KOUGA LOCAL MUNICIPALITY

CONTRACT NO 67/2026

CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER

BOOK OF TENDER DRAWINGS

MARCH 2026

ISSUED FOR TENDER

KOUGA LOCAL MUNICIPALITY
16 WOLTEMADE STREET
JEFFREYS BAY
6330

DRAWING NO.	REFERENCE

REFERENCE DRAWINGS

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NO.	DESCRIPTION	BY	CHKD	APPD	DATE

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NAME	SUGAN THAVAR	DATE
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REG. NUMBER	200670054	
SCALE :	A1	

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KOUGA LOCAL MUNICIPALITY

CONSTRUCTION OF THE
OCEANVIEW COLLECTOR SEWER

PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2301131	001	01	LA	0000	00	00	VST

CONTRACT NO 67/2026
CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER

DRAWING NO.	DESCRIPTION
2301131-001-01-LA-0003-02	PROPOSED LAYOUT PLAN
2301131-001-01-LS-0004-02	LONG SECTIONS
2301131-001-01-TD-0005-00	CONTRACT NAME BOARD
2301131-001-01-TD-0006-00	TYPICAL DETAILS

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OCEANVIEW COLLECTOR SEWER

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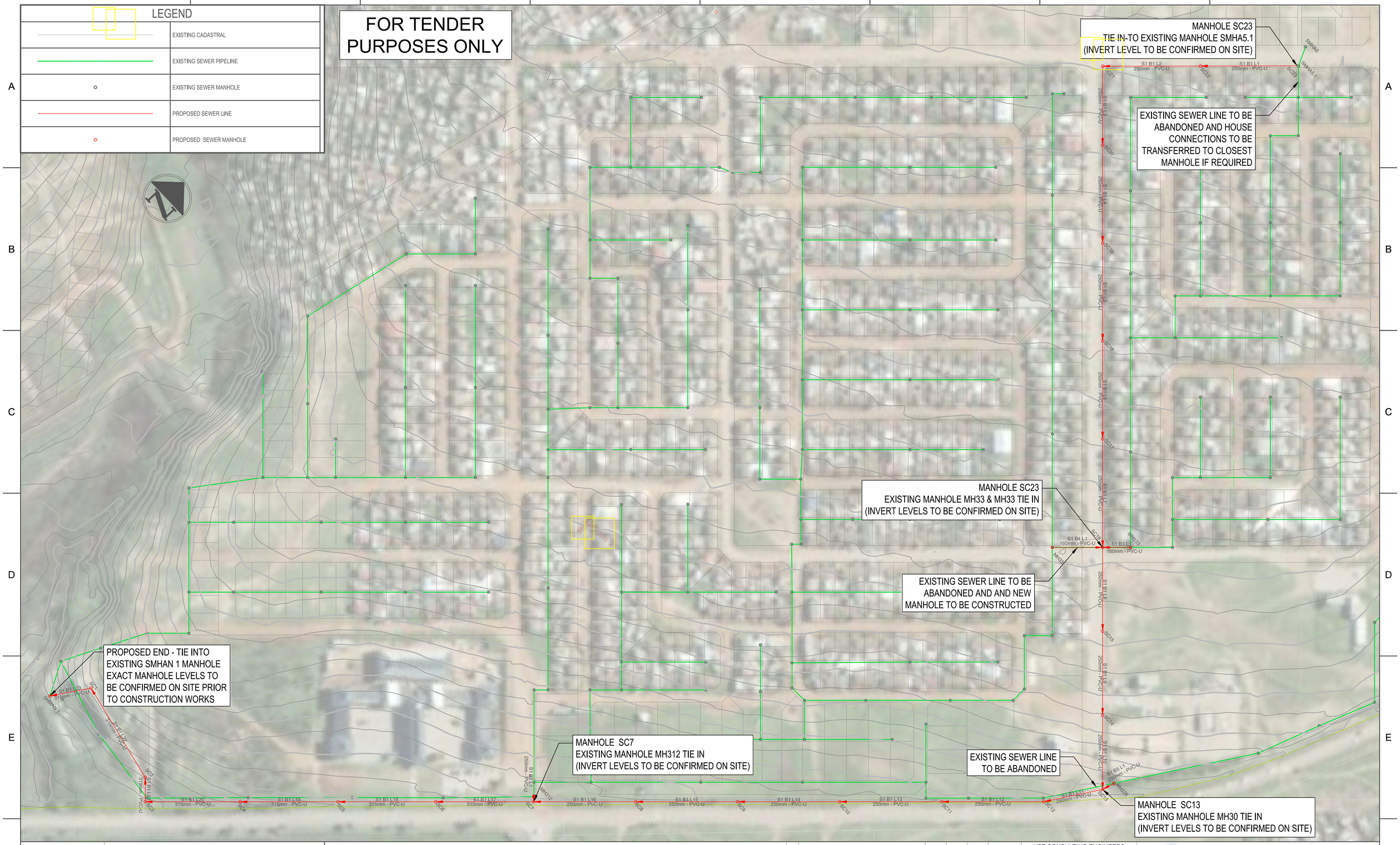

DRAWING NO.	REFERENCE
2301131-001-01-LS-0004	LONG SECTIONS

REFERENCE DRAWINGS

NOTES

1. FOR APPROVAL PURPOSES ONLY.
2. DISTANCE BETWEEN MANHOLE MUST NOT EXCEED 80M.
3. GRADIENTS GREATER THAN 10% REQUIRES ANCHOR LOCKS.
4. NO RETICULATION SEWER MAY BE AT A DEPTH GREATER THAN 6M.
5. POSITIONS OF EXISTING SERVICES ARE TO BE DETERMINED ON SITE,PRIOR TO CONSTRUCTION.
6. A MINIMUM OF 150MM CLEARANCE MUST BE MAINTAINED BETWEEN CROSSING SERVICES.

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
02	FOR TENDER	A.M	S.T	S.T	09-04-2025
01	UPDATED BASED ON PD CLIENT COMMENTS	A.M	S.T	S.T	16-08-2024
00	ISSUED FOR APPROVAL	A.M	S.T	S.T	16-08-2024

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CHECKED	S.T		27 09 24
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PR.TECH. ENG		
NAME	SUGAN THAVAR	DATE
SIGNATURE		27 09 24
REG. NUMBER	200670054	
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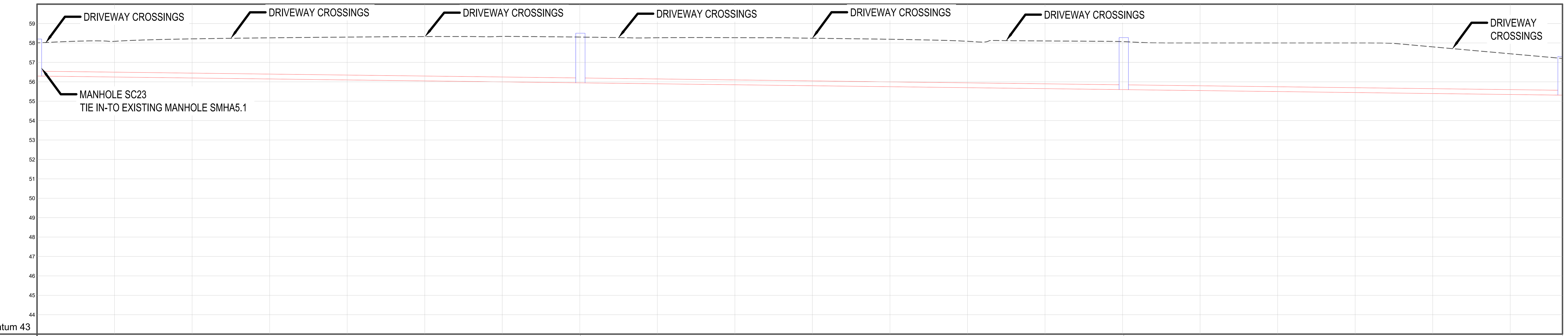
KOUGA LOCAL MUNICIPALITY

CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER

PROPOSED LAYOUT DRAWING

PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2301131	001	01	LA	0003	01	02	VST

LEGEND	
- - - - - - -	EXISTING GROUND LINE
(symbol)	PROPOSED SEWER MANHOLE
(red double line)	PROPOSED SEWER LINE

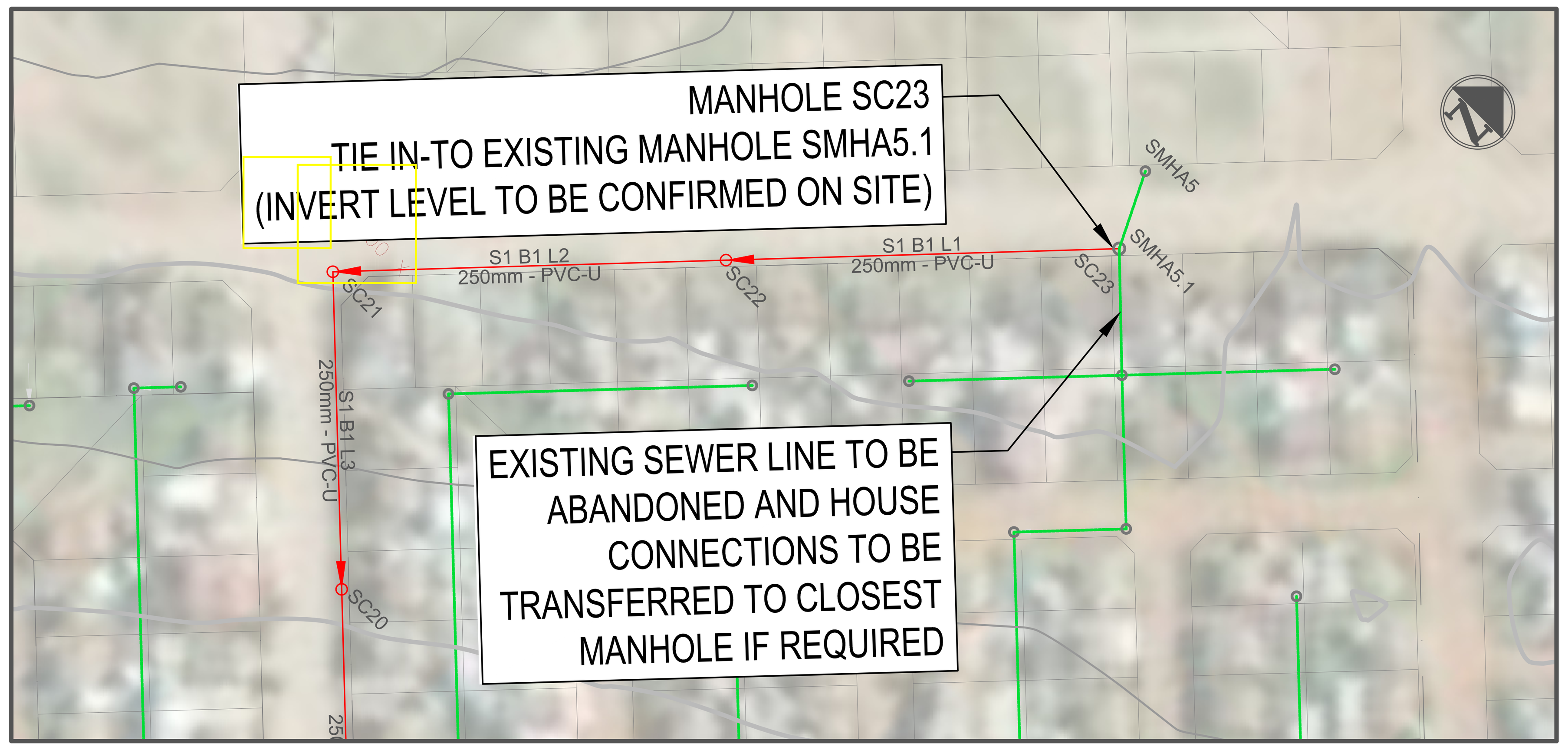


Chainage	0.000	70.076	140.151	196.738
Ground Level	58.003	58.304	58.077	57.204
Manhole Name	SC23	SC22	SC21	SC20
Manhole Depth	1.902	2.553	2.677	1.987
Inlet Level	56.301	55.951	55.600	55.317

