

# 4.13 Engineering Drawings and Sections

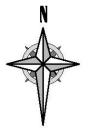
TR020002/APP/4.13

Project Name: Manston Airport Development Consent Order

Regulation: Regulation 5(2)(o) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure)

Regulations 2009, as amended

Date: July 2018



### MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - EXISTING LAYOUT IN THE CONTEXT OF EASA REQUIREMENTS REGULATION 5(2)(o) THANET DISTRICT COUNCIL

-0.630%

Passenger Terminal Apron - Non-compliance (clause E-360)

On an aircraft stand, the maximum slope should not exceed 1% in any direction

44.000



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EASA Document CS-ADR-DSN: Issue 4 December 2017

The precision of the survey dose not allow an exhaustive check of EASA compliance. However, some aspects can be highlighted.

The clauses of the Document CS-ADR-DSN checked are the following:

#### Runway 10/28 (Code Letter E)

CS-ADR-DSN.B.060 Longitudinal slopes of Not to exceed gradient 1.25% (0.80% in first and last quarter).

CS-ADR-DSN.B.065 Longitudinal slopes changes

Minimum radius of curvature 30,000m.

CS-ADR-DSN.B.185 Transverse slopes on runway Not to exceed 2.50% on the strip portion to be graded.

#### Taxiway Alpha (Code Letter E)

CS-ADR-DSN.D.260 Taxiway minimum separation Between taxiway and runway centerline: 172.5m

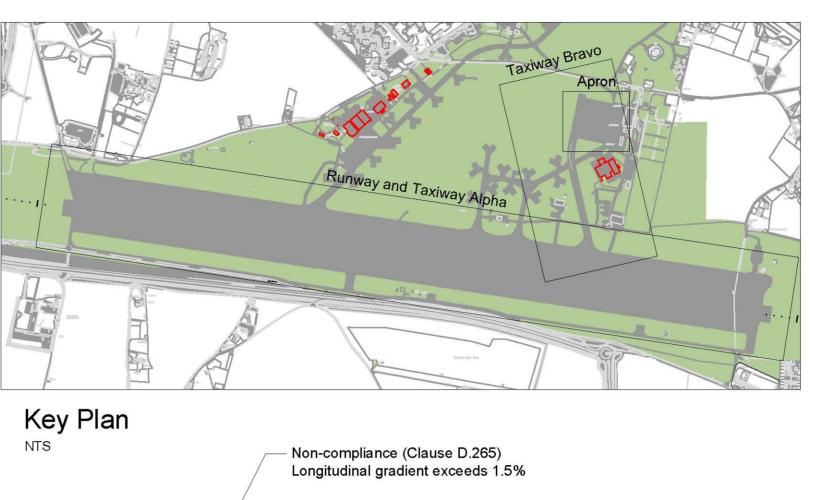
Taxiway Bravo (Code Letter E)

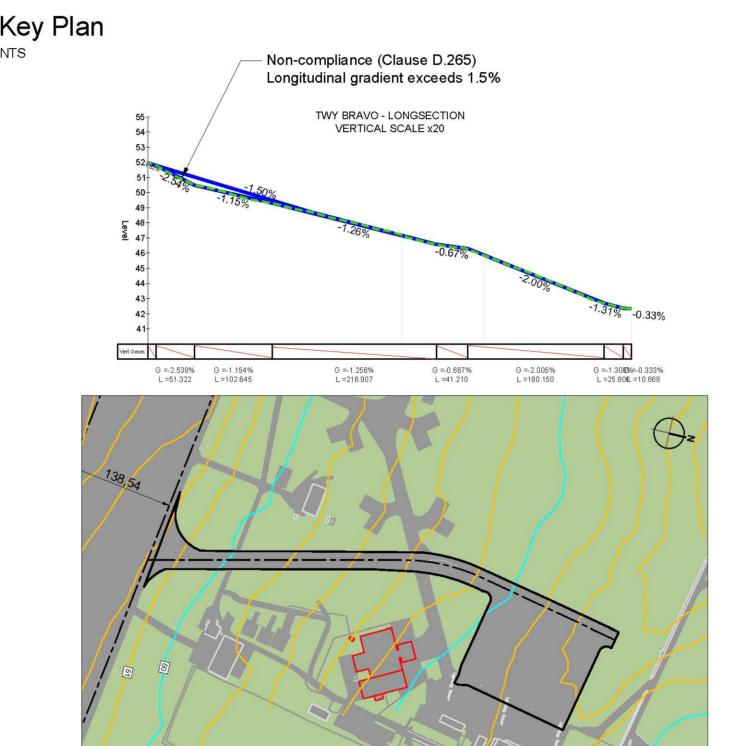
## CS-ADR-DSN.D.265 Longitudinal slope on

Not to exceed gradient 1.50%

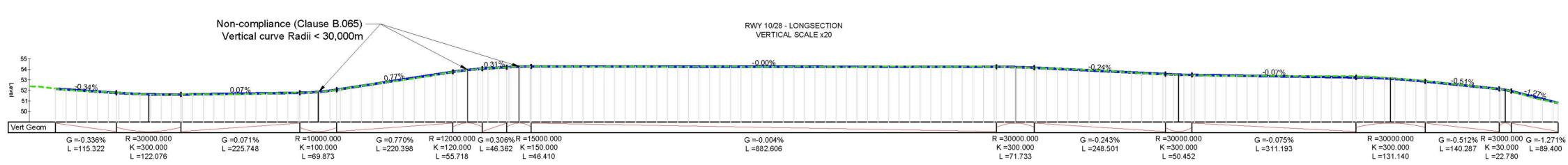
#### Passenger Terminal Apron (Code Letter E)

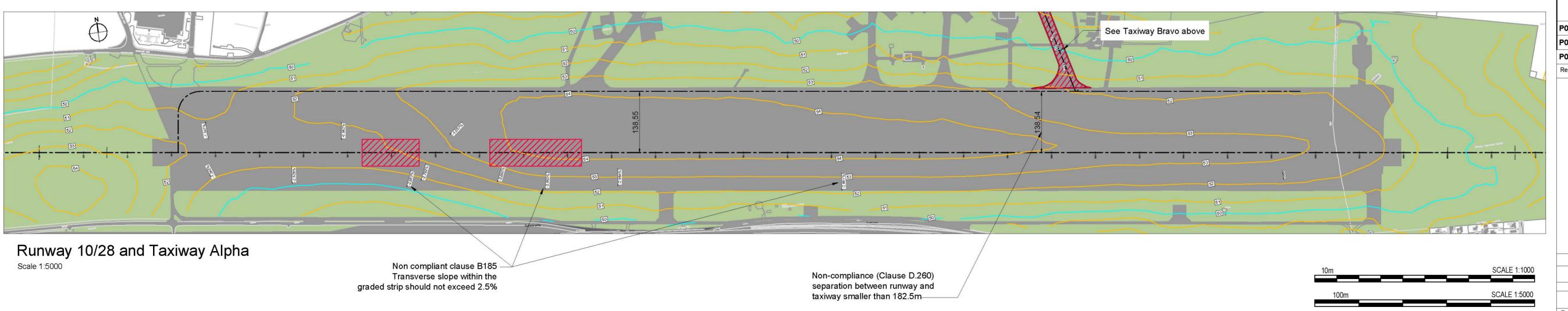
CS-ADR-DSN.E.360 Slopes on aprons: On an aircraft stand the maximum slope should not exceed 1% in any direction.





