Old Oak Common Lineside Logistics Compound Strategy

Document Number: 152270-NWR-STR-DEL-000001

Version: P01

Contents

Executive summary

A new lineside logistics compound is required on the south side of the Great Western mainline (GWML) between Acton West Junction and Kensal Green Junction. This is required for the construction of the Network Rail infrastructure supporting the OOC station. It will be needed from September 2023. Following the completion of the OOC station work, the road-rail vehicle access point element of the lineside logistics compound will be retained. This will remain as a permanent Network Rail road-rail vehicle access point for maintenance requirements and domestic infrastructure works.

The GWML in the area was constructed either within cuttings or in embankments and these vary between 2m to 30m in height. After a review of the area, the only suitable area for this lineside logistics compound is the land currently occupied by Jewson Ltd, 239 Horn Lane, W3 9ED. To use this area requires a new lease with the landowner, and the current tenants Jewson Ltd to be relocated. It's recommended to progress this lease and relocate Jewson Ltd.

If this location cannot be made available to Network Rail, either:

- the GWML must be shut down for long periods of time, preventing the TOCs and FOCs from operating a normal service, or,
- the NR elements of the OOC station project will not be completed in time to allow HS2 to enter operational service in Summer 2030.

Additionally, without this location retained as a permanent Network Rail access point for maintenance requirements and domestic infrastructure works, the GWML will require extended periods of closure for maintenance and renewal works. This poses a significant challenge to running a passenger focused railway.

What is happening at Old Oak Common

Old Oak Common (OOC) will be the site of a new High Speed 2 (HS2) and GWML interchange station. This station will be one of the best connected sites in Europe, with links to Central London, Heathrow Airport, West of England and Wales, the West Midlands, the North of England. There are also future opportunities to accommodate further connections including direct links to the West Coast mainline, London Overground 'orbital railway', Bakerloo and Central Lines.

Construction of the station is underway, and it will enter into operational service in Summer 2030. It will be the HS2 London terminal until Euston is operational in December 2034. HS2 is supported by all three major political parties. Figures 1 and 2 provide an OOC site overview and station detail.

Figure 1 - OOC site overview

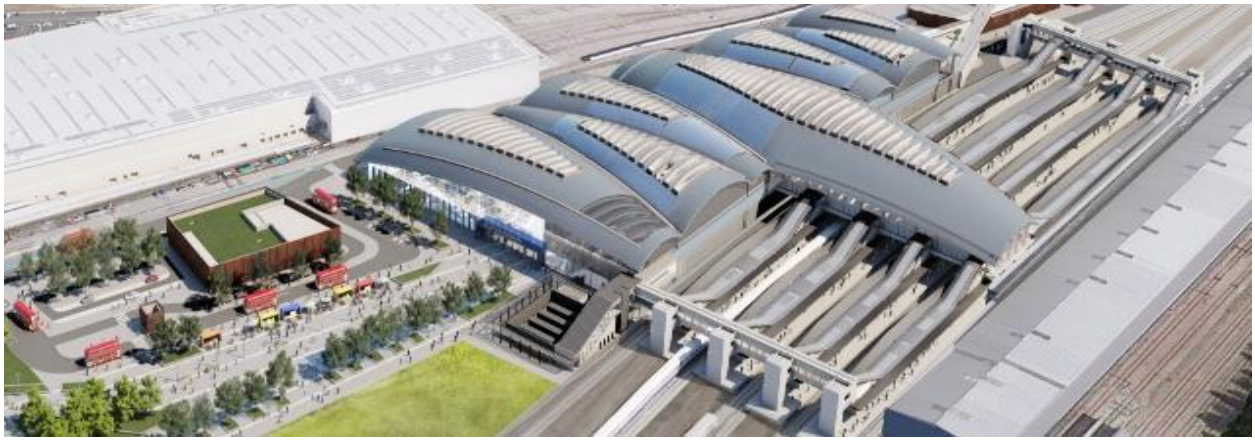


Figure 2 - OOC station detail

The station is being built by HS2 Ltd. To enable the new station, the existing GWML must be modified. These works are being undertaken by Network Rail (NR), this is the GWML railway systems project. The split of work is shown in Figure 3. HS2 work is shown in blue, NR work is shown in red.

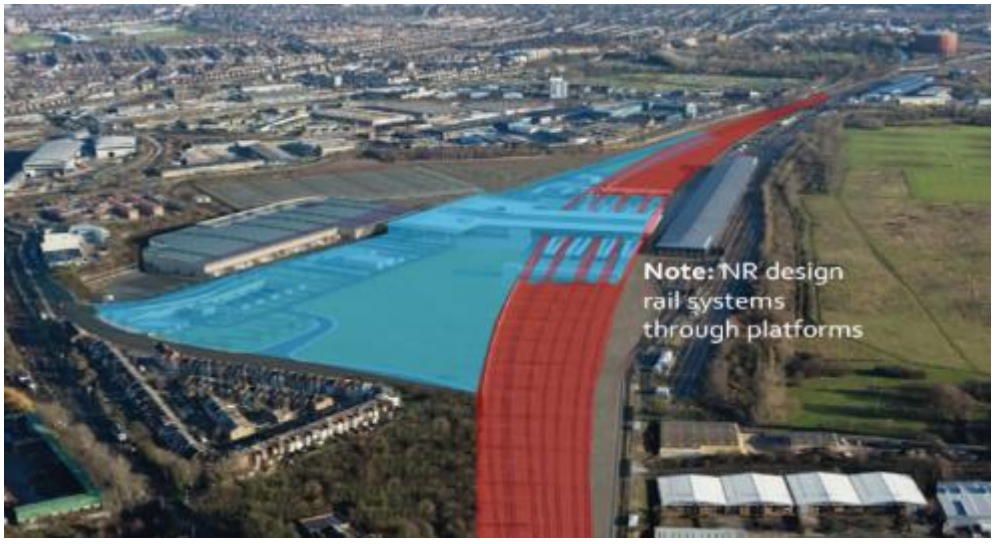


Figure 3 - HS2 and Network Rail split of work

Why and where are railway access points needed

The GWML in the OOC area is a four-track railway. The relief (slow) lines are to the north, the fast (main) lines are to the south, see Figure 4 below.

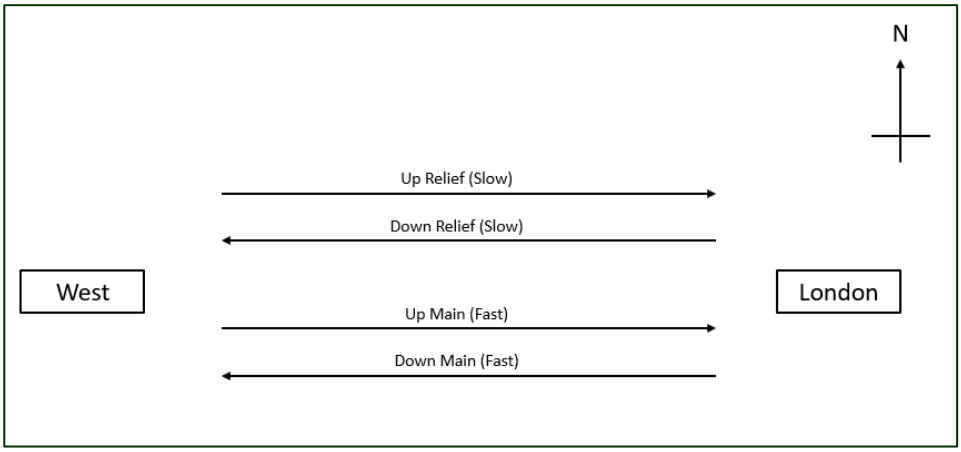


Figure 4 – Typical section of the GWML in the OOC area

To allow the OOC station to open in June 2030, construction of the HS2 station and the NR GWML railway systems project must be concurrent. The GWML must be available during this time, to allow the TOCs and FOCs to operate a normal service to a London terminus. Regularly shutting the GWML down for long periods of time has been deemed unviable.

Network Rail will need to use the regularly available engineering access as far as reasonably practicable – as defined in the NR Western Route Engineering Access Statement, see Figure 5:

Ladbroke Grove To Southall East **103.3**	**WEEK END**	0001 Sun to 0800 Sun Down and Up Mains BLOCKED -or- Down and Up Reliefs BLOCKED 2 Track Timetabling in operation ❶ and- 0115 Sun to 0445 Sun All BLOCKED	All Line Isolations to hand back at 0430 Sun to permit 0445 Sun start of service.
	SUN/ MON	2300 Sun to 0500 Mon Down and Up Mains BLOCKED -or- Down and Up Reliefs BLOCKED 2 Track Timetabling in operation ❶	Acton West Jcn must always be available to provide a route between Acton Yard and the GWML.
	MID WEEK	0001 Tue-Sat to 0500 Tue-Sat Down and Up Mains BLOCKED -or- Down and Up Reliefs BLOCKED 2 Track Timetabling in operation	Acton West Jcn must always be available to provide a route between Acton Yard and the GWML.

Figure 5 – Extract of the NR Western Route Engineering Access Statement for the OOC area

As the above NR Western Route Engineering Access Statement:

- 8 hours is available on alternating halves of the GWML every Sunday, midnight to 8am,

- 6 hours is available on alternating halves of the GWML every Sunday evening/Monday morning, 11pm to 5am,
- 5 hours is available on alternating halves of the GWML every Tues-Sat, midnight to 5am.

Extended access can be agreed with TOCs and FOCs but this introduces a significant cost, and is detrimental to passengers experience and customer revenue.

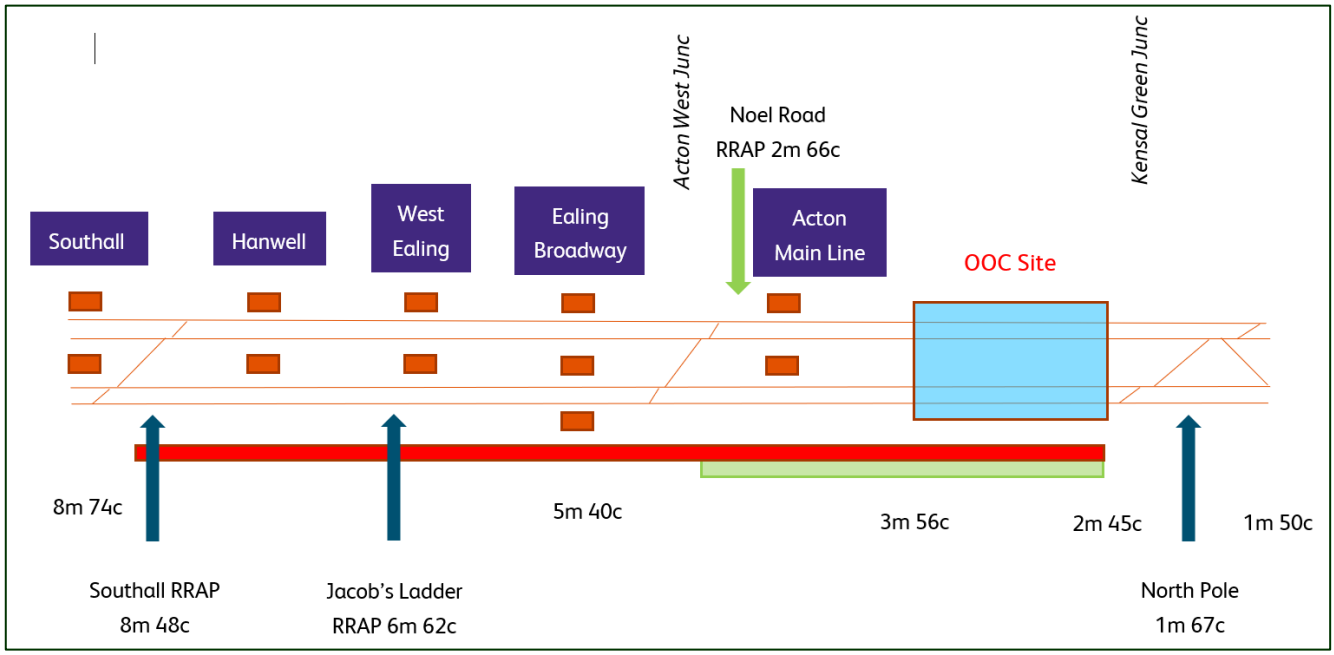
As the regularly available engineering access is on alternate halves of the GWML (relief/north lines or main/south lines) – a lineside logistics compound will be required on both sides of the GWML (north and south).

Important access time is quickly absorbed by non-productive tasks:

- Obtaining possession and isolation (take access of the railway) – 1.5 hours,
- Load the road rail vehicle (RRV) onto the track – 0.5 hours,
- RRV travel time to from access point to worksite (RRV limited to 5mph),
- Brief – 15 mins,
- **Productive working time,**
- RRV travel time to from access point to worksite (RRV limited to 5mph),
- Unload the road rail vehicle onto the track – 0.5 hours,
- Hand back possession of the railway – 1.5 hours.

For this reason – Network Rail requires two lineside logistics compounds, one north and one south of the railway, as near to OOC as possible to improve efficiency.

Figure 6 – Existing lineside logistics compound locations



The nearby existing road-rail access point at Noel Road (Acton Yard) is suitable for the north side lineside logistics compound. There is no suitable lineside logistics compound for the south side lineside logistics compound. This has already resulted in deferred Network Rail renewals and enhancement activities, increased disruption to passengers and increased costs to Network Rail and the industry.

There is also a requirement to minimise the geographical footprint of any disruptive possession to minimise the effect on passengers and freight users. See Figure 6 below. The green bar is the main minimum possession extent, if a lineside logistics compound in that area was available (on the south side of the railway). If a lineside logistics compound wasn't available in that area – the red bar is the possession access required for access Southall RRAP.

It has been confirmed by the TOCs that it's unacceptable to extend possessions from the green bar to the red bar just to provide access. Their ability to provide a sufficient level of service will be reduced. This will impact passengers and freight users, not just in the London area but the whole of the Western region. These concerns would lead to the TOCs not accepting the access arrangements to build the OOC station.

The access at Jacobs Ladder (via Waitrose car park at West Ealing) will allow no storage of materials and there are historical issues using this access. It is not viable for Network Rail to use this access.

If Network Rail were to use Southall access – this will increase the distance to travel by the rail plant. Southall to OOC site will be 6 miles at 5mph, this will take 1h 15mins there and back. Using the previous time assumptions – only 45 mins of working time on site will be available in an 8-hour possession. This is unproductive and unacceptably inefficient.

Access at North Pole is subject to a maximum 6-hour possession due to the need for GWR stock to access and egress the Hitachi IEP depot, therefore this site is unviable for Network Rail as Network Rail needs some large possessions, around 40 No 29-hour possessions are planned during the 6-year programme.

During the major possessions at Christmas 2026, 2027, 2028 – the only access that will allow any trains to terminate at Ealing Broadway will be an access in the green bar. Trains terminating at Ealing Broadway is an important mitigation for passengers to continue to London on the central line, when Paddington can not be reached due to engineering works at OOC.

For the above reasons of productivity, efficiency, possession length acceptability from TOCs and FOCs, possession suitability – a new lineside logistics compound is required on the south side of the GWML between Acton West Junction and Kensal Green Junction.

The lineside logistics compound will need to be available from the mobilisation date of the NR GWML railway systems project contractor. This is September 2023.

Lineside logistics compound requirements

The lineside logistics compound will include a road-rail vehicle railway access point (RRAP) and a construction compound.

RRAP requirements

The RRAP is to be class 3 as detailed in the NR Infrastructure Access Points – Best Practice Design Guide (CS075481). The RRAP will therefore consist of:

- Road rail vehicle (RRV) access
- lockable 6m vehicle access gate
- located in the boundary fence

The security will be level 2 as defined in the above document. This is an enhanced level of security with permanent switchable lighting of the compound areas. A typical class 3 access point is shown below in Figure 7.

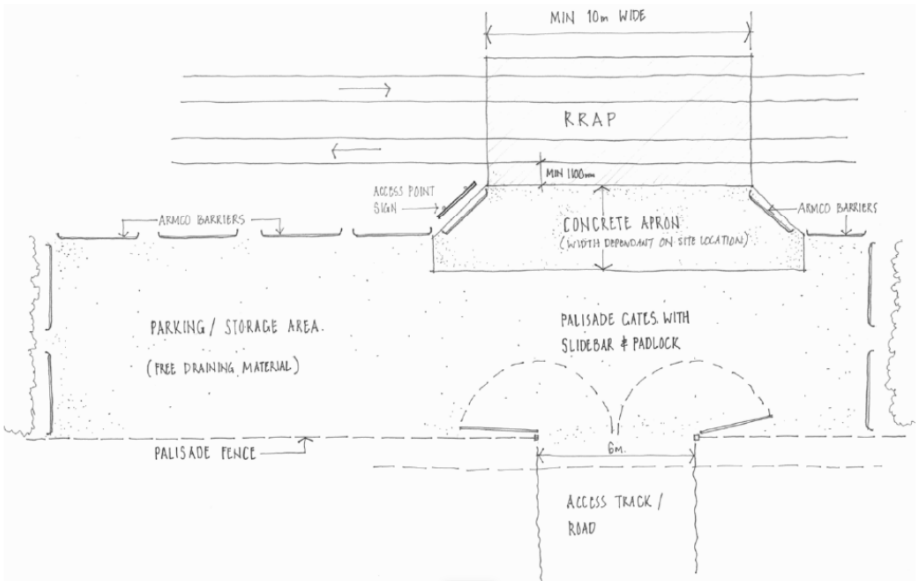


Figure 7 – Typical class 3 access point

Compound requirements

A construction compound will need to be adjacent to the RRAP as any distance between this and the RRAP will affect productivity. The construction compound will also:

- be secure
- provide level access, for 5m, on approach of the railway

- provide a 5m x 35m laydown area (to enable a 30m switch to be delivered, stored, lifted onto track
- provide suitable lighting at high level.

Maintenance

The lineside logistics compound will be maintained:

- the road profile between the railway boundary and the RRAP will be maintained so that the underside of the vehicles using it will not touch the ground.
- drainage will be kept clear of debris to allow the water to be free flowing.
- permanent lighting will be maintained as NR standards.
- all signs and labels will be clean and legible. Any missing signs will be replaced.

Future use

Following the completion of the OOC station work, the road-rail vehicle access point will be retained as a permanent Network Rail access point for maintenance requirements and domestic infrastructure works. The logistics compound will no longer be required.

What locations are available

A new lineside logistics compound is required on the south side of the GWML between Acton West Junction and Kensal Green Junction.

An assessment of this area is shown below. Both areas between Acton West Junction and Jewson Ltd, and between Acton Main line station and North London Line overbridge are unsuitable as the railway is in a cutting. Refer to Appendix A. The area between North London Line overbridge and Kensal Green Junction is unsuitable as North Pole Depot is to the south.

The DfT and depot operators Agility/Hitachi will not entertain a lineside logistics compound at North Pole Depot as they consider this will be disruptive to depot operations and performance KPIs under the Agility/Hitachi contract.

The only suitable area for this lineside logistics compound is the land currently occupied by Jewson Ltd, 239 Horn Lane, W3 9ED. To use this area requires a new lease with the landowner, and the current tenants Jewson Ltd to be relocated.

Figure 8 – Assessment of available locations for the lineside logistics compound

Recommendation

A new lineside logistics compound is required on the south side of the GWML between Acton West Junction and Kensal Green Junction. It will be needed from September 2023.

The only suitable area for this lineside logistics compound is the land currently occupied by Jewson Ltd, 239 Horn Lane, W3 9ED. To use this area requires a new lease with the landowner, and the current tenants Jewson Ltd to be relocated. It's recommended to progress this lease and relocate Jewson Ltd.

