

Technical Note: Tidal Flood Modelling for Medmerry Park, Chichester.

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Project: 3341 – Medmerry Park

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Revision: 2nd ISSUE

1. Background Information

- 1.1. Herrington Consulting has been commissioned to undertake numerical flood modelling for Medmerry Park Holiday Village. The purpose of the modelling is to support a Flood Risk Assessment (FRA) and planning application for modernisation of the Park, which includes landscaping to raise the existing units above the tidal flood level. No additional units have been proposed as part of the post-development scenario. The location of the site is shown in Figure 1.
- 1.2. This technical note details the setup of the model representing the existing and post development scenarios, for the purpose of refining the risk of flooding from the sea (separate modelling of surface water risks have been considered in a corresponding report).

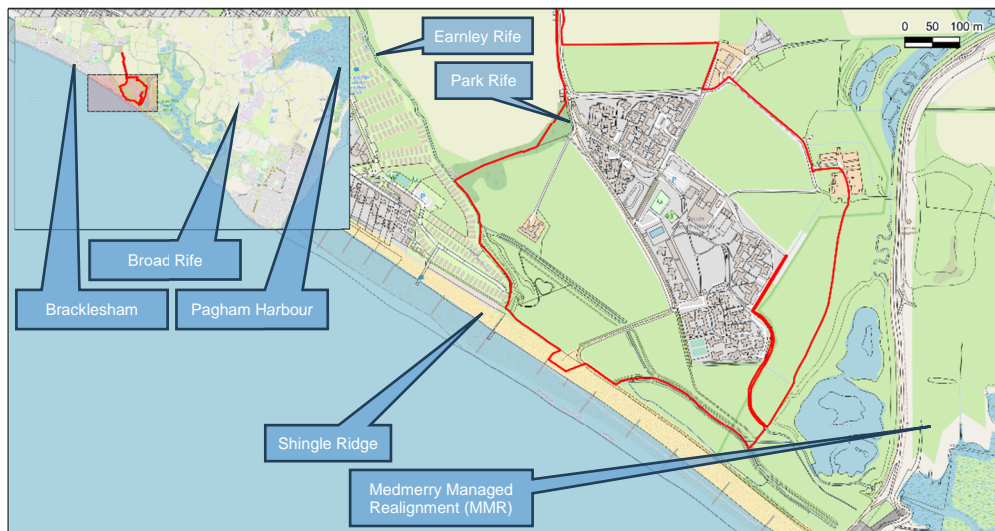


Figure 1 – Site location

- 1.3. The Park is situated in low-lying coastal hinterlands between Medmerry Managed Realignment (MMR), Bracklesham, and Earnley. The sea defences in the region consist of natural shingle ridge to the rear of a variable width beach. The frontage directly adjacent to the Park has a policy of managed retreat, which changes to hold the line at Bracklesham. The sea defences around the perimeter of the MMR are engineered earthen embankments, with flap-valve culverts facilitating the drainage of the rifes from Earnley, the park, and the Earnley flood alleviation scheme.

- 1.4. The shingle ridge directly adjacent to the MMR has become eroded following storms during the winter of 2022/2023. Gravel sediments from the shingle ridge have been rolled back into the hinterland and the crest level depleted from 5 mODN to approximately 3 mODN. This is consistent with the historic behaviour of the shingle ridge within the bounds of the MMR since is breaching in late 2013.
- 1.5. A topographic survey of the site has previously been undertaken in late 2019 and has been made available to inform this modelling study. A copy of the topographic survey drawing has been enclosed with this technical note.

2. Numerical Flood Model - Technical Methodology

- 2.1. The model has been constructed using the TUFLOW 2-dimensional (2D) numerical flood modelling system, version TUFLOW 2020-10-AF_iSP_w64. The model has 1-dimensional (1D) structures placed into the 2D domain, to represent the important culverts near the site; these have been constructed in ESTRY (TUFLOW's 1D channel and pipe flow model). The most recent version of TUFLOW has been used to take advantage of TUFLOW's Highly Parallelised Computation (HPC) using Graphical Processing Unit (GPU). This approach uses the latest advances in the TUFLOW software to ensure the detail is captured and capitalises on improved model run times to allow the entire catchment to be modelled.
- 2.2. The 2D Digital Elevation Model (DEM) uses a grid resolution of 8 m to represent the region. The ground elevations of the DEM are based upon the EA's 1 m LiDAR composite Digital Terrain Model (DTM) from 2022, which is shown in Figure 2.

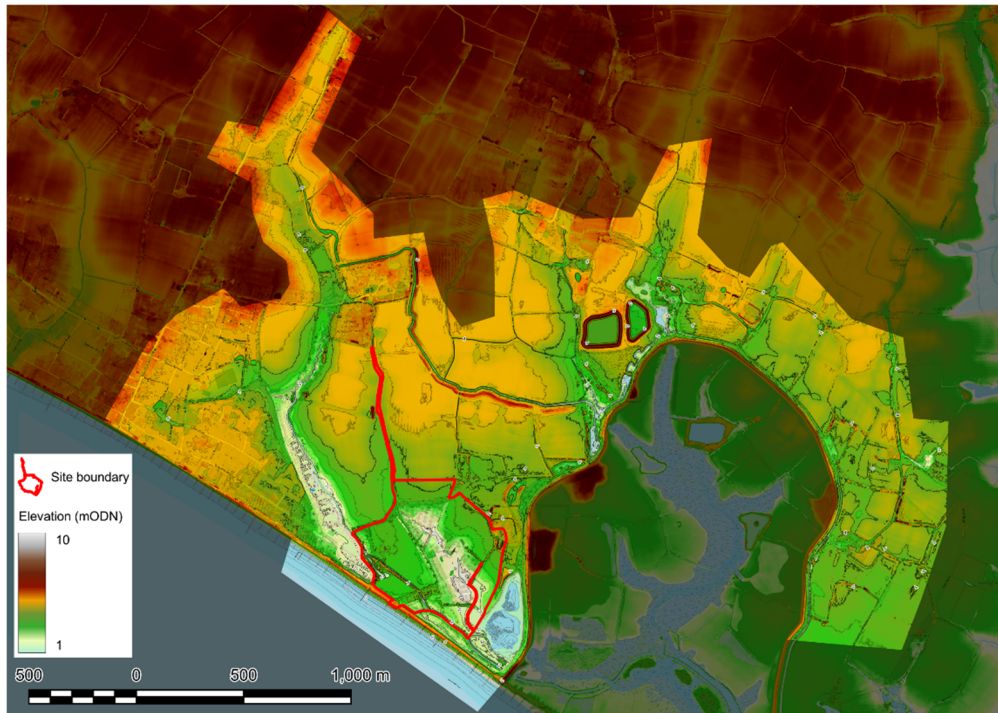


Figure 2 – Model active area and DTM

- 2.3. The LiDAR levels have been verified with the site-specific topographic survey levels and found to represent ground elevations well. Therefore, no modification of the model DEM has been undertaken using the topographic survey levels.
- 2.4. The model uses Sub-Grid Scale (SGS) sampling approach (sampling at 2 m) to overcome any sensitivity to model grid size and negate any requirement to increase the model resolution higher than the selected 8 m combination. Similarly, the wider area's 8 m resolution is sufficient to represent the main channels and flow routes found within the flood compartment.
- 2.5. The model uses a time-varying water level boundary to represent the tide. The tidal curve representing Selsey has been extracted from the Environment Agency Emsworth to Littlehampton 2014 Coastal model. The surge curves and heights have been extracted from the Environment Agency Coastal Flood Boundary, with surge values from chainage point 4598 and the surge curve from Portsmouth. The model simulates three tidal high waters, the first coinciding with the peak of the surge.
- 2.6. Climate change adjustments for sea level rise have been applied following the guidance of the NPPF for Higher Central. All adjustments have been made using the base year of 2014 as per the origin of the data used for the original coastal model. Adjustments range from 51.3 mm to 1,503.9 mm for present day through to 2125 (Upper End), respectively.

- 2.7. The tidal surge water levels have been applied to the main offshore 'HT' boundary as well as the outlet of the flapped outfall from Earnley Rife into the MMR.
- 2.8. Wave overtopping rates have been extracted directly from the Environment Agency Emsworth to Littlehampton 2014 model for boundary sections 'WO_69' through to 'WO_75'. The rates have been applied using a surface area '2d_sa' type boundary input instead of the 'pump' type used in the original model. The length of each boundary section has been used as the multiplier in the boundary database control file to convert the rate from the supplied discharge per linear metre to the total discharge.
- 2.9. The original model provided overtopping rates for the 2070 and 2115 epochs and for 'UKCP09' and 'NPPF' scenarios. The higher NFFP rates have been applied to the model without recalculation for the 2100 and 2125 epochs. This approach is necessary as it is impractical to attempt the reproduction of the original calculation to adjust them for the shift in epochs based on the current year. However, sensitivity testing of the overtopping rate has been undertaken and is detailed in Section 3.
- 2.10. The model applies a spatially varying Manning's n roughness values following the land use types of the Ordnance Survey MasterMap and standard values from Chow 1959.

Feature Code	Description	Manning's n
10021	Buildings	0.3
10053	General land surfaces	0.05
10054	General land surfaces	0.025
10056	General land surfaces	0.04
10089	Inland water	0.03
10096	Manmade embankments (ponds)	0.03
10111	Thick vegetation	0.08
10123	Roads, tracks, and paths	0.03
10172 & 10183	Roads, tracks, and paths	0.025
10185	Roads, tracks, and paths	0.03
10203	Foreshore	0.035
10210	Tidal waters	0.03
10217	Hardstanding	0.035

Table 1 – List of material types and the corresponding roughness values adopted from Chow 1959

- 2.11. Three extreme flow events have been simulated with the model, including:
- 1 in 30 year return period event (3.3%AEP, Annual Exceedance Probability), equivalent to the definition used for the functional floodplain;
 - 1 in 200 year return period event (0.5%AEP) with and without climate change representing 2023, 2100, and 2125, as well as for both Higher Central and Upper End scenarios; and

- 1 in 1,000 year return period event (0.1%AEP) with and without climate change representing 2023, 2100, and 2125, as well as for both Higher Central and Upper End scenarios.
- 2.12. The model has been run for both defended and undefended scenarios. The defended scenario assumes that the shingle ridge along the frontage is maintained at 5 mODN along its length between Bracklesham and the MMR. The undefended scenario assumes that the same section of shingle ridge erodes to leave only the existing levels of the hinterland which vary spatially along the frontage.
- 2.13. The model simulates the flow input with no infiltration losses to the soils within the model domain. This approach is considered to represent the worst case conditions, where the ground is either already saturated or the soils have a negligible infiltration rate.
- 2.14. Table 2 lists the models run for the TUFLOW baseline and post-development scenarios. All simulations use the TUFLOW control file *3341_TDLMed23_~s1~_~e1~_~s2~.tcf*. Baseline simulations are designated A1 and A2 for defended and undefended scenarios, respectively. Post-development scenarios are designated B1 and B2 for defended and undefended scenarios, respectively.

Scenario	s1	e1	s2	Comment
Existing conditions	A1 (Defended)	T30[2023]HC	000	3.3%AEP, present day, Higher Central climate change
		T200[2023]HC		0.5%AEP, present day, Higher Central climate change
		T200[2125]HC		0.5%AEP, year 2125, Higher Central climate change
		T1000[2125]HC		0.1%AEP, year 2125, Higher Central climate change
		T1000[2023]HC		0.1%AEP, year 2125, Higher Central climate change
	A2 (Undefended)	T30[2023]HC		3.3%AEP, present day, Higher Central climate change
		T200[2023]HC		0.5%AEP, present day, Higher Central climate change
		T200[2125]HC		0.5%AEP, year 2125, Higher Central climate change
		T1000[2125]HC		0.1%AEP, year 2125, Higher Central climate change
		T30[2023]HC		3.3%AEP, present day, Higher Central climate change
Post-development	B1	T200[2023]HC	0.5%AEP, present day, Higher Central climate change	
		T200[2125]HC	0.5%AEP, year 2125, Higher Central climate change	
		T1000[2023]HC	0.1%AEP, present day, Higher Central climate change	
		T1000[2125]HC	0.1%AEP, year 2125, Higher Central climate change	
		T200[2125]HC	0.5%AEP, year 2125, Higher Central climate change	
	B2	T1000[2125]HC	0.1%AEP, year 2125, Higher Central climate change	
		T200[2125]HC	0.5%AEP, year 2125, Higher Central climate change	
		T1000[2125]HC	0.1%AEP, year 2125, Higher Central climate change	
Sensitivity tests	A1	T200[2125]HC	OTup	Overtopping sensitivity test; rates increased by 10%
		T200[2125]HC	nUP	Manning's n roughness test; +20%
	nDN		Manning's n roughness test; -20%	
	A2		nUP	Manning's n roughness test; +20%
		nDN	Manning's n roughness test; -20%	

Table 2 – List of model simulations with corresponding events

- 2.15. Initial testing with the model has been used to determine the extent of the active area. This is generally straightforward with respect to the areas around Bracklesham and Earnley. However, to the rear of the MMR, the worst case flood extent (T1000[2125] Upper End; not otherwise presented) eventually reaches Broad Rife flowing towards the Environment Agency pumping station at Ferry Pool (the pumped outlet of Broad Rife into Pagham Harbour). Therefore, the

model is allowed to glass-wall at the rear of the MMR instead of continuing to slowly fill the flood compartment between the MMR and the Ferry Pool pumping station. This approach is conservative as it is the equivalent of filling the flood compartment early or assuming that it is already full. Any other assumption would lead to lesser flooding to the rear of the MMR.

- 2.16. Table 3 lists and describes the files used in the TUFLOW model setup, including geometry files, boundary files for both 2D and 1D.

File name	Description
2d_code_3341MedT_Active_Area_A_R.SHP	2D active area of the model
2d_loc_3341MT_grid_A_L.SHP	2D origin and orientation of the grid
3341_MedT_SZ89nw_compDTM_1m_A.ASC 3341_CCOSwath_2013_1m.ASC	Composite LiDAR ASC files interpolated to the grid and for SGS
3341_Lakes.ASC 3341_Orchard.ASC 3341_Secret Garden.ASC 3341_Woodland.ASC	Client supplied landscaping representing post-development
2d_zsh_3341MT_Udef_A_R.SHP 2d_zsh_3341MT_Udef_A_P.SHP	Z-shape control of shingle ridge to represent undefended scenarios
2d_mat_3341MT_MMmaterials_A_R.SHP	OS MasterMap materials layer
2d_mat_3341MT_tidal_A_R.SHP	Materials definition for tidal areas
2d_sa_3341_MedT_OT_BNDY_A_R.SHP 2d_sa_3341_MedT_OT_BNDY_A_plus10pc_R.SHP	Definition of overtopping boundaries; normal and sensitivity
2d_bc_3341MedT_Offshore_A_L.SHP	Offshore water level boundary
2d_bc_3341MT_SX_A_L.SHP	1D – 2D boundary interface connection between the pipe and the 2D representation of the watercourse
1d_nwk_3341MT_Culverts_A_L.SHP 1d_nwk_3341MT_Culverts_A_nUP_L.SHP 1d_nwk_3341MT_Culverts_A_nDN_L.SHP	Flap-valve culvert for Earnley Rife entering MMR; normal and sensitivity
1d_bc_3341MT_DS_A_P.SHP	Downstream tidal water level boundary at the Earnley Rife/MMR flap-valve

Table 3 – TUFLOW model files

3. Sensitivity Testing

- 3.1. Several sensitivity tests have been undertaken to ensure a full understanding of model behaviour. These have included:

- Overtopping rate increased by 10%;
- Manning's n roughness value +20%; and
- Manning's n roughness value -20%.

- 3.2. **Overtopping rate** – A 10% increase in overtopping rate results in an increase of no more than 0.04 m in some locations in the model. This does not translate to a significant change in the flood extents of the defended scenarios. Therefore, the unadjusted overtopping rates have been retained for the design scenarios.

- 3.3. **Manning's n values ±20%** – The surface roughness in the model represents typical conditions with respect to seasonal vegetative growth. However, vegetation can change significantly

between summer and winter, and therefore greatly affect the speed at which flood water may transit through an area.

- 3.3.1. The spatially varying roughness values applied in the model represent the mean values suggested by Chow 1959. However, it is recognised that there is variation for any of these values, typically representing seasonal changes, for example. To represent the potential seasonal variation, the Manning's n value has been varied by $\pm 20\%$ in four separate simulations (two each for the defended and undefended scenarios).
- 3.3.2. The results show that the variance of Manning's n by +20% and -20% results in flood levels varying over the floodplain for the undefended scenario by 0.01 m and -0.003 m respectively. For the defended scenario the Manning's n variance of +20% and -20% flood levels in the flood compartment near Earnley Rife change by -0.007 m and -0.012 m, respectively.
- 3.3.3. In all defended and undefended sensitivity scenarios the extent of flooding varies very slightly, but not significantly. On this basis, the seasonal growth and variation in vegetation is not considered to be significant and therefore, no further adjustment has been made or investigated.

4. Simulation Messages

- 4.1. The model simulation reports several checks and warnings which have been investigated and found not to have any implications for the model results. These checks and warnings are discussed subsequently.
 - 4.1.1. The following message has been attributed to the setup of the model where there is a uniform grid resolution applied over the whole model domain:
 - WARNING 2812 - No quadtree nesting, largest nesting level = 1
 - 4.1.2. The following message has been attributed to the repeat occurrence of the SGS condition during model initialisation, but will not affect the model run or the model results:
 - CHECK 2370 - Ignoring coincident point found in Z Shape SGS layer.
 - 4.1.3. The following messages have been attributed to the automatic generation of the connections between the 2D domain and the 1D representation of the culvert into the MMR:
 - WARNING 2118 - Lowered SX ZC Zpt by 0.34m to 1D node bed level.
 - 4.1.4. The following message has been attributed to the initialisation of the SGS setup but does not affect the run of the model or the model results:

- CHECK 3520 - Found SGS cell face that has minimum Face elevation lower than the minimum cell centre elevations on both sides.

5. Results

5.1. The graphical model results are appended to this technical report and are listed in Table 4.

Model result no.	Scenario	Event	Scenario	Output	Max Level on site	Figure No.
1	Existing and Post-development	3.3%AEP, present day	Defended	Max depth & Max Level	n/a	A.1
2		0.5%AEP, present day			n/a	A.2
3		0.5%AEP plus climate change [2125]			n/a	A.3
4		0.5%AEP plus climate change [2125]	Undefended		4.43 mODN	A.4
5		1:1,000 year, present day	Defended		n/a	A.5

Table 4 - List of appended figures

6. Enclosed Documents

6.1. The following documents have been enclosed with this technical note:

- Topographic survey; and
- Modelling results.



Notes:
 1. The contractor is to check all utility records and the accuracy of any data provided. The contractor is to ensure all utility records are up to date and correct. The contractor is to ensure all utility records are up to date and correct. The contractor is to ensure all utility records are up to date and correct.

Utility Services Location Notes:
 The survey has been carried out using a combination of observation and detection using electromagnetic induction. The accuracy of the utility records is indicated by the accuracy of the utility records. The accuracy of the utility records is indicated by the accuracy of the utility records.

Standard Abbreviations:
 The following abbreviations are used throughout the plan. The following abbreviations are used throughout the plan. The following abbreviations are used throughout the plan.

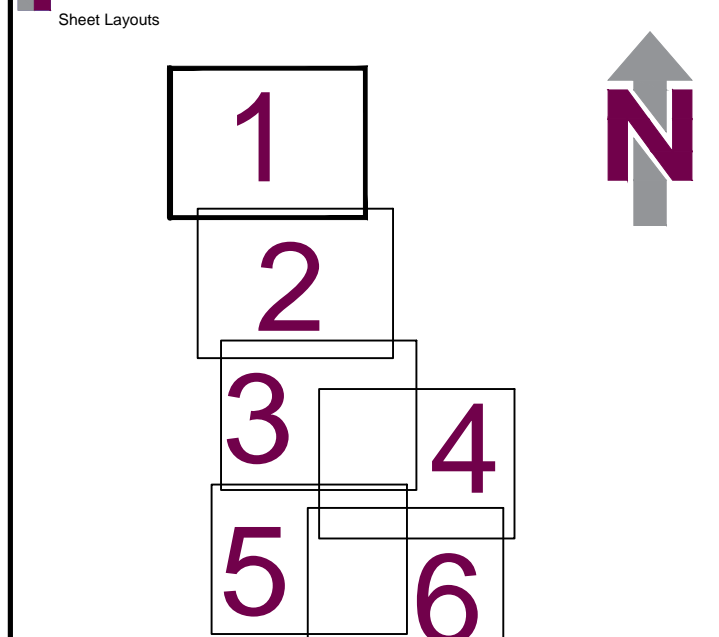
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Symbol	Abbreviation	Description
[Symbol]	BOUNDARY	BOUNDARY
[Symbol]	CONCRETE	CONCRETE
[Symbol]	ASPHALT	ASPHALT
[Symbol]	GRAVEL	GRAVEL
[Symbol]	BRICK	BRICK
[Symbol]	WALL	WALL
[Symbol]	FENCE	FENCE
[Symbol]	WATER	WATER
[Symbol]	SEWER	SEWER
[Symbol]	ELECTRIC	ELECTRIC
[Symbol]	TELEPHONE	TELEPHONE
[Symbol]	POST	POST
[Symbol]	MARKER	MARKER
[Symbol]	OPUS	OPUS

Symbol	Abbreviation	Description
[Symbol]	BOUNDARY	BOUNDARY
[Symbol]	CONCRETE	CONCRETE
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[Symbol]	WATER	WATER
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[Symbol]	TELEPHONE	TELEPHONE
[Symbol]	POST	POST
[Symbol]	MARKER	MARKER
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[Symbol]	POST	POST
[Symbol]	MARKER	MARKER
[Symbol]	OPUS	OPUS



Grid: National Grid by GPS Observations to the OS Active Network (OSTN15) and Ordnance Datum by GPS Observations to the OS Active Network (OSGM15).

Revision	Amendment	Date	Name
1			
2			
3			
4			
5			

Revision: ORIGINAL ISSUE on MAR'23 by JH

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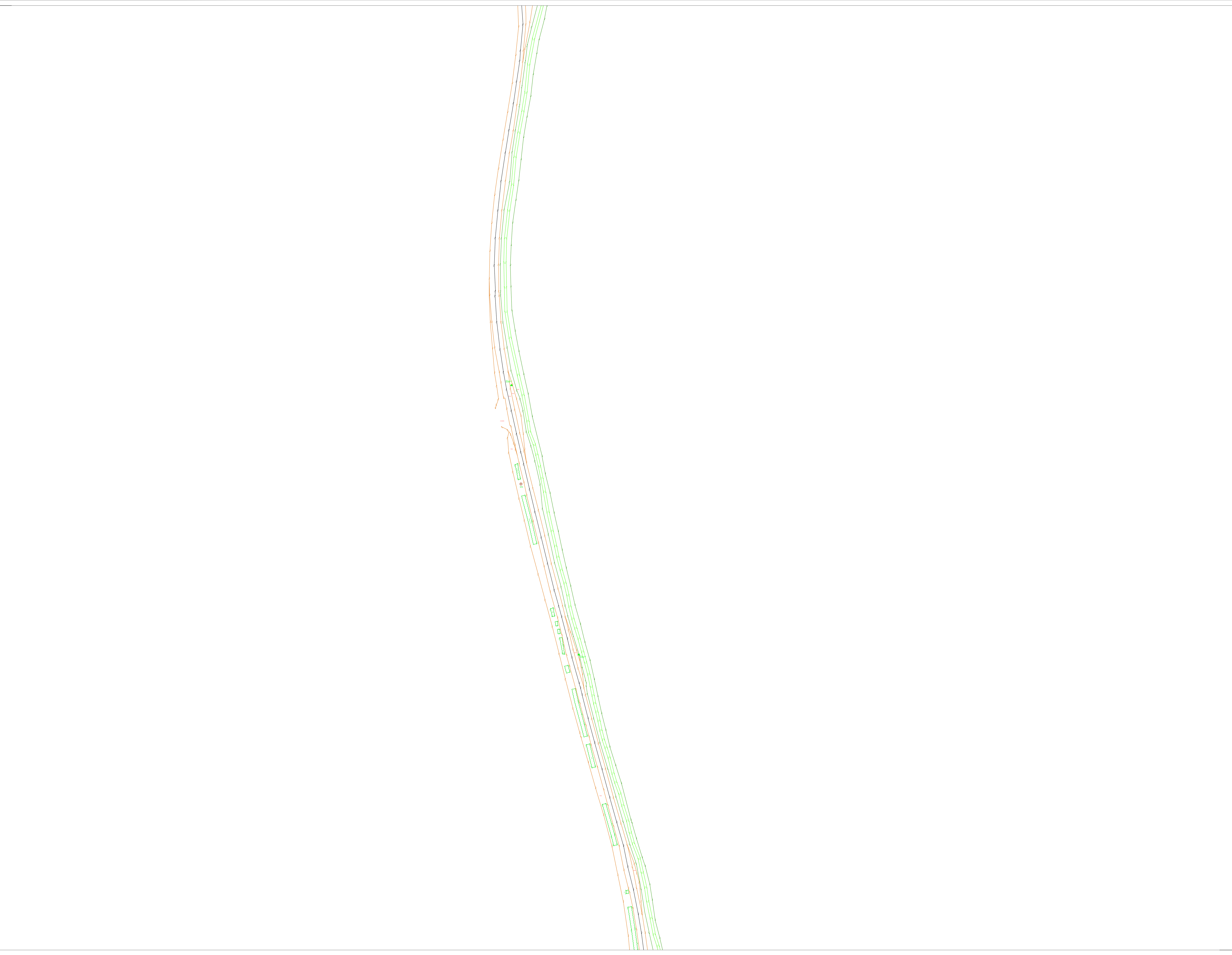
Client: Leister Planning Limited
 Ground Floor, Oddfellows Hall, London Road
 Chipping Norton, Oxfordshire
 OX7 5QH

Project: Medmerry
 Holiday Village

Title: Topographical
 Survey

Drawn: JHM/VDK
Checked: RJ
Date: March 2023
Scale: 1:500 @ A4 (1:250 Feet)
Proj No: SPT2317_A
Sheet: 1 of 8

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Notes:

1. The survey was carried out in accordance with the requirements of BS5533 and BS5400.

2. The survey was carried out in accordance with the requirements of BS5533 and BS5400.

3. The survey was carried out in accordance with the requirements of BS5533 and BS5400.

4. The survey was carried out in accordance with the requirements of BS5533 and BS5400.

5. The survey was carried out in accordance with the requirements of BS5533 and BS5400.

Utility Services Location Plan:

This plan shows the location of utility services as observed and detected using excavation and ground probing techniques. It is intended to provide a guide to the location of utility services and is not intended to be used as a basis for design or construction.

The following indications of competence and accuracy are for guidance only:

- It is assumed that there is a large concentration of services. The completeness will be between 80% and 90%.
- The plan is intended to show the location of ground level.
- Practical accuracy will vary with depth and pipe (duct) material, an accuracy of ±100 mm is achieved in normal circumstances but is reduced by pipe depth.
- Existing information from historical plans is likely to be outdated and is shown for guidance only.
- Excavations to the pipe should be carried out with care and in accordance with HSE's 'No Excavation Without a Permit' (NEWP) guidance.

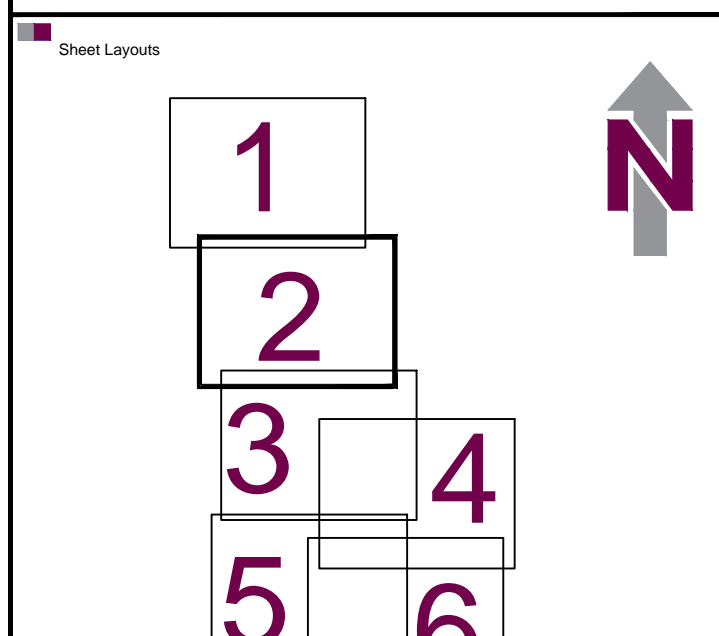
Standard Abbreviations

Code	Description	Code	Description
A	Asphalt	BR	Brick
B	Brick	CL	Clay
C	Concrete	CR	Cement Render
D	Drain	CS	Cement Screed
E	Earth	CSL	Cement Sand Lining
F	Footing	CSL	Cement Sand Lining
G	Gravel	CSL	Cement Sand Lining
H	Gravel	CSL	Cement Sand Lining
I	Gravel	CSL	Cement Sand Lining
J	Gravel	CSL	Cement Sand Lining
K	Gravel	CSL	Cement Sand Lining
L	Gravel	CSL	Cement Sand Lining
M	Gravel	CSL	Cement Sand Lining
N	Gravel	CSL	Cement Sand Lining
O	Gravel	CSL	Cement Sand Lining
P	Gravel	CSL	Cement Sand Lining
Q	Gravel	CSL	Cement Sand Lining
R	Gravel	CSL	Cement Sand Lining
S	Gravel	CSL	Cement Sand Lining
T	Gravel	CSL	Cement Sand Lining
U	Gravel	CSL	Cement Sand Lining
V	Gravel	CSL	Cement Sand Lining
W	Gravel	CSL	Cement Sand Lining
X	Gravel	CSL	Cement Sand Lining
Y	Gravel	CSL	Cement Sand Lining
Z	Gravel	CSL	Cement Sand Lining

Code	Description	Code	Description
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9	Gravel	CSL	Cement Sand Lining
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17	Gravel	CSL	Cement Sand Lining
18	Gravel	CSL	Cement Sand Lining
19	Gravel	CSL	Cement Sand Lining
20	Gravel	CSL	Cement Sand Lining

Page 128 Quality Levels

Category	Quality Level	Accuracy
Horizontal	±100 mm	±100 mm
Vertical	±100 mm	±100 mm
Diagonal	±100 mm	±100 mm
Area	±100 mm	±100 mm
Volume	±100 mm	±100 mm
Weight	±100 mm	±100 mm
Length	±100 mm	±100 mm
Width	±100 mm	±100 mm
Height	±100 mm	±100 mm
Depth	±100 mm	±100 mm
Thickness	±100 mm	±100 mm
Radius	±100 mm	±100 mm
Diameter	±100 mm	±100 mm
Area	±100 mm	±100 mm
Volume	±100 mm	±100 mm
Weight	±100 mm	±100 mm
Length	±100 mm	±100 mm
Width	±100 mm	±100 mm
Height	±100 mm	±100 mm
Depth	±100 mm	±100 mm
Thickness	±100 mm	±100 mm
Radius	±100 mm	±100 mm
Diameter	±100 mm	±100 mm



Grid	Coordinate	Coordinate
National Grid	OSGR15	OSGR15
Ordnance Datum	OSGR15	OSGR15
to the OS Active Network	OSGR15	OSGR15
(OSGN15)	OSGR15	OSGR15
to the OS Active Network	OSGR15	OSGR15
(OSGN15)	OSGR15	OSGR15

Revision	Amendment	Date	Name
1	Original Issue	MAR'23	JH

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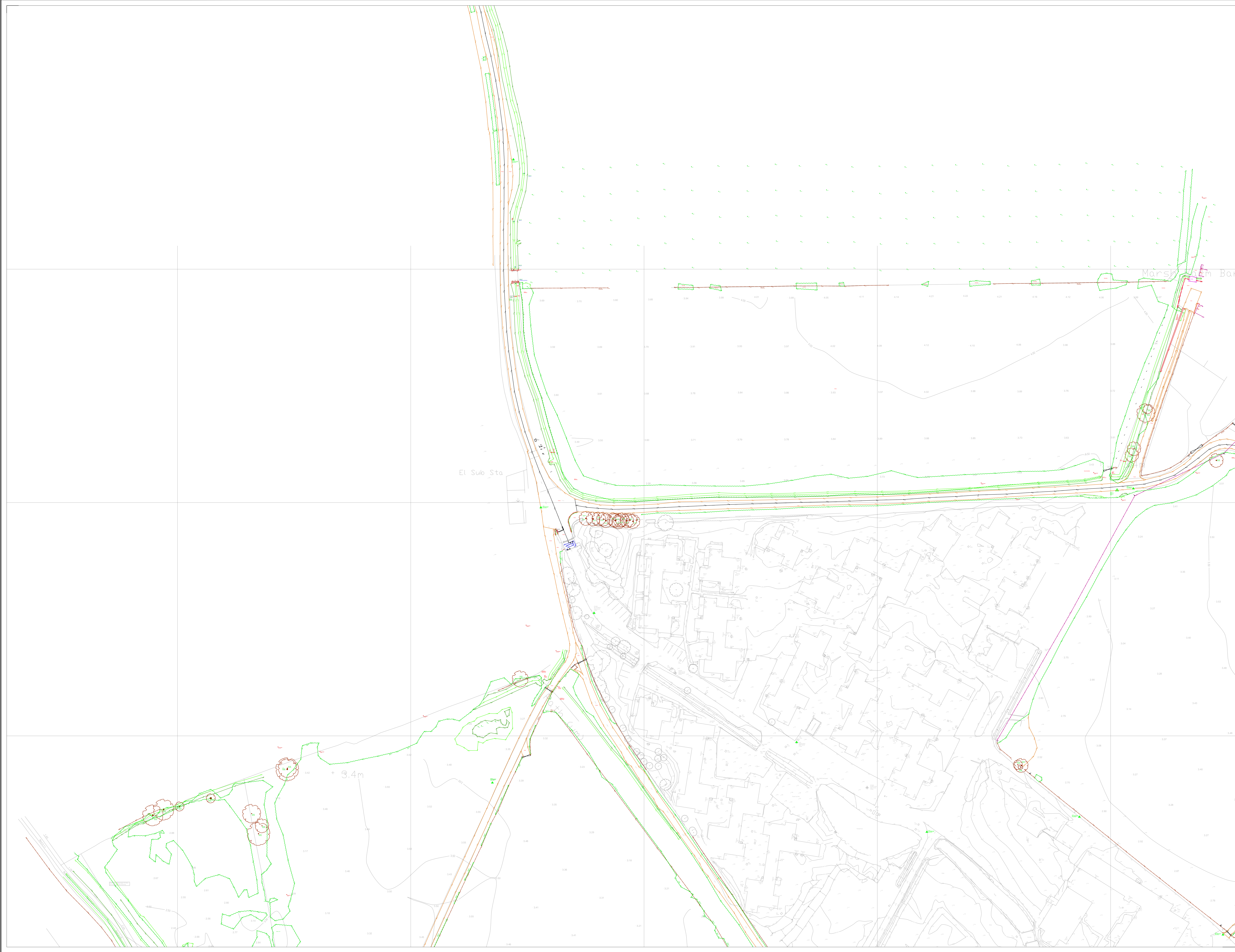
CLIENT: Laister Planning Limited
 Ground Floor, Oddfellow's Hall, London Road
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 OX7 5QH

PROJECT: Medmerry
 Holiday Village

TITLE: Topographical
 Survey

Drawn	Checked
JHM/GMK	RJ
Date: March 2023	Scale: 1:500 @ A4 (1:250 Text)
Proj No: SAT2317_A	Sheet: 2 of 4

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Notes:
 1. All measurements are to be taken from the datum of 1985 and not the datum of 1948 unless otherwise stated.
 2. The Contractor is to check all levels and building and site elevations. If any discrepancy is found between the site and the drawings, the Contractor is to refer to the drawings and the survey data.
 3. The drawings are to be used as a guide only. The Contractor is to check the site conditions and the ground levels before starting any work.
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Symbol	Description	Symbol	Description
...

Symbol	Description	Symbol	Description
...

Grid	Ordnance Datum
National Grid by GPS Observations to the OS Active Network (OSTN15)	by GPS Observations to the OS Active Network (OSGM15)

Revision	Amendment	Date	By
1			
2			
3			
4			
5			
6			

CLIENT:
 Laister Planning Limited
 Ground Floor, Oldfellow's Hall, London Road
 Chipping Norton, Oxfordshire
 OX7 5QH

PROJECT:
 Medmery
 Holiday Village

TITLE:
 Topographical
 Survey

Drawn	Checked
JHM/VMK	RJ

DATE: March 2023
SCALE: 1:500 @ A3 (1:250 Feet)
DATE: 3-0-23





Notes:
 This drawing is a topographical map of the site and its surroundings. It is intended for use as a reference only and should not be used as a basis for construction or other engineering works. The Contractor is to check all levels and dimensions. All levels are given in metres above sea level (MSL) unless otherwise stated. The Contractor is to verify all levels and dimensions. The drawing is a topographical map of the site and its surroundings. It is intended for use as a reference only and should not be used as a basis for construction or other engineering works. The Contractor is to check all levels and dimensions. All levels are given in metres above sea level (MSL) unless otherwise stated. The Contractor is to verify all levels and dimensions. The drawing is a topographical map of the site and its surroundings. It is intended for use as a reference only and should not be used as a basis for construction or other engineering works. The Contractor is to check all levels and dimensions. All levels are given in metres above sea level (MSL) unless otherwise stated. The Contractor is to verify all levels and dimensions.

Utility Services Location Note:
 The utility services shown on this drawing are based on the information provided by the utility companies. The Contractor is to verify the location and depth of all utility services. The drawing is a topographical map of the site and its surroundings. It is intended for use as a reference only and should not be used as a basis for construction or other engineering works. The Contractor is to check all levels and dimensions. All levels are given in metres above sea level (MSL) unless otherwise stated. The Contractor is to verify all levels and dimensions.

Standard Abbreviations:

Symbol	Description	Symbol	Description
...

PAGE 128 Quality Levels:

Symbol	Quality Level
...	...

Sheet Layout:

Grid:
 National Grid by GPS Observations to the OS Active Network (OSTN15)
 Ordnance Datum by GPS Observations to the OS Active Network (OSGM15)

Revision	Amendment	Date	Name
1			

ORIGINAL ISSUE MAR'23 JH

rps MAKING COMPLEX EASY
 A TETRA TECH COMPANY
 Stafford - Clevedon - Milton Keynes - Warrington - Edinburgh
 T: 0800 917 6227 E: rps.survey@rpsgroup.com www.rpsgroup.com
 Red Deer House, Quorn Business Village, Stafford Road, Quorn, Leicestershire, LE18 3AD

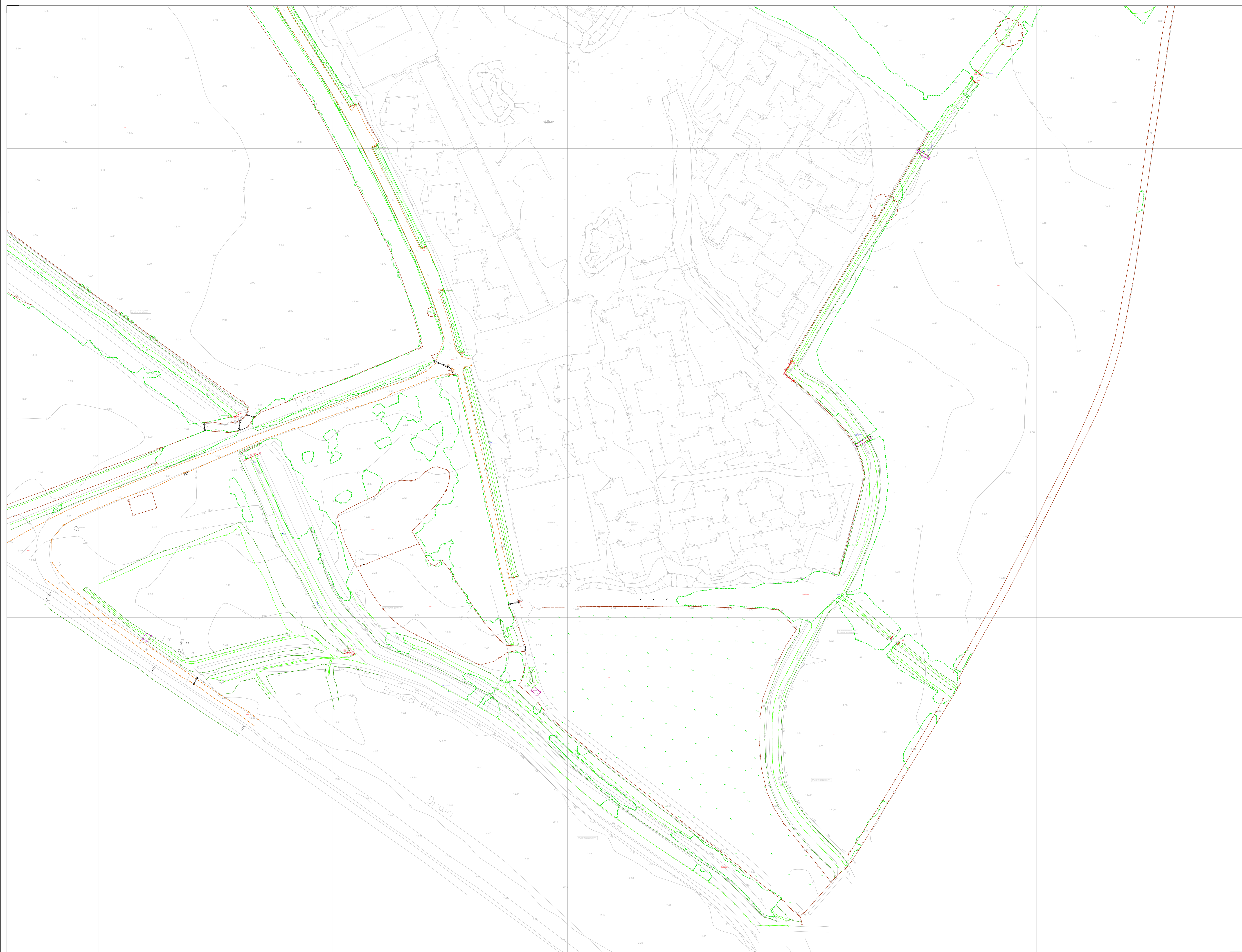
CLIENT:
 Laister Planning Limited
 Ground Floor, Oldfellow's Hall, London Road
 Chipping Norton, Oxfordshire
 OX7 5QH

PROJECT:
 Medmery
 Holiday Village

TITLE:
 Topographical
 Survey

Drawn: JHM/MDK	Checked: RJ
Date: March 2023	Scale: 1:500 @ A4 (1:250 Feet)
Proj No: S47327-2	Sheet: 6 of 6

MAKING COMPLEX EASY



Notes:

1. This drawing is a technical drawing and should be read in conjunction with the Bill of Materials and the Schedule of Work. It is not to be used for construction purposes.

2. The Contractor is to check all levels and bearings and to report any discrepancies to the Surveyor immediately. The Surveyor is not responsible for any errors or omissions on the part of the Contractor.

3. The Surveyor is not responsible for any errors or omissions on the part of the Contractor.

4. The Surveyor is not responsible for any errors or omissions on the part of the Contractor.

5. The Surveyor is not responsible for any errors or omissions on the part of the Contractor.

Utility Services Location Note:

The utility services shown on this drawing are based on the information provided by the utility companies. The Surveyor is not responsible for any errors or omissions on the part of the utility companies.

The following indicates the completeness and accuracy are for guidance only:

It is noted that there is a large concentration of services. The completeness will be between 80% and 90%. The utility services shown are for guidance only.

Practical accuracy will vary with depth and type of material, an accuracy of +/- 100mm is indicated in some circumstances for the indicated ground levels.

Existing information from historical plans is to be checked and shown for guidance only.

Excavations to the proposed services shall be carried out in accordance with HSE's 'No Excavation' procedure of working. Details for this are available on the HSE website.

The following are an extract from British Standards and BS 5400: Part 1: 1990 and Part 2: 1990.

Structural drawings in relation to the proposed services shall be checked and shown for guidance only.

Structural drawings in relation to the proposed services shall be checked and shown for guidance only.

Structural drawings in relation to the proposed services shall be checked and shown for guidance only.

Standard Abbreviations

Symbol	Description	Symbol	Description
...

PA2 125 Quality Levels

Symbol	Description	Symbol	Description
...

Sheet Layout

Sheet No.	Sheet Title
1	...
2	...
3	...
4	...
5	...
6	...

Grid

Grid	Origin
National Grid by GPS Observations to the OS Active Network (OSTN15)	...
Ordnance Datum by GPS Observations to the OS Active Network (OSGM15)	...

Revision

Revision	Amendment	Date	Name
A	ORIGINAL ISSUE	MAR'23	JH

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A TETRA TECH COMPANY

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 T: 0800 917 8227 E: rps.survey@rpsgroup.com www.rpsgroup.com
 Red Deer House, Quorn Business Village, StafforPlace, Quorn, Stafforshire, ST18 9JZ

CLIENT: Leister Planning Limited
 Ground Floor, Oddfellow's Hall, London Road
 Chipping Norton, Oxfordshire
 OX7 5QH

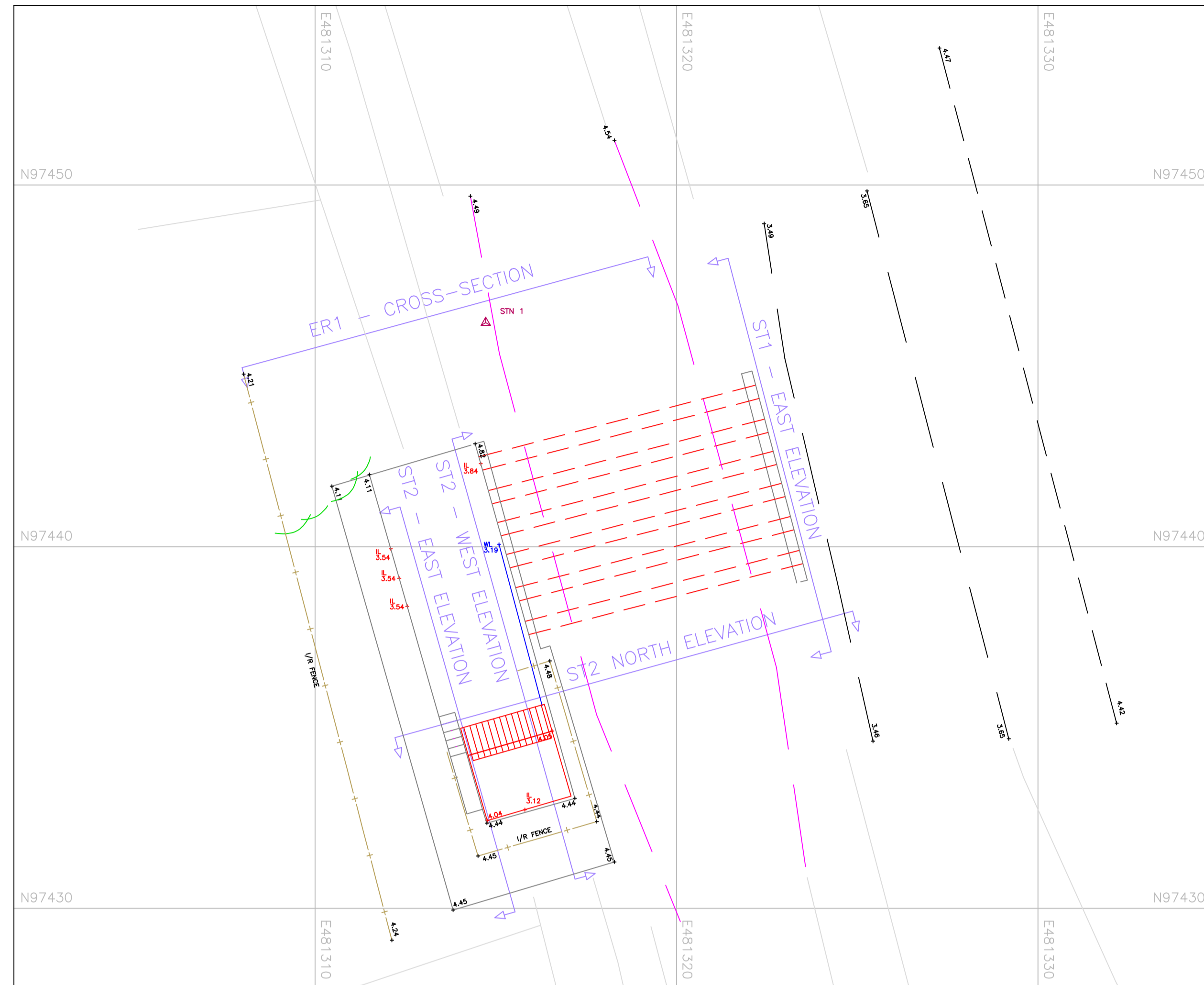
PROJECT: Medmerry
 Holiday Village

TITLE: Topographical
 Survey

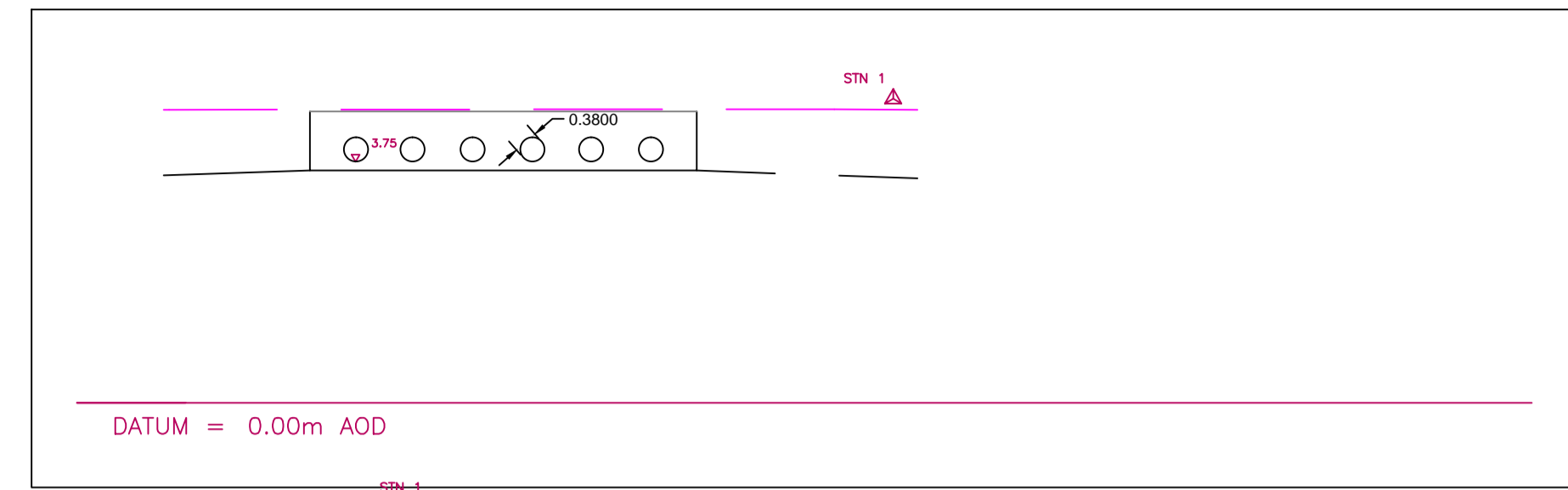
Drawn: JHM/DMK
Check: RJ
Date: March 2023
Scale: 1:500 @ A4 (1:250 Feet)
Proj No: SAT2327_A
Sheet: 6 of 6

MAKING COMPLEX EASY

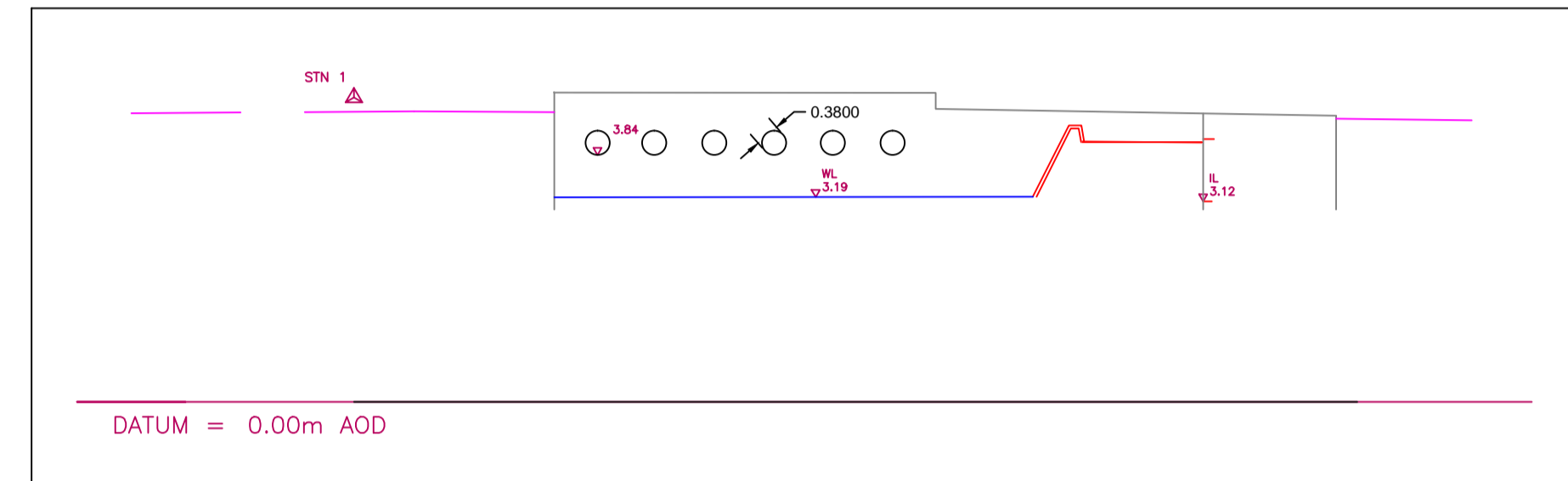
PLAN OF STRUCTURES ST2 AND ST1



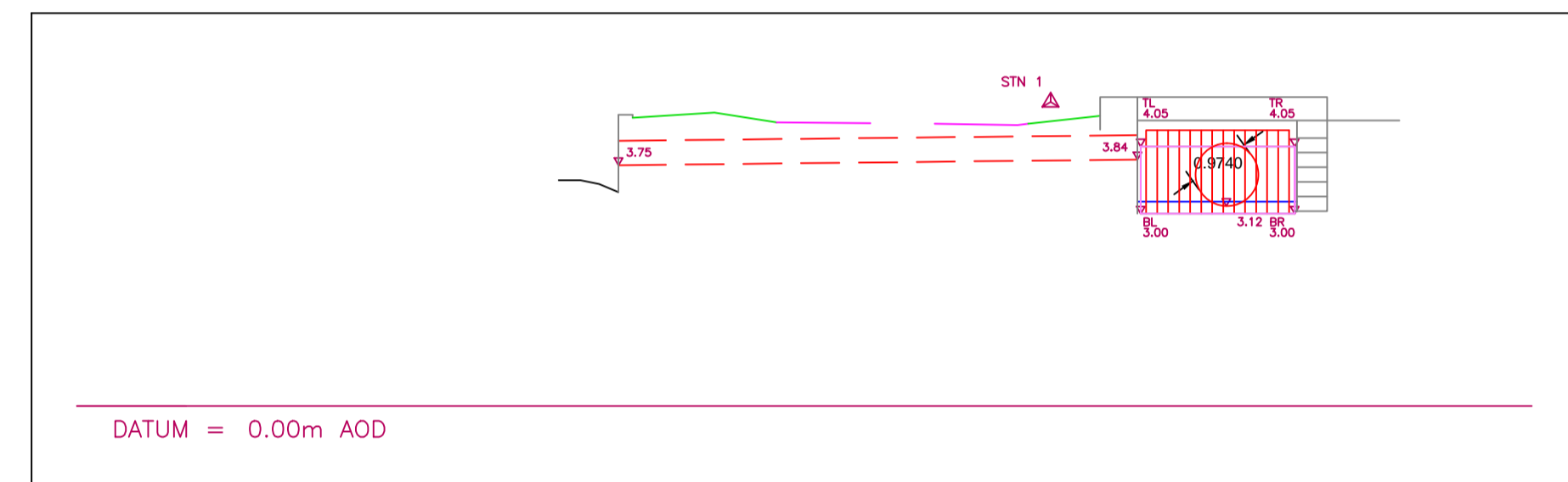
ST1 EAST ELEVATION



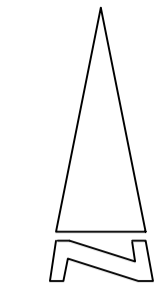
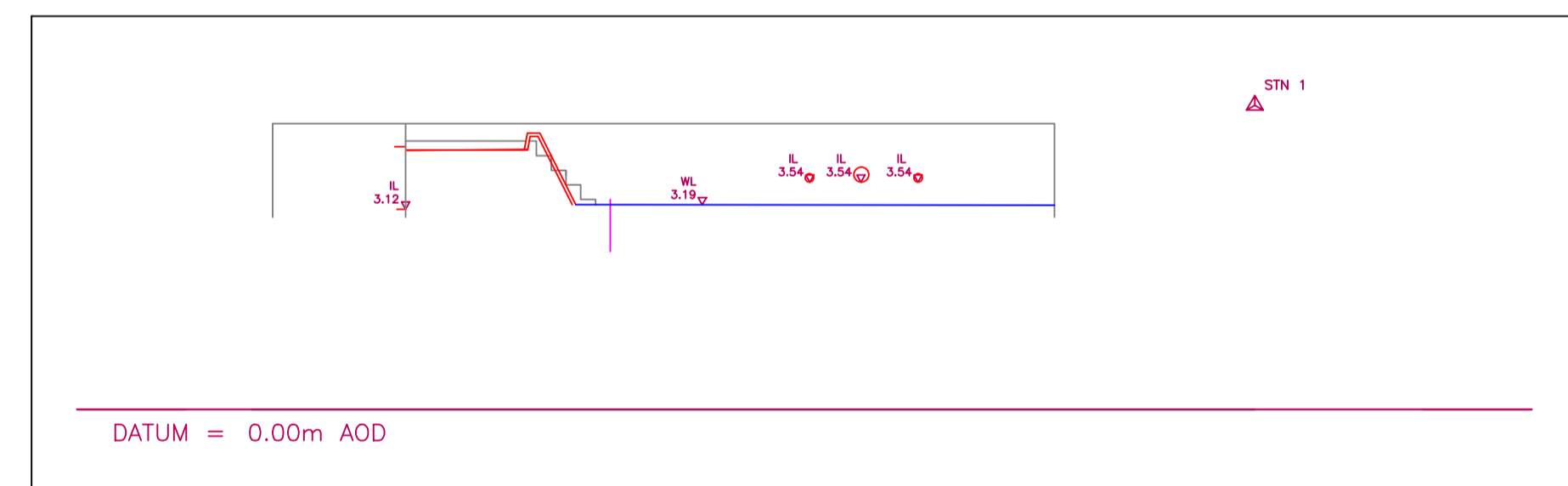
ST2 WEST ELEVATION



ST2 NORTH ELEVATION



ST2 EAST ELEVATION



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Notes
Where underground services are shown it is advisable to check these details against statutory authority records before proceeding with any design.
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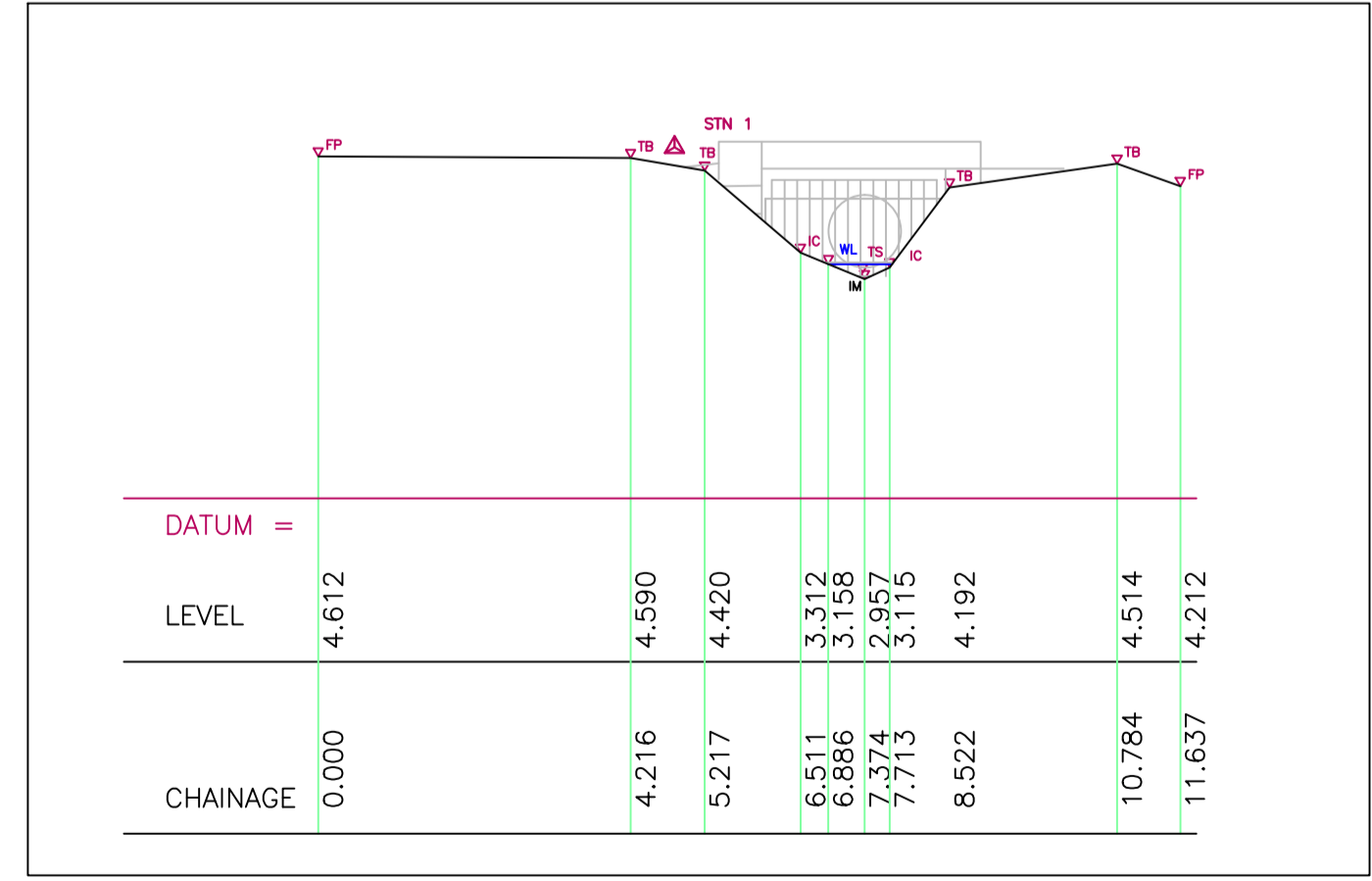
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

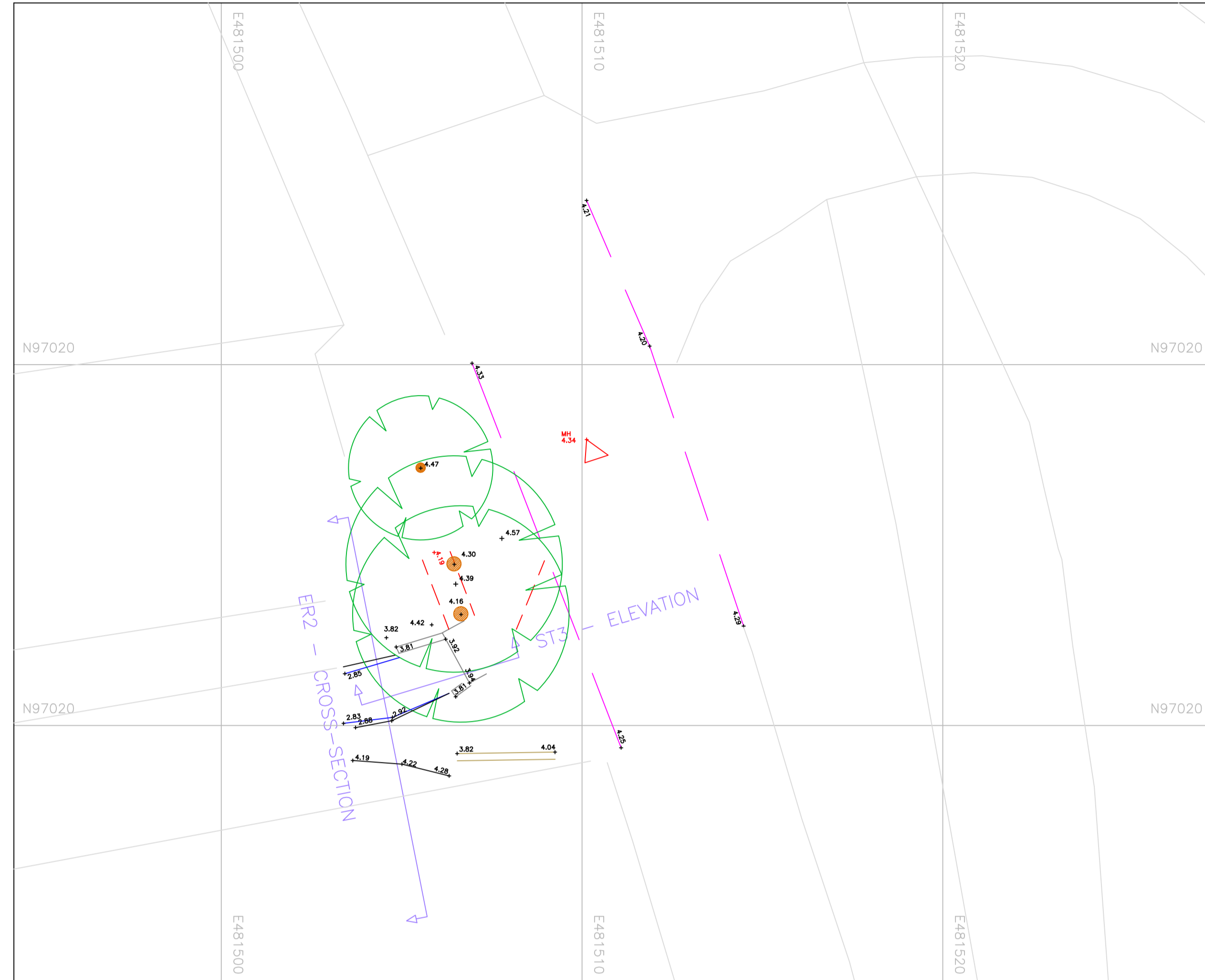
ER1 - CROSS-SECTION



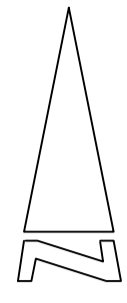
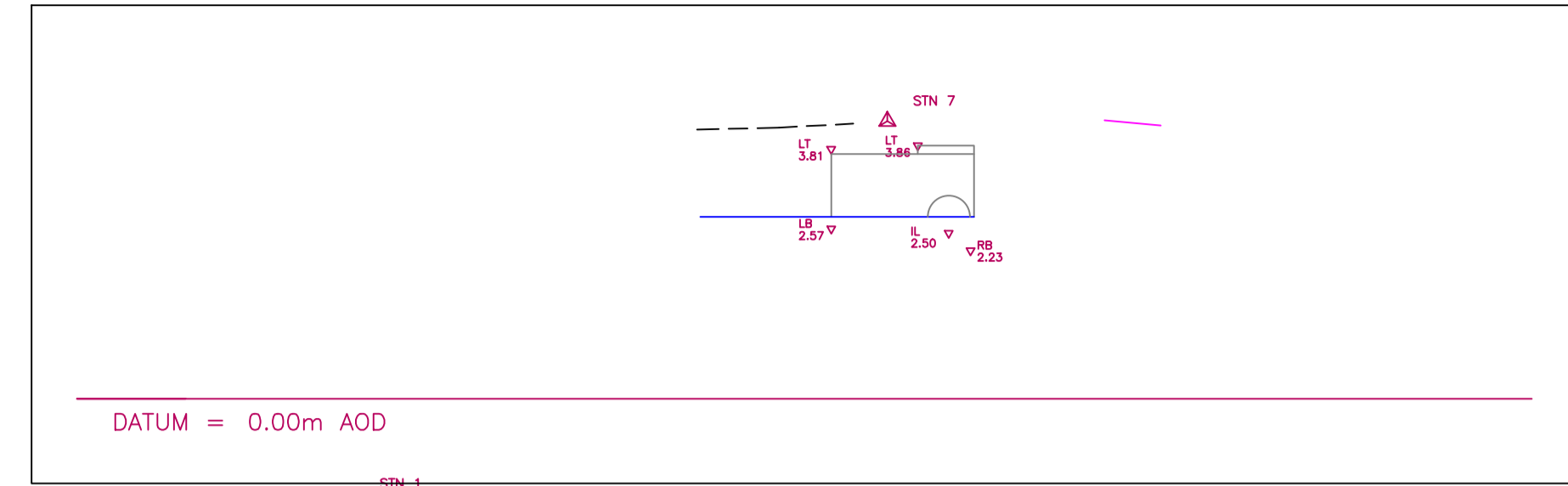
WEST HORSLEY PLACE
EPSOM ROAD, WEST HORSLEY KT24 6AW
Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections - ER-A		
SCALE	DATE	
1:100 (A1)	13/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_02	-