Taxiway Bravo Scale 1:5000





KA CJ CJ 23.03.18 P03 Application Number Added SO CJ GDD 20.03.18 P02 Note, document number and scale amended TC CJ CJ 12.02.18 P01 First issue Rev Description By Ckd Apr Date

> Project MANSTON AIRPORT DEVELOPMENT CONSENT ORDER

**ENGINEERING DRAWINGS** AND SECTIONS -EXISTING LAYOUT IN THE CONTEXT OF EASA REQUIREMENTS REGULATION 5(2)(o) THANET DISTRÌCT COUNCIL

Document Nun	nber	Revis
NK018417	-RPS-MSE-XX-DR-C-2004	Р
Project Number	Originator - Zone - Level - Type - Role - Drawing Number	
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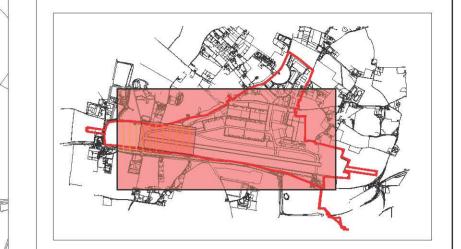
Application Number - TR020002

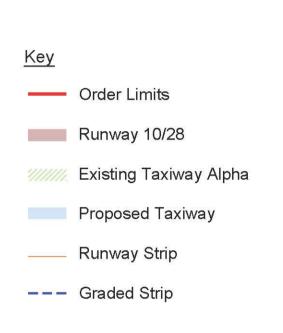
Sheet Size AS SHOWN 1 of 1 S. 56



## MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - RUNWAY-TAXIWAY ALPHA INTERFERENCE REGULATION 5(2)(o) THANET DISTRICT COUNCIL







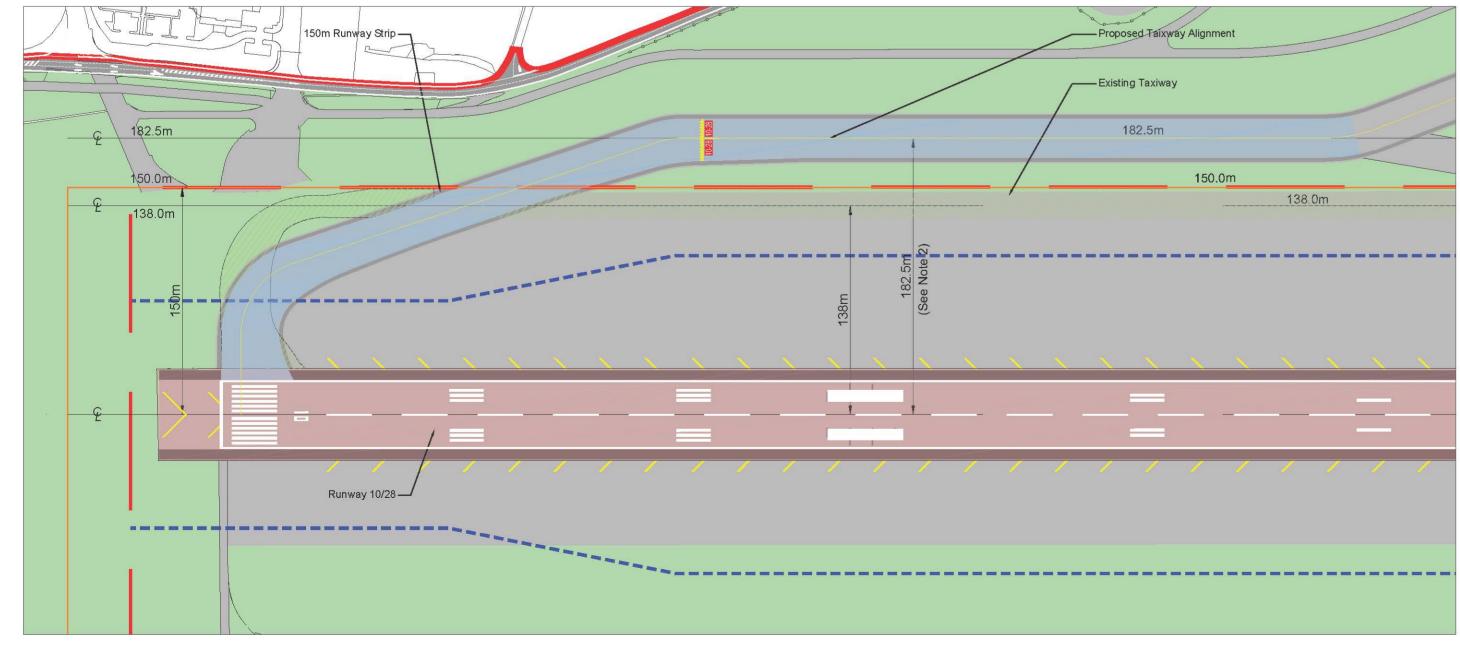
OS Data obtained from emapsiteTM May 2017: Crown copyright and database rights 2017 Ordnance Survey 0100031673

Separation distance between Taxiway Alpha and Runway of 182.5m was originally based on EASA Guidance Material for aerodrome design CS-ADR-DSN Issue 3.

This was suspended by issue 4 on 8th December 2017 which reduced the minimum separation distance to 172.5m for code E and 180m for code F. The realignment therefore remains compliant with the latest standards but could be reduced.



Scale 1:5000



Det	ail	Α	
Scal	e 1.	2500	

	Dis			centre line (metres) centre line other than stand								Aircraft stand
			nt runv numbe				nent ru numbe	unways er	to taxiway centre line (metres)	stand cen taxilane, airo centre line t to object ce	taxilane centre line to aircraft stand	taxilane centre line to object
Code letter	1	2	3	4	1	2	3	4			taxilane centre line (metres)	(metres)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Α	77.5	77.5	-		37.5	47.5			23	15.5	19.5	12
В	82	82	152		42	52	87	- 1	32	20	28.5	16.5
С	88	88	158	158	48	58	93	93	44	26	40.5	22.5
D		-	166	166	-		101	101	63	37	59.5	33.5
Е	-	-	172.5	172.5		-	107.5	107.5	76	43.5	72.5	40
F			180	180		_	115	115	91	51	87.5	47.5

Note 1: The separation distances shown in columns (2) to (9) represent ordinary combinations of runways and

Note 2: The distances in columns (2) to (9) do not guarantee sufficient clearance behind a holding aeroplane to permit the passing of another aeroplane on a parallel taxiway.

Table D-1. Taxiway minimum separation distances

EASA Document: Certification Specification For Aerodromes Clause CS.ADR-DSN.D.260

	50m	SCALE 1:2500
	100m	SCALE 1:5000
4	Graded Strip added to key	TAW CJ GD 27.03.18

P04	Graded Strip added to key	TAW	CJ	GD	27.03.18
P03	Application Number Added	KA	CJ	CJ	23.03.18
P02	Text amended and Viewports realigned.	AAG	CJ	GDD	21.03.18
P01	First Issue	KA	CJ	GDD	18.02.18
Rev	Description	Ву	Ckd	Apr	Date

Project MANSTON AIRPORT DEVELOPMENT CONSENT ORDER

Title ENGINEERING DRAWINGS AND SECTIONS -RUNWAY-TAXIWAY ALPHA INTERFERENCE REGULATION 5(2)(0) THANET DISTRICT COUNCIL

Document Nur	nber	Revision
NK018417	-RPS-MSE-XX-DR-C-2005	P04
Project Number	Originator - Zone - Level - Type - Role - Drawing Number	3