Appendix A

Physical analysis between Acton West Junction and North London Line overbridge

The maximum gradient for RRAP is 1:12 (8.33 %). The swept path at trackside also needs to be considered (approx. 10m wide) which is determined by swept path analysis.

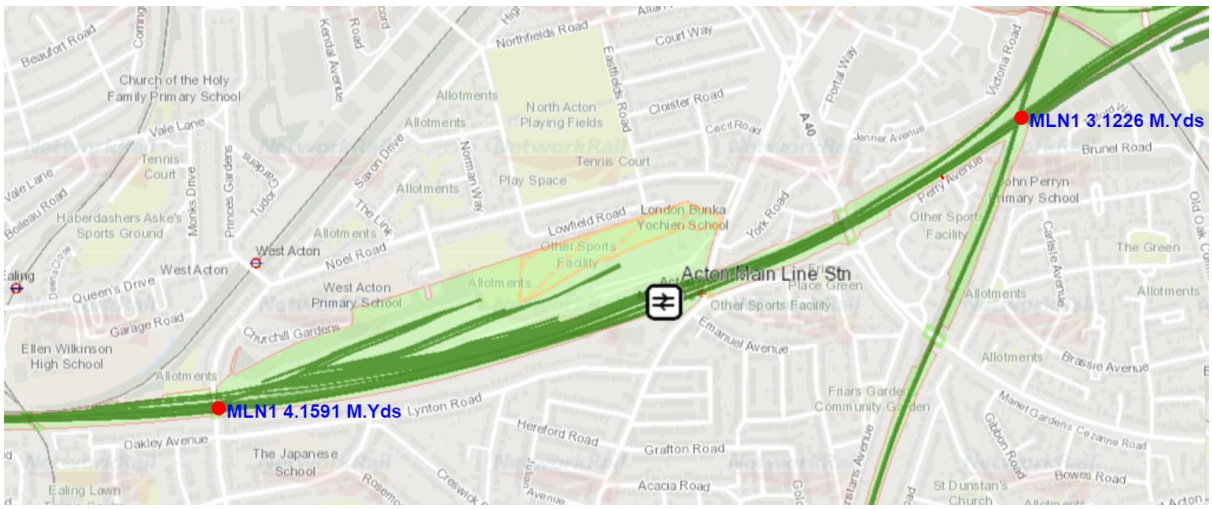


Fig 1: All of the examined section. Green marks NR owned land.

The section analysed is between Acton West Junction (Noel Road overbridge) and North London Line overbridge. Start Point Milage MLN1 4.1591 M/yds to End Point Milage MLN1 3.1226 M/yds (Fig.1).

DTM Profile Tool measurements every 20.0 meters +/-5 meters.

From start point to Jewson's Yard (4.0668 M/yds), the Network Rail owned land borders with a residential area (Fig.2) and there are no areas that meet the 1:12 requirement (please view N1 to N39).

Fig 2. From start point to west boundary of Jewson's yard. Green marks NR owned land.

The area in Jewson's land was re-checked with DTM tool and it does meet 1:12 criteria, as well as allowing significant width for swept path (please view N40 to N43). At Jewson's site the frequency of DTM screenshots was reduced, as area has already been confirmed to be suitable for RRAP. Further evidence highlighted in green in Table 1.

From MLN1 4.0457 M/yds to end-point at MLN1 3.1226 M/yds, the Network Rail owned land borders with a Friary Road and residential buildings (Fig.3) , and there are no areas that meet the 1:12 requirement (please view N44 to N61).

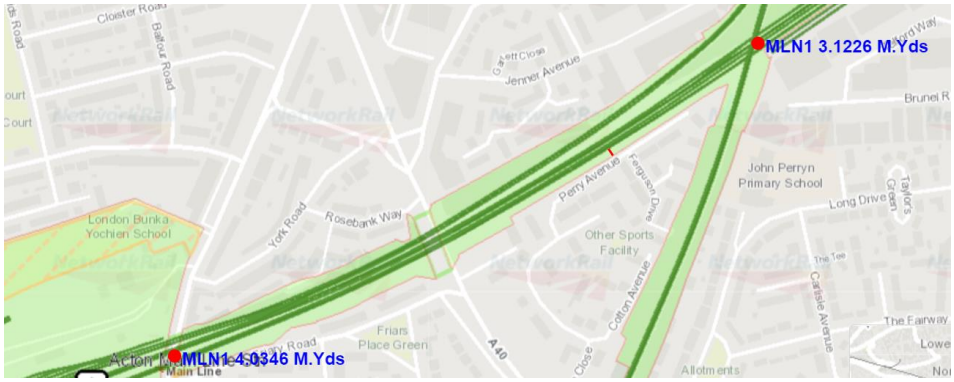


Fig 3. MLN1 4.0346 (boundary of Acton Main Line station) to the end point at MLN1 3.1226. Green marks NR owned land.

Table 1: The cells highlighted in green meet the gradient requirement for the RRAP.

Cross-Section Number	Milage	Start Point (NR Land Boundary) elevation in meters	End Point (Lineside) elevation in meters	Distance EP-SP in meters	Gradient as 1:X	Gradient as X%
1	MLN1 4.1591	32.42	27.1	10.1	1.898496241	52.67326733
2	MLN1 4.1564	31.19	26.92	10	2.341920375	42.7
3	MLN1 4.1541	31.28	27.09	10	2.386634845	41.9
4	MLN1 4.1515	30.83	27.03	10.1	2.657894737	37.62376238
5	MLN1 4.1487	30.86	27.14	10	2.688172043	37.2
6	MLN1 4.1462	30.44	26.89	8	2.253521127	44.375
7	MLN1 4.1436	30.54	26.96	9	2.51396648	39.77777778
8	MLN1 4.1416	30.47	27.11	9	2.678571429	37.33333333
9	MLN1 4.1390	30.82	26.96	9	2.331606218	42.88888889
10	MLN1 4.1365	31.25	27.03	9.8	2.322274882	43.06122449
11	MLN1 4.1341	31.35	26.88	10	2.237136465	44.7
12	MLN1 4.1316	31.49	27.05	11.03	2.484234234	40.25385313
13	MLN1 4.1291	31.67	26.95	12	2.542372881	39.33333333
14	MLN1 4.1270	31.64	27.09	12	2.637362637	37.91666667
15	MLN1 4.1249	31.39	26.99	12	2.727272727	36.66666667
16	MLN1 4.1227	31.12	26.99	12.12	2.934624697	34.07590759
17	MLN1 4.1204	30.77	27.08	12	3.25203252	30.75

18	MLN1 4.1179	31.12	26.84	12	2.803738318	35.66666667
19	MLN1 4.1155	31.66	26.89	13.13	2.752620545	36.32901752
20	MLN1 4.1130	31.62	26.96	13	2.789699571	35.84615385
21	MLN1 4.1114	32.1	26.99	12.87	2.518590998	39.7047397
22	MLN1 4.1105	31.64	26.98	12.87	2.761802575	36.20823621
23	MLN1 4.1081	31.48	26.98	12.87	2.86	34.96503497
24	MLN1 4.1053	31.08	26.95	13	3.147699758	31.76923077
25	MLN1 4.1026	31	27	13	3.25	30.76923077
26	MLN1 4.1005	30.48	27	12.12	3.482758621	28.71287129
27	MLN1 4.0981	29.91	26.81	11	3.548387097	28.18181818
28	MLN1 4.0960	30.03	26.79	11	3.395061728	29.45454545
29	MLN1 4.0935	29.19	26.69	10	4	25
30	MLN1 4.0913	29.29	26.59	8	2.962962963	33.75
31	MLN1 4.0887	29.22	26.76	9	3.658536585	27.33333333
32	MLN1 4.0858	28.47	26.89	9	5.696202532	17.55555556
33	MLN1 4.0831	29.03	26.61	8.08	3.338842975	29.95049505
34	MLN1 4.0809	29.02	26.7	6.06	2.612068966	38.28382838
35	MLN1 4.0783	28.18	26.51	6	3.592814371	27.83333333
36	MLN1 4.0760	28.29	26.57	7	4.069767442	24.57142857
37	MLN1 4.0735	28.05	26.52	6.06	3.960784314	25.24752475
38	MLN1 4.0713	27.83	26.55	6	4.6875	21.33333333
39	MLN1 4.0688	27.39	26.4	5.05	5.101010101	19.6039604
40	MLN1 4.0668	26.76	26.44	10.44	32.625	3.0651341
41	MLN1 4.0648	26.85	26.52	11	33.33333333	3
42	MLN1 4.0618	26.74	26.29	11	24.44444444	4.090909091
43	MLN1 4.0532	26.85	26.08	11.1	14.41558442	6.936936937
44	MLN1 4.0457	27.12	26.16	5	5.208333333	19.2
45	MLN1 4.0434	29.34	25.85	19.19	5.498567335	18.1865555
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48	MLN1 4.0292	31.9	26.38	13.13	2.378623188	42.04112719
49	MLN1 4.0267	32.45	27.78	13.13	2.811563169	35.56740289
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51	MLN1 4.0216	33.03	28.28	16	3.368421053	29.6875
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55	MLN1 4.0128	32.91	28.22	14.14	3.014925373	33.16831683
56	MLN1 4.0105	34.1	28.61	16	2.9143898	34.3125
57	MLN1 4.0082	33.89	27.4	15.15	2.334360555	42.83828383

58	MLN1 4.0059	34.17	27.5	15.15	2.271364318	44.02640264
59	MLN1 4.0037	34.03	27.37	15	2.252252252	44.4
60	MLN1 4.0014	32.11	27.3	11.11	2.30977131	43.29432943
61	MLN1 3.1748	34.31	27.33	17.24	2.46991404	40.48723898
62	MLN1 3.1702	32.73	27.28	17.17	3.150458716	31.74140944
63	MLN1 3.1688	34.37	27.18	17.17	2.388038943	41.87536401
64	MLN1 3.1668	34.3	27.09	16	2.219140083	45.0625
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66	MLN1 3.1628	30.1	27.18	8.08	2.767123288	36.13861386
67	MLN1 3.1608	30.17	27.03	8.08	2.573248408	38.86138614
68	MLN1 3.1588	30.2	27.58	8.08	3.083969466	32.42574257
69	MLN1 3.1568	30.18	27.4	8.08	2.90647482	34.40594059
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74	MLN1 3.1468	30.04	26.74	9.09	2.754545455	36.30363036
75	MLN1 3.1448	30.06	27.23	8.08	2.855123675	35.02475248
76	MLN1 3.1428	29.73	26.58	8	2.53968254	39.375
77	MLN1 3.1408	29.75	27.79	7.07	3.607142857	27.72277228
78	MLN1 3.1388	29.84	27.74	7.07	3.366666667	29.7029703
79	MLN1 3.1368	29.7	26.3	8.08	2.376470588	42.07920792
80	MLN1 3.1348	29.84	27.89	6.06	3.107692308	32.17821782
81	MLN1 3.1328	29.75	26.61	7	2.229299363	44.85714286
82	MLN1 3.1308	30.08	26.06	8	1.990049751	50.25
83	MLN1 3.1288	30.52	25.99	11	2.428256071	41.18181818
84	MLN1 3.1268	31	25.97	10	1.988071571	50.3
85	MLN1 3.1226	29.47	25.94	11.11	3.147308782	31.77317732

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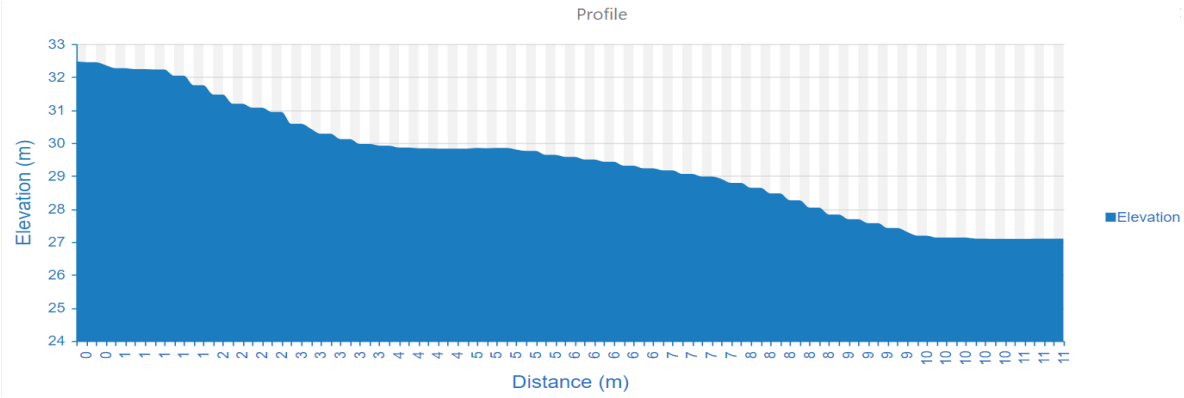

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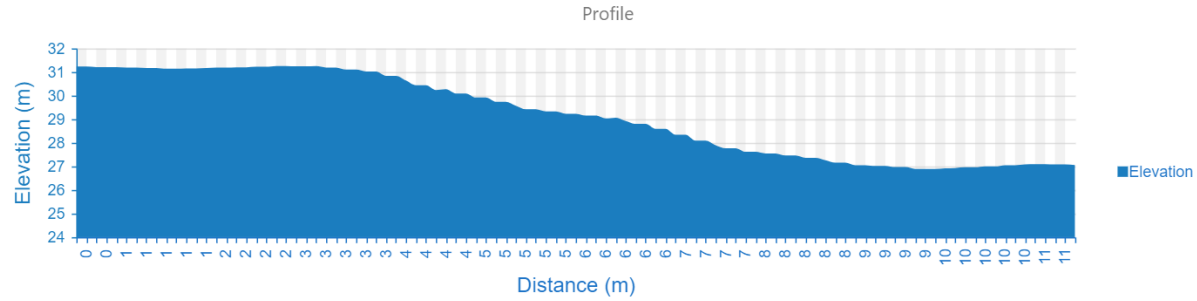

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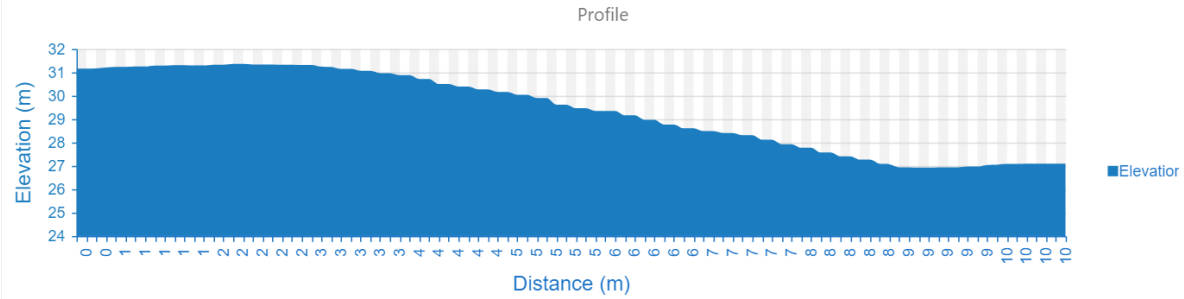

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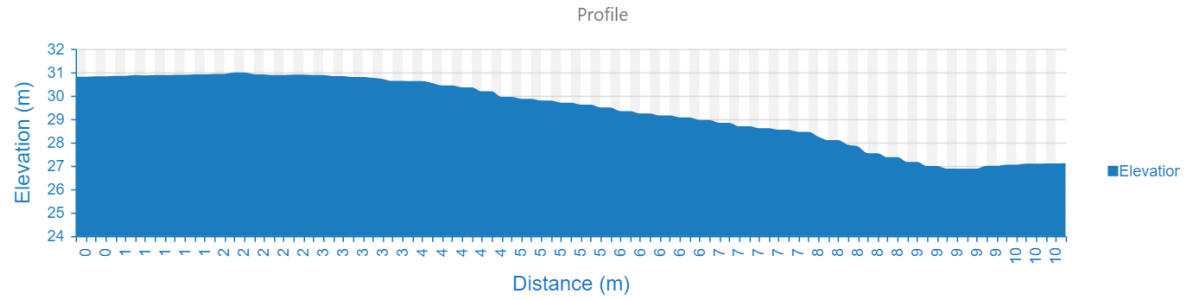

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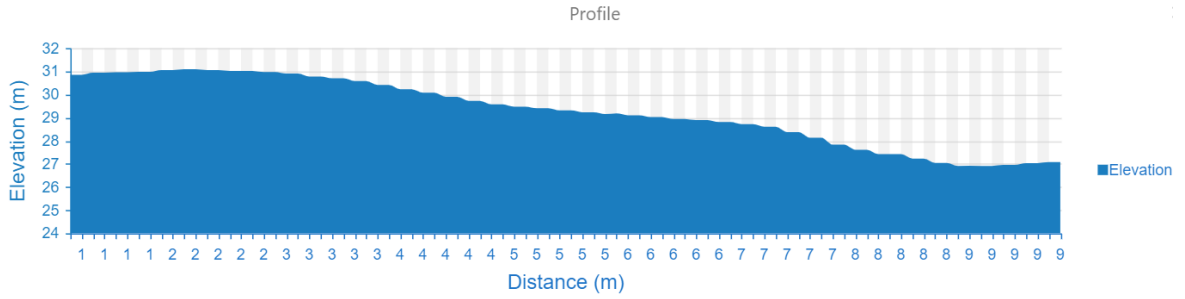

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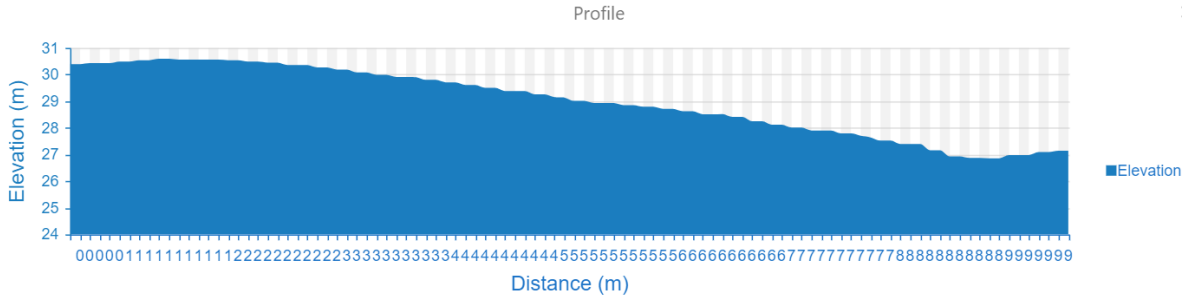

