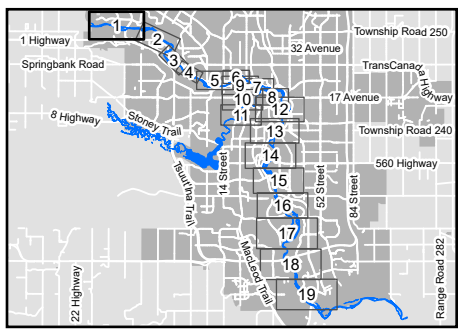
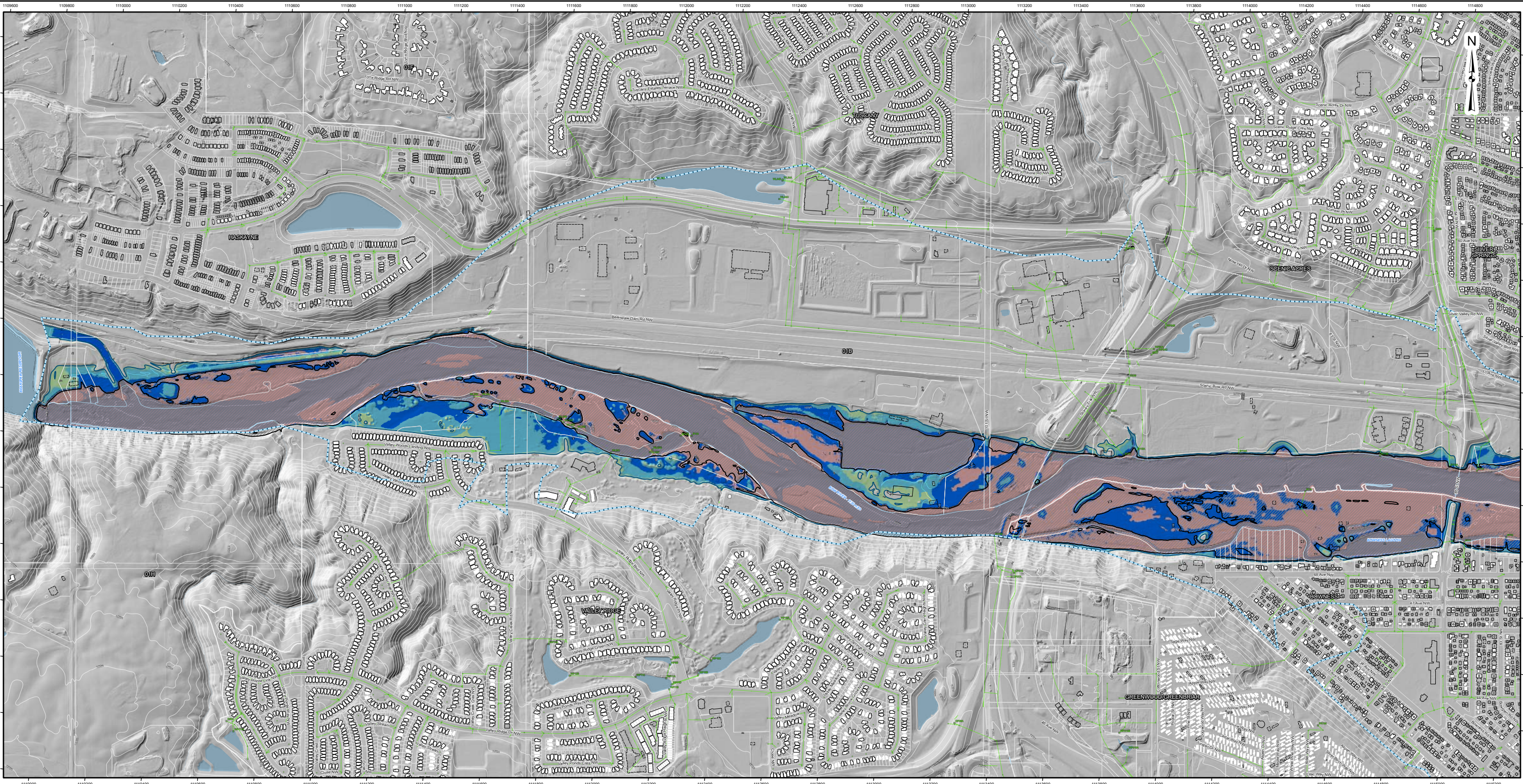


Groundwater Depth and Building Risk Factors (Calibrated Model)

1 in 20 Year Flood

- | | | | |
|-----|----------------------------|-----|------------------------|
| 1. | Valley Ridge | 11. | Lower Elbow |
| 2. | Bowness | 12. | Inglewood – Bonnybrook |
| 3. | Montgomery | 13. | Bonnybrook |
| 4. | Point McKay | 14. | Deerfoot Meadows |
| 5. | Hillhurst / West Hillhurst | 15. | Riverbend/Quarry Park |
| 6. | Sunnyside | 16. | Douglasdale |
| 7. | East Village / Bridgeland | 17. | Fish Creek |
| 8. | Inglewood | 18. | South Stoney Trail |
| 9. | Downtown | 19. | Pine Creek/Cranston |
| 10. | Beltline | | |



LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface
- Flood Inundation Area (20-Year)
- Directly Flooded

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

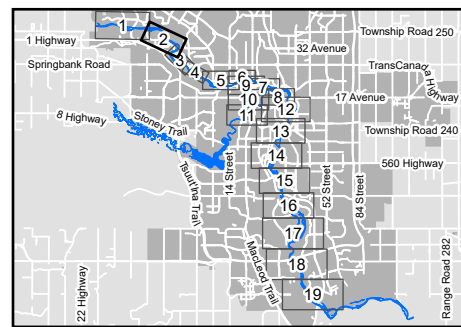
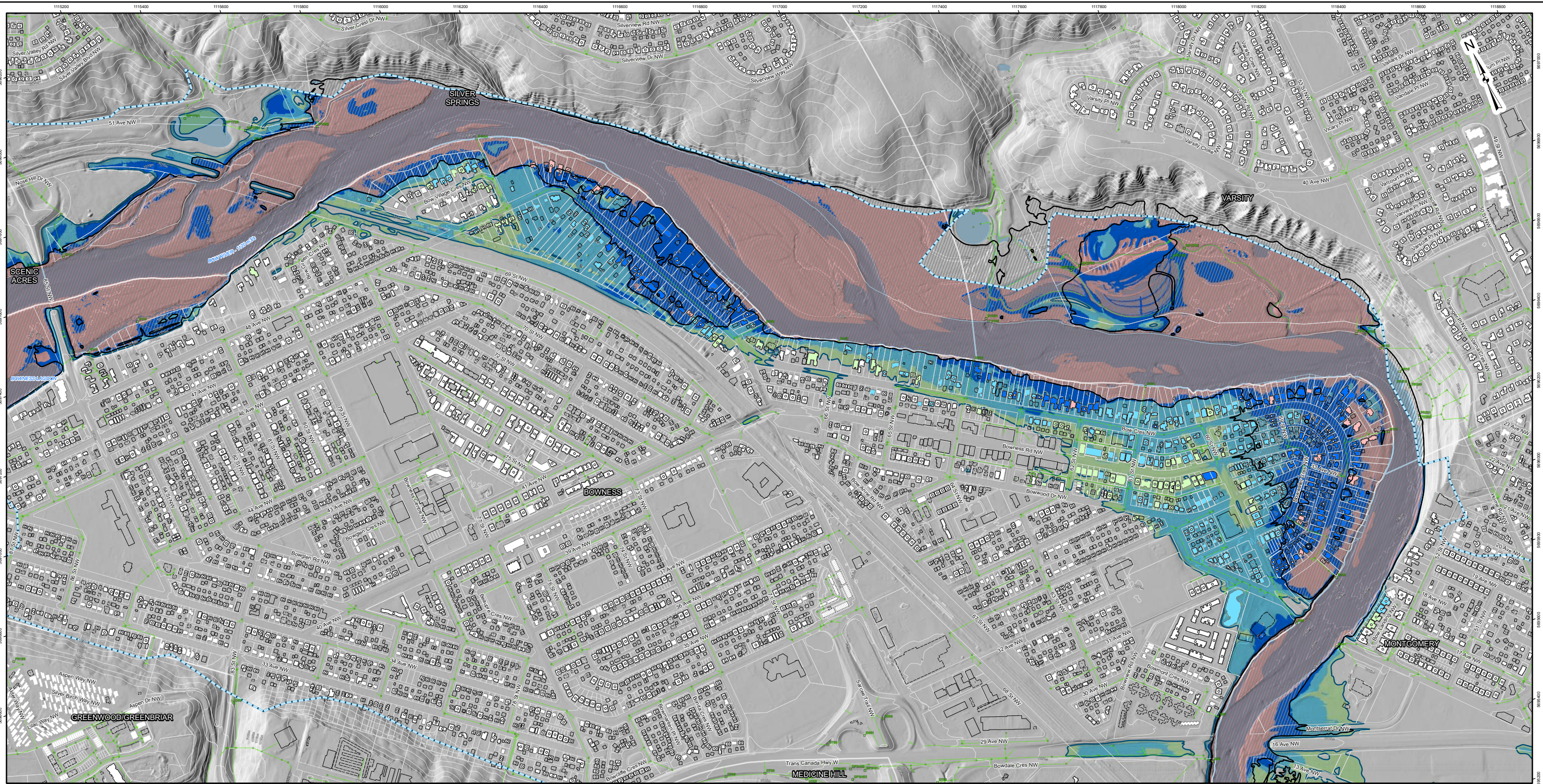
- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
1 - VALLEY RIDGE

PROJECT
CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION
NAD 1983 CSRS 3TM 114
SCALE 1:13,500
DATE 8/14/2026
AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