Application Number - TR020002

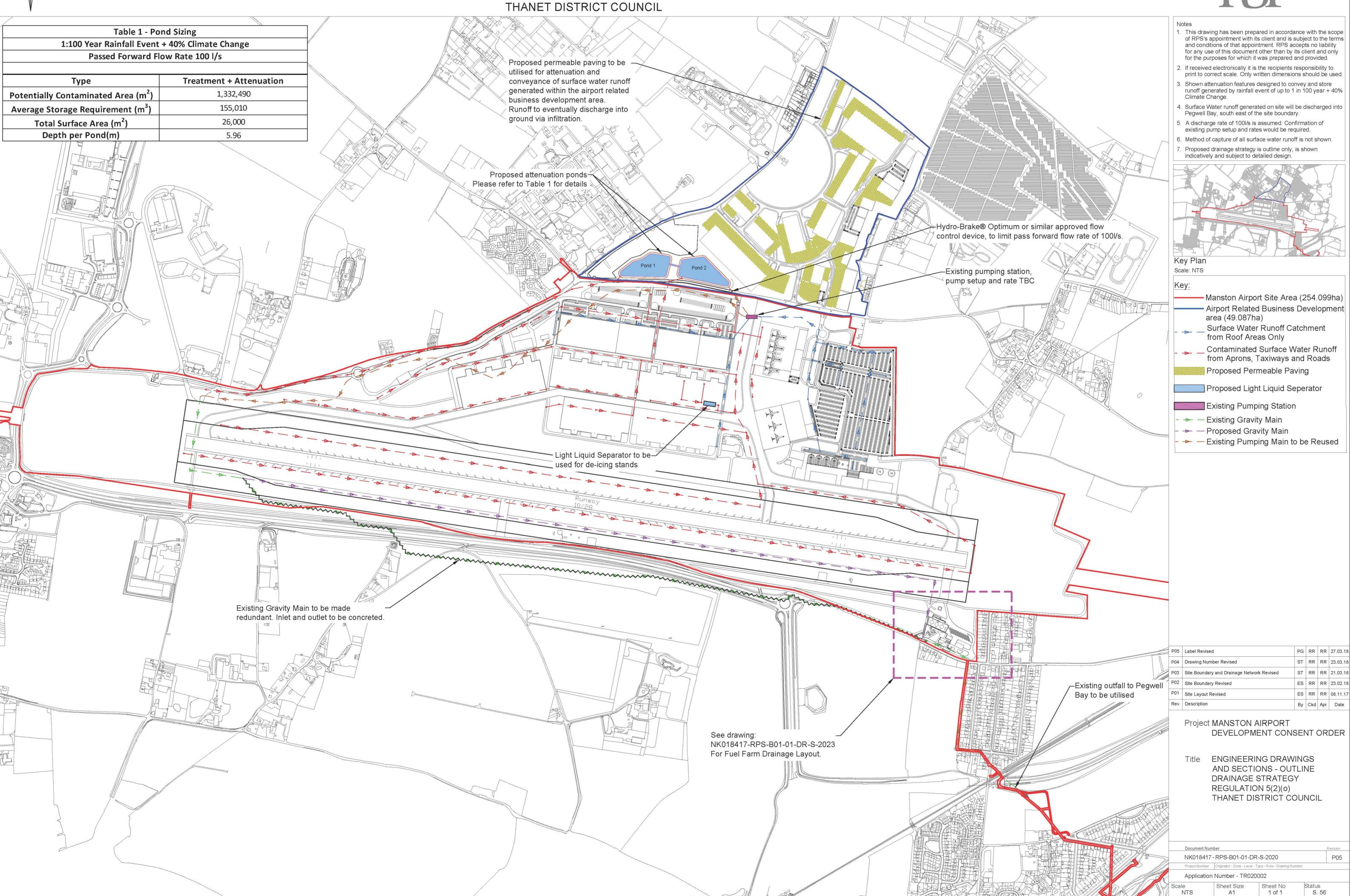
Status S.56 1 of 1 As Shown



# MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - OUTLINE DRAINAGE STRATEGY REGULATION 5(2)(o)

ILLUSTRATIVE PURPOSES ONLY

RSP



Sheet No

1 of 1

S. 56

1:500

A1

## MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - EXISTING CONTOURS REGULATION 5(2)(o) THANET DISTRICT COUNCIL KEY - Order Limits - Existing ground contours at 5m intervals Exiting ground contours at 1m intervals OS data obtained from emapsite™ May 2017: © Crown copyright and database rights 2017. Ordnance Survey 0100031673 topographical data obtained from historical airport data recieved 11/03/2016 refEGMH\_25mgrid levels.dwg and supplemented by RPS survey (Feb 2017) ref 'UAK3008\_A'. Existing contours extrapolated from adjacent location in some areas. Woodchurch Existing Contours extrapolated from adjacent data points Manston Road Smugglers leap A299 KA CJ CJ 23.03.18 P03 Application Number Added TAW CJ GD 21.03.18 P02 Boundary and master plan updated Cliffsend P01 First Issue AAG CJ GD 01/09/17 Rev Description By Ckd Apr Date Project MANSTON AIRPORT DEVELOPMENT CONSENT ORDER Title ENGINEERING DRAWINGS AND SECTIONS -**EXISTING CONTOURS** REGULATION 5(2)(o) THANET DISTRÌCT COUNCIL Document Number Pegwell Bay NK018417 - RPS-MSE-XX-DR-C-2030 Project Number Originator - Zone - Level - Type - Role - Drawing Number Application Number - TR020002 Sheet No 1 of 1 Status S.56 1:7500 A1

