Technical Note: Surface Water Modelling for Medmerry Park, Chichester.

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Project: 3341 – Medmerry Park

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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 replacement 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 surface water and the field drains that run both through the park and nearby (separate modelling of tidal 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 and engineered earthen embankments around the perimeter of the MMR. The main risk of surface water flooding to the Park is from a field drain, referred to as the Park Rife, that drains the fields immediately to the north of the Park. Secondary risks for surface water flooding come from the Earnley Rife that passes the Park to the west and south. The Park Rife and Earnley Rife merge to the south of the park near the RSBP Stilt Pools before exiting to the sea via a flap-valve controlled culvert beneath the MMR sea defence.

1.4. Historically, Earnley Rife had a large catchment that reaches north approximately 5 km to Birdham. However, this catchment is now subject to Earnley Flood Alleviation Scheme (FAS) which diverts the majority of run-off from the catchment along a large, engineered channel that runs north of the Park before exiting to the sea through the MRR. This diversion leaves only a small flow of water entering the historic route of Earnley Rife through an orifice plate north of Earnley Village. Therefore, Earnley Rife now only drains a much-reduced area including Earnley village and Bracklesham.

1.5. The Park Rife itself drains the fields immediately to the north and northeast of the Park, and little else. A watershed in the ditch just south of Earnley village, that runs adjacent to Drove Lane, marks the northern limit of the Park Rife's catchment. Observations during previous site visits identified that the Park Rife has been modified to retain water levels for ornamental purposes. This indicates that flows in the Park rife are typically very low, which is commensurate with the limited size catchment.

1.6. A topographic survey of the site and bespoke watercourse survey of the local rifes has previously been undertaken in 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 2023-03-AA_iSP_w64. The model has a full 1-dimensional (1D) channel network model incorporated into the 2D domain; this has 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 in detail.

2.2. The 2D Digital Elevation Model (DEM) uses a grid resolution of 2 m and 4 m to represent important features requiring high detail. The resolution reduces to 8 m and 16 m away from the

rifes and on the wider floodplain and fields. 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.

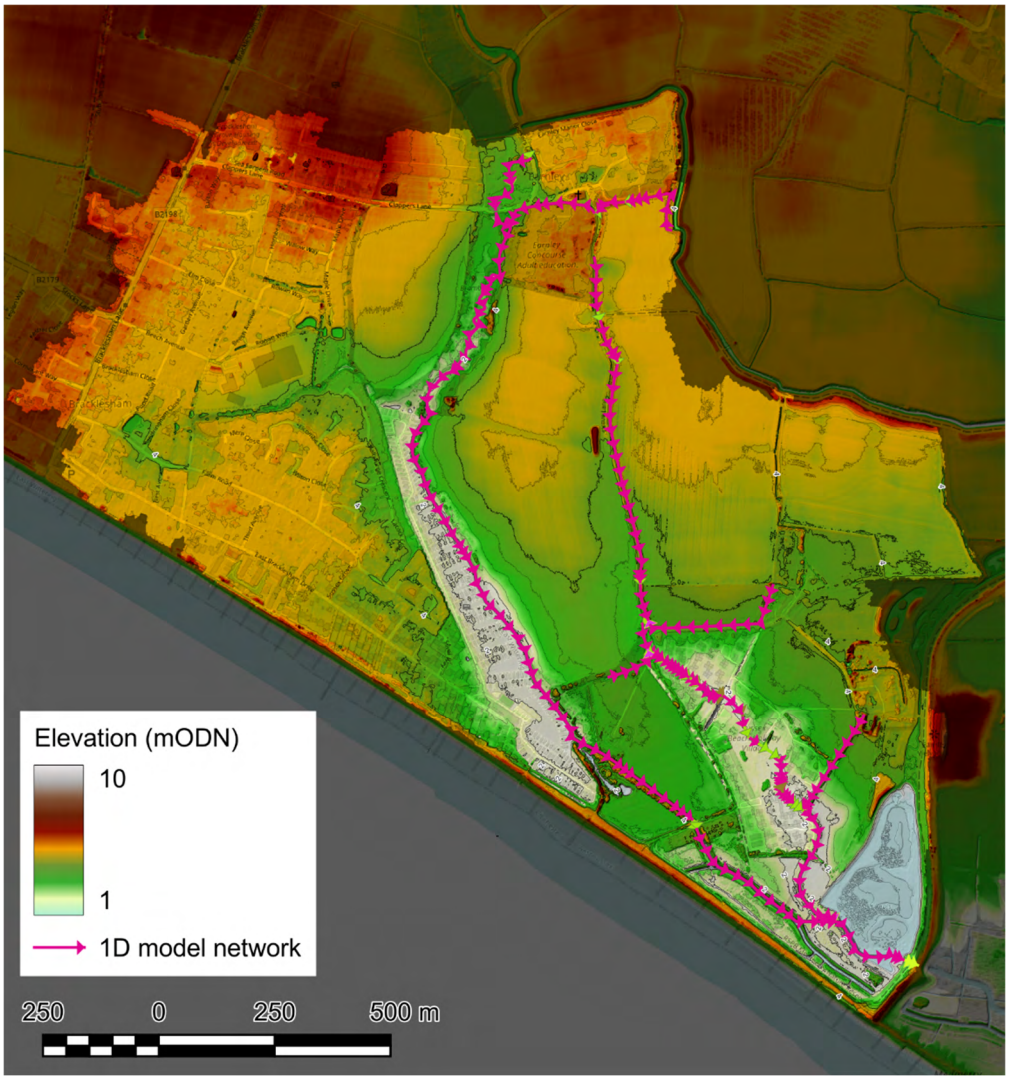


Figure 2 – Model active area and DTM

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. Although the LiDAR represents the bank levels well, it does not represent the invert level of the wetted bed of the river accurately. Following a precautionary approach, no modification has been made to the DEM to represent the level of the riverbed. Instead, the DEM represents more

closely the water's surface in the river on the day of the LiDAR flight in March 2019. This approach will cause over-prediction of the water level in all extreme events simulated.

2.5. The model uses Sub-Grid Scale (SGS) sampling approach (automatically sampling at 1 m) to overcome any sensitivity to model grid size and negate any requirement to increase the model resolution higher than the 8 to 16 m in the wider floodplain areas.

2.6. The model uses a time-varying water level boundary to represent the tide at the rife exit into the sea at the MMR. The tide has been derived from the Selsey tidal timeseries used in the Environment Agency Emsworth to Littlehampton 2014 Coastal model. High tide has been timed to coincide with the peak in flow from the rifes reaching the flap-valve culvert through the sea defence.

2.7. 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	0.1 (2023 TUFLOW engine auto-adjusts to this value)
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

2.8. Three extreme flow events, with climate change variations, have been simulated using the model, including:

- 1 in 30 year return period event (3.3%AEP, Annual Exceedance Probability) with and without climate change adjustments of plus 40% in peak rainfall rate;
- 1 in 100 year return period event (1%AEP) with and without climate change adjustments of plus 45% in peak rainfall rate; and
- 1 in 1,000 year return period event (0.1%AEP) without climate change.

2.9. The model has been driven with direct-to-grid rainfall where the hyetographs have been derived from FEH online and ReFH2.3. A sensitivity test of rainfall durations has been undertaken which demonstrated that the worst case condition with respect to flooding at the Park was an event of 6 hours duration. Events of 1, 3, 9, and 12 hour durations all lead to reduced depth/extent of flooding compared to the 6 hour event.

2.10. The catchment over which the rainfall hyetographs have been applied to the model has been determined using QGIS and the LiDAR elevation data following a method by Van der Kwast & and Menke (2019). The catchment is used as the model rainfall boundary and is shown in Figure 2.

2.11. The rainfall applied to the model is the total rainfall, with no sewer losses, or attenuation applied to the rainfall hyetograph. However, the model applies an estimated infiltration rate 'continuous loss' of 8 mm/hr. No initial losses have been applied. The rate of 8 mm/hr has been derived by iterative testing using a 50%AEP (1 in 2 year return period event) where the target is to achieve no significant out-of-bank flooding. The 8 mm/hr continuous losses rate has then applied to all other events and scenarios.

2.12. The post-development scenario has been represented in the model by the exclusion of the drained areas from the rainfall boundary to represent the attenuation by the proposed drainage systems. These drainage systems include several ornamental and activity lakes which have sufficient freeboard to attenuate the surface water run-off from the total of the site.

2.13. The post-development scenario has been modelled using the DTM surfaces supplied directly by the client's engineers. The are four areas which are proposed to be landscaped and which are already located in the areas of higher ground elevations. Generally, the areas immediately adjacent to the Park Rife are proposed to remain as per their existing elevations. In addition to these areas the engineer's drawings include several strategically located bunds, ditches, and landscaped gradients which have been modelled iteratively to optimise their positions, heights, and slopes to ensure no material off-site impacts result due to the proposed scheme. Please refer to the engineer's drawings which have been enclosed as part of the submission pack as they are too large to reproduce within this document.

2.14. Table 2 lists the models run for the TUFLOW baseline and post-development scenarios. All simulations use the TUFLOW control file *3341_MedP_~s1~_~e1~_~s2~.tcf*. All baseline simulations are designated A3 while post-development simulations are designated B5 (A1 is an early iteration of the model which has been used for the sensitivity testing of rainfall duration prior to the provision of the post-development scheme designs and the final refinement of the grid resolution required by those designs).

Scenario	s1	e1	s2	Comment
Existing	A3	P30	000	3.3%AEP
		P30cc40		3.3%AEP + 40% climate change
		P100cc45		1%AEP + 45% climate change
		P1000		0.1%AEP
Post-development	B5	P30		3.3%AEP
		P30cc40		3.3%AEP + 40% climate change
		P100cc45		1%AEP + 45% climate change
		P1000		0.1%AEP
Sensitivity tests	A1	P100	##h	Rainfall duration tests
	A2		nUP	Manning's n roughness +20%
			nDN	Manning's n roughness -20%

Table 2 – List of model simulations with corresponding events

2.15. 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_3341MedP_Active_Area_A1_R.SHP	2D active area of the model
2d_loc_3341MedP_Grid_A_L.SHP	2D origin and orientation of the grid
3341_MedT_SZ89nw_compDTM_1m_C_filled.ASC 3341_MedT_SZ89nw_compDTM_1m_B.ASC 3341_Proposed_2nd_v4.ASC	The base Composite LiDAR tiles applied to the model grid. The client supplied landscaping surfaces applied to the model grid for the post-development scenario.
2d_qnl_3341MedP_Grid_Res_B_R.SHP	2D grid resolution control within the active area
2d_mat_3341MT_MMmaterials_A_R.SHP	OS MasterMap materials spatial layer
2d_zsh_3341MedP_missingFootbridge_R 2d_zsh_3341_MarshBnDrain_A_L.SHP 2d_zsh_3341_MarshBnDrain_A_P.SHP	A footbridge crossing the Park Rife that is absent from the LiDAR data
2d_zsh_3341_OptiScaping_A_R.SHP 2d_zsh_3341_OptiScaping_A_P.SHP 2d_zsh_3341_OptiScaping_B2_LSHP 2d_zsh_3341_BundStamp_A_L.SHP 2d_zsh_3341_LongDitch_A_L.SHP 2d_zsh_3341_LongDitch_A_P.SHP 2d_zsh_RoadGrad_A_R.SHP 2d_zsh_RoadGrad_A_P.SHP	Proposed development landscaping details and mitigation features
2d_bc_3341MedP_HXCN_A1_L.SHP	1D – 2D boundary interface connection between the channel network and the 2D floodplain
2d_rf_Proposed_Rainfall_A_R	The rainfall boundary applied to the post-development scenarios which excludes the drain site.
1d_nwke_3341MedP_A1_L 1d_xs_RIVER_2340_medmerry_A_Mar2023	1D channel network and cross section definition file
1d_bc_3341_MedP_BNDs_A_P	The boundary conditions applied to the 1D channel network.
1d_WLL_3341MedP_outputs_A_L	The output definition file covering the 1D channel network

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:

- Manning's n roughness value +20%; and
- Manning's n roughness value -20%.

3.2. **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.

3.2.1. 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 ±20% in two separate simulations.

3.2.2. The results show that the variance of Manning's n by +20% and -20% results in flood levels varying at the centre of the Park by -0.011 m and +0.017 m, respectively.

3.2.3. Both sensitivity tests show very slight differences in the extent of flooding. However, this slight variation in level and extent 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 warns that the high Manning's n values applied to the buildings is higher than the most recent 2023 TUFLOW model engine will allow to prevent mis-calculation of viscosity; No adverse impact to the model results is anticipated:

- WARNING 2583 - Material ID 10021 has a manning's n value (0.300) greater than Wu n limit (0.100) - n value will be limited in Wu formulation.

4.1.2. The following messages warn of the auto-adjustment of the SGS samping distance to match the smallest grid resolution while using the latest version of the TUFLOW engine; No

negative impact to the model results is anticipated as the higher sampling distance represents an improvement in SGS operation:

- CHECK 3548 - Setting SGS Sample Distance Target to minimum grid zpt resolution of 1.
- WARNING 3526 - SGS Sample Distance command is ignored in SGS Approach == Method C.

4.1.3. The following warning indicates a re-read of the cached model setup during a re-run of a model scenario and can be ignored:

- WARNING 2330 - XF file has incorrect location and/or dimensions. XF file not read.

4.1.4. The following messages are associated with the setup and interpolation of the 1D channel network and are expected:

- CHECK 1037 - Channel "ER2c" interpolated from XS 00001 (53%) and XS 00002 (47%).
- CHECK 1034 - No XS line data at downstream end or downstream of channel "ST26c". Using upstream end cross-section.
- WARNING 1100 - Structure ST3 crest/invert (2.430) is below bed (2.694) of primary downstream channel ER2d.

4.1.5. The following warning recorded nine times indicates wetting and drying in the 1D channel network, which can reasonably be anticipated in a direct-to-grid rainfall model where some field ditches are initialised in a 'dry' state; These negative deeps do not lead to model instability and therefore do not impact the model results:

- WARNING 1991 - 2:44:44: Negative depth at Node DL24d.1: y = -0.10 Bed = 0.21 Iter =1

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	Output	Figure No.
1	Existing & post-development	3.3%AEP, present day	Max depth, Max level	A.1
2			Level difference	A.2

3		3.3%AEP plus 40% climate change	Max depth, Max level	A.3
4			Level difference	A.4
5		1%AEP plus 45% climate change	Max depth, Max level	A.5
6			Level difference	A.6
7		0.1%AEP, present day	Max depth, Max level	A.7
8			Level difference	A.8

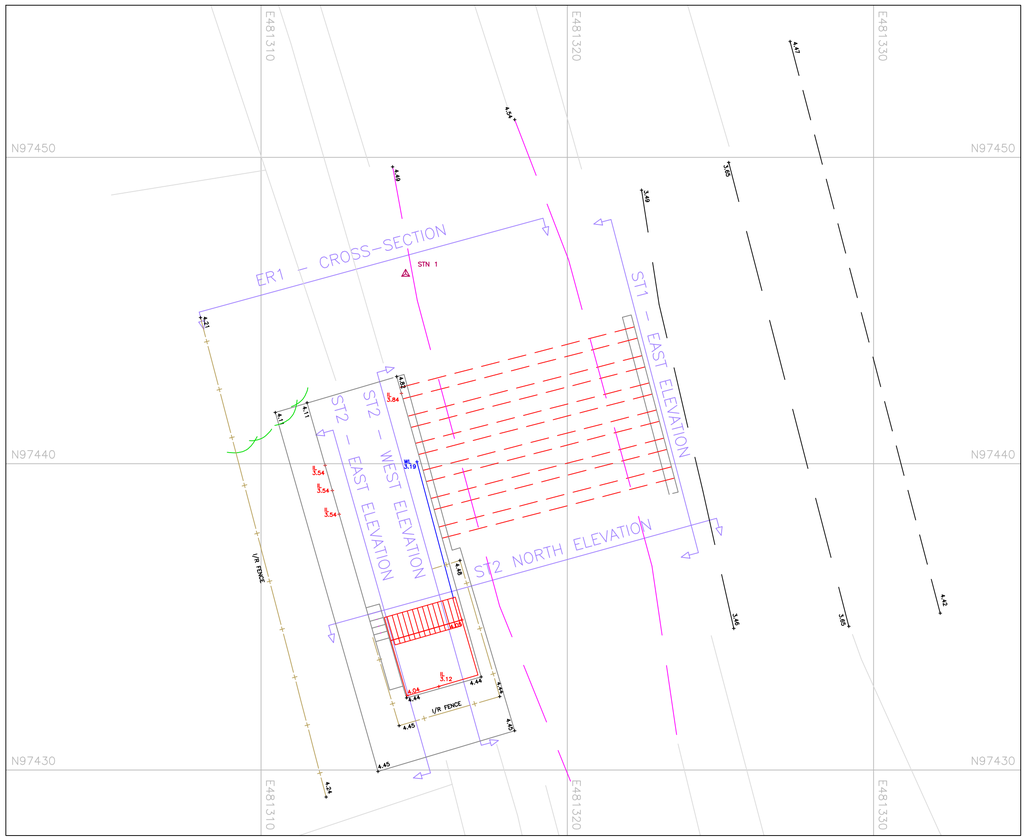
Table 4 - List of appended figures

6. Enclosed Documents

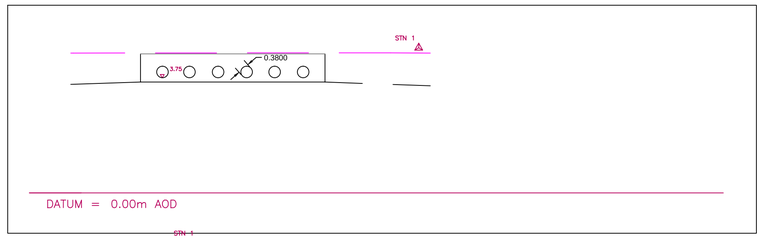
6.1. The following documents have been enclosed with this technical note:

- Topographic survey; and
- Modelling results.

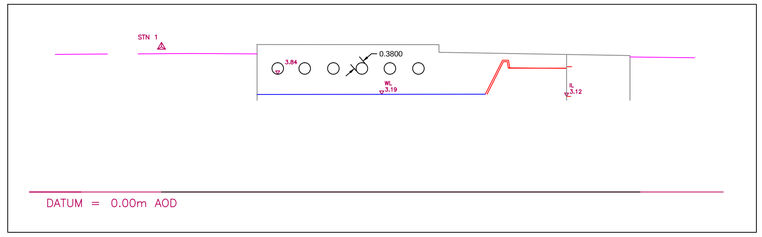
PLAN OF STRUCTURES ST2 AND ST1



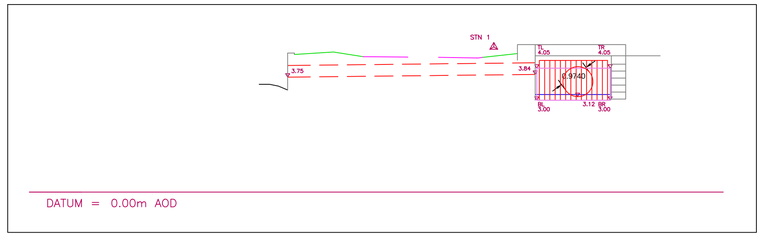
ST1 EAST ELEVATION



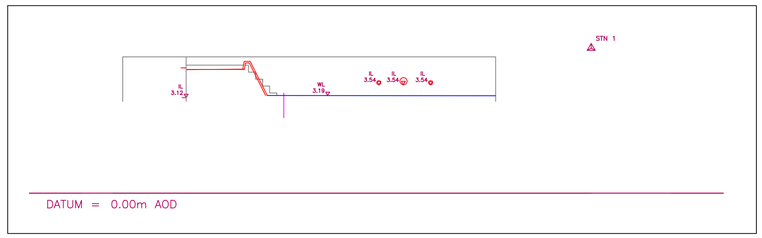
ST2 WEST ELEVATION



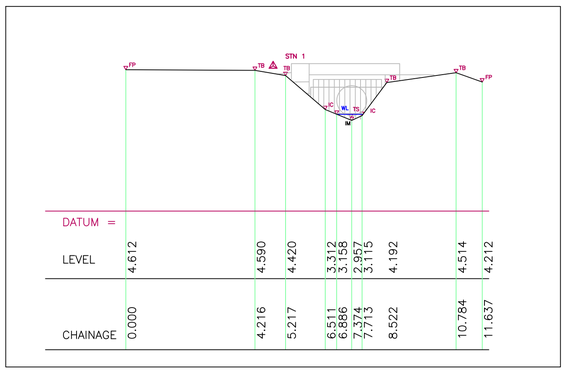
ST2 NORTH ELEVATION



ST2 EAST ELEVATION



ER1 – 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

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

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

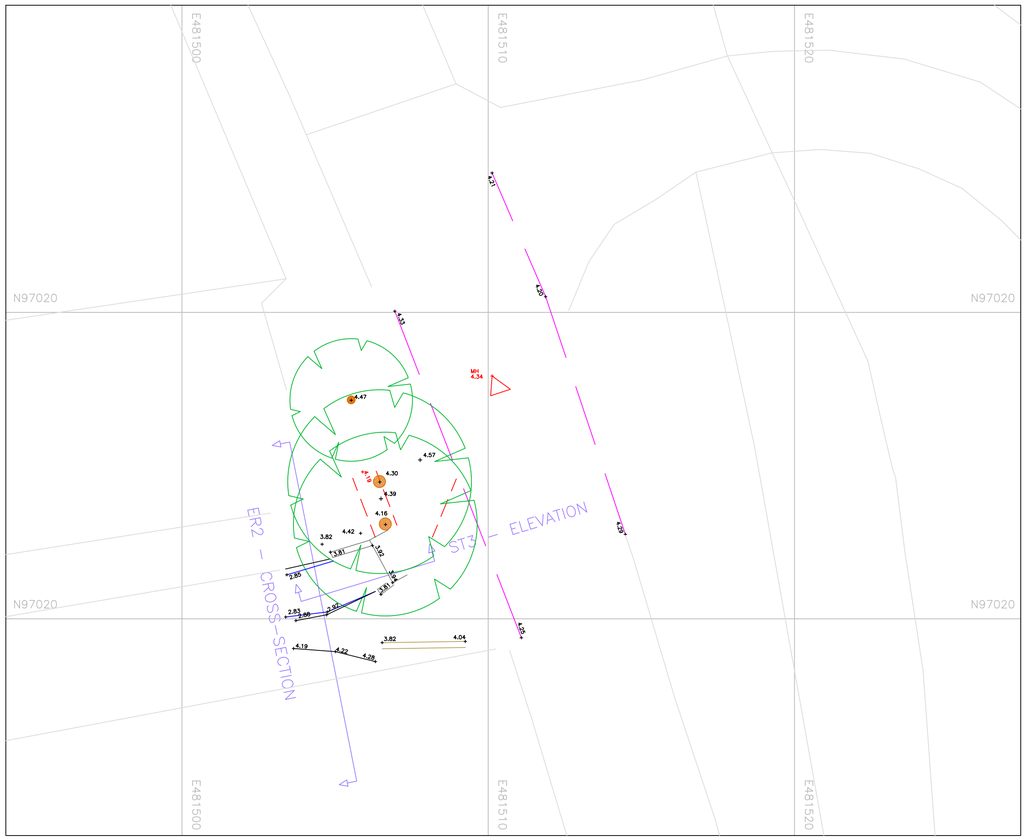
DRAWING

Survey of structures and cross–sections – ER–A

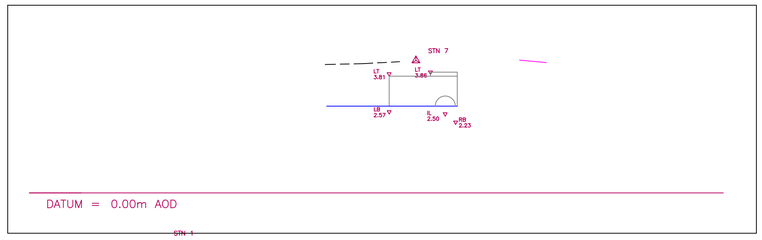
SCALE	DATE
1:100 (A1)	13/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_02	–

PLAN OF STRUCTURE ST3



ST3 EAST ELEVATION



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A	FP LEVEL (0.000) AMENDED	5/7/19

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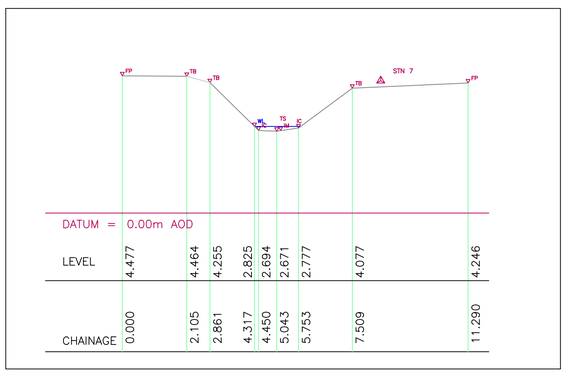
ER2 – CROSS–SECTION



CHAINAGE	0.000	2.105	2.861	4.317	4.450	5.043	5.753	7.509	11.290
LEVEL	4.477	4.464	4.255	2.825	2.694	2.671	2.777	4.077	4.246

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1:100 (A1)	13/6/2019

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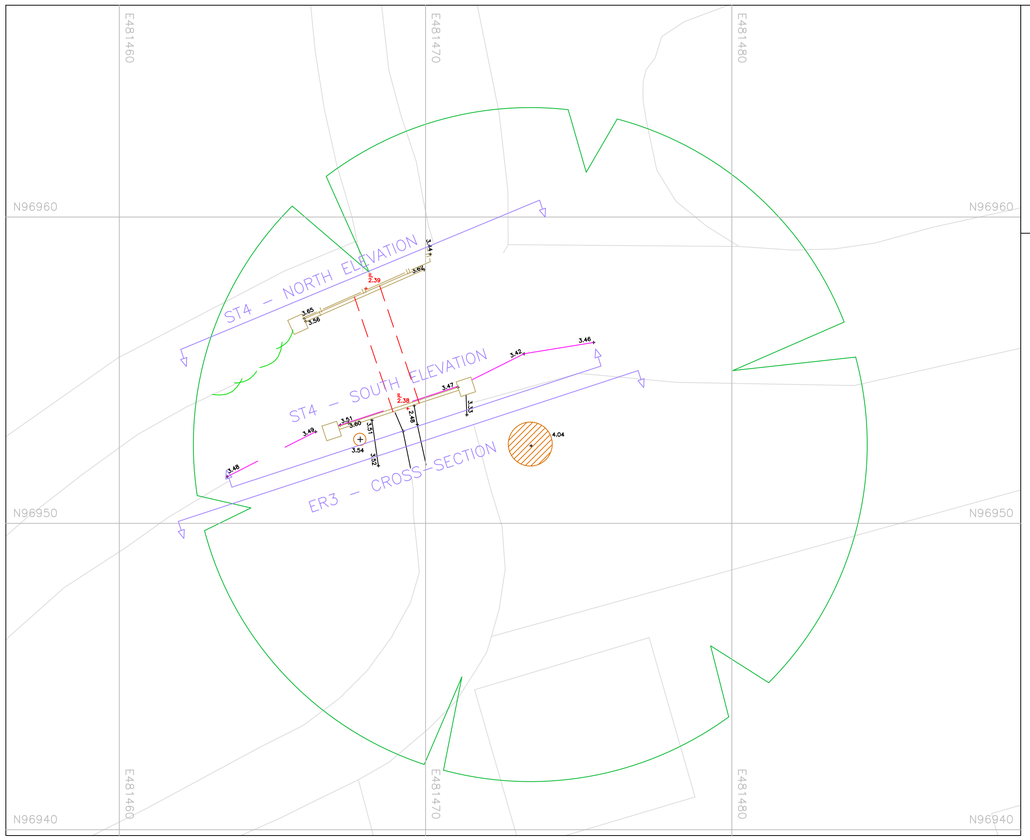
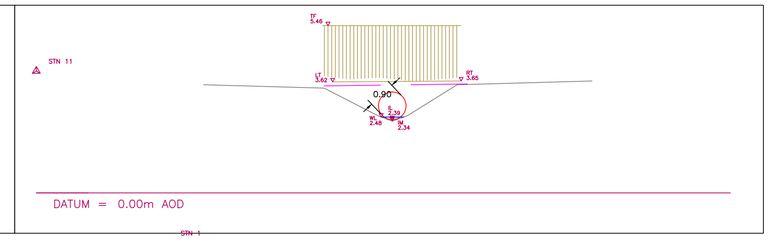
00228	0411_03	A

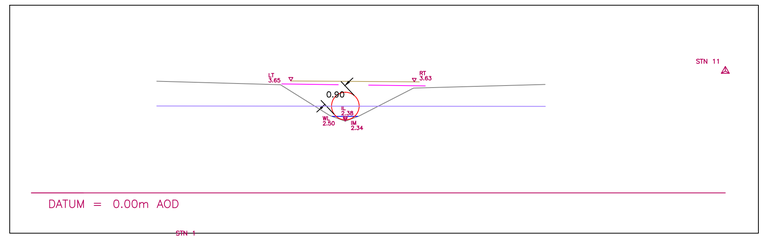
PLAN OF STRUCTURE ST4



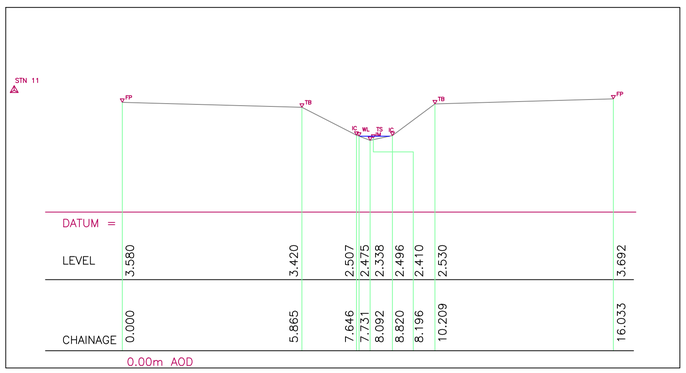
ST4 NORTH ELEVATION



ST4 SOUTH ELEVATION



ER3 – CROSS–SECTION



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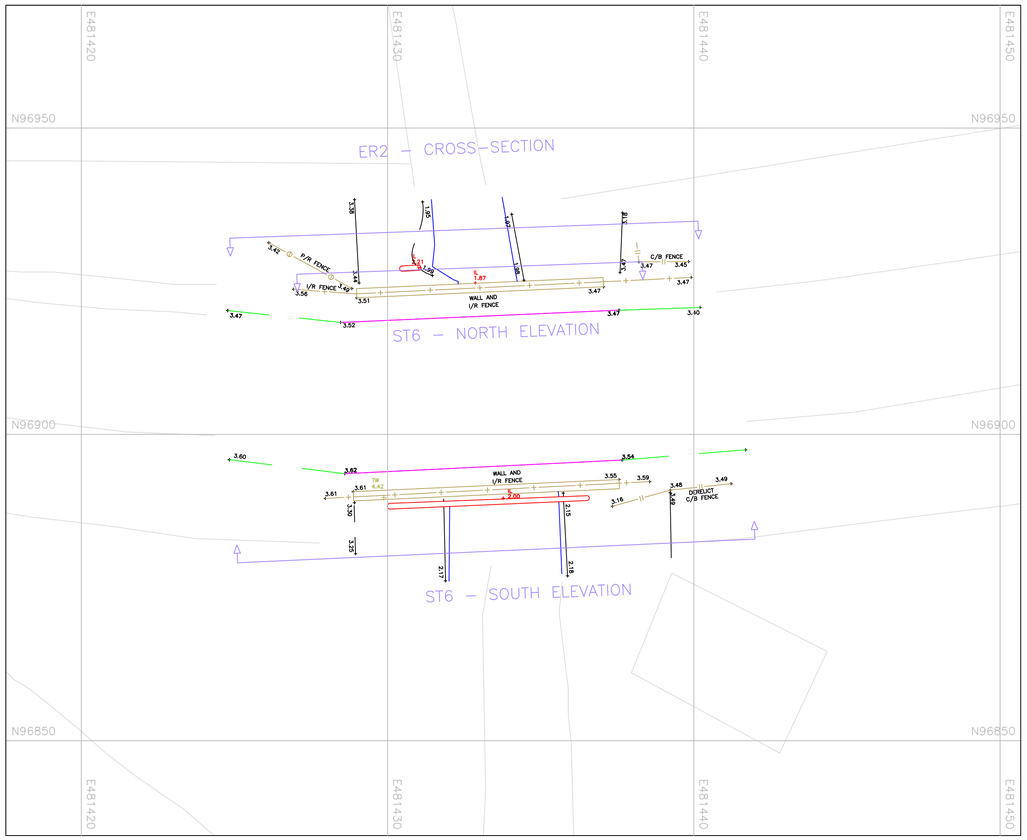
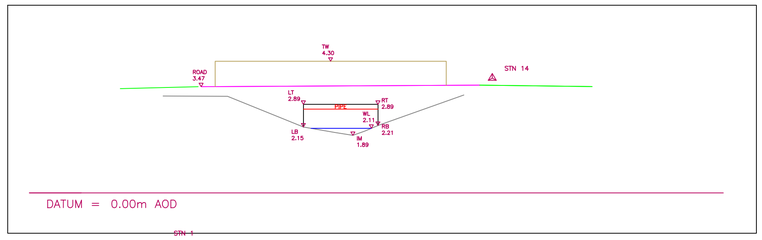
00228	0411_04	–

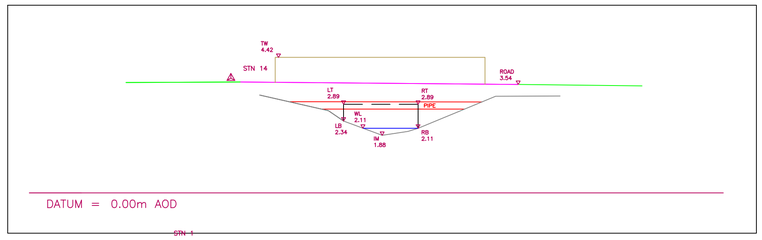
PLAN OF STRUCTURE ST6



ST6 NORTH ELEVATION



ST6 SOUTH ELEVATION



Notes

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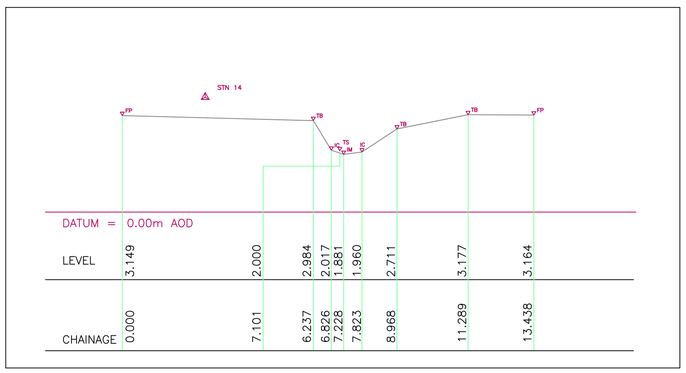
Grid co–ordinates and levels are based upon the Ordnance Survey

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

ER4 – CROSS–SECTION



MERIDIAN
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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