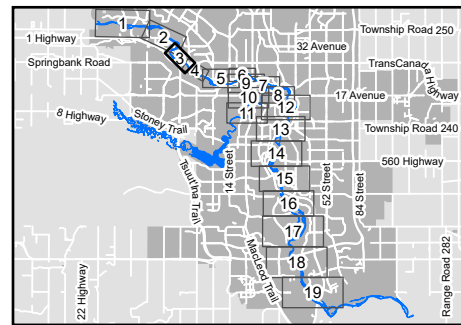
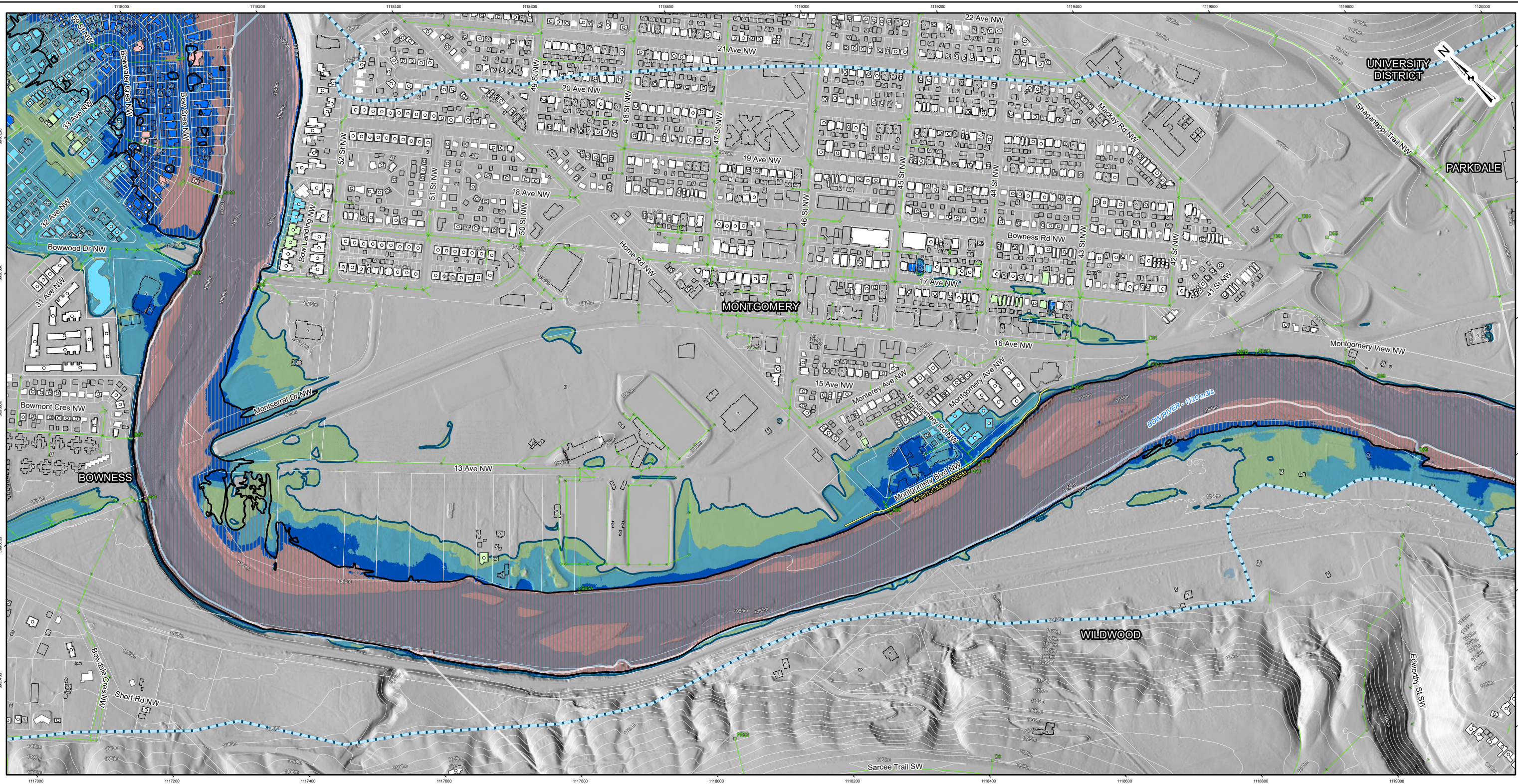
- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
2 - BOWNESS

PROJECT
CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION
NAD 1983 CSRS 3TM 114
SCALE 1:10,000
DATE 8/14/2026
AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody

- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
3 - MONTGOMERY

PROJECT
CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION
NAD 1983 CSRS 3TM 114

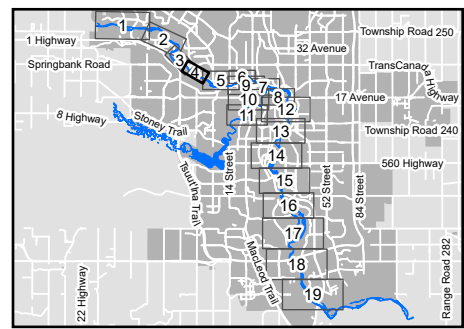
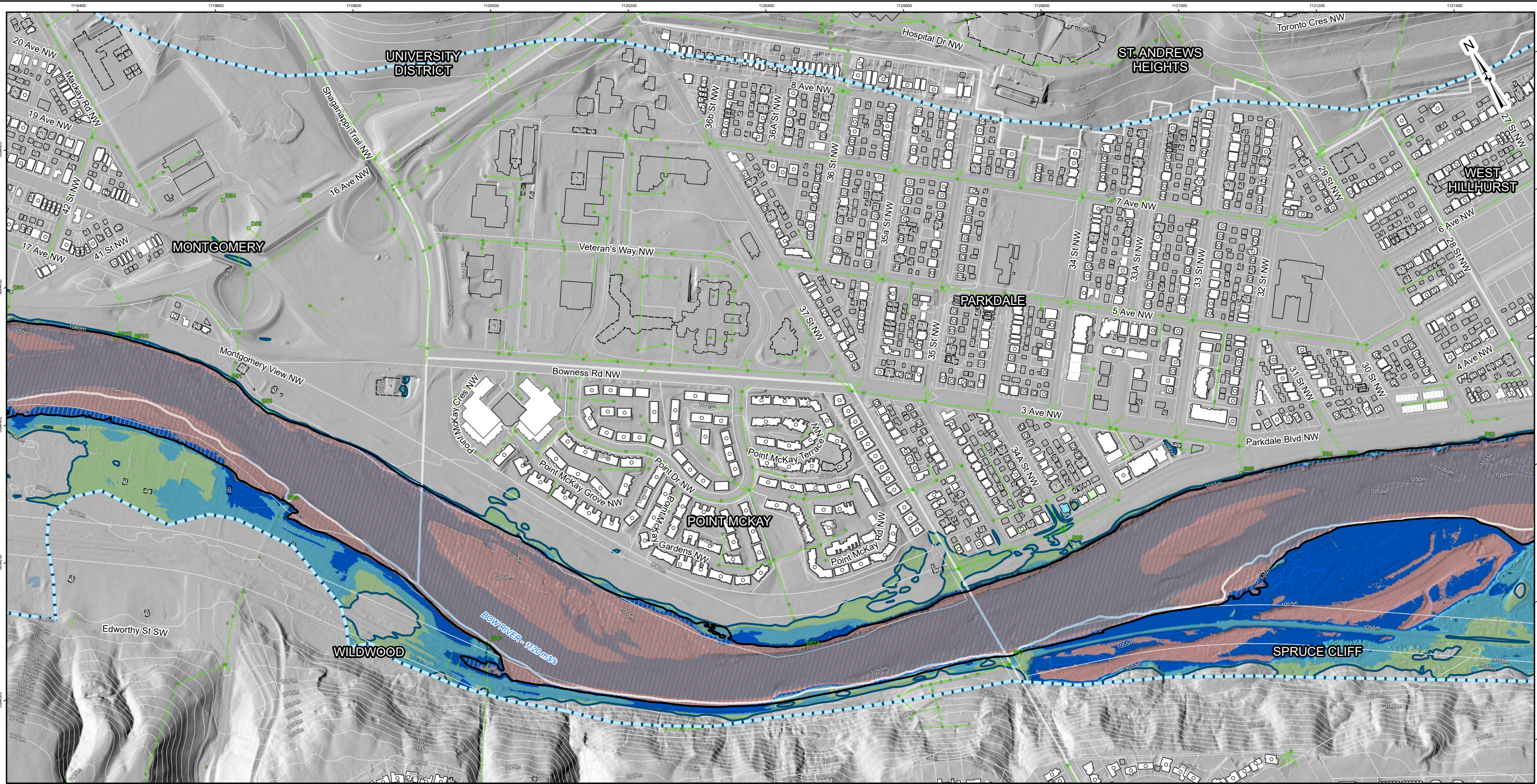
0 40 80
Meters

SCALE 1:7,000

DATE 8/14/2026

AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface
- Flood Inundation Area (20-Year)
- Directly Flooded

