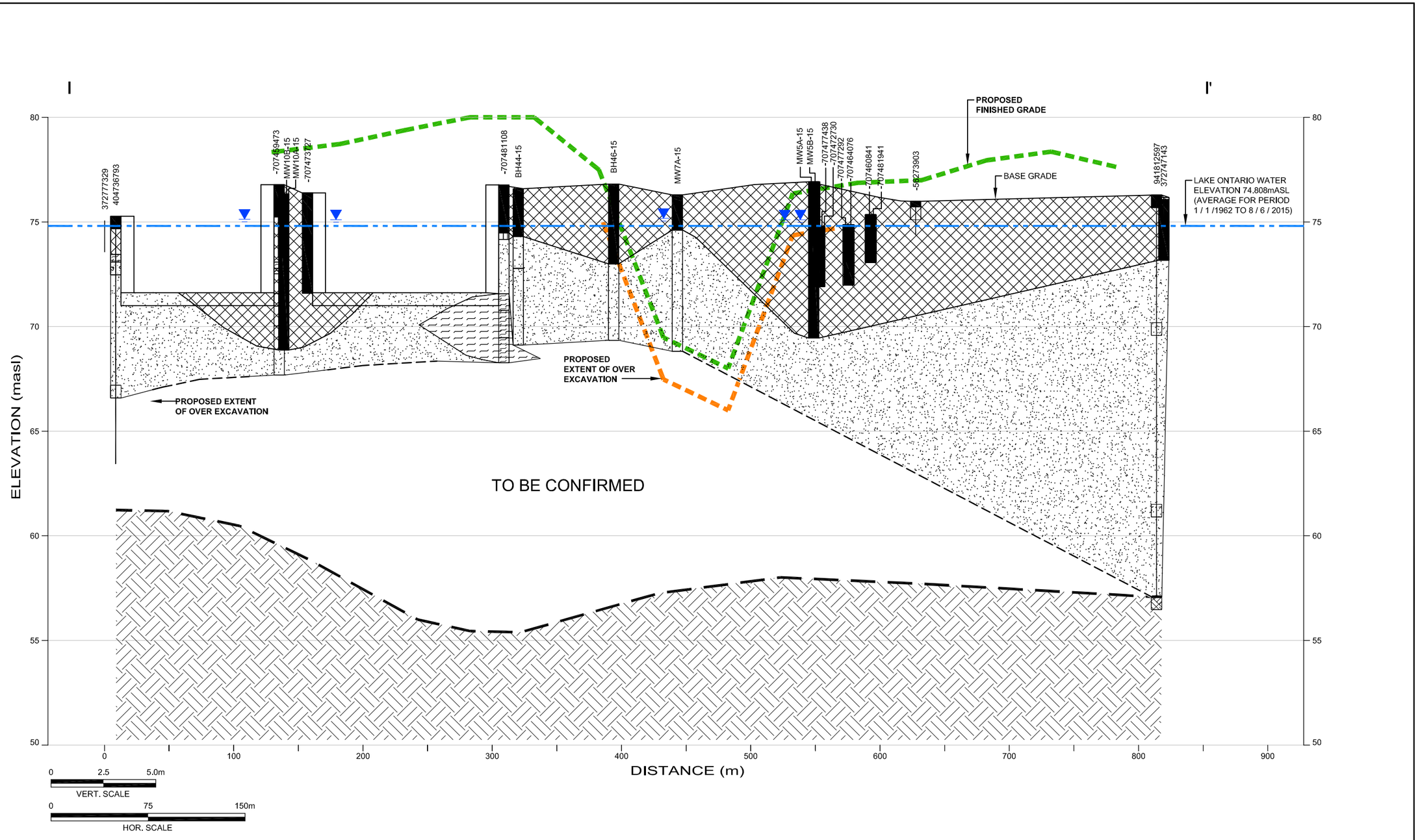


LEGEND

| | |
|---|---|
| 240498754 | DRILL HOLE IDENTIFICATION |
| masl | METRES ABOVE SEA LEVEL |
| ▼ | APPROXIMATE GROUNDWATER ELEVATION (masl) |

- FILL (MADE GROUND) (FILL)
- SILT (SILT)
- BR-LEAN CLAY (CLAY)
- POORLY GRADED SAND (SAND)
- POORLY GRADED GRAVEL (GRAVEL)
- ORGANIC
- BEDROCK (BEDROCK)

**Figure 9I**
Geologic Cross-section I - I'

Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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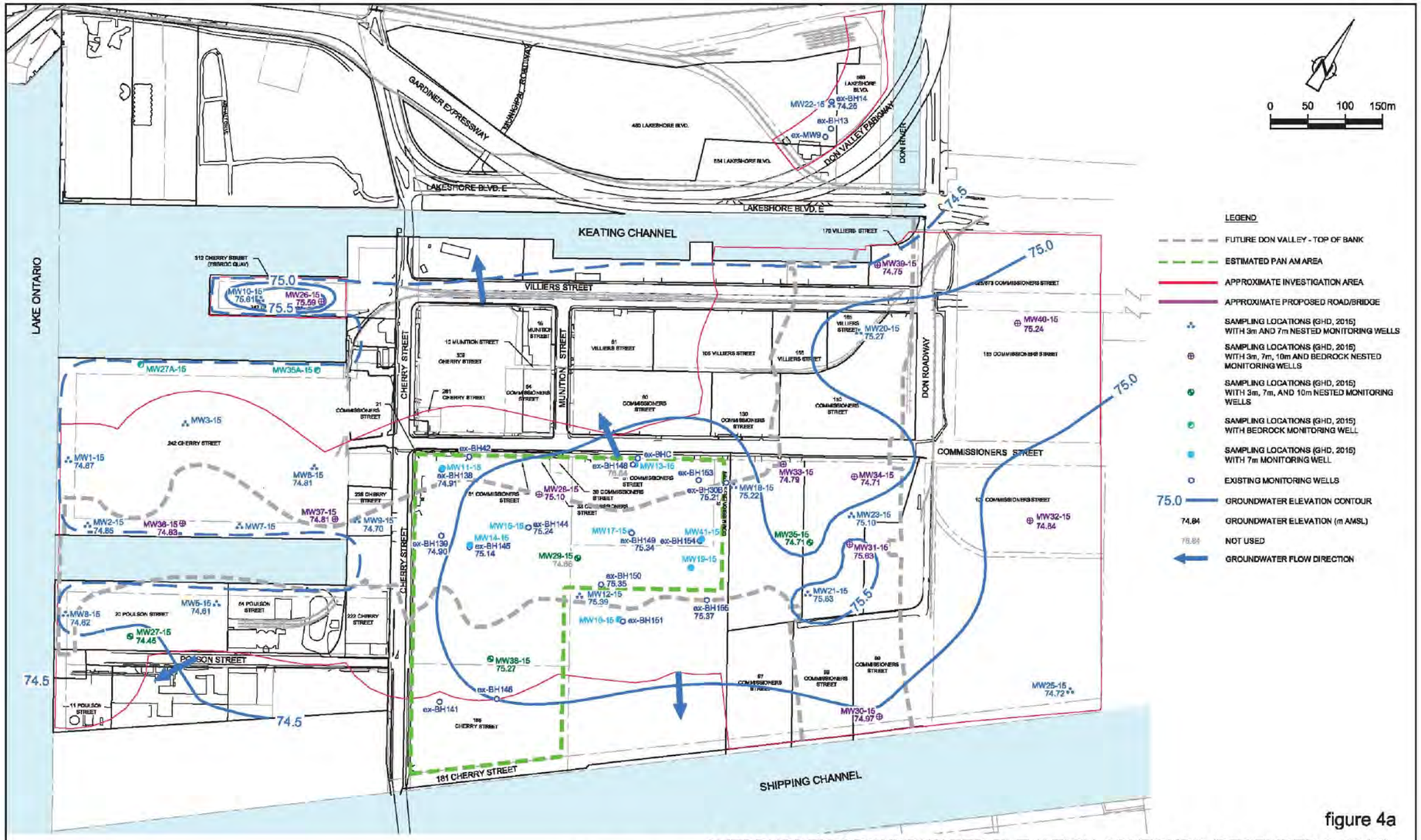



figure 4a

OVERBURDEN GROUNDWATER ELEVATION CONTOURS (DECEMBER 8, 2015)
PORT LANDS - ENVIRONMENTAL, GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION
CONTRACT No. 1042.R2
*Waterfront Toronto*

SOURCES:
1. J. D. BARNES SOURCE: 1820 AND 1912 SHORELINE SOURCE, THE ACHECLOGICAL MASTER PLAN OF THE CENTRAL WATERFRONT, CITY OF TORONTO.

11102463-00(002)GN-TO003 DEC 29/2015

Notes:
1. Figure source: GHD, September 2015. Port Lands Environmental, Geotechnical, and Hydrogeological Investigation.

Figure 10A
Groundwater Piezometric Contours – Fill / Native Sand, December 8, 2015
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\GWCONTOURS_FILL_DEC2015.MXD KSCHONKNECHT 6/1/2016 5:34:29 PM

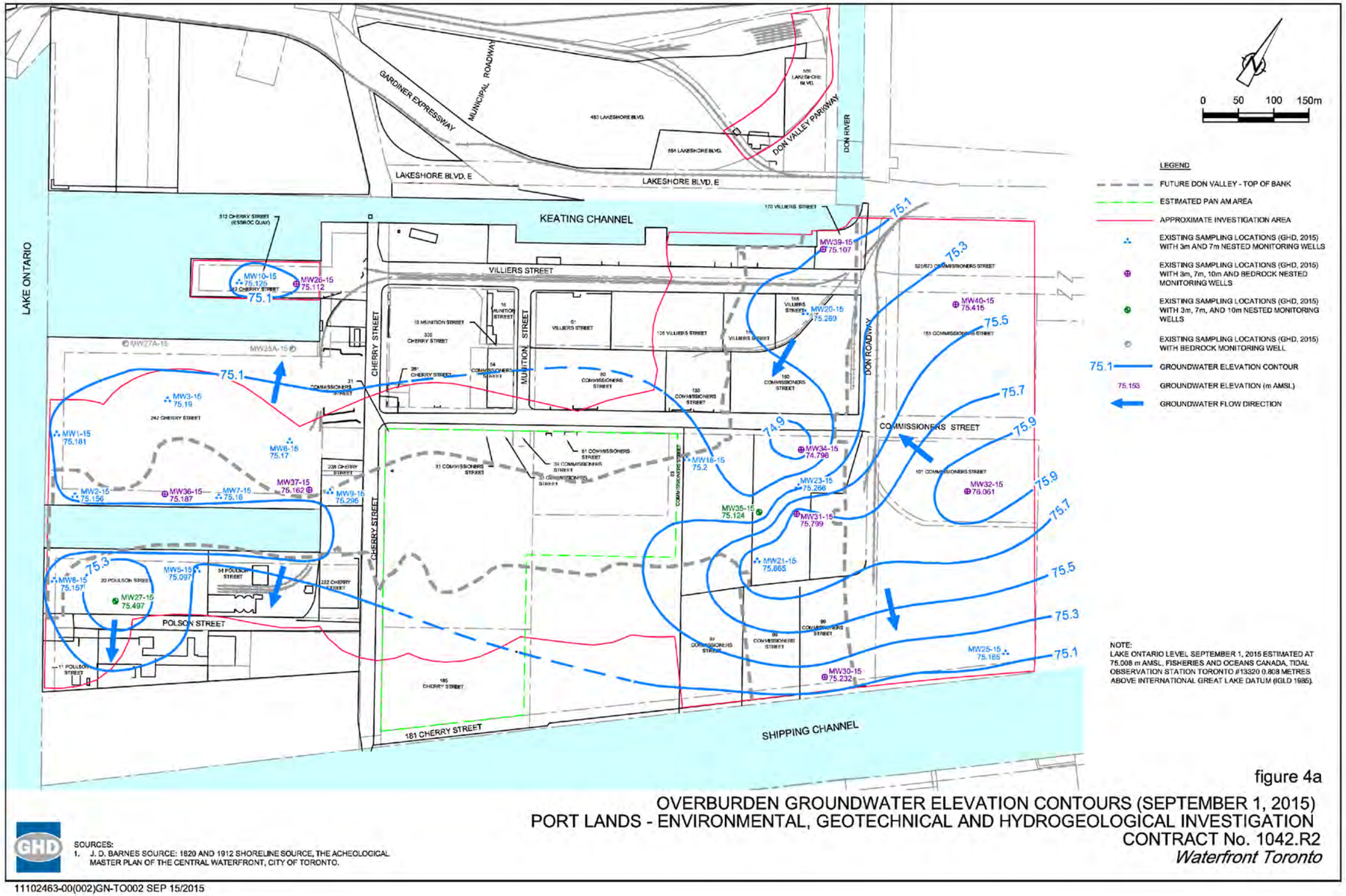



figure 4a

OVERBURDEN GROUNDWATER ELEVATION CONTOURS (SEPTEMBER 1, 2015)
PORT LANDS - ENVIRONMENTAL, GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION
CONTRACT No. 1042.R2
*Waterfront Toronto*

Notes:
1. Figure source: GHD, September 2015. Port Lands Environmental, Geotechnical, and Hydrogeological Investigation.

Figure 10B
Groundwater Piezometric Contours – Fill / Native Sand, September 1, 2015
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*


LEGEND:

- MW-21 — ACTIVE SINGLE MONITORING WELL LOCATION
- MW-3B / MW-9C — ACTIVE COUPLET MONITORING WELL LOCATION
- MW-10B / MW-10A — DECOMMISSIONED/DESTORYED COUPLET MONITORING WELL LOCATION
- MW-8B — DECOMMISSIONED/DESTORYED SINGLE MONITORING WELL LOCATION
- 75.06 — SHALLOW GROUNDWATER ELEVATION (mASL) (JUNE 2012)
- SHALLOW GROUNDWATER CONTOURS (mASL)

NOTES:

1.

REVISIONS:

| No. | Date: | By: | Revisions |
|---|---|---|---|
| | | | |
| | | | |

REFERENCE:

1.

0 200 400 metres

SCALE 1:10,000

DCS

DECOMMISSIONING CONSULTING SERVICES

TORONTO PORT LANDS COMPANY

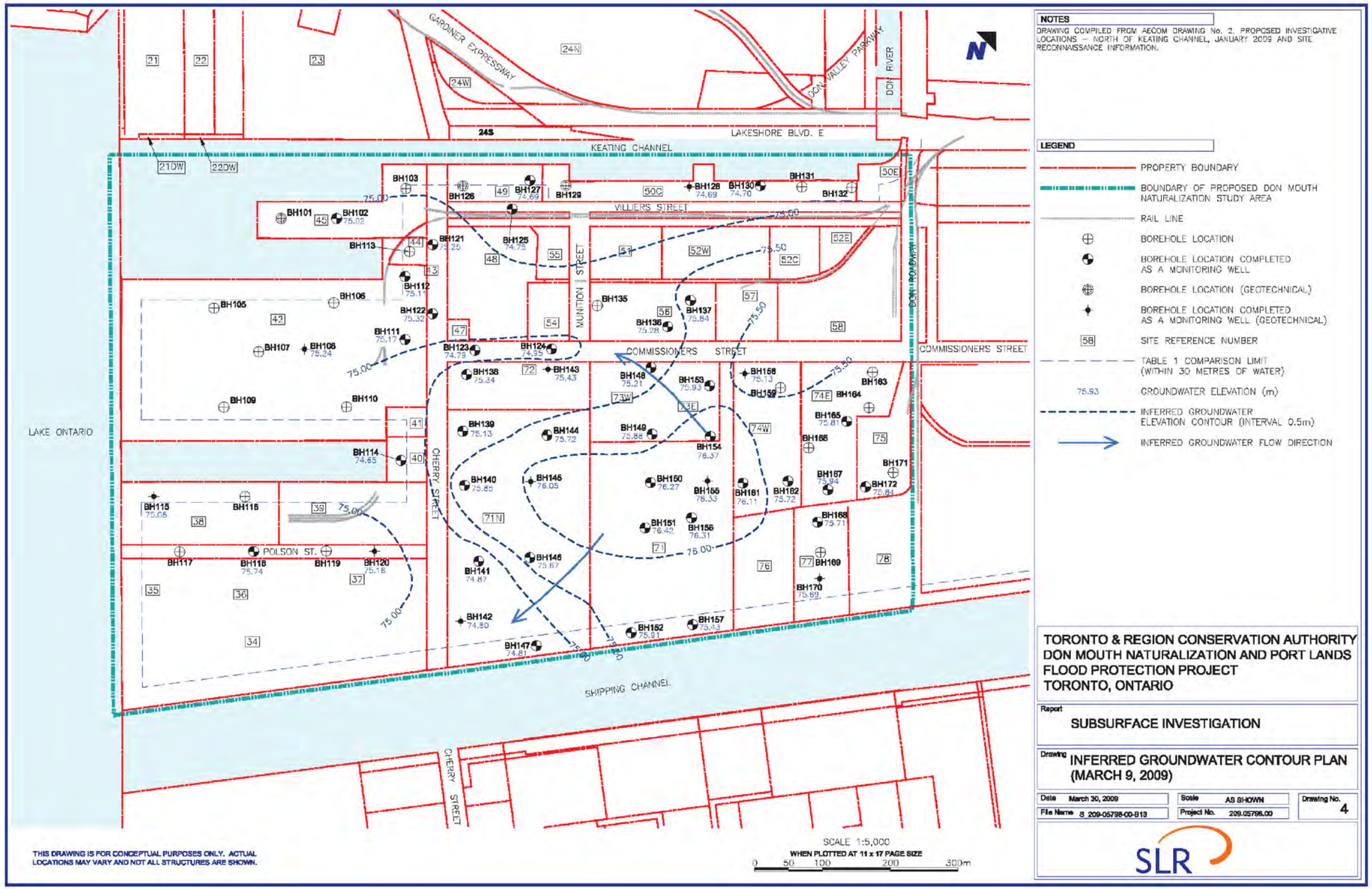
**AREA-WIDE INITIATIVE**

SHALLOW GROUNDWATER CONTOURS
( JULY, 2013 )

| Drawn By: | J.B.S. | Approved By: | M.W | Project No: | 701612 |
|---|---|---|---|---|---|
| Date: | JUNE 2014 | Scale: | AS SHOWN | Issuing No: | 701612-2 |

Notes:
1. Figure source: Decommissioning Consulting Services (DCS), July 2013.
Area-wide Initiative Groundwater Monitoring and Sampling Results - 2013

Figure 10C
Groundwater Piezometric Contours – Fill / Native Sand, July, 2013
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*




Notes:
1. Figure source: SLR, March 2009. Toronto and Region Conservation Authority Don Mouth Naturalization and Port Lands Flood Protection Project, Subsurface Investigation.

Figure 10D
Groundwater Piezometric Contours – Fill / Native Sand, March 9, 2009
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

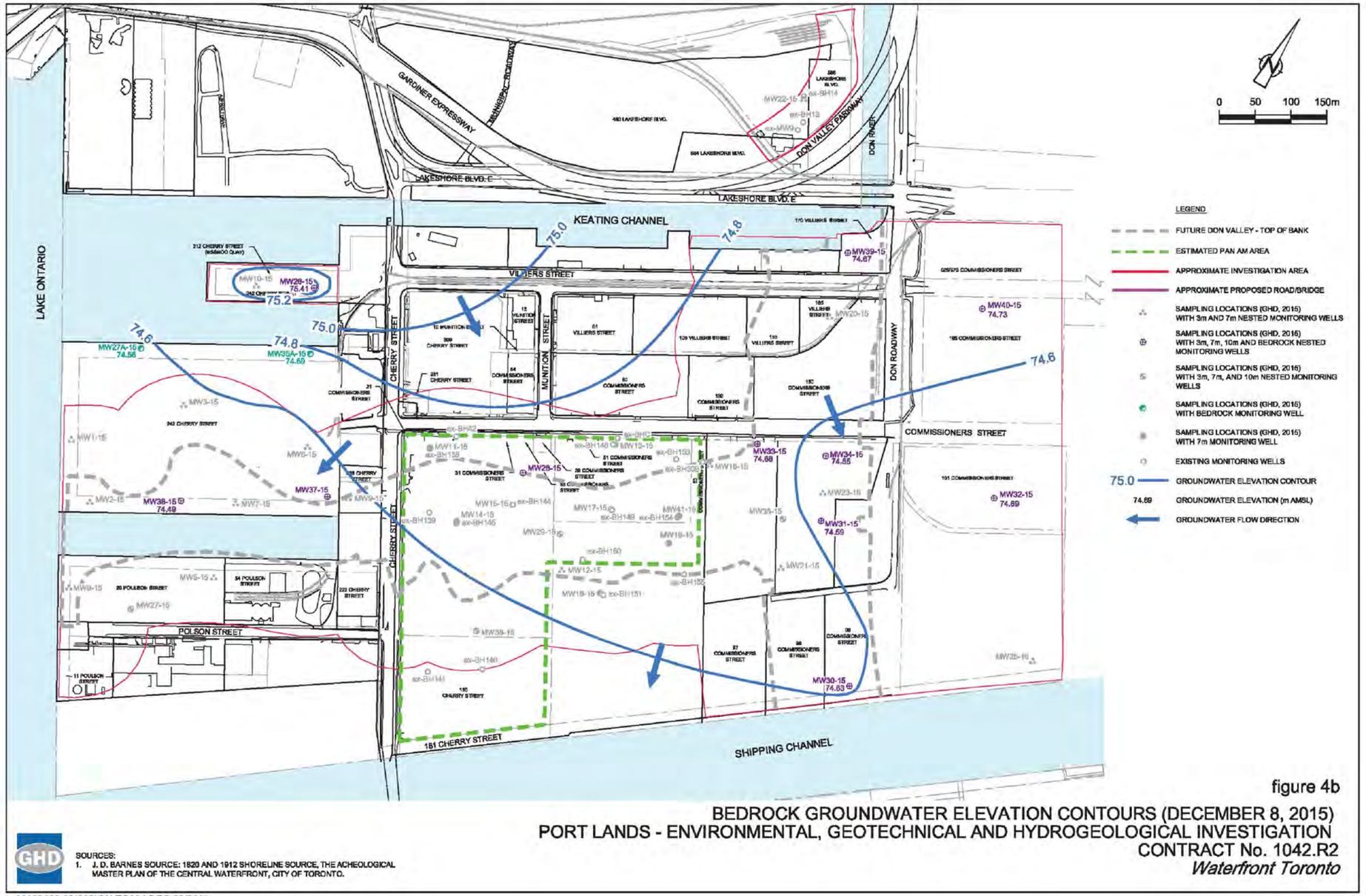



figure 4b

BEDROCK GROUNDWATER ELEVATION CONTOURS (DECEMBER 8, 2015)
PORT LANDS - ENVIRONMENTAL, GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION
CONTRACT No. 1042.R2
*Waterfront Toronto*

SOURCES:
1. J. D. BARNES SOURCE: 1820 AND 1912 SHORELINE SOURCE, THE ACHEOLOGICAL MASTER PLAN OF THE CENTRAL WATERFRONT, CITY OF TORONTO.

11102463-00(002)GN-TO004 DEC 29/2015

Notes:
1. Figure source: GHD, September 2015. Port Lands Environmental, Geotechnical, and Hydrogeological Investigation.