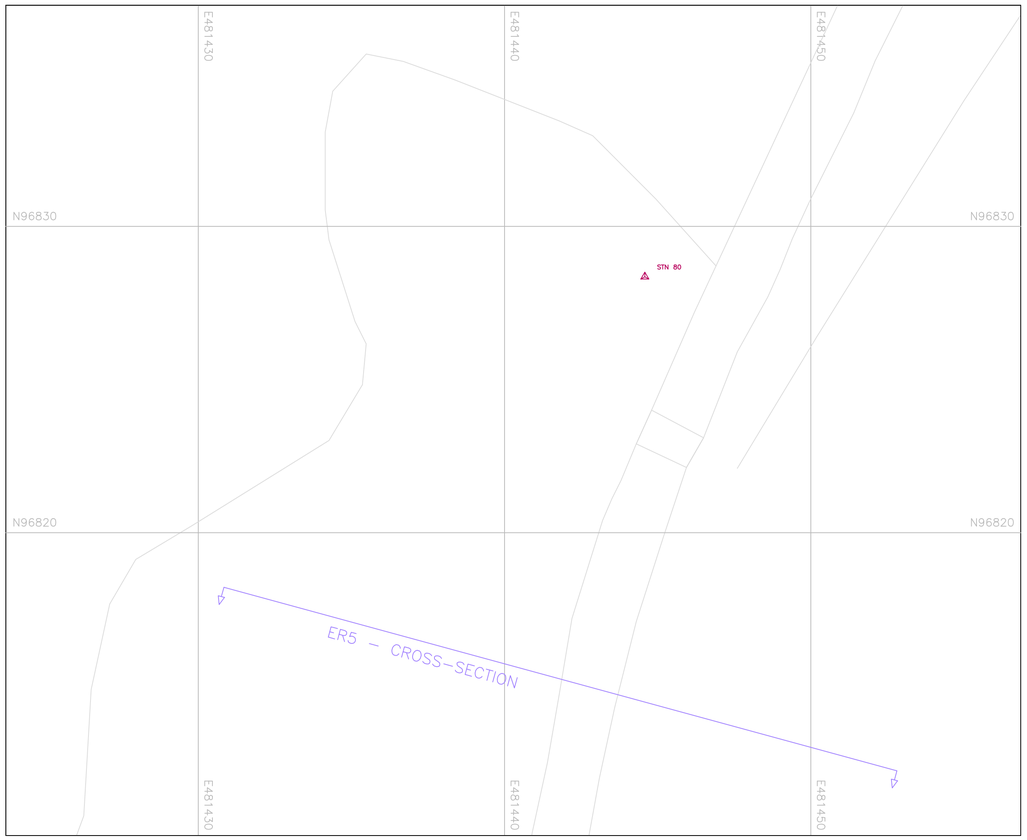
DRAWING

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



KEY

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IC	In Channel
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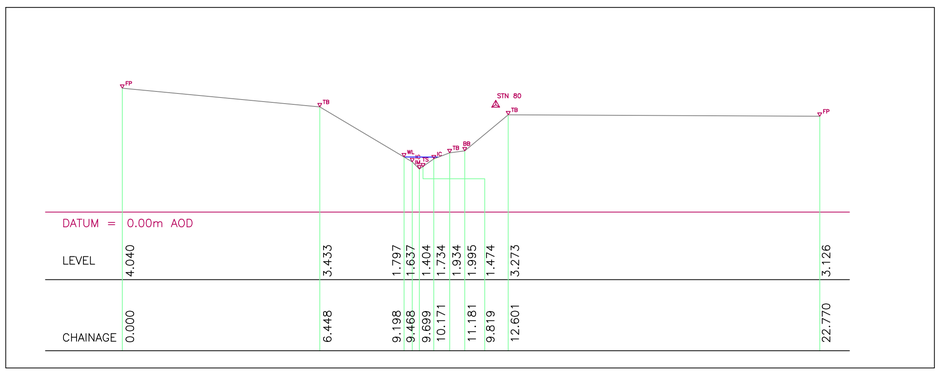
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER5 – CROSS–SECTION



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REVISION	DESCRIPTION	DATE

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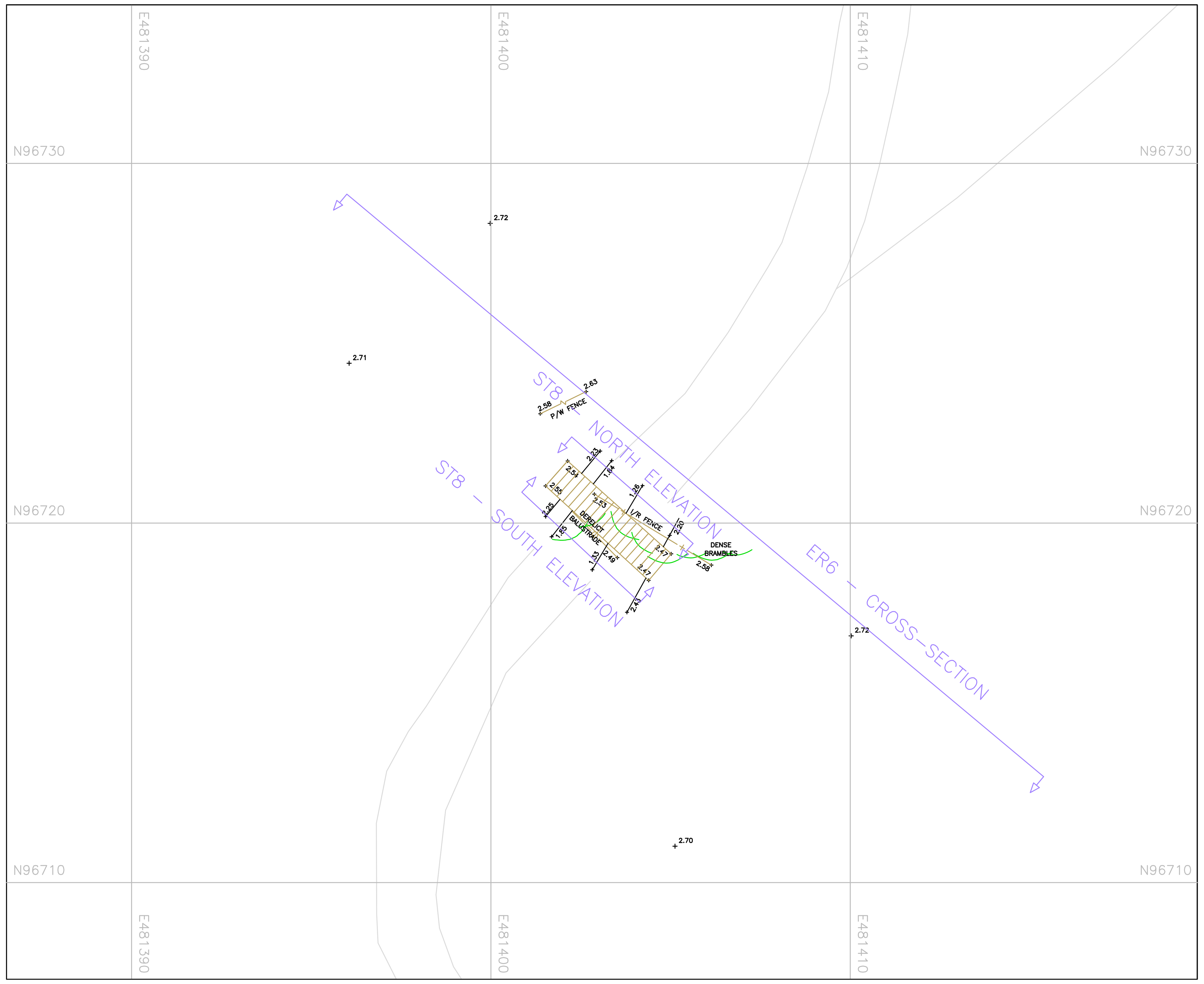
DRAWING

Survey of structures and cross–sections – ER–E

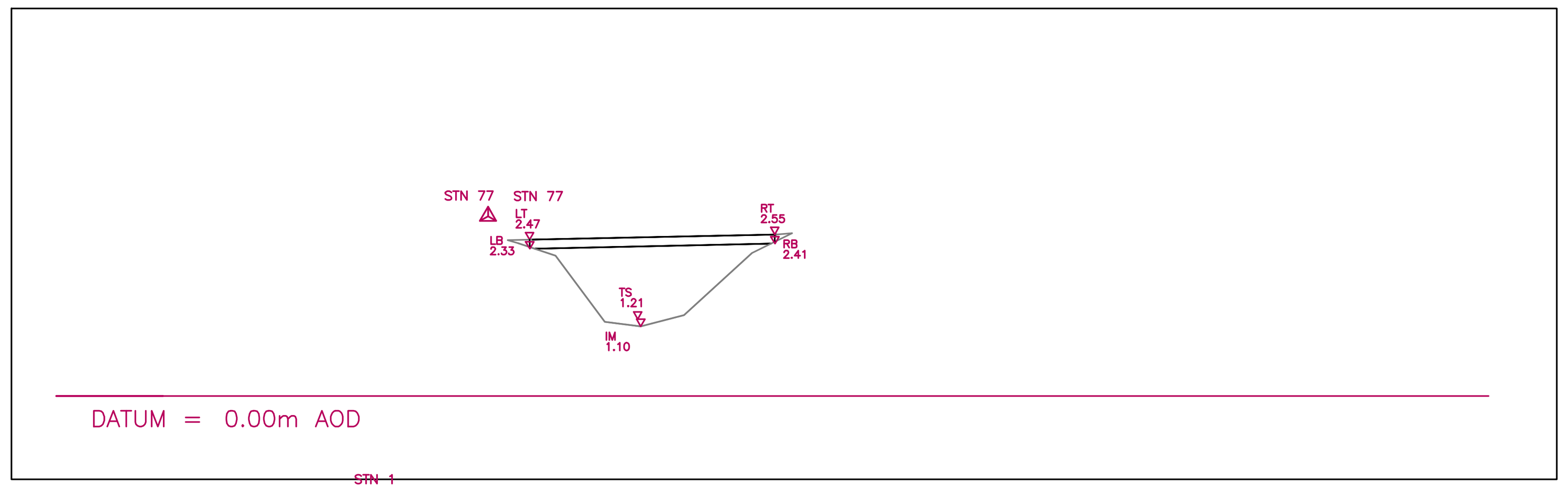
SCALE	DATE
1:100 (A1)	17/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_06	–

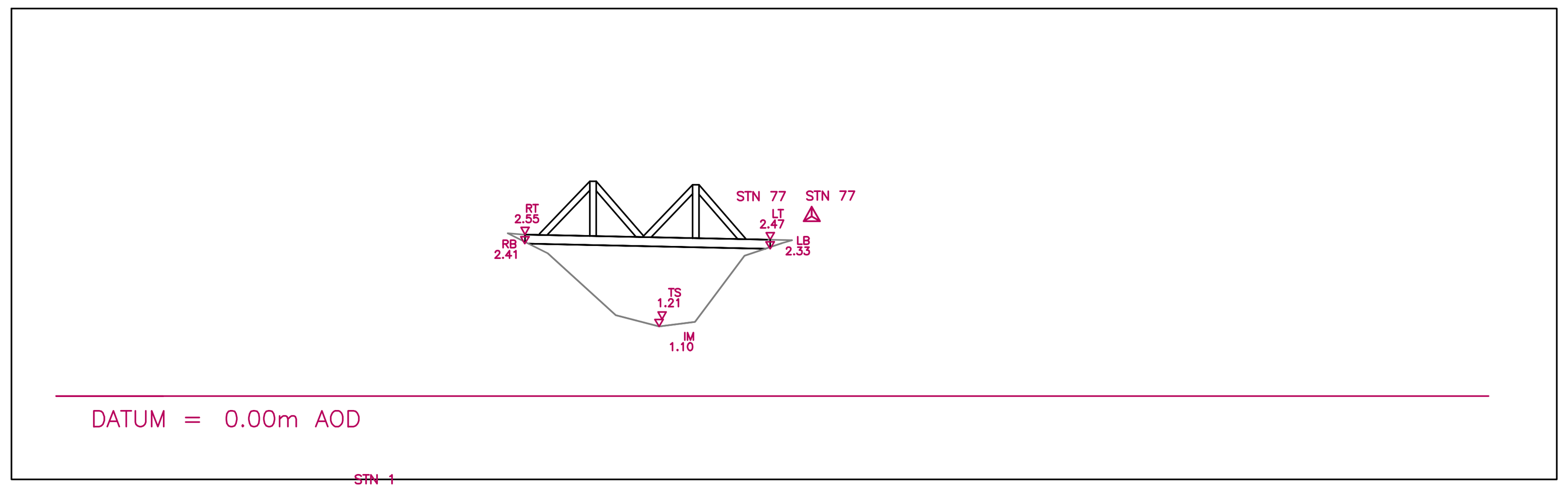
PLAN OF STRUCTURE ST8



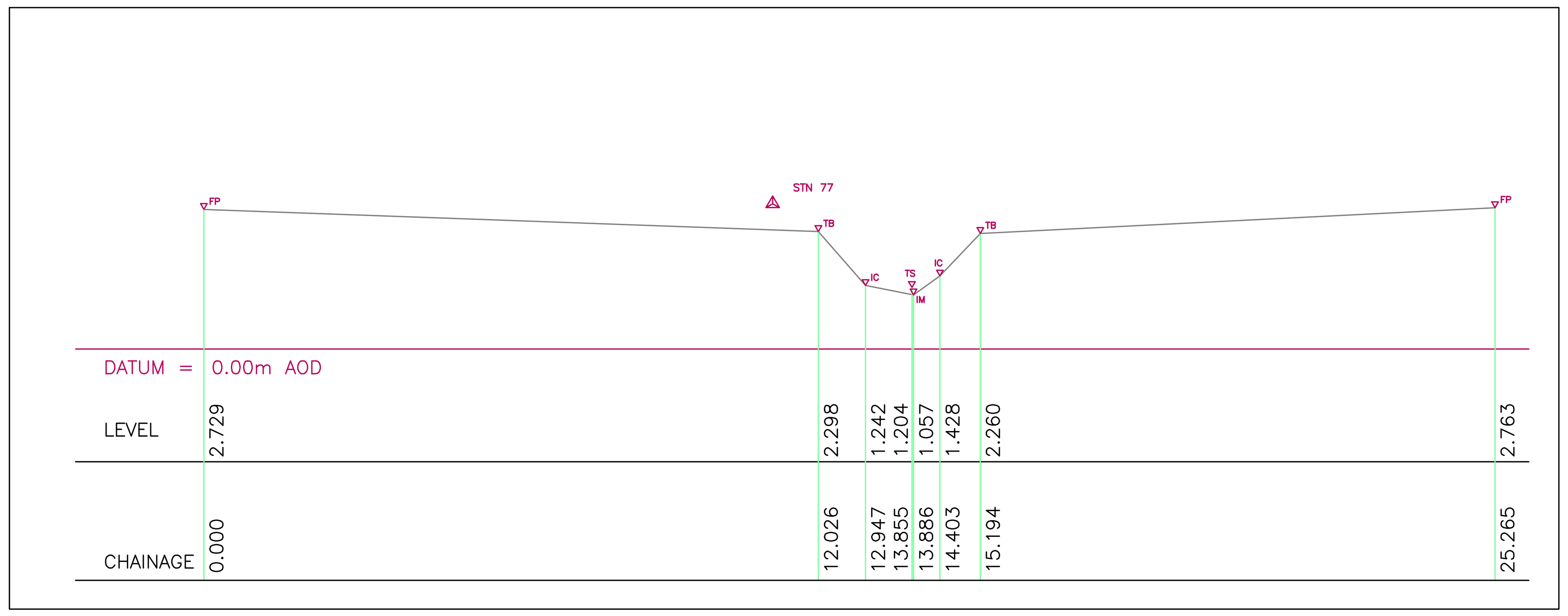
ST8 NORTH ELEVATION



ST8 SOUTH ELEVATION



ER6 – CROSS-SECTION



KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
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Applies to Arch, Culvert or Head Wall	
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I/W	Interwoven fence
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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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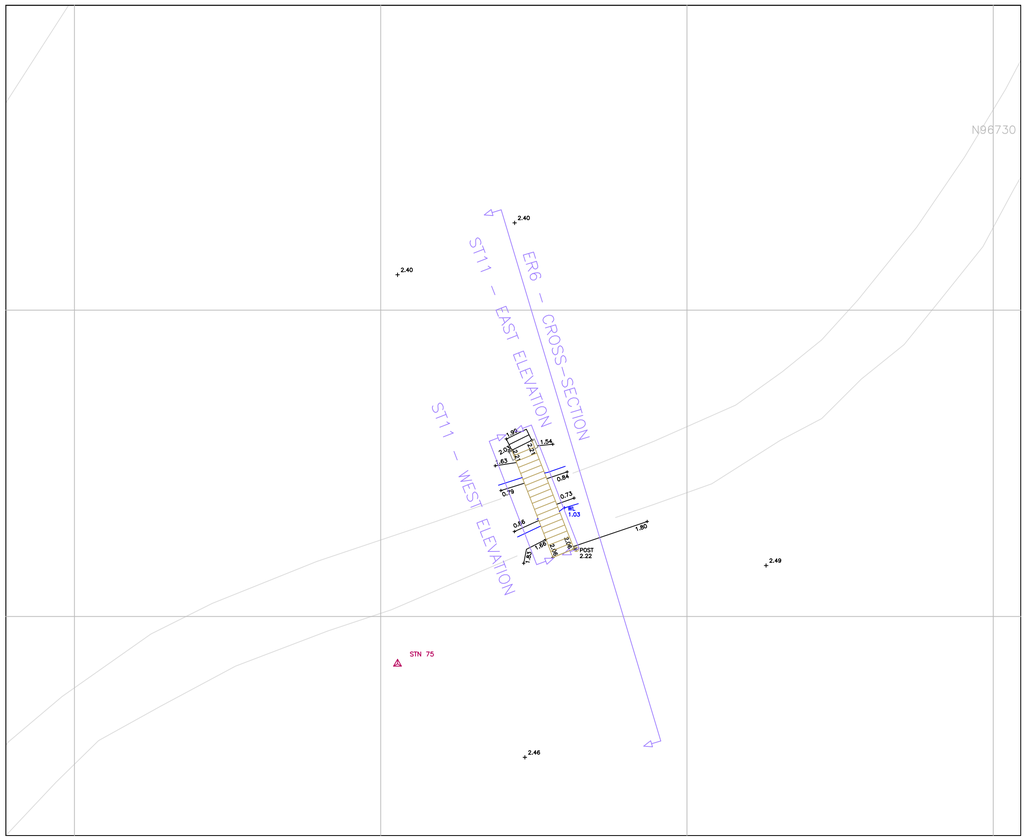
PROJECT
Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING
Survey of structures and cross-sections – ER-F

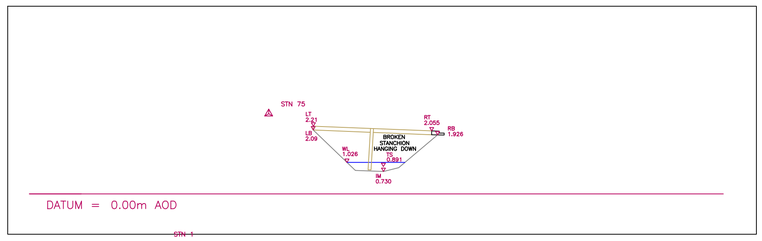
SCALE	DATE
1:100 (A1)	17/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_07	–

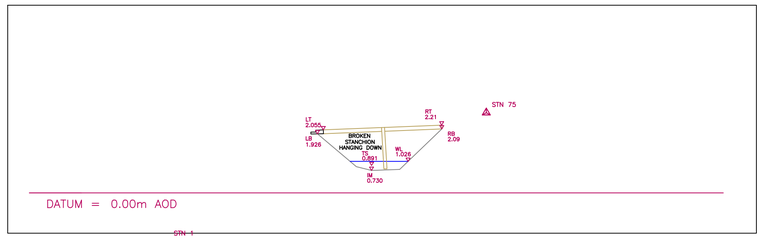
PLAN OF STRUCTURE ST8



ST11 EAST ELEVATION



ST11 WEST ELEVATION



KEY

FP	Flood Plain
BB	Bottom of Bank
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IM	In Channel mid-point
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EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
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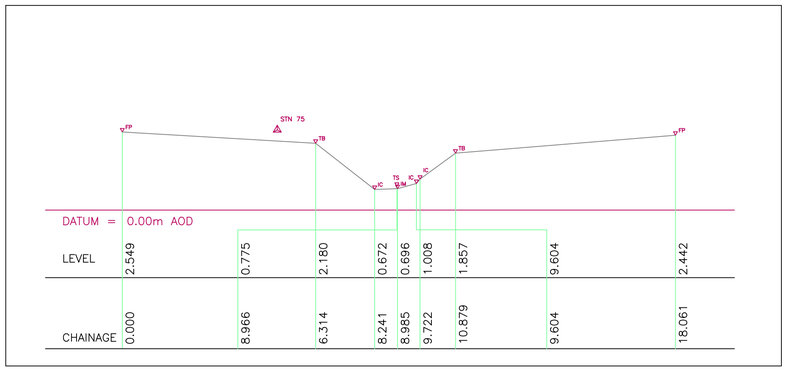
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER6 – CROSS-SECTION



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PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

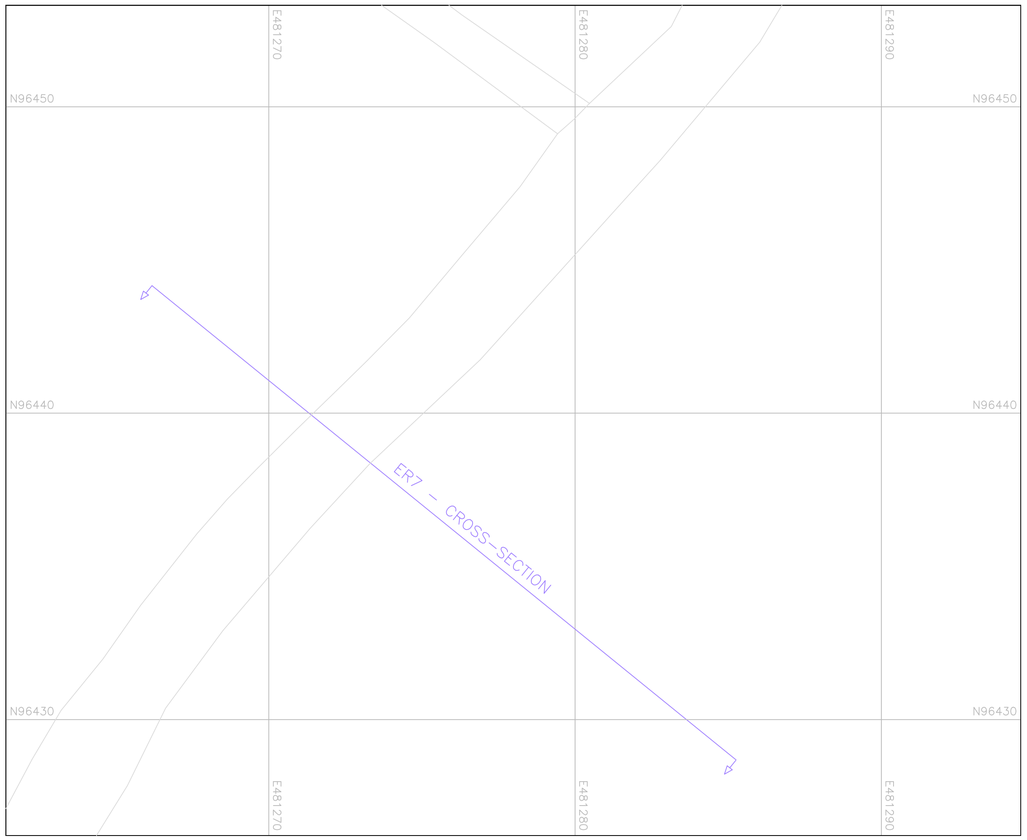
DRAWING

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



KEY

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BB	Bottom of Bank
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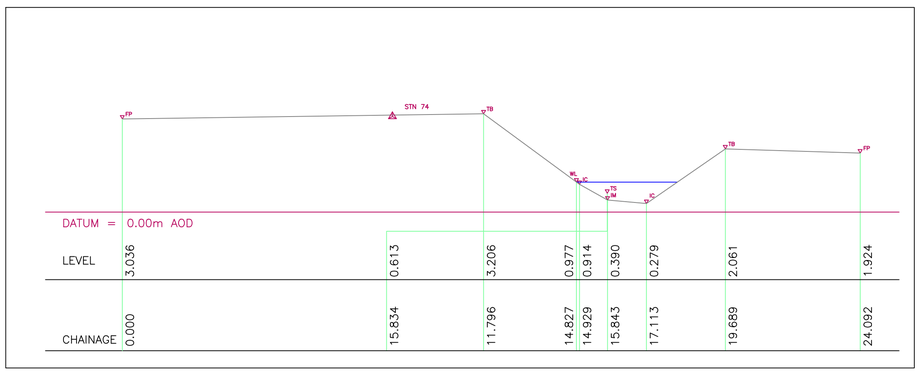
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER7 – CROSS-SECTION



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

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PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

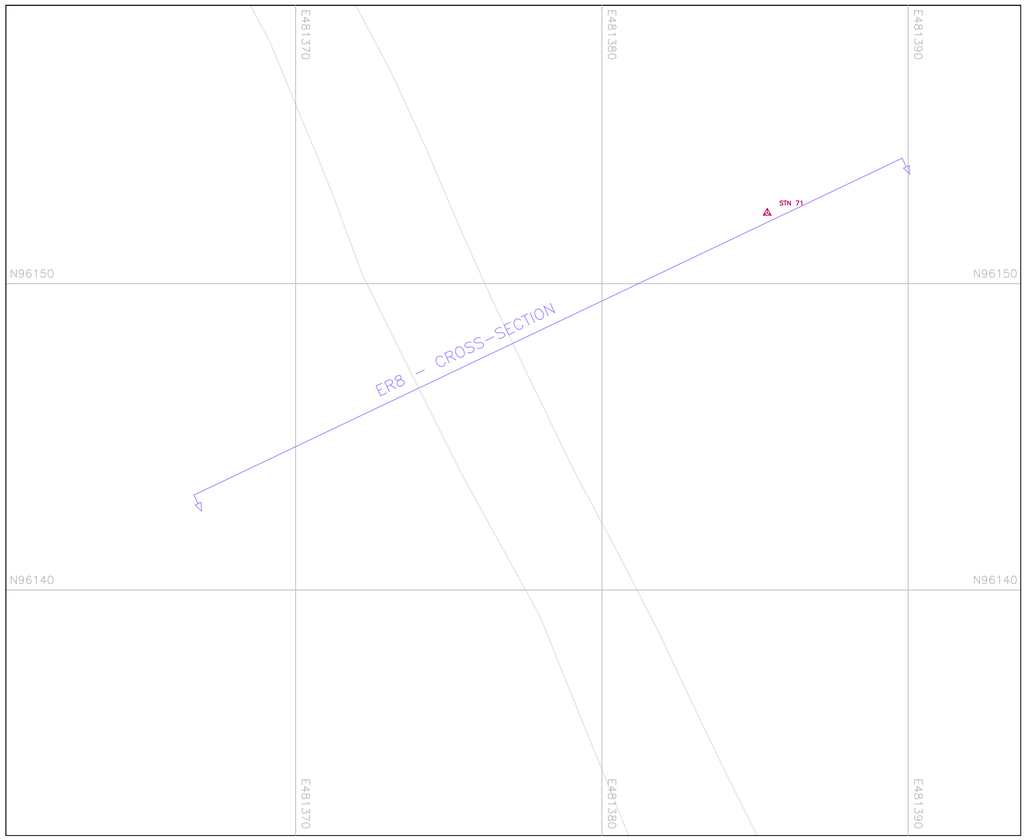
DRAWING

Survey of structures and cross-sections – ER-H

SCALE	DATE
1:100 (A1)	19/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_10	A

PLAN OF CROSS–SECTION ER8



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REVISION	DESCRIPTION	DATE

KEY

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I/R	Iron railing
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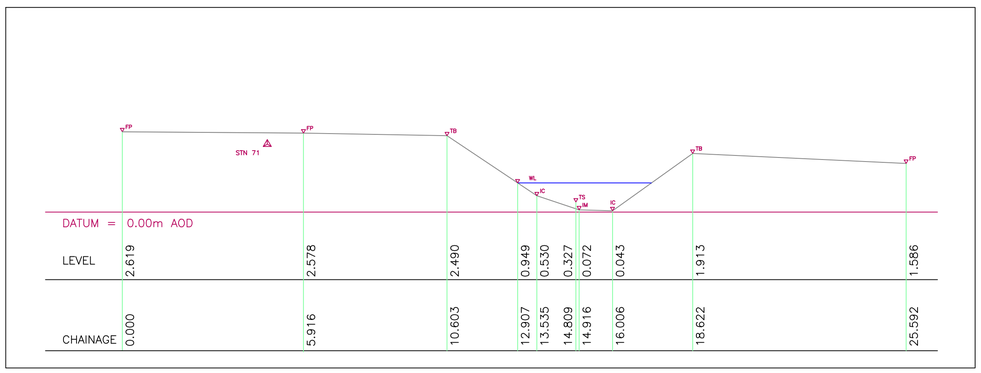
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER8 – CROSS–SECTION



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CUSTOMER

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PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

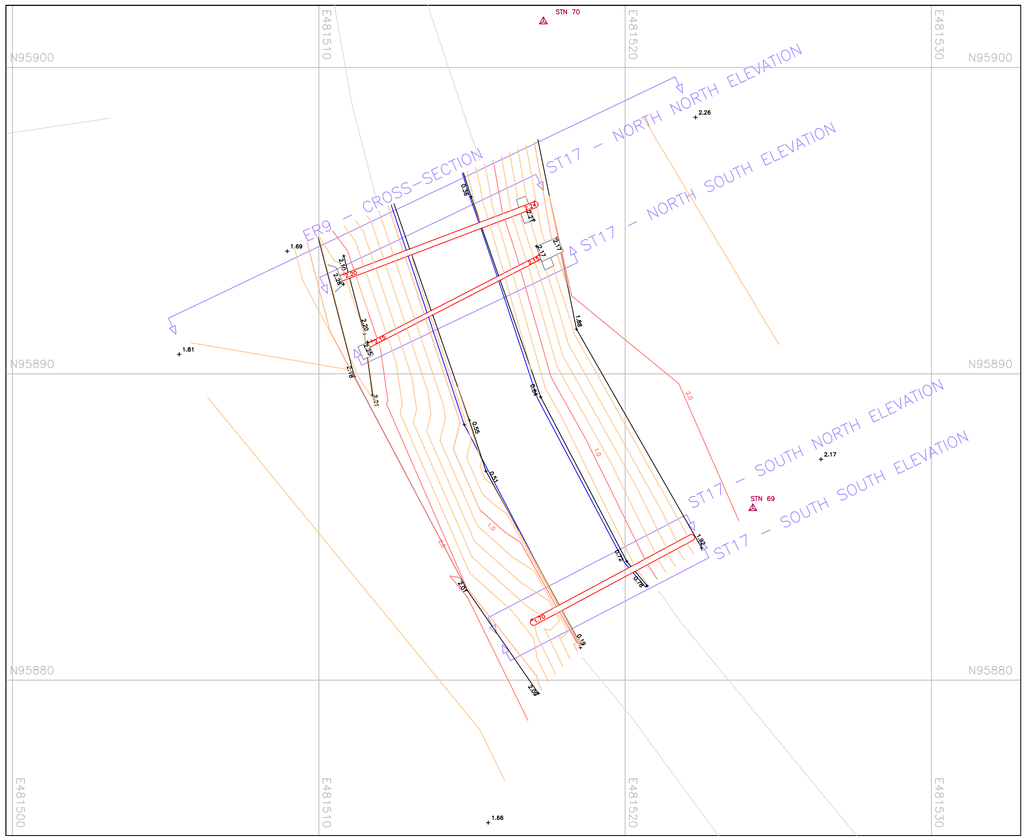
DRAWING

Survey of structures and cross–sections – ER–I

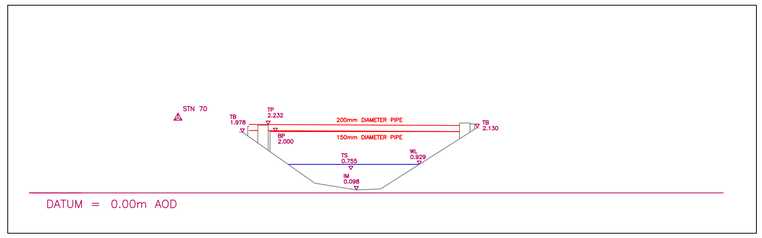
SCALE	DATE
1:100 (A1)	19/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_11	–

