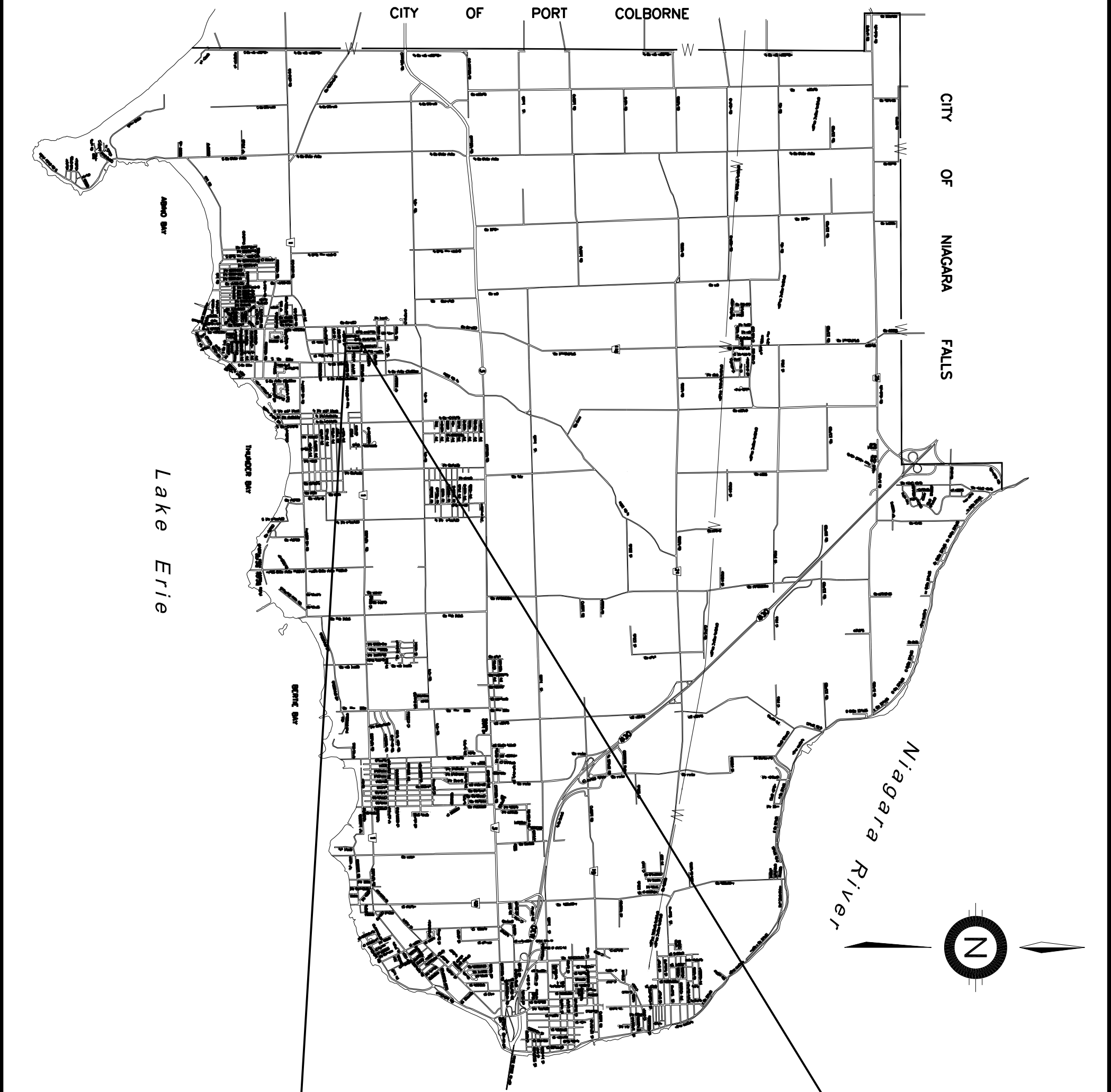
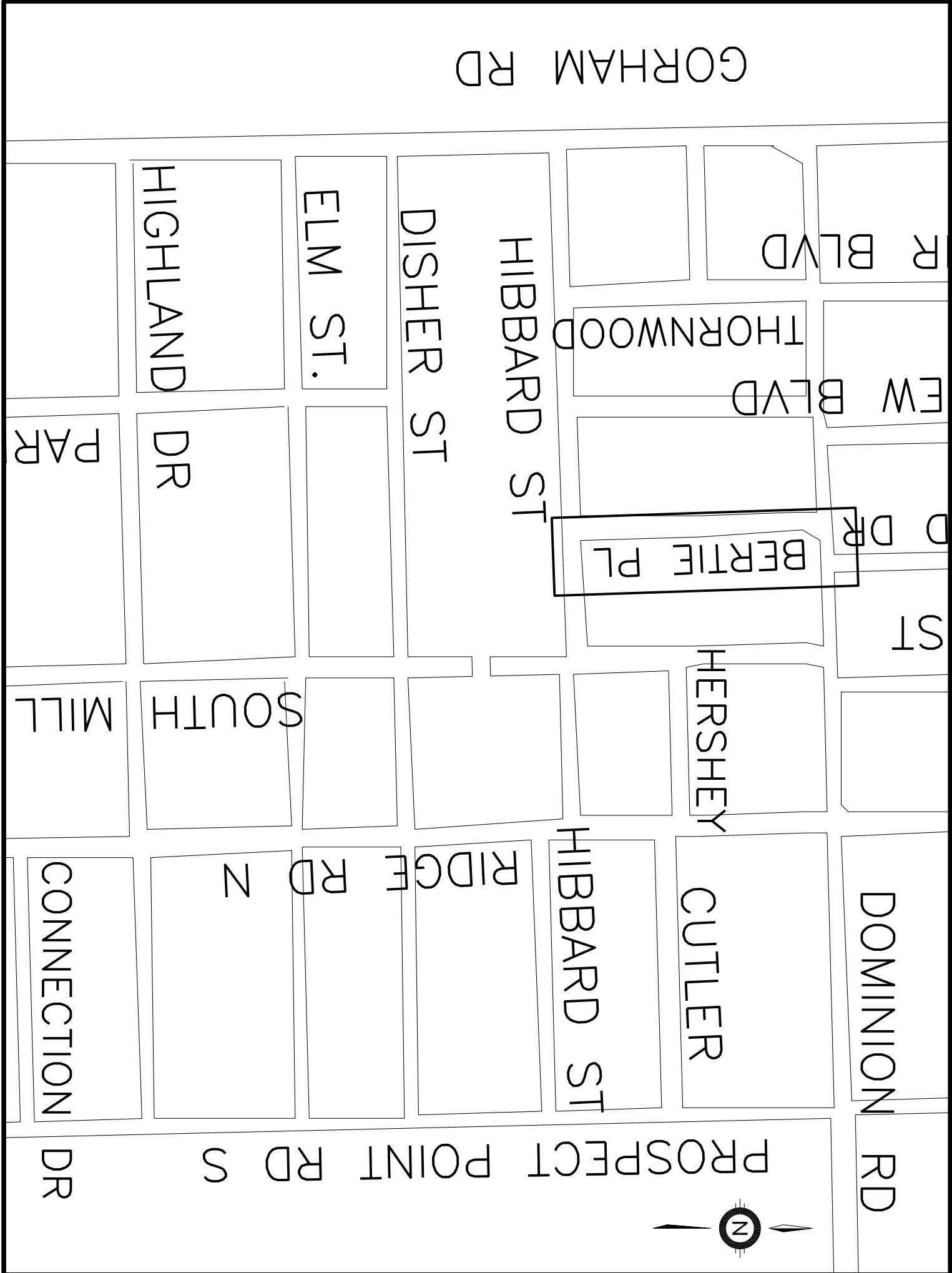




LOCATION PLAN (NTS)



LOCATION PLAN (NTS)

THE CORPORATION OF THE TOWN OF FORT ERIE
INFRASTRUCTURE SERVICES – ENGINEERING DIVISION

WAYNE REDEKOP
Mayor

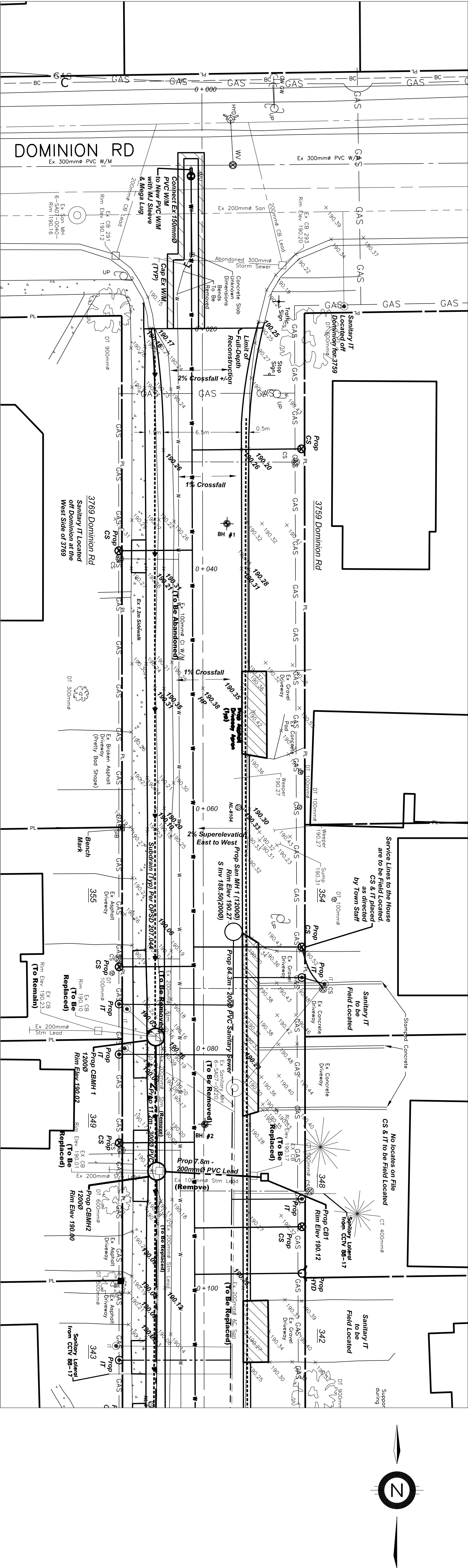
Kelly M. Walsh, P.Eng.
Director of Infrastructure Services

BERTIE PLACE
WATERMAIN REPLACEMENT
CONTRACT ISE–21T–BRPL19

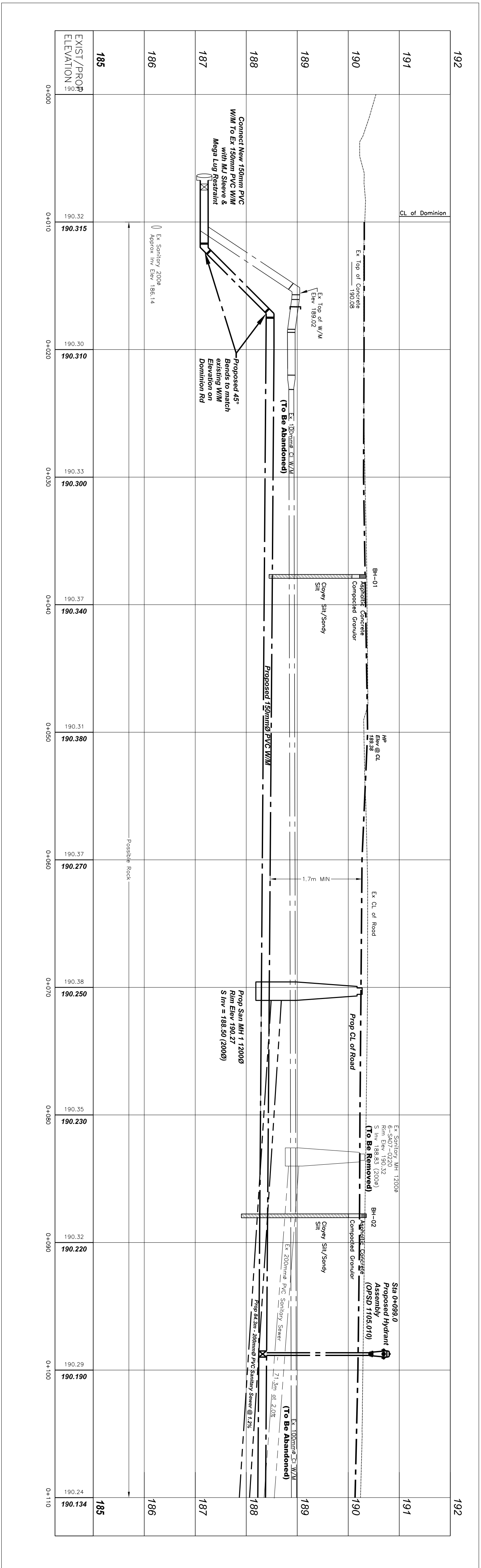
LIST OF DRAWINGS		
DRAWING #	LOCATION	STATIONS
PP-1	BERTIE PLACE W/M & SANITARY	0+000 TO 0+110
PP-2	BERTIE PLACE W/M & SANITARY	0+110 TO 0+225
PP-3	BERTIE PLACE STORM SEWER	0+000 TO 0+130
PP-4	BERTIE PLACE STORM SEWER	0+130 TO 0+225
PP-5	DETAILS	---
	DETAILS	---