	SC23–SC22	SC22–SC21	SC21–SC20
Link Type / Link Size	PVC-U 250 mm	PVC-U 250 mm	PVC-U 250 mm
Length / Slope	70.077 m 0.500%	70.077 m 0.500%	56.588 m 0.500%
Flow	9.766 l/s	9.766 l/s	9.766 l/s
Capacity 0.8D	43.567 l/s	43.567 l/s	43.567 l/s
Velocity	0.791 m/s	0.791 m/s	0.791 m/s
Bedding class	Flexible	Flexible	Flexible

LONG SECTION: MANHOLE SC23 TO 20
SCALE 1:1500

LEGEND	
(grey line)	EXISTING CADASTRAL
(green line)	EXISTING SEWER PIPELINE
o	EXISTING SEWER MANHOLE
(red line)	PROPOSED SEWER LINE
o (red)	PROPOSED SEWER MANHOLE



LAYOUT PLAN: MANHOLE SC23 TO 20
SCALE 1:1000

PIPE DEISGN DATA						
Node Name	Invert Level	Cover Level	Cover (m)	Manhole Depth	Y Co ordinate	X co ordinate
SC23	56.301	58.203	1.457	1.702	8391.611	3769904.779
SC22	55.951	58.504	2.108	2.353	8439.547	3769955.894
SC21	55.600	58.277	2.232	2.477	8487.483	3770007.009
SC20	55.317	57.304	1.642	1.887	8446.270	3770045.785

PIPE LENGTHS (m)						
Link Name	Node Name	Next Node	Calculated Size	Length (m)	Slope %	Ratio Slope 1:x
LSMH A5	SC23	SC22	250 mm	70.076	0.500000	200.00000
LSC22	SC22	SC21	250 mm	70.076	0.500000	200.00000
LSC21	SC21	SC20	250 mm	56.587	0.500000	200.00000

FOR TENDER PURPOSES ONLY

DRAWING NO.	REFERENCE
2301131-001-01-LA-0003-01-01	LAYOUT PLAN

REFERENCE DRAWINGS

NOTES
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PR.TECH. ENG
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KOUGA LOCAL MUNICIPALITY
CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER
LONG SECTIONS

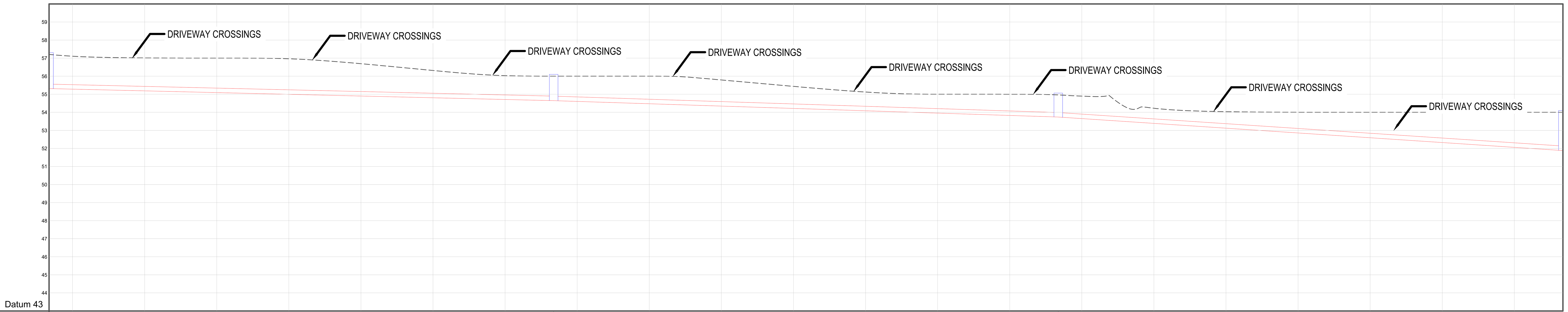
PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2301131	001	01	LS	0004	01	02	VST

1 2 3 4 5 6 7 8

A B C D E F

LEGEND

- - - - - - - -	EXISTING GROUND LINE
(manhole symbol)	PROPOSED SEWER MANHOLE
(red double line)	PROPOSED SEWER LINE



	SC20		SC19		SC18		SC17
Chainage	196.738		266.738		336.738		406.738
Ground Level	57.204		56.000		54.962		54.000
Manhole Name	SC20		SC19		SC18		SC17
Manhole Depth	1.987		1.449		1.320		2.214
Inlet Level	55.317		54.651		53.742		51.886
Link Type / Link Size		PVC-U 250 mm		PVC-U 250 mm		PVC-U 250 mm	
Length / Slope		70.003 m 0.952%		70.006 m 1.299%		70.025 m 2.651%	
Flow		9.766 l/s		9.766 l/s		9.766 l/s	
Capacity 0.8D		60.112 l/s		70.211 l/s		100.325 l/s	
Velocity		0.997 m/s		1.111 m/s		1.434 m/s	
Bedding class		Flexible		Flexible		Flexible	

LONG SECTION: MANHOLE SC20 TO 17
SCALE 1:1500

LEGEND

(grey line)	EXISTING CADASTRAL
(green line)	EXISTING SEWER PIPELINE
o	EXISTING SEWER MANHOLE
(red line)	PROPOSED SEWER LINE
o (red)	PROPOSED SEWER MANHOLE

LAYOUT PLAN: MANHOLE SC20 TO 17
SCALE 1:1000

FOR TENDER PURPOSES ONLY

PIPE DEISGN DATA						
Node Name	Invert Level	Cover Level	Cover (m)	Manhole Depth	Y Co ordinate	X co ordinate
SC20	55.317	57.304	1.642	1.887	8446.270	3770045.785
SC19	54.651	56.100	1.104	1.349	8395.288	3770093.752
SC18	53.742	55.062	0.975	1.220	8344.306	3770141.719
SC17	51.886	54.100	1.869	2.114	8293.323	3770189.685

PIPE LENGTHS (m)						
Link Name	Node Name	Next Node	Calculated Size	Length (m)	Slope %	Ratio Slope 1:x
LSC20	SC20	SC19	250 mm	70.000	0.951869	105.05652
LSC19	SC19	SC18	250 mm	70.000	1.298571	77.00770
LSC18	SC18	SC17	250 mm	70.000	2.651429	37.71552

DRAWING NO.	REFERENCE
2301131-001-01-LA-0003-01-01	LAYOUT PLAN

REFERENCE DRAWINGS

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PR.TECH. ENG

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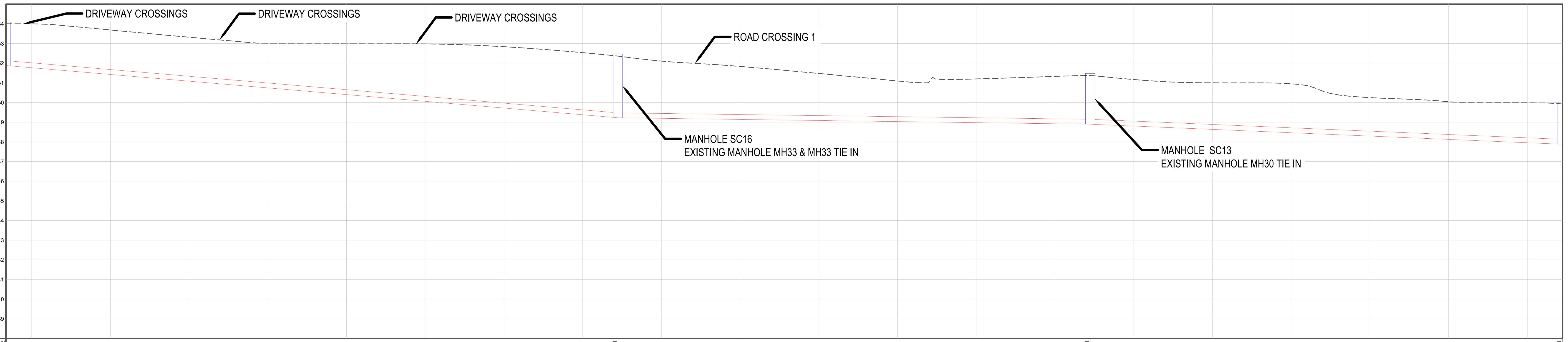
KOUGA LOCAL MUNICIPALITY
CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER
LONG SECTIONS

PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2301131	001	01	LS	0004	02	02	VST

LEGEND	
	EXISTING GROUND LINE
	PROPOSED SEWER MANHOLE
	PROPOSED SEWER LINE



	SC17	SC16	SC15	SC14
Chainage	406.738	484.474	544.474	604.474
Ground Level	54.000	52.361	51.382	49.920
Manhole Name	SC17	SC16	SC15	SC14
Manhole Depth	2.214	3.232	2.580	2.137
Inlet Level	51.886	49.229	48.902	47.883

	SC17–SC16	SC16–SC15	SC15–SC14
Link Type / Link Size	PVC-U 250 mm	PVC-U 250 mm	PVC-U 250 mm
Length / Slope	77.781 m 3.418%	60.001 m 0.545%	60.009 m 1.698%
Flow	9.766 l/s	20.680 l/s	20.680 l/s
Capacity 0.8D	113.909 l/s	45.484 l/s	80.294 l/s
Velocity	1.568 m/s	0.999 m/s	1.514 m/s
Bedding class	Flexible	Flexible	Flexible

LONG SECTION: MANHOLE SC17 TO 14
SCALE 1:1500

LEGEND	
	EXISTING CADASTRAL
	EXISTING SEWER PIPELINE
	EXISTING SEWER MANHOLE
	PROPOSED SEWER LINE
	PROPOSED SEWER MANHOLE

LAYOUT PLAN: MANHOLE SC17 TO 14
SCALE 1:1000

PIPE DEISGN DATA						
Node Name	Invert Level	Cover Level	Cover (m)	Manhole Depth	Y Co ordinate	X co ordinate
SC17	51.886	54.100	1.869	2.114	8293.323	3770189.685
SC16	49.229	52.461	2.887	3.132	8236.707	3770242.953
SC15	48.902	51.482	2.235	2.480	8193.008	3770284.067
MH133	49.969	52.612	2.386	2.543	8223.005	3770228.390
MH33	49.409	52.356	2.690	2.847	8261.372	3770269.182

PIPE LENGTHS (m)						
Link Name	Node Name	Next Node	Calculated Size	Length (m)	Slope %	Ratio Slope 1:x
LSC17	SC17	SC16	250 mm	77.736	3.418005	29.25684
LSC16	SC16	SC15	250 mm	60.000	0.544967	183.49746
LSC15	SC15	SC14	250 mm	60.000	1.698333	58.88126
LSC14	SC14	SC13	250 mm	53.154	5.085572	19.66347
LMH33	MH33	SC16	160 mm	36.004	0.500000	200.00000
LMH133	MH133	SC16	160 mm	19.996	3.700840	27.02089