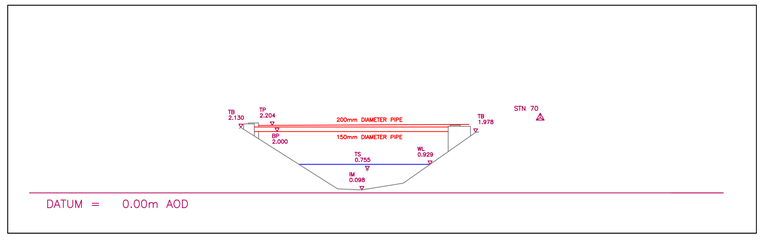
PLAN OF STRUCTURES ST17



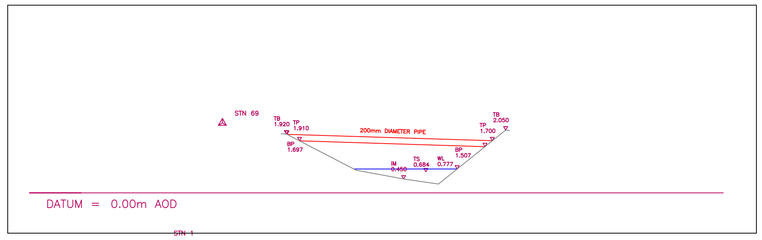
ST17 – NORTH NORTH ELEVATION



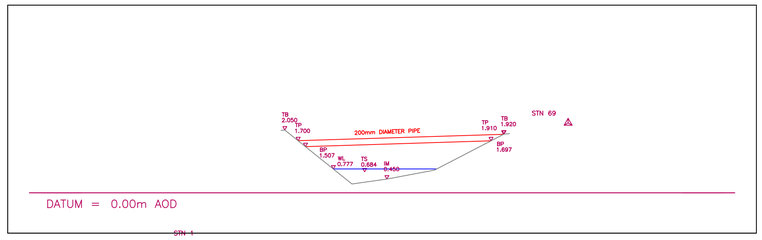
ST17 – NORTH SOUTH ELEVATION



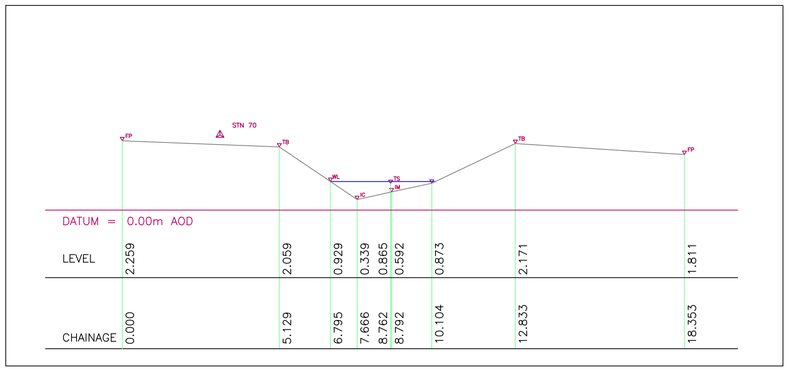
ST17 – SOUTH NORTH ELEVATION



ST17 – SOUTH SOUTH ELEVATION



ER9 – CROSS–SECTION



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

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

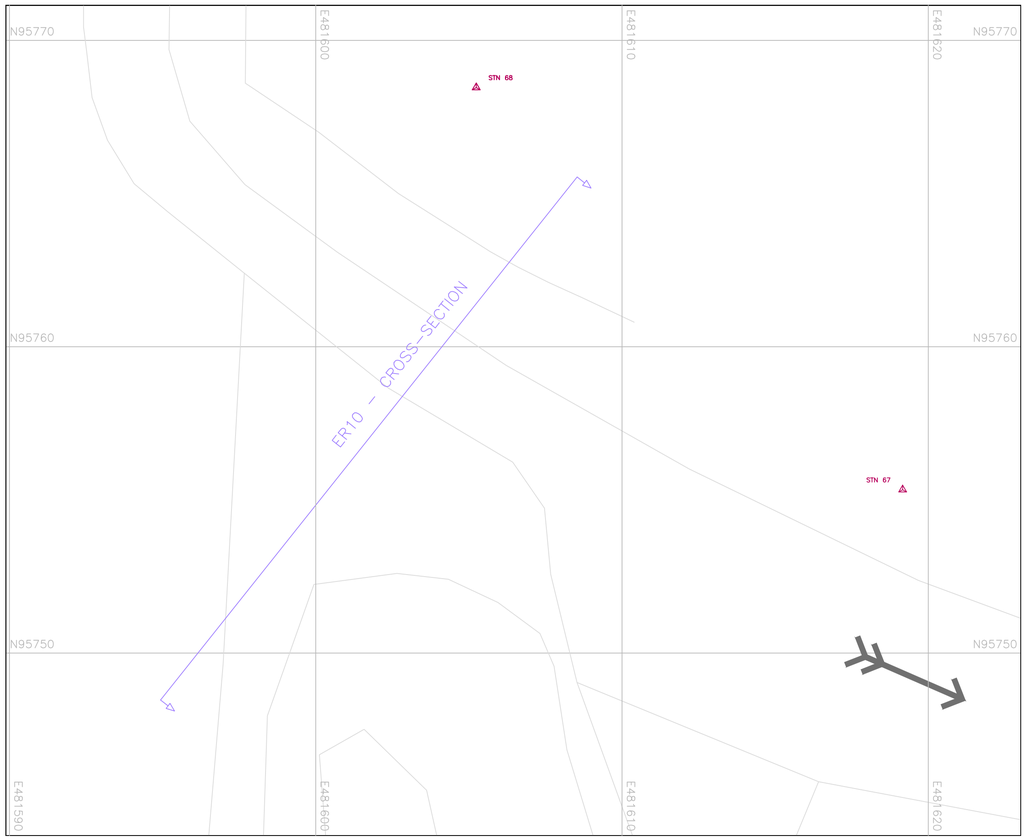
DRAWING

Survey of structures and cross–sections – ER–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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P/R	Post and rail fence
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RTW	Retaining wall
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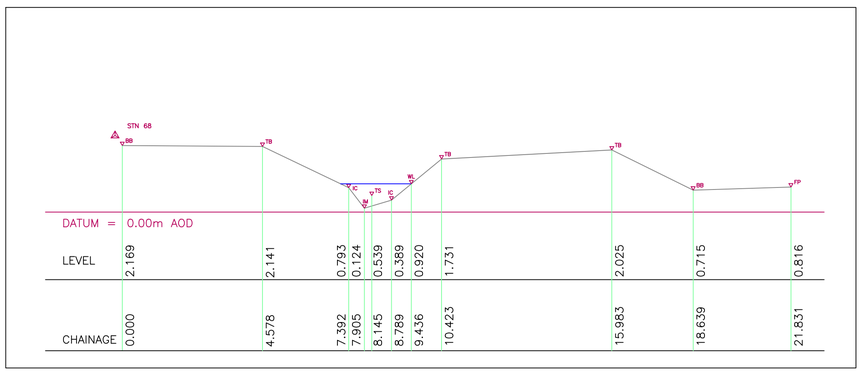
ER10 – CROSS–SECTION



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

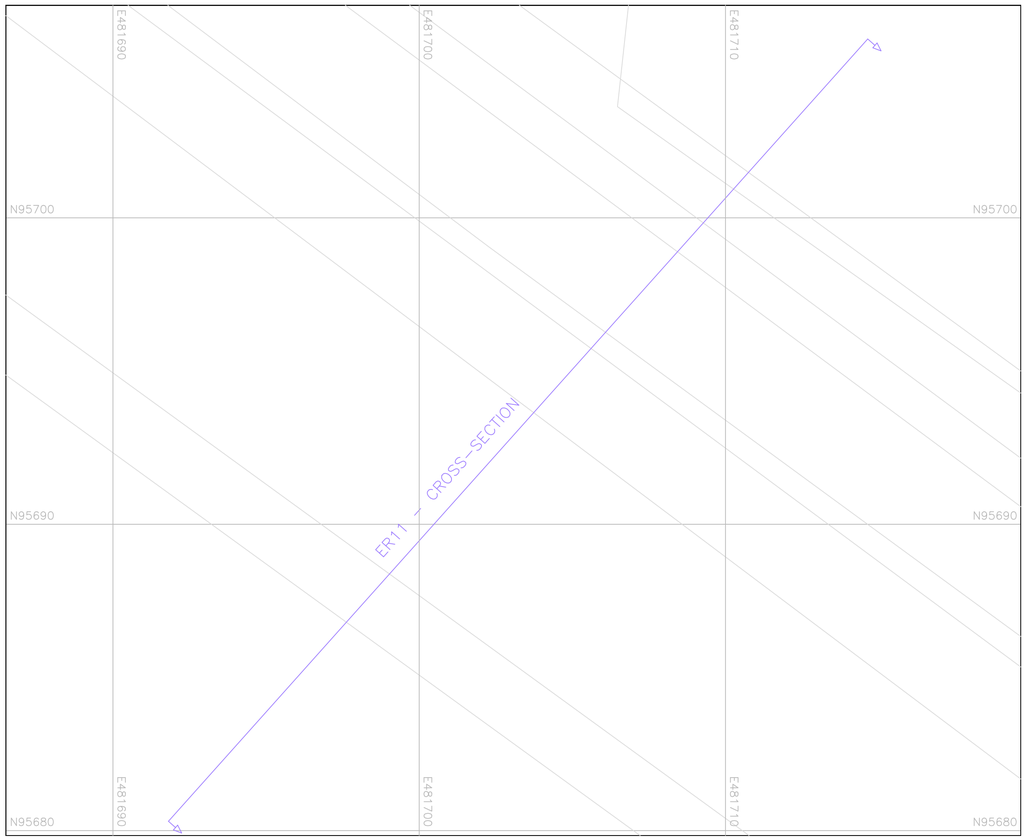
DRAWING

Survey of structures and cross–sections – ER–K

SCALE	DATE
1:100 (A1)	20/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_13	–

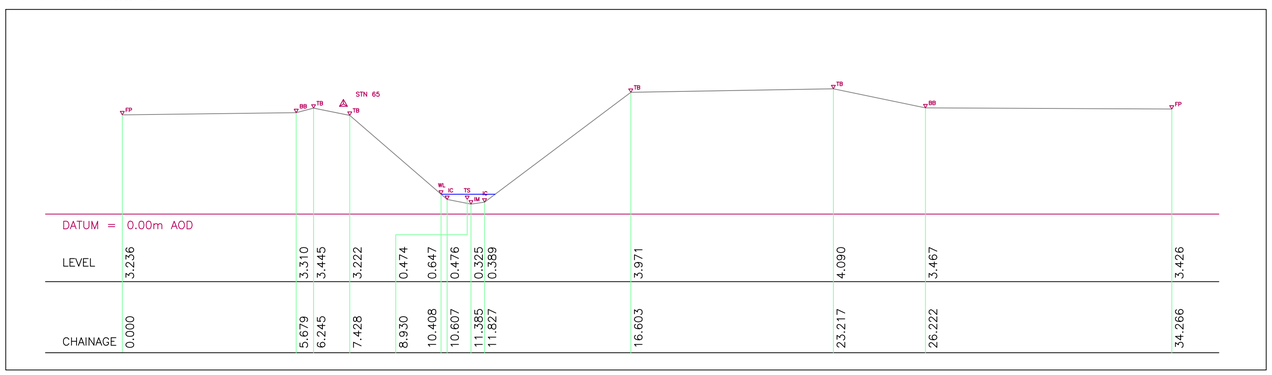
PLAN OF CROSS–SECTION ER11



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



Notes

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

REVISION	DESCRIPTION	DATE

MERIDIAN
Land surveying and design

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

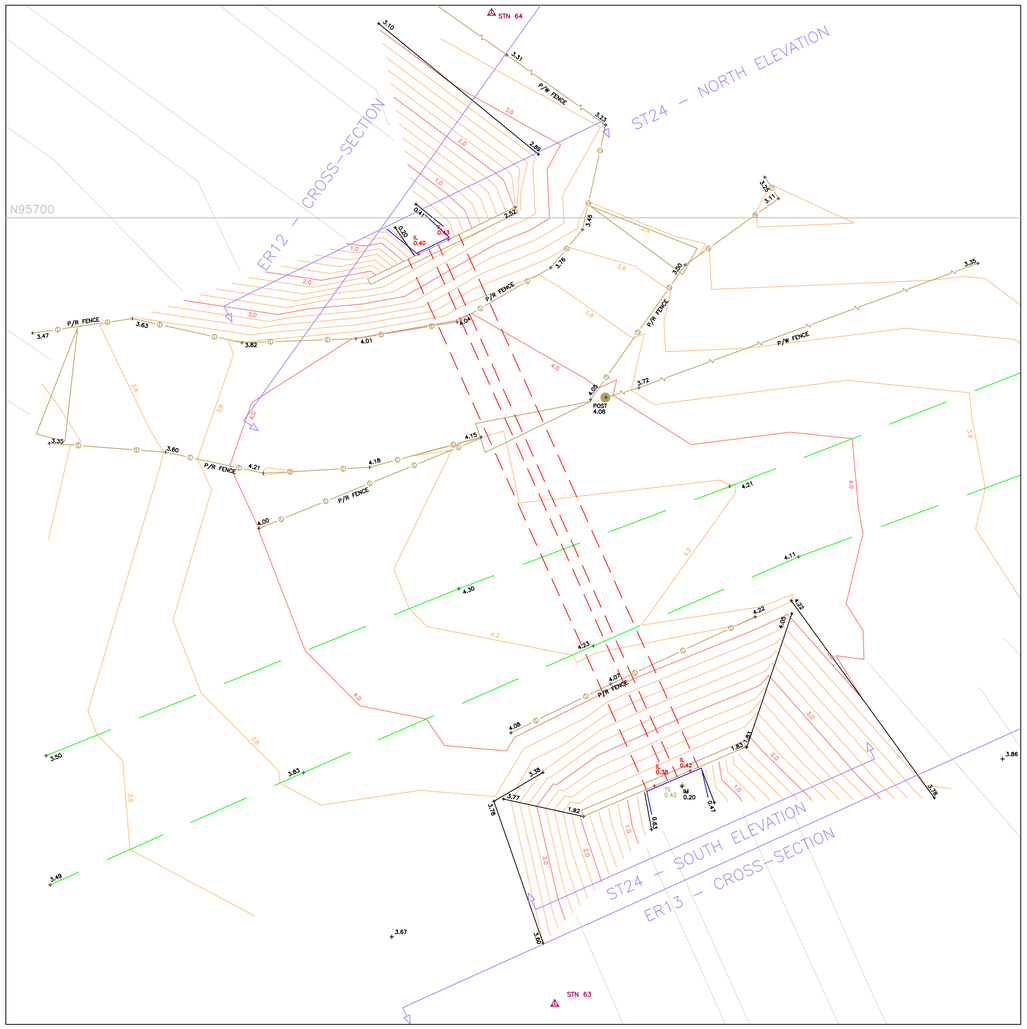
DRAWING

Survey of structures and cross–sections – ER–L

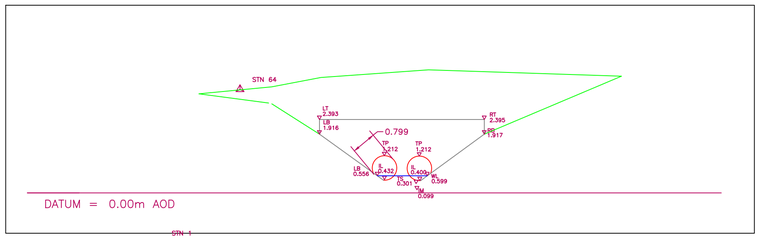
SCALE	DATE
1:100 (A1)	20/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_14	–

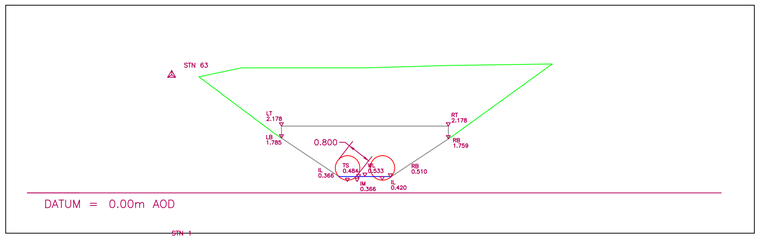
PLAN OF STRUCTURE – ST24



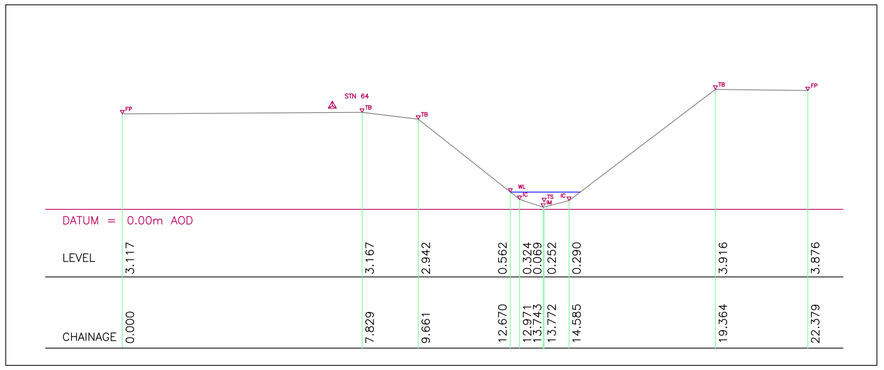
ST24 – NORTH ELEVATION



ST24 – SOUTH ELEVATION

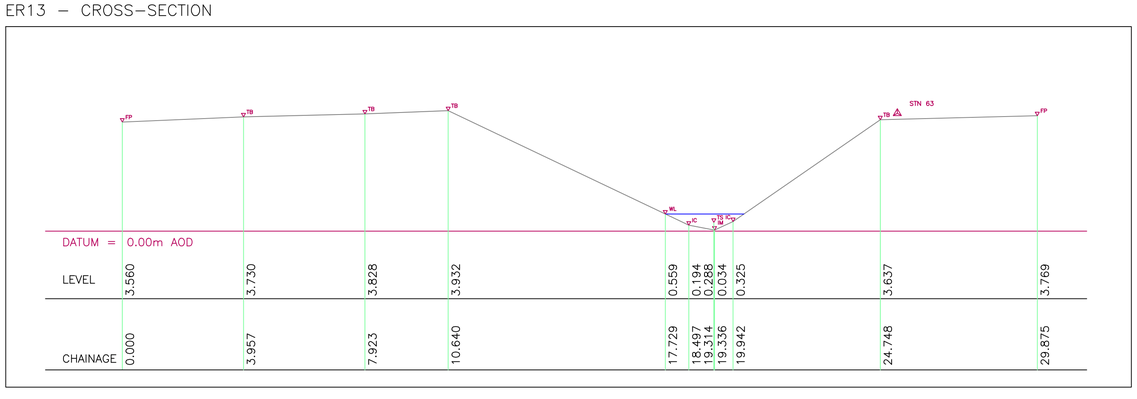


ER12 – CROSS–SECTION



LEVEL	3.117	3.167	2.942	0.562	0.324	0.069	0.252	0.290	3.916	3.876
CHAINAGE	0.000	7.829	9.661	12.670	12.971	13.343	13.772	14.585	19.364	22.379

ER13 – CROSS–SECTION



LEVEL	3.560	3.730	3.828	3.932	0.559	0.194	0.034	0.325	3.637	3.769
CHAINAGE	0.000	3.957	7.923	10.640	17.729	18.497	19.336	19.942	24.748	29.875

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

Notes

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MERIDIAN
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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

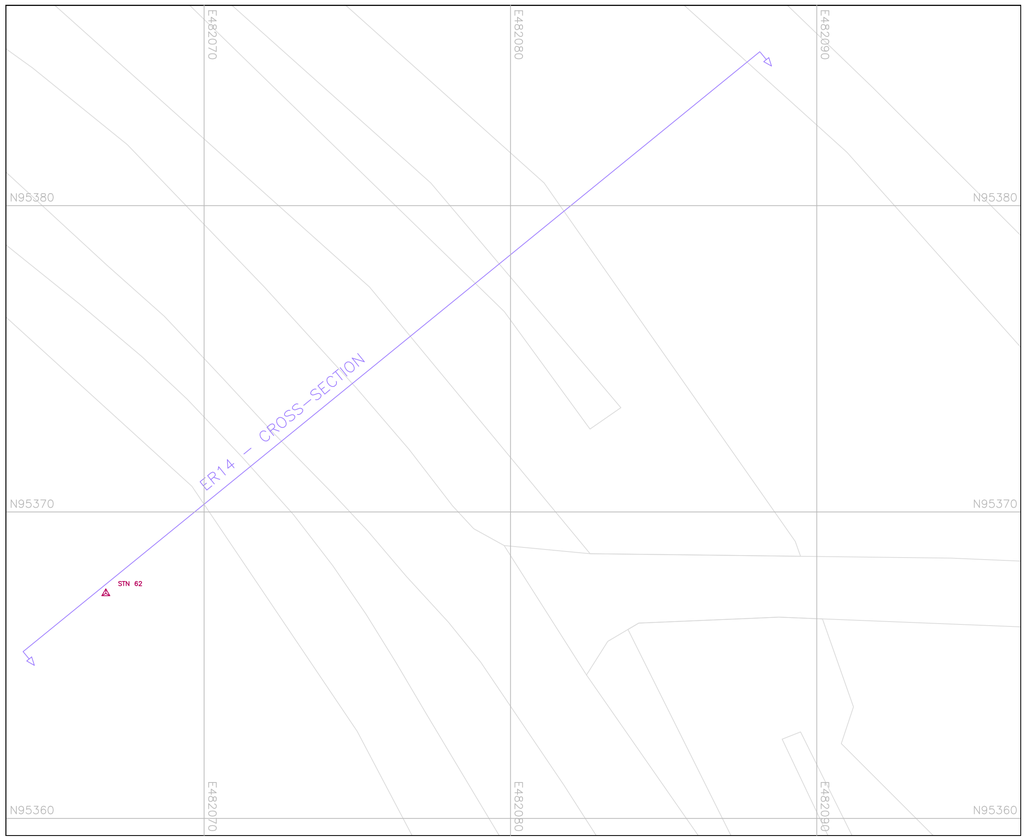
DRAWING

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



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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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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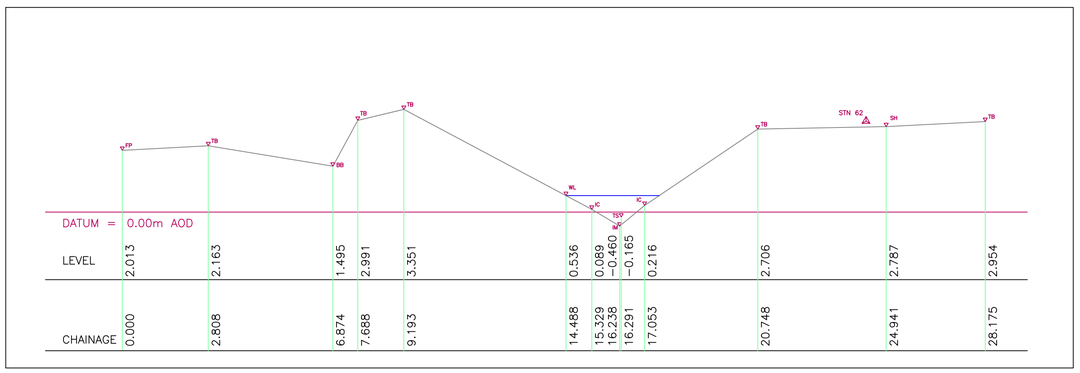
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER14 – CROSS–SECTION



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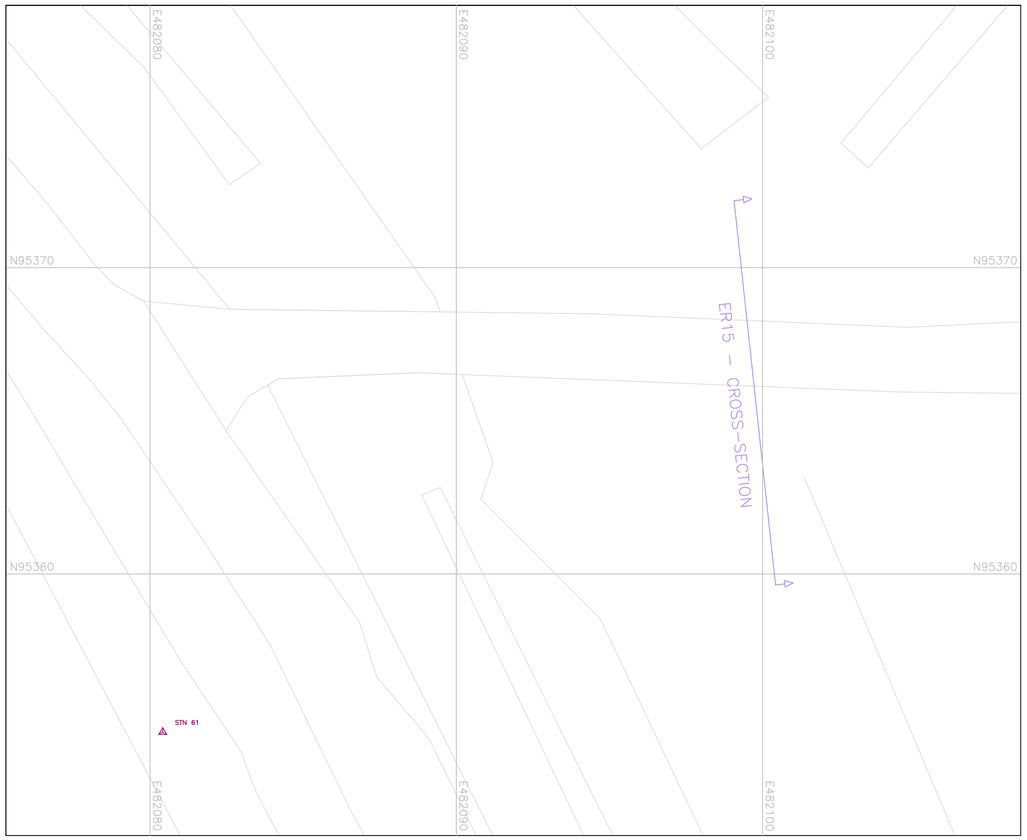
DRAWING

Survey of structures and cross–sections – ER–N

SCALE	DATE
1:100 (A1)	21/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_16	–

PLAN OF CROSS–SECTION – ER15



KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
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Applies to Arch, Culvert or Head Wall	
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EP	Electricity pole
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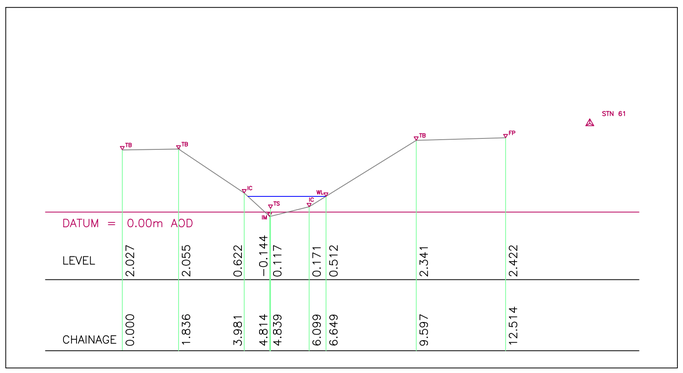
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER15 – CROSS–SECTION



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PROJECT

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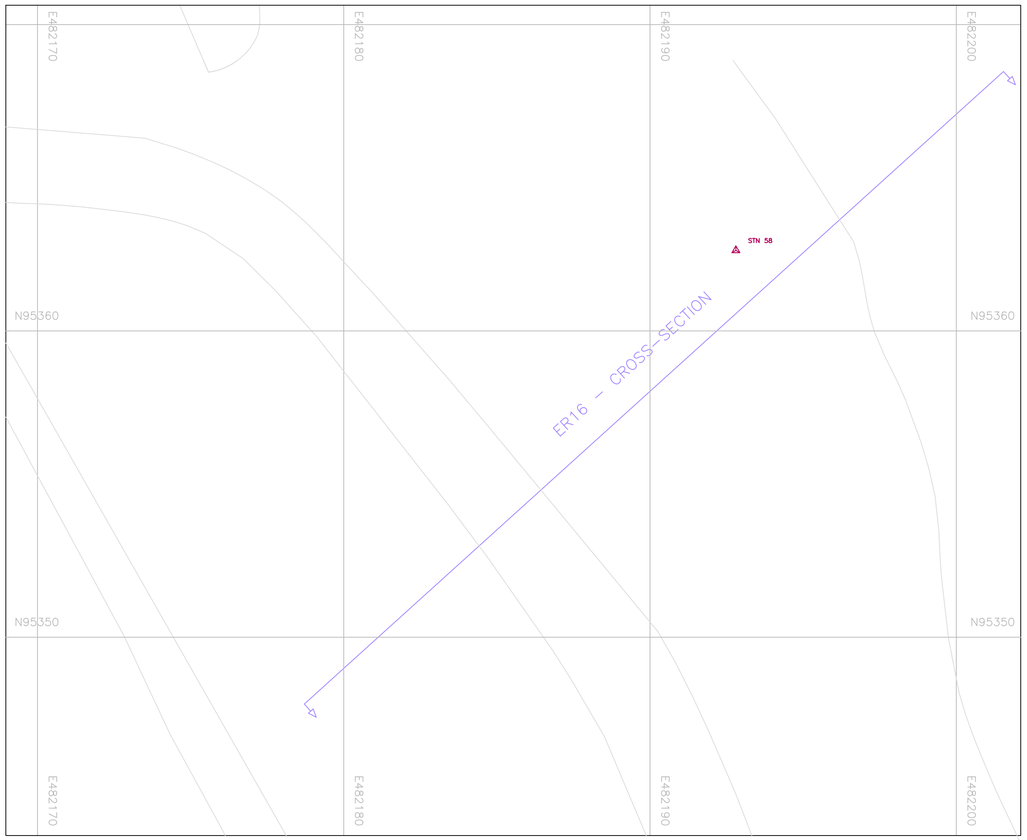
DRAWING

Survey of structures and cross–sections – ER–0

SCALE	DATE
1:100 (A1)	21/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_17	–

PLAN OF CROSS–SECTION – ER16



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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RB	Right Bottom
BL	Base Level
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GY	Gulley
IC	Inspection cover
MH	Manhole
SMP	Service marker post
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WSV	Water stop valve
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EP	Electricity pole
KB	Kerb
OSBM	OS bench mark
RS	Road sign
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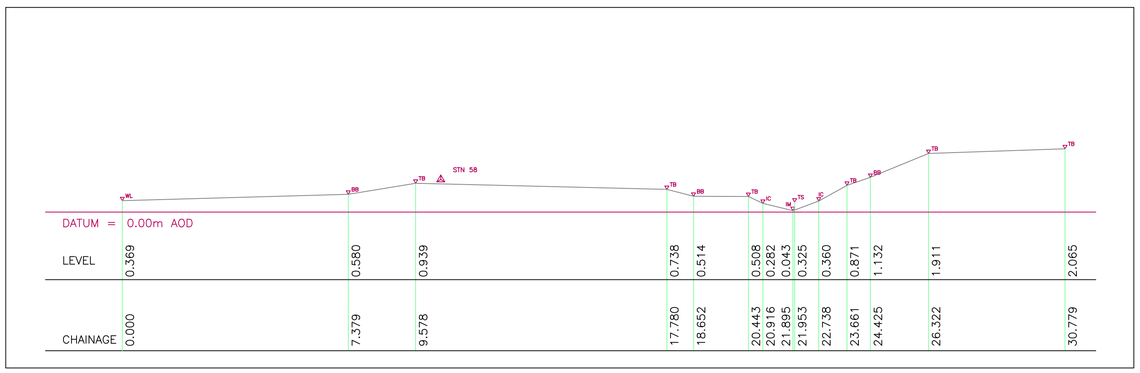
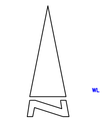
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER16 – CROSS–SECTION





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

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

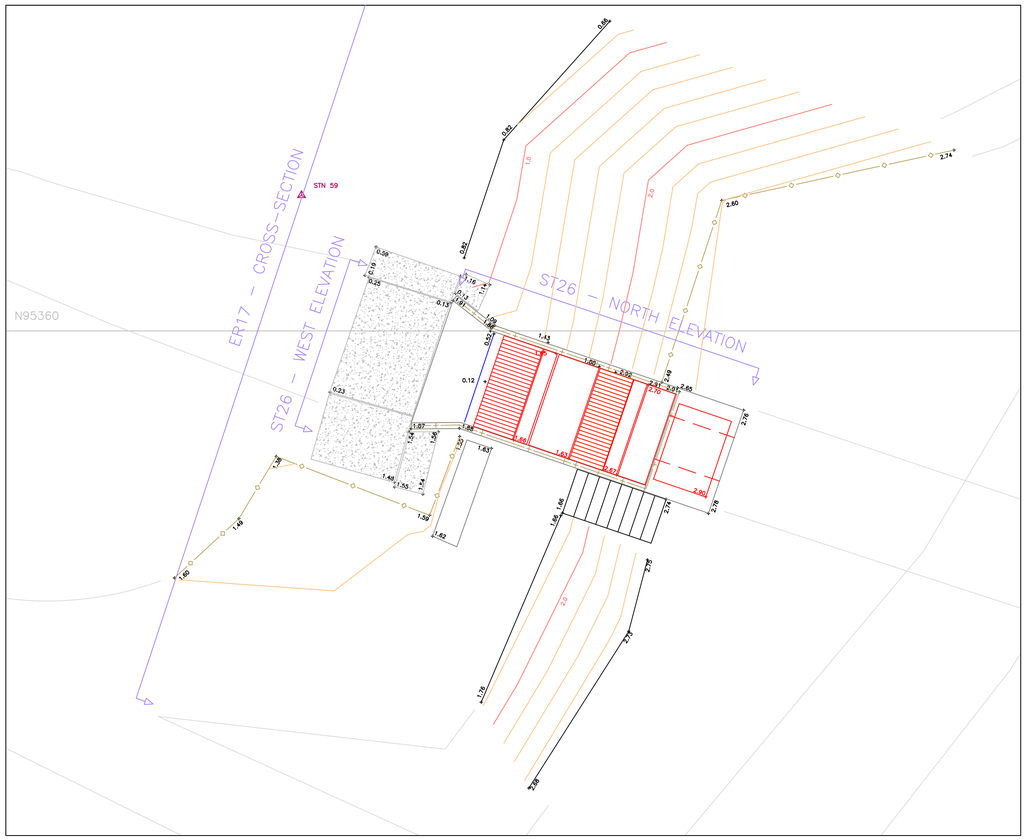
DRAWING

Survey of structures and cross–sections – ER–P

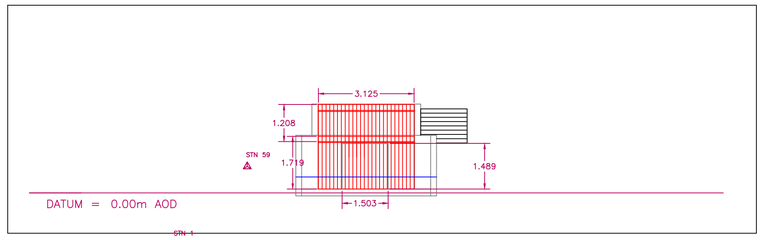
SCALE	DATE
1:100 (A1)	21/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_18	A

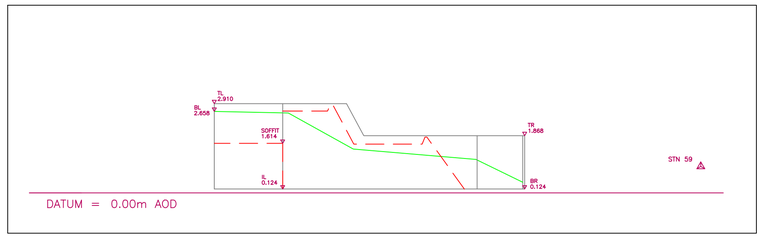
PLAN OF STRUCTURE – ST26



ST26 WEST ELEVATION



ST26 NORTH ELEVATION



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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
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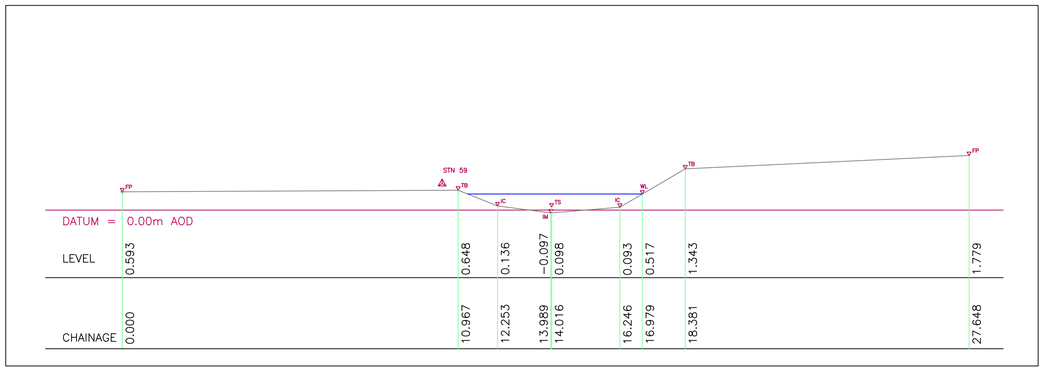
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

