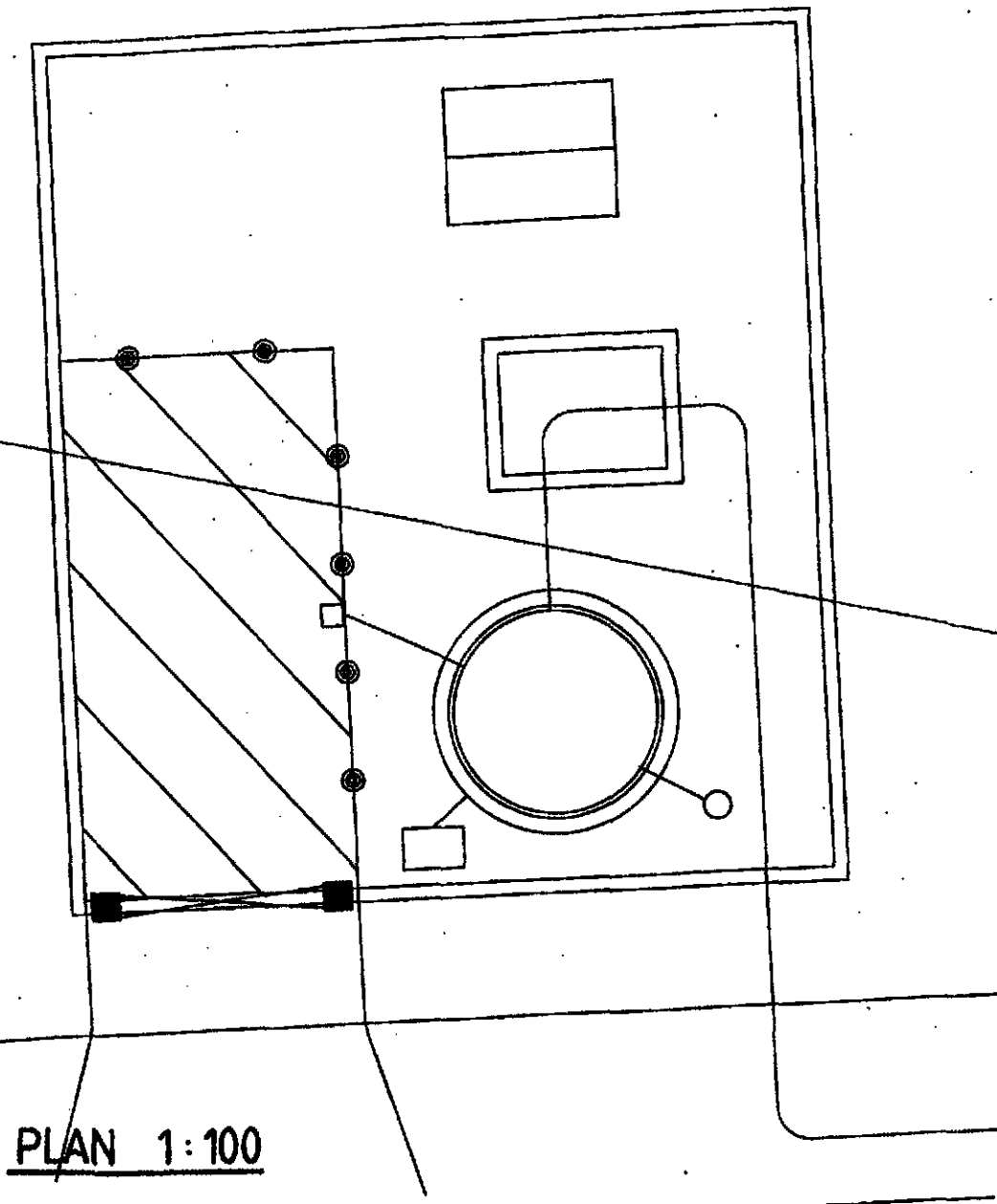
