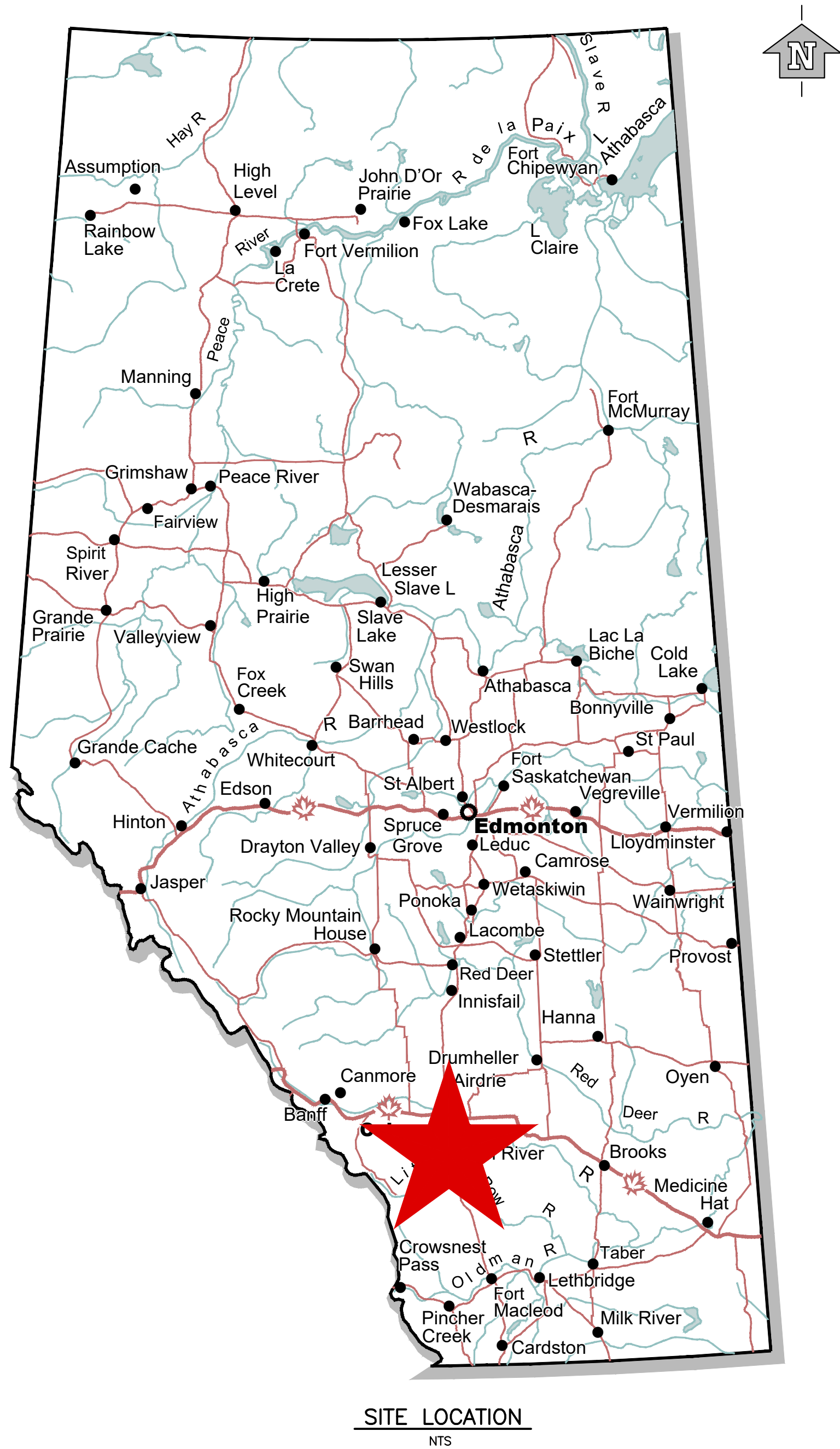




FOOTHILLS OKOTOKS REGIONAL WATER PROJECT - PIPELINE PHASE 2

Municipal Address: -
Legal Description: -

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NOVEMBER 11, 2024
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SITE LOCATION
NTS

LIST OF DRAWINGS

COVERS

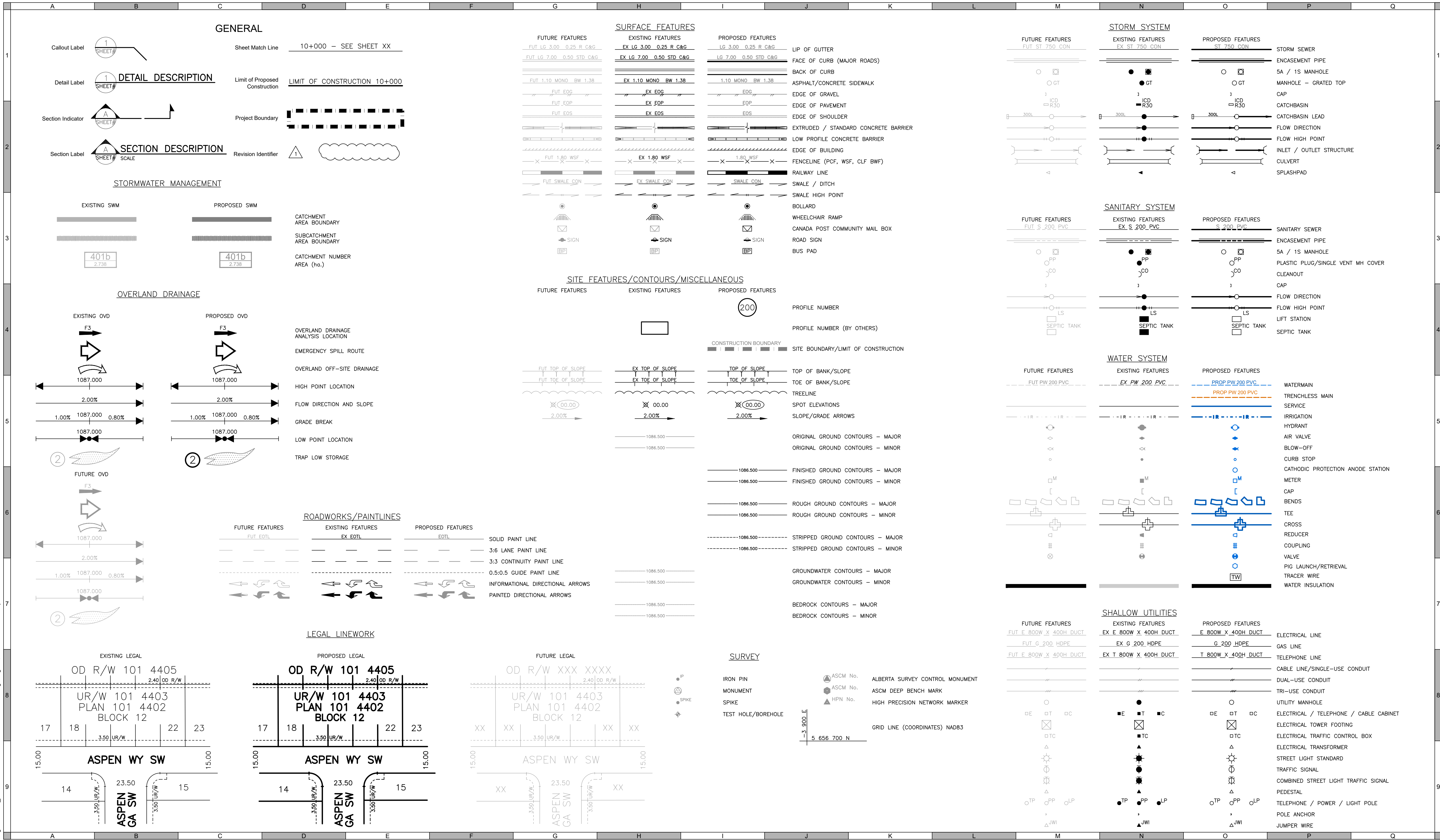
- C-200 Legend
- C-201 Index Plan
- C-202 Overall Site Servicing Plan
- C-203 Overall Site Servicing Plan
- C-204 Overall Site Servicing Plan

PLAN-PROFILES

- C-250 Plan & Profile - STA 20+000 - STA 20+560
- C-251 Plan & Profile - STA 20+560 - STA 21+141
- C-252 Plan & Profile - STA 22+000 - STA 22+680
- C-253 Plan & Profile - STA 22+680 - STA 23+380
- C-254 Plan & Profile - STA 23+380 - STA 23+960
- C-255 Plan & Profile - STA 23+960 - STA 24+203
- C-256 Plan & Profile - STA 25+000 - STA 25+720
- C-257 Plan & Profile - STA 25+720 - STA 26+320
- C-258 Plan & Profile - STA 26+320 - STA 26+651
- C-259 Plan & Profile - STA 27+000 - STA 27+640
- C-260 Plan & Profile - STA 27+640 - STA 28+160
- C-261 Plan & Profile - STA 28+160 - STA 28+630
- D-201 Details
- D-202 Details
- D-203 Details



U:\projects_cal\1306\0120\05D-Design\CAD\20_PROD\PHASE 2\13060120-LEGEND.dwg, Legend, 2024-11-07 11:41 pm mkovach



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SURVEY INFORMATION

Prepared by: Urban Sytems Survey Inc.

Coordinate System: 3TM-NAD83-114

Compilation Date: April 2024

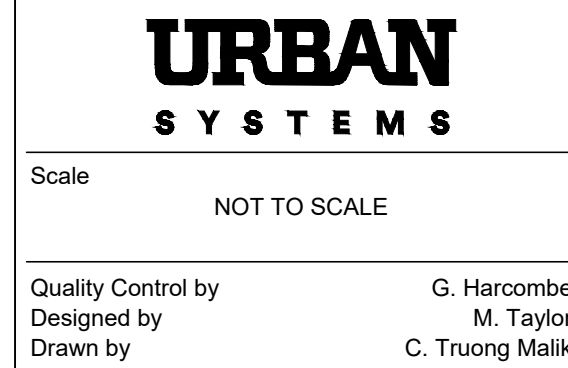
ISSUED FOR RFP

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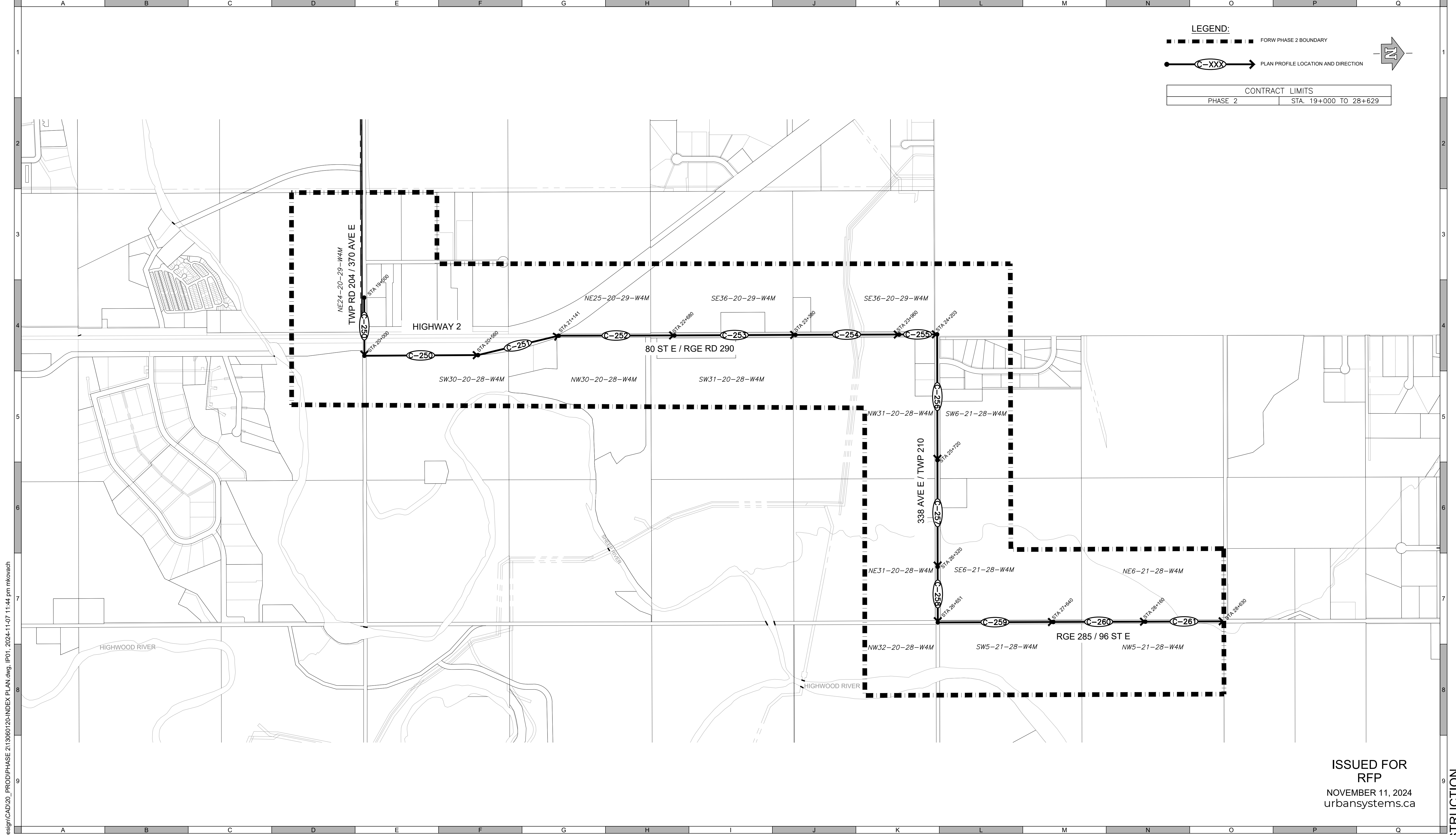
#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH



FOOTHILLS OKOTOKS REGIONAL WATER PROJECT			
PIPELINE PHASE 2 Legend			
Sheet Number	1 of 20		
Project Number	Drawing Number	Revision	
1306.0120.05	C-200	0	

ANSI expand D (34.00 x 22.00 Inches) 25mm

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LEGEND:

FORW PHASE 2 BOUNDARY

C-XXX

PLAN PROFILE LOCATION AND DIRECTION

CONTRACT LIMITS

PHASE 2

STA. 19+000 TO 28+629

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SURVEY INFORMATION
Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