ER17 – CROSS–SECTION



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

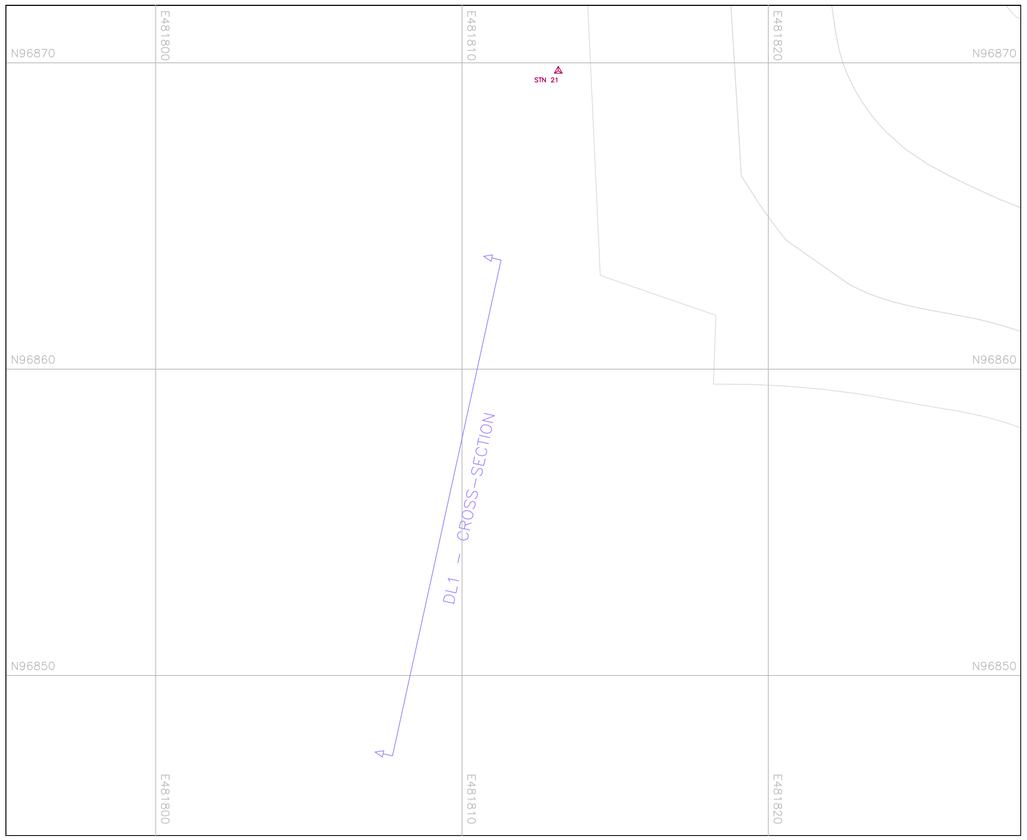
DRAWING

Survey of structures and cross–sections – ER–Q

SCALE	DATE
1:100 (A1)	21/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_19	–

PLAN OF CROSS–SECTION – DL1



KEY

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BB	Bottom of Bank
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WL	Water Line
IC	In Channel
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Applies to Arch, Culvert or Head Wall	
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P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
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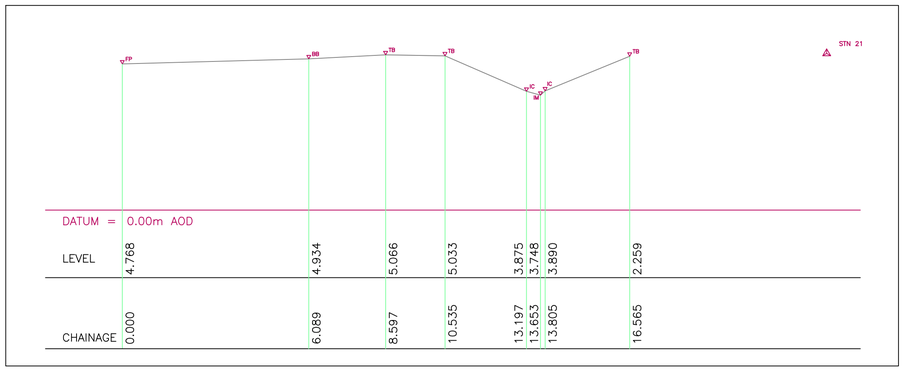
DL1 – CROSS–SECTION



Notes

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REVISION	DESCRIPTION	DATE

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

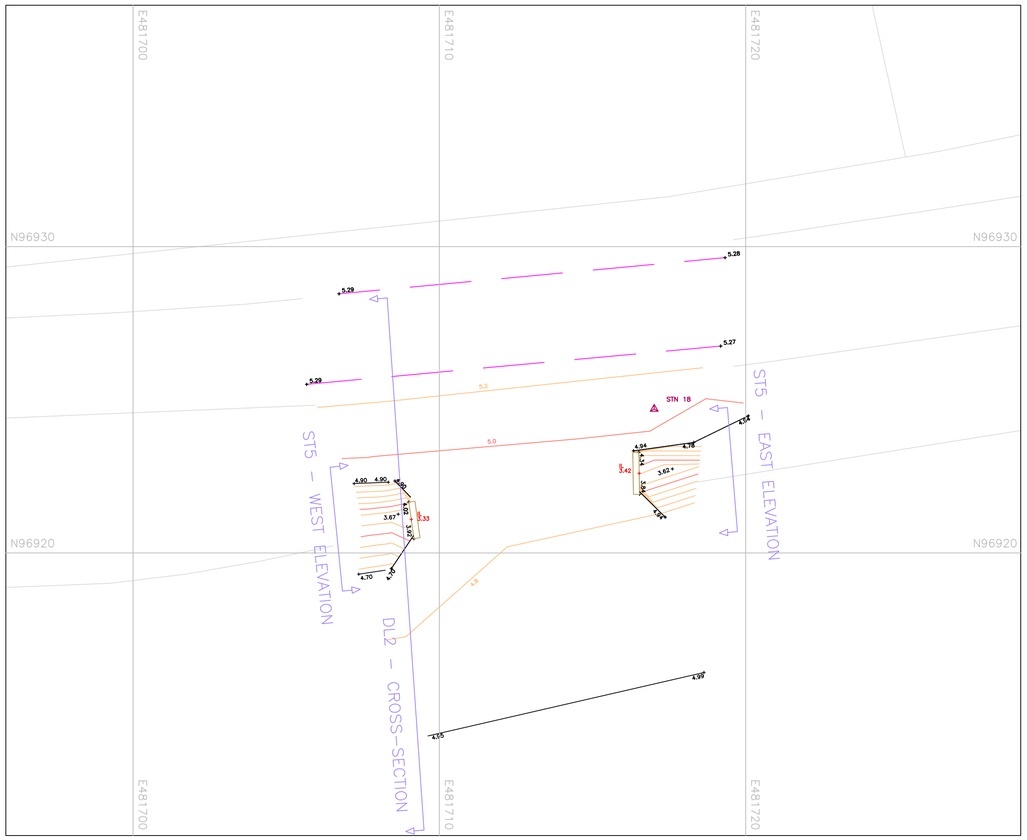
DRAWING

Survey of structures and cross–sections – DL–A

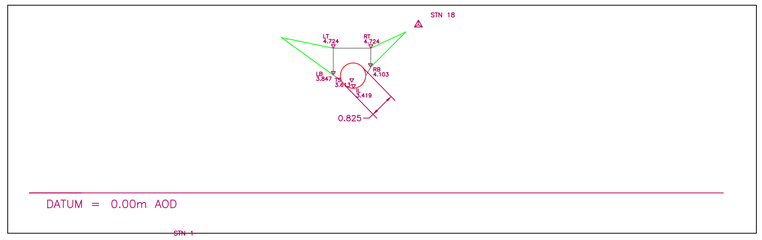
SCALE	DATE
1:100 (A1)	22/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_20	–

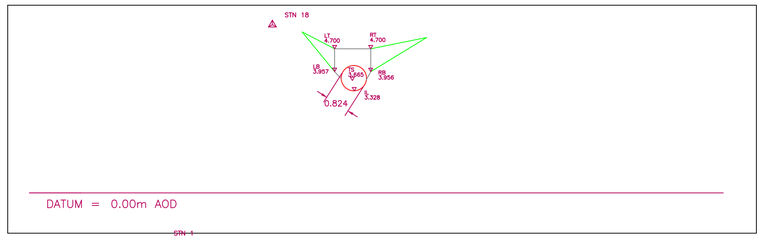
PLAN OF STRUCTURE ST5



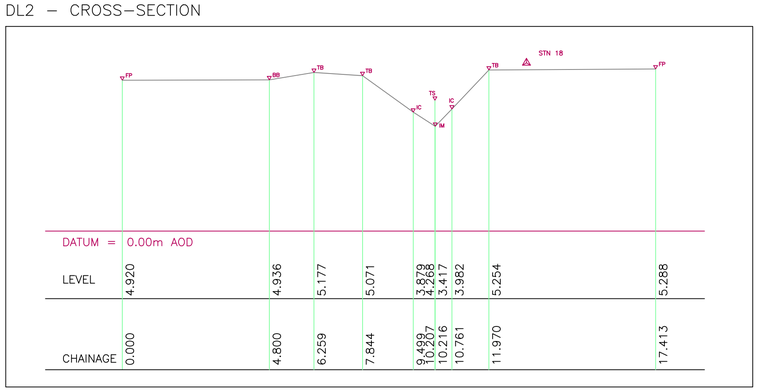
ST5 EAST ELEVATION



ST5 WEST ELEVATION



DL2 – 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
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GY	Gulley
IC	Inspection cover
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Notes

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

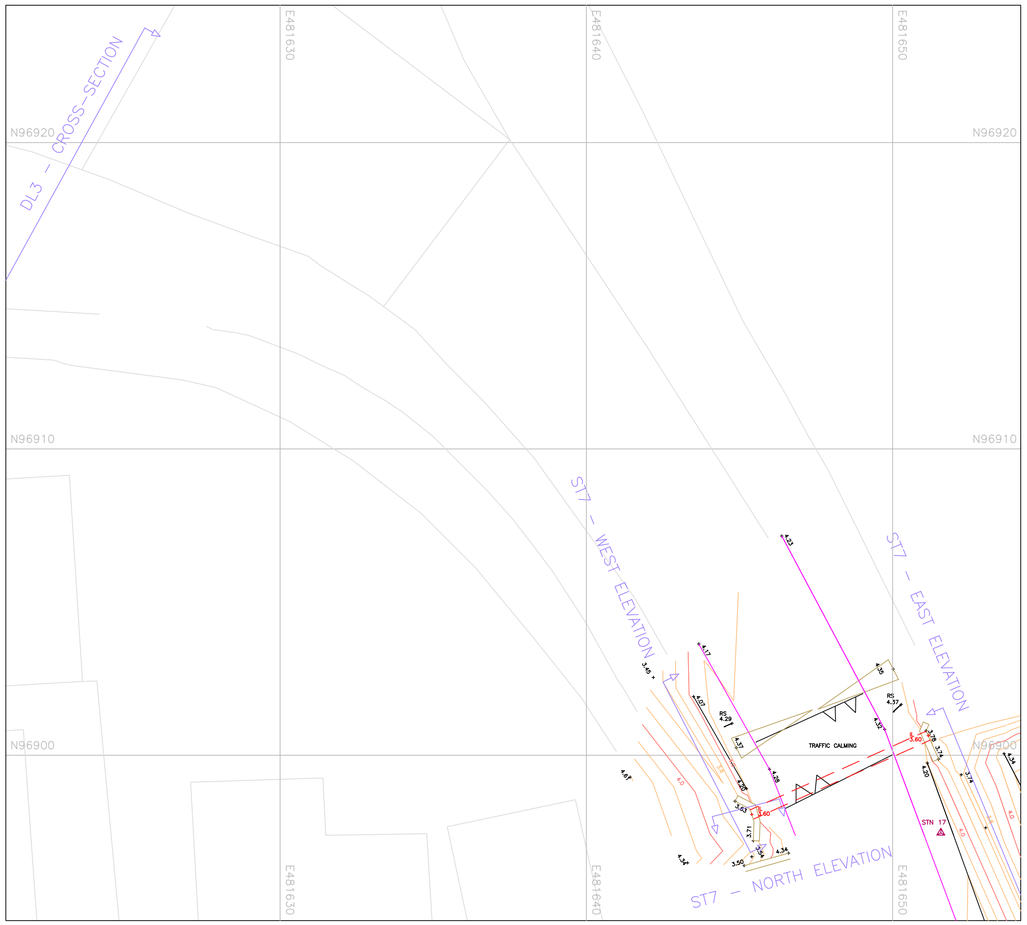
DRAWING

Survey of structures and cross–sections – DL–B

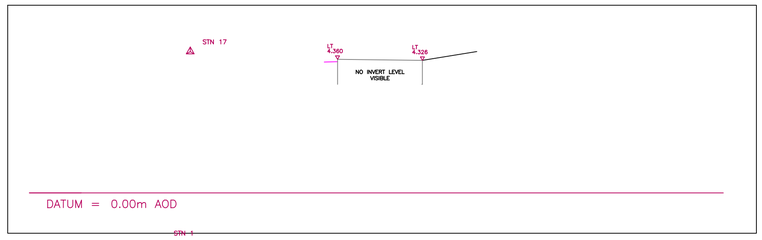
SCALE	DATE
1:100 (A1)	22/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_21	–

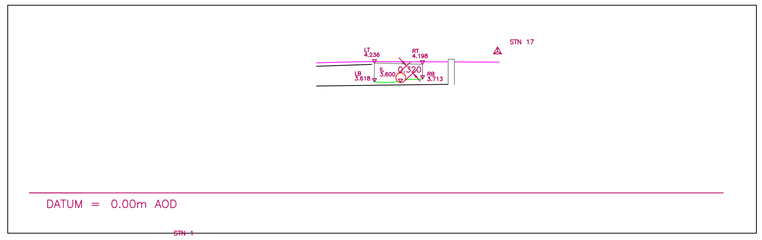
PLAN OF STRUCTURE ST7



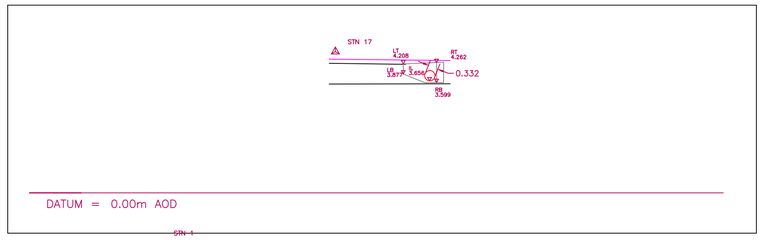
ST7 NORTH ELEVATION



ST7 WEST ELEVATION



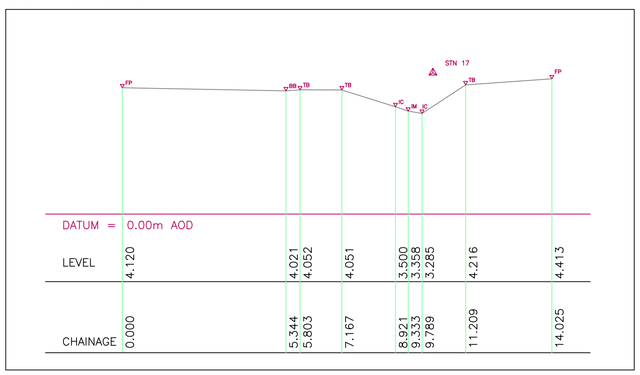
ST7 EAST ELEVATION



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



Notes

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

REVISION	DESCRIPTION	DATE

MERIDIAN
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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

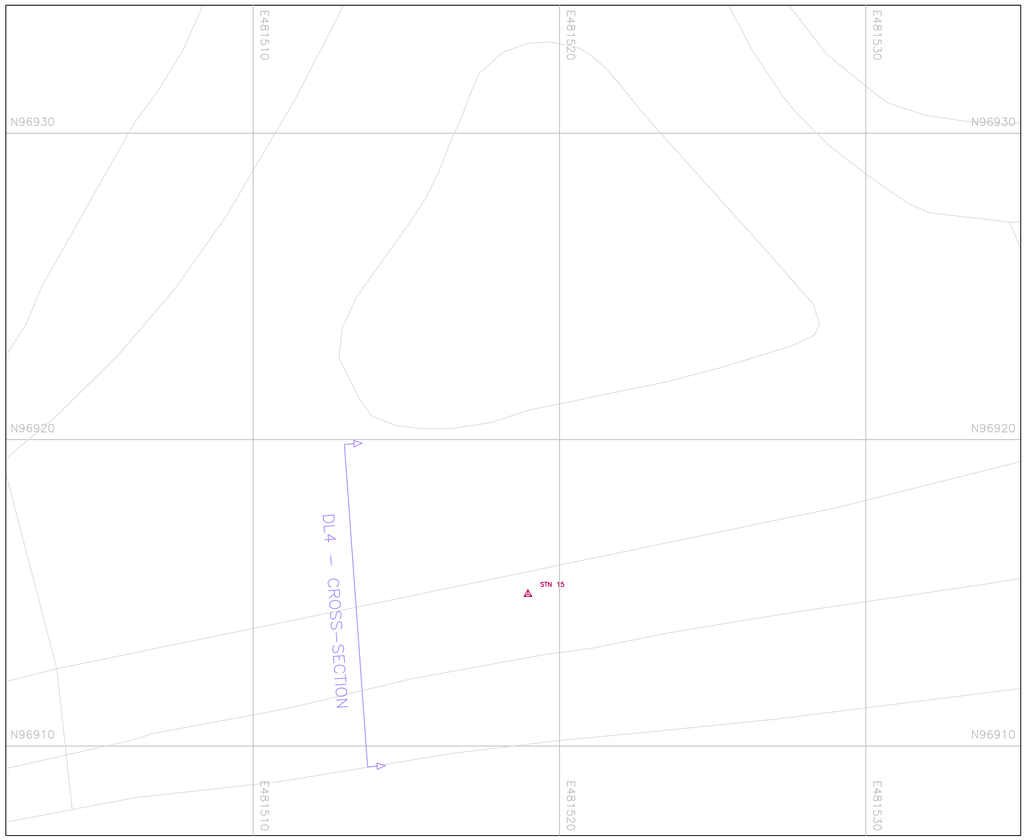
DRAWING

Survey of structures and cross–sections – DL–C

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

CLIENT NO.	JOB NO.	REVISION
00228	0411_22	–

PLAN OF ELEVATION – DL4



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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IL	Invert Level
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IC	Inspection cover
MH	Manhole
SMP	Service marker post
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WSV	Water stop valve
DK	Drop kerb
EP	Electricity pole
KB	Kerb
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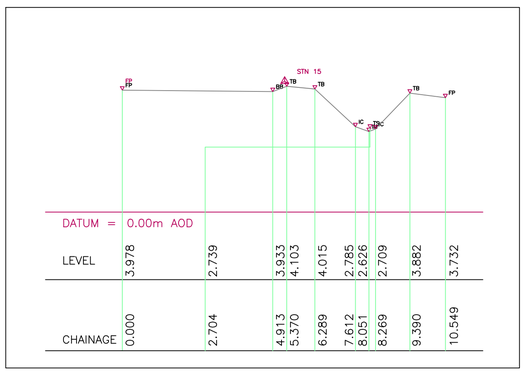
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL4 – CROSS–SECTION



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REVISION	DESCRIPTION	DATE

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

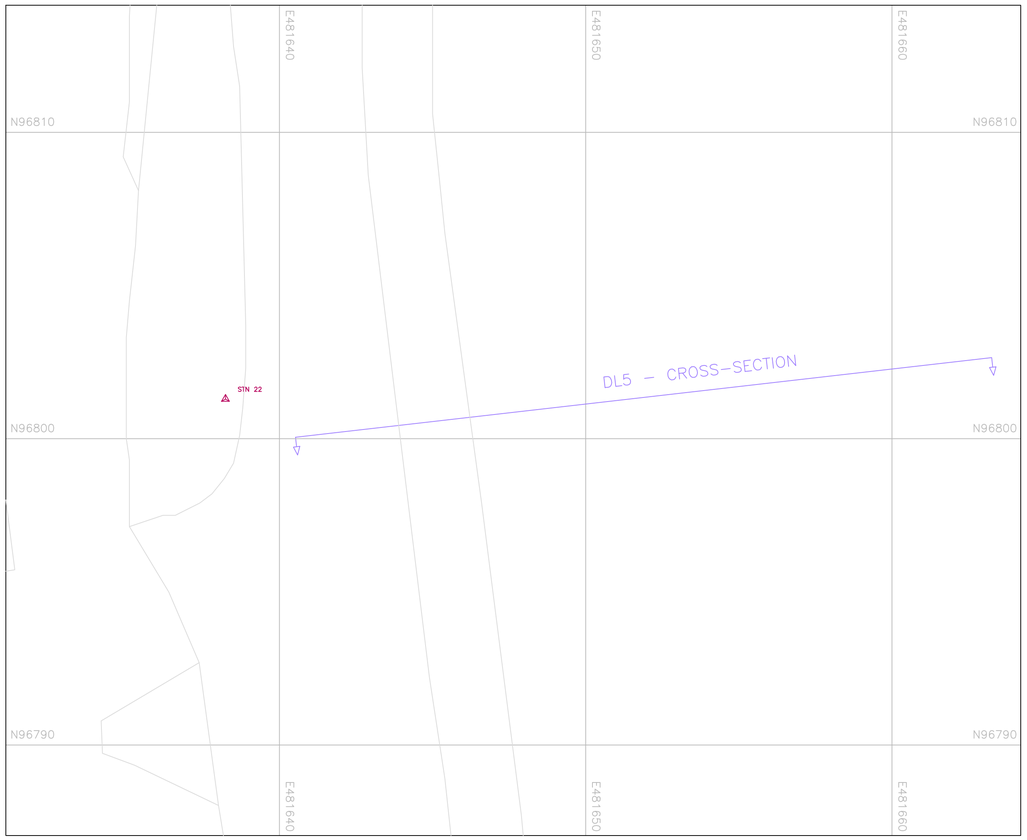
DRAWING

Survey of structures and cross–sections – DL–D

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

CLIENT NO.	JOB NO.	REVISION
00228	0411_23	–

PLAN OF CROSS–SECTION – DL5



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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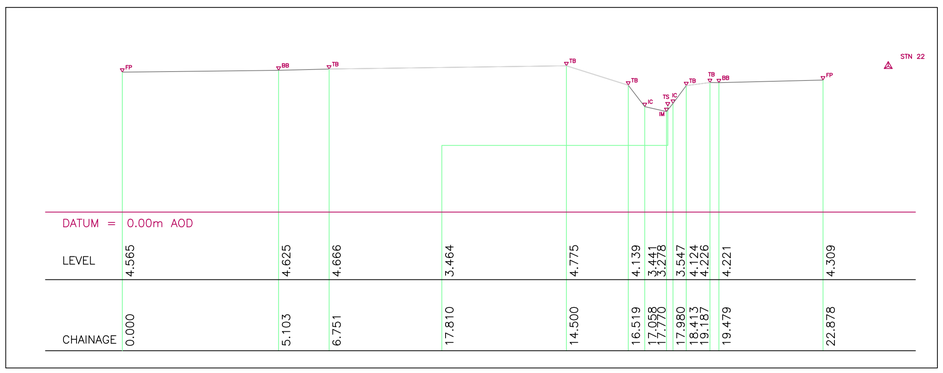
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL5 – CROSS–SECTION



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

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Earnley Watercourse, floodplain and structure fluvial modelling

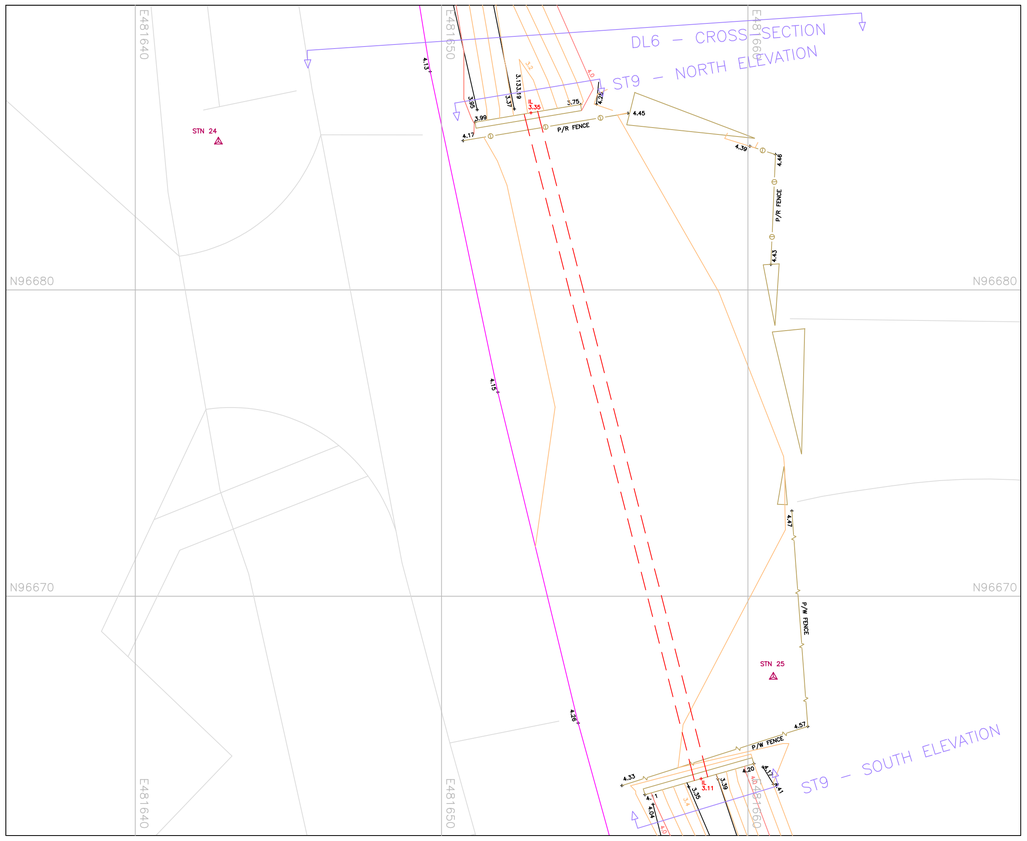
DRAWING

Survey of structures and cross–sections – DL–E

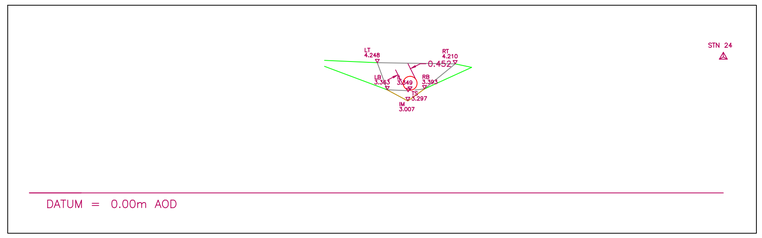
SCALE	DATE
1:100 (A1)	23/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_24	A

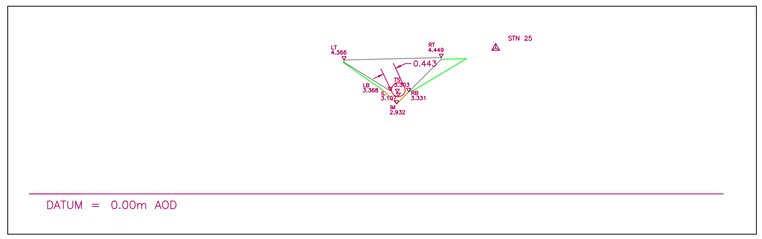
PLAN OF STRUCTURE – ST9



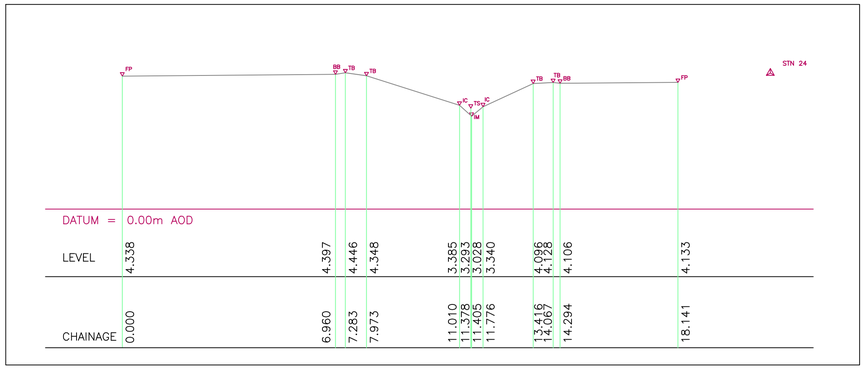
ST9 NORTH ELEVATION



ST9 SOUTH ELEVATION



DL6 – 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
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SMP	Service marker post
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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

Notes

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PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

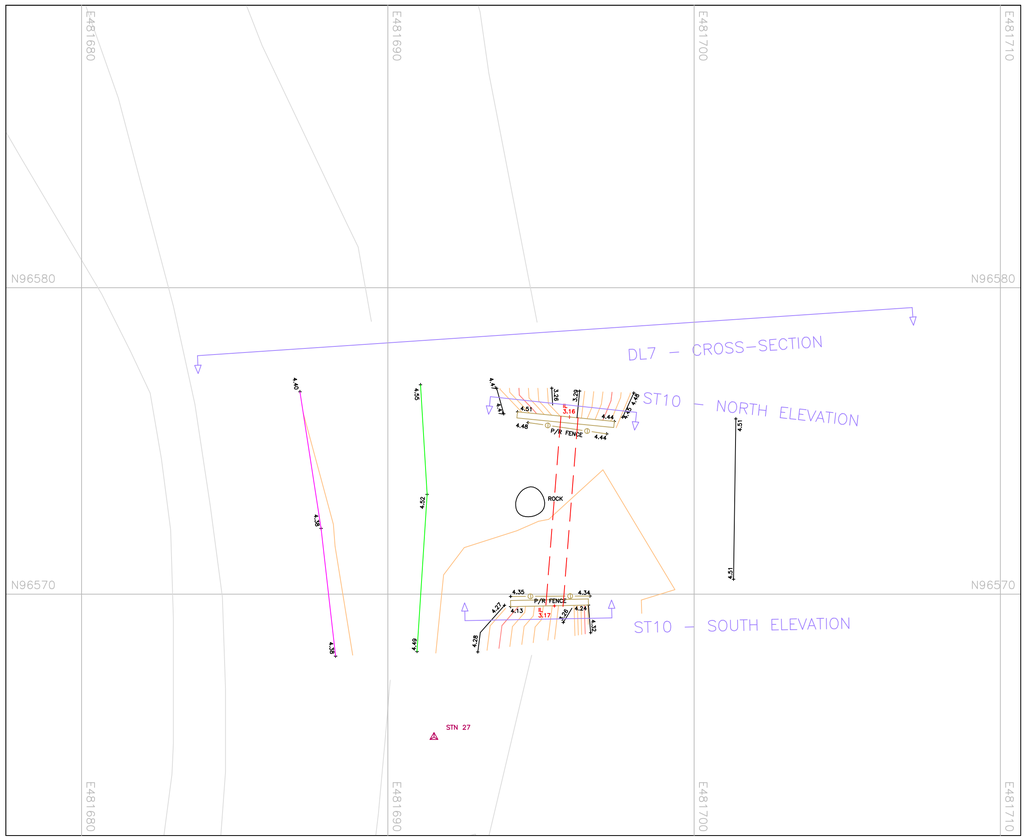
DRAWING

Survey of structures and cross–sections – DL–F

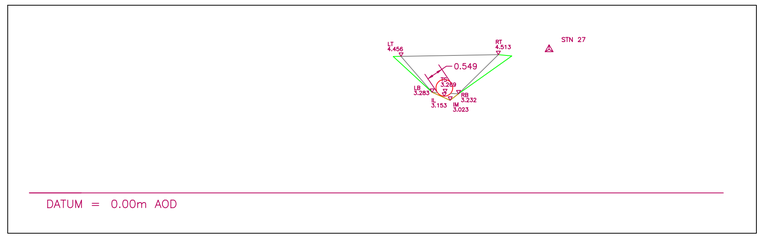
SCALE	DATE
1:100 (A1)	23/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_25	–

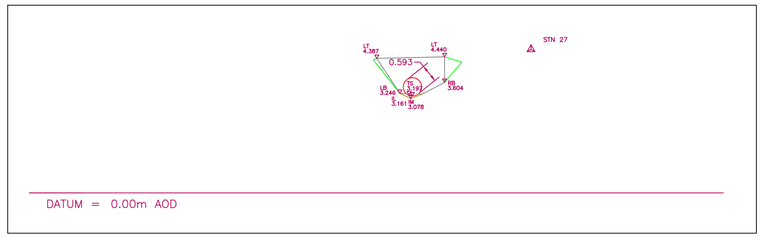
PLAN OF STRUCTURE – ST10



ST10 NORTH ELEVATION



ST10 SOUTH ELEVATION



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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WSV	Water stop valve
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KB	Kerb
OSBM	OS bench mark
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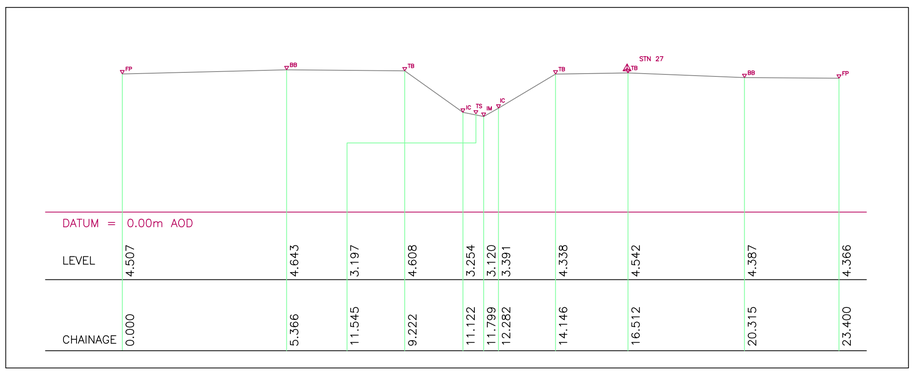
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL7 – CROSS–SECTION