PLAN OF STRUCTURE ST3



ST3 EAST ELEVATION



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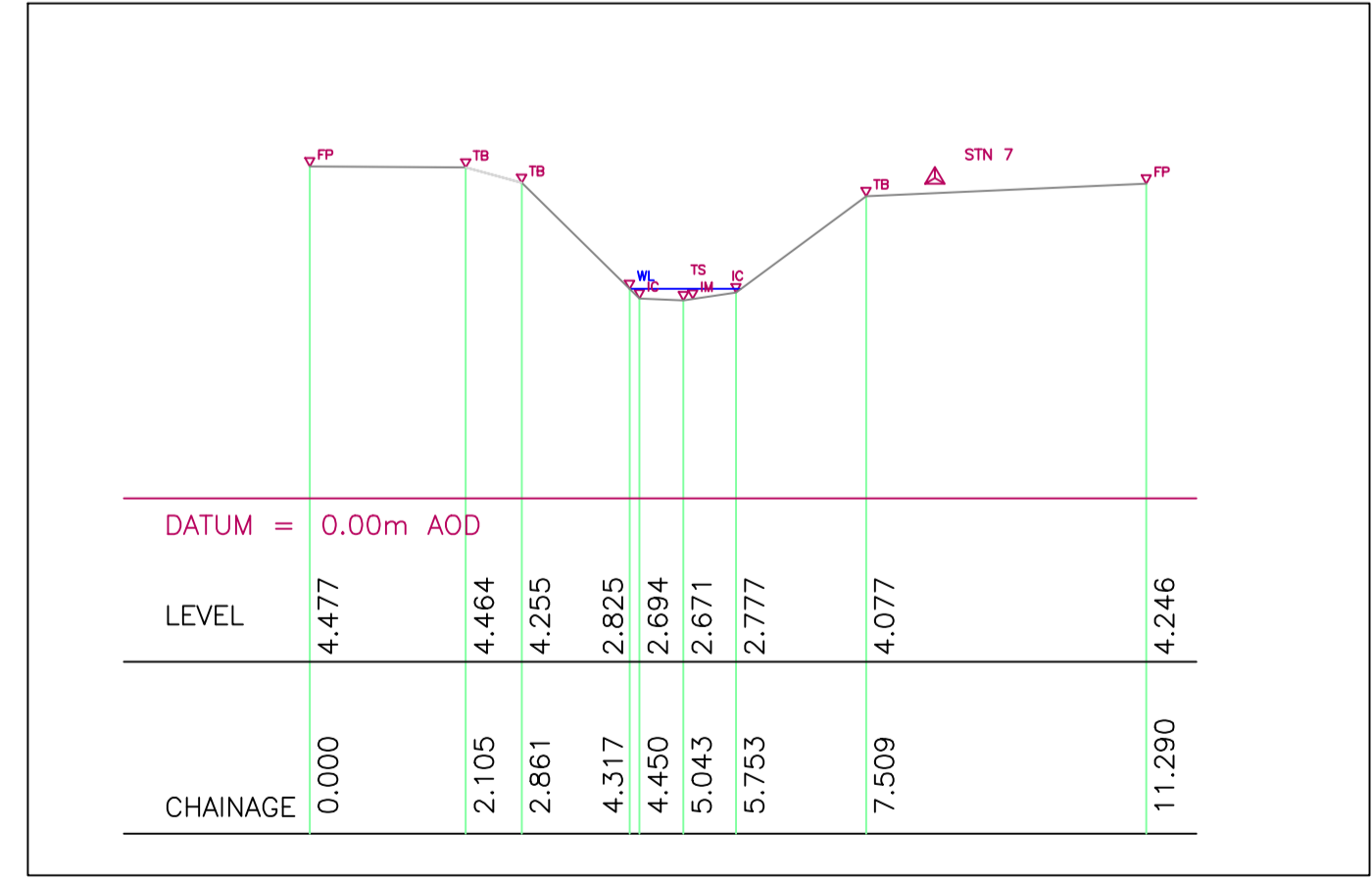
Notes
 Where underground services are shown it is advisable to check these details against statutory authority records before proceeding with any design.
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 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE
A	FP LEVEL (0.000) AMENDED	5/7/19

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER2 - CROSS-SECTION

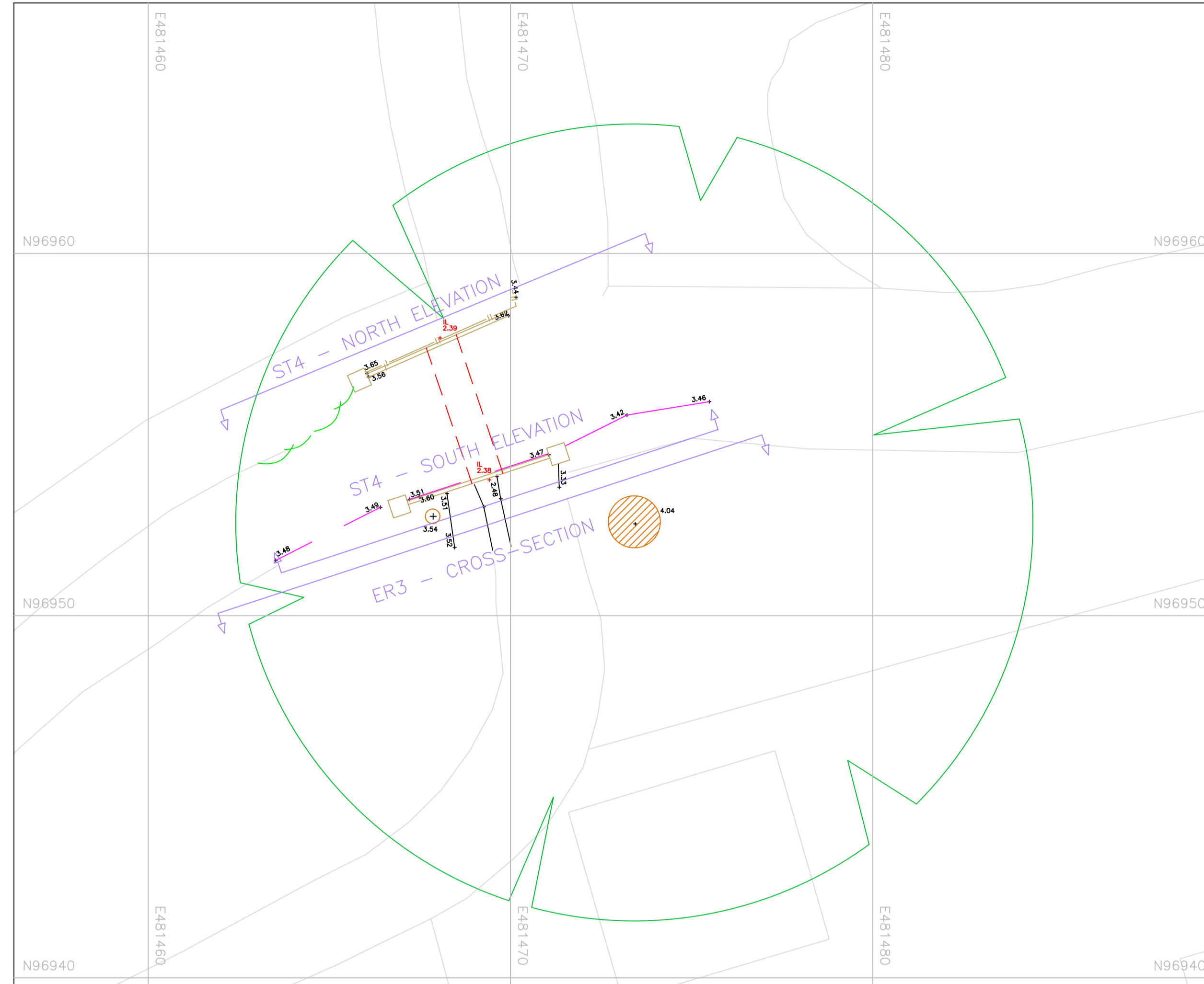




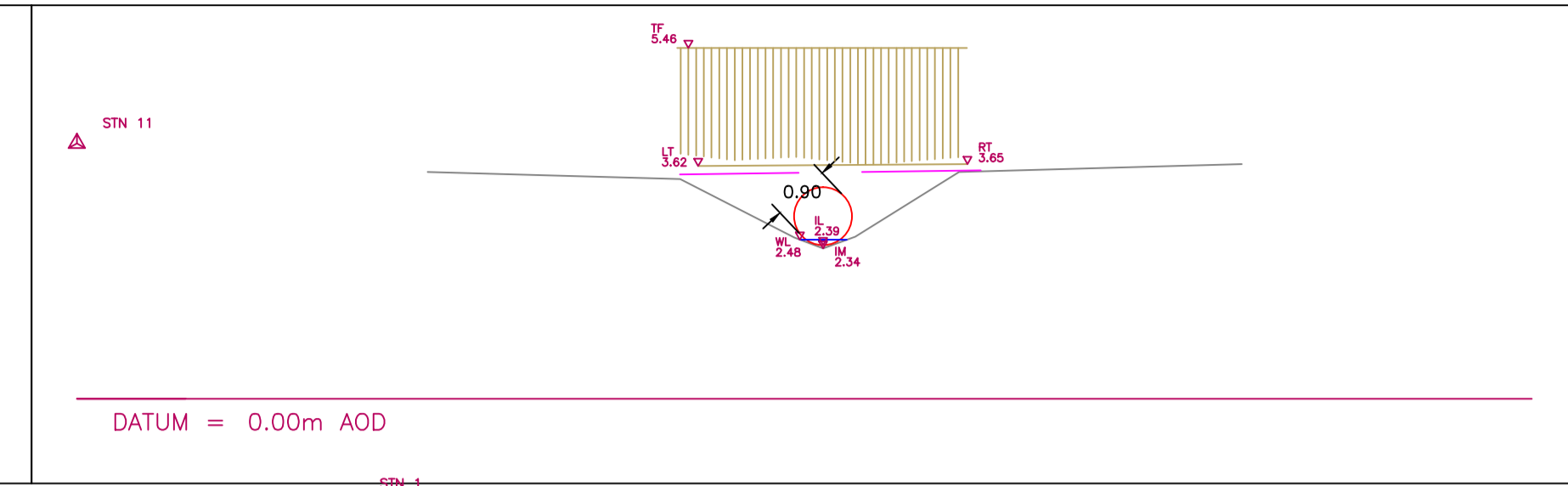
WEST HORSLEY PLACE
 EPSOM ROAD, WEST HORSLEY KT24 6AW
 Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections - ER-B		
SCALE	DATE	
1:100 (A1)	13/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_03	A

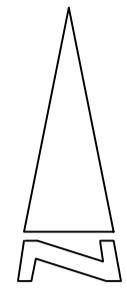
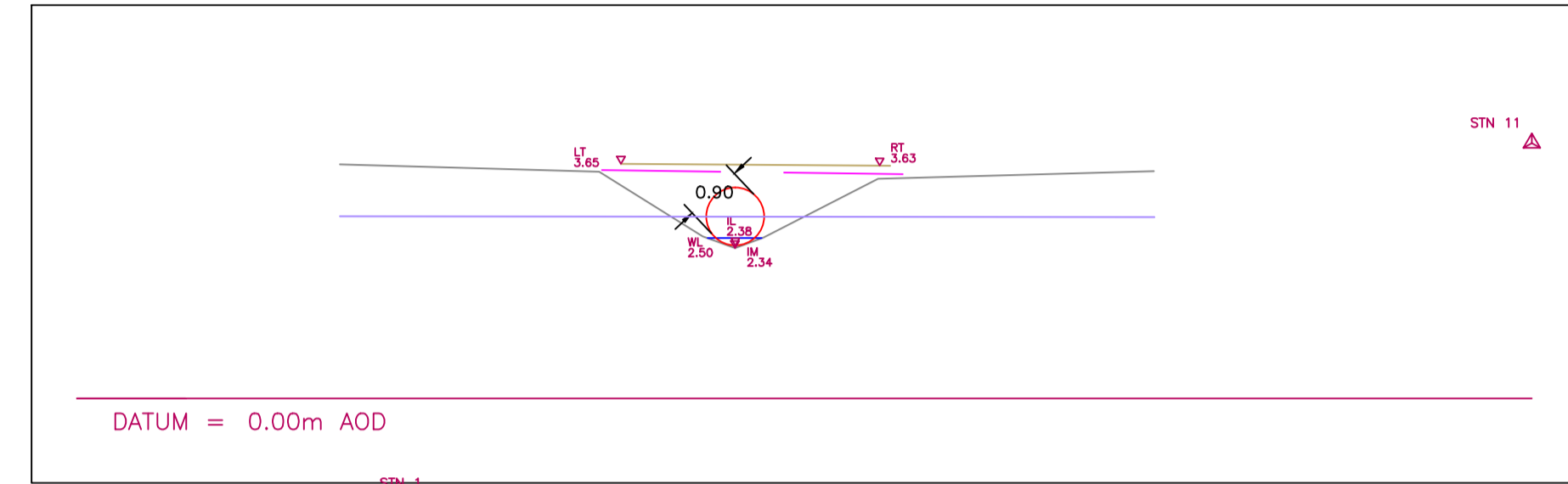
PLAN OF STRUCTURE ST4



ST4 NORTH ELEVATION



ST4 SOUTH ELEVATION



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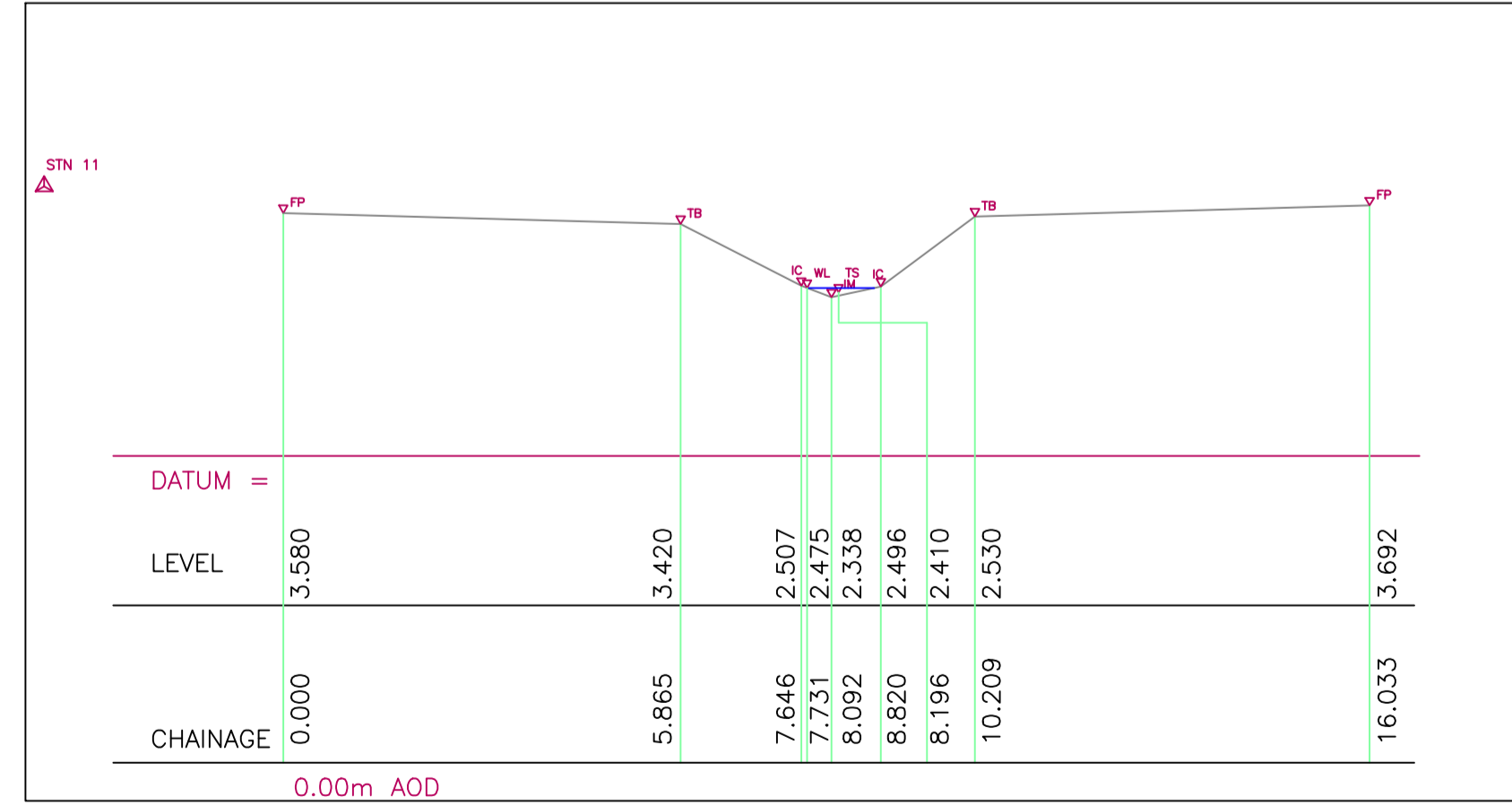
Notes
 Where underground services are shown it is advisable to check these details against statutory authority records before proceeding with any design.
 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gully
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER3 - CROSS-SECTION





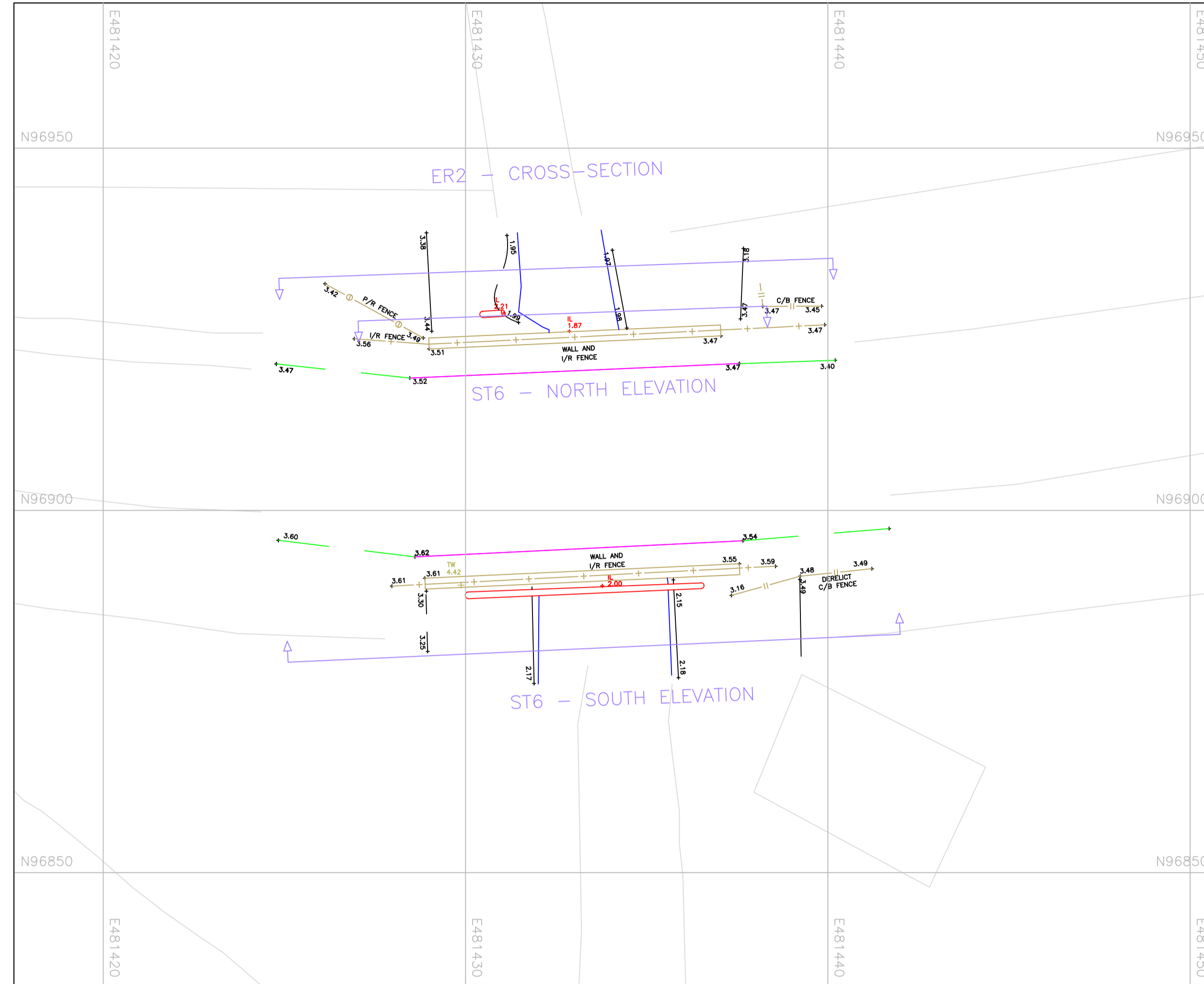
MERIDIAN
Land surveying and design



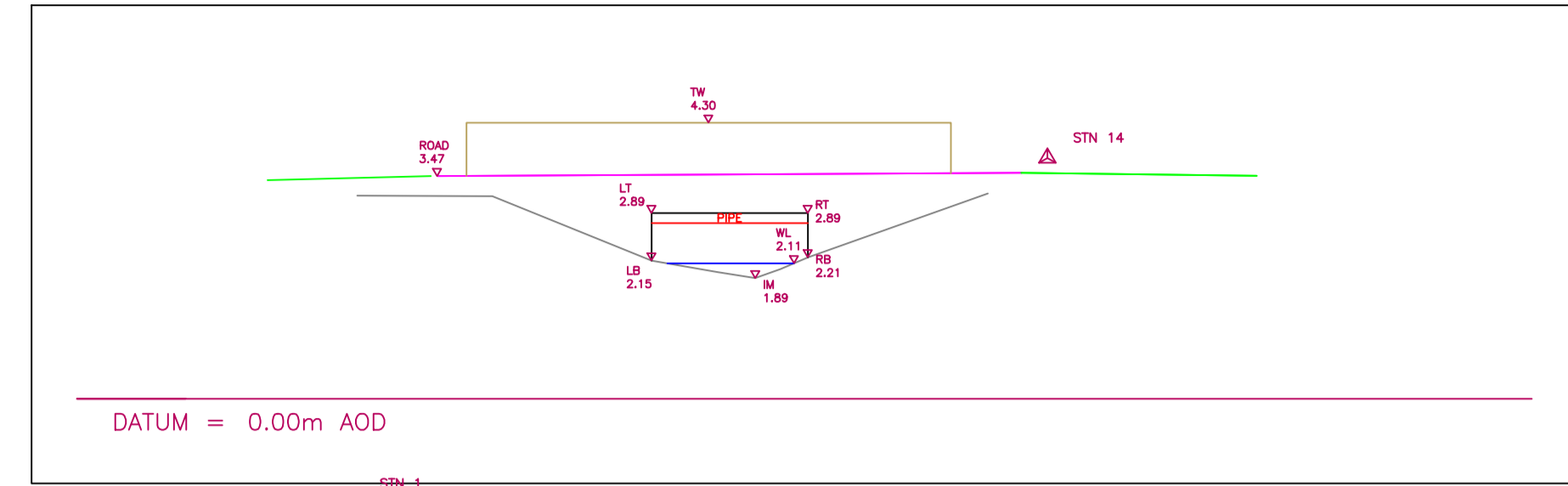
WEST HORSLEY PLACE
 EPSOM ROAD, WEST HORSLEY KT24 6AW
 Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections - ER-C		
SCALE	DATE	
1:100 (A1)	13/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_04	-

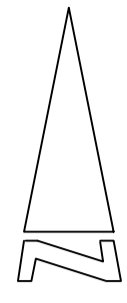
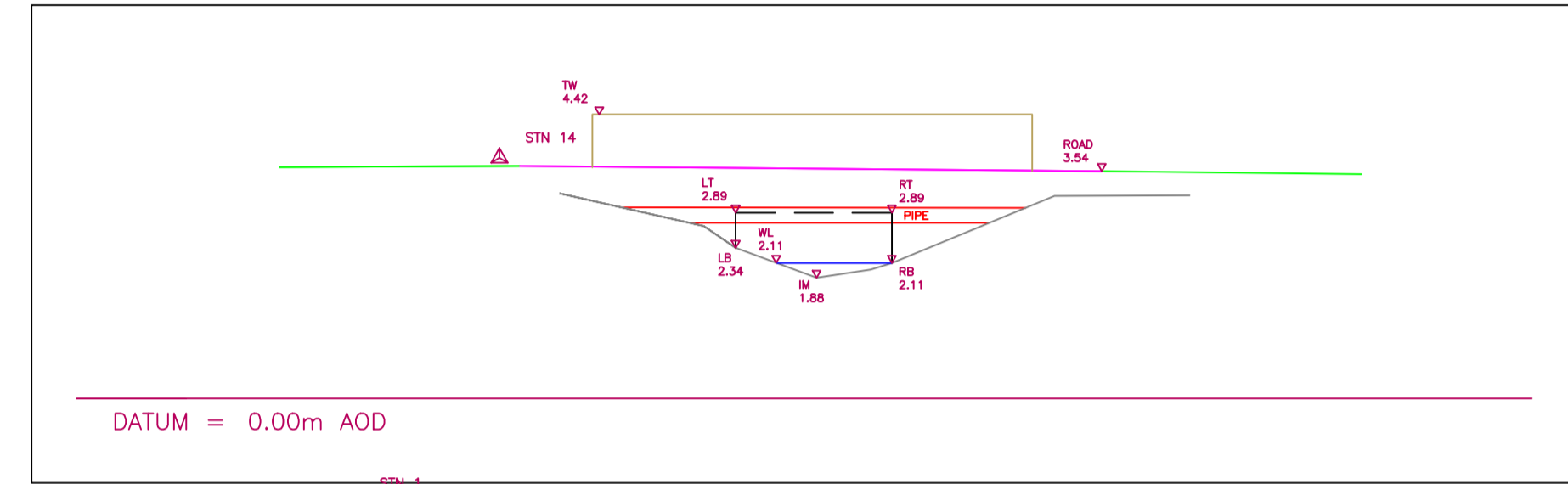
PLAN OF STRUCTURE ST6



ST6 NORTH ELEVATION



ST6 SOUTH ELEVATION



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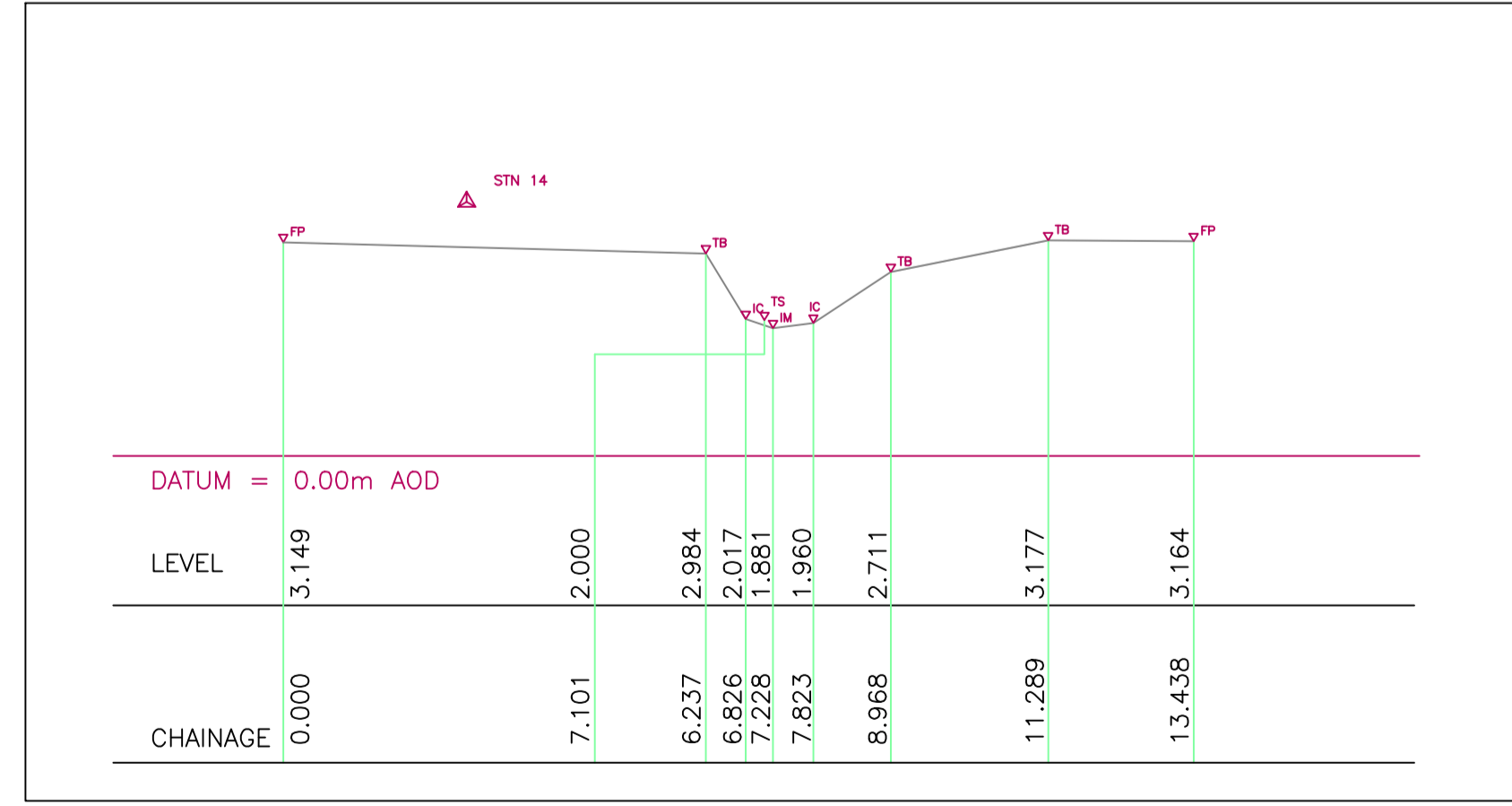
Notes
 Where underground services are shown it is advisable to check these details against statutory authority records before proceeding with any design.
 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER4 - CROSS-SECTION





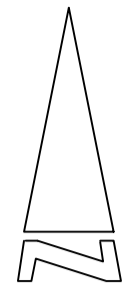
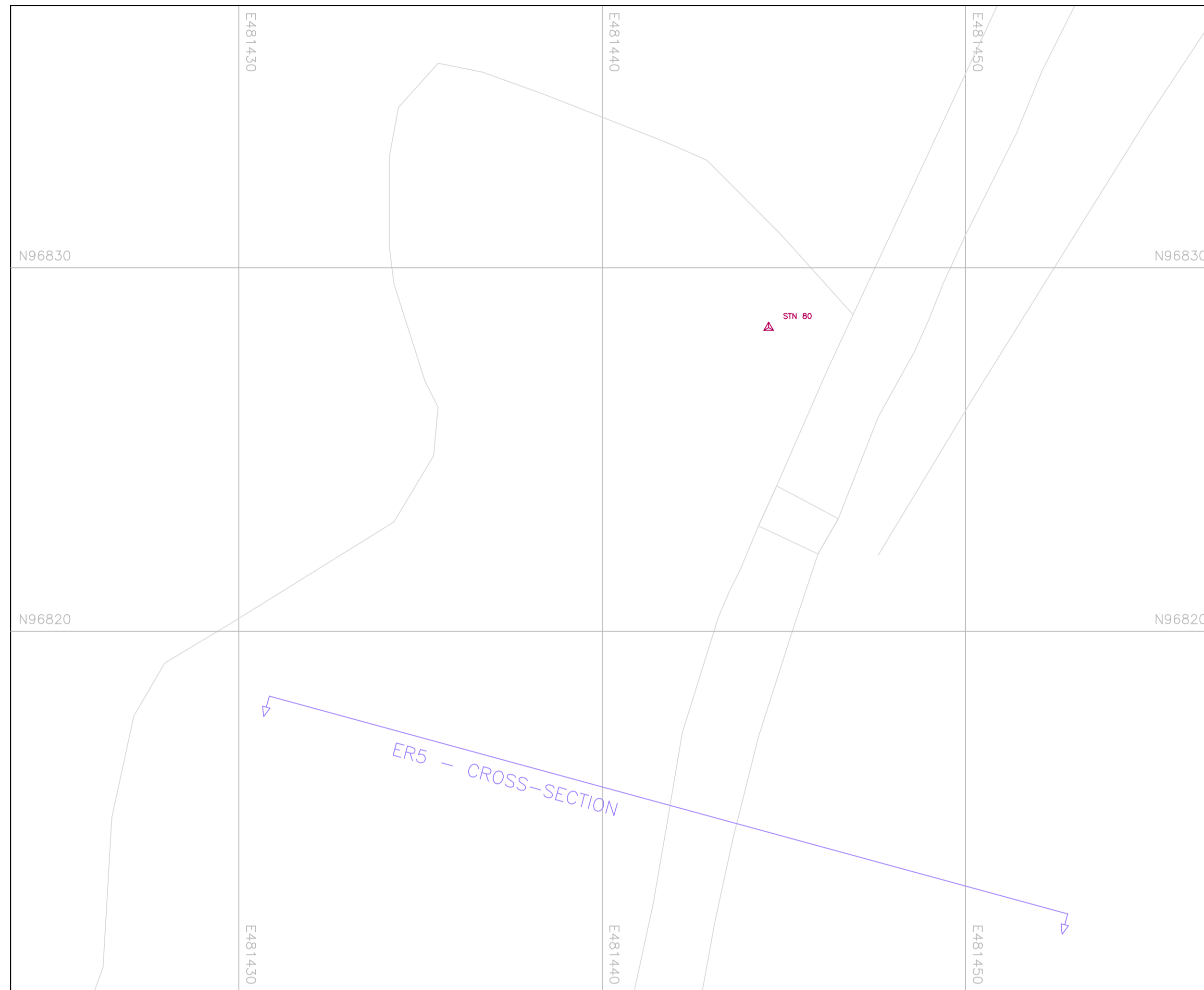
MERIDIAN
 Land surveying and design



WEST HORSLEY PLACE
 EPSOM ROAD, WEST HORSLEY KT24 6AW
 Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections - ER-D		
SCALE	DATE	
1:100 (A1)	15/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_05	-

PLAN OF STRUCTURE ST6



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Notes

Where underground services are shown it is advisable to check these details against statutory authority records before proceeding with any design.

All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.

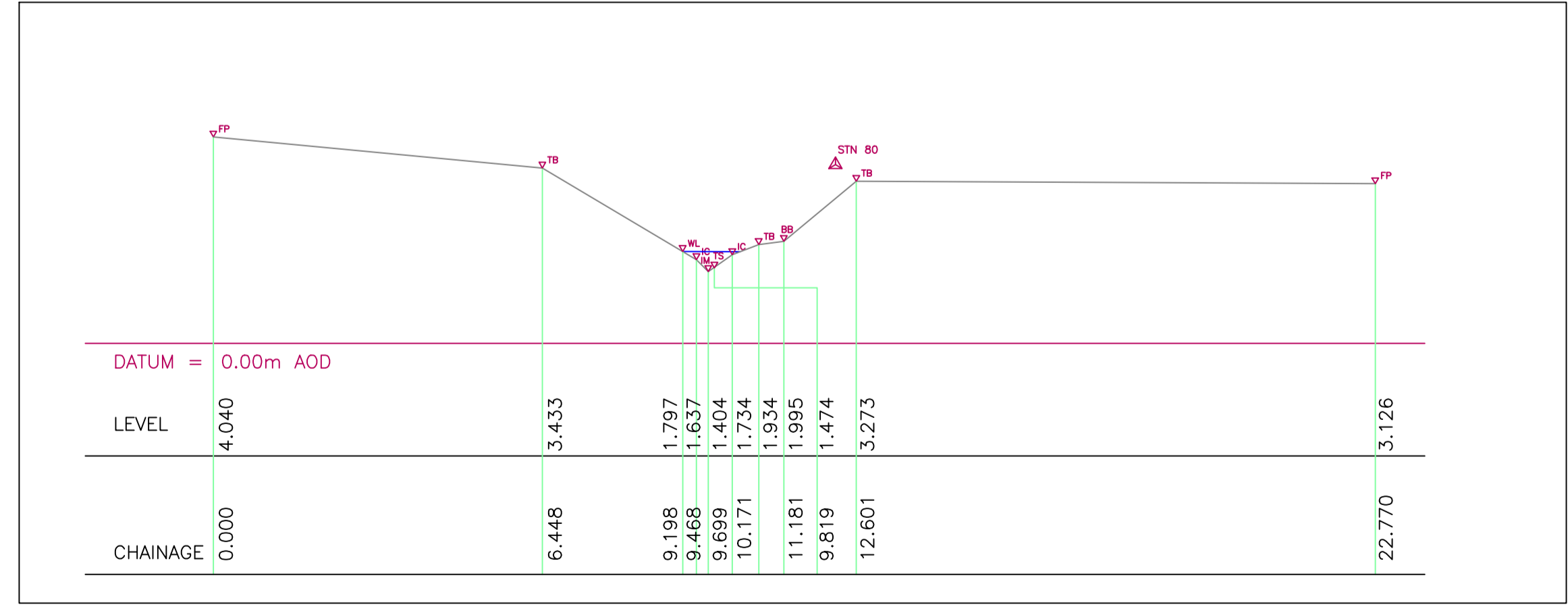
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
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EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
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C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER5 - CROSS-SECTION

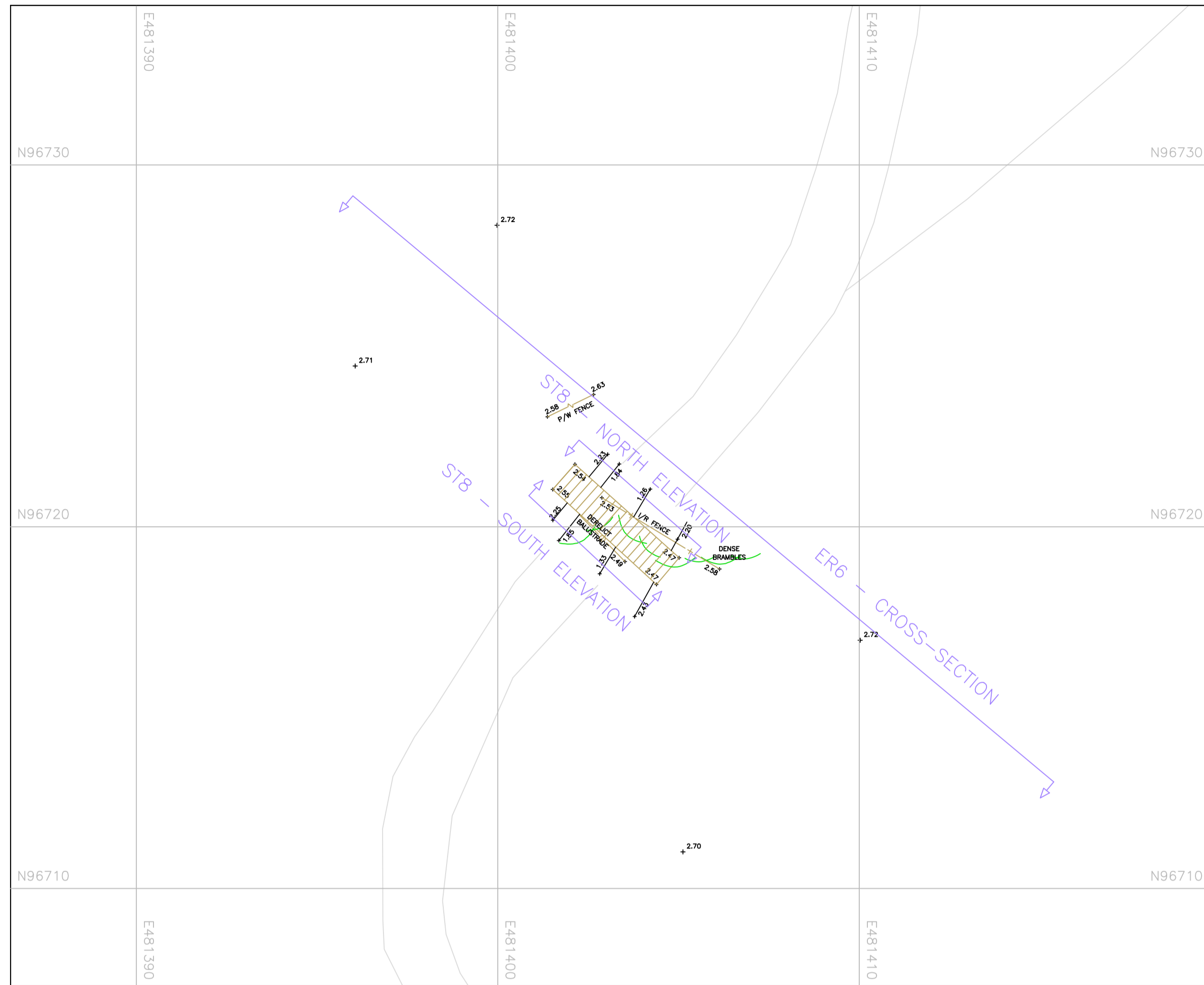




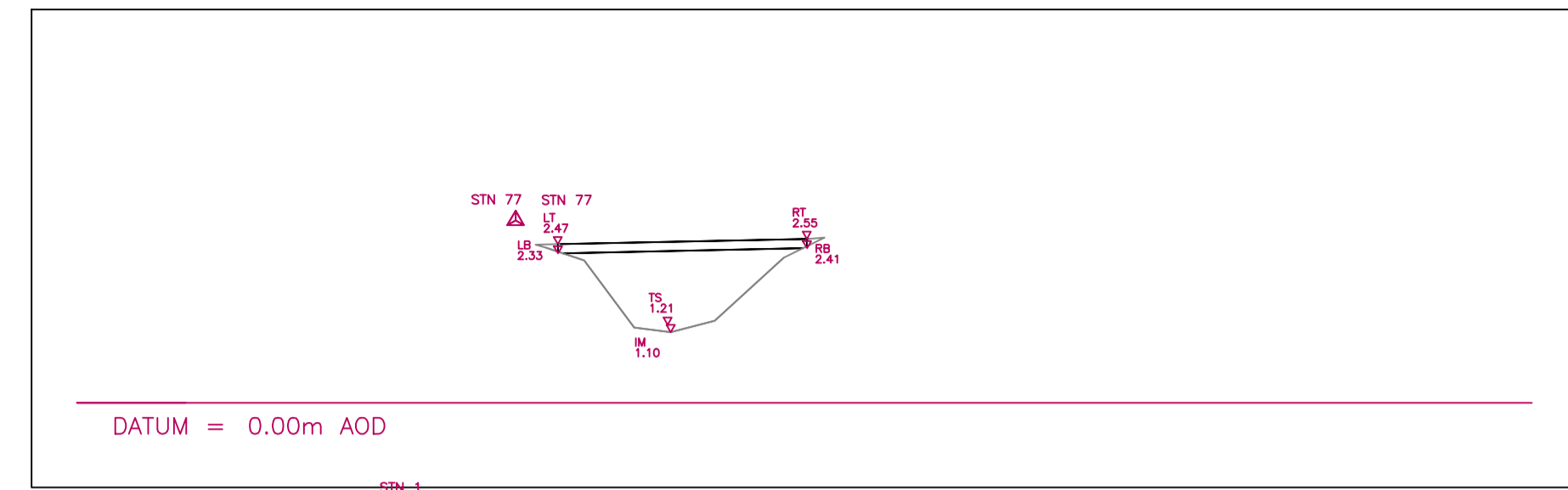
West Horsley Place
Epsom Road, West Horsley KT24 6AW
Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections - ER-E		
SCALE	DATE	
1:100 (A1)	17/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_06	-

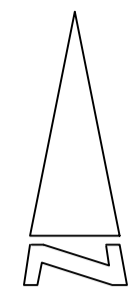
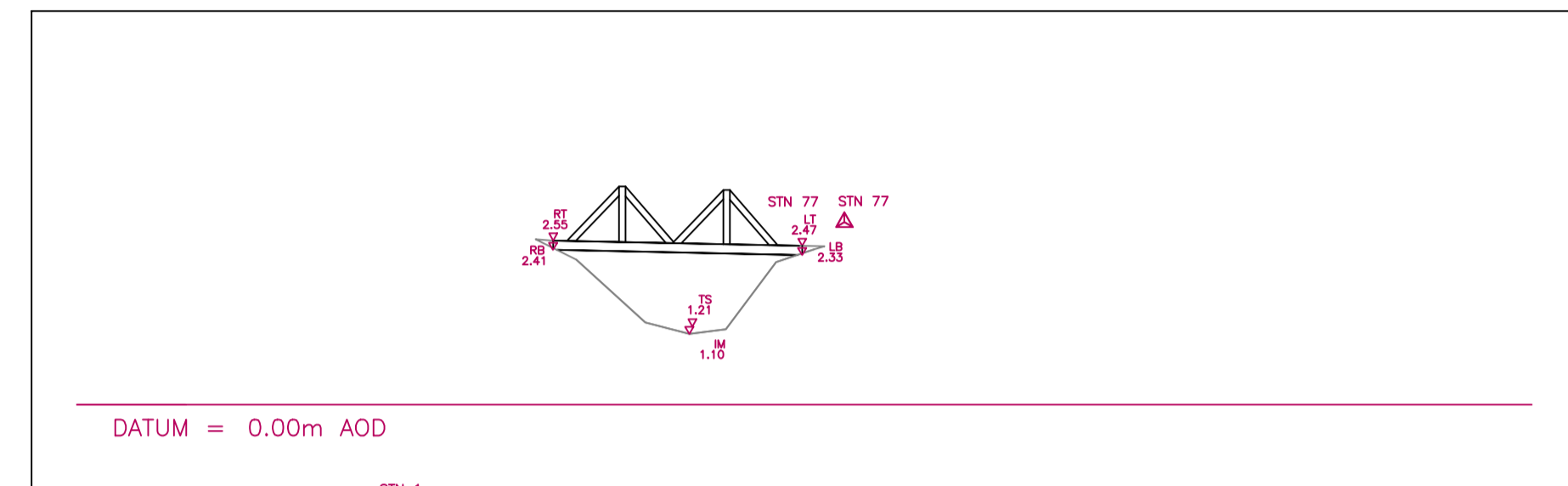
PLAN OF STRUCTURE ST8



ST8 NORTH ELEVATION



ST8 SOUTH ELEVATION



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Notes
Where underground services are shown it is advisable to check these details against statutory authority records before proceeding with any design.
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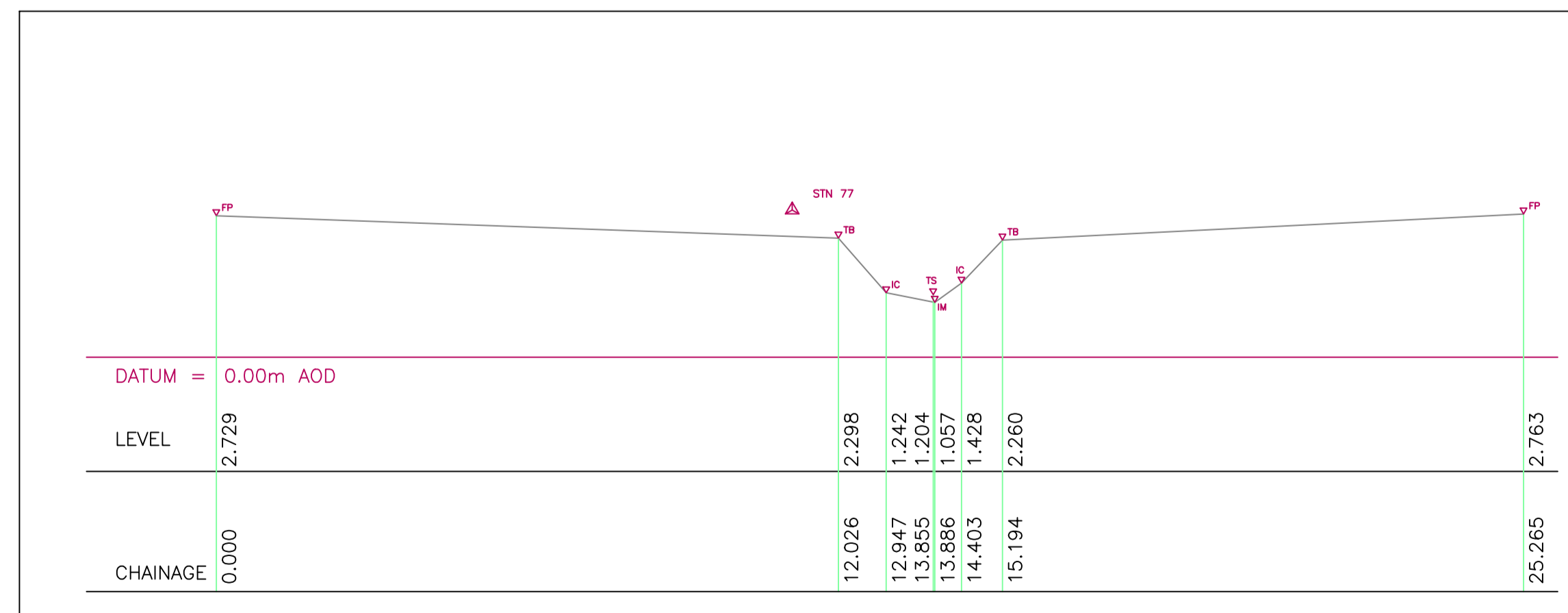
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER6 - CROSS-SECTION

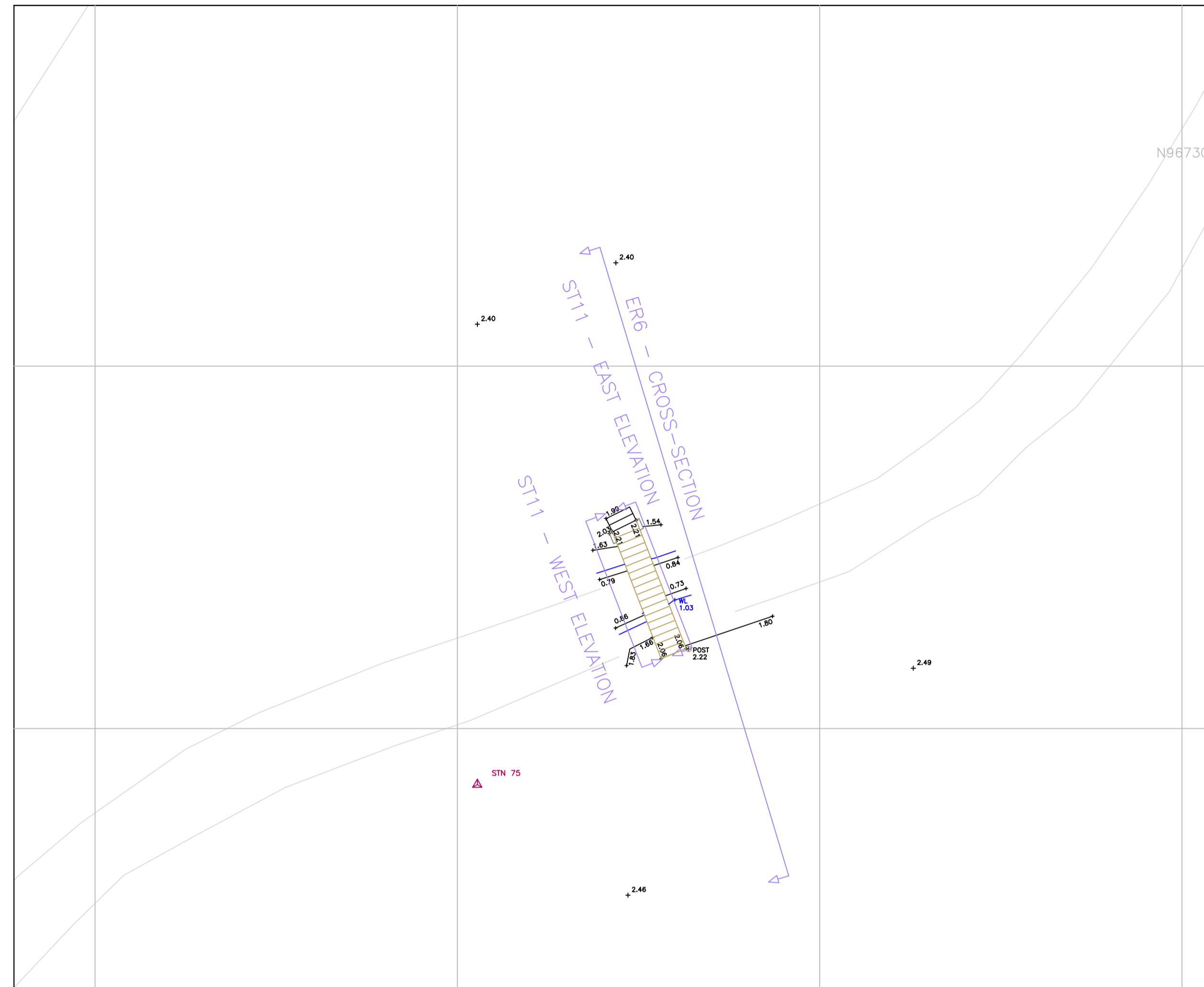




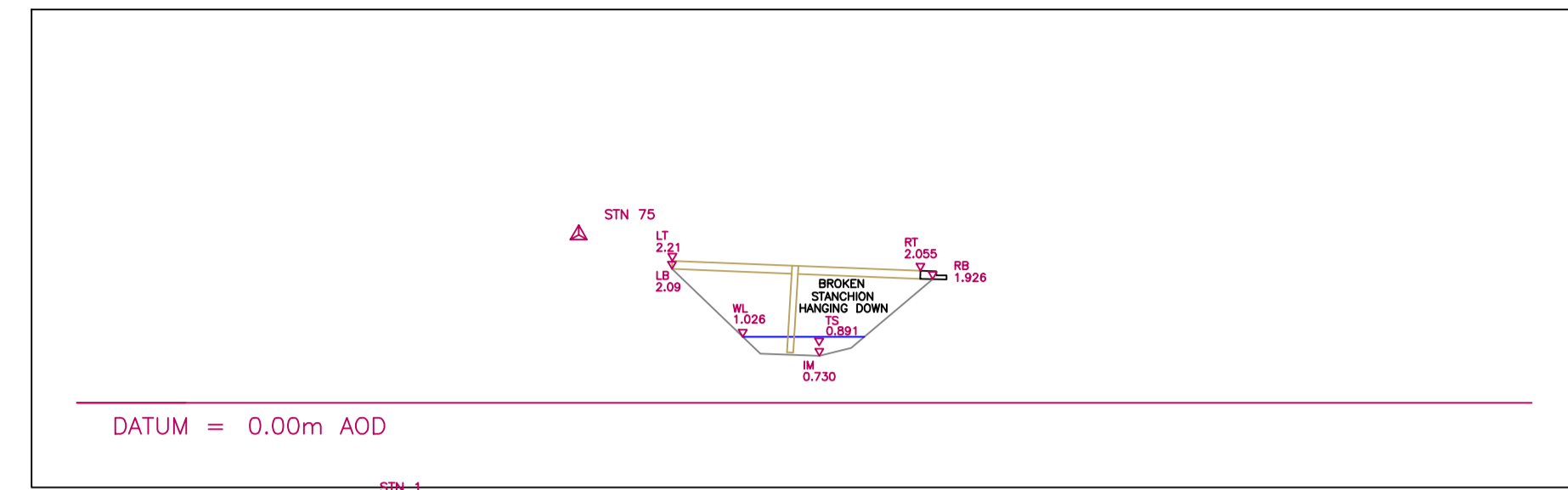
West Horsley Place
Epsom Road, West Horsley KT24 6AW
Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections - ER-F		
SCALE	DATE	
1:100 (A1)	17/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_07	-

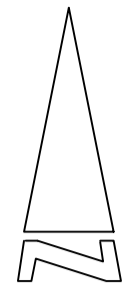
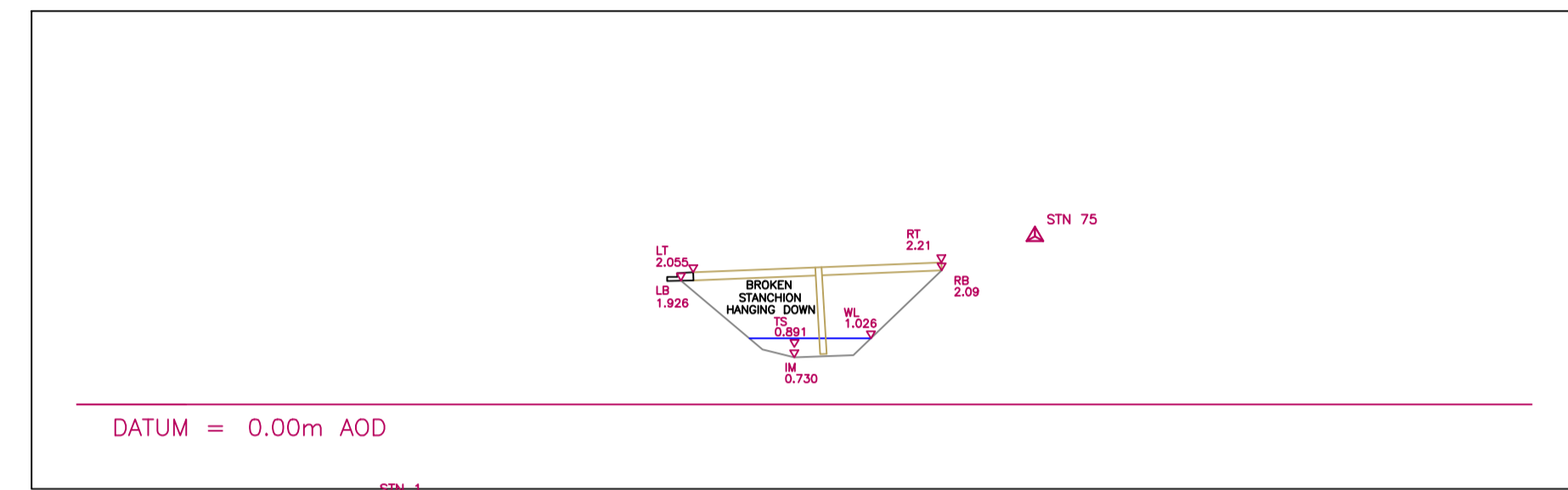
PLAN OF STRUCTURE ST8



ST11 EAST ELEVATION



ST11 WEST ELEVATION



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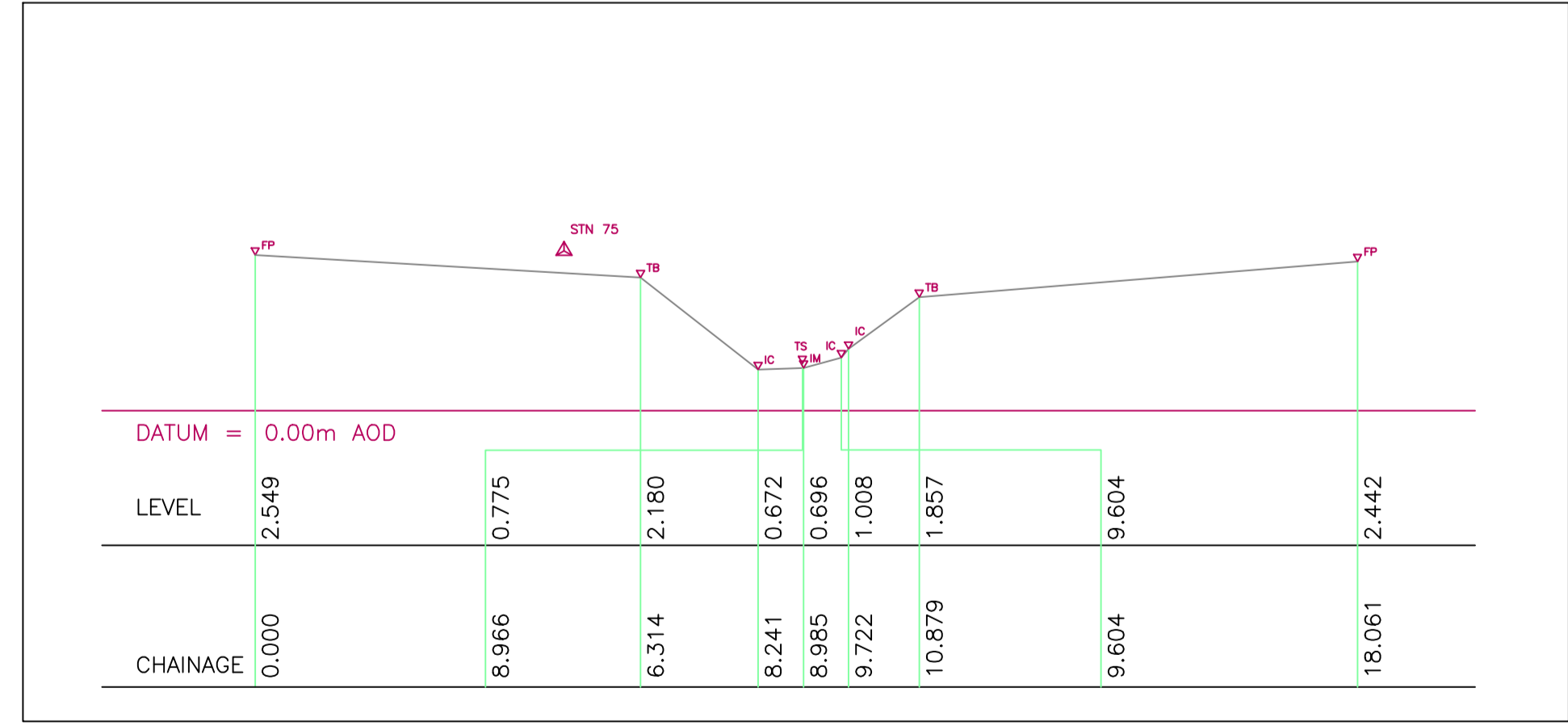
Notes
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 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER6 - CROSS-SECTION





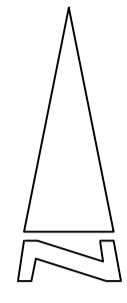
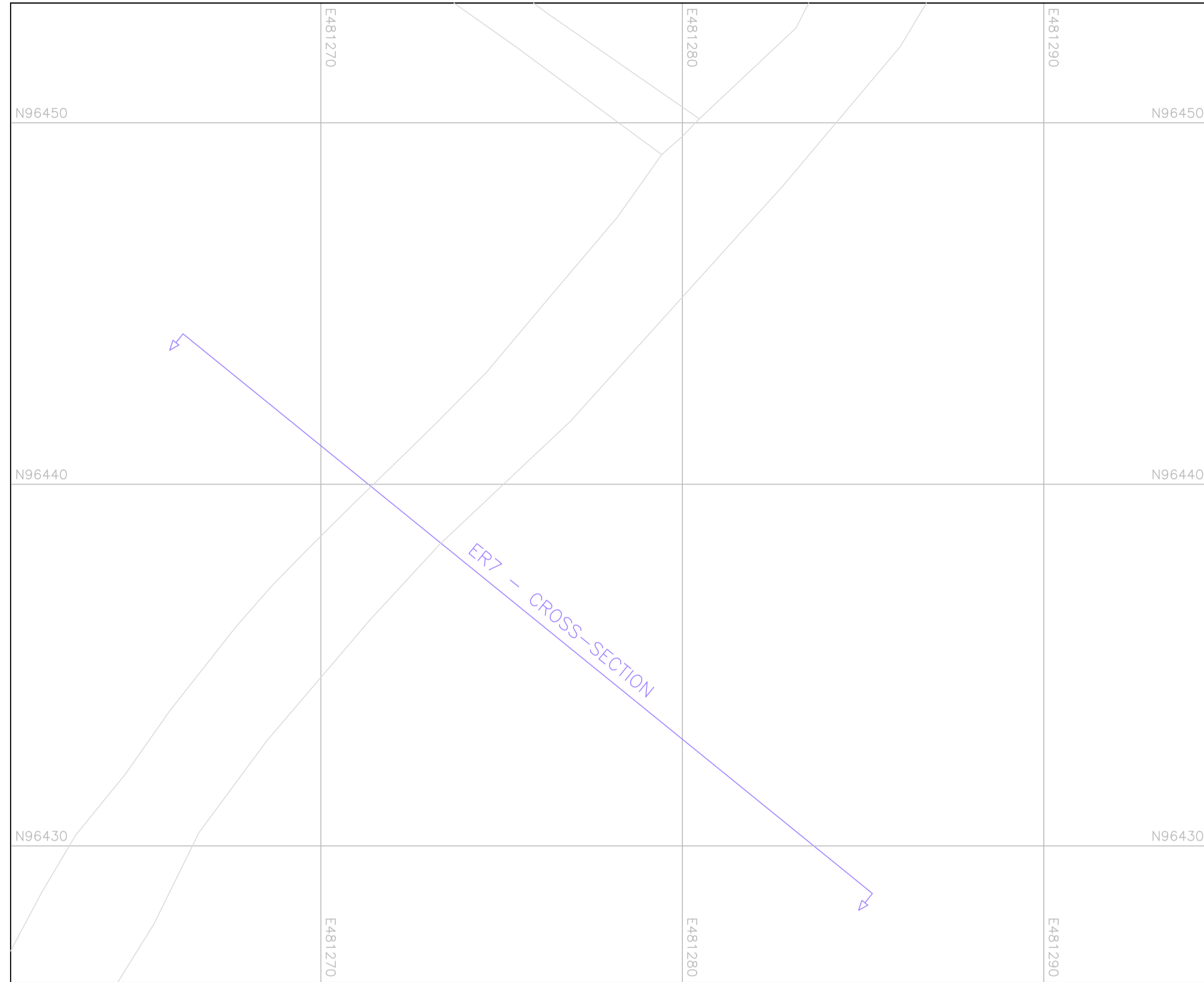
MERIDIAN
Land surveying and design



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 Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections - ER-G		
SCALE	DATE	
1:100 (A1)	17/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_09	-

PLAN OF CROSS-SECTION ER7



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REVISION	DESCRIPTION	DATE
A	RH2 FP REINSTATED XYZ FILE	5/7/19



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING

Survey of structures and cross-sections - ER-H

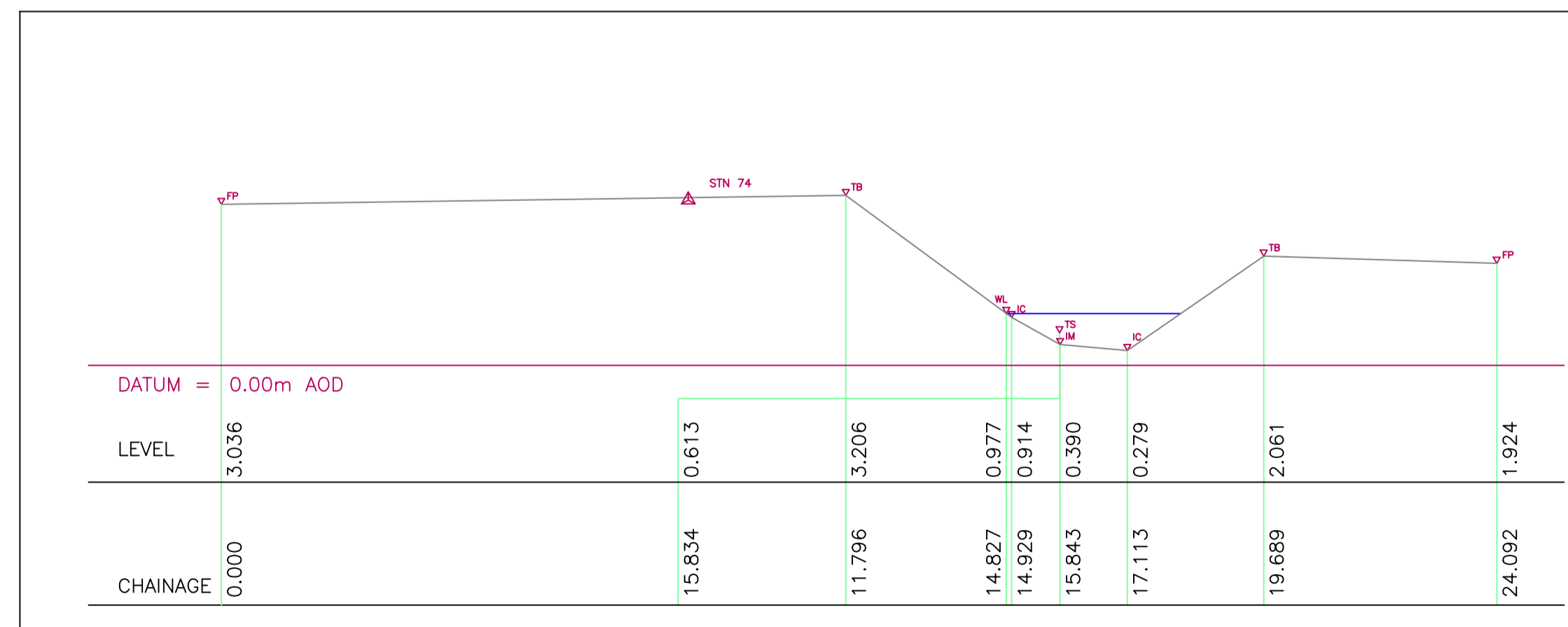
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1:100 (A1)	19/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_10	A