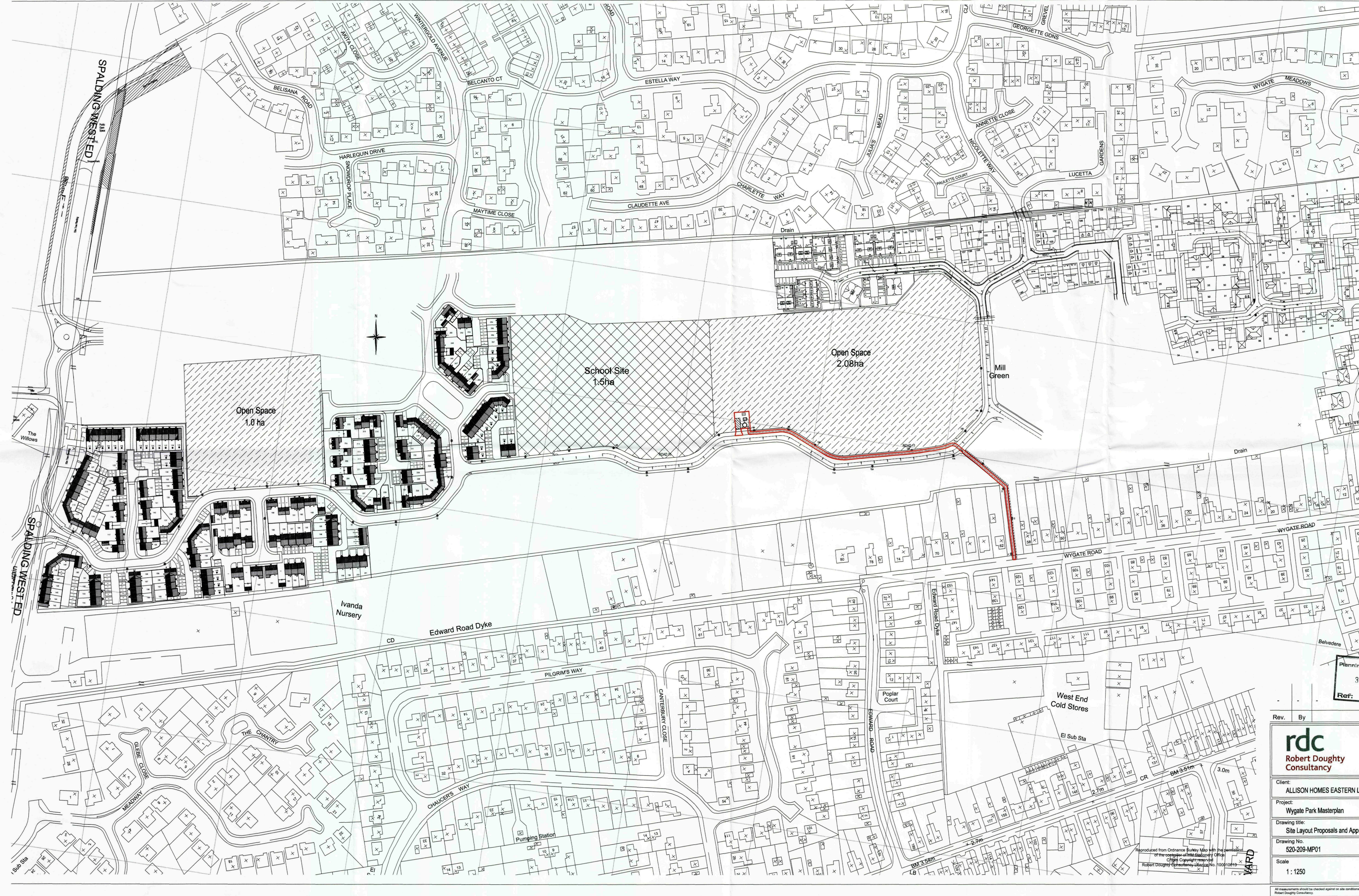