Professional Seals

#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH



URBAN

SYSTEMS

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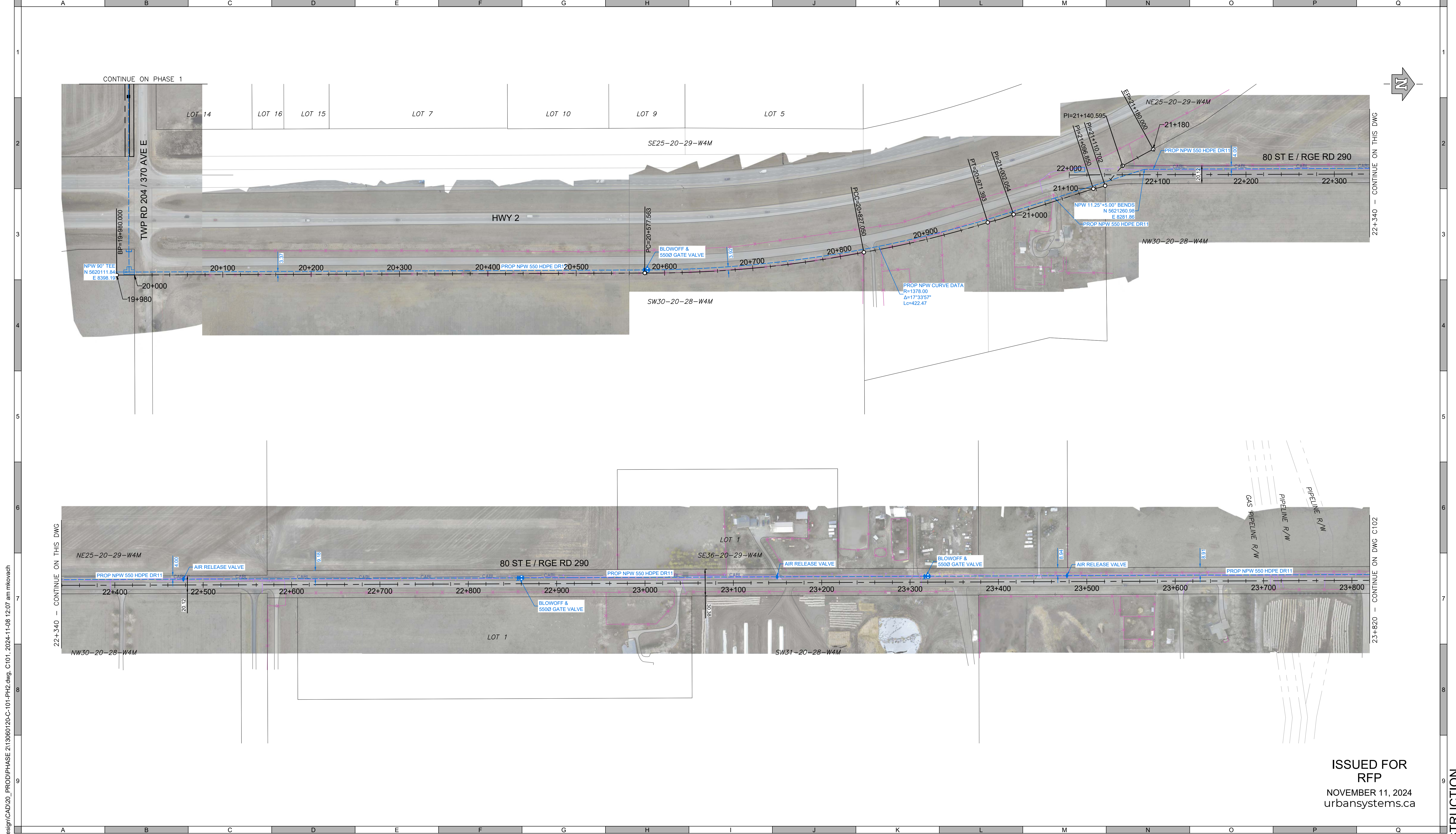
Quality Control by
Designed by
Drawn by

G. Harcombe
M. Taylor
C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT PIPELINE PHASE 2 Index Plan			
Sheet Number	2 of 20		
Project Number	Drawing Number	Revision	
1306.0120.05	C-201	0	

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SURVEY INFORMATION
Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

Professional Seals

#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH



URBAN SYSTEMS

Scale 1:2000 0 40 80m

Quality Control by G. Harcombe
Designed by M. Taylor
Drawn by C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT
PIPELINE PHASE 2
Overall Site Servicing Plan

Sheet Number	3 of 20
Project Number	1306.0120.05
Drawing Number	C-202
Revision	0

ANSI expand D (34.00 x 22.00 inches) 25mm

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Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

Professional Seals

#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH



URBAN SYSTEMS

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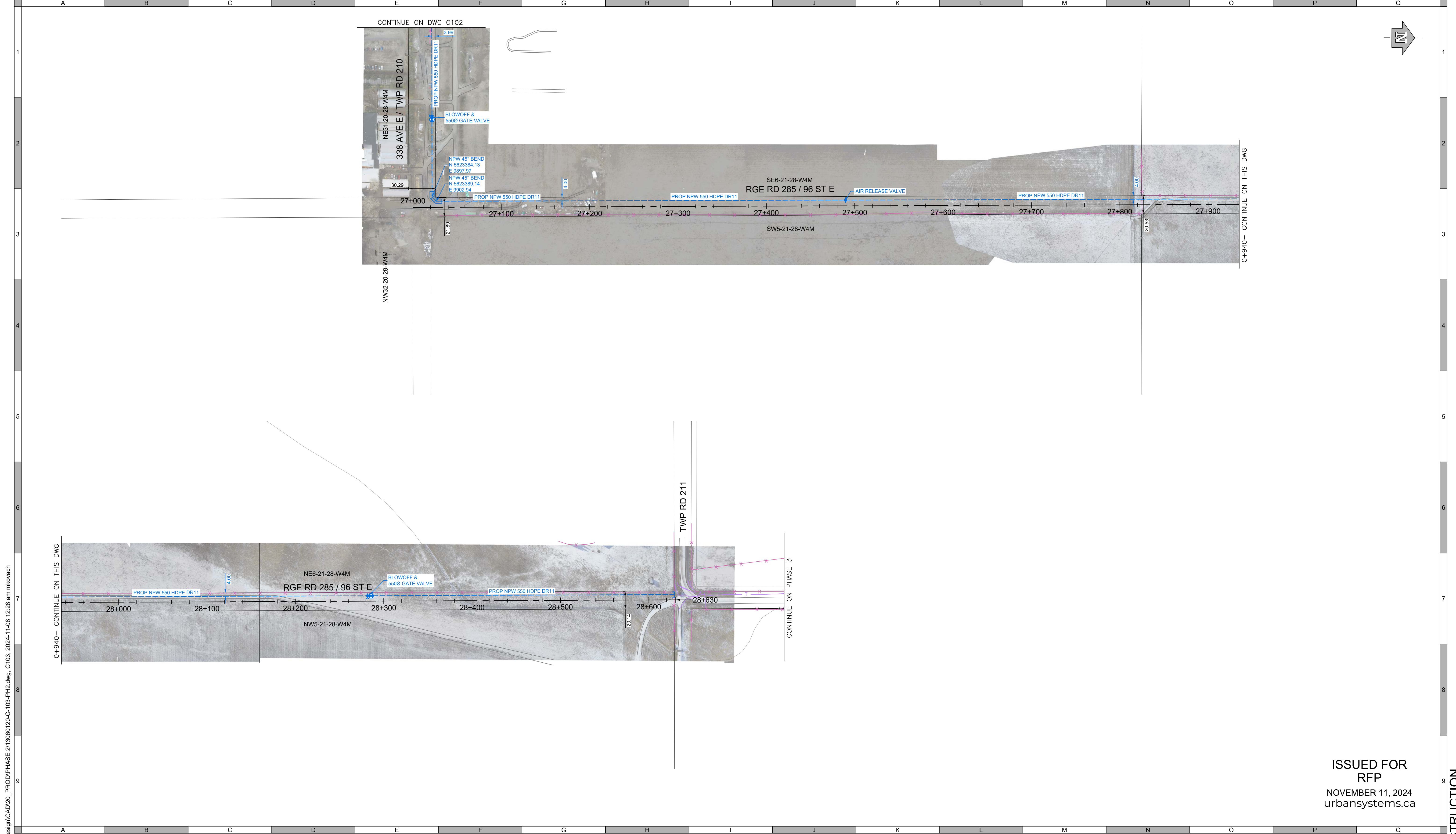
Quality Control by G. Harcombe
Designed by M. Taylor
Drawn by C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT
PIPELINE PHASE 2
Overall Site Servicing Plan

Sheet Number	4 of 20
Project Number	1306.0120.05
Drawing Number	C-203
Revision	0

ANSI expand D (34.00 x 22.00 Inches) 25mm

NOT FOR CONSTRUCTION



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SURVEY INFORMATION
Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

Professional Seals

#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH

URBAN
S Y S T E M S

Scale
1:2000
0 40 80m

Quality Control by
Designed by
Drawn by

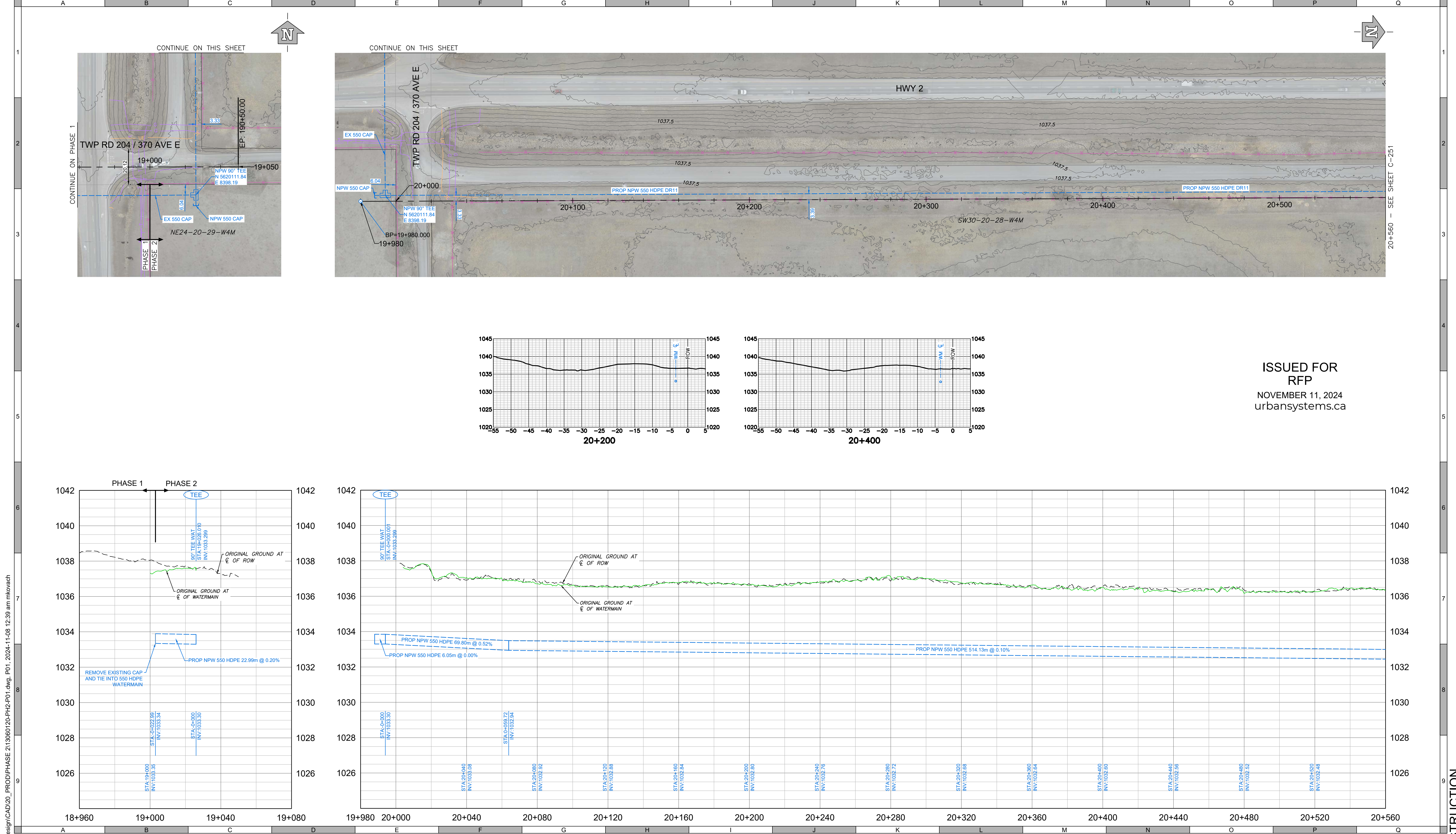
G. Harcombe
M. Taylor
C. Truong Malik

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FOOTHILLS OKOTOKS REGIONAL WATER PROJECT			
PIPELINE PHASE 2 Overall Site Servicing Plan			
Sheet Number	5 of 20		
Project Number	Drawing Number	Revision	
1306.0120.05	C-204	0	

ANSI expand D (34.00 x 22.00 inches) 25mm

NOT FOR CONSTRUCTION



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SURVEY INFORMATION
Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