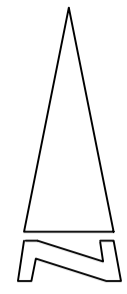
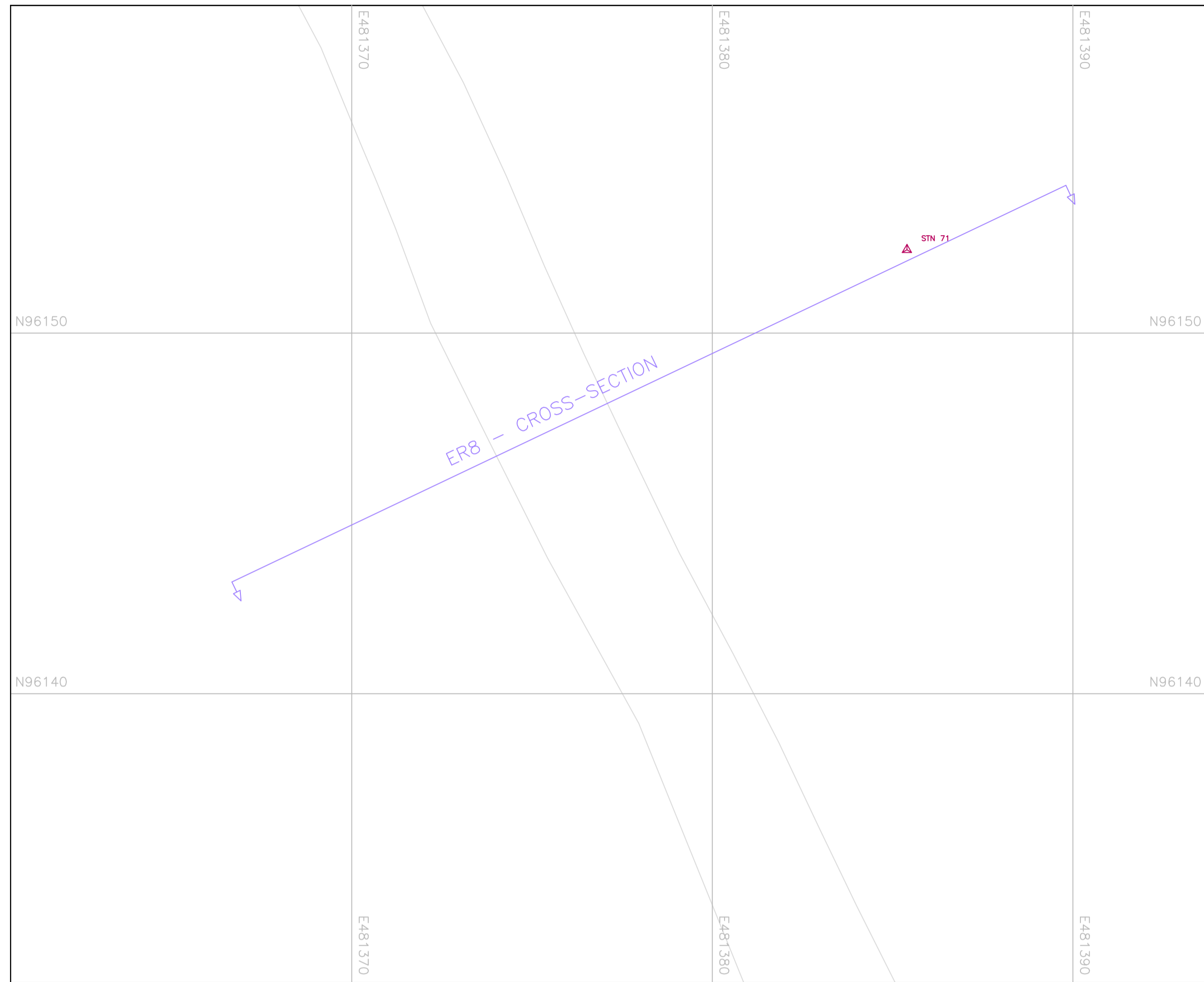
KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
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RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
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C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER7 - CROSS-SECTION



PLAN OF CROSS-SECTION ER8



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REVISION	DESCRIPTION	DATE



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CUSTOMER

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PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING

Survey of structures and cross-sections - ER-1

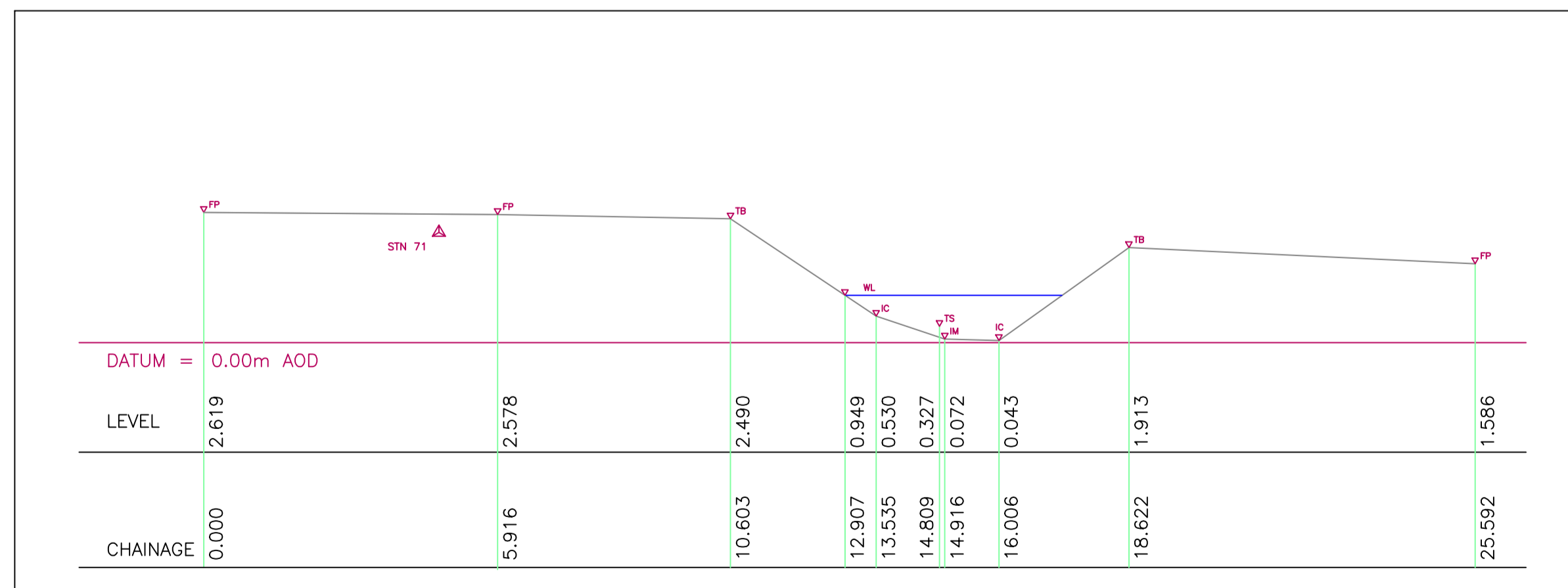
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CLIENT NO.	JOB NO.	REVISION
00228	0411_11	-

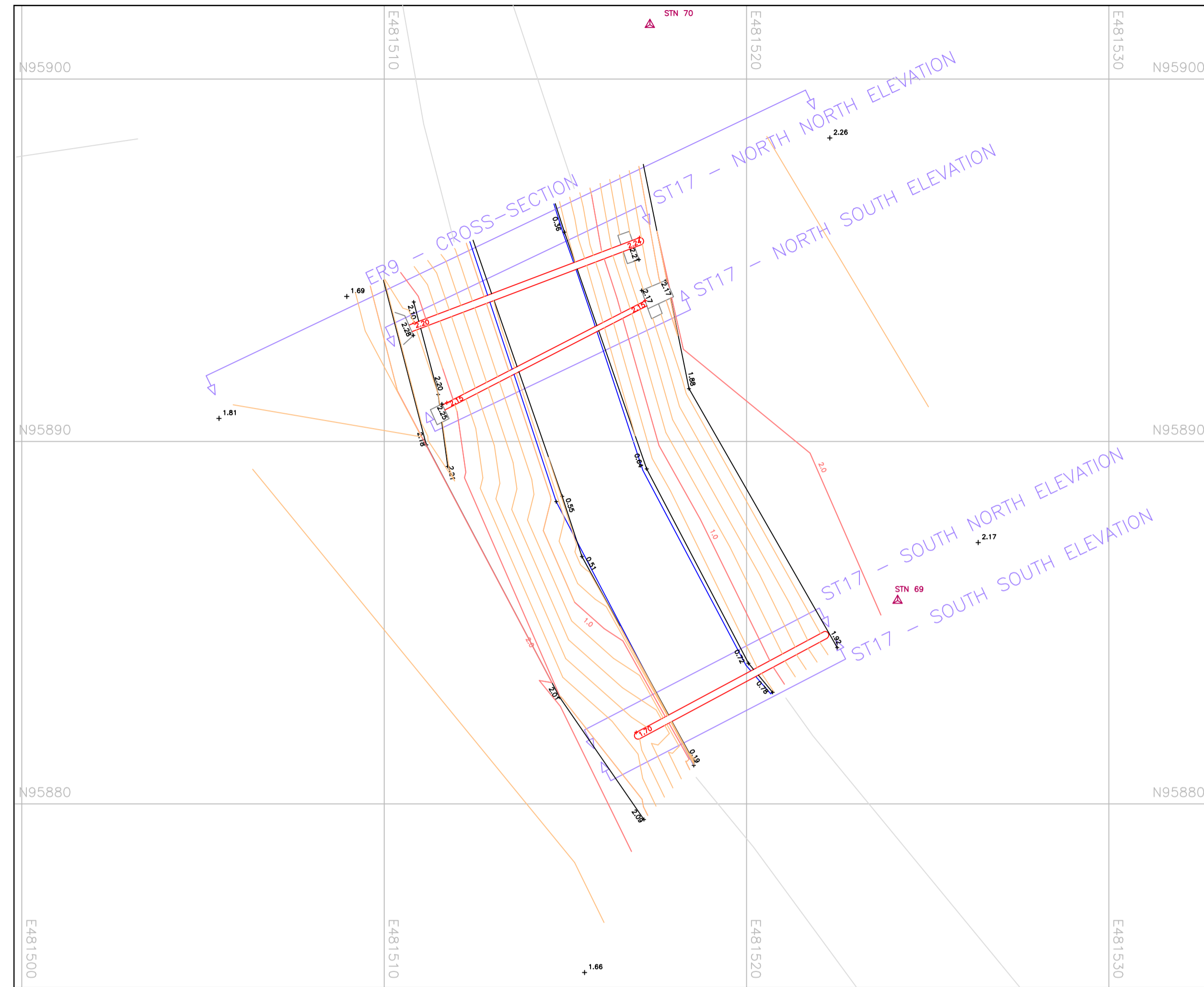
KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
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RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
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MH	Manhole
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EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

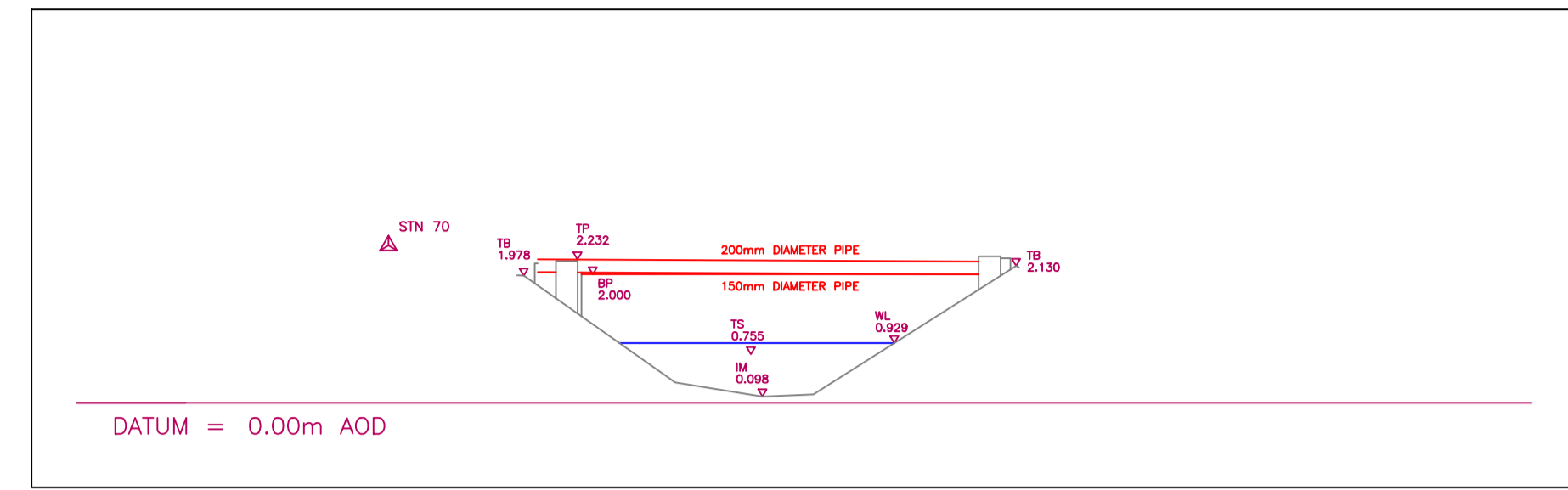
ER8 - CROSS-SECTION



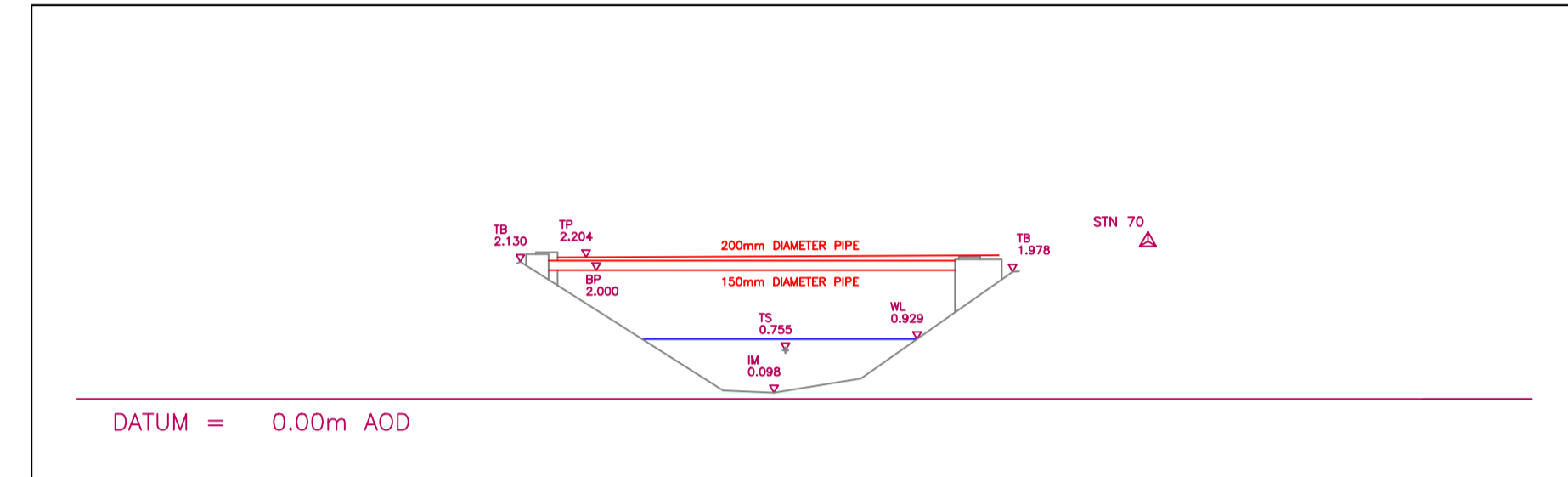
PLAN OF STRUCTURES ST17



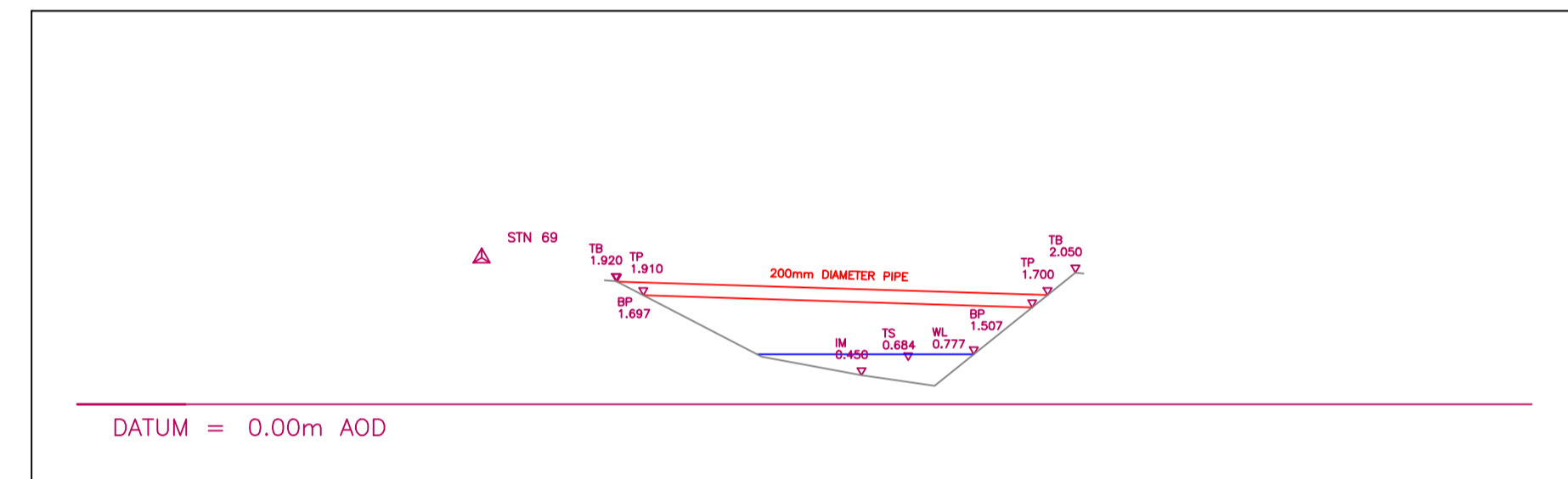
ST17 - NORTH NORTH ELEVATION



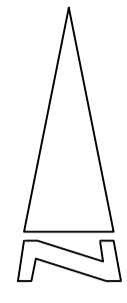
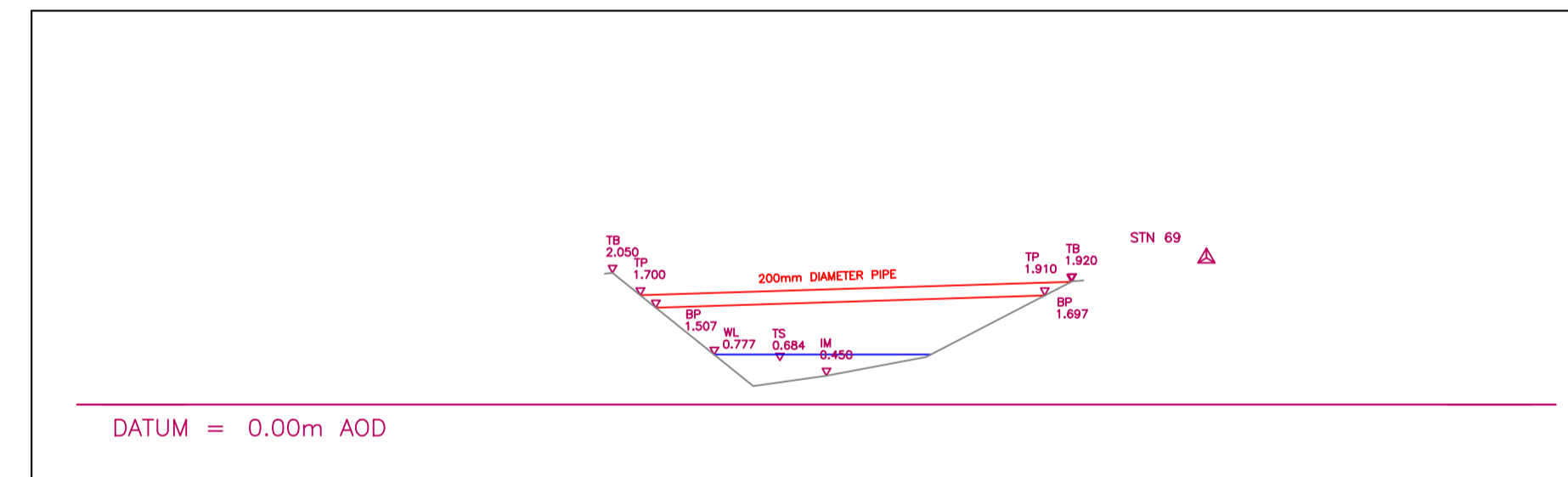
ST17 - NORTH SOUTH ELEVATION



ST17 - SOUTH NORTH ELEVATION



ST17 - SOUTH SOUTH ELEVATION



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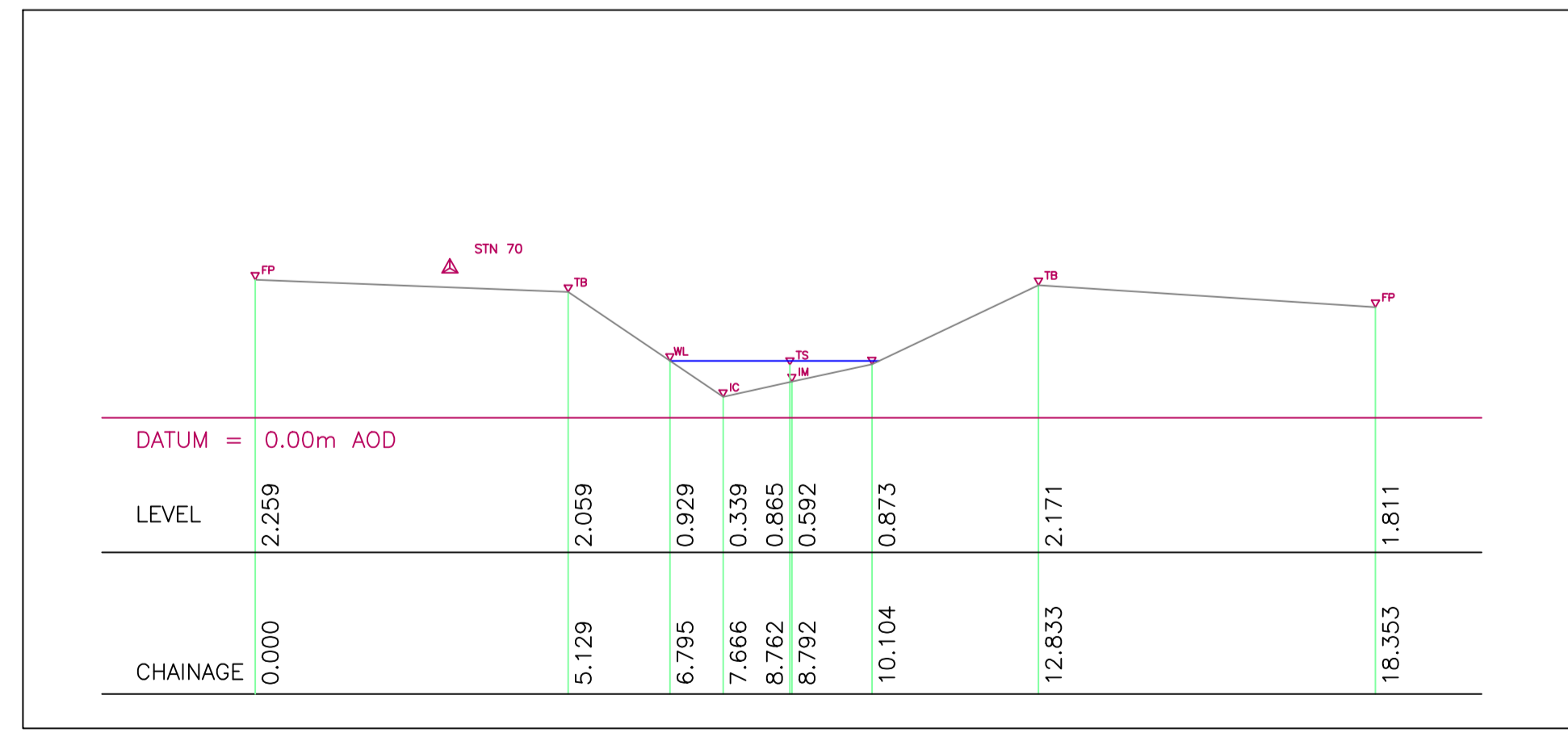
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE
A	ER09 REINSTATED XYZ FILE	5/7/19

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gully
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER9 - CROSS-SECTION





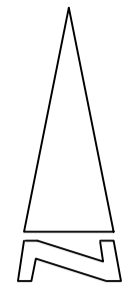
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CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections - ER-J		
SCALE	DATE	
1:100 (A1)	20/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_12	A

PLAN OF CROSS-SECTION ER10



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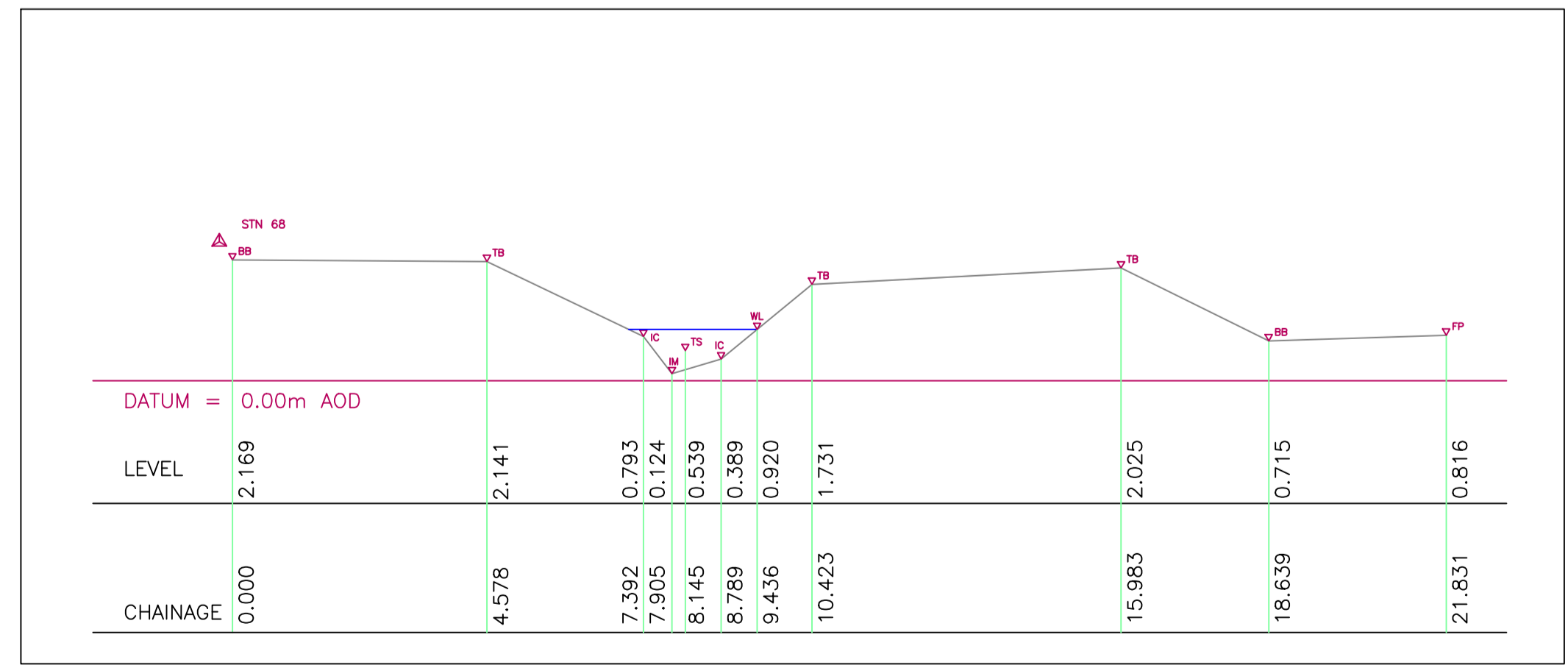
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
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RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gully
IC	Inspection cover
MH	Manhole
SMP	Service marker post
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C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER10 - CROSS-SECTION



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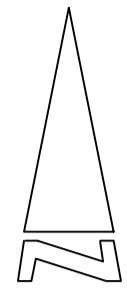
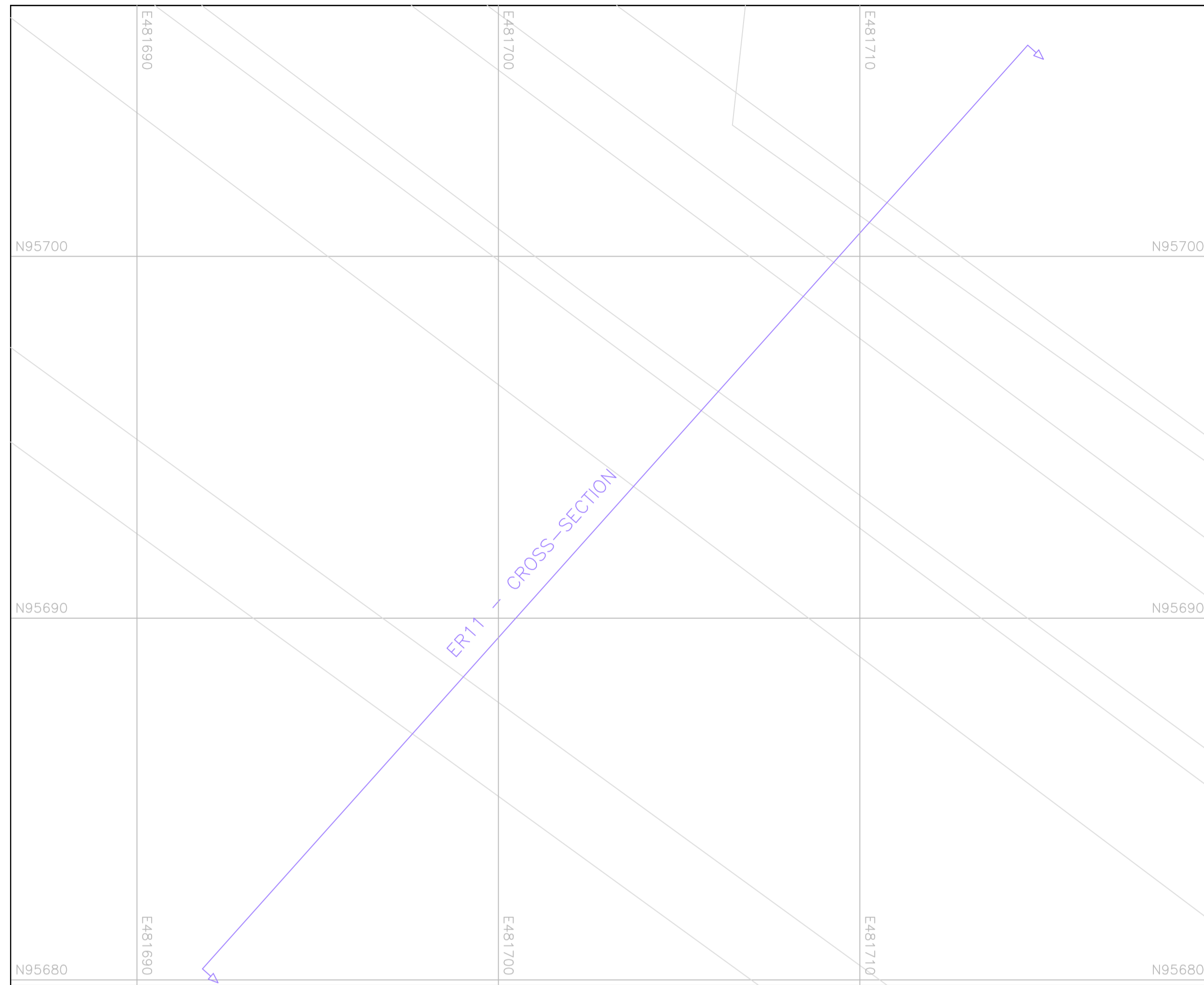
CUSTOMER
 Manhire LLP

PROJECT
 Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING
 Survey of structures and cross-sections - ER-K

SCALE	DATE	
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CLIENT NO.	JOB NO.	REVISION
00228	0411_13	-

PLAN OF CROSS-SECTION ER11



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REVISION	DESCRIPTION	DATE



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING

Survey of structures and cross-sections - ER-L

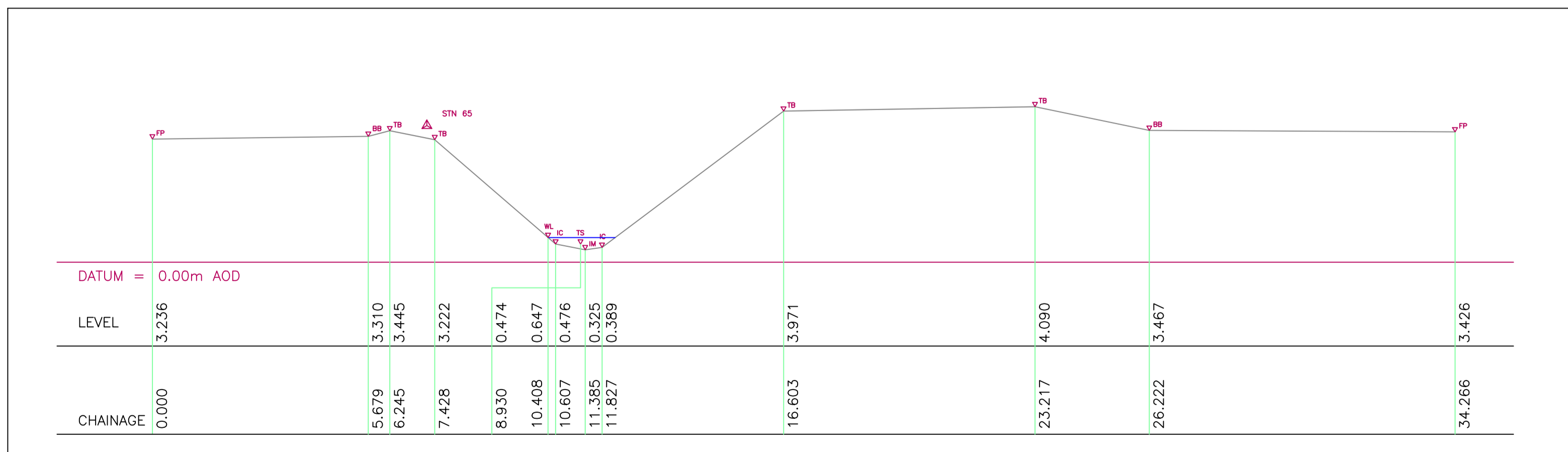
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CLIENT NO.	JOB NO.	REVISION
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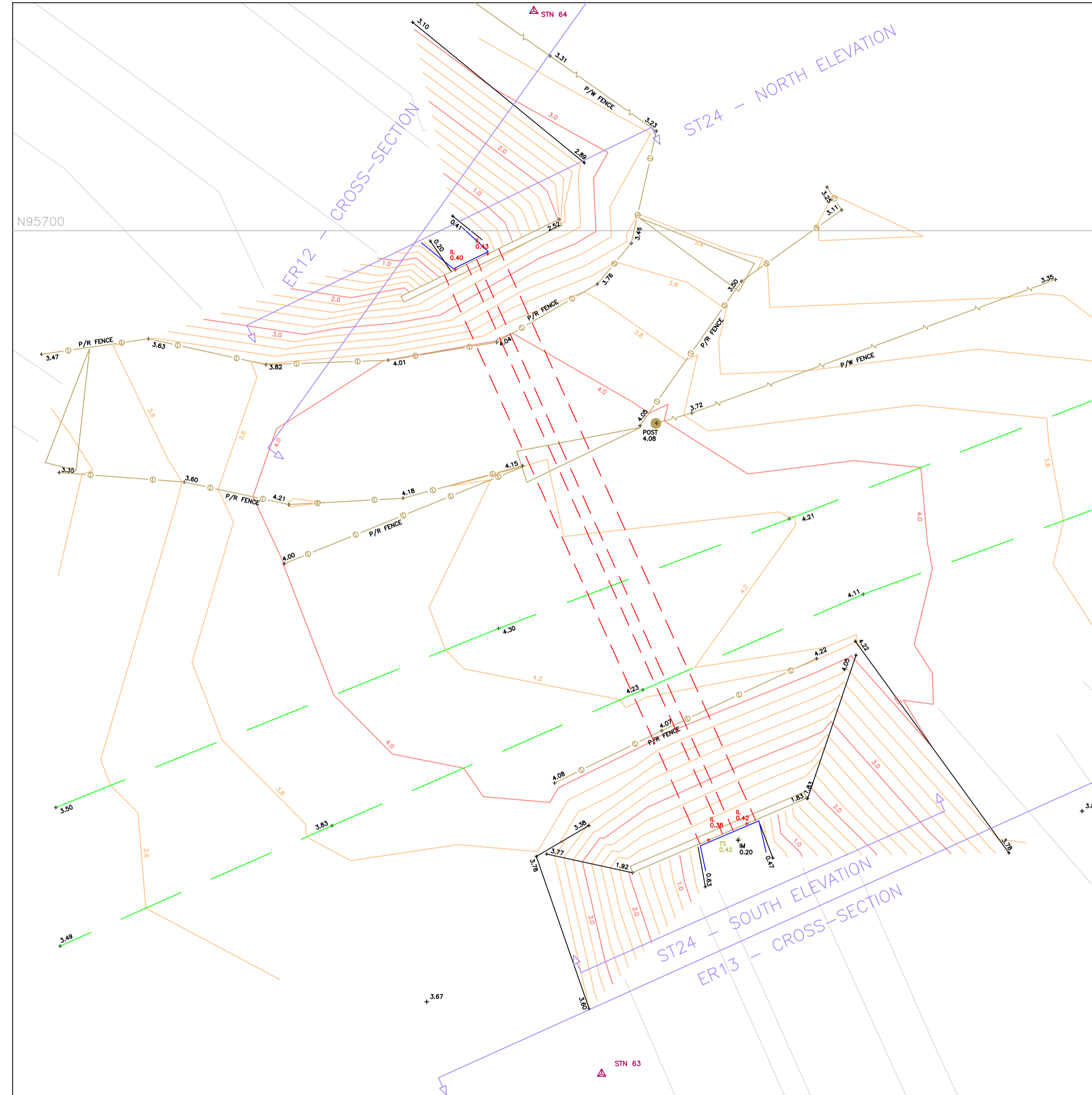
KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

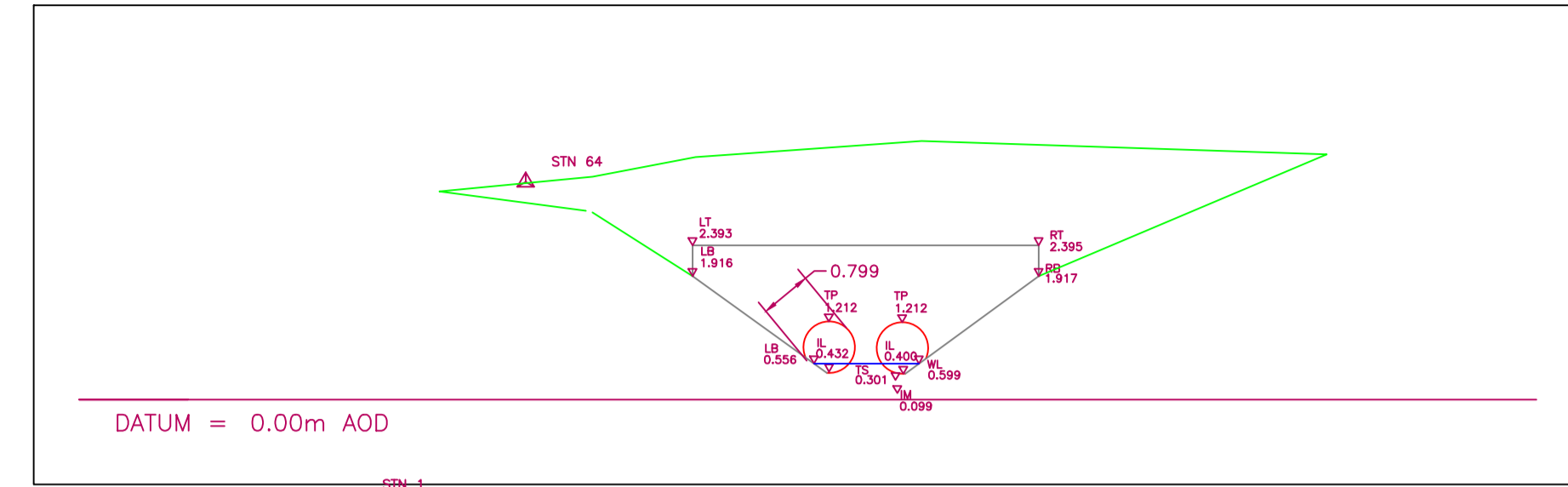
ER11 - CROSS-SECTION



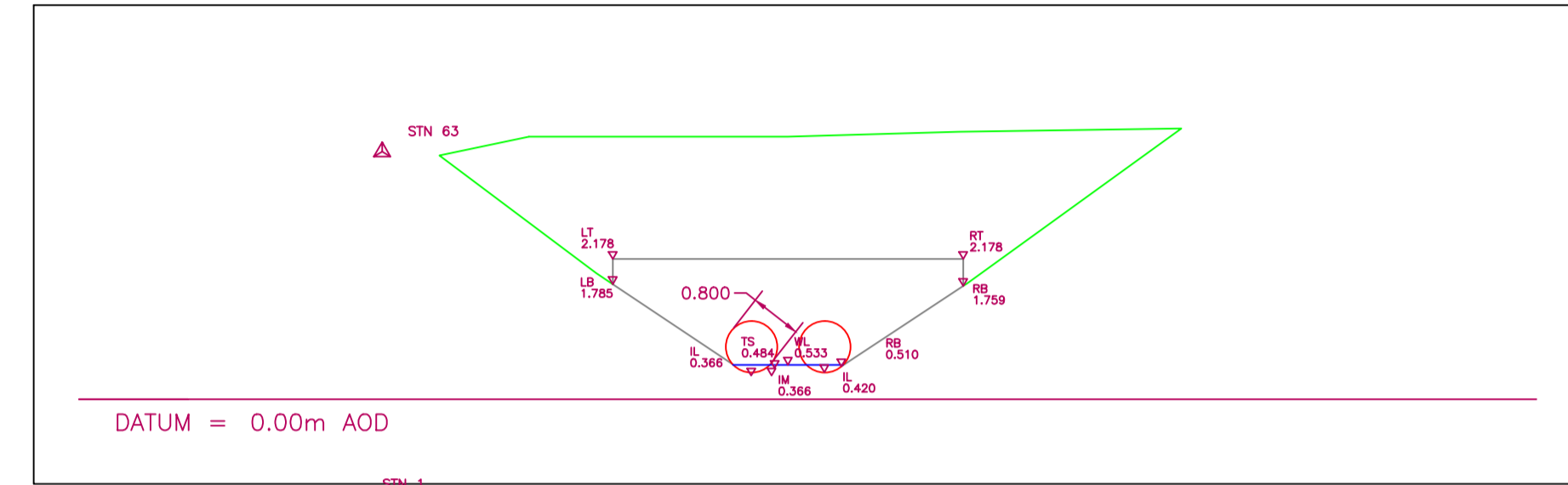
PLAN OF STRUCTURE – ST24



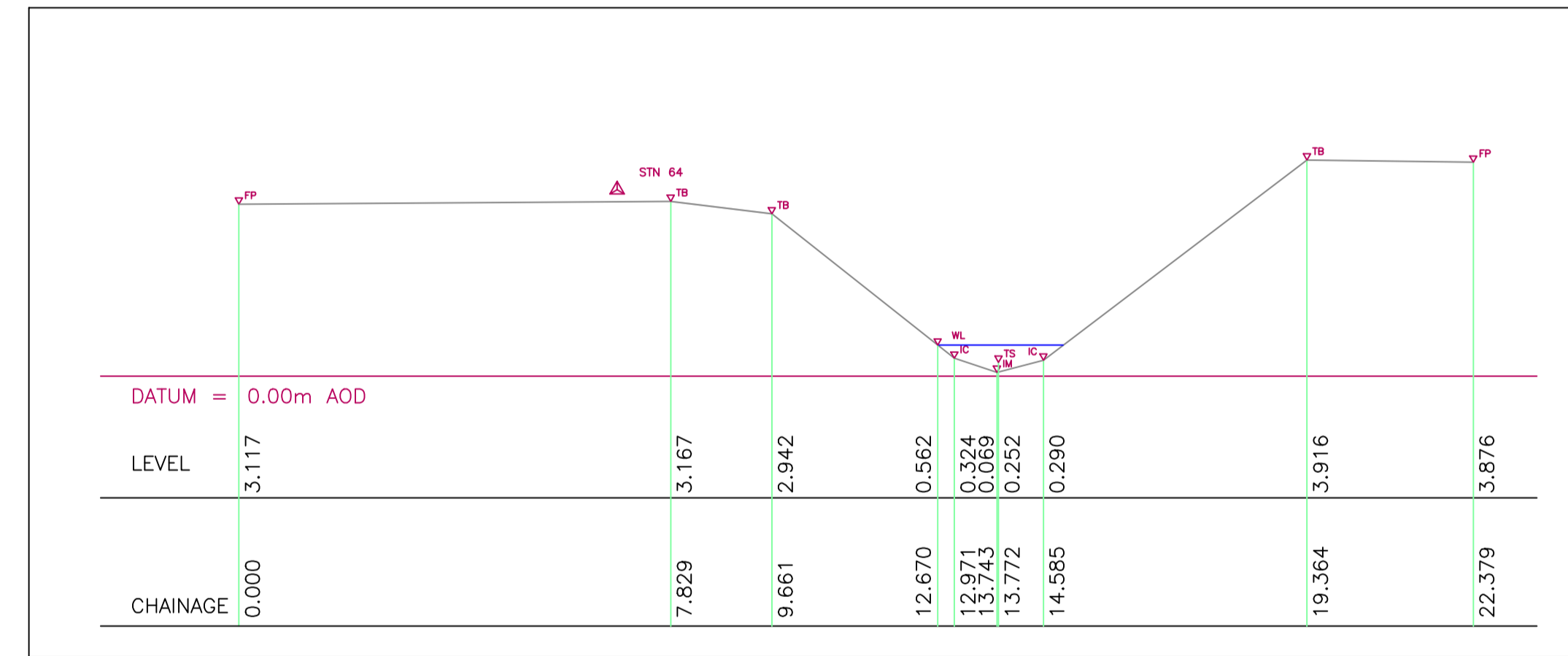
ST24 – NORTH ELEVATION



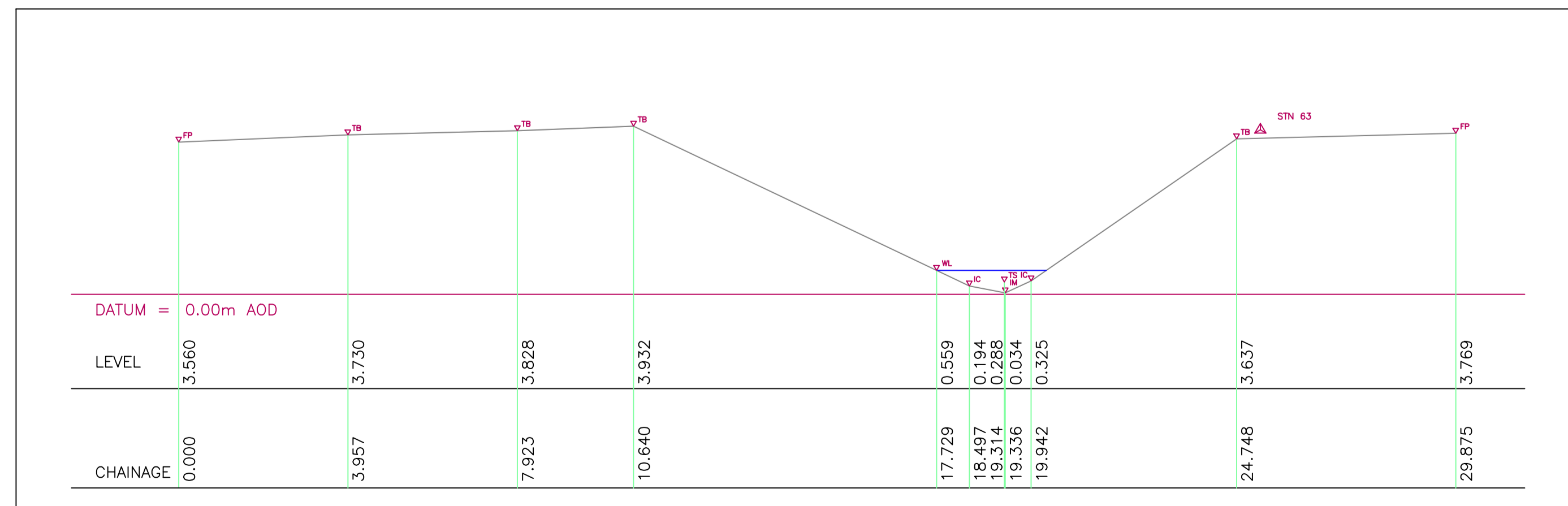
ST24 – SOUTH ELEVATION



ER12 – CROSS-SECTION

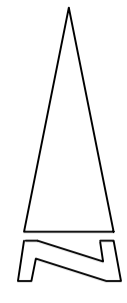


ER13 – CROSS-SECTION



KEY

- FP Flood Plain
- BB Bottom of Bank
- TB Top of Bank
- WL Water Line
- IC In Channel
- IM In Channel mid-point
- Applies to Arch, Culvert or Head Wall
- SL Soffit Level
- LT Left Top
- RT Right Top
- LB Left Bottom
- RB Right Bottom
- BL Base Level
- IL Invert Level
- TS Top of Silt
- FH Fire hydrant
- GY Gulley
- IC Inspection cover
- MH Manhole
- SMP Service marker post
- GSV Gas stop valve
- WSV Water stop valve
- DK Drop kerb
- EP Electricity pole
- KB Kerb
- OSBM OS bench mark
- RS Road sign
- TP Telegraph pole
- B/W Barbed wire fence
- C/B Close boarded fence
- C/L Chain link fence
- C/P Chestnut paling fence
- P/R Post and rail fence



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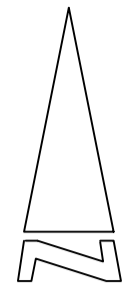
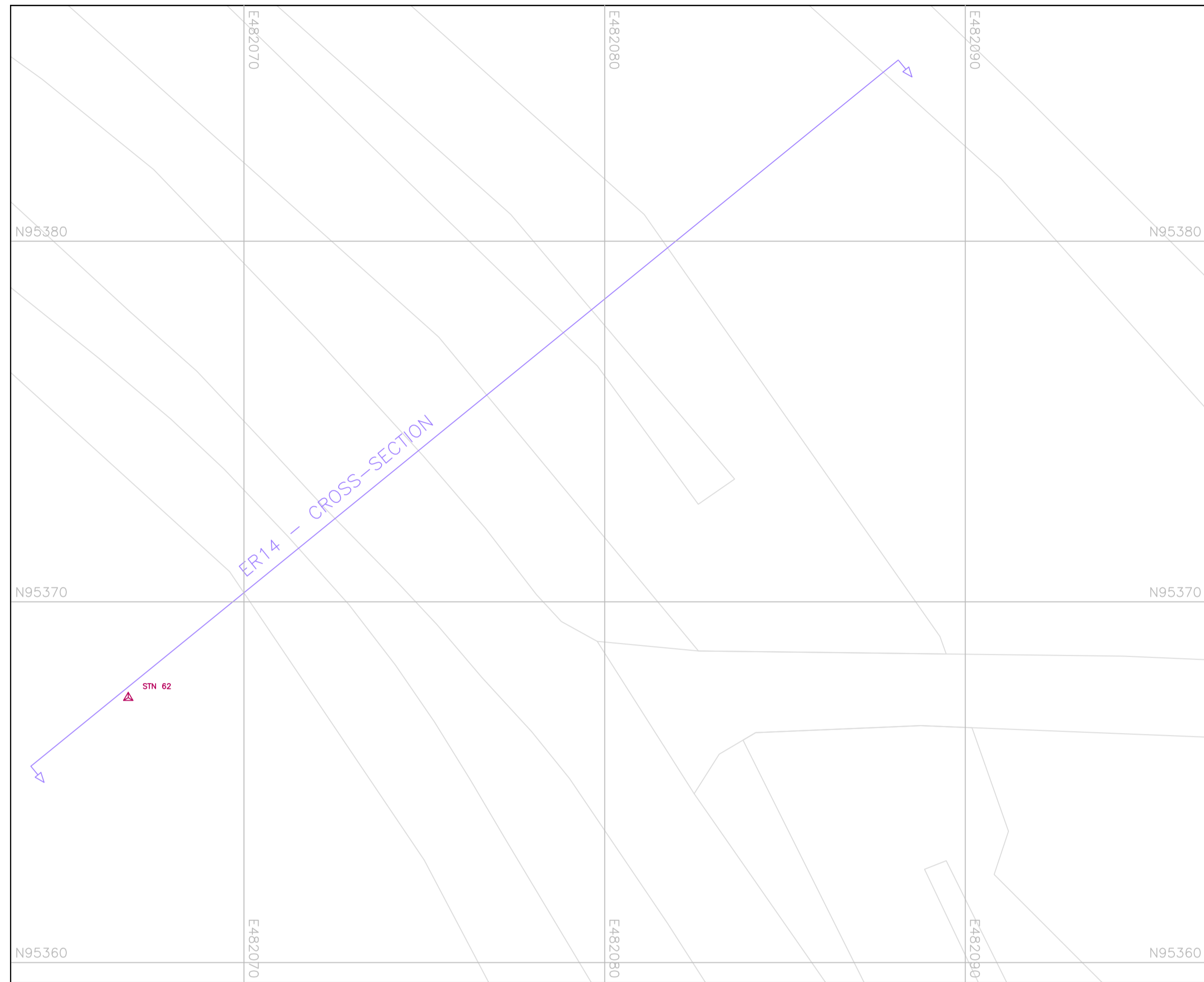
REVISION	DESCRIPTION	DATE



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CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – ER-M		
SCALE	DATE	
1:100 (A1)	20/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_15	–

PLAN OF CROSS-SECTION – ER14



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Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING

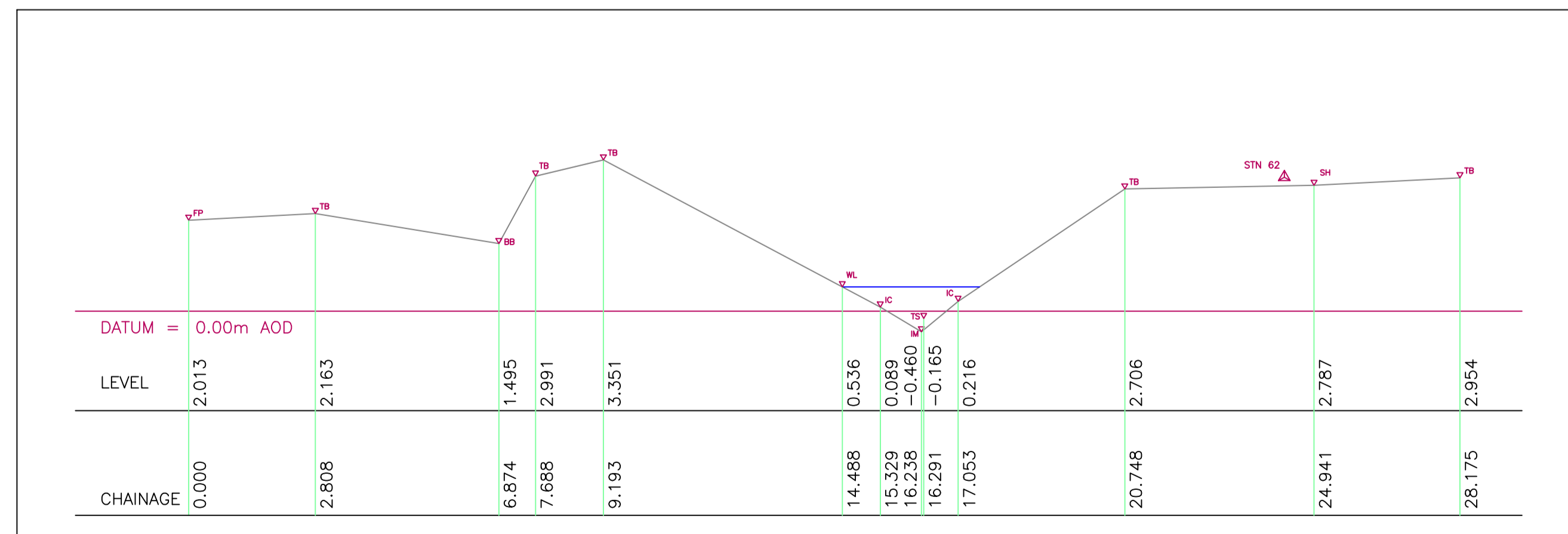
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SCALE	DATE
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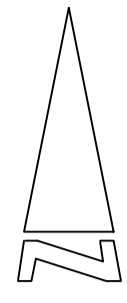
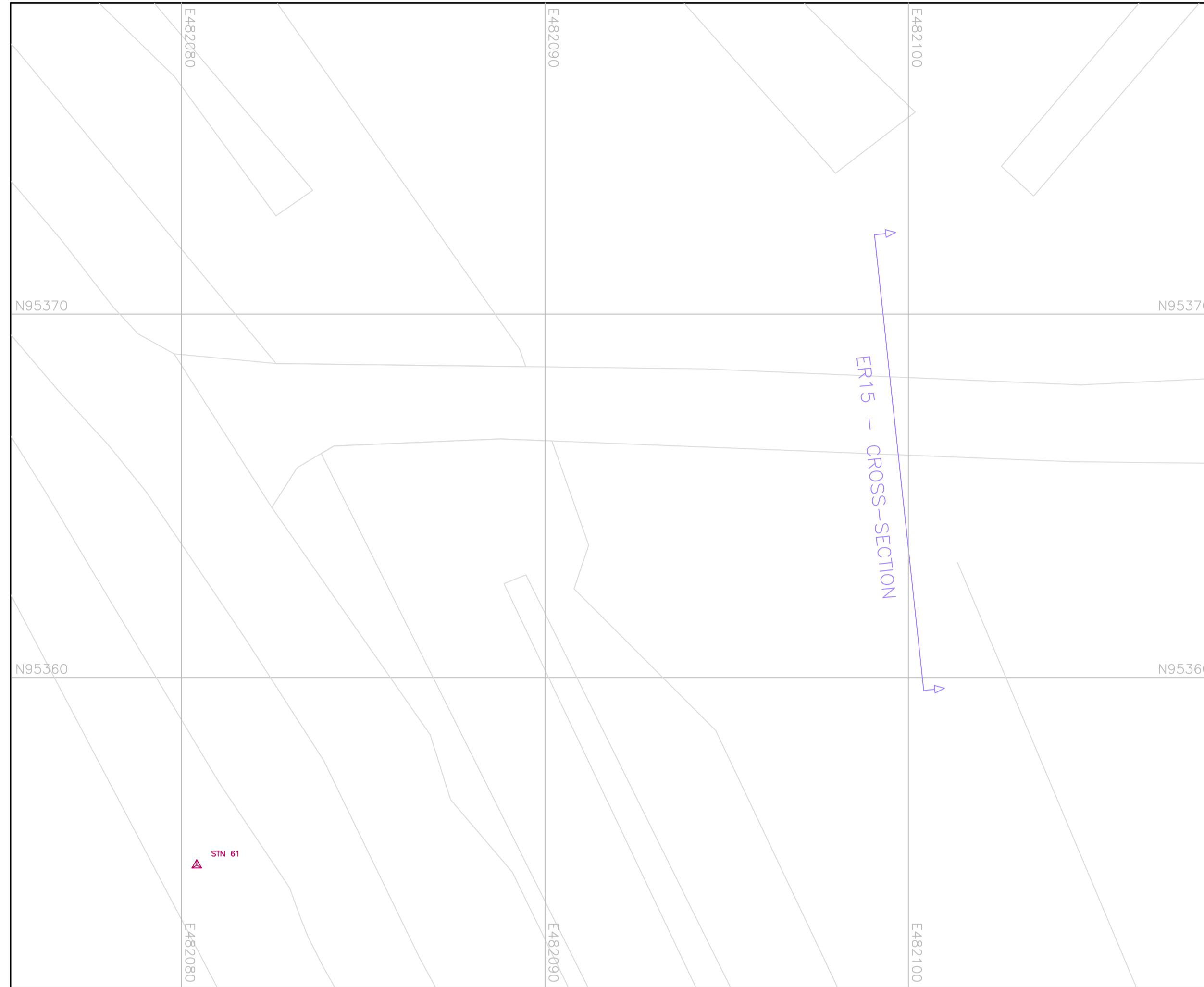
CLIENT NO.	JOB NO.	REVISION
00228	0411_16	–

KEY	
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BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
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BL	Base Level
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TS	Top of Silt
FH	Fire hydrant
GY	Gully
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER14 – CROSS-SECTION



PLAN OF CROSS-SECTION – ER15



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Notes

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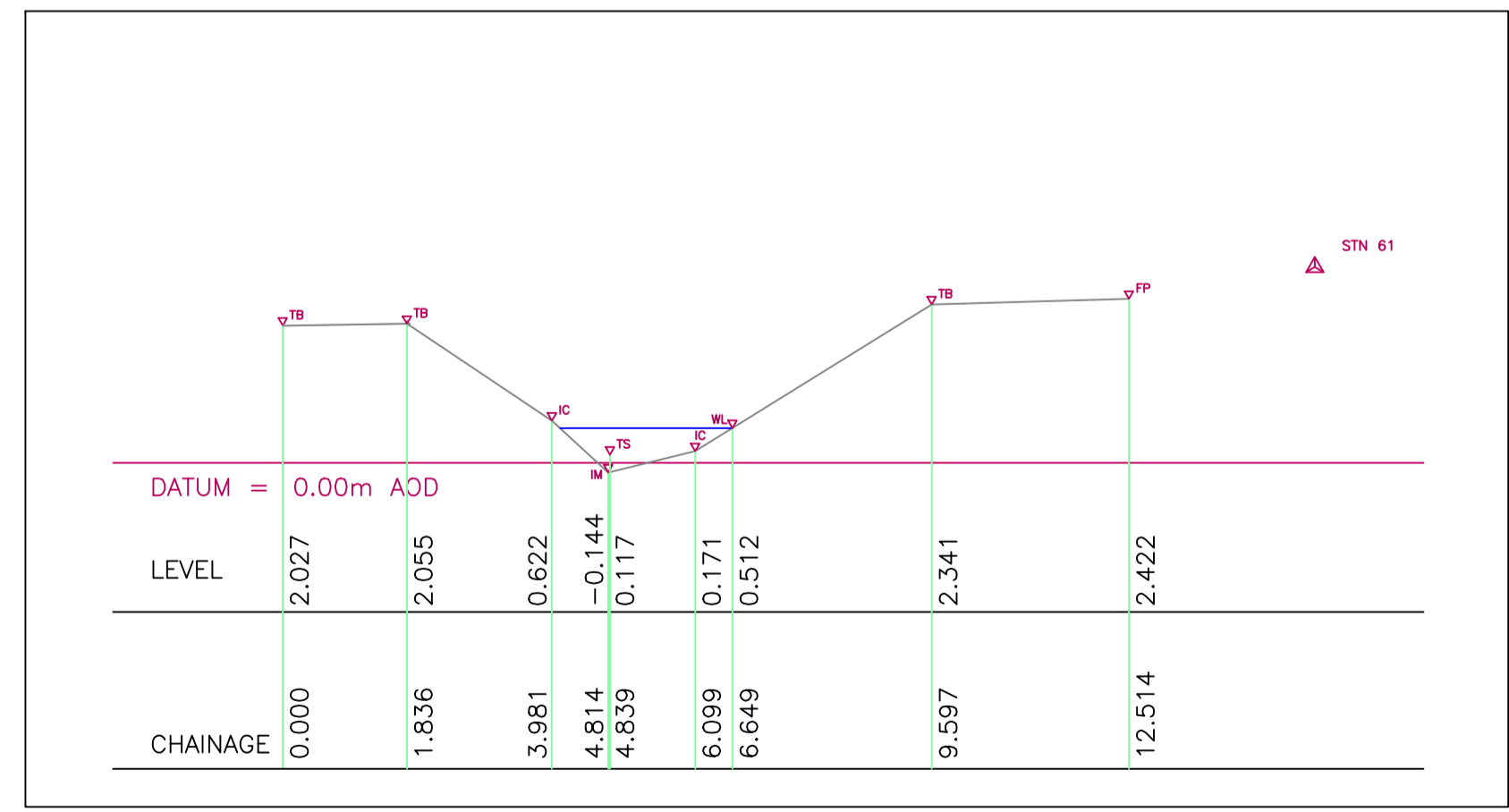
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
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B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER15 – CROSS-SECTION

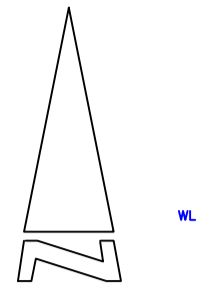
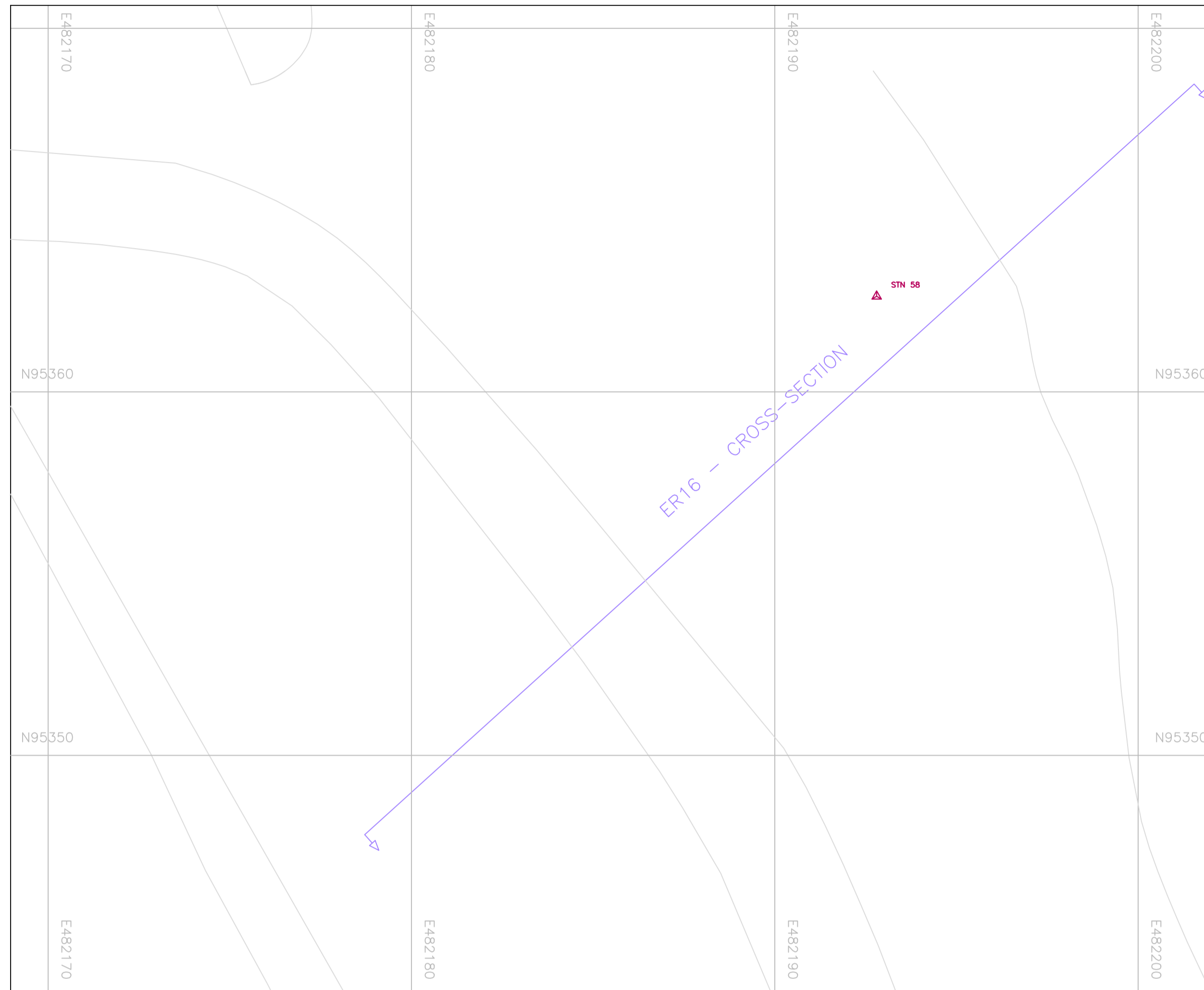




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Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – ER-0		
SCALE	DATE	
1:100 (A1)	21/6/2019	
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00228	0411_17	-

PLAN OF CROSS-SECTION – ER16



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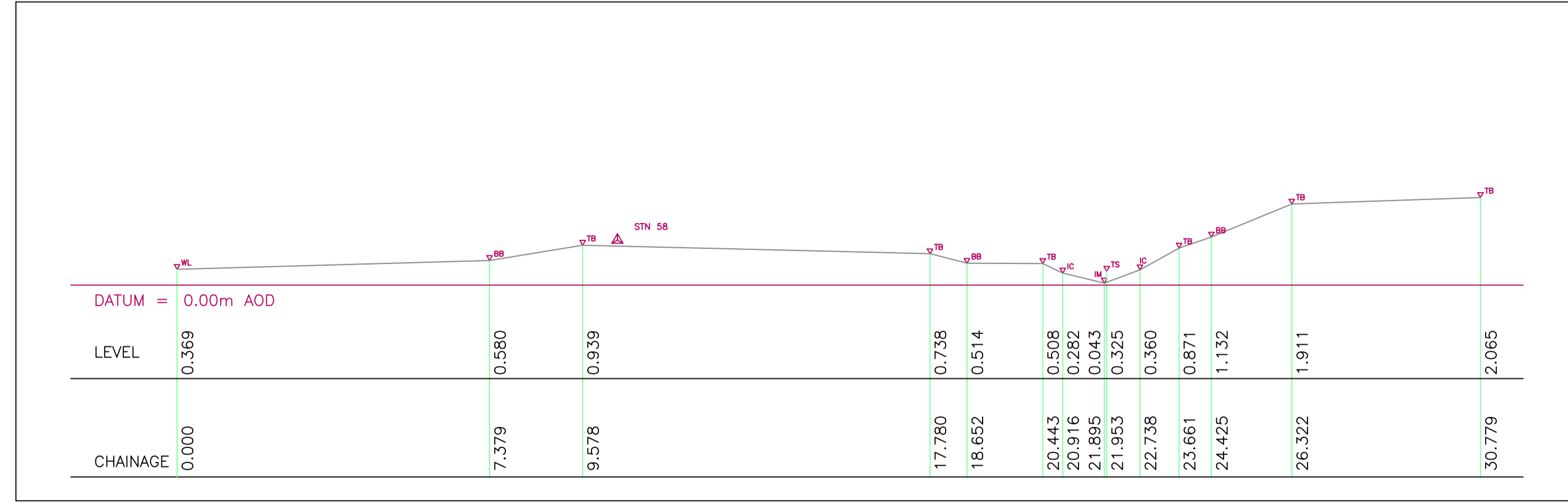
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE
A	CORRECTED 46mm IN HEIGHT	5/7/19

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gully
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER16 – CROSS-SECTION