SHDC
Planning & Development
30 MAR 2010
Ref: 0260-10

Rev.	By	Notes	Date
rdc Robert Doughty Consultancy			
83 High Street, Halesworth Suffolk, Suffolk IP24 0RA Tel: 01829 421800 Fax: 01829 421800 Email: admin@rdc-landplan.co.uk Web: www.rdc-landplan.co.uk			
Client: ALLISON HOMES EASTERN LTD			
Project: Wygate Park South			
Drawing title: Pumping Station Details			
Drawing No. 520 / 210 / PSD01		Rev.	Drawn GJ
Scale 1 : 100		Date 29 / 03 / 2010	Checked
All measurements should be checked against on site conditions and any discrepancies should be brought to the attention of the Robert Doughty Consultancy.			



Planning 340
30 MAR
Ref: 02

Rev.	By	Notes

rdc
Robert Doughty
Consultancy

Client:
ALLISON HOMES EASTERN LTD

Project:
Wygate Park Masterplan

Drawing title:
Site Layout Proposals and Approved / A

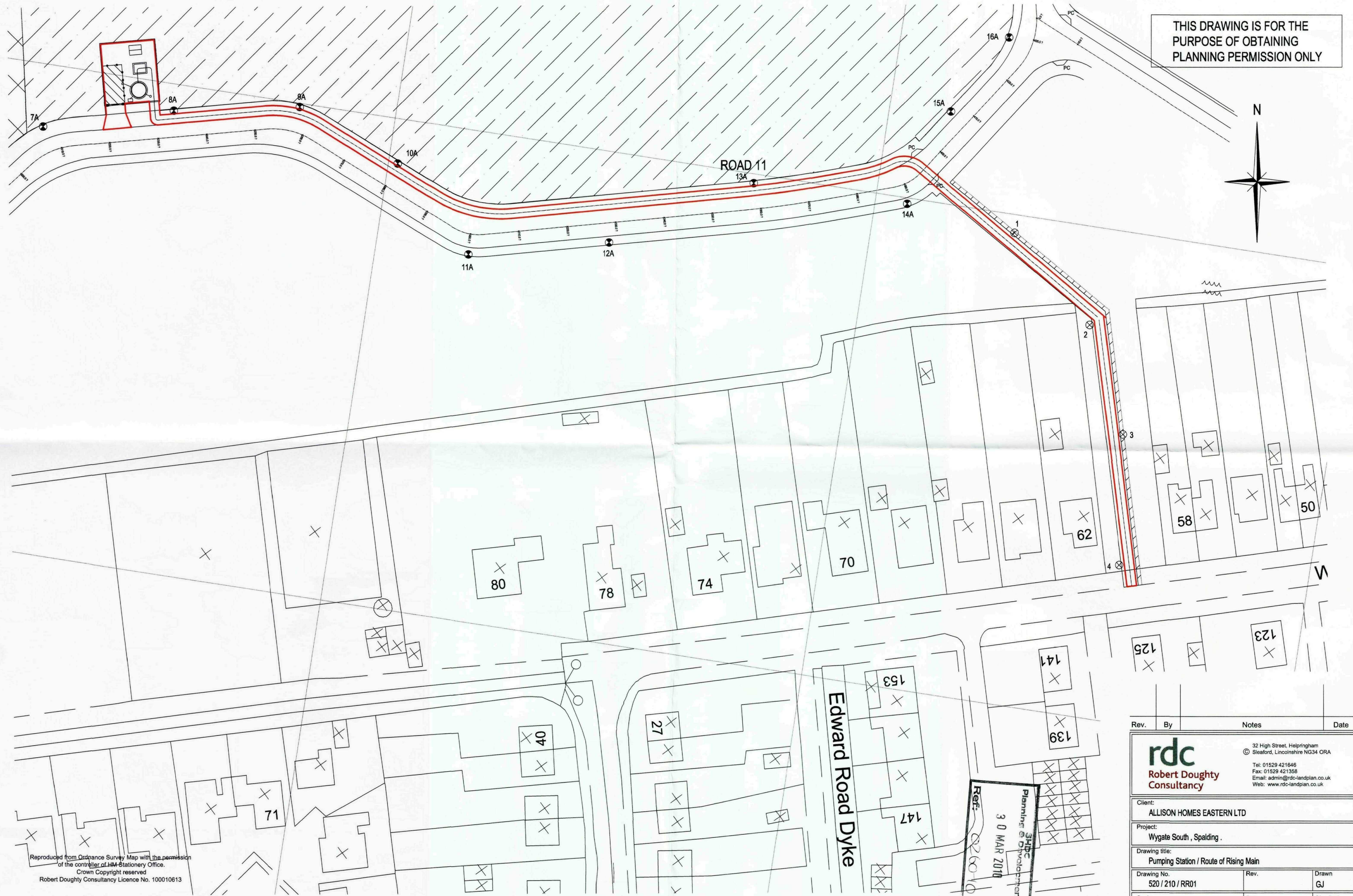
Drawing No.
520-209-MP01

Scale
1:1250

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17/0

All measurements should be checked against on site conditions and any discrepancy should be referred to the Consultant.