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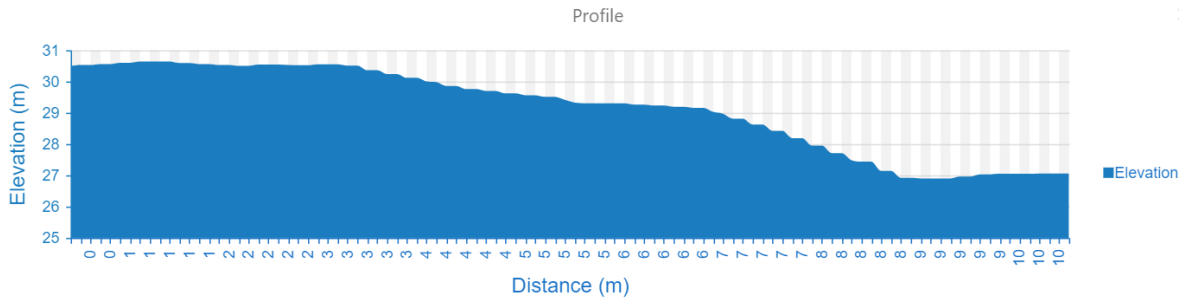
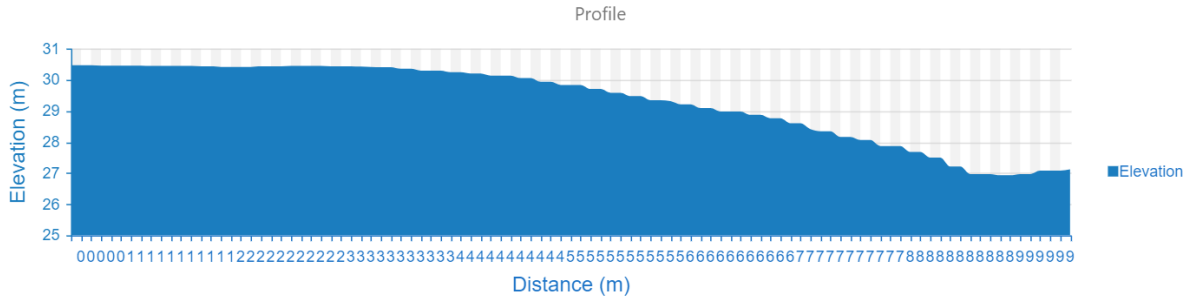
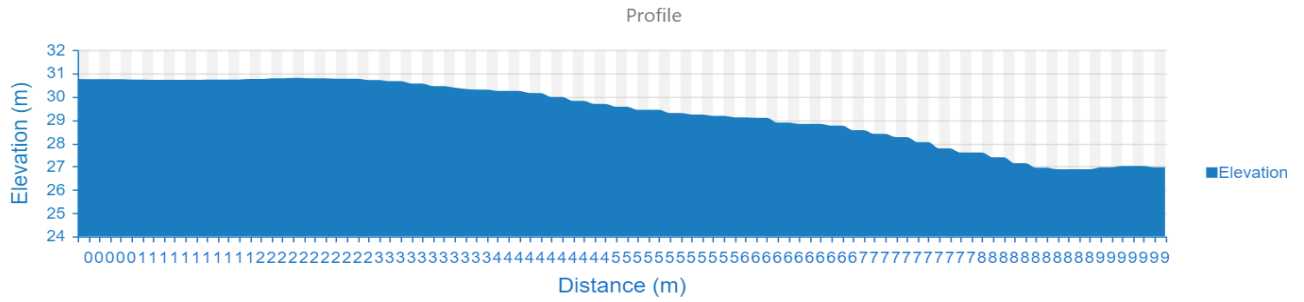