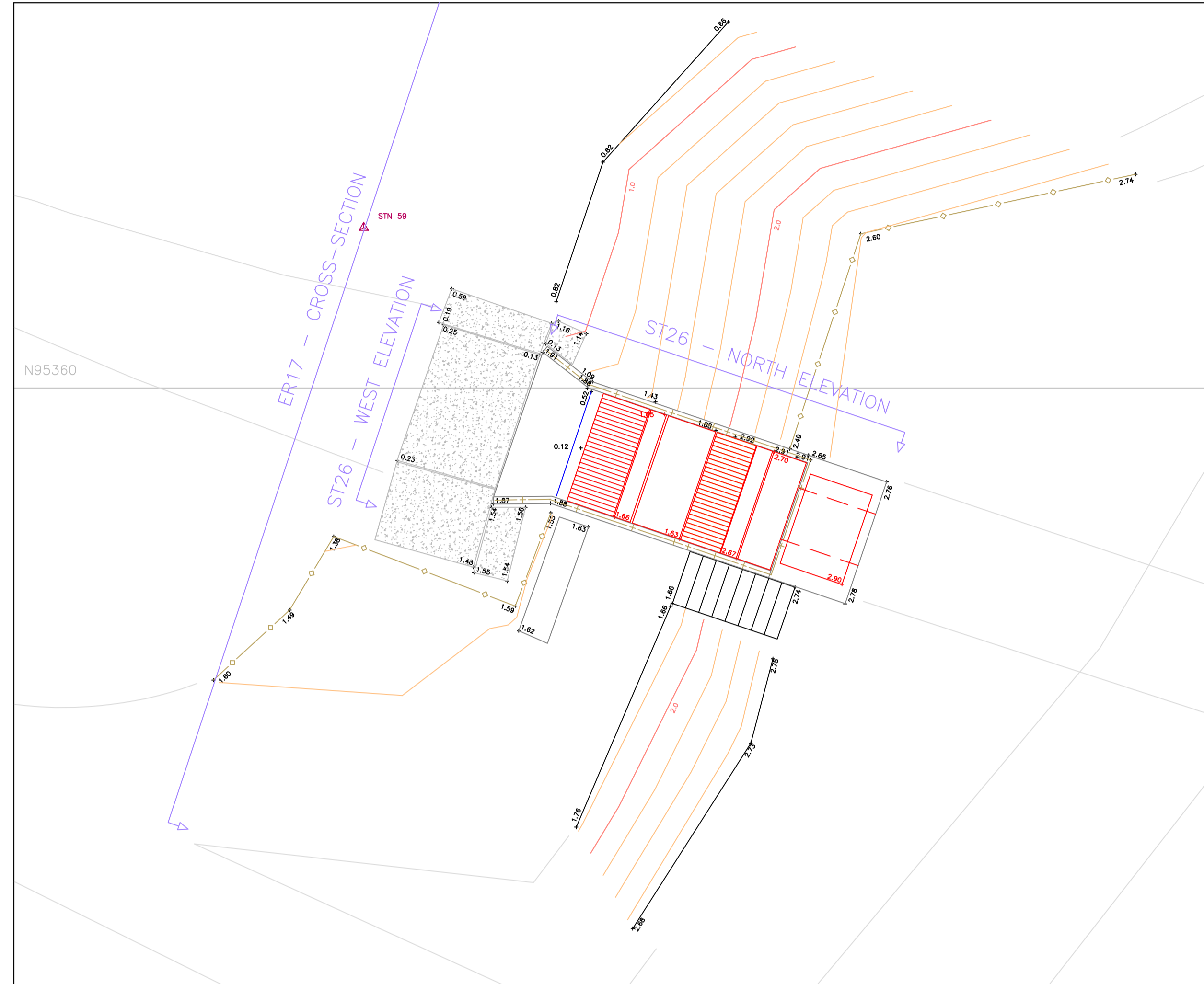




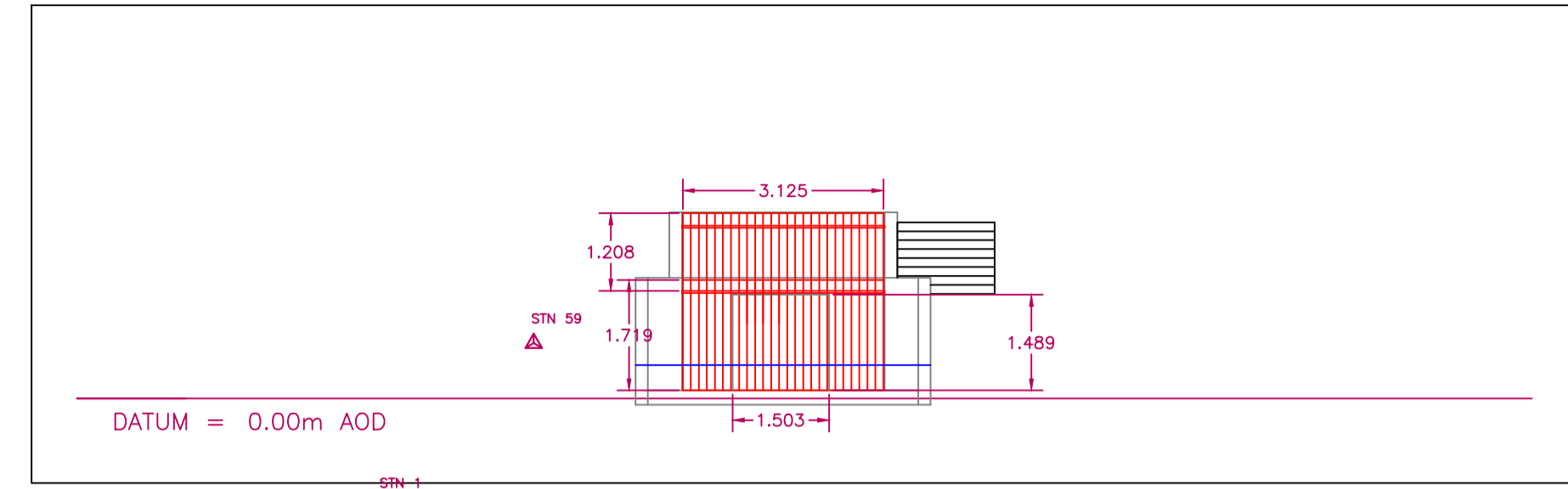
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PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
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SCALE	DATE	
1:100 (A1)	21/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_18	A

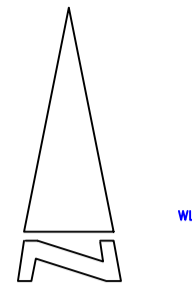
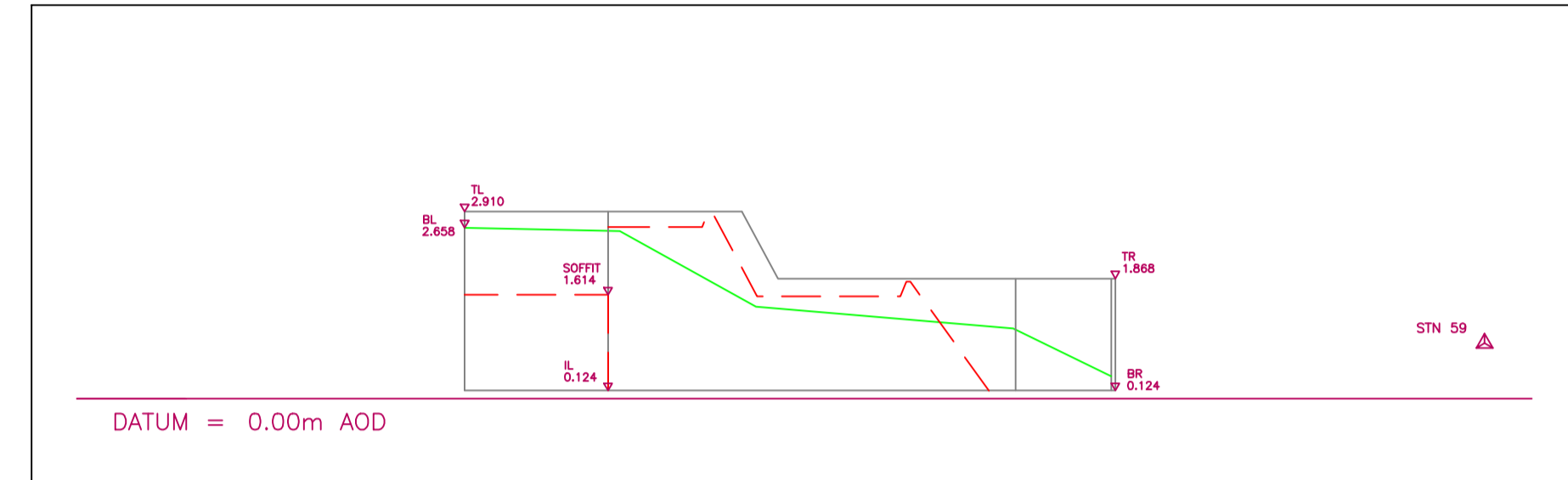
PLAN OF STRUCTURE – ST26



ST26 WEST ELEVATION



ST26 NORTH ELEVATION



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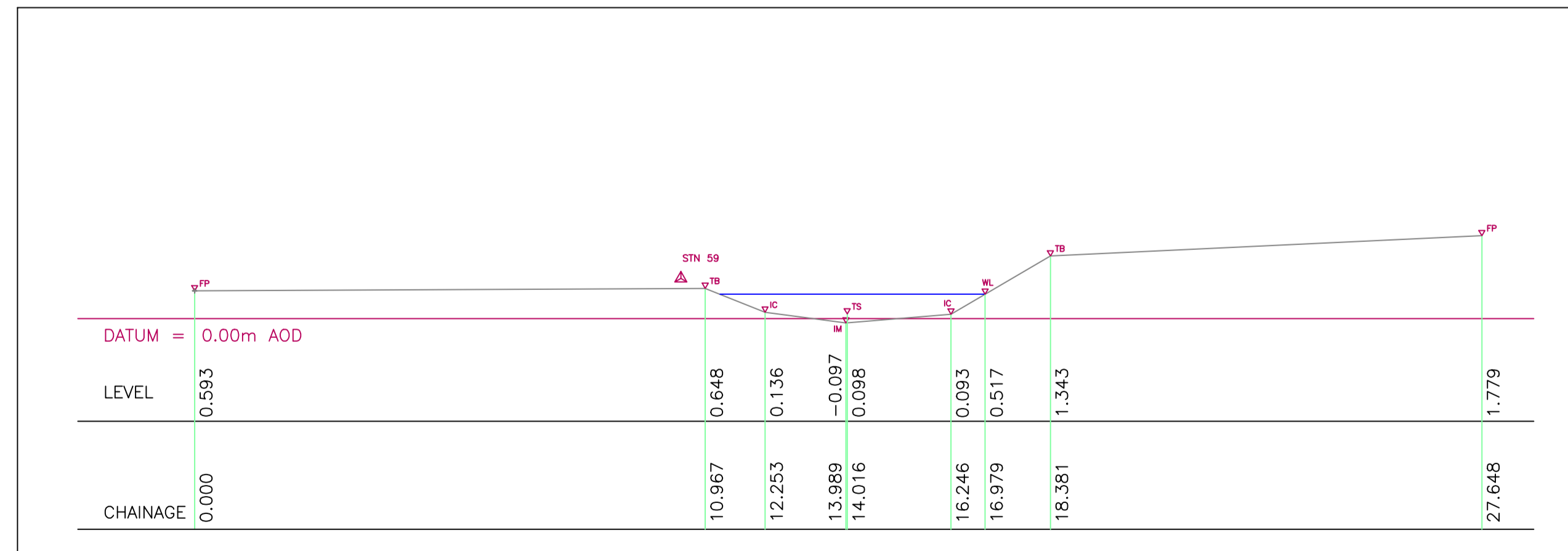
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gully
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

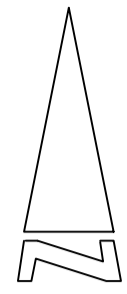
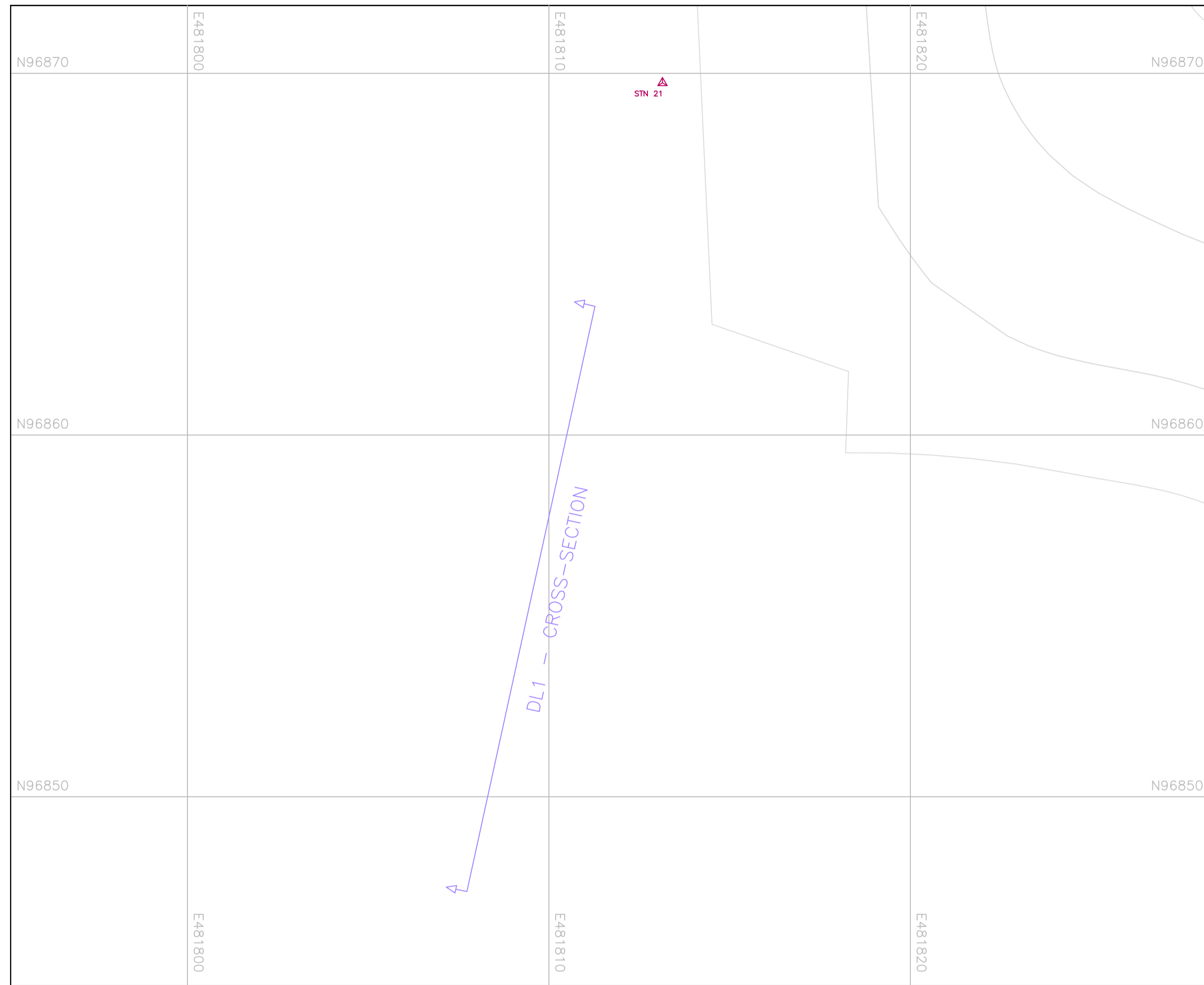
ER17 – CROSS-SECTION



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PLAN OF CROSS-SECTION - DL1



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING

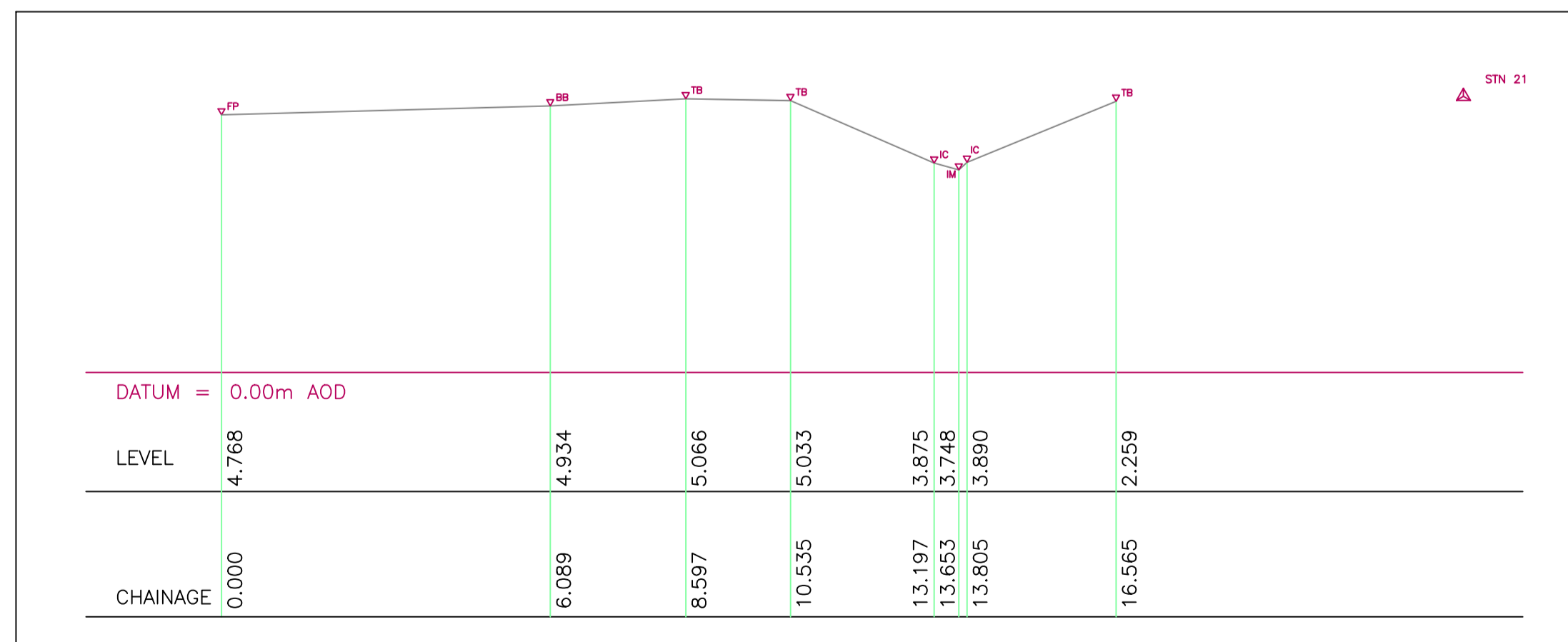
Survey of structures and cross-sections - DL-A

SCALE	DATE
1:100 (A1)	22/6/2019

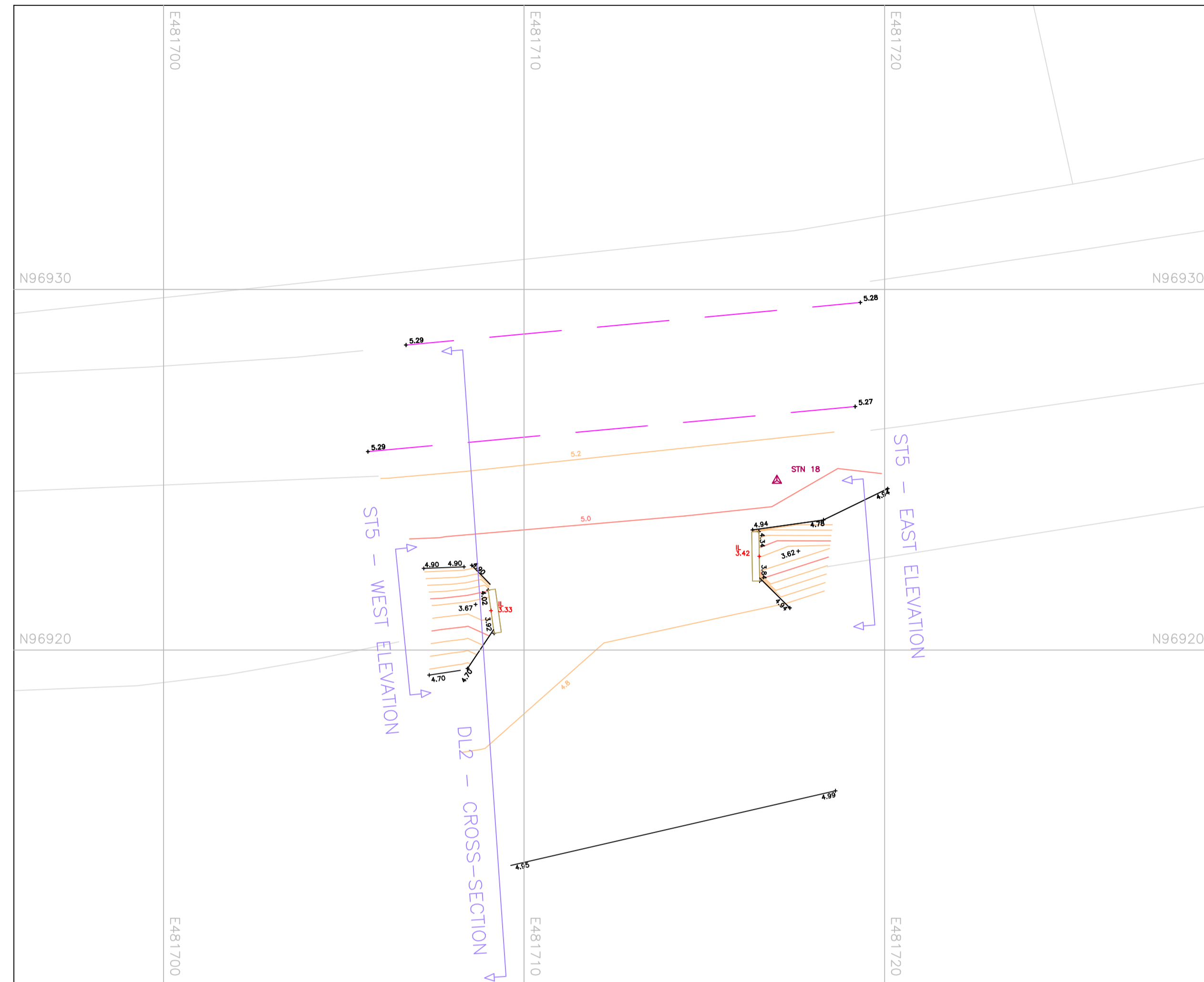
CLIENT NO.	JOB NO.	REVISION
00228	0411_20	-

KEY	
FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

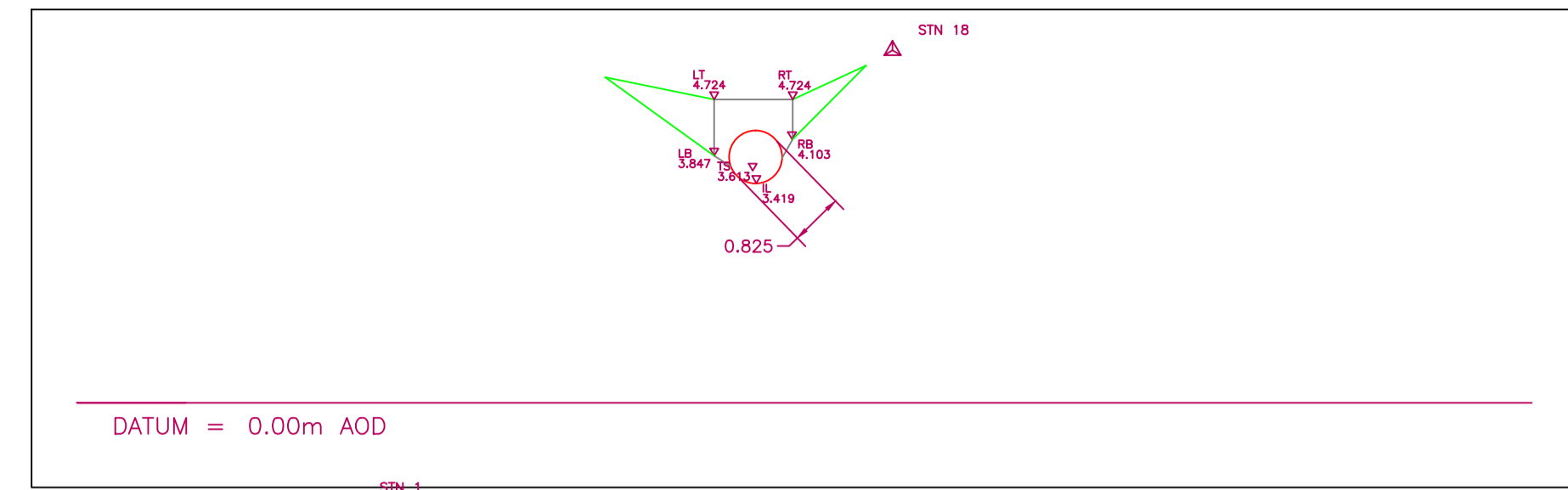
DL1 - CROSS-SECTION



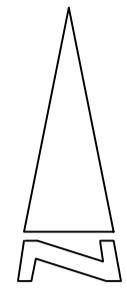
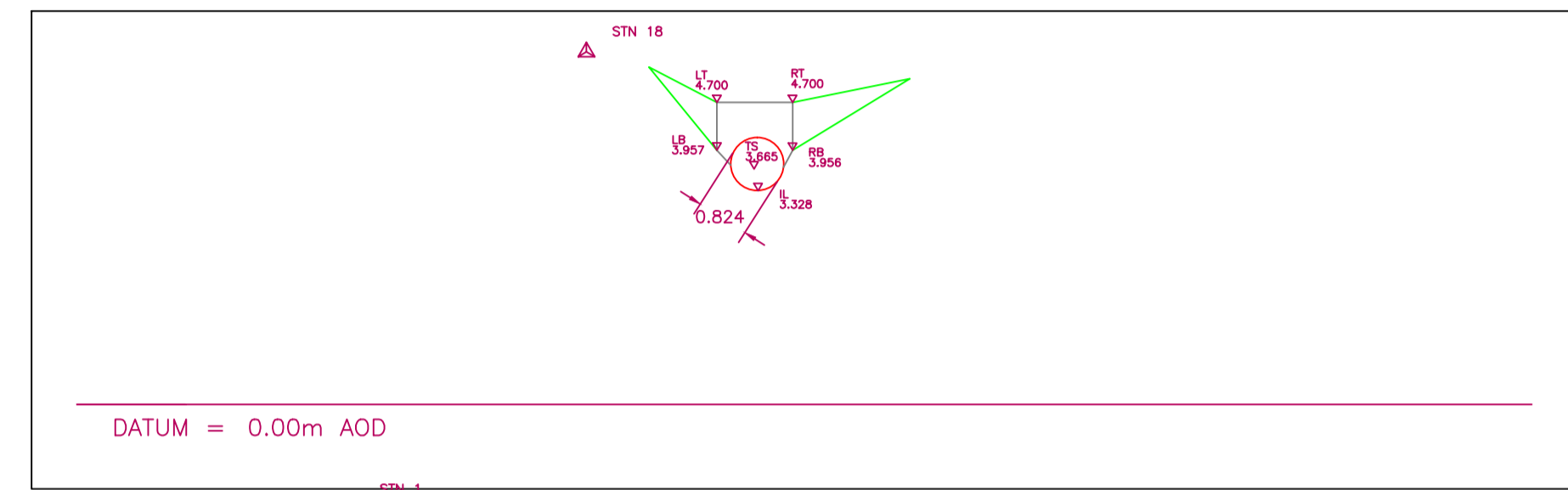
PLAN OF STRUCTURE ST5



ST5 EAST ELEVATION



ST5 WEST ELEVATION



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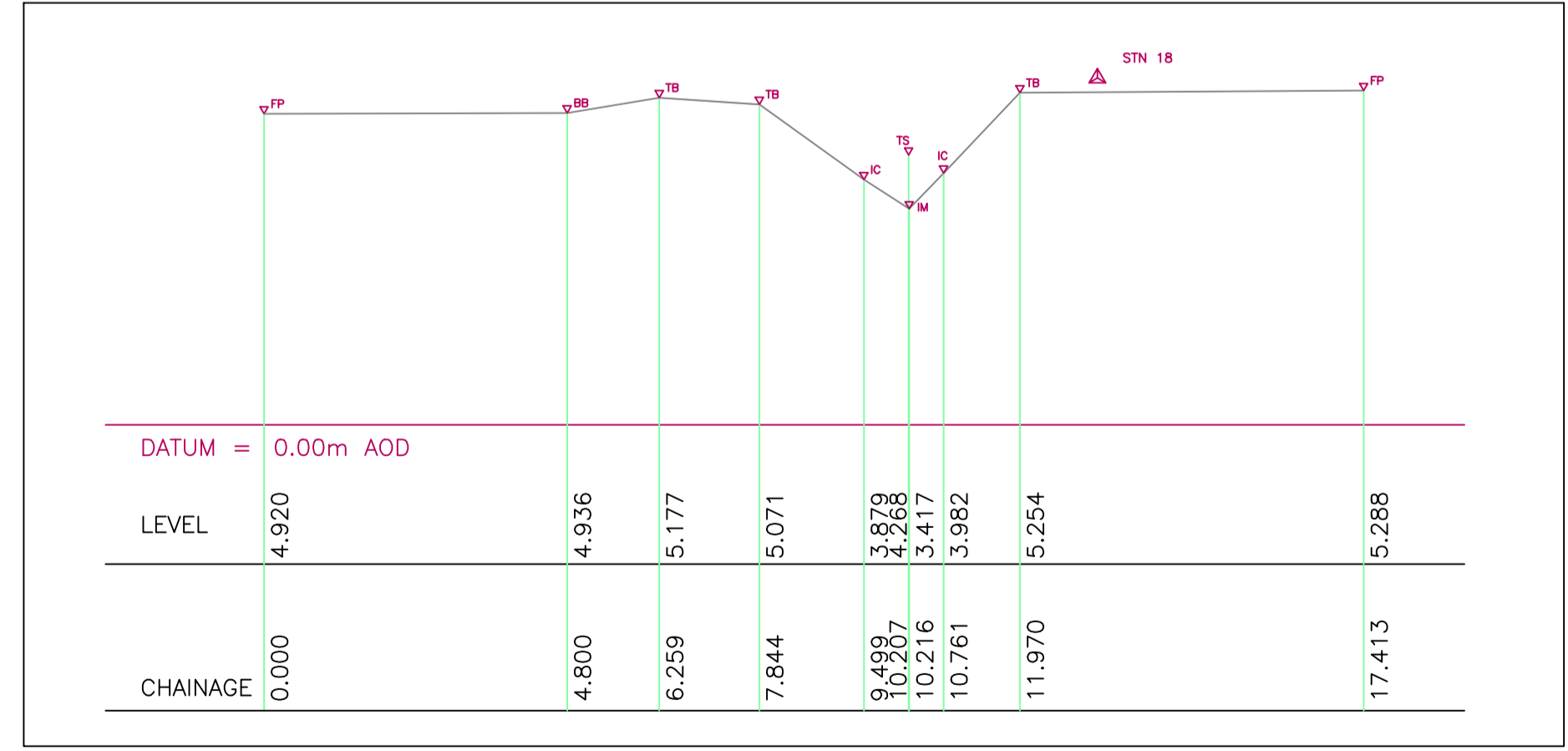
Notes
 Where underground services are shown it is advisable to check these details against statutory authority records before proceeding with any design.
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 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
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WSV	Water stop valve
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KB	Kerb
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C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL2 - CROSS-SECTION

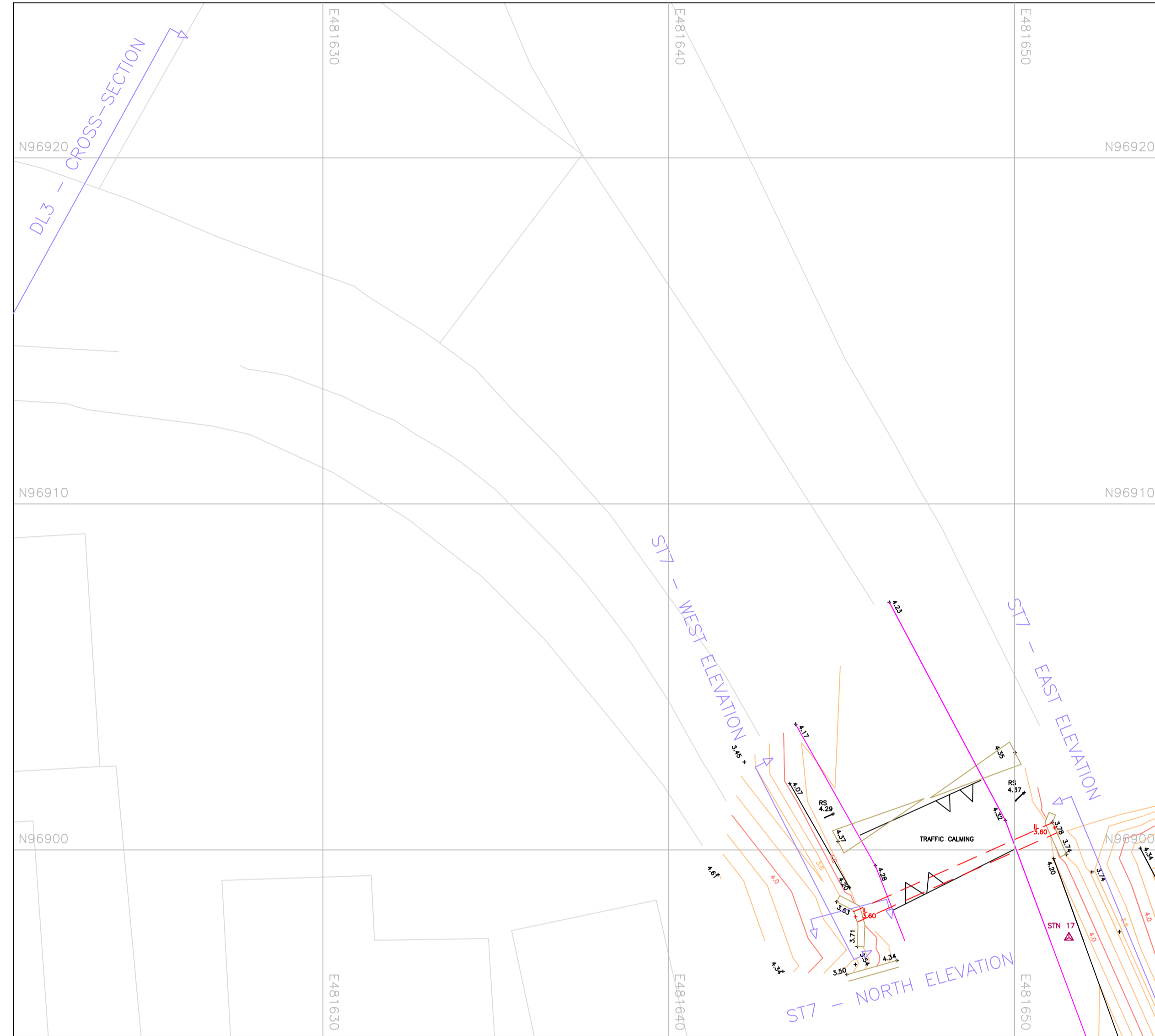




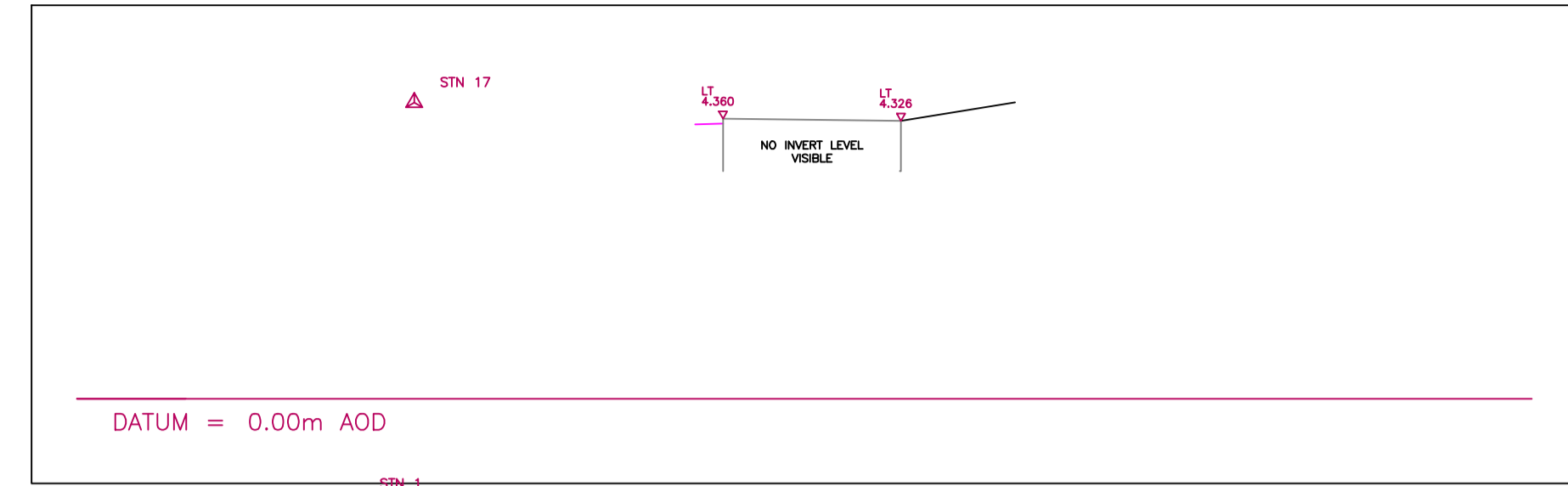
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CUSTOMER		
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SCALE	DATE	
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CLIENT NO.	JOB NO.	REVISION
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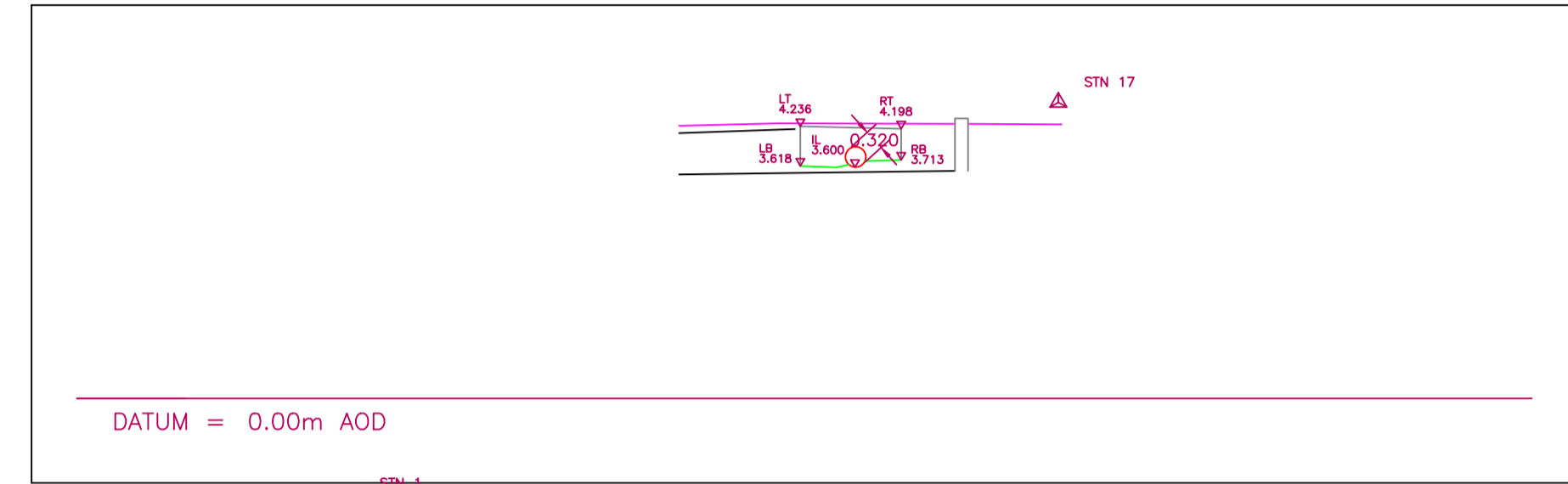
PLAN OF STRUCTURE ST7



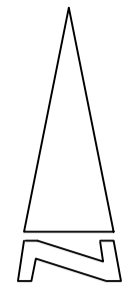
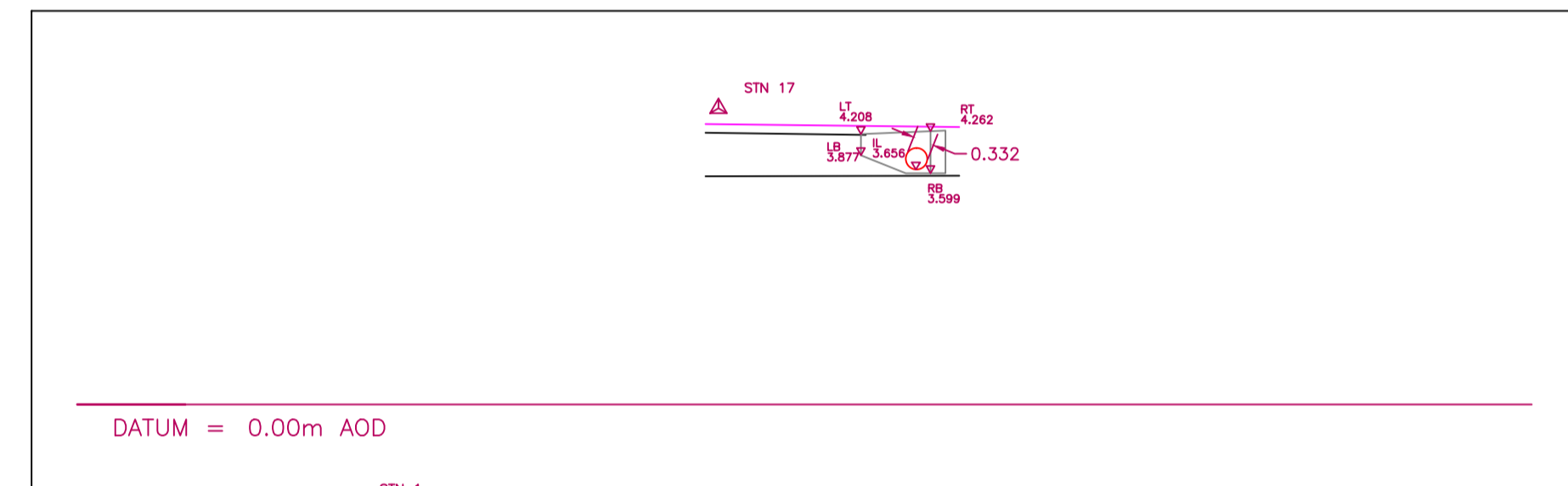
ST7 NORTH ELEVATION



ST7 WEST ELEVATION



ST7 EAST ELEVATION



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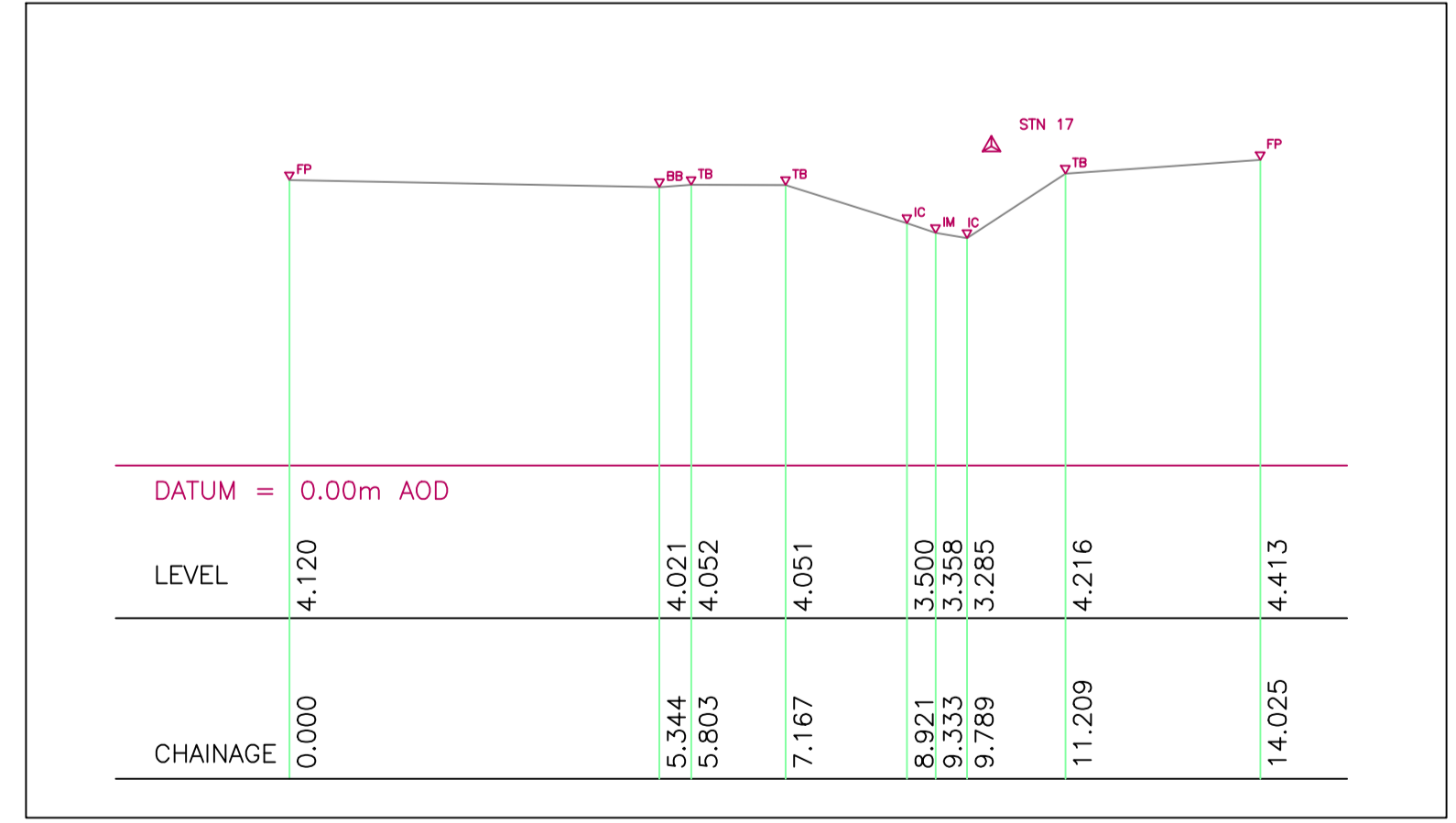
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL3 - CROSS-SECTION

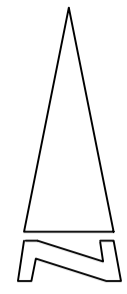
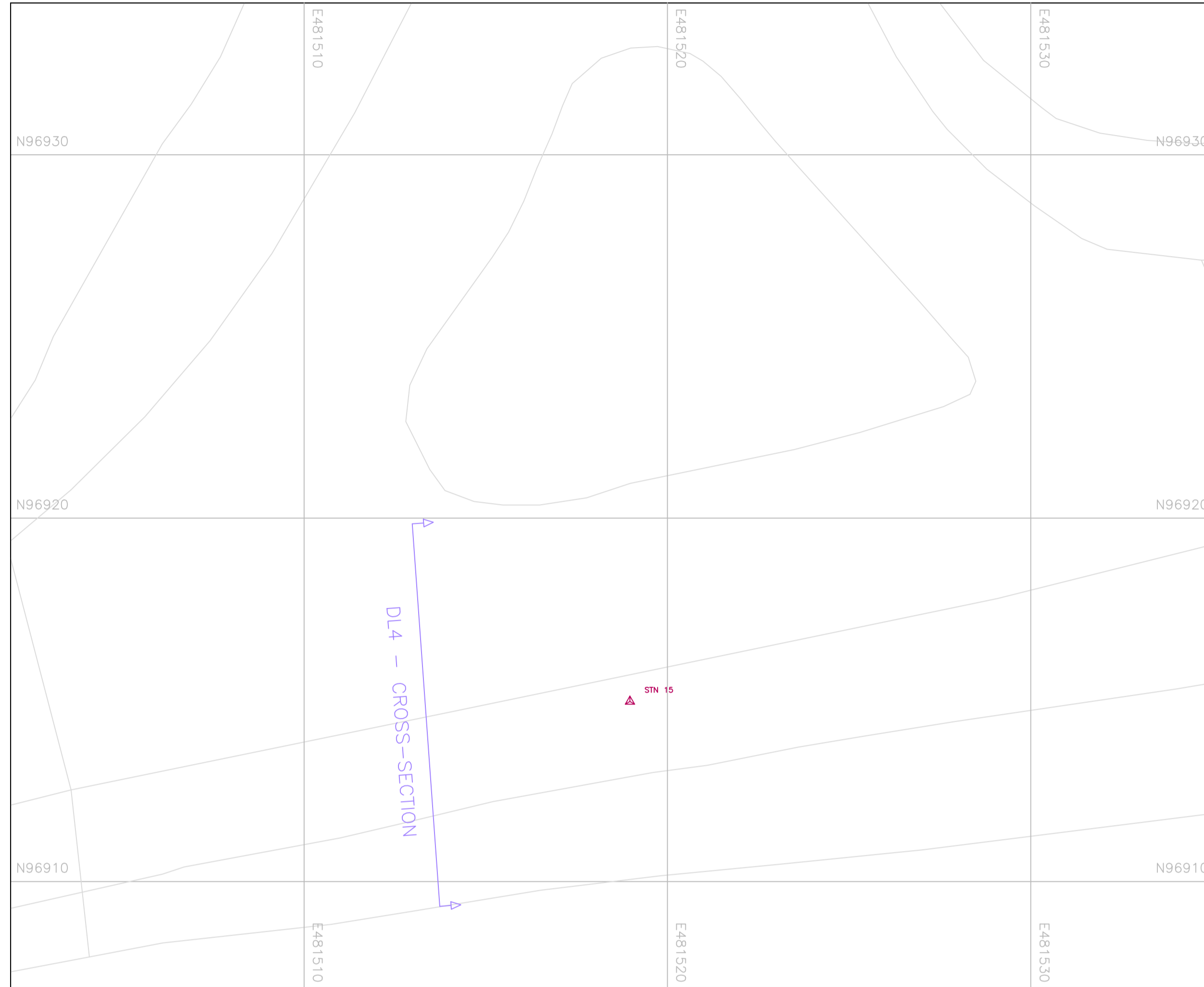




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PLAN OF ELEVATION – DL4



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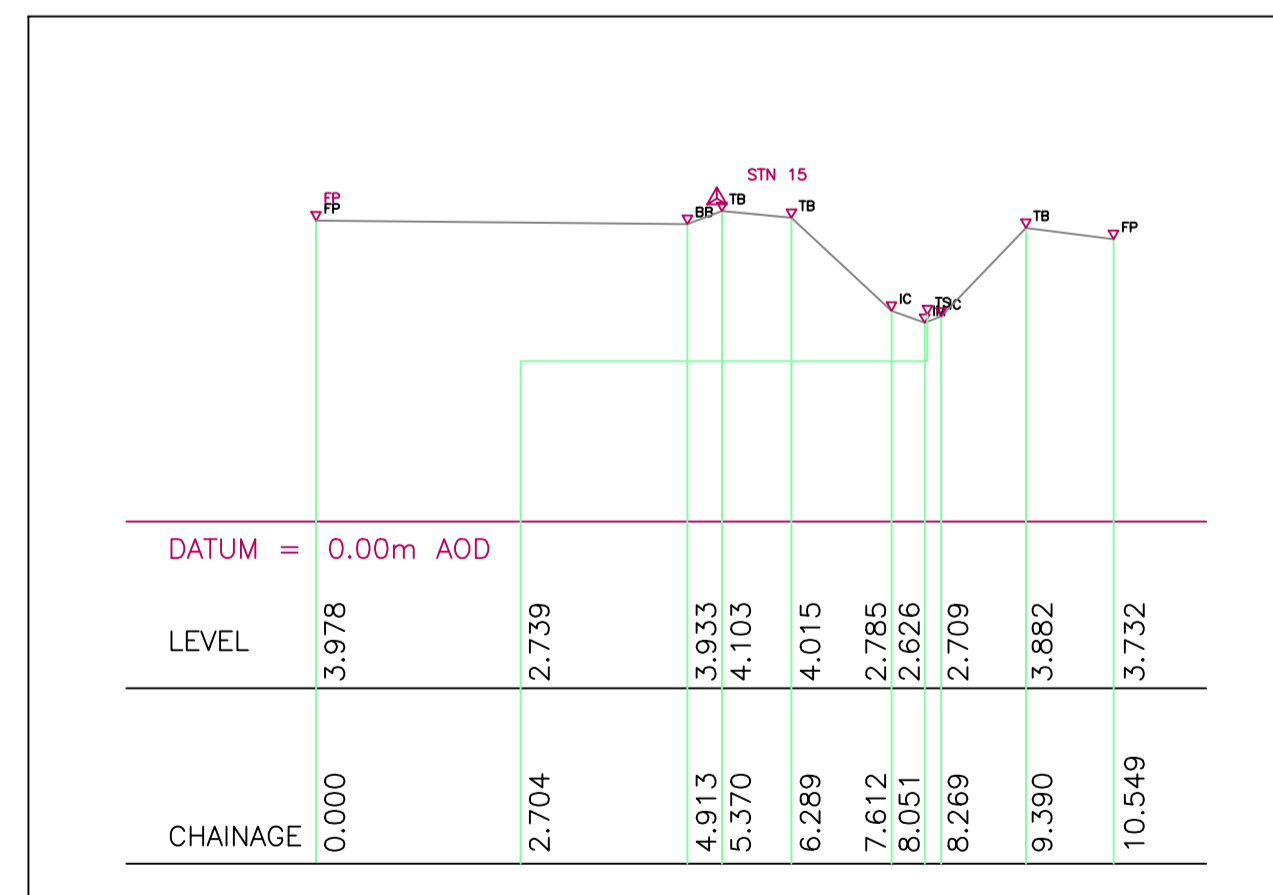
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

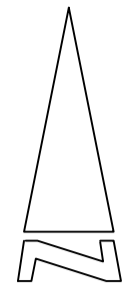
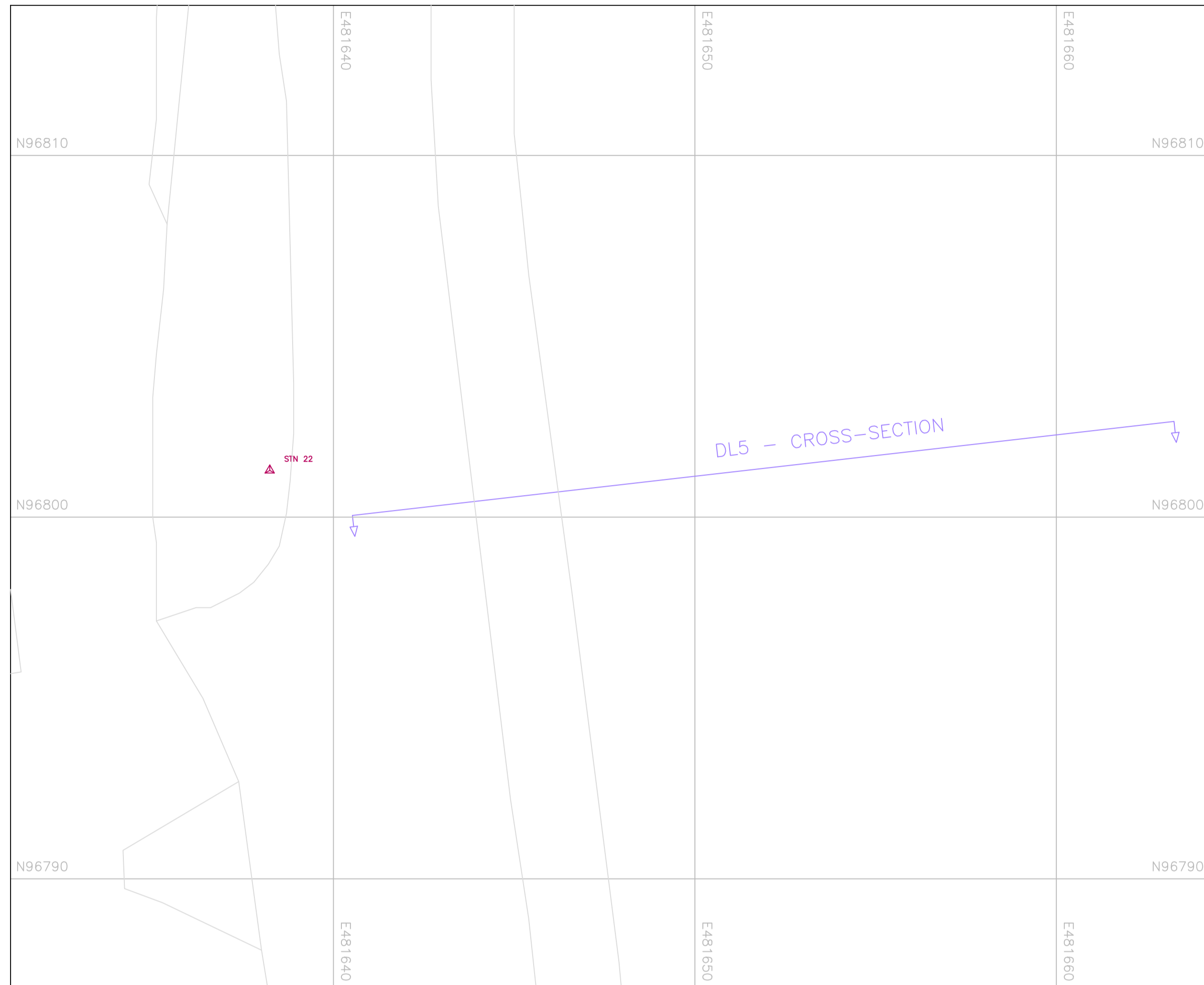
DL4 – CROSS-SECTION



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DRAWING		
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PLAN OF CROSS-SECTION - DL5



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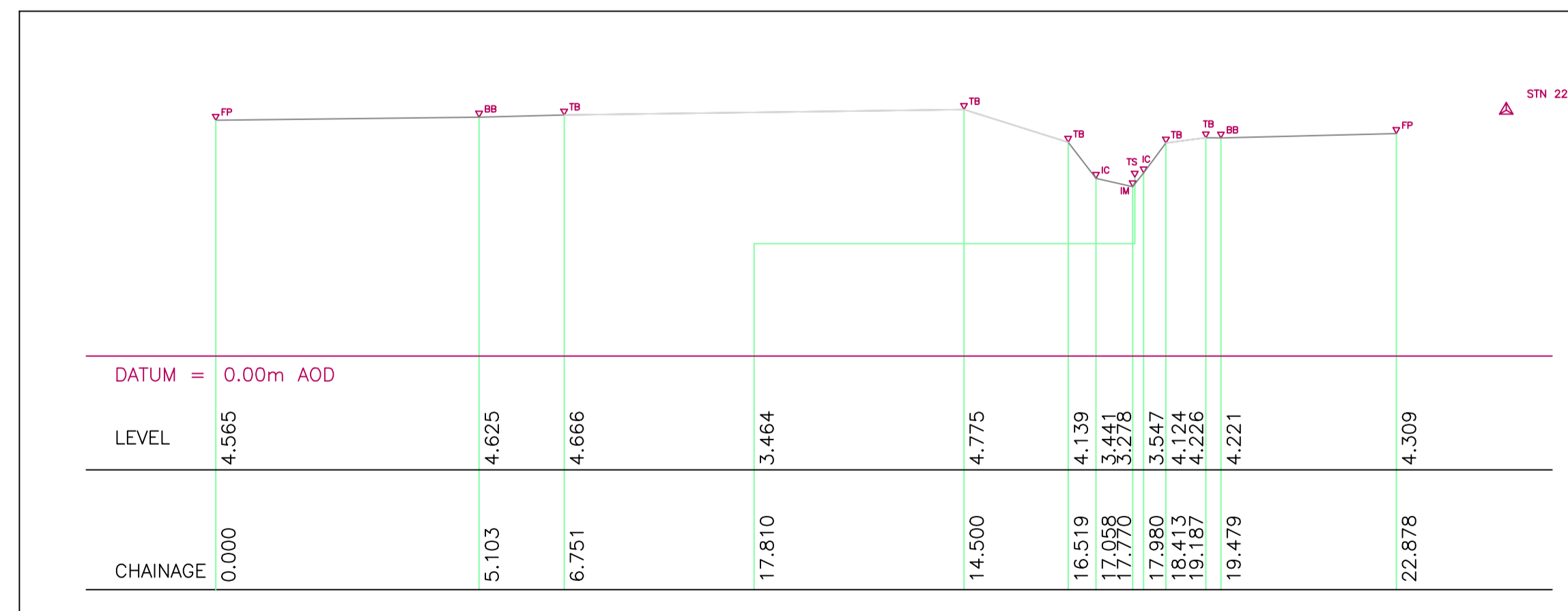
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE
A	CORRECTED 99mm HEIGHT	5/7/19

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
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IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
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C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

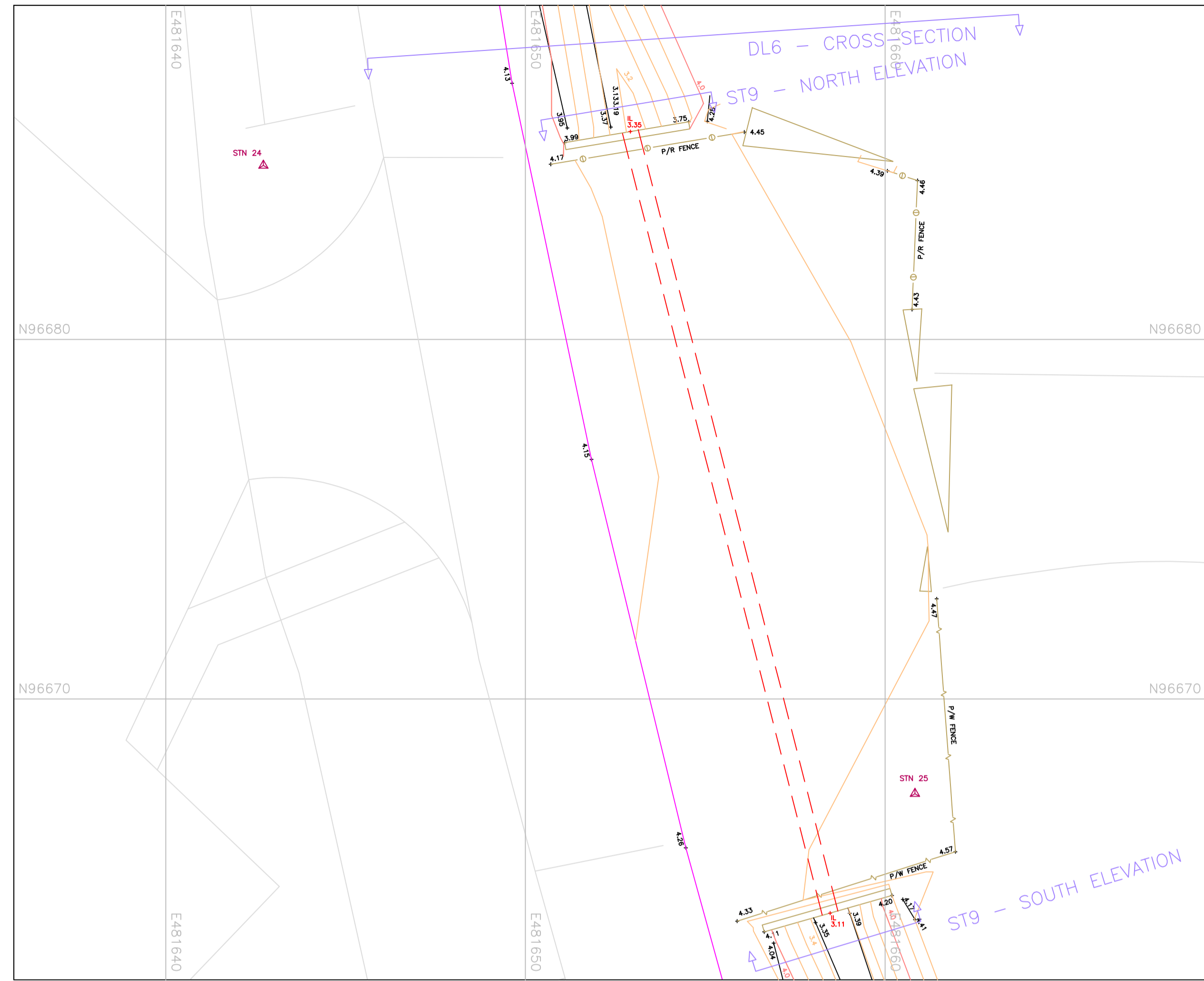
DL5 - CROSS-SECTION



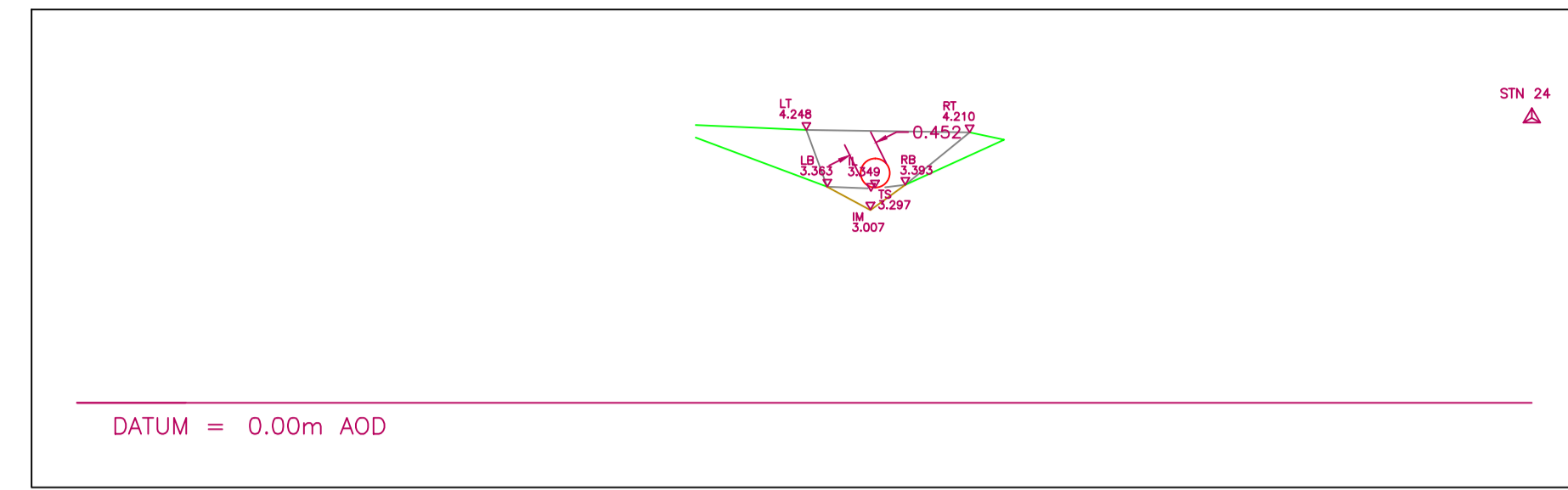
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CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections - DL-E		
SCALE	DATE	
1:100 (A1)	23/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_24	A

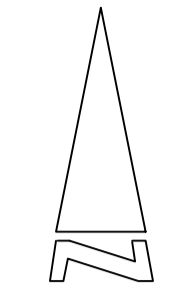
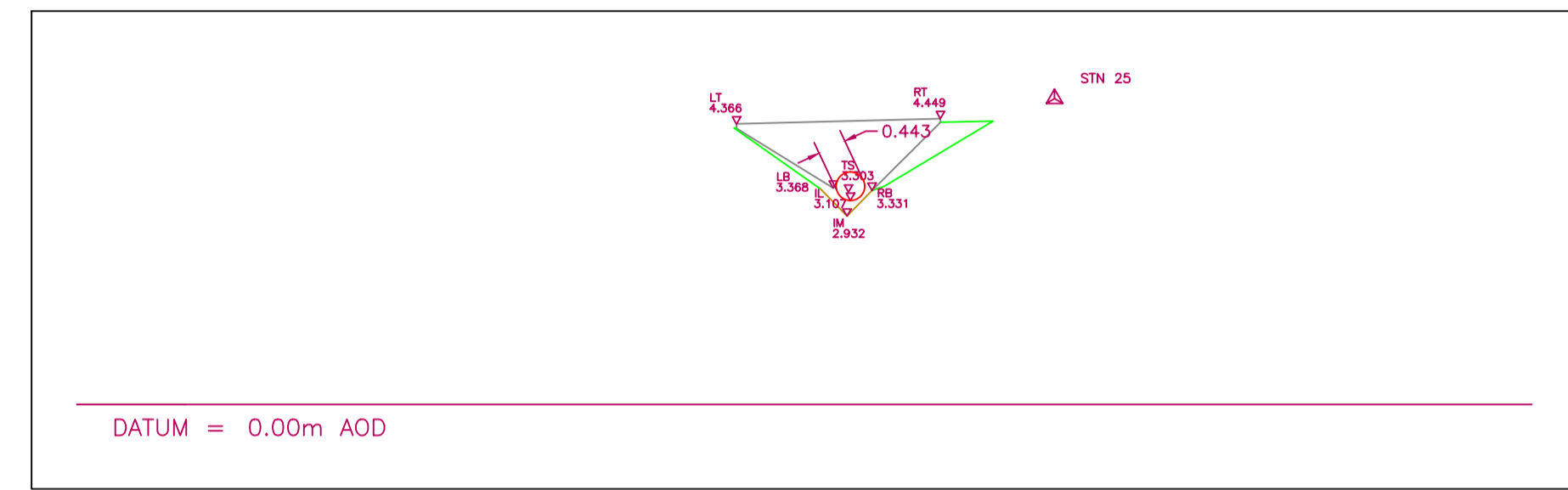
PLAN OF STRUCTURE – ST9