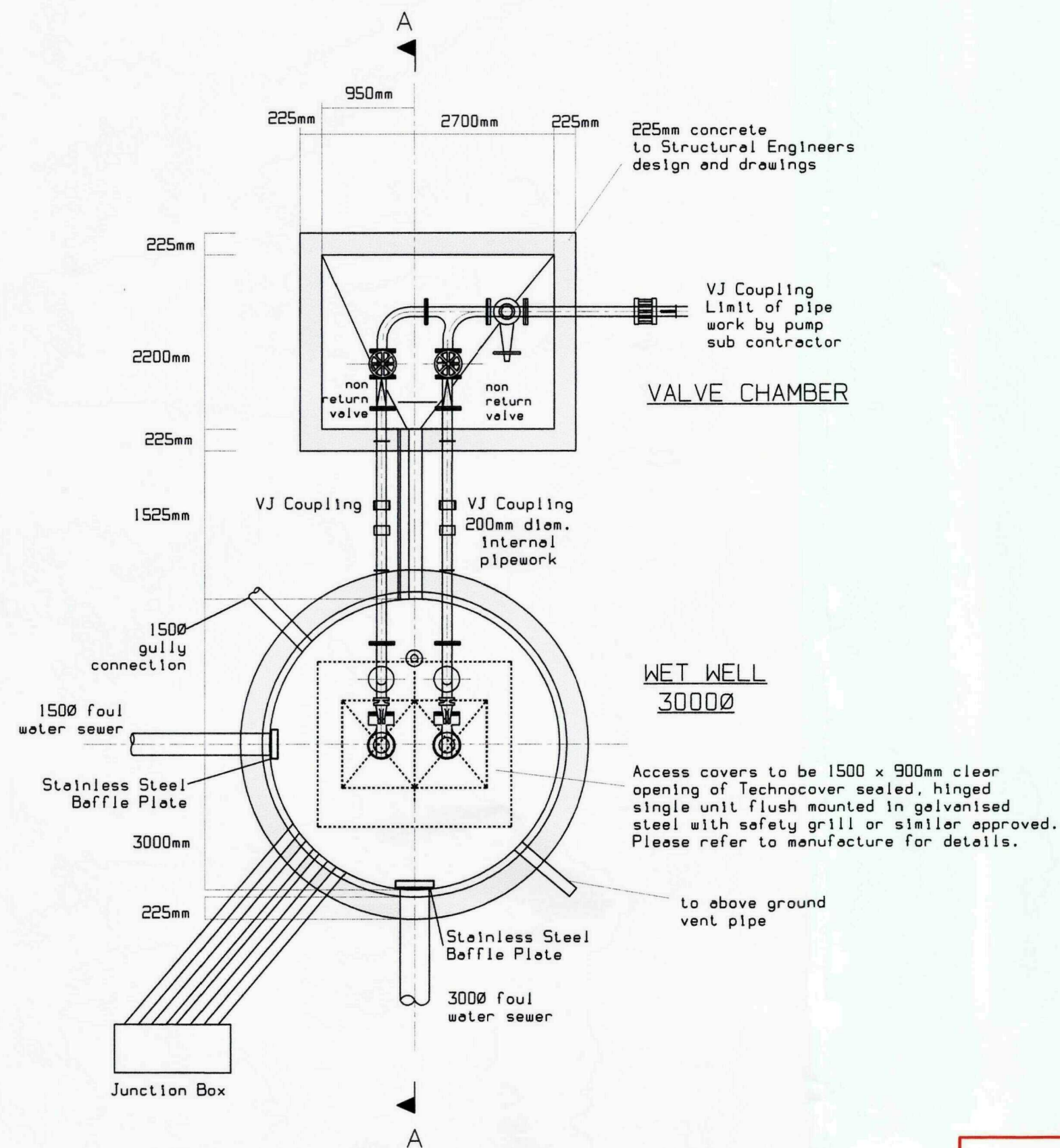


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