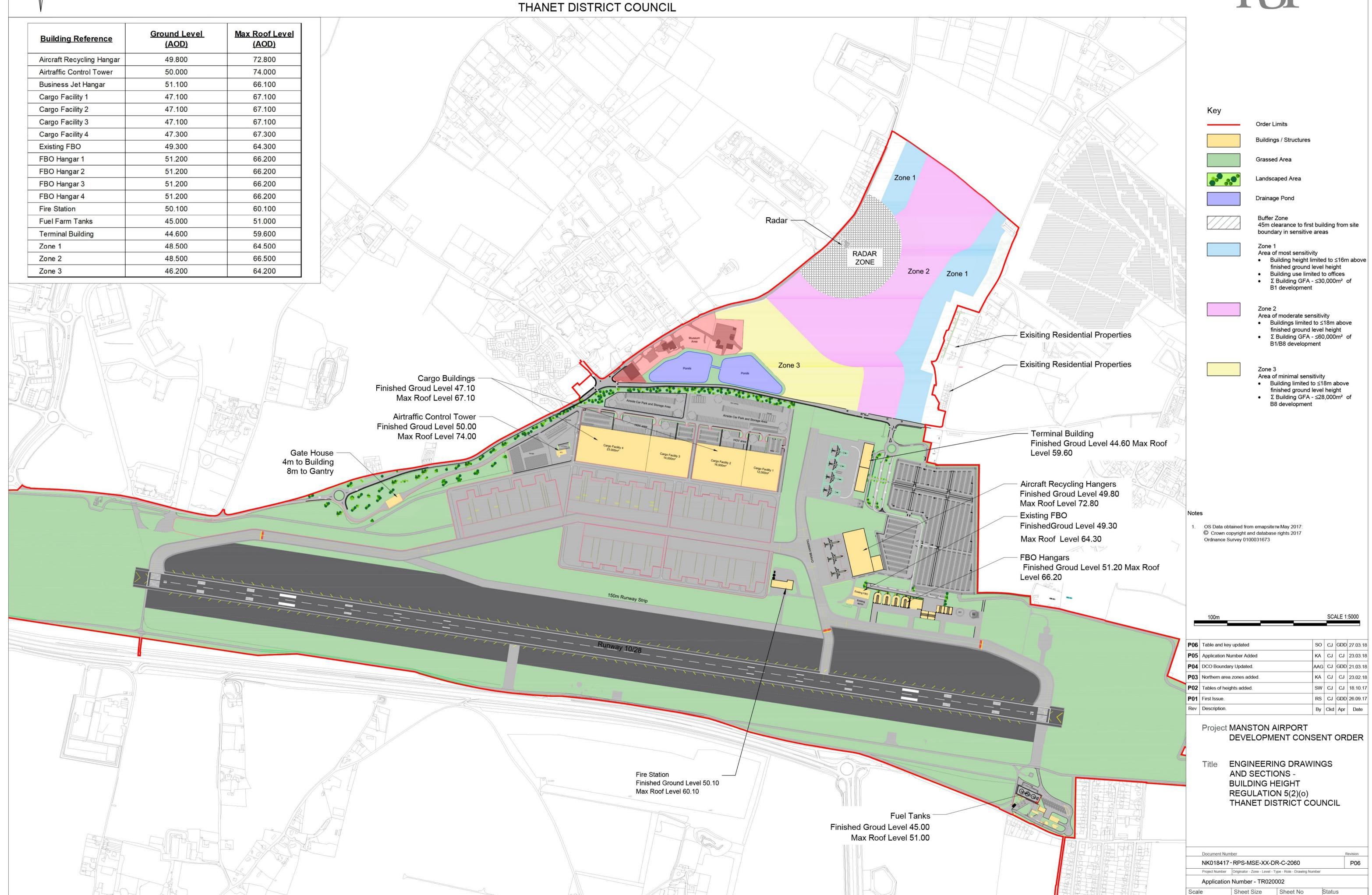


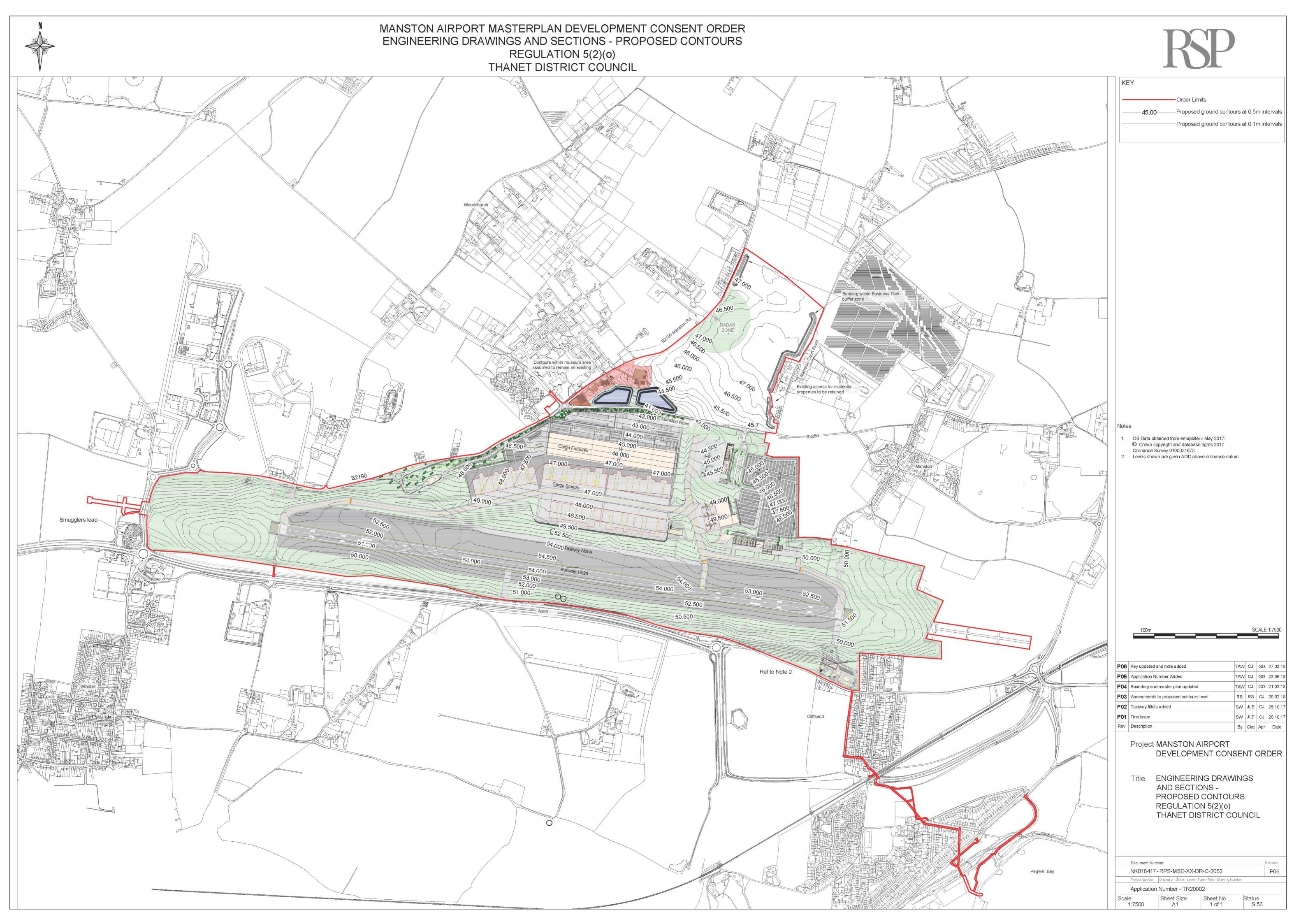
# MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - BUILDING HEIGHT REGULATION 5(2)(o)



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1 of 1



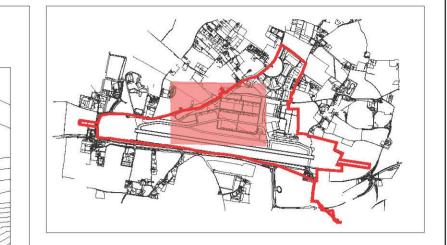


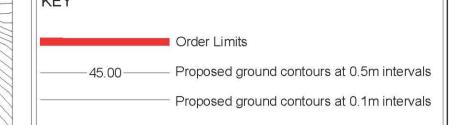


## MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - PROPOSED CONTOURS - CARGO AREA REGULATION 5(2)(o) THANET DISTRICT COUNCIL

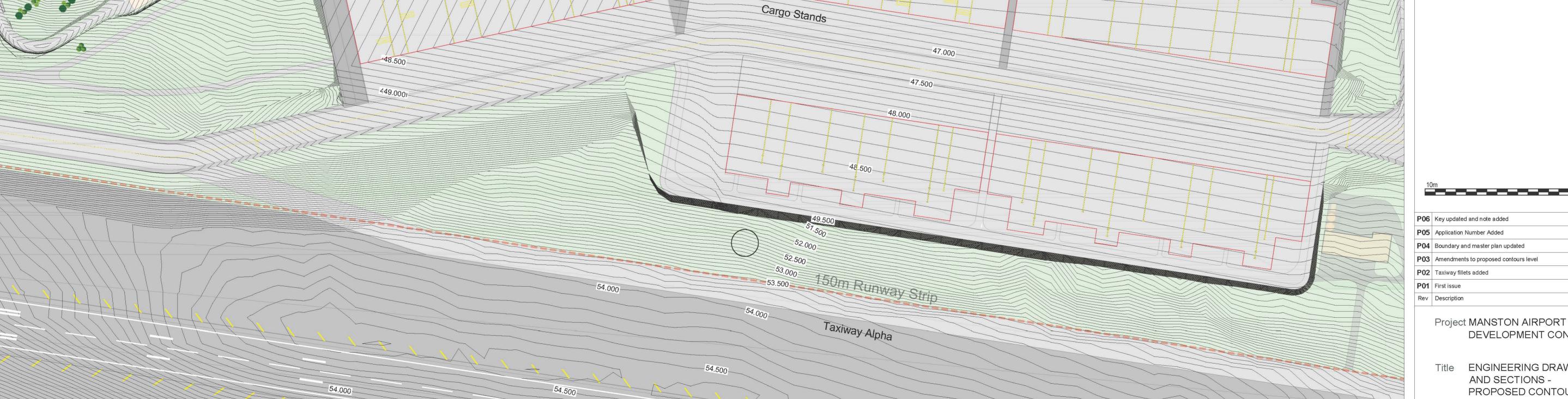
Contours within museum area assumed to remain as existing







