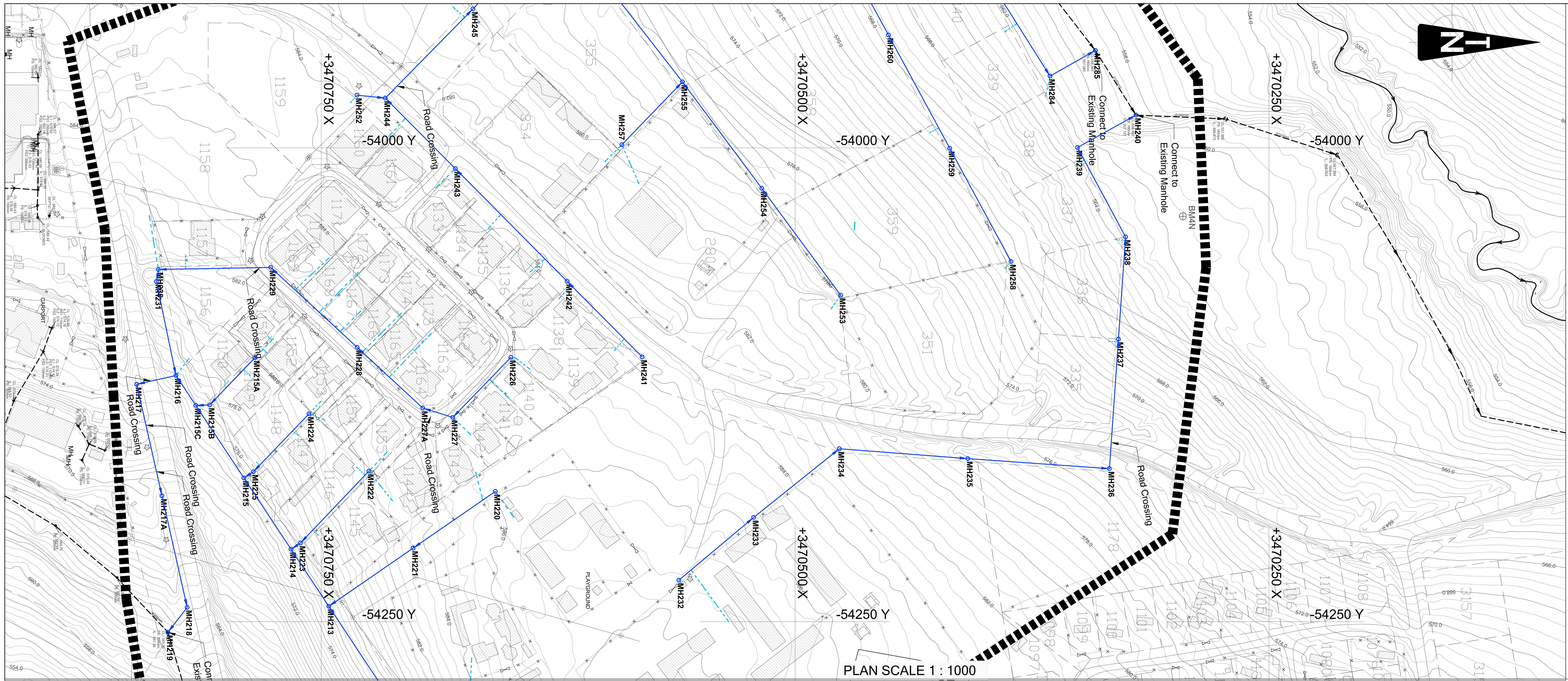


Sewer Schedule

Name	Y-Coord	X-Coord	Cover	Inlet	Depth	Length	Slope	Type	Size
MH226	-54110.53	3470649.91	585.40	584.04	1.36				
						44.11	1.50 %	PVC-U	160 mm
MH227	-54142.22	3470680.59	585.30	583.38	1.92				
						16.55	1.87 %	PVC-U	160 mm
MH227A	-54137.31	3470696.40	584.43	583.07	1.36				
						47.18	1.26 %	PVC-U	160 mm
MH228	-54105.27	3470731.03	583.84	582.48	1.36				
						62.10	1.25 %	PVC-U	160 mm
MH229	-54063.09	3470776.62	583.38	581.67	1.70				
						59.29	3.82 %	PVC-U	160 mm
MH230	-54064.18	3470835.90	580.97	579.38	1.59				
						6.44	10.71 %	PVC-U	160 mm
MH231	-54070.54	3470836.91	580.05	578.69	1.36				
						50.61	12.37 %	PVC-U	160 mm
MH216	-54120.10	3470826.61	575.98	572.40	3.58				
MH232	-54228.08	3470561.34	586.99	585.64	1.36				
						51.52	2.74 %	PVC-U	160 mm
MH233	-54194.99	3470521.85	585.58	584.22	1.36				
						57.89	6.23 %	PVC-U	160 mm
MH234	-54158.78	3470476.68	581.90	580.59	1.31				
						68.01	5.63 %	PVC-U	160 mm
MH235	-54163.96	3470408.86	578.11	576.76	1.36				
						74.89	7.89 %	PVC-U	160 mm
MH236	-54169.26	3470334.17	574.59	570.82	3.77				
						68.49	6.63 %	PVC-U	160 mm
MH237	-54100.94	3470329.40	567.63	566.28	1.36				
						54.06	7.81 %	PVC-U	160 mm
MH238	-54047.01	3470325.64	563.41	562.02	1.39				