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

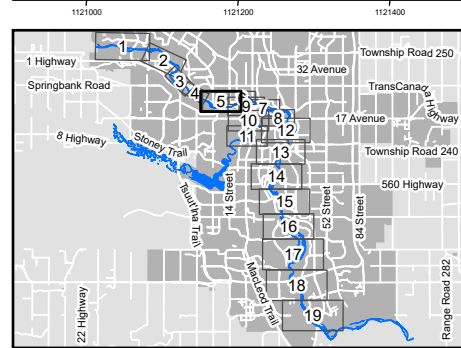
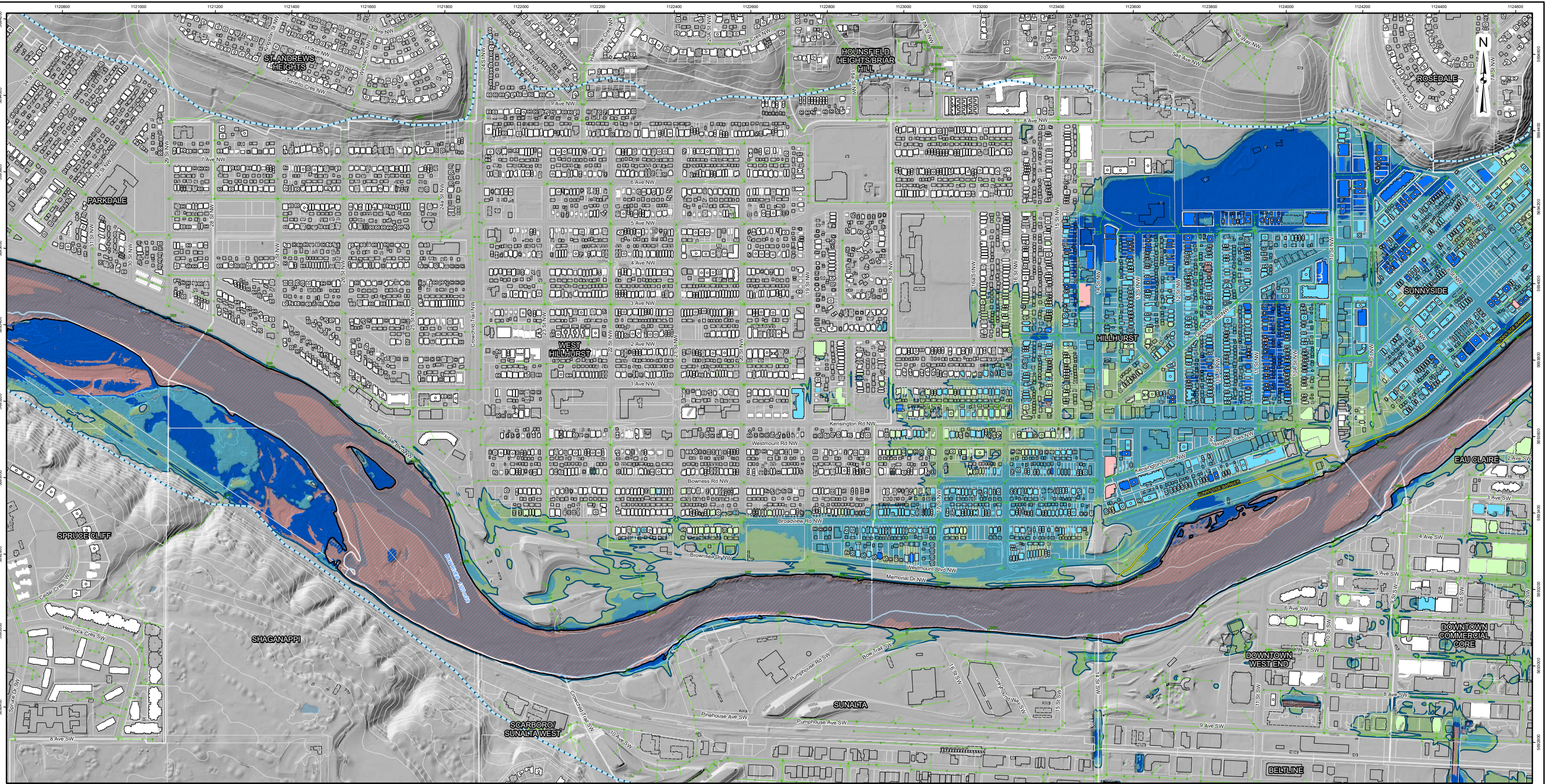
DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
4 - POINT MCKAY

PROJECT
CALGARY RIVER VALLEYS GROUNDWATER STUDY
PROJECTION
NAD 1983 CSRS 3TM 114
SCALE 1:6,000 DATE 8/14/2026 AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody

- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded

NOTES

- Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
- Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
- The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
- Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
- Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4

GROUNDWATER DEPTH & BUILDING RISK FACTORS (CALIBRATED) - 1 IN 20 YEAR FLOOD 5 - HILLHURST / WEST HILLHURST

PROJECT

CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION

NAD 1983 CSRS 3TM 114

0 60 120
Meters

SCALE 1:10,000

DATE 8/14/2026

AUTHOR TDaSilva





-  Building Footprint
-  Pre-1990 Building Construction
-  Below Grade Space
-  Building Information Missing
-  Non-Residential Building / Building Outside Scope
-  Parcel
-  Community District
-  Alluvial Aquifer / Model Domain
-  Waterbody

- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
3m to 2.4m
2.4m to 1.2m
0m to 1.2m
Above Ground Surface

Flood Inundation Area (20-Year)

-  Directly Flooded
 Protected by Flood Berm

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISI or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. The model flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LIDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

1126000 1126200

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
6 - SUNNYSIDE

PROJECT

CANGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION
NAD 1983 CSRS 3TM 114

SCALE 1:6,500

DATE 8/14/2026

AUTHOR TDaSilva

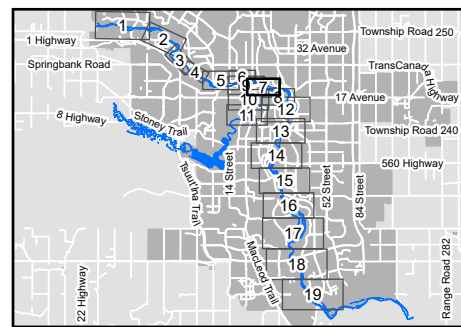
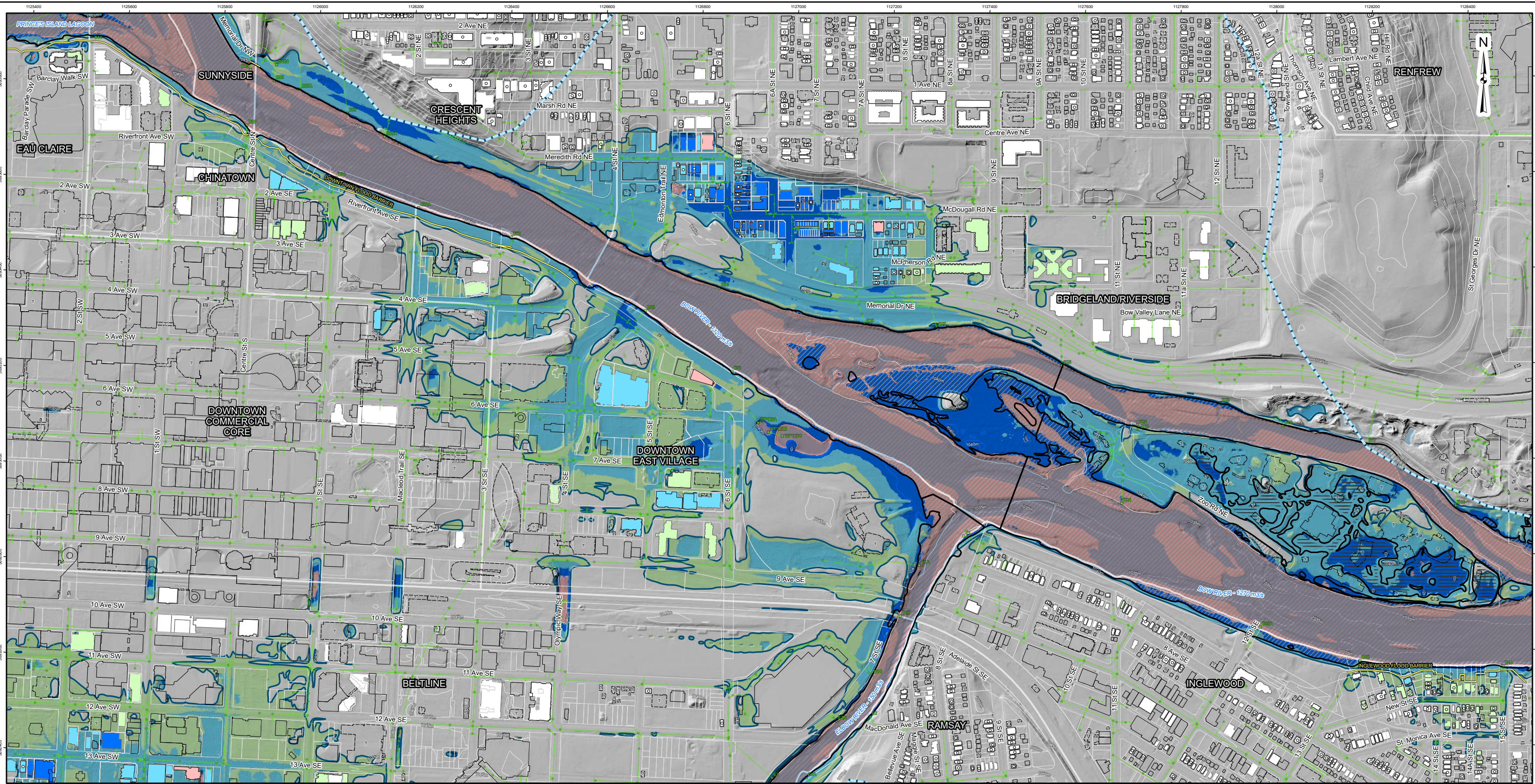
0 30 60 Meters



Fluid Domains

Calgary





LEGEND

- | | |
|---|------------------------------|
| Building Footprint | Manhole |
| Pre-1990 Building Construction | Outfall |
| Below Grade Space | Storm Network |
| Building Information Missing | 3m Depth Threshold |
| Non-Residential Building / Building Outside Scope | Flood Control Structure |
| Parcel | Sunnyside Seepage Collection |
| Community District | Contours - 5m |
| Alluvial Aquifer / Model Domain | |
| Waterbody | |
-
- | Estimated Depth to Groundwater | |
|--------------------------------|----------------------|
| | Below 3m |
| | 3m to 2.4m |
| | 2.4m to 1.2m |
| | 0m to 1.2m |
| | Above Ground Surface |
-
- | Flood Inundation Area (20-Year) | |
|---------------------------------|-------------------------|
| | Directly Flooded |
| | Protected by Flood Berm |

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
7 - EAST VILLAGE / BRIDGELAND