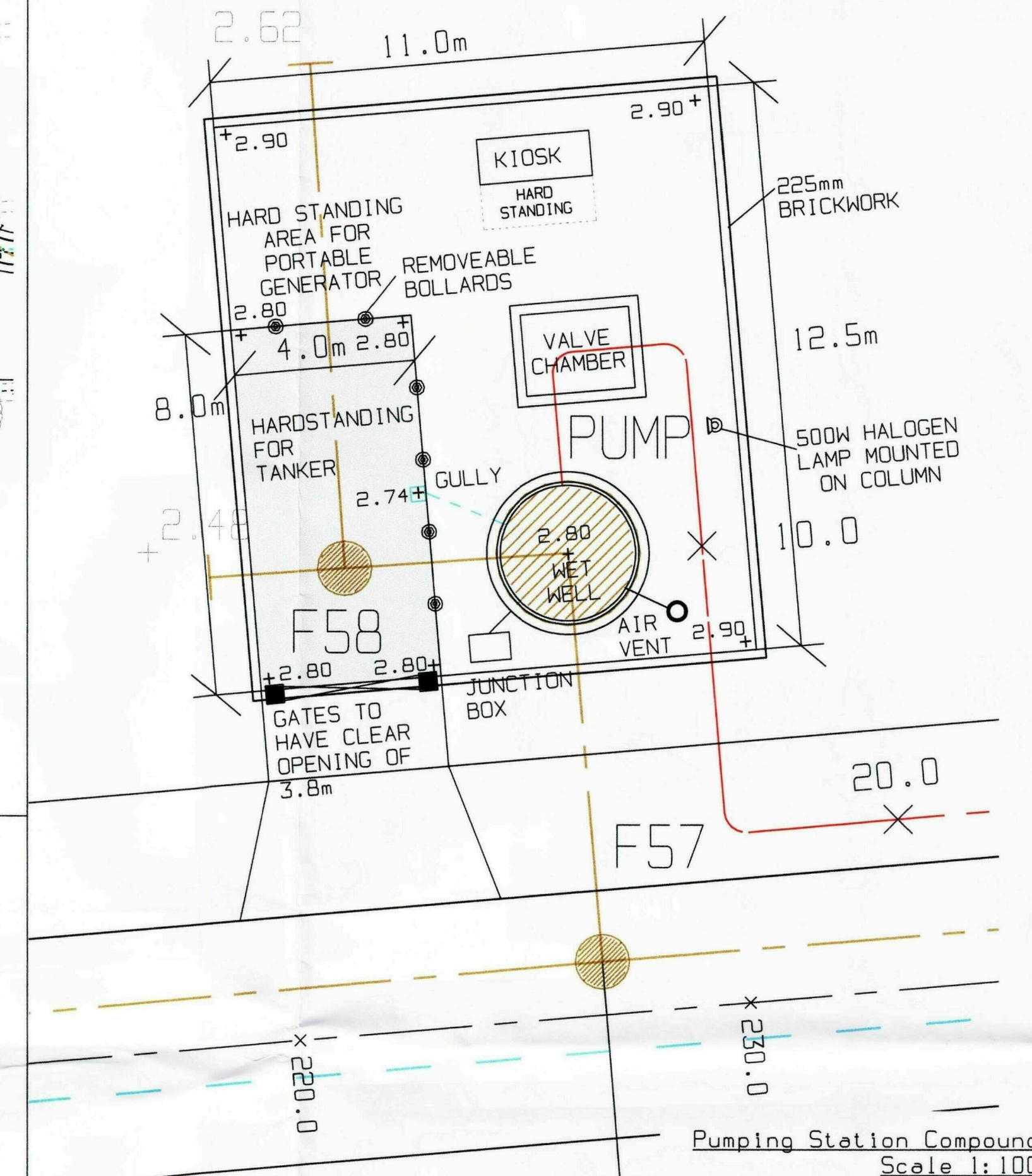