Professional Seals

#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH



URBAN SYSTEMS

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1:100V 0 2 4m

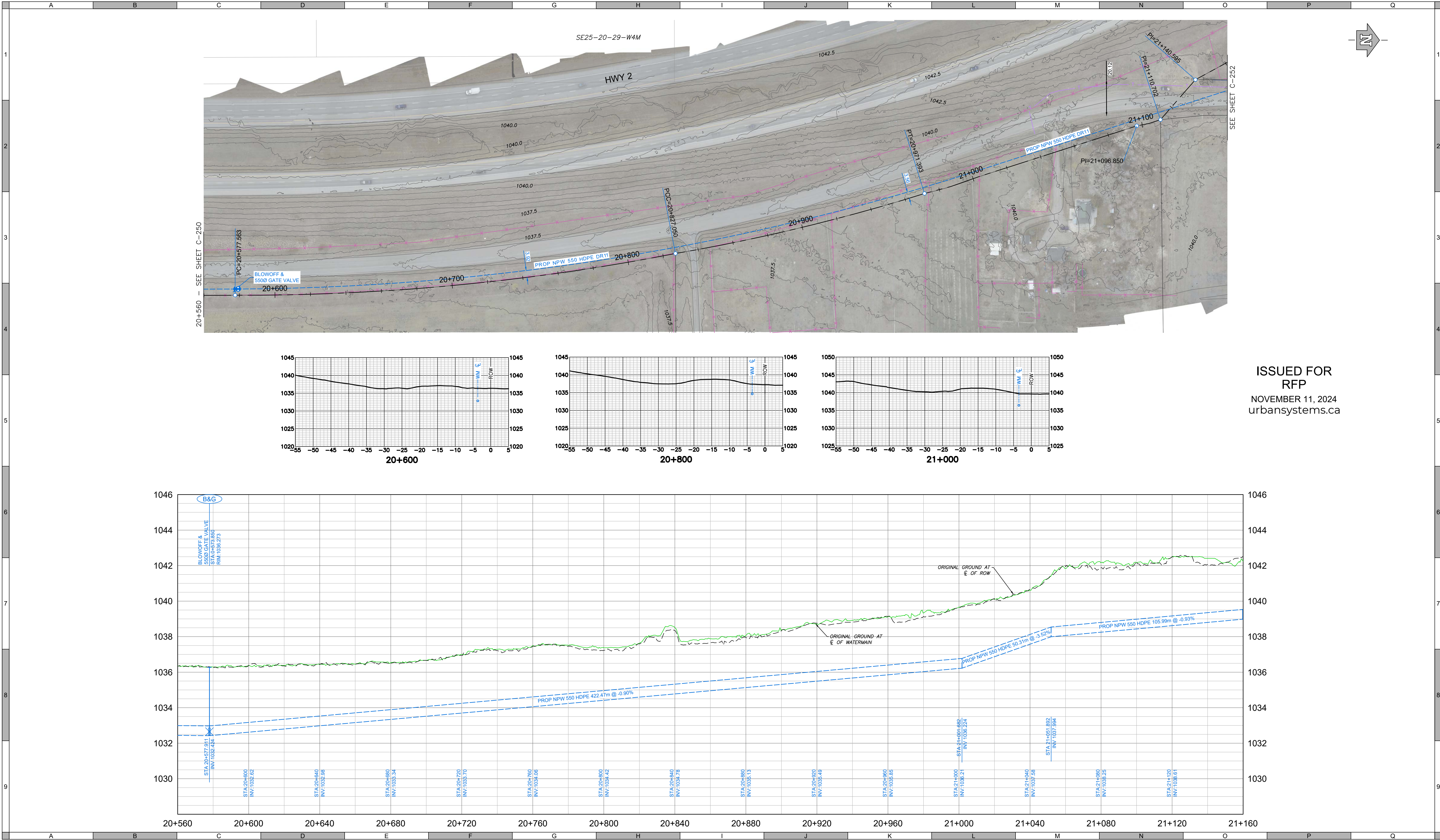
Quality Control by G. Harcombe
Designed by M. Taylor
Drawn by C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT			
PIPELINE PHASE 2 Plan & Profile			
Station 20+000 to 20+560			
Sheet Number	6 of 20		
Project Number	Drawing Number	Revision	
1306.0120.05	C-250	0	

ANSI expand D (34.00 x 22.00 Inches) 25mm

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SURVEY INFORMATION
Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

Professional Seals

#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH



URBAN SYSTEMS

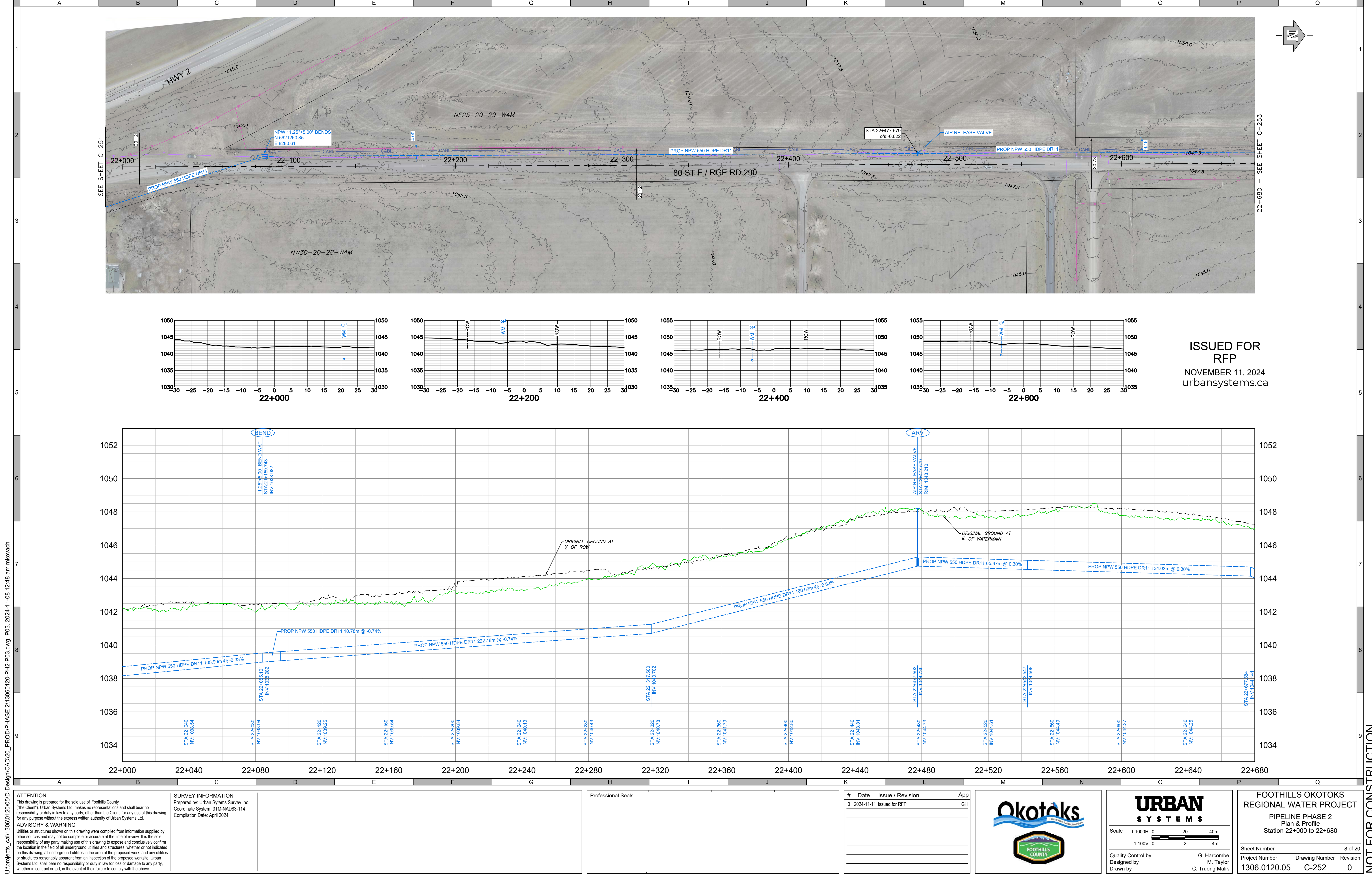
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1:100V 0 2 4m

Quality Control by G. Harcombe
Designed by M. Taylor
Drawn by C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT		
PIPELINE PHASE 2		
Plan & Profile		
Station 20+560 to 21+141		
Sheet Number	7 of 20	
Project Number	Drawing Number	Revision
1306.0120.05	C-251	0

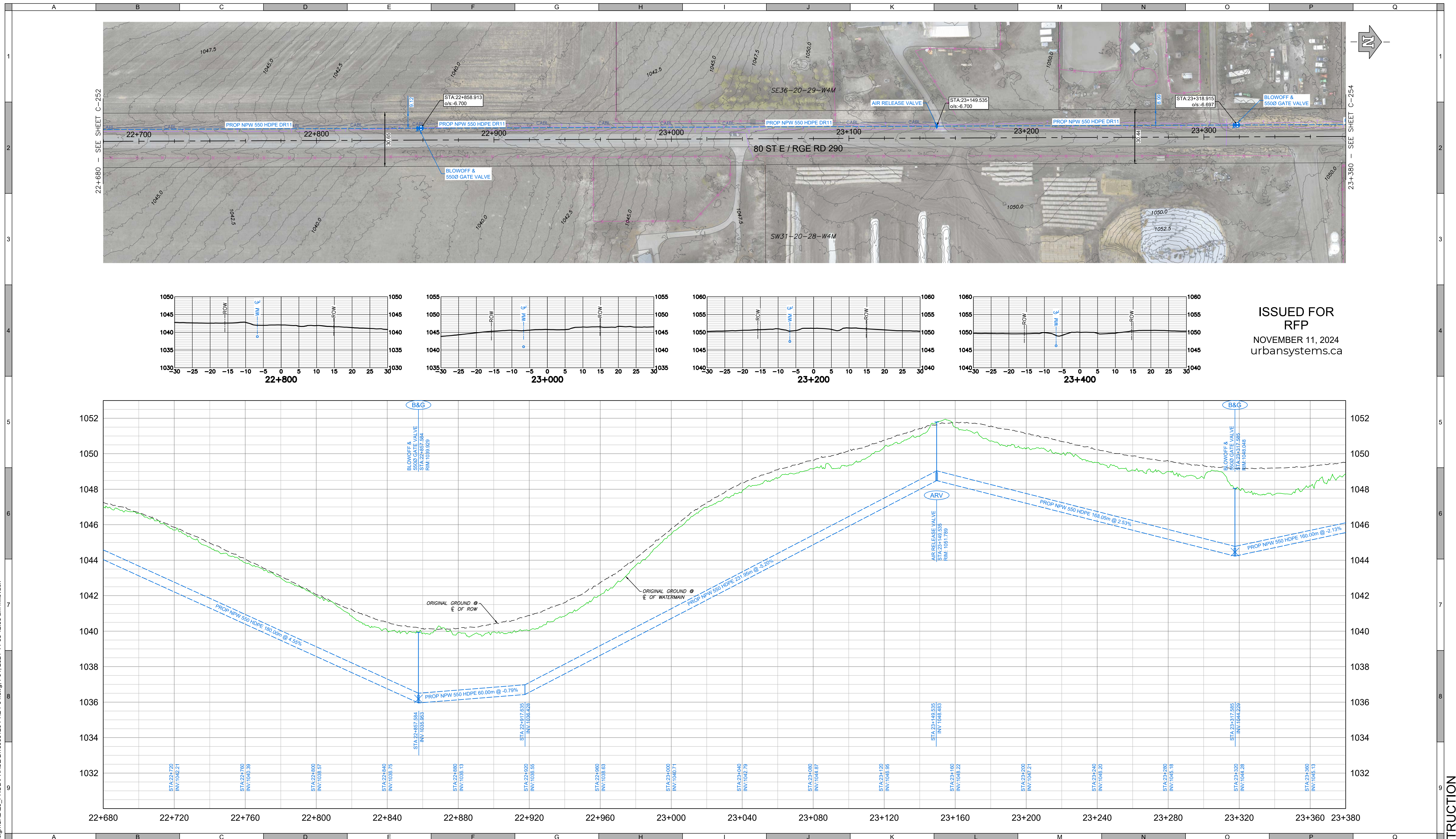
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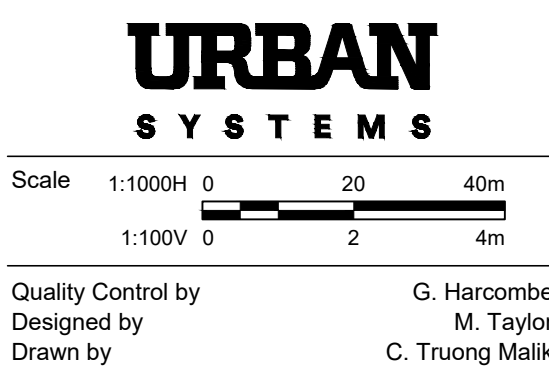
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Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

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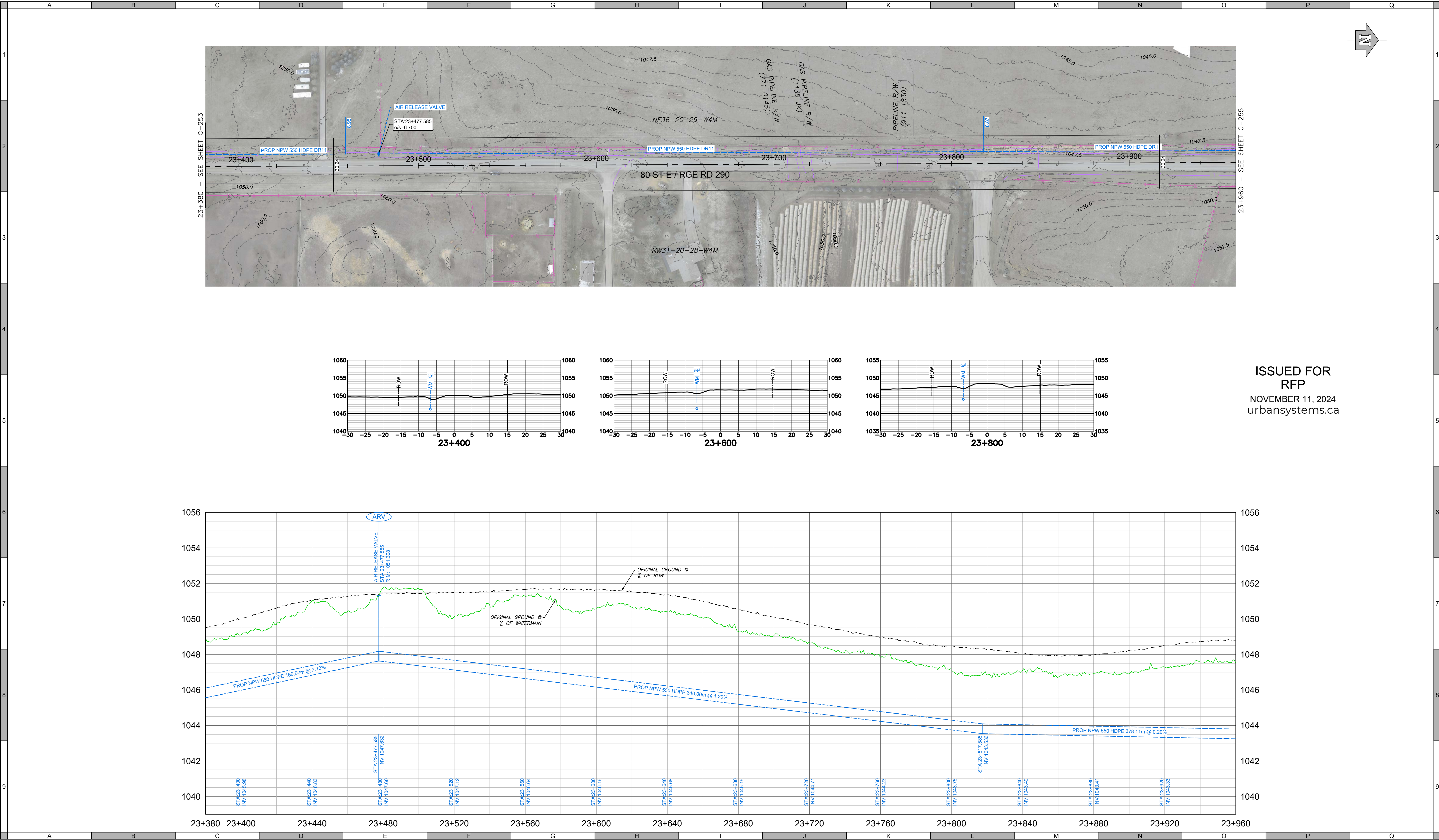
FOOTHILLS OKOTOKS
REGIONAL WATER PROJECT
PIPELINE PHASE 2
Plan & Profile
Station 22+680 to 23+380