BERTIE PLACE
WATERMAIN REPLACEMENT
CONTRACT ISE–21T–BRPL19

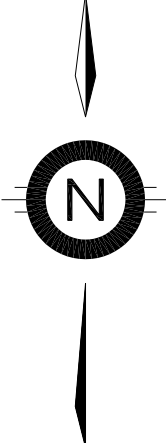




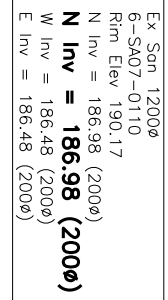
BERTIE PLACE - WATERMAIN REPLACEMENT



NOTES/LEGEND		DRAWING		BENCHMARK		DATE	
1	THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWER AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DOCUMENTS AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED.	DESIGN	SUB	IS LOCATED AT THE NW PROPERTY LINE OF	2018-09-01		
2	ALL UTILITIES FOR BUREAU TO BE CHECKED REGISTERED PLANS AND BARS LOCATED IN THE FIELD TO VERIFY THE ACCURACY OF THESE PROPERTY LINES. A LEGAL SURVEY SHOULD BE PERFORMED PRIOR TO CONSTRUCTION OF ANY PART OF THE PROJECT. ASSUMES NO LIABILITY FOR USE IN ANY OTHER WAY. CAD FILES OF THIS DRAWING ARE NOT CERTIFIED BY THE ENGINEER FOR USE BY OTHERS. USERS OF THESE CAD FILES ASSUME ALL RISK AND RESPONSIBILITY FOR VERIFYING THE CORRECTNESS OF ALL INFORMATION FOR ANY USE.	SUB		355 BERTIE PLACE			
3		ISSUED FOR REVIEW		NORTHING - 669810.095			
3		ISSUED FOR REVIEW		EASTING - 160258.0			
3		ISSUED FOR REVIEW		ELEVATION - 160.258			
NO.	REVISION	DATE	TIME	APPROVED BY			
				TM			
		FORT ERIE ONTARIO Our Focus - Your Future		BERTIE PLACE BETWEEN DOMINION RD AND HIBBARD ST FORT ERIE, ON		DATE	
				WATERMAIN REPLACEMENT		2018-09-01	
						SCALE	
						H=1:200	
						V=1:50	
						REF. No.	
						ISE-21T-BRP1.19	
						DWG No.	
						BERTIE PLACE - PP1	
						REV	
						3	



BERTIE PLACE - SANITARY AND WATERMAIN

[illegible]

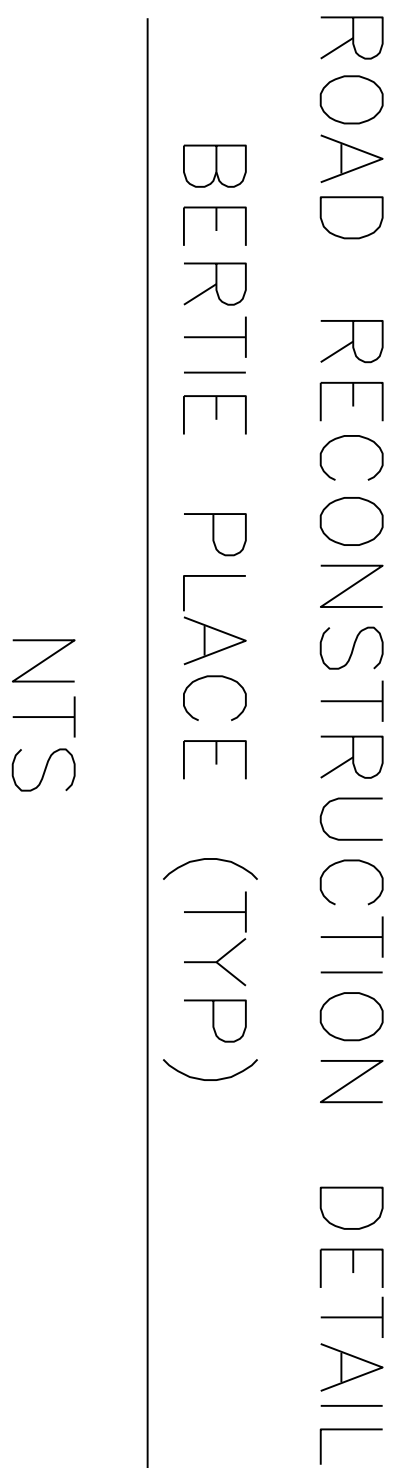
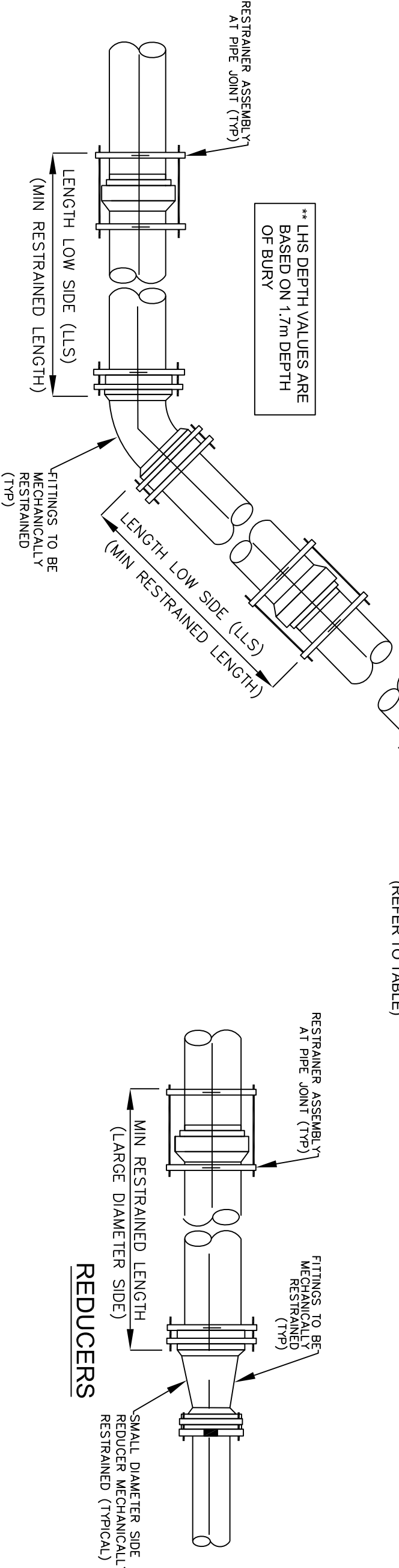
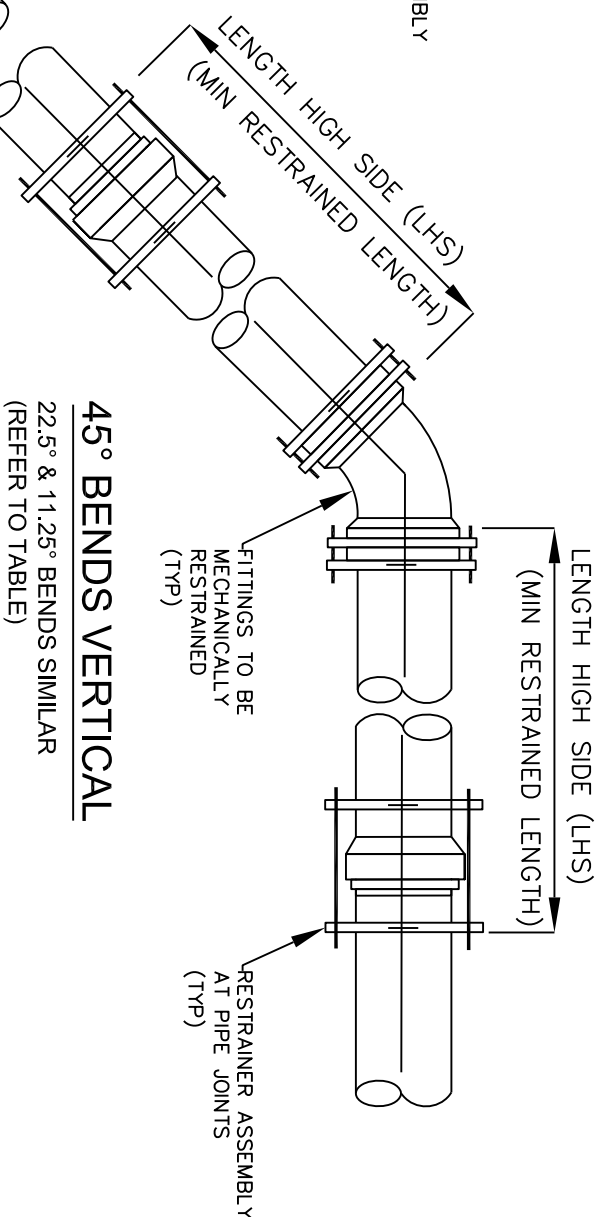
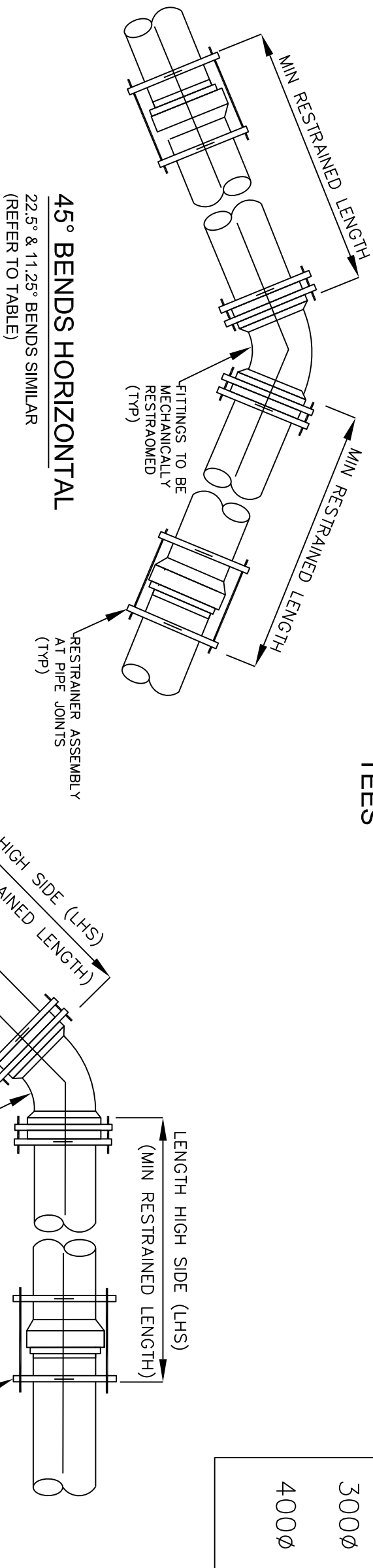
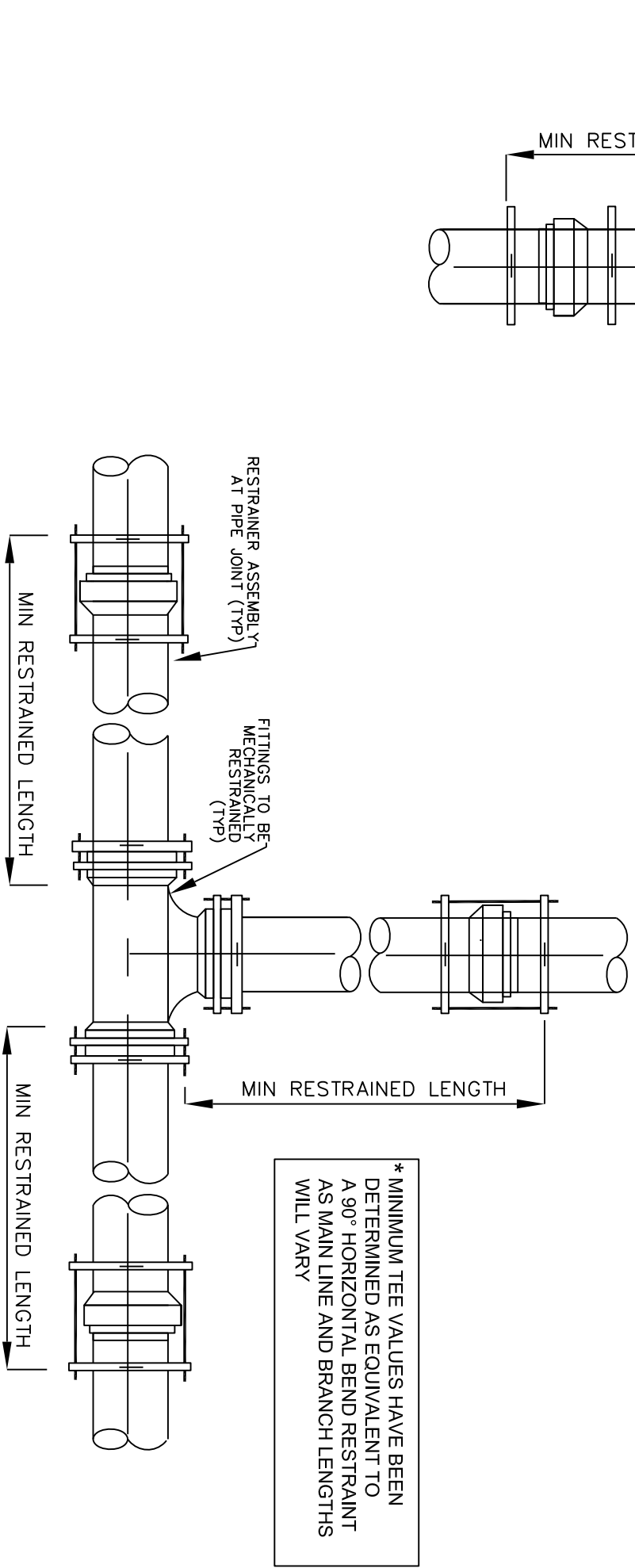
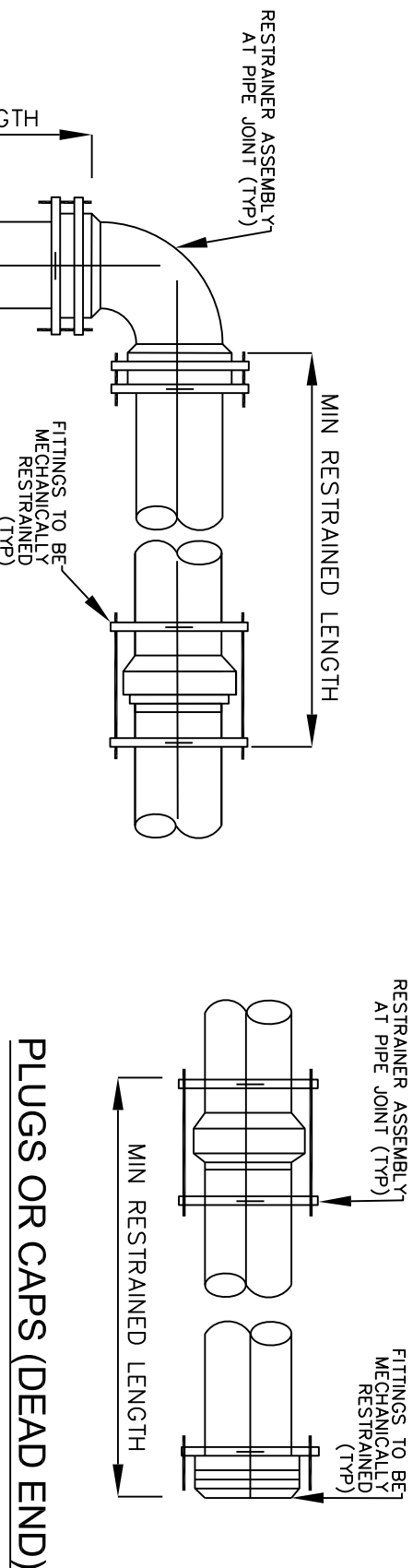
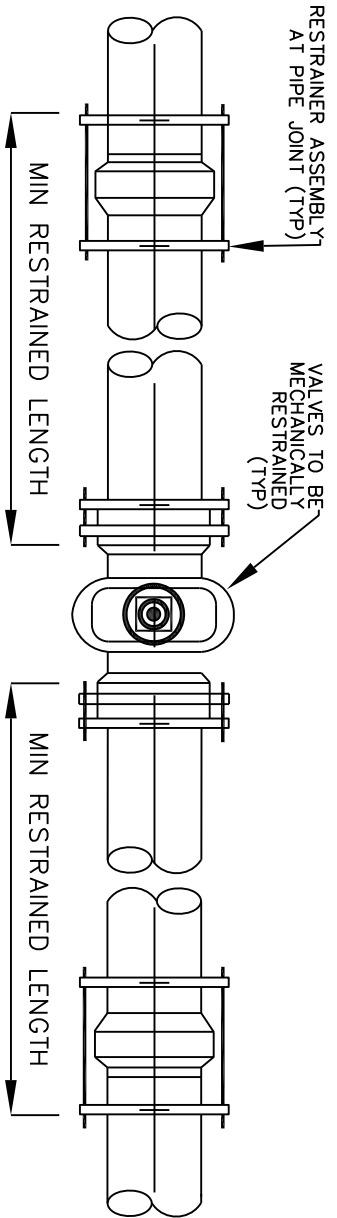