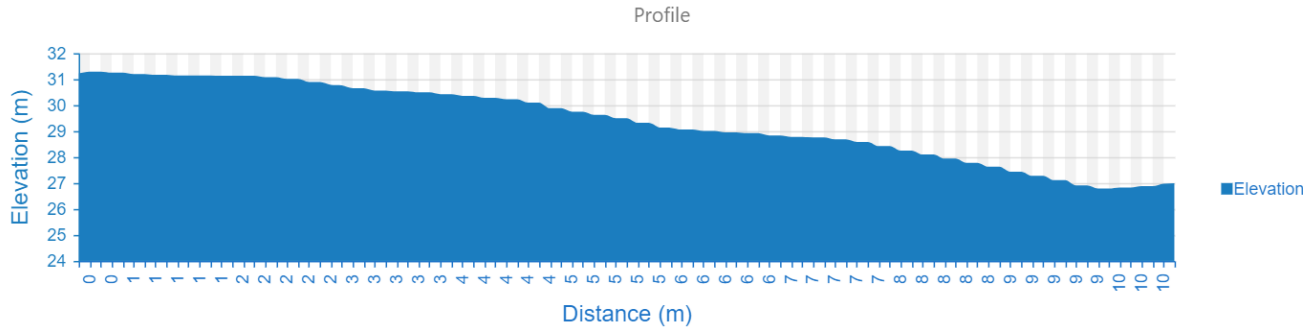
8. MLN1 4.1416



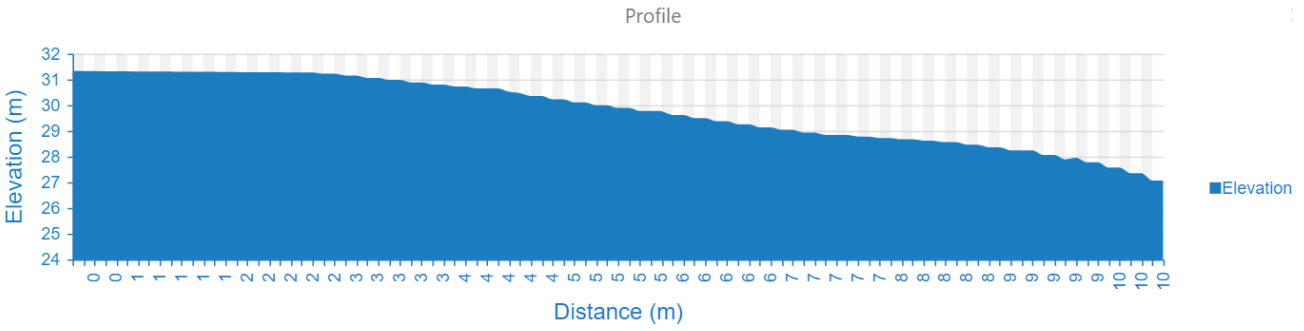
9. MLN1 4.1390



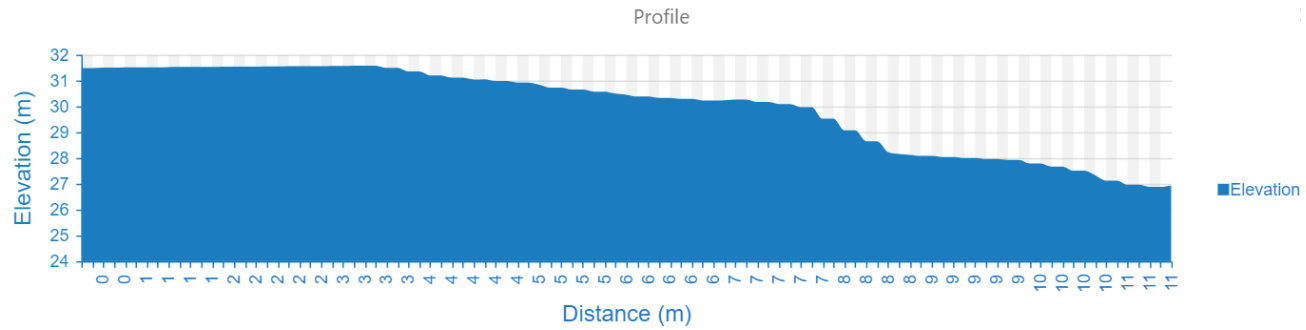
10. MLN1 4.1365



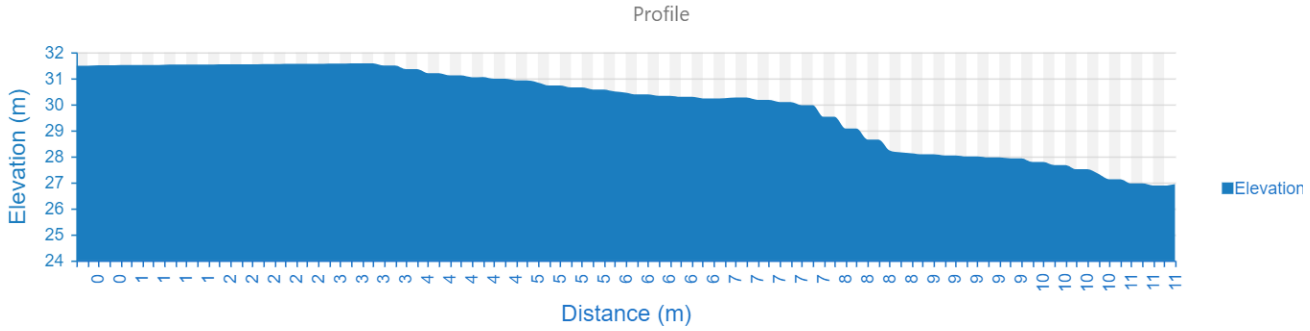
11. MLN1 4.1341



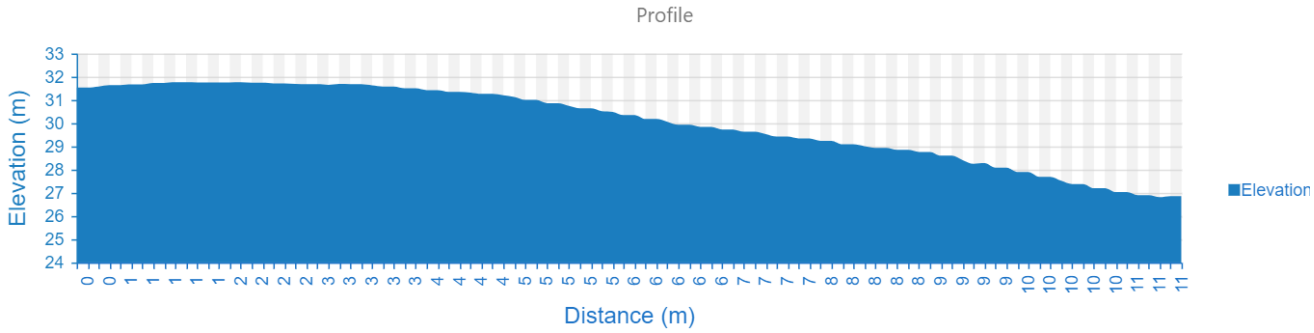
12. MLN1 4.1316



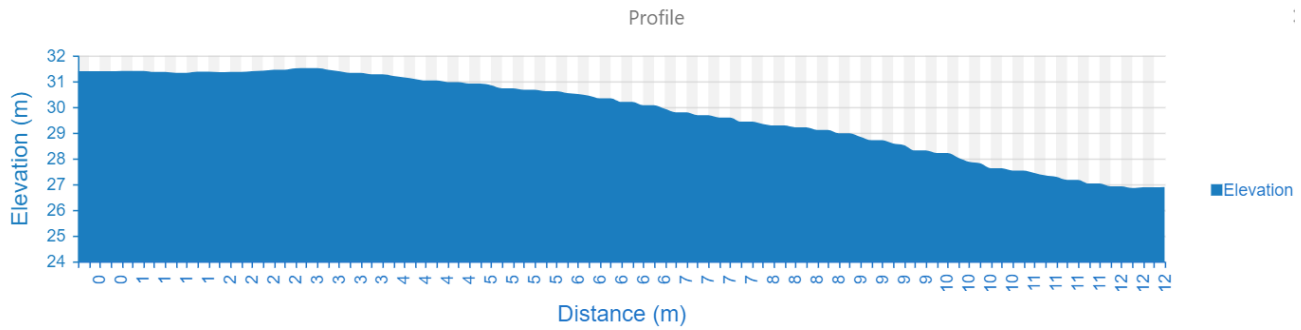
13. MLN1 4.1291



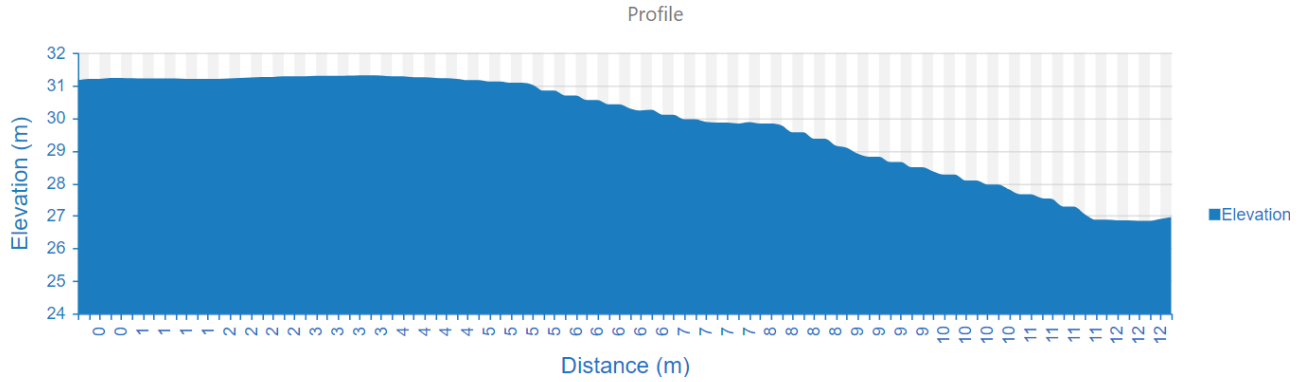
14. MLN1 4.1270



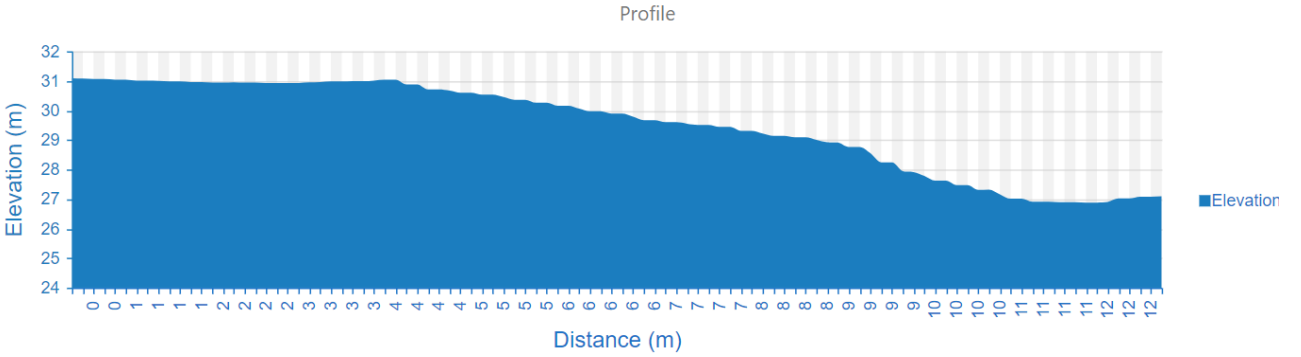
15. MLN1 4.1249



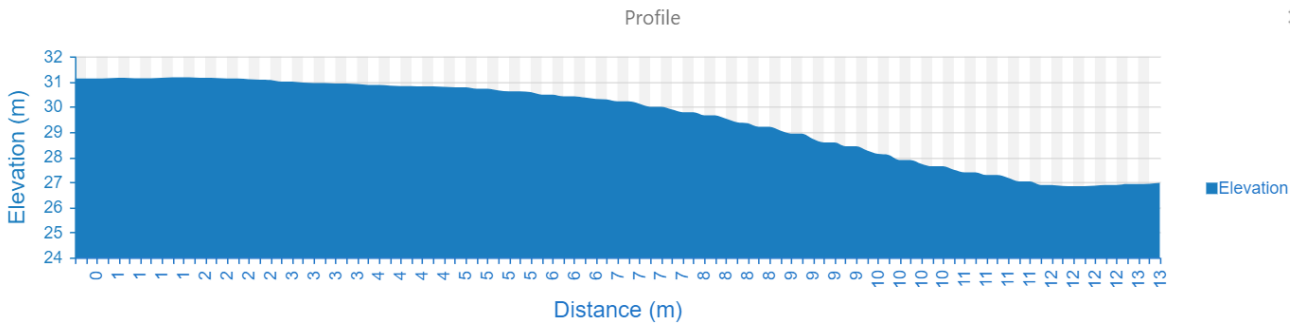
16. MLN1 4.1227



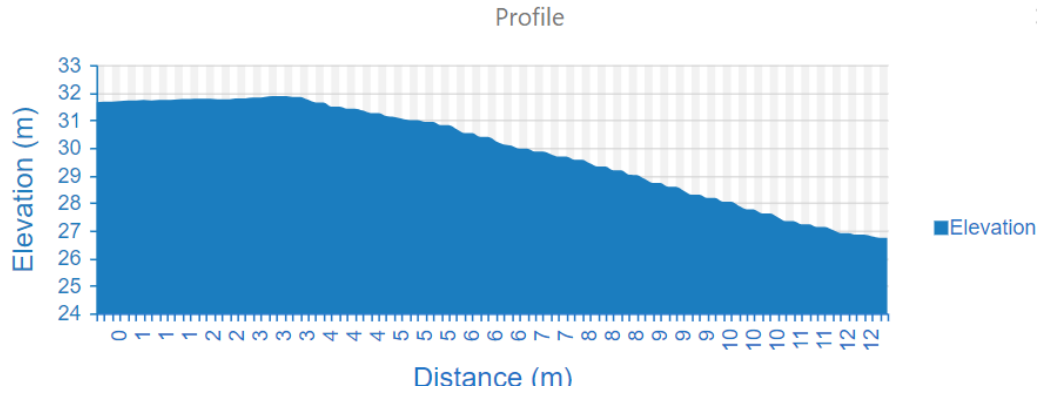
17. MLN1 4.1204



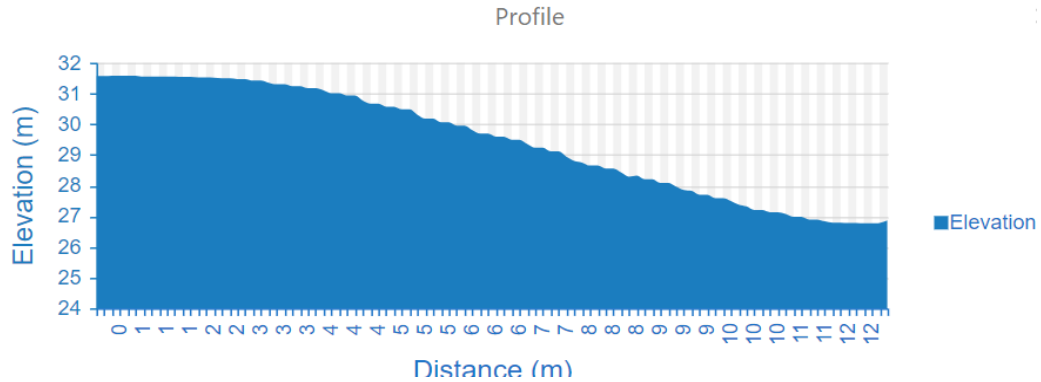
18. MLN1 4.1179



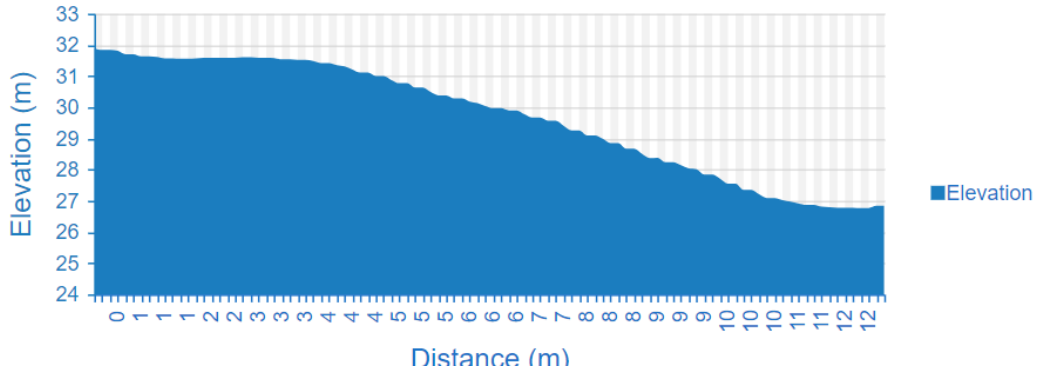
19. MLN1 4.1155



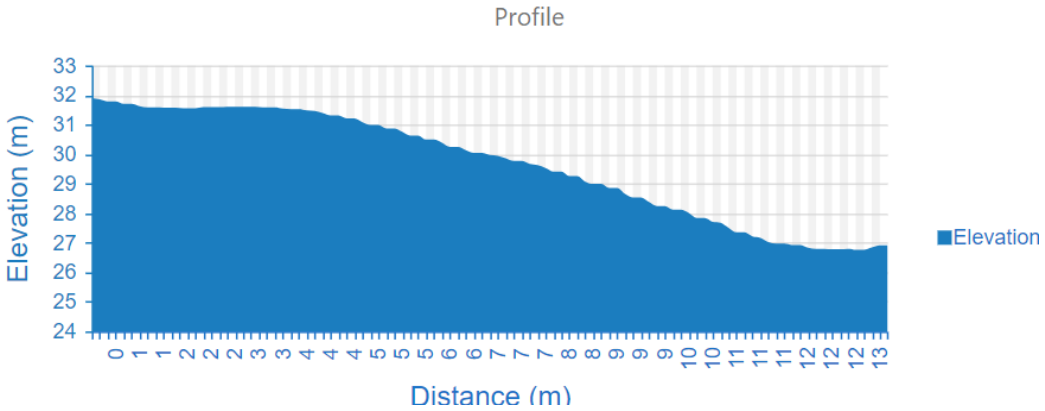
20. MLN1 4.1130



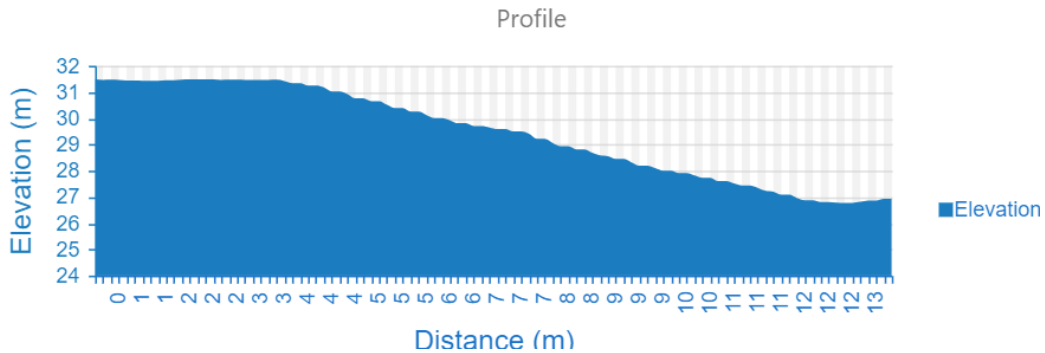
21. MLN1 4.1114



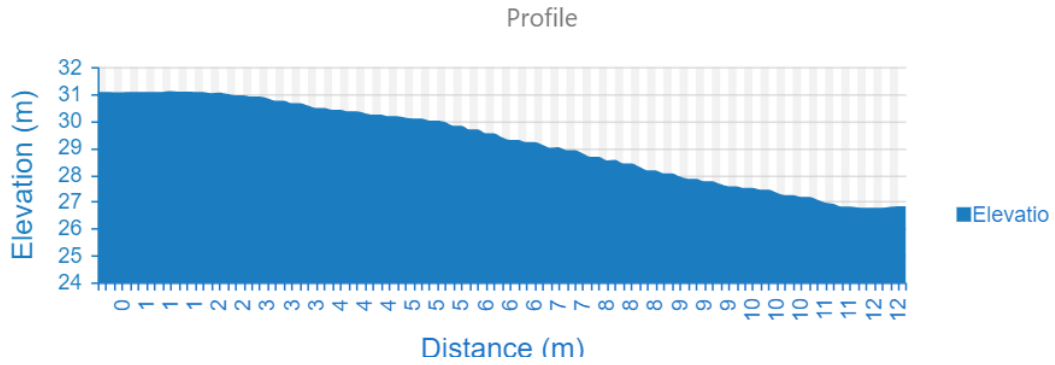
22. MLN1 4.1105



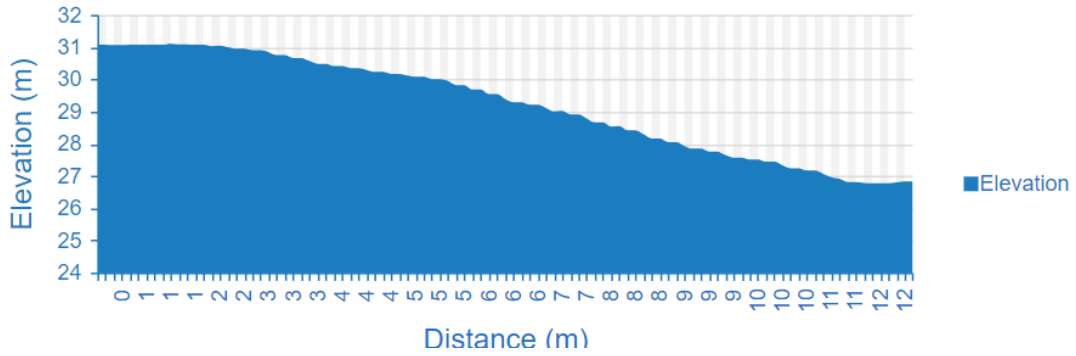
23. MLN1 4.1081