FOR TENDER PURPOSES ONLY

DRAWING NO.	REFERENCE
2301131-001-01-LA-0003-01-01	LAYOUT PLAN

REFERENCE DRAWINGS

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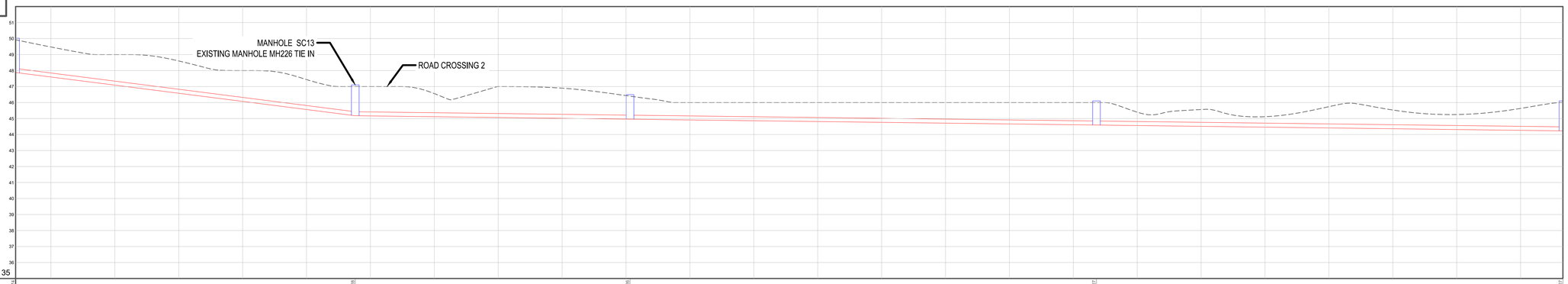
KOUGA LOCAL MUNICIPALITY

CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER

LONG SECTIONS

PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2 3 0 1 1 3 1	0 0 1	0 1	L S	0 0 0 4	0 3	0 2	VST

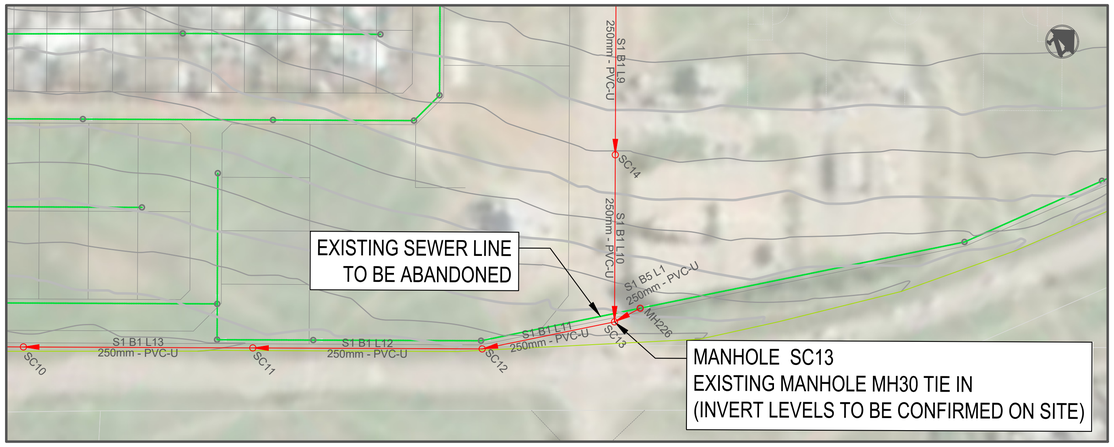
LEGEND	
- - - - - - - -	EXISTING GROUND LINE
	PROPOSED SEWER MANHOLE
———	PROPOSED SEWER LINE



Chainage	664.474	667.628	700.628	771.627	846.627
Ground Level	49.903	47.000	46.393	46.000	46.000
Manhole Name	SC14	SC13	SC12	SC11	SC10
Manhole Depth	2.137	1.920	1.528	1.505	1.865
Inlet Level	47.883	45.180	44.965	44.600	44.235
Link Type / Link Size	PVC-U 250 mm	PVC-U 250 mm	PVC-U 250 mm	PVC-U 250 mm	
Length / Slope	53.223 m 5.080%	42.999 m 0.500%	73.002 m 0.500%	73.001 m 0.500%	
Flow	20.680 l/s	34.410 l/s	34.410 l/s	34.410 l/s	
Capacity 0.8D	138.944 l/s	43.567 l/s	43.567 l/s	43.567 l/s	
Velocity	2.244 m/s	1.087 m/s	1.087 m/s	1.087 m/s	
Bedding class	Flexible	Flexible	Flexible	Flexible	

LONG SECTION: MANHOLE SC14 TO 10
SCALE 1:1500

LEGEND	
	EXISTING CADASTRAL
	EXISTING SEWER PIPELINE
	EXISTING SEWER MANHOLE
	PROPOSED SEWER LINE
	PROPOSED SEWER MANHOLE



LAYOUT PLAN: MANHOLE SC14 TO 10
SCALE 1:1000

PIPE DESIGN DATA						
Node Name	Invert Level	Cover Level	Cover (m)	Manhole Depth	Y Co ordinate	X co ordinate
SC14	47.883	50.020	1.792	2.037	8149.309	3770325.182
SC13	45.180	47.100	1.575	1.820	8110.596	3770361.605
SC12	44.965	46.493	1.183	1.428	8133.027	3770398.289
SC11	44.600	46.100	1.155	1.400	8183.043	3770451.463
SC10	44.235	46.100	1.520	1.765	8233.059	3770504.636
MH226	45.226	47.474	1.803	2.048	8108.200	3770352.684

PIPE LENGTHS (m)						
Link Name	Node Name	Next Node	Calculated Size	Length (m)	Slope %	Ratio Slope 1:x
LSC14	SC14	SC13	250 mm	53.154	5.085572	19.66347
LSC13	SC13	SC12	250 mm	42.998	0.500000	200.00000
LSC12	SC12	SC11	250 mm	73.001	0.500000	200.00000
LSC11	SC11	SC10	250 mm	73.000	0.500000	200.00000
LMH226	MH226	SC13	250 mm	9.237	0.500000	200.00000

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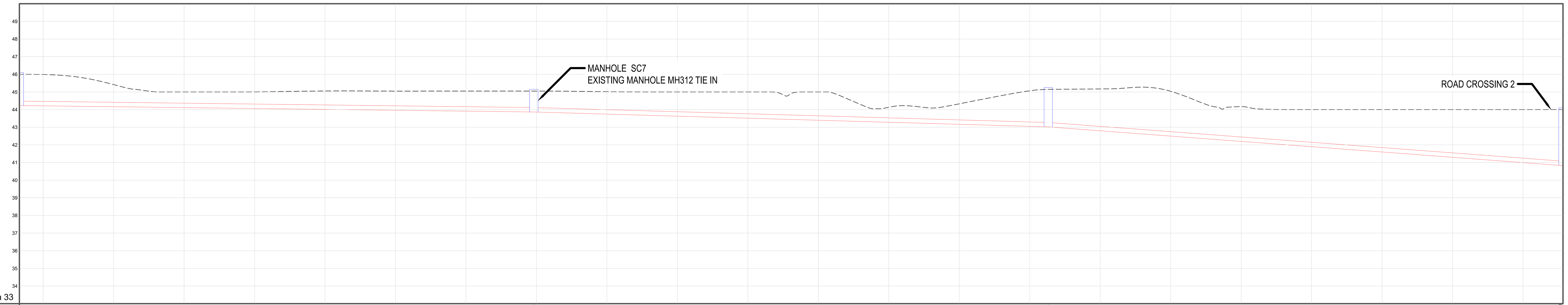
CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER

LONG SECTIONS

PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2301131	001	01	LS	0004	04	02	VST

LEGEND

- - - - - -	EXISTING GROUND LINE
(manhole symbol)	PROPOSED SEWER MANHOLE
(red line)	PROPOSED SEWER LINE



	SC10 – SC9		SC9 – SC8		SC8 – SC7
Chainage	846.627		919.628		992.628	
Ground Level	46.000		45.048		45.149	
Manhole Name	SC10		SC9		SC8	
Manhole Depth	1.865		1.278		2.224	
Inlet Level	44.235		43.870		43.025	

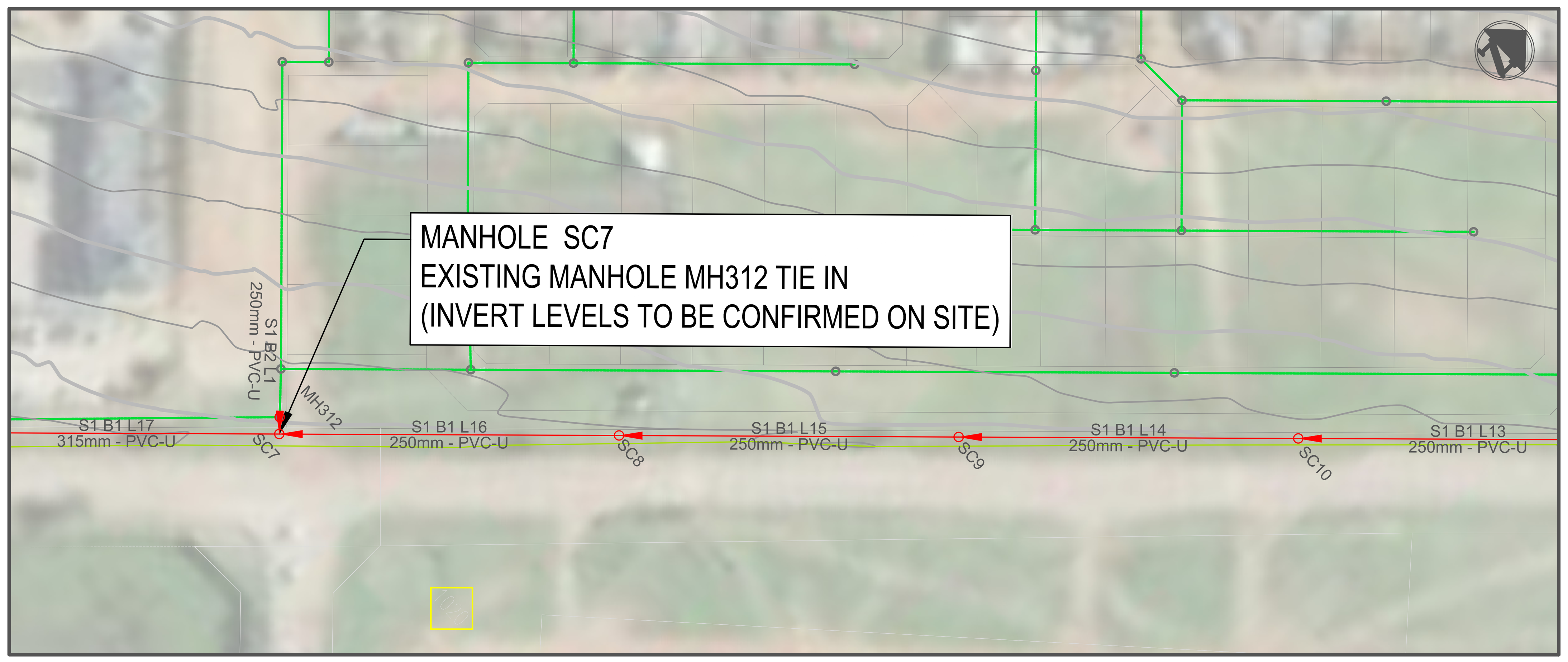
	Chainage	Ground Level	Manhole Name	Manhole Depth	Inlet Level
Node 1	846.627	46.000	SC10	1.865	44.235
Node 2	919.628	45.048	SC9	1.278	43.870
Node 3	992.628	45.149	SC8	2.224	43.025
Node 4	1065.670	44.000	SC7	3.270	40.830

	SC10 – SC9	SC9 – SC8	SC8 – SC7
Link Type / Link Size	PVC-U 250 mm	PVC-U 250 mm	PVC-U 250 mm
Length / Slope	73.002 m 0.500%	73.005 m 1.157%	73.075 m 3.005%
Flow	34.410 l/s	34.410 l/s	34.410 l/s
Capacity 0.8D	43.567 l/s	66.281 l/s	106.812 l/s
Velocity	1.087 m/s	1.505 m/s	2.142 m/s
Bedding class	Flexible	Flexible	Flexible

LONG SECTION: MANHOLE SC10 TO 7
SCALE 1:1500

LEGEND

(line)	EXISTING CADASTRAL
(green line)	EXISTING SEWER PIPELINE
o	EXISTING SEWER MANHOLE
(red line)	PROPOSED SEWER LINE
o	PROPOSED SEWER MANHOLE