PROJECT

CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION
NAD 1983 CSRS 3TM 114

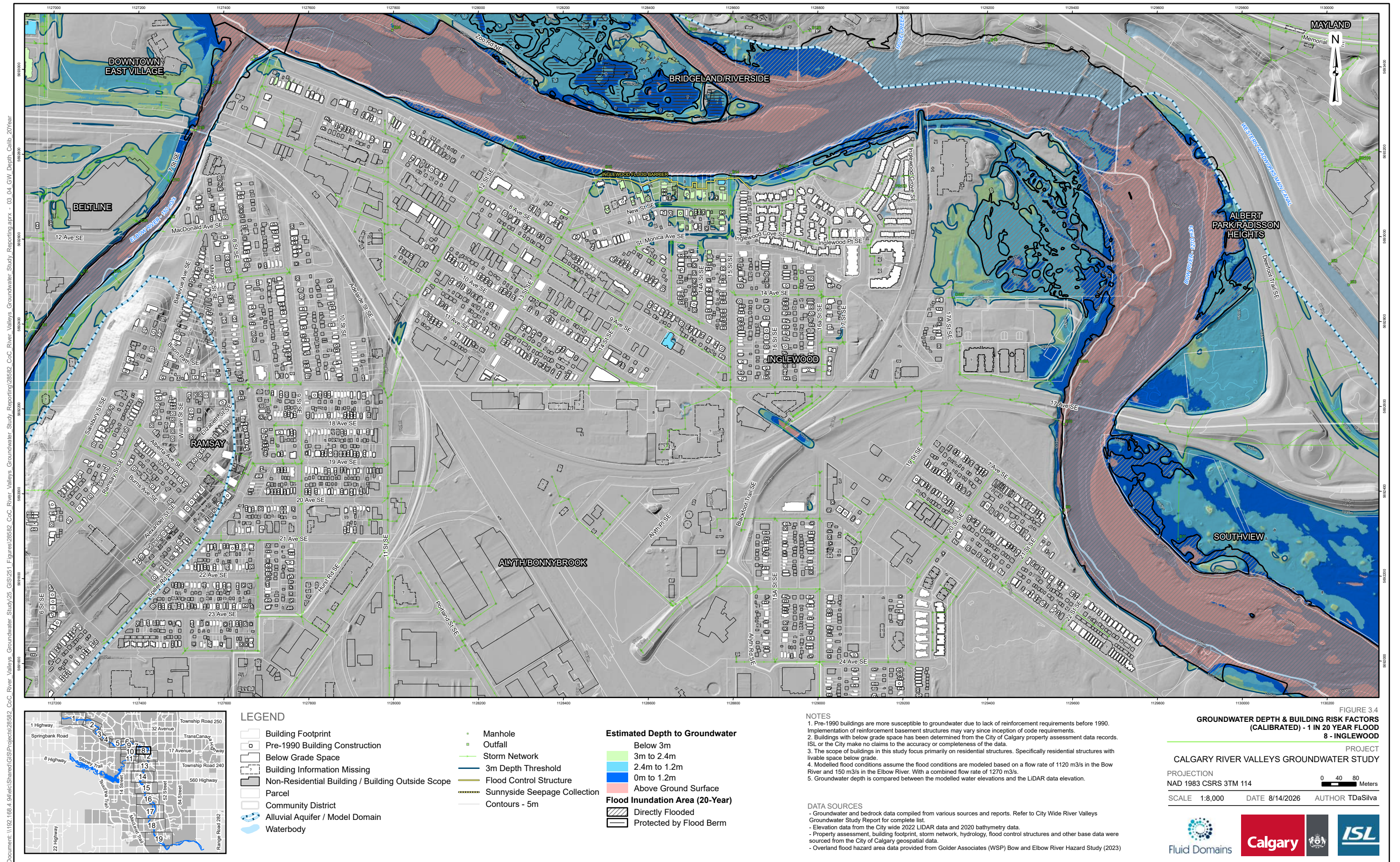
0 40 80
Meters

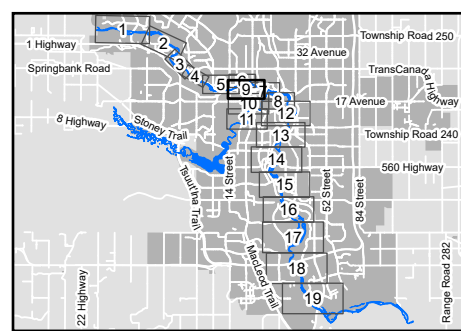
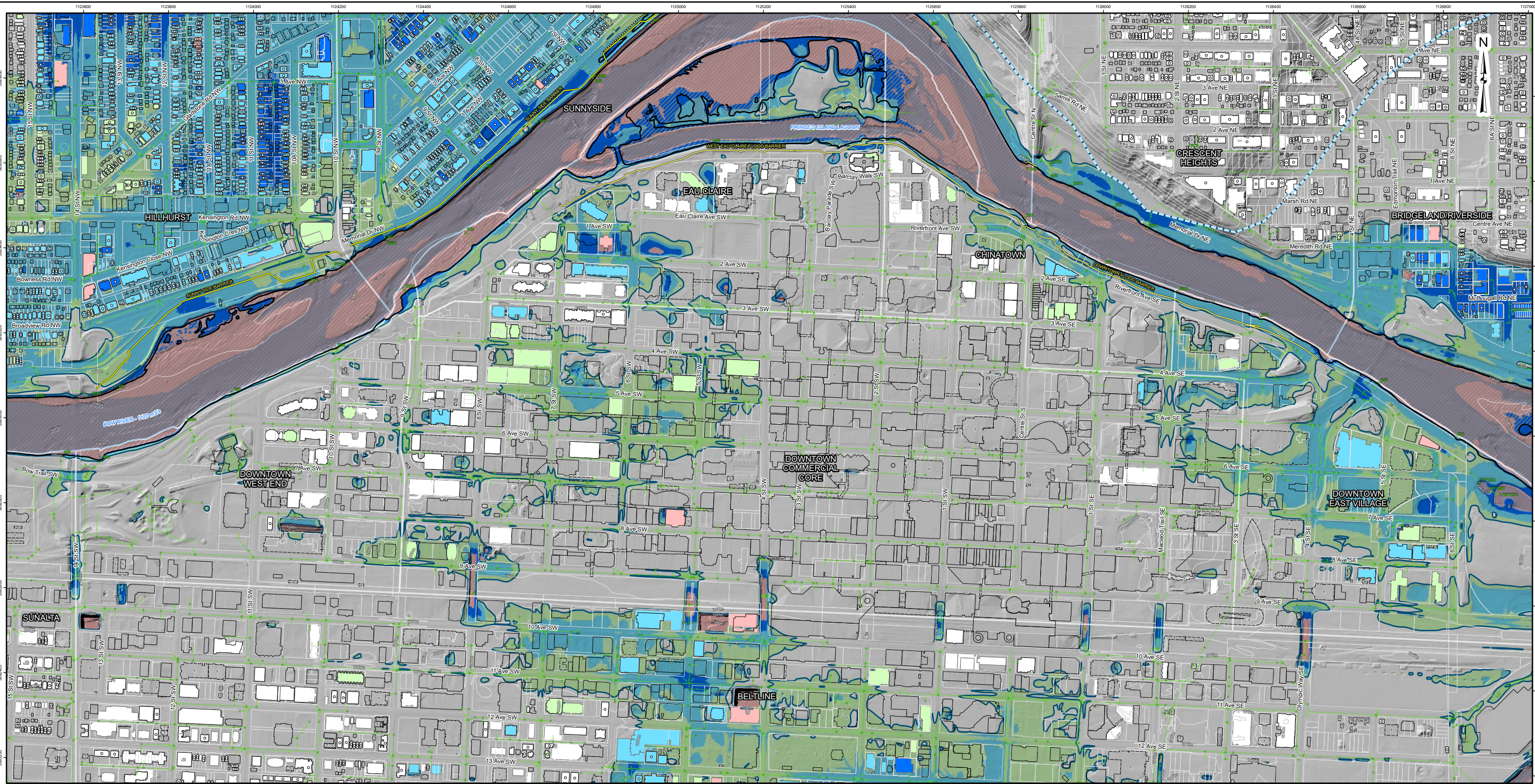
SCALE 1:8,000

DATE 8/14/2026

AUTHOR TDaSilva







LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody

- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded
- Protected by Flood Berm

NOTES

- Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
- Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
- The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
- Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
- Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
9 - DOWNTOWN

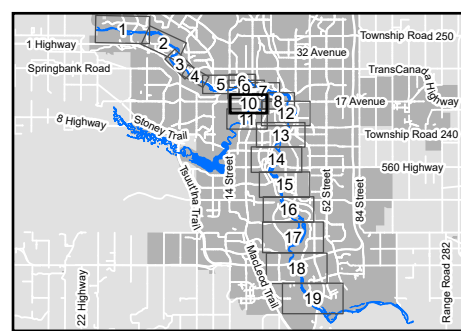
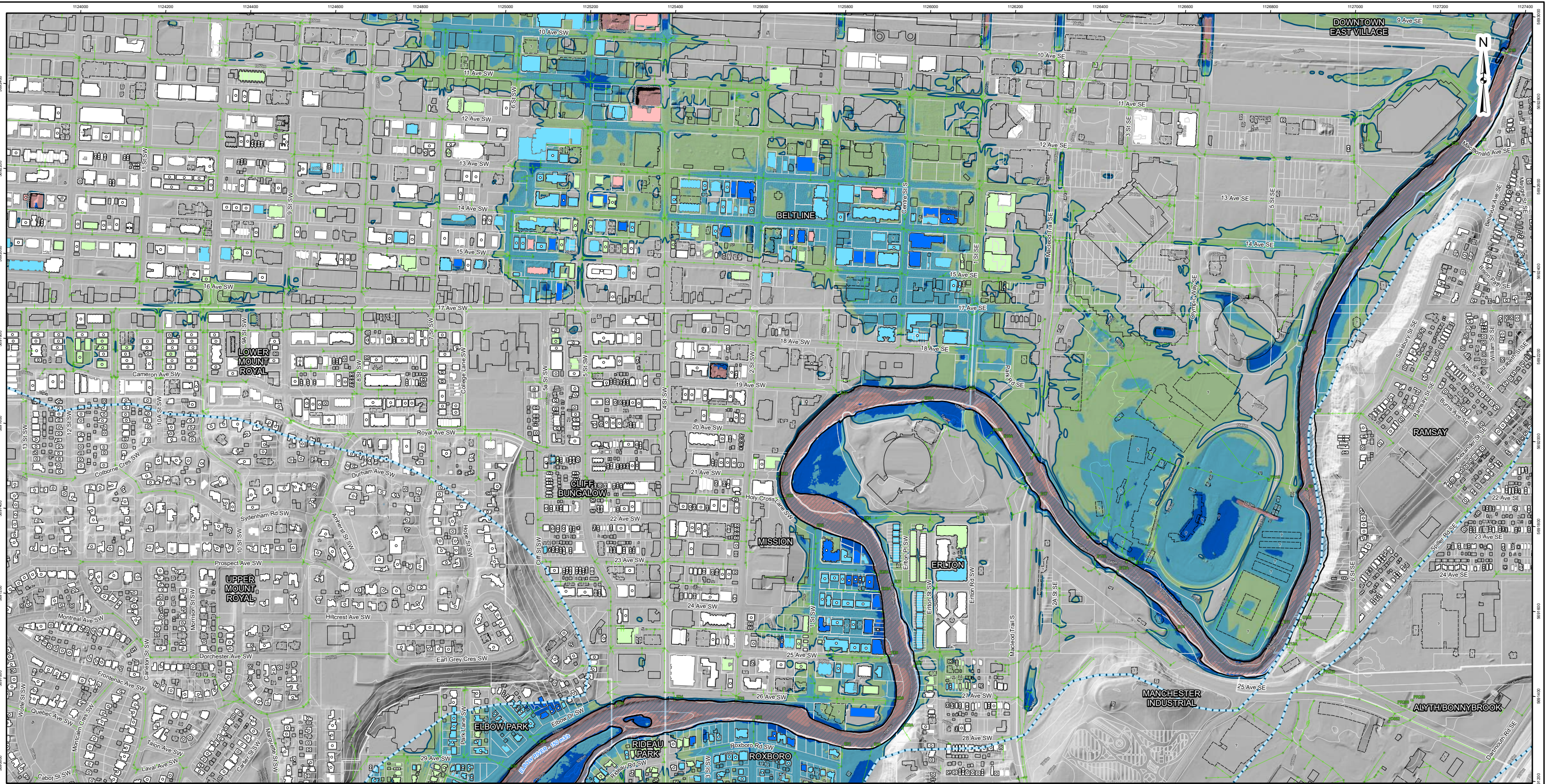
PROJECT

CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION
NAD 1983 CSRS 3TM 114

SCALE 1:9,000 DATE 8/14/2026 AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

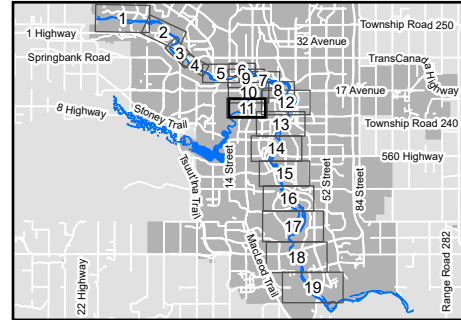
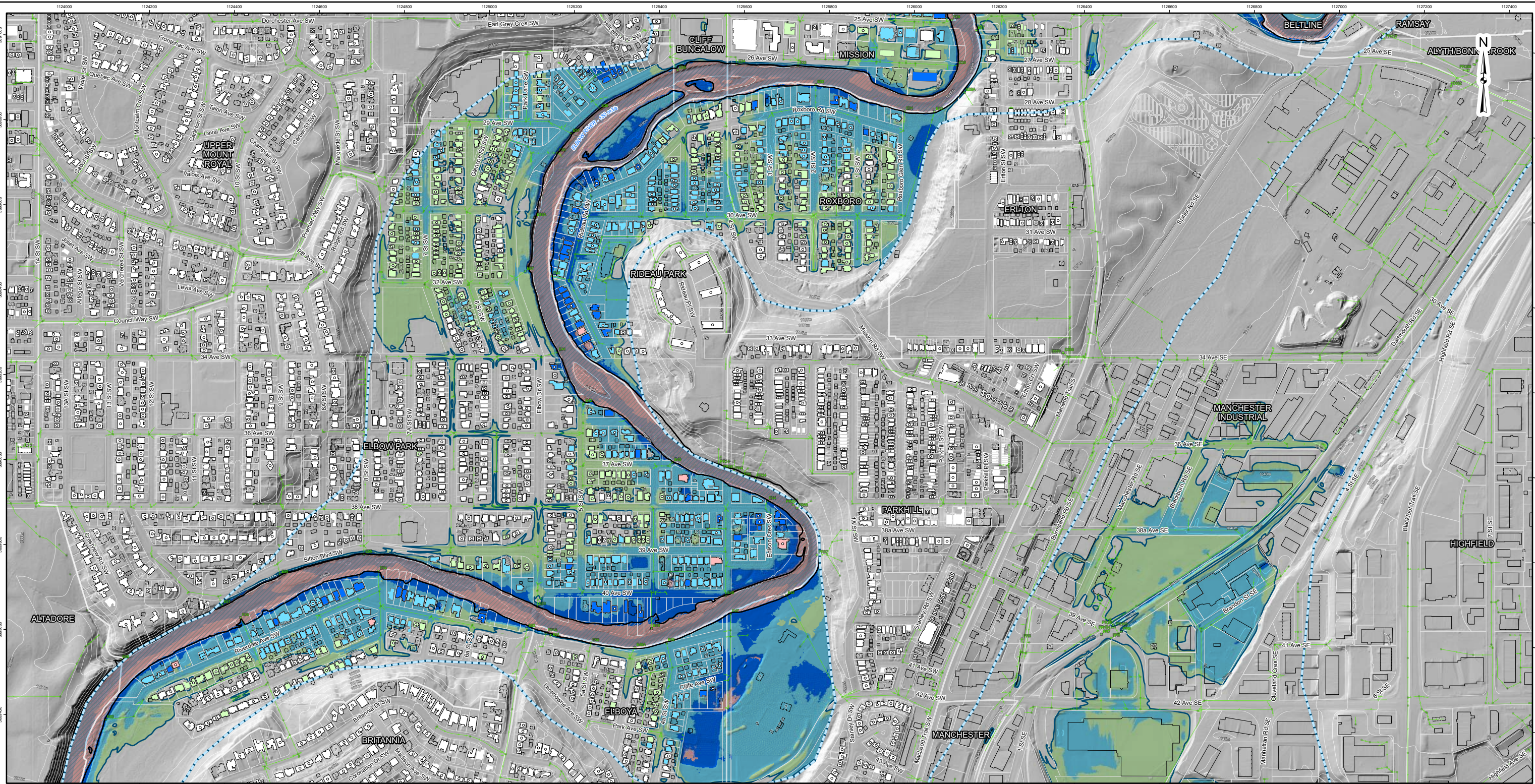
FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
10 - BELTLINE

PROJECT
CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION
NAD 1983 CSRS 3TM 114

SCALE 1:9,000 DATE 8/14/2026 AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4