Sheet Number		9 of 2
Project Number	Drawing Number	Revision
1306.0120.05	C-253	0

ANSI expand D (34.00 x 22.00 Inches) 25mm

NOT FOR CONSTRUCTION

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Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

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0	2024-11-11	Issued for RFP	GH

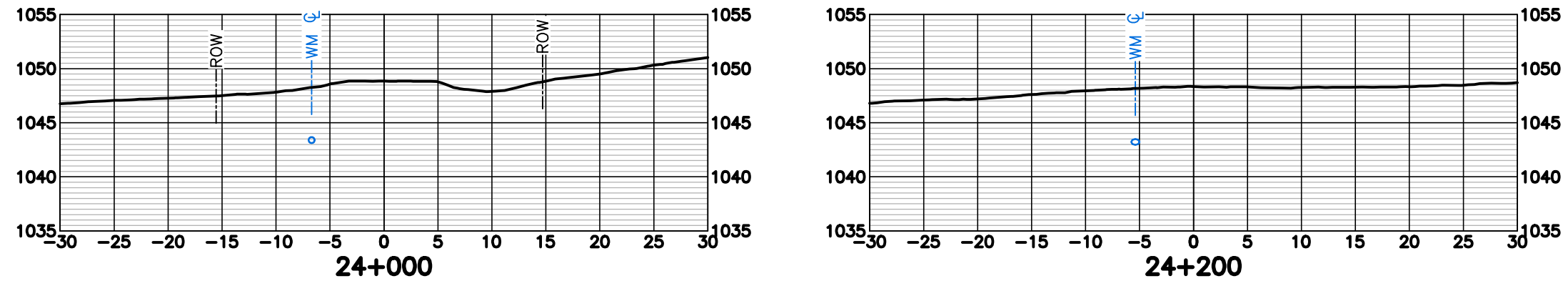
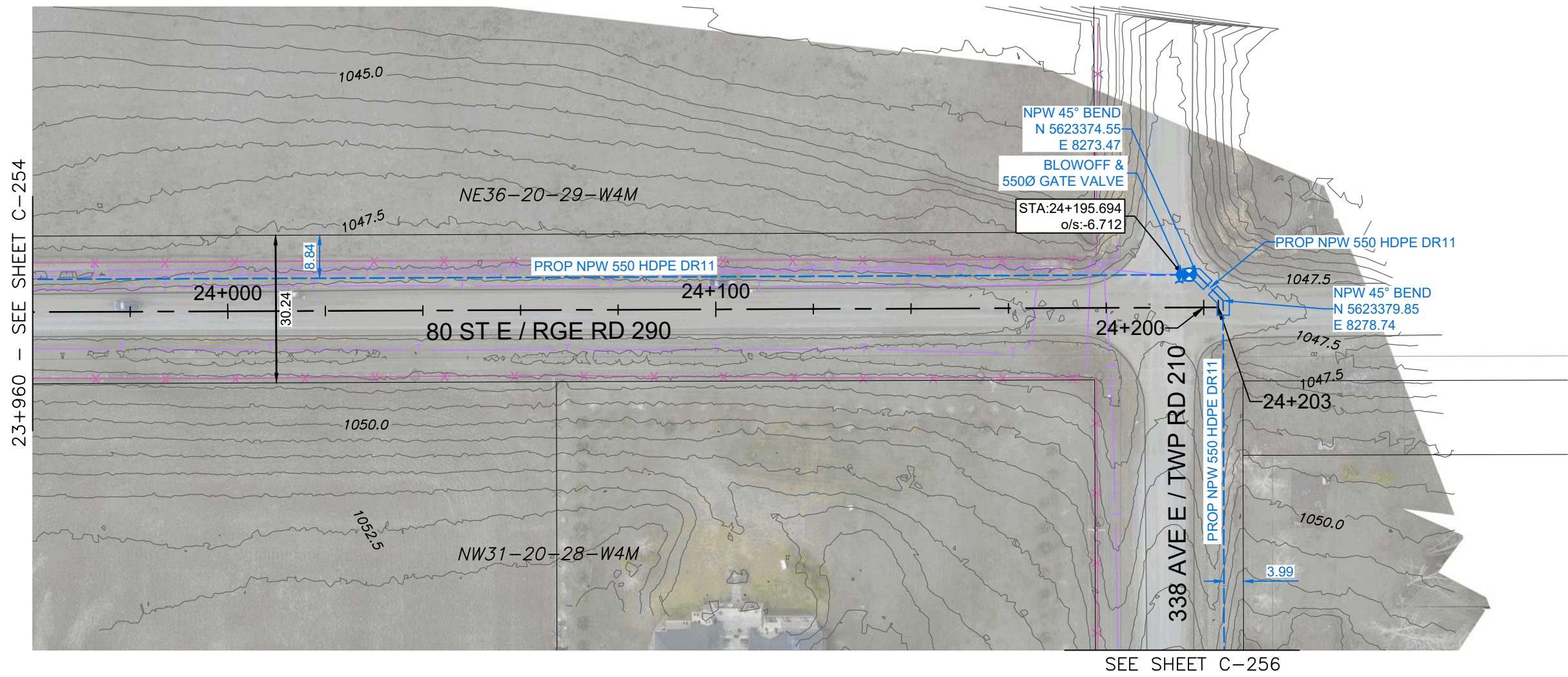


URBAN SYSTEMS	
Scale	1:1000H 0 20 40m 1:100V 0 2 4m
Quality Control by	G. Harcombe
Designed by	M. Taylor
Drawn by	C. Truong Malik

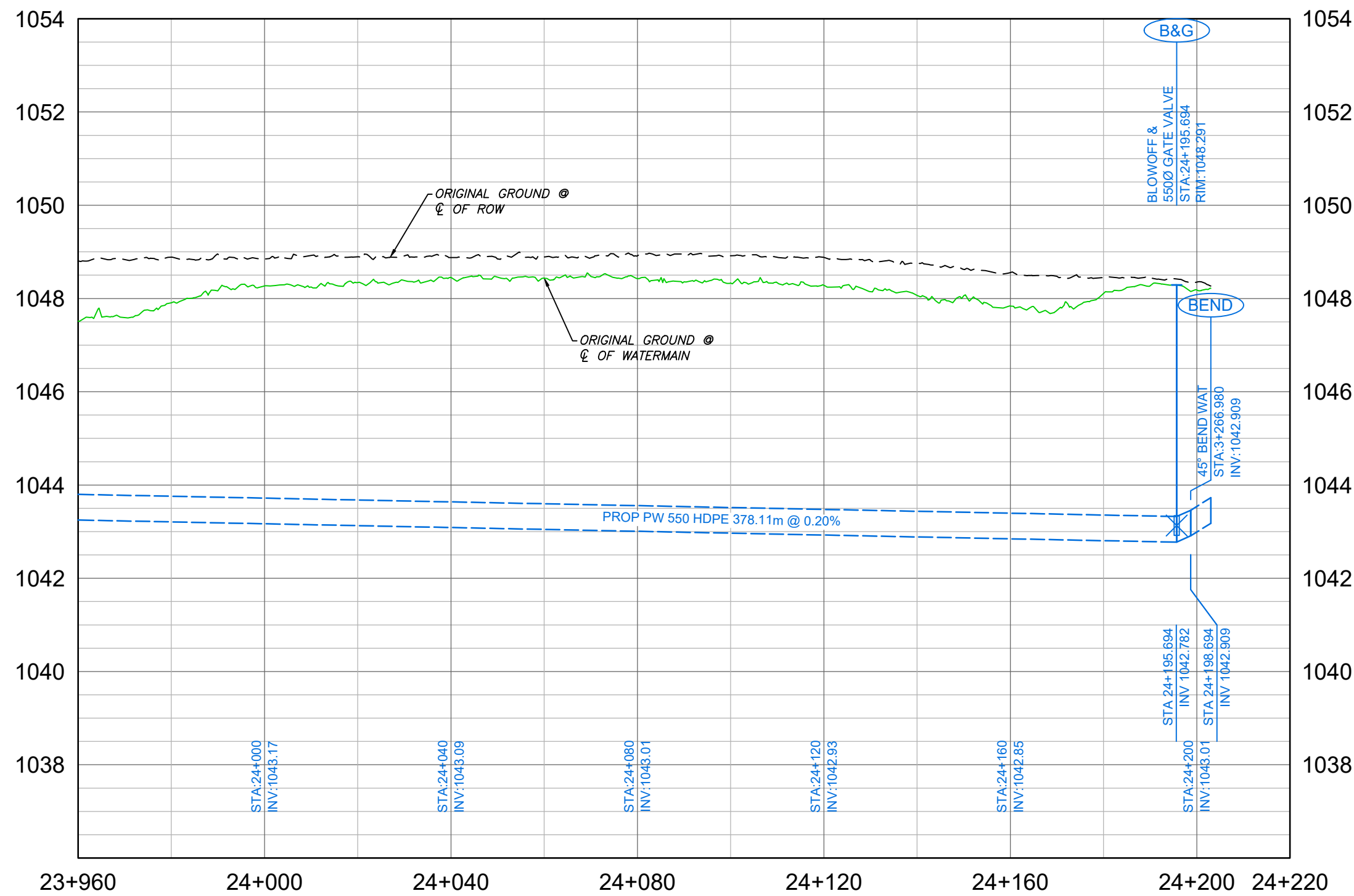
FOOTHILLS OKOTOKS REGIONAL WATER PROJECT			
PIPELINE PHASE 2			
Plan & Profile			
Station 23+380 to 23+960			
Sheet Number	10 of 20		
Project Number	Drawing Number	Revision	
1306.0120.05	C-254	0	

ANSI expand D (34.00 x 22.00 inches) 25mm

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Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

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#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH

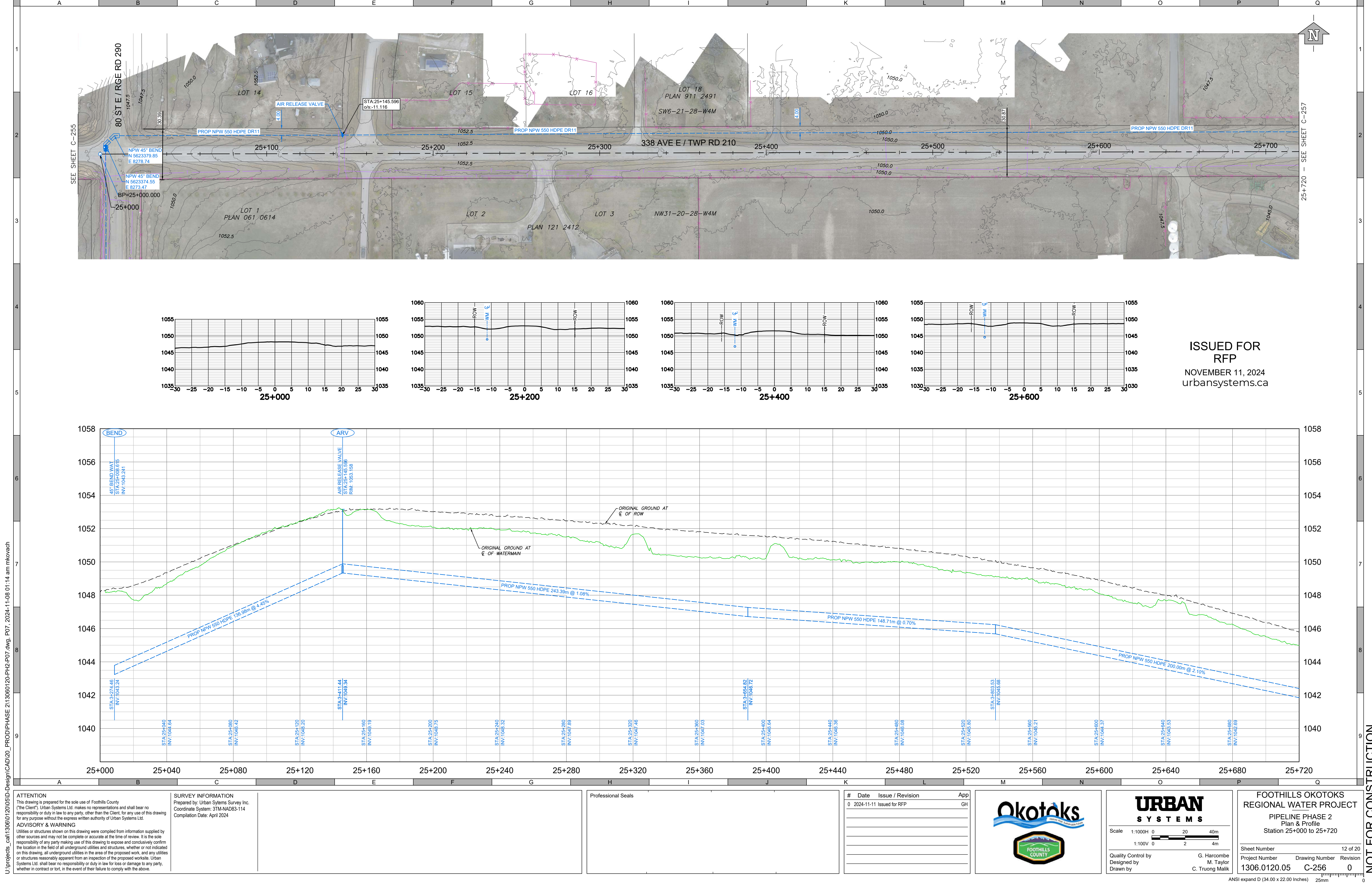


URBAN SYSTEMS	
Scale	1:1000H 0 20 40m 1:100V 0 2 4m
Quality Control by	G. Harcombe
Designed by	M. Taylor
Drawn by	C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT		
PIPELINE PHASE 2 Plan & Profile Station 23+960 to 24+203		
Sheet Number	11 of 20	
Project Number	Drawing Number	Revision
1306.0120.05	C-255	0

ANSI expand D (34.00 x 22.00 Inches) 25mm

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SURVEY INFORMATION
Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