LAYOUT PLAN: MANHOLE SC10 TO 7
SCALE 1:1000

PIPE DEISGN DATA						
Node Name	Invert Level	Cover Level	Cover (m)	Manhole Depth	Y Co ordinate	X co ordinate
SC10	44.235	46.100	1.520	1.765	8233.059	3770504.636
SC9	43.870	45.148	0.933	1.178	8283.075	3770557.810
SC8	43.025	45.249	1.879	2.124	8333.091	3770610.983
SC7	40.830	44.100	2.861	3.170	8383.135	3770664.187
MH312	40.848	44.206	3.013	3.258	8385.730	3770661.642

PIPE LENGTHS (m)						
Link Name	Node Name	Next Node	Calculated Size	Length (m)	Slope %	Ratio Slope 1:x
LSC10	SC10	SC9	250 mm	73.001	0.500000	200.00000
LSC9	SC9	SC8	250 mm	73.000	1.157281	86.40945
LSC8	SC8	SC7	250 mm	73.042	3.005360	33.27388
LSC7	SC7	SC6	315 mm	70.001	0.500000	200.00000
LMH312	MH312	SC7	250 mm	3.635	0.500000	200.00000

FOR TENDER PURPOSES ONLY

DRAWING NO.	REFERENCE
2301131-001-01-LA-0003-01-01	LAYOUT PLAN

REFERENCE DRAWINGS

NOTES

1. FOR APPROVAL PURPOSES ONLY

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
02	FOR TENDER	A.M	S.T	S.T	09-04-2025
01	UPDATED BASED ON PD CLIENT COMMENTS	A.M	S.T	S.T	16-08-2024
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VST CONSULTING ENGINEERS

TITLE	NAME	SIGN	DATE
DRAWN	A.M		27 09 24
CHECKED	S.T		27 09 24
DESIGNED	A.M		27 09 24
CHECKED	S.T		27 09 24

PR.TECH. ENG

NAME	SUGAN THAVAR	DATE
SIGNATURE		27 09 24
REG. NUMBER	200670054	
SCALE :	1:1000	A1

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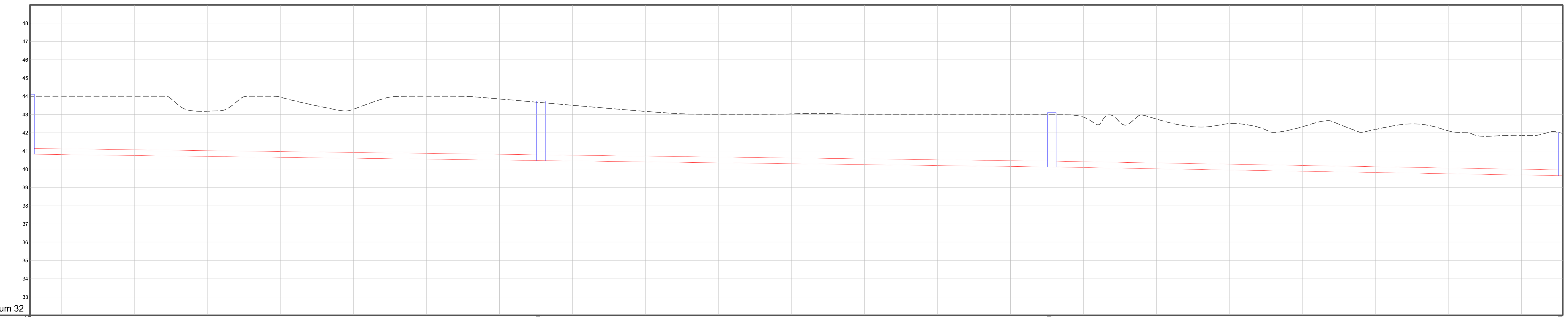
KOUGA LOCAL MUNICIPALITY

CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER

LONG SECTIONS

PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2 3 0 1 1 3 1	0 0 1	0 1	L S	0 0 0 4	0 5	0 2	VST

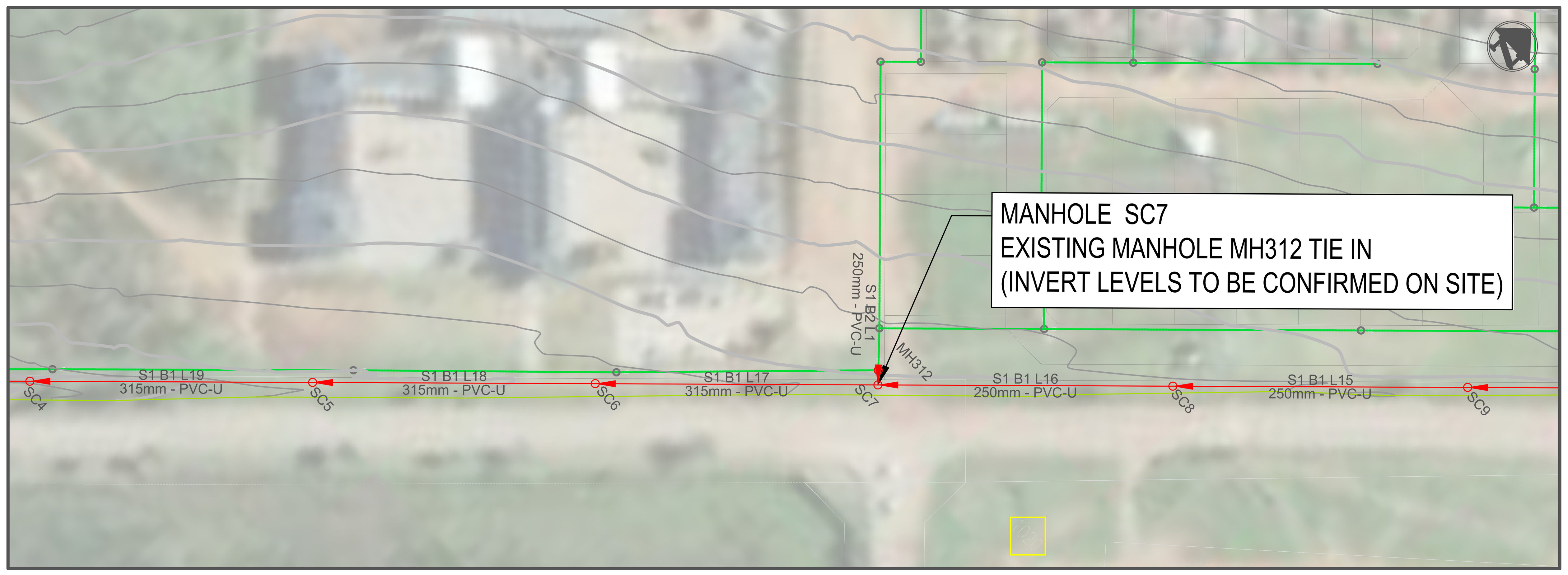
LEGEND	
(dashed line)	EXISTING GROUND LINE
(manhole symbol)	PROPOSED SEWER MANHOLE
(red line)	PROPOSED SEWER LINE



	SC7 – SC6	SC6 – SC5	SC5 – SC4
Chainage	1065.670 – 1135.671	1135.671 – 1205.671	1205.671 – 1275.671
Ground Level	44.000 – 43.652	43.652 – 43.000	43.000 – 41.949
Manhole Name	SC7 – SC6	SC6 – SC5	SC5 – SC4
Manhole Depth	3.270 – 3.272	3.272 – 2.970	2.970 – 2.398
Inlet Level	40.830 – 40.480	40.480 – 40.130	40.130 – 39.651
Link Type / Link Size	PVC-U 315 mm	PVC-U 315 mm	PVC-U 315 mm
Length / Slope	70.002 m 0.500%	70.001 m 0.500%	70.002 m 0.684%
Flow	60.790 l/s	60.790 l/s	60.790 l/s
Capacity 0.8D	81.116 l/s	81.116 l/s	94.876 l/s
Velocity	1.257 m/s	1.257 m/s	1.421 m/s
Bedding class	Flexible	Flexible	Flexible

LONG SECTION: MANHOLE SC7 TO 4
SCALE 1:1500

LEGEND	
(line)	EXISTING CADASTRAL
(green line)	EXISTING SEWER PIPELINE
(circle)	EXISTING SEWER MANHOLE
(red line)	PROPOSED SEWER LINE
(red circle)	PROPOSED SEWER MANHOLE



LAYOUT PLAN: MANHOLE SC7 TO 4
SCALE 1:1000

PIPE DEISGN DATA						
Node Name	Invert Level	Cover Level	Cover (m)	Manhole Depth	Y Coordinate	X coordinate
SC7	40.830	44.100	2.861	3.170	8383.135	3770664.187
SC6	40.480	43.752	2.863	3.172	8431.096	3770715.176
SC5	40.130	43.100	2.561	2.870	8479.056	3770766.164
SC4	39.651	42.049	1.989	2.298	8527.016	3770817.152
MH312	40.848	44.206	3.013	3.258	8385.730	3770661.642

PIPE LENGTHS (m)						
Link Name	Node Name	Next Node	Calculated Size	Length (m)	Slope %	Ratio Slope 1:x
LSC7	SC7	SC6	315 mm	70.001	0.500000	200.00000
LSC6	SC6	SC5	315 mm	70.000	0.500000	200.00000
LSC5	SC5	SC4	315 mm	70.000	0.684029	146.19272
LMH312	MH312	SC7	250 mm	3.635	0.500000	200.00000

FOR TENDER PURPOSES ONLY

DRAWING NO.	REFERENCE
2301131-001-01-LA-0003-01-01	LAYOUT PLAN

REFERENCE DRAWINGS

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VST CONSULTING ENGINEERS

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DRAWN	A.M		27 09 24
CHECKED	S.T		27 09 24
DESIGNED	A.M		27 09 24
CHECKED	S.T		27 09 24

PR.TECH. ENG

NAME: SUGAN THAVAR — DATE: 27 09 24
SIGNATURE
REG. NUMBER: 200670054
SCALE : 1:1000 — A1

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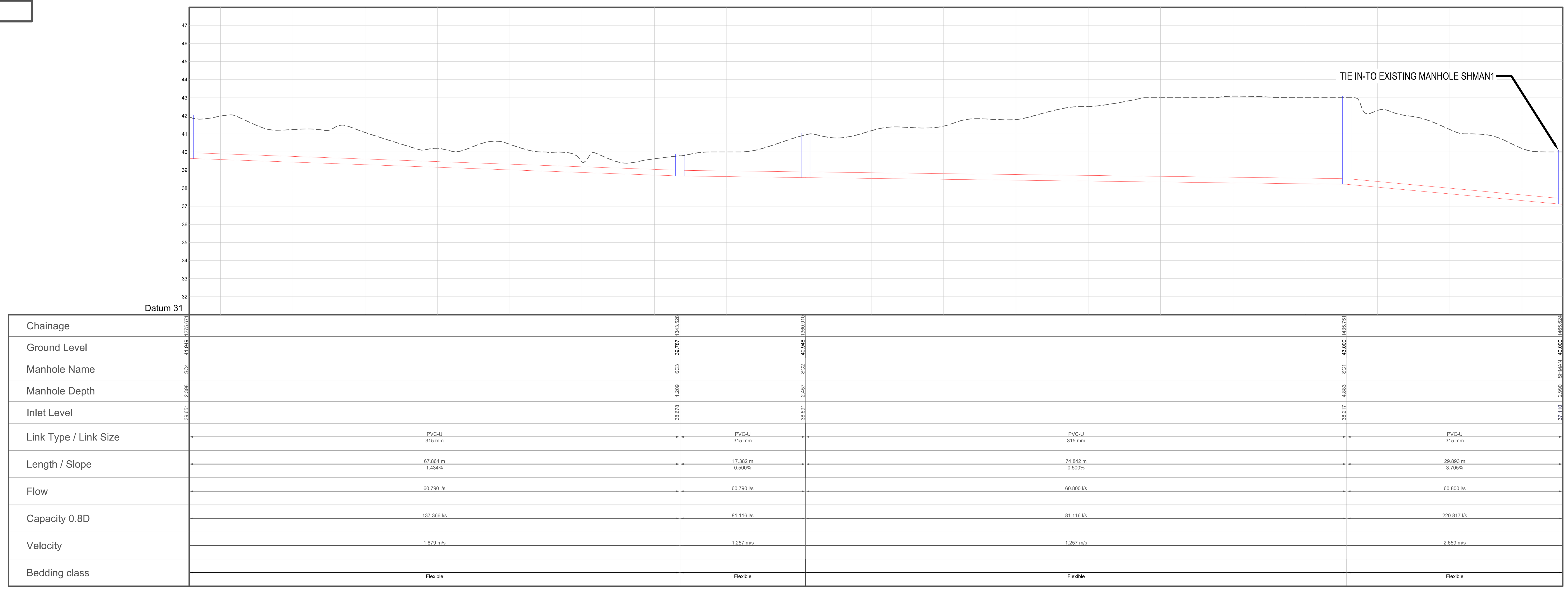
KOUGA LOCAL MUNICIPALITY
CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER
LONG SECTIONS