- OS Data obtained from emapsite<sup>TM</sup> May 2017:
   © Crown copyright and database rights 2017 Ordnance Survey 0100031673
   Levels shown are given AOD above ordnance datum



54.500

53.000

Cargo Facilities

47.000

## 10m SCALE 1:2000

P06	Key updated and note added	TAW	CJ	GD	27.03.18
P05	Application Number Added	TAW	CJ	GD	23.03.18
P04	Boundary and master plan updated	TAW	CJ	GD	21.03.18
P03	Amendments to proposed contours level	RS	RS	CJ	20.02.18
P02	Taxiway fillets added	sw	JLE	CJ	25.10.17
P01	First issue	sw	JLE	CJ	20.10.17
Rev	Description	Ву	Ckd	Apr	Date

DEVELOPMENT CONSENT ORDER

Title ENGINEERING DRAWINGS AND SECTIONS -PROPOSED CONTOURS -CARGO AREA REGULATION 5(2)(0) THANET DISTRICT COUNCIL

Doo	cument Nun	nber	Revision
NK	(018417	- RPS-MSE-XX-DR-C-2063	P0
Proi	ect Number	Originator - Zone - Level - Type - Role - Drawing Number	

Status S.56

Application Number - TR20002 Sheet No 1 of 1

A1

1:2000



## MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - PROPOSED CONTOURS - PASSENGER AREA REGULATION 5(2)(o) THANET DISTRICT COUNCIL



1:7500

A1

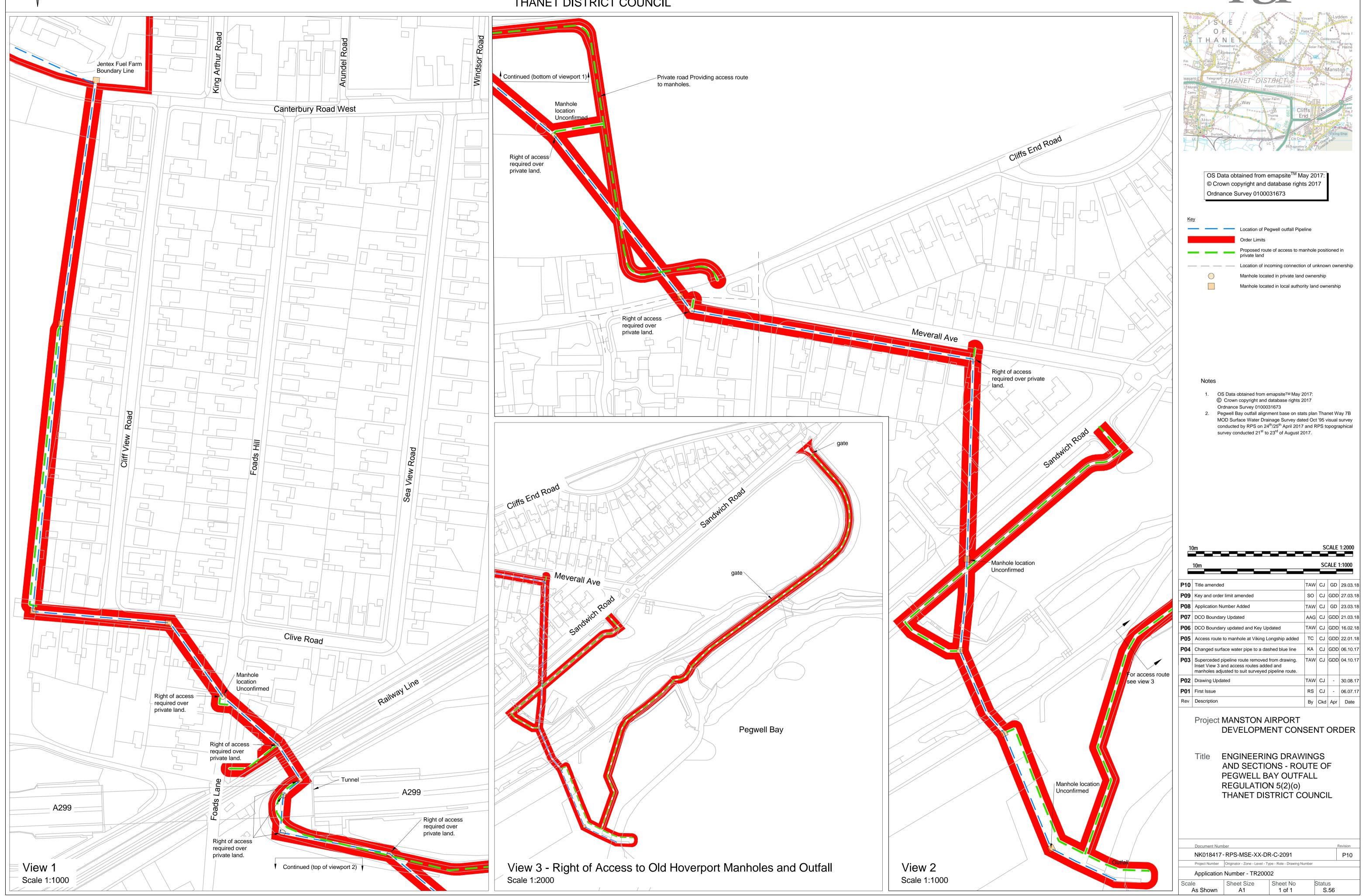
1 of 1



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# MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - ROUTE OF PEGWELL BAY OUTFALL REGULATION 5(2)(o) THANET DISTRICT COUNCIL