						53.54	2.44 %	PVC-U	160 mm
MH239	-53999.87	3470351.02	562.54	560.69	1.85				
						35.29	9.95 %	PVC-U	160 mm
MH240	-53982.76	3470320.16	558.45	557.18	1.27				

BENCH MARKS
(WGS 84 Lo = 29)
16mm PEG IN CONCRETE

BM ⊕

Name	Y Co-ord	X Co-ord	Height
BM1	-53150.18	3470371.65	592.722
BM2	-53259.02	3470743.49	569.596
BM3	-53559.38	3470582.26	563.413
BM4N	-54036.16	3470295.45	561.691
BM5	-54194.64	3469845.94	552.584
BM6N	-54173.62	3469551.30	541.106
BM7	-54420.47	3469534.59	542.937
BM8	-54692.56	3469690.56	534.734
BM9	-54962.68	3469858.32	532.258
BM10	-55124.69	3470097.31	539.505
BM11N	-55278.77	3470209.37	536.395
BM12	-55417.76	3470206.85	532.658
BM13	-55527.25	3470489.30	534.251
BM14	-55198.47	3470857.30	550.636
BM15	-55113.18	3471213.19	533.338
BM16	-54702.83	3471105.37	547.184
BM17N	-54589.10	3470816.37	557.286
BM18N	-54387.38	3471152.73	560.729
BM19	-54188.47	3471552.44	562.323
BM20	-53810.21	3471607.79	567.013
BM21	-53562.80	3471835.51	579.429
BM22	-54888.93	3471535.68	572.038
BM23	-55124.29	3471495.36	580.627
BM24	-55357.29	3471755.64	582.194
BM25N	-55452.25	3471979.79	581.060
BM26	-55422.32	3472343.53	590.483
BM27	-55148.29	3472567.22	597.988
BM28N	-55493.80	3472732.48	602.445
BM29	-55670.40	3472398.99	600.959
BM30	-56074.52	3472314.47	610.769

GENERAL NOTES:

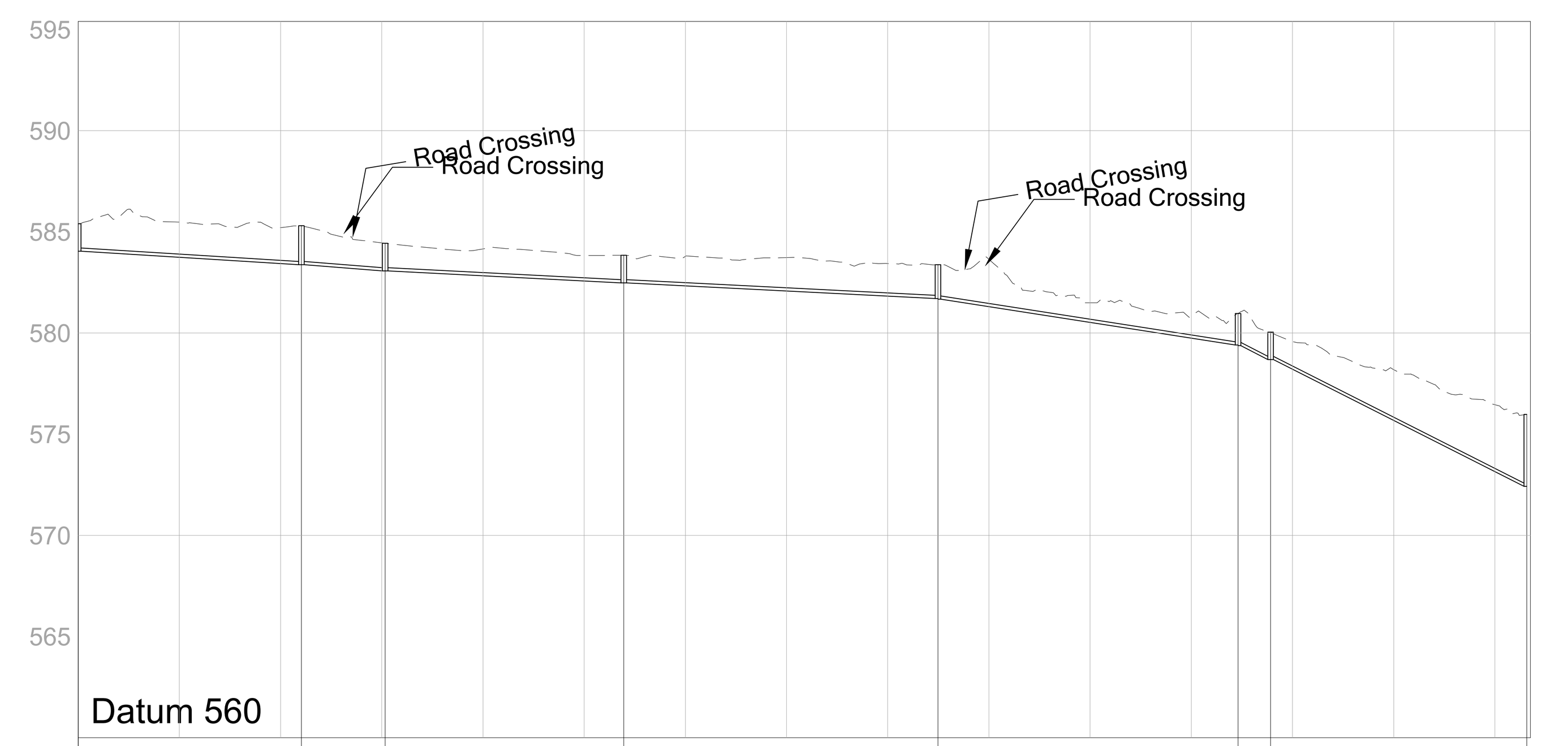
1. All Work To Be Done According To The Project Specifications.
2. All Levels And Dimensions To Be Checked On The Site Prior To Commencement Of Any Construction.
3. All Setting Out Coordinates Are On The WGS84, LO29 System. Coordinates To Be Checked Prior To Any Construction.
4. All Existing Services To Be Exposed To Establish Exact Levels Before Construction May Commence.
5. The Contractor Must Liaise With Responsible Service Providers With Respect To Affected Services And Protection Thereof.
6. The Contractor Must Liaise With The Roads & Stormwater Division With Respect To Reinstatement Of Road Surfacing & Sidewalks.
7. Where Applicable Trenchfill To Extend 1m On Either Side Of The Road Edge.
8. All Conditions As Specified In The Environmental Management Plan, Must Be Complied With.
9. Maximum Deflection Angle At Couplings To Comply With Minimum Recommended By Pipe Manufacturer.
10. All Future Sewer Reticulation Pipelines to be 160mmØ. Connections Into Manholes To Be As Directed On Site By The Engineer.
11. Existing Sewer Reticulation To Be Confirmed On Site. Connections Into Manholes To Be As Directed On Site By The Engineer.
12. Existing Septic and Conservancy Tanks to be confirmed on site and house connections to be adjusted as directed by the Engineer
13. Where two invert levels are given, they refer to invert levels at the centre of the manhole.