Diagram illustrating the cross-section of a road structure, showing the following layers and components:

- Road Surface** (Top layer, indicated by a black line)
- 450mm Gran 'A' Road Base** (Layer below Road Surface)
- Native Backfill or Gran 'A' must be approved by Project Manager** (Layer below Road Base)
- Gran 'A' Bedding & Cover as per OPSD 802.010** (Layer below Native Backfill or Gran 'A')
- PVC Pipe** (Bottom layer, indicated by a circle)

Dimensions:

- 1.2m** (Width of the road structure)
- 1.7m Min** (Minimum length of the road structure)



MINIMUM RESTRAINING LENGTH (m) TABLE		PIPE DIAMETER (mm)					
DESCRIPTION	100mmø	150mmø	200mmø	250mmø	300mmø	400mmø	
VALVES, DEAD ENDS, CAPS, PLUGS Either side of valves and before caps or plugs	7.5	10.5	13.5	16.0	19.0	7.5	
TEES* Size on Size or reducing tees	3.0	3.5	4.5	5.5	12.5o	3.0	
HORIZONTAL BENDS 11.25° bends 22.5° bends 45° bends 90° bends	0.5 1.0 1.5 3.0	0.5 1.0 1.5 3.5	1.0 1.5 2.0 4.5	1.0 1.5 2.5 5.5	1.0 1.5 3.0 12.5o	0.5 1.0 1.5 3.0	
45° VERTICAL BENDS** Length High Side – LHS (Based on 1.7m cover) Length Low Side – LLS (Depth greater than or equal to 1.7m)	3.5 1.5	4.5 1.5	6.0 2.0	7.0 2.5	8.0 3.0	3.5 1.5	
22.5° & 11.25° VERTICAL BENDS Length High Side – LHS (Based on 1.7m cover) Length Low Side – LLS (Depth greater than or equal to 1.7m)	1.5 1.0	2.5 1.0	3.0 1.5	3.5 1.5	4.0 1.5	1.5 1.0	

REDUCERS		LARGE DIAMETER SIDE (mm)					
SMALL DIAMETER SIDE (mm)		100°	150°	200°	250°	300°	400°
100ø		N/A	5.5	10.0	13.0	16.5	23.0
150ø		N/A	N/A	6.0	10.0	14.0	21.0
200ø		N/A	N/A	N/A	5.5	10.5	18.0
250ø		N/A	N/A	N/A	N/A	6.0	15.0
300ø		N/A	N/A	N/A	N/A	N/A	10.5
400ø		N/A	N/A	N/A	N/A	N/A	N/A

TABLE VALUES BASED UPON EBAA "CL Granular)" SOIL TYPES
(Inorganic cloys of low to medium plasticity, gravelly cloys, sandy cloys,
leons cloys-backfilled with granular material)

a) 300ø and 400ø pipe diameter table values for 90° bends and tees have been
increased to 12.5m MINIMUM LENGTHS.

- NOTE:
1. Restraint assembly at pipe joints to be EBBA Iron 1900 Split Serrated Restraint Harness or approved equivalent.
 2. Mechanical joint restraint to be EBBA Iron 2000PV Megalug Mechanical Joint Restraint of approved equivalent.

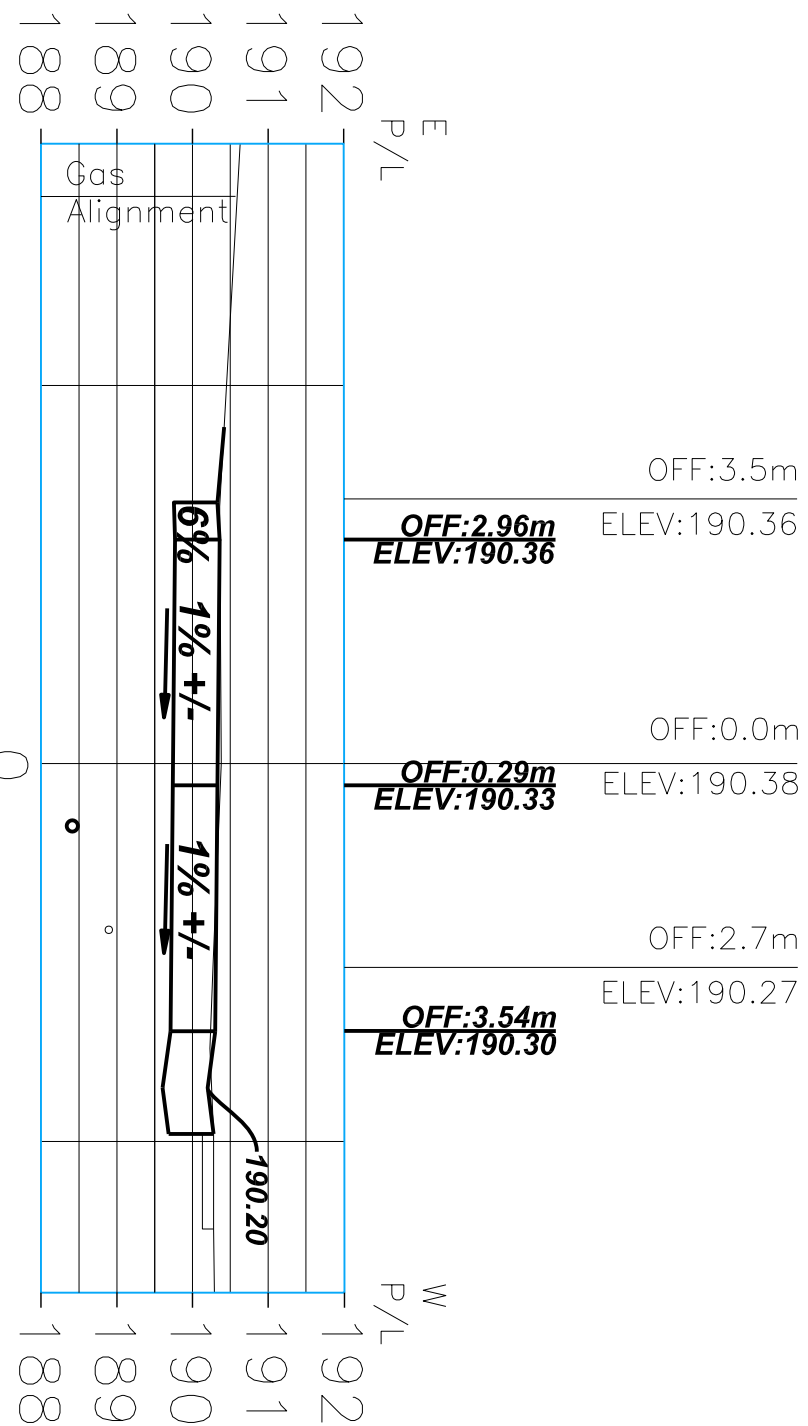
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2	ISSUED FOR REVIEW	06/27/2019	SLB		
1	ISSUED TO UTILITIES	2018/03	SLB		
NO	REVISION	DATE	INIT		

NOTES/LEGEND:
1. SHOW LOCATION OF PIPE LINES, CONDUITS, WETLANDS, STREAMS, AND OTHER UNDERGROUND AND SURFACE FEATURES AS NECESSARILY SHOWN ON THE DRAWING.
2. BEFORE STARTING WORK, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME PROPERTY LINES WERE PLOTTED USING REGISTERED PLANS AND DATA LOCATED IN THE FIELD TO VERIFY THE ACCURACY OF THESE PROPERTY LINES. A LEGAL SURVEYOR SHALL BE CONSULTED FOR THIS PURPOSE.
3. THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY. THE TOWN OF FORT ERIE ASSUMES NO LIABILITY FOR USE IN ANY OTHER WAY. CAD FILES OF THIS DRAWING ARE AVAILABLE FOR REVIEW ONLY. THE TOWN OF FORT ERIE ASSUMES NO LIABILITY FOR ANY AND ALL INFORMATION FOR ANY USE.