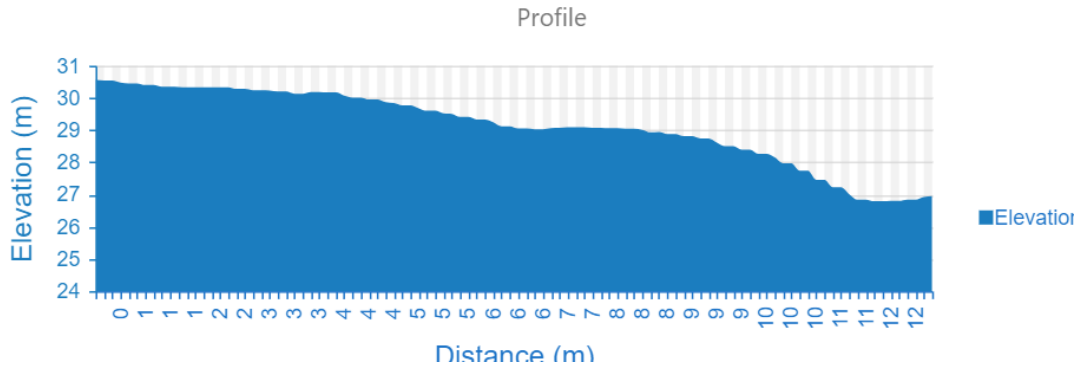
24. MLN1 4.1053



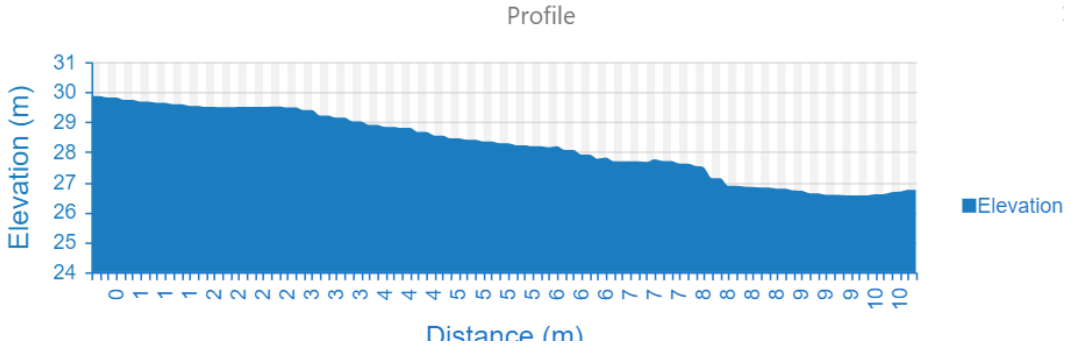
25. MLN1 4.1026



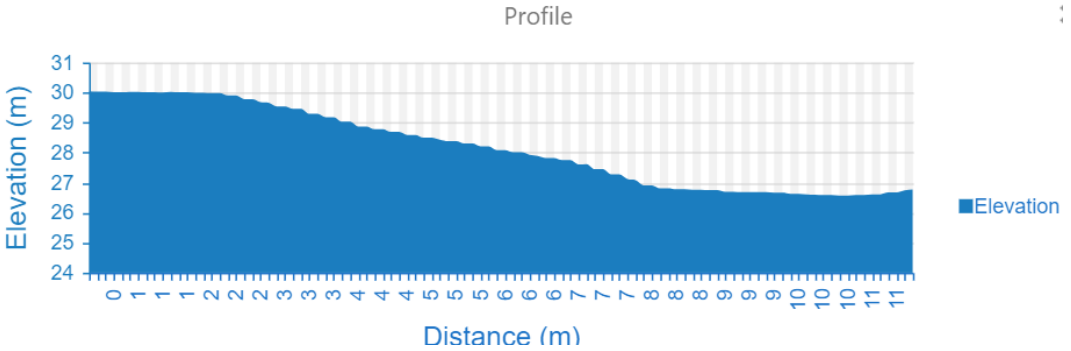
26. MLN1 4.1005



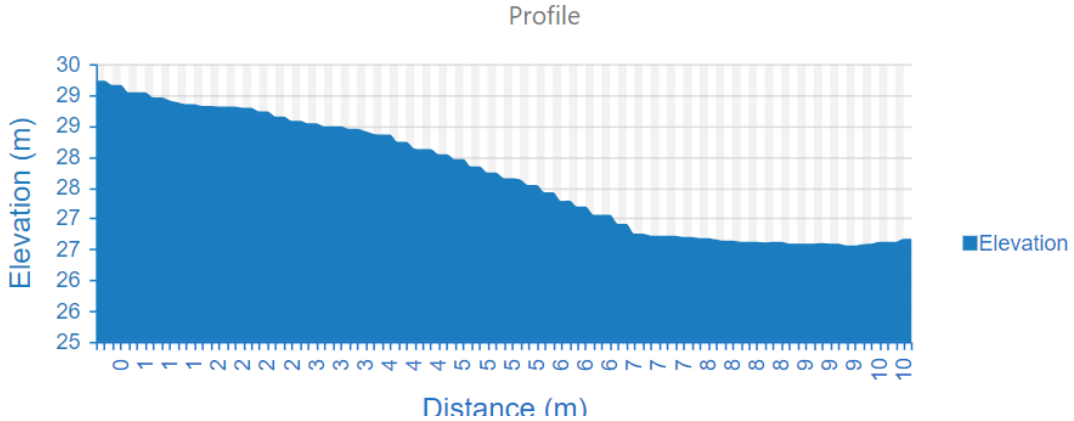
27. MLN1 4.0981



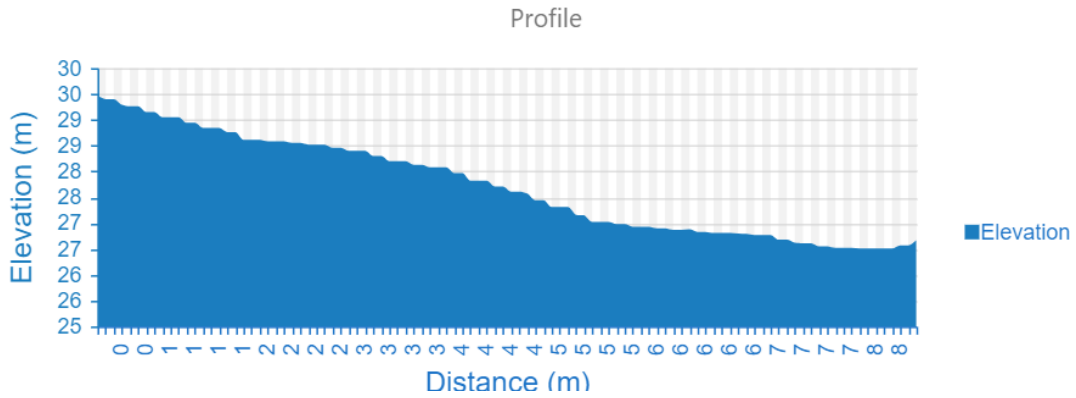
28. MLN1 4.0960



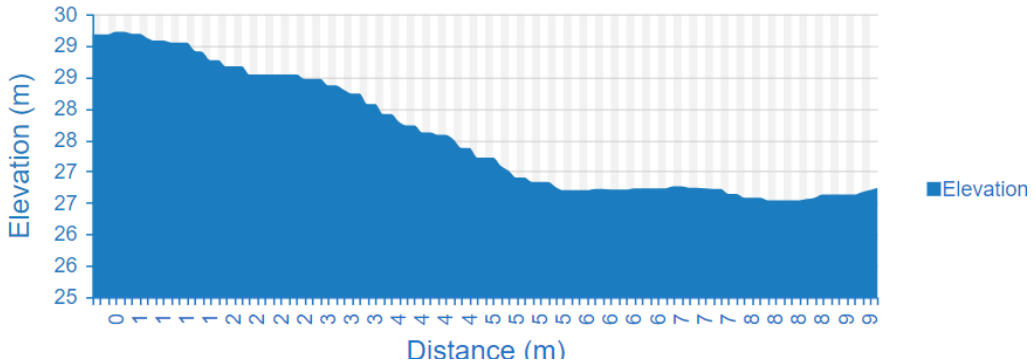
29. MLN1 4.0935



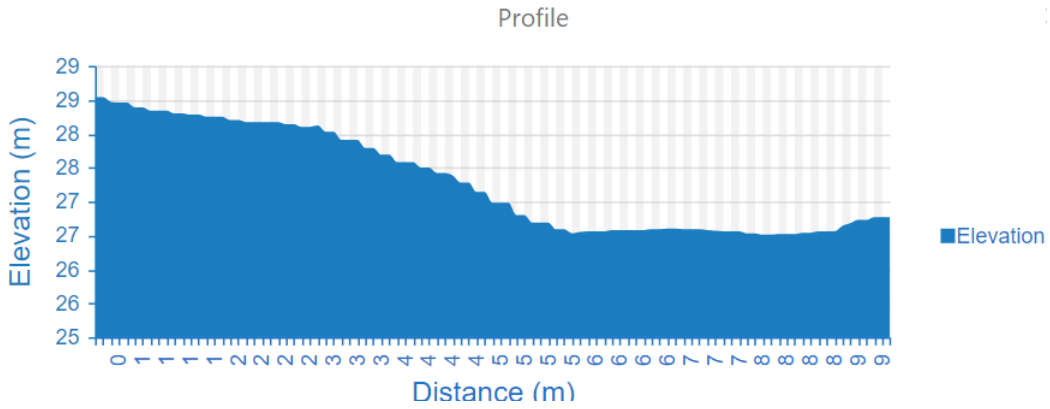
30. MLN1 4.0913



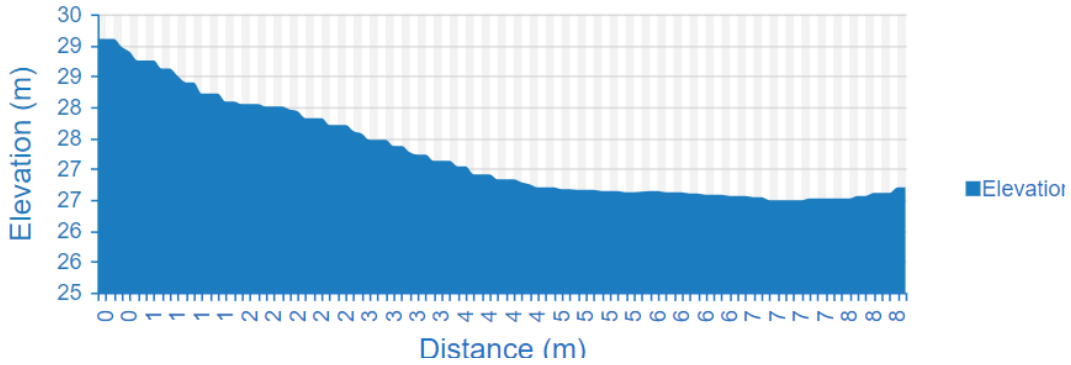
31. MLN1 4.0887



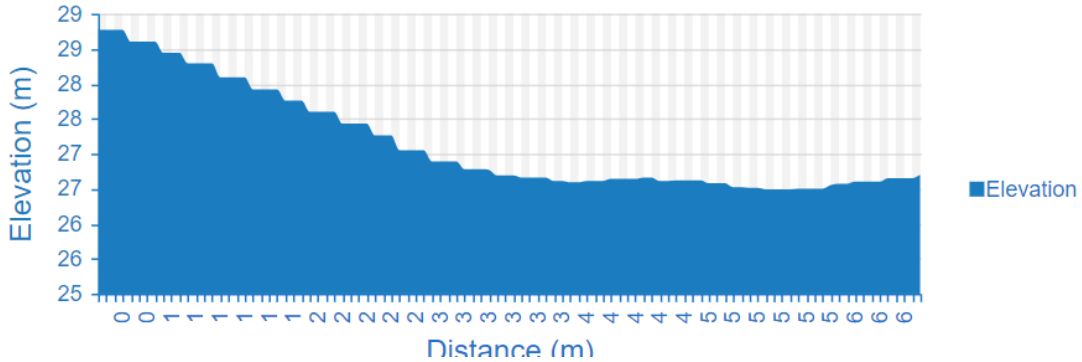
32. MLN1 4.0858



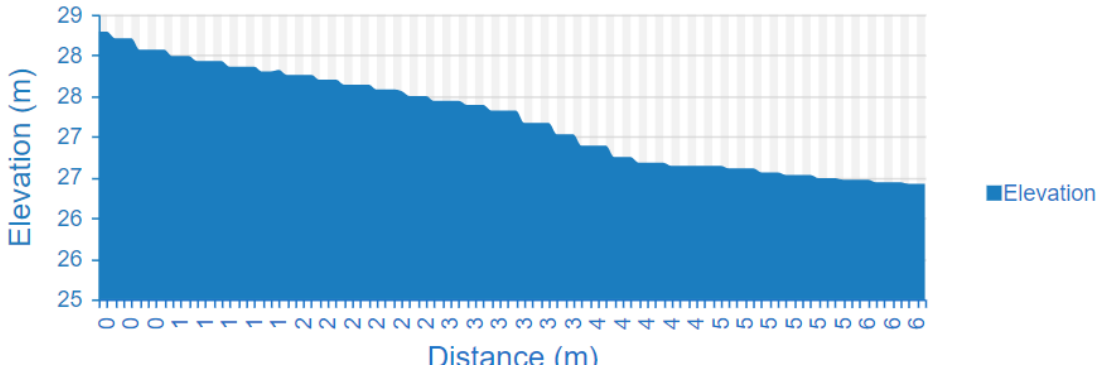
33. MLN1 4.0831



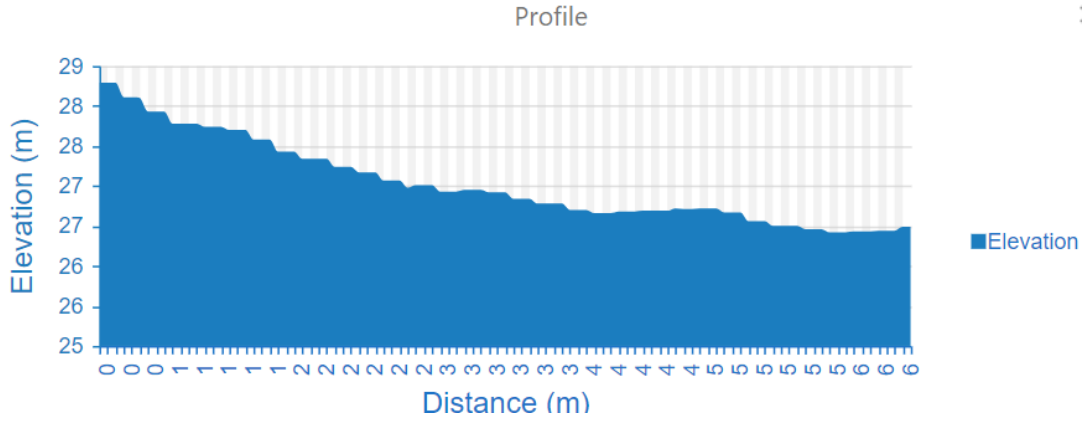
34. MLN1 4.0809



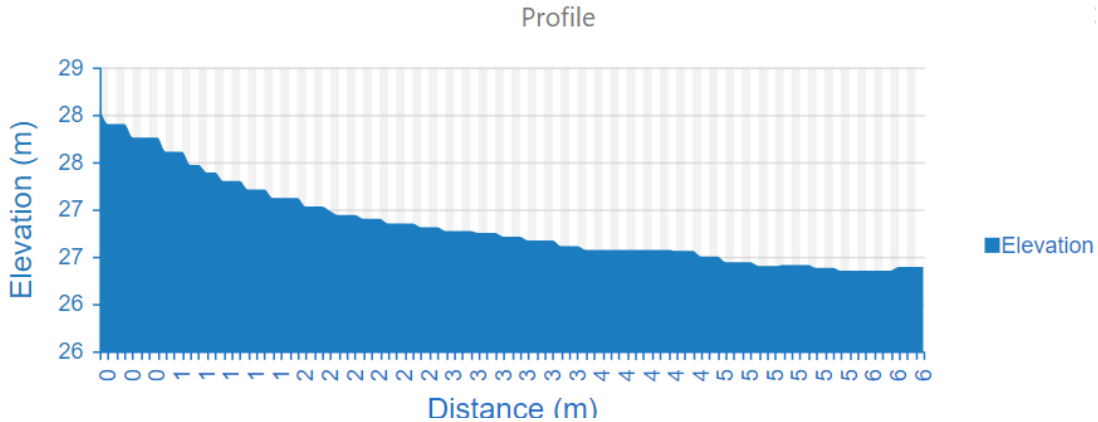
35. MLN1 4.0783



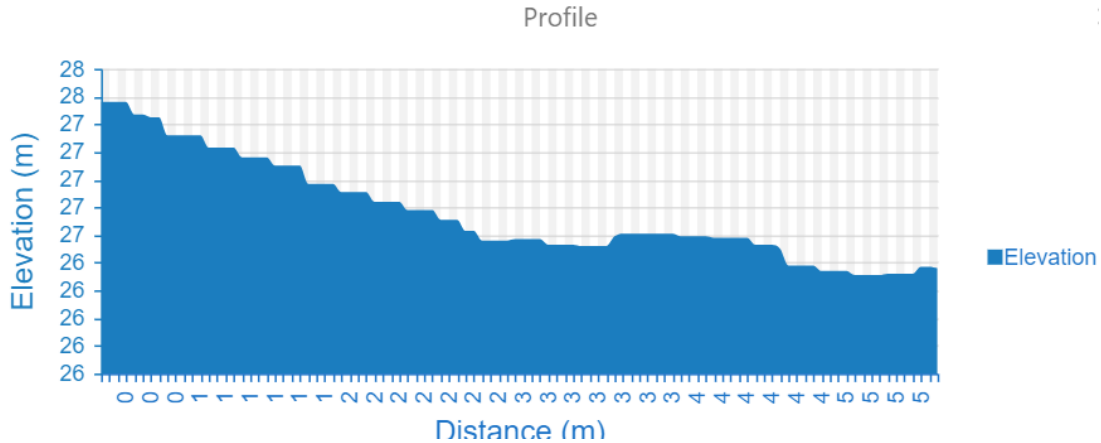
36. MLN1 4.0760



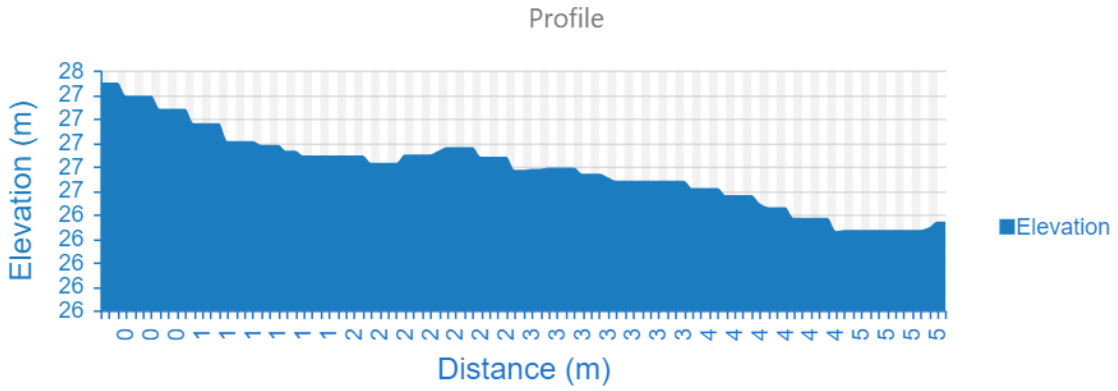
37. MLN1 4.0735



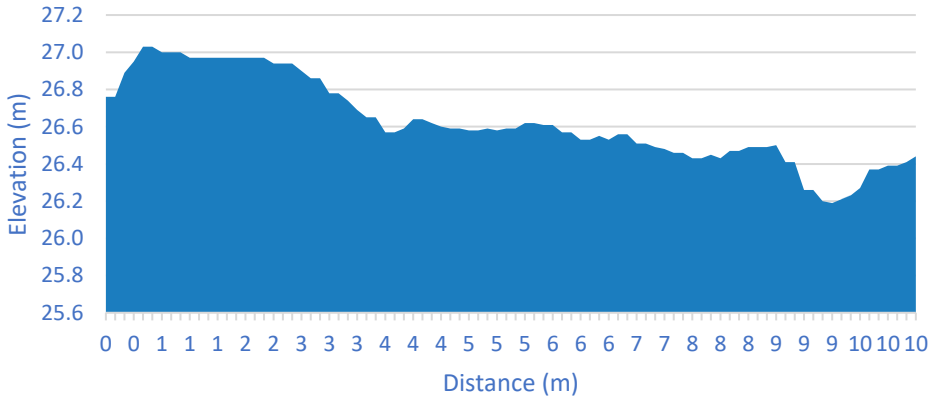
38. MLN1 4.0713



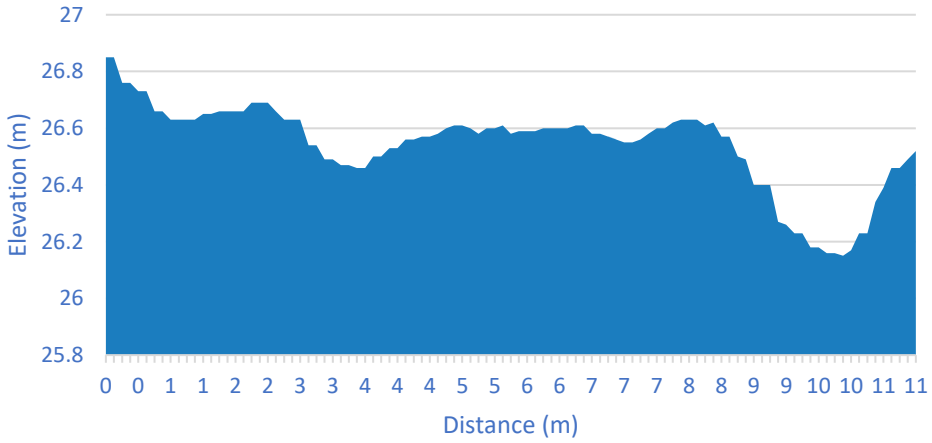
39. MLN1 4.0688