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

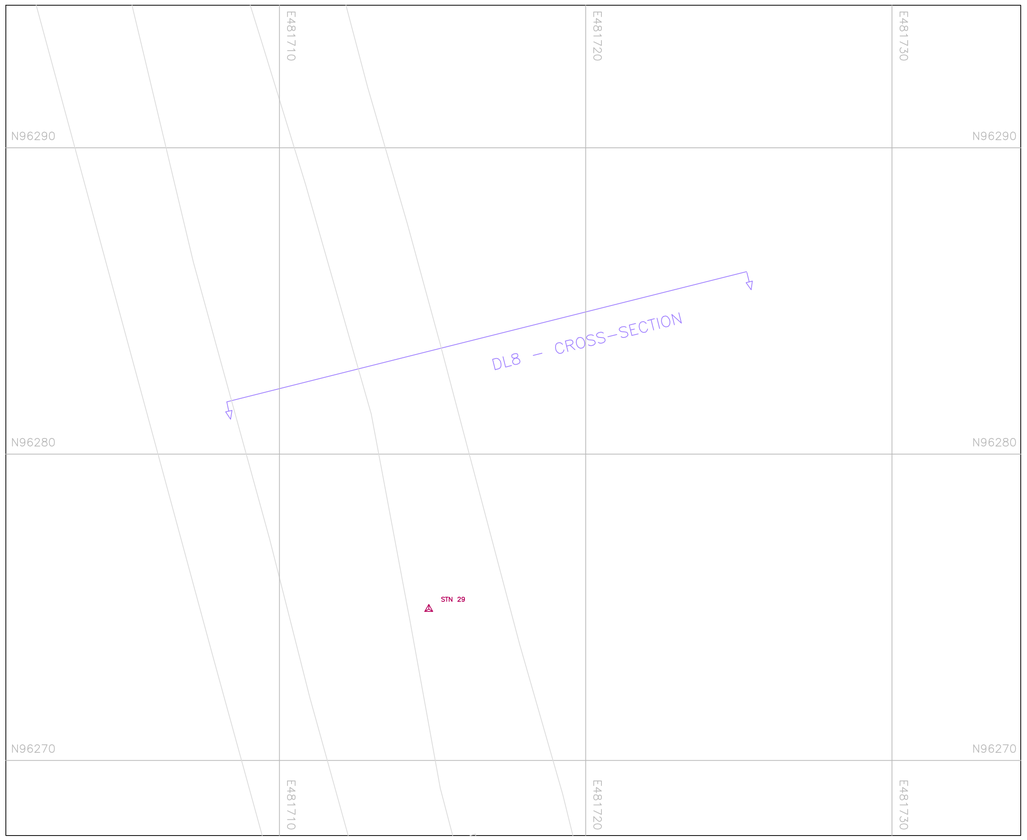
DRAWING

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



KEY

FP	Flood Plain
BB	Bottom of Bank
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P/W	Post and wire fence
W/M	Wire mesh fence
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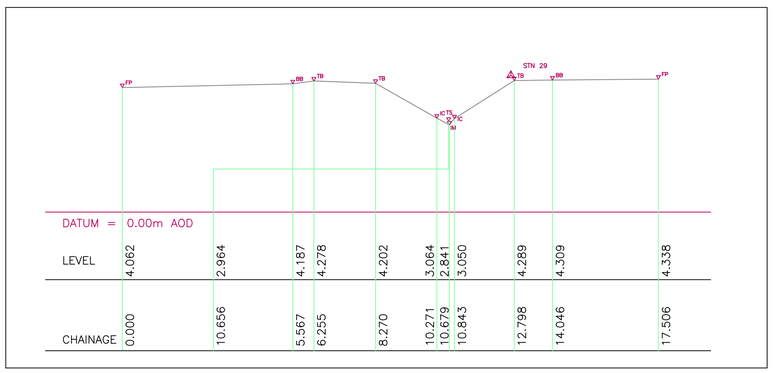
DL8 – CROSS–SECTION



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PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

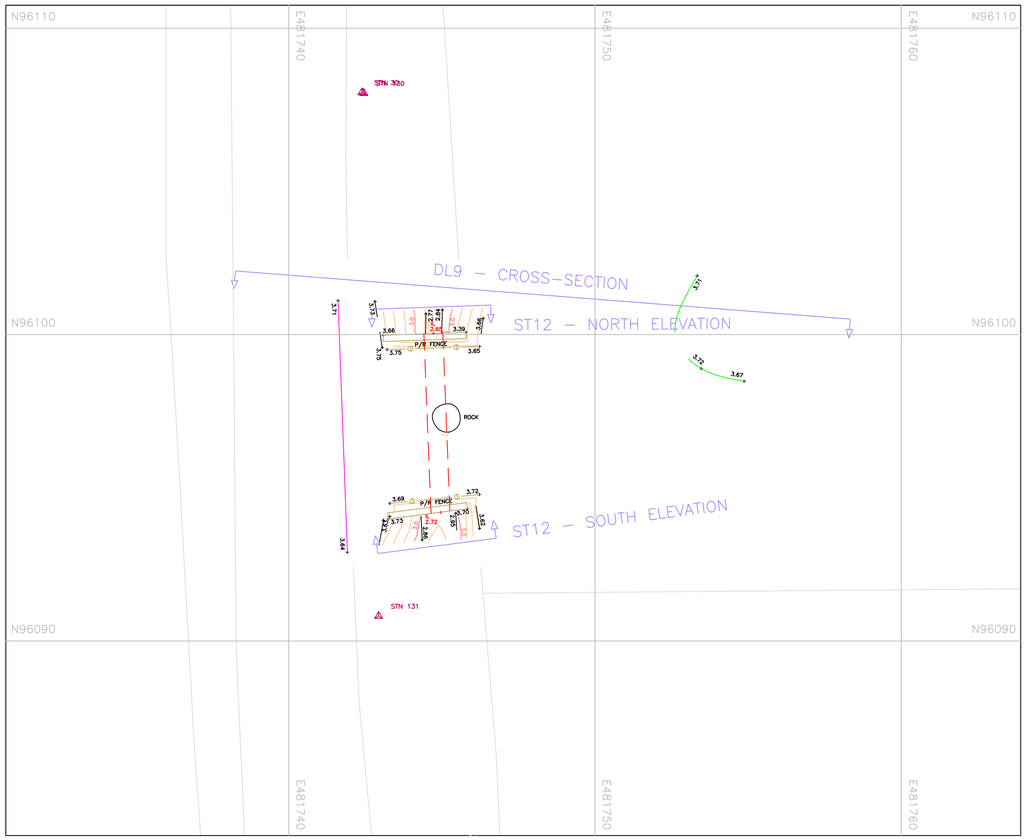
DRAWING

Survey of structures and cross–sections – DL–H

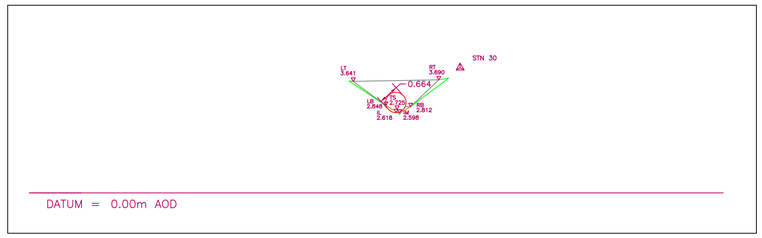
SCALE	DATE
1:100 (A1)	24/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_27	–

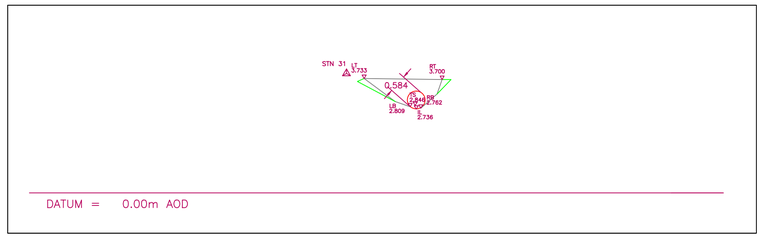
PLAN OF STRUCTURE – ST12



ST12 – NORTH ELEVATION



ST12 – SOUTH ELEVATION



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Notes

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KEY

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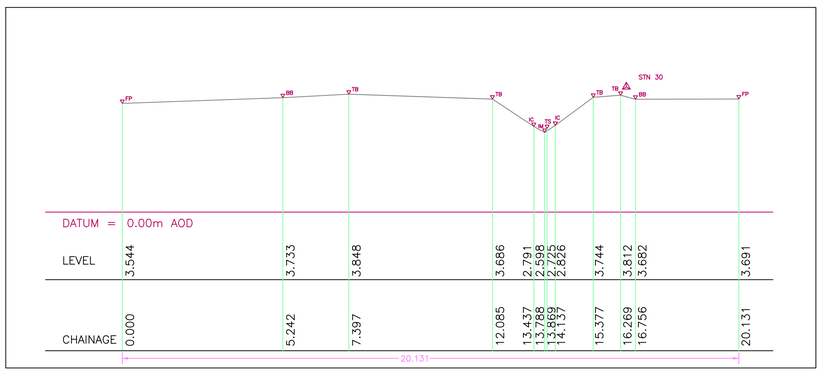
DL9 – CROSS–SECTION



REVISION	DESCRIPTION	DATE

MERIDIAN
Land surveying and design

WEST HORSLEY PLACE
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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

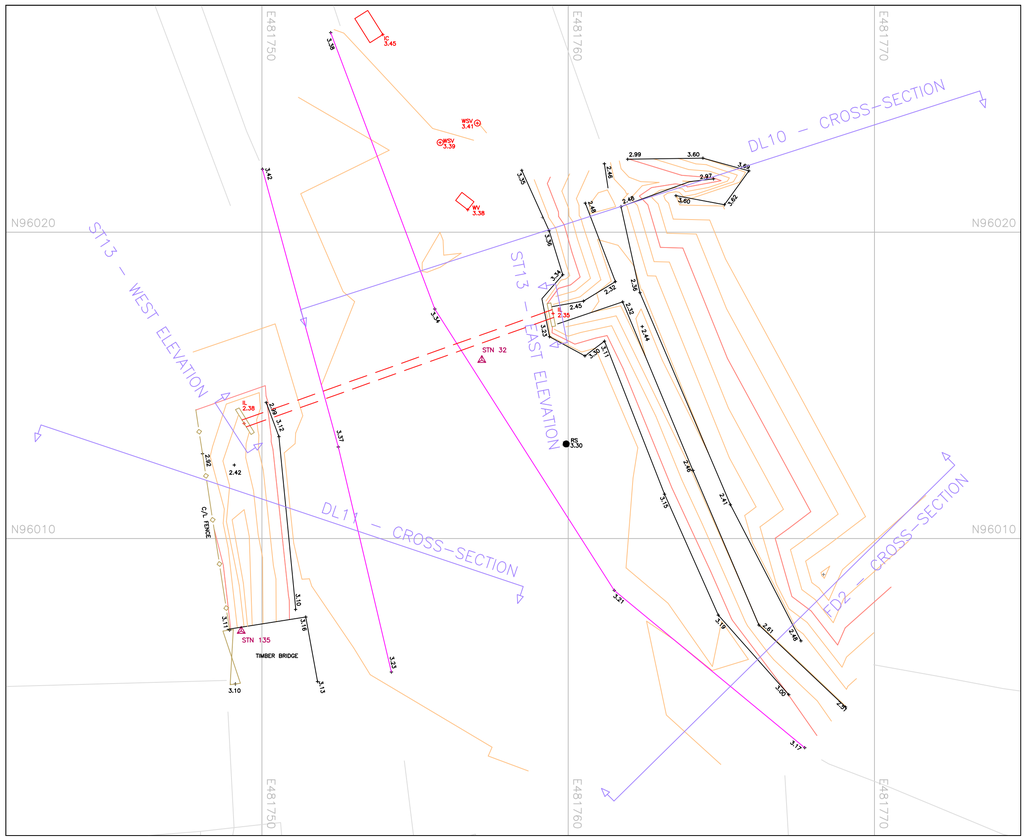
DRAWING

Survey of structures and cross–sections – DL–I

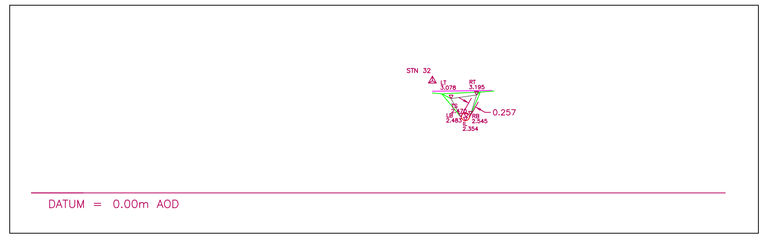
SCALE	DATE
1:100 (A1)	24/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_28	–

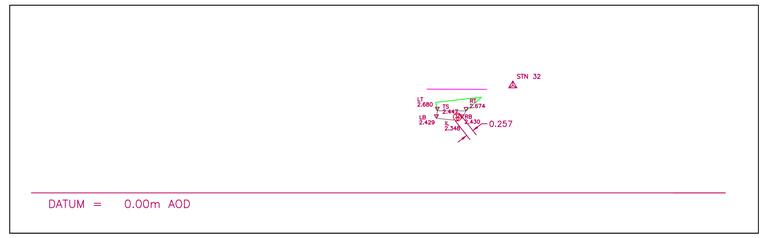
PLAN OF STRUCTURE – ST13



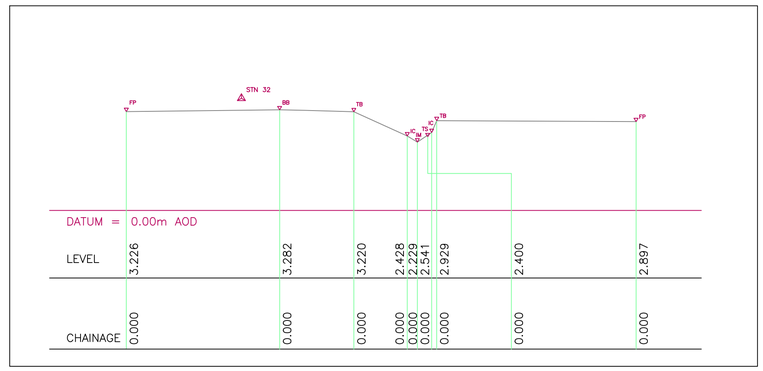
ST13 – EAST ELEVATION



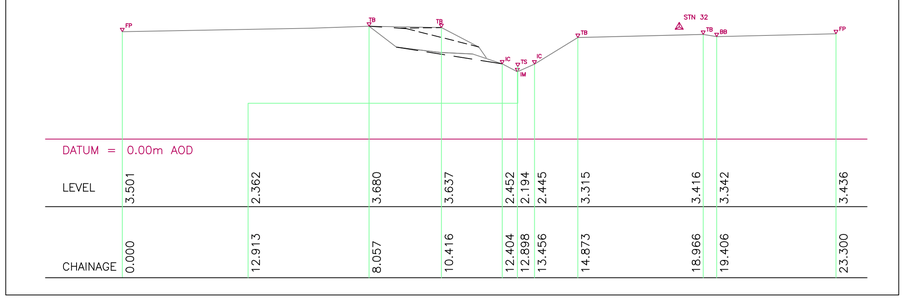
ST13 – WEST ELEVATION



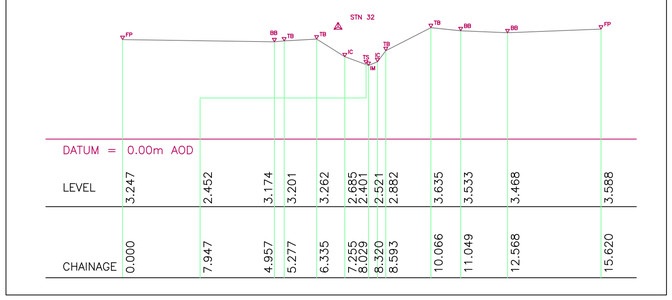
DL11 – CROSS–SECTION



DL10 – CROSS–SECTION



FD2 – CROSS–SECTION



KEY

FP	Flood Plain
BB	Bottom of Bank
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WL	Water Line
IC	In Channel
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	Applies to Arch, Culvert or Head Wall
SL	Soffit Level
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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

Notes

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

REVISION	DESCRIPTION	DATE

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

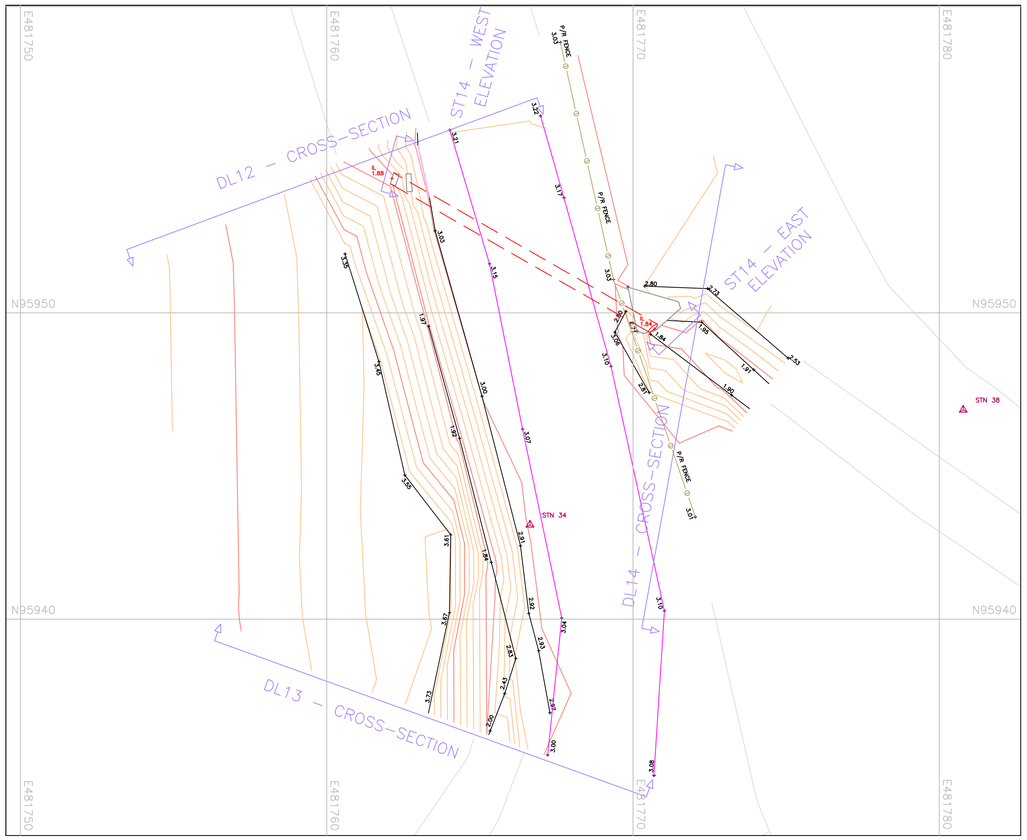
DRAWING

Survey of structures and cross–sections – DL–J

SCALE	DATE
1:100 (A1)	24/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_29	–

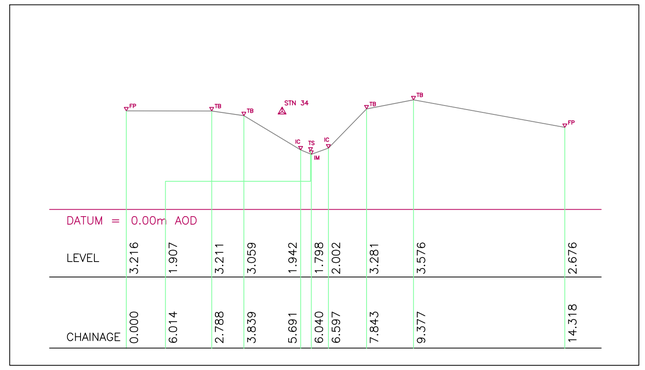
PLAN OF STRUCTURE – ST14



ST14 – WEST ELEVATION

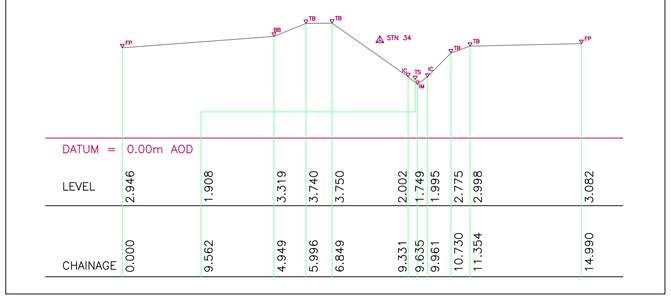
ST14 – EAST ELEVATION

DL12 – CROSS–SECTION



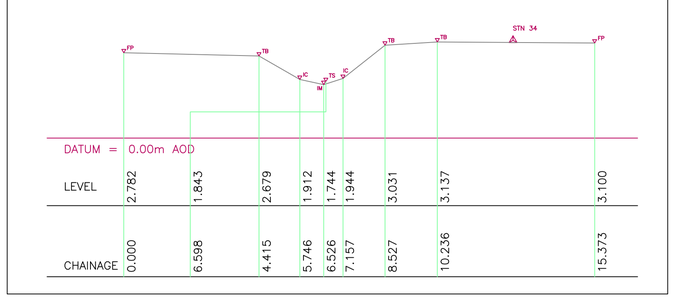
LEVEL	3.216	1.907	3.211	3.059	1.942	1.798	2.002	3.281	3.576	2.676
CHAINAGE	0.000	6.014	2.788	3.839	5.691	6.040	6.597	7.843	9.377	14.318

DL13 – CROSS–SECTION



LEVEL	2.946	1.908	3.319	3.740	3.750	2.002	1.749	1.995	2.775	2.998	3.082
CHAINAGE	0.000	9.562	4.949	5.996	6.849	9.331	9.635	9.961	10.730	11.354	14.990

DL14 – CROSS–SECTION



LEVEL	2.782	1.843	2.679	1.912	1.744	1.944	3.031	3.137	3.100
CHAINAGE	0.000	6.598	4.415	5.746	6.526	7.157	8.527	10.236	15.373

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

Notes

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REVISION	DESCRIPTION	DATE

MERIDIAN
Land surveying and design

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

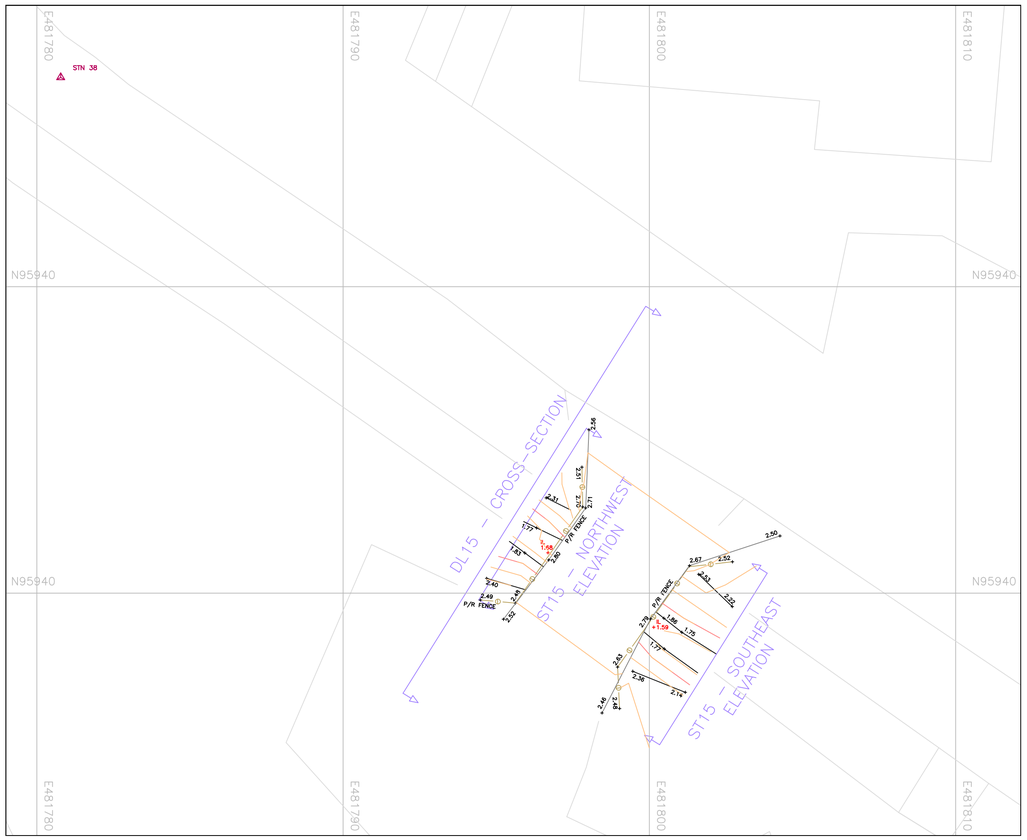
DRAWING

Survey of structures and cross–sections – DL–K

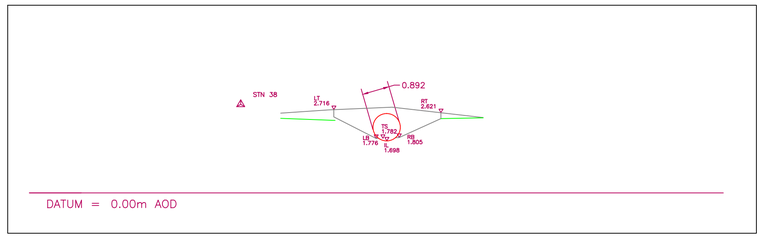
SCALE	DATE
1:100 (A1)	25/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_30	–

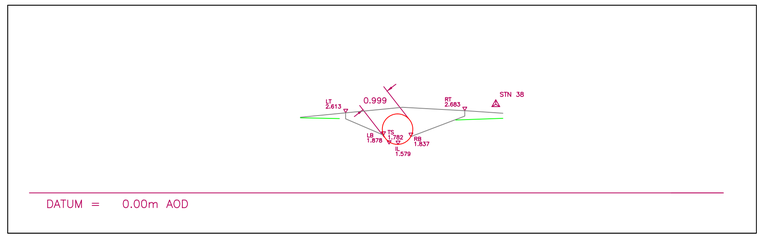
PLAN OF STRUCTURE – ST15



ST15 – NORTHWEST ELEVATION



ST15 – SOUTHEAST ELEVATION



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/P	Chestnut paling fence
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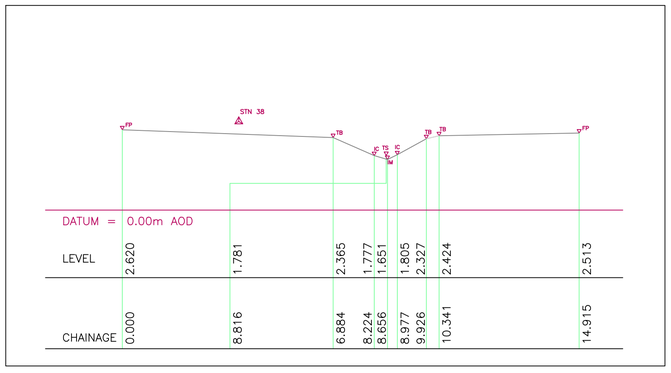
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL15 – CROSS–SECTION



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

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

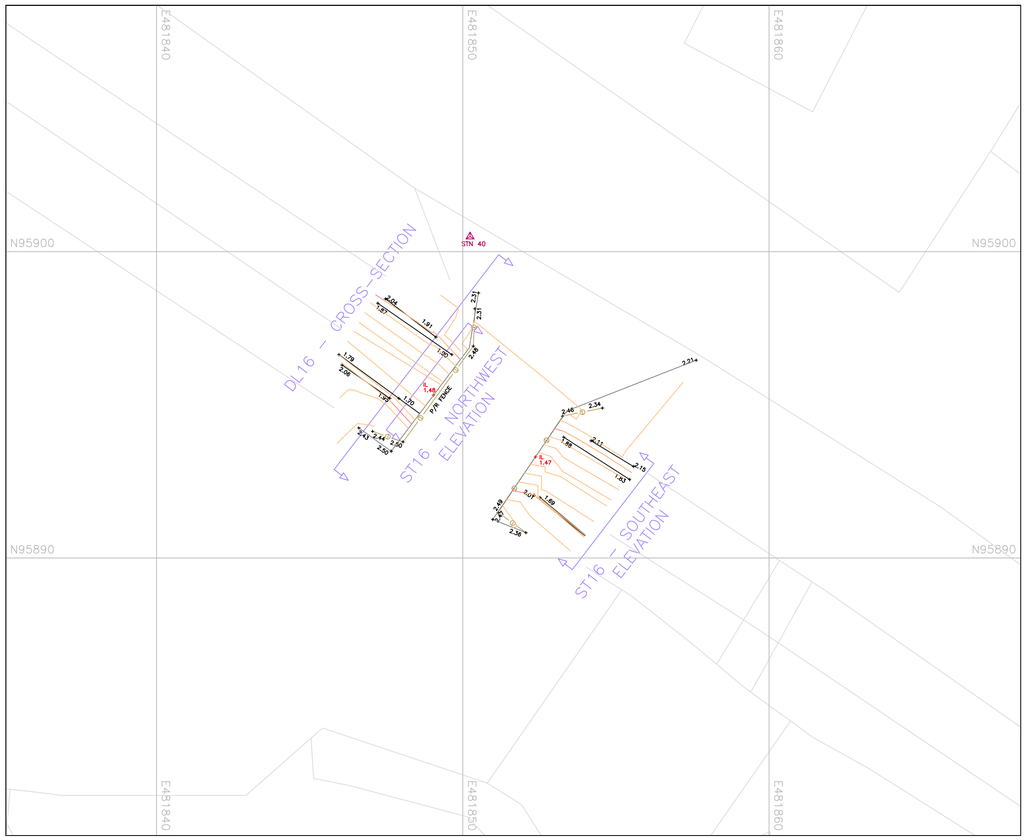
DRAWING

Survey of structures and cross–sections – DL–L

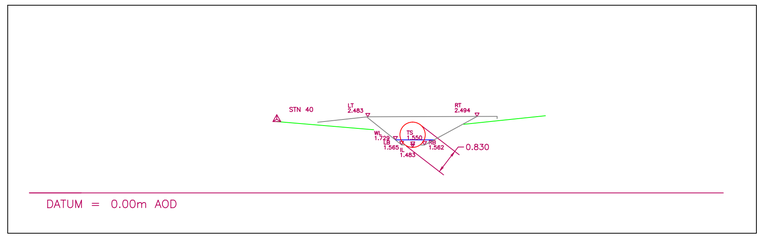
SCALE	DATE
1:100 (A1)	25/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_31	A

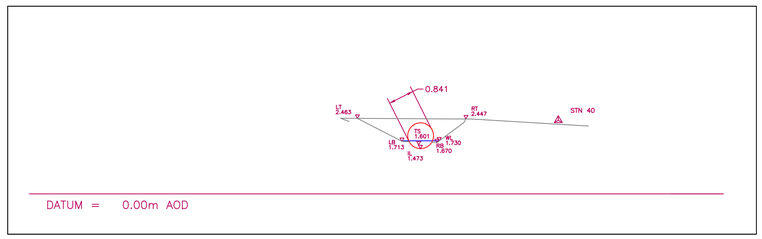
PLAN OF STRUCTURE – ST16



ST16 – NORTHWEST ELEVATION



ST16 – SOUTHEAST ELEVATION



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
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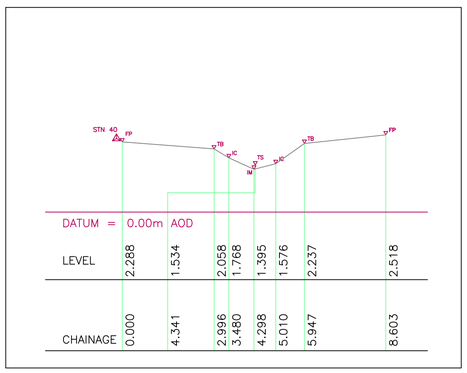
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL16 – CROSS–SECTION



CHAINAGE	0.000	4.341	2.996	3.480	4.298	5.010	5.947	8.603
LEVEL	2.288	1.534	2.058	1.768	1.395	1.576	2.237	2.518

MERIDIAN
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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

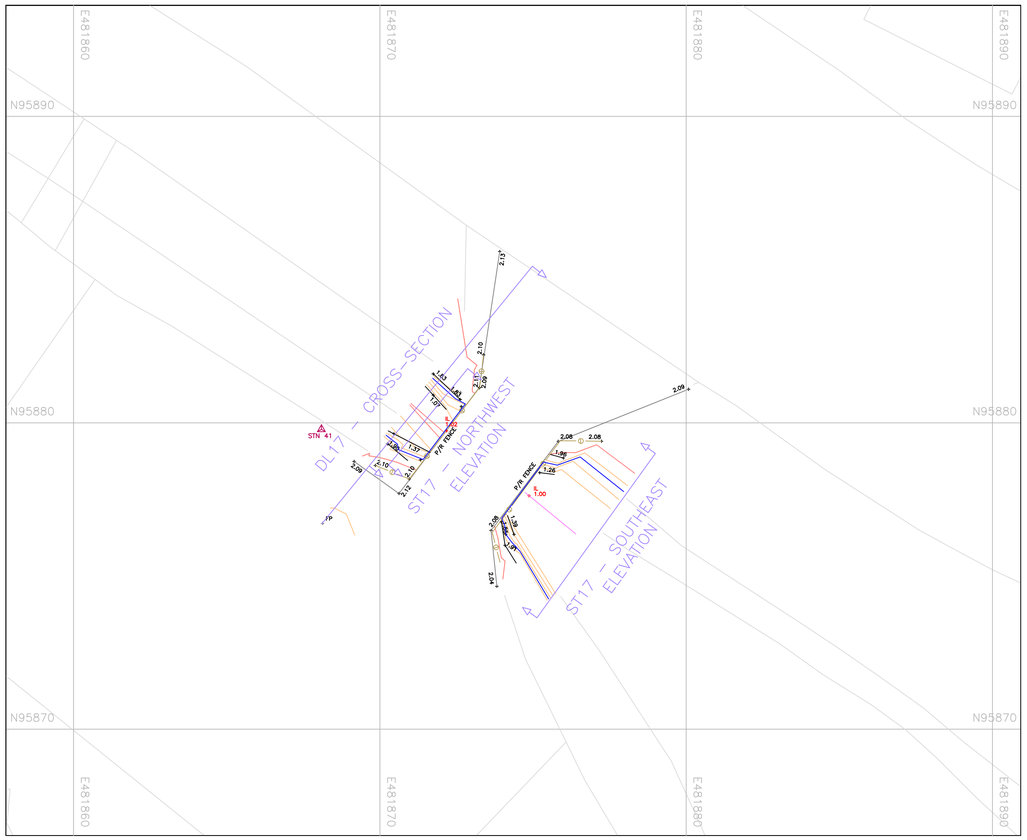
DRAWING

Survey of structures and cross–sections – DL–M

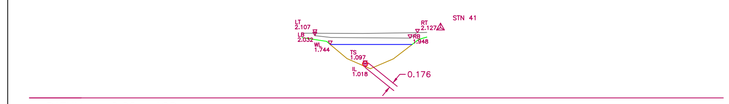
SCALE	DATE
1:100 (A1)	25/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_32	A

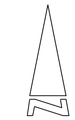
PLAN OF STRUCTURE – ST17



ST17 – NORTHWEST ELEVATION



ST17 – SOUTHEAST ELEVATION



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Notes

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REVISION	DESCRIPTION	DATE

KEY

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BB	Bottom of Bank
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RTW	Retaining wall
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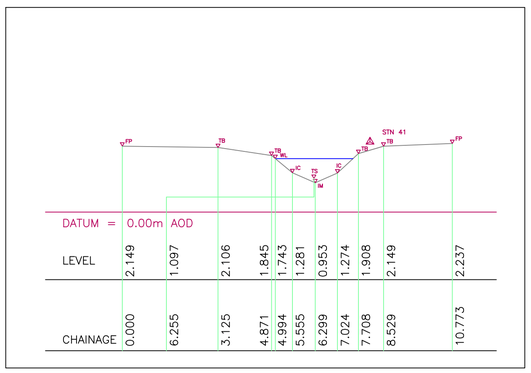
DL17 – CROSS–SECTION



LEVEL	2.149	1.097	2.106	1.845	1.743	1.281	0.953	1.274	1.908	2.149	2.237
CHAINAGE	0.000	6.255	3.125	4.871	4.994	5.555	6.299	7.024	7.708	8.529	10.773

MERIDIAN
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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