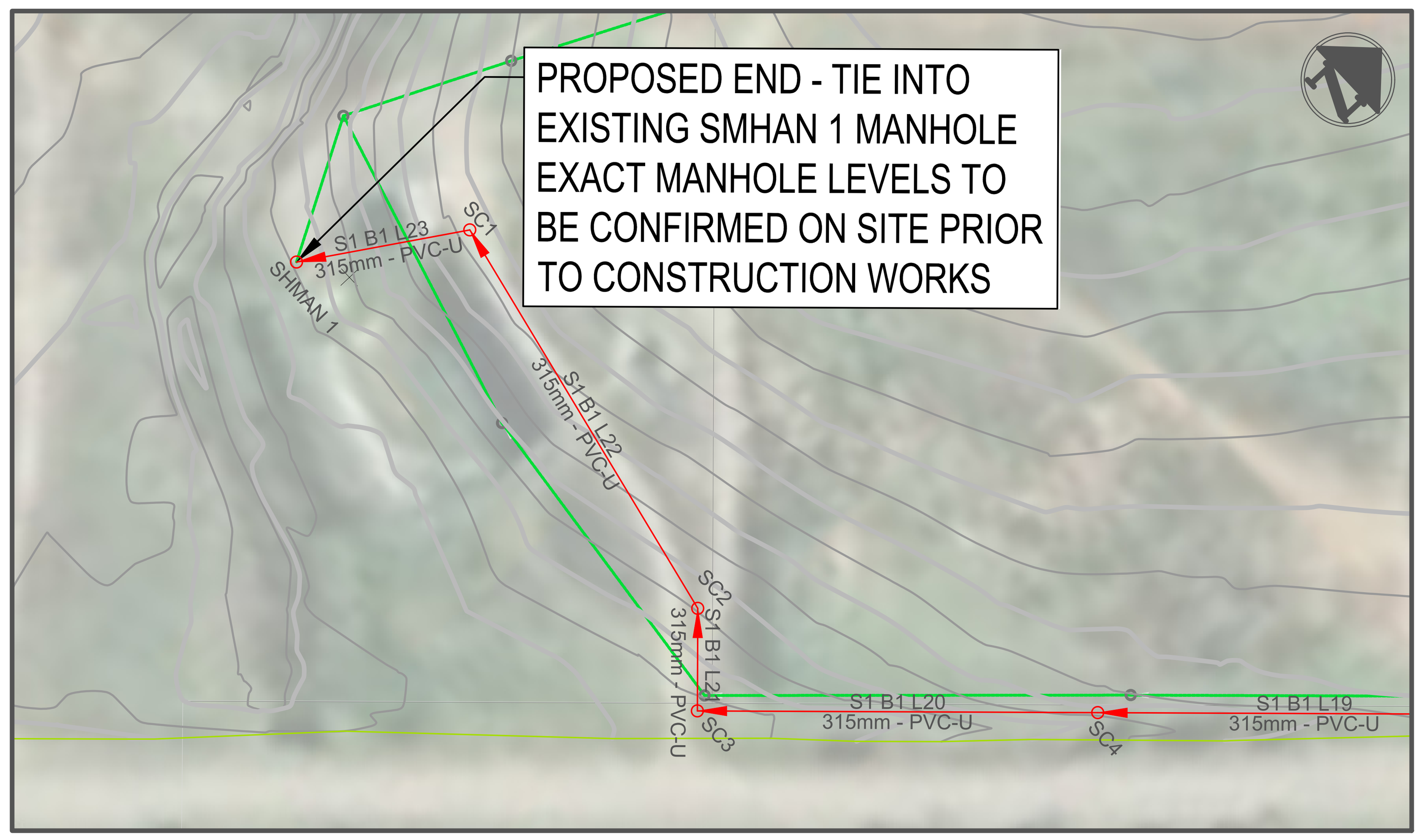
PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2301131	001	01	LS	0004	06	02	VST

LEGEND	
	EXISTING GROUND LINE
	PROPOSED SEWER MANHOLE
	PROPOSED SEWER LINE



LONG SECTION: MANHOLE SC4 TO SHMAN1
SCALE 1:1500

LEGEND	
	EXISTING CADASTRAL
	EXISTING SEWER PIPELINE
	EXISTING SEWER MANHOLE
	PROPOSED SEWER LINE
	PROPOSED SEWER MANHOLE



LAYOUT PLAN: MANHOLE SC4 TO SHMAN1
SCALE 1:1000

FOR TENDER PURPOSES ONLY

PIPE DEISGN DATA

Node Name	Invert Level	Cover Level	Cover (m)	Manhole Depth	Y Co ordinate	X co ordinate
SC4	39.651	42.049	1.989	2.298	8527.016	3770817.152
SC3	38.678	39.887	0.800	1.109	8573.508	3770866.579
SC2	38.591	41.048	2.048	2.357	8586.170	3770854.670
SC1	38.217	43.100	4.474	4.783	8659.396	3770839.207
SHMAN 1	37.110	40.100	2.581	2.890	8675.448	3770864.401

PIPE LENGTHS (m)

Link Name	Node Name	Next Node	Calculated Size	Length (m)	Slope %	Ratio Slope 1:x
LSC4	SC4	SC3	315 mm	67.857	1.433898	69.73998
LSC3	SC3	SC2	315 mm	17.382	0.500000	200.00000
LSC2	SC2	SC1	315 mm	74.841	0.500000	200.00000
LSC1	SC1	SHMAN	315 mm	29.873	3.705302	26.98835

DRAWING NO.	REFERENCE
2301131-001-01-LA-0003-01-01	LAYOUT PLAN

REFERENCE DRAWINGS

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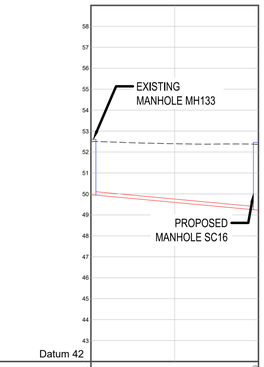
KOUGA LOCAL MUNICIPALITY
CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER
LONG SECTIONS

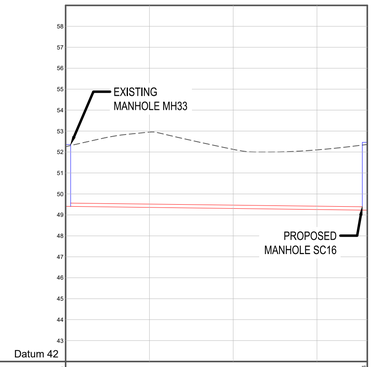
A1	PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
	2301131	001	01	LS	0004	07	02	VST

LEGEND	
	EXISTING GROUND LINE
	PROPOSED SEWER MANHOLE
	PROPOSED SEWER LINE



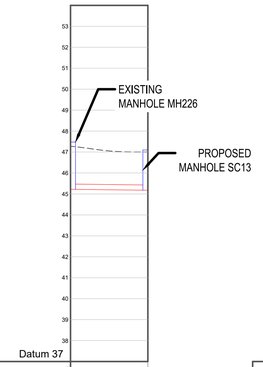
Chainage	0.000	19.996
Ground Level	52.612	52.461
Manhole Name	MH133	SC16
Manhole Depth	2.643	3.232
Inlet Level	49.969	49.229
Link Type / Link Size	PVC-U 160 mm	
Length / Slope	20.010 m 3.701%	
Flow	8.560 l/s	
Capacity 0.8D	36.306 l/s	
Velocity	1.623 m/s	
Bedding class	Flexible	

LONG SECTION: MANHOLE MH133 TO SC16
SCALE 1:1500



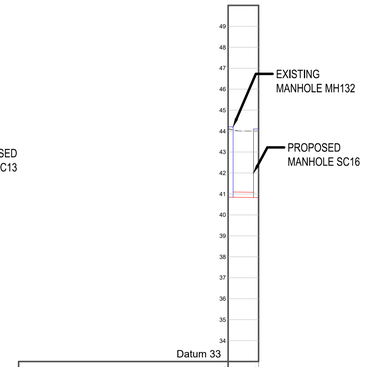
Chainage	0.000	36.004
Ground Level	52.356	52.461
Manhole Name	MH33	SC16
Manhole Depth	2.947	3.232
Inlet Level	49.409	49.229
Link Type / Link Size	PVC-U 160 mm	
Length / Slope	36.004 m 0.500%	
Flow	2.354 l/s	
Capacity 0.8D	13.345 l/s	
Velocity	0.550 m/s	
Bedding class	Flexible	

LONG SECTION: MANHOLE MH33 TO SC16
SCALE 1:1500



Chainage	0.000	9.237
Ground Level	47.474	47.000
Manhole Name	MH226	SC13
Manhole Depth	2.248	1.820
Inlet Level	45.226	45.180
Link Type / Link Size	PVC-U 250 mm	
Length / Slope	9.237 m 0.500%	
Flow	13.730 l/s	
Capacity 0.8D	43.567 l/s	
Velocity	0.869 m/s	
Bedding class	Flexible	

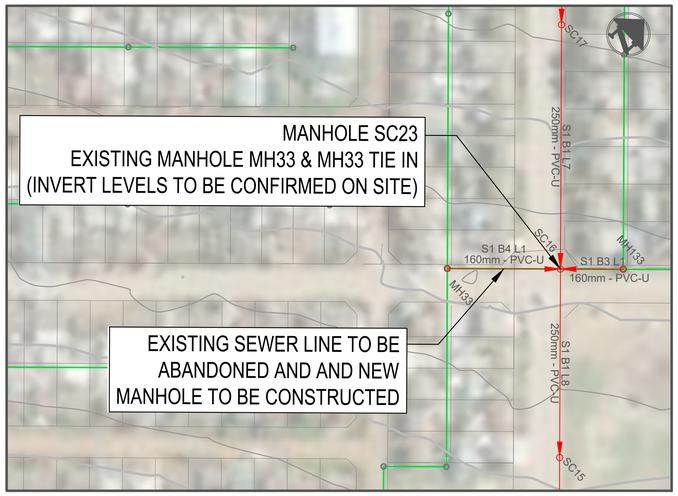
LONG SECTION: MANHOLE MH226 TO SC13
SCALE 1:1500



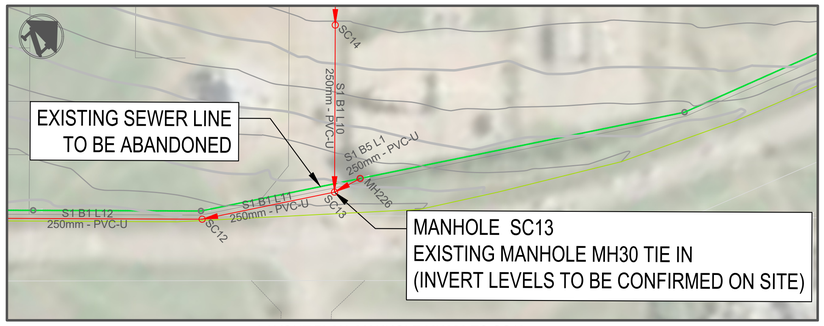
Chainage	0.000	3.635
Ground Level	44.106	44.000
Manhole Name	MH312	SC7
Manhole Depth	3.106	3.170
Inlet Level	41.000	40.830
Link Type / Link Size	PVC-U 250 mm	
Length / Slope	3.635 m 0.500%	
Flow	26.380 l/s	
Capacity 0.8D	43.567 l/s	
Velocity	1.026 m/s	
Bedding class	Flexible	