Figure 12A
Groundwater Potentiometric Contours – Bedrock, December 8, 2015
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

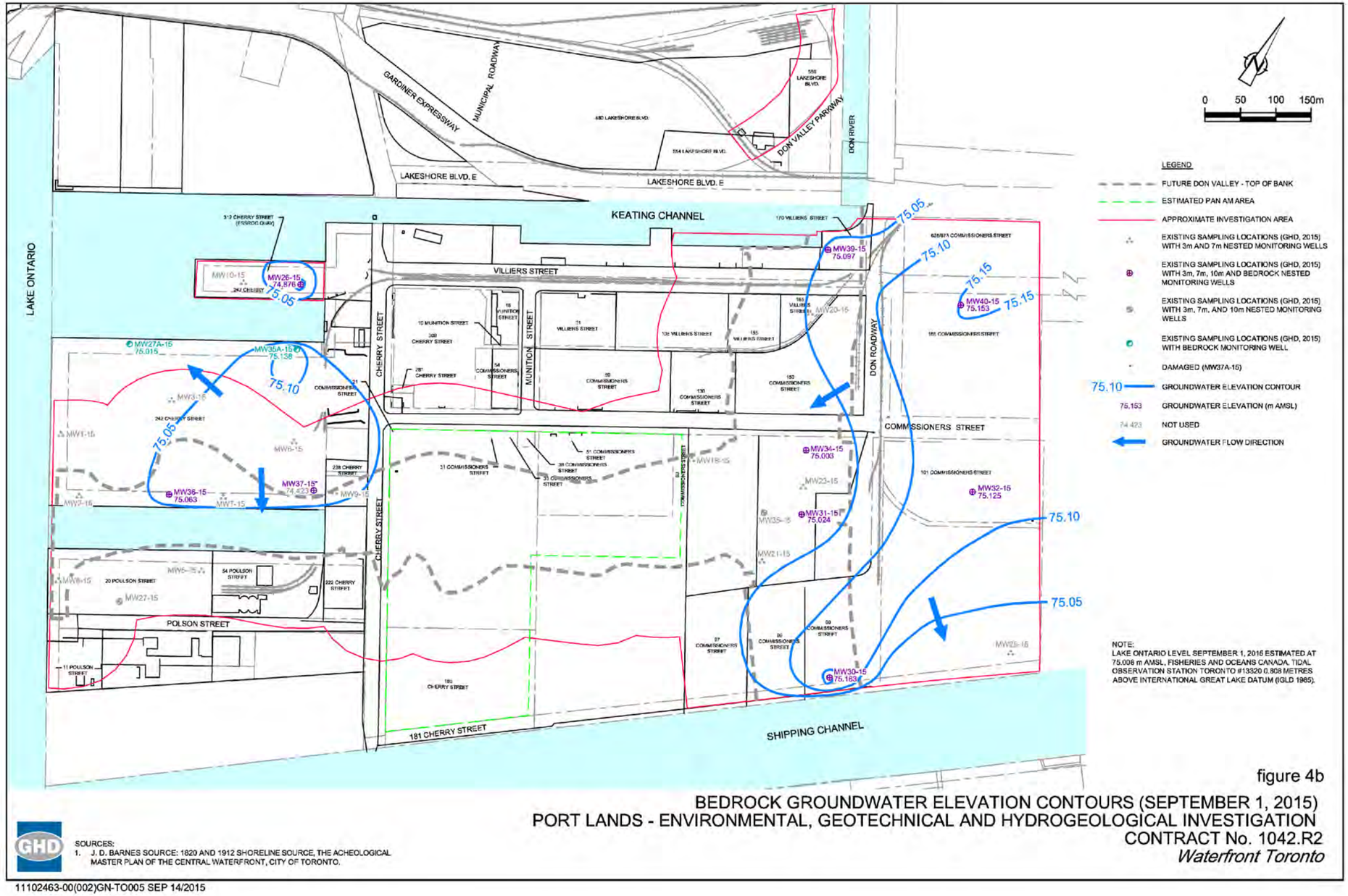



figure 4b

BEDROCK GROUNDWATER ELEVATION CONTOURS (SEPTEMBER 1, 2015)
PORT LANDS - ENVIRONMENTAL, GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION
CONTRACT No. 1042.R2
*Waterfront Toronto*

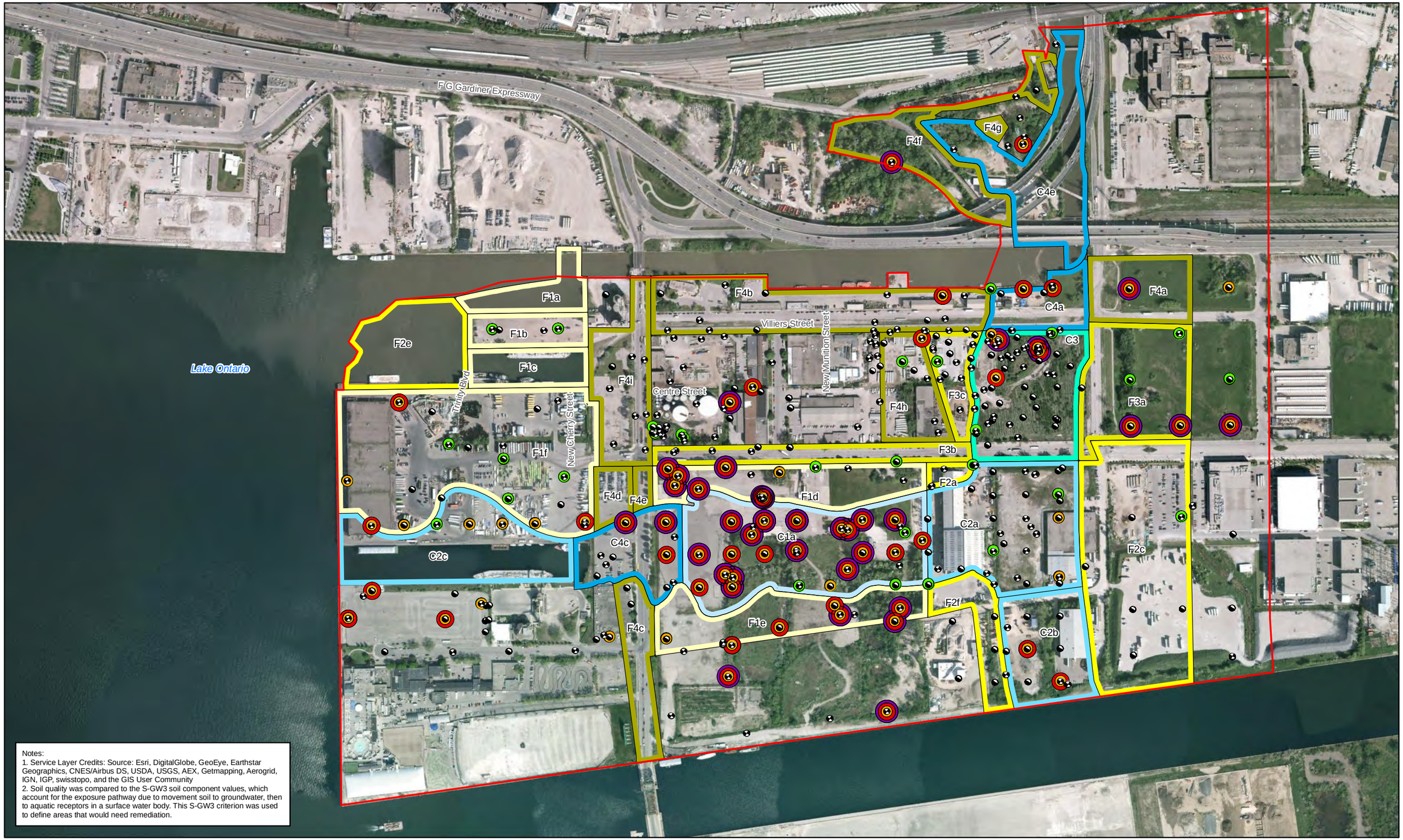
SOURCES:
1. J. D. BARNES SOURCE: 1820 AND 1912 SHORELINE SOURCE, THE ACHEOLOGICAL MASTER PLAN OF THE CENTRAL WATERFRONT, CITY OF TORONTO.

11102463-00(002)GN-TO005 SEP 14/2015

Notes:
1. Figure source: GHD, September 2015. Port Lands Environmental, Geotechnical, and Hydrogeological Investigation.

Figure 12B
Groundwater Potentiometric Contours – Bedrock, September 1, 2015
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\GWCONTOURS_BEDROCK_SEPT2015.MXD KSCHONKNECHT 6/1/2016 6:10:15 PM




Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

| Sequencing | Fill | Cut |
|---|---|---|
| | Phase 1 | Phase 1 |
| | Phase 2 | Phase 2 |
| | Phase 3 | Phase 3 |
| | Phase 4 | Phase 4 |

Sequencing ID Label

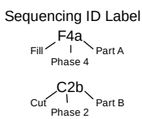
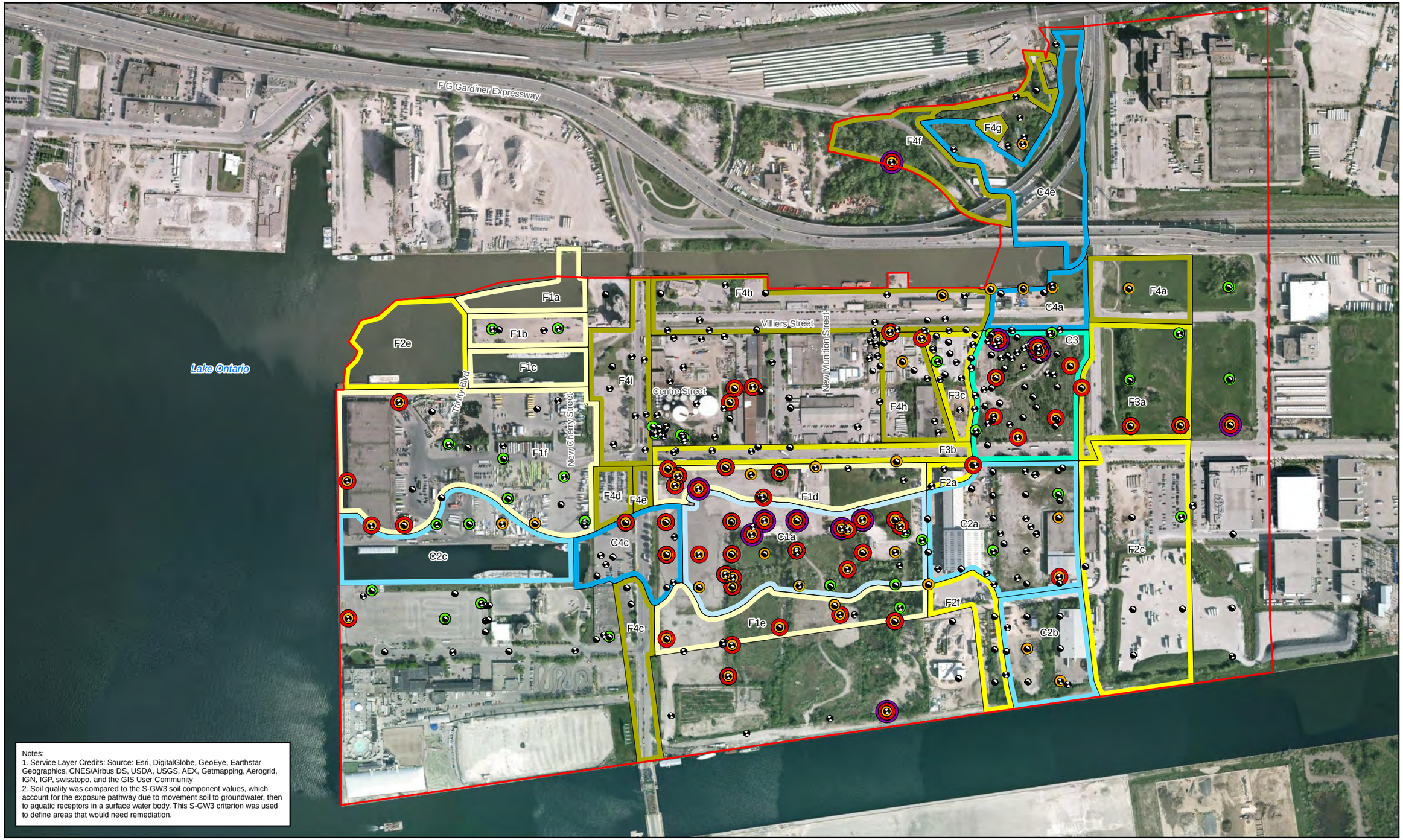



Figure 13A
Soil PHCs Exceedances (0-1.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\SO_PHC_0_1_5.MXD KSCHONKNECHT 6/1/2016 6:16:11 PM




Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary

- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

| Sequencing Fill | Cut |
|---|---|
| Phase 1 | Phase 1 |
| Phase 2 | Phase 2 |
| Phase 3 | Phase 3 |
| Phase 4 | Phase 4 |

Sequencing ID Label

F4a
Fill | Phase 4 | Part A

C2b
Cut | Phase 2 | Part B

Figure 13B
Soil VOCs Exceedances (0-1.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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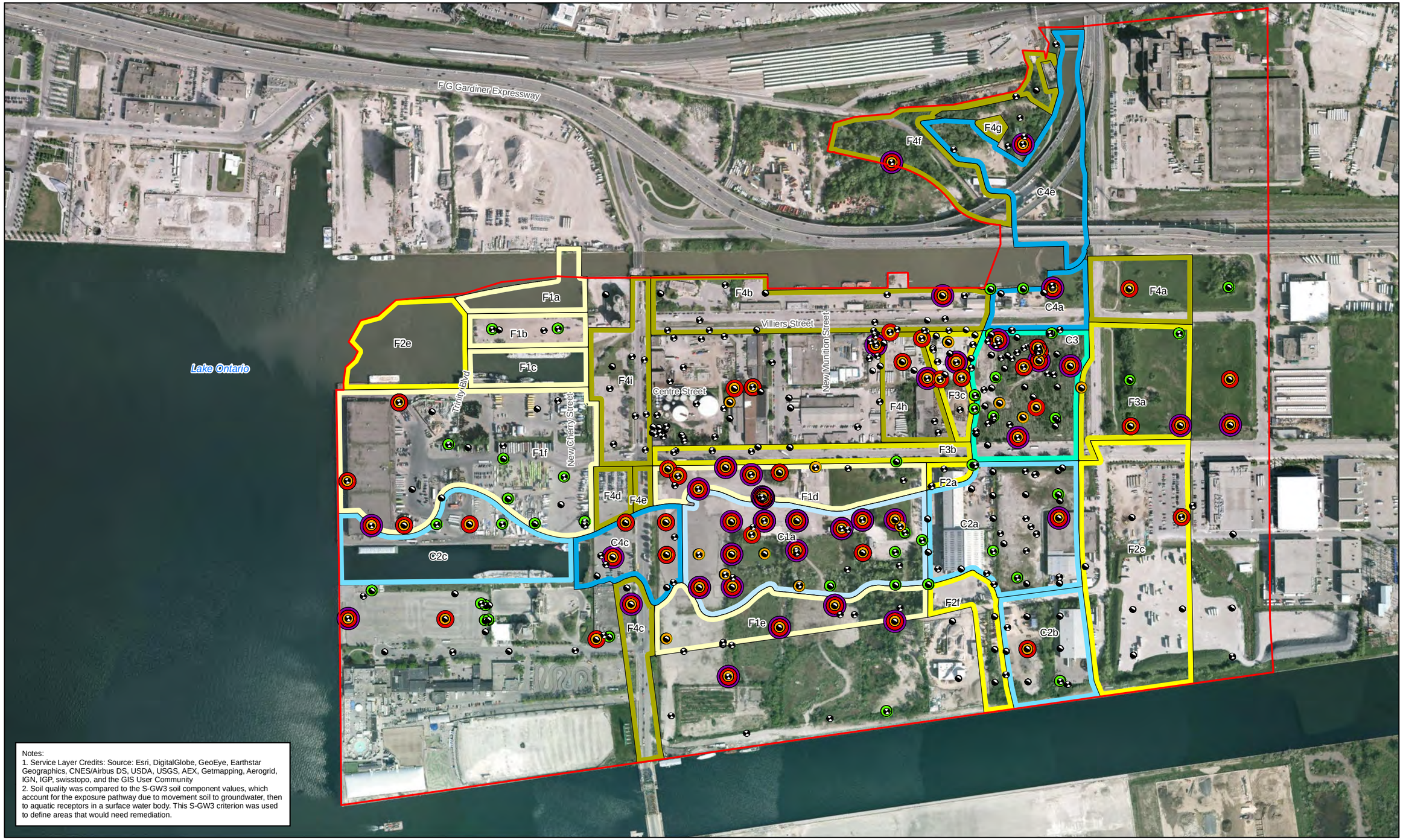


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

| Sequencing | Cut |
|---|---|
| Fill | Phase 1 |
| Phase 1 | Phase 2 |
| Phase 2 | Phase 3 |
| Phase 3 | Phase 4 |
| Phase 4 | |

Sequencing ID Label

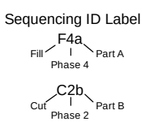


Figure 13C
Soil PAHs Exceedances (0-1.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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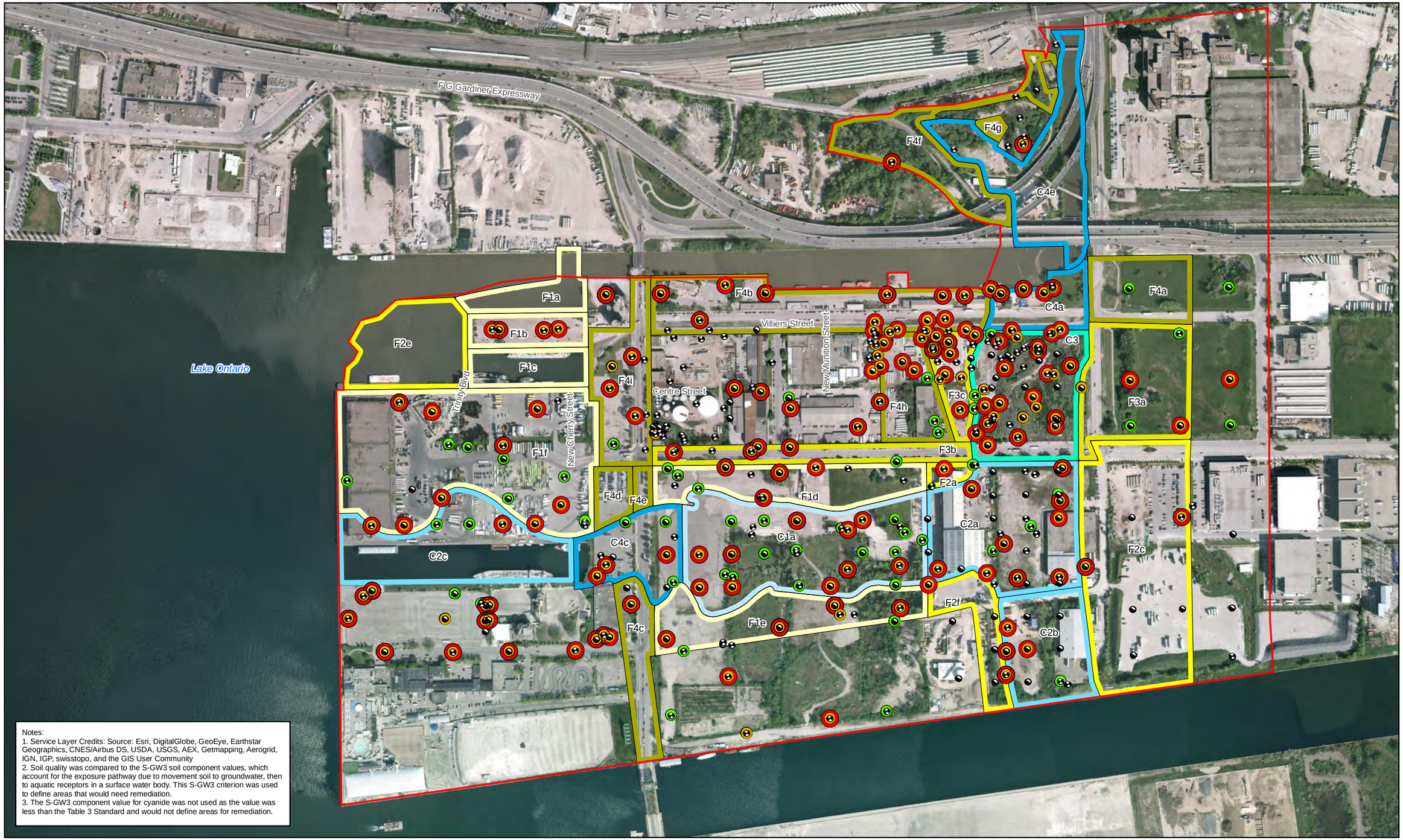



Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.
3. The S-GW3 component value for cyanide was not used as the value was less than the Table 3 Standard and would not define areas for remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

| Sequencing | Cut |
|---|---|
| Fill | Phase 1 |
| Phase 1 | Phase 2 |
| Phase 2 | Phase 3 |
| Phase 3 | Phase 4 |
| Phase 4 | |

Sequencing ID Label

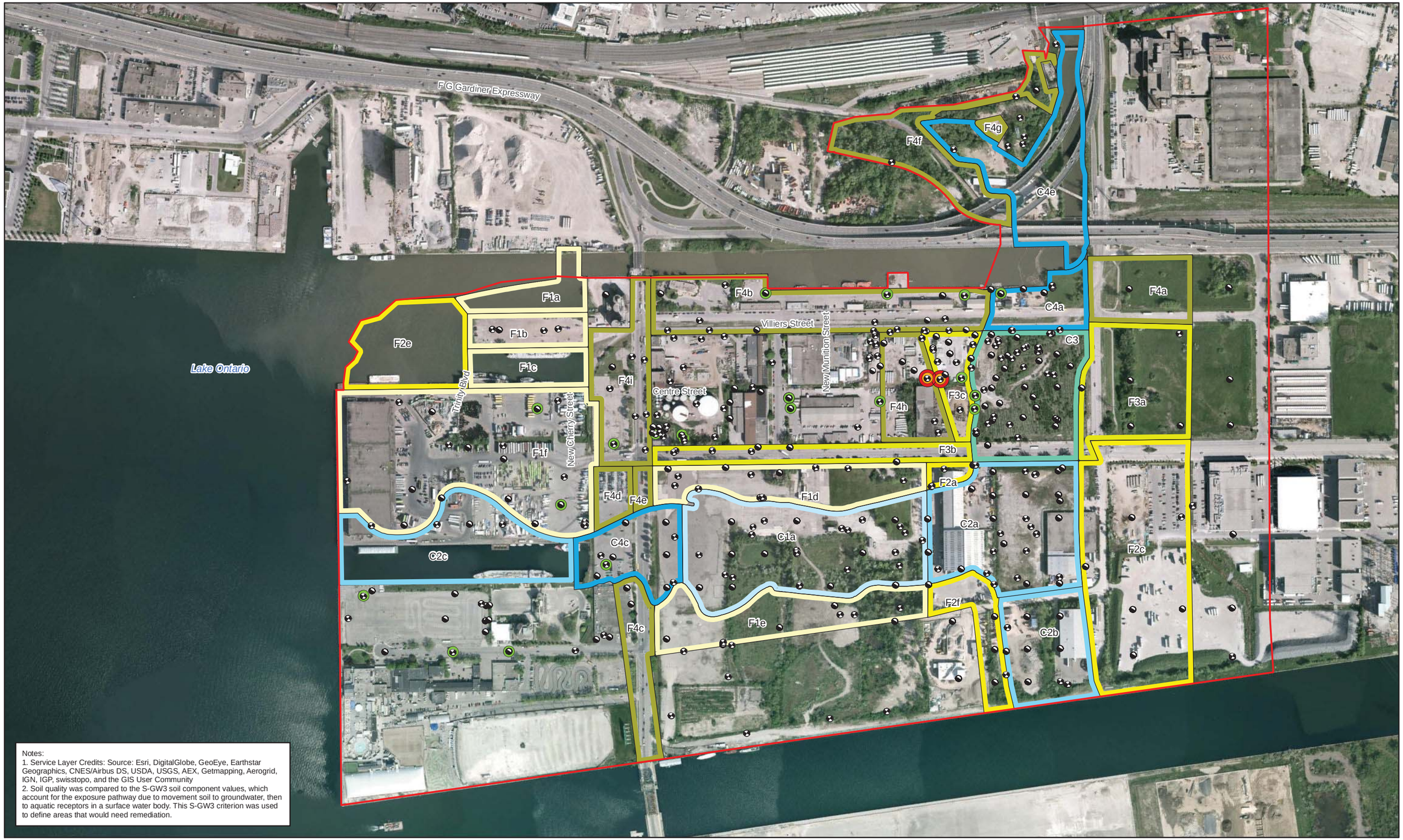
F4a
Fill | Phase 4 | Part A

C2b
Cut | Phase 2 | Part B

Figure 13D
Soil Metals and Inorganics Exceedances (0-1.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\SO_METALS_INORGANIC_0_1_5.MXD KSCHONKNECHT 6/1/2016 6:31:38 PM




Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary

- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

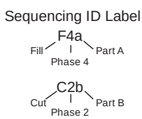



Figure 13E
Soil PCBs Exceedances (0-1.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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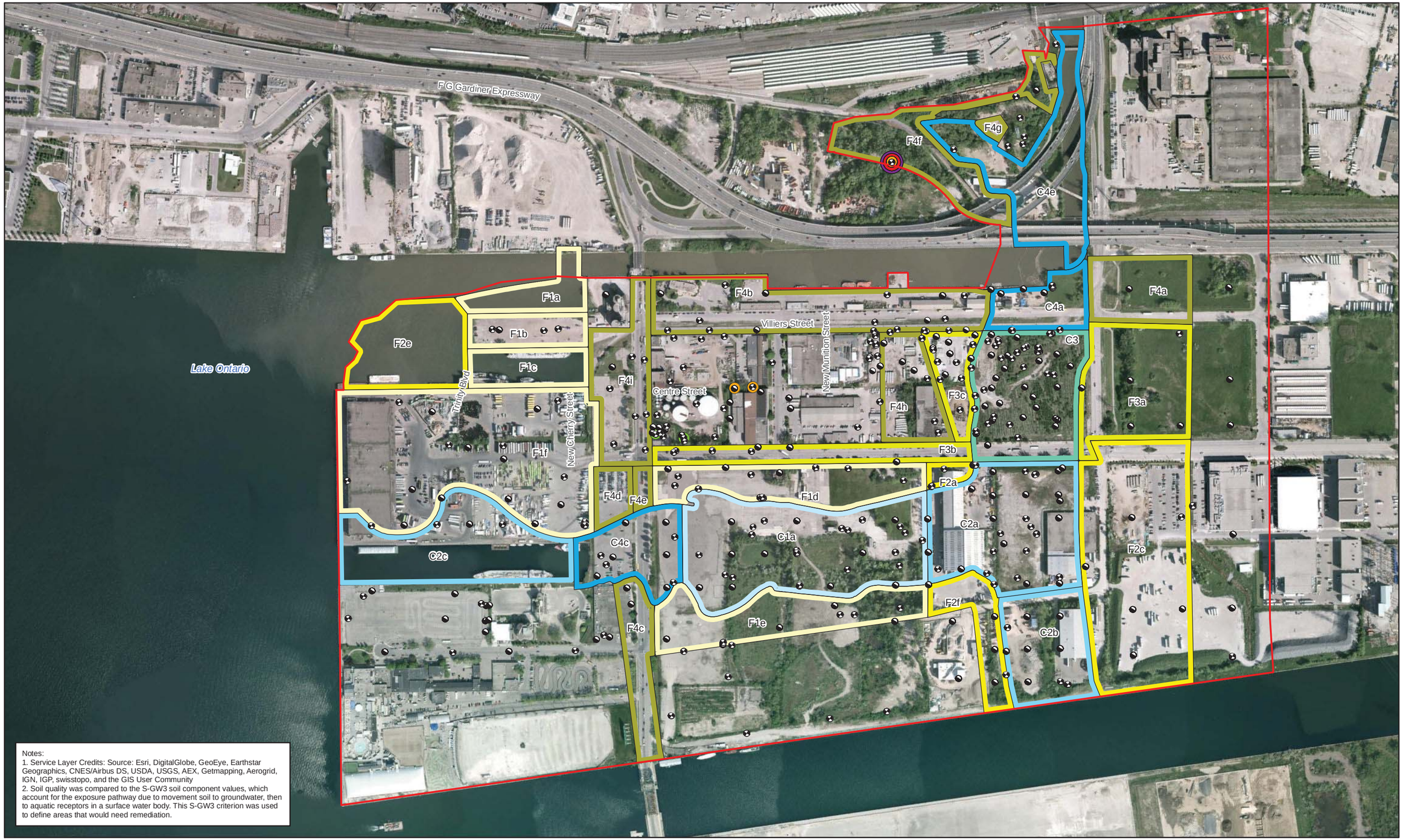