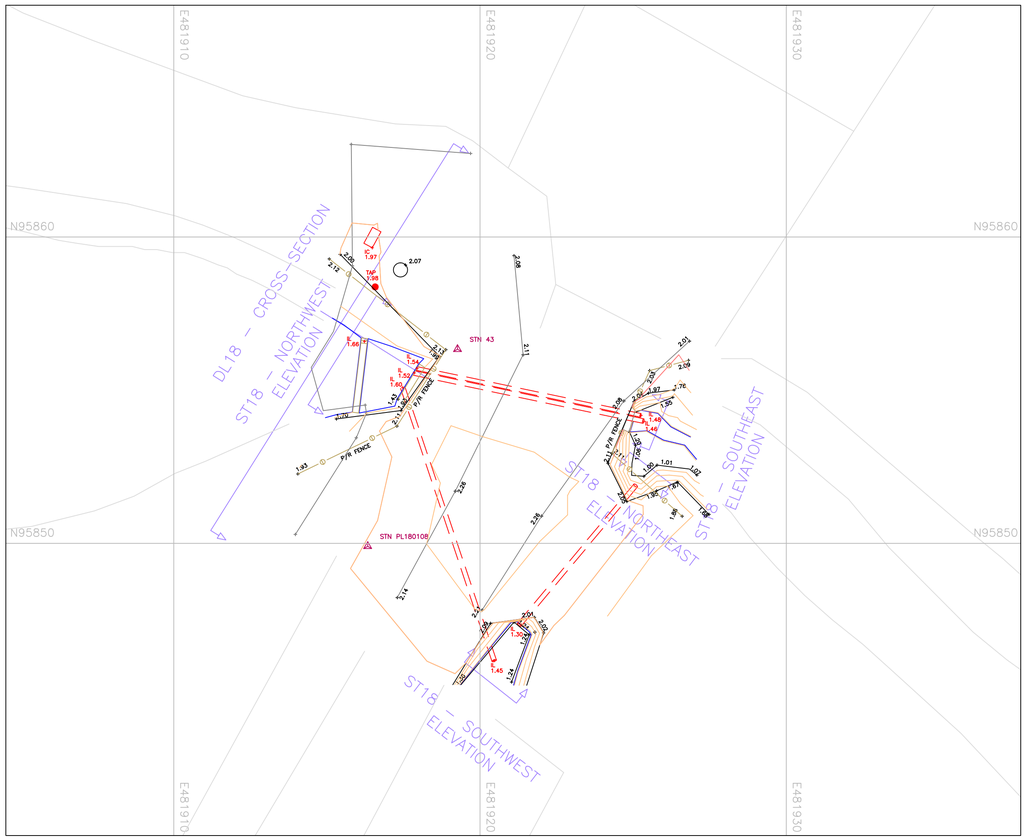
DRAWING

Survey of structures and cross–sections – DL–N

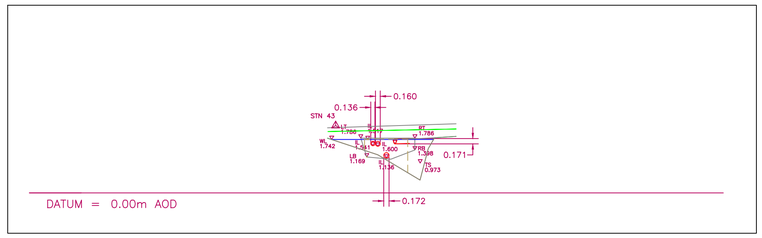
SCALE	DATE
1:100 (A1)	25/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_33	–

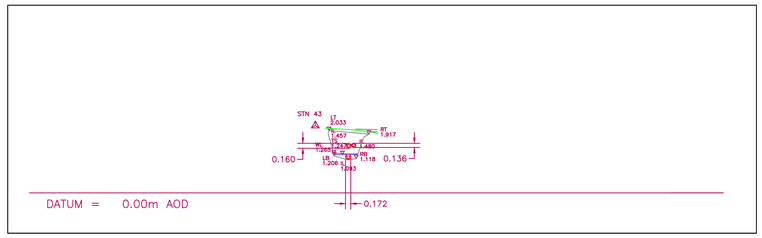
PLAN OF STRUCTURE – ST18



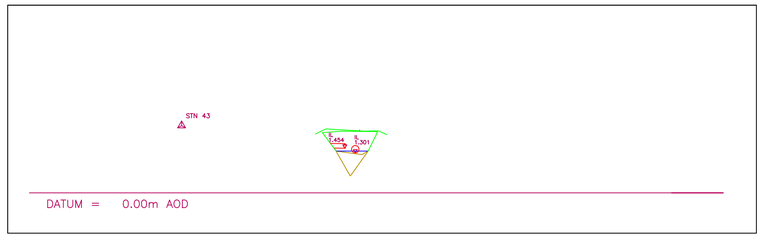
ST18 – NORTHWEST ELEVATION



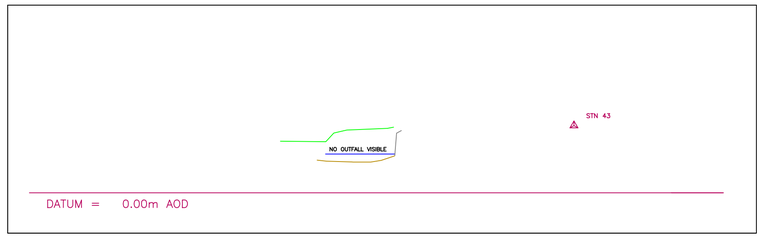
ST18 – SOUTHEAST ELEVATION



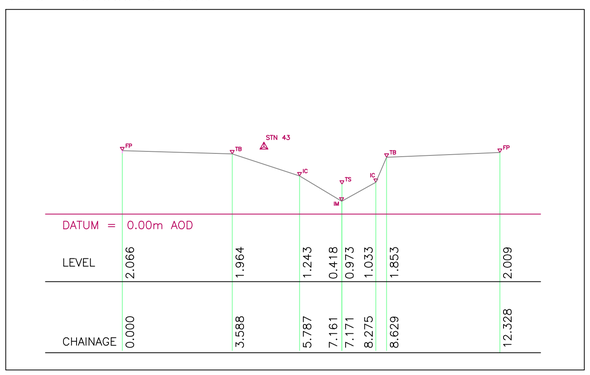
ST18 – SOUTHWEST ELEVATION



ST18 – NORTHEAST ELEVATION



DL18 – CROSS–SECTION



KEY

FP	Flood Plain
BB	Bottom of Bank
TB	Top of Bank
WL	Water Line
IC	In Channel
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RTW	Retaining wall
SSF	Steel security fence

Notes

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

REVISION	DESCRIPTION	DATE
A	AMEND DATUM	5/7/19

MERIDIAN
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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

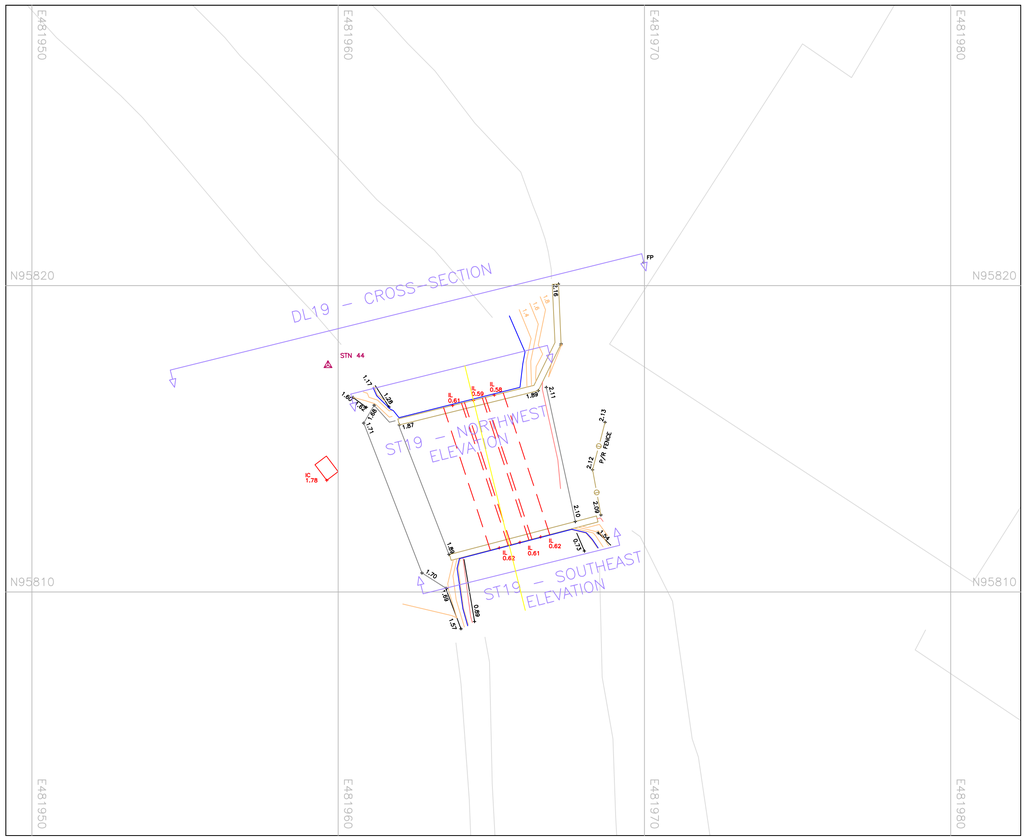
DRAWING

Survey of structures and cross–sections – DL–0

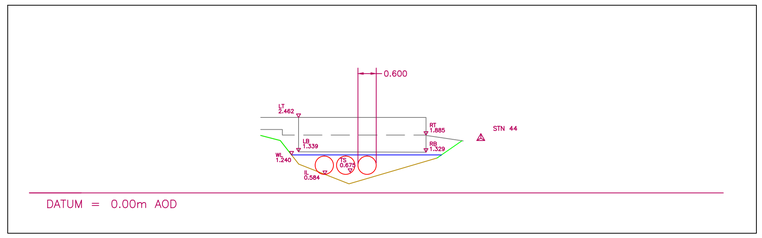
SCALE	DATE
1:100 (A1)	25/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_34	A

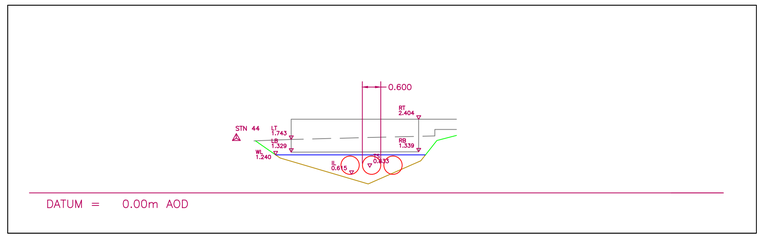
PLAN OF STRUCTURE – ST19



ST19 – NORTHWEST ELEVATION



ST19 – SOUTHEAST ELEVATION



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Notes

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

KEY

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I/R	Iron railing
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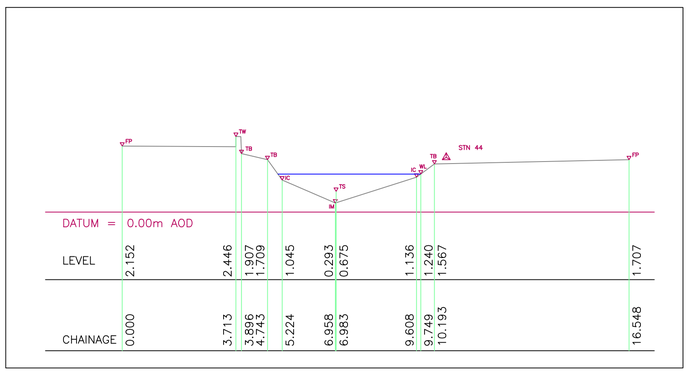
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL19 – CROSS–SECTION



LEVEL	2.152	2.446	1.907	1.709	1.045	0.293	0.675	1.136	1.240	1.567	1.707
CHAINAGE	0.000	3.713	3.896	4.743	5.224	6.958	6.983	9.608	9.749	10.193	16.548

REVISION	DESCRIPTION	DATE

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

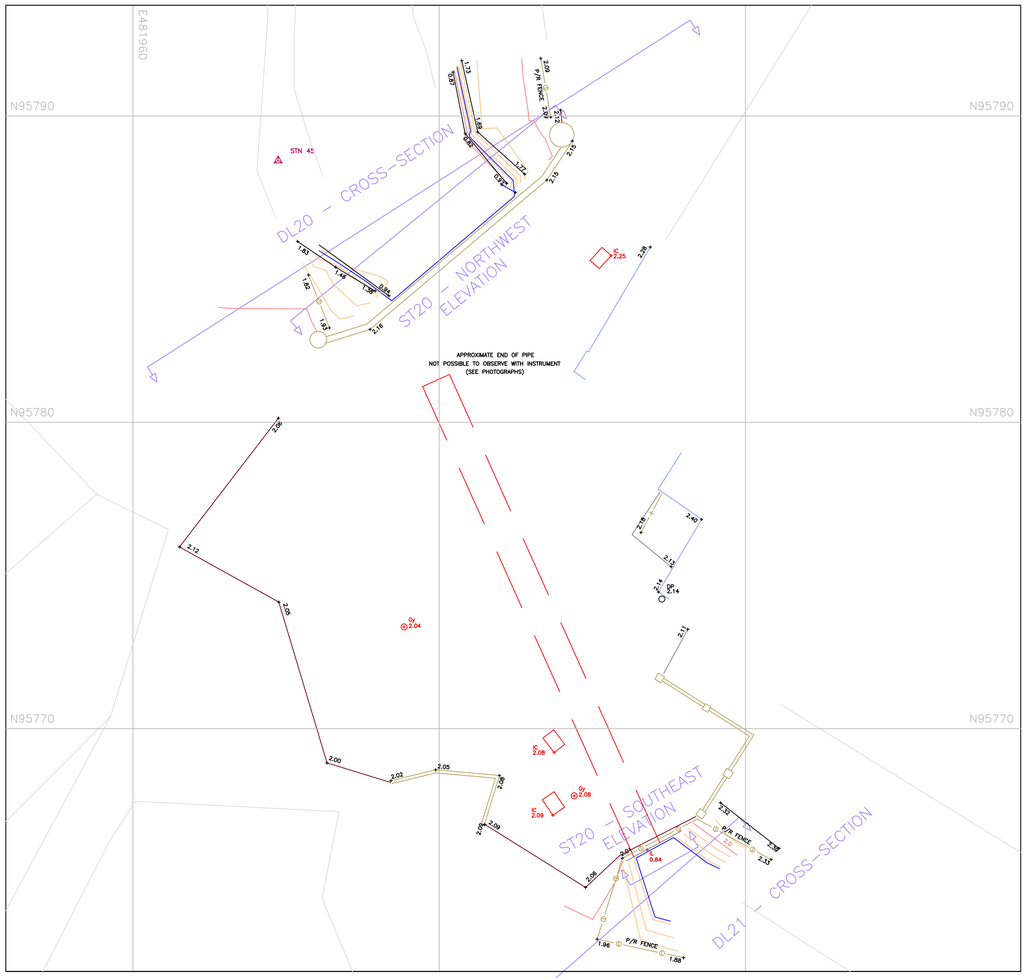
DRAWING

Survey of structures and cross–sections – DL–P

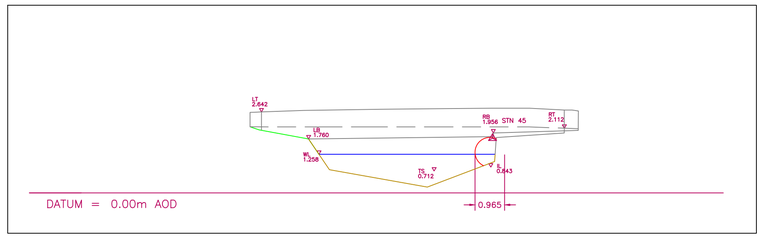
SCALE	DATE
1:100 (A1)	26/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_35	–

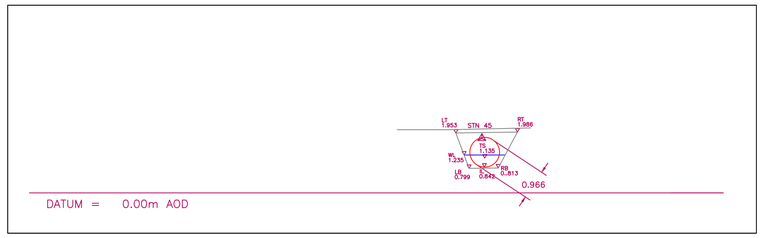
PLAN OF STRUCTURE – ST20



ST20 – NORTHWEST ELEVATION



ST20 – SOUTHEAST ELEVATION



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Notes

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

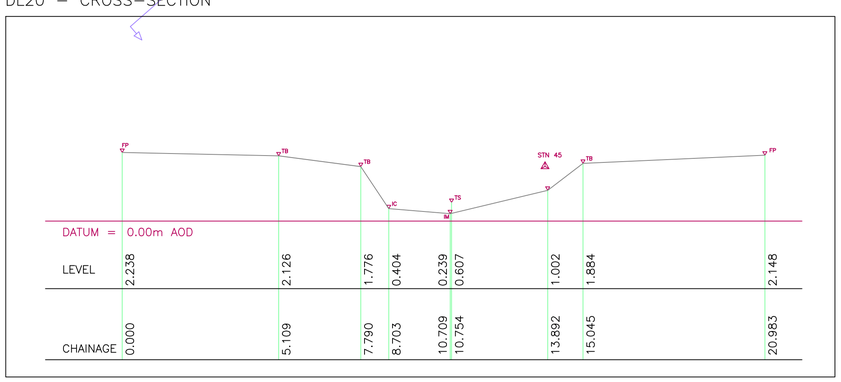
CHECK XYZ FILE AGAINST DL21 CROSS–SECTION

ID Number	Code	Eastings	Northings	Height	Check
DL210000	YYFP	481,969.9654	95,757.8323	2.0836	✓
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	✓

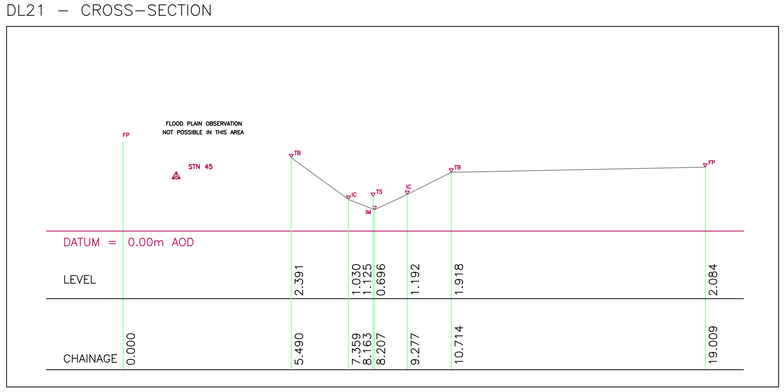
KEY

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



DL21 – CROSS–SECTION



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

MERIDIAN
Land surveying and design

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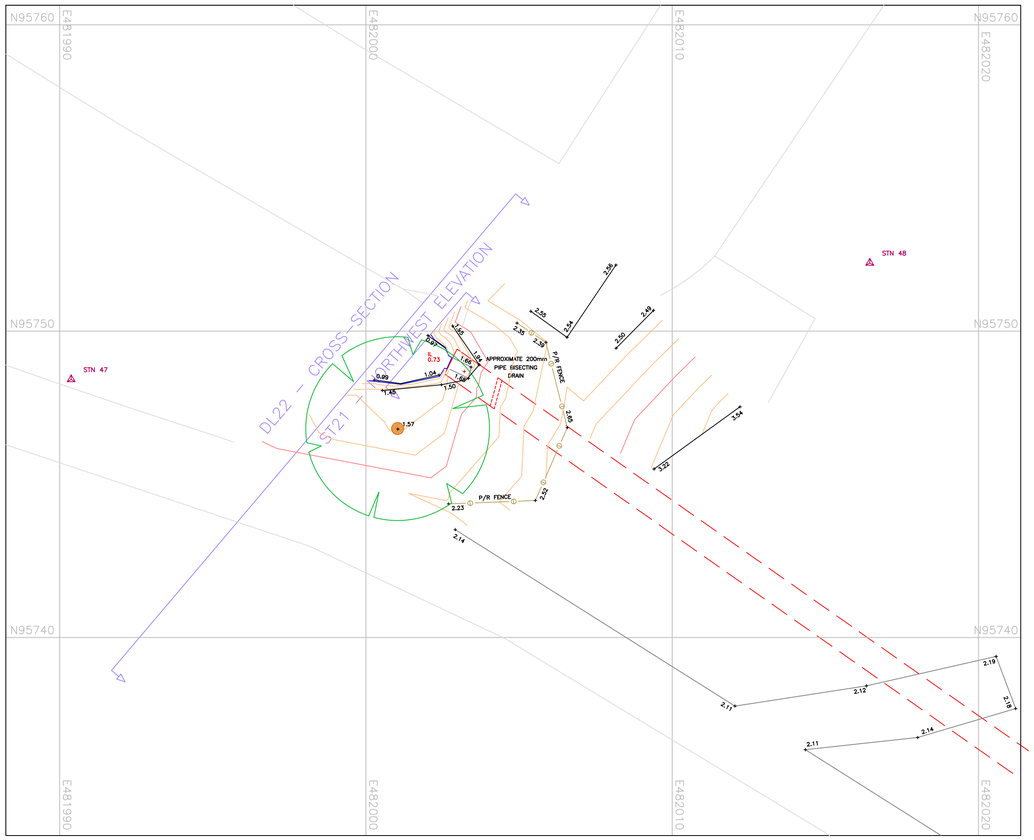
EPSOM ROAD, WEST HORSLEY KT24 6AW
Tel: 07948 603936 – Email: peter@meridiansurvey.co.uk

CUSTOMER
Manhire LLP
PROJECT
Earnley Watercourse, floodplain and structure fluvial modelling
DRAWING
Survey of structures and cross–sections – DL–Q

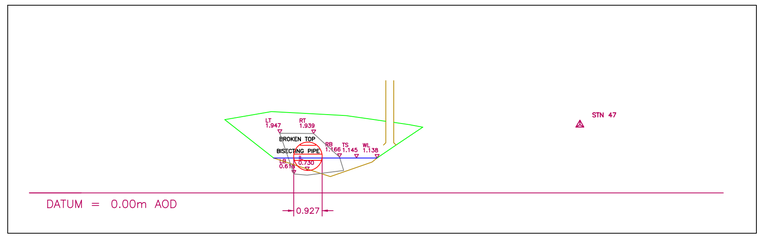
SCALE	DATE
1:100 (A1)	26/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_36	A

PLAN OF STRUCTURE – ST21



ST21 – NORTHWEST ELEVATION



Notes

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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
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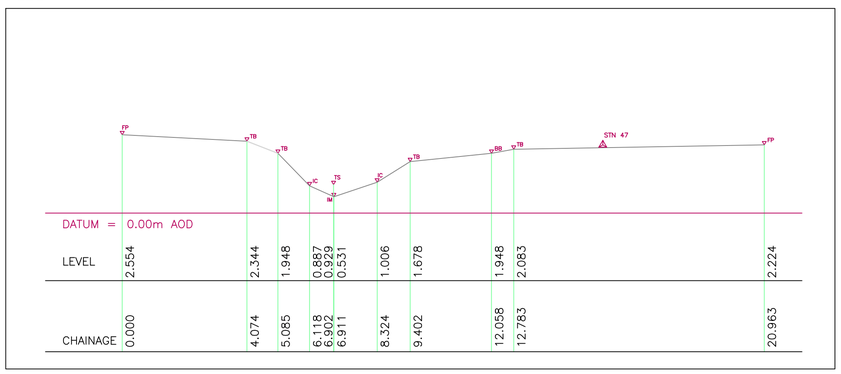
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL22 – CROSS–SECTION



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

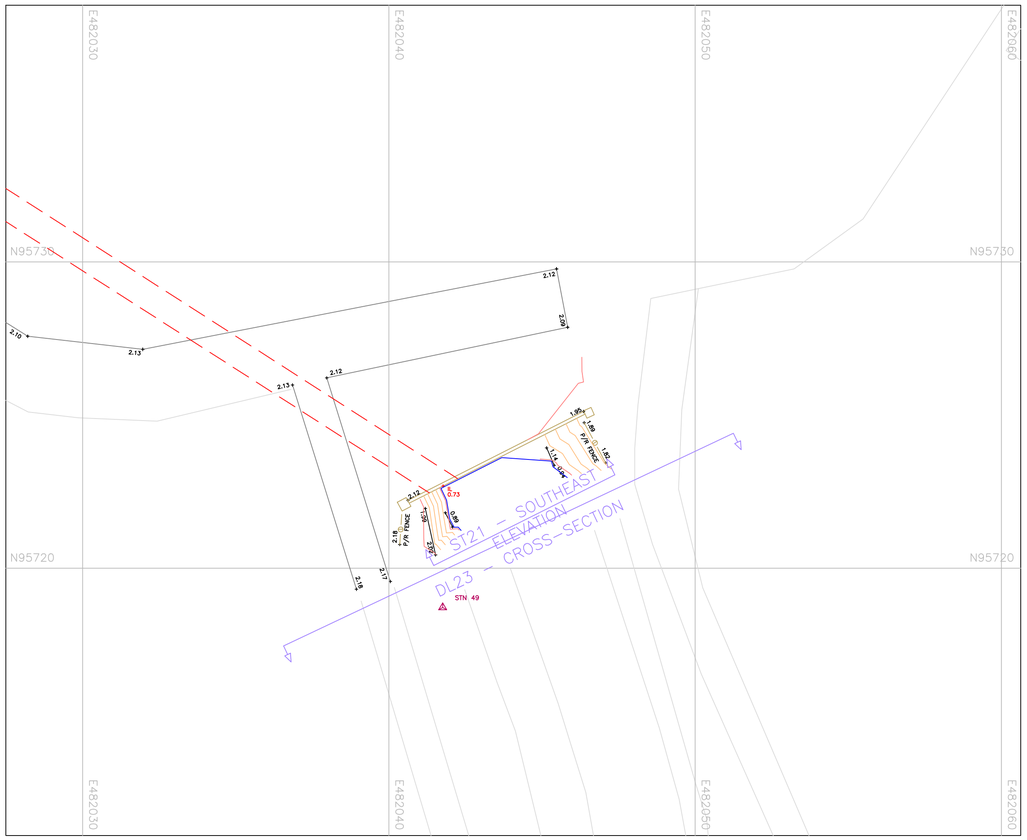
DRAWING

Survey of structures and cross–sections – DL–R (NW)

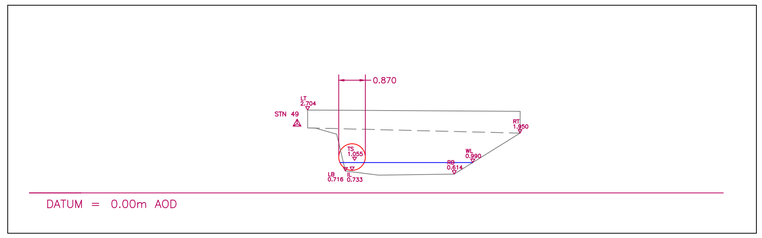
SCALE	DATE
1:100 (A1)	26/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_37	A

PLAN OF STRUCTURE – ST21



ST21 – SOUTHEAST ELEVATION



Notes

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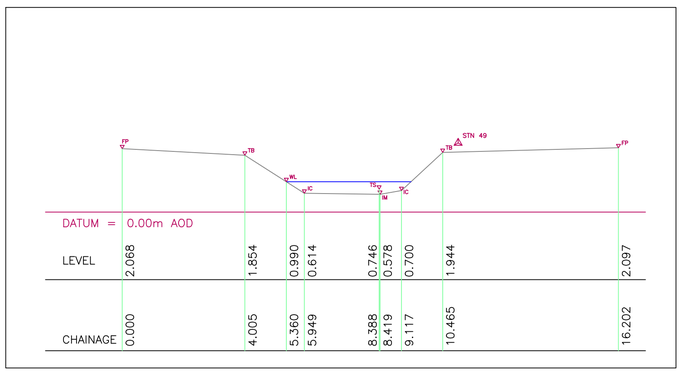
Grid co–ordinates and levels are based upon the Ordnance Survey

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

DL23 – CROSS–SECTION



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

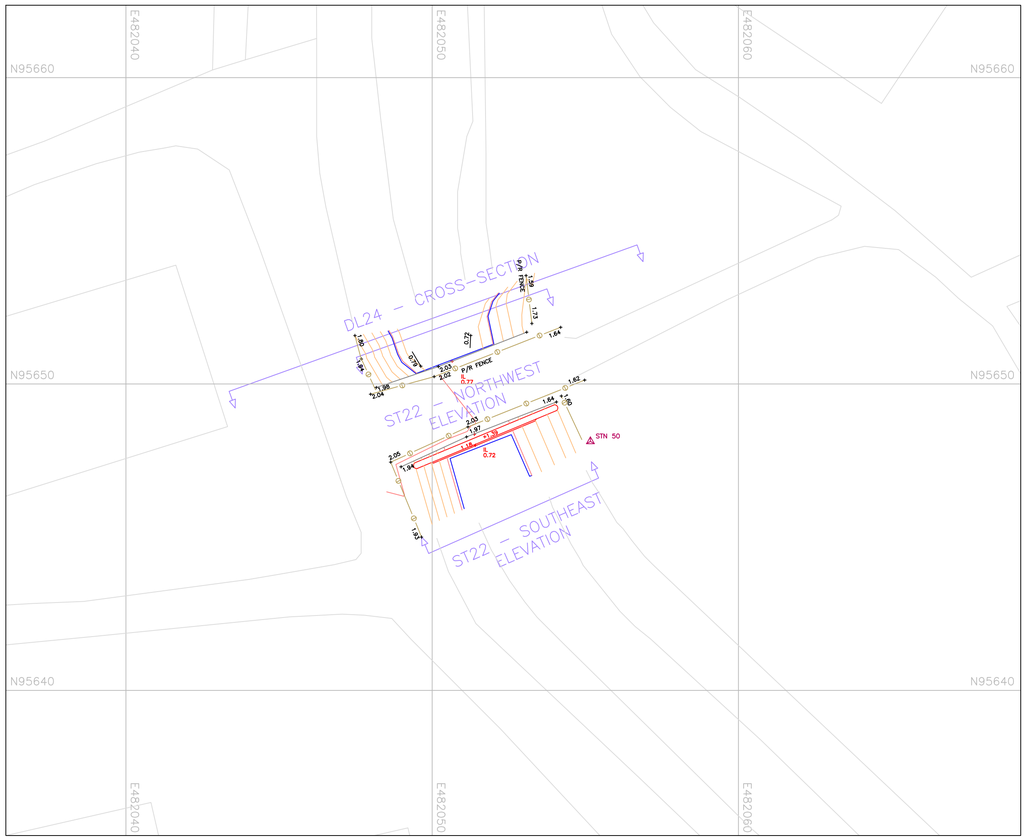
DRAWING

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

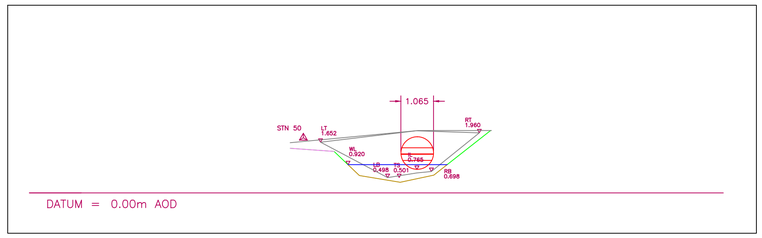
SCALE	DATE
1:100 (A1)	26/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_38	–

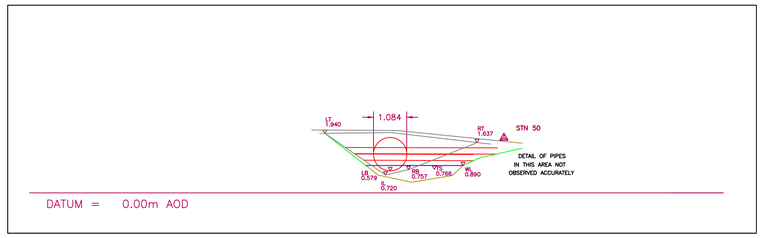
PLAN OF STRUCTURE – ST22



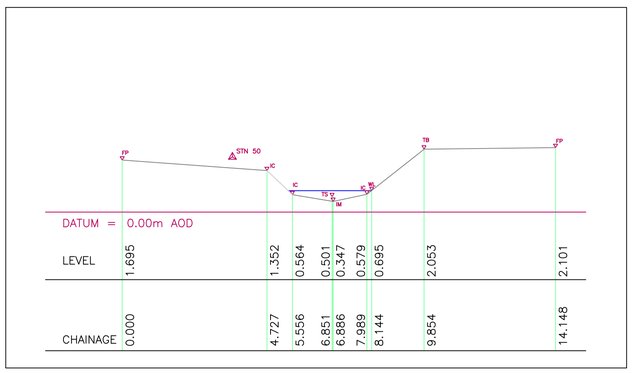
ST22 – NORTHWEST ELEVATION



ST22 – SOUTHEAST ELEVATION



DL24 – 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

Notes

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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

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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

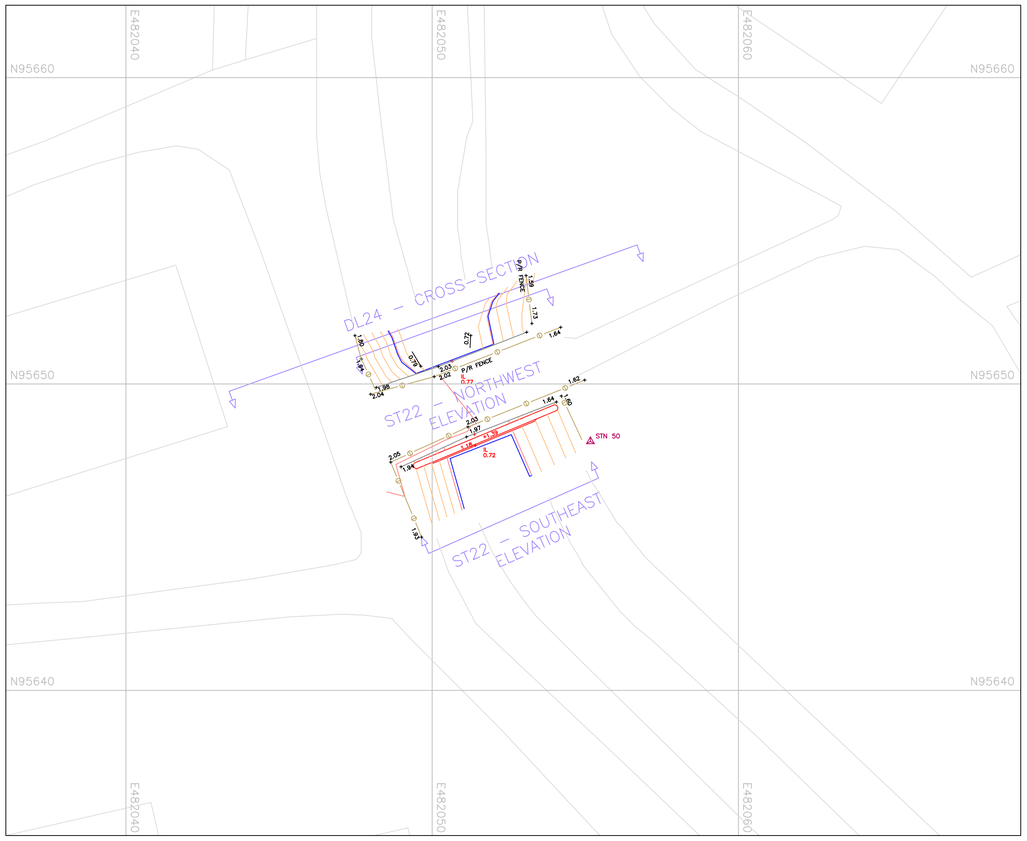
DRAWING

Survey of structures and cross–sections – DL–S

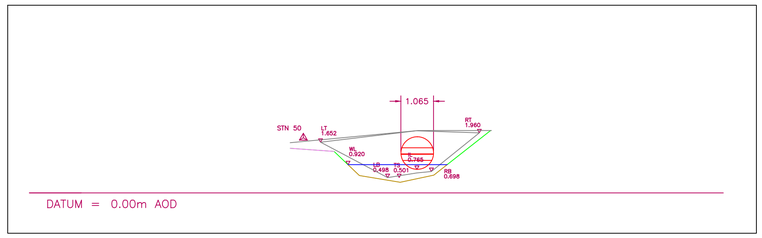
SCALE	DATE
1:100 (A1)	26/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_39	A