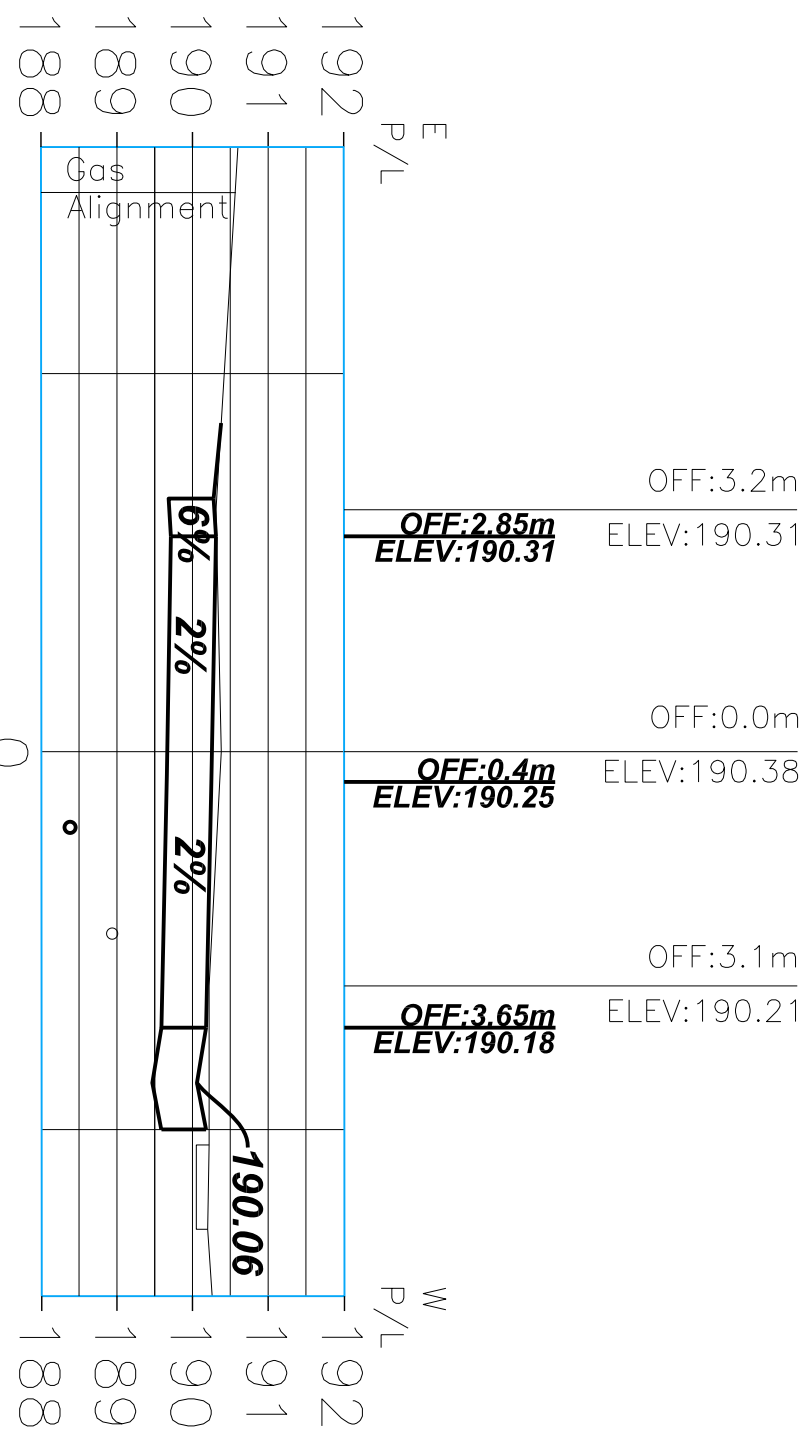
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SLB	DESIGN	
SLB	CHECKED BY	
TM	APPROVED BY	



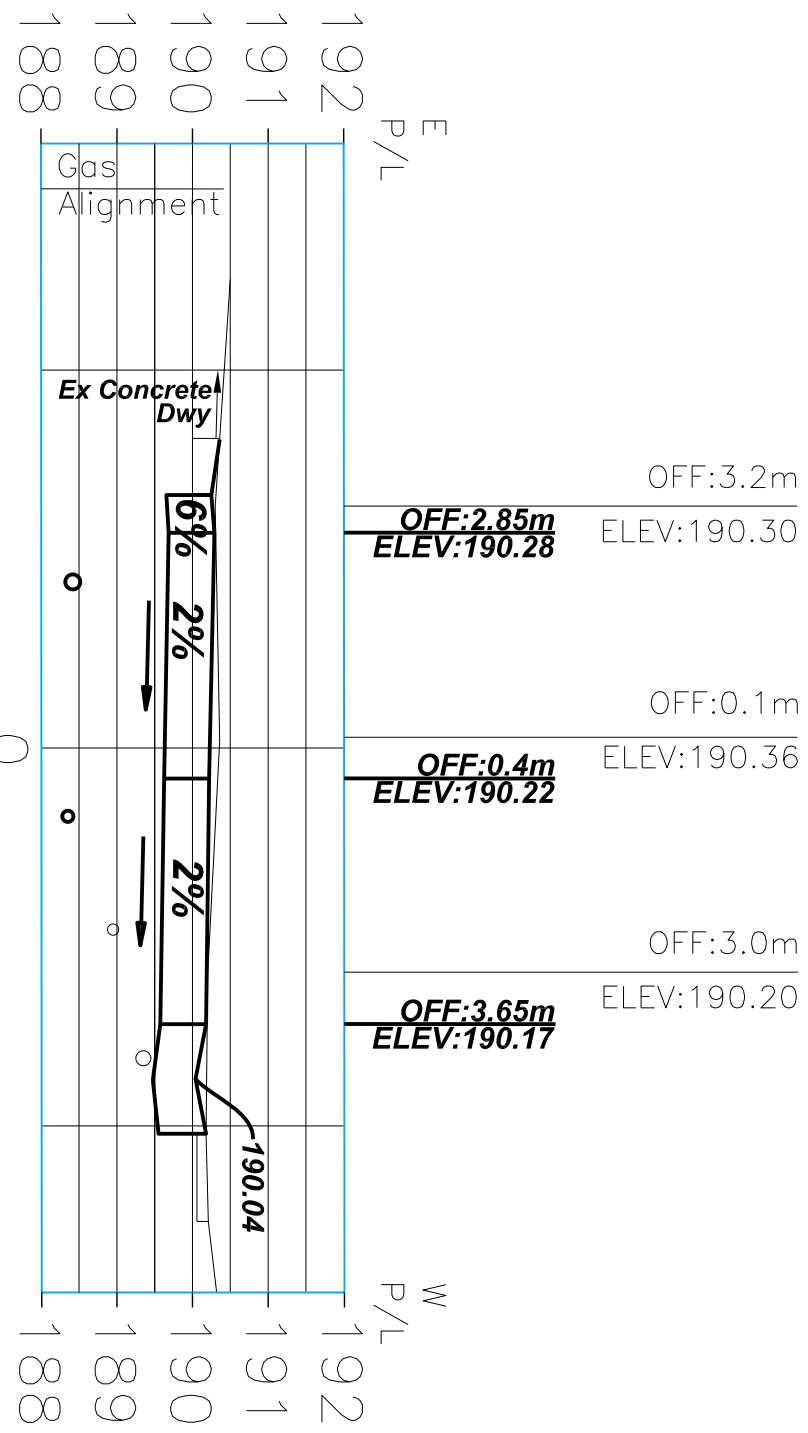
ISE-21T-BERT19		DATE	2018-09-01
BERTIE PLACE		SCALE	N/A
BETWEEN DOMINION RD AND HIBBARD ST		REF. No.	ISE-21T-BRPL19
FORT ERIE, ON		DWG. No.	
WATERMAIN REPLACEMENT		BERTIE PLACE - PAGE 6	REV. 3