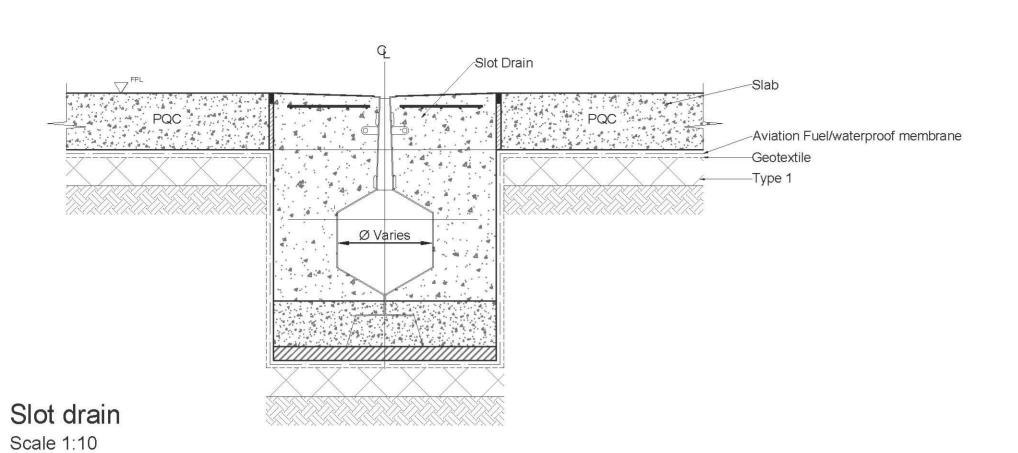


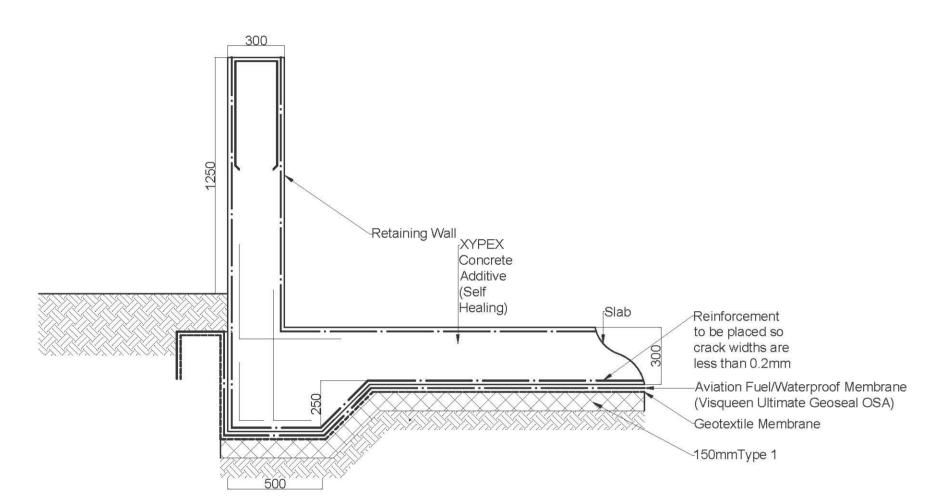


# MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - FUEL FARM DESIGN DETAILS SHEET 1 OF 2 REGULATIONS 5(2)(o)

THANET DISTRICT COUNCIL

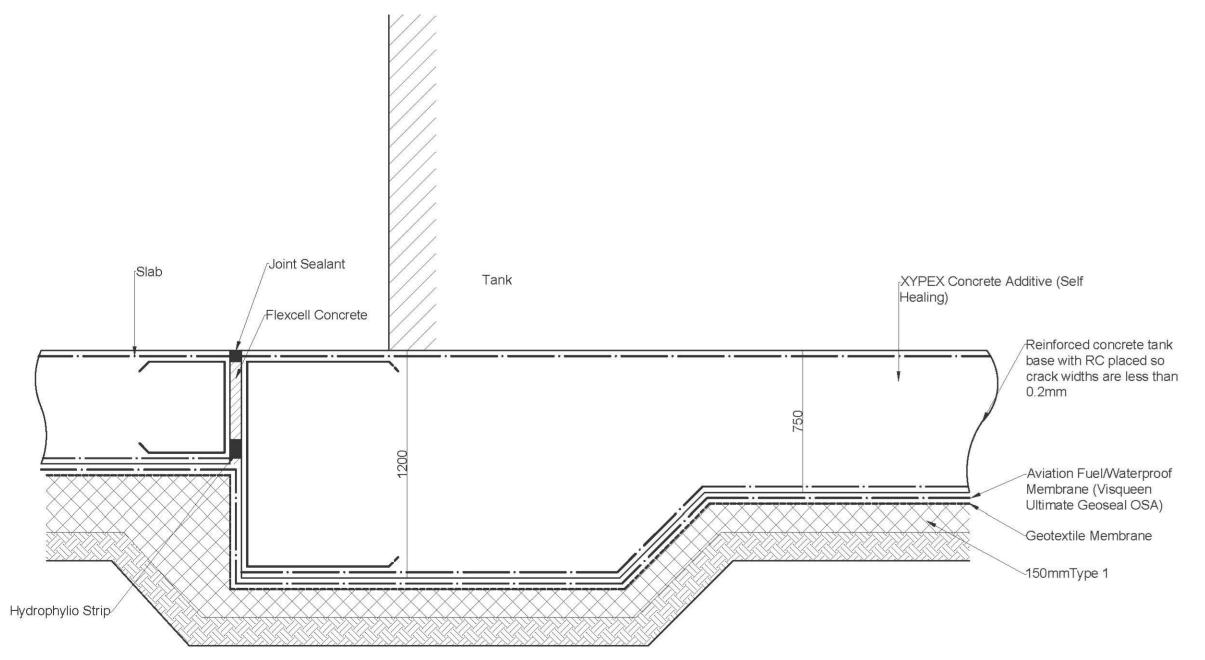




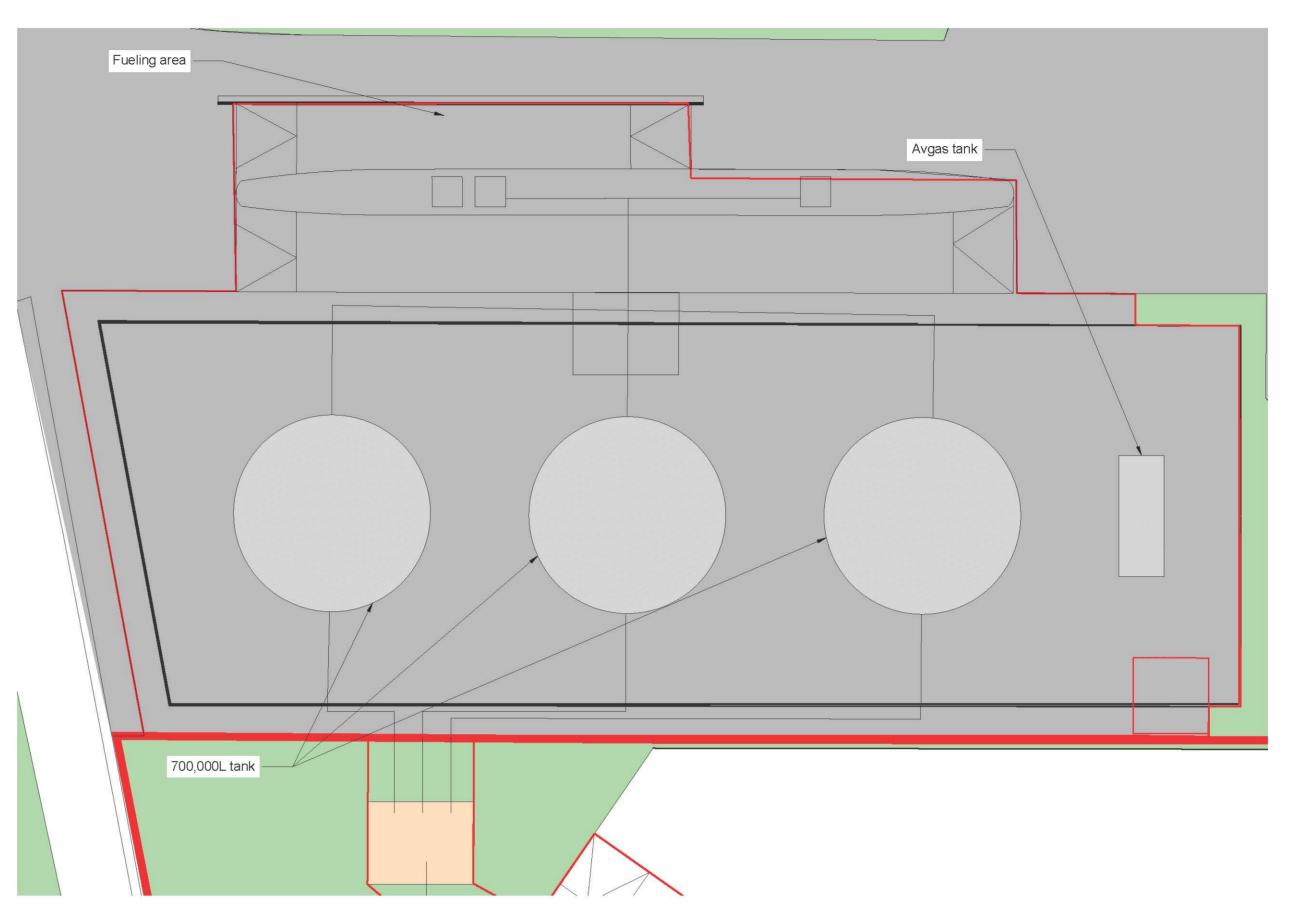


Bund edge detail

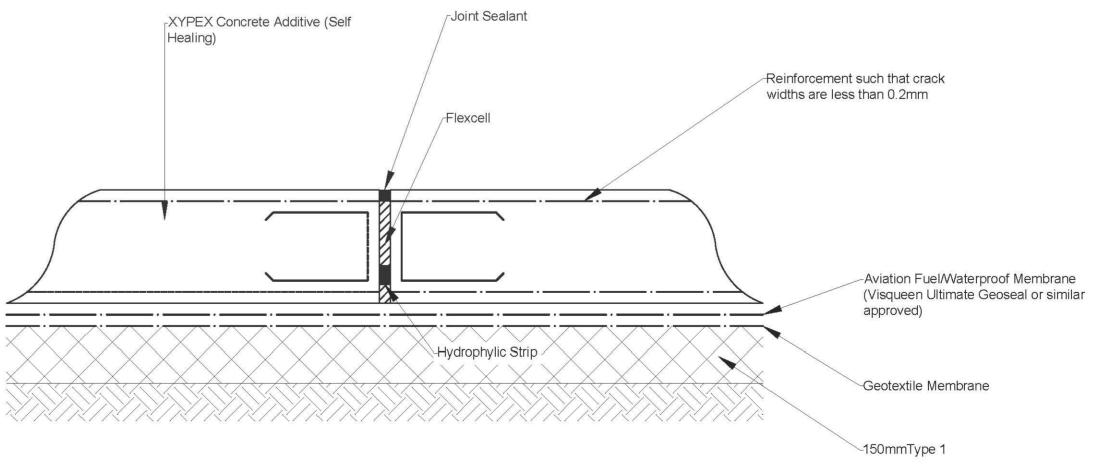
Scale 1:20



Tank Base
Scale 1:20



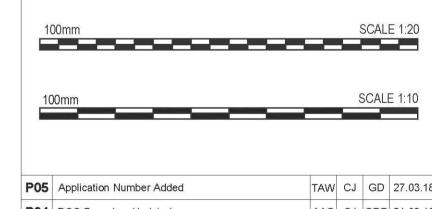
GA of Fuel Form Tanks and Bund Scale 1:250



Joint Detail
Scale 1:10

#### Votes

OS Data obtained from emapsite™ May 2017:
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 Ordnance Survey 0100031673



P05	Application Number Added	TAW	CJ	GD	27.03.18