Professional Seals

#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH



URBAN SYSTEMS

Scale 1:1000H 0 20 40m
1:100V 0 2 4m

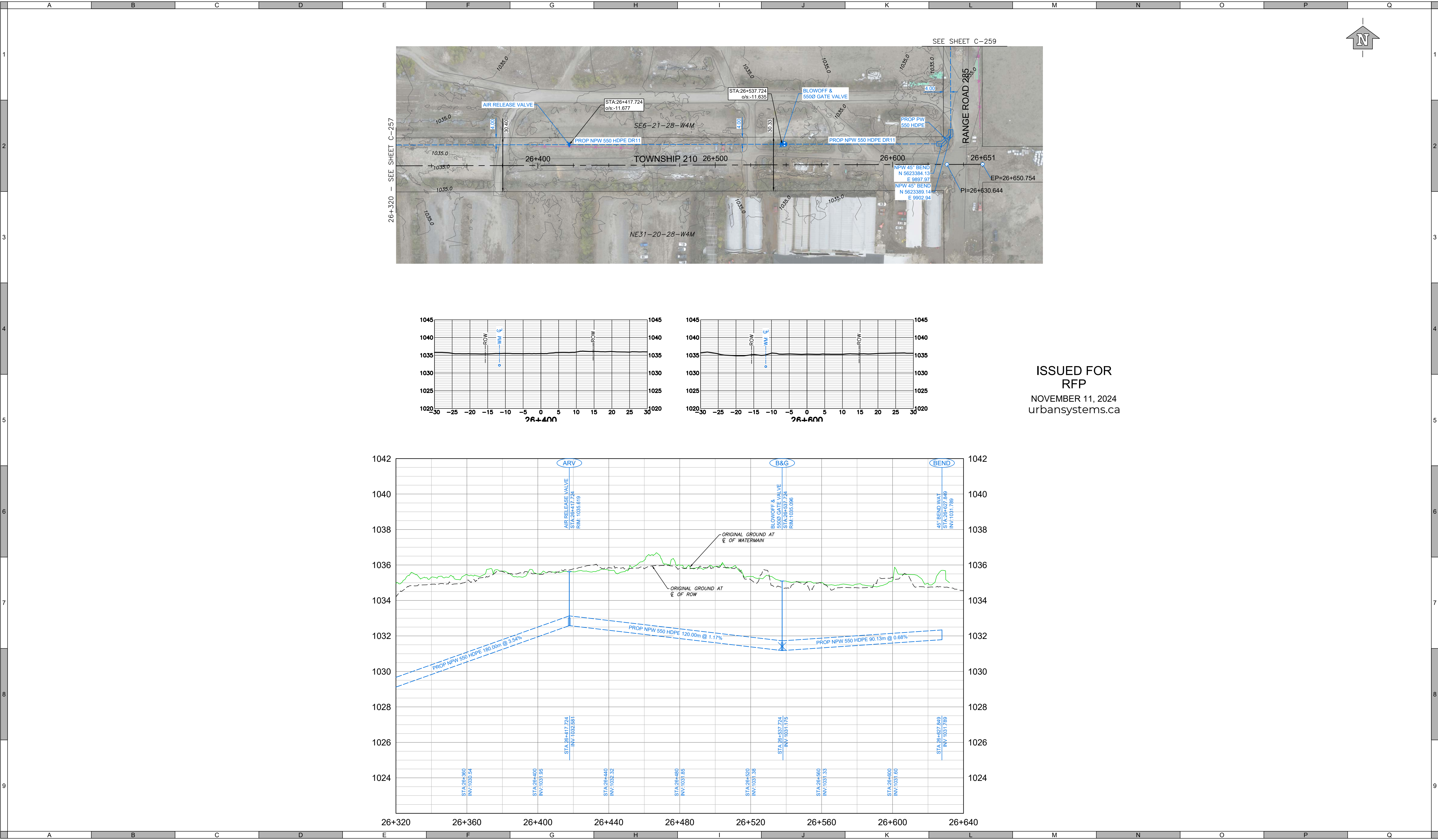
Quality Control by G. Harcombe
Designed by M. Taylor
Drawn by C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT			
PIPELINE PHASE 2			
Plan & Profile			
Station 25+000 to 25+720			
Sheet Number	12 of 20		Revision
Project Number	Drawing Number	Revision	
1306.0120.05	C-256	0	

ANSI expand D (34.00 x 22.00 inches) 25mm

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Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

Professional Seals

#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH



URBAN SYSTEMS

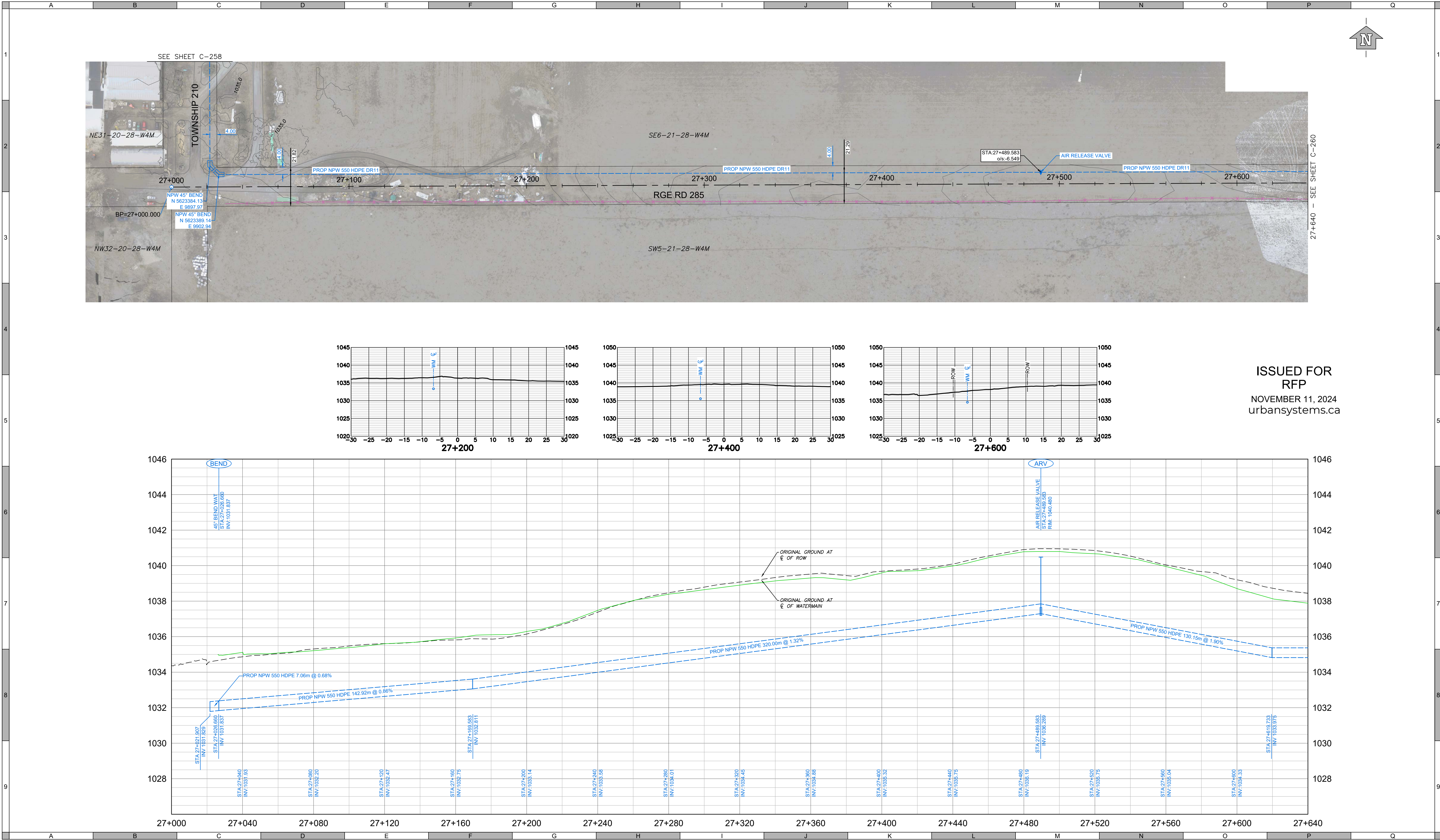
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1:100V 0 2 4m

Quality Control by G. Harcombe
Designed by M. Taylor
Drawn by C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT		
PIPELINE PHASE 2 Plan & Profile Station 26+320 to 26+651		
Sheet Number	14 of 20	
Project Number	Drawing Number	Revision
1306.0120.05	C-258	0

NOT FOR CONSTRUCTION

U:\projects_cal\13060120\05D-Design\CAD\20_PROD\PHASE 2\13060120-PH2-P10.dwg, P10, 2024-11-08 01:40 am mikovach



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SURVEY INFORMATION
Prepared by: Urban Sytems Survey Inc.
Coordinate System: 3TM-NAD83-114
Compilation Date: April 2024

Professional Seals

#	Date	Issue / Revision	App
0	2024-11-11	Issued for RFP	GH



URBAN SYSTEMS

Scale: 1:1000H 0 20 40m
1:100V 0 2 4m

Quality Control by: G. Harcombe
Designed by: M. Taylor
Drawn by: C. Truong Malik

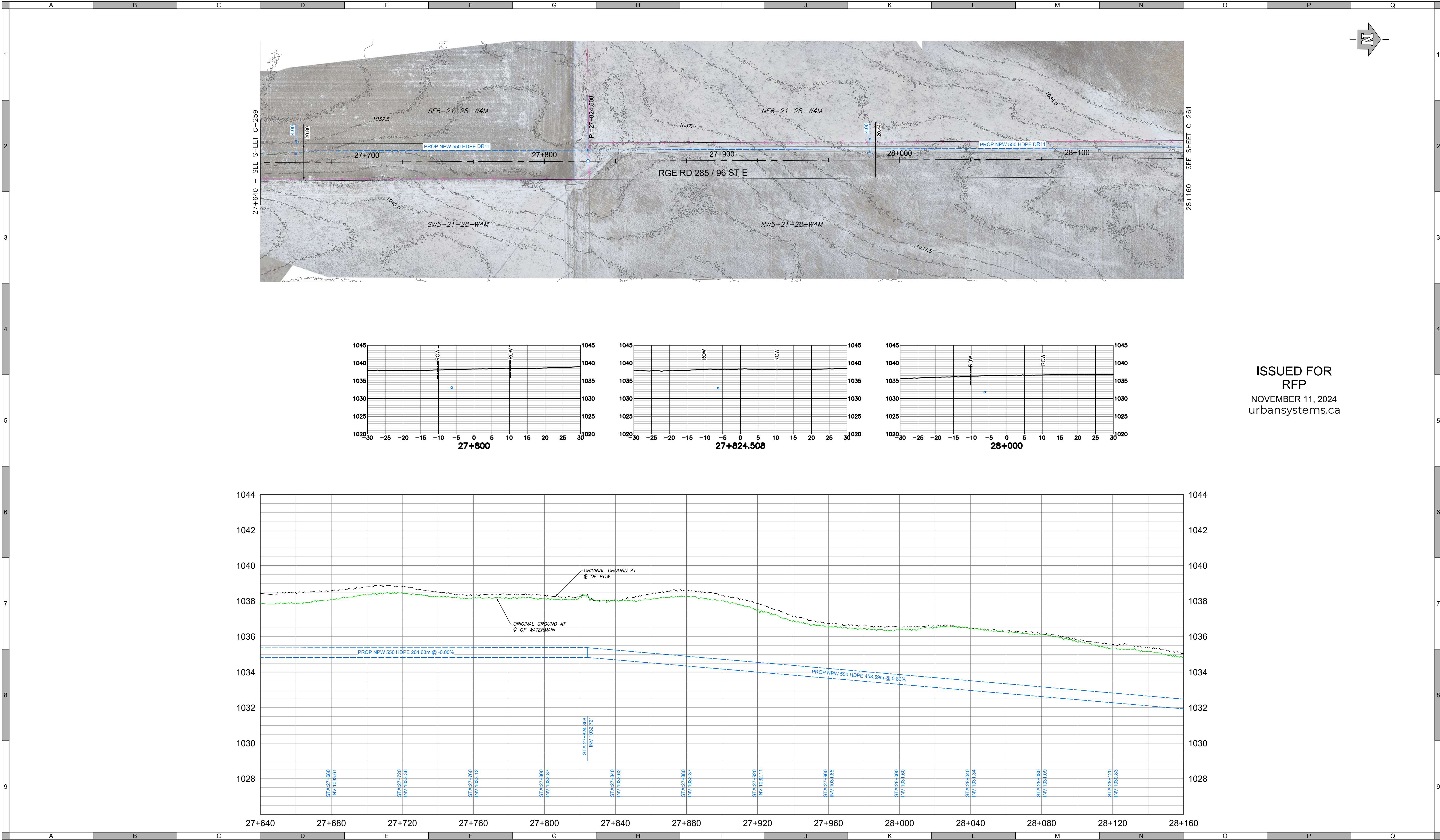
**FOOTHILLS OKOTOKS
REGIONAL WATER PROJECT**
PIPELINE PHASE 2
Plan & Profile
Station 27+000 to 27+640

Sheet Number		15 of 20
Project Number	Drawing Number	Revision
1306.0120.05	C-259	0

ANSI expand D (34.00 x 22.00 Inches) 25mm

NOT FOR CONSTRUCTION

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0	2024-11-11	Issued for RFP	GH



URBAN SYSTEMS

Scale 1:1000H 0 20 40m
1:100V 0 2 4m

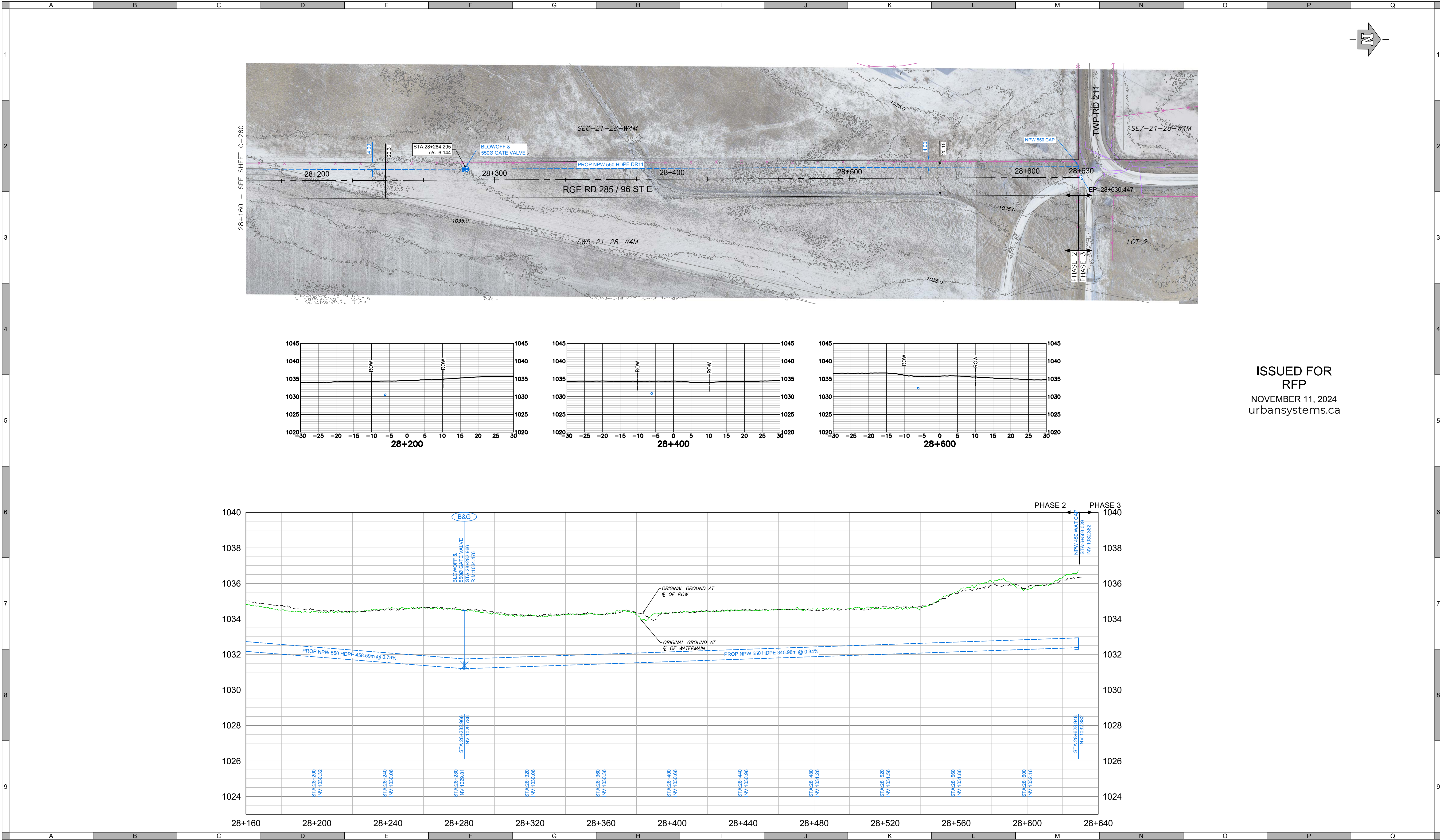
Quality Control by G. Harcombe
Designed by M. Taylor
Drawn by C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT		
PIPELINE PHASE 2 Plan & Profile Station 27+640 to 28+160		
Sheet Number	16 of 20	
Project Number	Drawing Number	Revision
1306.0120.05	C-260	0