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary

- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

| Sequencing | Cut |
|---|---|
| Fill | Phase 1 |
| Phase 1 | Phase 2 |
| Phase 2 | Phase 3 |
| Phase 3 | Phase 4 |
| Phase 4 | |

Sequencing ID Label

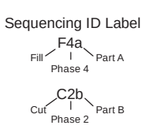


Figure 13F
Soil ABNs, CPs, OCPs and SVOCs Exceedances (0-1.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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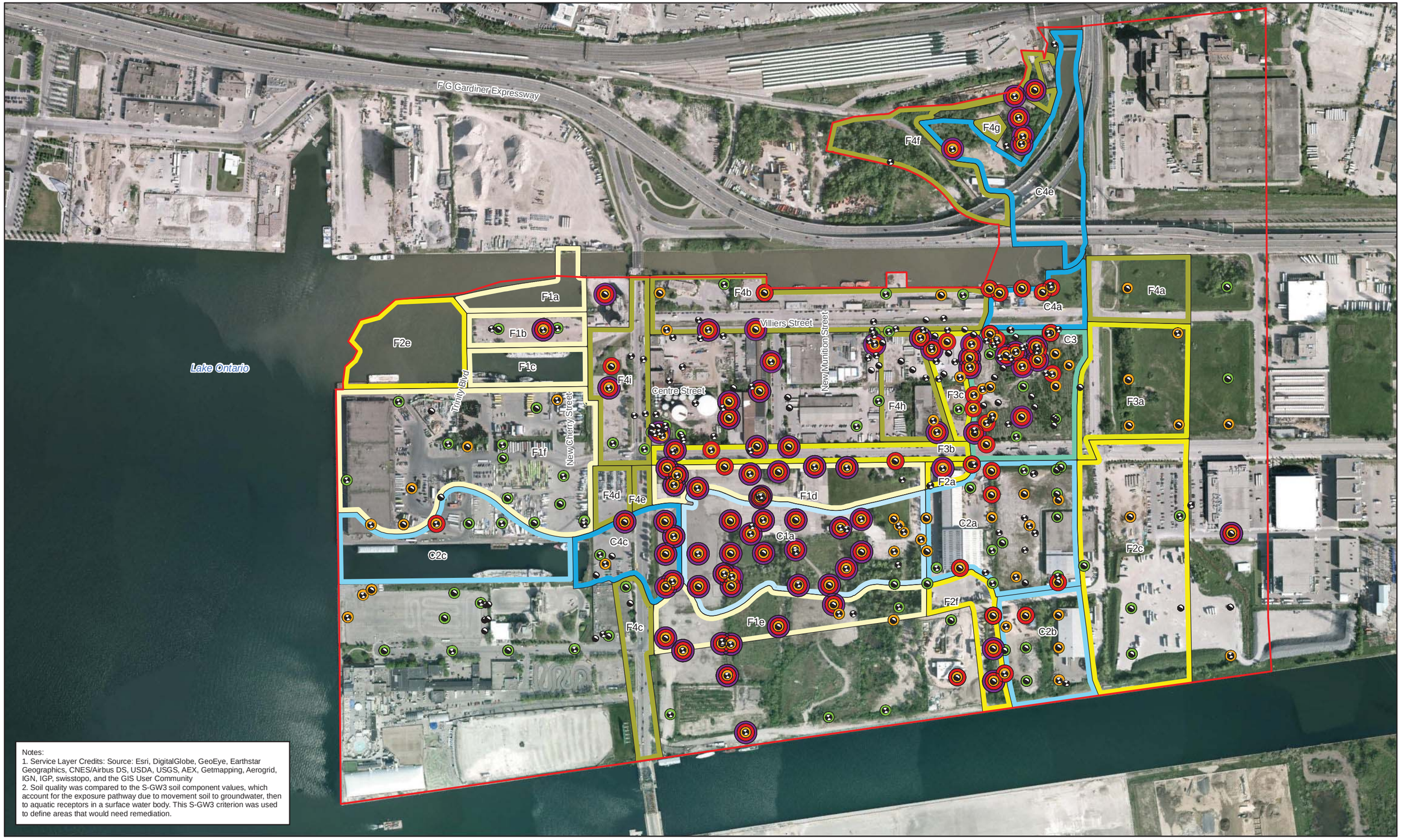



Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary

- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

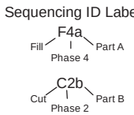
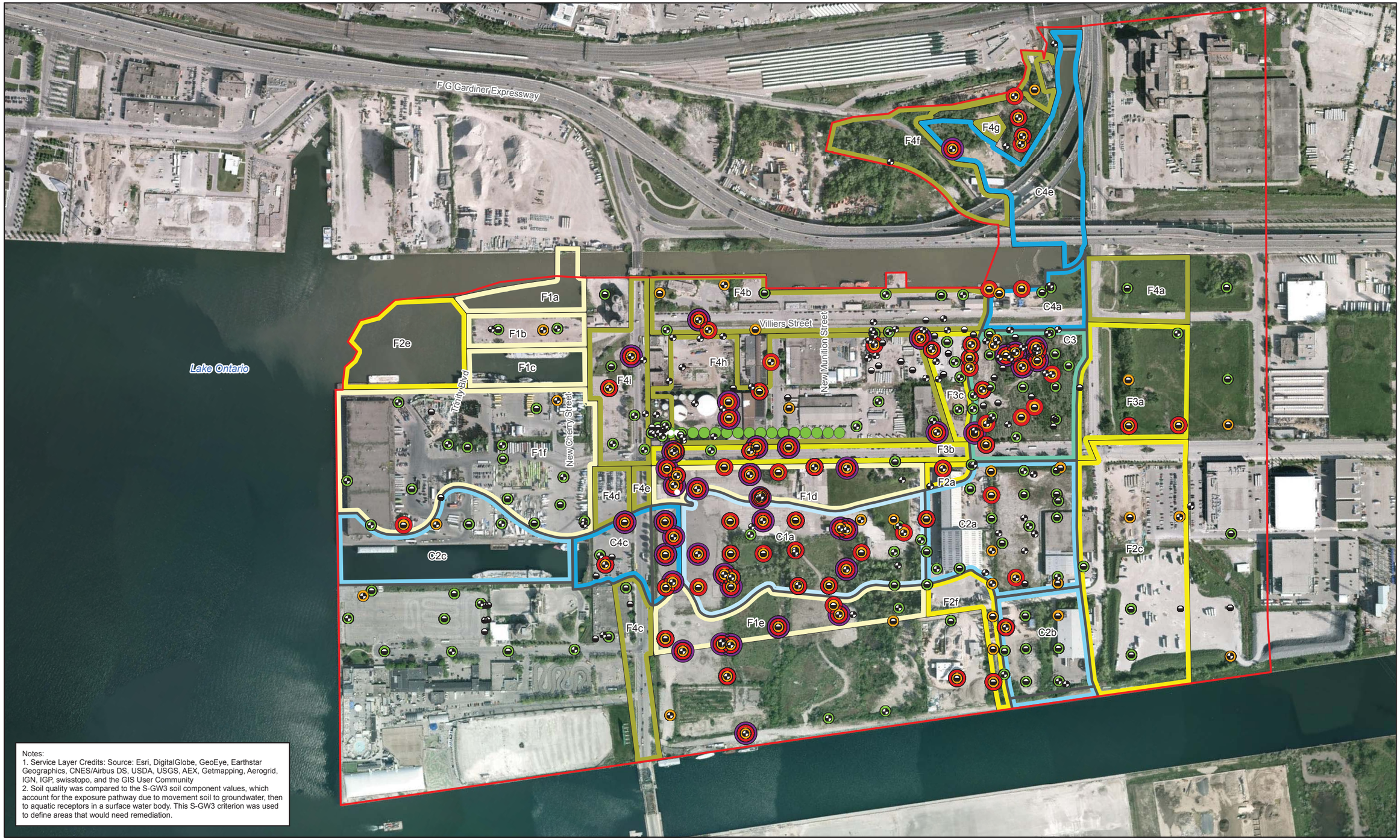



Figure 13G
Soil PHCs Exceedances (1.5-4.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\SO_PHC_1_5_4_5.MXD KSCHONKNECHT 6/1/2016 6:37:31 PM




Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label
F4a
Fill — Phase 4 — Part A
C2b
Cut — Phase 2 — Part B

**Figure 13H**
Soil VOCs Exceedances (1.5-4.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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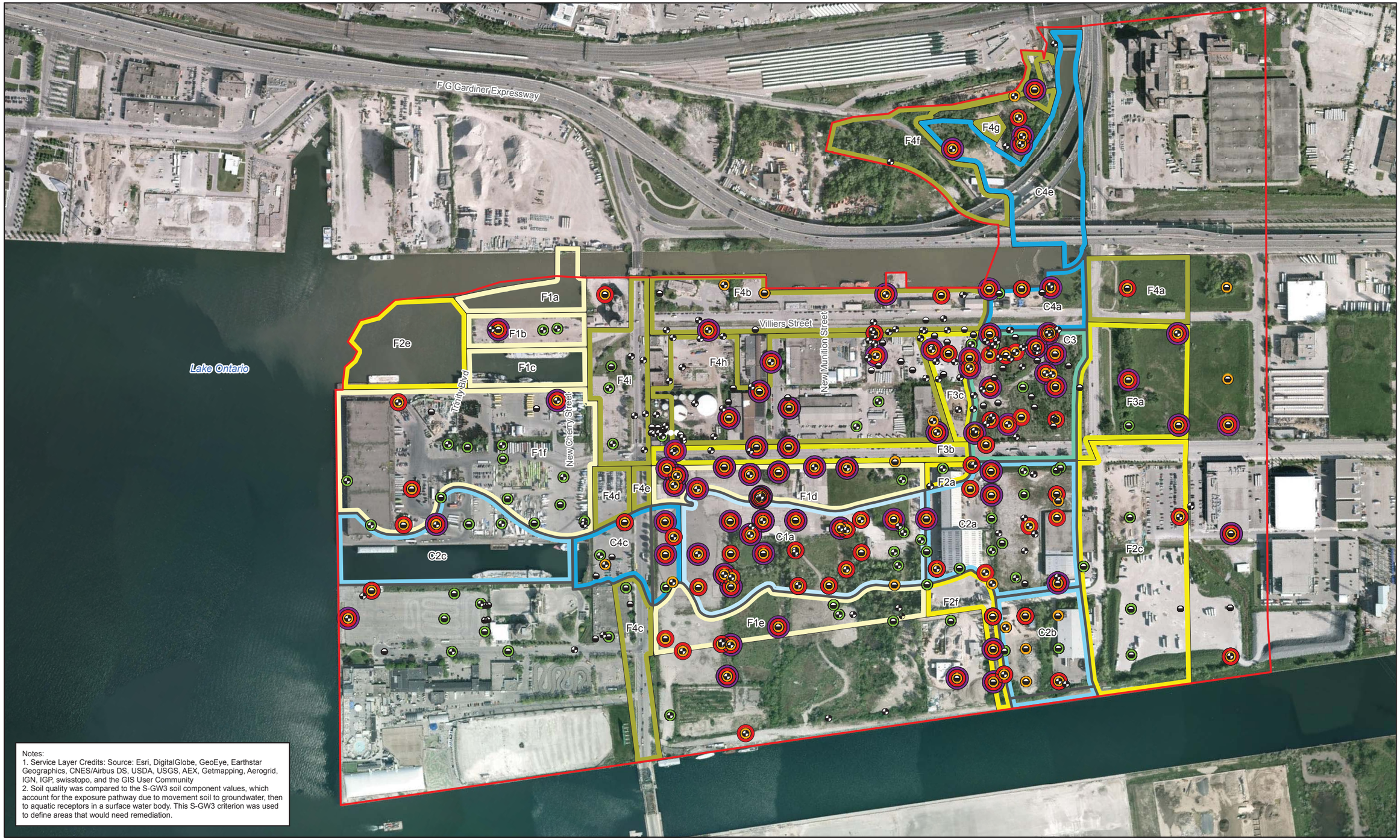


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

| Sequencing Fill | Cut |
|---|---|
| Phase 1 | Phase 1 |
| Phase 2 | Phase 2 |
| Phase 3 | Phase 3 |
| Phase 4 | Phase 4 |

Sequencing ID Label

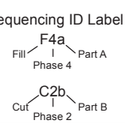


**Figure 13I**
Soil PAHs Exceedances (1.5-4.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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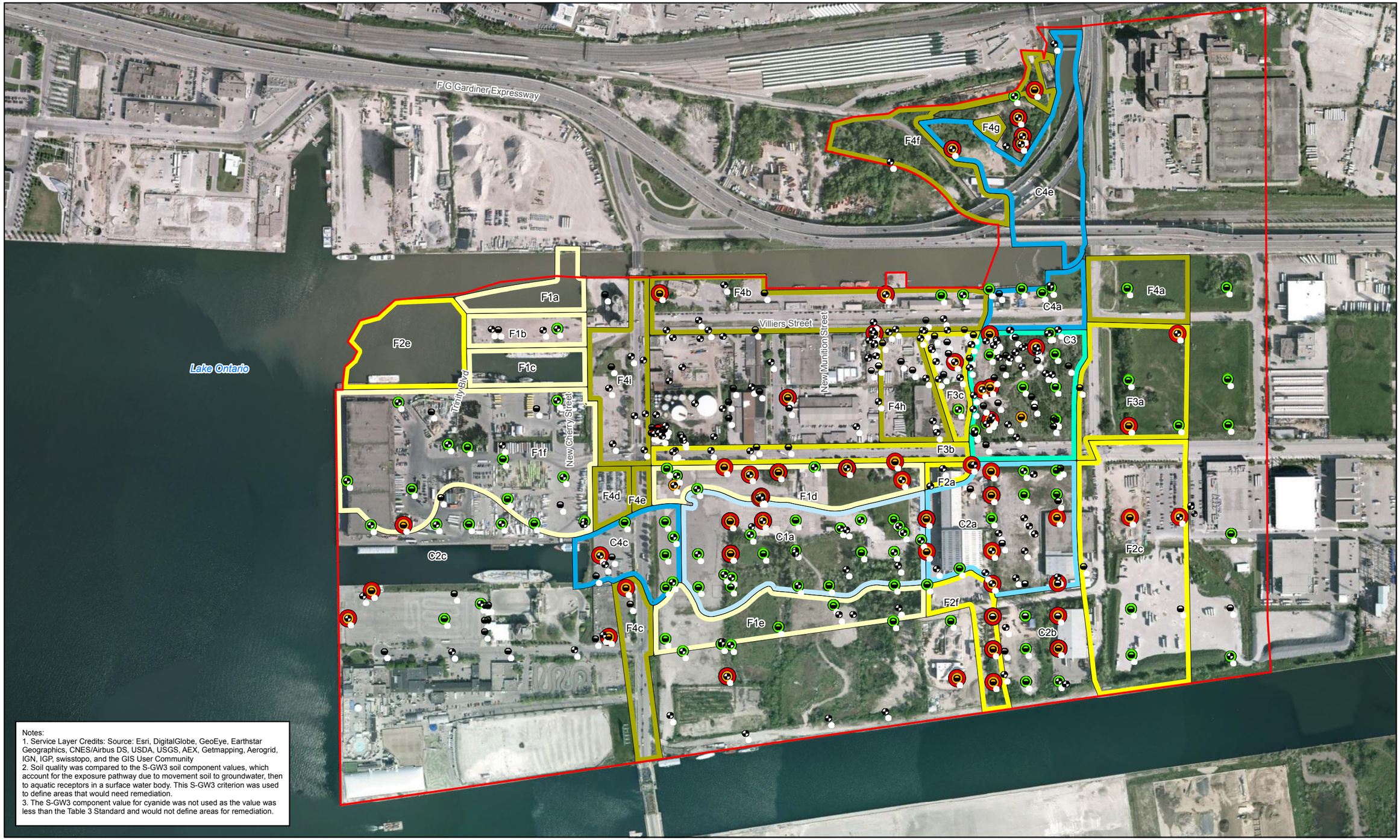



Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.
3. The S-GW3 component value for cyanide was not used as the value was less than the Table 3 Standard and would not define areas for remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

| Sequencing | Fill | Cut |
|---|---|---|
| | Phase 1 | Phase 1 |
| | Phase 2 | Phase 2 |
| | Phase 3 | Phase 3 |
| | Phase 4 | Phase 4 |

Sequencing ID Label

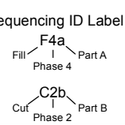
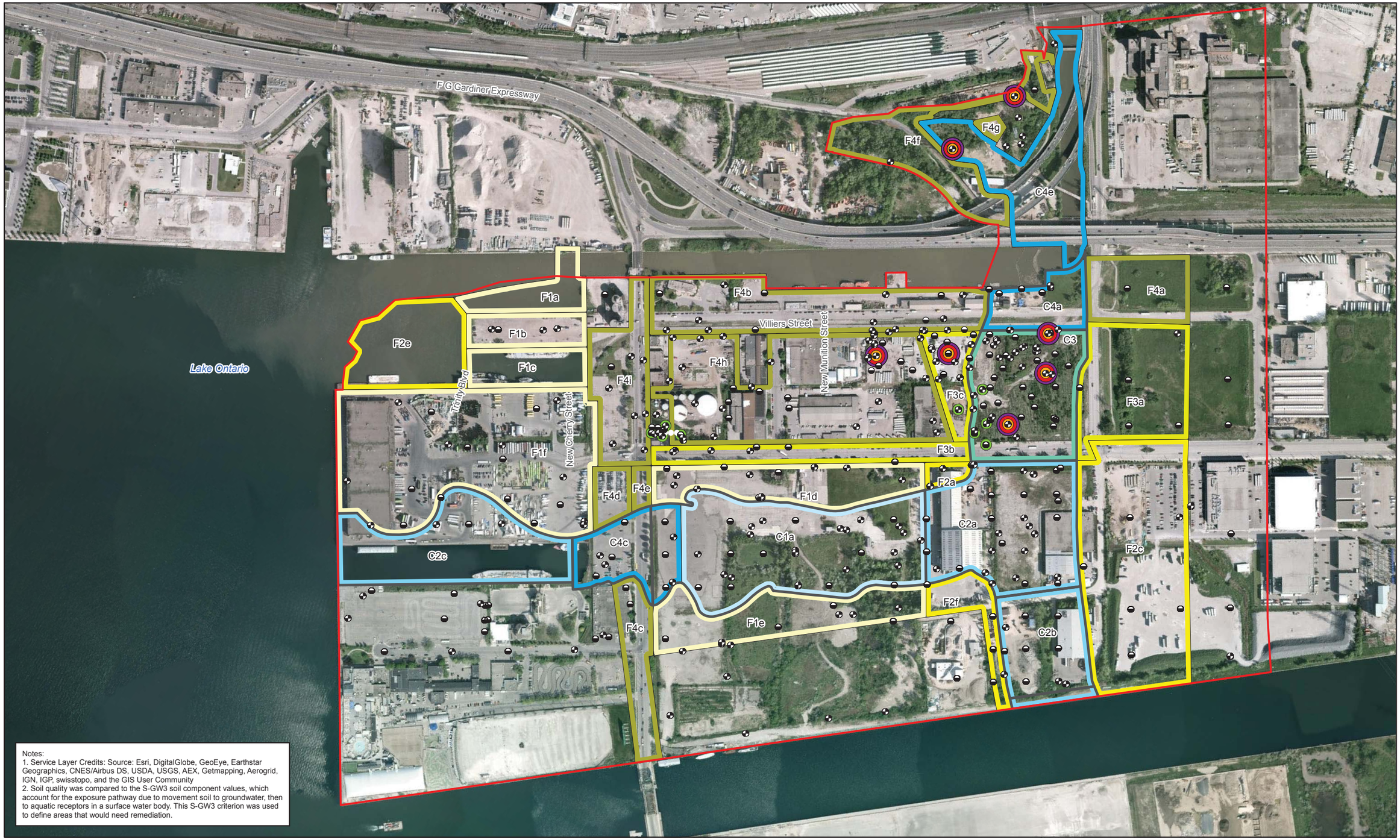



**Figure 13J**
Soil Metals and Inorganics Exceedances (1.5-4.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\SO_METALS_INORGANICS_1_5_4_5.MXD ABATES1 4/26/2016 6:01:43 PM




Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
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0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

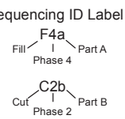
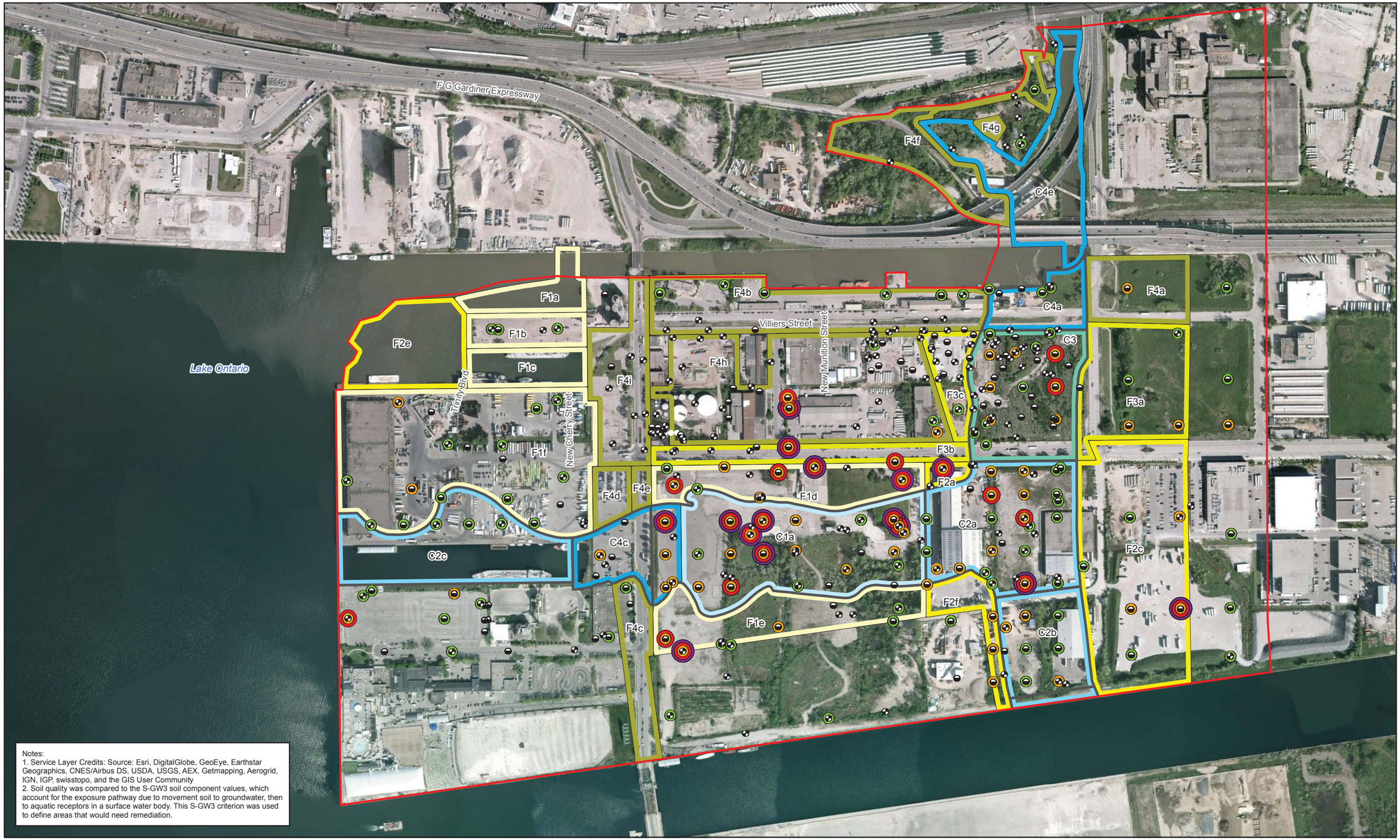



**Figure 13K**
Soil ABNs, CPs, OCPs and SVOCs Exceedances (1.5-4.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\SO_ABN_CP_OCP_SVOC_1_5_4_5.MXD ABATES1 2/26/2016 9:18:31 AM




Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
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0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

| Sequencing | Fill | Cut |
|---|---|---|
| | Phase 1 | Phase 1 |
| | Phase 2 | Phase 2 |
| | Phase 3 | Phase 3 |
| | Phase 4 | Phase 4 |

Sequencing ID Label

F4a (Fill, Phase 4, Part A)

C2b (Cut, Phase 2, Part B)