GROUNDWATER DEPTH & BUILDING RISK FACTORS (CALIBRATED) - 1 IN 20 YEAR FLOOD 11 - LOWER ELBOW

PROJECT

CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION

NAD 1983 CSRS 3TM 114

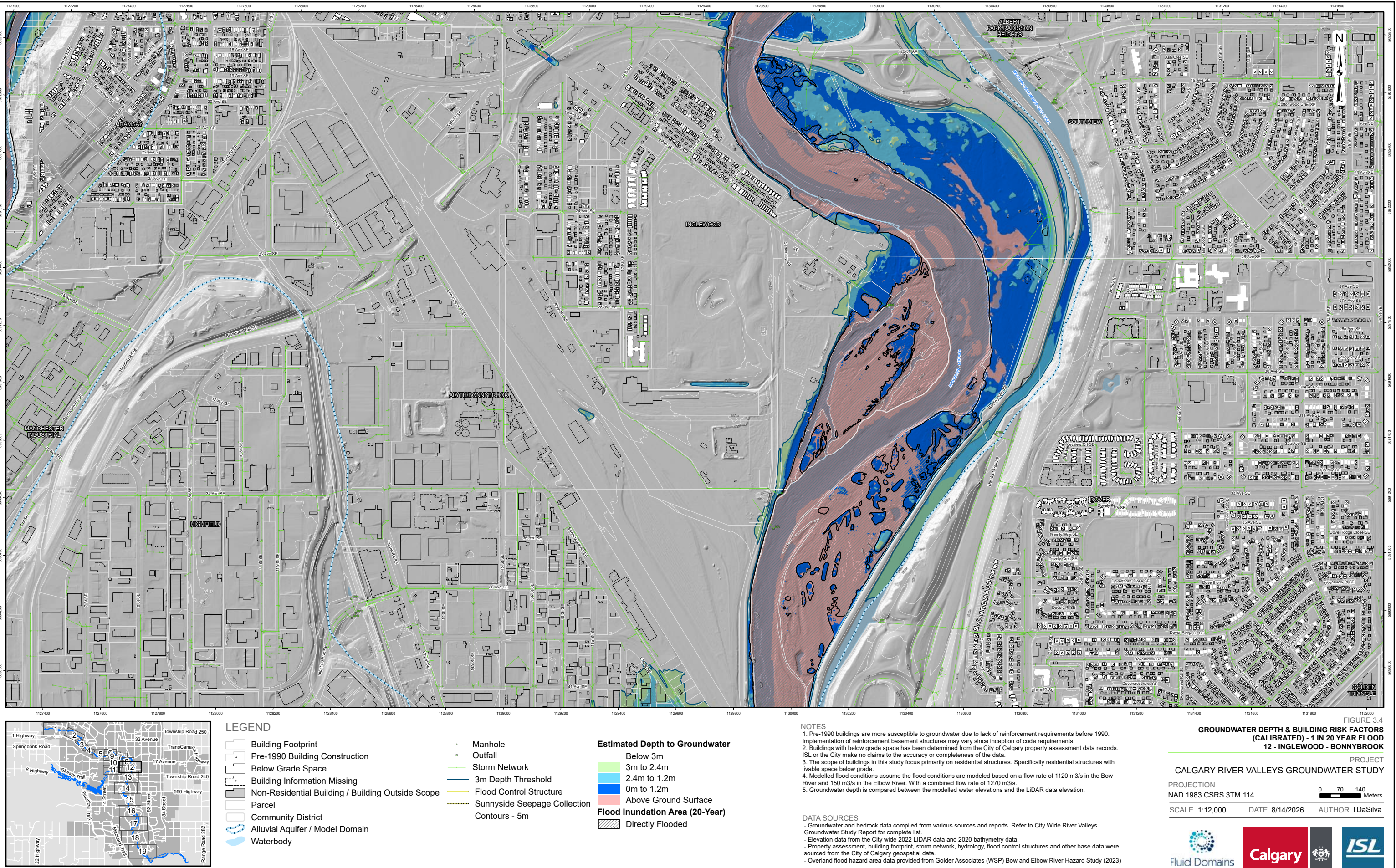
SCALE 1:9,000

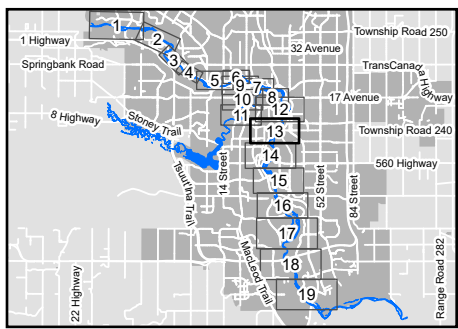
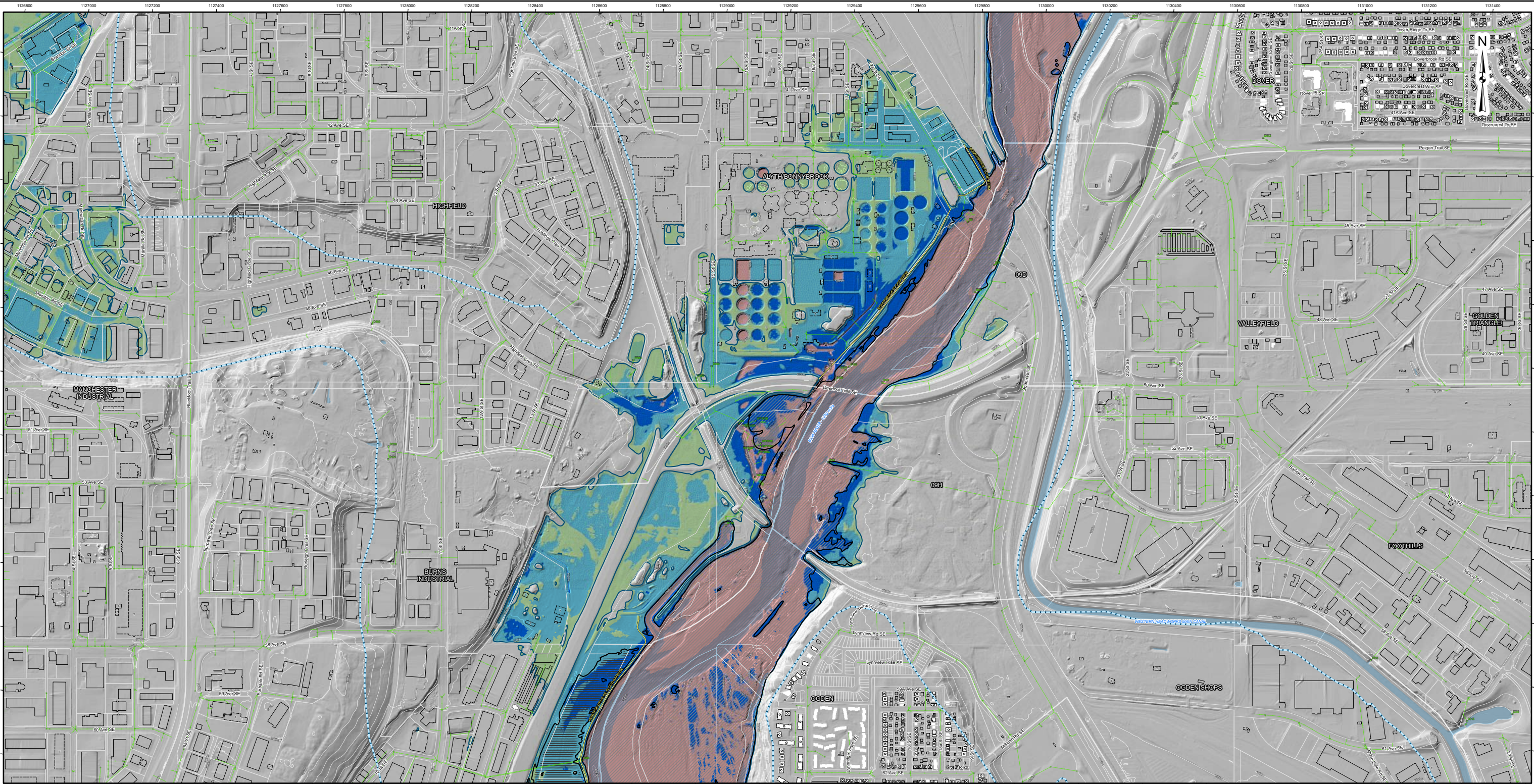
DATE 8/14/2026

AUTHOR TDaSilva

0 50 100 Meters







LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded
- Protected by Flood Berm

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

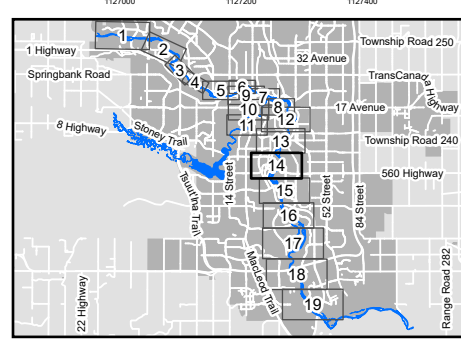
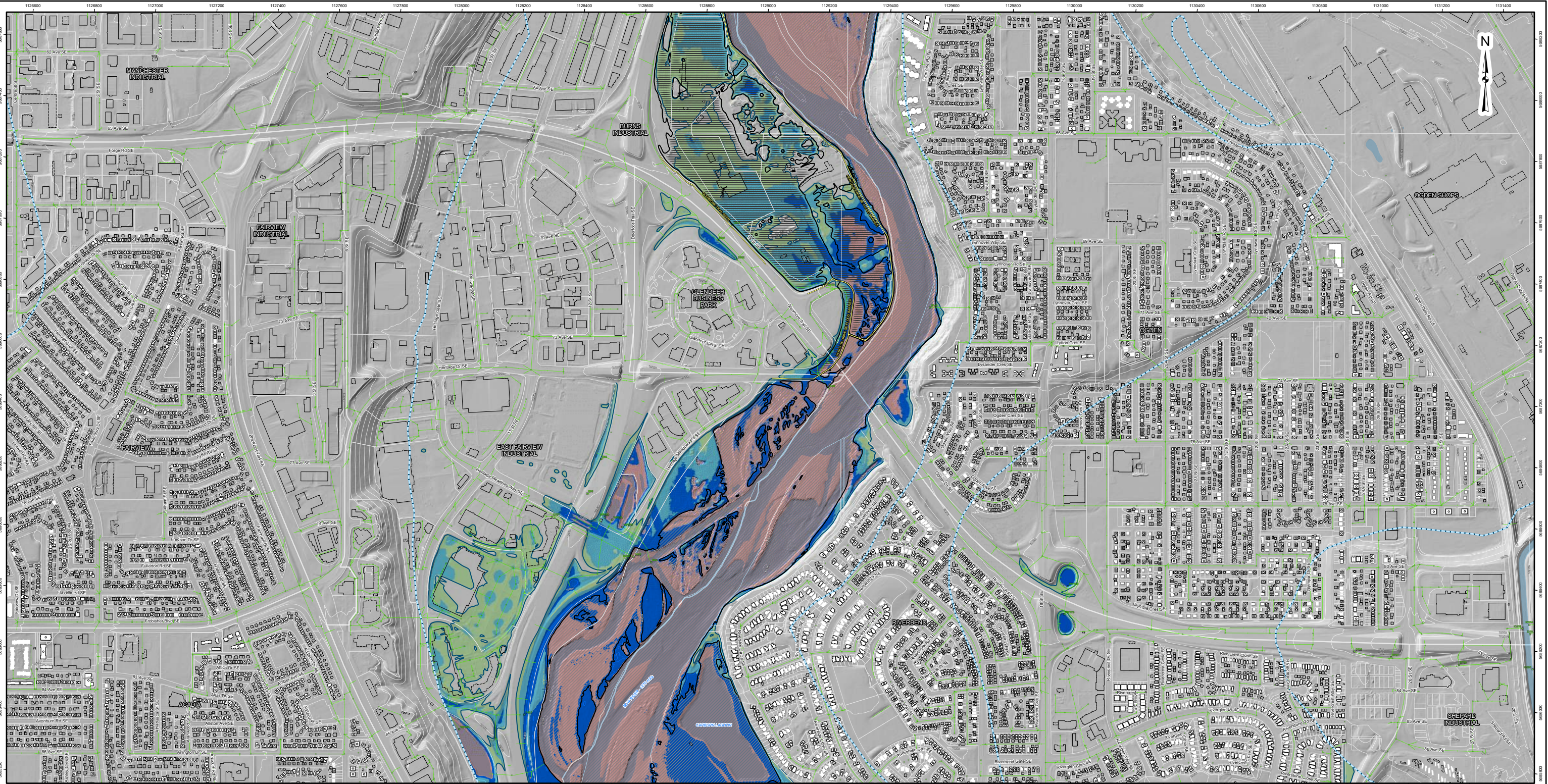
- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
13 - BONNYBROOK

PROJECT
CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION
NAD 1983 CSRS 3TM 114
SCALE 1:12,000
DATE 8/14/2026
AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded
- Protected by Flood Berm

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LIDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LIDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
14 - DEERFOOT MEADOWS