ST9 NORTH ELEVATION



ST9 SOUTH ELEVATION



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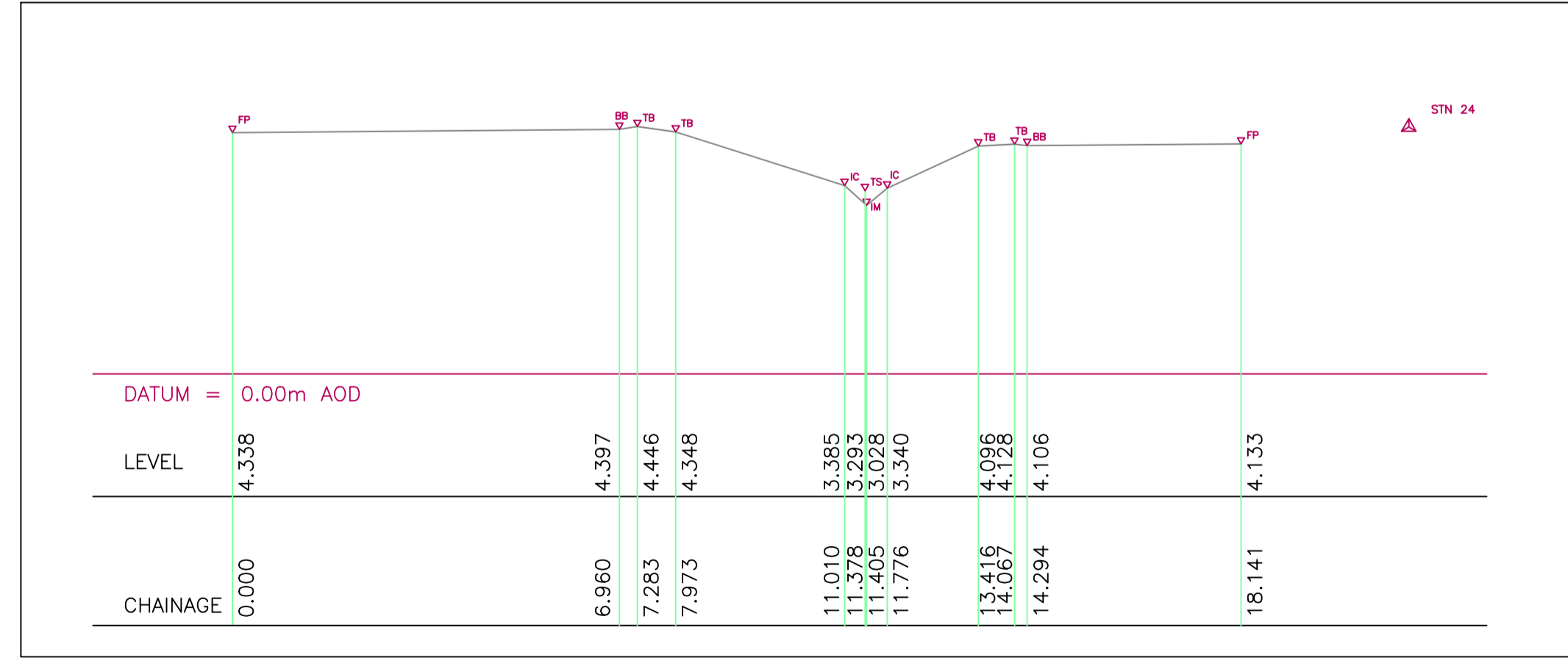
Notes
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 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL6 – CROSS-SECTION





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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

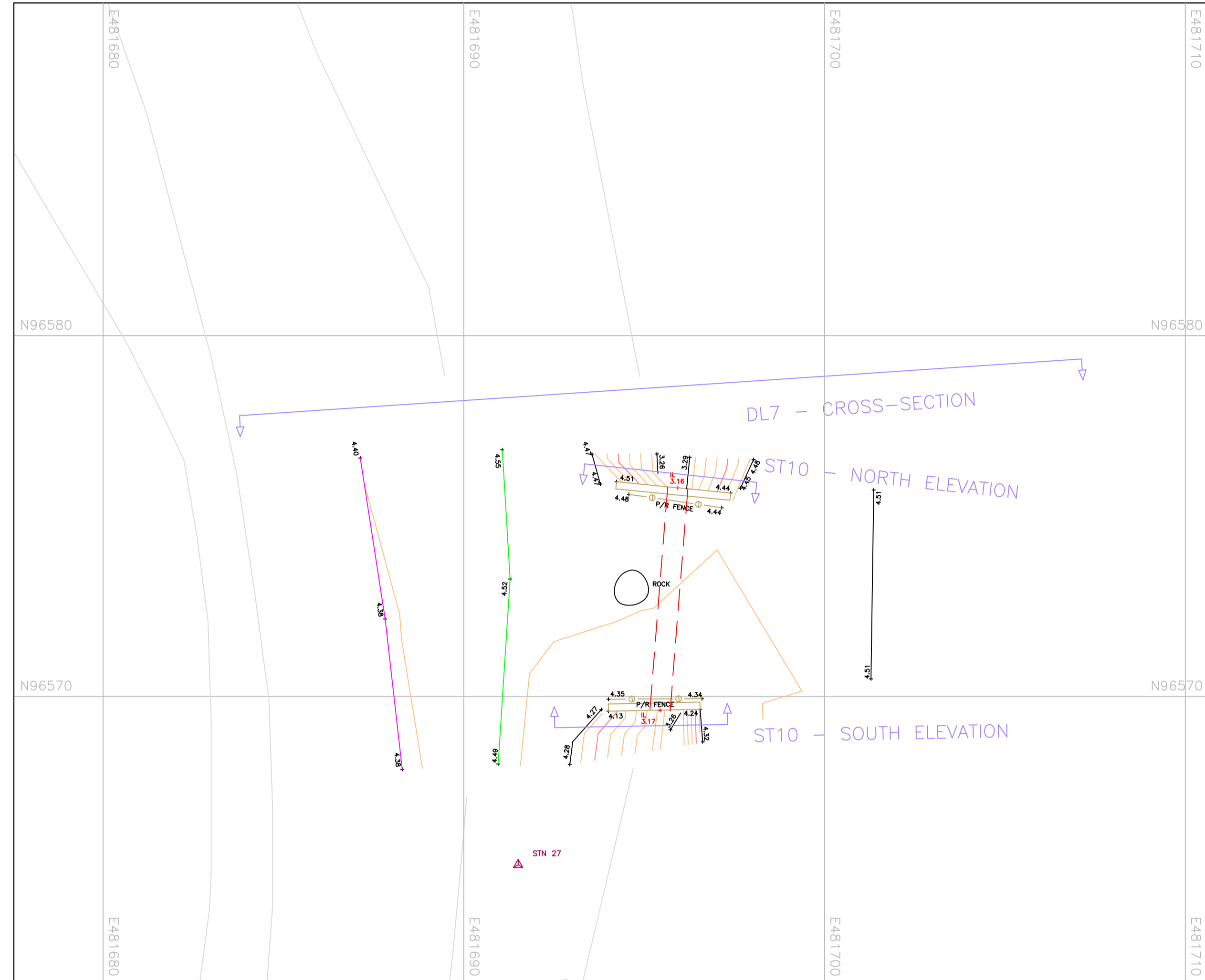
DRAWING

Survey of structures and cross-sections – DL-F

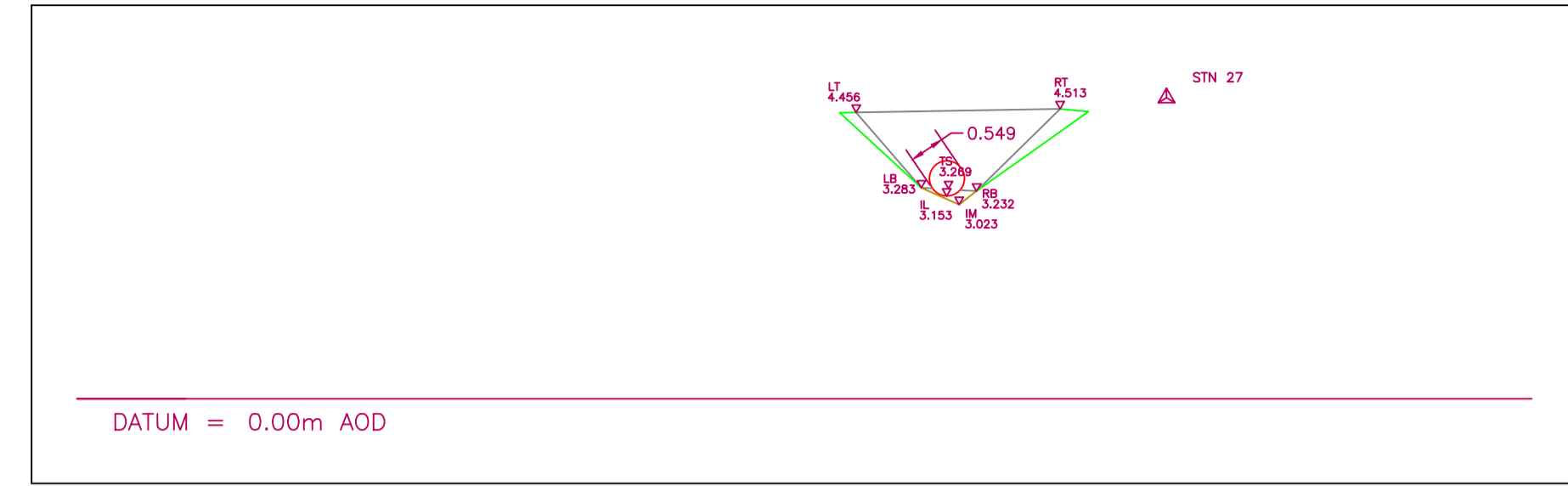
SCALE	DATE
1:100 (A1)	23/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_25	-

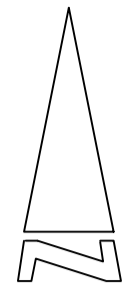
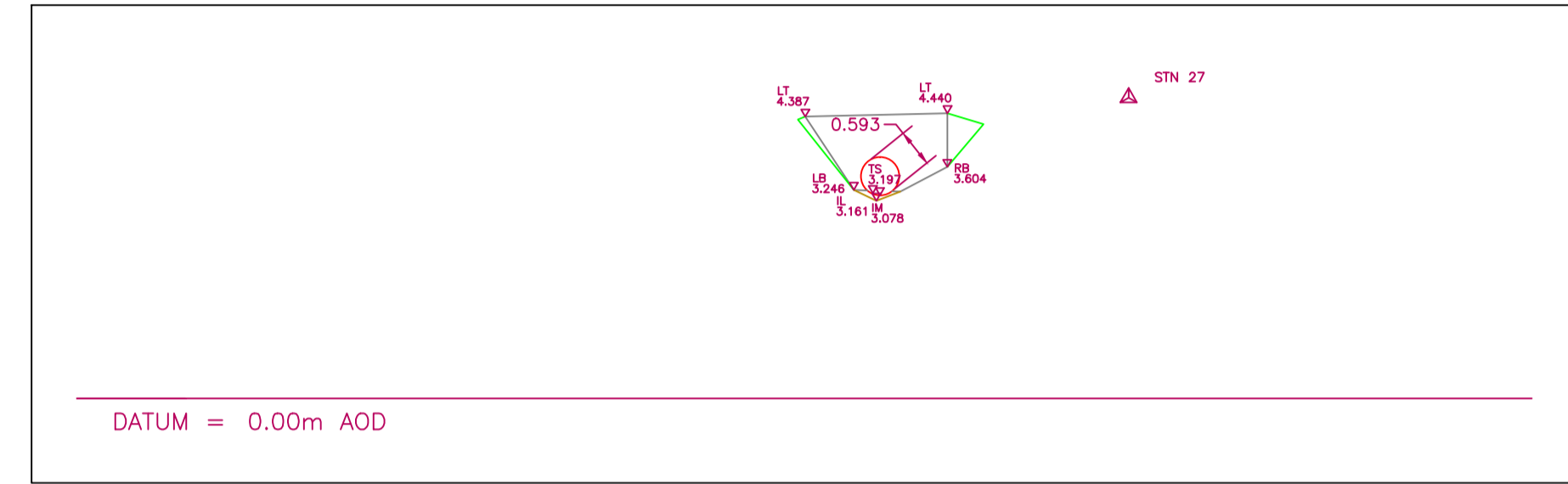
PLAN OF STRUCTURE – ST10



ST10 NORTH ELEVATION



ST10 SOUTH ELEVATION



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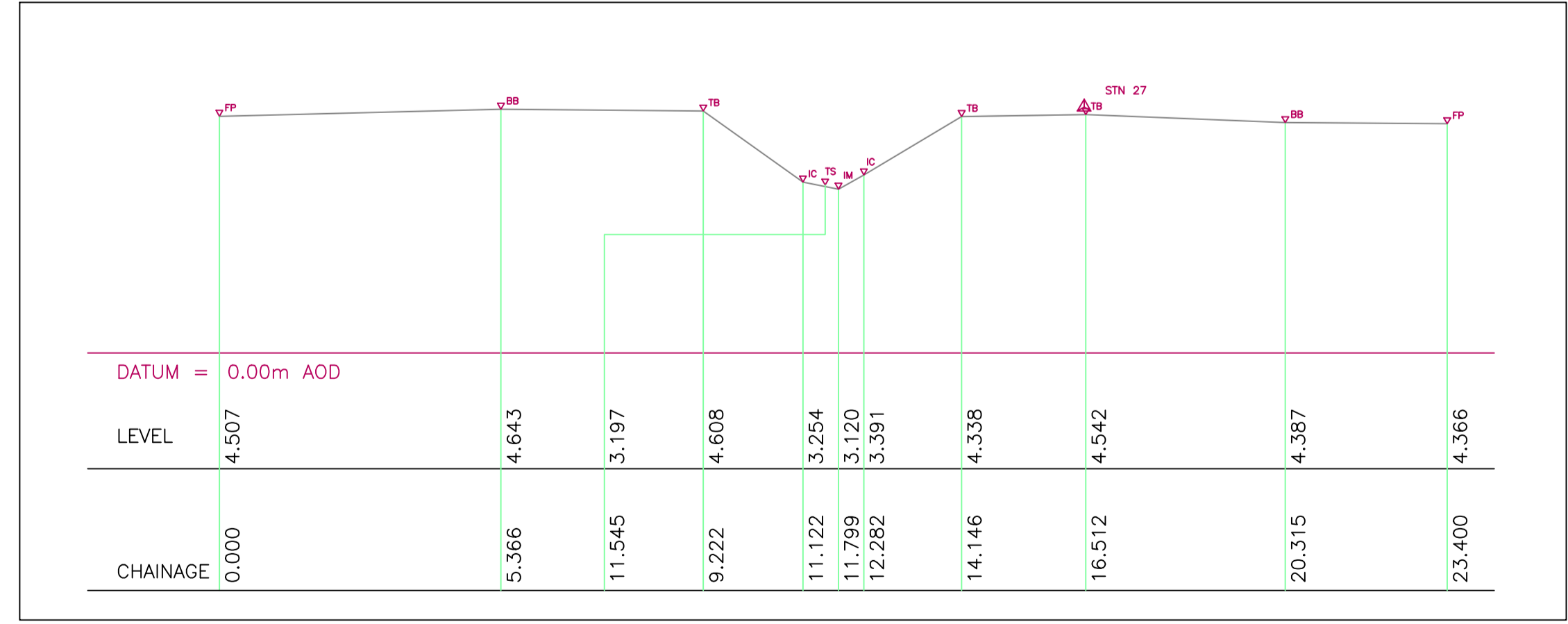
Notes
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 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL7 – CROSS-SECTION

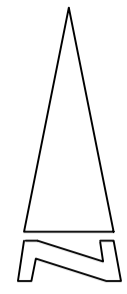
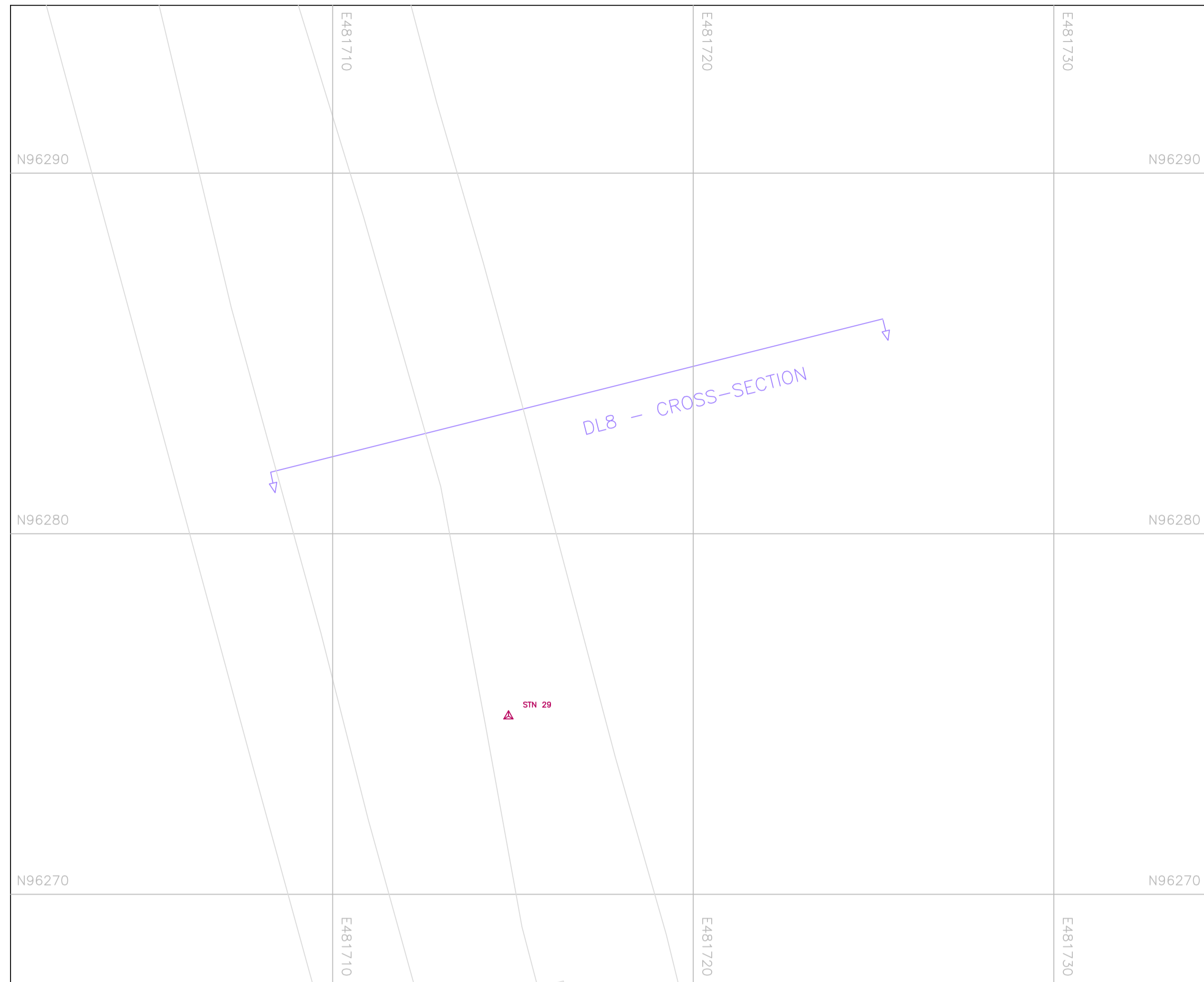




WEST HORSLEY PLACE
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 Tel: 07948 603936 – Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – DL-G		
SCALE	DATE	
1:100 (A1)	24/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_26	–

PLAN OF CROSS-SECTION - DL8



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Notes
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Grid co-ordinates and levels are based upon the Ordnance Survey

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING

Survey of structures and cross-sections - DL-H

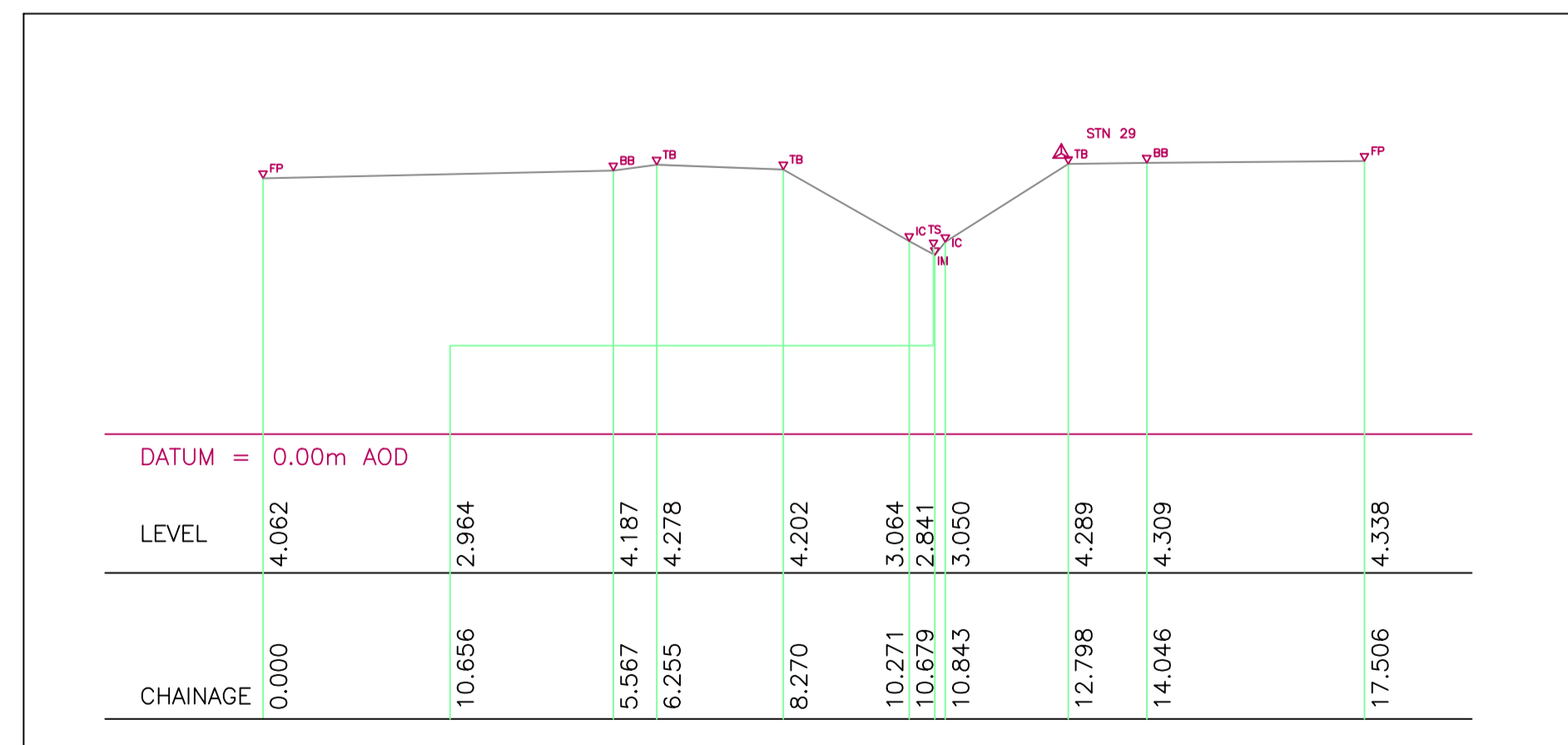
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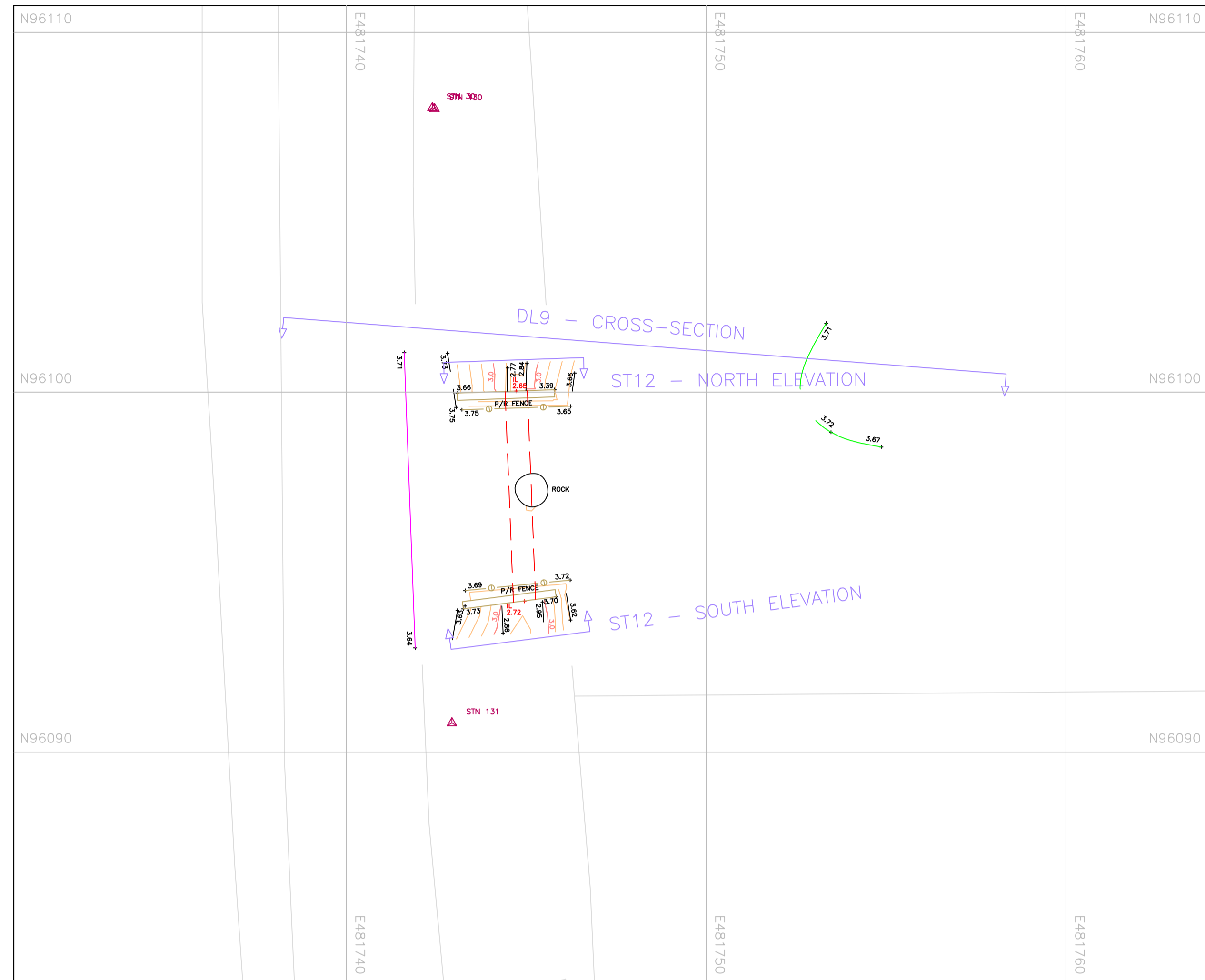
KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

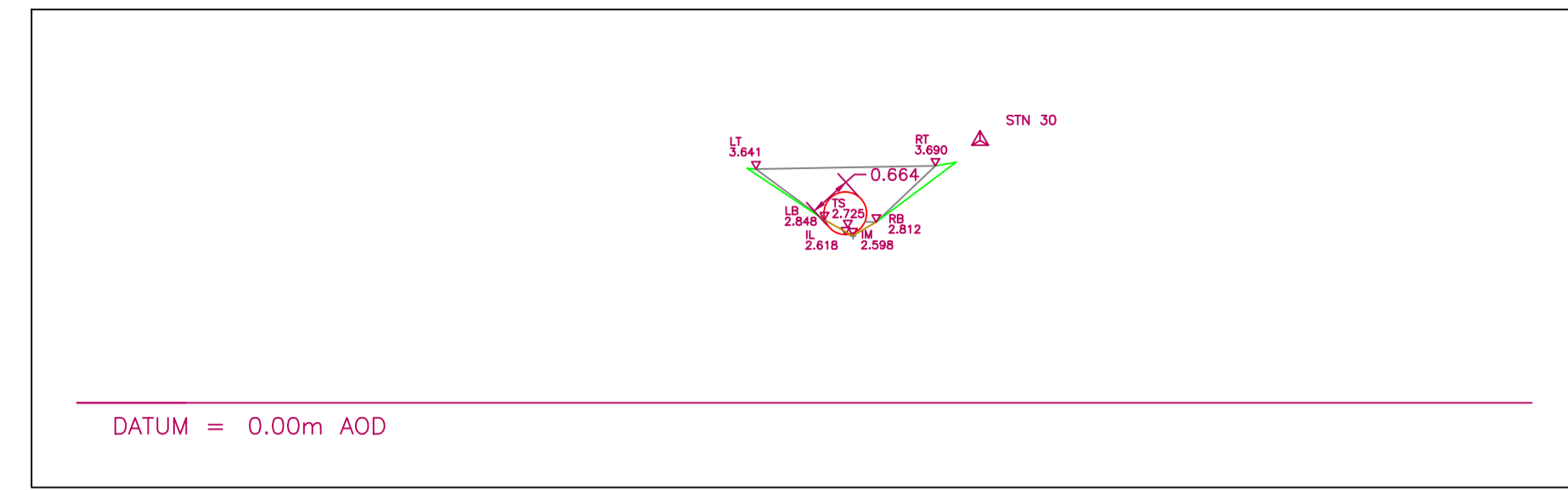
DL8 - CROSS-SECTION



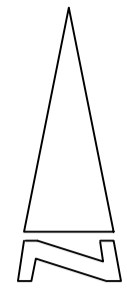
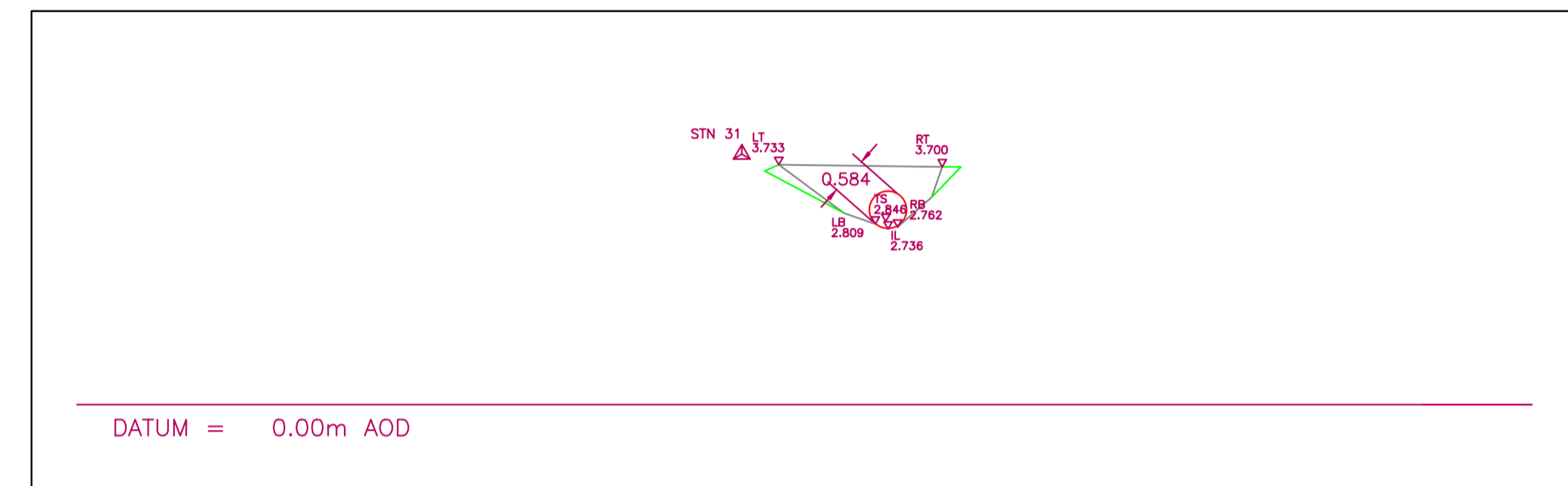
PLAN OF STRUCTURE – ST12



ST12 – NORTH ELEVATION



ST12 – SOUTH ELEVATION



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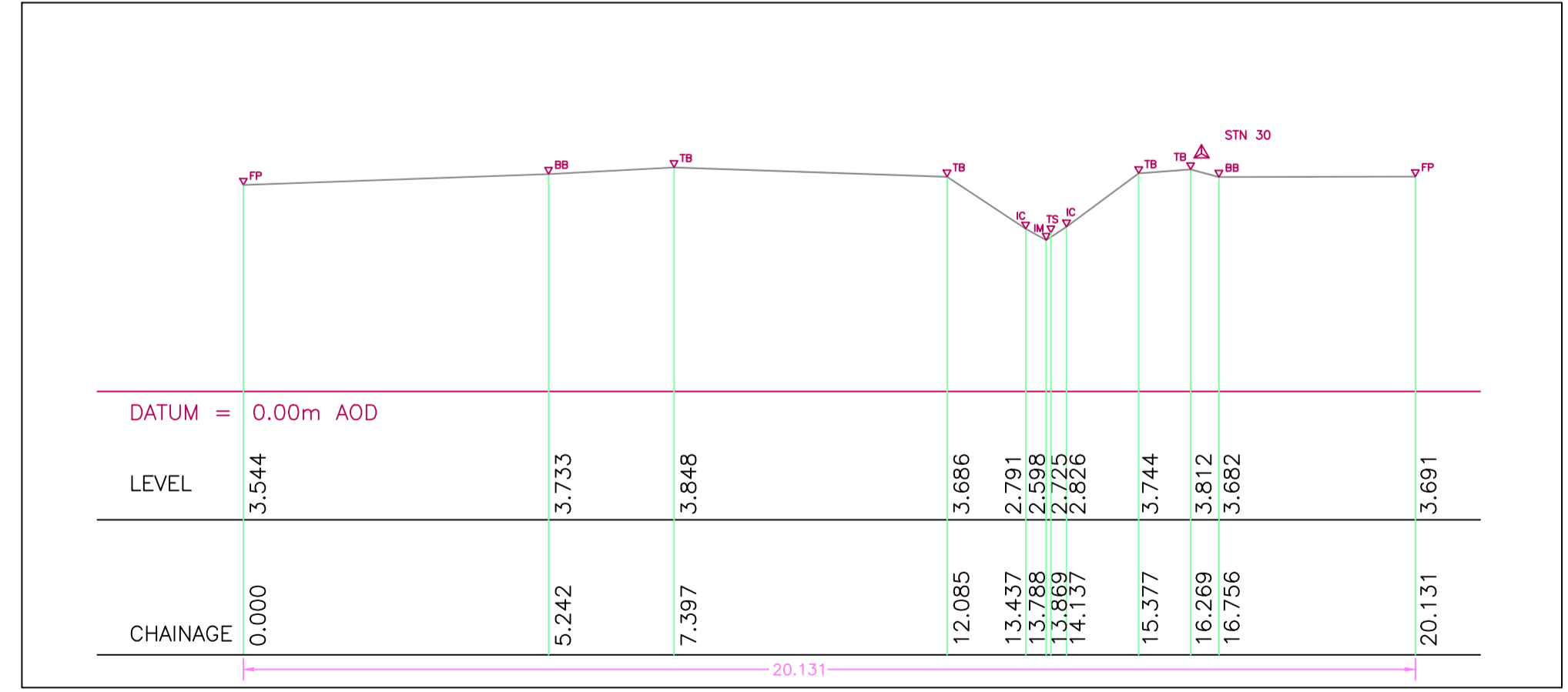
Notes
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 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL9 – CROSS-SECTION



MERIDIAN
 Land surveying and design

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CUSTOMER
 Manhire LLP

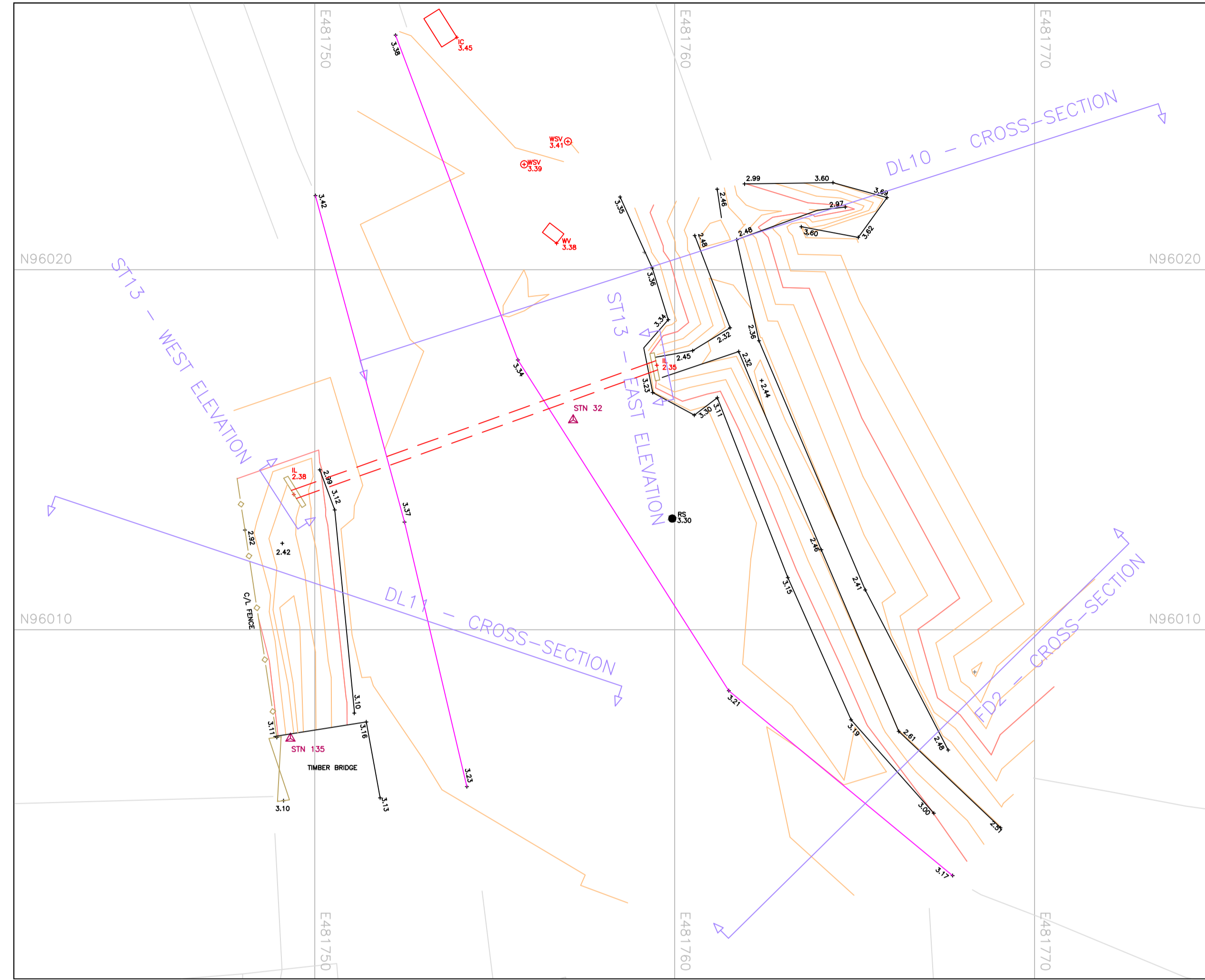
PROJECT
 Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING
 Survey of structures and cross-sections – DL-1

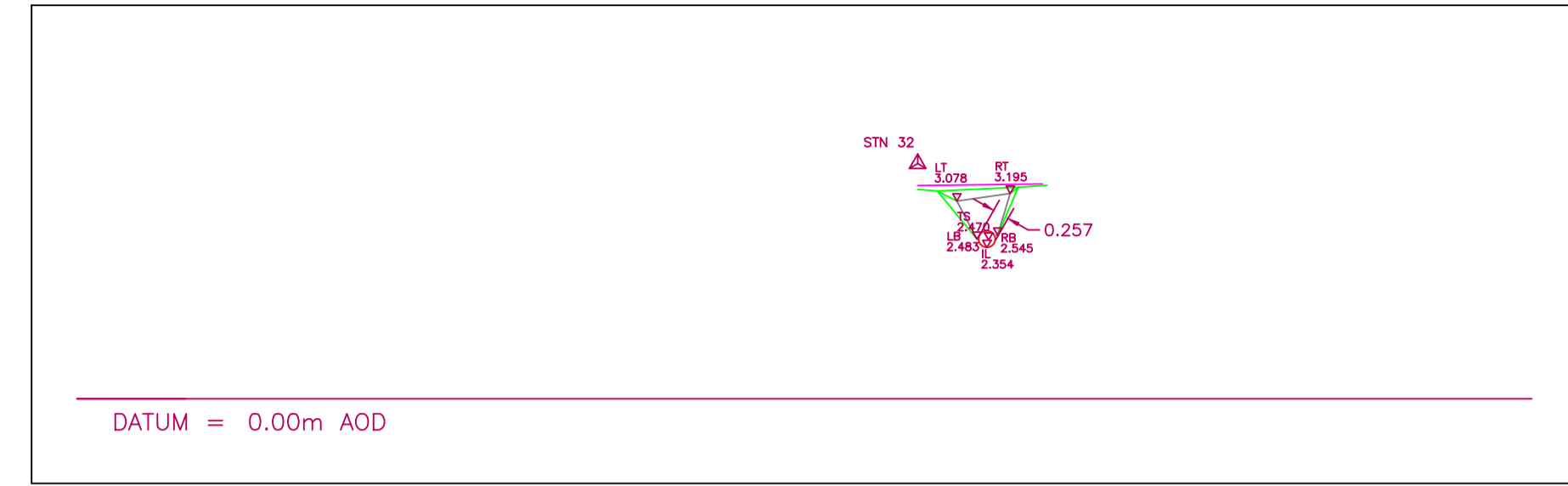
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CLIENT NO.	JOB NO.	REVISION
00228	0411_28	-

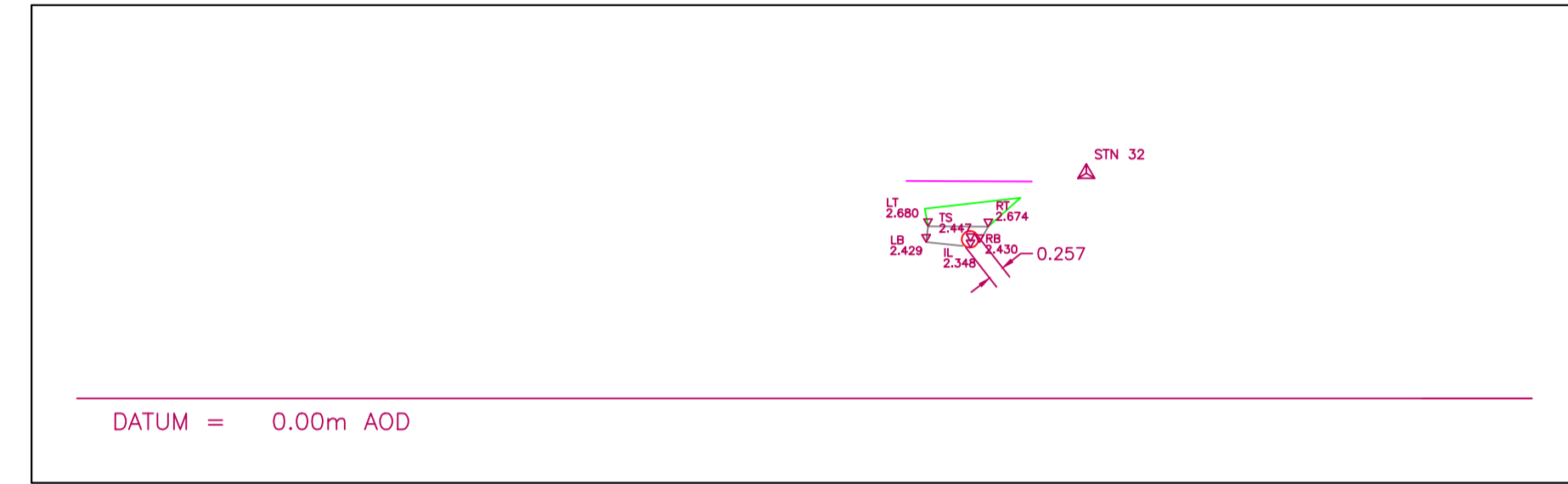
PLAN OF STRUCTURE – ST13



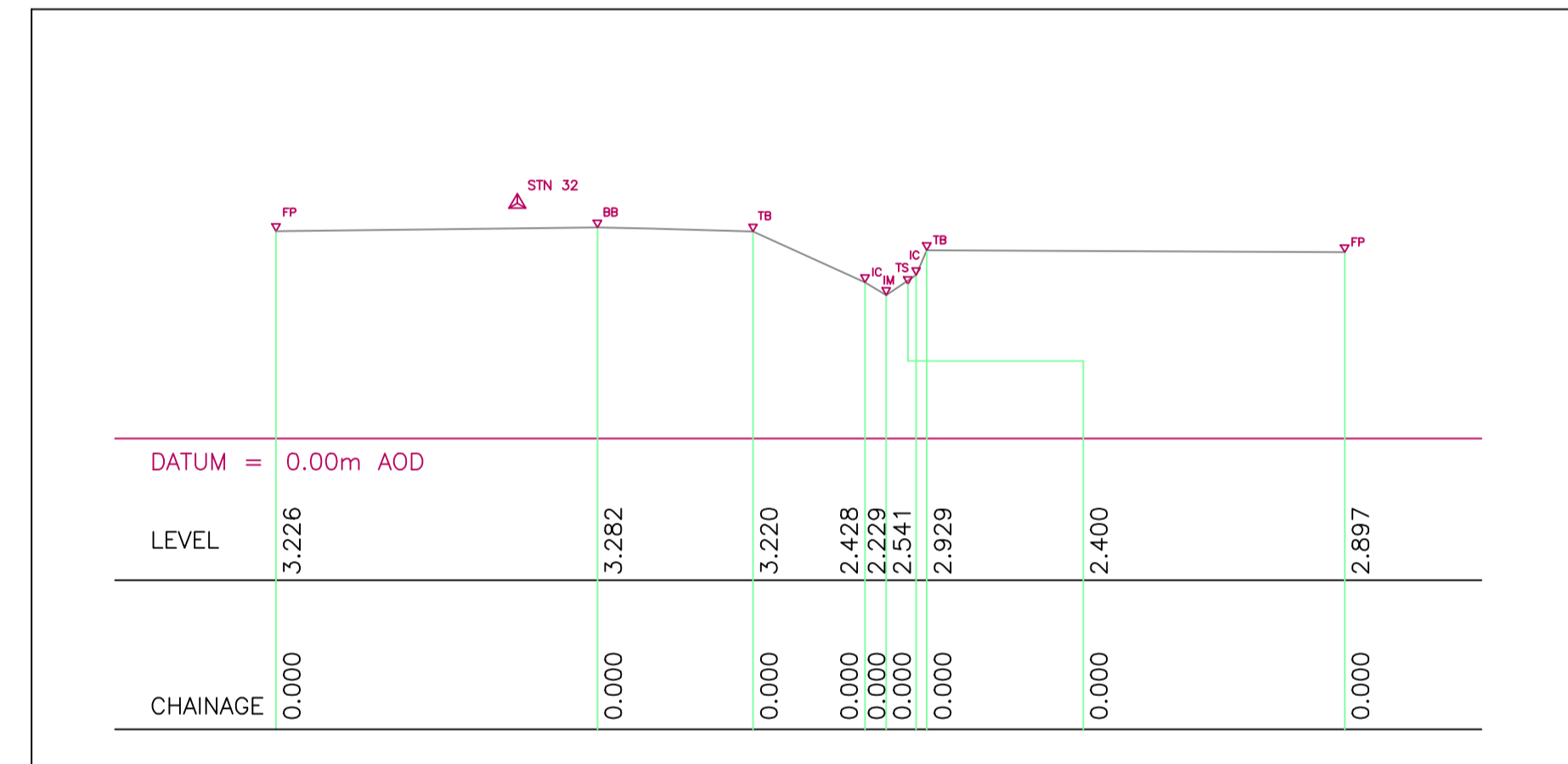
ST13 – EAST ELEVATION



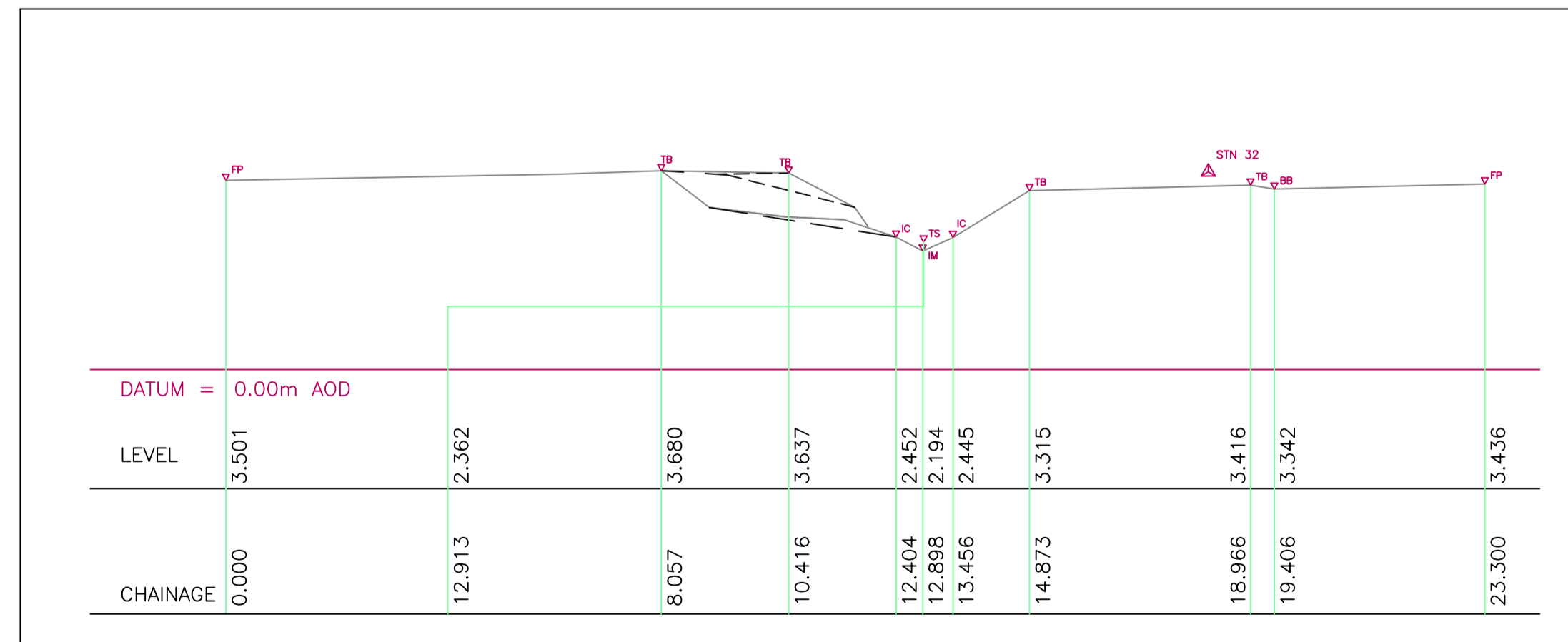
ST13 – WEST ELEVATION



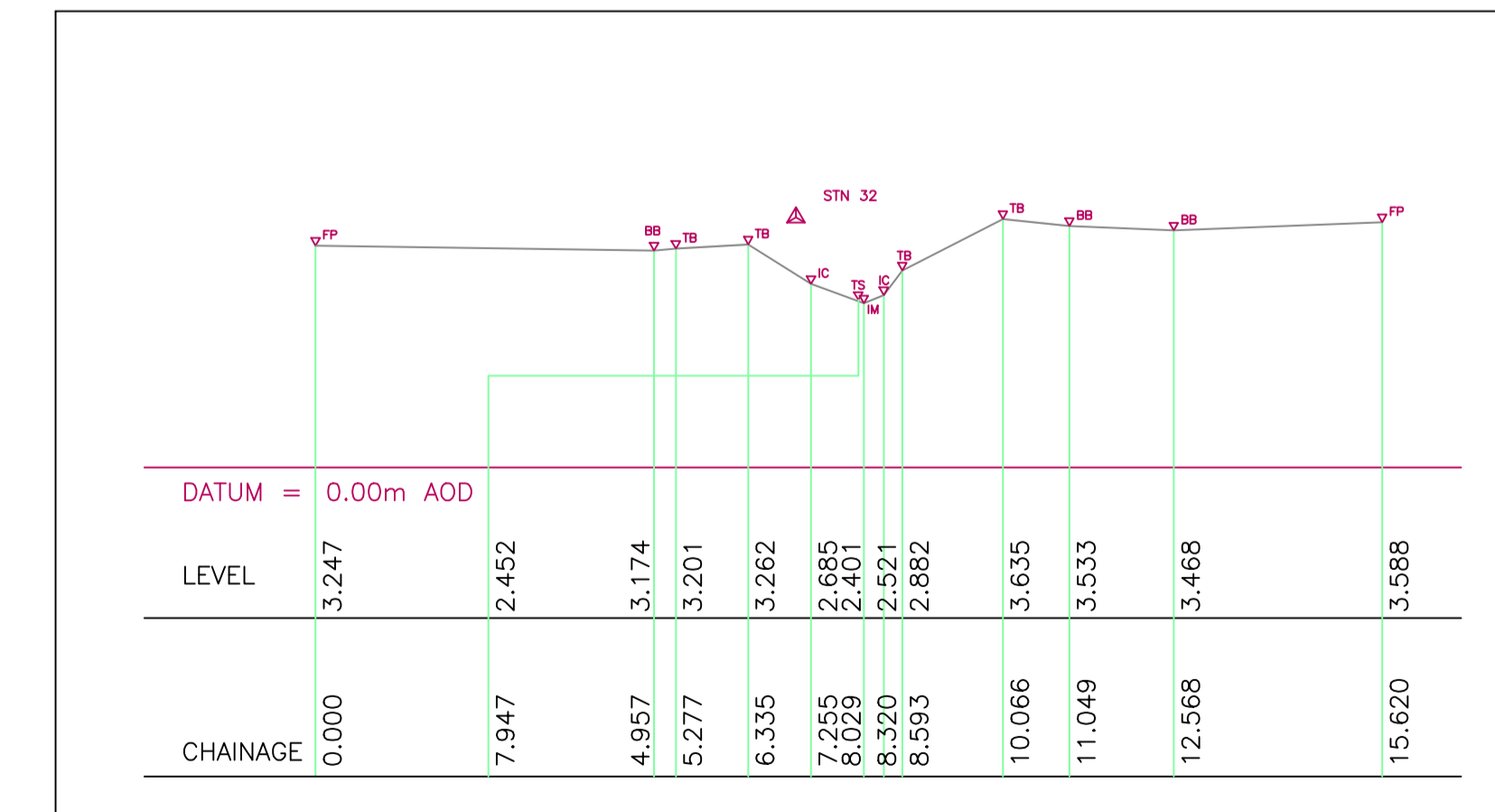
DL11 – CROSS-SECTION



DL10 – CROSS-SECTION



FD2 – CROSS-SECTION



KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

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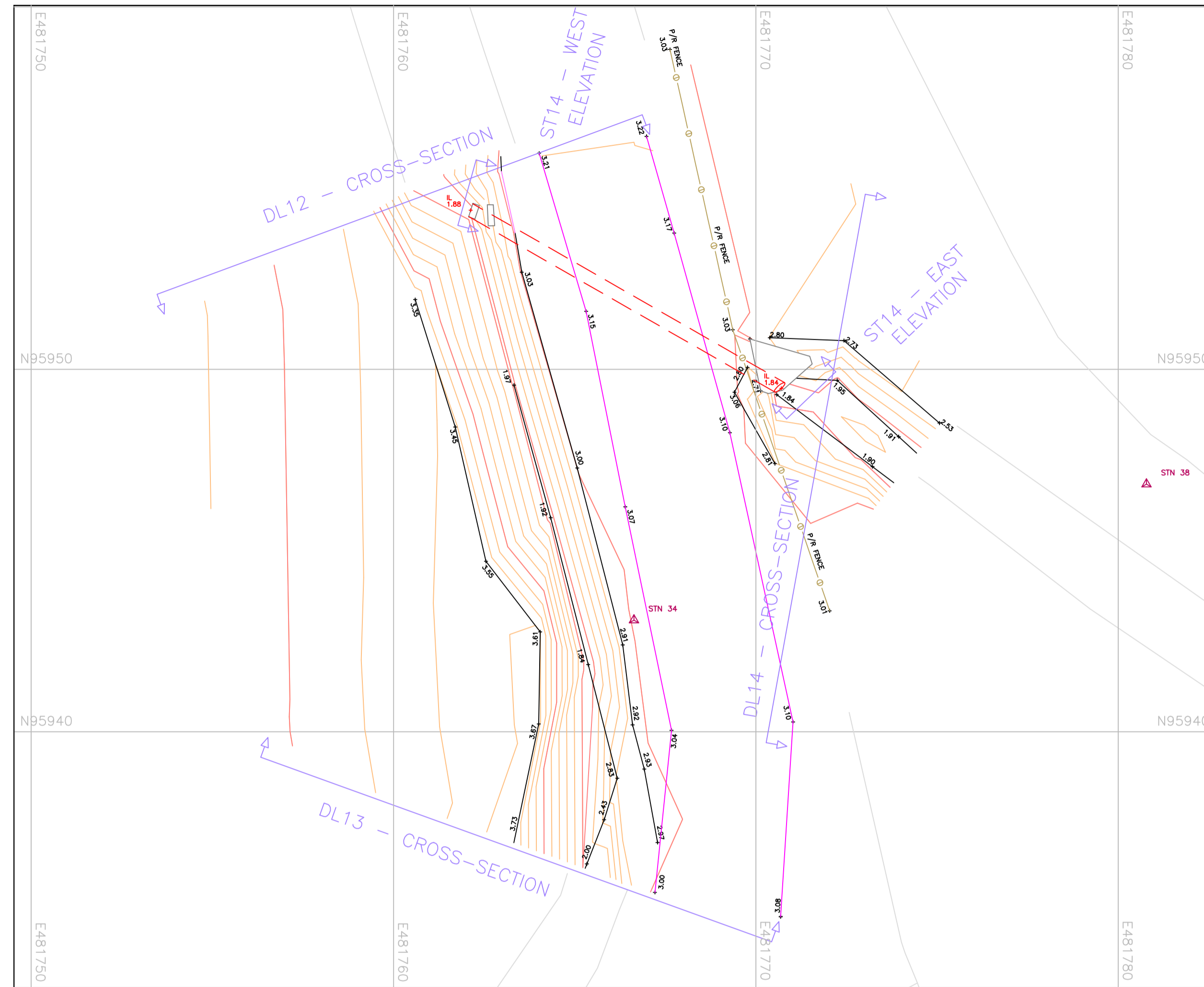
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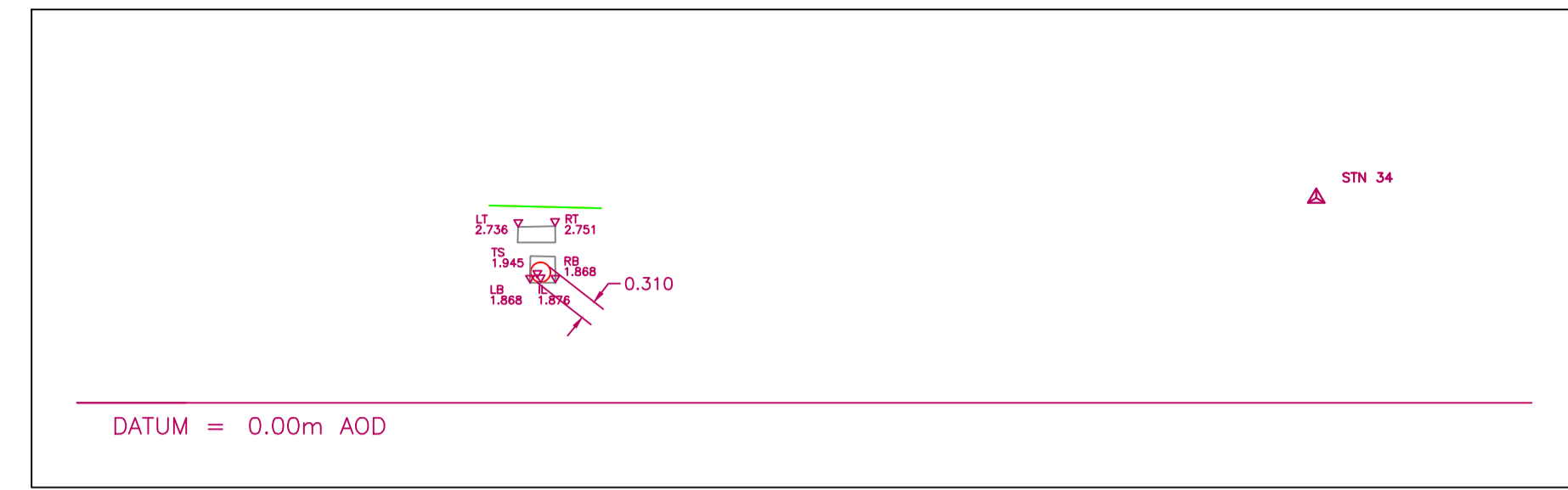
WEST HORSLEY PLACE
EPSOM ROAD, WEST HORSLEY KT24 6AW
Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – DL-J		
SCALE	DATE	
1:100 (A1)	24/6/2019	
CLIENT NO.	JOB NO.	REVISION
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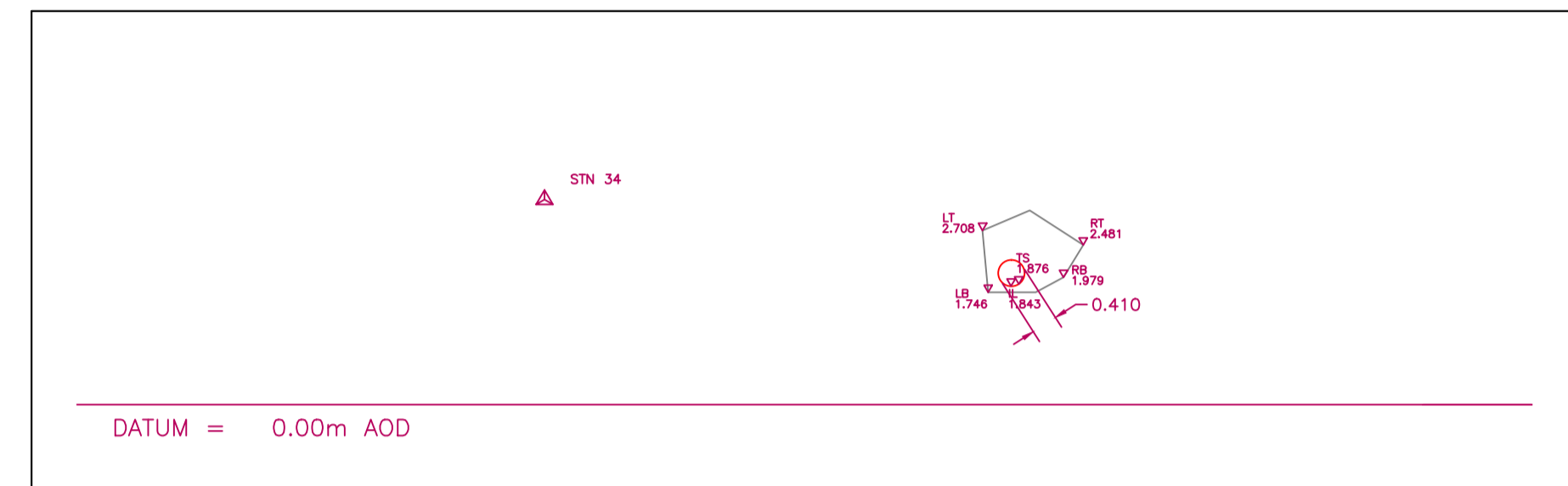
PLAN OF STRUCTURE – ST14



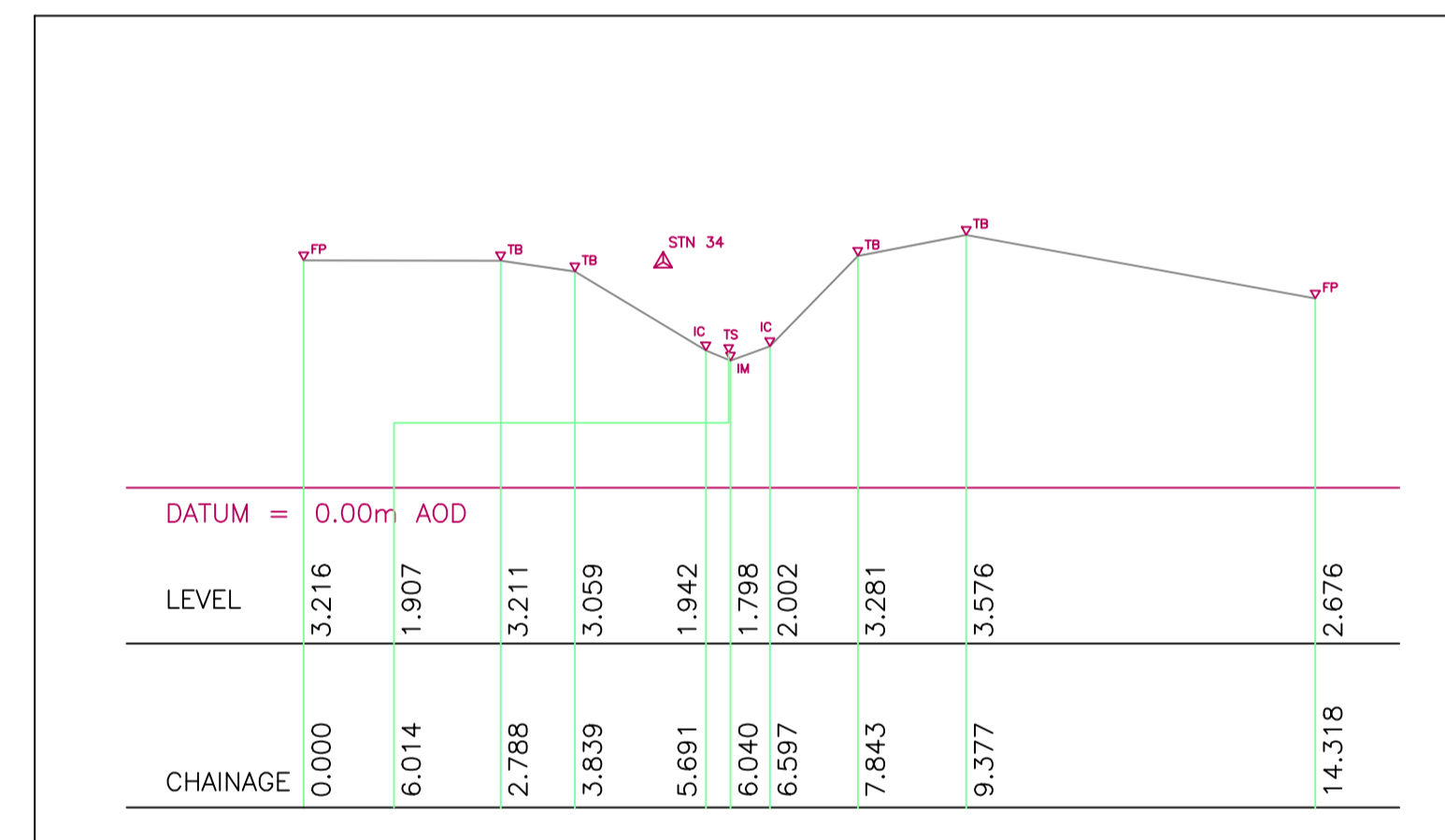
ST14 – WEST ELEVATION



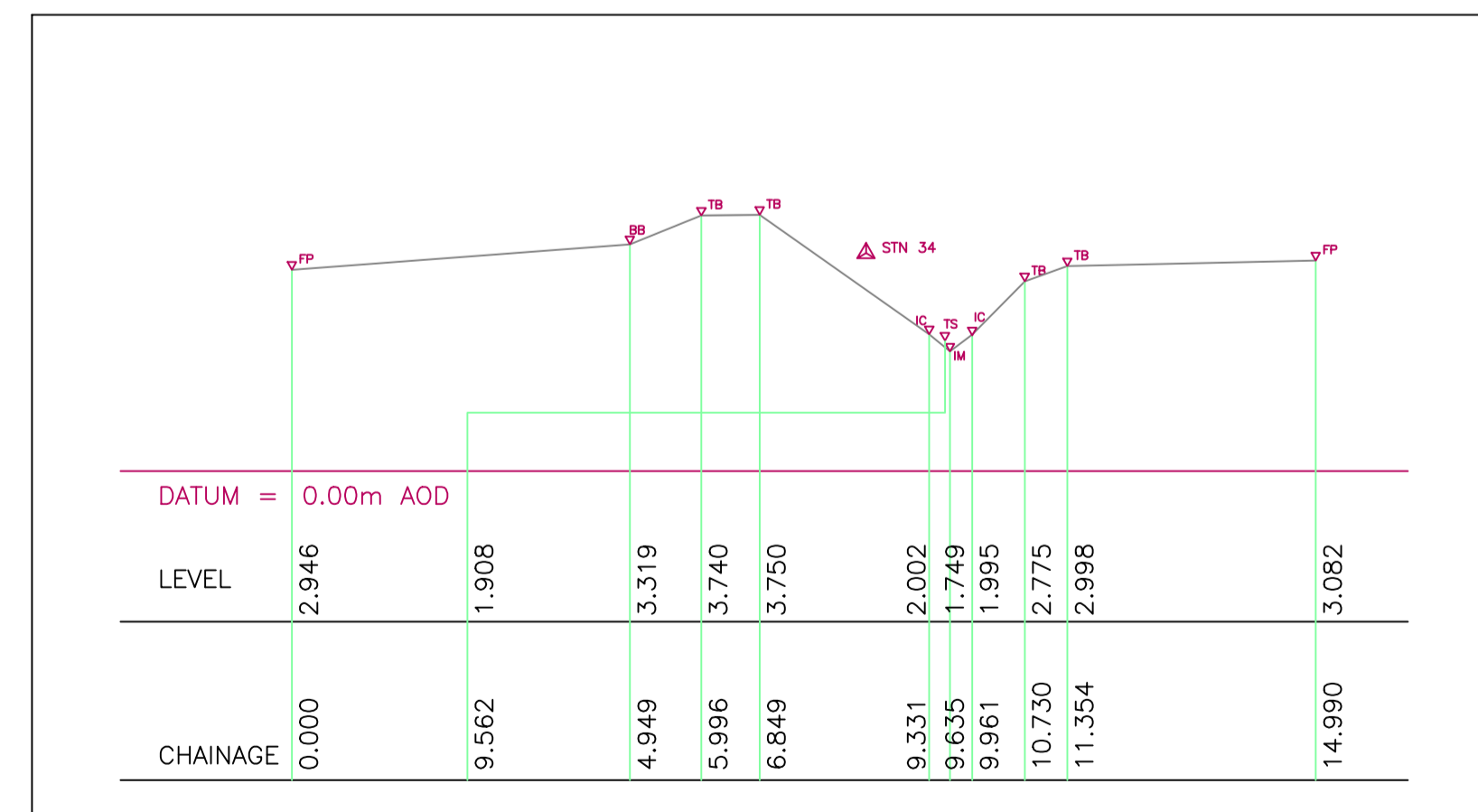
ST14 – EAST ELEVATION



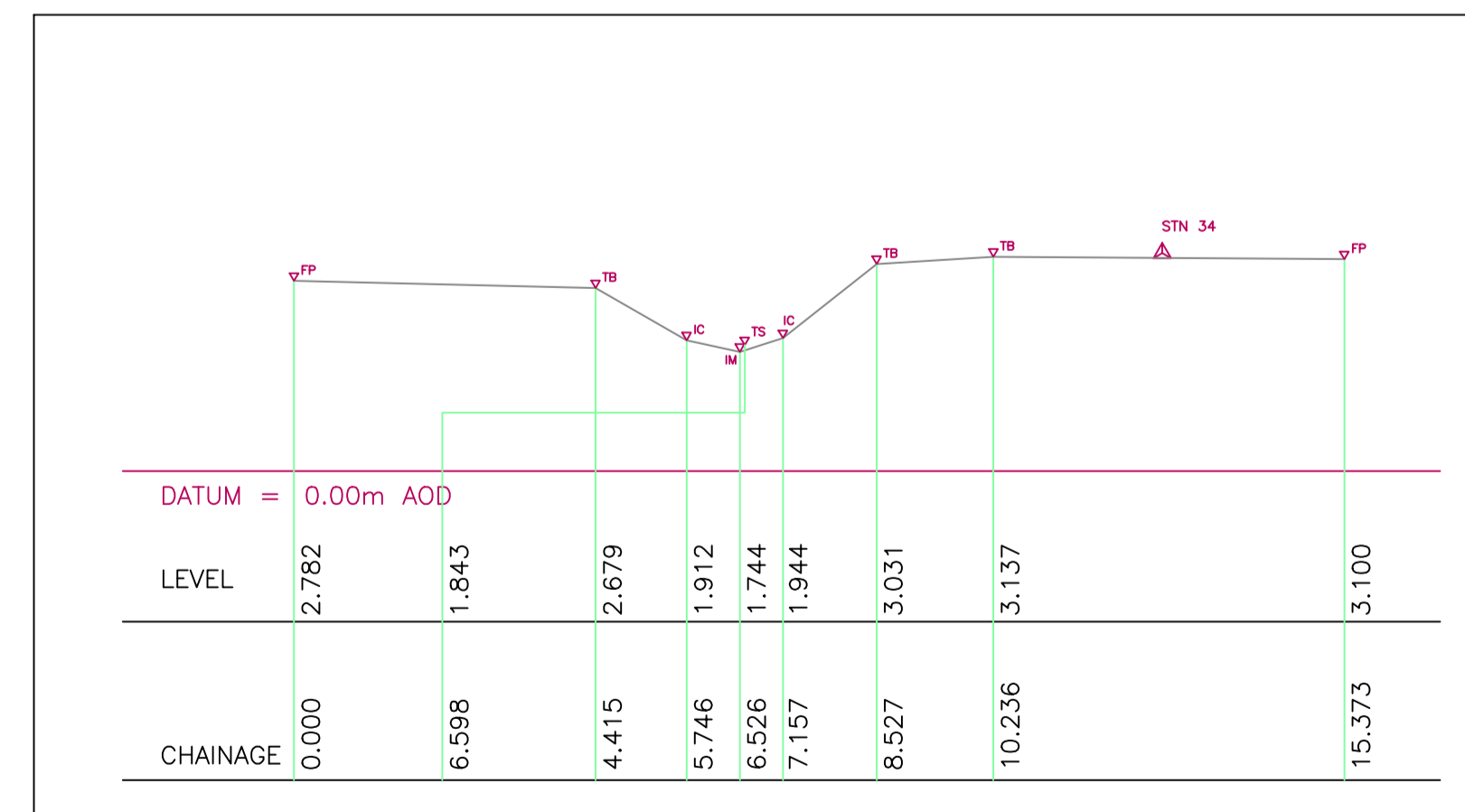
DL12 – CROSS-SECTION



DL13 – CROSS-SECTION



DL14 – CROSS-SECTION



KEY

- FP Flood Plain
- BB Bottom of Bank
- TB Top of Bank
- WL Water Line
- IC In Channel
- IM In Channel mid-point
- Applies to Arch, Culvert or Head Wall
- SL Soffit Level
- LT Left Top
- RT Right Top
- LB Left Bottom
- RB Right Bottom
- BL Base Level
- IL Invert Level
- TS Top of Silt
- FH Fire hydrant
- GY Gully
- IC Inspection cover
- MH Manhole
- SMP Service marker post
- GSV Gas stop valve
- WSV Water stop valve
- DK Drop kerb
- EP Electricity pole
- KB Kerb
- OSBM OS bench mark
- RS Road sign
- TP Telegraph pole
- B/W Barbed wire fence
- C/B Close boarded fence
- C/L Chain link fence
- C/P Chestnut paling fence
- I/W Interwoven fence
- I/R Iron railing
- L/B Lapboard fence
- P/R Post and rail fence
- P/W Post and wire fence
- W/M Wire mesh fence
- RTW Retaining wall
- SSF Steel security fence