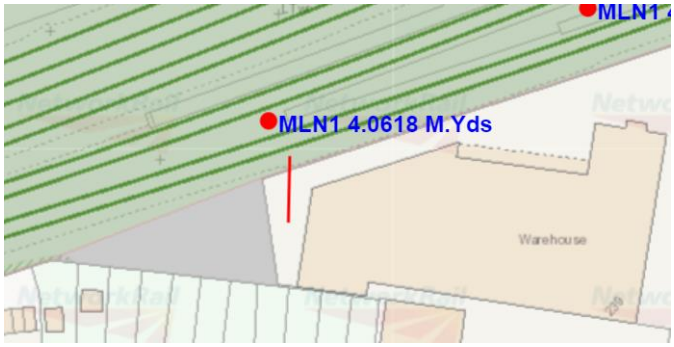
40. JEWSON MLN1 4.0668

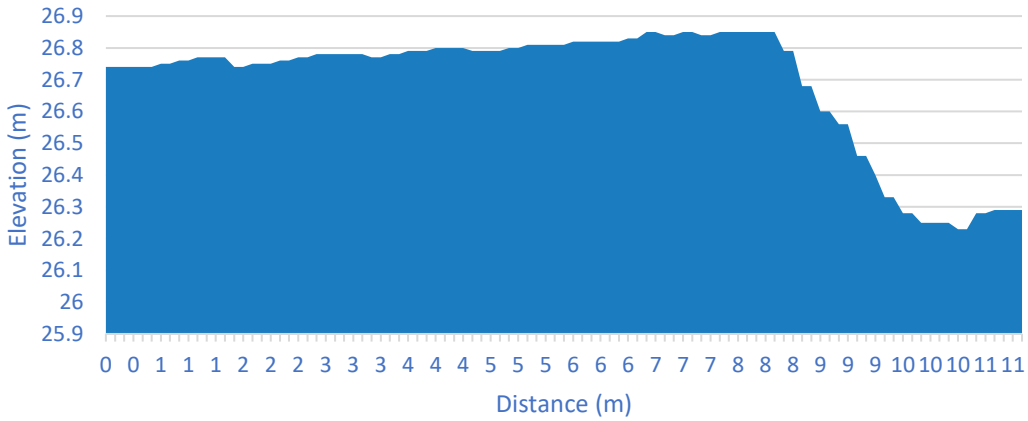


41. JEWSON MLN1 4.0648

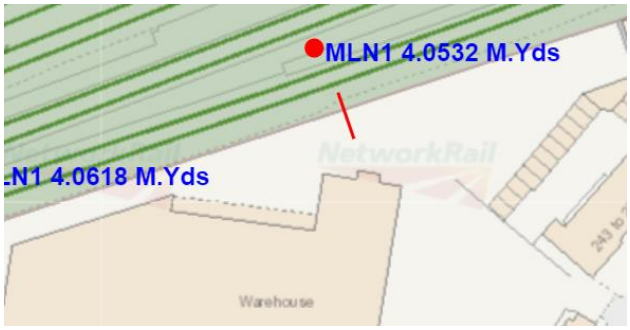


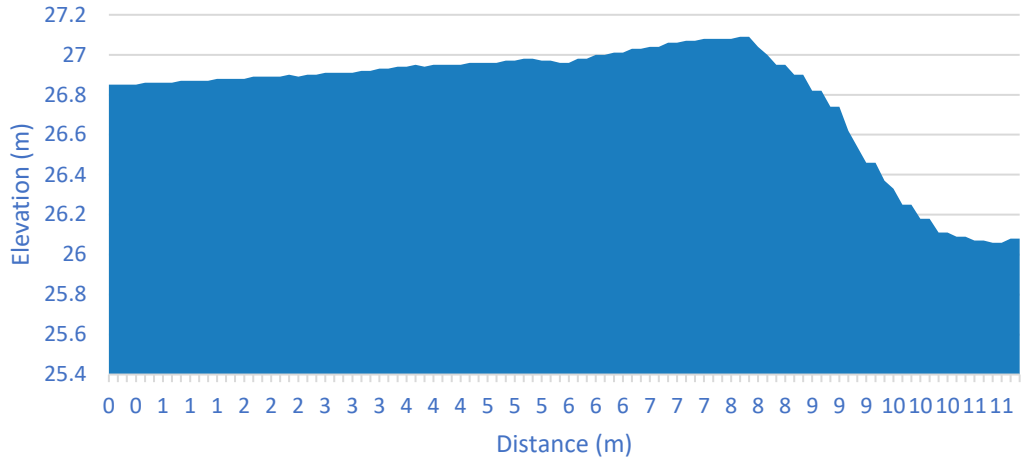
42. JEWSON MLN1 4.0618



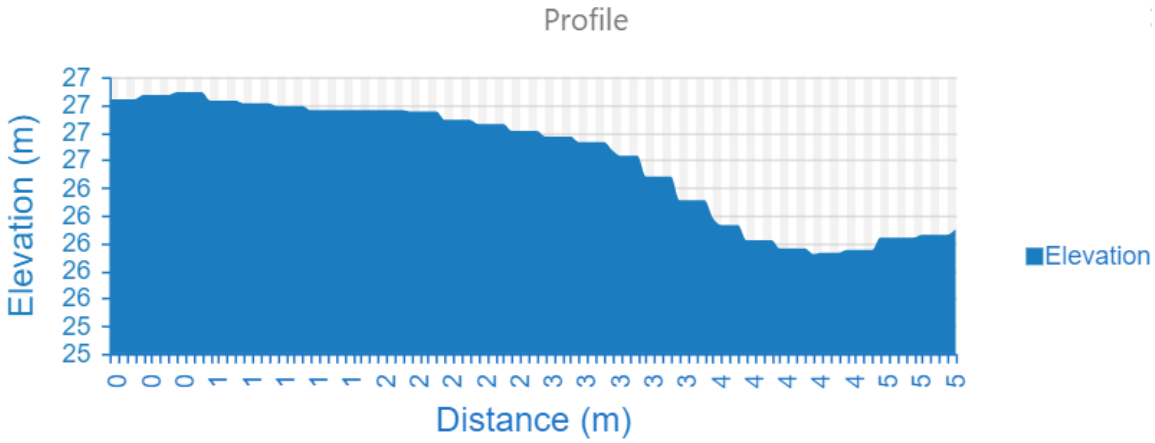


43. JEWSONS MLN1 4.0532

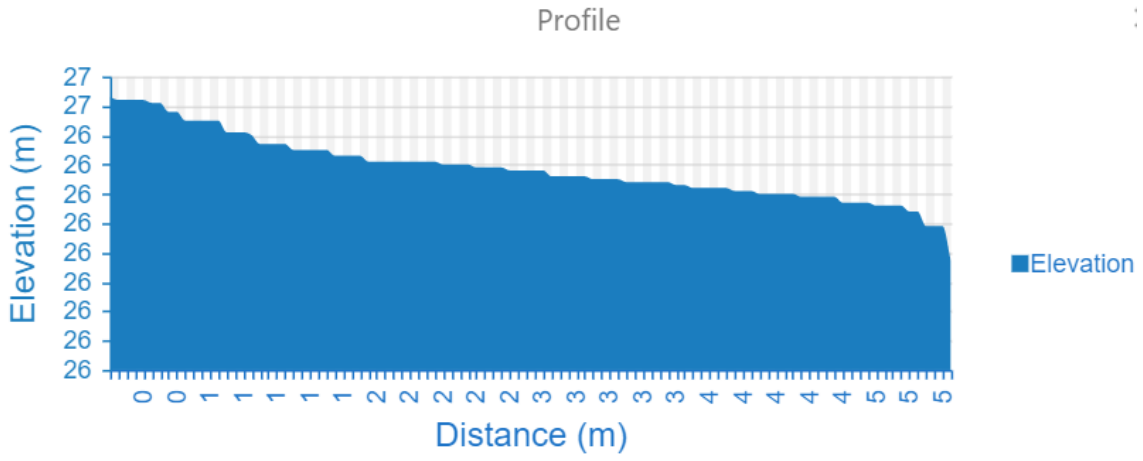




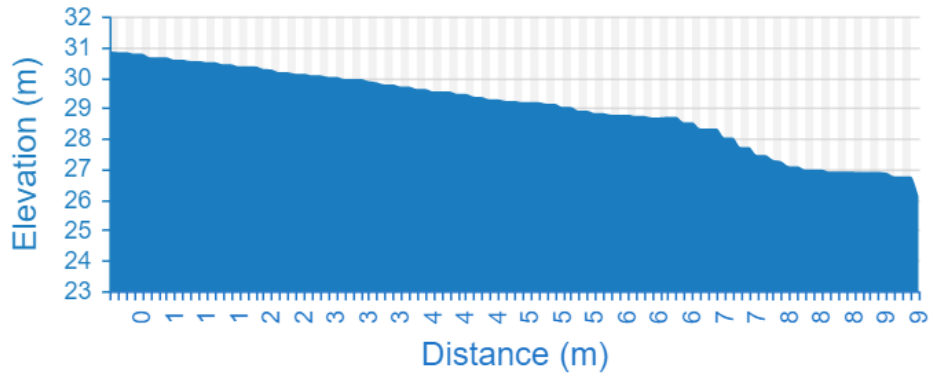
44. MLN1 4.0457



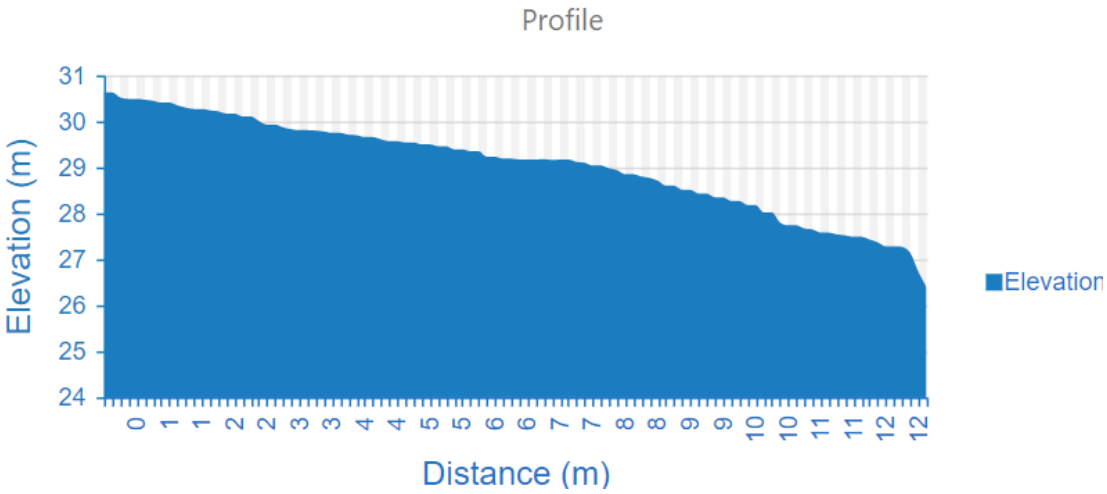
45. MLN1 4.0434



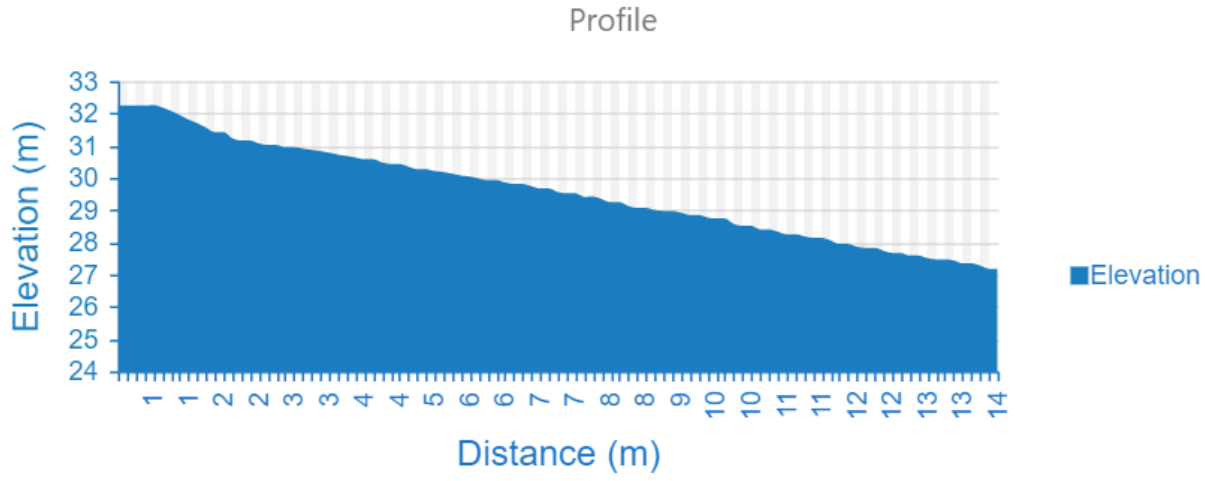
46. MLN1 4.0346



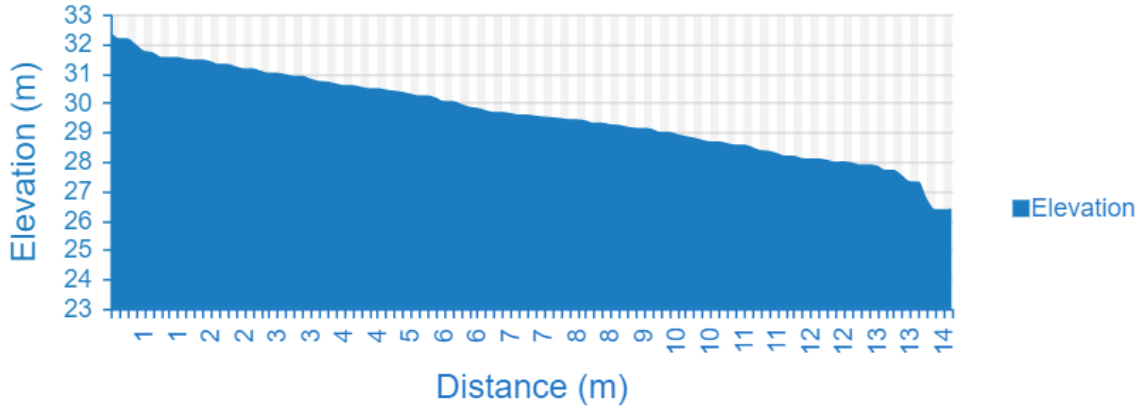
47. MLN1 4.0318



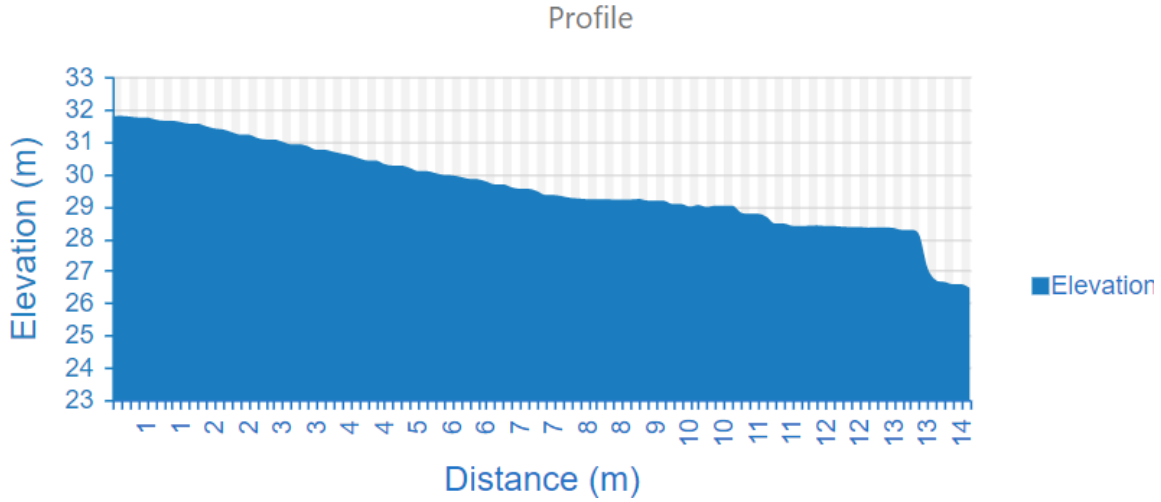
48. MLN1 4.0292



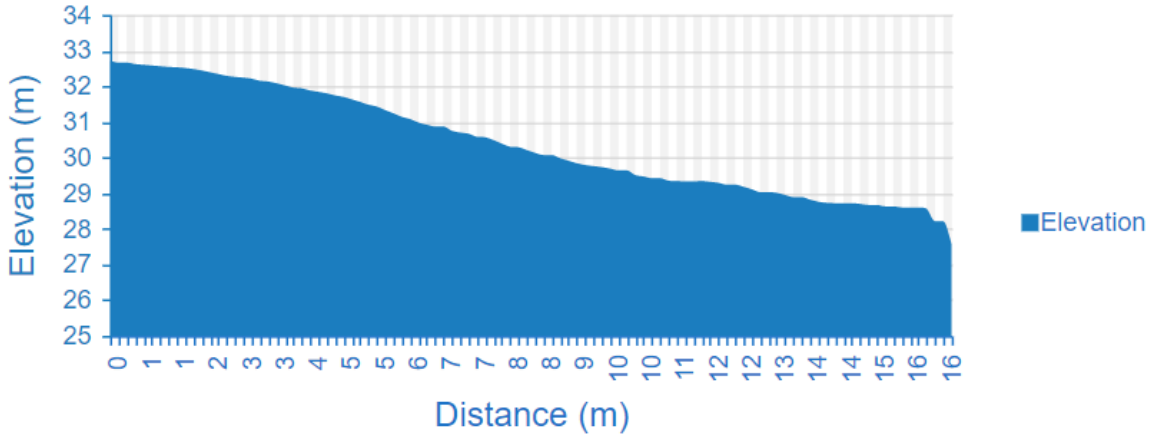
49. MLN1 4.0267



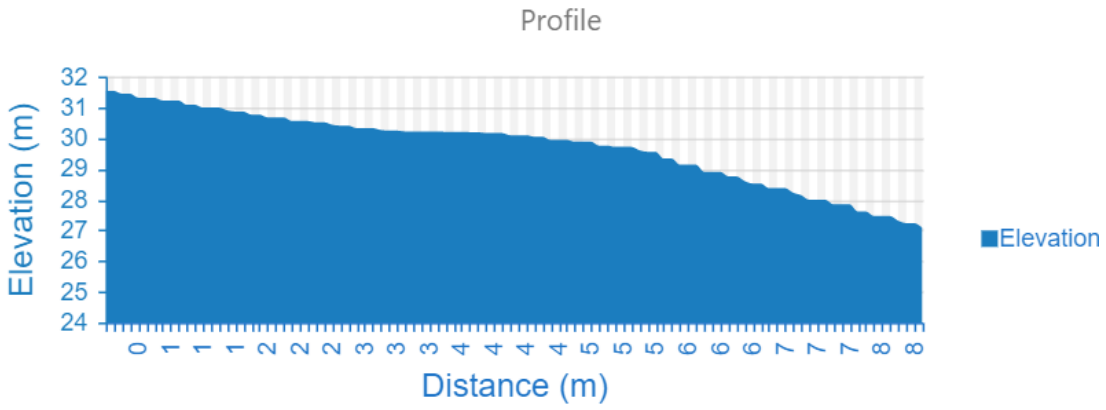
50. MLN1 4.0241



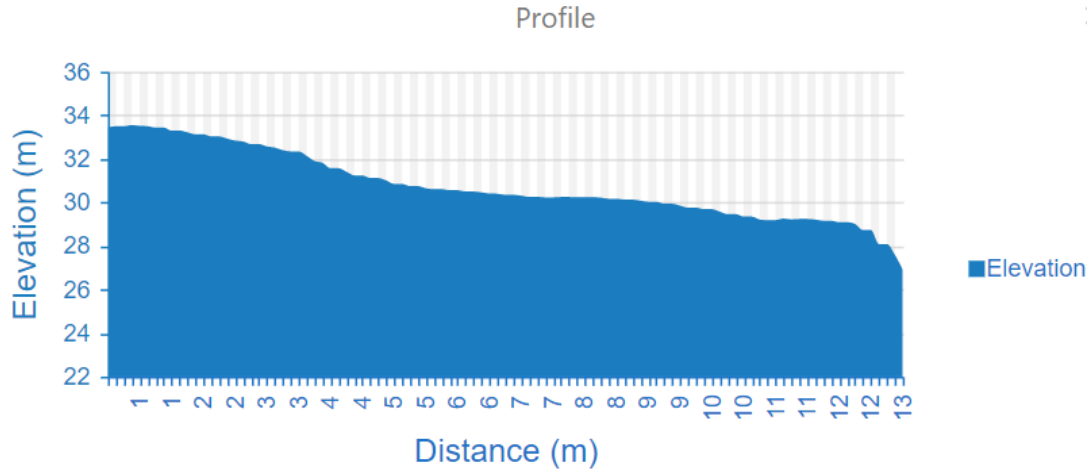
51. MLN1 4.0216



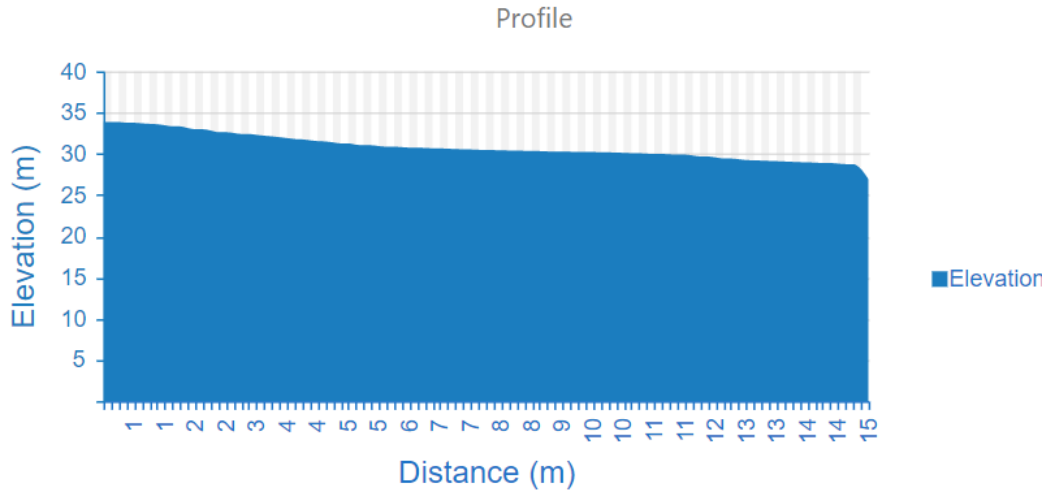
52. MLN1 4.0194



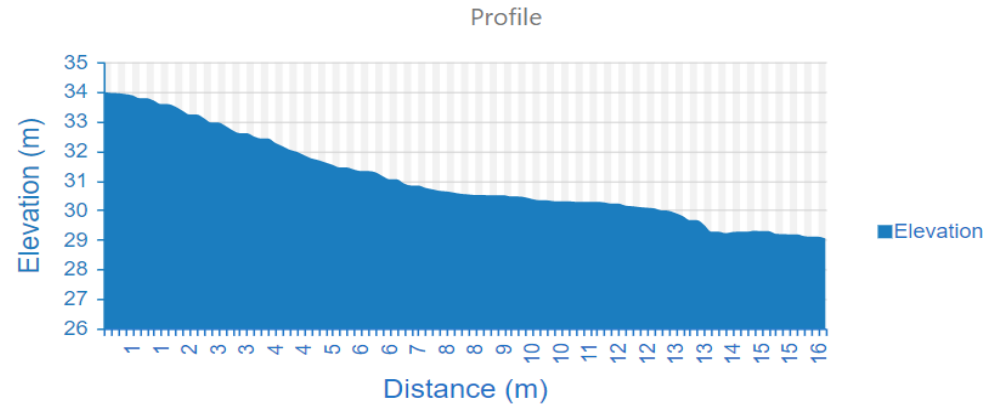
53. MLN1 4.0170