LONG SECTION: MANHOLE MH312 TO SC7
SCALE 1:1500

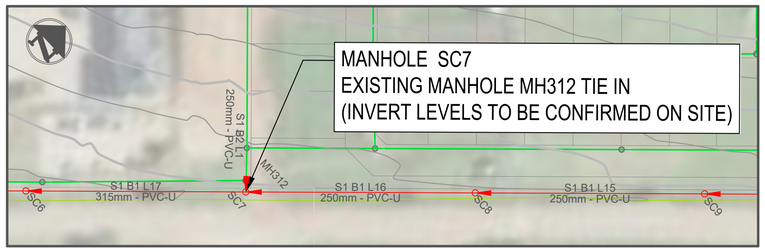
LEGEND	
	EXISTING CADASTRAL
	EXISTING SEWER PIPELINE
	EXISTING SEWER MANHOLE
	PROPOSED SEWER LINE
	PROPOSED SEWER MANHOLE



LAYOUT PLAN: MANHOLE MH133 & MH33 TO SC16
SCALE 1:1000



LAYOUT PLAN: MANHOLE MH226 TO SC13
SCALE 1:1000



LAYOUT PLAN: MANHOLE MH312 TO SC7
SCALE 1:1000

FOR TENDER PURPOSES ONLY

PIPE DESIGN DATA						
Node Name	Invert Level	Cover Level	Cover (m)	Manhole Depth	Y Co ordinate	X co ordinate
SC16	49.229	52.461	2.887	3.132	8236.707	3770242.953
SC13	45.180	47.100	1.575	1.820	8110.596	3770361.605
SC7	40.830	44.100	2.861	3.170	8383.135	3770664.187
MH312	40.848	44.206	3.013	3.258	8385.730	3770661.642
MH133	49.969	52.612	2.386	2.543	8223.005	3770228.390
MH33	49.409	52.356	2.690	2.847	8261.372	3770269.182
MH226	45.226	47.474	1.803	2.048	8108.200	3770352.684

PIPE LENGTHS (m)						
Link Name	Node Name	Next Node	Calculated Size	Length (m)	Slope %	Ratio Slope 1:x
LMH312	MH312	SC7	250 mm	3.635	0.500000	200.00000
LMH33	MH33	SC16	160 mm	36.004	0.500000	200.00000
LMH133	MH133	SC16	160 mm	19.996	3.700840	27.02089
LMH226	MH226	SC13	250 mm	9.237	0.500000	200.00000

2301131-001-01-LA-0003-01-01	LAYOUT PLAN
DRAWING NO.	REFERENCE

REFERENCE DRAWINGS

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CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER

LONG SECTIONS

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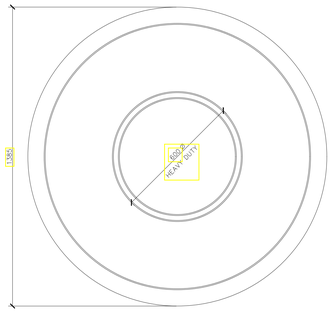
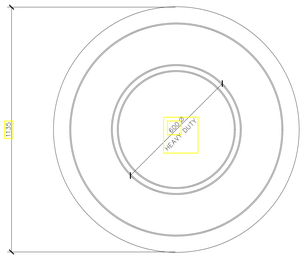
A1 2301131	001	01	LS	0004	08	02	VST



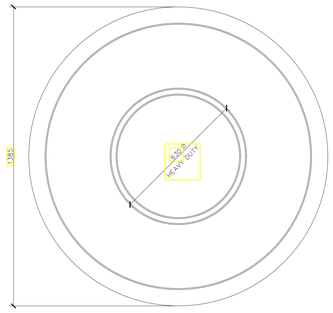
PLAN OF CIRCULAR HEAVY DUTY FRAME FOR 1250 NOM. DIA. POLYMER MANHOLE

SCALE 1:10



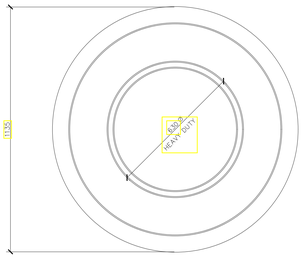
PLAN OF CIRCULAR HEAVY DUTY FRAME FOR 1000 NOM. DIA. POLYMER MANHOLE

SCALE 1:10



PLAN OF CIRCULAR HEAVY DUTY FRAME FOR 1250 NOM. DIA. SMART MANHOLE

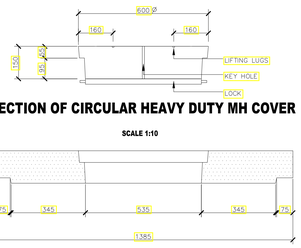
SCALE 1:10



PLAN OF CIRCULAR HEAVY DUTY FRAME FOR 1000 NOM. DIA. SMART MANHOLE

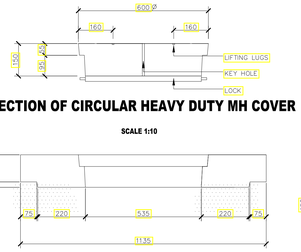
SCALE 1:10

MH Name	Invert Level (m)	Cover Level (m)	Cover (m)	Manhole Depth (m)	Manhole Diameter (mm)
SC23	56.301	58.203	1.457	1.702	1000
SC22	55.951	58.504	2.108	2.353	1000
SC21	55.600	58.277	2.232	2.477	1000
SC20	55.317	57.304	1.642	1.887	1000
SC19	54.651	56.100	1.104	1.349	1000
SC18	53.742	55.062	0.975	1.220	1000
SC17	51.886	54.100	1.869	2.114	1000
SC16	49.229	52.461	2.887	3.132	1250
SC15	48.902	51.482	2.235	2.480	1000
SC14	47.883	50.020	1.792	2.037	1000
SC13	45.180	47.100	1.575	1.820	1000
SC12	44.965	46.493	1.183	1.428	1000
SC11	44.600	46.100	1.155	1.400	1000
SC10	44.235	46.100	1.520	1.765	1000
SC9	43.870	45.148	0.933	1.178	1000
SC8	43.025	45.249	1.879	2.124	1000
SC7	40.830	44.100	2.861	3.170	1250
SC6	40.480	43.752	2.863	3.172	1250
SC5	40.130	43.100	2.561	2.870	1250
SC4	39.651	42.049	1.989	2.298	1000
SC3	38.678	39.887	0.800	1.109	1000
SC2	38.591	41.048	2.048	2.357	1000
SC1	38.217	43.100	4.474	4.783	1250
SHMAN	37.110	40.100	2.581	2.890	Pump Station Tie in
MH312	40.948	44.206	3.013	3.258	1250
MH133	49.969	52.612	2.386	2.543	1250
MH33	49.409	52.356	2.690	2.847	1250
MH226	45.226	47.474	1.803	2.048	1000



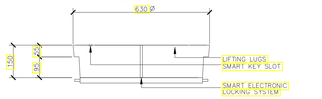
SECTION OF CIRCULAR HEAVY DUTY MH COVER

SCALE 1:10



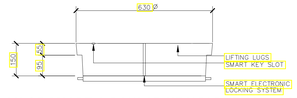
SECTION OF CIRCULAR HEAVY DUTY MH COVER

SCALE 1:10



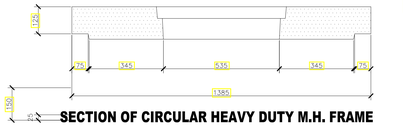
SECTION OF SMART CIRCULAR HEAVY DUTY MH COVER

SCALE 1:10



SECTION OF SMART CIRCULAR HEAVY DUTY MH COVER

SCALE 1:10

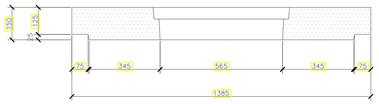


SECTION OF CIRCULAR HEAVY DUTY M.H. FRAME

SCALE 1:10

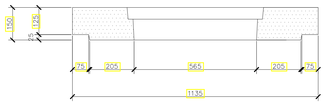
SECTION OF CIRCULAR HEAVY DUTY M.H. FRAME

SCALE 1:10



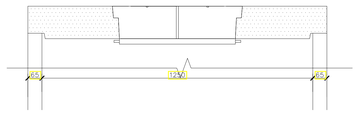
SECTION OF CIRCULAR HEAVY DUTY M.H. FRAME

SCALE 1:10



SECTION OF CIRCULAR HEAVY DUTY M.H. FRAME

SCALE 1:10

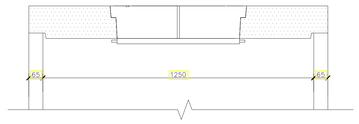


SECTION OF PLACEMENT ON 1250 DIA. MANHOLE

SCALE 1:10

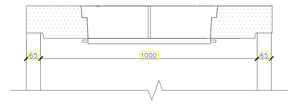
SECTION OF PLACEMENT ON 1000 DIA. MANHOLE

SCALE 1:10



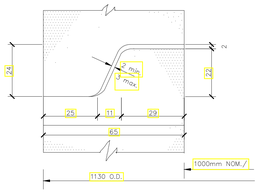
SECTION OF PLACEMENT ON 1250 DIA. MANHOLE

SCALE 1:10



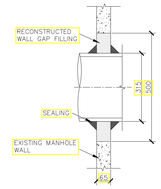
SECTION OF PLACEMENT ON 1000 DIA. MANHOLE