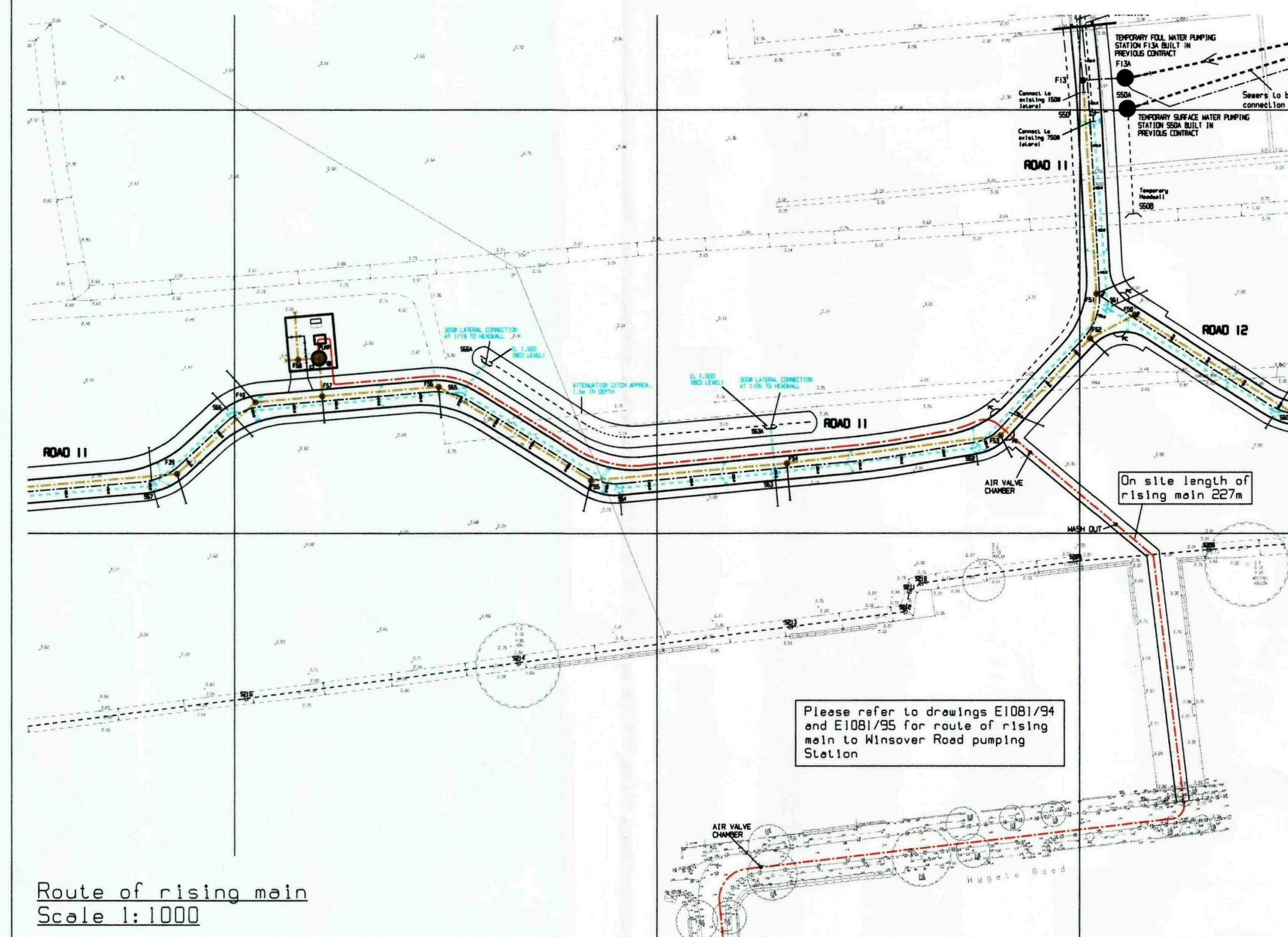
Ref: 520-209-10
Planning & Development
30 MAR 2010