**Figure 13L**
Soil PHCs Exceedances (4.5-7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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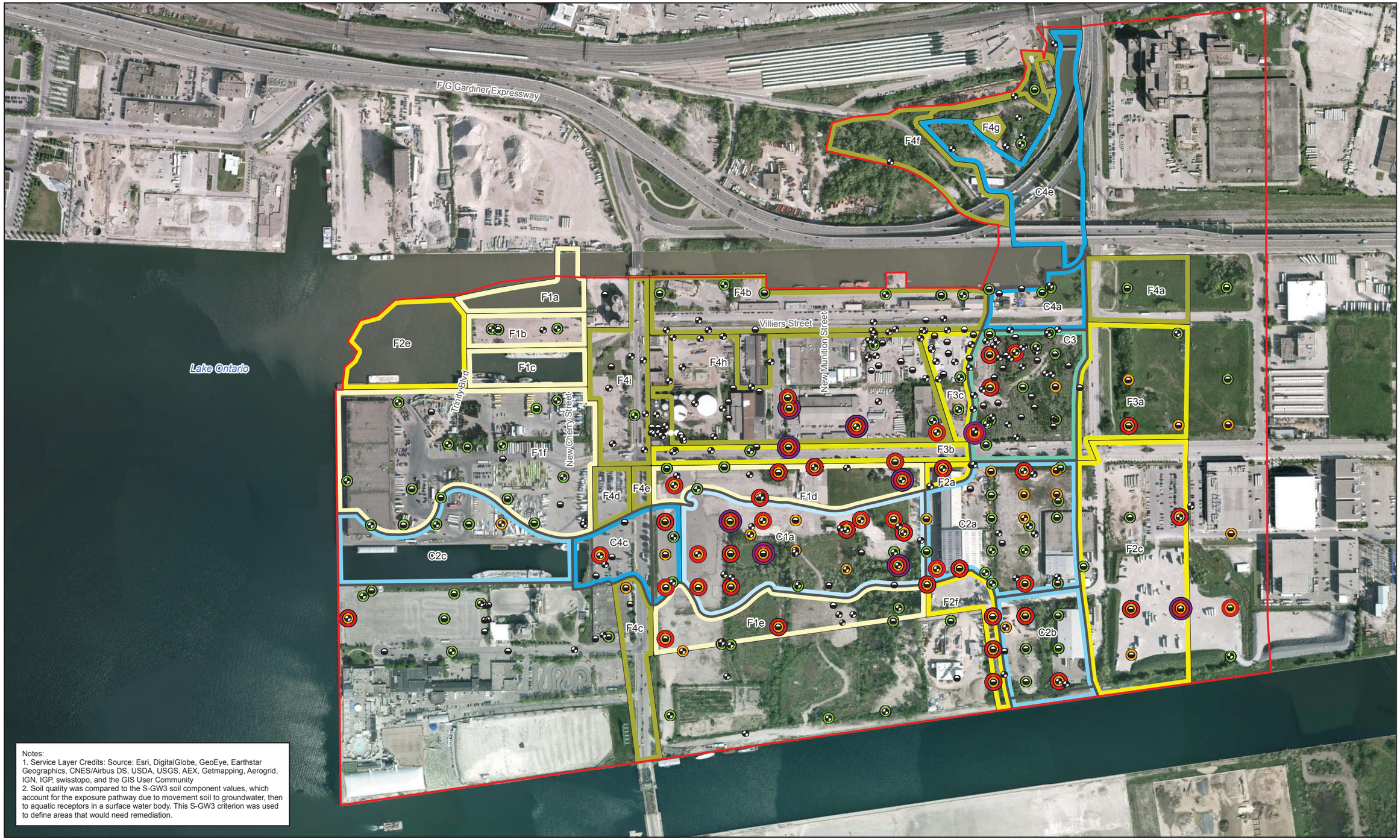


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

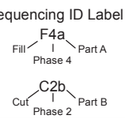


**Figure 13M**
Soil VOCs Exceedances (4.5-7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

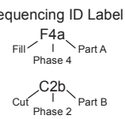


**Figure 13N**
Soil PAHs Exceedances (4.5-7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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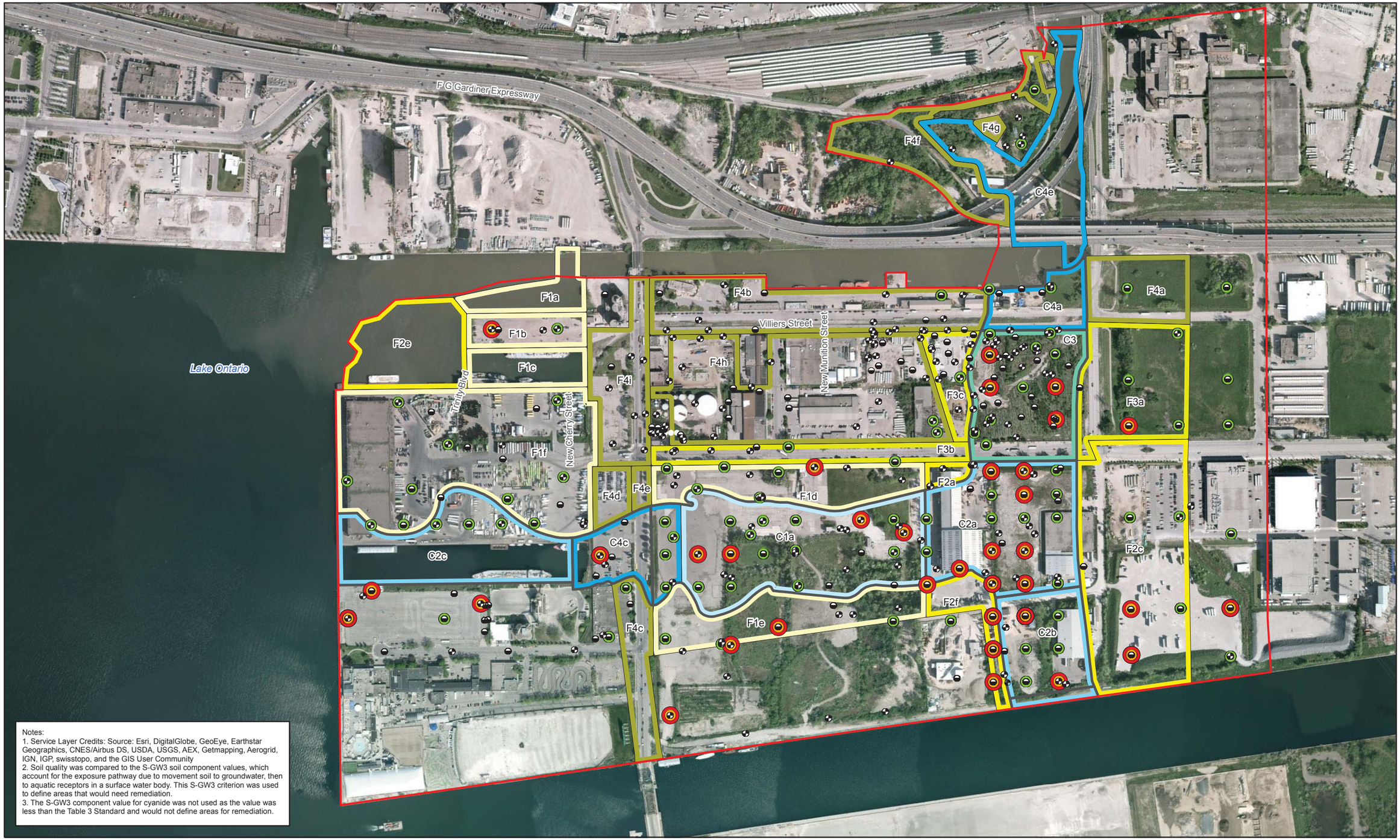


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1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.
3. The S-GW3 component value for cyanide was not used as the value was less than the Table 3 Standard and would not define areas for remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

| Sequencing | Cut |
|---|---|
| Fill | Phase 1 |
| Phase 1 | Phase 2 |
| Phase 2 | Phase 3 |
| Phase 3 | Phase 4 |
| Phase 4 | |

Sequencing ID Label

F4a (Fill: Phase 4; Part A)

C2b (Cut: Phase 2; Part B)

**Figure 13O**
Soil Metals and Inorganics Exceedances (4.5-7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\SO_METALS_INORGANICS_4_5_7_7.MXD ABATES1 2/26/2016 10:32:15 AM


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

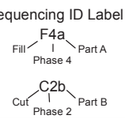


**Figure 13P**
Soil PHCs Exceedances (> 7.5m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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Notes:
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2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

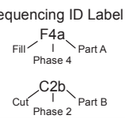


**Figure 13Q**
Soil VOCs Exceedances (> 7.5m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

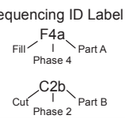


**Figure 13R**
Soil PAHs Exceedances (> 7.5m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.
3. The S-GW3 component value for cyanide was not used as the value was less than the Table 3 Standard and would not define areas for remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area

- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

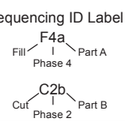


**Figure 13S**
Soil Metals and Inorganics Exceedances (> 7.5m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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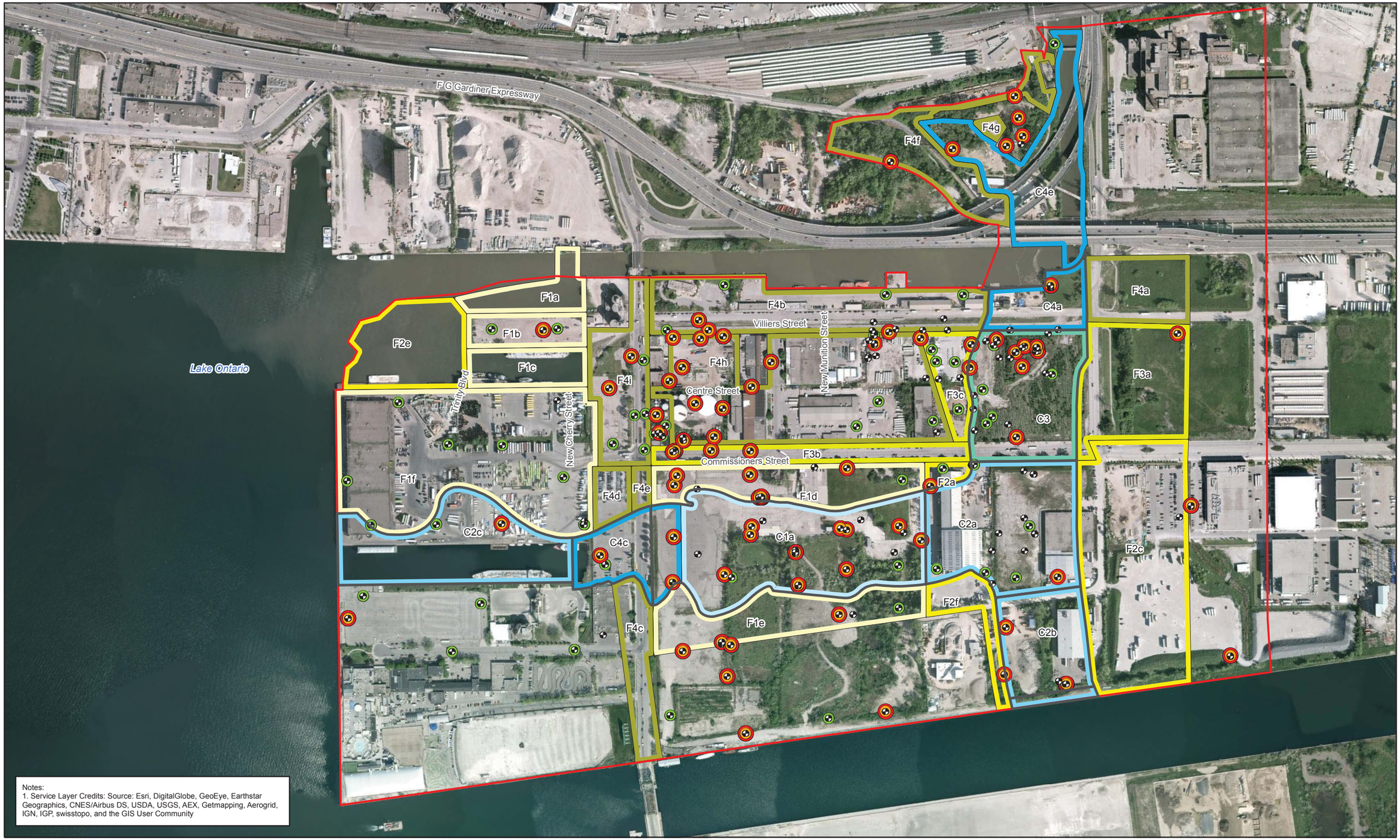


**Figure 14A**
Groundwater PHCs Exceedances (0-3.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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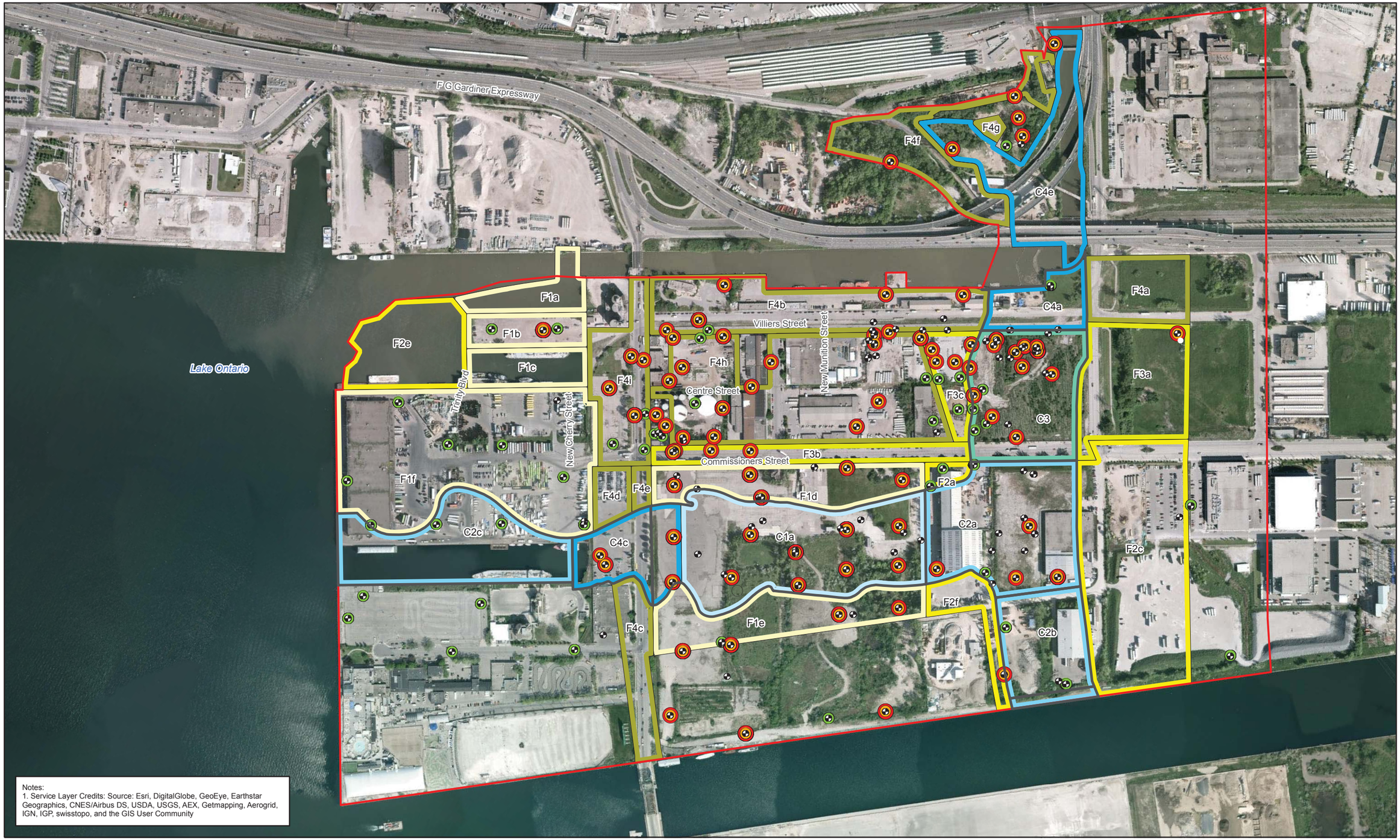


**Figure 14B**
Groundwater VOCs Exceedances (0-3.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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**Figure 14C**
Groundwater PAHs Exceedances (0-3.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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**Figure 14D**
Groundwater Inorganics Exceedances (0-3.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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**Figure 14E**
Groundwater PHCs Exceedances (3.5-7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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F G Gardiner Expressway

Lake Ontario

F1a
F1b
F1c
F2e
F1f
F4i
F4b
F4h
F4d
F4e
F4c
F1d
F1e
F4f
F4g
C4e
C4a
C3
F3c
F3b
F2a
C2a
C1a
C2c
C4c
F2f
C2b
F4a
F3a
F2c
Villiers Street
Centre Street
Commissioners Street
Trinity Blvd
New Cherry Street
New Munition Street

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 20 40 60 80
Metres

Soil and Groundwater Sample
Stage 2 Study Boundary
Extent of River Valley Excavation Area

Location with Table 9 Standard Exceedance
Location with Table 3 Standard Exceedance
Location without Exceedance

Sequencing
Fill
Phase 1
Phase 2
Phase 3
Phase 4

Cut
Phase 1
Phase 2
Phase 3
Phase 4

Sequencing ID Label
F4a: Fill, Phase 4, Part A
C2b: Cut, Phase 2, Part B

**Figure 14F**
Groundwater VOCs Exceedances (3.5-7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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**Figure 14G**
Groundwater PAHs Exceedances (3.5-7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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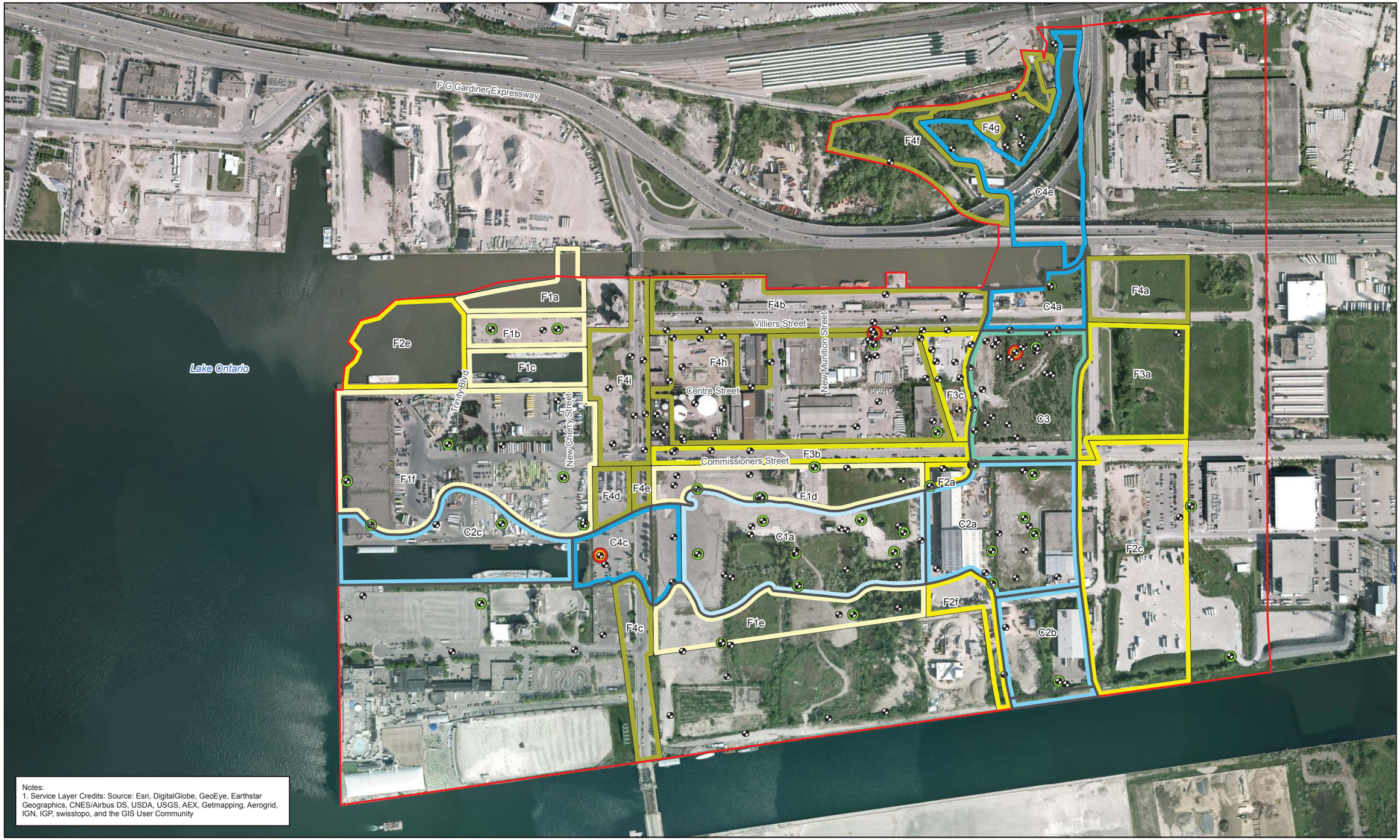


**Figure 14H**
Groundwater Inorganics Exceedances (3.5-7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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**Figure 14I**
Groundwater PHCs Exceedances (> 7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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Notes:
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0 20 40 60 80
Metres

- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location without Exceedance

| Sequencing Fill | Cut |
|---|---|
| Phase 1 | Phase 1 |
| Phase 2 | Phase 2 |
| Phase 3 | Phase 3 |
| Phase 4 | Phase 4 |

Sequencing ID Label

F4a (Fill, Phase 4, Part A)

C2b (Cut, Phase 2, Part B)

**Figure 14J**
Groundwater VOCs Exceedances (> 7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\GW_VOC_7_5_12.MXD ABATES1 2/26/2016 11:25:20 AM


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 20 40 60 80
Metres

- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location without Exceedance

| Sequencing Fill | Cut |
|---|---|
| Phase 1 | Phase 1 |
| Phase 2 | Phase 2 |
| Phase 3 | Phase 3 |
| Phase 4 | Phase 4 |

Sequencing ID Label

F4a (Fill, Phase 4, Part A)

C2b (Cut, Phase 2, Part B)

**Figure 14K**
Groundwater PAHs Exceedances (> 7.5 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 20 40 60 80
Metres

- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location without Exceedance

| Sequencing | Fill | Cut |
|---|---|---|
| | Phase 1 | Phase 1 |
| | Phase 2 | Phase 2 |
| | Phase 3 | Phase 3 |
| | Phase 4 | Phase 4 |

Sequencing ID Label

F4a (Fill, Phase 4, Part A)

C2b (Cut, Phase 2, Part B)

**Figure 14L**
Groundwater Inorganics Exceedances (Bedrock)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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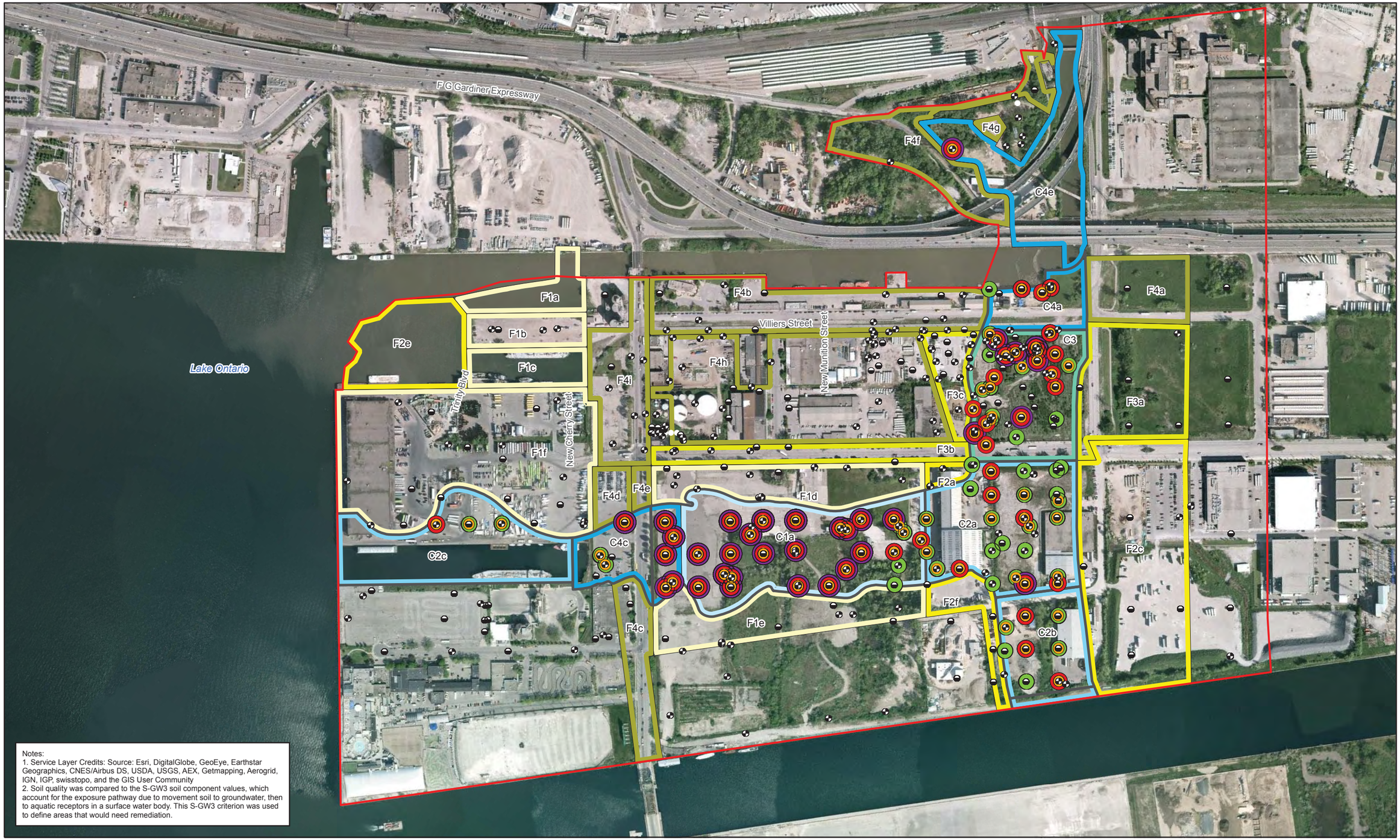


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1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area

- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

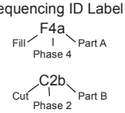


**Figure 15A**
Soil PHCs Exceedances (Above Cut)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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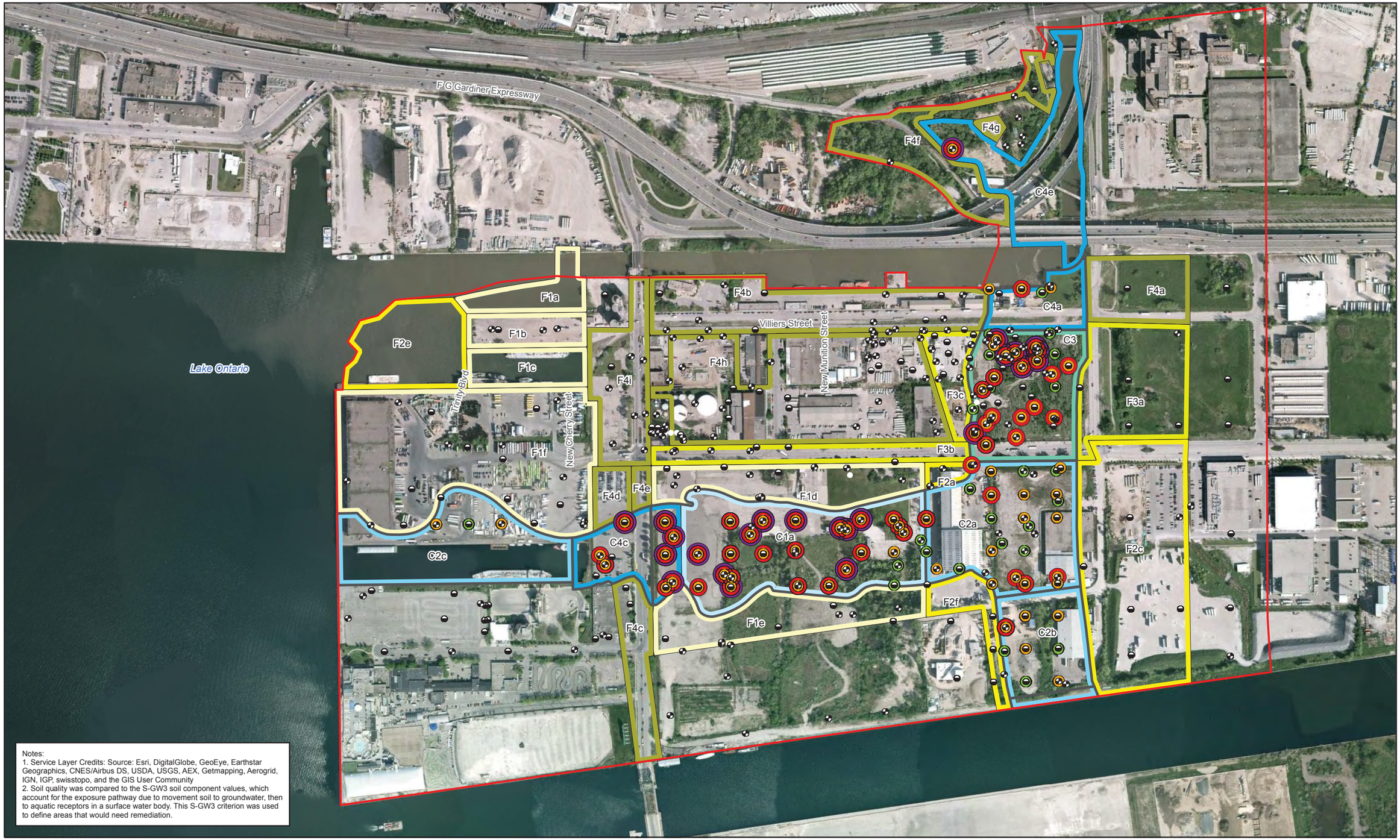


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2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

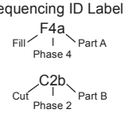


**Figure 15B**
Soil VOCs Exceedances (Above Cut)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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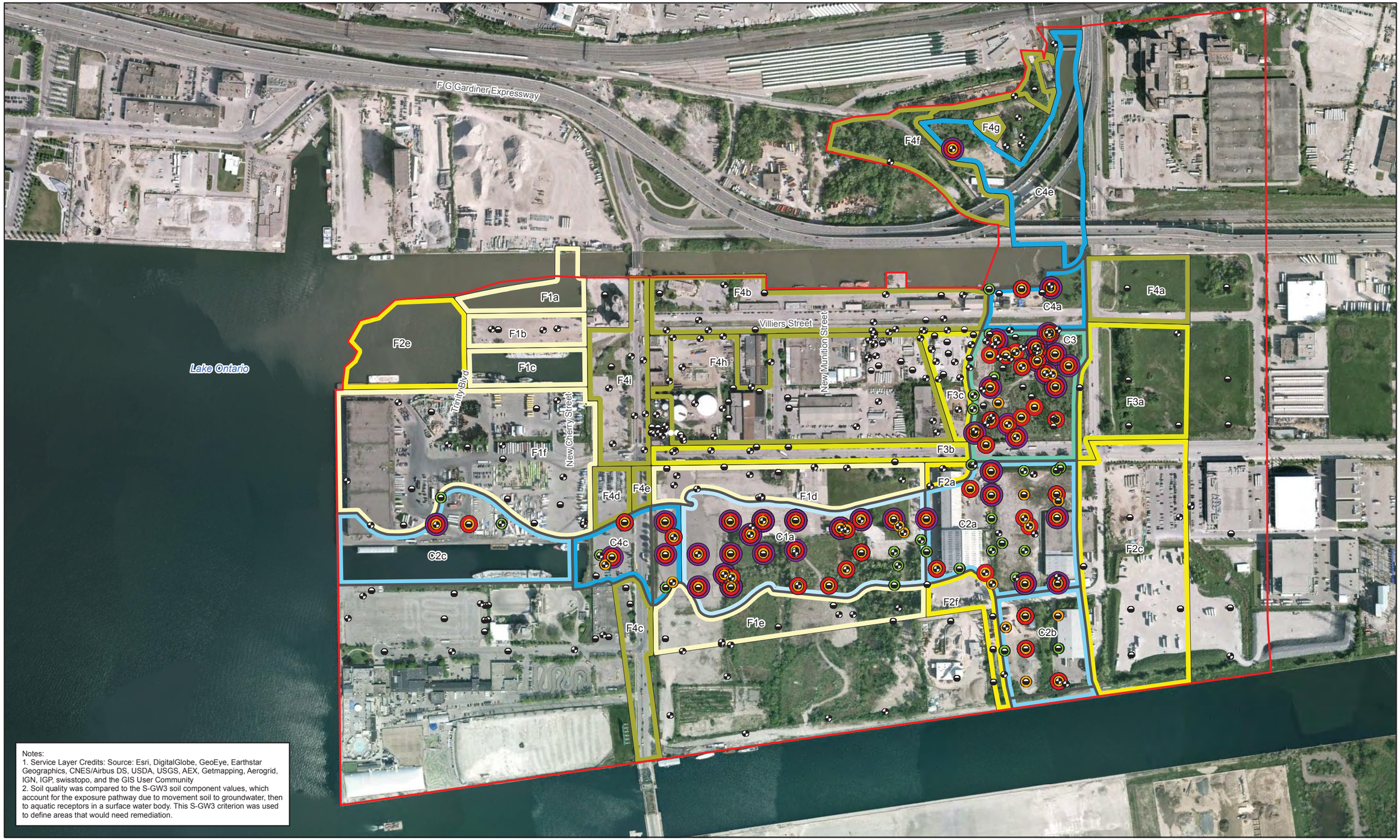


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1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
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- Phase 3
- Phase 4

Sequencing ID Label

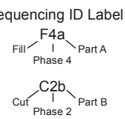


**Figure 15C**
Soil PAHs Exceedances (Above Cut)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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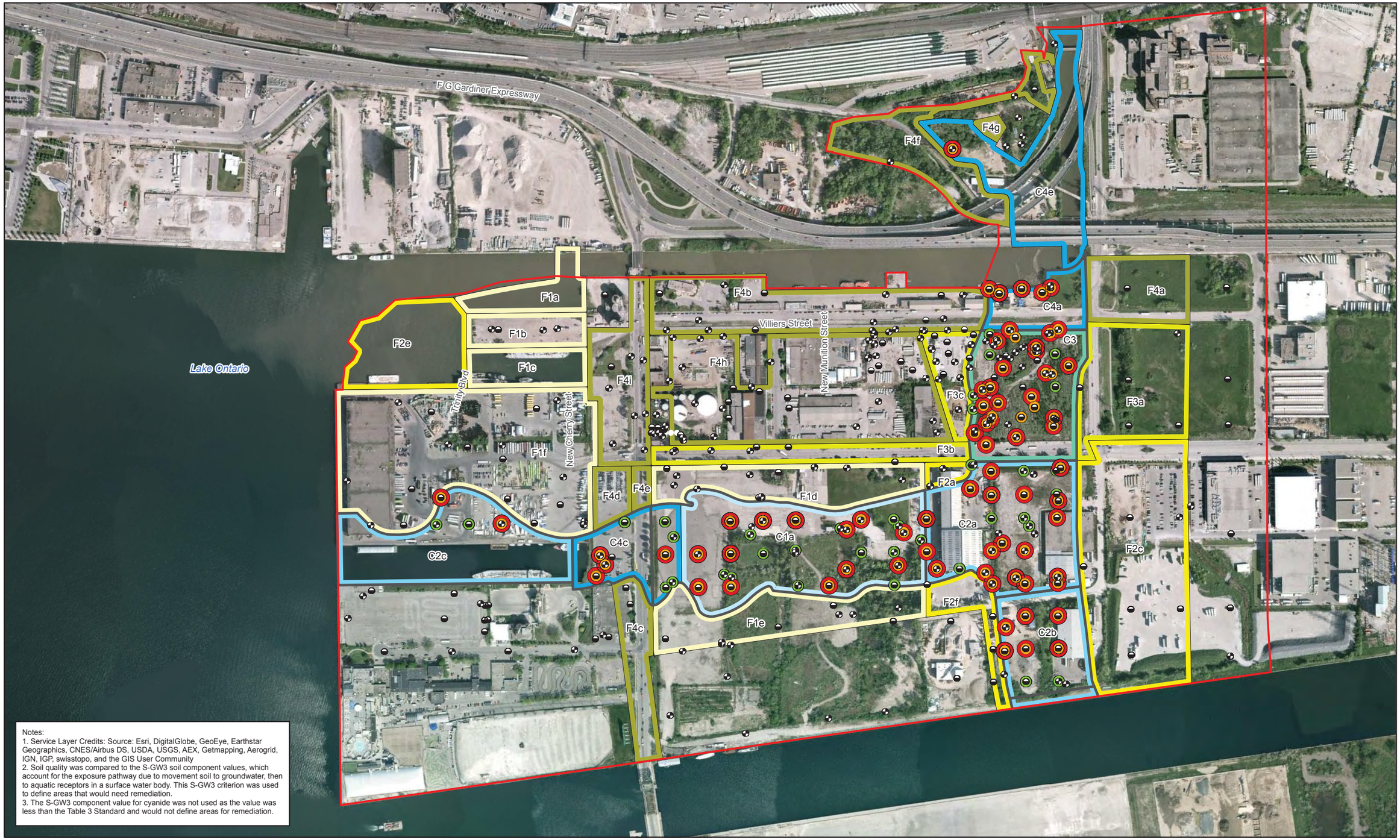


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.
3. The S-GW3 component value for cyanide was not used as the value was less than the Table 3 Standard and would not define areas for remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

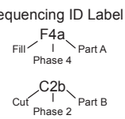


**Figure 15D**
Soil Metals and Inorganics Exceedances (Above Cut)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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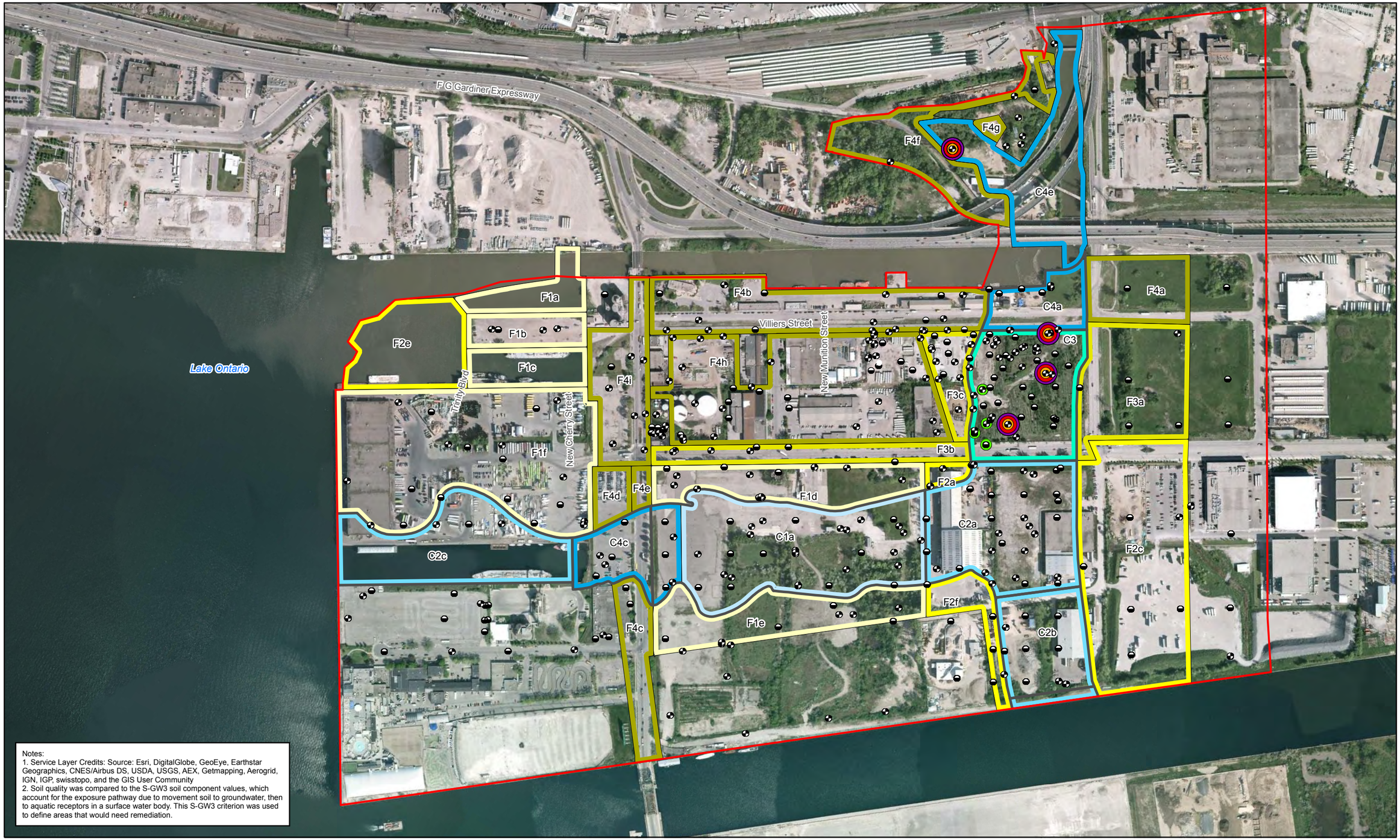


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Soil quality was compared to the S-GW3 soil component values, which account for the exposure pathway due to movement soil to groundwater, then to aquatic receptors in a surface water body. This S-GW3 criterion was used to define areas that would need remediation.

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area

- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location with S-GW3 Component Exceedance
- Location without Exceedance

Sequencing
Fill
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Cut
- Phase 1
- Phase 2
- Phase 3
- Phase 4

Sequencing ID Label

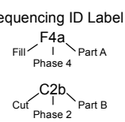


**Figure 15E**
Soil ABNs, CPs, OCPs and SVOCs Exceedances (Above Cut)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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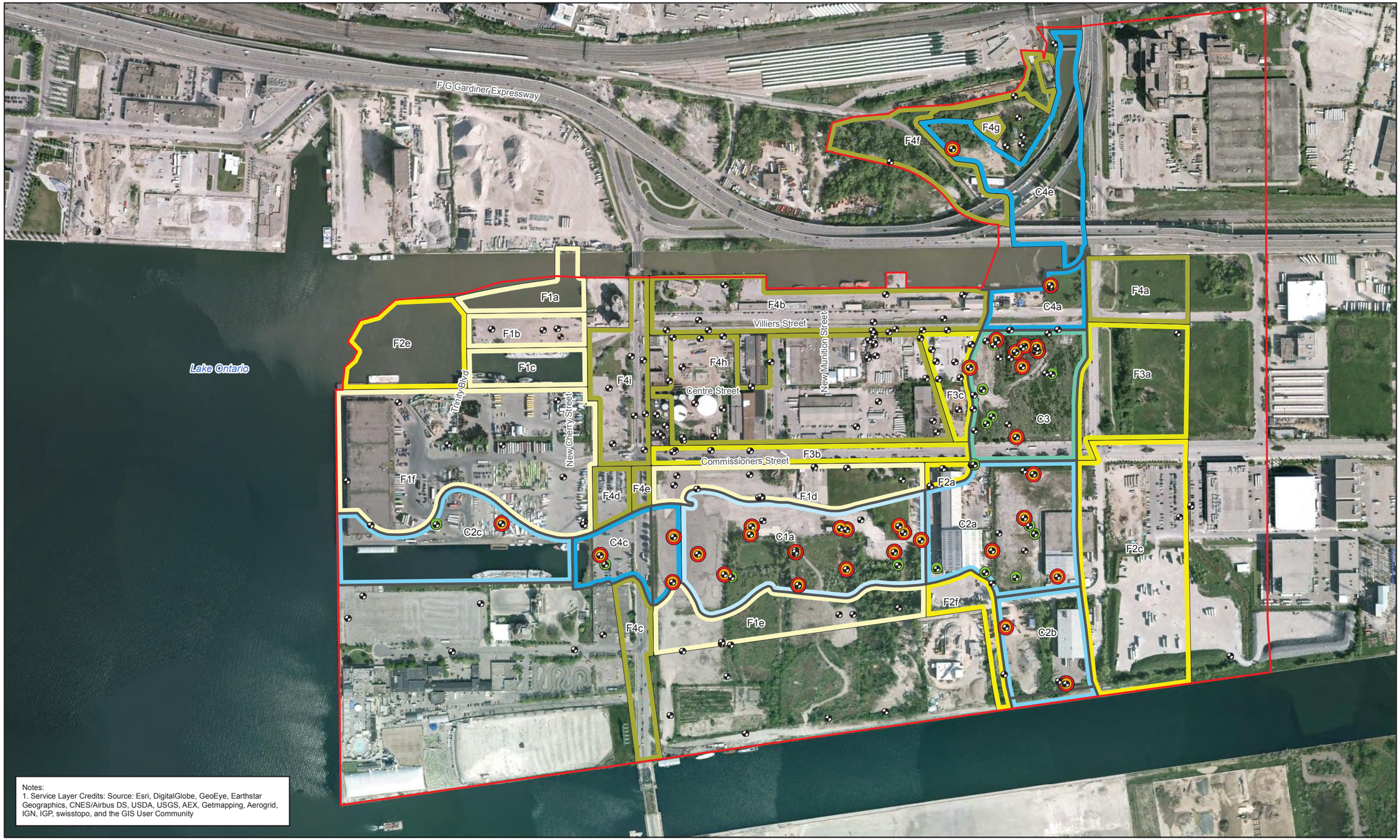


0 20 40 60 80
Metres

- Soil and Groundwater Sample
- Stage 2 Study Boundary
- Extent of River Valley Excavation Area
- Location with Table 9 Standard Exceedance
- Location with Table 3 Standard Exceedance
- Location without Exceedance

| Sequencing | Cut |
|---|---|
| Fill | Phase 1 |
| Phase 1 | Phase 2 |
| Phase 2 | Phase 3 |
| Phase 3 | Phase 4 |
| Phase 4 | |

Sequencing ID Label

F4a (Fill, Phase 4, Part A)

C2b (Cut, Phase 2, Part B)

**Figure 15F**
Groundwater PHCs Exceedances (Above Cut)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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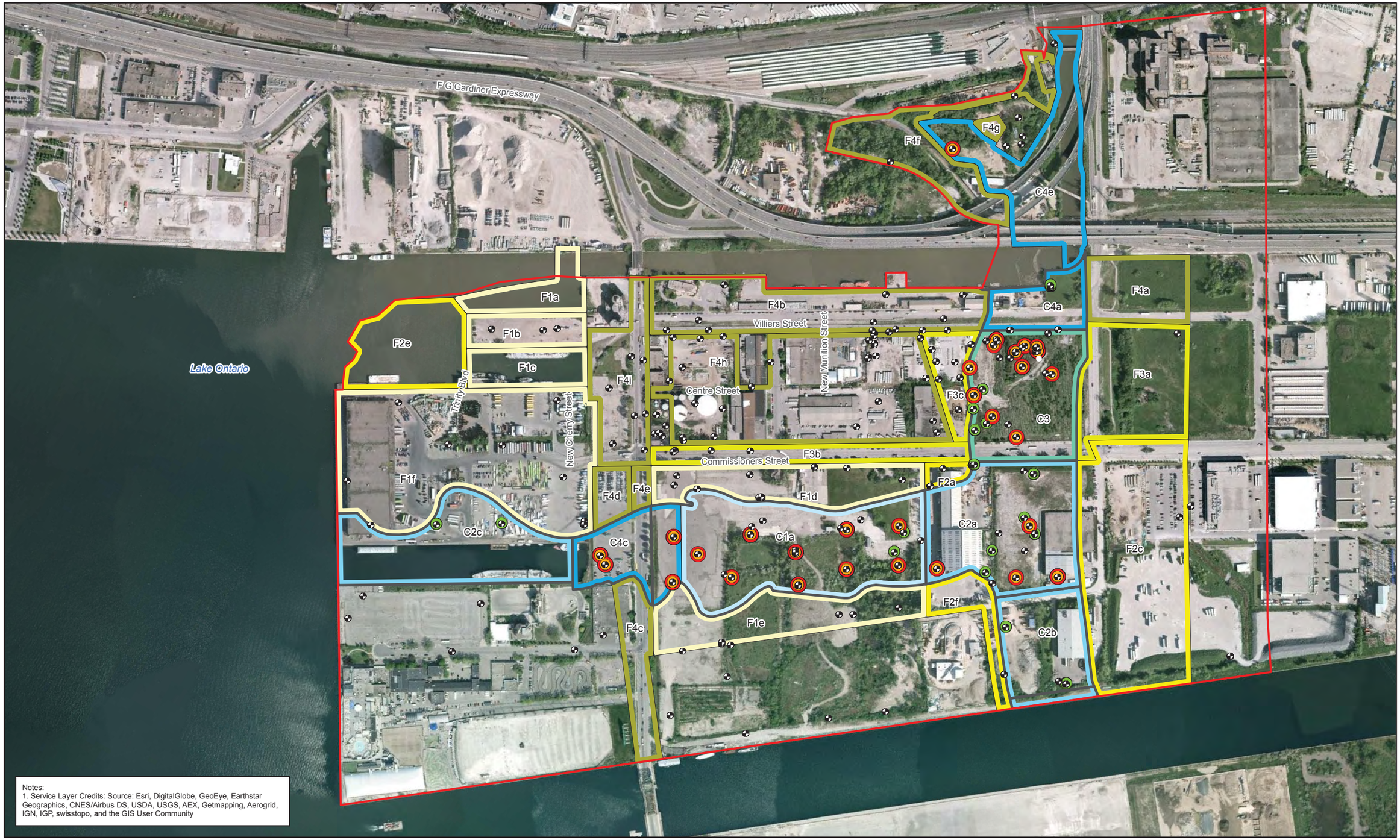


**Figure 15G**
Groundwater VOCs Exceedances (Above Cut)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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**Figure 15H**
Groundwater PAHs Exceedances (Above Cut)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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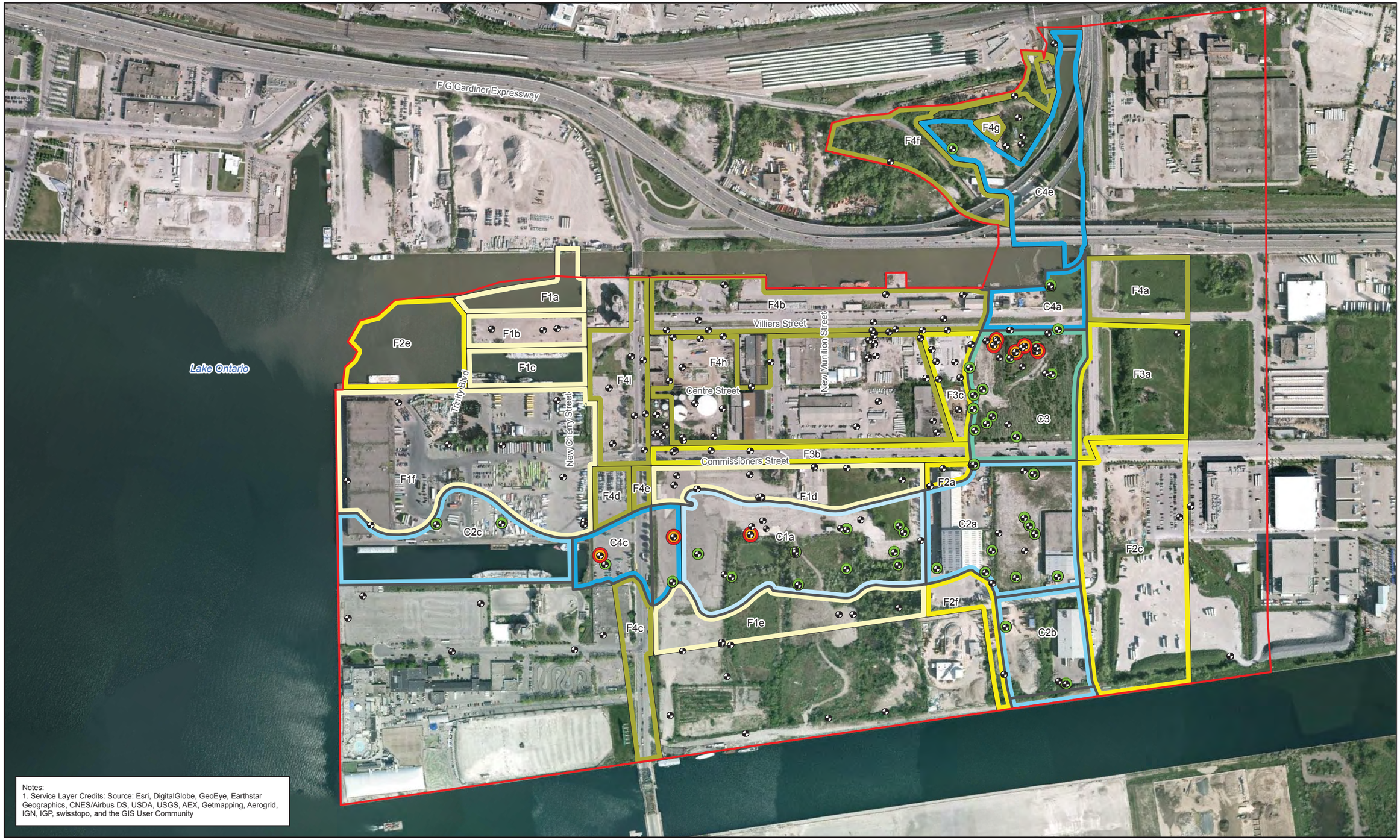