SCALE 1:10



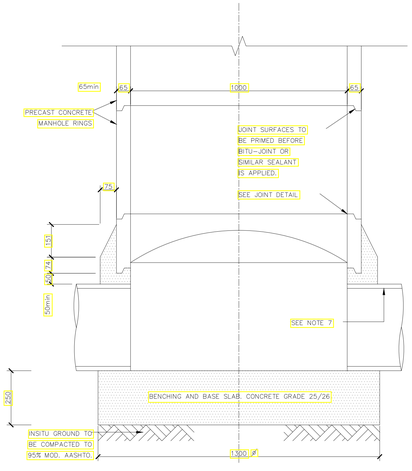
DETAIL OF JOINT

SCALE 1:100



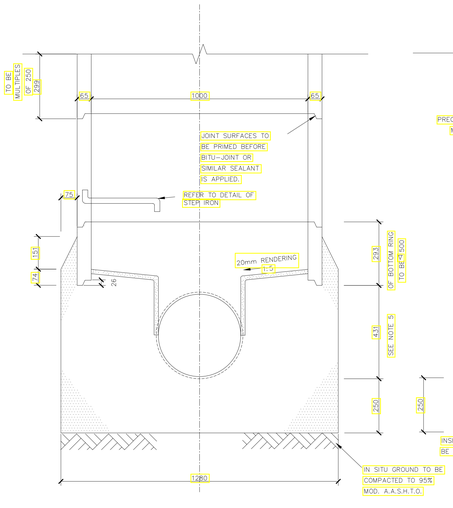
TIE IN DETAIL

SCALE 1:10



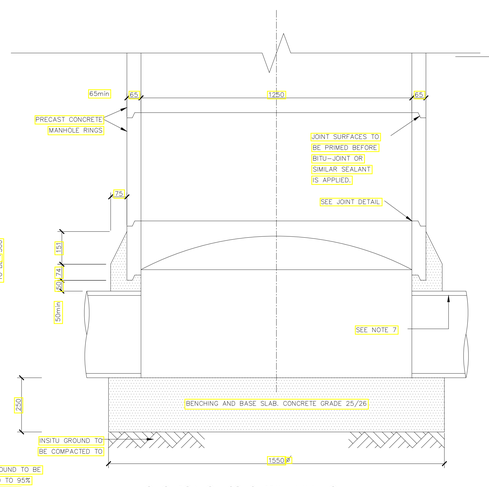
SECTION OF 1000 DIA. MANHOLE

SCALE 1:10



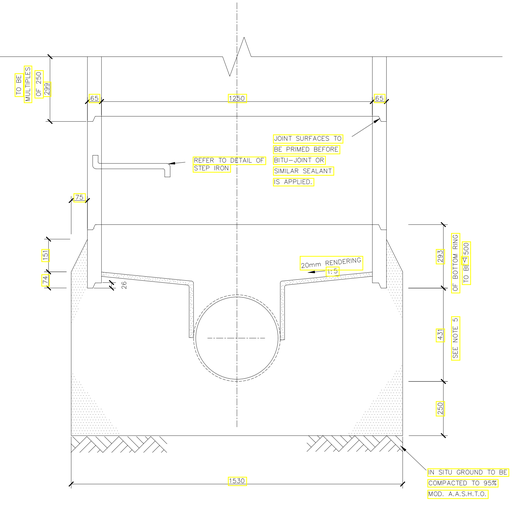
SECTION OF 1000 DIA. MANHOLE

SCALE 1:10



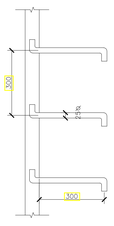
SECTION OF 1250 DIA. MANHOLE

SCALE 1:10



SECTION OF 1250 DIA. MANHOLE

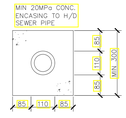
SCALE 1:10



DETAIL OF STEP IRON

SCALE 1:10

FOR MANHOLES > 4M



TYPICAL PIPE ENCASEMENT (IF REQUIRED)

SCALE 1:100

FOR TENDER PURPOSES ONLY

2301131-001-01-TD-0006-00	TYPICAL DETAILS
DRAWING NO.	REFERENCE

REFERENCE DRAWINGS

NOTES

1. DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.

2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND LEVELS ON THE SITE AND NOTIFY THE ENGINEER OF ANY VARIATIONS BEFORE CONSTRUCTION.

3. ALL REINFORCEMENT DIMENSIONS ARE TO BE RE-MEASURED ON SITE. THE ENGINEER IS TO APPROVE THE RE-MEASUREMENT PRIOR TO ORDERING OF MATERIAL.

4.MINIMUM LENGTH OF ALL SPLICING TO BE 800mm

5.A MINIMUM OF 25 MPa CONCRETE IS TO BE USED FOR FOUNDATIONS.

6.A MINIMUM OF 30 MPa CONCRETE IS TO BE USED FOR BEAMS AND SLABS.

7.GALVANIZED SABS APPROVED BRICK FORCE TO BE INSERTED EVERY SECOND ROW IN ALL WALLS.

8.ALL REINFORCEMENT TO BE INSPECTED AND APPROVED BY THE ENGINEER ON SITE PRIOR TO CASTING OF CONCRETE.

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
00	FOR TENDER	A.M	S.T	S.T	09-04-2025

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VST CONSULTING ENGINEERS

TITLE	NAME	SIGN	DATE
DRAWN	A.M		09 04 25
CHECKED	S.T		09 04 25
APPROVED	S.T		09 04 25
.	.		. . .
.	.		. . .
.	.		. . .
.	.		. . .

PR.TECH. ENG

NAME	SUGAN THAVAR	DATE
SIGNATURE		27 09 24
REG. NUMBER	200670054	
SCALE :	AS SHOWN	A1

Consulting Engineers (Pty) Ltd
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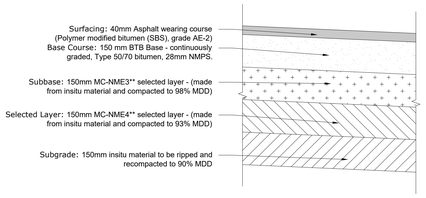
KOUGA LOCAL MUNICIPALITY

CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER

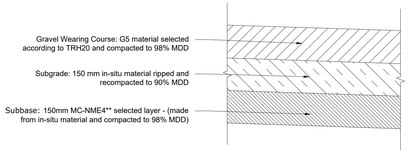
MANHOLE TYPICAL DETAIL

PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2 3 0 1 1 3 1	0 0 1	0 1	T D	0 0 0 6	0 1	0 0	VST



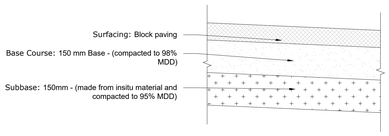
ASPHALT LAYERWORK DETAIL

NTS



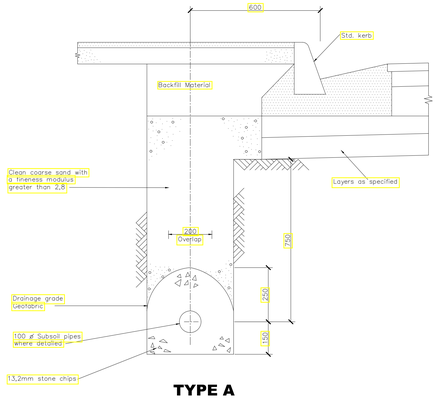
GRAVEL LAYERWORK DETAIL

NTS

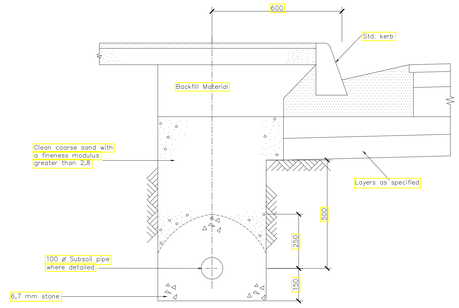


BLOCK PAVING LAYERWORK DETAIL

NTS



TYPE A



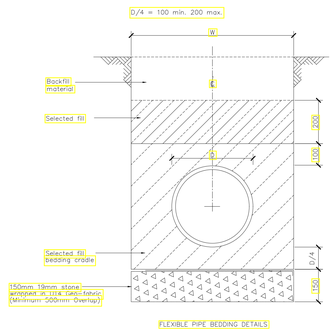
TYPE B
GRADED FILTER

SUB-SOIL DRAIN DETAILS

SCALE: 1:100

NOTE:

1. Sand , stone , geotabric and pipe required for the sub-soil drains are to comply with the requirements of Clause P.2.3 of the specification.
2. Unless otherwise specified the sub-soil drains are to be laid at the min. depths indicated. Min grade of the drain is to be 1%.
3. W = Pay width.
   D = O.D. of pipe.
4. Where detailed by Engineer clean coarse sand layer shall be extended to the edge of the road and / or raised to the level indicated for types A and B.

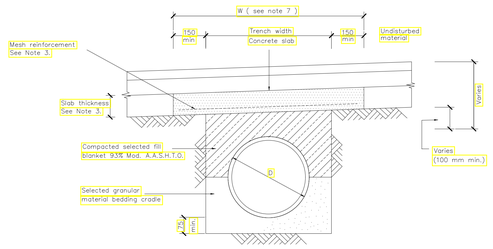


PIPE BEDDING DETAILS

SCALE: 1:100

NOTE:

1. This detail applies where cover is less than 300mm in servitudes and less than 600mm in road reserves.
2. Class "B" Bedding is shown.
3. Slab thickness and reinforcing details will be confirmed by the engineer.
4. Slab is to consist of grade 20/26 concrete.
5. Cover to reinforcement is to be 35mm.
6. Construction joints are to be formed in the slab at intervals not exceeding 5,0m.
7. W=Trench width + 300mm in undisturbed material.



DETAILS OF PIPE PROTECTION FOR REDUCED DEPTH OF COVER

SCALE 1:100

FOR TENDER PURPOSES ONLY

NOTES

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4.MINIMUM LENGTH OF ALL SPLICING TO BE 800mm

5.A MINIMUM OF 25 MPa CONCRETE IS TO BE USED FOR FOUNDATIONS.

6.A MINIMUM OF 30 MPa CONCRETE IS TO BE USED FOR BEAMS AND SLABS.

7.GALVANIZED SABS APPROVED BRICK FORCE TO BE INSERTED EVERY SECOND ROW IN ALL WALLS.

8.ALL REINFORCEMENT TO BE INSPECTED AND APPROVED BY THE ENGINEER ON SITE PRIOR TO CASTING OF CONCRETE.

2301131-001-01-TD-0006-00 TYPICAL DETAILS
DRAWING NO. REFERENCE

REFERENCE DRAWINGS

DESCRIPTION	BY	CHKD	APPD	DATE
	A.M	S.T	S.T	09-04-2025

REVISIONS

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VST CONSULTING ENGINEERS

TITLE	NAME	SIGN	DATE
DRAWN	A.M		09 04 25
CHECKED	S.T		09 04 25
APPROVED	S.T		09 04 25
-	-		- - -
-	-		- - -
-	-		- - -
-			- - -

PR.TECH. ENG

NAME	SUGAN THAVAR	DATE
SIGNATURE		27 09 24
REG. NUMBER	200670054	
SCALE :	1:10	A1

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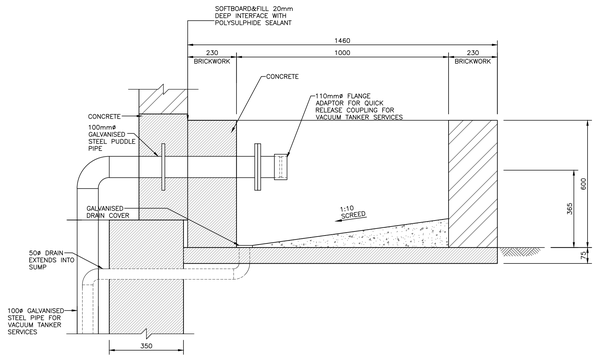
KOUGA LOCAL MUNICIPALITY

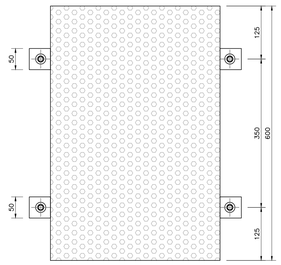
CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER

PIPE BEDDING AND PROTECTION LAYERWORK DETAIL

PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2301131	001	01	TD	0006	02	00	VST