ANSI expand D (34.00 x 22.00 Inches) 25mm

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URBAN SYSTEMS

Scale 1:1000H 0 20 40m
1:100V 0 2 4m

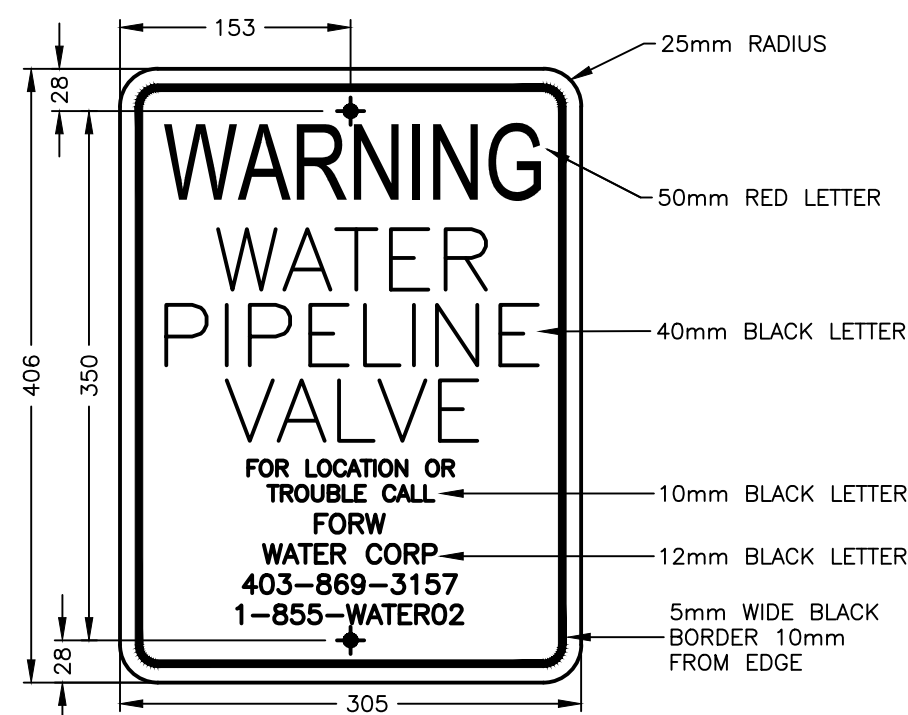
Quality Control by G. Harcombe
Designed by M. Taylor
Drawn by C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT		
PIPELINE PHASE 2 Plan & Profile Station 28+160 to 28+630		
Sheet Number	17 of 20	
Project Number	Drawing Number	Revision
1306.0120.05	C-261	0

ANSI expand D (34.00 x 22.00 Inches) 25mm

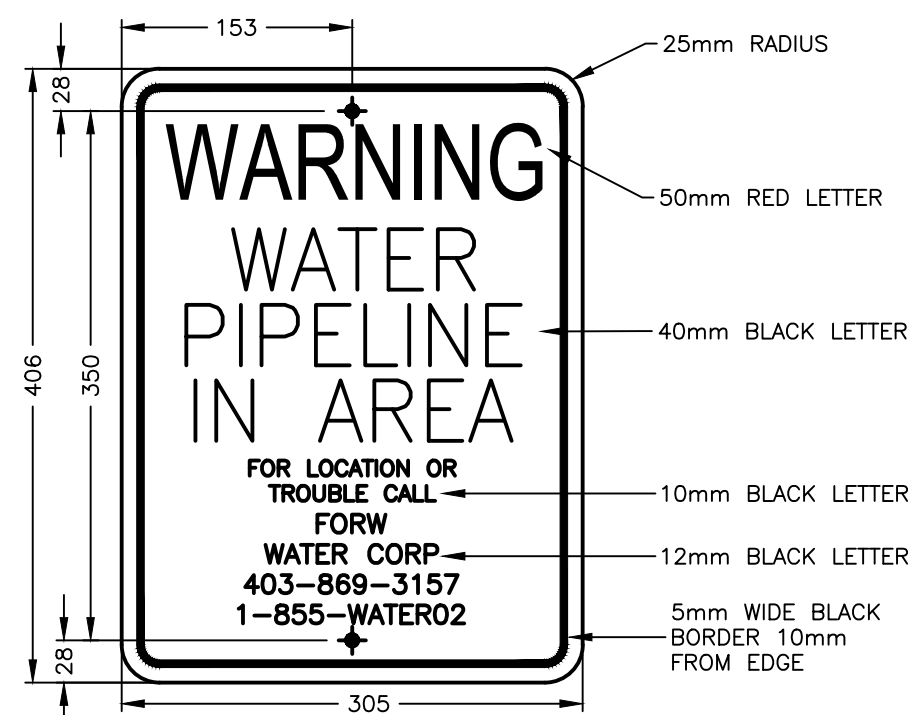
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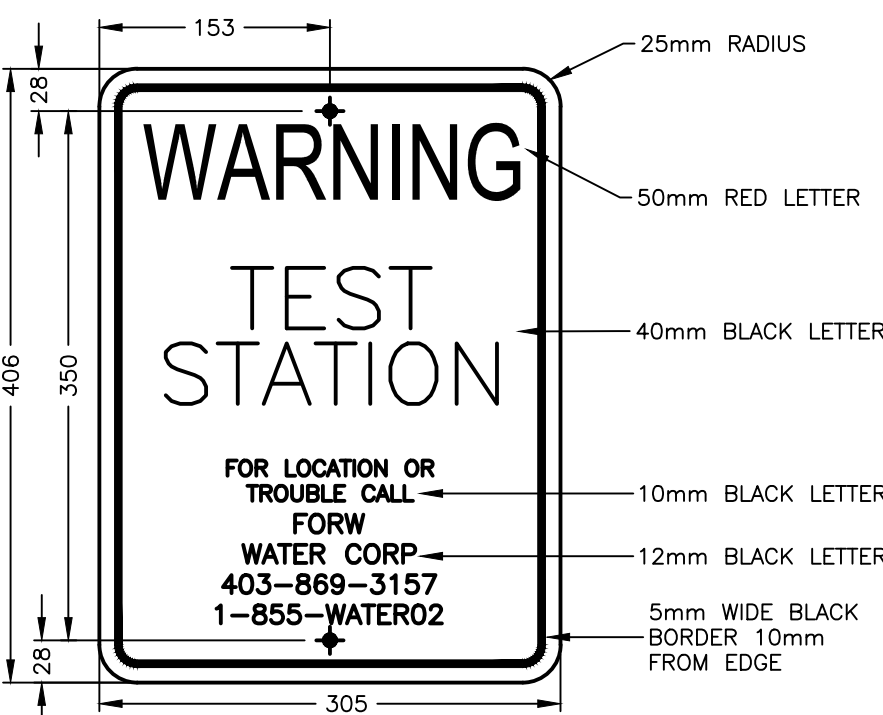
WATER VALVE WARNING SIGN
NOT TO SCALE

NOTE: SIGNS TO BE PLACED WITHIN MIN 0.50m/MAX 1.5m OF EVERY VALVE, BLOWOFF, OR AIR RELEASE ALLOWING UNINTERRUPTED VALVE OPERATION.



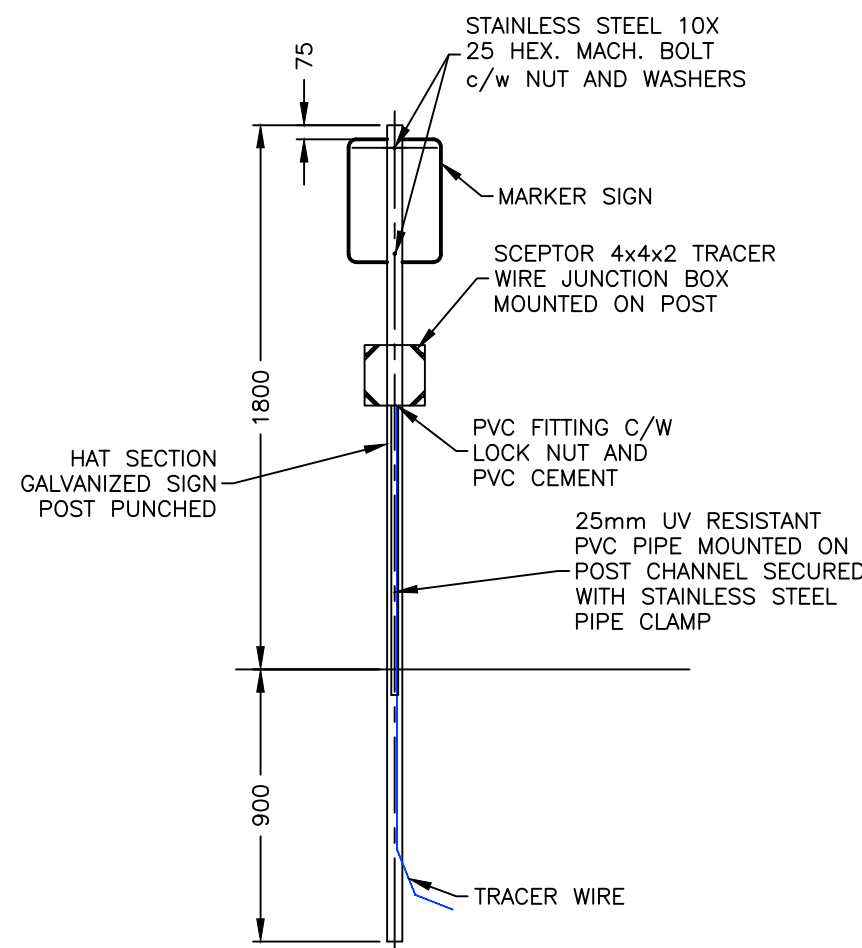
WATER PIPELINE WARNING SIGN
NOT TO SCALE

NOTE: SIGNS TO BE PLACED AT MINIMUM ON EACH SIDE OF EVERY ROAD CROSSING, PIPELINE CROSSING, RAILWAY CROSSING AND WATERBODY.

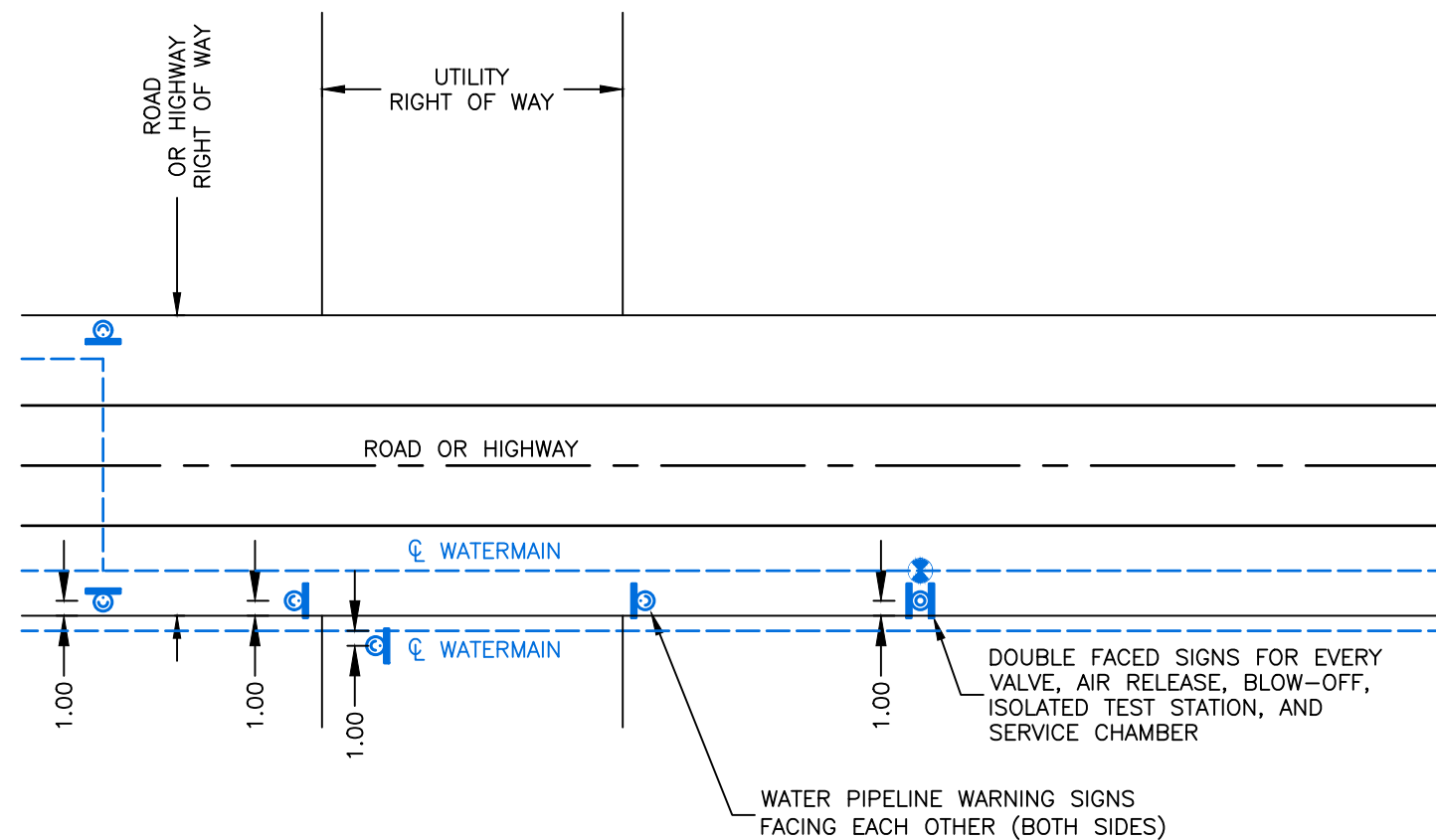


TEST STATION SIGN
NOT TO SCALE

NOTE: MIN 0.5m/MAX 1.5m OF EACH TEST STATION THAT IS NOT IMMEDIATELY BESIDE ANOTHER SURFACE APPURTENANCE REQUIRING A WARNING SIGN.