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REVISION	DESCRIPTION	DATE

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Tel: 07948 603936 – Email: peter@meridiansurvey.co.uk

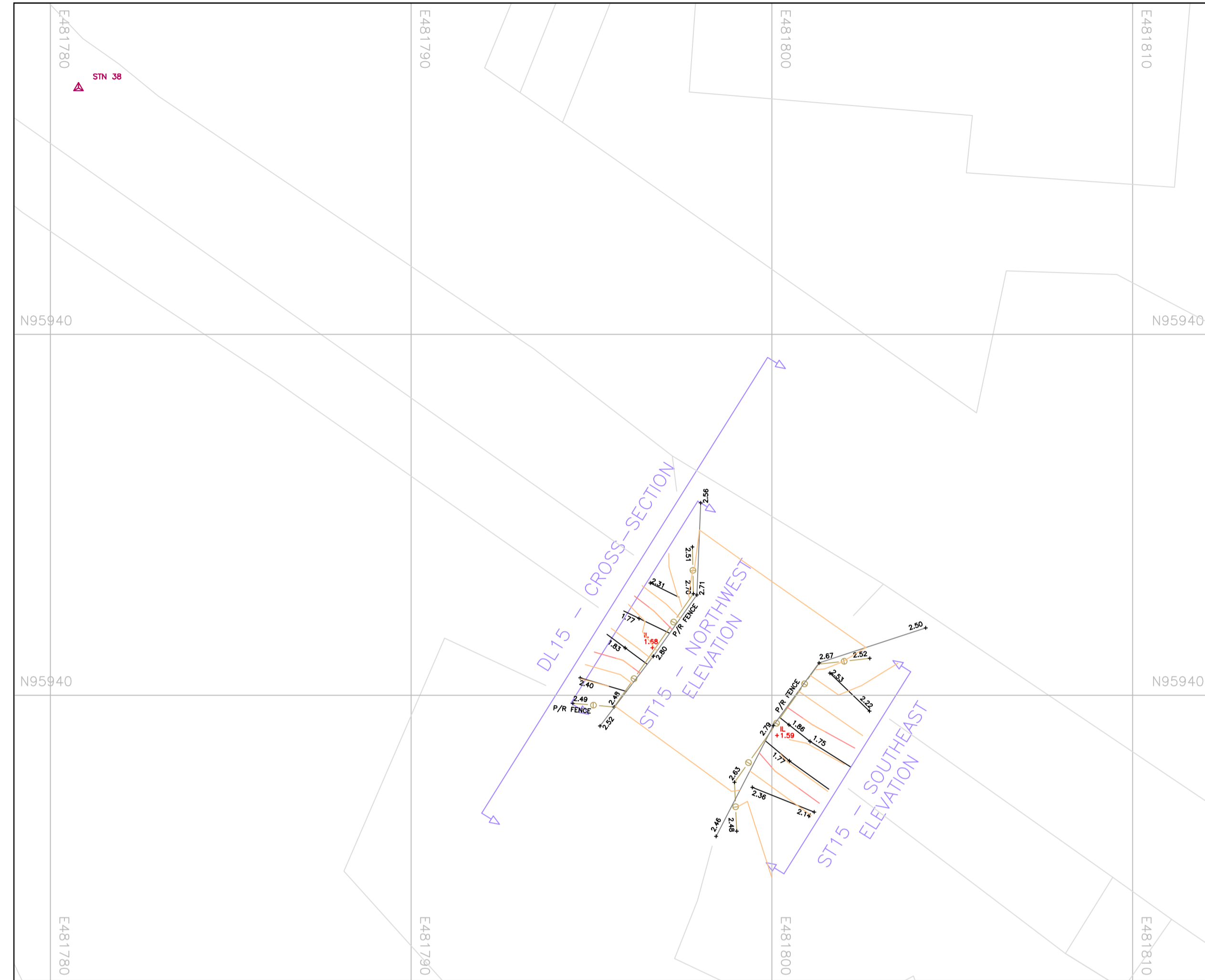
CUSTOMER
Manhire LLP

PROJECT
Earnley Watercourse, floodplain and structure fluvial modelling

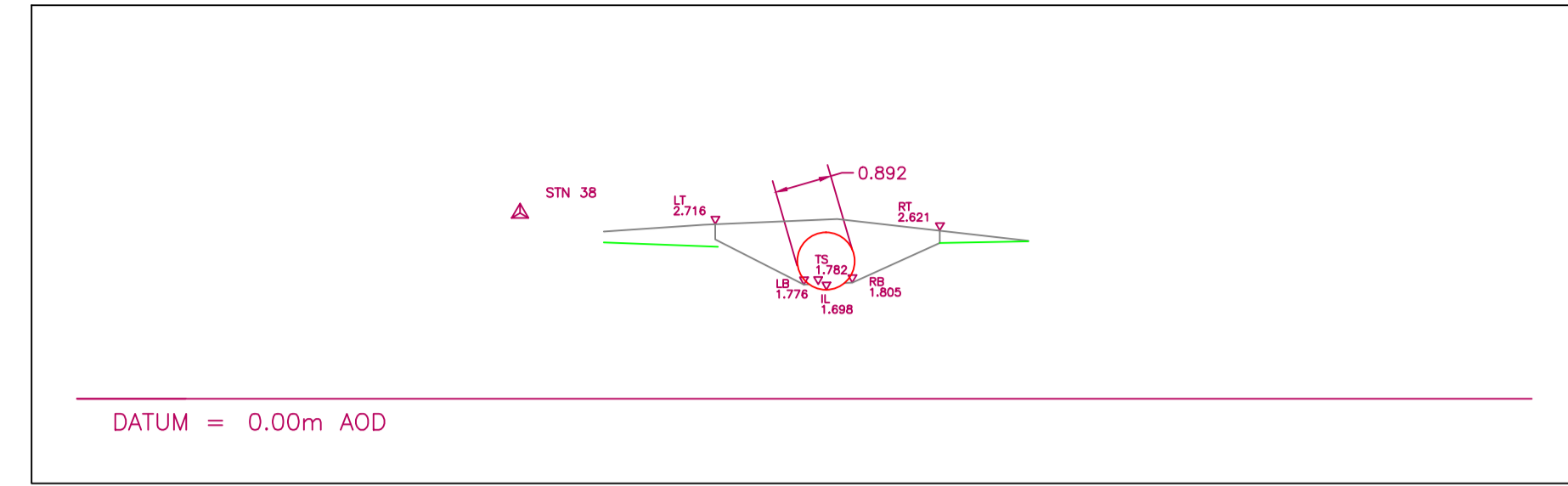
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SCALE 1:100 (A1)	DATE 25/6/2019	
CLIENT NO. 00228	JOB NO. 0411_30	REVISION -

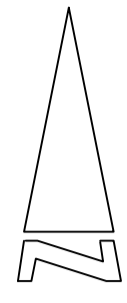
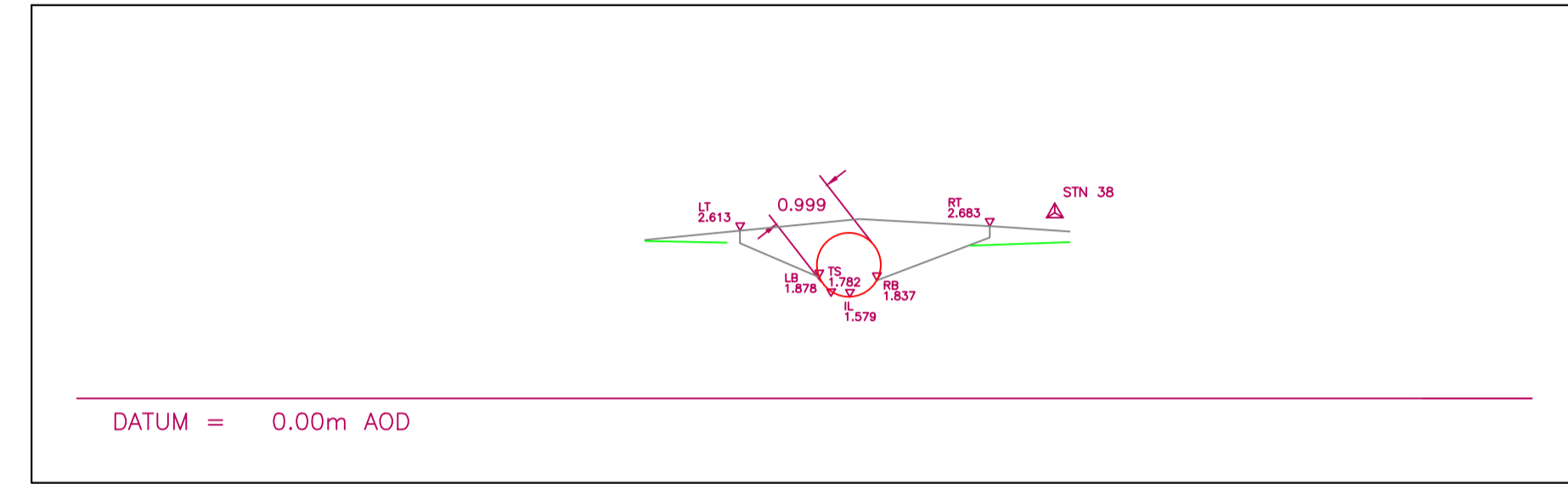
PLAN OF STRUCTURE – ST15



ST15 – NORTHWEST ELEVATION



ST15 – SOUTHEAST ELEVATION



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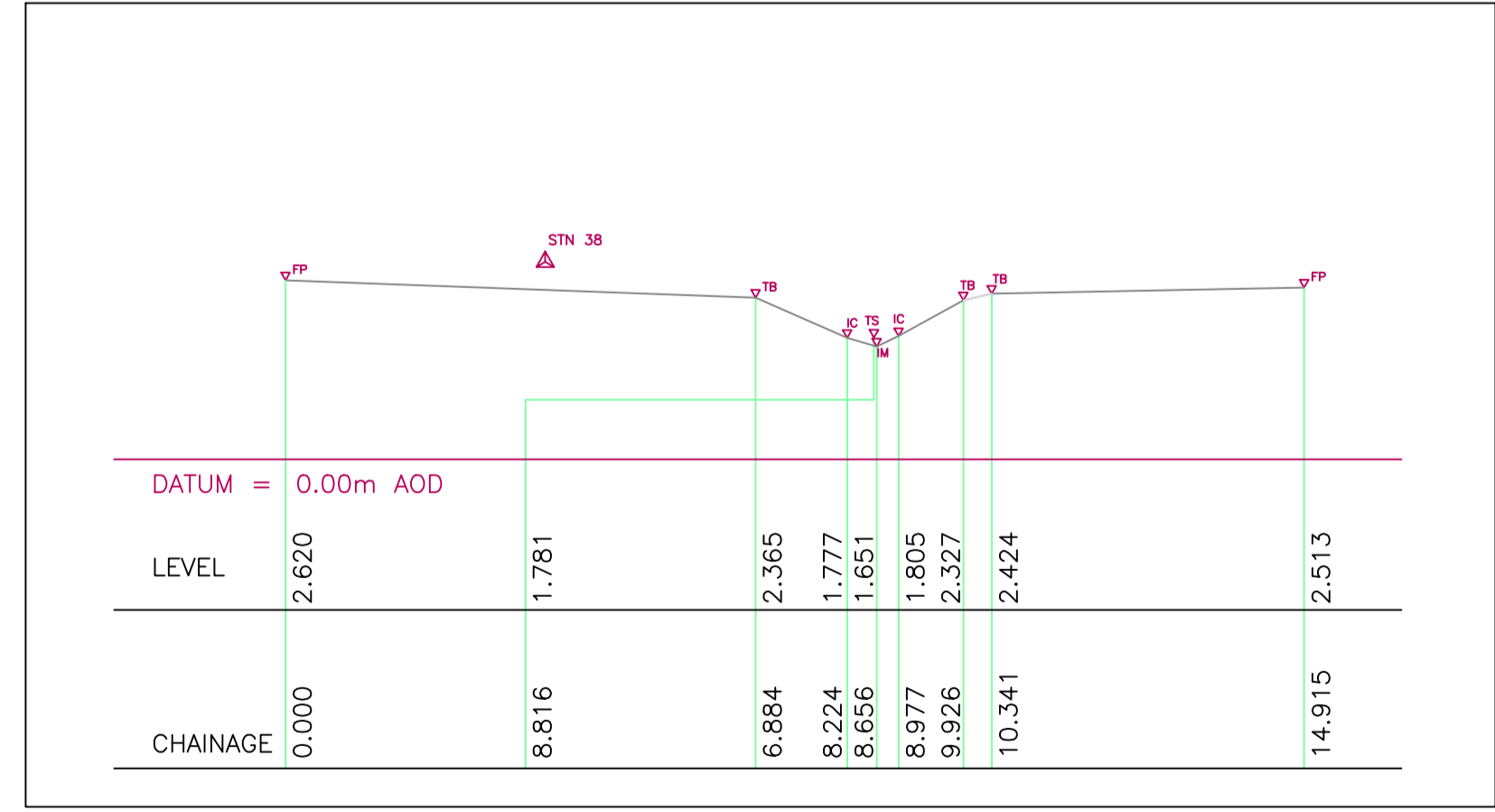
Notes
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 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE
A	CORRECTED DATUM	5/7/19

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

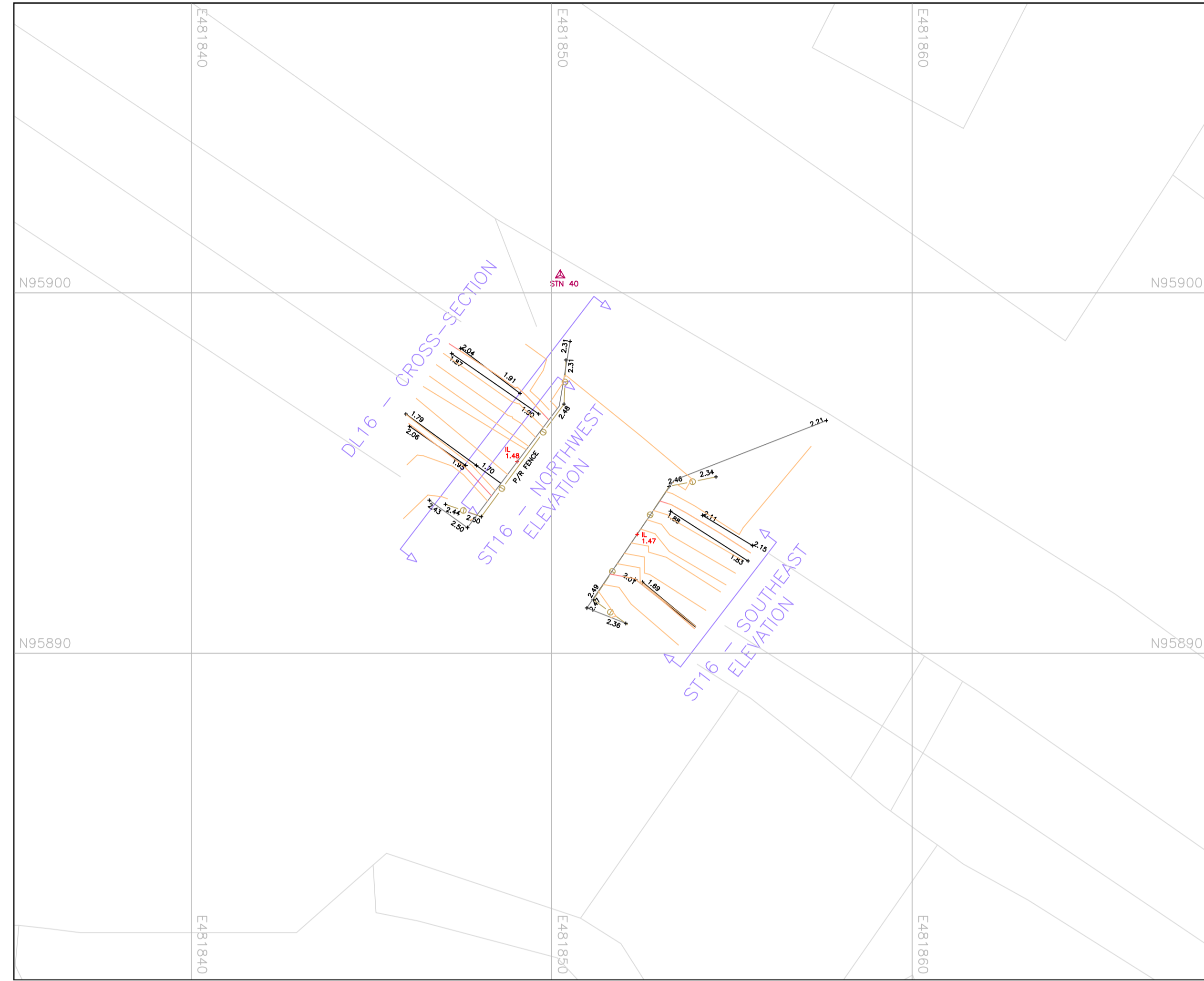
DL15 – CROSS-SECTION



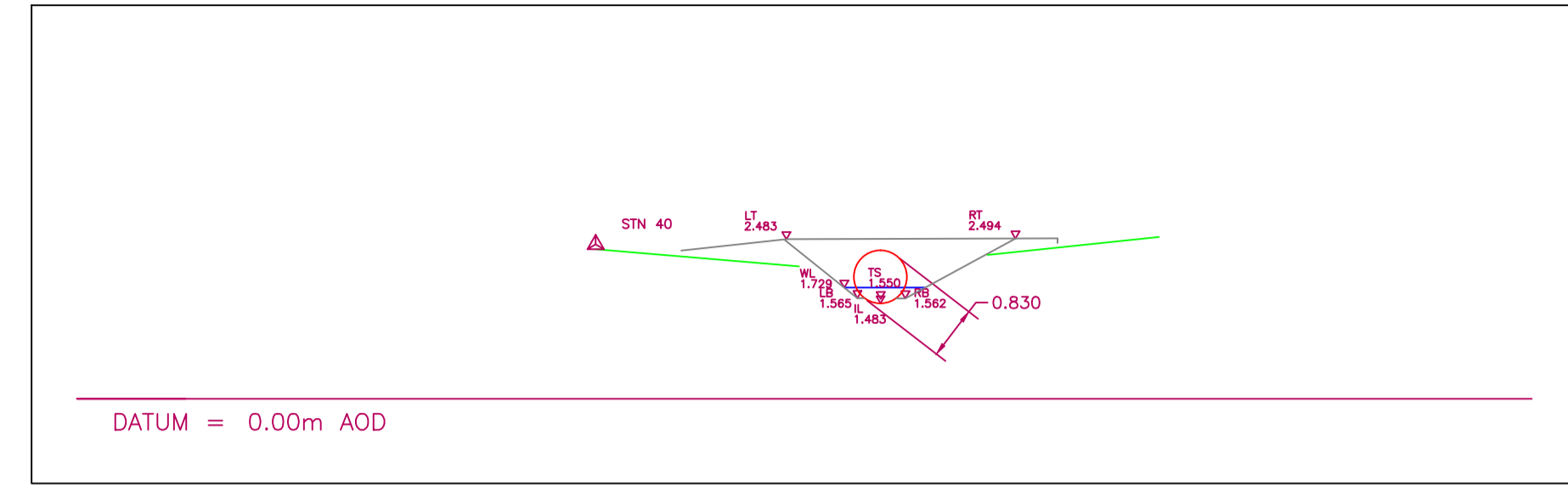
WEST HORSLEY PLACE
 EPSOM ROAD, WEST HORSLEY KT24 6AW
 Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – DL-L		
SCALE	DATE	
1:100 (A1)	25/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_31	A

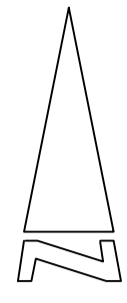
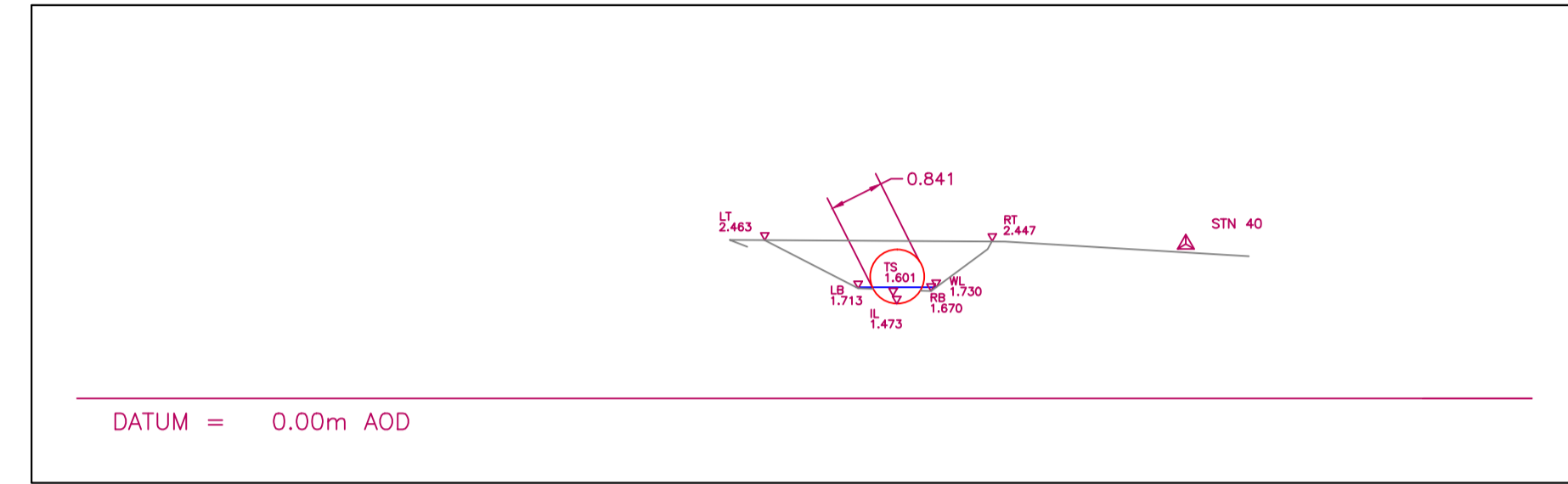
PLAN OF STRUCTURE – ST16



ST16 – NORTHWEST ELEVATION



ST16 – SOUTHEAST ELEVATION



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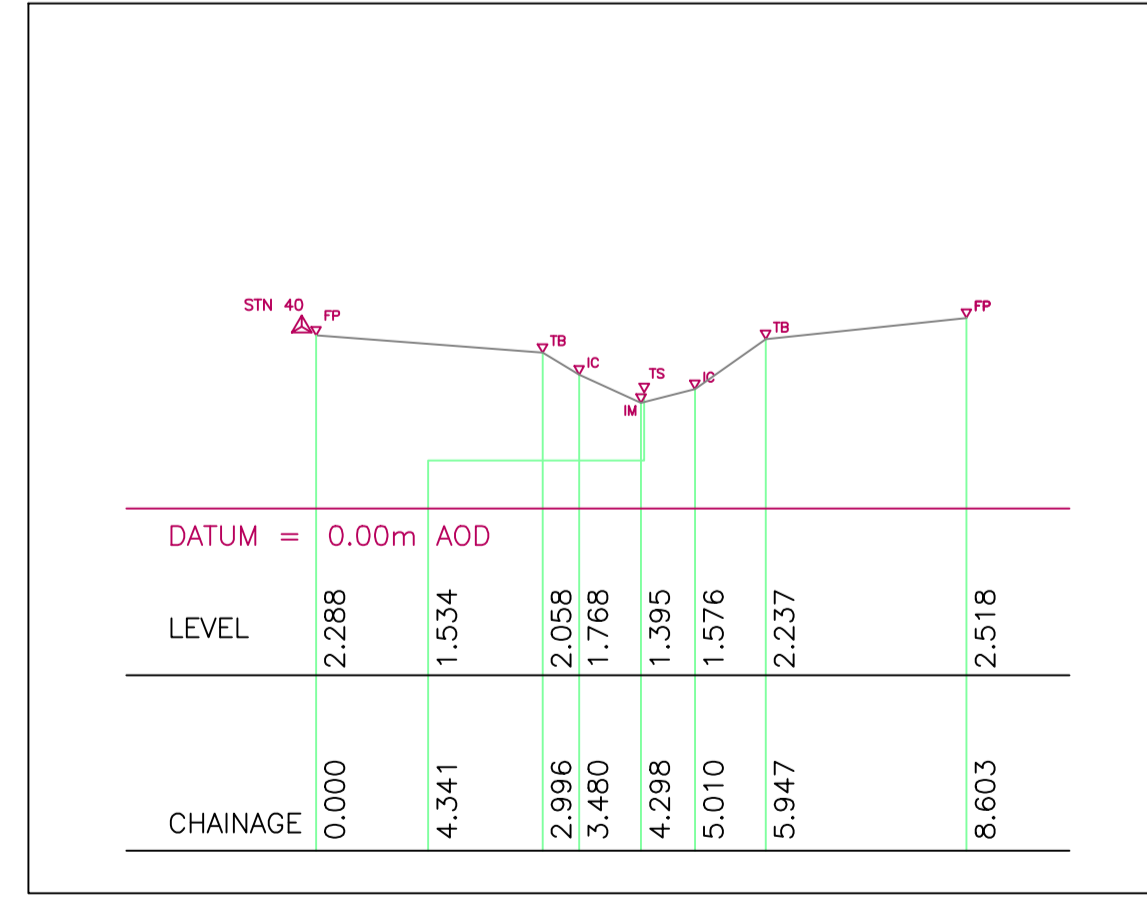
Notes
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 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE
A	DATUM AMENDED	5/7/19

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL16 – CROSS-SECTION

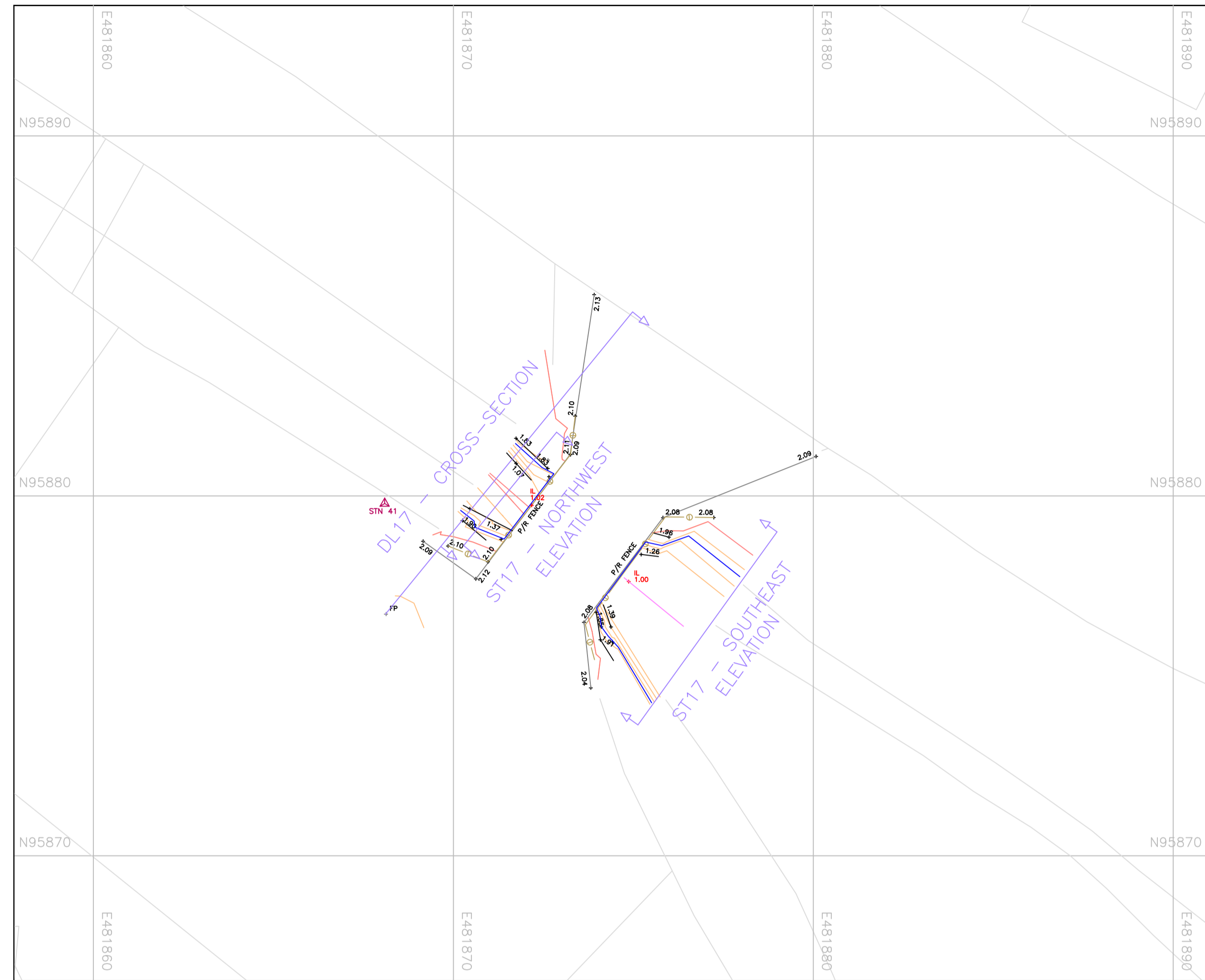




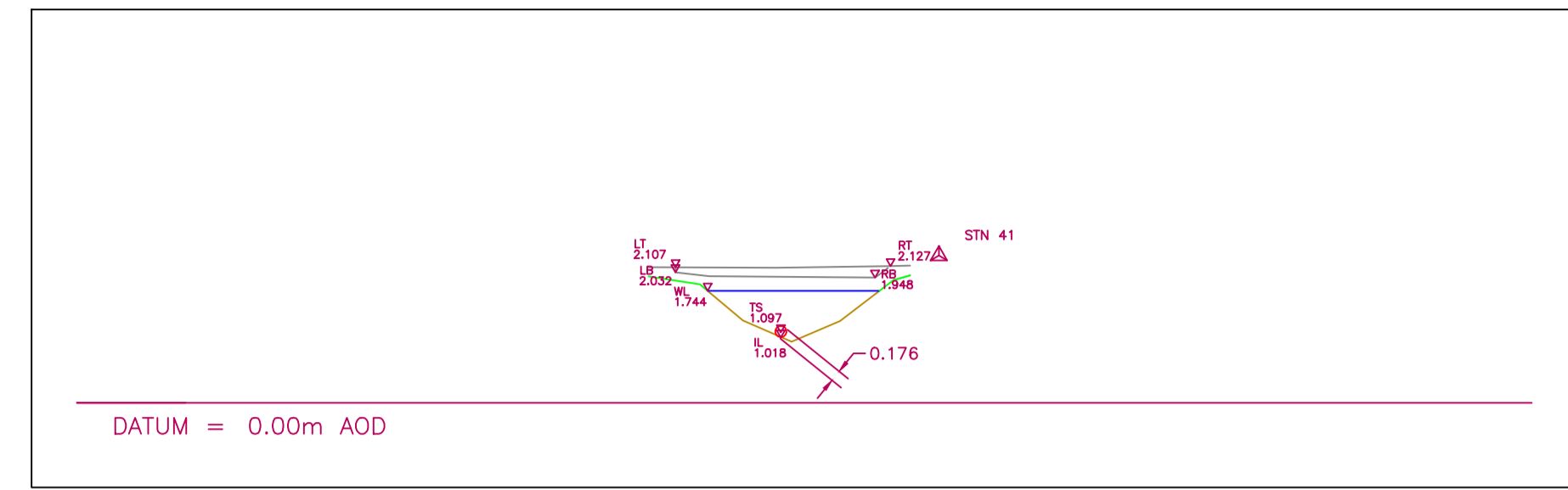
WEST HORSLEY PLACE
 EPSOM ROAD, WEST HORSLEY KT24 6AW
 Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – DL-M		
SCALE	DATE	
1:100 (A1)	25/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_32	A

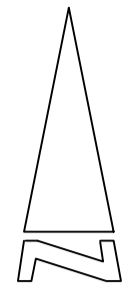
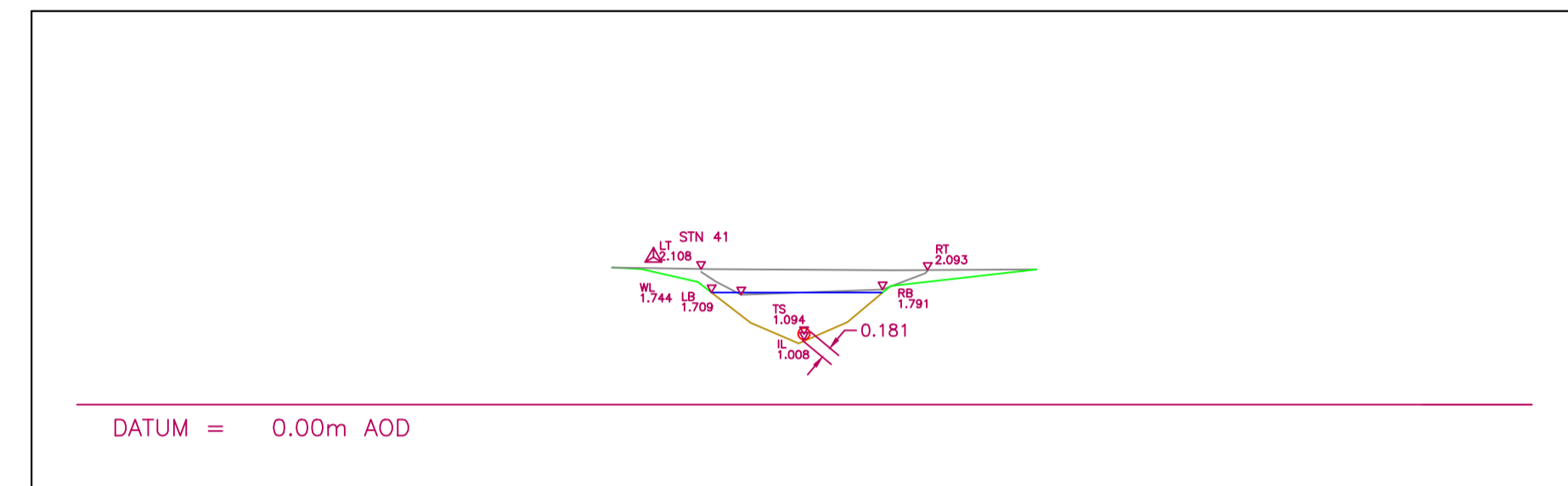
PLAN OF STRUCTURE – ST17



ST17 – NORTHWEST ELEVATION



ST17 – SOUTHEAST ELEVATION



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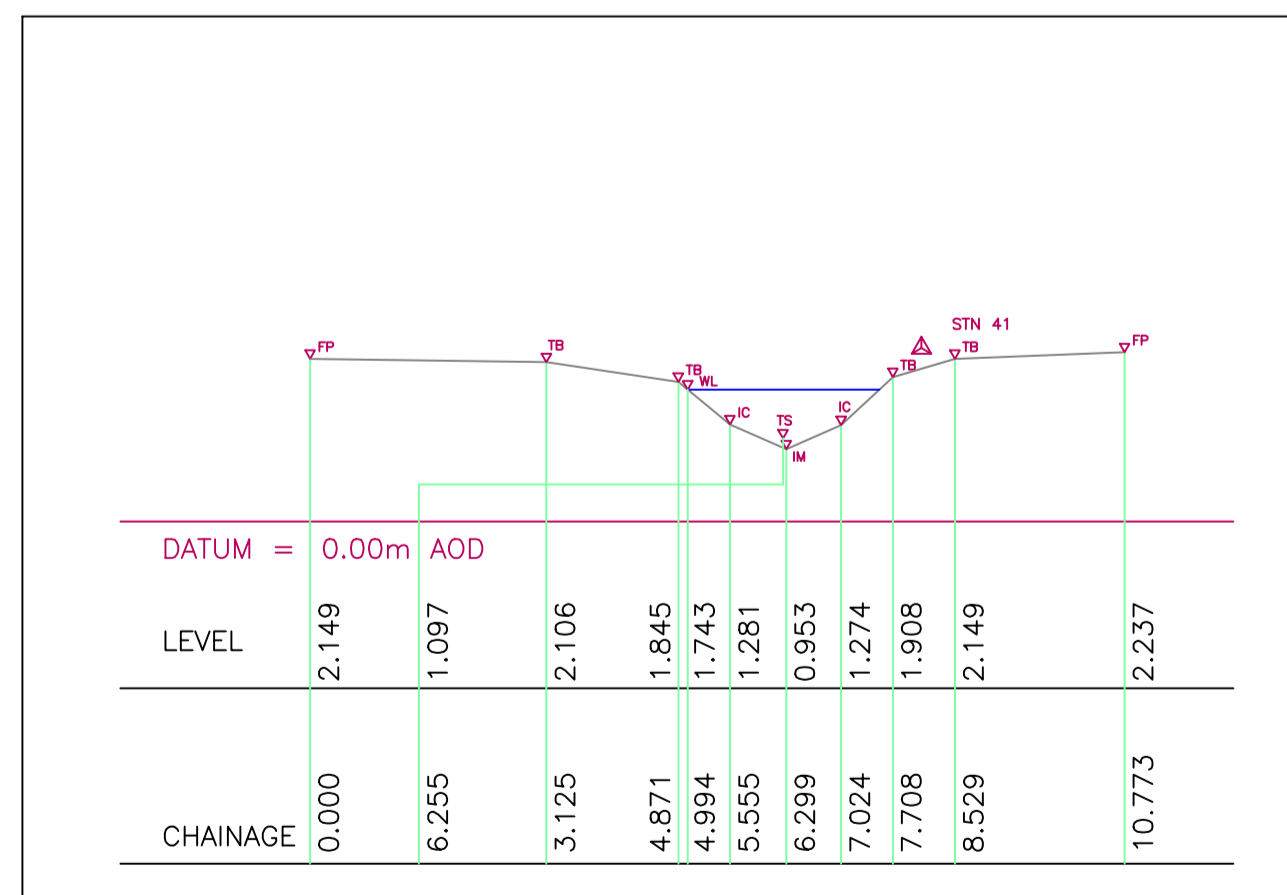
Notes
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 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
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C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL17 – CROSS-SECTION





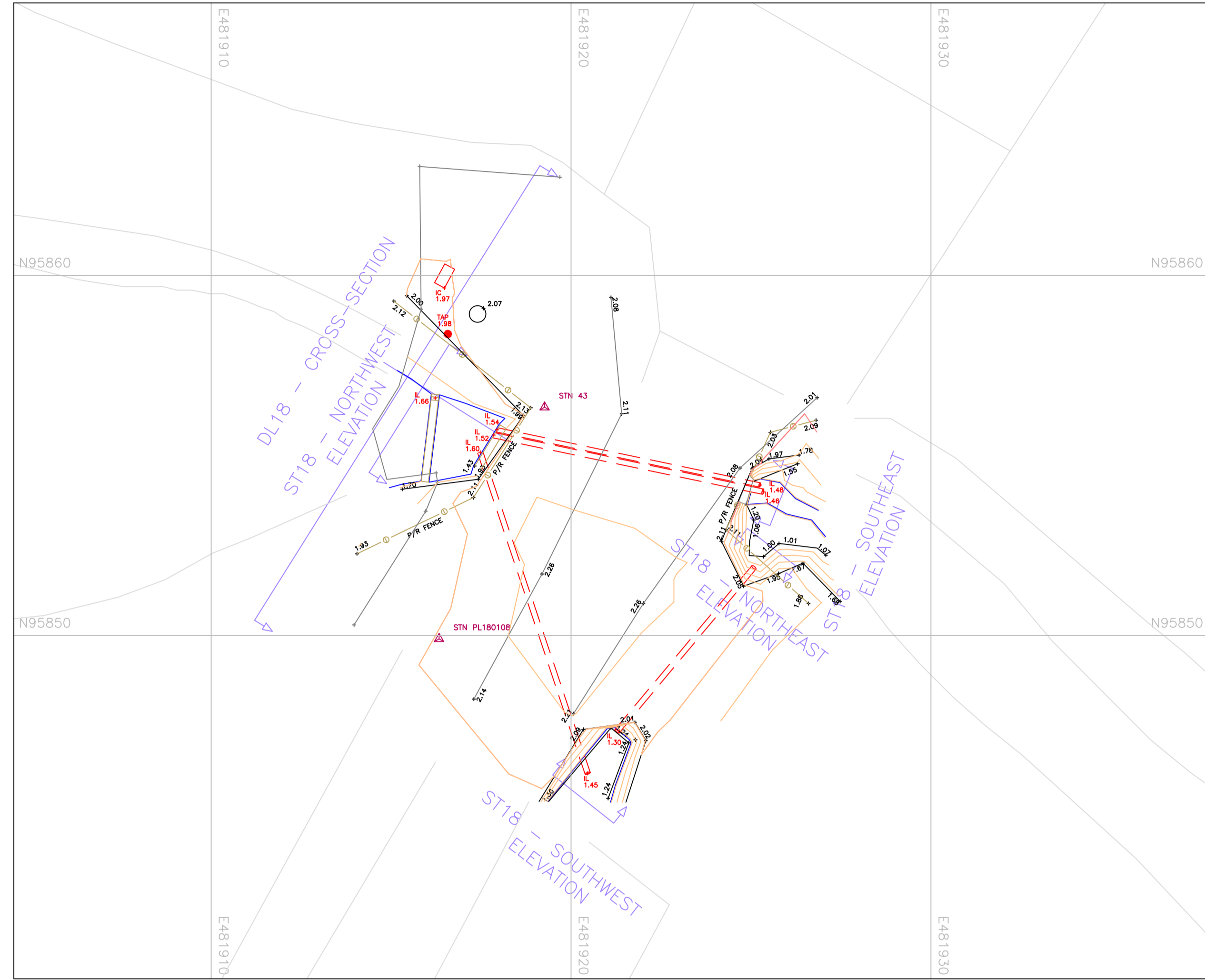
MERIDIAN
Land surveying and design



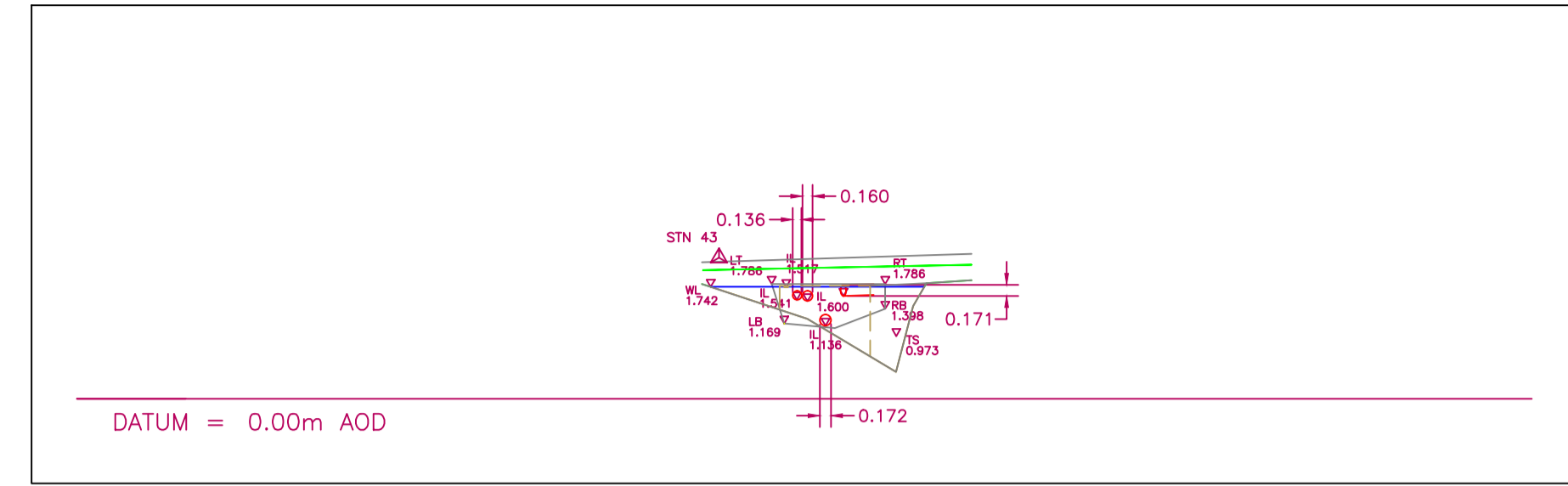
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 EPSOM ROAD, WEST HORSLEY KT24 6AW
 Tel: 07948 603936 – Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – DL-N		
SCALE	DATE	
1:100 (A1)	25/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_33	–

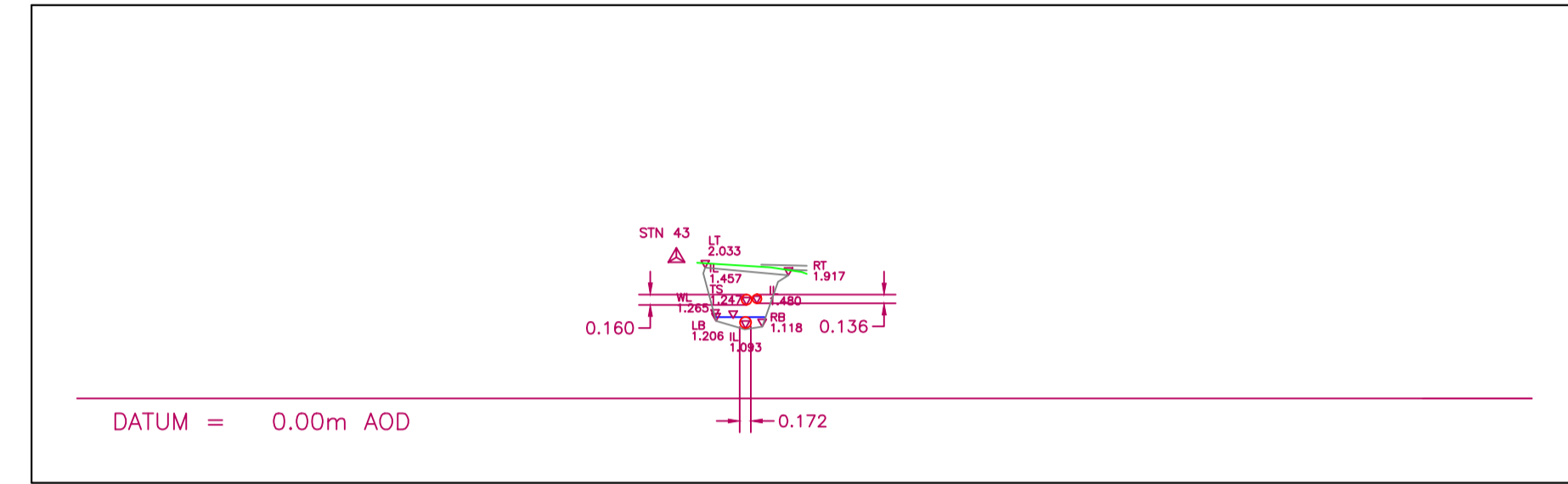
PLAN OF STRUCTURE – ST18



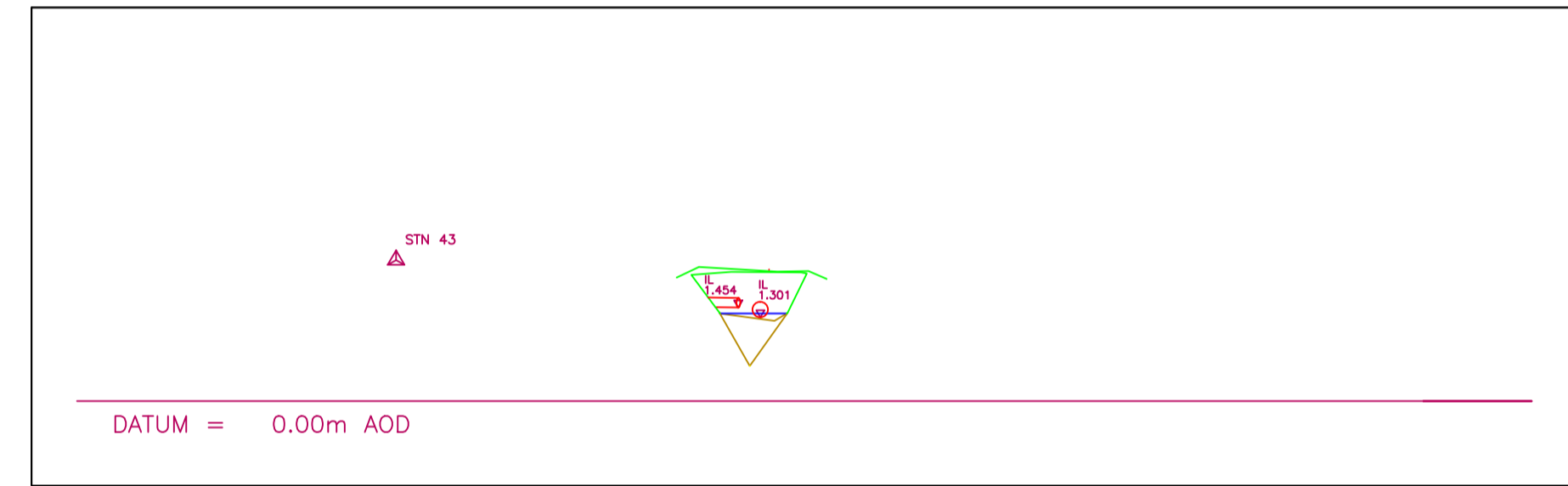
ST18 – NORTHWEST ELEVATION



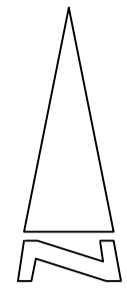
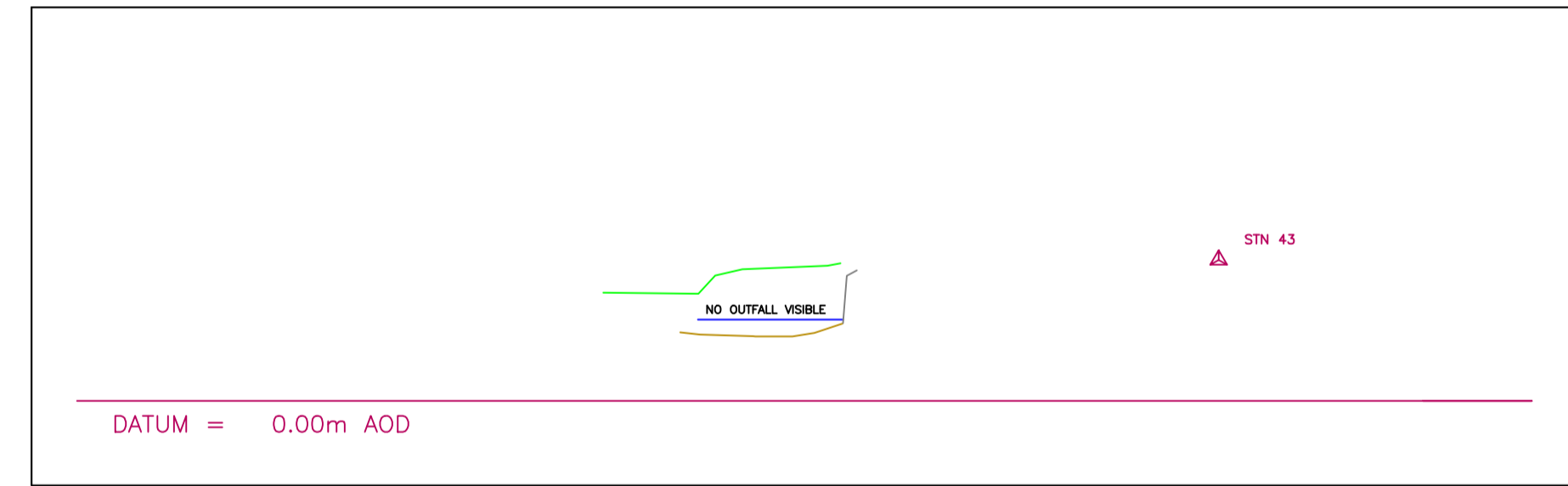
ST18 – SOUTHEAST ELEVATION



ST18 – SOUTHWEST ELEVATION



ST18 – NORTHEAST ELEVATION



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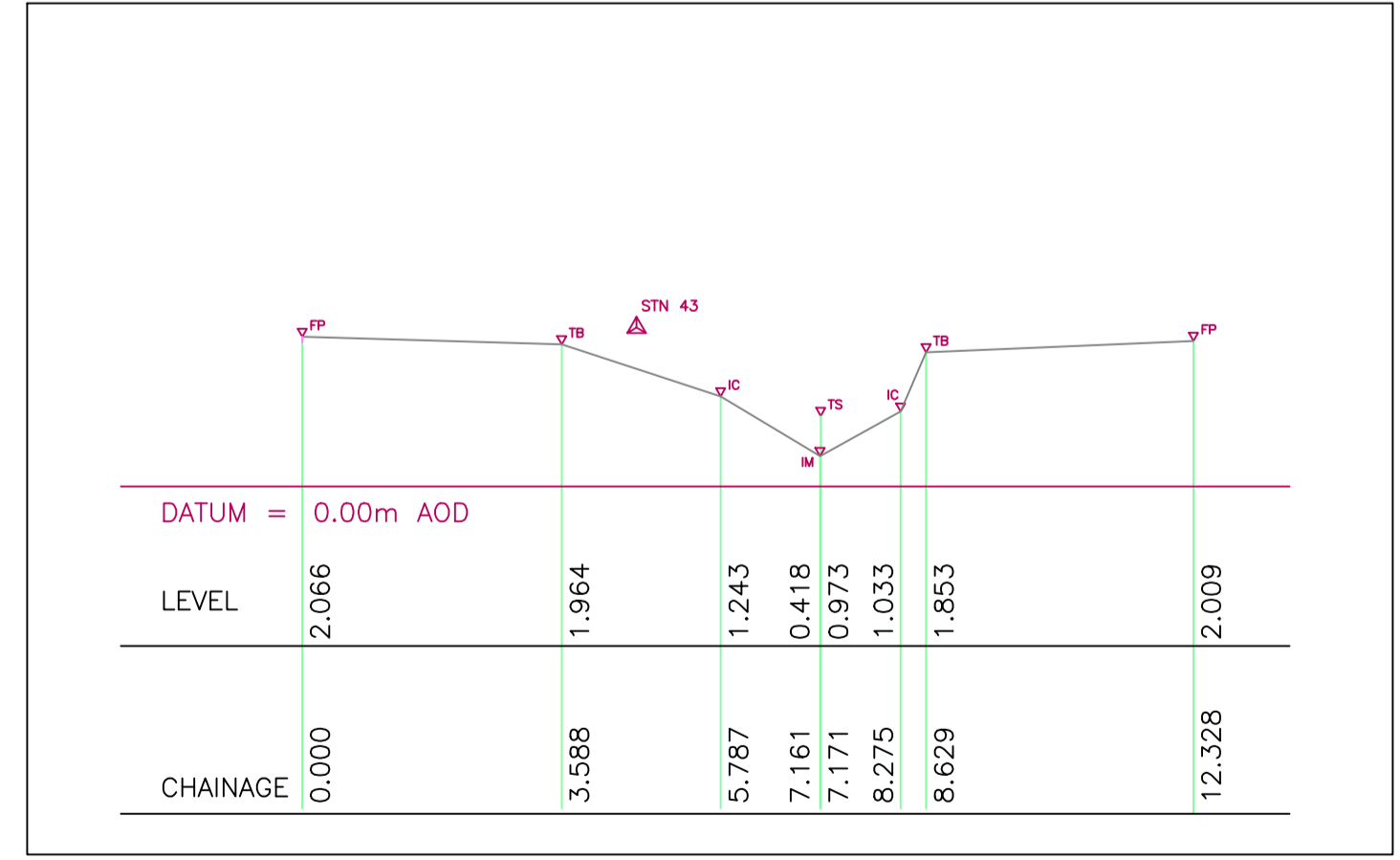
Notes
 Where underground services are shown it is advisable to check these details against statutory authority records before proceeding with any design.
 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE
A	AMEND DATUM	5/7/19

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

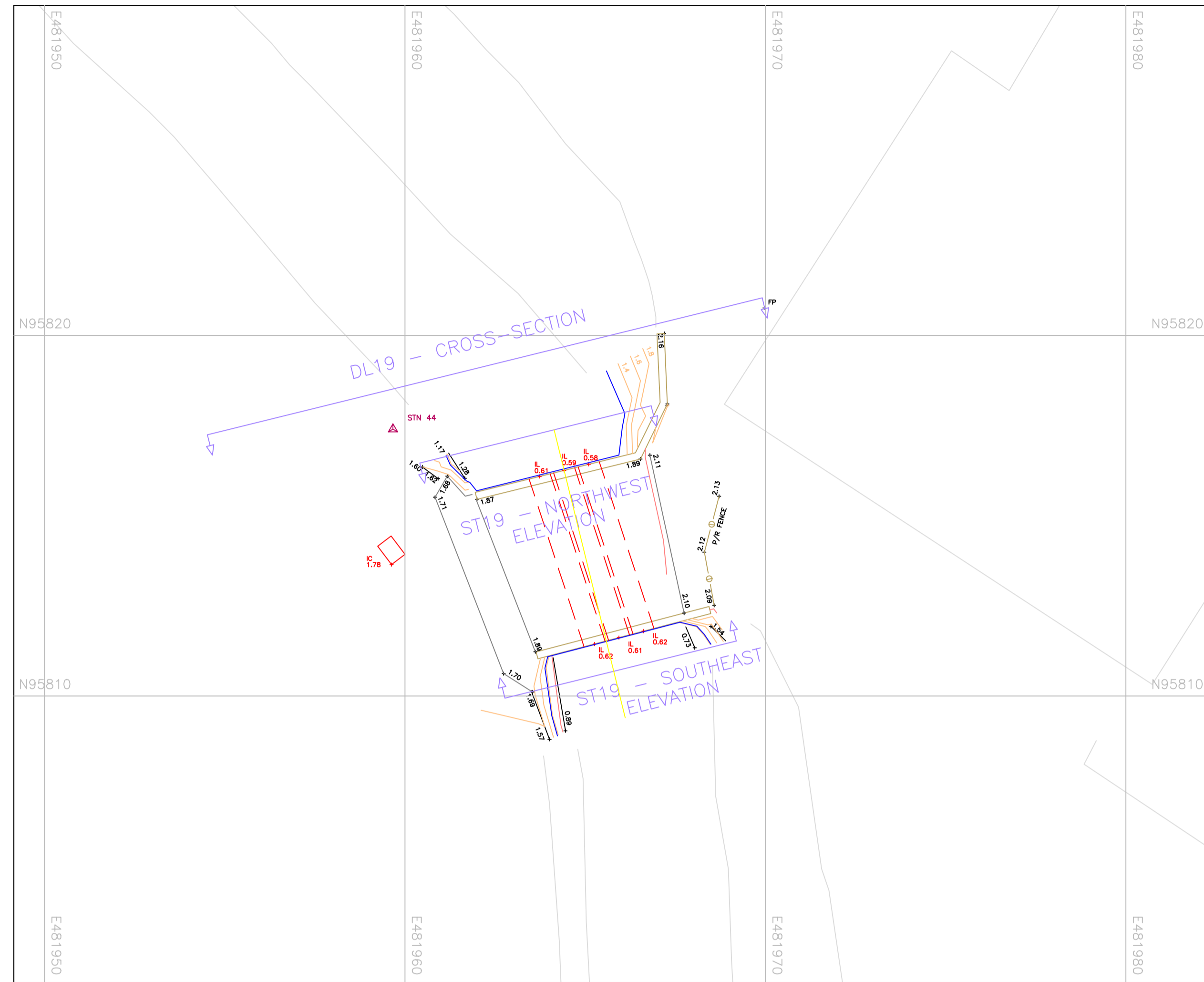
DL18 – CROSS-SECTION



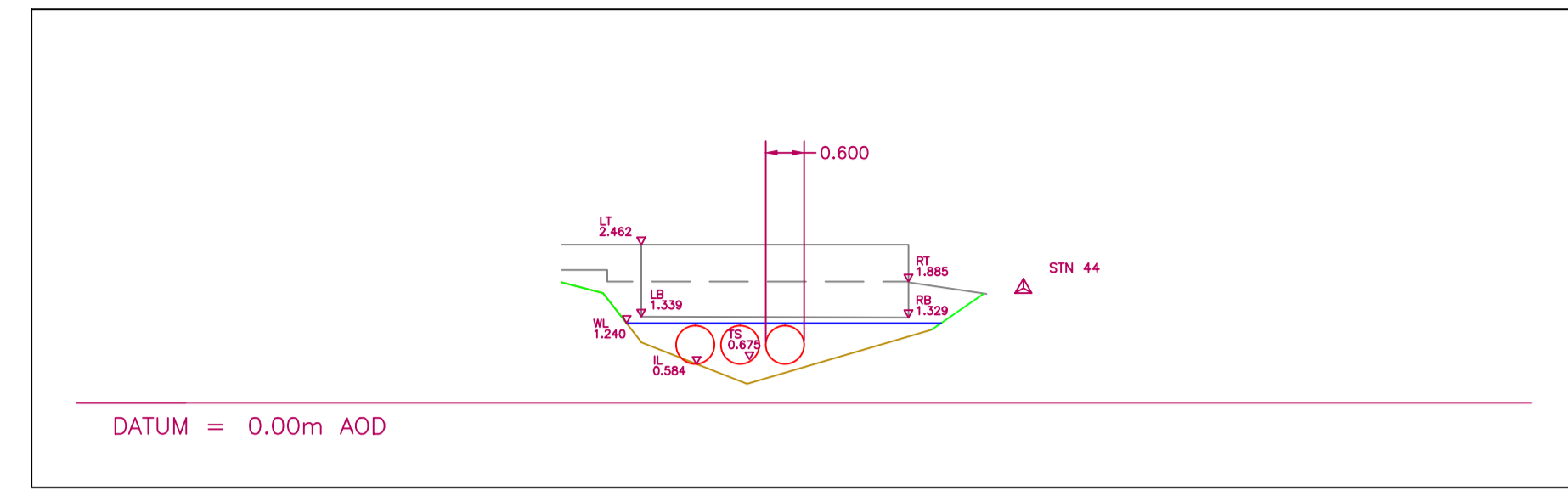
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 EPSOM ROAD, WEST HORSLEY KT24 6AW
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CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – DL-0		
SCALE	DATE	
1:100 (A1)	25/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_34	A