P04	DCO Boundary Updated.	AAG	CJ	GDD	21.03.18
P03	Notes Added To Fuel Form Tank	TAW	CJ	GD	22.02.18
P02	Tank Separation Distances Updated.	TAW	CJ	GD	06.10.17
P01	First Issue.	KA	CJ	CJ	03.10.17
Rev	Description.	Ву	Ckd	Apr	Date

## Project MANSTON AIRPORT DEVELOPMENT CONSENT ORDER

Title ENGINEERING DRAWINGS
AND SECTIONS - FUEL
FARM DESIGN DETAILS
SHEET 1 OF 2
REGULATIONS 5(2)(0)
THANET DISTRICT COUNCIL

NK018417	-RPS-MSE-XX-DR-C-2093	P0
Droject Number	Originator - Zone - Level - Type - Role - Drawing Number	

1 of 2

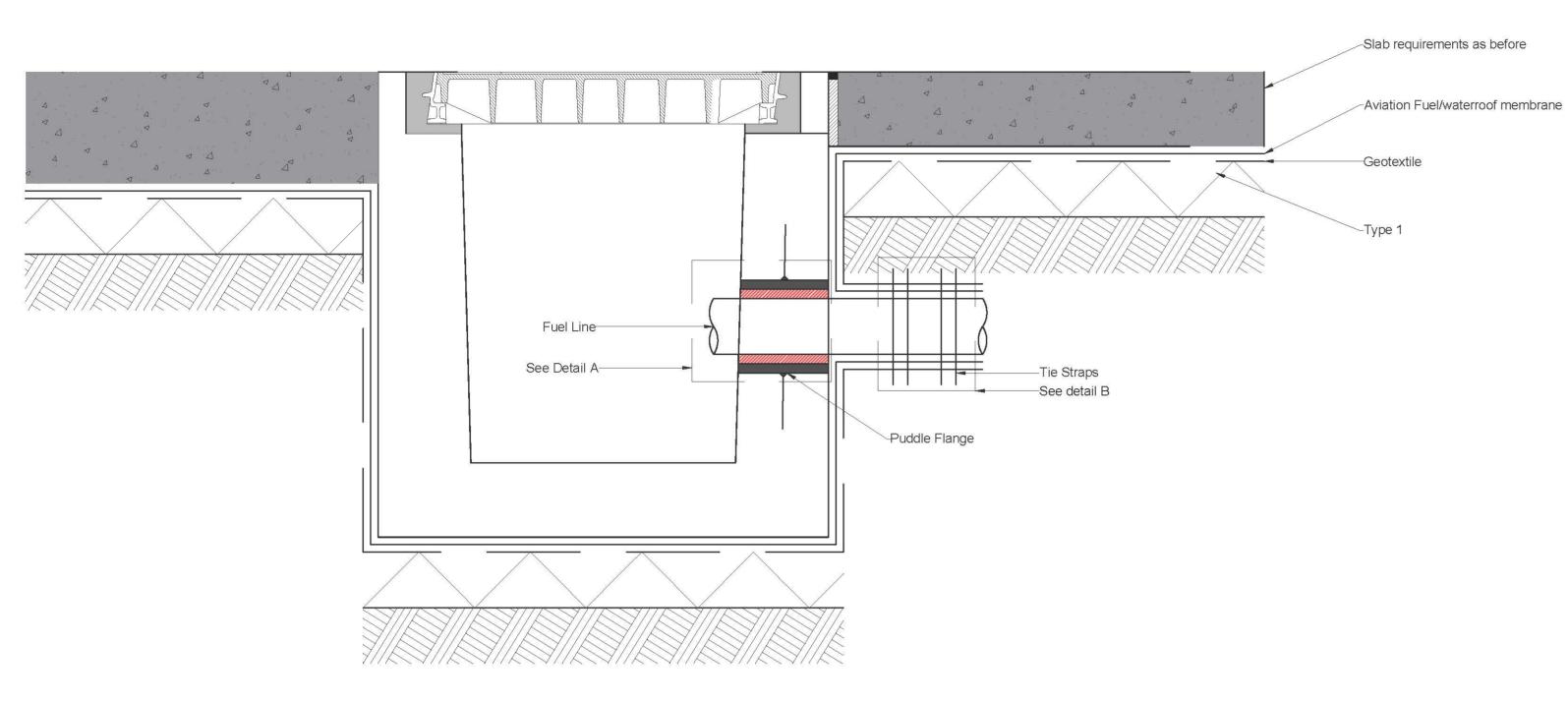
S. 56

Sheet Size

As Shown A1

# MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - FUEL FARM DESIGN DETAILS SHEET 2 OF 2 REGULATION 5(2)(o) THANET DISTRICT COUNCIL