**Figure 15l**
Groundwater Inorganics Exceedances (Above Cut)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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Figure 16A
Soil Direct Contact –S1 (VOCs, PAHs, PHCs, ABNs, CP, OCP)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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Figure 16B
Soil Direct Contact –S1 (Metals/Inorganics)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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Notes:
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0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 17
Soil Direct Contact –S3 (VOCs, PAHs, PHCs, metals/inorganics and ABNs/OCP/CP)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

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Figure 18
Soil Direct Contact – Eco-Plants and Soil Organisms/Mammals and Birds (VOCs, PAHs, PHCs, Metals/Inorganics and ABNs/OCP/CP)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m


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1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance

- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 19
Soil to Indoor Air (Volatiles)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

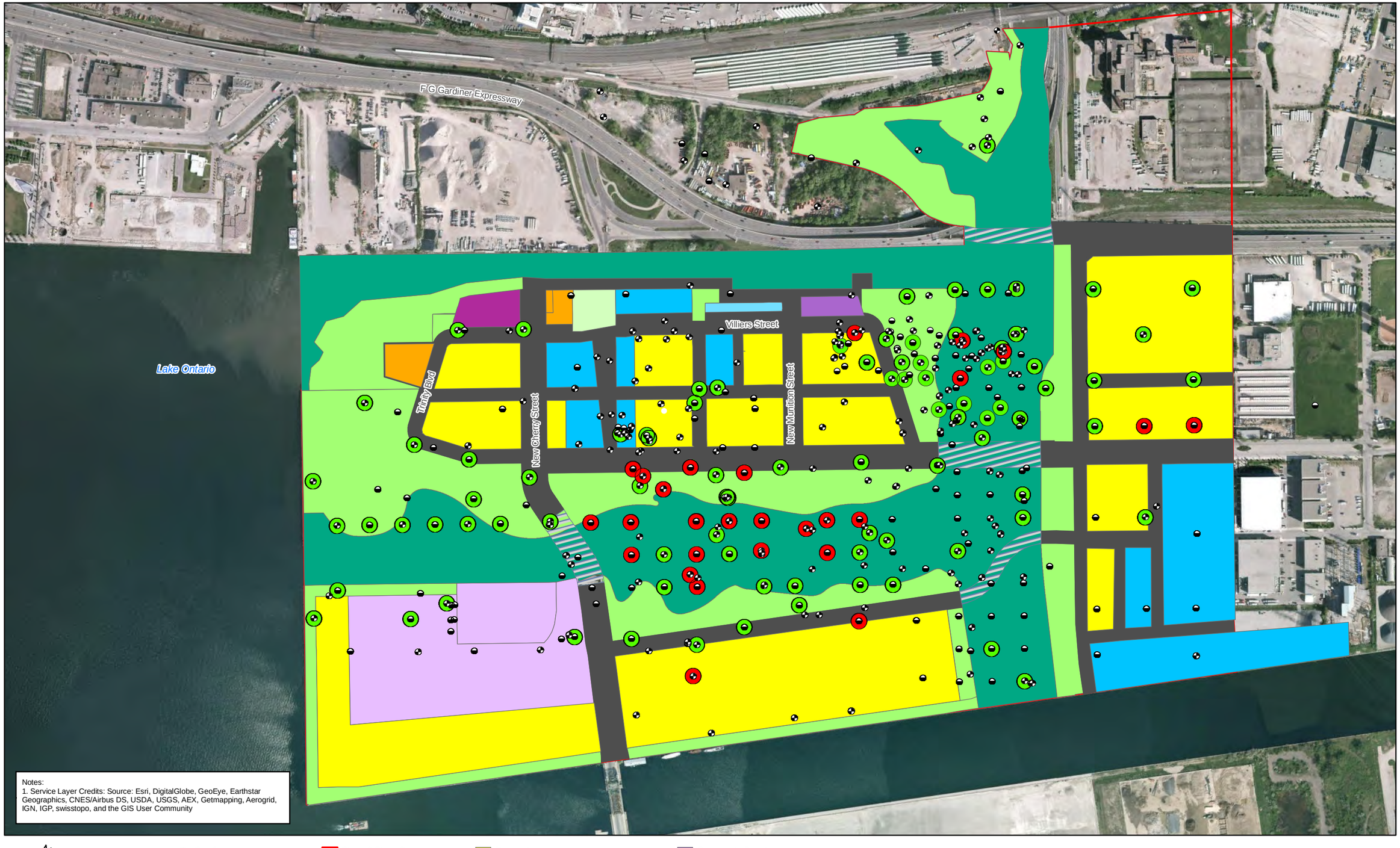


Figure 20A
Soil to Outdoor Air (Volatiles) Shallow Soil (<1 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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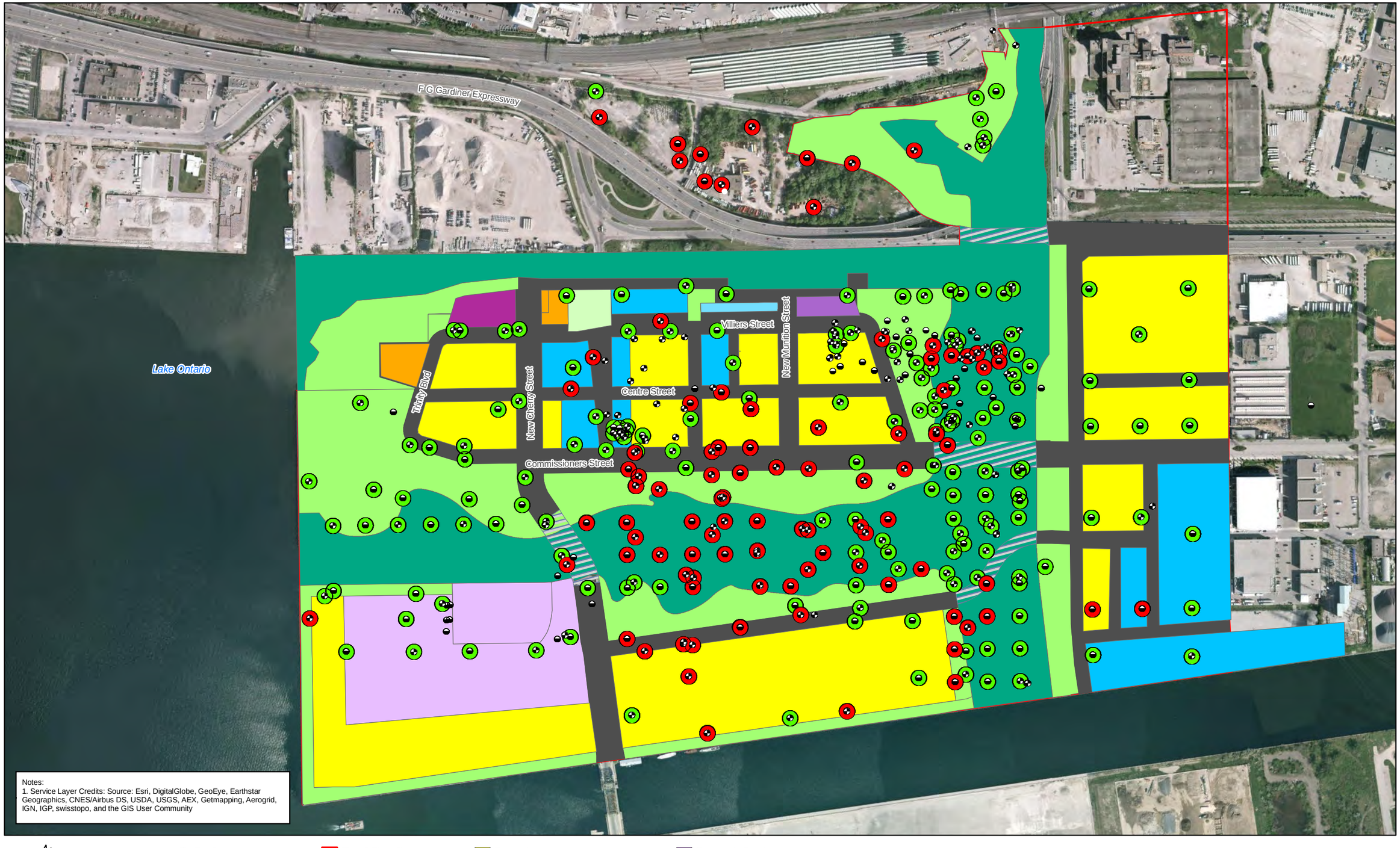


Figure 20B
Soil to Outdoor Air (Volatiles) Deep Soil (>1 m)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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Figure 21A
Soil to Groundwater to Surface Water (S-GW3 [VOC])
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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Figure 21B
Soil to Groundwater to Surface Water (S-GW3 [PHC])
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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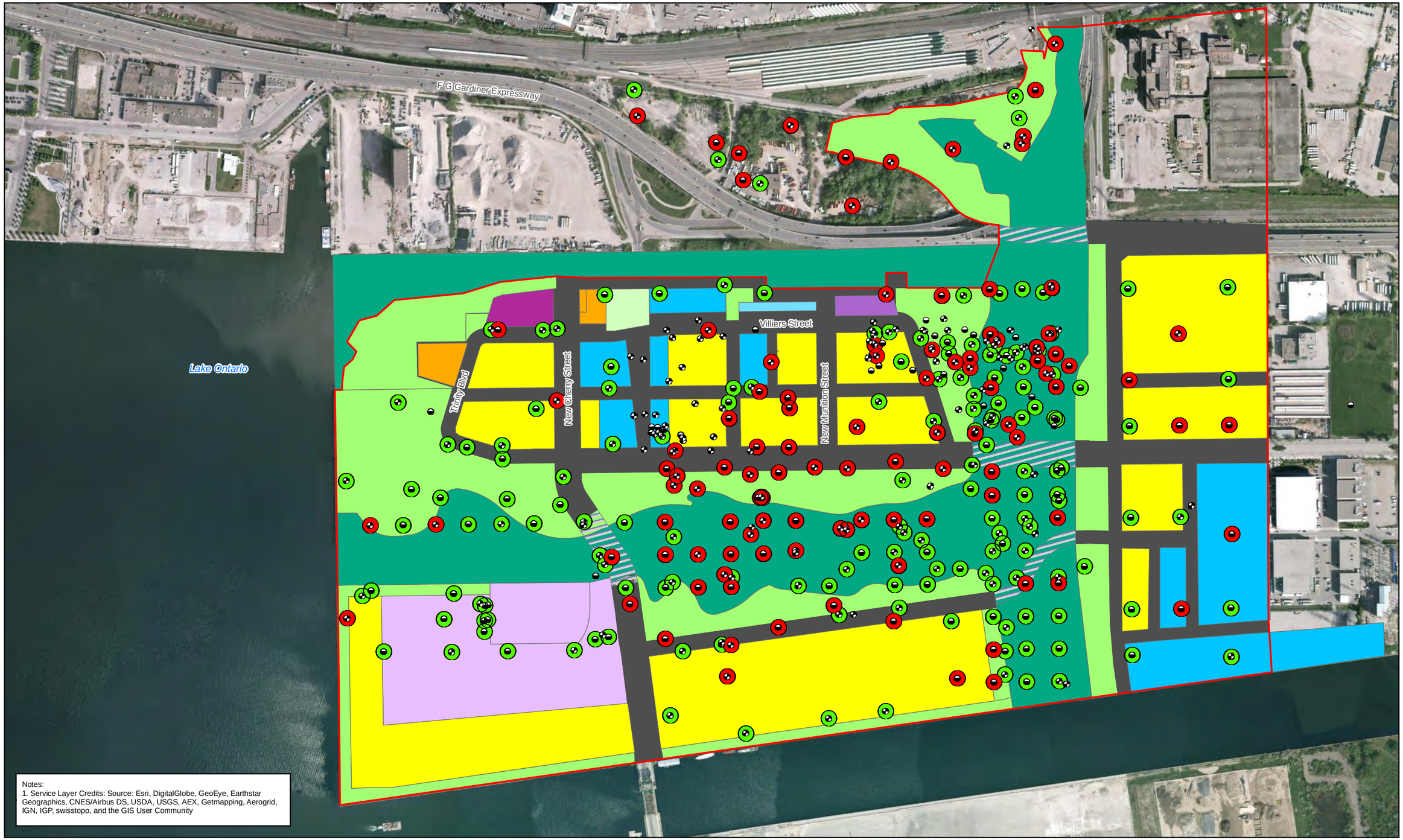


Figure 21C
Soil to Groundwater to Surface Water (S-GW3 [PAH])
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 21D
Soil to Groundwater to Surface Water (S-GW3 [ABNs/OCP/CP])
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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Notes:
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N

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 22
Soil Table 9 Standards (VOCs, PAHs, PHCs, metals/inorganics and ABNs/OCP/CP)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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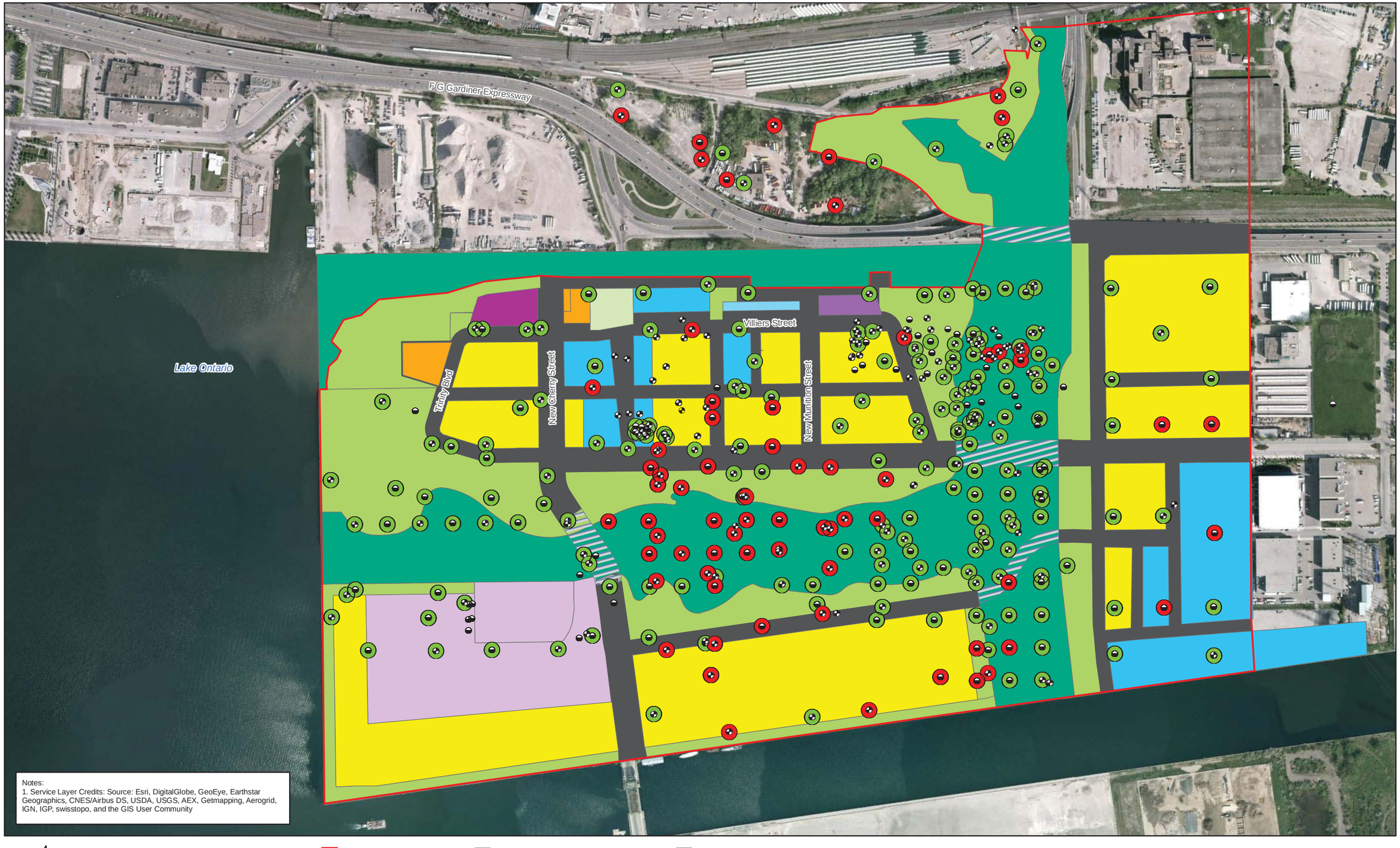


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1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance

- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 23A
Soil Free Phase Thresholds (PHCs) All depths
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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Notes:
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N

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 23B
Soil Free Phase Thresholds (VOCs) All depths
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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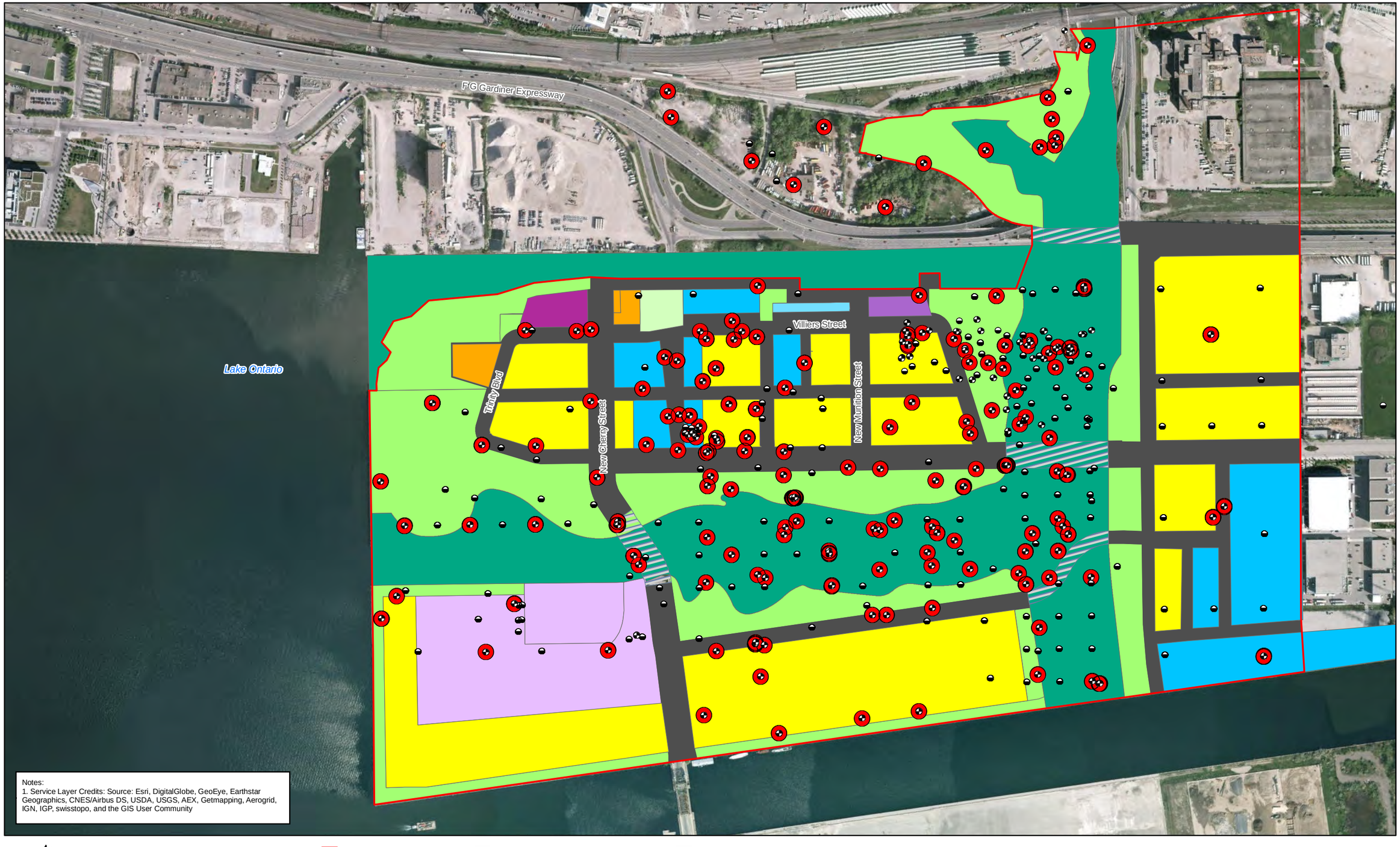
0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance

- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 23C
Soil Free Phase Thresholds (PAHs) All depths
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 24A
Groundwater Half Solubilities (PHCs)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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N

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 24B
Groundwater Half Solubilities (VOCs)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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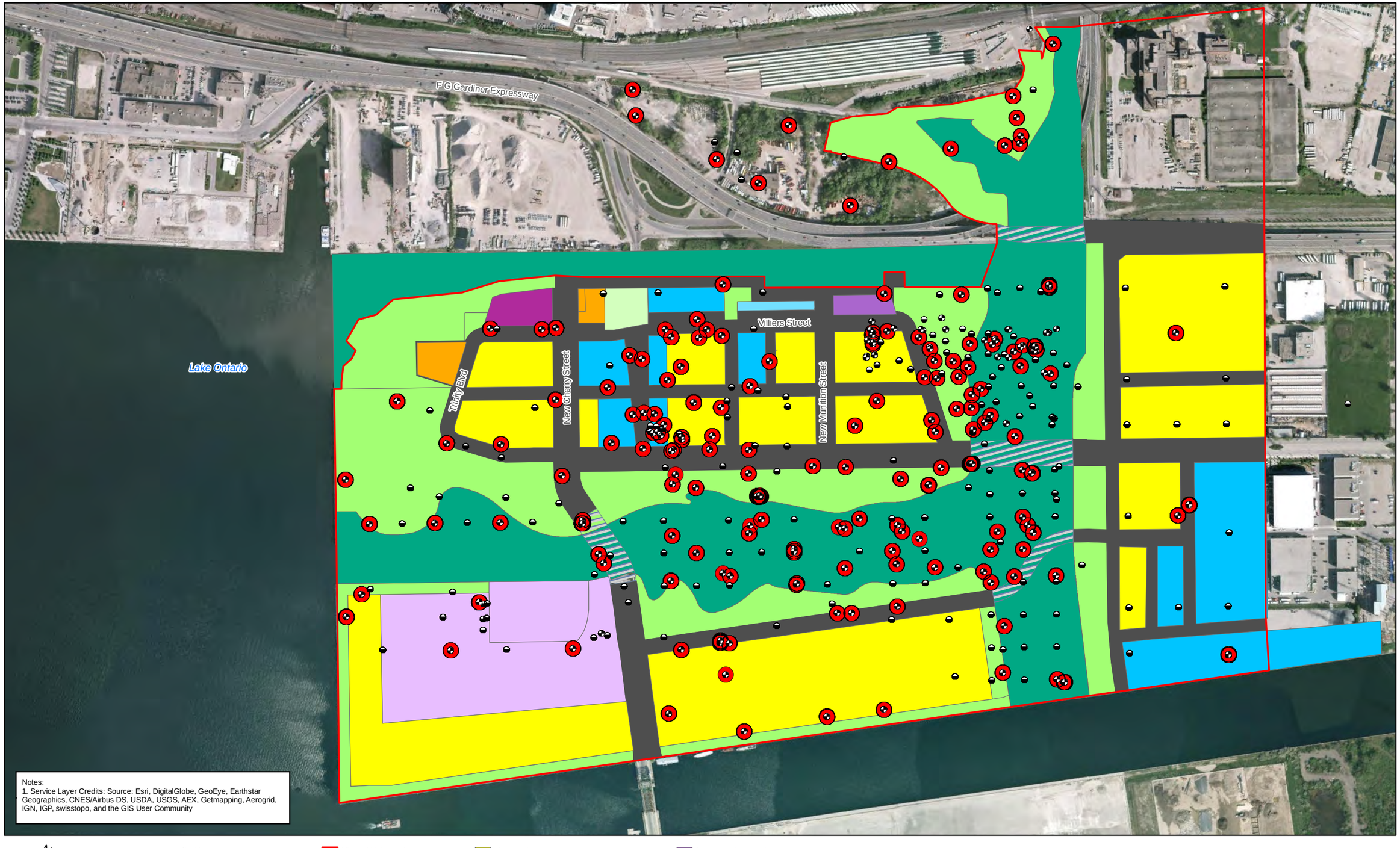