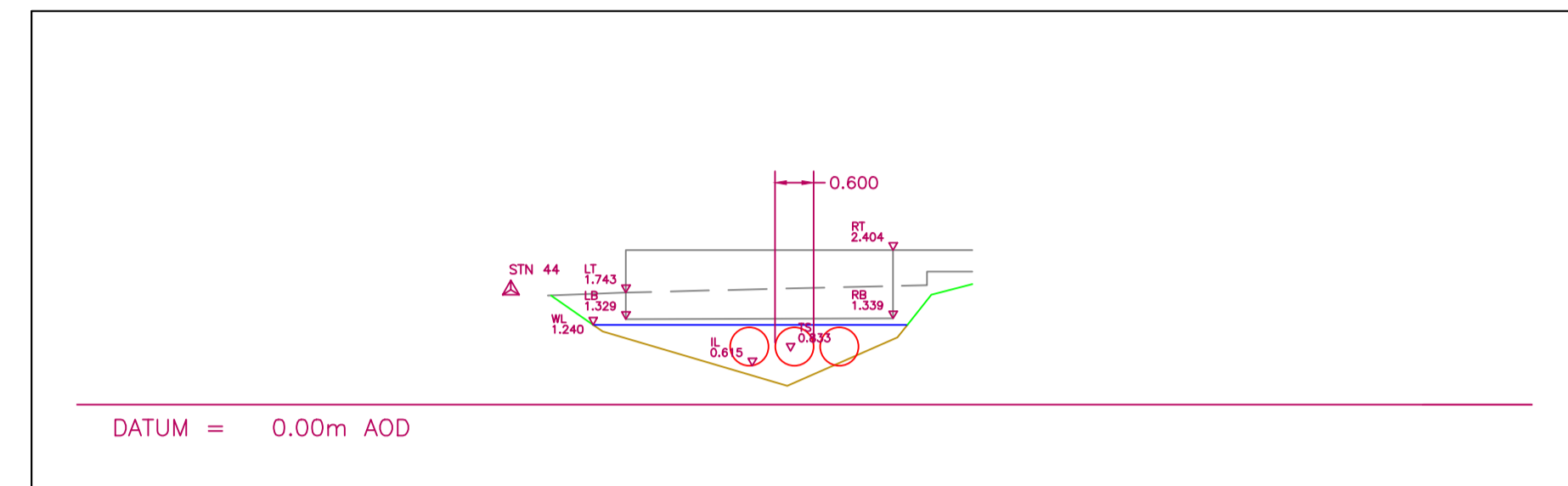
PLAN OF STRUCTURE – ST19



ST19 – NORTHWEST ELEVATION



ST19 – SOUTHEAST ELEVATION



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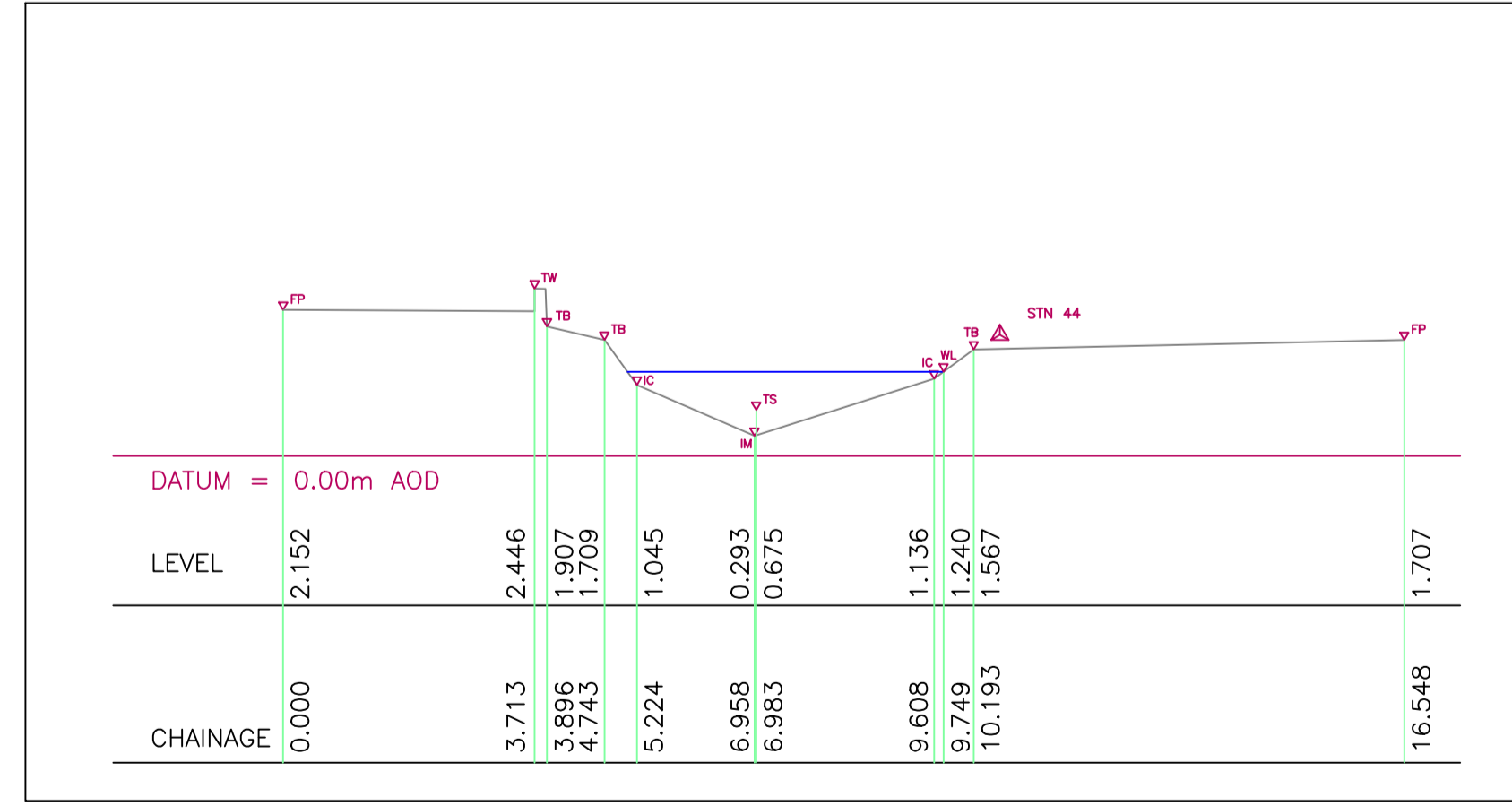
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 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gully
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL19 – CROSS-SECTION



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CUSTOMER
 Manhire LLP

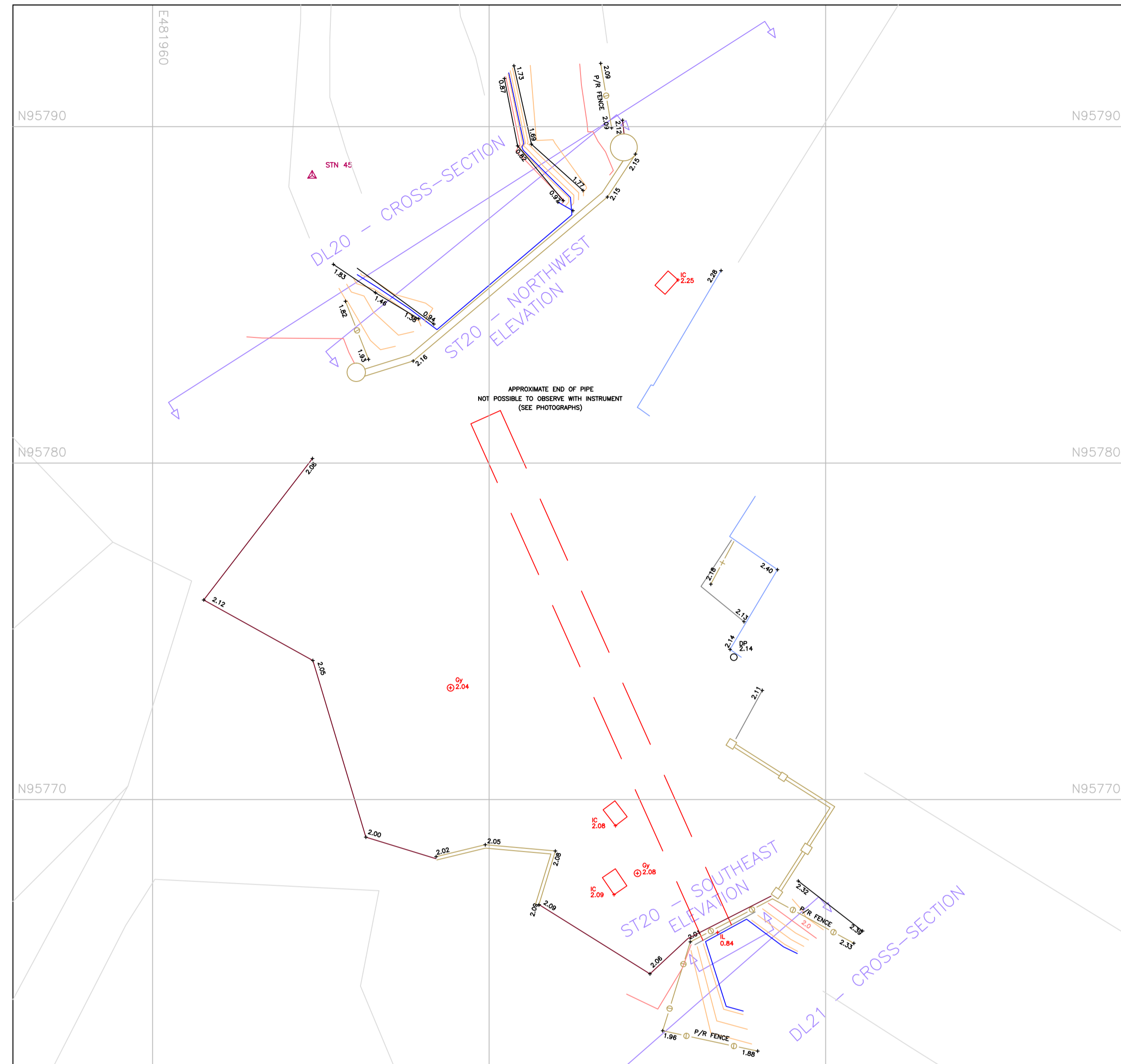
PROJECT
 Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING
 Survey of structures and cross-sections – DL-P

SCALE	DATE
1:100 (A1)	26/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_35	–

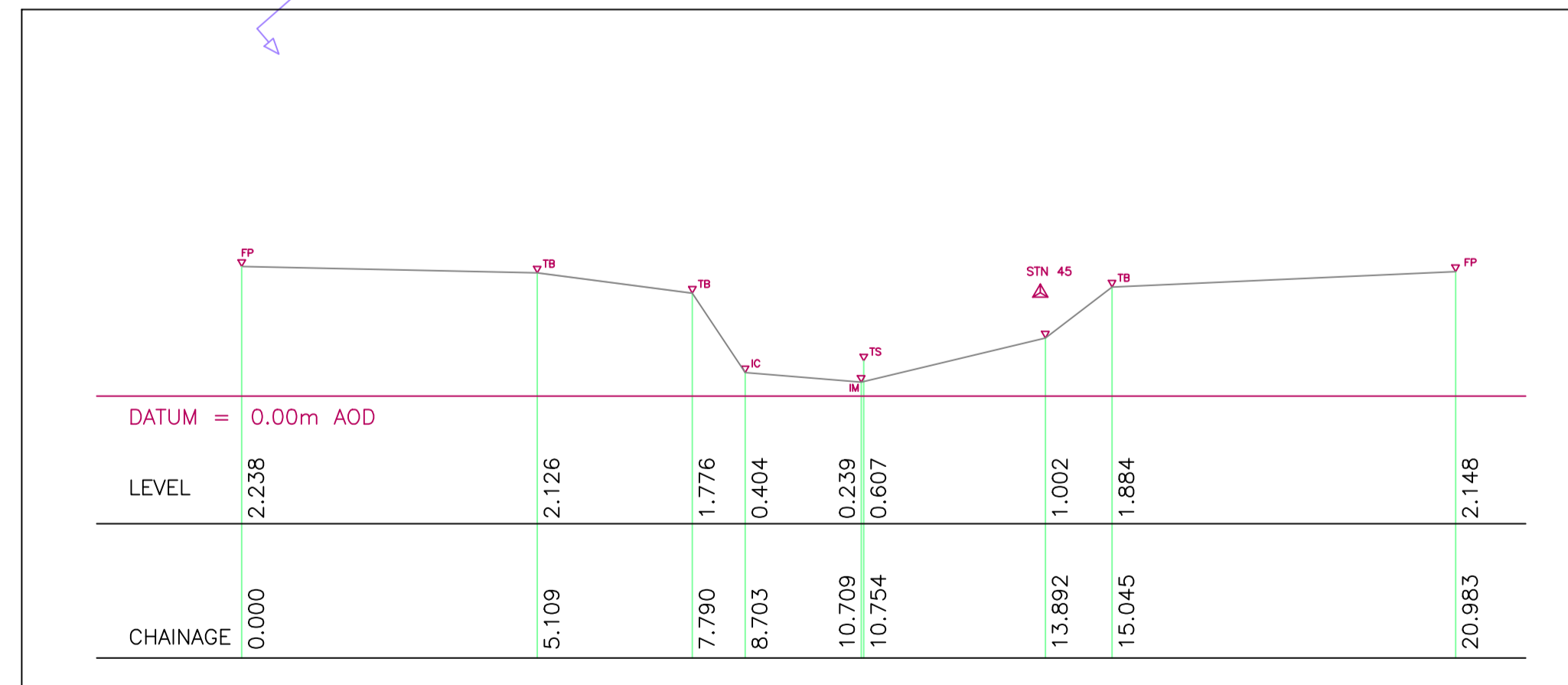
PLAN OF STRUCTURE – ST20



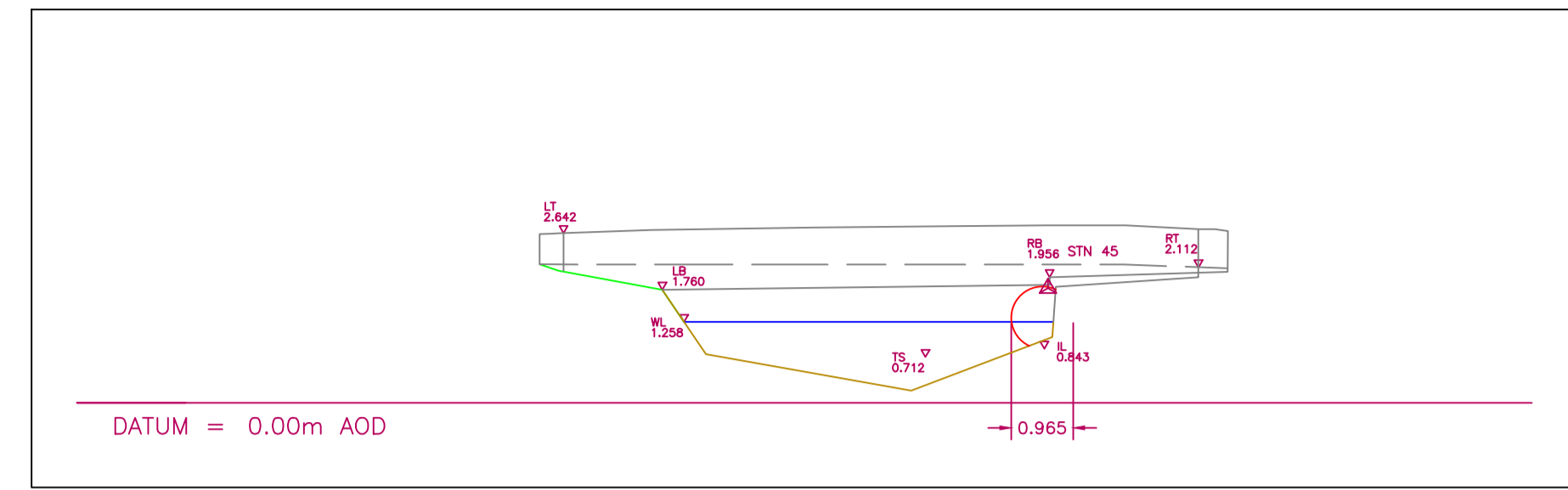
KEY

- FP Flood Plain
- BB Bottom of Bank
- TB Top of Bank
- WL Water Line
- IC In Channel
- IM In Channel mid-point
- Applies to Arch, Culvert or Head Wall
- SL Soffit Level
- LT Left Top
- RT Right Top
- LB Left Bottom
- RB Right Bottom
- BL Base Level
- IL Invert Level
- TS Top of Silt
- FH Fire hydrant
- GY Gulley
- IC Inspection cover
- MH Manhole
- SMP Service marker post
- GSV Gas stop valve
- WSV Water stop valve
- DK Drop kerb
- EP Electricity pole
- KB Kerb
- OSBM OS bench mark
- RS Road sign
- TP Telegraph pole
- B/W Barbed wire fence
- C/B Close boarded fence
- C/L Chain link fence
- C/P Chestnut paling fence
- I/W Interwoven fence
- I/R Iron railing
- L/B Lapboard fence
- P/R Post and rail fence
- P/W Post and wire fence
- W/M Wire mesh fence
- RTW Retaining wall
- SSF Steel security fence

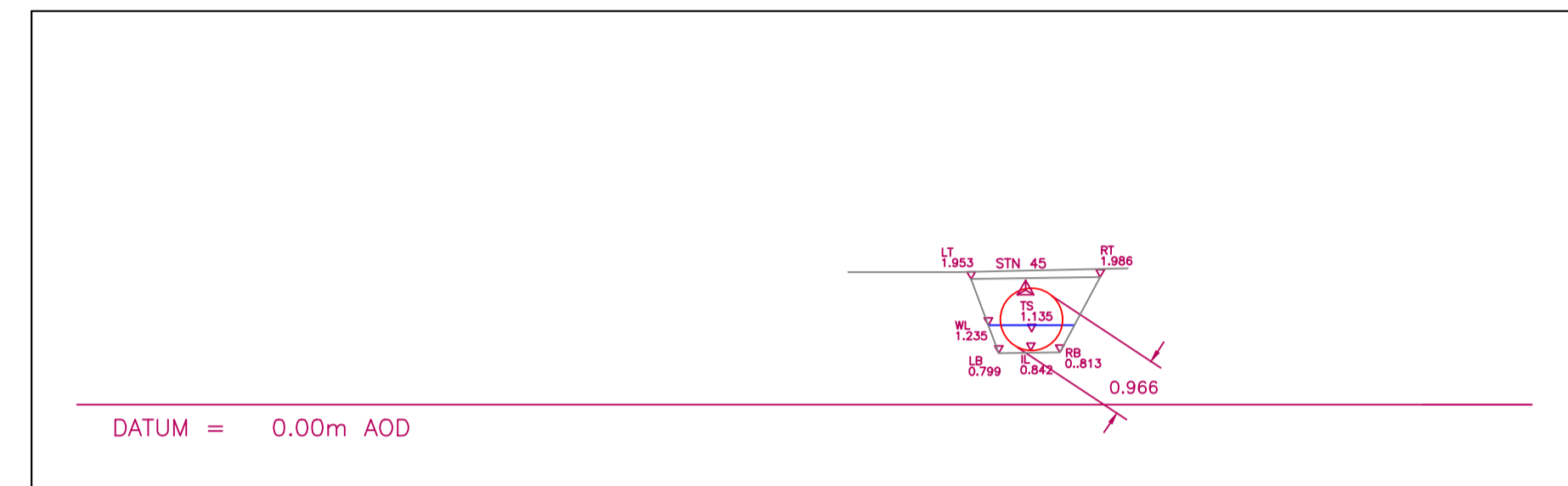
DL20 – CROSS-SECTION



ST20 – NORTHWEST ELEVATION



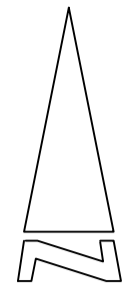
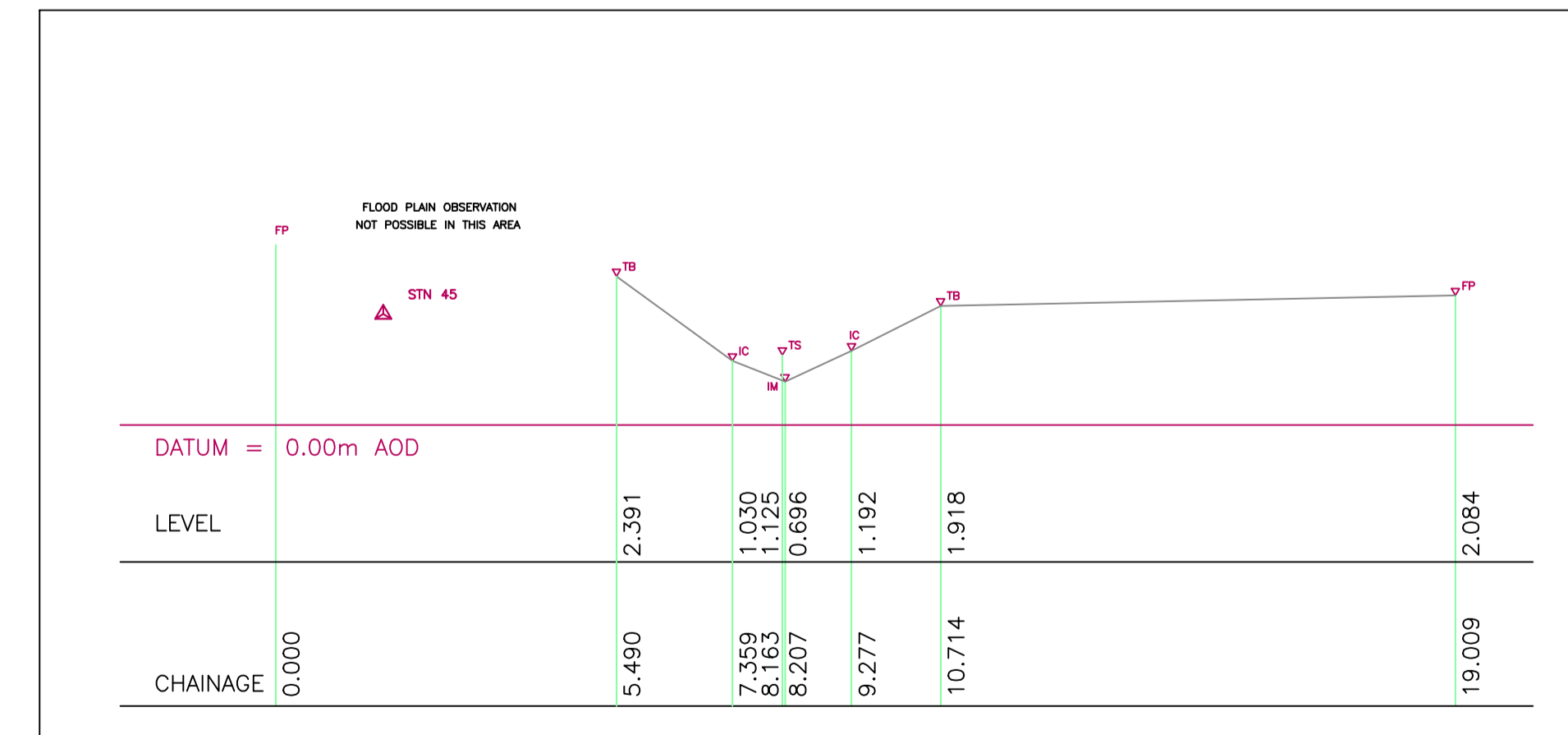
ST20 – SOUTHEAST ELEVATION



CHECK XYZ FILE AGAINST DL21 CROSS-SECTION

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DL210001	YYTB	481,976.6718	95,762.8109	1.9176	✓
DL210002	YYIC	481,977.4140	95,764.1182	1.1923	✓
DL210003	YYIM	481,978.0750	95,764.9772	0.6957	✓
DL210004	YYIC	481,978.5896	95,765.6673	1.0302	✓
DL210005	YYTB	481,979.7976	95,767.1099	2.3911	✓

DL21 – CROSS-SECTION



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Notes

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Grid co-ordinates and levels are based upon the Ordnance Survey

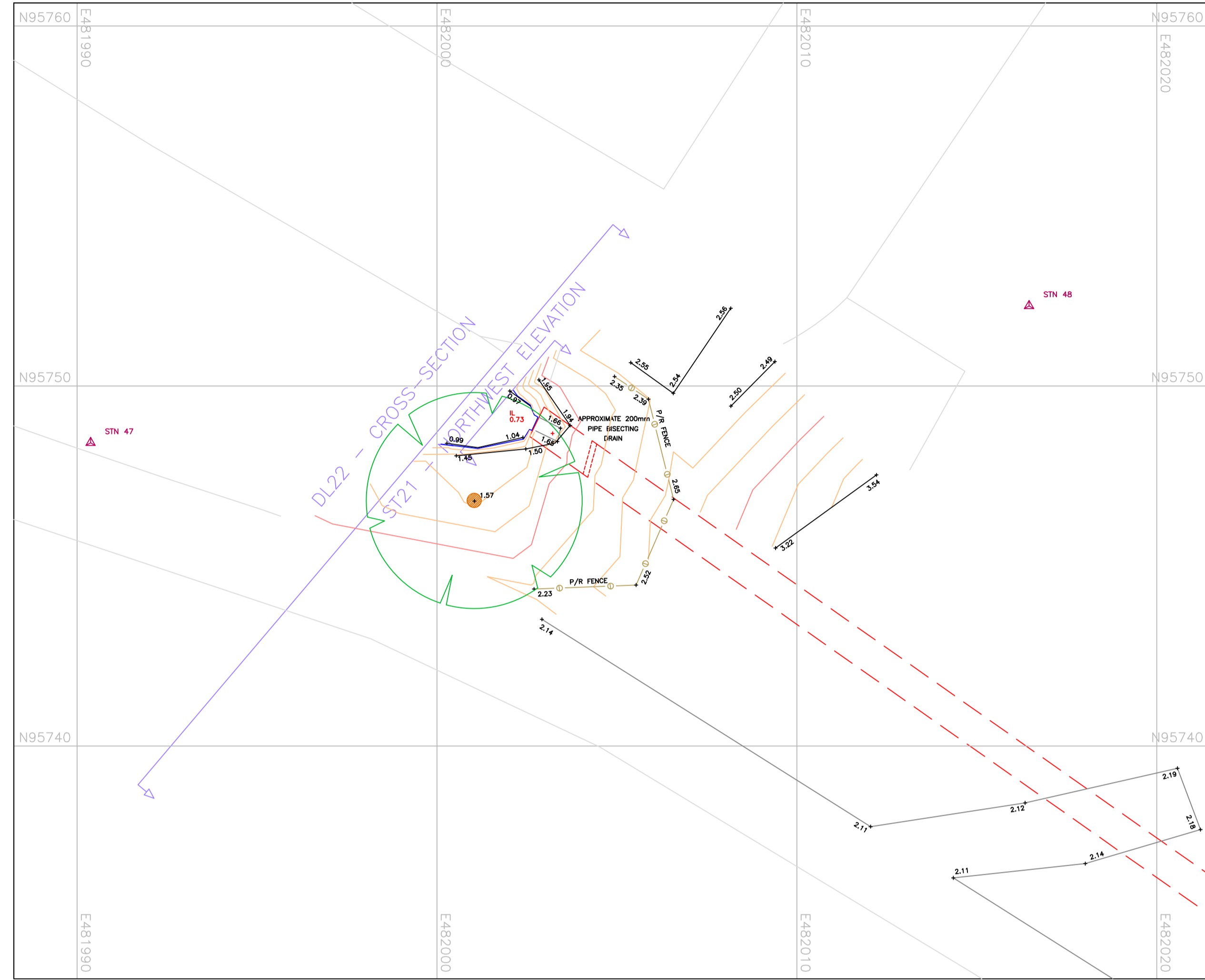
REVISION	DESCRIPTION	DATE
A	DATA IN XYZ FILE REVISED	9/7/19



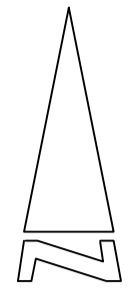
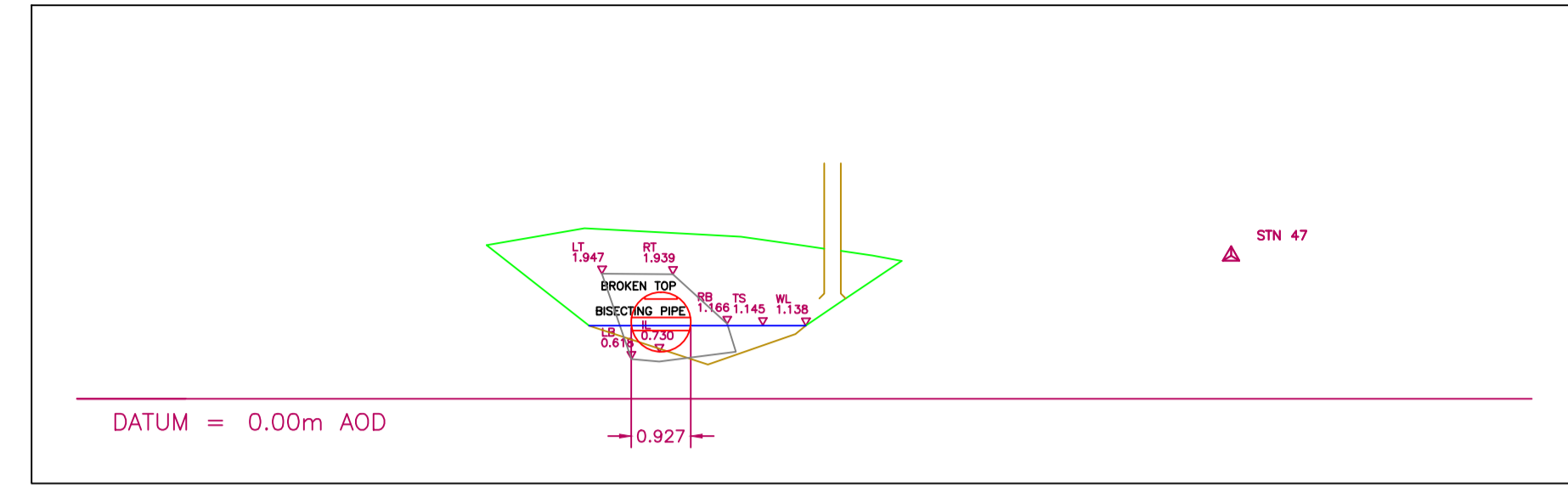
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CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – DL-Q		
SCALE	DATE	
1:100 (A1)	26/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_36	A

PLAN OF STRUCTURE – ST21



ST21 – NORTHWEST ELEVATION



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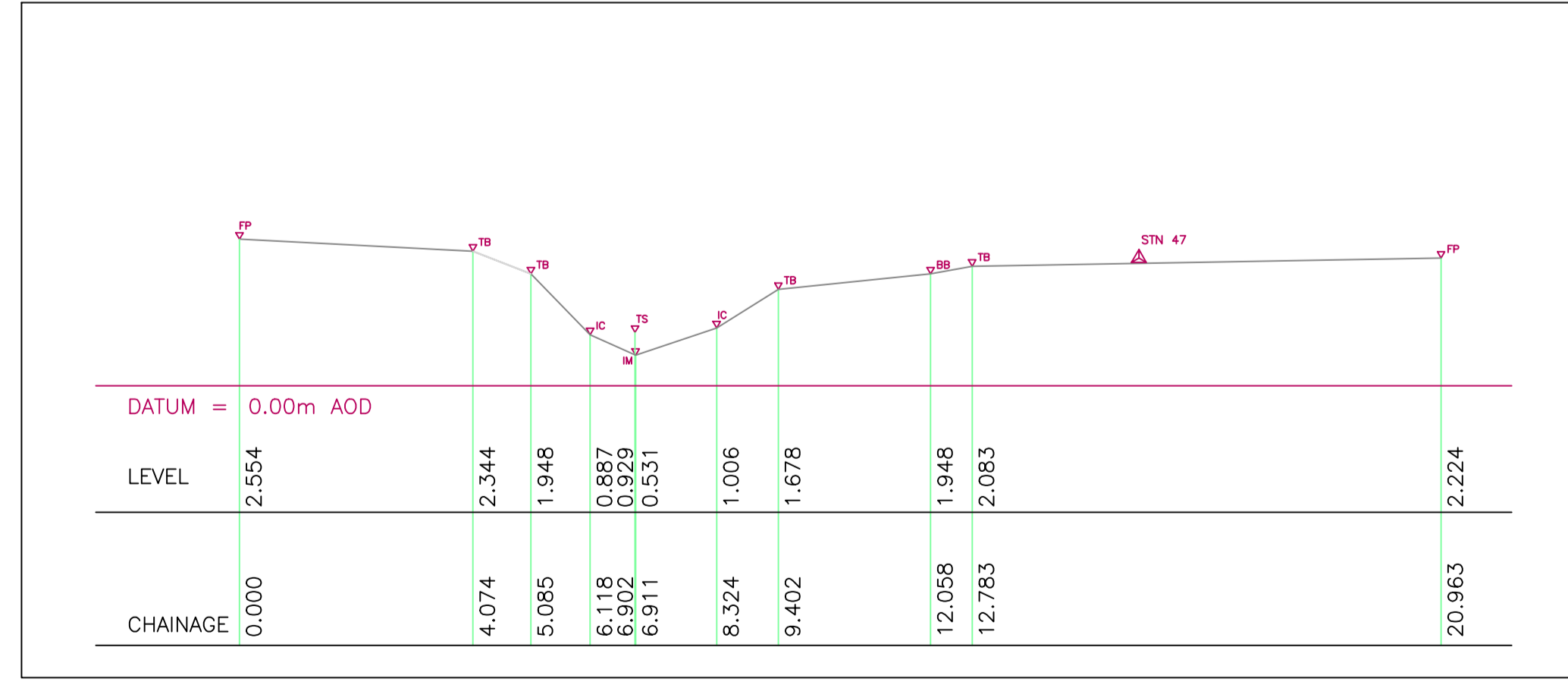
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE
A	XYZ FILE DATA REINSTATED	6/7/19

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL22 – CROSS-SECTION

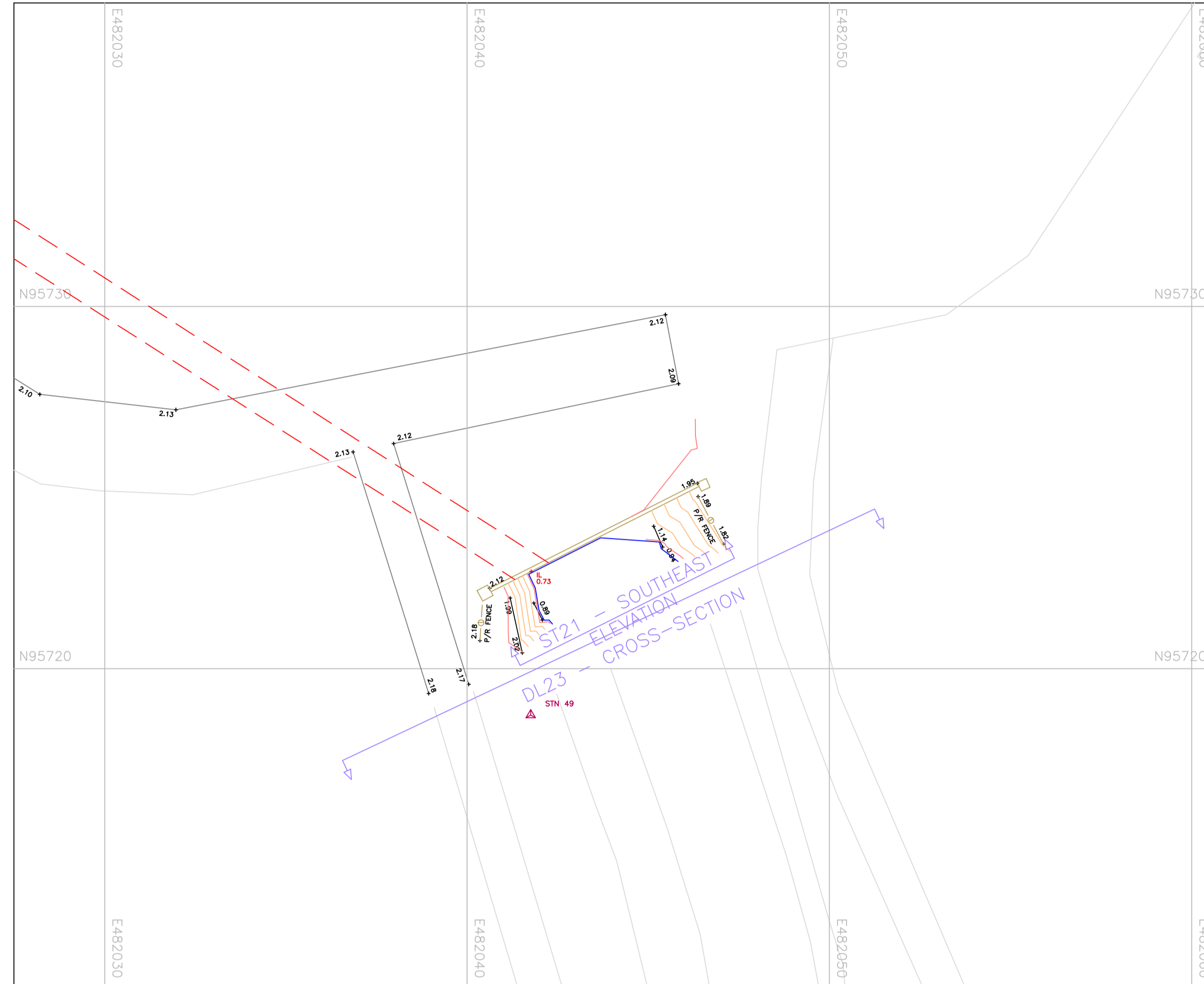




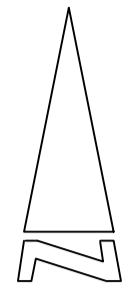
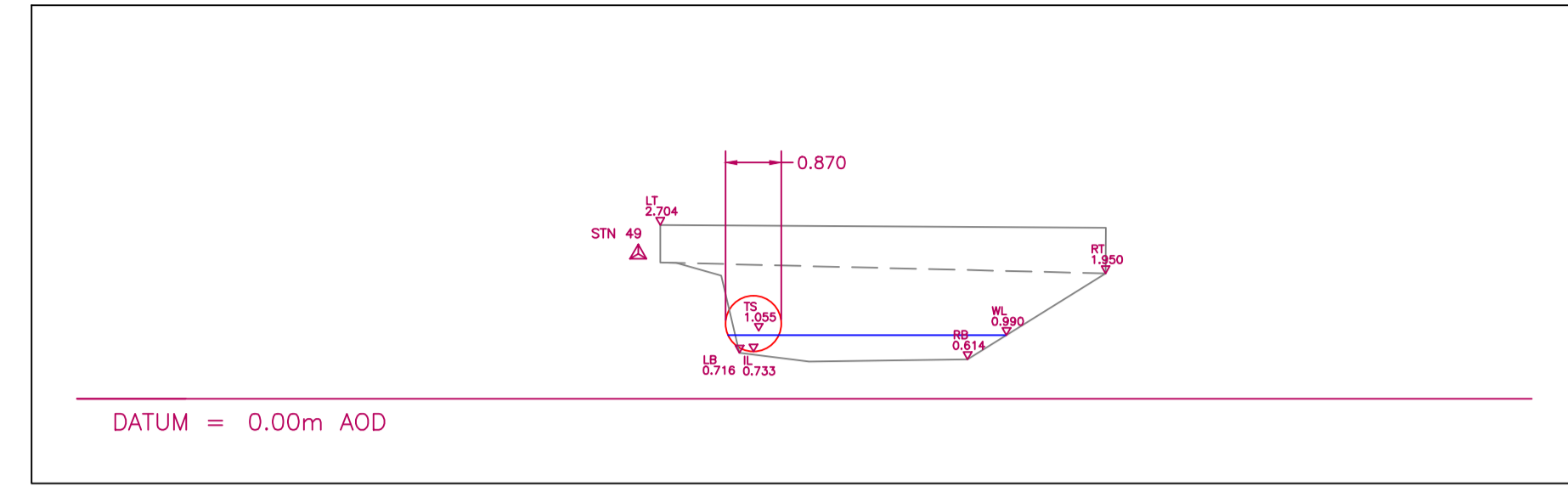
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Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – DL–R (NW)		
SCALE	DATE	
1:100 (A1)	26/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_37	A

PLAN OF STRUCTURE – ST21



ST21 – SOUTHEAST ELEVATION



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Notes

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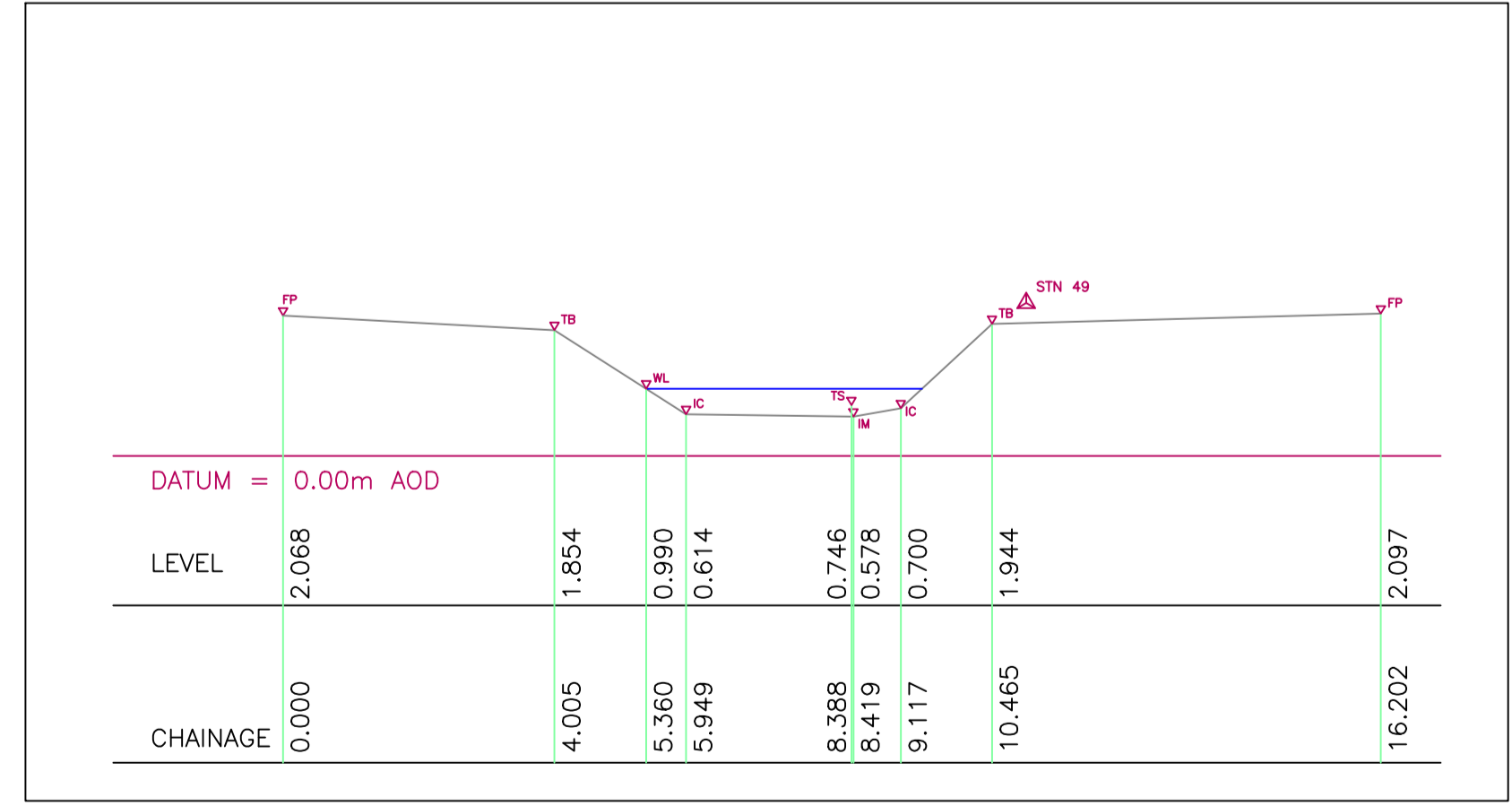
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
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RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
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C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL23 – CROSS-SECTION





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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

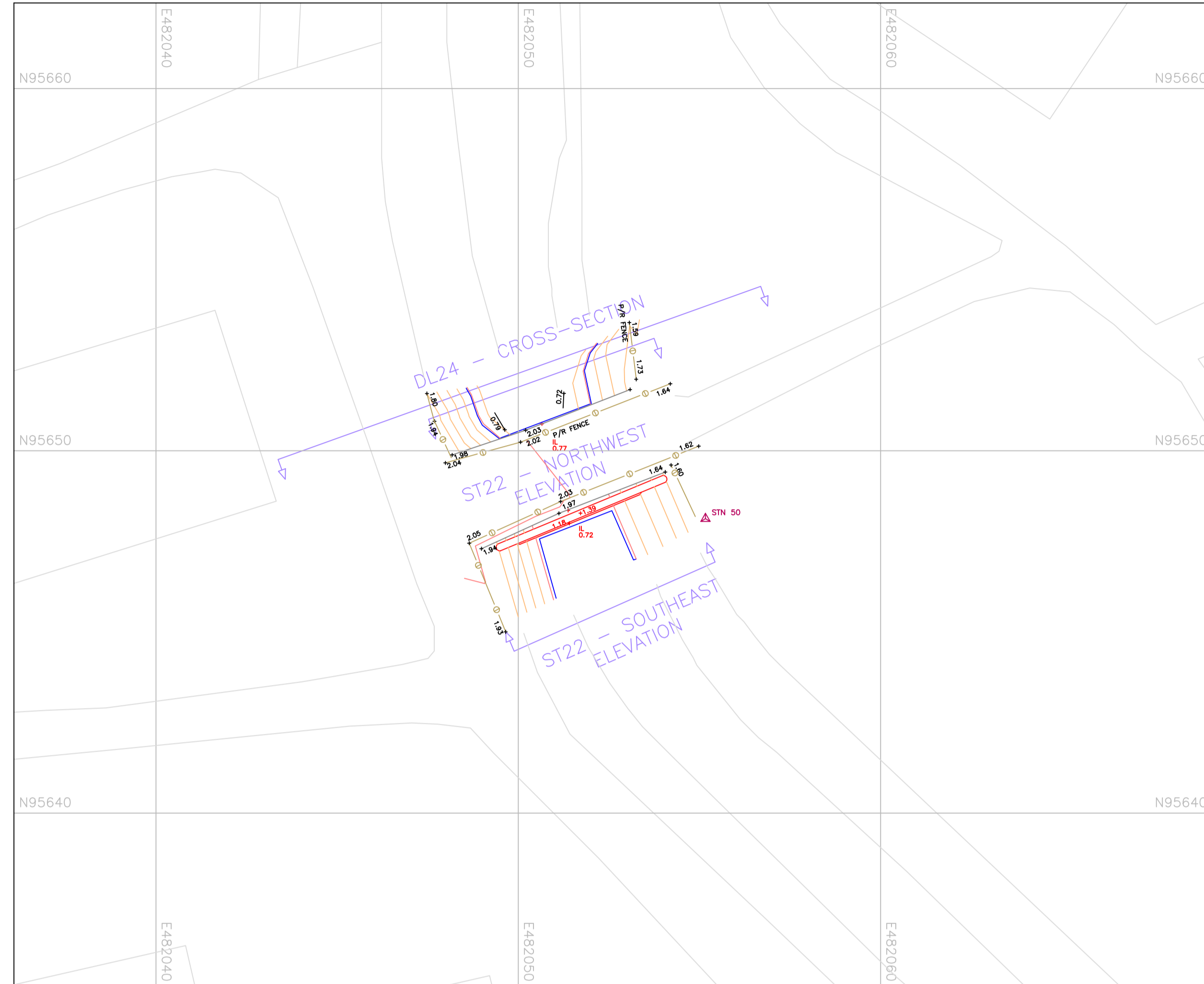
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Survey of structures and cross-sections – DL–R (SE)

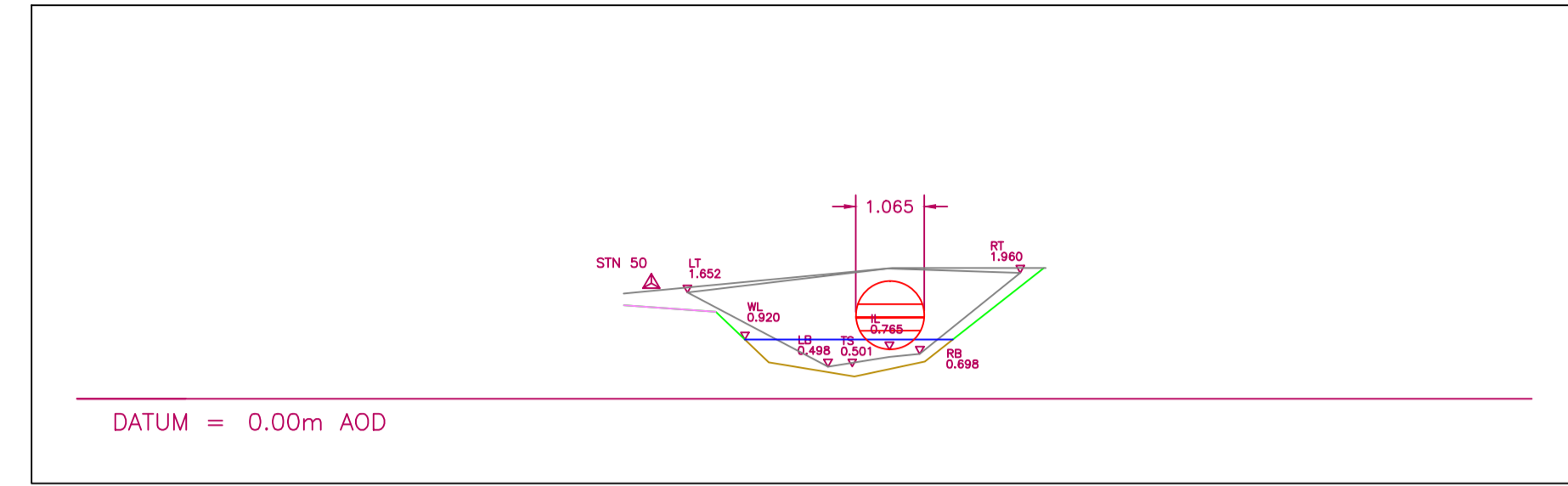
SCALE	DATE
1:100 (A1)	26/6/2019

CLIENT NO.	JOB NO.	REVISION
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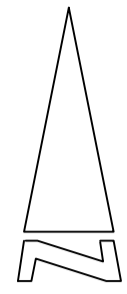
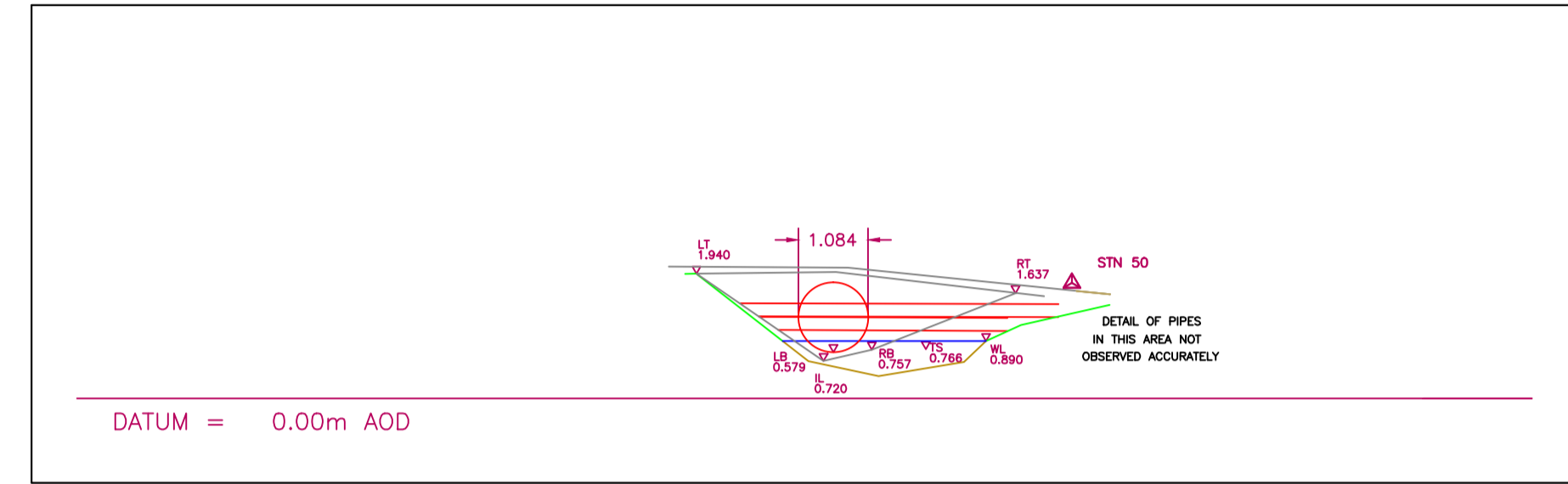
PLAN OF STRUCTURE – ST22



ST22 – NORTHWEST ELEVATION



ST22 – SOUTHEAST ELEVATION



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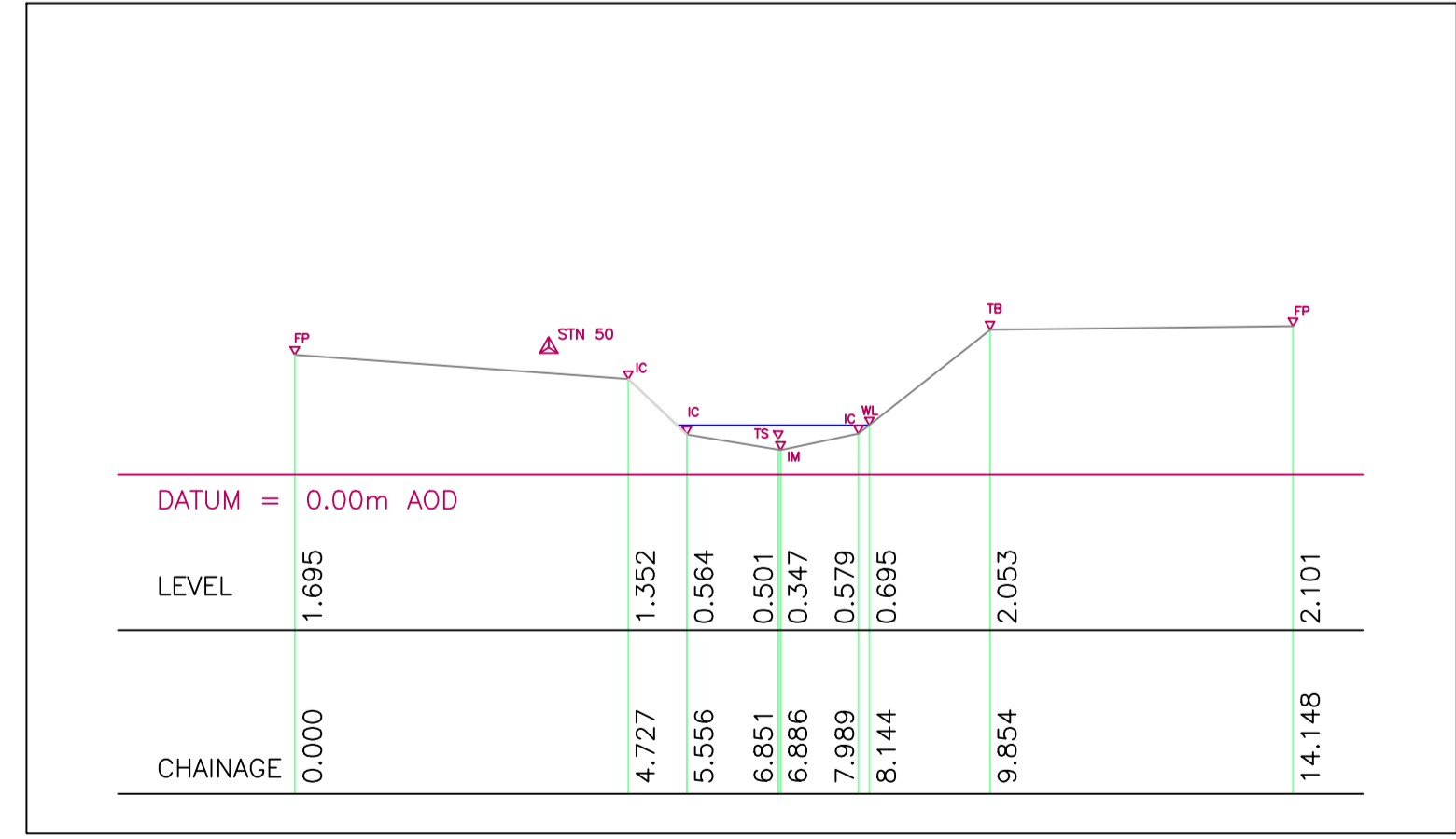
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 Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE
A	CROSS-SECTION AMENDED	5/7/19

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gully
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
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TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL24 – CROSS-SECTION





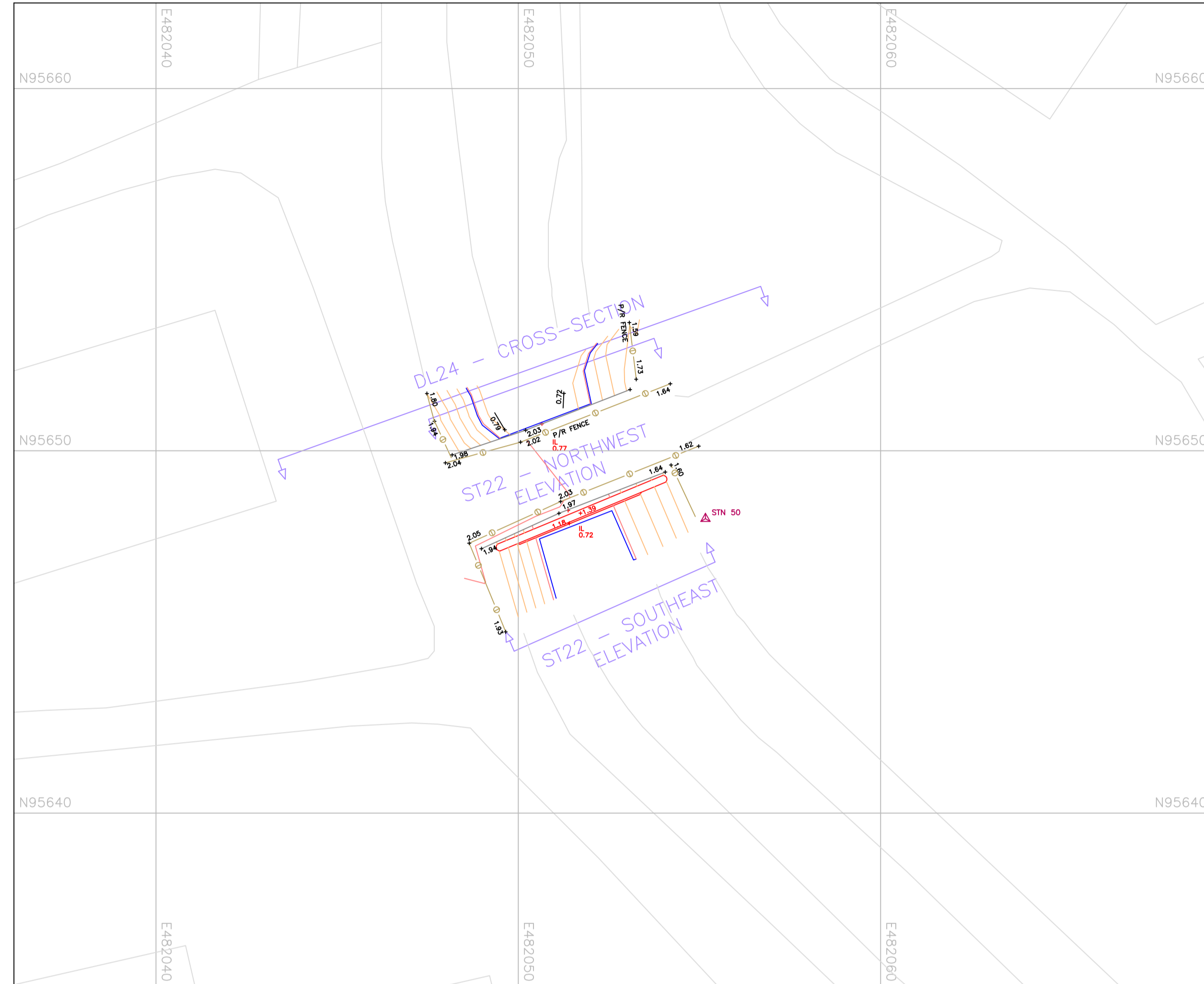
MERIDIAN
Land surveying and design



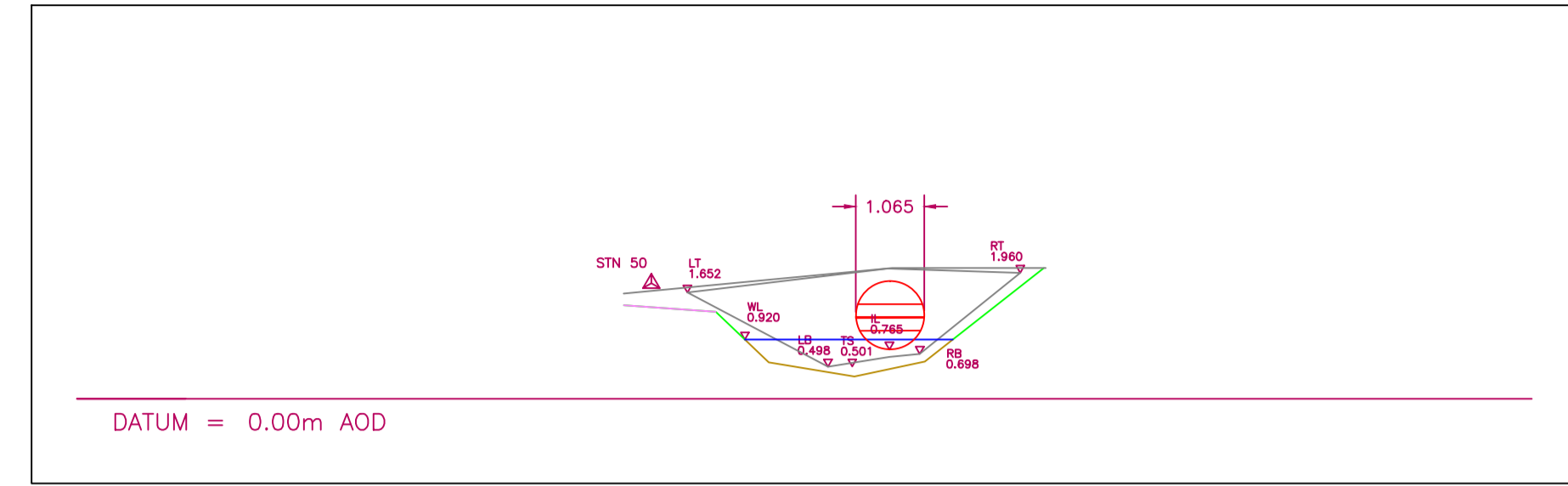
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 EPSOM ROAD, WEST HORSLEY KT24 6AW
 Tel: 07948 603936 – Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – DL-S		
SCALE	DATE	
1:100 (A1)	26/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_39	A

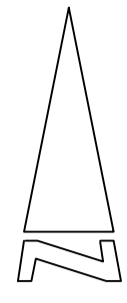
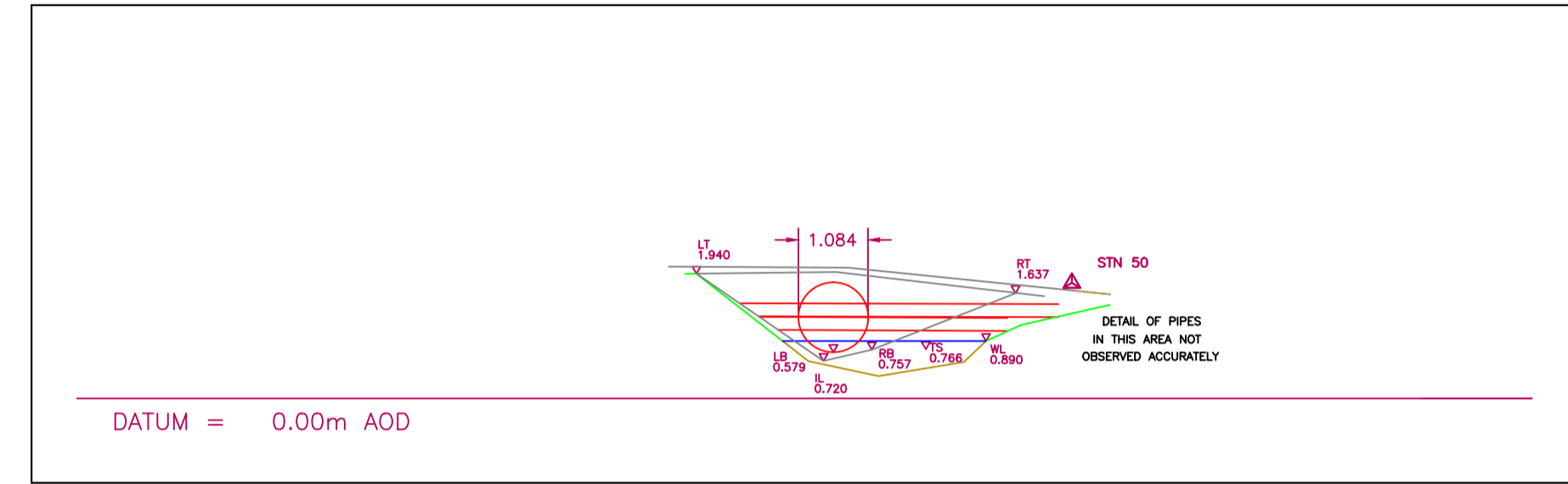
PLAN OF STRUCTURE – ST22



ST22 – NORTHWEST ELEVATION



ST22 – SOUTHEAST ELEVATION



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REVISION	DESCRIPTION	DATE
B	CHECKED & CONFIRMED XYZ	9/7/19
A	CROSS-SECTION AMENDED	5/7/19

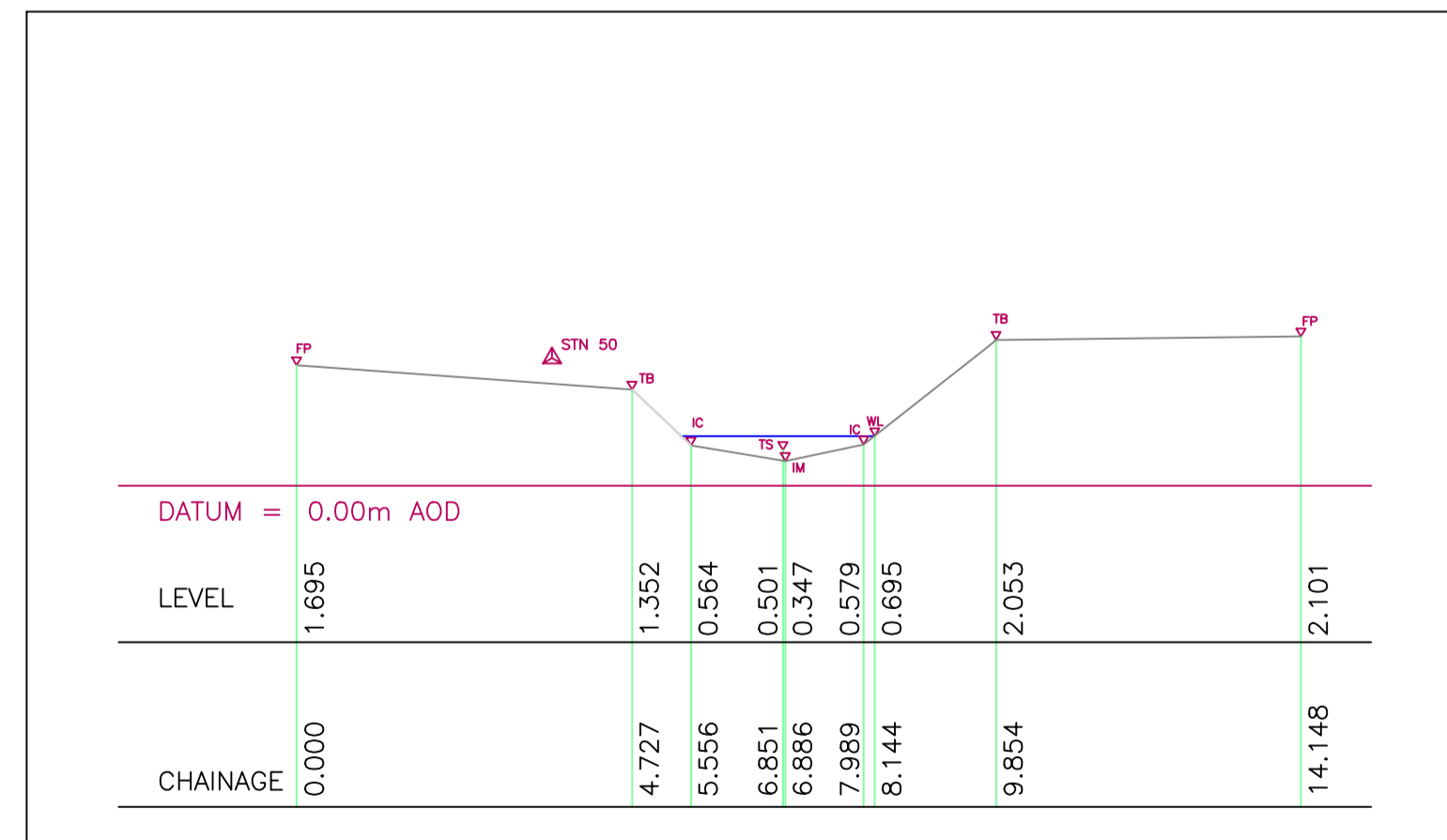
CHECK XYZ FILE AGAINST DL24 CROSS-SECTION

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DL240001	YYTB	482,047.5460	95,650.8430	2.0530	✓
DL240003	YYIC	482,049.1700	95,651.8410	0.5790	✓
DL240004	YYIM	482,050.2680	95,652.0470	0.3470	✓
DL240006	YYIC	482,051.4980	95,652.5570	0.5640	✓
DL240007	YYTB	482,052.2970	95,652.7850	1.3520	✓
DL240008	YYFP	482,056.6890	95,654.5400	1.6950	✓

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
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FH	Fire hydrant
GY	Gully
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
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KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL24 – CROSS-SECTION



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EPSOM ROAD, WEST HORSLEY KT24 6AW
Tel: 07948 603936 - Email: peter@meridiansurvey.co.uk