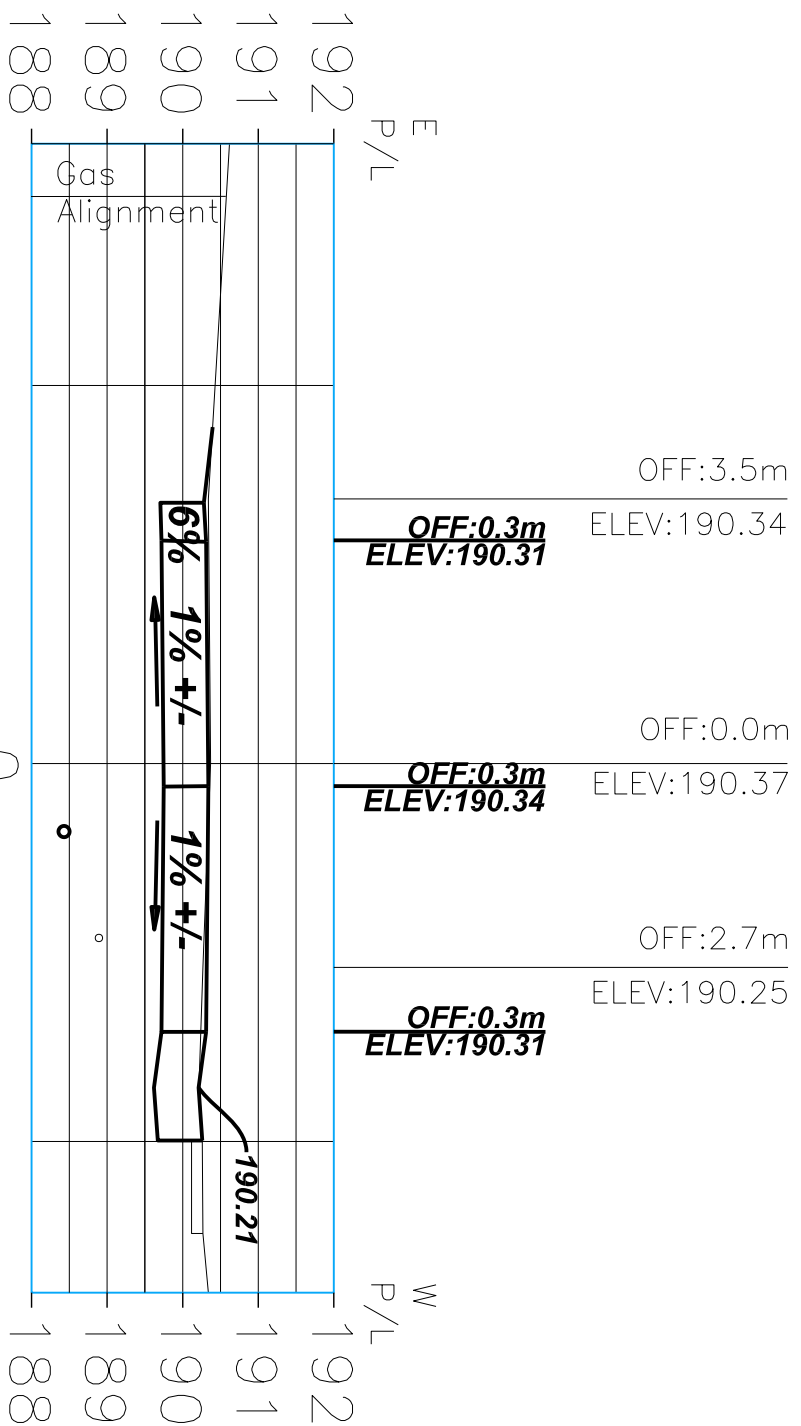
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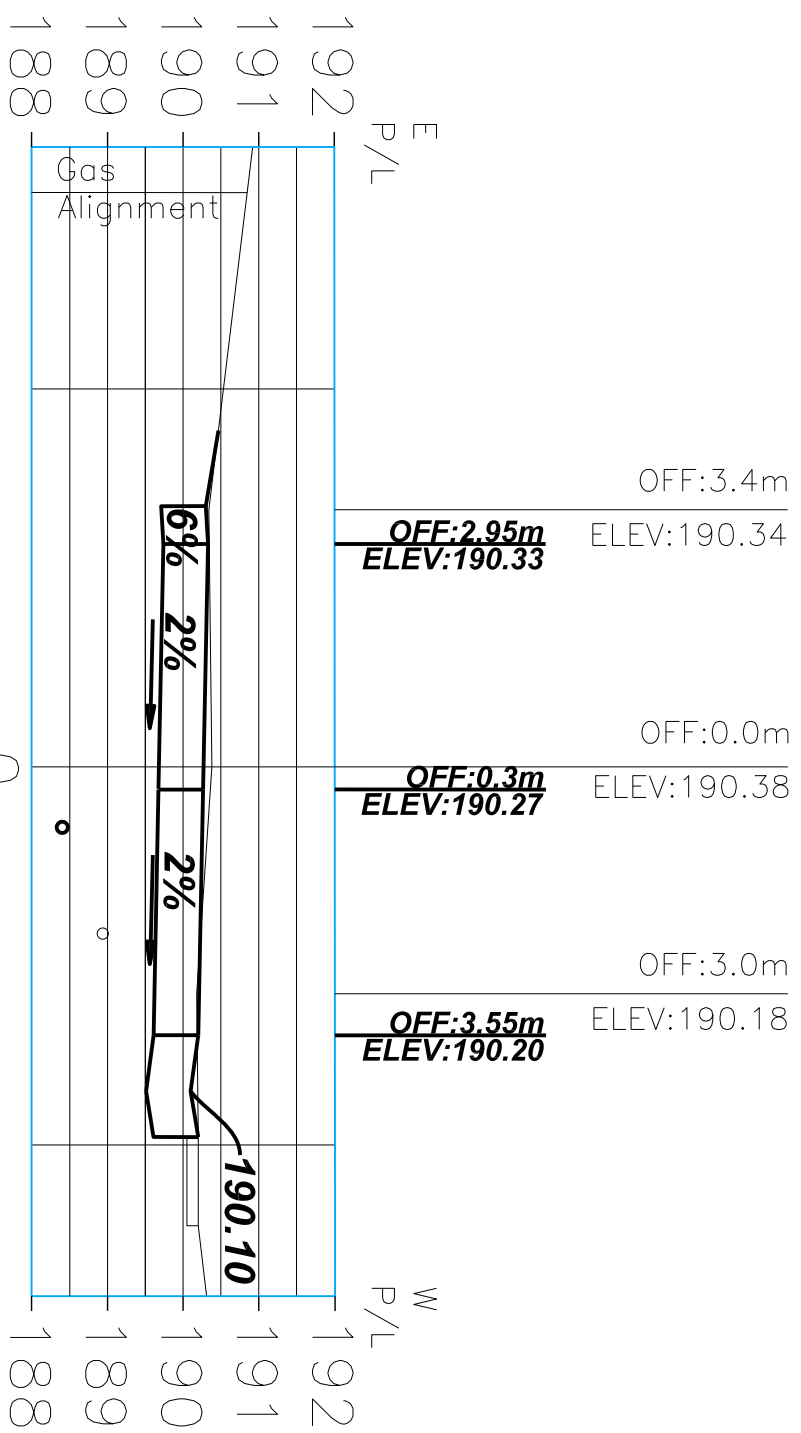
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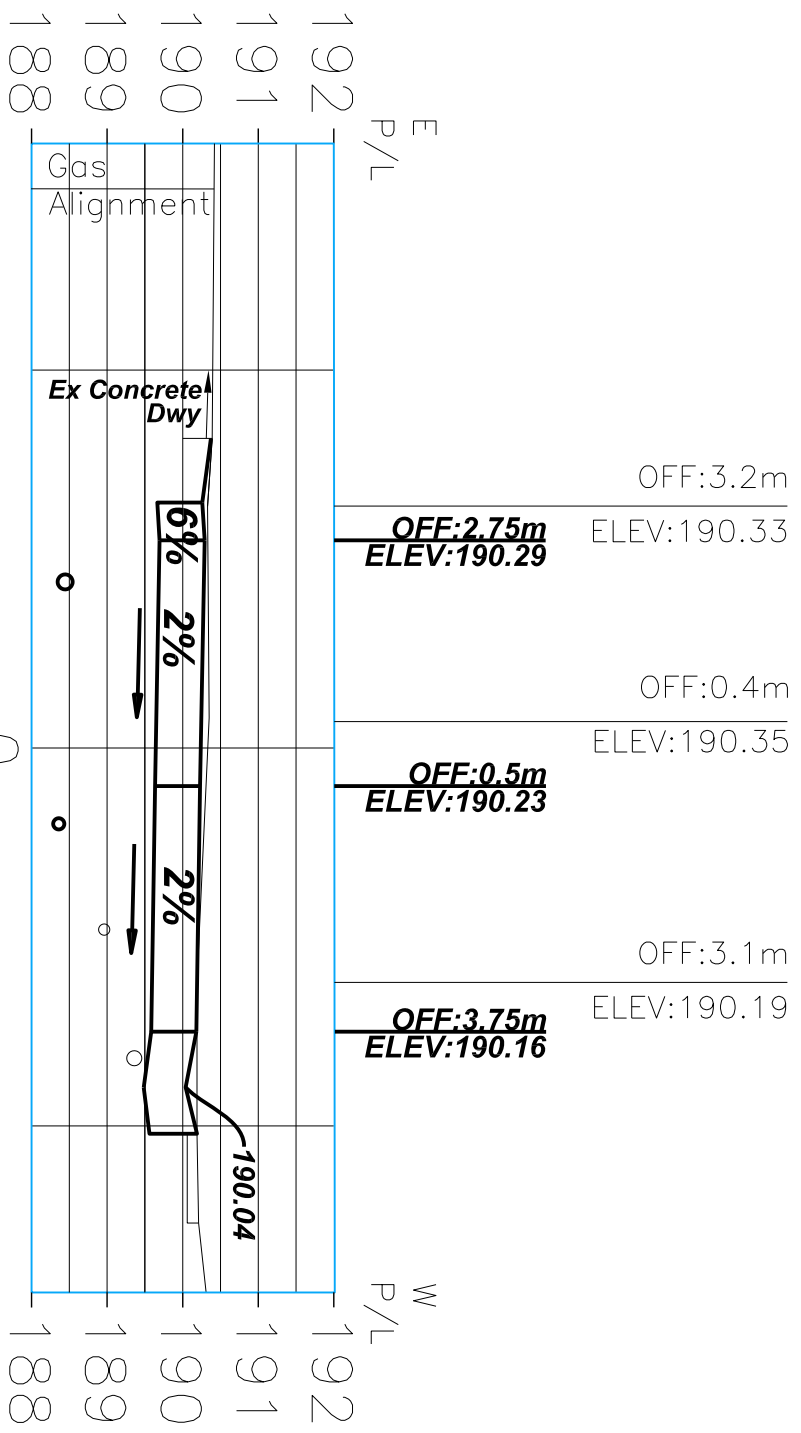
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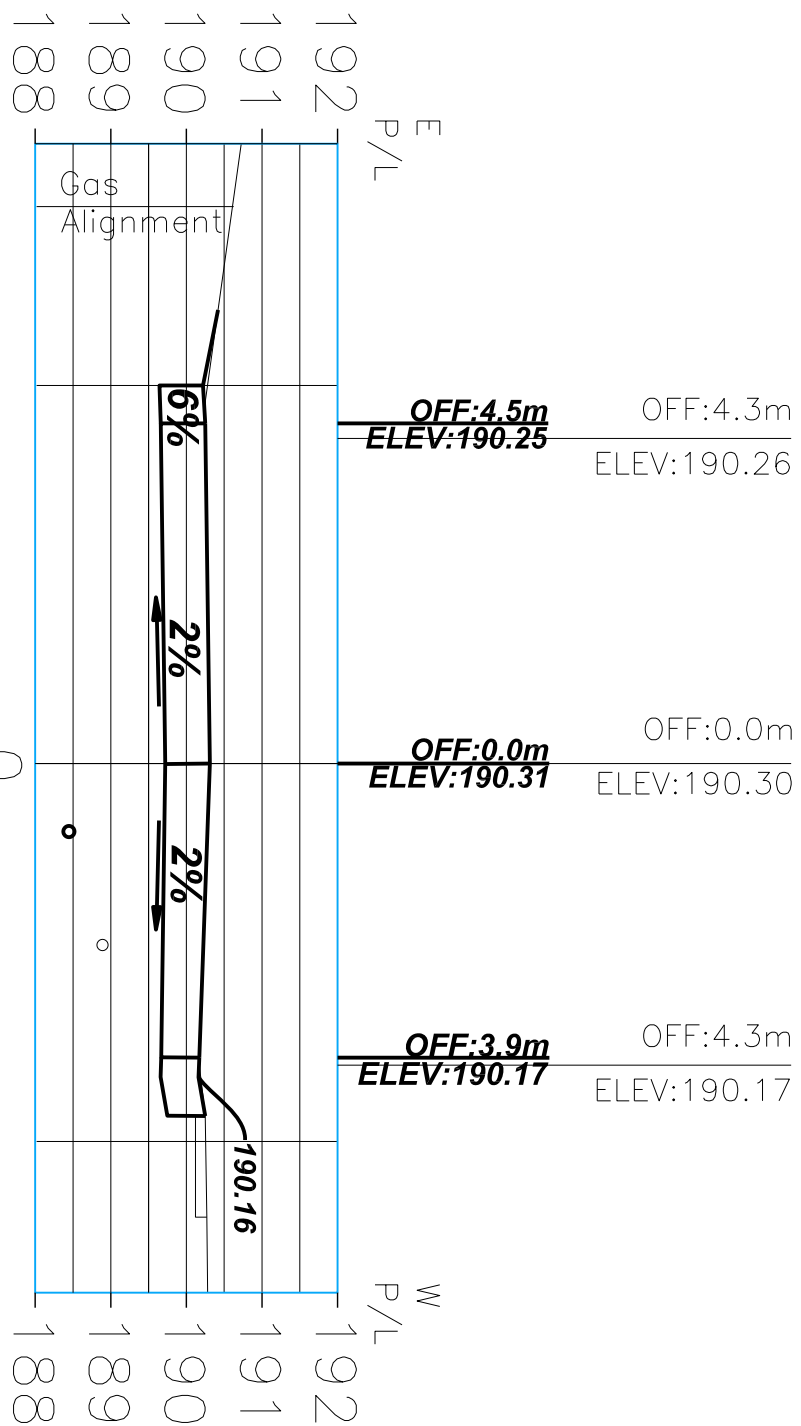
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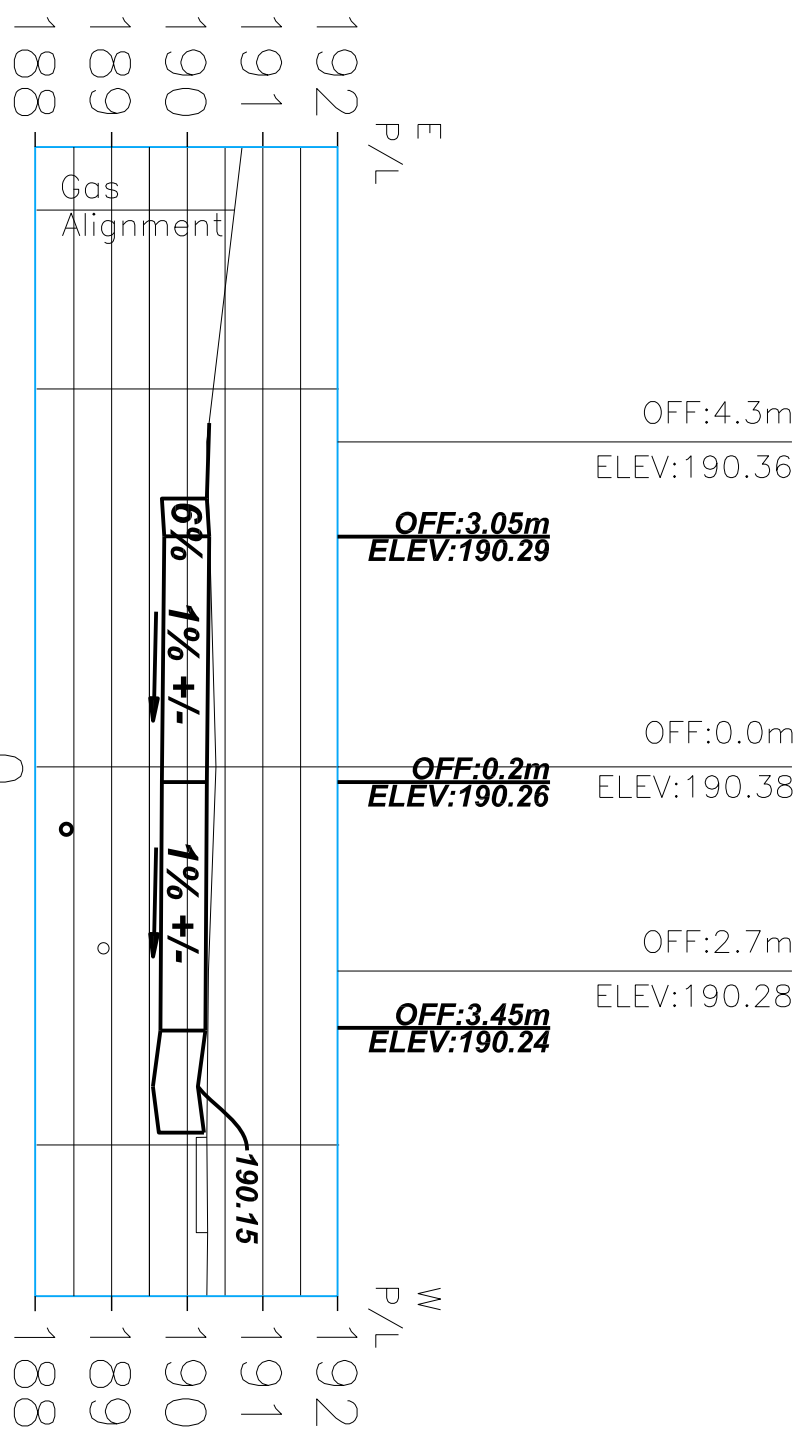
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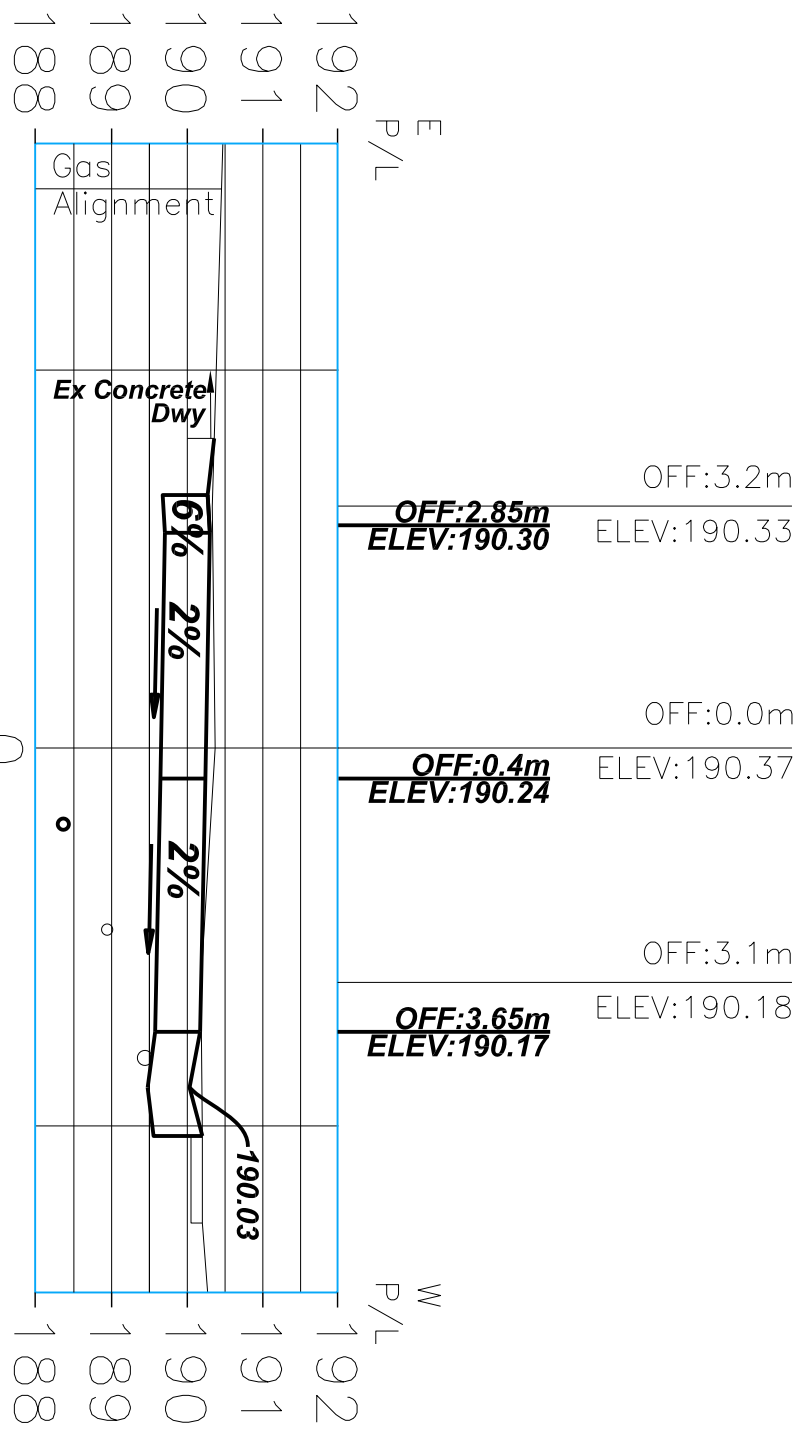
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0+020