LEGEND

- LUSIKISIKI HILBROW SITE LIMITS
- PROPOSED Ø110mm ERF CONNECTING SEWERS Each Connection to be fixed on site
- PROPOSED Ø160mm SEWER RETICULATION
- EXISTING INTERCEPTOR SEWERS

SEWER PIPE
NGL

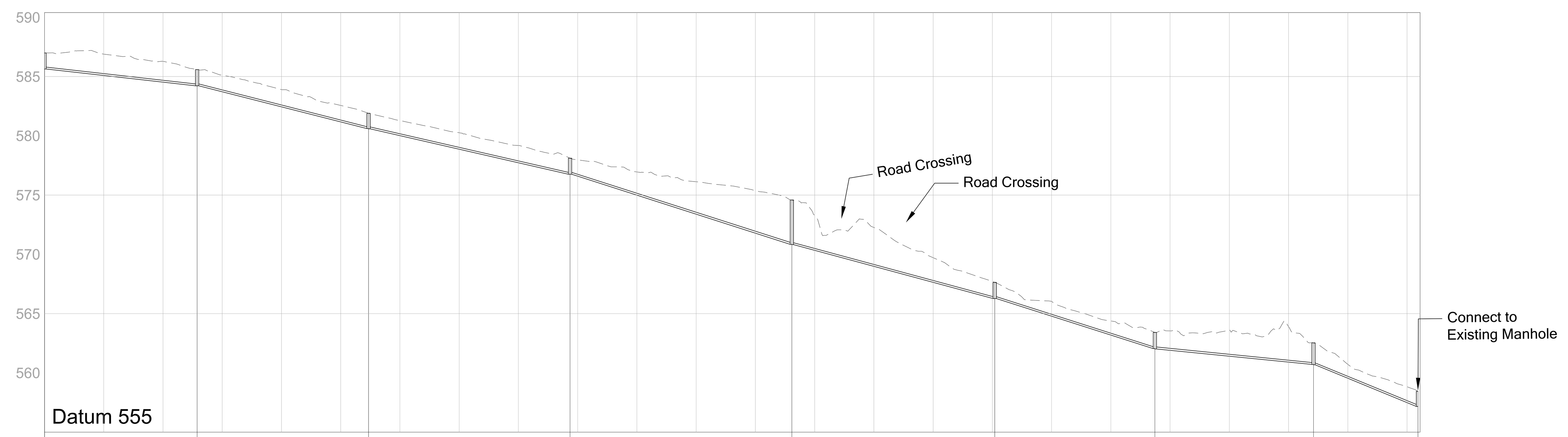
SCALE
VERTICAL 1 : 250
HORIZONTAL 1 : 1000



Chainage	0.000	44.110	60.658	107.840	169.945	229.237	235.681	286.293
Ground Level	585.402	585.300	584.431	583.838	583.376	580.966	580.046	575.981
Manhole Name	MH226	MH227	MH227A	MH228	MH229	MH230	MH231	MH216
Invert Level	584.045	583.383 / 583.353	583.074 / 583.074	582.481 / 582.481	581.705 / 581.675	579.409 / 579.379	578.689 / 578.689	572.430 / 572.400
Depth	1.357	1.917	1.357	1.357	1.701	1.587	1.357	3.581