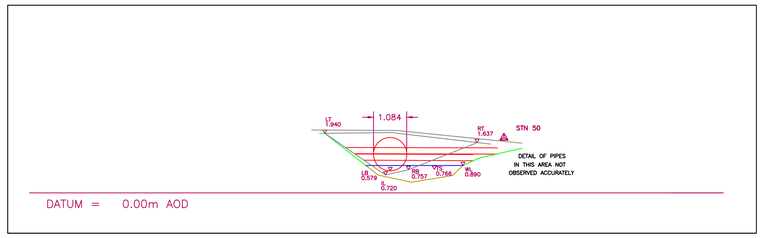
PLAN OF STRUCTURE – ST22



ST22 – NORTHWEST ELEVATION



ST22 – SOUTHEAST ELEVATION



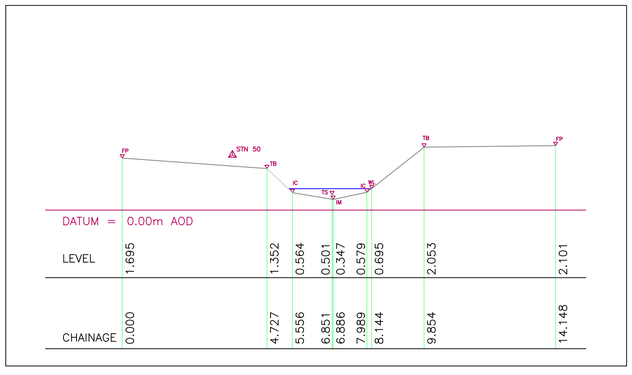
CHECK XYZ FILE AGAINST DL24 CROSS–SECTION

ID Number	Code	Eastings	Northings	Height	Check
DL240000	YYFP	482,043.3720	95,649.7620	2.1010	✓
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
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

DL24 – CROSS–SECTION



Notes

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

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

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

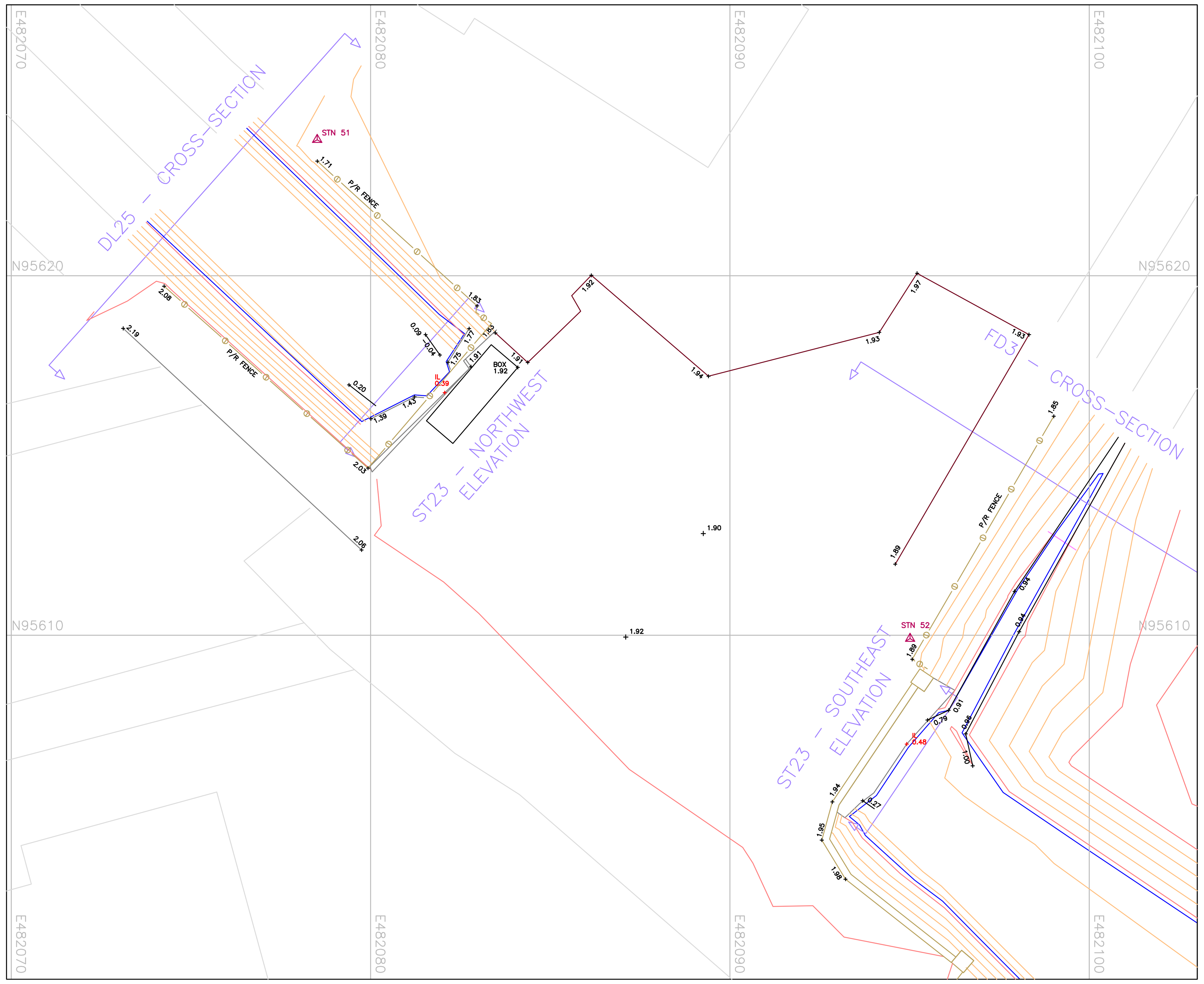
DRAWING

Survey of structures and cross–sections – DL–S

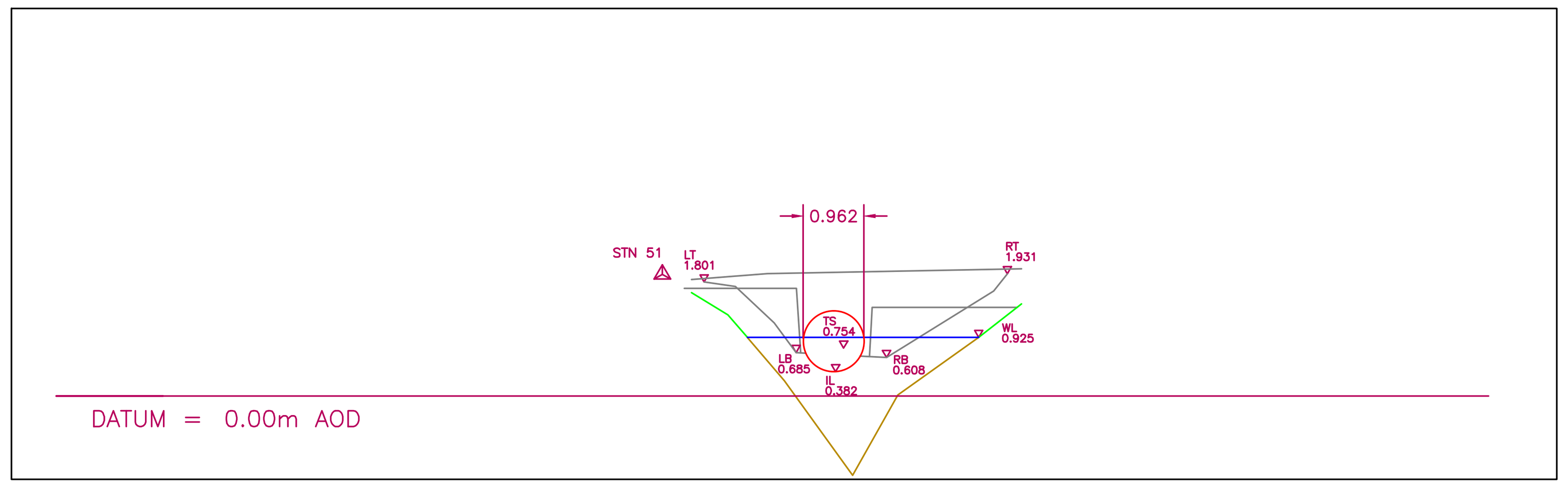
SCALE	DATE
1:100 (A1)	26/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_39	B

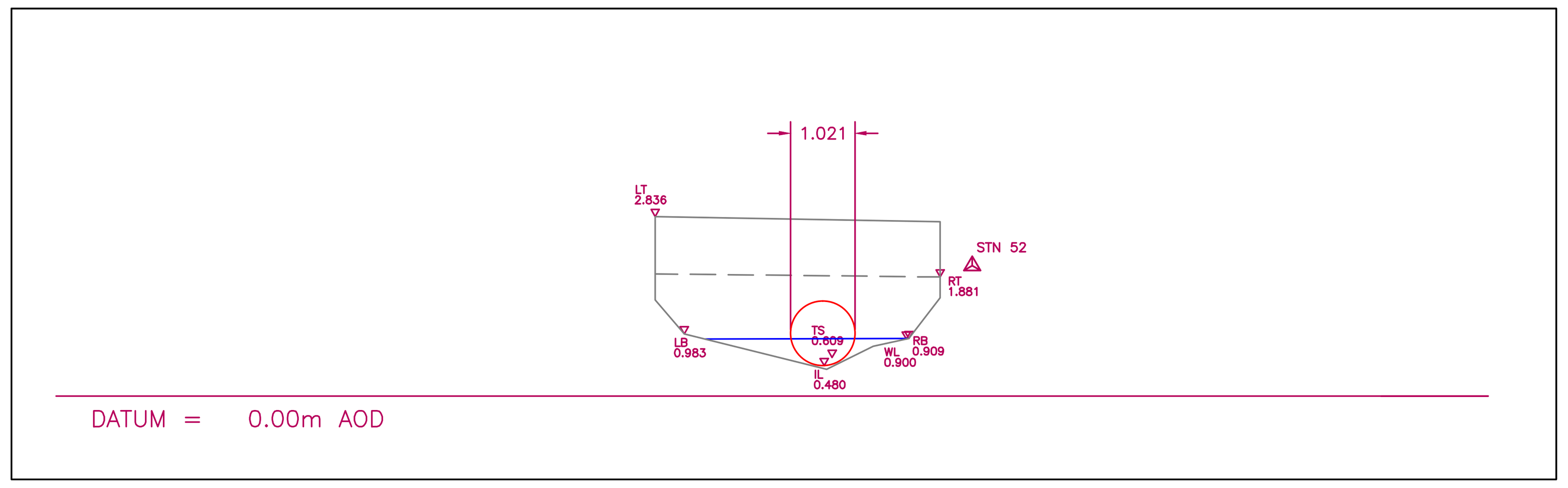
PLAN OF STRUCTURE – ST23



ST23 – NORTHWEST ELEVATION



ST23 – SOUTHEAST ELEVATION



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Notes

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

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
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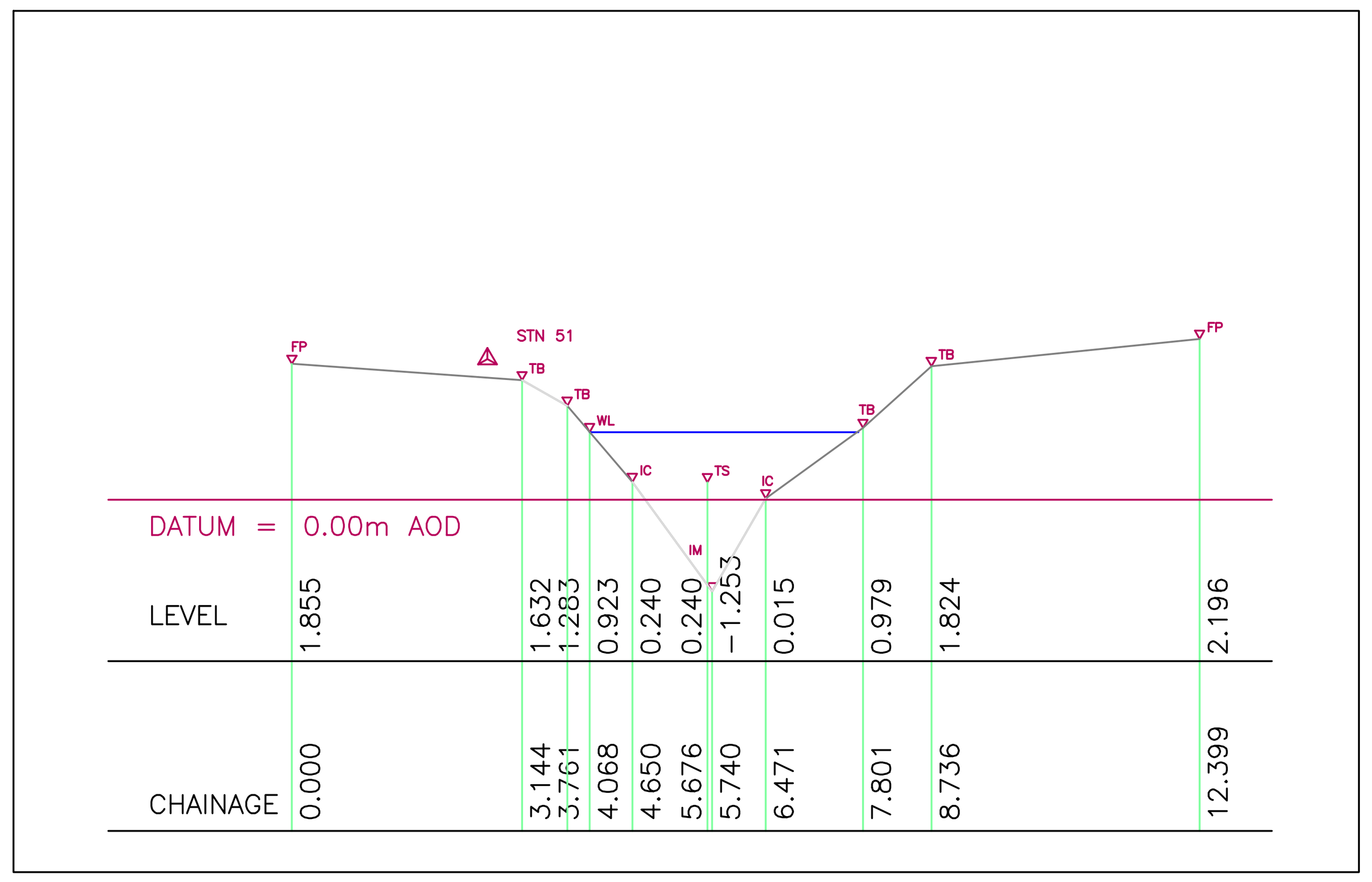
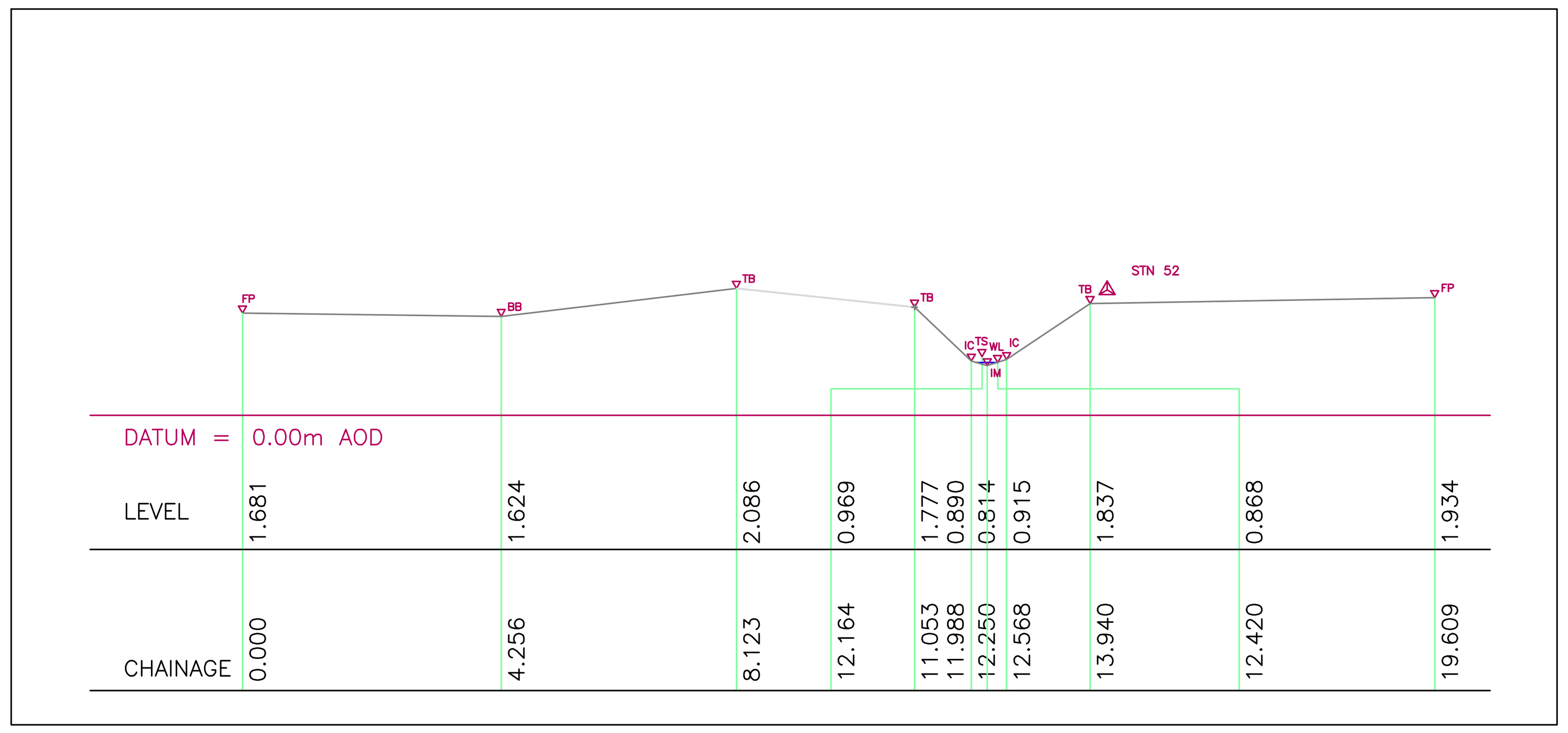
C/B	Close boarded fence
C/L	Chain link fence
C/P	Chestnut paling fence
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL25 – CROSS-SECTION



FD3 – CROSS-SECTION



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CUSTOMER
Manhire LLP

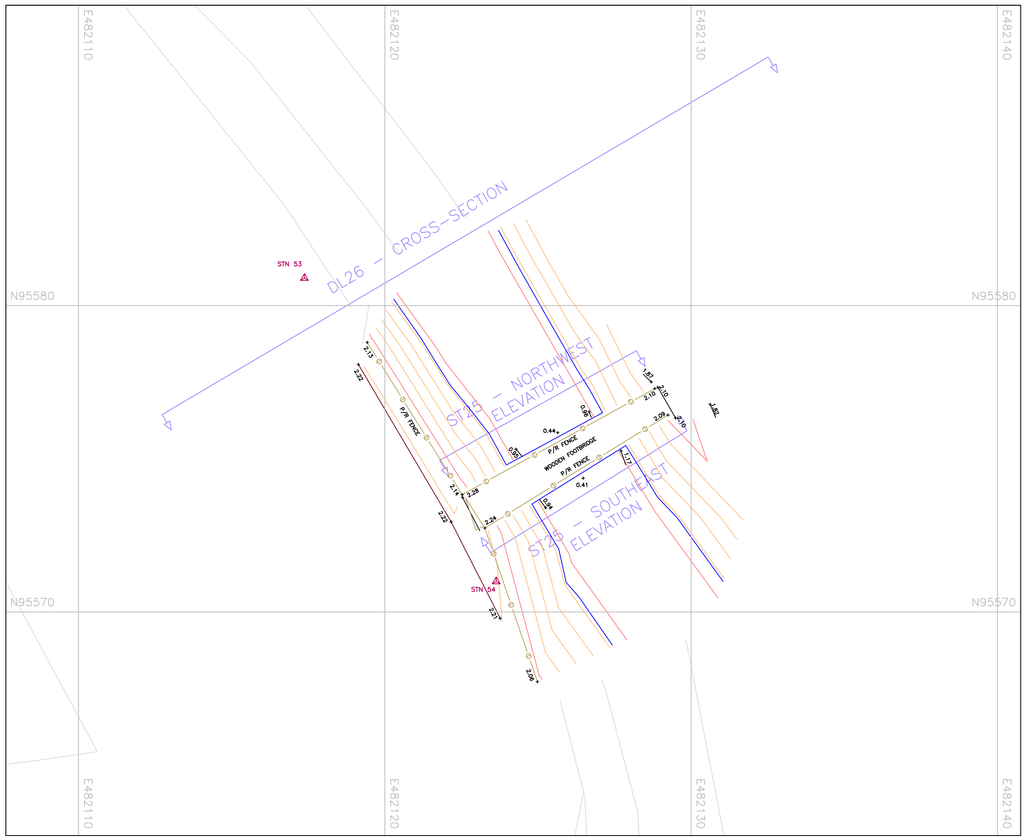
PROJECT
Earnley Watercourse, floodplain and structure fluvial modelling

DRAWING
Survey of structures and cross–sections – DL–T

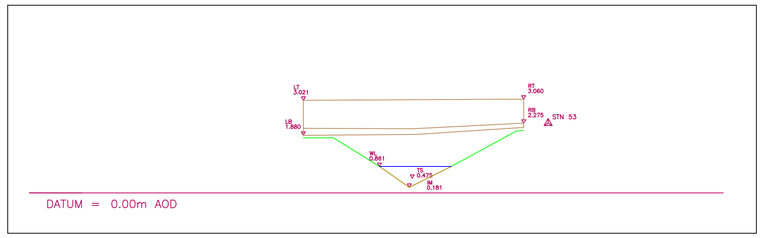
SCALE	DATE
1:100 (A1)	27/6/2019

CLIENT NO.	JOB NO.	REVISION
00228	0411_40	A

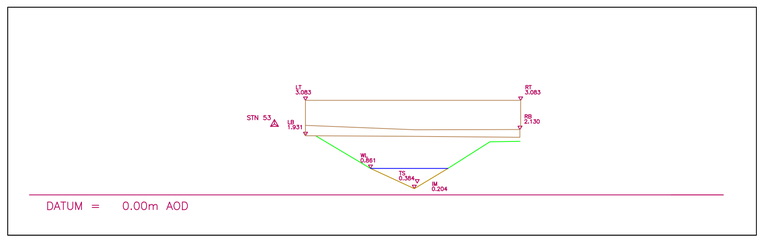
PLAN OF STRUCTURE – ST25



ST25 – NORTHWEST ELEVATION



ST25 – SOUTHEAST ELEVATION



CHECK XYZ FILE GAINST DL26 CROSS–SECTION

ID Number	Code	Eastings	Northings	Height	Check
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DL260008	YYBB	482,128.7776	95,582.3899	1.7956	✓
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	✓
DL260002	YYTB	482,119.4796	95,580.0140	1.8685	✓
DL260001	YYTB	482,119.2785	95,578.7613	2.1391	✓
DL260000	YYFP	482,112.7300	95,576.4423	2.1985	✓

Notes

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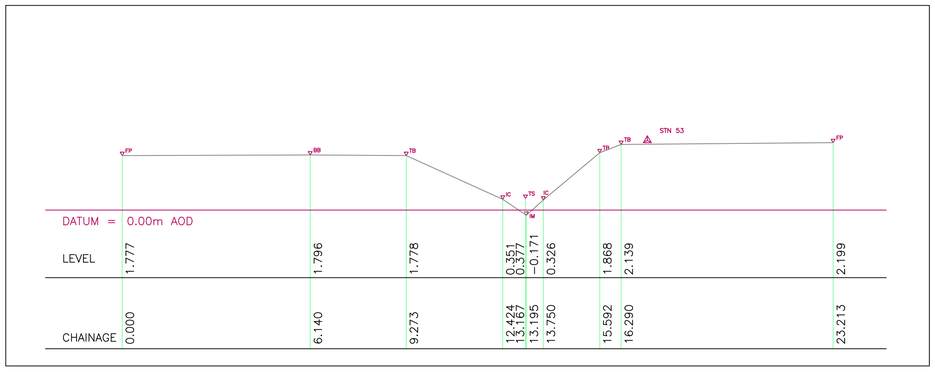
Grid co–ordinates and levels are based upon the Ordnance Survey

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

DL26 – CROSS–SECTION



REVISION	DESCRIPTION	DATE
A	DATA CHECKED & CONFIRMED	6/7/19

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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

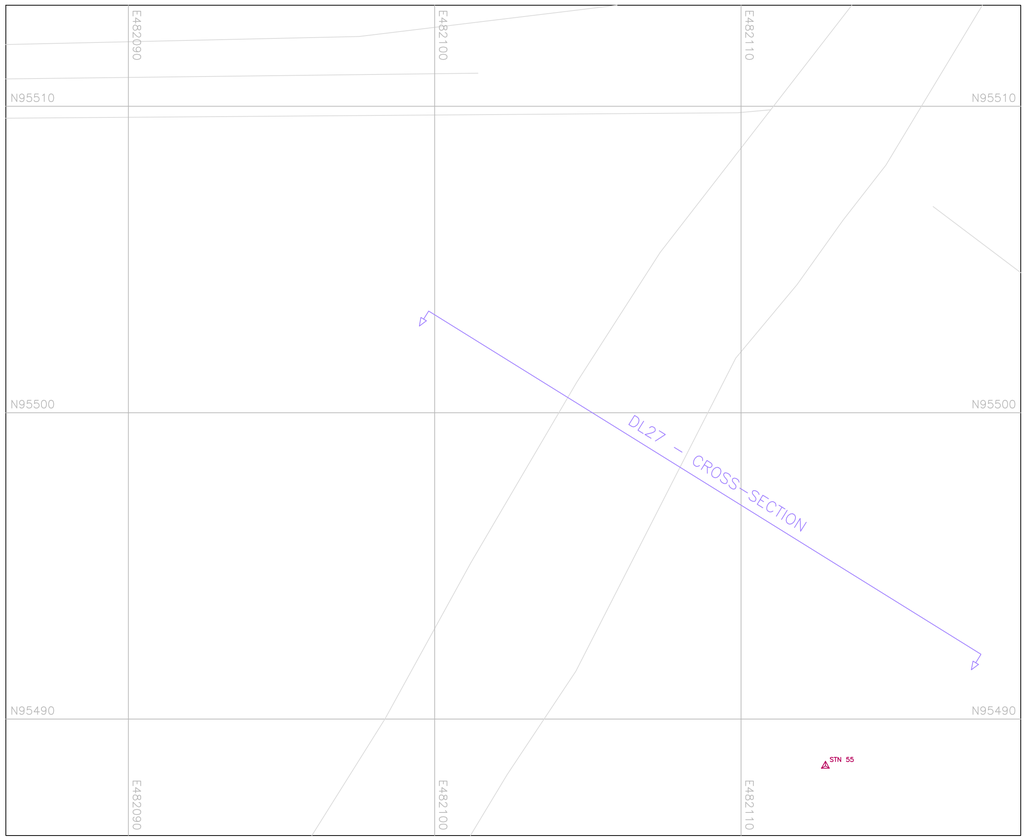
DRAWING

Survey of structures and cross–sections – DL–U

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

CLIENT NO.	JOB NO.	REVISION
00228	0411_41	–

PLAN OF CROSS–SECTION – DL27



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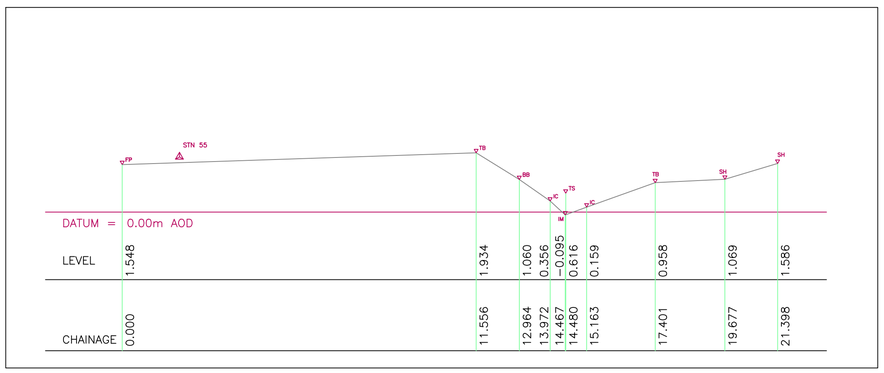
Grid co–ordinates and levels are based upon the Ordnance Survey

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

DL27 – CROSS–SECTION



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

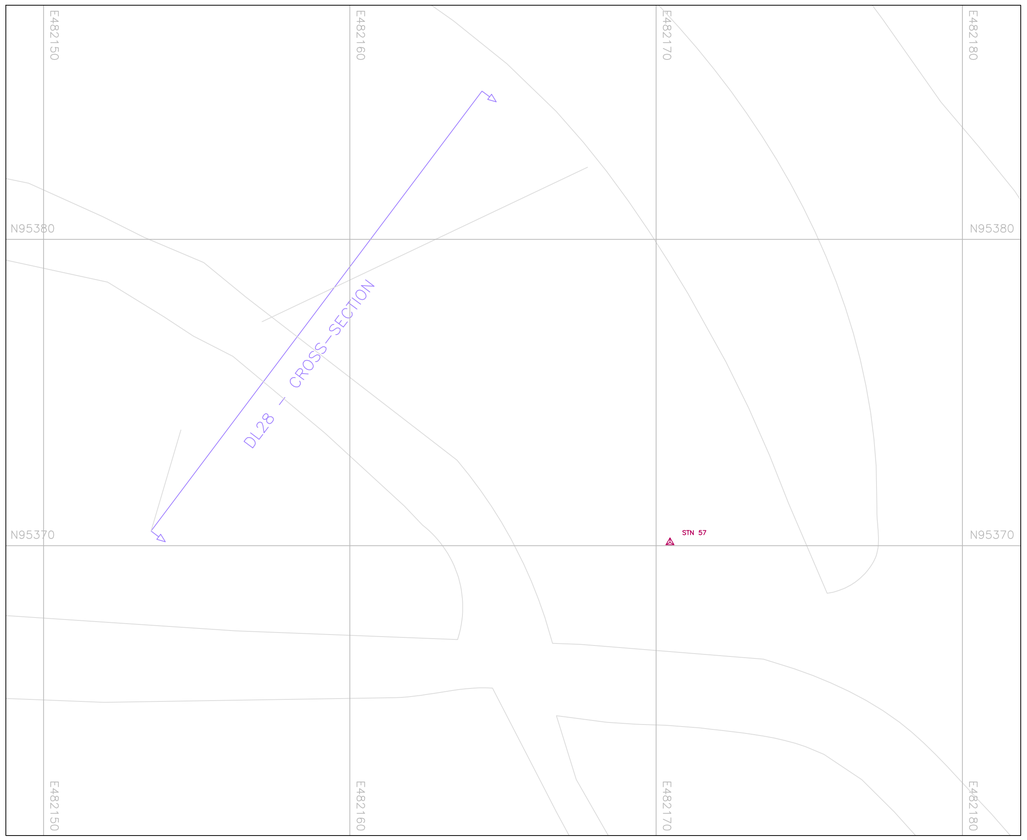
DRAWING

Survey of structures and cross–sections – DL–V

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

CLIENT NO.	JOB NO.	REVISION
00228	0411_42	–

PLAN OF CROSS–SECTION – DL28



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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
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SMP	Service marker post
GSV	Gas stop valve
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OSBM	OS bench mark
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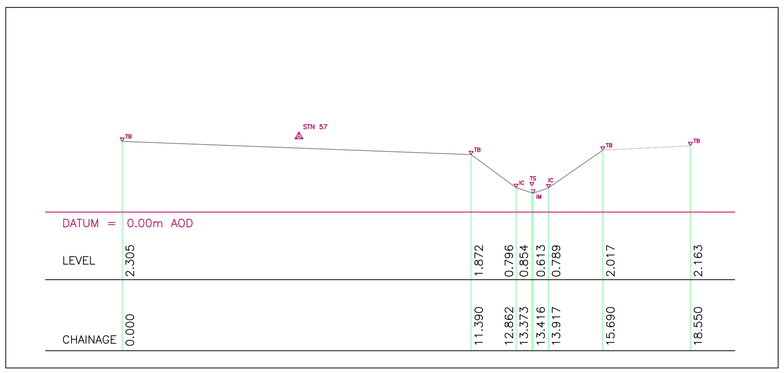
I/W	Interwoven fence
I/R	Iron railing
L/B	Lapboard fence
P/R	Post and rail fence
P/W	Post and wire fence
W/M	Wire mesh fence
RTW	Retaining wall
SSF	Steel security fence