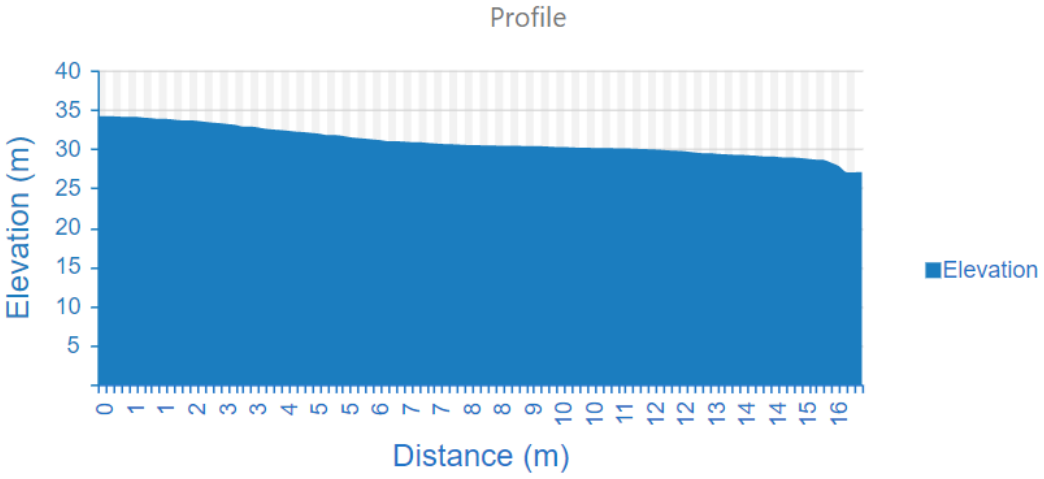
54. MLN1 4.0149



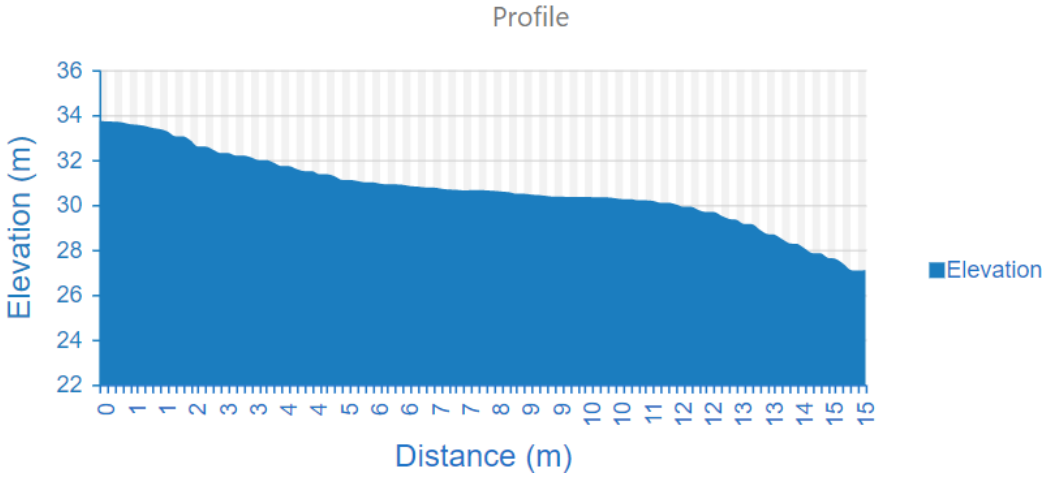
55. MLN1 4.0128



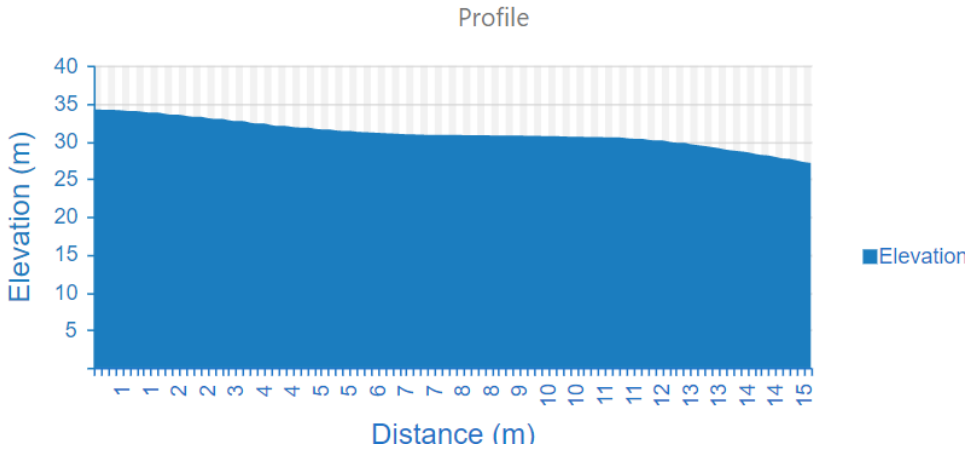
56. MLN1 4.0105



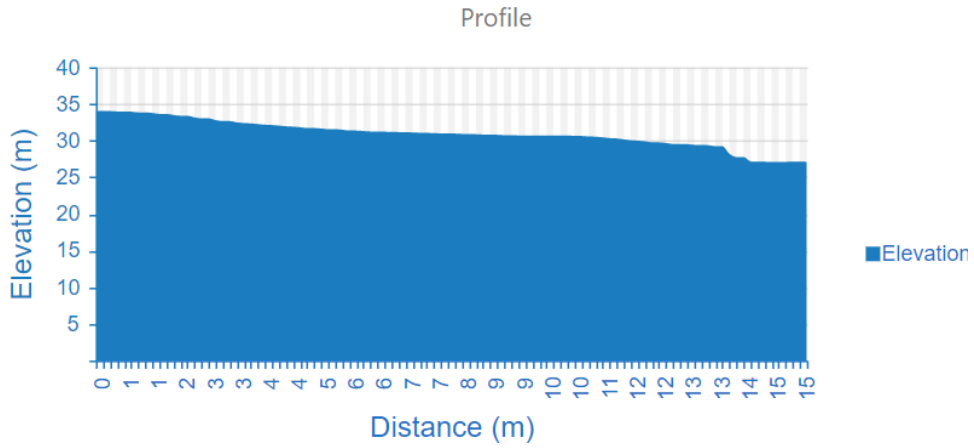
57. MLN1 4.0082



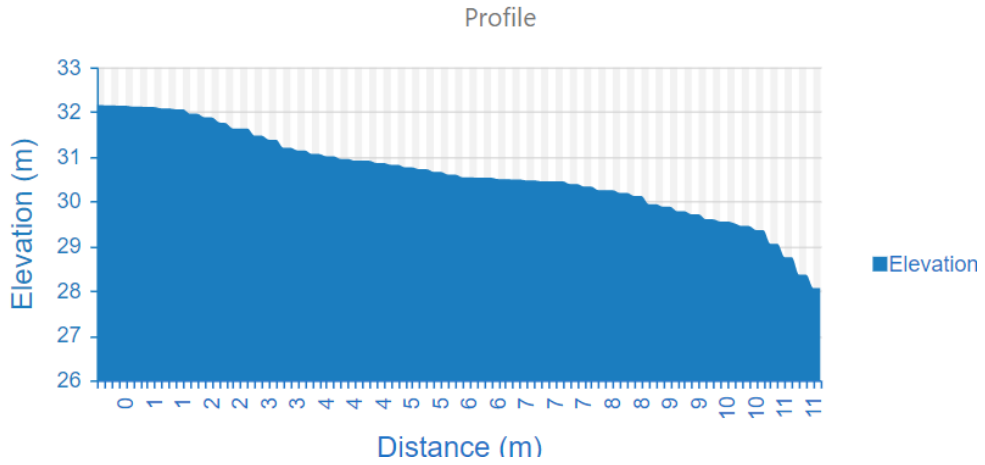
58. MLN1 4.0059



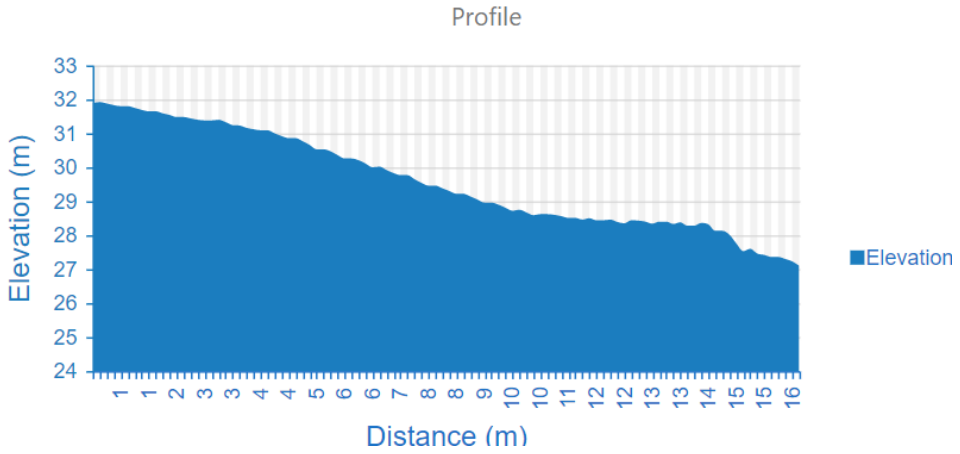
59. MLN1 4. 0037



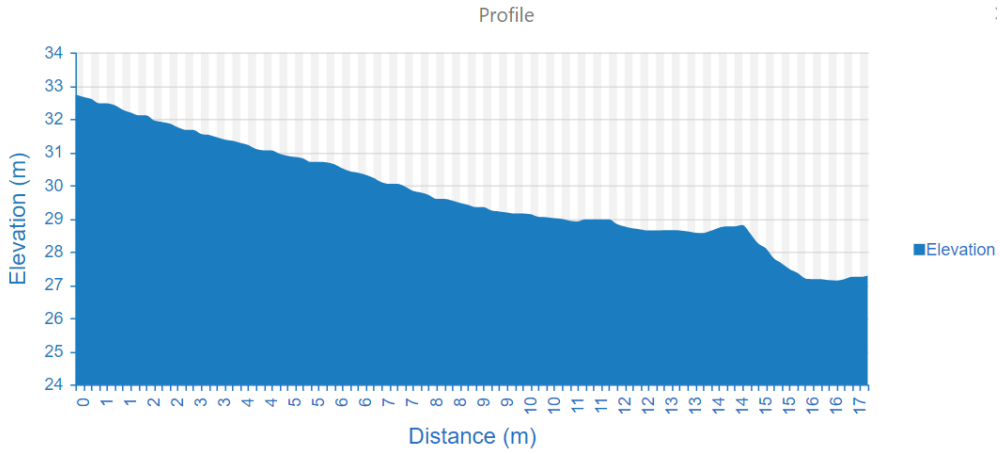
60. MLN1 4.0014



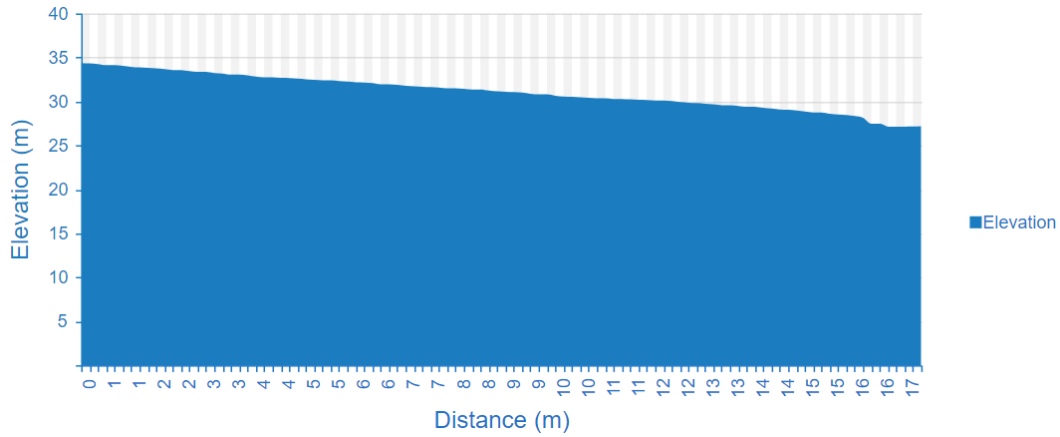
61. MLN1 3.1748



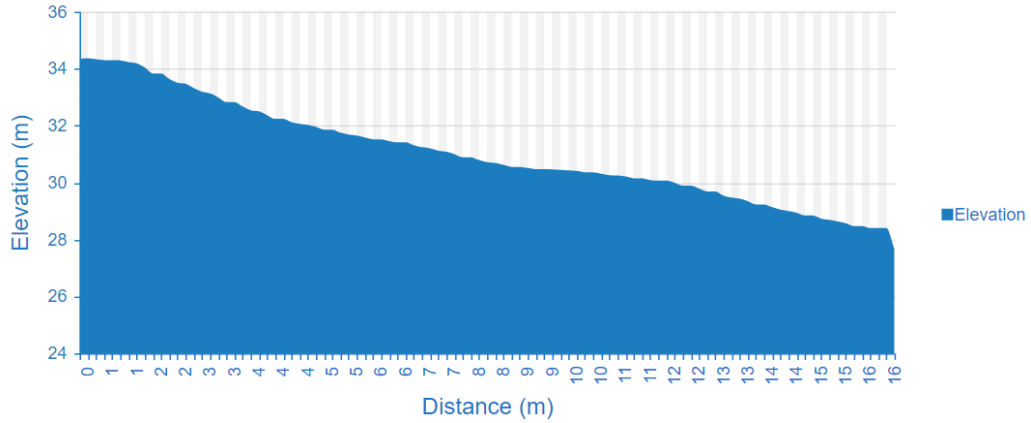
62 MLN1 3.1702



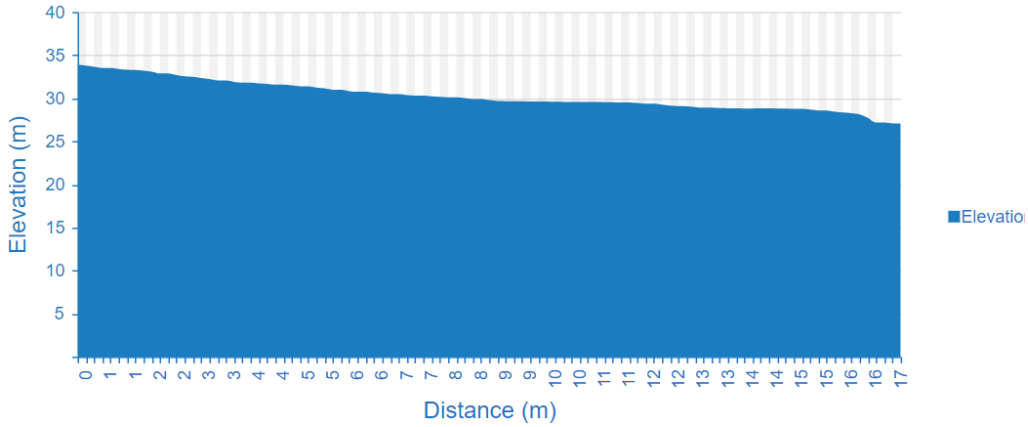
63 MLN1 3.1688



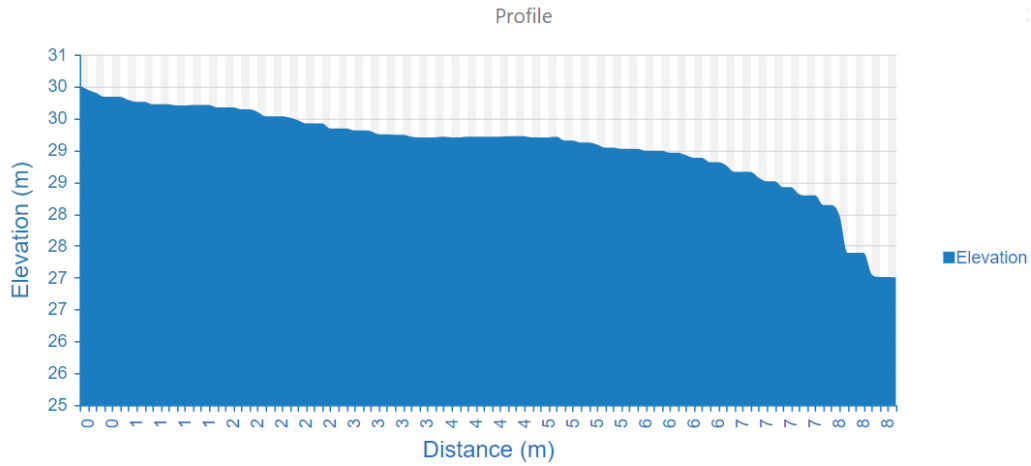
64 MLN1 3.1668



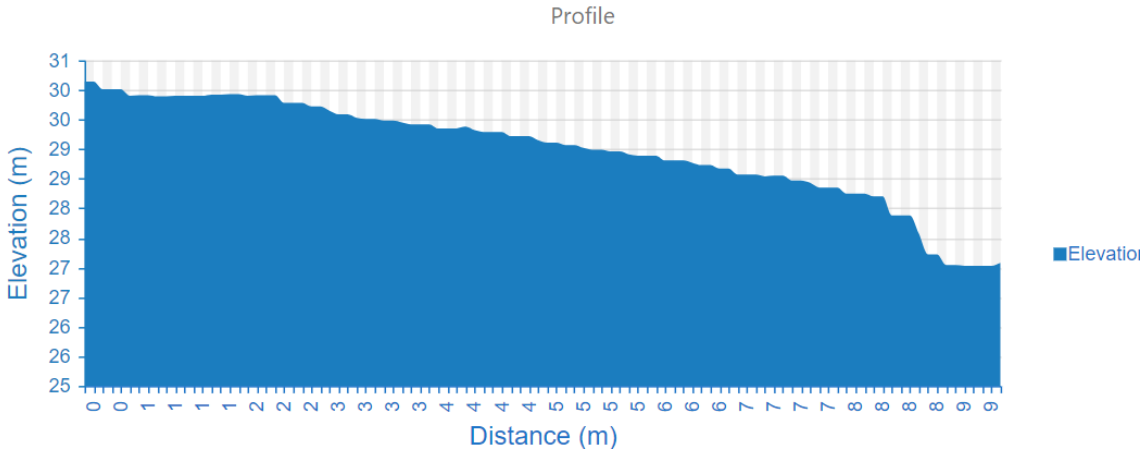
65 MLN1 3.1648



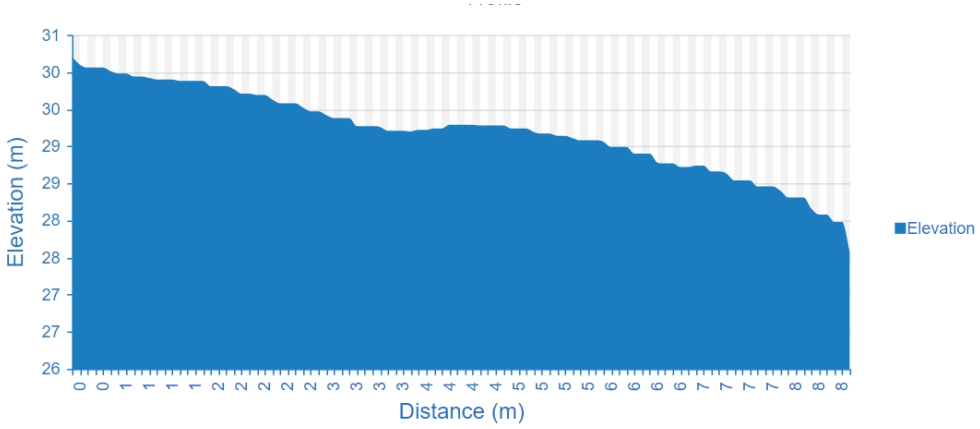
66 MLN1 3.1628



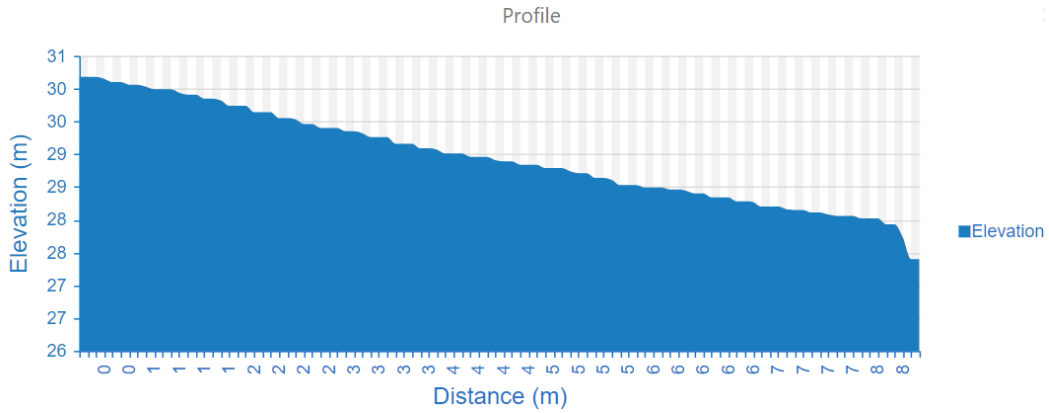
67 MLN1 3.1608



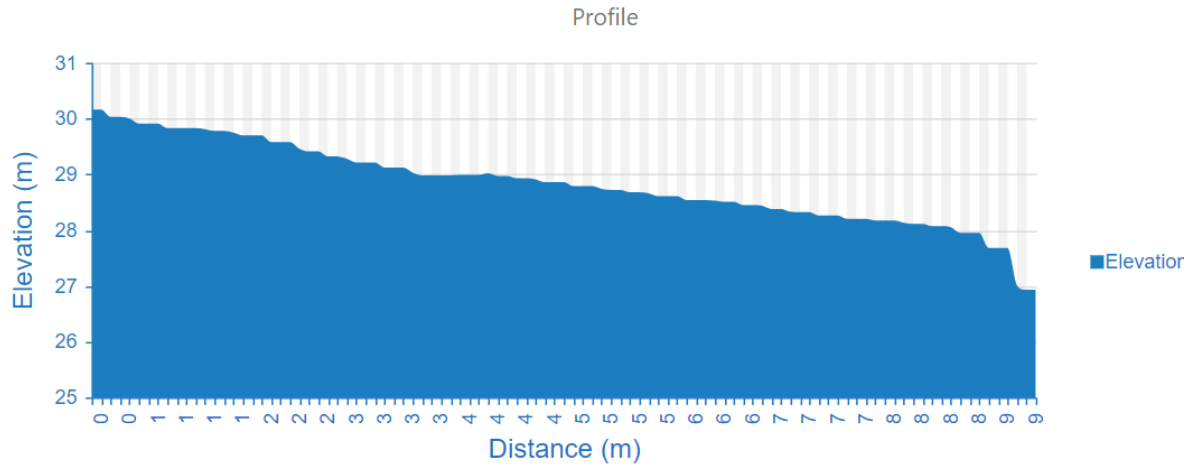
68 MLN1 3.1588



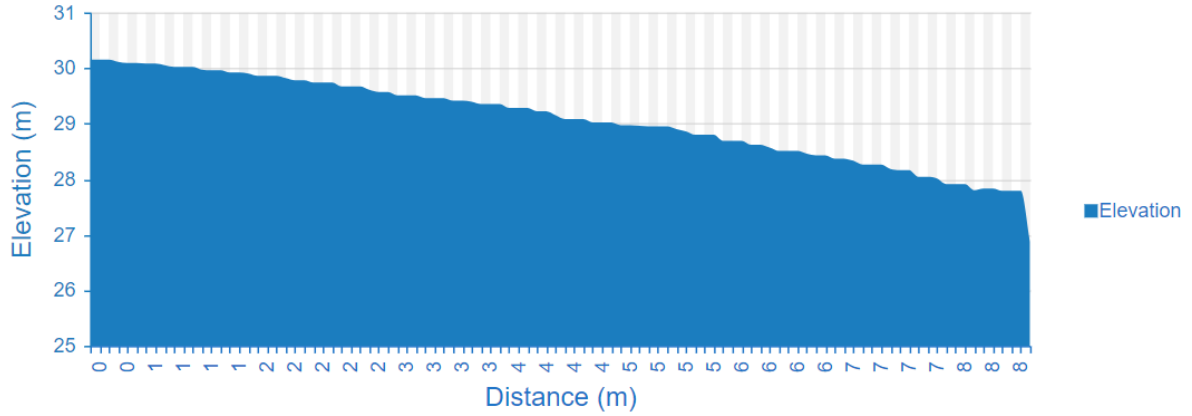
69 MLN1 3.1568



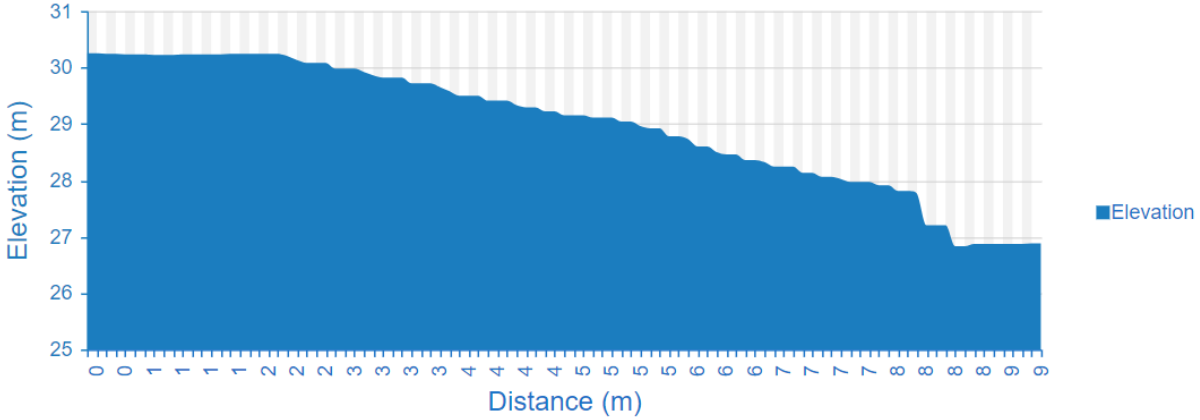