Link	MH226–MH227	MH227–MH227A	MH227A–MH228	MH228–MH229	MH229–MH230	MH230–MH231	MH231–MH216
Link Type / Link Size	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm
Length / Slope	44.110 m 1.501 %	16.548 m 1.867 %	47.182 m 1.257 %	62.105 m 1.249 %	59.292 m 3.822 %	6.444 m 10.708 %	50.612 m 12.367 %
Flow	0.097 l/s	0.097 l/s	0.260 l/s	0.519 l/s	0.562 l/s	0.562 l/s	0.562 l/s
Capacity	15.890 l/s	17.724 l/s	14.541 l/s	14.498 l/s	25.356 l/s	42.442 l/s	45.612 l/s
Velocity/Full-bore Velocity	0.326 m/s 1.362 m/s	0.364 m/s 1.519 m/s	0.415 m/s 1.246 m/s	0.491 m/s 1.242 m/s	0.763 m/s 2.173 m/s	1.110 m/s 3.637 m/s	1.165 m/s 3.909 m/s

MH226 to MH216



Chainage	0.000	51.525	109.417	177.427	252.312	320.802	374.865	428.401	463.691
Ground Level	586.993	585.581	581.898	578.114	574.589	567.633	563.411	562.537	558.452
Manhole Name	MH232	MH233	MH234	MH235	MH236	MH237	MH238	MH239	MH240
Invert Level	585.636	584.224	580.617 / 580.587	576.757	570.850 / 570.820	566.276	562.054 / 562.024	560.717 / 560.687	557.177 / 557.147
Depth	1.357	1.357	1.311	1.357	3.769	1.357	1.387	1.850	1.305

Link	MH232–MH233	MH233–MH234	MH234–MH235	MH235–MH236	MH236–MH237	MH237–MH238	MH238–MH239	MH239–MH240
Link Type / Link Size	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm	PVC-U 160 mm
Length / Slope	51.525 m 2.740 %	57.892 m 6.231 %	68.010 m 5.632 %	74.885 m 7.888 %	68.490 m 6.635 %	54.063 m 7.809 %	53.536 m 2.441 %	35.290 m 9.948 %
Flow	0.469 l/s	0.469 l/s	0.469 l/s	0.469 l/s	0.469 l/s	0.556 l/s	0.621 l/s	0.653 l/s
Capacity	21.471 l/s	32.375 l/s	30.594 l/s	36.428 l/s	33.519 l/s	36.246 l/s	16.285 l/s	43.468 l/s
Velocity/Full-bore Velocity	0.644 m/s 1.840 m/s	0.871 m/s 2.774 m/s	0.837 m/s 2.622 m/s	0.944 m/s 3.122 m/s	0.892 m/s 2.872 m/s	0.992 m/s 3.106 m/s	0.564 m/s 1.396 m/s	1.183 m/s 3.725 m/s

MH232 to MH240

FOR TENDER PURPOSES

REV	DATE	BY	DESCRIPTION	CHECKED	APPR'D
A	MAY 2020	LA	FIRST ISSUE FOR TENDER	NL	IF

CLIENT: O.R. TAMBO DISTRICT MUNICIPALITY

SCALE: AS SHOWN
DRAWN: N. LELALA
DISCIPLINE: CIVIL
DATE: MAY 2020

DESIGNED BY:
NAME: N. LELALA
SIGNATURE:
CHECKED BY:
NAME: I. FIELD
SIGNATURE:

HATCH IN JOINT VENTURE WITH Tshiki Consulting Engineers
CIVIL, STRUCTURAL AND PROJECT MANAGEMENT

PROJECT: LUSIKISIKI SEWER RETICULATION
TITLE: PHASE 3A : HILBROW PLAN AND LONSECTIONS SHEET 2 OF 6

SHEET	CONTRACT No.	DRAWING No.	REVISION
A0	20209	20209/03A/00/500/201	A