0+055.9
Dwy @ HS #3769



0+077.4
Dwy @ HS #354

NO.	REVISION	DATE	INT.
1	ISSUED TO UTILITIES	2018/03	SLB
2	ISSUED FOR REVIEW	03/13/2020	SLB
3	ISSUED FOR REVIEW	12/17/2020	SLB

NOTES/LEGEND

1. THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWER AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THIS PLAN. THE ENGINEER HAS CONDUCTED A VISUAL SURVEY OF THE AREA AND HAS FOUND NO OTHER UTILITIES OR STRUCTURES. A LEGAL SURVEY SHOULD BE PERFORMED PRIOR TO CONSTRUCTION.

2. THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWER AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THIS PLAN. THE ENGINEER HAS CONDUCTED A VISUAL SURVEY OF THE AREA AND HAS FOUND NO OTHER UTILITIES OR STRUCTURES. A LEGAL SURVEY SHOULD BE PERFORMED PRIOR TO CONSTRUCTION.

3. THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWER AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THIS PLAN. THE ENGINEER HAS CONDUCTED A VISUAL SURVEY OF THE AREA AND HAS FOUND NO OTHER UTILITIES OR STRUCTURES. A LEGAL SURVEY SHOULD BE PERFORMED PRIOR TO CONSTRUCTION.