WARNING SIGN POST
NOT TO SCALE



WARNING SIGN POST LOCATION PLAN
UTILITY ROW'S & VALVES
NOT TO SCALE

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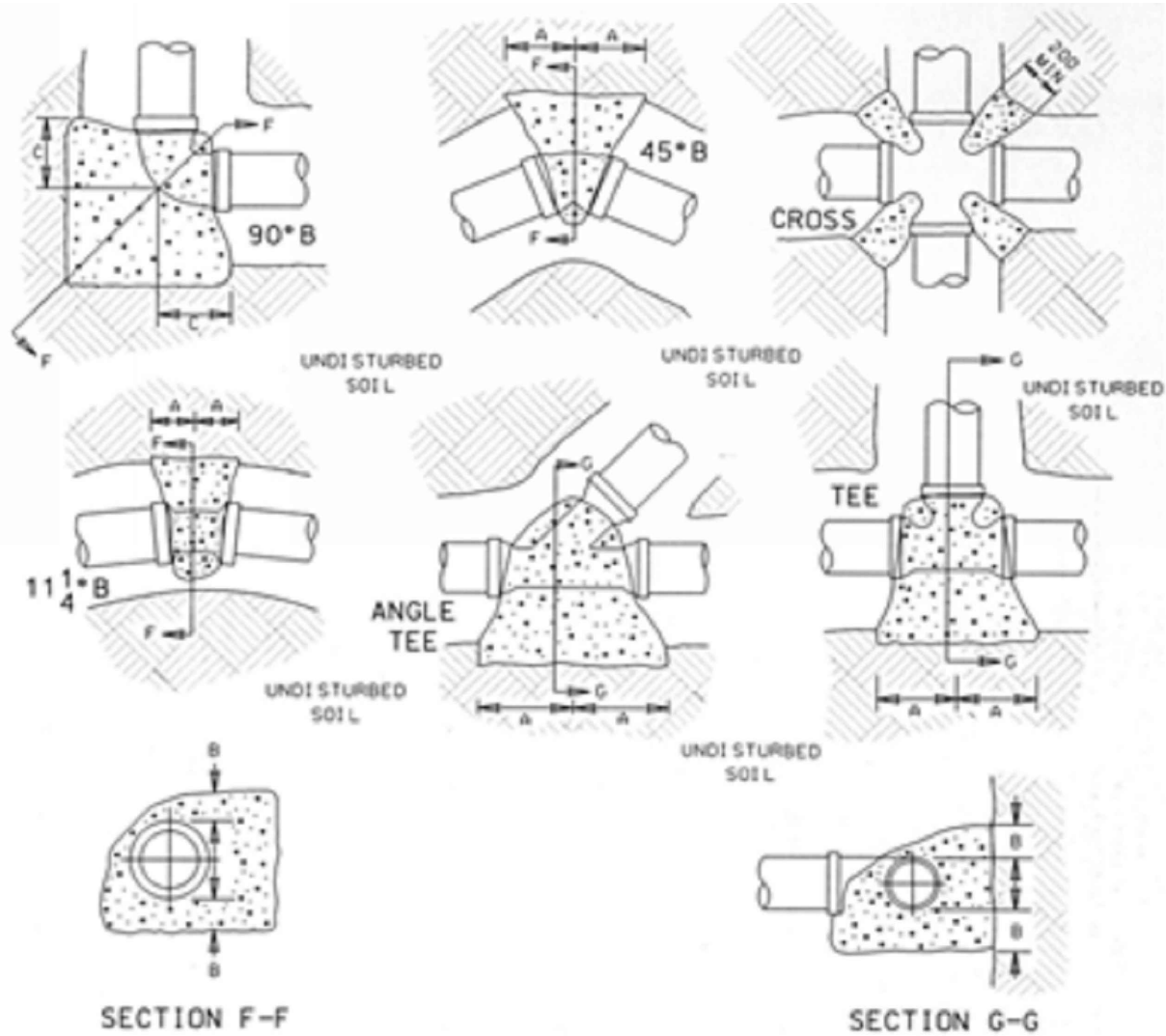
URBAN SYSTEMS	
Scale	AS SHOWN
Quality Control by	G. Harcombe
Designed by	M. Taylor
Drawn by	C. Truong Malik

FOOTHILLS OKOTOKS REGIONAL WATER PROJECT	
PIPELINE PHASE 2 Details	
Sheet Number	18 of 20
Project Number	Drawing Number
1306.0120.05	D-201
Revision	0

ANSI expand D (34.00 x 22.00 inches) 25mm

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TYPICAL THRUST BLOCK TABLE			
FITTING	DIAMETER (mm)	MINIMUM THRUST BLOCK BEARING AREA (m ²)	MINIMUM VOLUME OF CONCRETE (m ³)
TEES AND DEAD ENDS	350	3.4	2.56
	200	1.1	0.68
	100	0.3	0.15
45° < BEND ≤ 90°	350	4.8	3.61
	200	1.6	0.95
	100	0.4	0.2
5° < BEND ≤ 45°	350	2.6	1.96
	200	0.9	0.52
	100	0.3	0.12

Notes:

1

These values are based on a soil bearing pressure of 1500 lb/ft².

2

A minimum thickness of 200mm of concrete is required around pipe.

3

Thrust block to be supported against undisturbed soil.

THRUST RESTRAINT TABLE		
FITTING	DIAMETER (mm)	RESTRAINED LENGTH (m)
VALVE	350	38
	200	22
	100	13
45° < BEND ≤ 90°	350	17
	200	11
	100	7
5° < BEND ≤ 45°	350	8
	200	5
	100	3
REDUCER	350 x 200	25
	350 x 100	34

THRUST RESTRAINT TABLE NOTES:

- ALL FITTINGS TO BE RESTRAINED ON BOTH SIDES AS PER THE THRUST RESTRAINT TABLE, UNLESS ADEQUATELY RESTRAINED BY THRUST BLOCK.
- FULL LENGTH OF RESTRAINED PIPE REQUIRES CLASS 'B' BEDDING.
- ALL JOINTS WITHIN THE RESTRAINED LENGTH MUST BE RESTRAINED.
- RESTRAINED LENGTH TO BE MEASURED FROM EDGE OF FITTING.
- ONLY NON-METALLIC JOINT RESTRAINTS ARE PERMITTED FOR PIPE WITH A DIAMETER EQUAL TO OR LESS THAN 300MM, EXCEPT FOR JOINTS WHERE THE PIPE IS CONNECTED TO A METALLIC FITTING.
- METALLIC JOINT RESTRAINTS PERMITTED ONLY FOR PIPE WITH DIAMETERS EQUAL TO 350MM. CATHODIC PROTECTION REQUIRED.

FITTING TYPE DESIGNATIONS:

- F=FLANGED CONNECTIONS – TO BE USED FOR ALL FITTINGS ADJACENT TO ANOTHER FITTING
- R=RESTRAINED JOINT – TO BE USED ON FITTINGS CONNECTED TO PIPE. POTENTIAL OPTIONS INCLUDE:
- RESTRAINED MECHANICAL JOINT
 - TYTON/PUSH ON JOINT WITH A JOINT RESTRAINT DESIGNED TO CONNECT TO THE NUMBER OF LUGS ON THE FITTING
 - FLANGE CONNECTION WITH A FLANGE ADAPTER AND A RESTRAINED JOINT ON PIPE

CONNECTION TO FUSIBLE PIPE JOINT RESTRAINT REQUIREMENTS

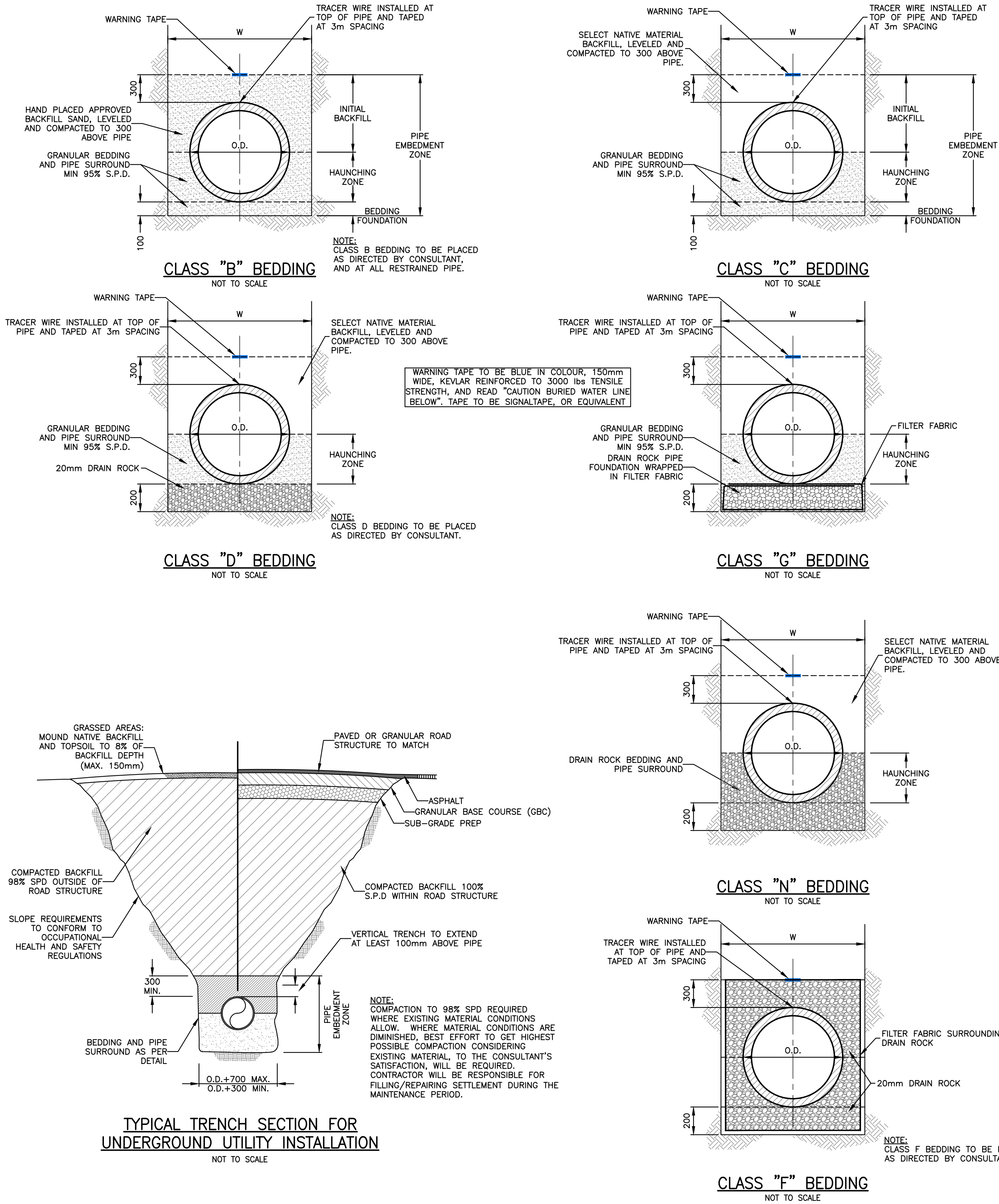
ALL CONNECTIONS TO FUSIBLE PIPE OR OTHER PIPE WITH RESTRICTED JOINT MOVEMENT INSTALLED IN A CASING, BY DIRECTIONAL DRILLING OR OTHER METHOD WITH REDUCED LONGITUDINAL FRICTION SHALL BE RESTRAINED ON BOTH ENDS AS FOLLOWS:

PIPE LENGTH	RESTRAINED LENGTH (c/w WITH CLASS B BEDDING)
0m TO 40m	6m
40m TO 75m	12m
75m TO 150m	18m
150m TO 250m	24m
>250m	30m