CUSTOMER
Manhire LLP

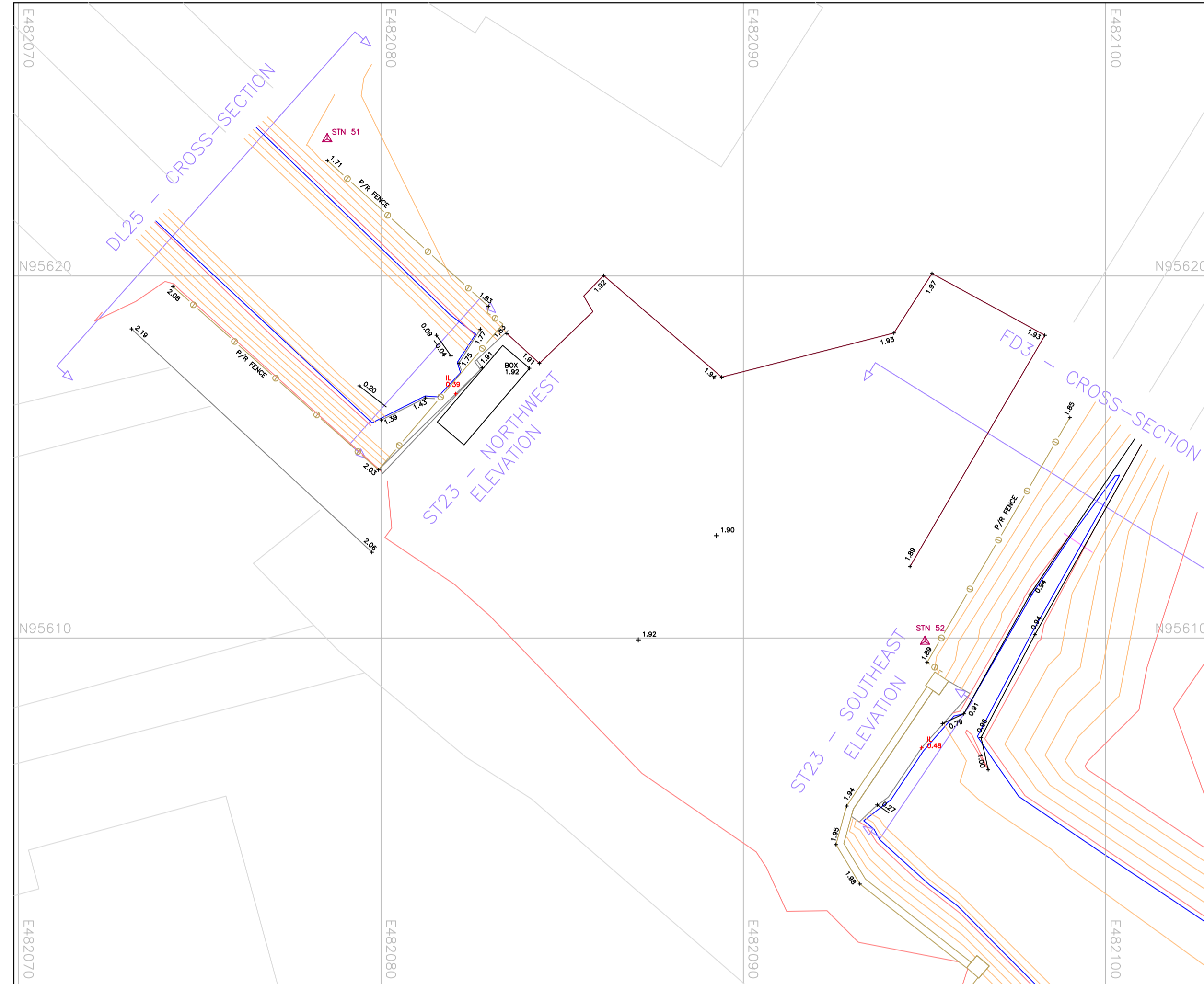
PROJECT
Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING
Survey of structures and cross-sections – DL-S

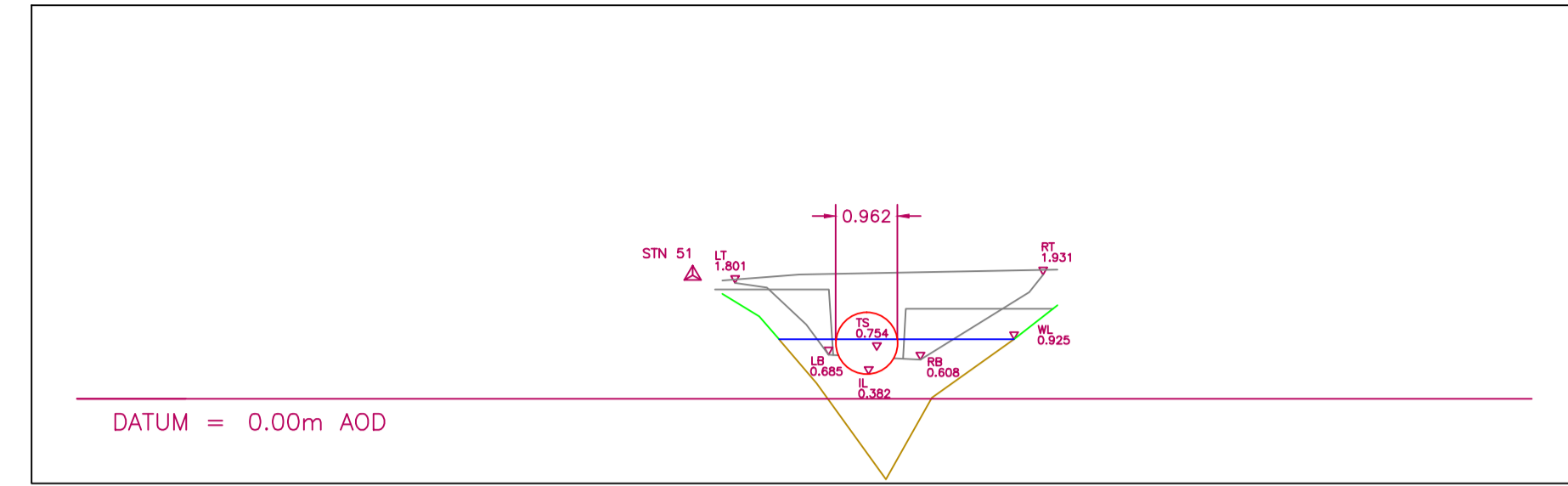
SCALE: 1:100 (A1) DATE: 26/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_39	B

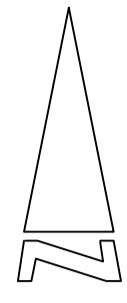
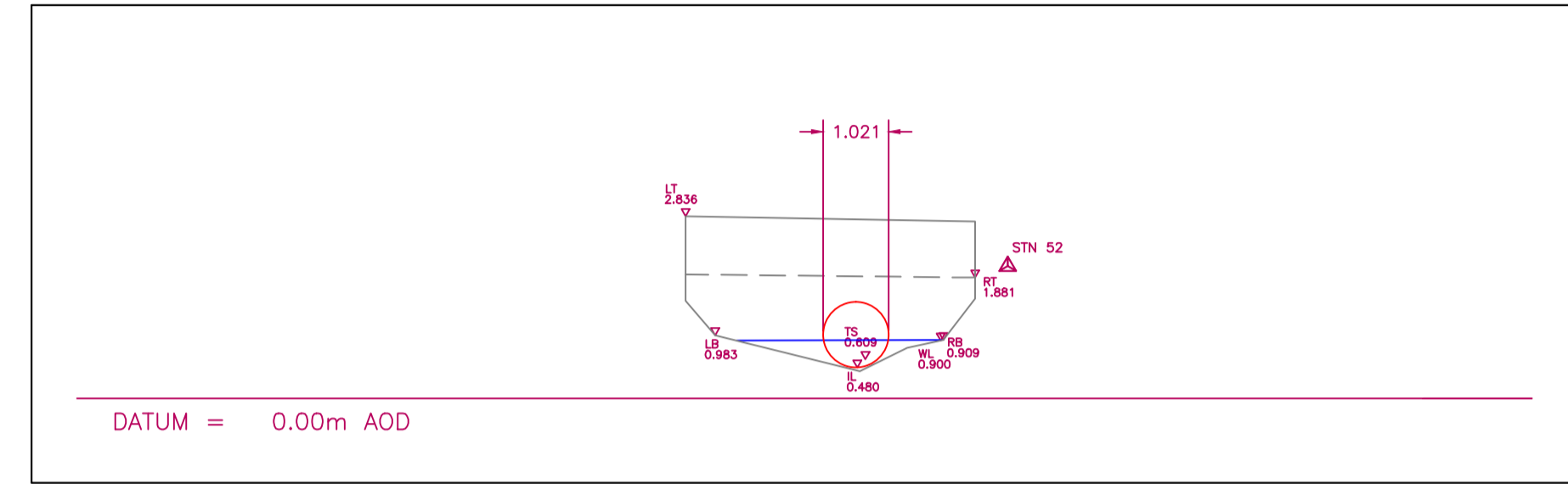
PLAN OF STRUCTURE – ST23



ST23 – NORTHWEST ELEVATION



ST23 – SOUTHEAST ELEVATION



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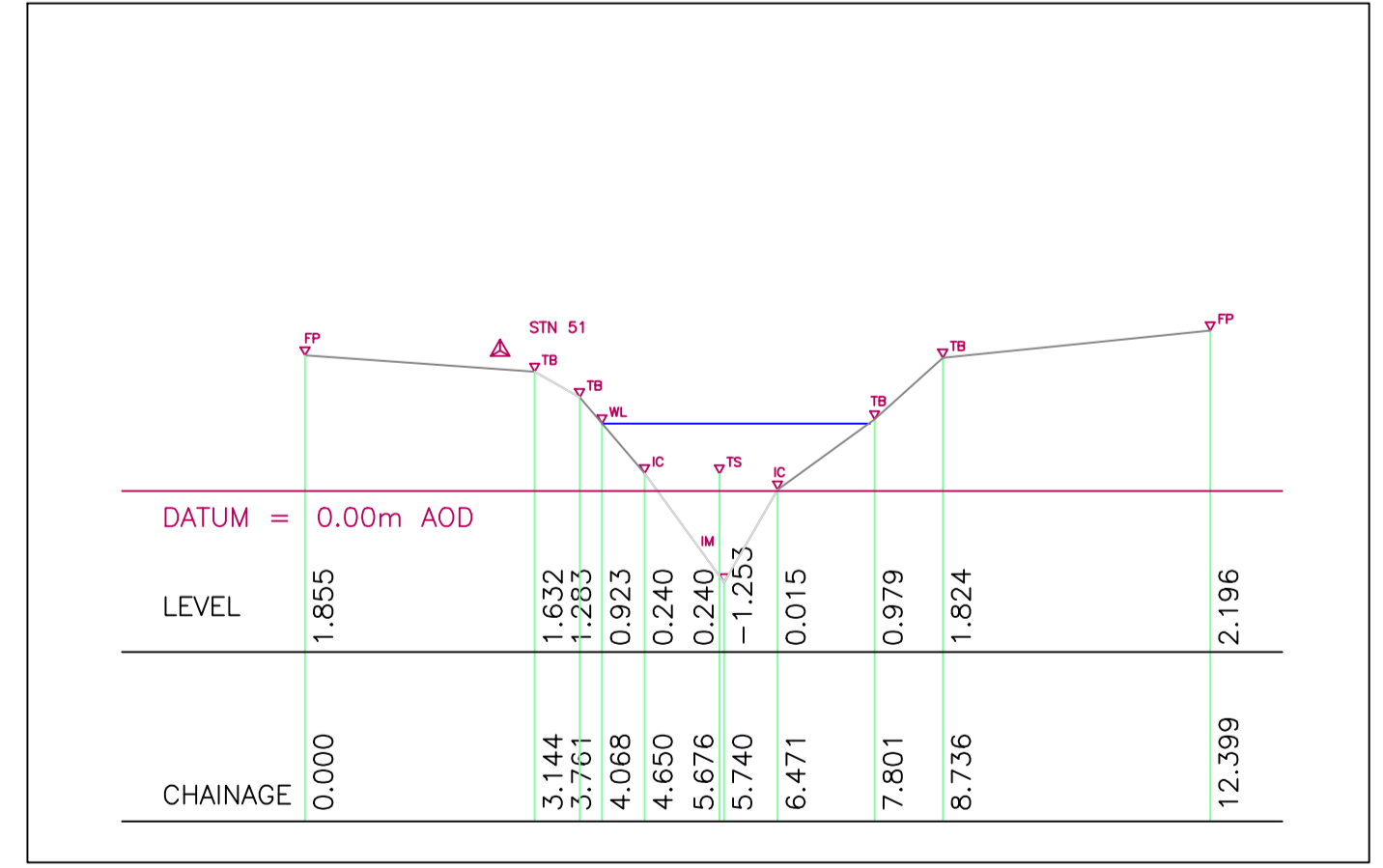
Notes
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REVISION	DESCRIPTION	DATE
A	DL25 LEVELS AMENDED	6/7/19

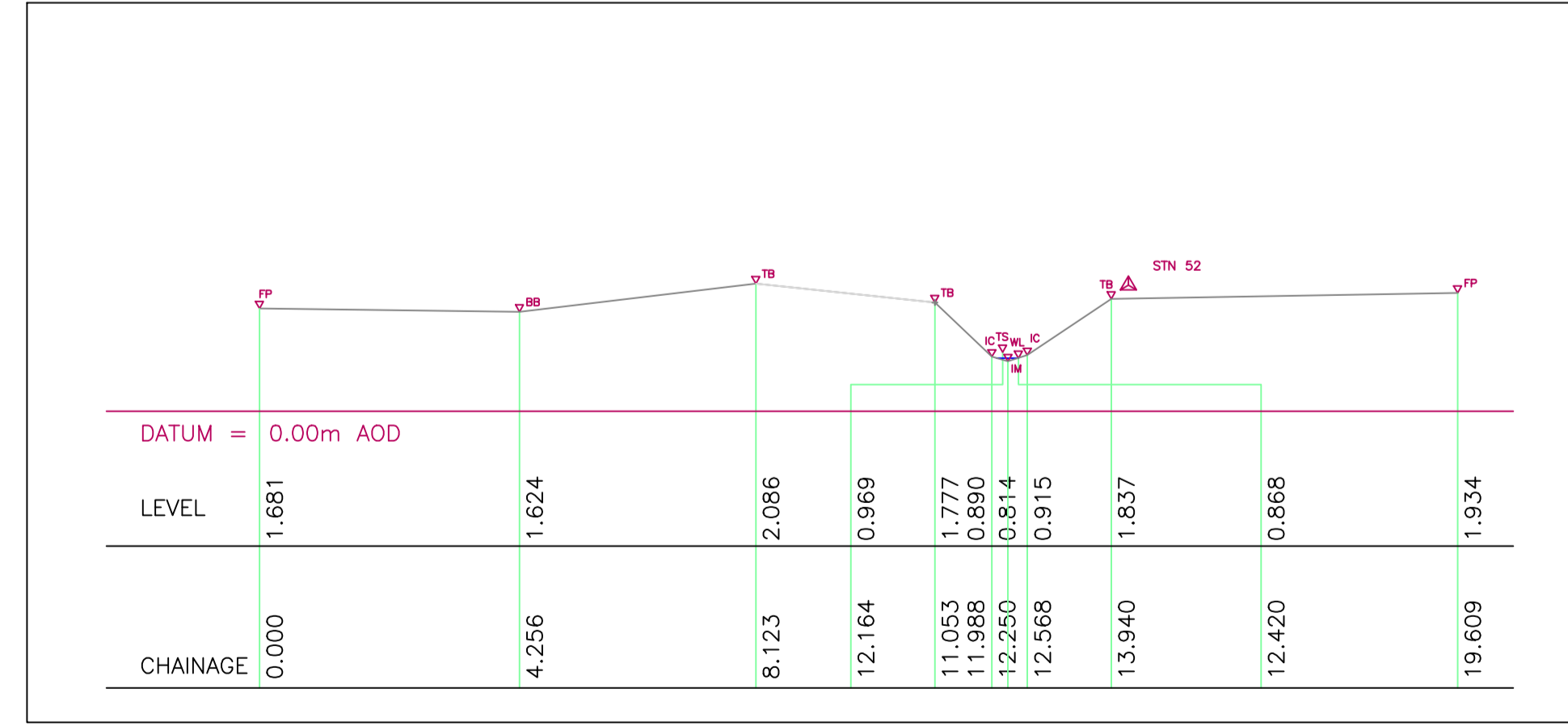
KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL25 – CROSS-SECTION



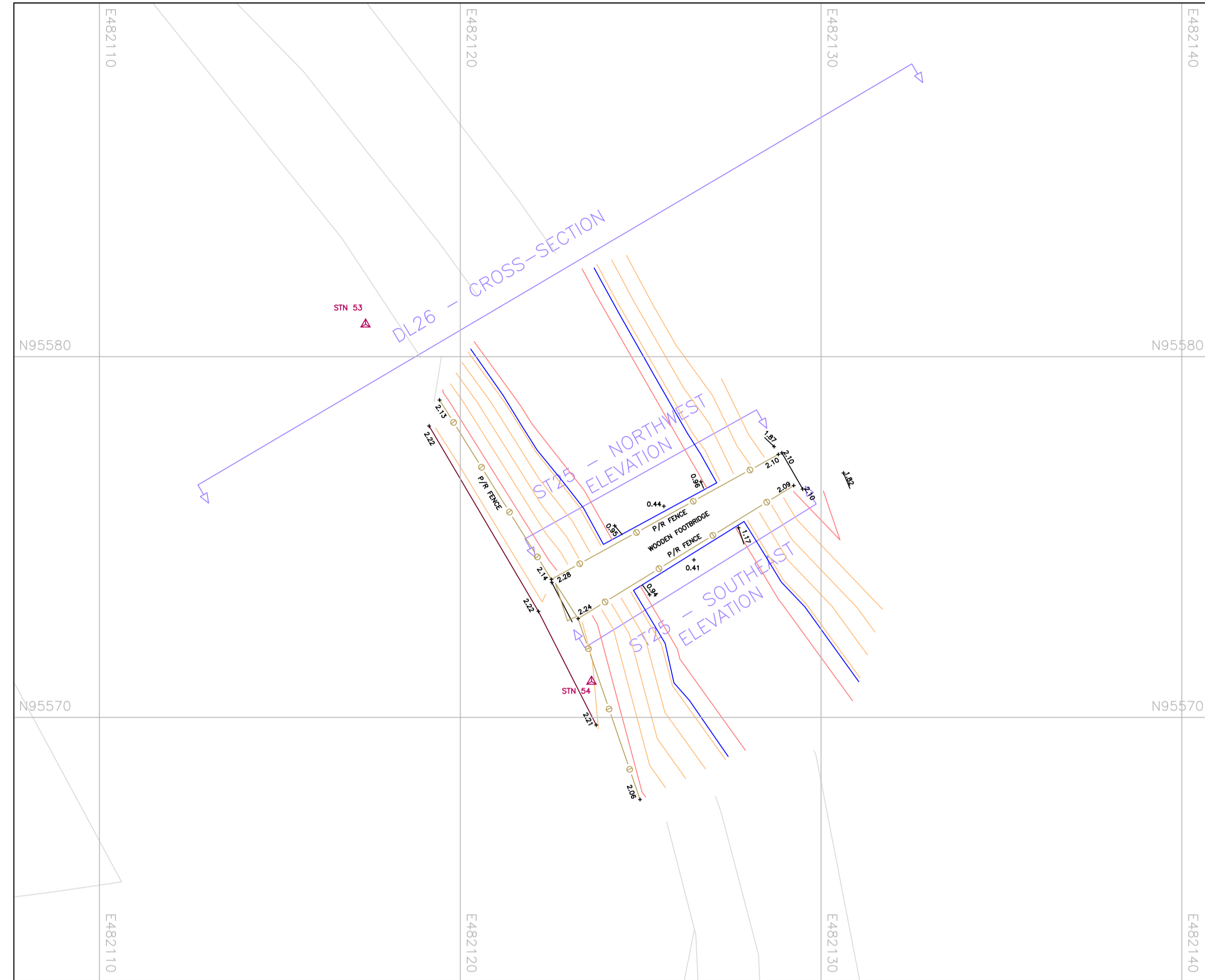
FD3 – CROSS-SECTION



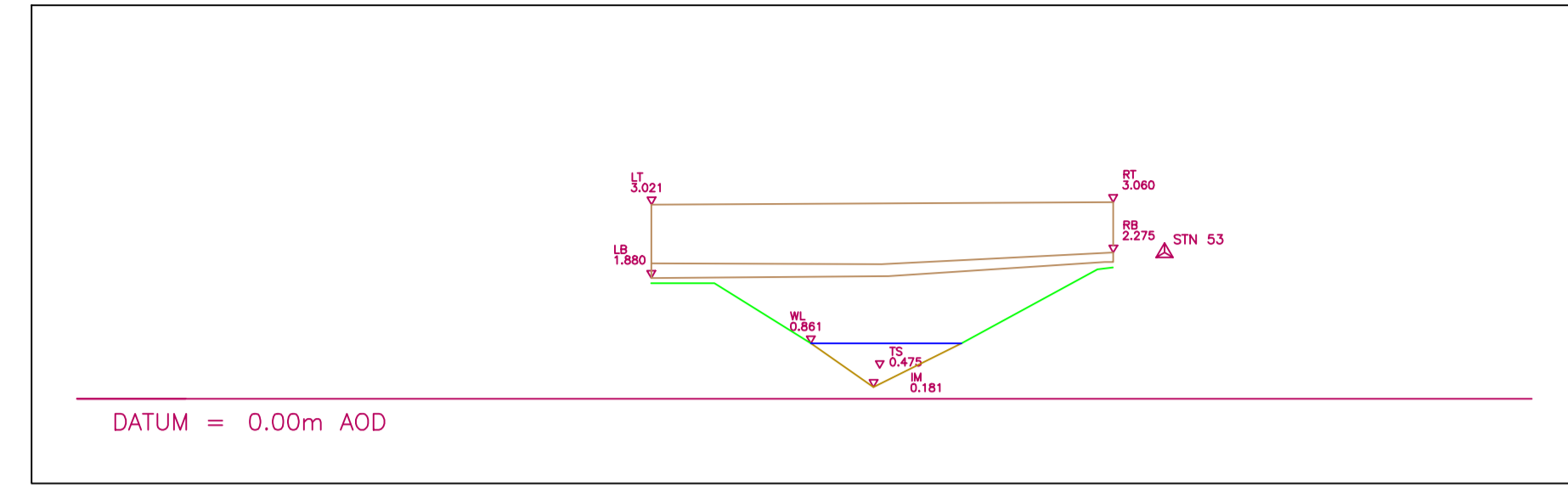
WEST HORSLEY PLACE
 EPSOM ROAD, WEST HORSLEY KT24 6AW
 Tel: 07948 603936 – Email: peter@meridiansurvey.co.uk

CUSTOMER		
Manhire LLP		
PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – DL-T		
SCALE	DATE	
1:100 (A1)	27/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_40	A

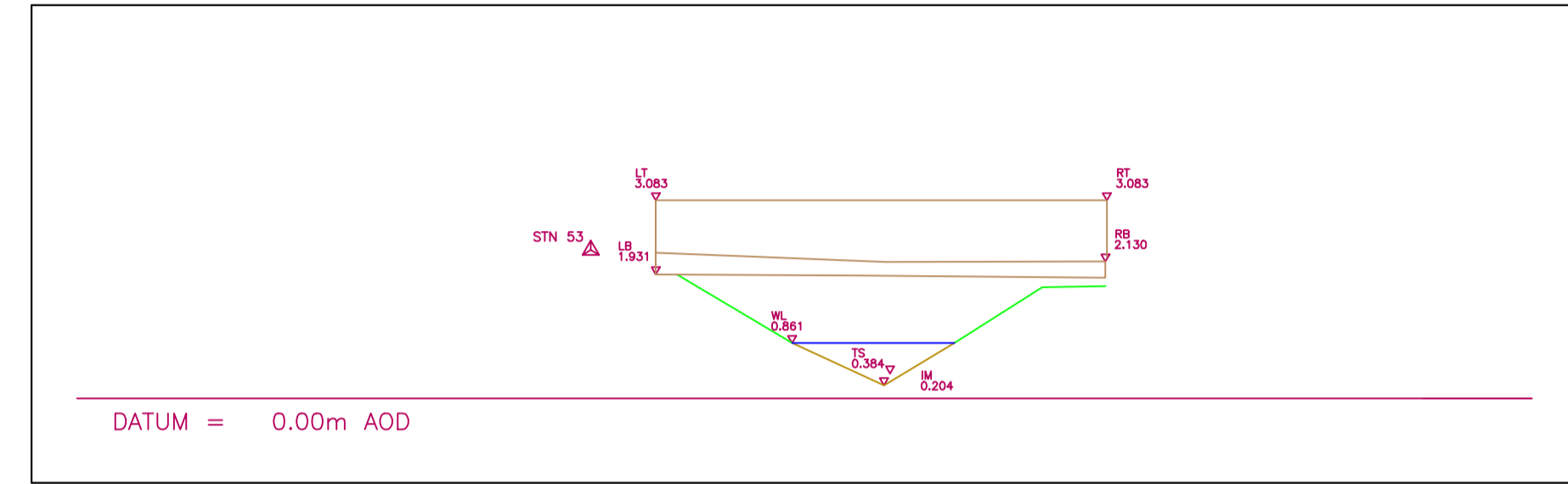
PLAN OF STRUCTURE – ST25



ST25 – NORTHWEST ELEVATION



ST25 – SOUTHEAST ELEVATION



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CHECK XYZ FILE AGAINST DL26 CROSS-SECTION

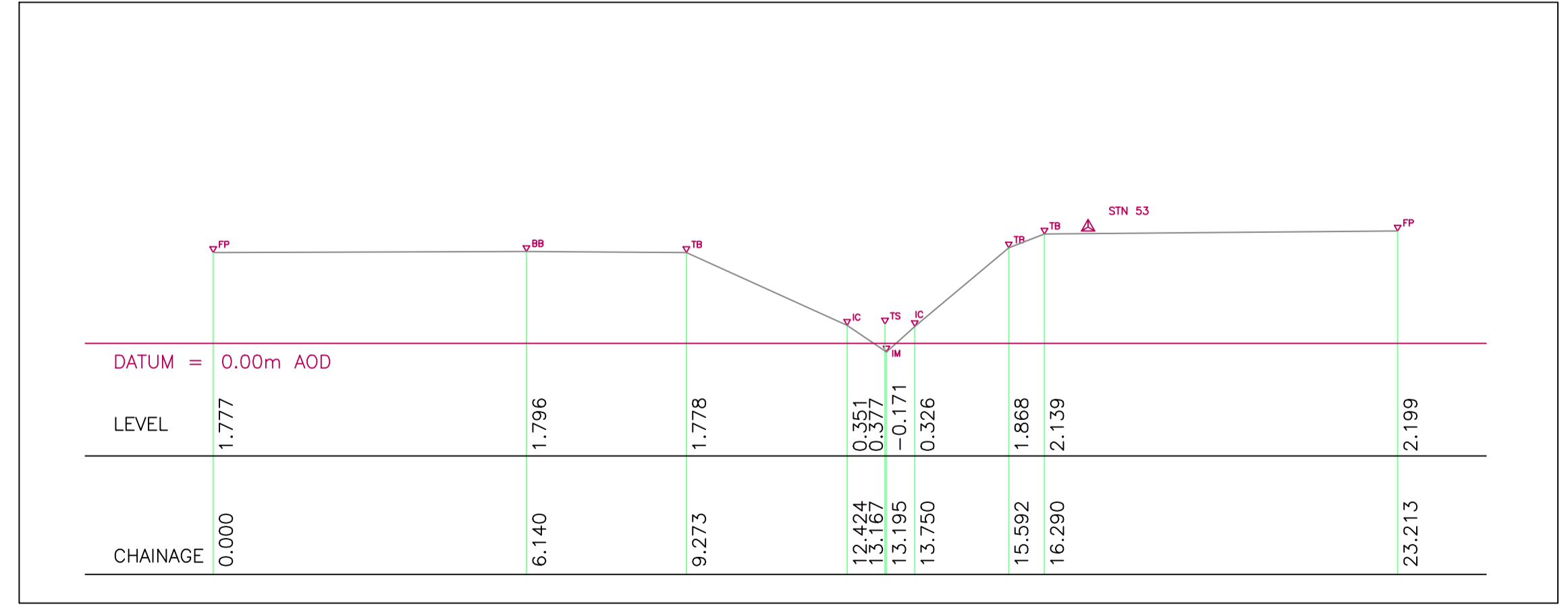
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DL260007	YYTB	482,125.7970	95,581.3769	1.7778	✓
DL260006	YYIC	482,122.0451	95,582.0289	0.3513	✓
DL260004	YYIM	482,121.3320	95,581.7359	-0.1710	✓
DL260003	YYIC	482,120.9605	95,581.2093	0.3264	✓
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DL260001	YYTB	482,119.2785	95,578.7613	2.1391	✓
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REVISION	DESCRIPTION	DATE
A	DATA CHECKED & CONFIRMED	6/7/19

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gully
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL26 – CROSS-SECTION




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 Manhire LLP

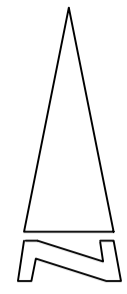
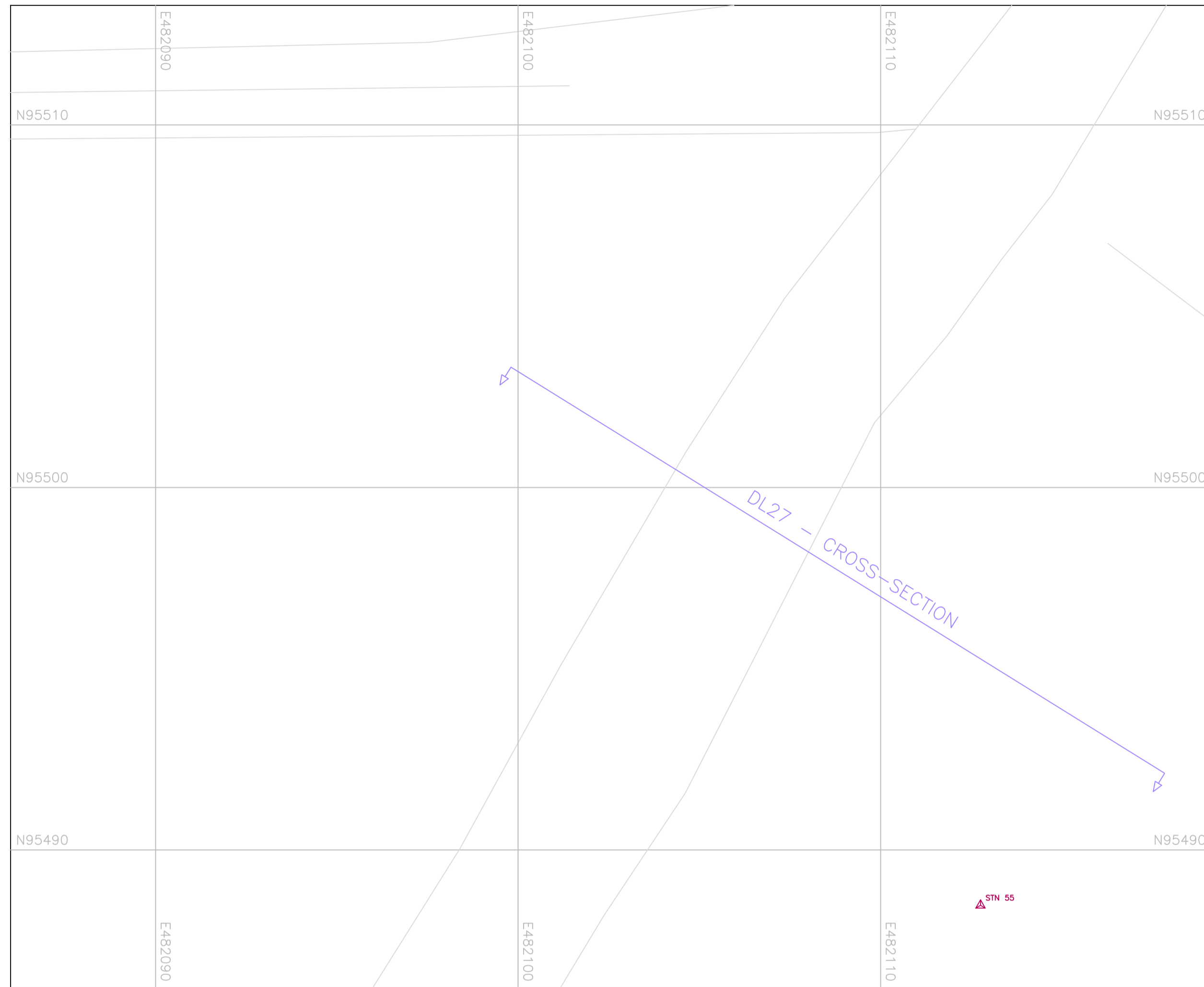
PROJECT
 Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING
 Survey of structures and cross-sections – DL-U

SCALE: 1:100 (A1) DATE: 27/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_41	-

PLAN OF CROSS-SECTION – DL27



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REVISION	DESCRIPTION	DATE



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING

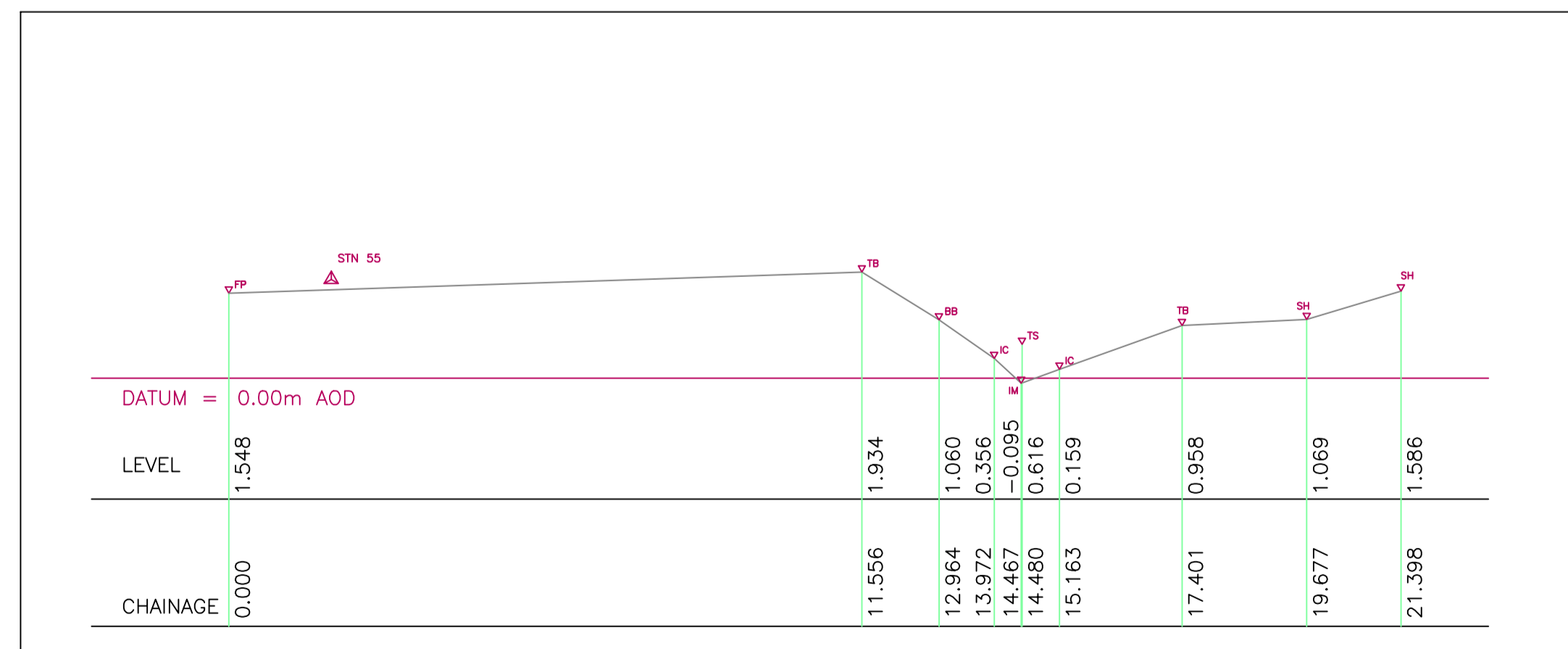
Survey of structures and cross-sections – DL-V

SCALE	DATE
1:100 (A1)	27/6/2019

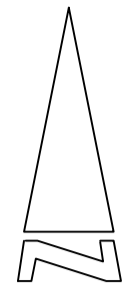
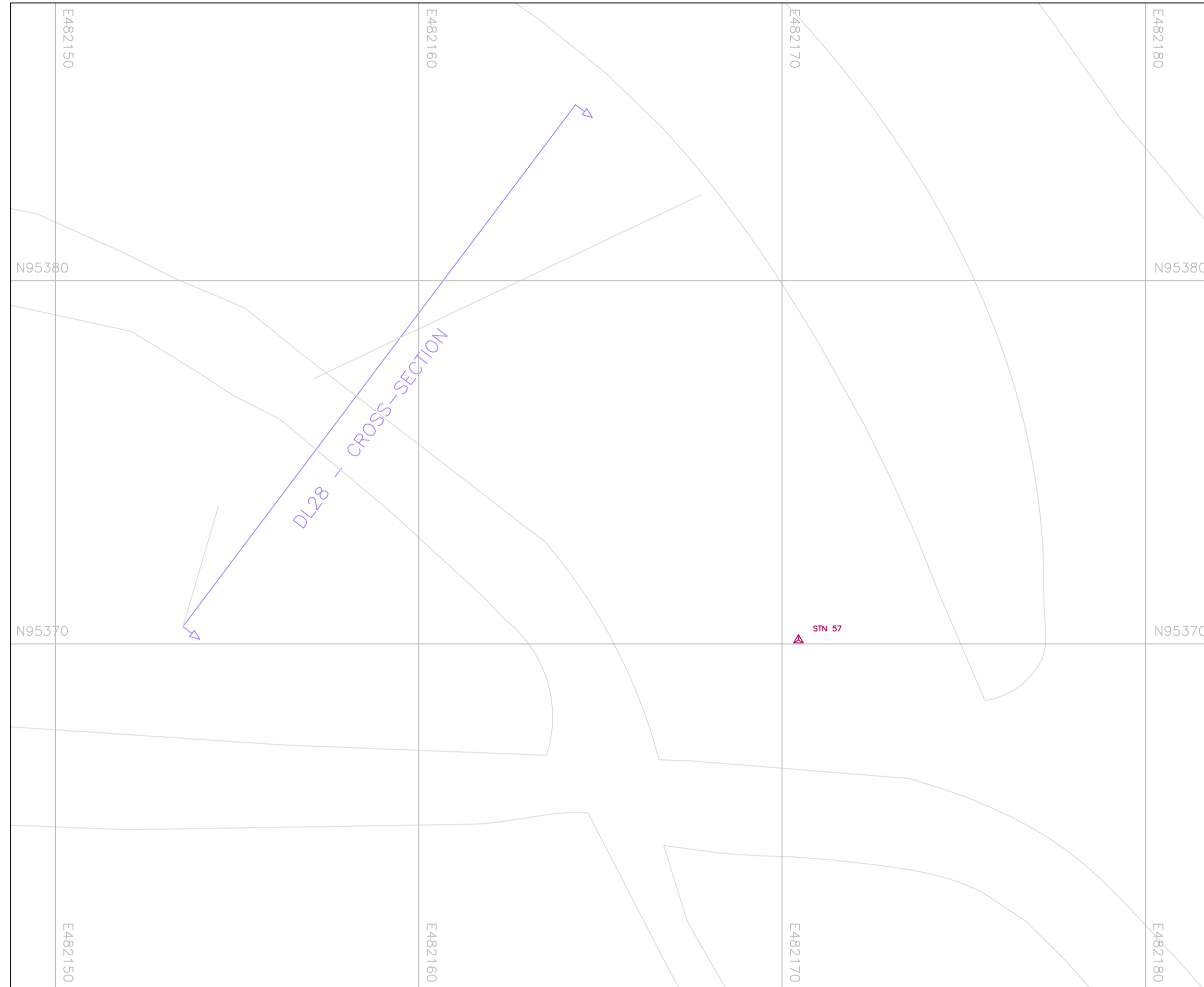
CLIENT NO.	JOB NO.	REVISION
00228	0411_42	-

KEY	
FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
TP	Telegraph pole
B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL27 – CROSS-SECTION



PLAN OF CROSS-SECTION – DL28



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REVISION	DESCRIPTION	DATE
A	XYZ FILE DATA REINSTATED	6/7/19



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING

Survey of structures and cross-sections – DL-W

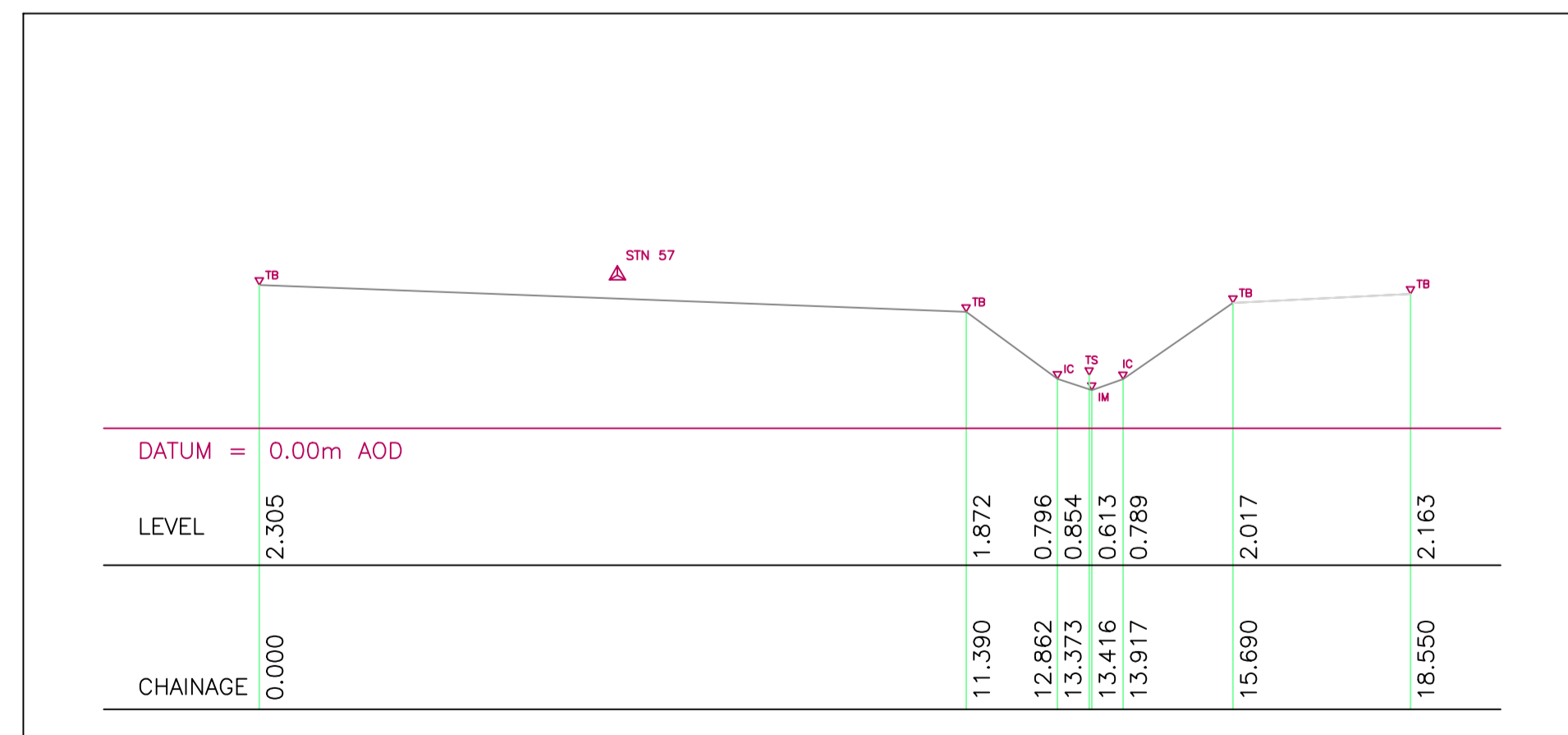
SCALE	DATE
1:100 (A1)	28/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_43	A

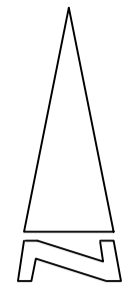
KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
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TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
WSV	Water stop valve
DK	Drop kerb
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KB	Kerb
OSBM	OS bench mark
RS	Road sign
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B/W	Barbed wire fence
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL28 – CROSS-SECTION



PLAN OF CROSS-SECTION – FD1



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Notes

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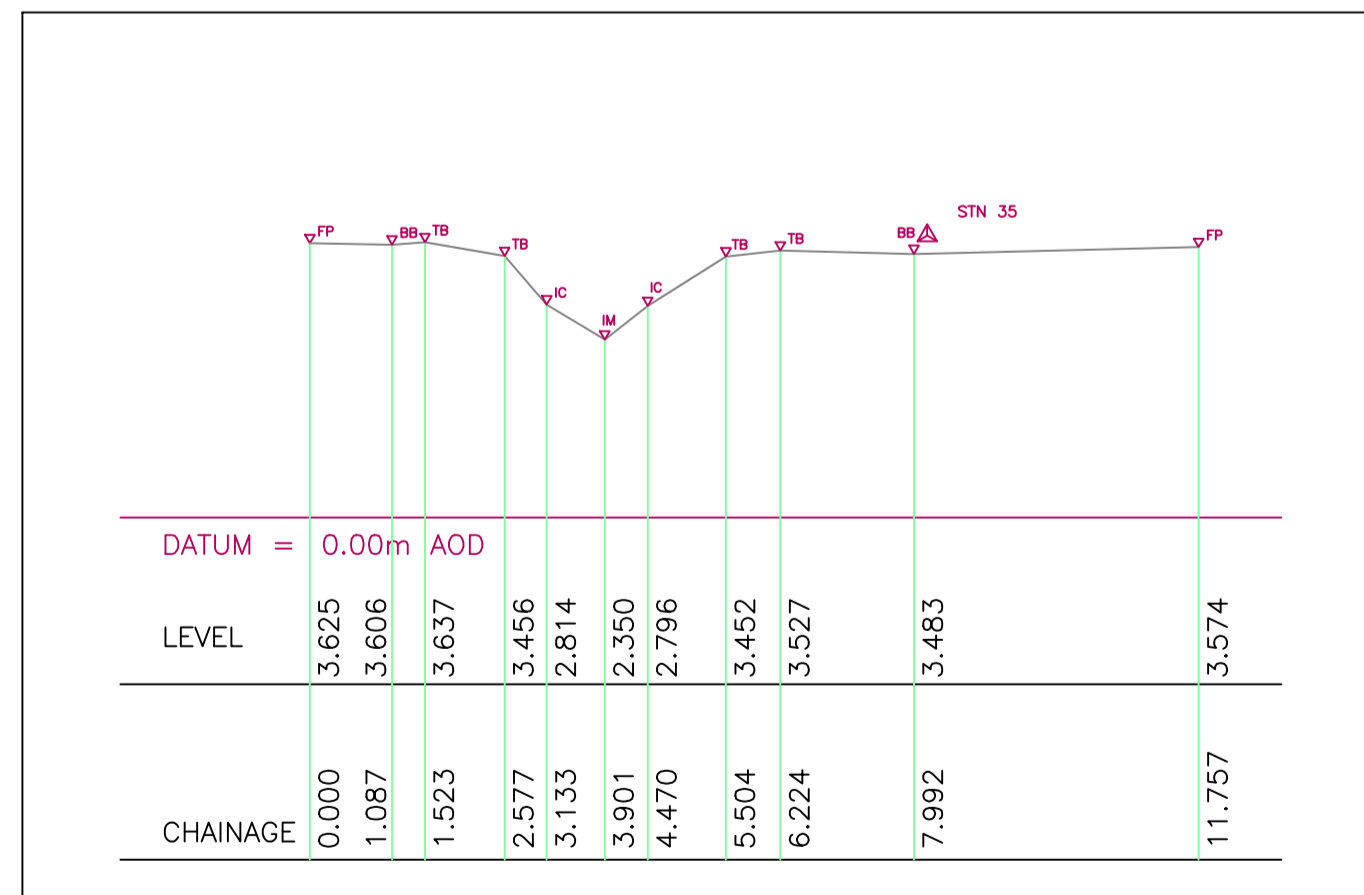
Grid co-ordinates and levels are based upon the Ordnance Survey

REVISION	DESCRIPTION	DATE

KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
IM	In Channel mid-point
Applies to Arch, Culvert or Head Wall	
SL	Soffit Level
LT	Left Top
RT	Right Top
LB	Left Bottom
RB	Right Bottom
BL	Base Level
IL	Invert Level
TS	Top of Silt
FH	Fire hydrant
GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
GSV	Gas stop valve
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I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

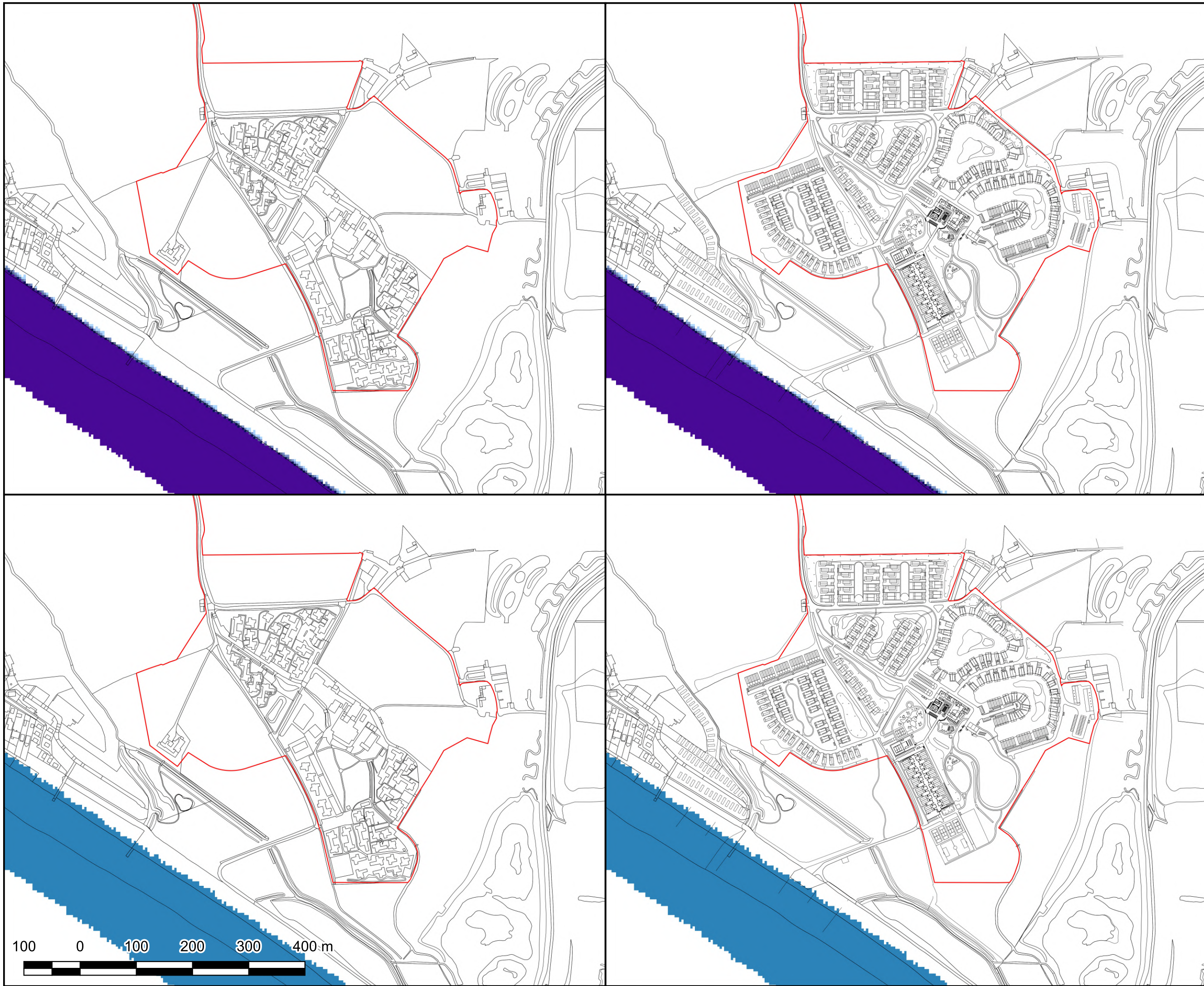
FD1 – CROSS-SECTION





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CUSTOMER		
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PROJECT		
Earnley Watercourse, floodplain and structure fluvial modelling		
DRAWING		
Survey of structures and cross-sections – FD-A		
SCALE	DATE	
1:100 (A1)	28/6/2019	
CLIENT NO.	JOB NO.	REVISION
00228	0411_44	–



TITLE
MAXIMUM DEPTH OF TIDAL FLOODING
3.3%AEP EVENT, PRESENT DAY
DEFENDED

LEGEND

Site boundary

Max depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- > 1.00

Flood level (mODN)

- <= 3.25
- 3.25 - 3.50
- 3.50 - 3.75
- 3.75 - 4.00
- 4.00 - 4.25
- 4.25 - 4.50
- 4.50 - 4.75
- > 4.75

DETAILS

DEPTH PRE-DEV	DEPTH POST-DEV
LEVEL PRE-DEV	LEVEL POST-DEV

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REV	DESCRIPTION	DATE
1	1st issue	14-06-2023
2	2nd issue	09-08-2023

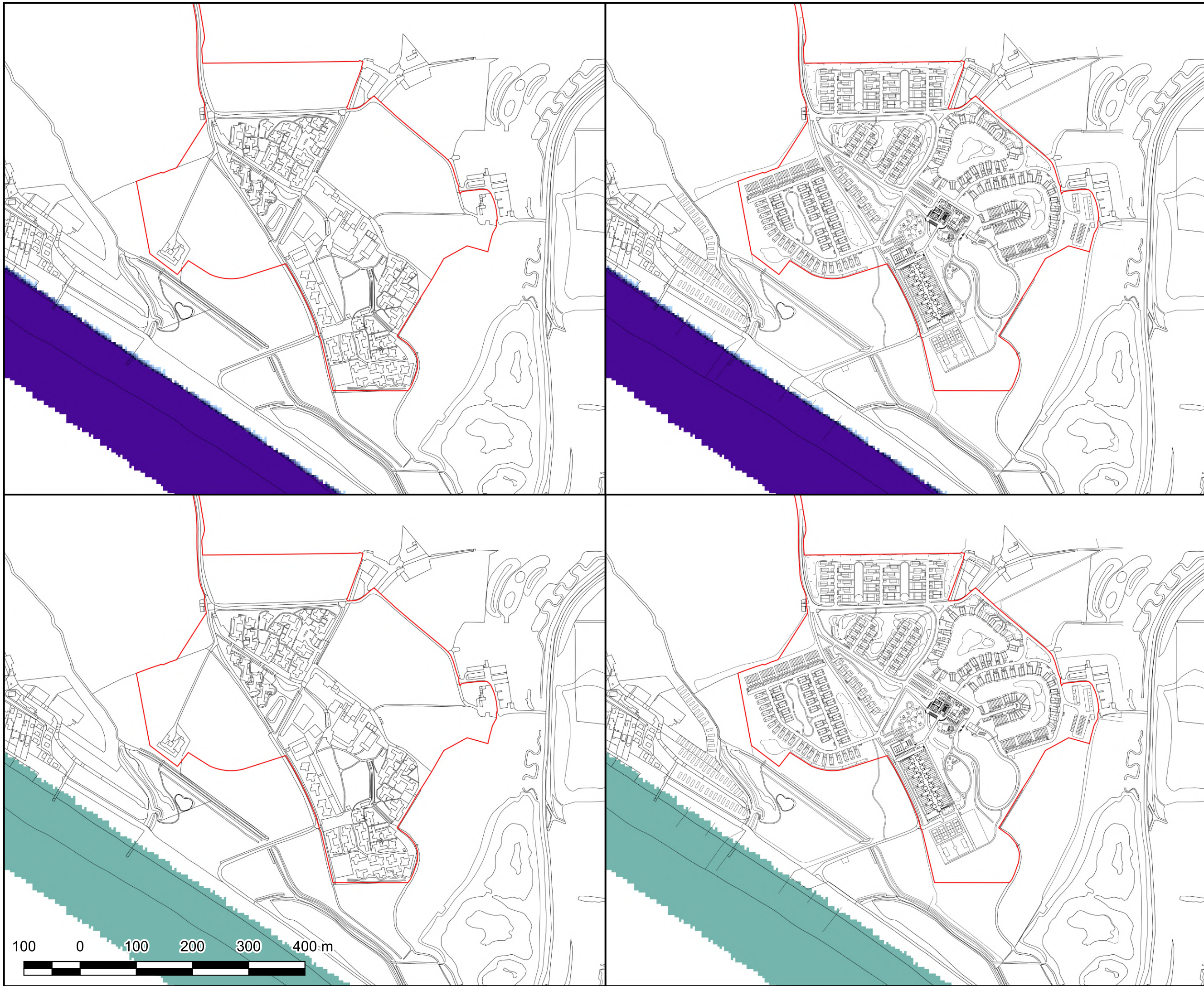


CLIENT: COVE

PROJECT: MEDMERRY PARK, CHICHESTER

SCALE: 1: @ A3 PROJECT No.: 3341 INITIALS: NW CHECKED BY: --

DRAWING No.: **A.1**



TITLE
MAXIMUM DEPTH OF TIDAL FLOODING
0.5% AEP EVENT, PRESENT DAY
DEFENDED

LEGEND

Site boundary

Max depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- > 1.00

Flood level (mODN)

- <= 3.25
- 3.25 - 3.50
- 3.50 - 3.75
- 3.75 - 4.00
- 4.00 - 4.25
- 4.25 - 4.50
- 4.50 - 4.75
- > 4.75

DETAILS

DEPTH PRE-DEV	DEPTH POST-DEV
LEVEL PRE-DEV	LEVEL POST-DEV

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REV	DESCRIPTION	DATE
1	1st issue	14-06-2023
2	2nd issue	09-08-2023



CLIENT: COVE

PROJECT: MEDMERRY PARK, CHICHESTER

SCALE: 1: @ A3 PROJECT No. 3341 INITIALS NW CHECKED BY --

DRAWING No. **A.2**



TITLE
MAXIMUM DEPTH OF TIDAL FLOODING
0.5% AEP EVENT, PLUS CLIMATE CHANGE
IN 2125
DEFENDED

LEGEND

Site boundary

Max depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- > 1.00

Flood level (mODN)

- <= 3.25
- 3.25 - 3.50
- 3.50 - 3.75
- 3.75 - 4.00
- 4.00 - 4.25
- 4.25 - 4.50
- 4.50 - 4.75
- > 4.75

DETAILS

DEPTH PRE-DEV	DEPTH POST-DEV
LEVEL PRE-DEV	LEVEL POST-DEV

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- All heights are in metres Above Ordnance Datum Newlyn (mAODN) unless otherwise stated.

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London: Unit 52-11, Woolyard, 52 Bernoldsey Street, London, SE1 3UD

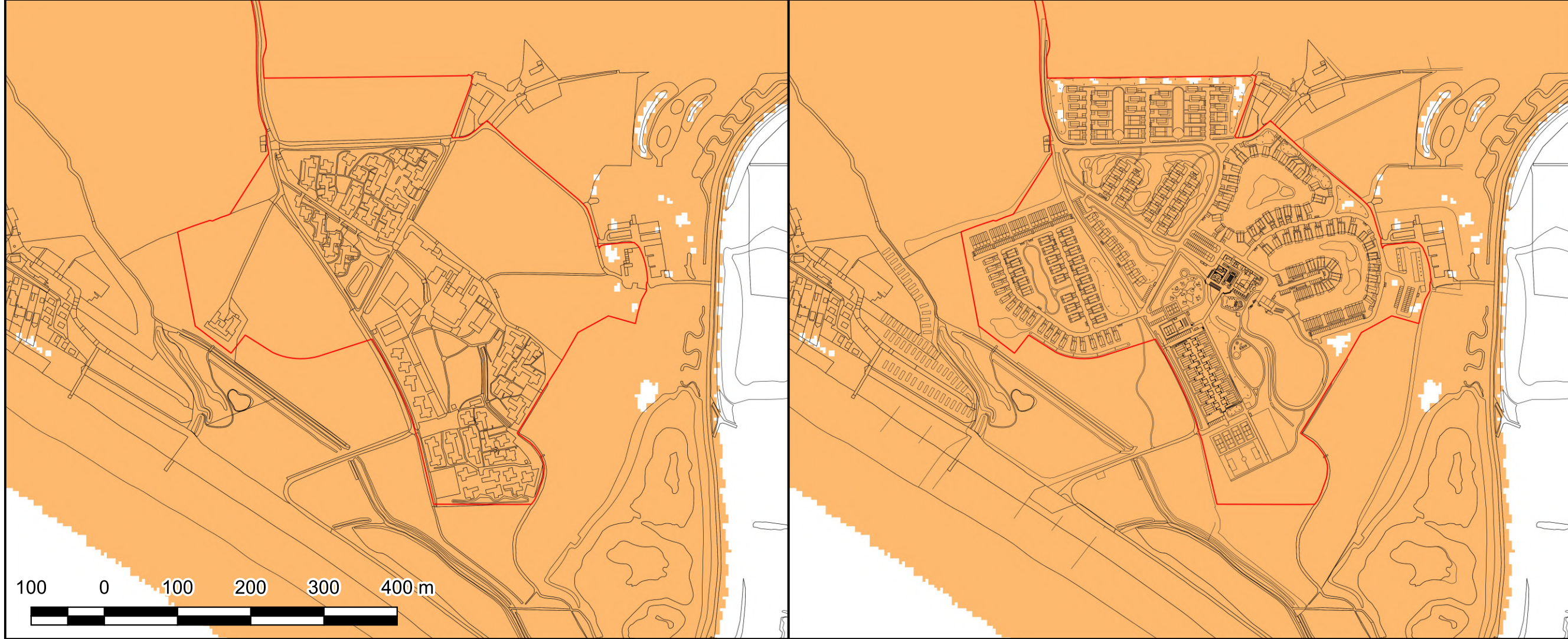
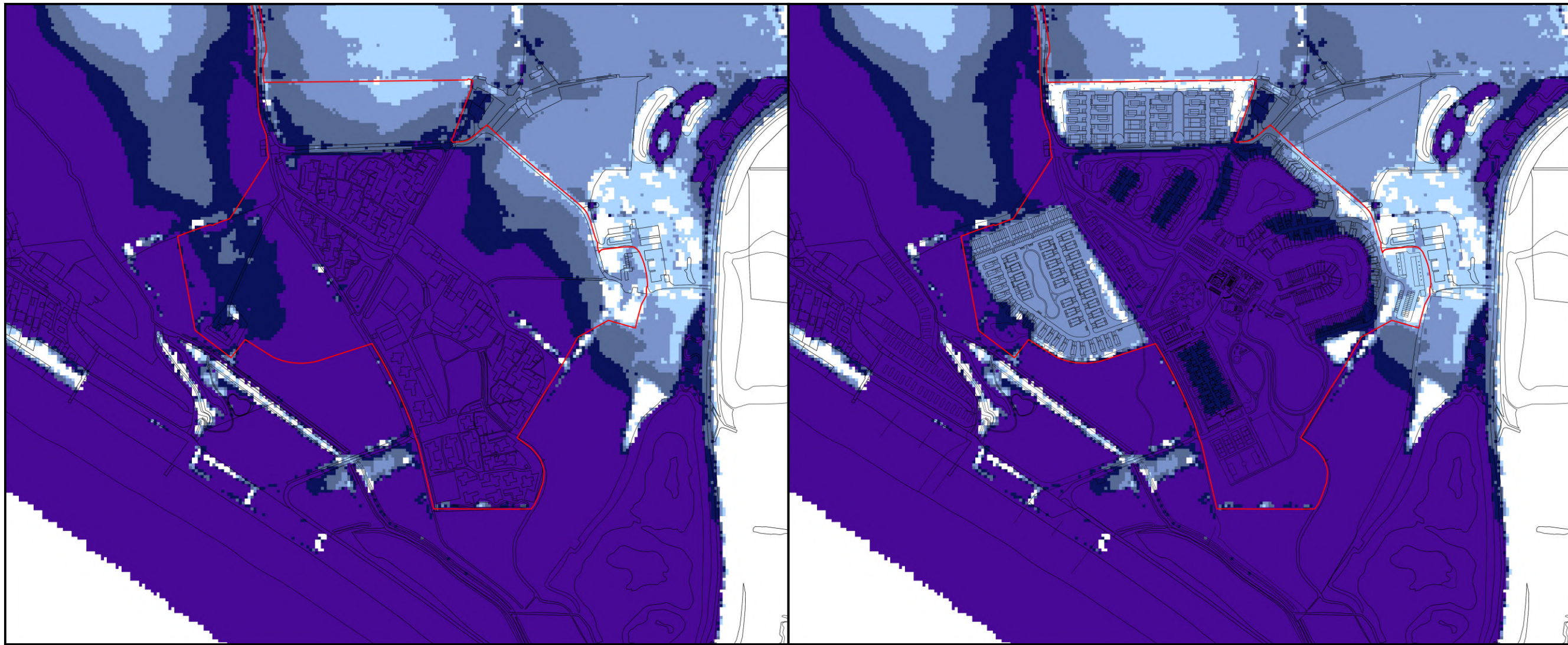
REV	DESCRIPTION	DATE
1	1st issue	14-06-2023
2	2nd issue	09-08-2023

CLIENT: COVE

PROJECT: MEDMERRY PARK, CHICHESTER

SCALE: 1: @ A3 PROJECT No. 3341 INITIALS NW CHECKED BY --

DRAWING No. **A.3**



TITLE
MAXIMUM DEPTH OF TIDAL FLOODING
0.5% AEP EVENT PLUS CLIMATE CHANGE
IN 2125
UNDEFENDED

LEGEND

Site boundary

Max depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- > 1.00

Flood level (mODN)

- <= 3.25
- 3.25 - 3.50
- 3.50 - 3.75
- 3.75 - 4.00
- 4.00 - 4.25
- 4.25 - 4.50
- 4.50 - 4.75
- > 4.75

DETAILS

*Offshore peak flood level for T200[2125] Higher Central event is 4.43 mODN

DEPTH PRE-DEV	DEPTH POST-DEV
LEVEL PRE-DEV	LEVEL POST-DEV

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REV	DESCRIPTION	DATE
1	1st issue	14-06-2023
2	2nd issue	09-08-2023

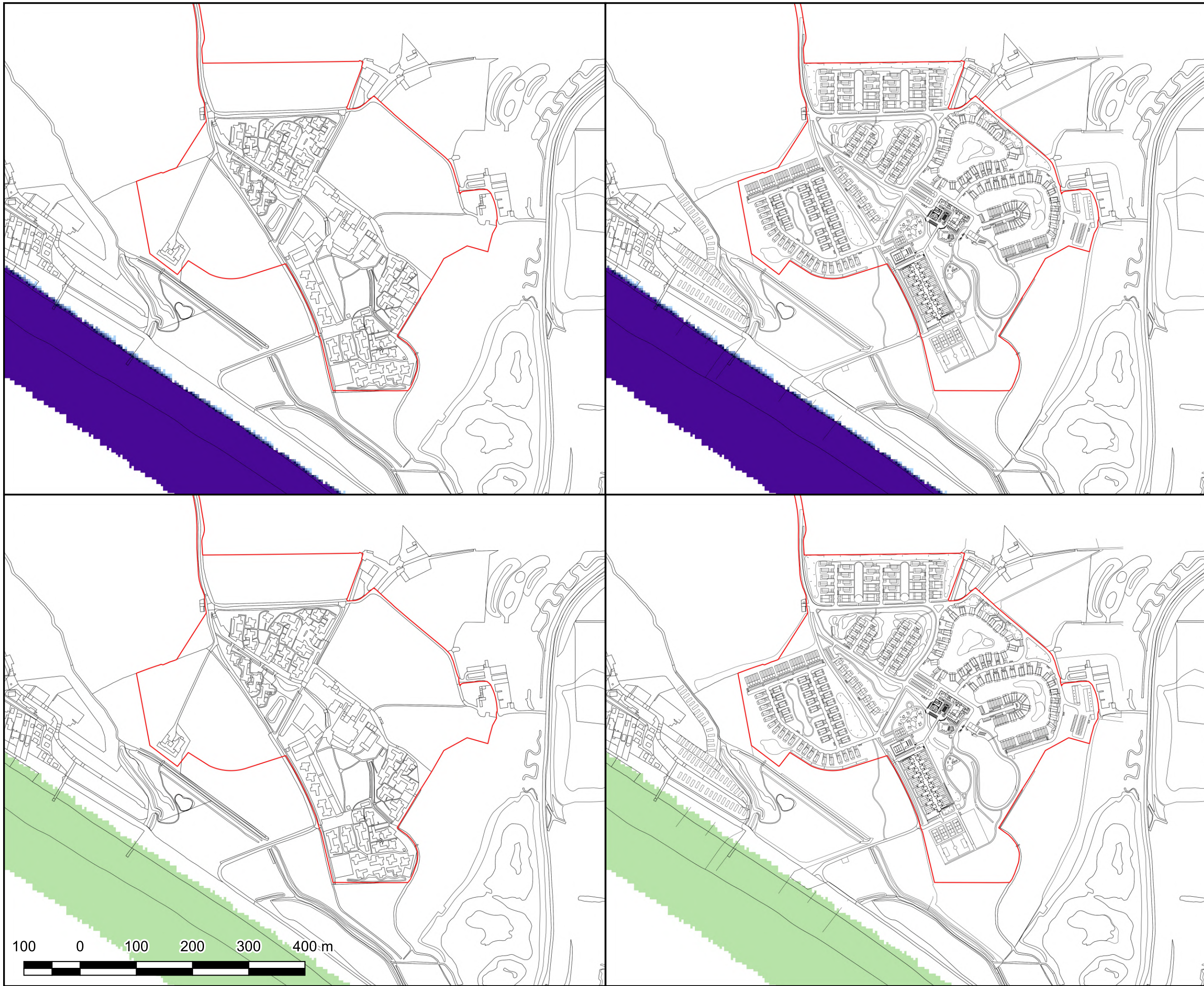
CLIENT: COVE

PROJECT: MEDMERRY PARK, CHICHESTER

SCALE: 1: @ A3 PROJECT No. 3341 INITIALS NW CHECKED BY --

DRAWING No. **A.4**





TITLE
MAXIMUM DEPTH OF TIDAL FLOODING
0.1% AEP EVENT, PRESENT DAY
DEFENDED

LEGEND

Site boundary

Max depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- > 1.00

Flood level (mODN)

- <= 3.25
- 3.25 - 3.50
- 3.50 - 3.75
- 3.75 - 4.00
- 4.00 - 4.25
- 4.25 - 4.50
- 4.50 - 4.75
- > 4.75

DETAILS

DEPTH PRE-DEV	DEPTH POST-DEV
LEVEL PRE-DEV	LEVEL POST-DEV

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REV	DESCRIPTION	DATE
1	1st issue	14-06-2023
2	2nd issue	09-08-2023

CLIENT: COVE

PROJECT: MEDMERRY PARK, CHICHESTER

SCALE: 1: @ A3 PROJECT No. 3341 INITIALS NW CHECKED BY --

DRAWING No. **A.5**