PROJECT

CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION
NAD 1983 CSRS 3TM 114

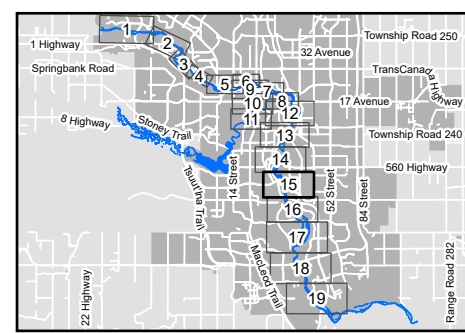
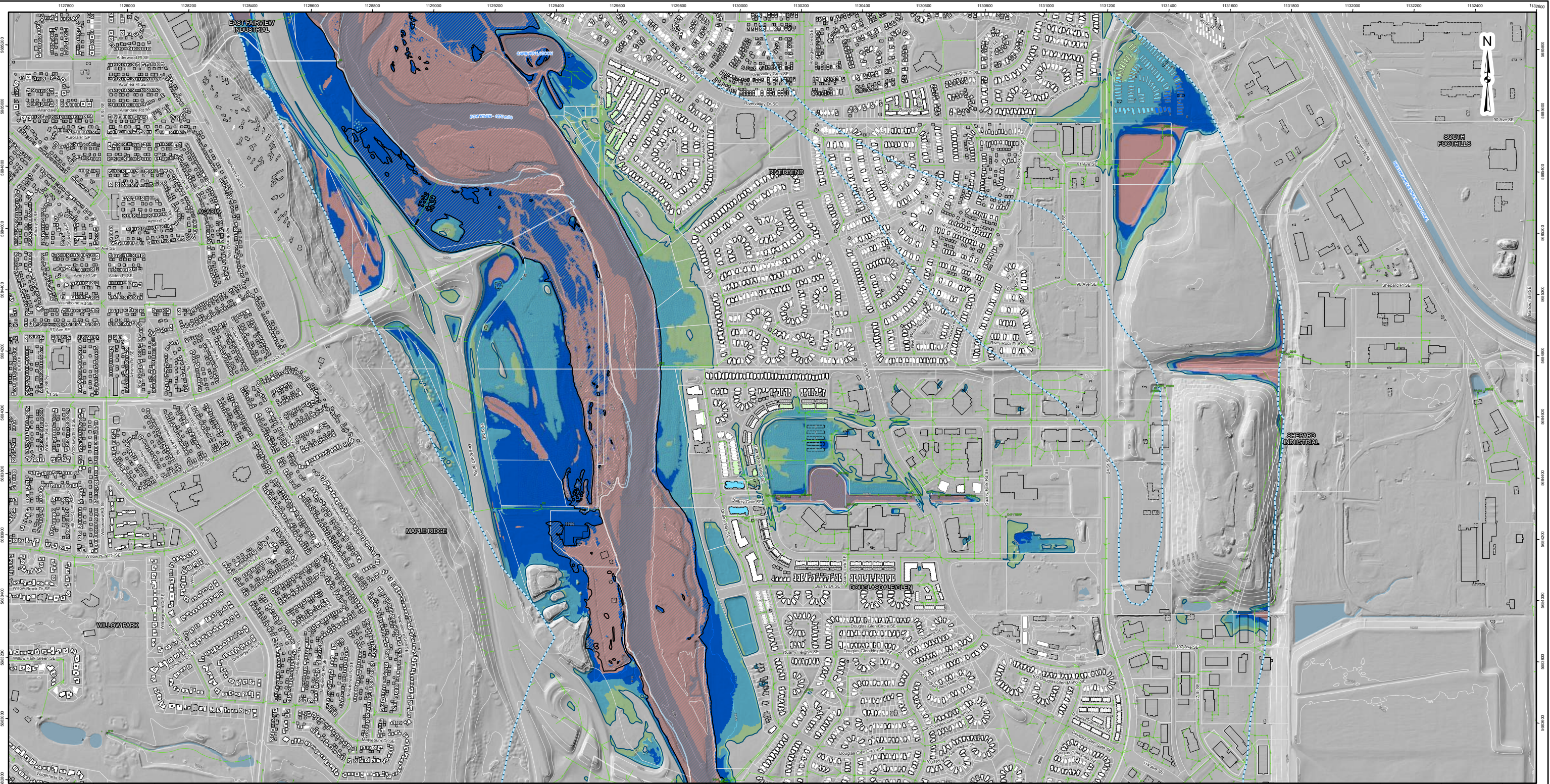
0 75 150
Meters

SCALE 1:12,500

DATE 8/14/2026

AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

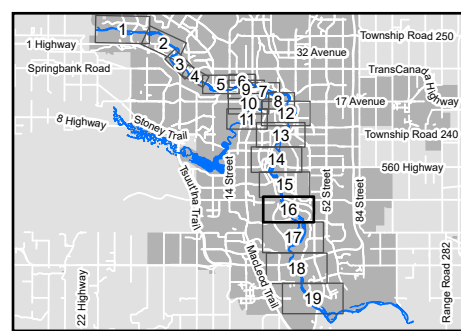
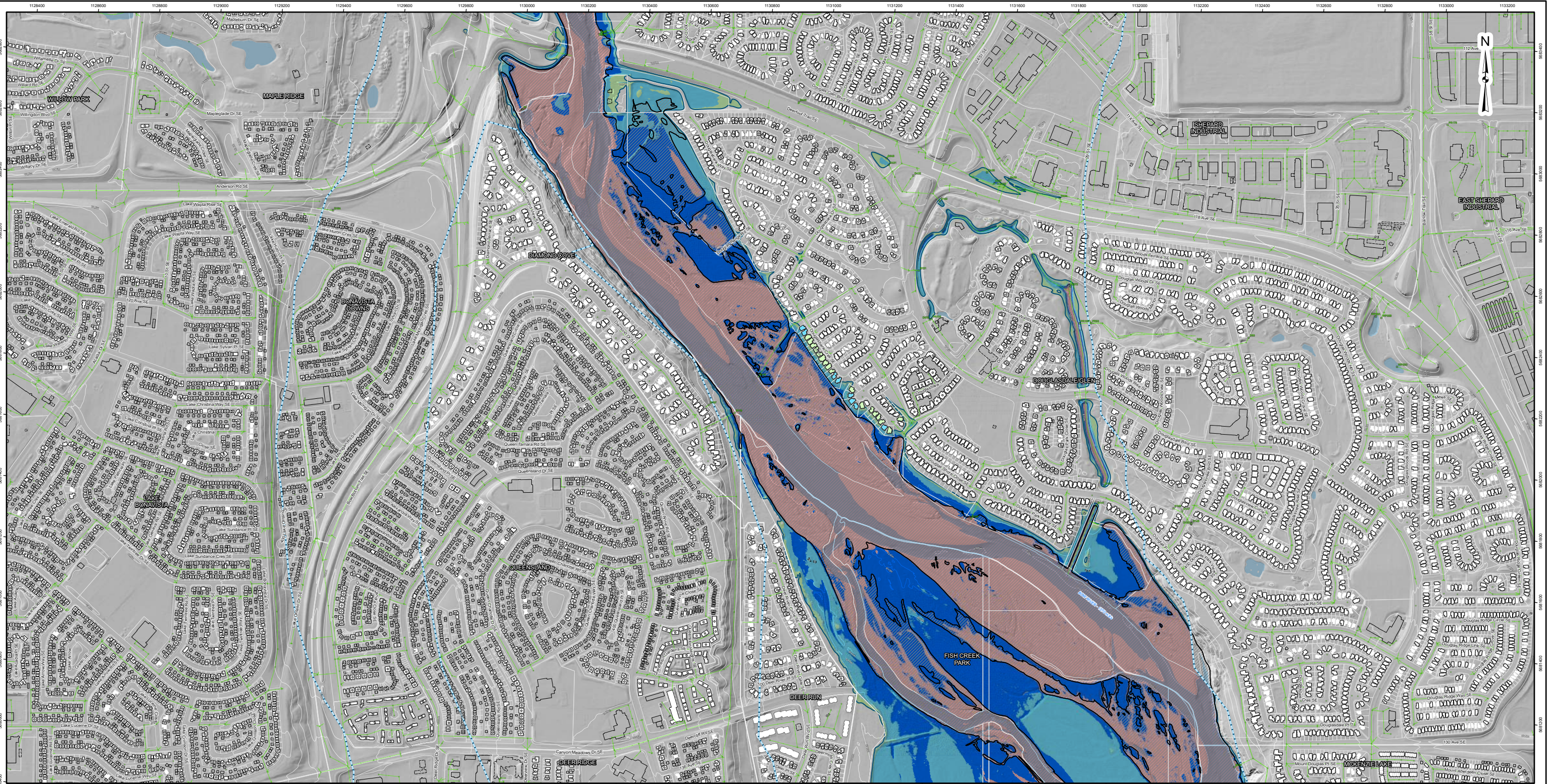
DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
15 - RIVERBEND / QUARRY PARK

PROJECT
CALGARY RIVER VALLEYS GROUNDWATER STUDY
PROJECTION
NAD 1983 CSRS 3TM 114
SCALE 1:12,500
DATE 8/14/2026
AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
16 - DOUGLASDALE