ALTERNATIVELY THE RESTRAINED LENGTH CAN BE REPLACED WITH A GATE VALVE THRUST BLOCK AS SHOWN ON D03

THRUST BLOCK DETAILS

NOT TO SCALE



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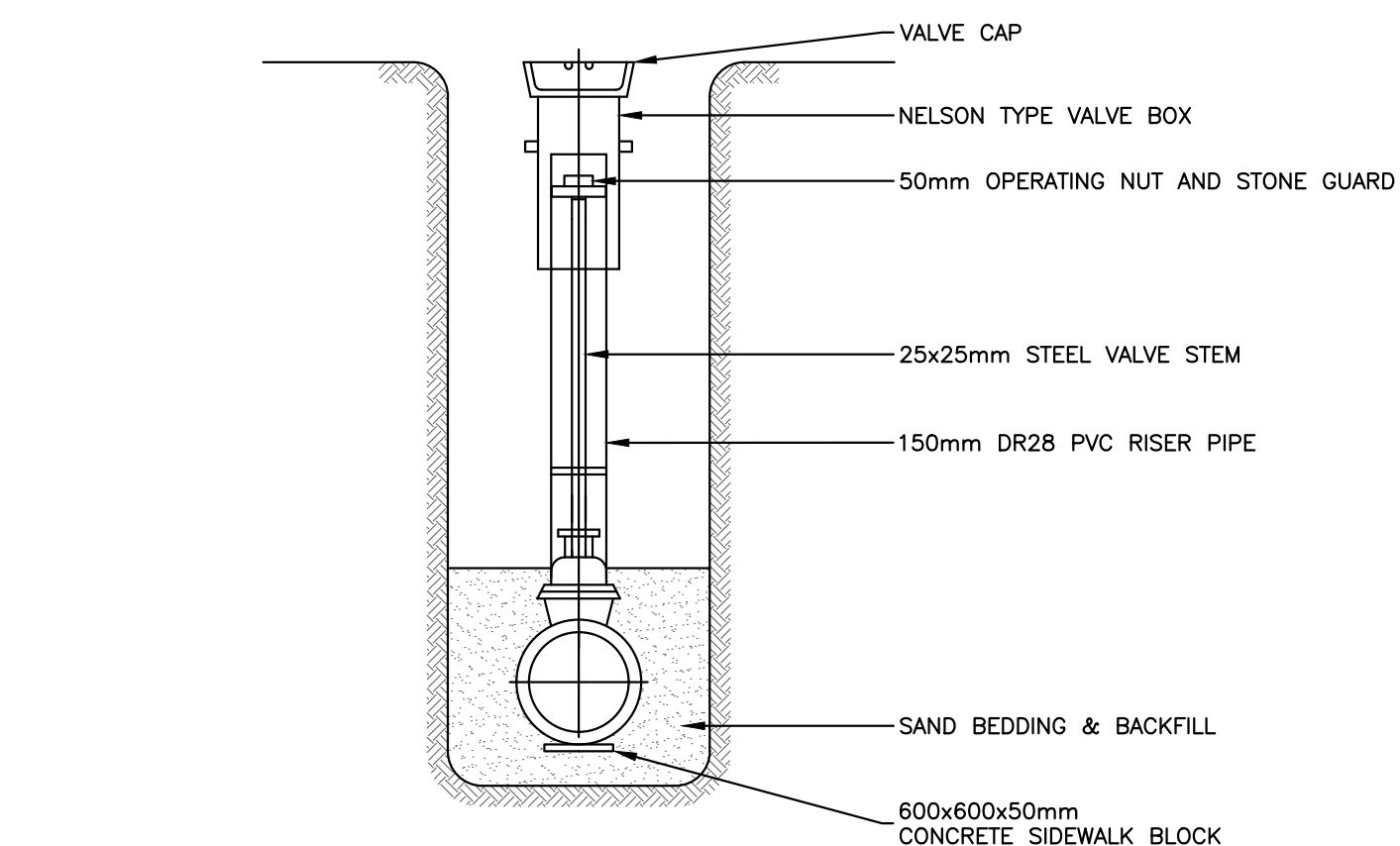
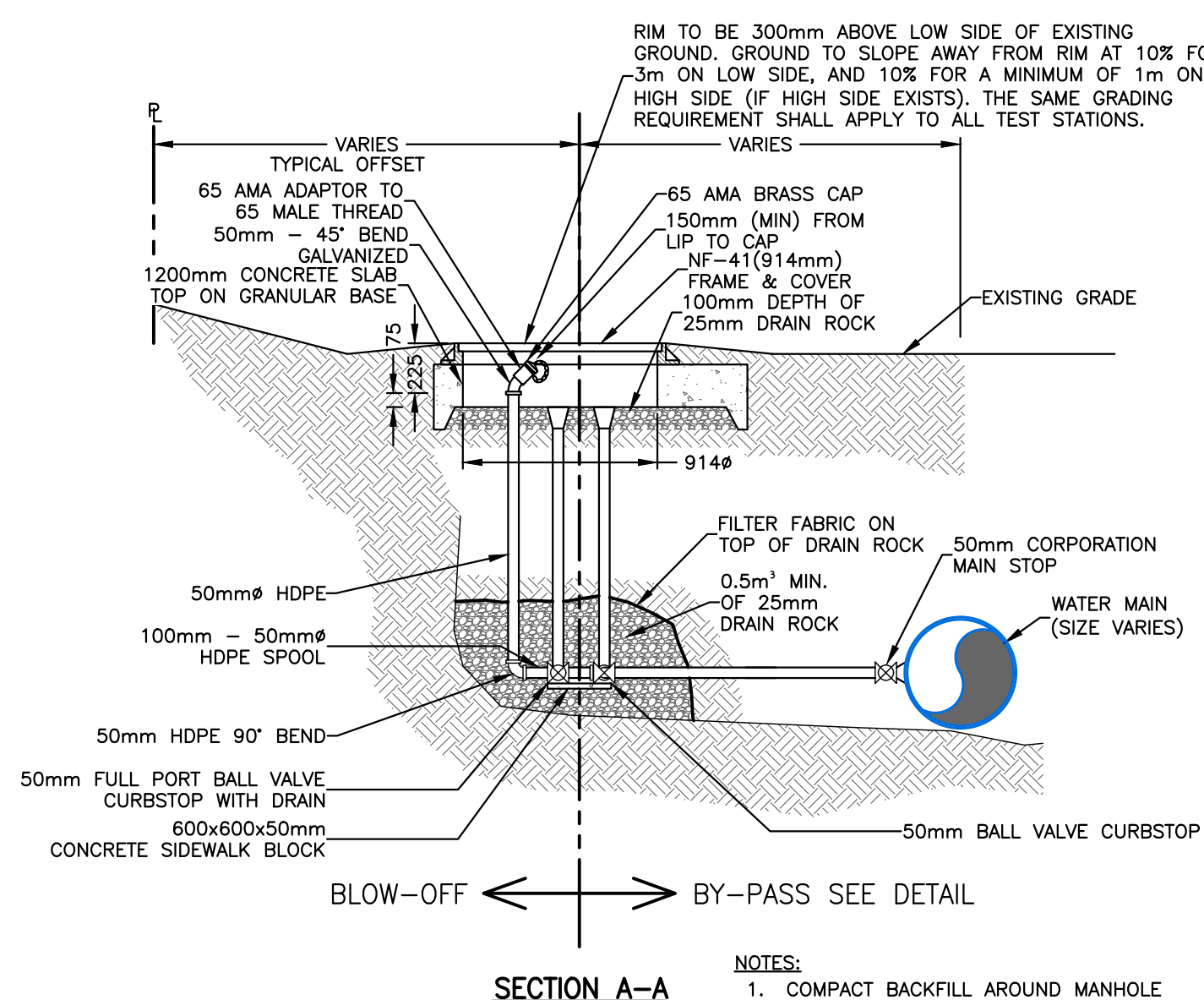
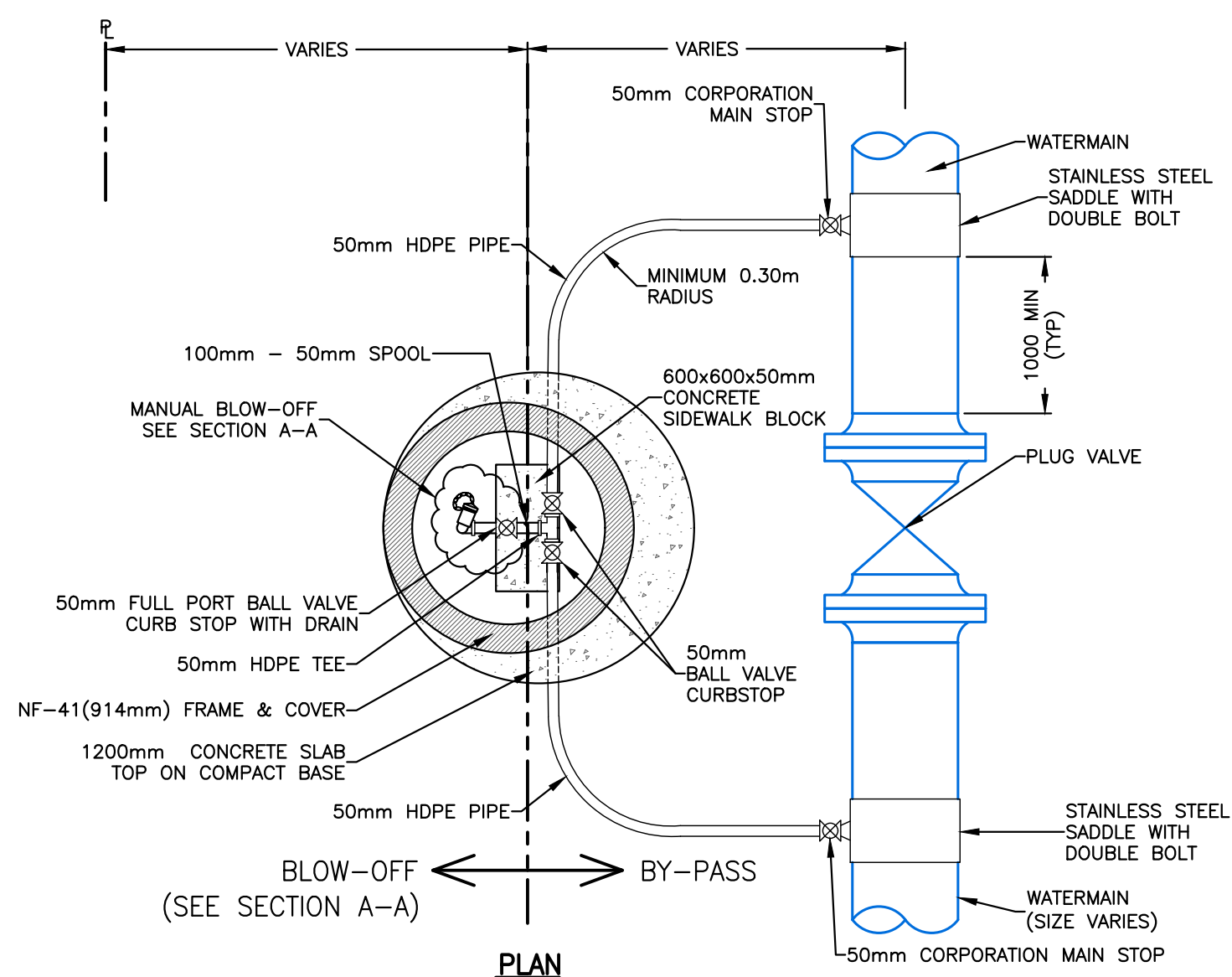


URBANSYSTEMS	
Scale	AS SHOWN
Quality Control by	G. Harcombe
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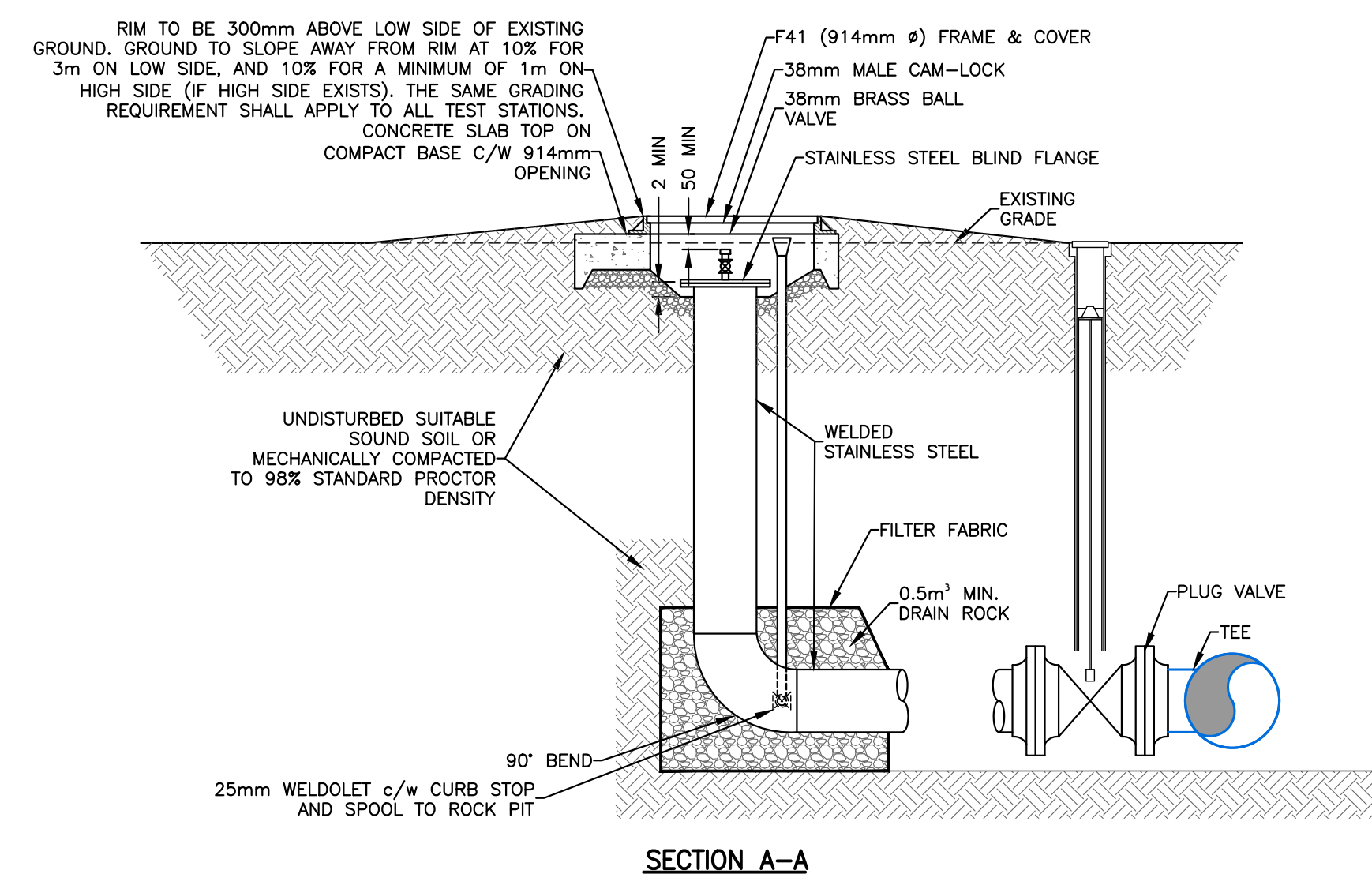
FOOTHILLS OKOTOKS REGIONAL WATER PROJECT	
PIPELINE PHASE 2 Details	
Sheet Number	19 of 20
Project Number	Drawing Number
1306.0120.05	D-202
Revision	0

ANSI expand D (34.00 x 22.00 Inches) 25mm

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TYPICAL PLUG VALVE
(SECTION)
NOT TO SCALE



PIG LAUNCH & RETRIEVAL STATION
SCALE 1:30

TEC AUTOMATIC AIR AND
M VALVE—MODEL 992-00
C/W INSULATION

NOTES:

1. COMPACT BACKFILL AROUND MANHOLE LID AND PIPE TO A MINIMUM OF 98% STANDARD PROCTOR DENSITY.
2. ALL FITTINGS AND PIPE TO HAVE MINIMUM 235 PSI RATED OPERATING PRESSURE.

TYPICAL VALVE ASSEMBLY C/W
BY-PASS AND BLOW OFF DETAIL
1:30

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URBAN
SYSTEMS

Quality Control by	G. Harcombe
Designed by	M. Taylor
Drawn by	C. Truong Malik

REGIONAL WATER PROJECT
PIPELINE PHASE 2
Details

Sheet Number	20 of 20	
Project Number	Drawing Number	Revision
1306.0120.05	D-203	0

ANSI expand D (34.00 x 22.00 Inches) 25mm 0

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