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1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 25
Groundwater-GW2 Table 7 Standards (Volatiles)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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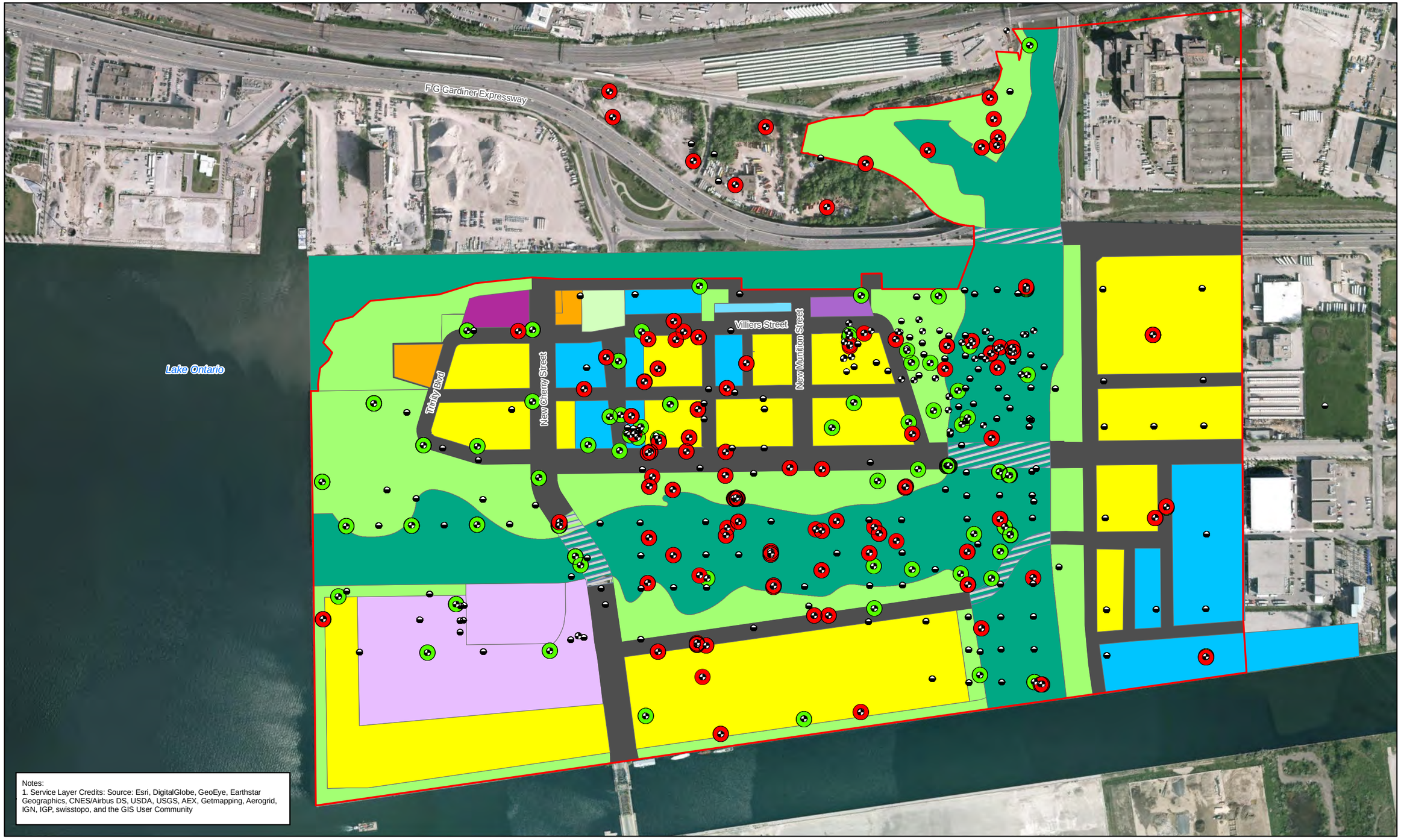


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 26A
Groundwater-GW3 (PHC)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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Notes:
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0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 26B
Groundwater-GW3 (VOC)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\SLRA_GW3_T7T9_VOC.MXD CSENTES 2/16/2016 7:34:44 PM


Notes:
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N

0 20 40 60 80
Metres

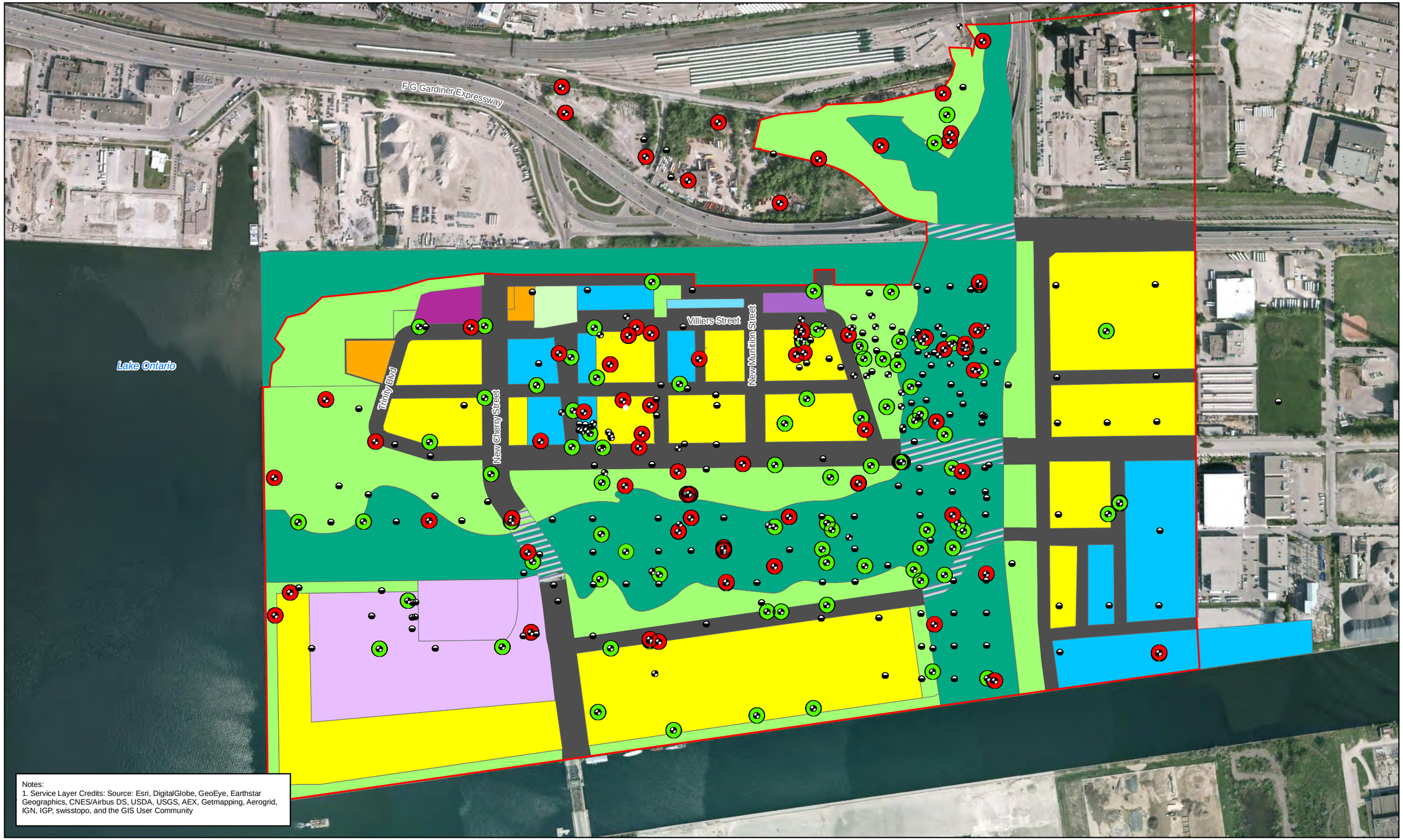
- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 26C
Groundwater-GW3 (Metals/Inorganics)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\SLRA_GW3_T7T9_METALS_INORGANICS.MXD CSENTES 2/16/2016 7:32:14 PM




Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 20 40 60 80
Metres

- Soil Sample
- Soil and Groundwater Sample
- Location Without Exceedance
- Location With Exceedance
- Stage 2 Study Boundary

Future Land Use
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Road Area Above
- Naturalized Area

Figure 26D
Groundwater-GW3 (PAH)
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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N

0 20 40 60 80

Metres

Sanitary Sewer
Storm Sewer
Stage 2 Study Boundary

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**Figure 27**
Subsurface Infrastructure Layout
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\FINAL\SUBSURFACEINFRASTRUCTURELAYOUT.MXD JLOGAN1 6/1/2016 3:17:37 PM

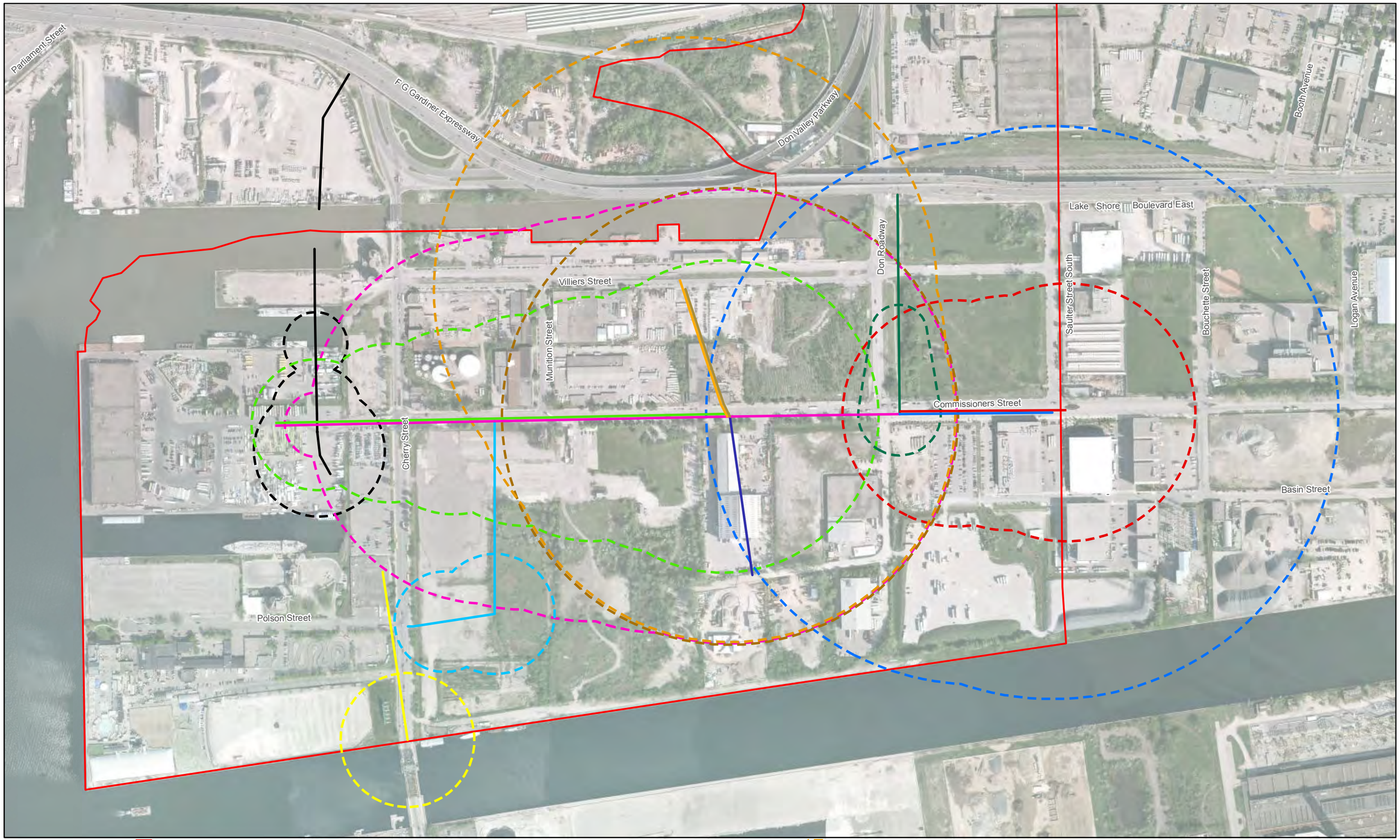
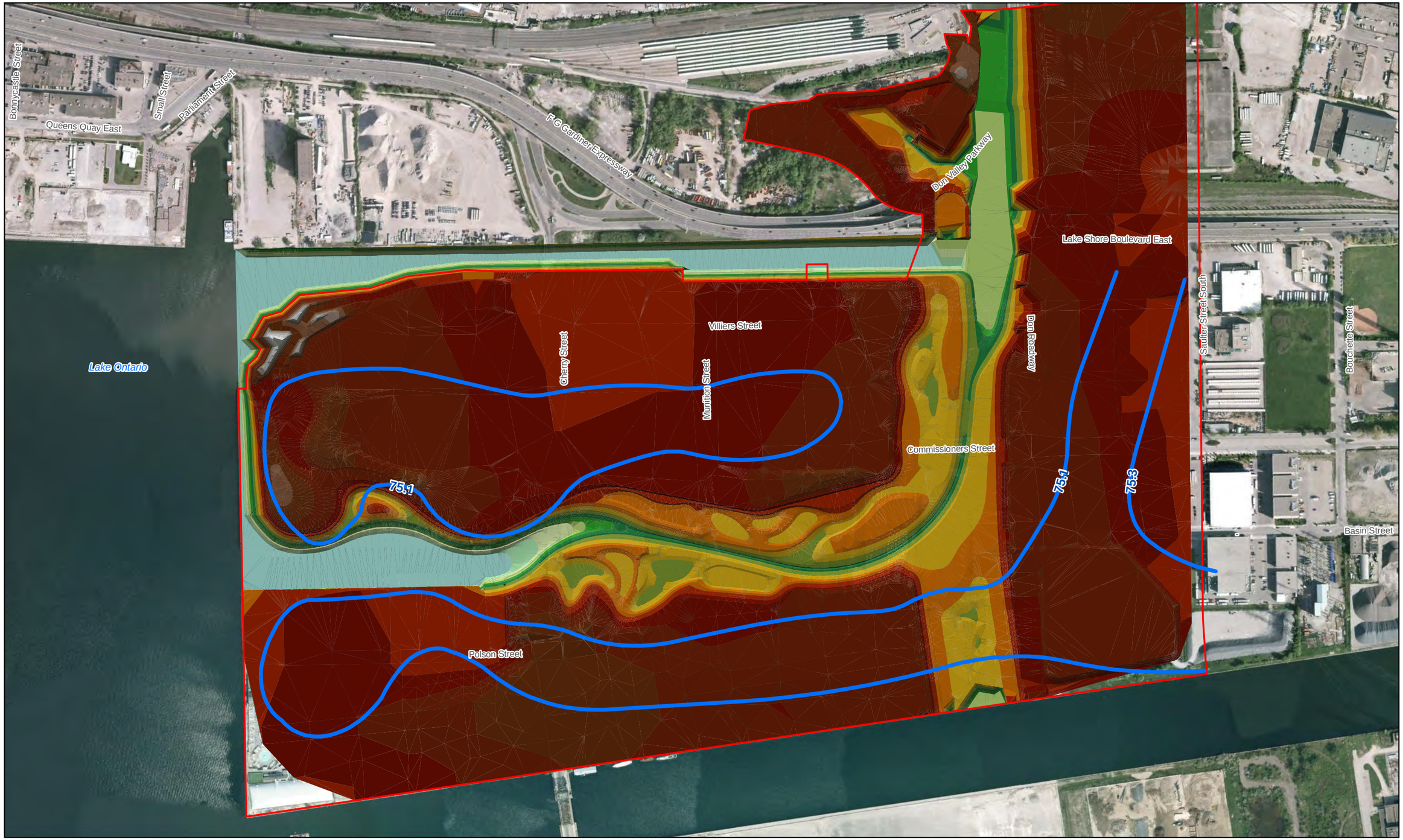



**Figure 28**
Subsurface Infrastructure Construction Dewatering – Drawdown Radius of Influence
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\FINAL\SUBSURFACEINFRASTRUCTUREDRAWDOWN.MXD JLOGAN1 6/1/2016 3:18:57 PM




0 20 40 60 80
Metres

Predicted Groundwater Elevation Contours Post Construction (masl)

Stage 2 Study Boundary

Proposed Final Grade Topography Elevation (masl)

| | | |
|---|---|---|
| 84 - 85 | 81 - 82 | 76 - 77 | 71 - 72 |
| 83 - 84 | 80 - 81 | 75 - 76 | 70 - 71 |
| 82 - 83 | 79 - 80 | 74 - 75 | 69 - 70 |
| | 78 - 79 | 73 - 74 | 68 - 69 |
| | 77 - 78 | 72 - 73 | 67 - 68 |

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Elevations are in metres above sea level.

Figure 29
Predicted Groundwater Flow Conditions Post Construction – Fill / Native Sand
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\PREDICTEDGROUNDWATERCONTOURS.MXD CSENTES 2/16/2016 7:19:23 PM


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Topography generated from LiDAR point data provided by TRCA. LiDAR data acquired in 2015.
3. Elevations are in masl.

Figure 30
Existing Topography
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m.

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\EXISTINGTOPOGRAPHY.MXD CSENTES 2/16/2016 7:55:52 PM

N

0 20 40 60 80
Metres

Stage 2 Study Boundary

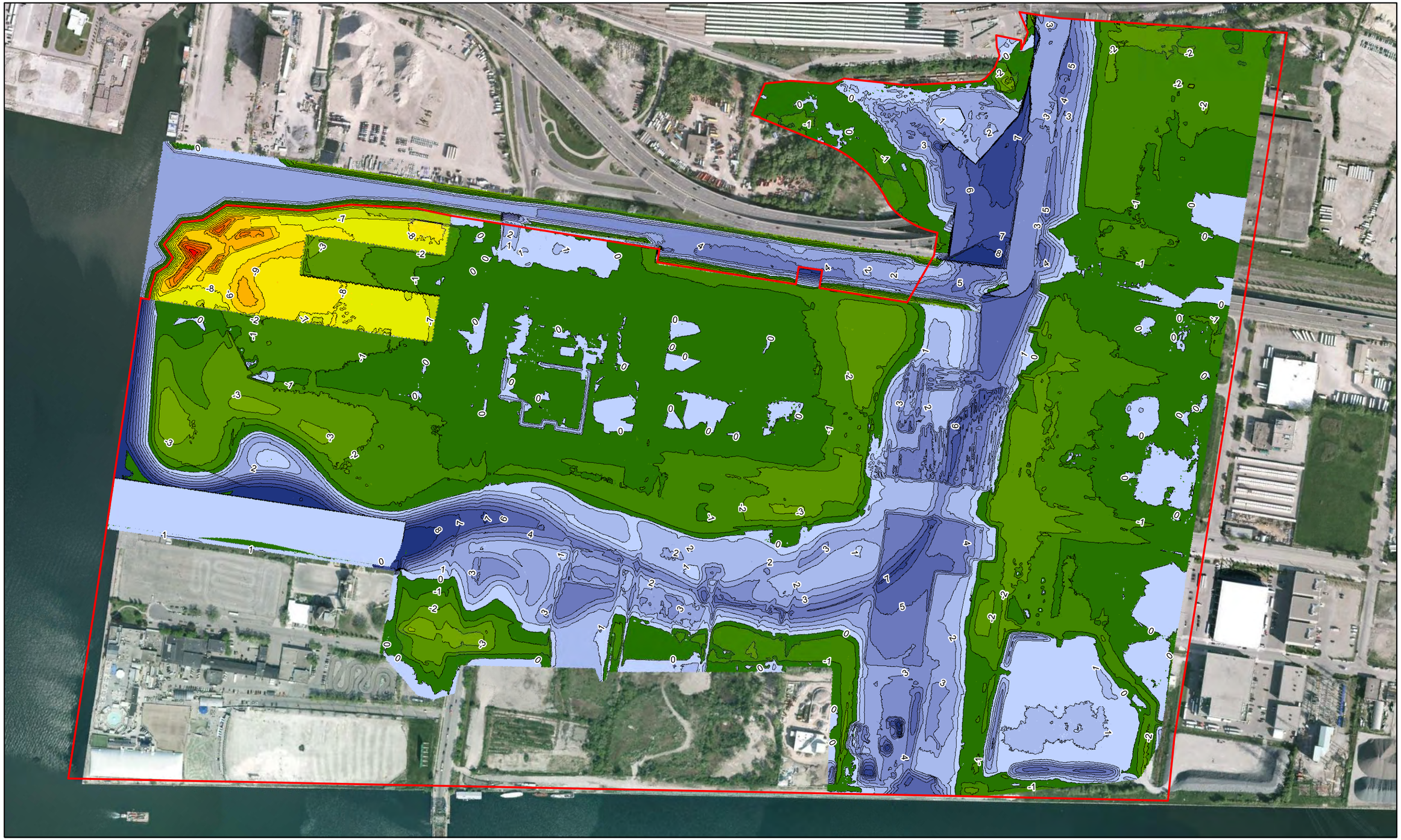
Elevation
- 85 - 85.5
- 84.5 - 85
- 84 - 84.5
- 83.5 - 84
- 83 - 83.5
- 82.5 - 83
- 82 - 82.5
- 81.5 - 82
- 81 - 81.5
- 80.5 - 81
- 80 - 80.5
- 79.5 - 80
- 79 - 79.5
- 78.5 - 79
- 78 - 78.5
- 77.5 - 78
- 77 - 77.5
- 76.5 - 77
- 76 - 76.5
- 75.5 - 76
- 75 - 75.5
- 74.5 - 75
- 74 - 74.5
- 73.5 - 74
- 73 - 73.5
- 72.5 - 73
- 72 - 72.5
- 71.5 - 72
- 71 - 71.5
- 70.5 - 71
- 70 - 70.5
- 69.5 - 70
- 69 - 69.5
- 68.5 - 69
- 68 - 68.5

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Topography generated from LiDAR point data provided by TRCA. LiDAR data acquired in 2015.
3. Elevations are in masl.
4. Elevations are finished ground elevations.

**Figure 31**
Proposed Design Grade Topography
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

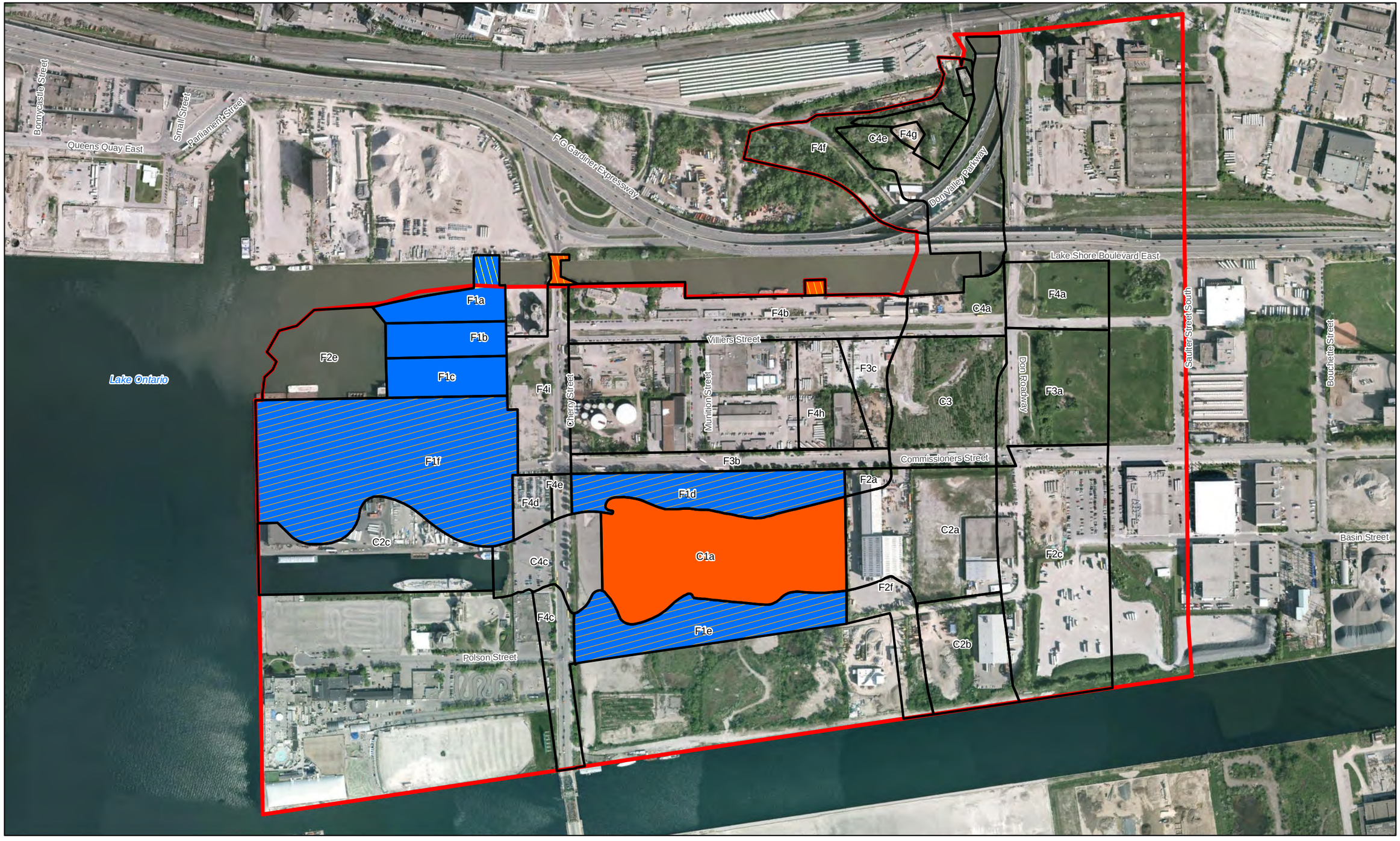
ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\FINAL\PROPOSEDDESIGNGRADETOPOGRAPHY.MXD ABATES1 4/13/2016 11:11:06 AM




Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Cut/Fill is the calculated difference of the existing topography (Figure 29) and proposed design grade topography (Figure 30).