PROJECT

CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION

NAD 1983 CSRS 3TM 114

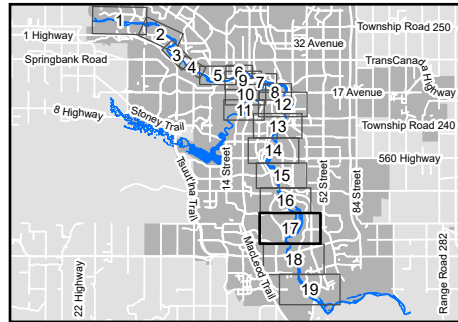
0 75 150
Meters

SCALE 1:12,500

DATE 8/14/2026

AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
17 - FISH CREEK

PROJECT

CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION

NAD 1983 CSRS 3TM 114

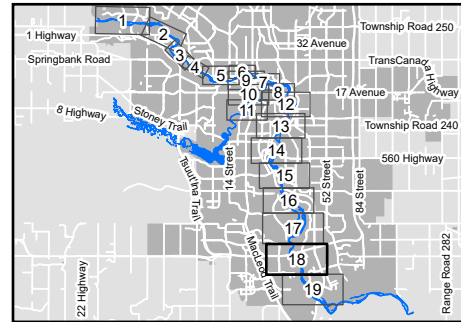
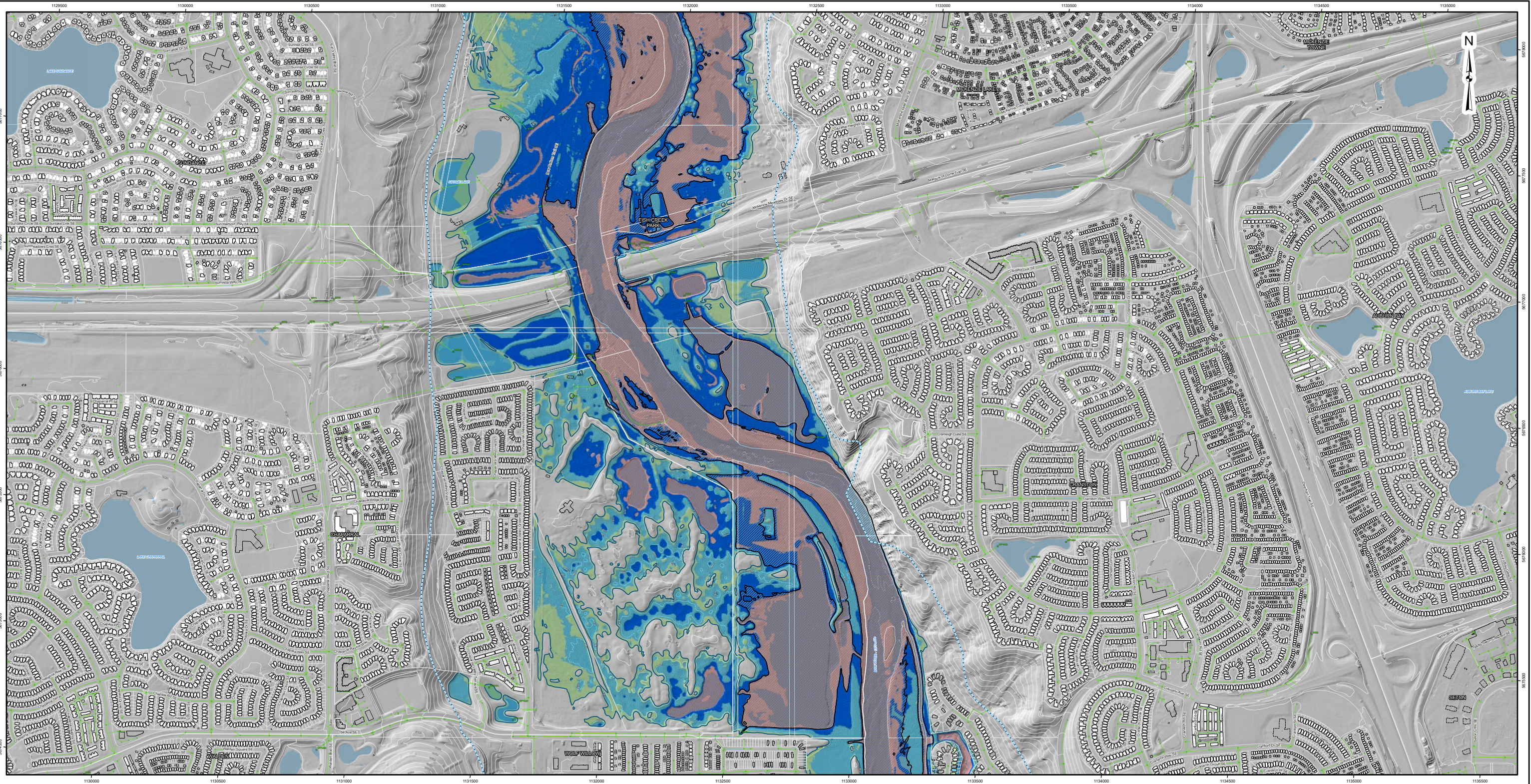
0 90 180
Meters

SCALE 1:15,000

DATE 8/14/2026

AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

Estimated Depth to Groundwater

- Below 3m
- 3m to 2.4m
- 2.4m to 1.2m
- 0m to 1.2m
- Above Ground Surface

Flood Inundation Area (20-Year)

- Directly Flooded

NOTES

- Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
- Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
- The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
- Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
- Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

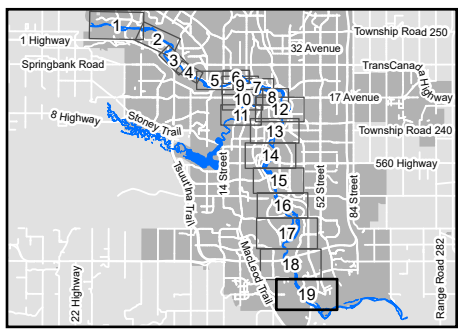
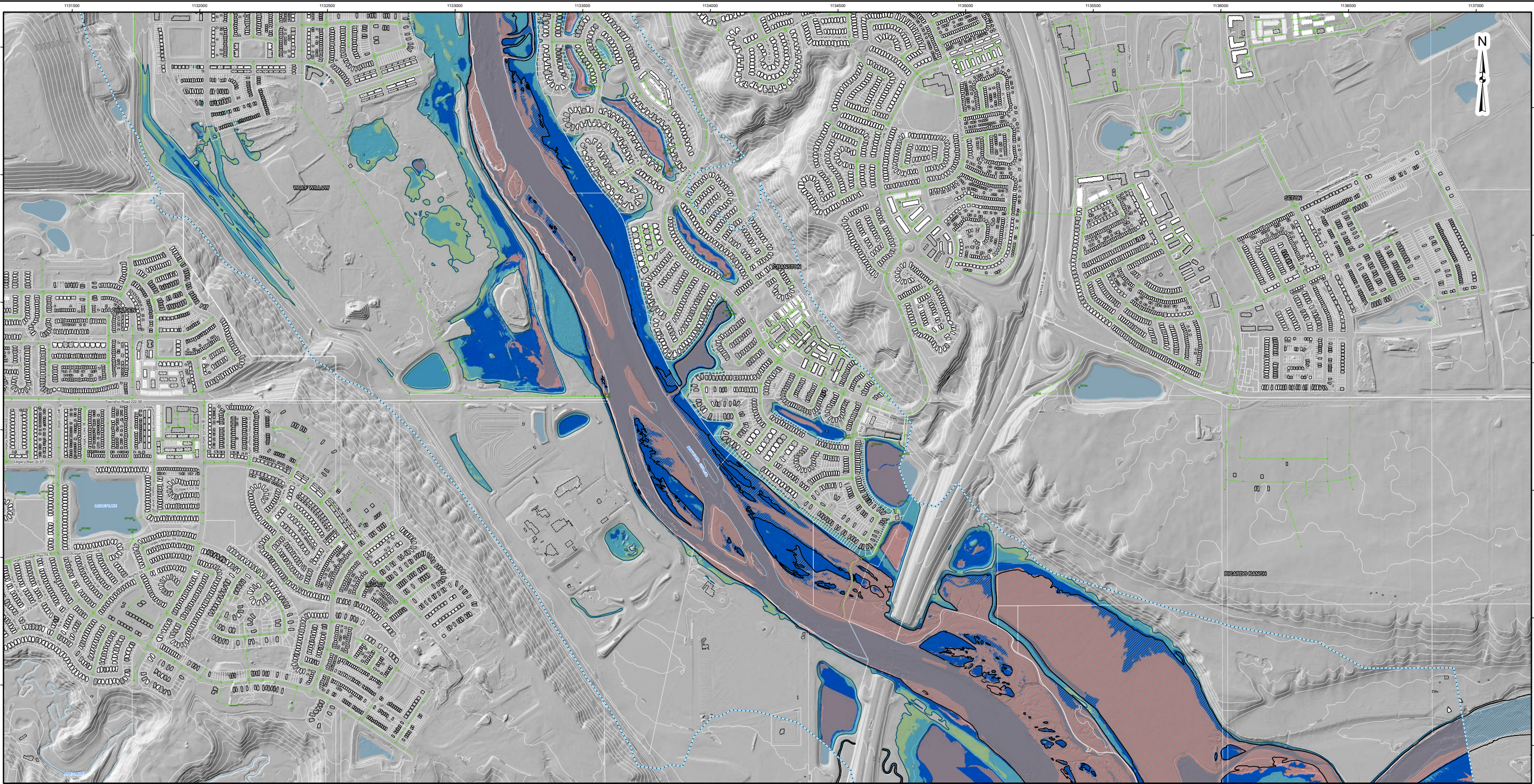
DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
18 - SOUTH STONEY TRAIL

PROJECT
CALGARY RIVER VALLEYS GROUNDWATER STUDY
PROJECTION
NAD 1983 CSRS 3TM 114
SCALE 1:15,000
DATE 8/14/2026
AUTHOR TDaSilva





LEGEND

- Building Footprint
- Pre-1990 Building Construction
- Below Grade Space
- Building Information Missing
- Non-Residential Building / Building Outside Scope
- Parcel
- Community District
- Alluvial Aquifer / Model Domain
- Waterbody
- Manhole
- Outfall
- Storm Network
- 3m Depth Threshold
- Flood Control Structure
- Sunnyside Seepage Collection
- Contours - 5m

- Estimated Depth to Groundwater**
- Below 3m
 - 3m to 2.4m
 - 2.4m to 1.2m
 - 0m to 1.2m
 - Above Ground Surface
- Flood Inundation Area (20-Year)**
- Directly Flooded

NOTES

1. Pre-1990 buildings are more susceptible to groundwater due to lack of reinforcement requirements before 1990. Implementation of reinforcement basement structures may vary since inception of code requirements.
2. Buildings with below grade space has been determined from the City of Calgary property assessment data records. ISL or the City make no claims to the accuracy or completeness of the data.
3. The scope of buildings in this study focus primarily on residential structures. Specifically residential structures with livable space below grade.
4. Modelled flood conditions assume the flood conditions are modeled based on a flow rate of 1120 m³/s in the Bow River and 150 m³/s in the Elbow River. With a combined flow rate of 1270 m³/s.
5. Groundwater depth is compared between the modelled water elevations and the LiDAR data elevation.

DATA SOURCES

- Groundwater and bedrock data compiled from various sources and reports. Refer to City Wide River Valleys Groundwater Study Report for complete list.
- Elevation data from the City wide 2022 LiDAR data and 2020 bathymetry data.
- Property assessment, building footprint, storm network, hydrology, flood control structures and other base data were sourced from the City of Calgary geospatial data.
- Overland flood hazard area data provided from Golder Associates (WSP) Bow and Elbow River Hazard Study (2023)

FIGURE 3.4
GROUNDWATER DEPTH & BUILDING RISK FACTORS
(CALIBRATED) - 1 IN 20 YEAR FLOOD
19 - PINE CREEK / CRANSTON

PROJECT
CALGARY RIVER VALLEYS GROUNDWATER STUDY

PROJECTION
NAD 1983 CSRS 3TM 114

SCALE 1:15,000 DATE 8/14/2026 AUTHOR TDaSilva