Rev.	By	Notes	Date
rdc Robert Doughty Consultancy 32 High Street, Helpingham Sleaford, Lincolnshire NG34 0RA Tel: 01529 421646 Fax: 01529 421358 Email: admin@rdc-landplan.co.uk Web: www.rdc-landplan.co.uk			
Client: ALLISON HOMES EASTERN LTD			
Project: Wygate South, Spalding			
Drawing title: Pumping Station / Route of Rising Main			
Drawing No. 520 / 210 / RR01	Rev.	Drawn GJ	
Scale 1 : 500 @ A2	Date 26 / 03 / 2010	Checked	

All measurements should be checked against on site conditions and any discrepancies should be brought to the attention of the Robert Doughty Consultancy.

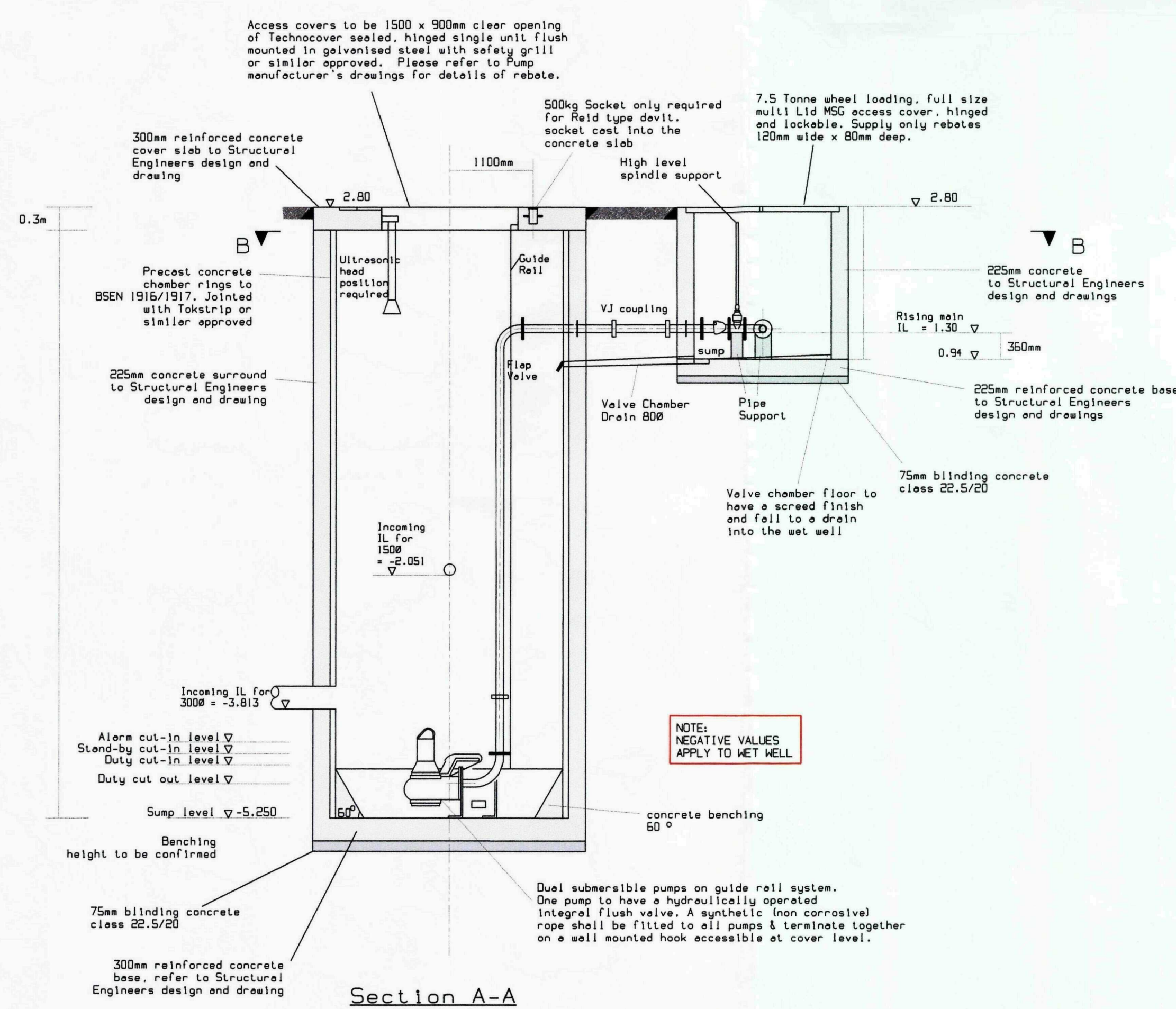


PUMPS, WET WELL AND VALVE CHAMBER TO BE DESIGNED BY APPOINTED PUMP MANUFACTURER. REFER TO THEIR DETAIL DRAWINGS, SPECIFICATION AND INSTALLATION DETAILS.



NOTE:-
Due to the depth of the pumping station the contractor is to provide a method statement of how he is to carry out the construction. The details shown are subject to floatation calculations and reinforcement details to the cover slab, base slab and the valve chamber.

The contractor is to be aware of the gravel conditions and water table shown in the Soils Report and additional borehole information accompanying the tender documents.



PUMPS	
To be capable of delivering 33 l/s @ 6DNF	
RISEING MAIN	
202.8mm internal diameter	
Length = 110.1m	
EMERGENCY STORAGE REQUIRED	
720 x 150	= 115200 Litres
	= 115.2 Cu m
EMERGENCY STORAGE PROVIDED	
Volume available in wet well above high level alarm	
5 X 7.068	= 35.34 Cu m
Volume available in pipes and manholes up to a level of 1.5m AOD	
	= 85.34 Cu m
Say	
1 manhole @ 1500mm and 4 manholes @ 1200mm depth 4.5m	
gives 22.12 cu m.	
3 manholes @ 1500mm and 7 manholes @ 1200mm depth 3.5m	
gives 46.26 cu m.	
6 manholes @ 1200mm depth 2.5m	
gives 16.96 cu m.	
Min storage available	= 120.68 Cu m
DESIGN CALCULATIONS	
6DNF = 720 x 0.046	= 33.12 l/s
School flow	= 0.38 l/s
	= 33.50 l/s
Rising Main Size	= 202.8 10
Pumping Rate	
Depth of duty cut-in to common cut out	= 0.5 m
Cross section area of Wet Well	= 7.06 m ²
Working sump capacity =	= 3.53m ³ (C)
Minimum interval between starts = $\frac{4C}{P} = \frac{4 \times 3.53}{0.033 \times 60}$	= 7.11 mins
Max no of starts per hour	= 8.43 (<15 Ok)
Time taken to fill sump at 6DNF = $\frac{32.58}{6} \times 5.43$	= 10.80 mins
Capacity of rising main	= 35.55 m ³
Rising main discharge soffitt	= 1.803 AOD
Average stop/start level	= -4.50 AOD
Static design head	= 6.303 m