**Figure 32**
Cut and Fill Isopach
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*




0 20 40 60 80
Metres

- Stage 2 Study Boundary
- Bridge Removal/Addition Area
- RA/RM Cut Area
- Area To Cut
- Area To Fill

Sequencing ID Label

F4a
Fill | Part A
Phase 4

C2b
Cut | Part B
Phase 2

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 33A
Excavation and Fill Sequencing - Phase 1
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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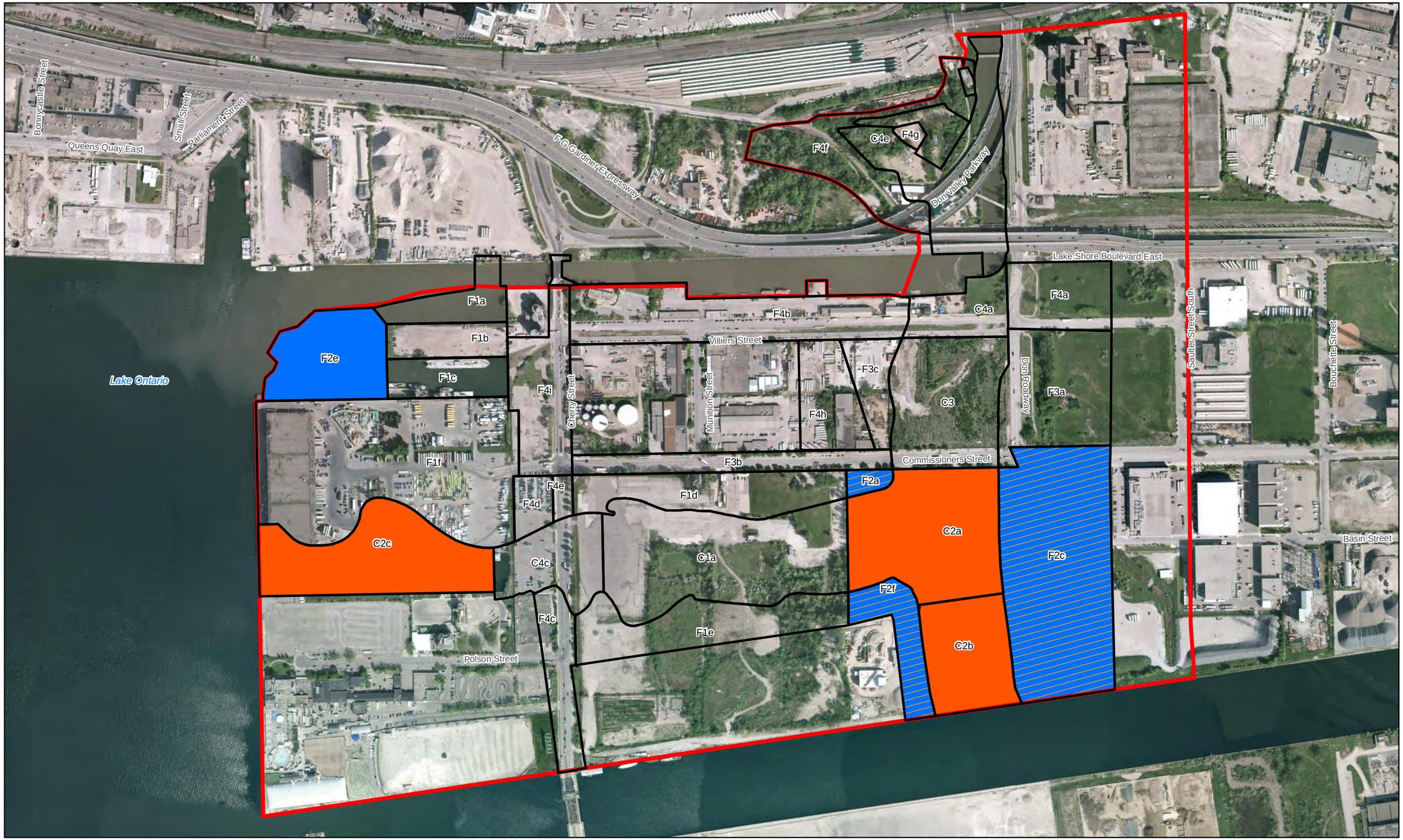



N

0 20 40 60 80

Metres

- Stage 2 Study Boundary
- RA/RM Cut Area
- Area To Cut
- Area To Fill

Sequencing ID Label

F4a
Fill — Part A
Phase 4

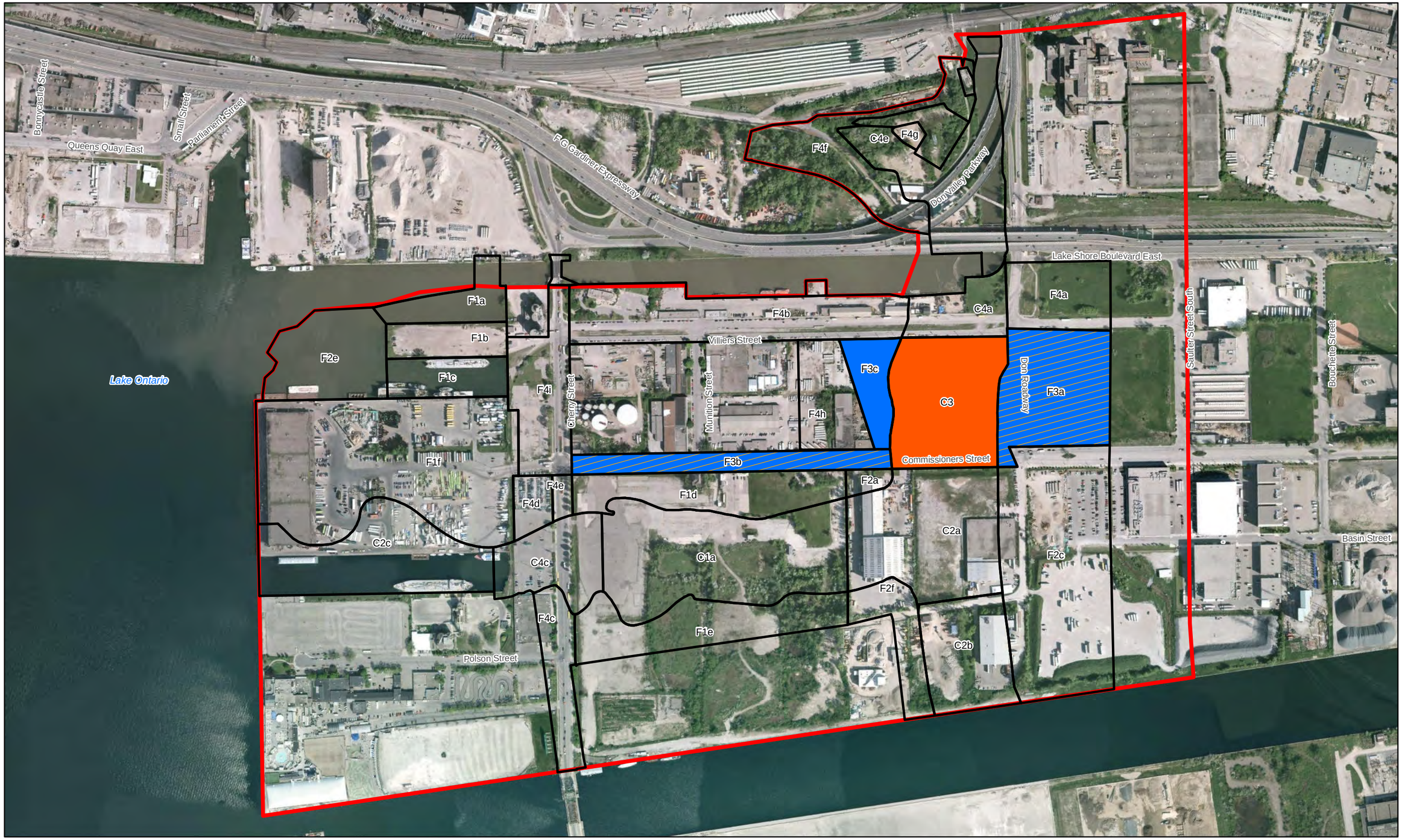
C2b
Cut — Part B
Phase 2

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 33B
Excavation and Fill Sequencing - Phase 2
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\FINAL\CUTFILLSEQUENCING_PHASE2.MXD JRAYMOND 5/6/2016 8:54:57 AM




Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 33C
Excavation and Fill Sequencing - Phase 3
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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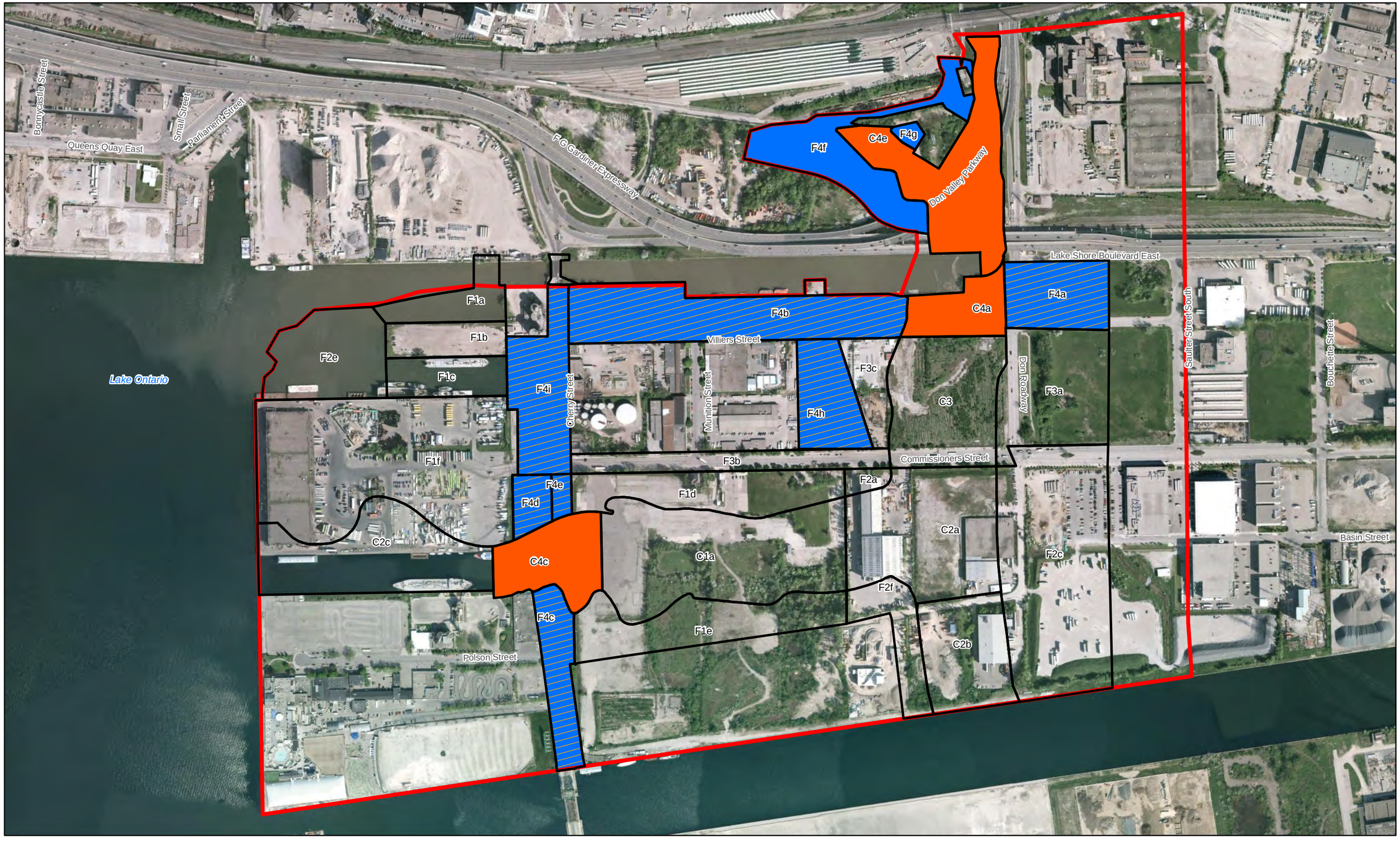


Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 33D
Excavation and Fill Sequencing - Phase 4
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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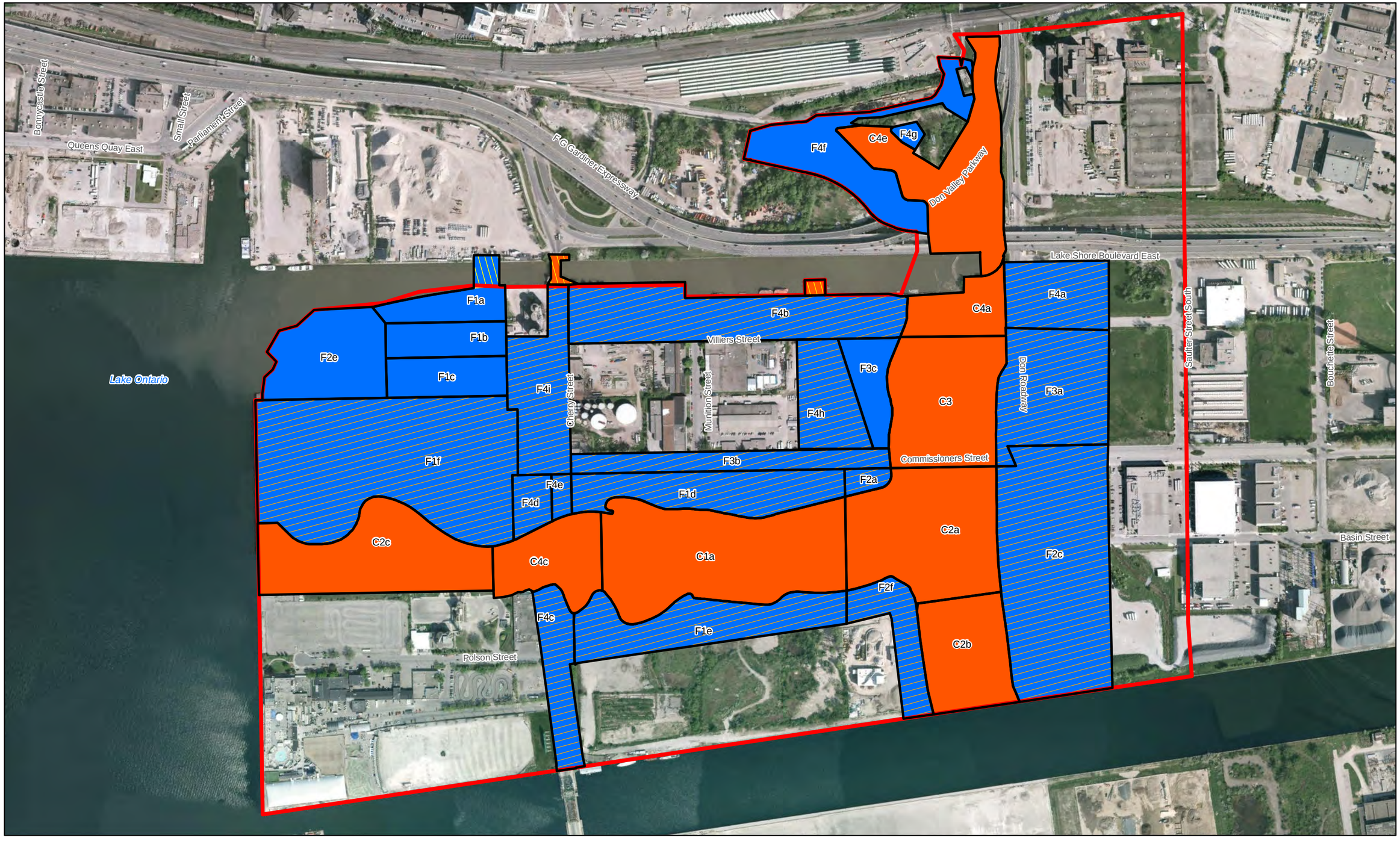
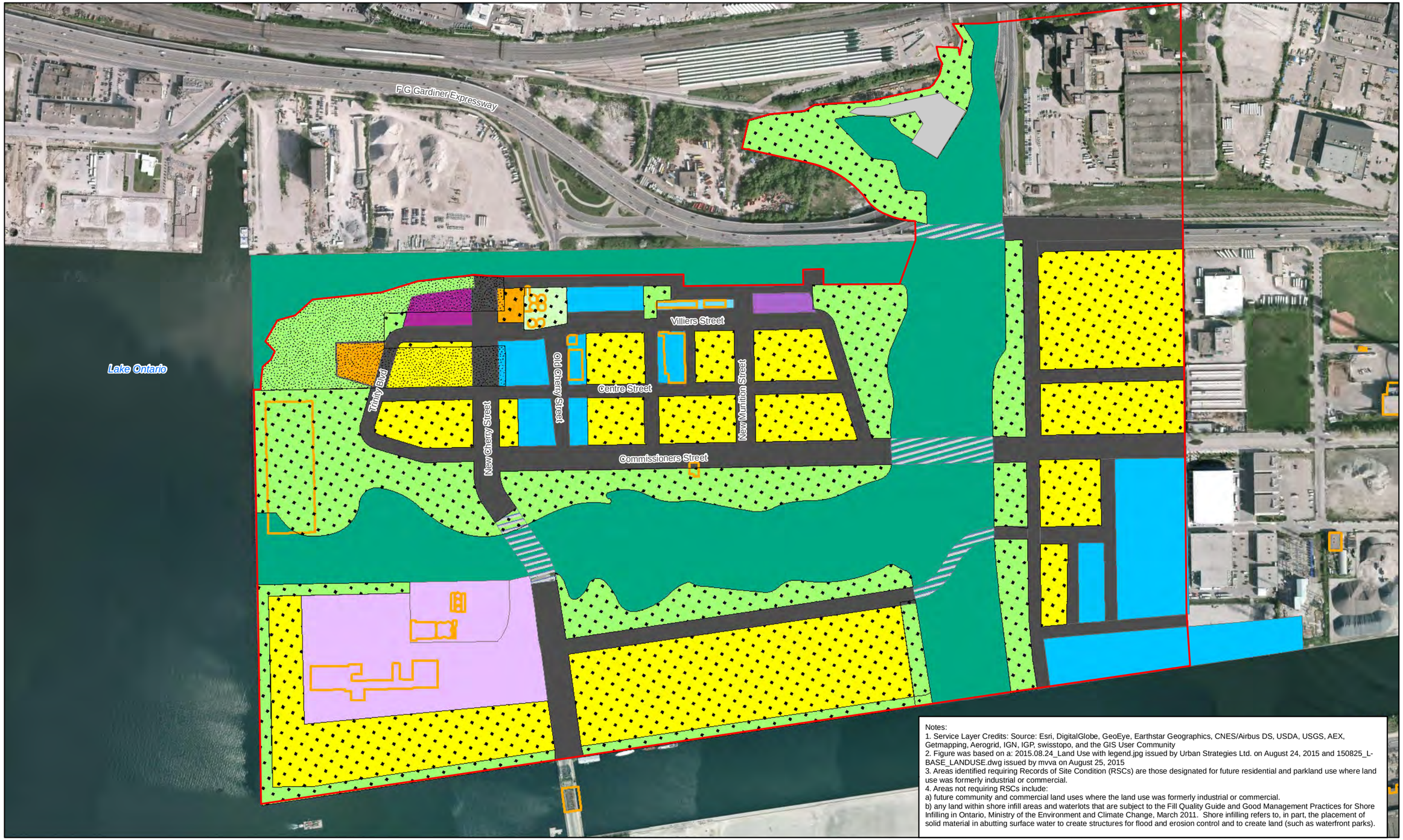



Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 33E
Excavation and Fill Sequencing - All Phases
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

\\WATERLOO\GIS\PROJECTS\WT\GIS\MAPFILES\STAGETWOREPORT\FINAL\CUTFILLSEQUENCING_PHASESALL.MXD JRAYMOND 5/6/2016 8:44:02 AM




Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2. Figure was based on a: 2015.08.24_Land Use with legend.jpg issued by Urban Strategies Ltd. on August 24, 2015 and 150825_L-BASE_LANDUSE.dwg issued by mvva on August 25, 2015
3. Areas identified requiring Records of Site Condition (RSCs) are those designated for future residential and parkland use where land use was formerly industrial or commercial.
4. Areas not requiring RSCs include:
a) future community and commercial land uses where the land use was formerly industrial or commercial.
b) any land within shore infill areas and waterlots that are subject to the Fill Quality Guide and Good Management Practices for Shore Infilling in Ontario, Ministry of the Environment and Climate Change, March 2011. Shore infilling refers to, in part, the placement of solid material in abutting surface water to create structures for flood and erosion control and to create land (such as waterfront parks).

0 20 40 60 80
Metres

Future LandUse
- Stage 2 Study Boundary
- Heritage Building
- Lake Fill
- Assumed Light Industrial
- Commercial/Community Facility
- Employment/Commercial
- Residential
- Catalytic Use
- Employment/Commercial/Heritage Structure
- Parkland
- Parkland/Heritage Structure
- Community Facility
- Roads
- Developed Area
- Developed Area Above
- Naturalized Area

Figure 34
Definition of RSC Areas
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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0 20 40 60 80
Metres

Address Points (From City Toronto Website)
Existing Building
Heritage Building
Stage 2 Study Boundary

Current Land Use
Road
Industrial/Commerical

Material Flow
Soil Processing Location
Extent of River Valley Excavation Area

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 35
Soil Processing Locations
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

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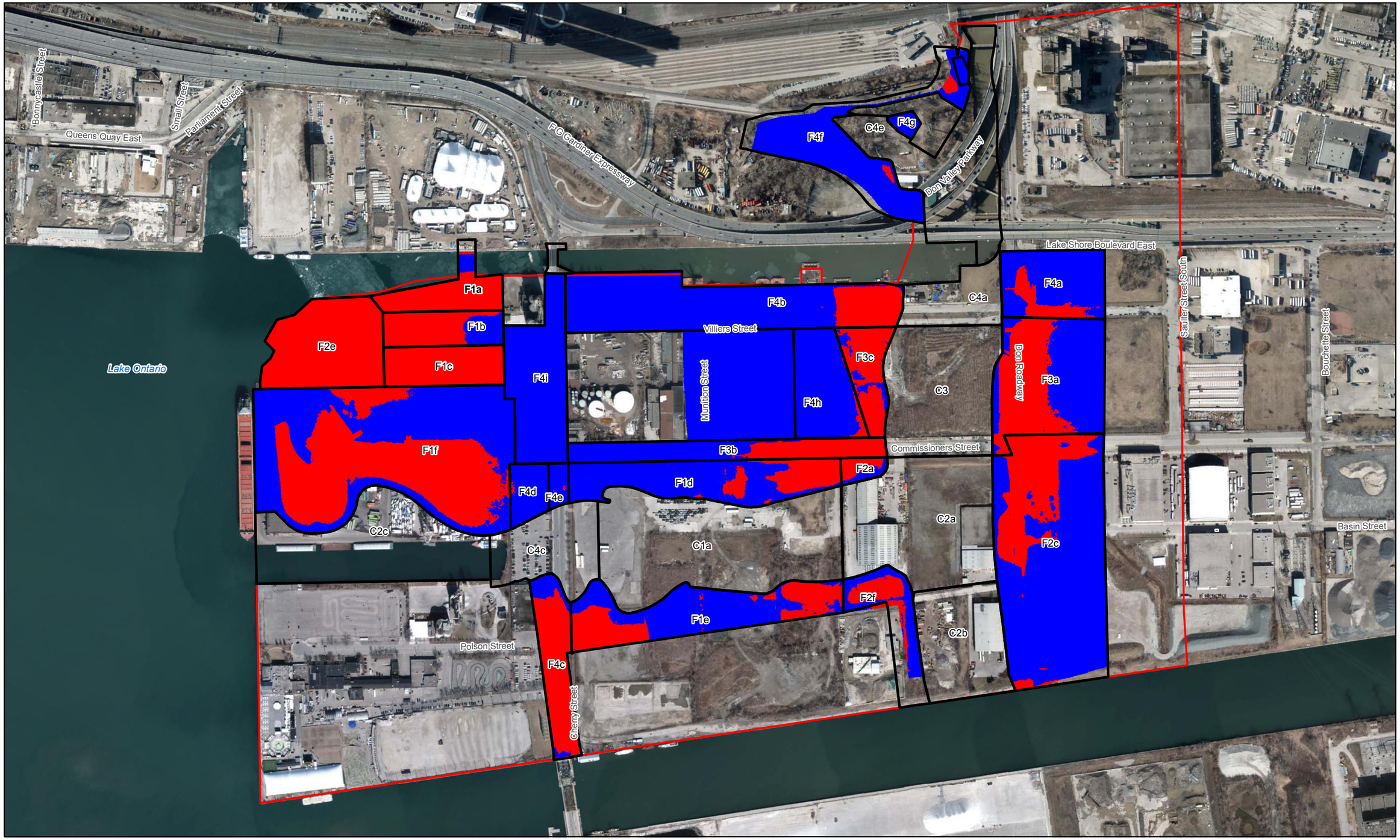


0 20 40 60 80
Metres

Stage 2 Study Boundary
Areas to be filled without a need for overexcavation
Areas to be overexcavated to establish the required thickness of risk management barrier

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**Figure 36**
RA/RM Overcut Areas
Preliminary Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*


N

0 20 40 60 80

Metres

Stage 2 Study Boundary

Extent of River Valley Excavation Area

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 37
River Valley Excavation Areas
Environmental Assessment and Geotechnical and Earthworks Report
*Waterfront Toronto*
*Toronto, Ontario*

ch2m

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