DRAWING	SLB
DESIGN	SLB
CHECKED BY	RM
APPROVED BY	TM

BENCHMARKS

SLB LOCATED AT THE NW PROPERTY LINE OF 355 BERTIE PLACE

NORTHING - 659810.995

EASTING - 190259.963



ISE-217-BERT19

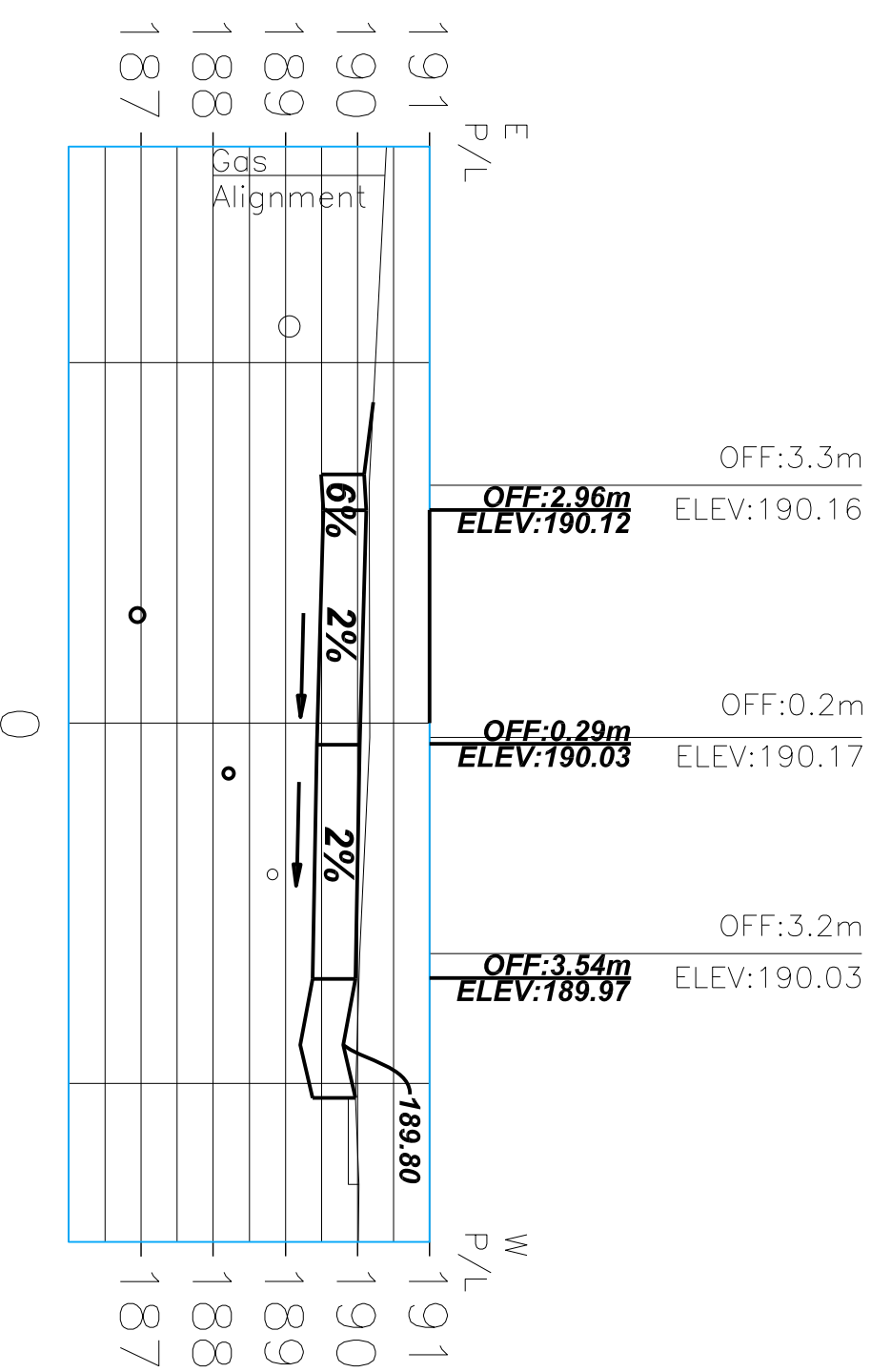
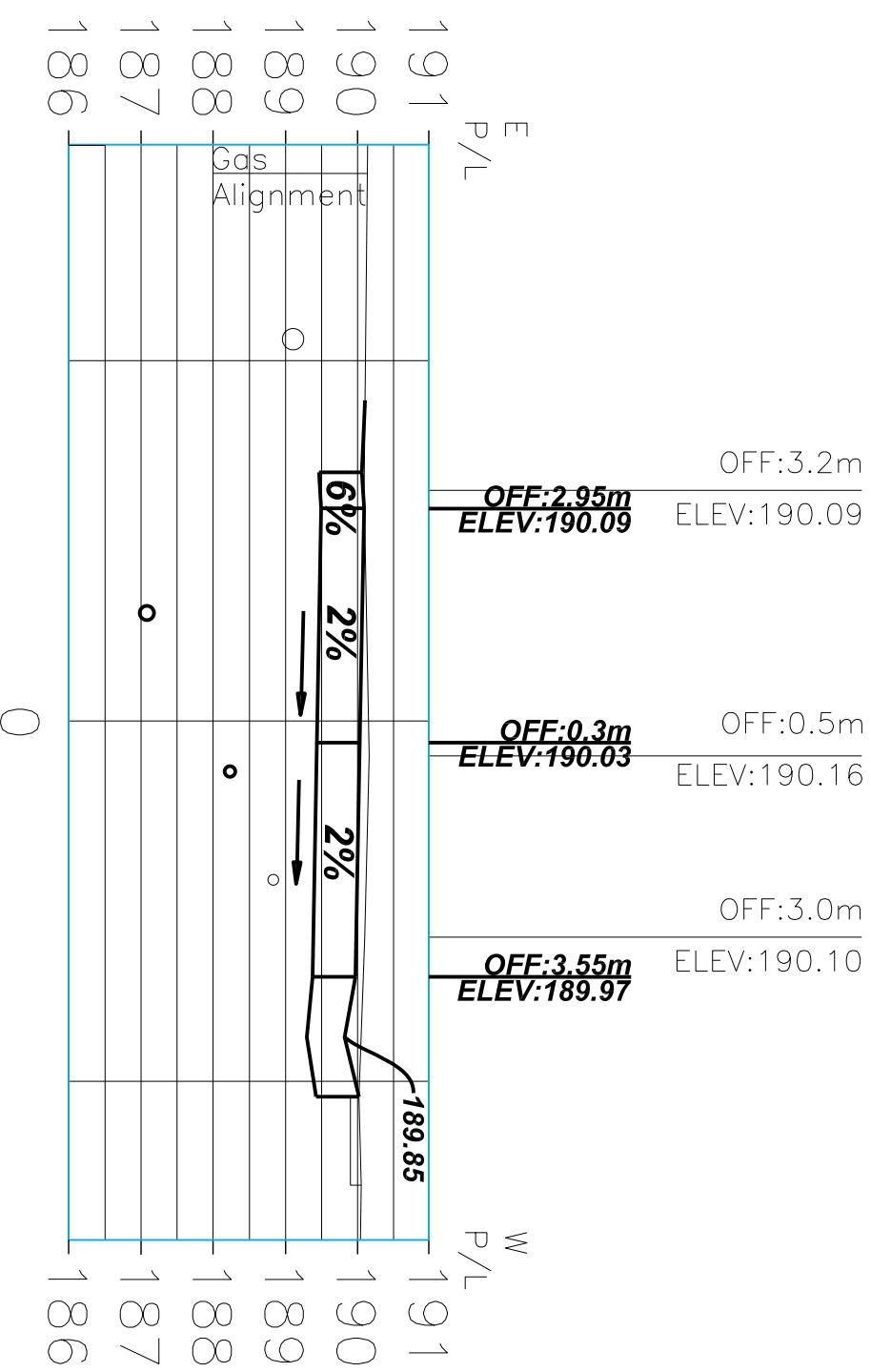
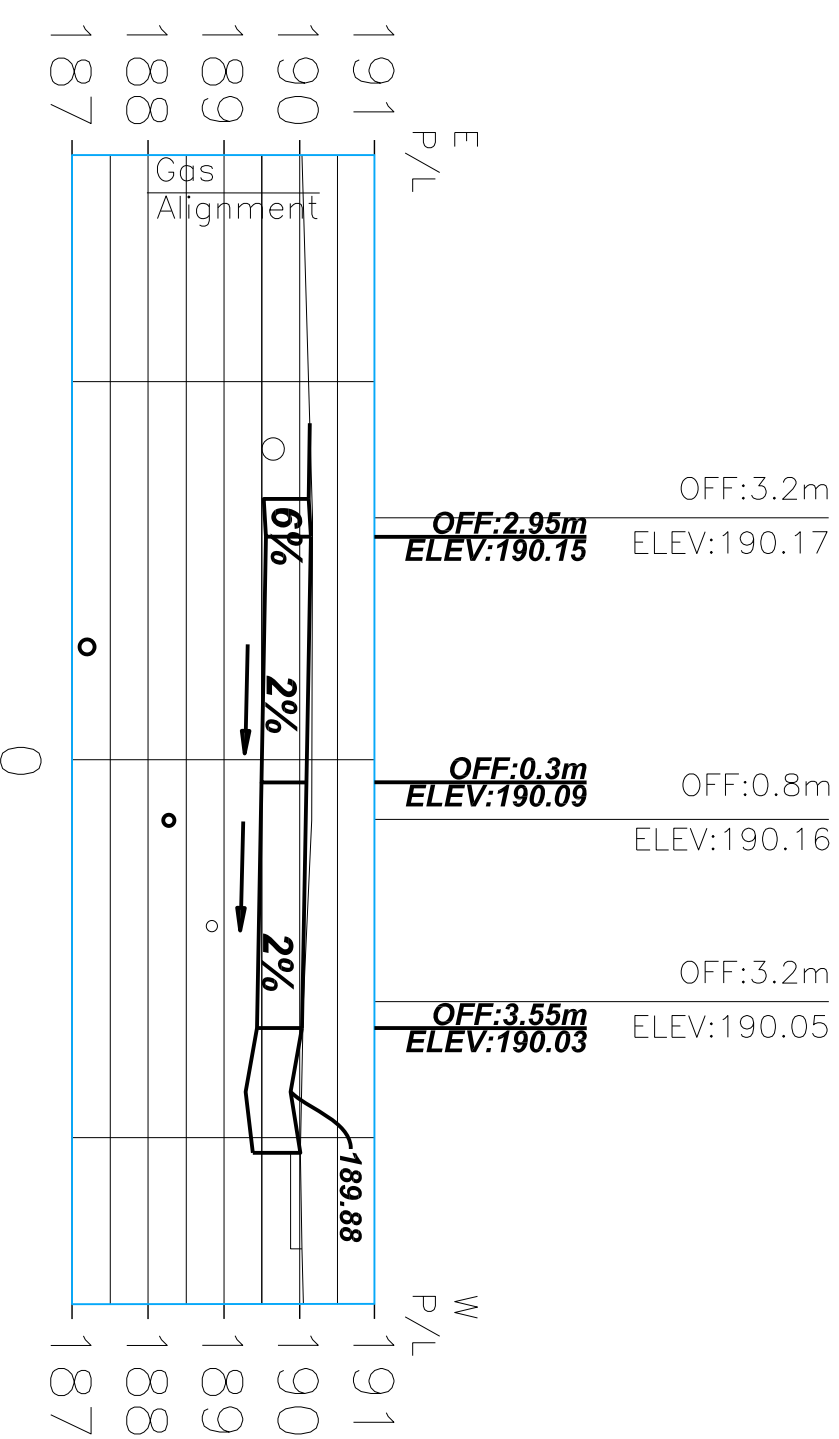
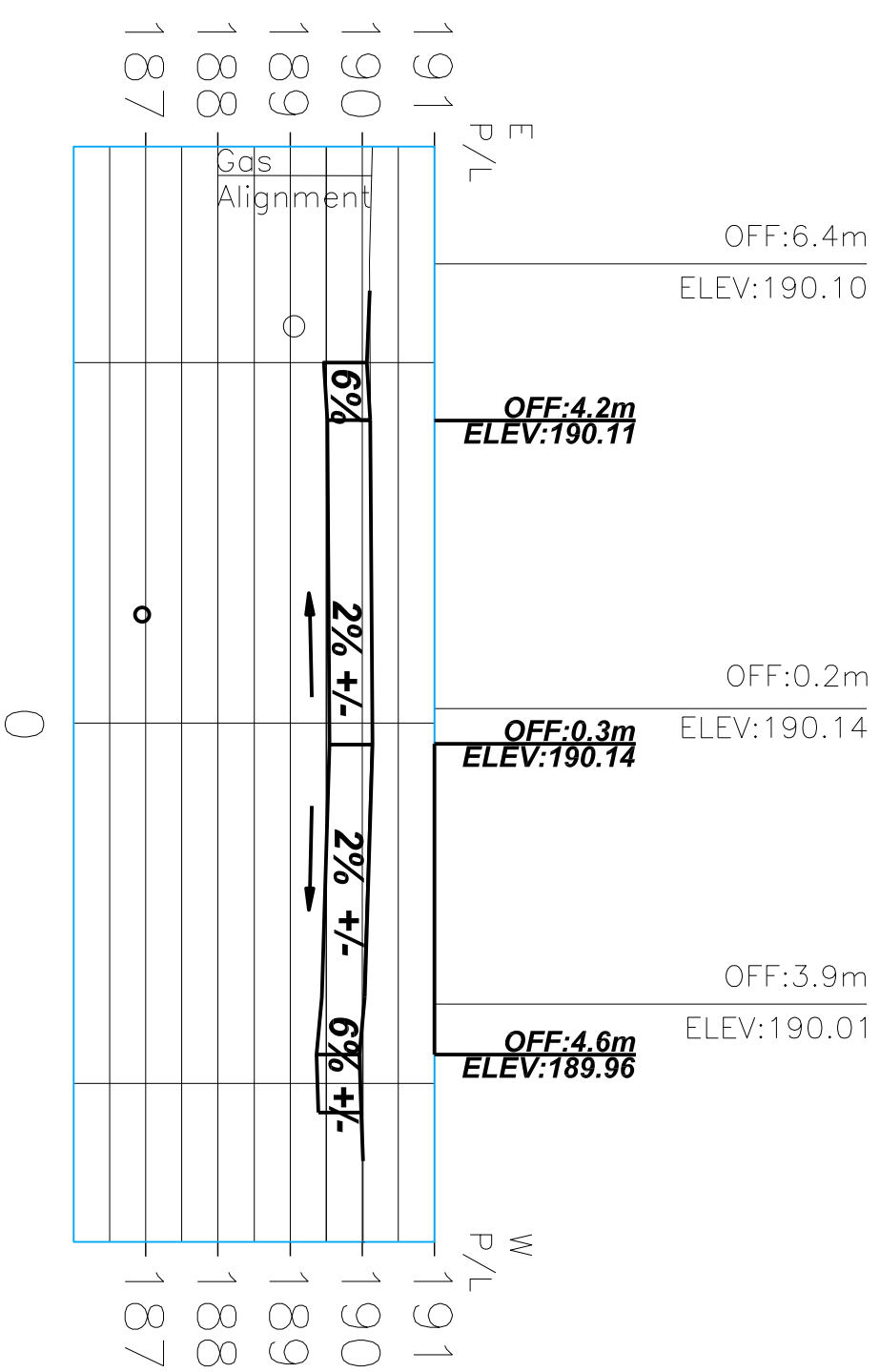
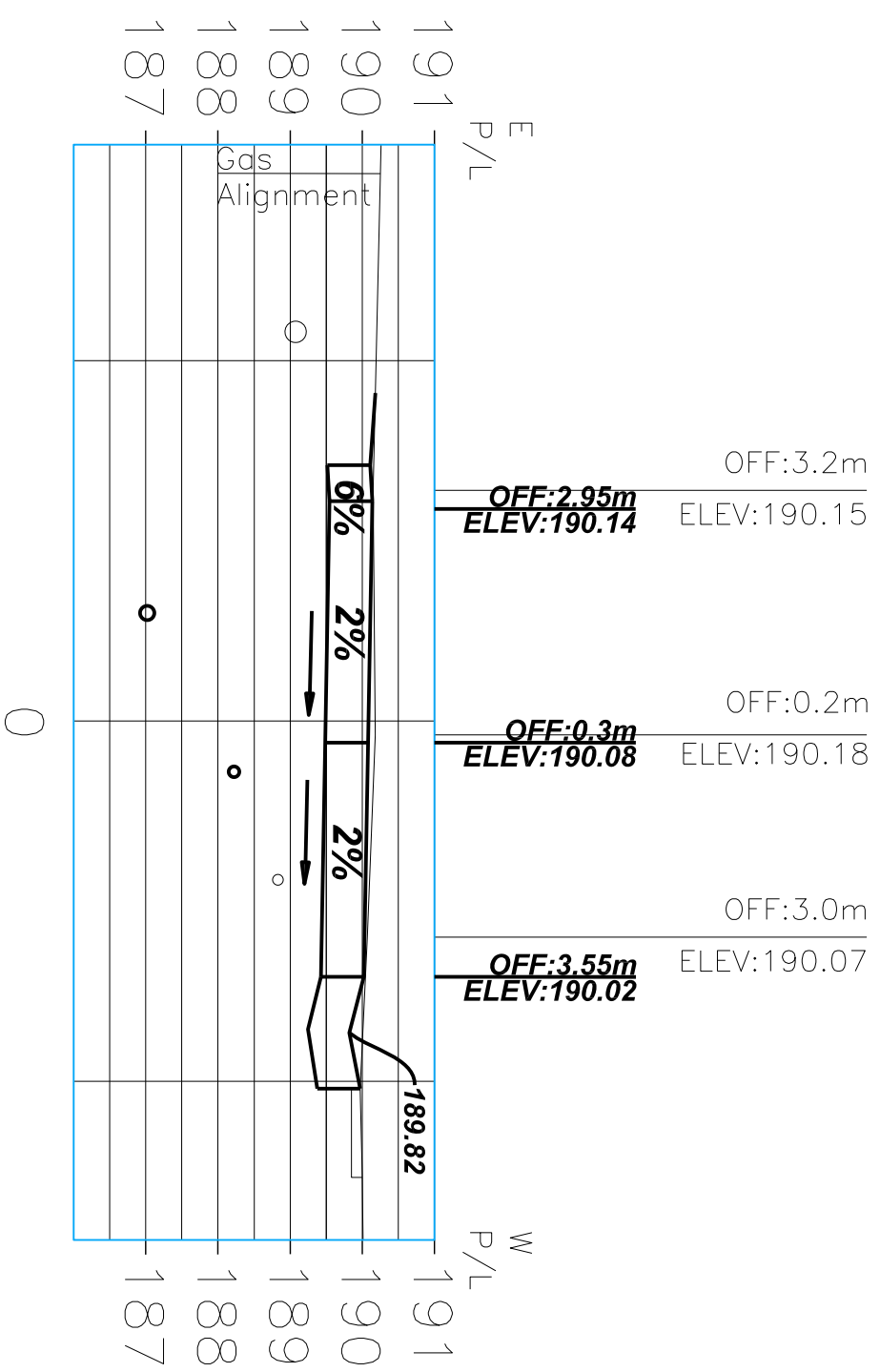
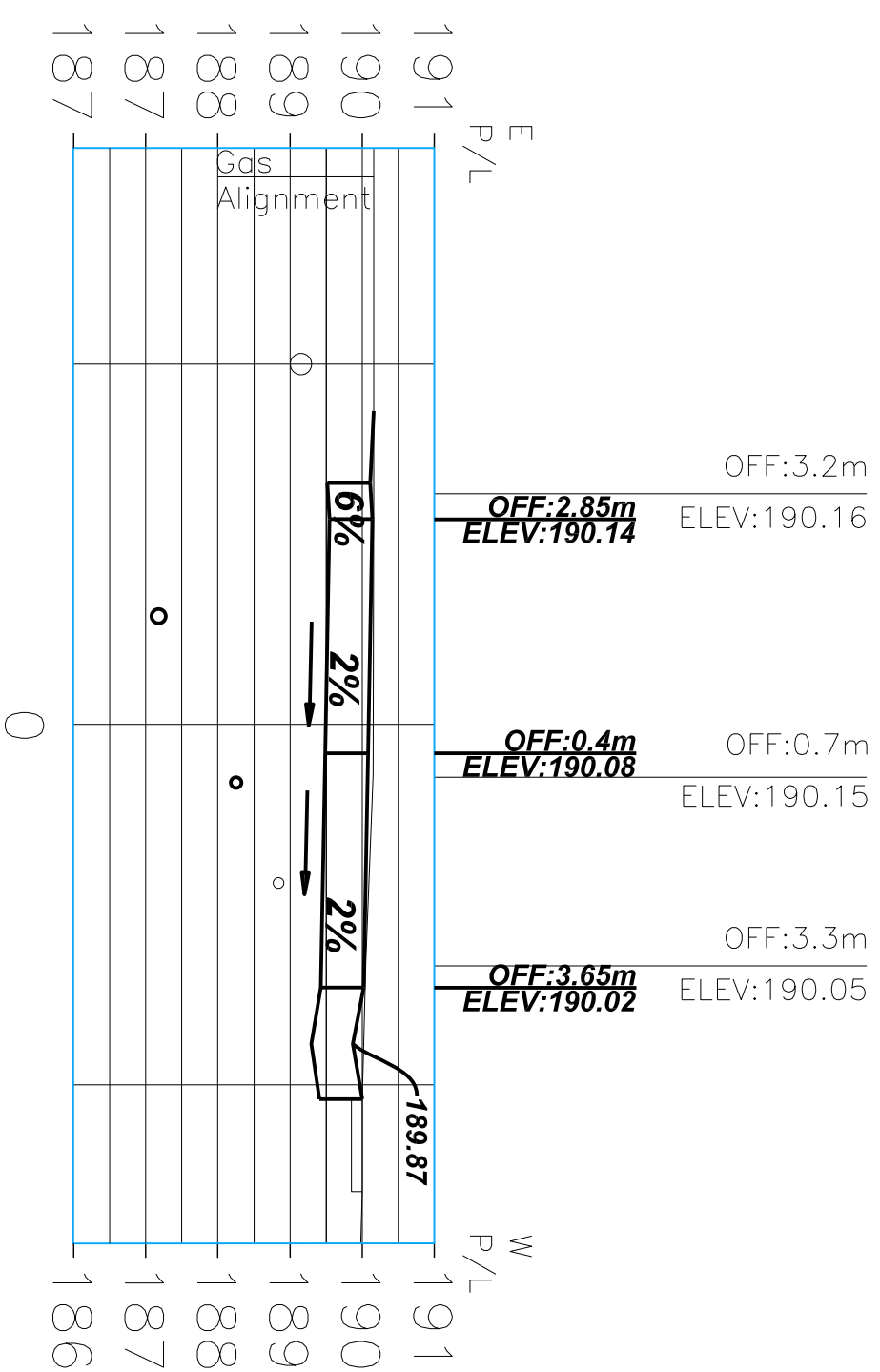
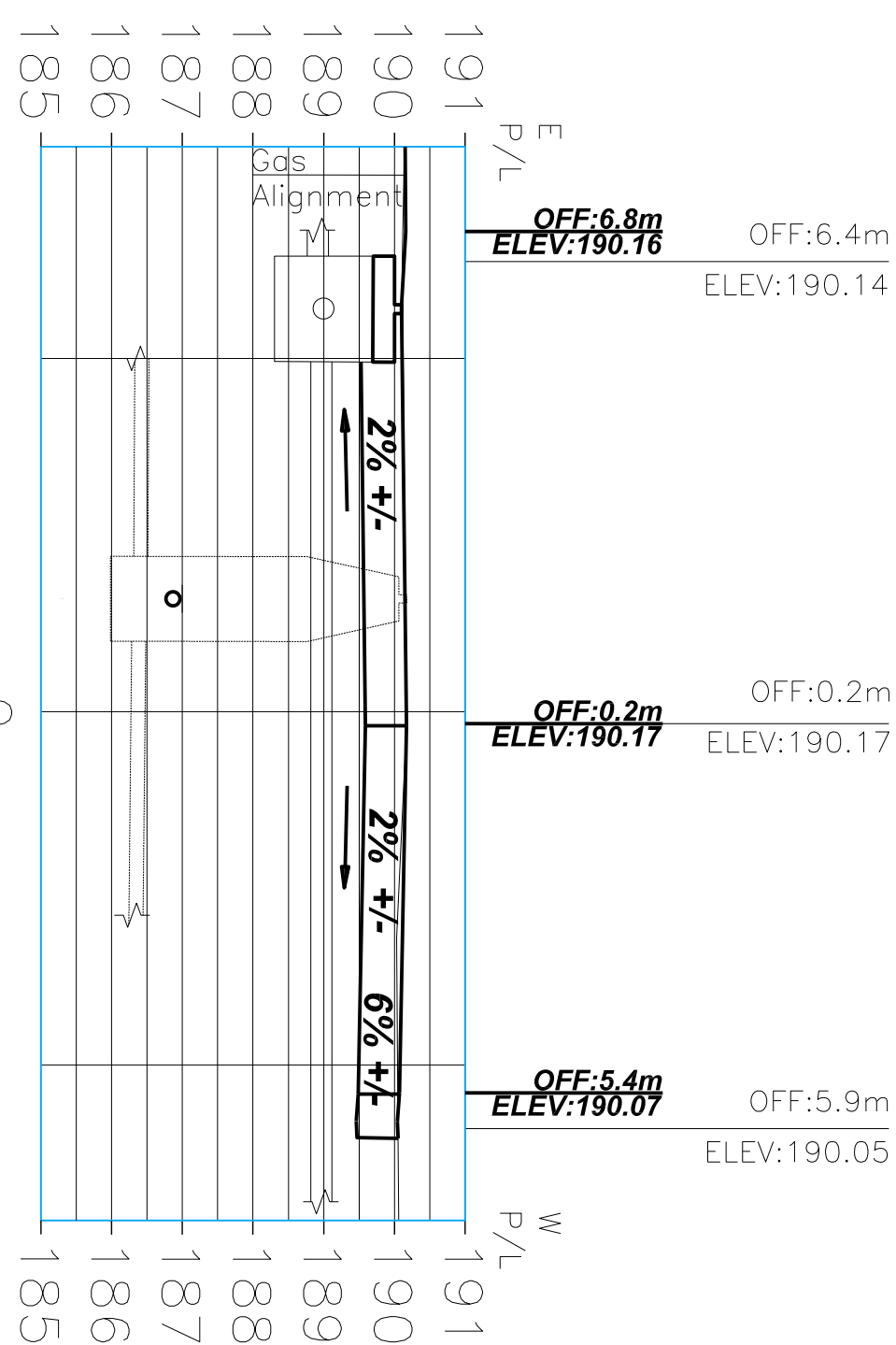
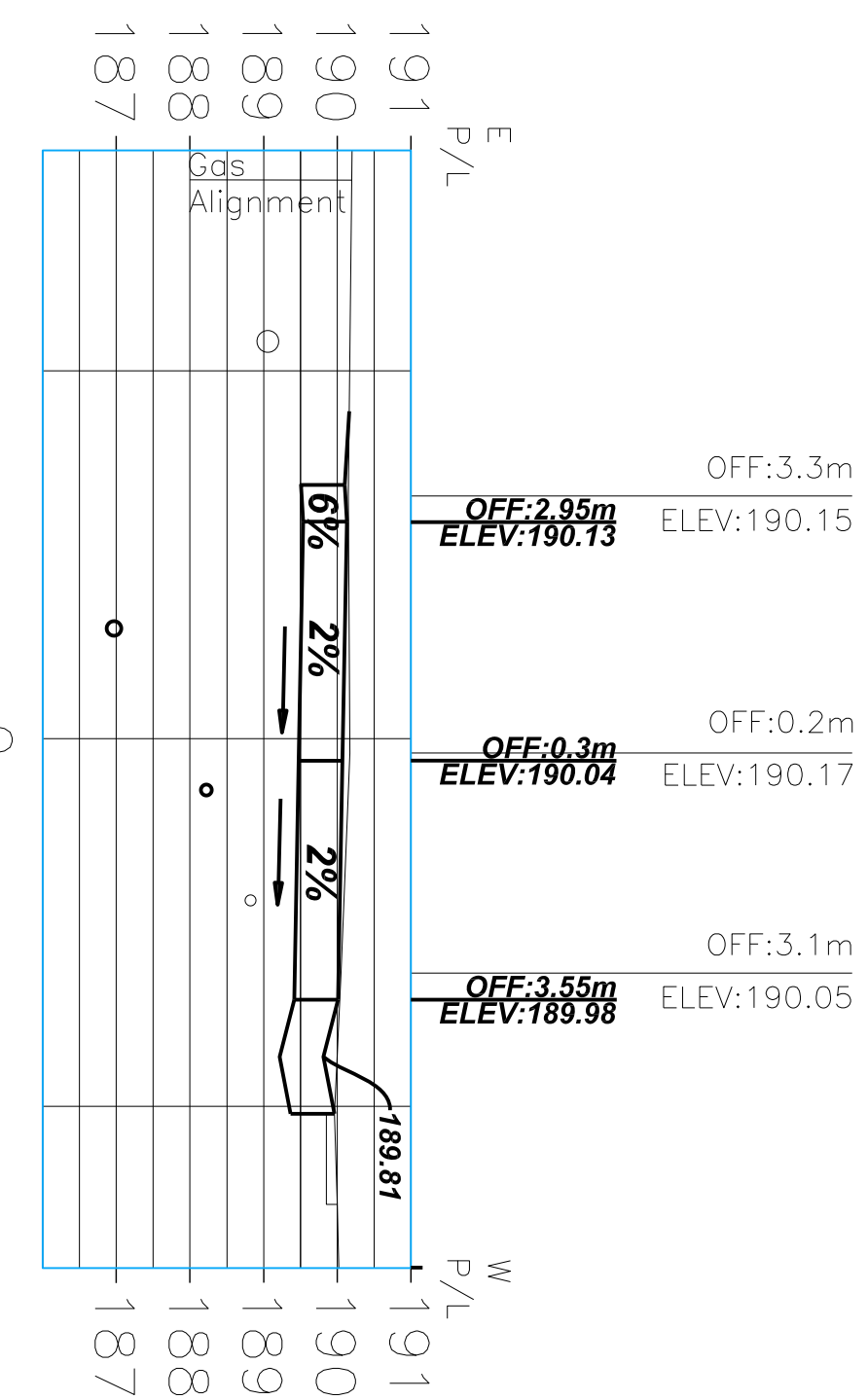
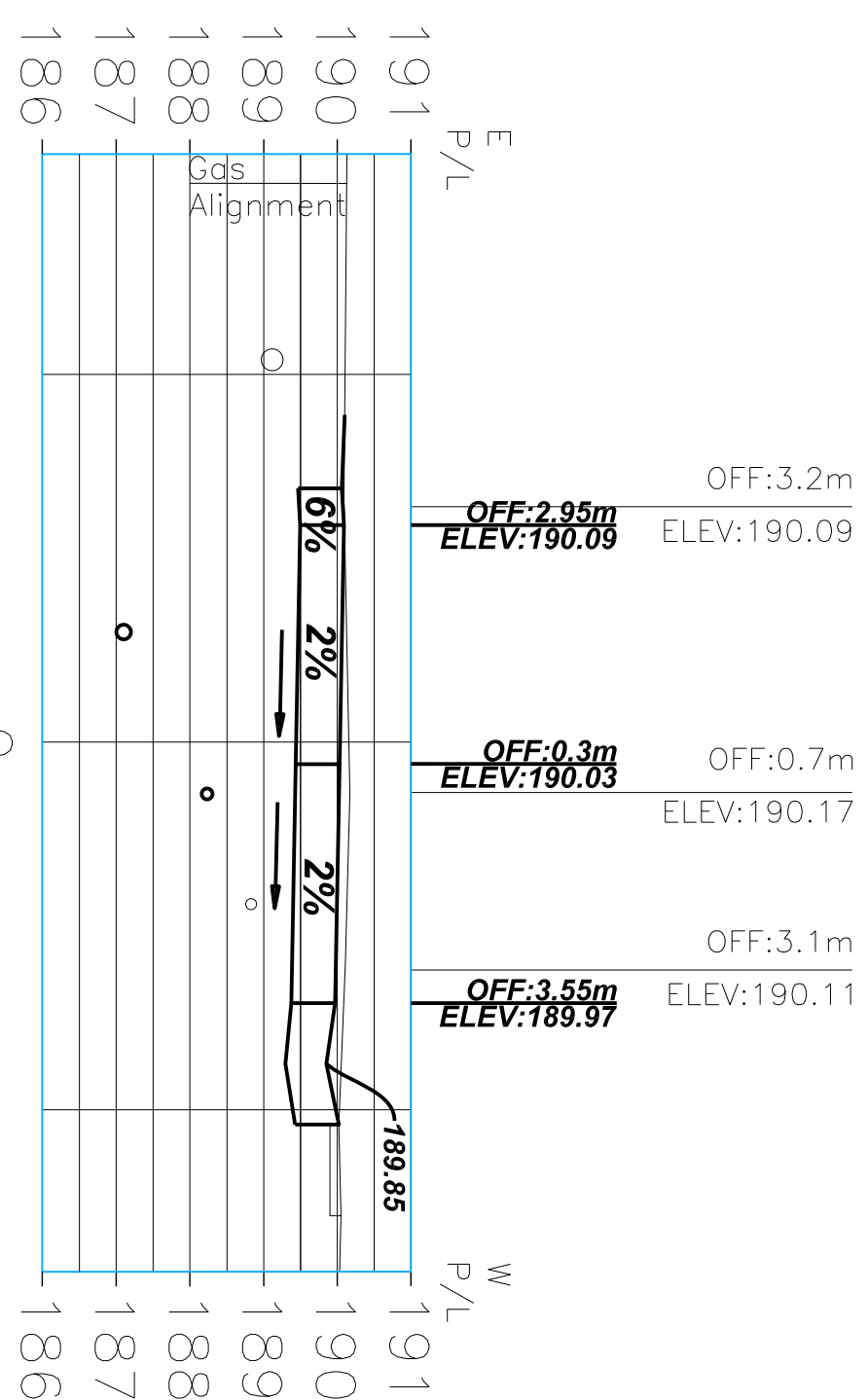
BERTIE PLACE

BETWEEN DOMINION RD AND HIBBARD ST

FORT ERIE, ON

WATERMAIN REPLACEMENT

DATE	2018-09-01
SCALE	H=1:500
REF. No.	ISE-217-BRP1.19
DWG. No.	BERTIE PLACE
REV.	Cross Sections Pg 7
	3



3	ISSUED FOR REVIEW	12/17/2020
2	ISSUED FOR REVIEW	03/15/2020
1	ISSUED TO UTILITIES	2018/03
NO	REVISION	DATE

DRAFTING SLE	DESIGN SLE	CHECKED RM	APPROVED TM
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BENCHMARK:
SIB LOCATED AT THE NW PROPERTY LINE OF
335 BERNIE PLACE
NORTHING - 659810.095
EASTING - 4749813.963
ELEVATION - 190.256



ISE-21T-BERT19
BERTIE PLACE
BETWEEN DOMINION RD AND HIBBARD ST
FORT ERIE, ON
WATERMAIN REPLACEMENT

DATE	2018-09-01
SCALE	H=1:200 V=1:50
REF. No.	ISE-21T-BRPL19
DWG. No.	BERTIE PLACE Cross Sections PG 9
REV	3