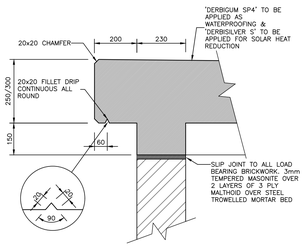
OUTLET PIPE CHAMBER DETAIL
SCALE 1:10



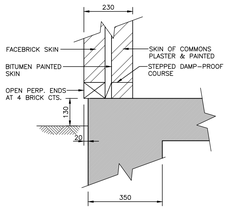
PLAN
SCALE 1:5

TYPICAL SECTION
SCALE 1:5

STAINLESS STEEL PERFORATED DRAINAGE PLATE

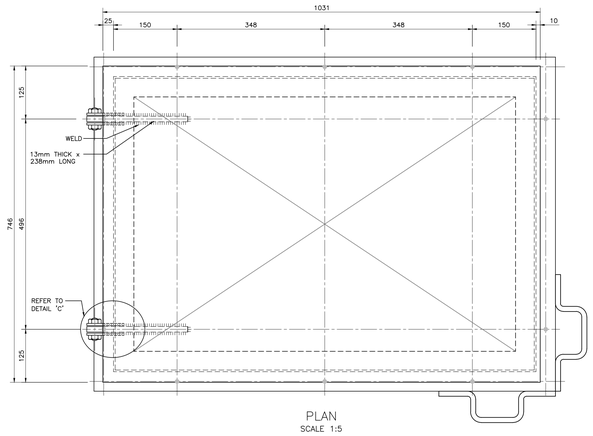


DETAIL 'A'
SCALE 1:10

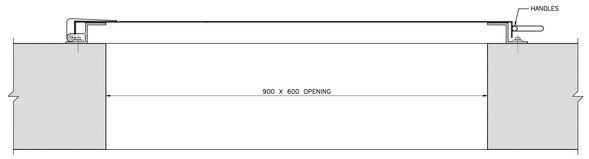


DETAIL 'B'
SCALE 1:10

CONCRETE DETAILS



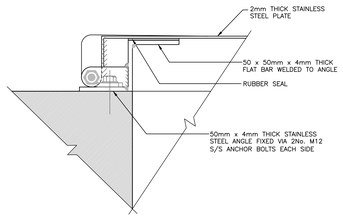
PLAN
SCALE 1:5



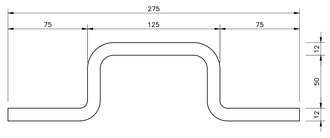
TYPICAL SECTION
SCALE 1:5

NOTE:-
1. ONE SIDE OF COVER TO BE ADAPTED TO ALLOW FOR MECHANICAL PIPE BEND

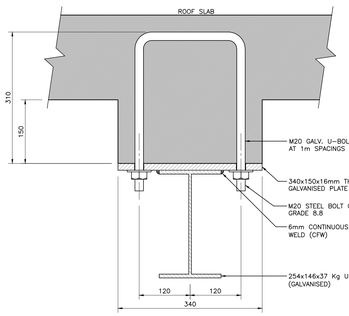
S/STEEL COVER OVER 900 x 600 OPENING



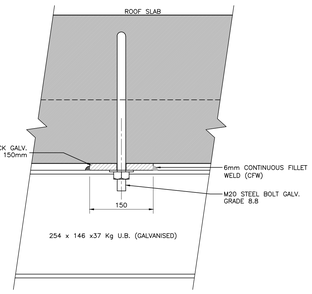
DETAIL C
DETAIL OF STAINLESS STEEL 900x600mm COVER & FRAME FOR FLOOR SLAB
SCALE 1:2



DETAIL OF HANDLE (2 OFF)
SCALE 1:2

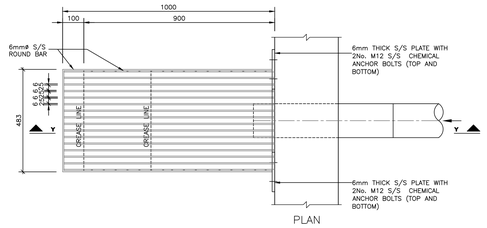


TYPICAL SECTION
SCALE 1:5

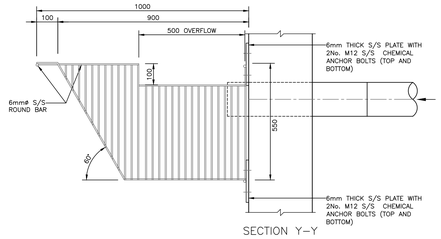


SIDE ELEVATION
SCALE 1:5

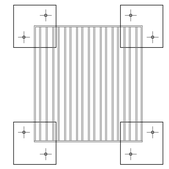
TYPICAL CRAWL BEAM FIXING DETAIL (MAX LIFT = 1 TON)



PLAN

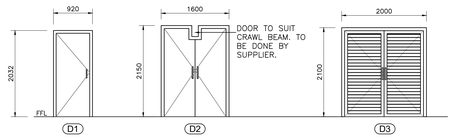


SECTION Y-Y



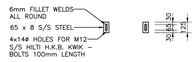
FRONT VIEW

STAINLESS STEEL BASKET SCREEN DETAIL
SCALE 1:10

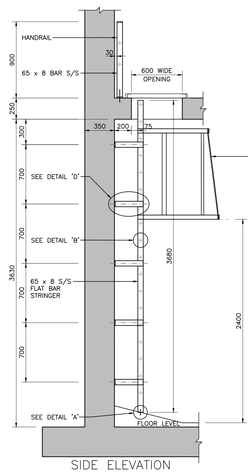


DOOR DETAILS
SCALE 1:50

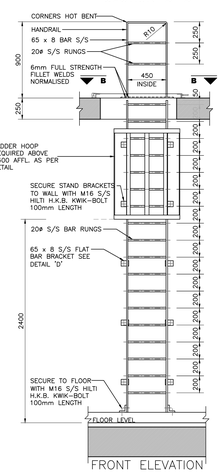
NOTE:
ALL DOORS TO BE GALVANISED STEEL



SECTION B-B



SIDE ELEVATION



FRONT ELEVATION

PERMANENT STAINLESS STEEL LADDER FOR SUMP
SCALE 1:25

ACCESS LADDER NOTES:
1 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS & ANY DISCREPANCIES BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO IMPLEMENTATION OF ANY FURTHER WORK
2 IN GENERAL ALL WORK SHALL COMPLY WITH THE SPECIFICATION AND OR RELEVANT SECTION OF SANS 1200. IF IN DOUBT THE CONTRACTOR SHALL SEEK DIRECTION FROM THE ENGINEER BEFORE COMMENCING WORK
3 DO NOT SCALE THIS DRAWING. WORK TO FIGURED DIMENSIONS ONLY. ANY DISCREPANCIES TO BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO THE IMPLEMENTATION OF ANY WORK.

NOTE
1 ALL STEELWORK SHALL BE IN ACCORDANCE WITH SABS 0160. 'THE STRUCTURAL USE OF STEEL'
2 THIS DRAWING COMPLIES WITH THE MACHINERY AND OCCUPATIONAL SAFETY ACT No 6 OF 1983.
3 ALL STEELWORK AND BOLTS TO BE S/S
4 EXPOSED BOLTS ON HANDRAIL TO BE SPOT WELDED AFTER INSTALLATION.

STRINGERS
1 STRINGERS TO BE FABRICATED FROM 65 X 8 THICK S/S FLAT BAR IN CONTINUOUS LENGTHS. IF JOINED FISH PLATES ARE TO BE USED ON INSIDE OF STRINGERS.
2 JOINTS TO BE BOLTED, RIVETED OR WELDED. BOLTS OR RIVETS TO BE NOT LESS THAN 2 x M12 ON EACH SIDE OF JOINT.

RUNGS
1 RUNGS TO BE FABRICATED FROM 20# SOLID S/S ROUND BARS.
2 RUNGS TO BE FITTED INTO HOLES DRILLED IN STRINGERS AND WELDED. HOLES DRILLED TO ALLOW 0.8mm CLEARANCE.

HOLES
1 ALL BOLT HOLES TO BE DRILLED.

BOLTS
1 ALL BOLTS TO BE OF STAINLESS STEEL.

FINISH
ALL BURRS, WELD-FLASH AND SHARP EDGES TO BE REMOVED SMOOTH BY THE FINISHING TREATMENT.

DRAWING NO.	REFERENCE

REFERENCE DRAWINGS

NOTES
1. FOR TENDER PURPOSES ONLY

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
00	ISSUED FOR TENDER	K.M	D.P	S.T	20-02-2026

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VST CONSULTING ENGINEERS

TITLE	NAME	SIGN	DATE
DRAWN	K.M		20 02 26
CHECKED	S.T		20 02 26
DESIGNED	D.P		20 02 26
CHECKED	S.T		20 02 26
.	.		. . .
.	.		. . .
.	.		. . .

PR.TECH. ENG

NAME	SUGAN THAVAR	DATE
SIGNATURE		20 02 26
REG. NUMBER	200670054	
SCALE :	1:1000	A0

Consulting Engineers (Pty) Ltd
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KOUGA LOCAL MUNICIPALITY

DESIGN AND IMPLEMENTATION OF THE OCEANVIEW COLLECTOR SEWER

SEWER PUMPSTATION MISCELLANEOUS DETAILS

PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2301131	001	01	TD	0006	04	00	VST

ROAD SIGN INFORMATION BOARD

BACKGROUND	: WHITE REFLECTORISED CLASS 1.
BORDER	: 20mm GREEN REFLECTORISED CLASS 1.
MATERIAL	: RETRO-REFLECTIVE MATERIAL TO COMPLY WITH SANS 1519.
REAR SIDE	: DARK GREY (SANS 1091 : G13).
TEXT	: CAPITAL LETTERS : DIN A, MATT-BLACK. TELEPHONE NUMBER : DIN B MOD, MATT- BLACK.
SUBSTRATE	: 1.0mm THICK "ISCOR CHROMADEK" OR SIMILAR.
MANUFACTURING	: 200mm STANDARD ROAD SIGN PROFILES
FLATNESS TOLERANCE OF ASSEMBLED BOARD	: 3mm MEASURED UNDER A 1m STRAIGHTEDGE.
LENGTH	: ADJUSTED TO SUIT LENGTH OF DESCRIPTION.
SUPPORTS	: 2 OR 3 WITH 200mm MIN. TOP END DIAMETER TIMBER POSTS.
ERECTION POSITION	: ON SITE AT POSITIONS APPROVED BY THE ENGINEER.
No. REQUIRED	: TYPE 1 : AT EACH END OF THE WORKS. (OR AS APPROVED BY THE ENGINEER). : TYPE 2 : AFTER MAJOR CENTRES OR APPROX. 50km APART. (AS APPROVED BY THE ENGINEER).
REMOVAL	: THE ROAD SIGN INFORMATION BOARDS SHALL BE REMOVED BEFORE A TAKING-OVER CERTIFICATE FOR THE ENTIRE WORKS IS ISSUED.

NOTES

1. USE AN APPROPRIATE DESCRIPTION FOR THE TYPE OF WORKS eg. *ROAD CONSTRUCTION, ROUTINE ROAD MAINTENANCE, ROAD REHABILITATION, TOLL PLAZA UPGRADING* OR *BRIDGE REHABILITATION.*
2. USE A BRIEF DESCRIPTION OF THE EXTENT OF THE WORKS
3. USE THE COMMENCEMENT AND DUE COMPLETION DATES (MONTH / YEAR).
4. NAME OF CONSULTING ENGINEER.
5. REGISTERED NAME OF CONTRACTOR.
6. AN ALL HOURS CONTACT TELEPHONE / CELL NUMBER SHALL BE SUPPLIED FOR THE SITE SAFETY OFFICER OR FOR A RESPONSIBLE PERSON APPROVED BY THE ENGINEER.
7. EMBLEMS MAY ONLY BE USED BY MEMBERS AND MUST BE DISPLAYED IN FULL COLOUR, EMBLEMS ARE AVAILABLE FROM THE RELEVANT ORGANISATIONS.

FOR TENDER PURPOSES ONLY

DRAWING NO.	REFERENCE
2301131-001-01-TD-0005	TYPICAL DETAILS

REFERENCE DRAWINGS

NOTES

1. FOR APPROVAL PURPOSES ONLY.
2. DISTANCE BETWEEN MANHOLE MUST NOT EXCEED 80M.
3. GRADIENTS GREATER THAN 10% REQUIRES ANCHOR LOCKS.
4. NO RETICULATION SEWER MAY BE AT A DEPTH GREATER THAN 6M.
5. POSITIONS OF EXISTING SERVICES ARE TO BE DETERMINED ON SITE,PRIOR TO CONSTRUCTION.
6. A MINIMUM OF 150MM CLEARANCE MUST BE MAINTAINED BETWEEN CROSSING SERVICES.

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
00	FOR TENDER	A.M	S.T	S.T	09-04-2025

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VST CONSULTING ENGINEERS

TITLE	NAME	SIGN	DATE
DRAWN	A.M		09 04 25
CHECKED	S.T		09 04 25
APPROVED	S.T		09 04 25

PR.TECH. ENG

NAME	SUGAN THAVAR	DATE
SIGNATURE		27 09 24
REG. NUMBER	2006670054	
SCALE :	1:1250	A1

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KOUGA LOCAL MUNICIPALITY

CONSTRUCTION OF THE OCEANVIEW COLLECTOR SEWER

CONTRACT NAME BOARD

PROJECT NUMBER	WBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
2301131	001	01	TD	0005	03	00	VST