DL28 – CROSS–SECTION



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CUSTOMER

Manhire LLP

PROJECT

Earnley Watercourse, floodplain and structure fluvial modelling

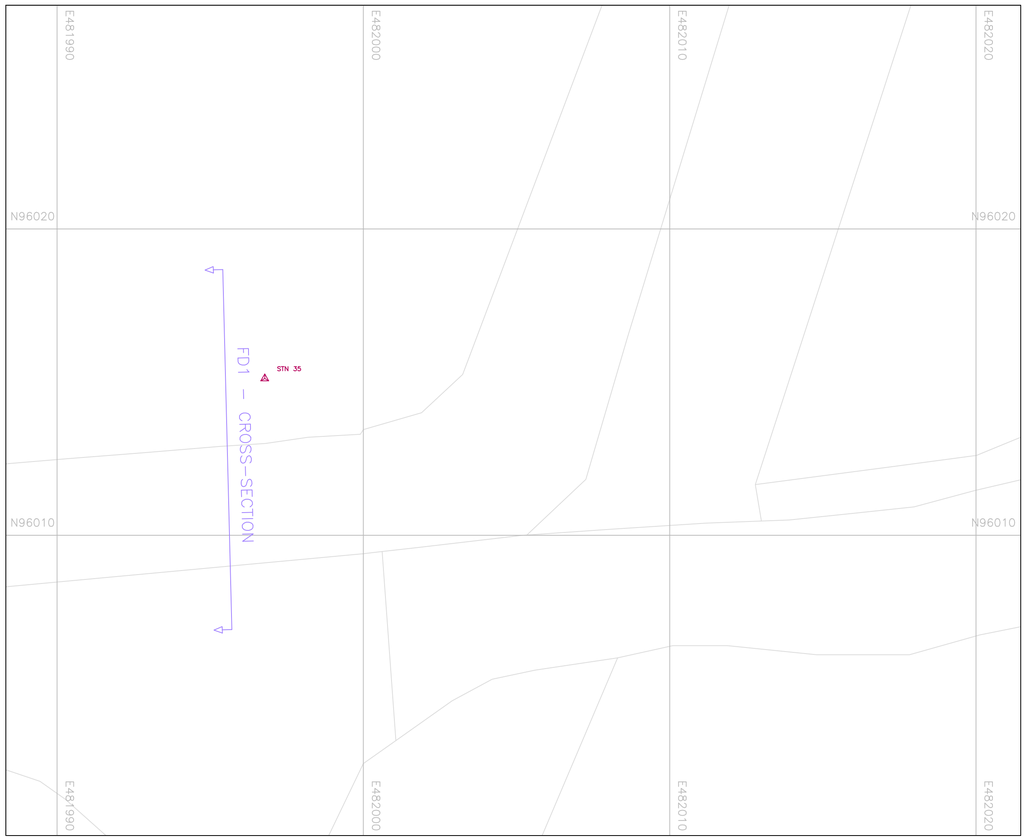
DRAWING

Survey of structures and cross–sections – DL–W

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

CLIENT NO.	JOB NO.	REVISION
00228	0411_43	A

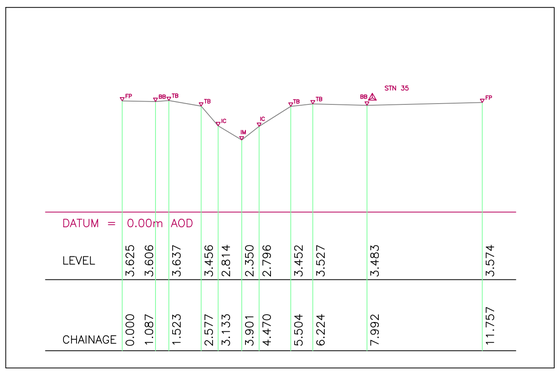
PLAN OF CROSS–SECTION – FD1



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

FD1 – CROSS–SECTION



Notes

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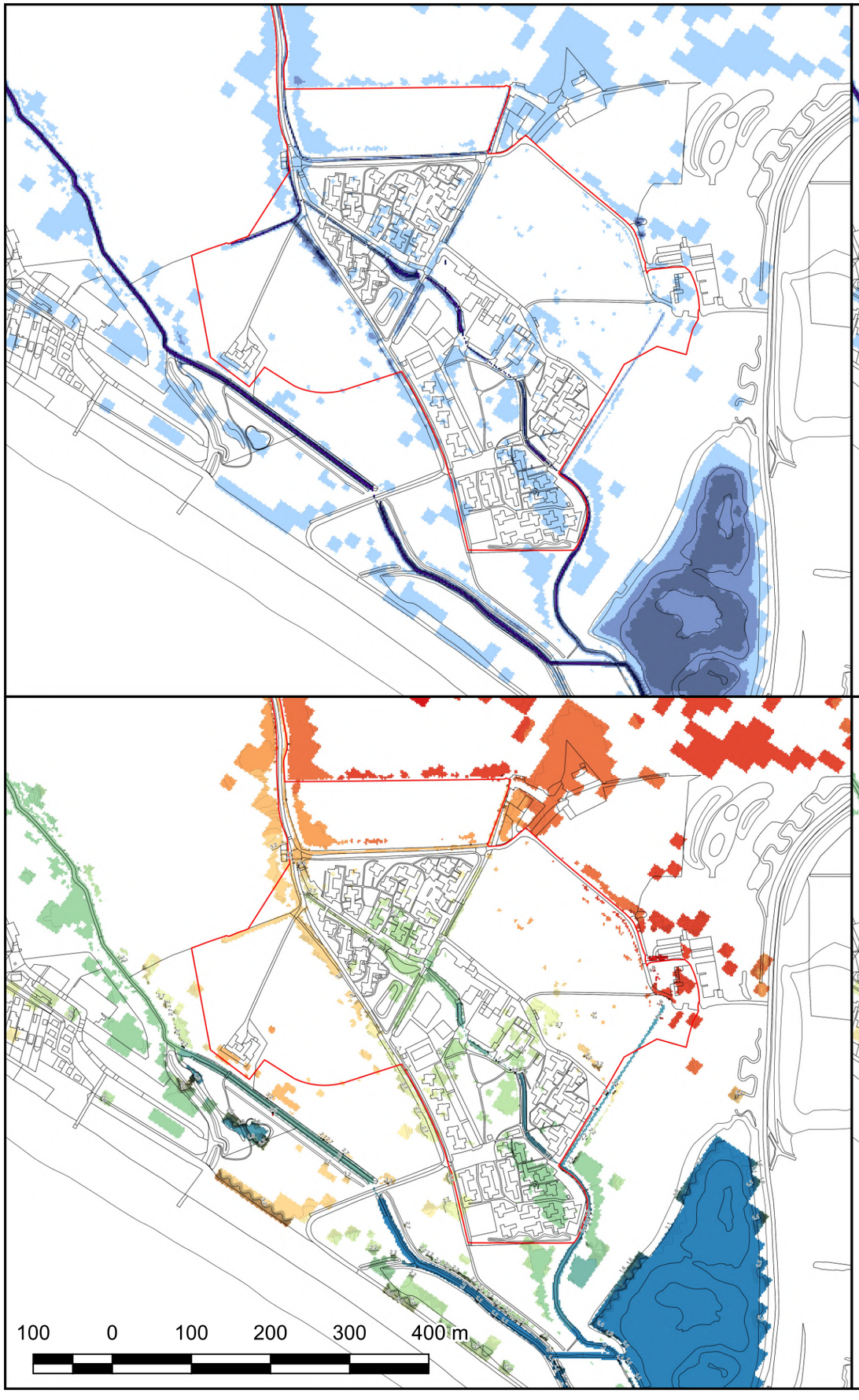
DRAWING

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 PLUVIAL FLOODING
3.3%AEP EVENT, PRESENT DAY

LEGEND

Site boundary

Max depth (m)
- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00

Flood level (mODN)
- <= 1.25
- 1.25 - 1.50
- 1.50 - 1.75
- 1.75 - 2.00
- 2.00 - 2.25
- 2.25 - 2.50
- 2.50 - 2.75
- 2.75 - 3.00
- 3.00 - 3.25
- 3.25 - 3.50
- 3.50 - 3.75
- 3.75 - 4.00
- 4.00 - 4.25
- > 4.25

DETAILS

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

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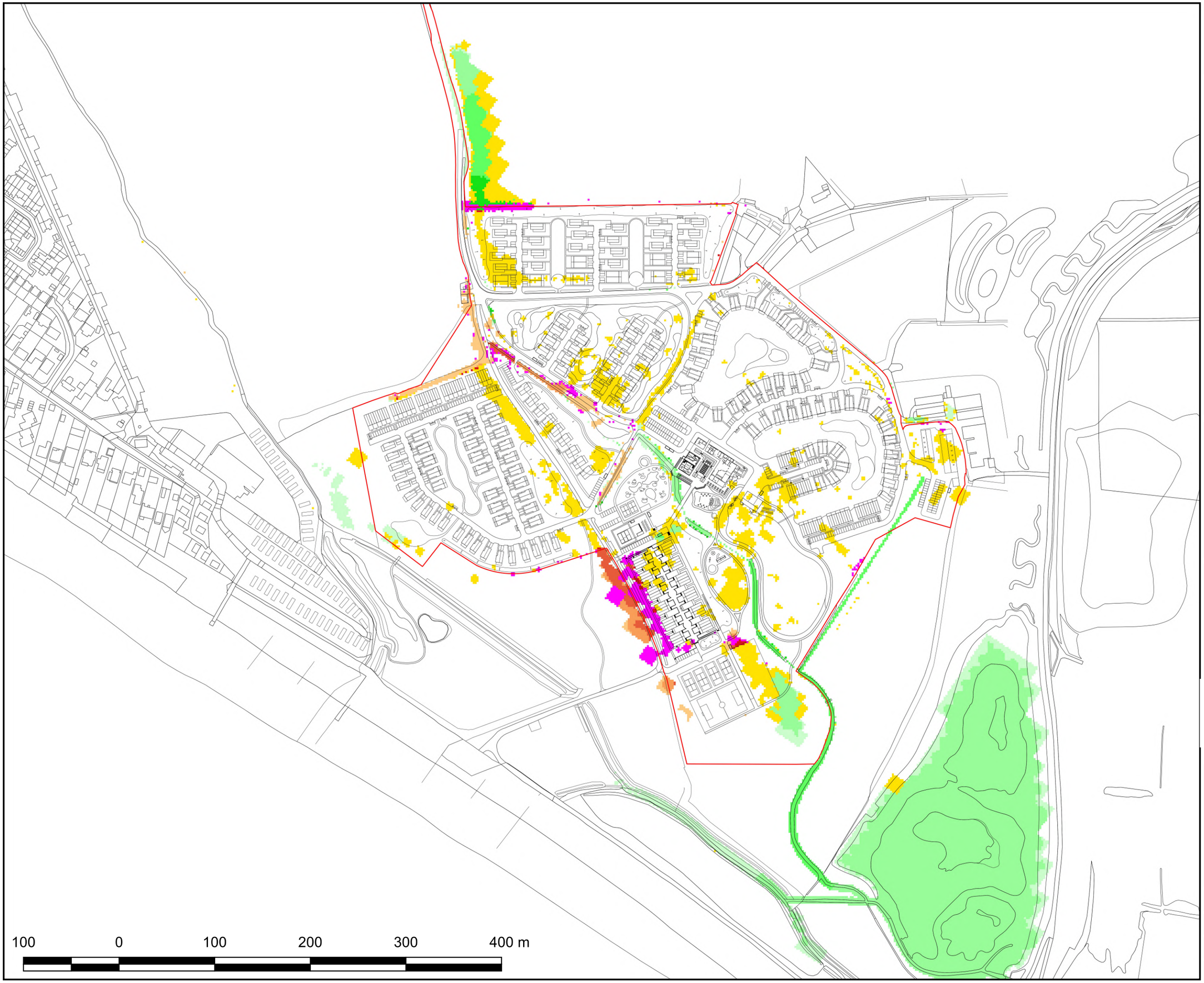
REV	DESCRIPTION	DATE
1	1st issue	15-06-2023
2	2nd issue	09-08-2023

CLIENT: COVE

PROJECT: MEDMERRY PARK, CHICHESTER

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

DRAWING No.: A.1



TITLE

DIFFERENCE IN MAXIMUM FLOOD LEVEL
3.3%AEP EVENT, PRESENT DAY
(POST-DEV MINUS EXISTING)

LEGEND

Site boundary

Level difference (m)

- Now dry
- < -0.20
- -1.00 - -0.20
- -0.20 - -0.10
- -0.10 - -0.05
- -0.05 - -0.03
- -0.03 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.10
- 0.10 - 1.00
- 0.10 - 0.20
- > 0.20
- Now wet

DETAILS

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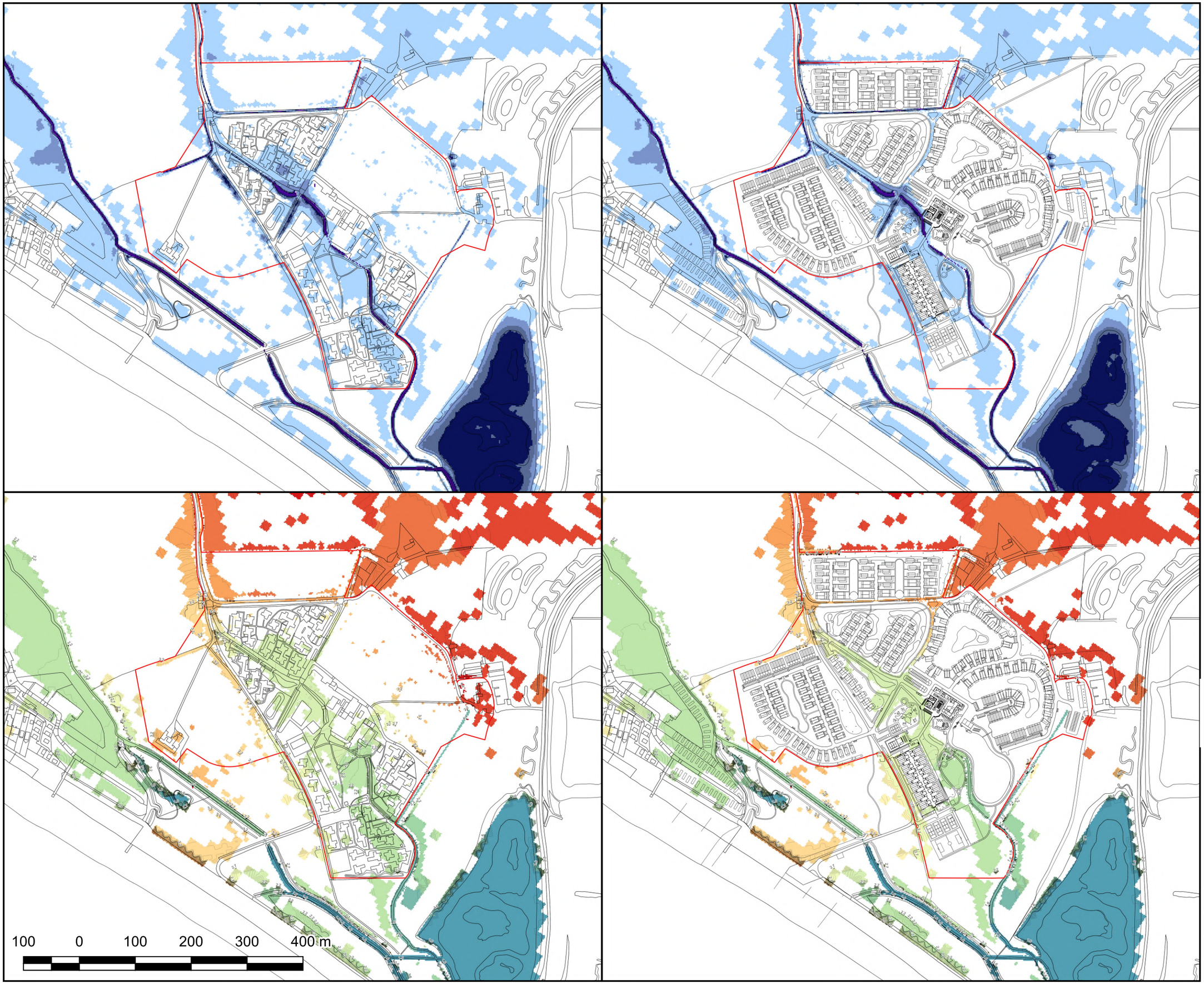
REV	DESCRIPTION	DATE
1	1st issue	15-06-2023
2	2nd issue	09-08-2023

CLIENT
COVE

PROJECT
MEDMERRY PARK, CHICHESTER

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

DRAWING No.
A.2



TITLE

MAXIMUM DEPTH OF PLUVIAL FLOODING
3.3%AEP EVENT PLUS 40% CLIMATE CHANGE

LEGEND

Site boundary

Max depth (m)
- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00

Flood level (mODN)
- <= 1.25
- 1.25 - 1.50
- 1.50 - 1.75
- 1.75 - 2.00
- 2.00 - 2.25
- 2.25 - 2.50
- 2.50 - 2.75
- 2.75 - 3.00
- 3.00 - 3.25
- 3.25 - 3.50
- 3.50 - 3.75
- 3.75 - 4.00
- 4.00 - 4.25
- > 4.25

DETAILS

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

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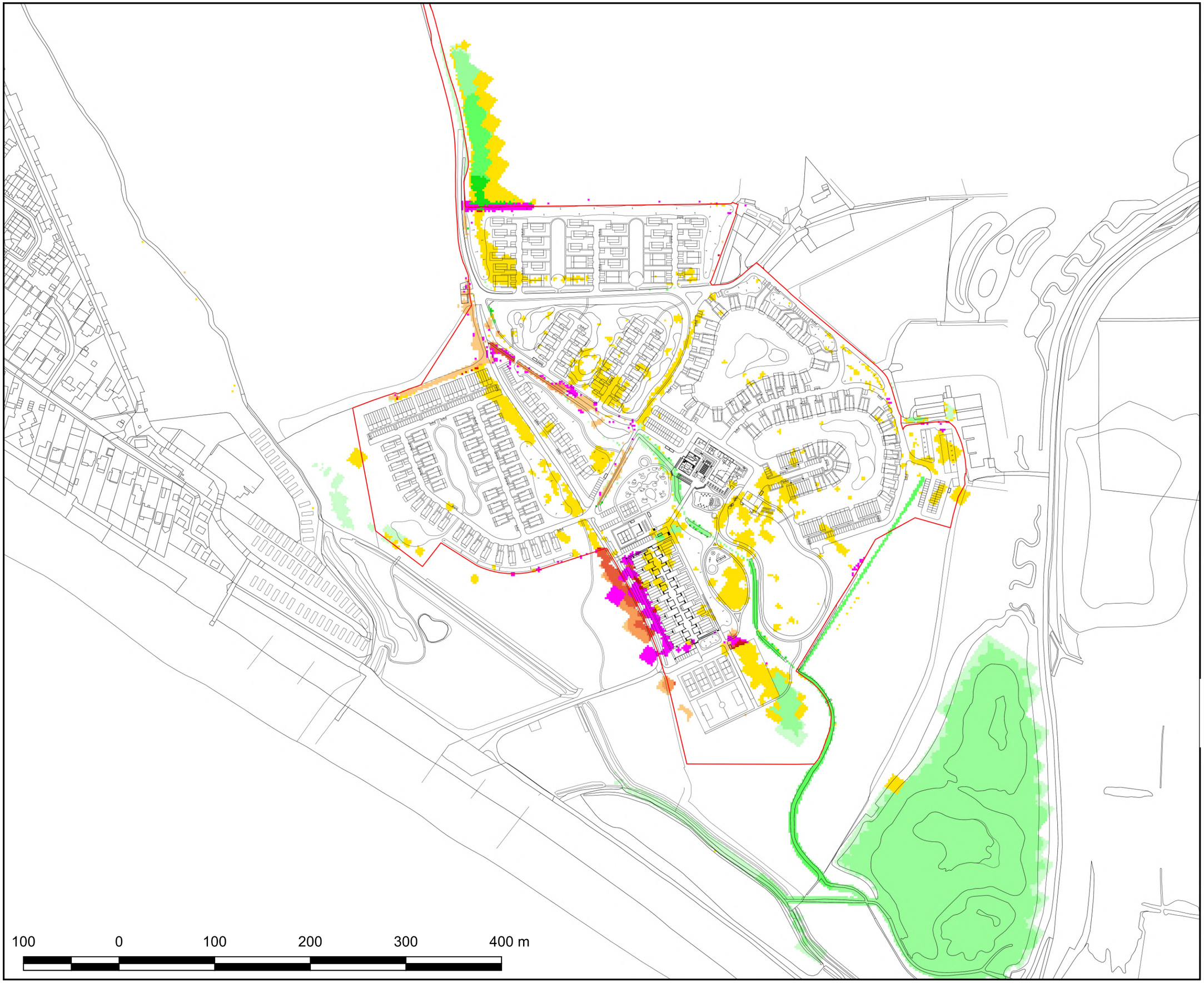
REV	DESCRIPTION	DATE
1	1st issue	15-06-2023
2	2nd issue	09-08-2023

CLIENT
COVE

PROJECT
MEDMERRY PARK, CHICHESTER

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

DRAWING No.
A.3



TITLE

**DIFFERENC IN MAXIMUM FLOOD LEVEL
3.3%AEP EVENT PLUS 40% CLIMATE CHANGE
(POST-DEV MINUS EXISTING)**

LEGEND

Site boundary

Level difference (m)

- Now dry
- < -0.20
- -1.00 - -0.20
- -0.20 - -0.10
- -0.10 - -0.05
- -0.05 - -0.03
- -0.03 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.10
- 0.10 - 1.00
- 0.10 - 0.20
- > 0.20
- Now wet

DETAILS

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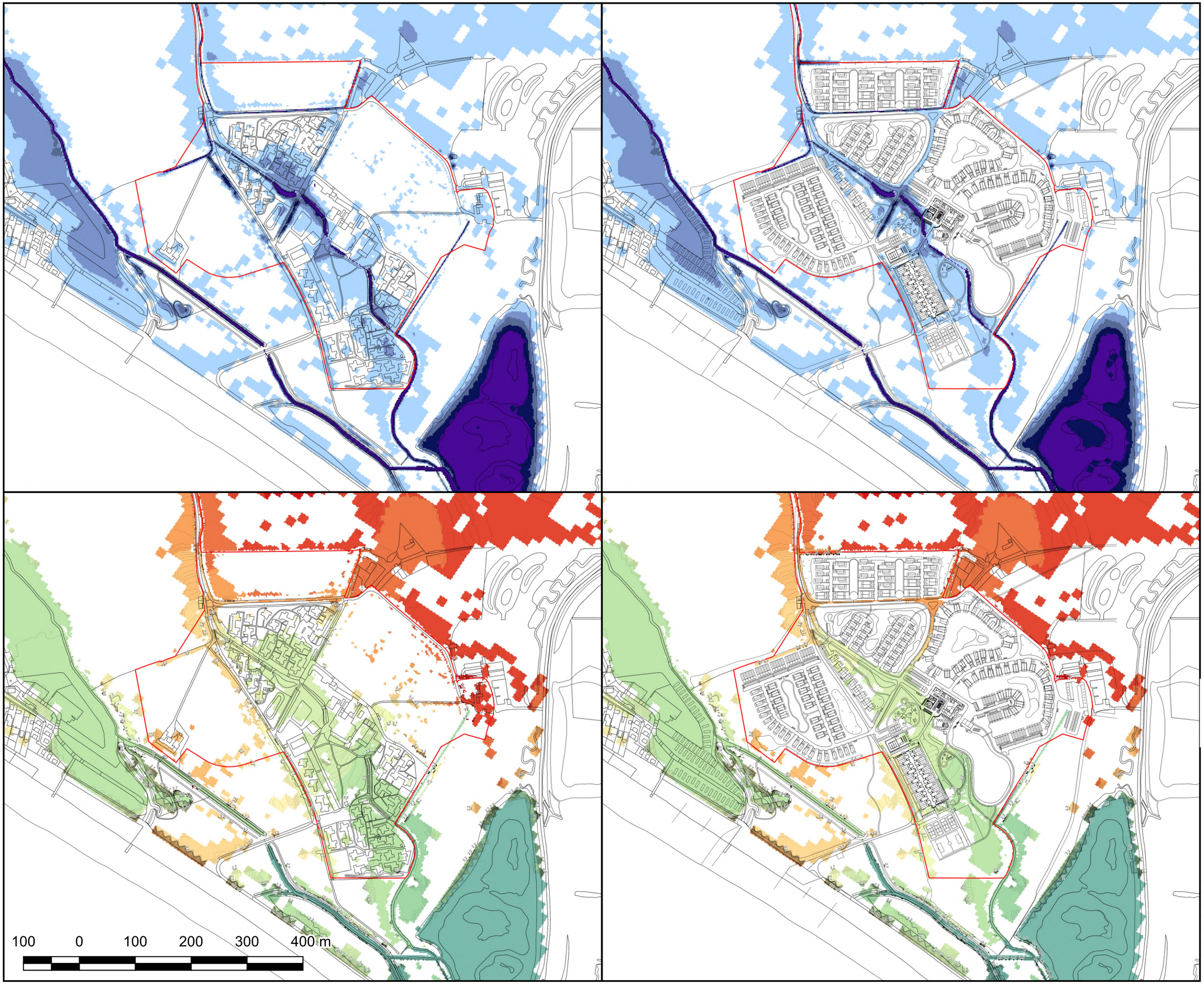
REV	DESCRIPTION	DATE
1	1st issue	15-06-2023
2	2nd issue	09-08-2023

CLIENT: COVE

PROJECT: MEDMERRY PARK, CHICHESTER

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

DRAWING No.: **A.4**



TITLE

MAXIMUM DEPTH OF PLUVIAL FLOODING 1%AEP EVENT PLUS 45% CLIMATE CHANGE

LEGEND

Site boundary

Max depth (m)

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

Flood level (mODN)

- <= 1.25
- 1.25 - 1.50
- 1.50 - 1.75
- 1.75 - 2.00
- 2.00 - 2.25
- 2.25 - 2.50
- 2.50 - 2.75
- 2.75 - 3.00
- 3.00 - 3.25
- 3.25 - 3.50
- 3.50 - 3.75
- 3.75 - 4.00
- 4.00 - 4.25
- > 4.25

DETAILS

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

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REV	DESCRIPTION	DATE
1	1st issue	15-06-2023
2	2nd issue	09-08-2023

CLIENT

COVE

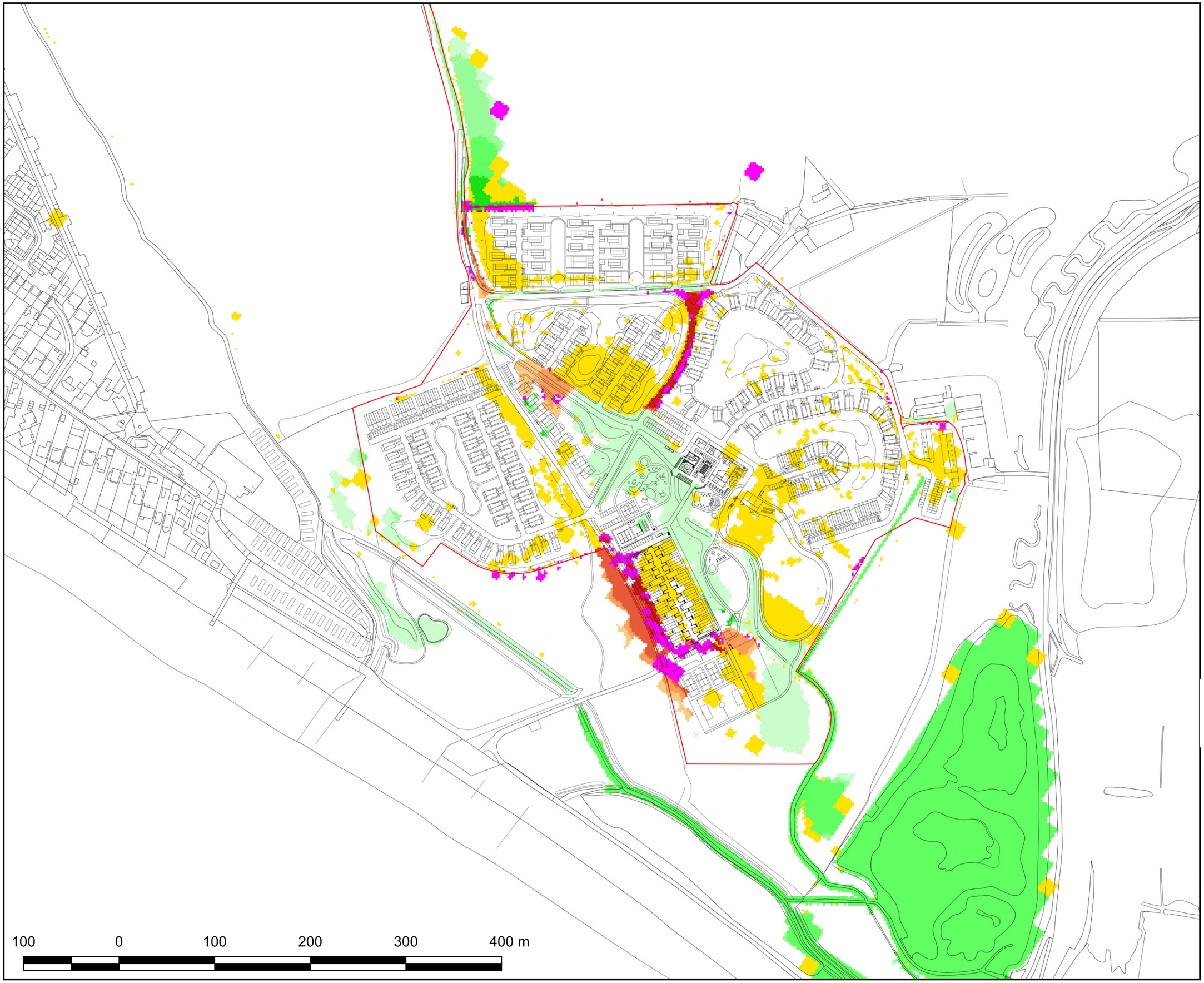
PROJECT

MEDMERRY PARK, CHICHESTER

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

DRAWING No.

A.5



TITLE

**DIFFERENCE IN MAXIMUM FLOOD LEVEL
1%AEP EVENT PLUS 45% CLIMATE CHANGE
(POST-DEV MINUS EXISTING)**

LEGEND

Site boundary

Level difference (m)

- Now dry
- < -0.20
- -1.00 - -0.20
- -0.20 - -0.10
- -0.10 - -0.05
- -0.05 - -0.03
- -0.03 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.10
- 0.10 - 1.00
- 0.10 - 0.20
- > 0.20
- Now wet

DETAILS

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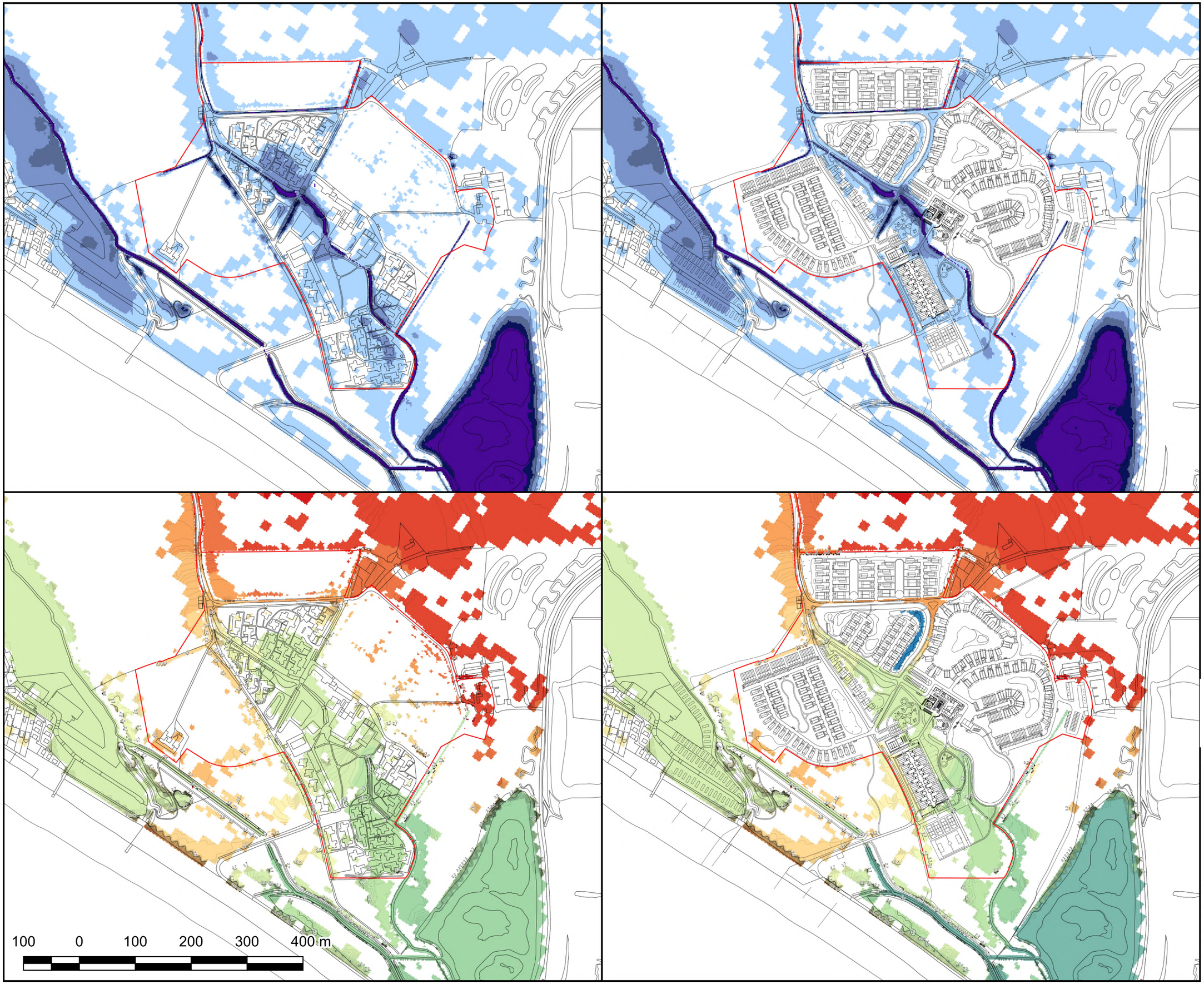
REV	DESCRIPTION	DATE
1	1st issue	15-06-2023
2	2nd issue	09-08-2023

CLIENT
COVE

PROJECT
MEDMERRY PARK, CHICHESTER

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

DRAWING No.
A.6



TITLE

MAXIMUM DEPTH OF PLUVIAL FLOODING 0.1%AEP EVENT, PRESENT DAY

LEGEND

Site boundary

Max depth (m)

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

Flood level (mODN)

- <= 1.25
- 1.25 - 1.50
- 1.50 - 1.75
- 1.75 - 2.00
- 2.00 - 2.25
- 2.25 - 2.50
- 2.50 - 2.75
- 2.75 - 3.00
- 3.00 - 3.25
- 3.25 - 3.50
- 3.50 - 3.75
- 3.75 - 4.00
- 4.00 - 4.25
- > 4.25

DETAILS

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

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

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REV	DESCRIPTION	DATE
1	1st issue	15-06-2023
2	2nd issue	09-08-2023

CLIENT

COVE

PROJECT

MEDMERRY PARK, CHICHESTER

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

DRAWING No.

A.7

TITLE

DIFFERENCE IN MAXIMUM FLOOD LEVEL
0.1%AEP EVENT, PRESENT DAY
(POST-DEV MINUS EXISTING)

LEGEND

Site boundary

Level difference (m)

- Now dry
- < -0.20
- -1.00 - -0.20
- -0.20 - -0.10
- -0.10 - -0.05
- -0.05 - -0.03
- -0.03 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.10
- 0.10 - 1.00
- 0.10 - 0.20
- > 0.20
- Now wet

DETAILS

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REV	DESCRIPTION	DATE
1	1st issue	15-06-2023
2	2nd issue	09-08-2023

CLIENT
COVE

PROJECT
MEDMERRY PARK, CHICHESTER

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

DRAWING No.
A.8