- NOTES FOR PUMPING STATION COMPOUND**
- Kiosk to be of the 'Road side' type and a minimum of 3 metres from any opening to the Wet Well Chamber or Vent Pipes.
 - 1.8m high brick wall, 225mm thick with piers as necessary with engineering brick damp proof course. Foundations to Structural Engineers design and drawing.
 - Hardstanding to be 150mm thick Reinforced concrete on 250mm of Type 1 Sub-base, remaining area of compound to be 75mm thick concrete on 100mm Type 1 sub base.
 - Gates to be 3.8m clear opening with galvanised mild steel vertical bars with boarding wood cladding.
 - The location of ducts etc. to be in accordance with The Pump Manufacturers Working Drawings.
 - The Drawing to be read in conjunction with The Pump Manufacturers Drawings, Sewers for Adoption, 6th edition.
 - Contractor to provide Method Statement of Method of Construction of Station.
 - Outside light to be 500w halogen flood light mounted on a separate pole at a minimum height of 4m above the working area within 5m of the kiosk position.
- NOTES FOR PUMPING STATION**
- All pipework up to and including the adaptor at the exit from the valve chamber to be provided by the pump manufacturer.
 - All work inside the station to be undertaken by the pump manufacturer or installer, excluding civils work and ducting.
 - All inlets/outlets are to be boxed out by the civils contractor. Sealing after installation of the pipe work is to be undertaken by the pipe installers.
 - All Civils work by Civils Contractor including making good around pipes after installation, benching, fixing all station steel work and laying cable ducts etc.
 - All ducts 100 dia. min. complete with draw ropes and avoiding acute changes of direction.
 - Reinforcing bars to be 75mm min. below surface.
 - Benching to be 45° to the horizontal and to be formed after pump installation.
 - Direction of duct shown diagrammatically - all ducts to be laid on most direct line to suit service being carried.
 - Structural detail illustrative only, may be worked to for dimensions but structure to be properly designed/specified by structural engineer. Adequate provision to be made against possible floatation effects. Radio Survey to be undertaken by Anglian Water to determine telemetry transmission.
 - All work to comply with 'Sewers for Adoption - 6th Edition' as amended by Anglian Water's Version 1.1 Addendum to this document dated January 2007.
 - This drawing is intended to show typical arrangement of the pumping station. The civils contractor/pump supplier must contact Anglian Water Services Ltd in order to satisfy their precise requirements in relation to the general layout, the control gear and kiosk, devil, telemetry, compound and fencing etc.

Rev. No.	REVISION	Date	Drawn By	Checked By
A	Calculations amended, level added to valve chamber	20.12.07	NJB	HDC
B	Rising main discharge level, design head, rising main capacity and valve chamber dimensions amended. Pumping station compound levels added. Note 10 revised.	29.01.10	AJMB	NJB
Written dimensions to be taken. Do not scale off the drawing. Any discrepancies, written or scaled, should be brought to the attention of the engineer immediately. This drawing to be read in conjunction with the relevant Bills of Materials and Local Authority Specification. CDN NOTE: The design has been undertaken as far as possible to avoid risks to health and safety or to reduce and control the effects of any unavoidable risks. All relevant information identifying the unavoidable risks has been passed to the planning supervisor for inclusion in the Health & Safety plan. The Health & Safety plan will be issued by the planning supervisor with these drawings.				
WORMALD, BURROWS PARTNERSHIP				
Civil Engineering Consultants 12a & 14a Hitchin Street, Biggleswade, Beds SG18 8AX, U.K. Tel 01767 317244 Fax 315434				
Project: PROPOSED DEVELOPMENT AT WYGATE SOUTH, SPALDING, LINCOLNSHIRE				
Drawing Description: FOUL WATER PUMPING STATION GENERAL ARRANGEMENT				
Client: ALLISON HOMES EASTERN LTD		Drawing Number: E1081/92/B		
Drawn By: NJB		Scale: VARIES		
Date: NOV. 07		Checked By: HD		
Date: NOV. 07		Date: NOV. 07		