70 MLN1 3.1548



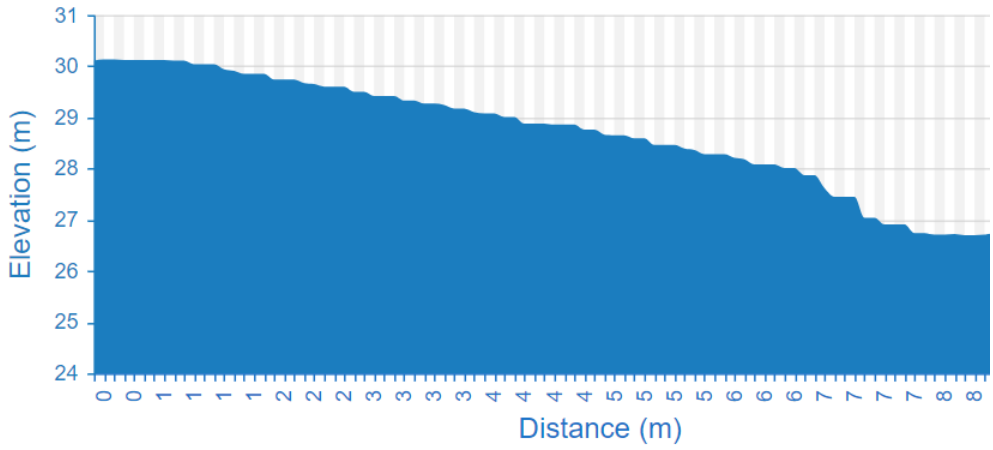
71 MLN1 3.1528



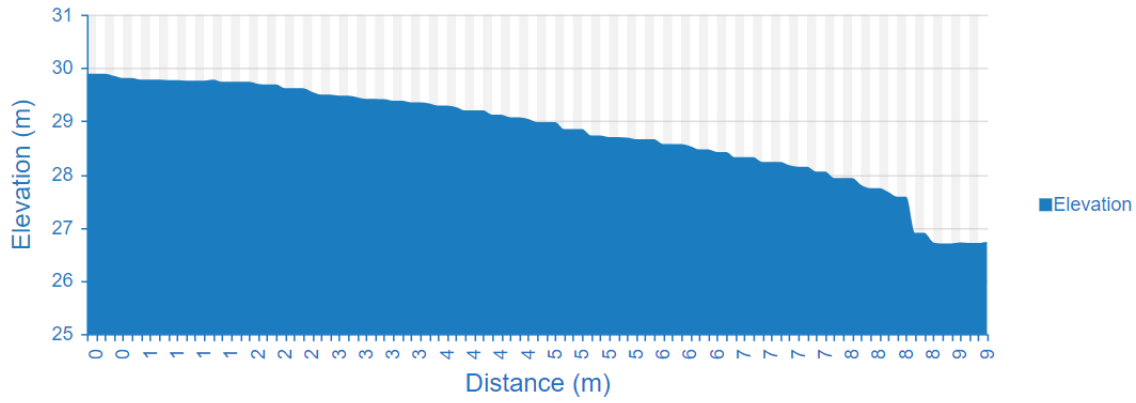
72 MLN1 3.1508



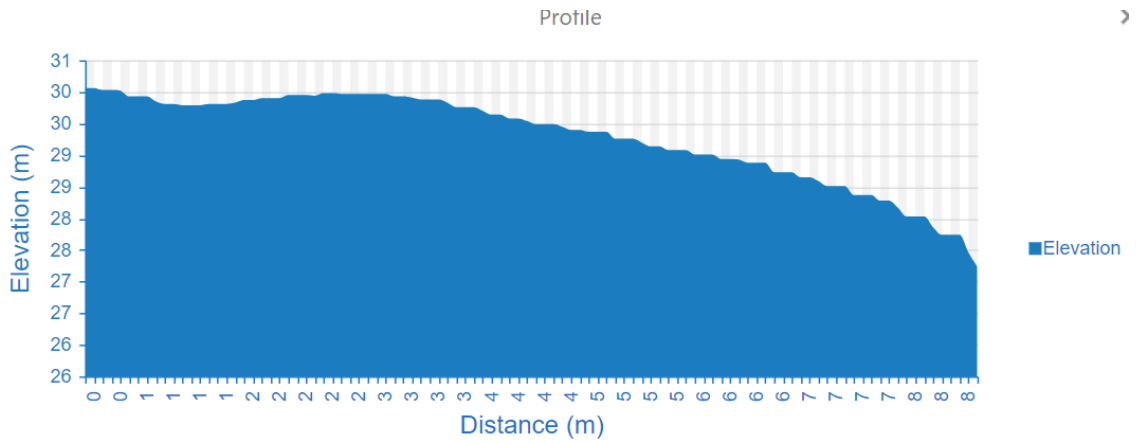
73 MLN1 3.1488



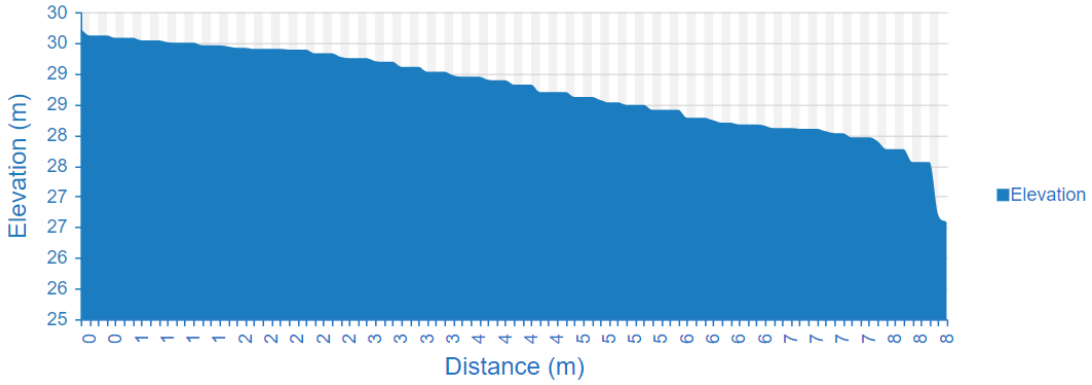
74 MLN1 3.1468



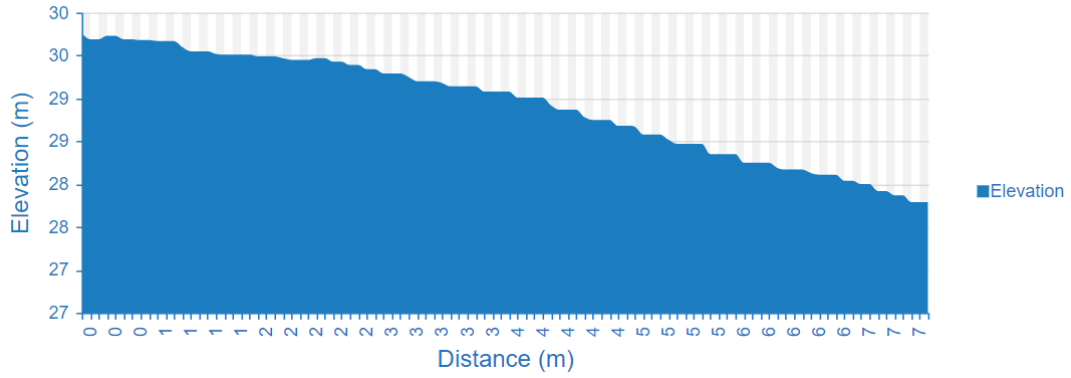
75 MLN1 3.1448



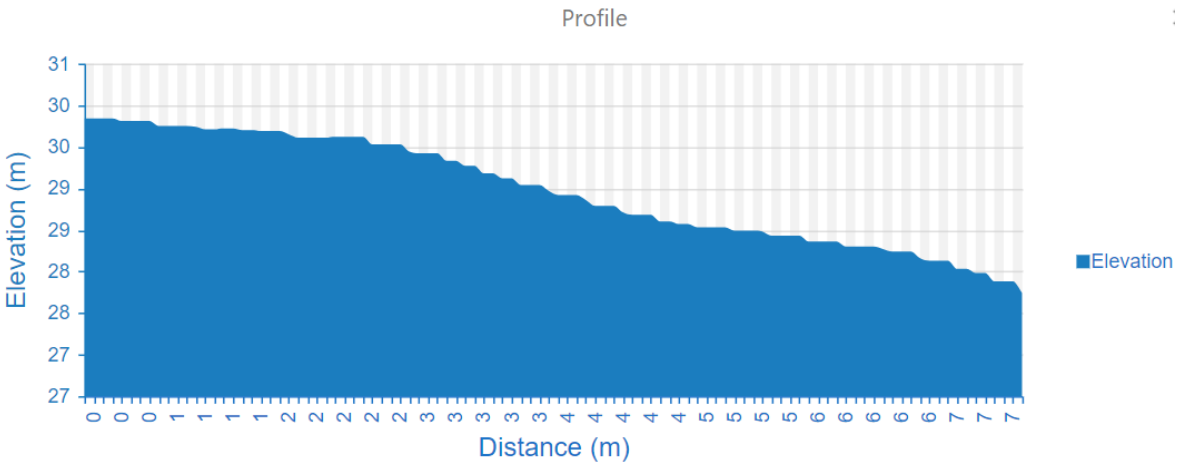
76 MLN1 3.1428



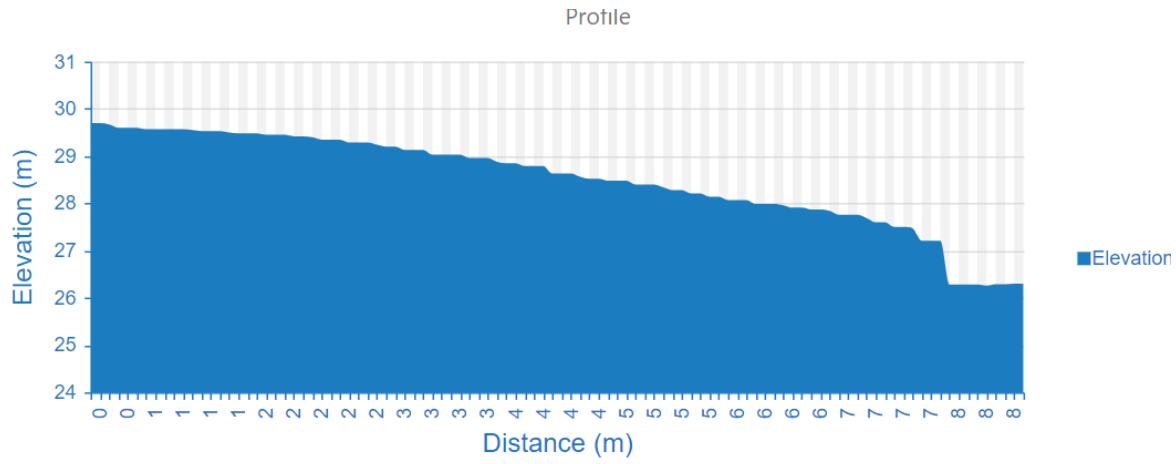
77 MLN1 3.1408



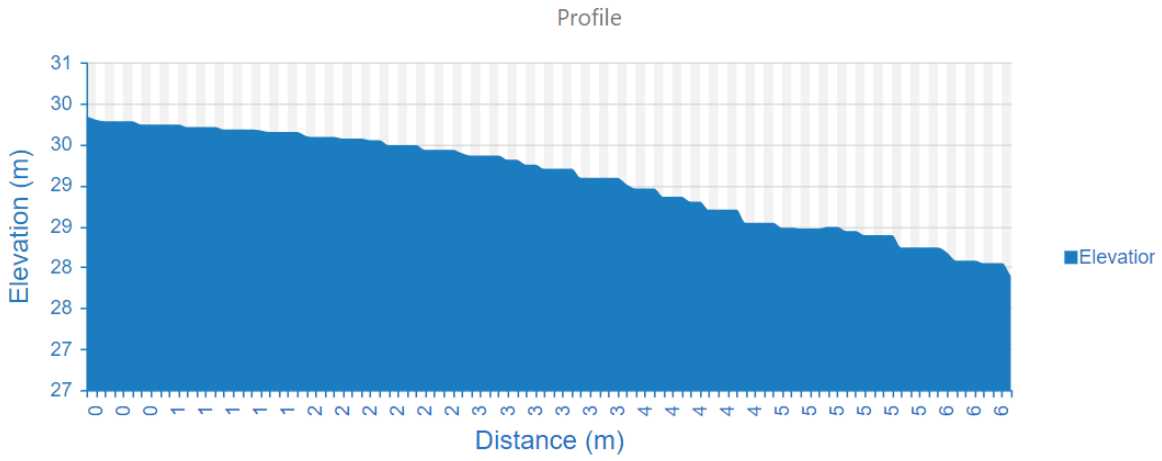
78 MLN1 3.1388



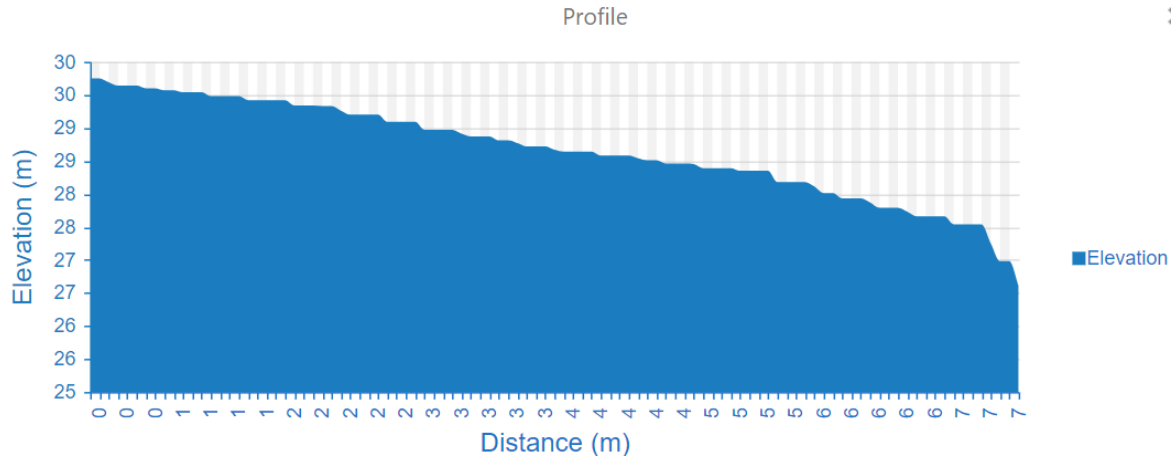
79 MLN1 3.1368



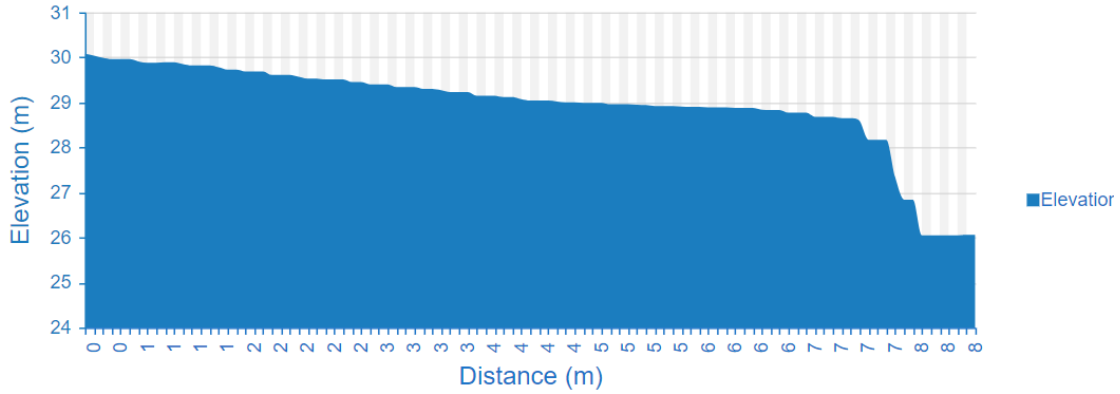
80 MLN1 3.1348



81 MLN1 3.1328



82 MLN1 3.1308



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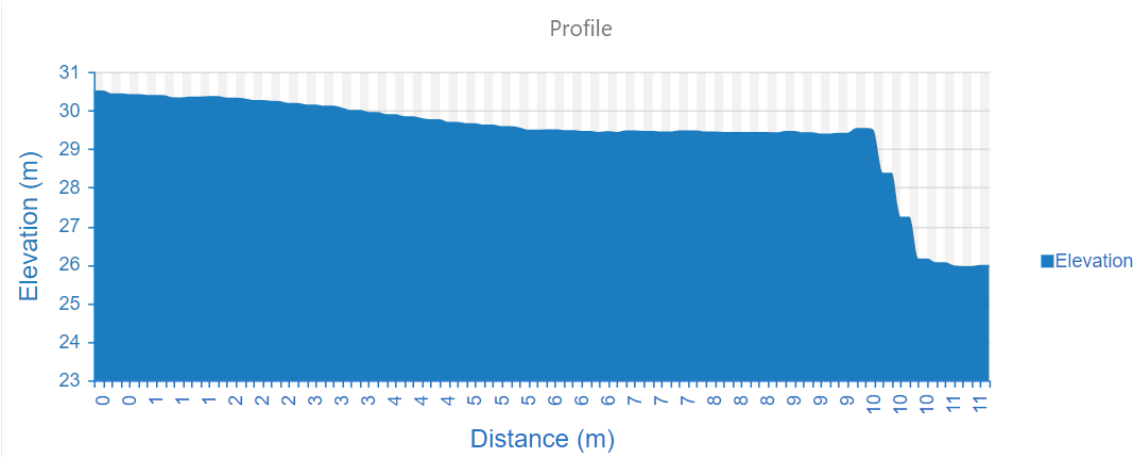

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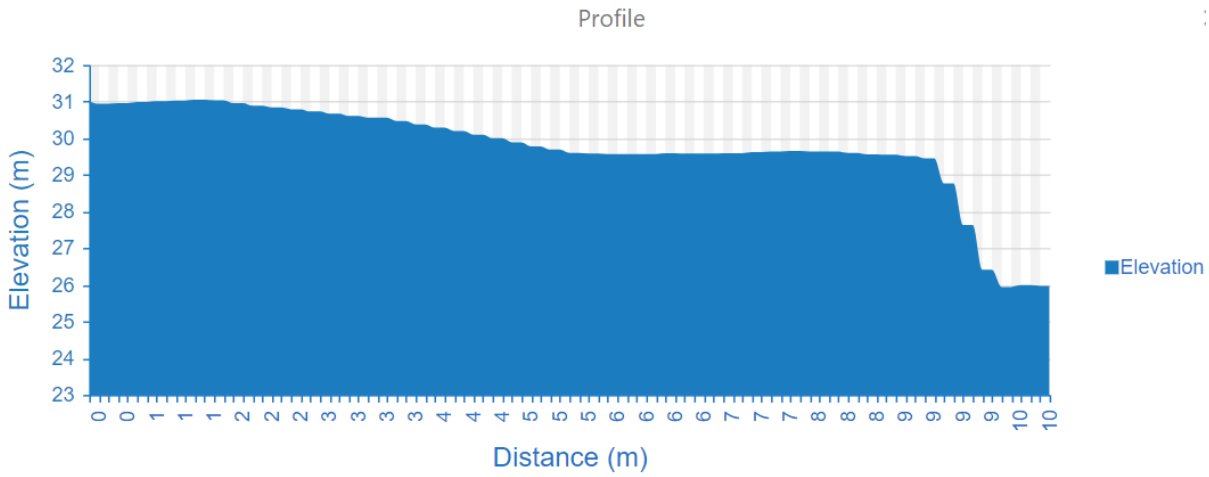

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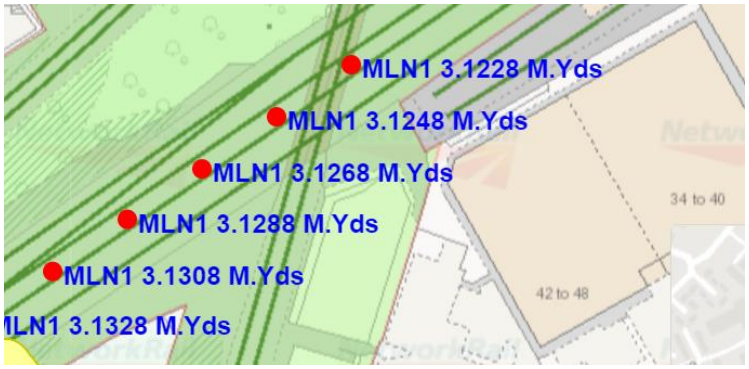

85 MLN1 3.1226