Wall ETC

Pipe/Duct

Band seal to secure membrane to pipe/duct

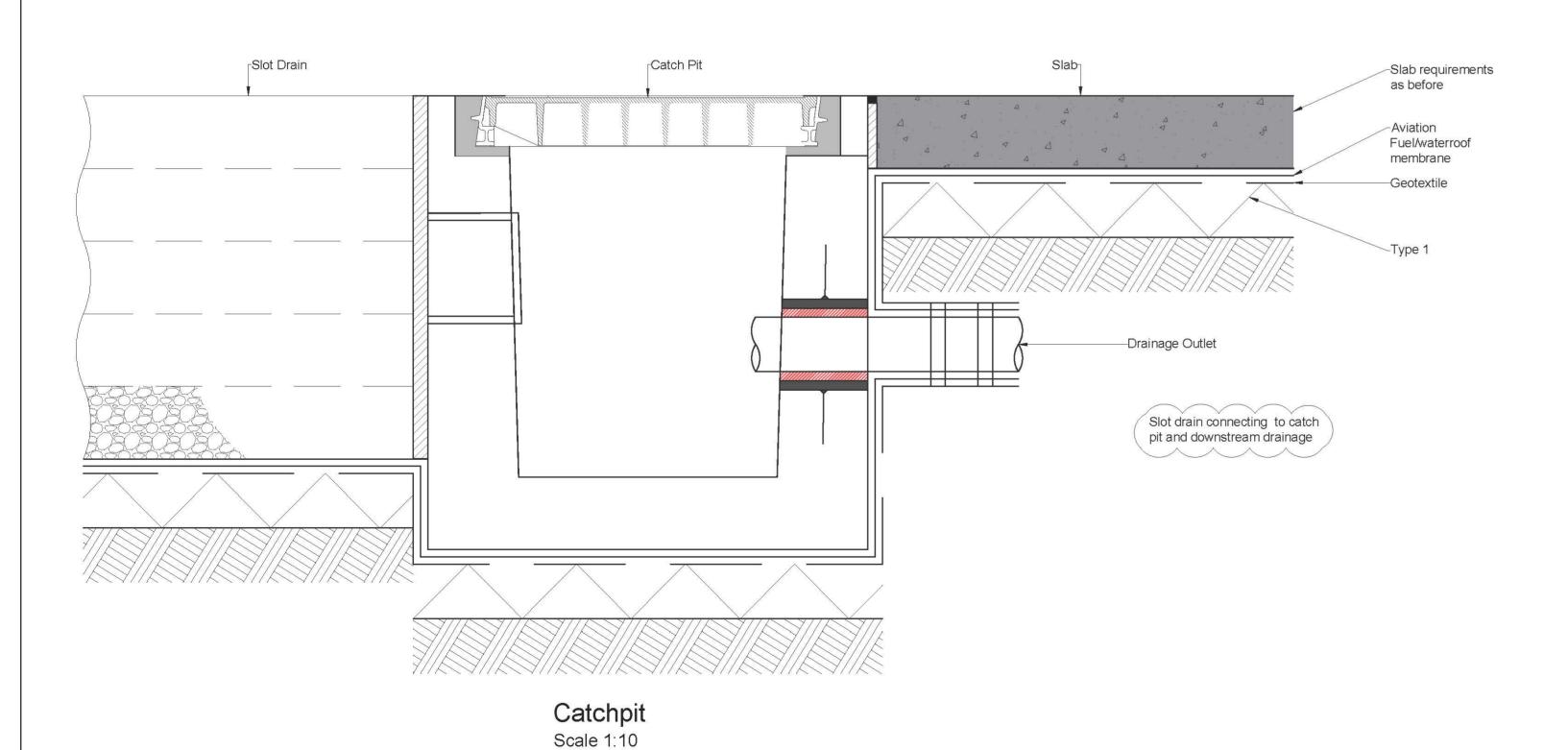
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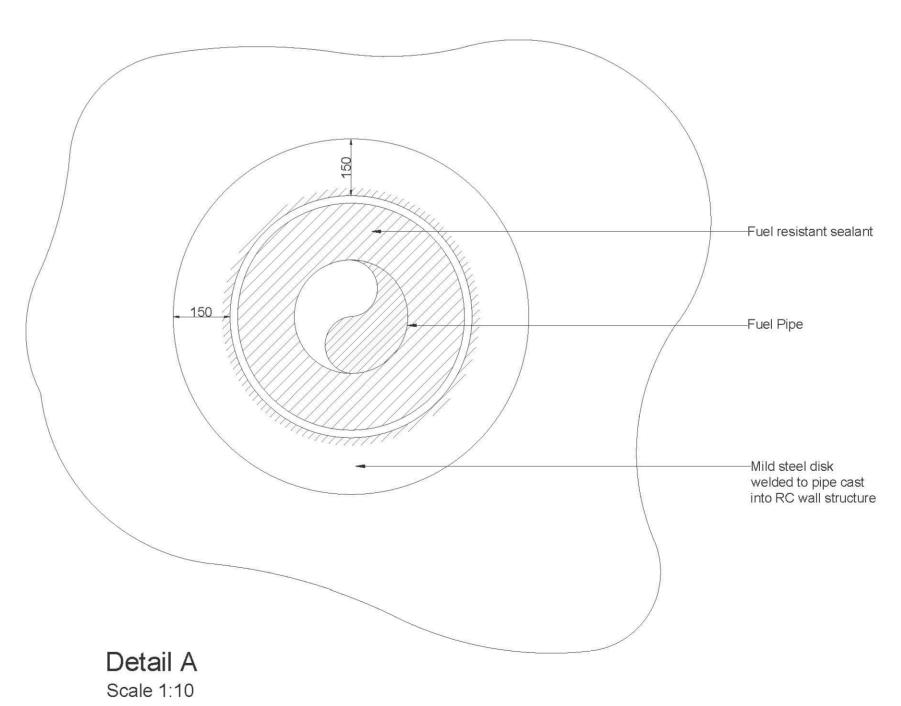
Scale 1:5

Fuel Line Pit Scale 1:10

#### Notes

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100mm SCALE 1:10

Section Title Changed	KA	CJ	GDD	27.03.18
Application number added.	so	CJ	GDD	23.03.18
DCO Boundary Updated.	AAG	CJ	GDD	21.03.18
Title Amended.	TAW	CJ	GD	22.02.18
First Issue.	KA	CJ	CJ	05.10.17
Description.	Ву	Ckd	Apr	Date
	Application number added.  DCO Boundary Updated.  Title Amended.  First Issue.	Application number added.  DCO Boundary Updated.  AAG  Title Amended.  First Issue.  KA	Application number added.  SO CJ  DCO Boundary Updated.  AAG CJ  Title Amended.  TAW CJ  First Issue.  KA CJ	Application number added.  SO CJ GDD  DCO Boundary Updated.  AAG CJ GDD  Title Amended.  TAW CJ GD  First Issue.  KA CJ CJ

Project MANSTON AIRPORT
DEVELOPMENT CONSENT ORDER

Title ENGINEERING DRAWINGS
AND SECTIONS - FUEL
FARM DESIGN DETAILS
SHEET 2 OF 2
REGULATION 5(2)(0)
THANET DISTRICT COUNCIL

Document Nun	Revision	
NK018417	P0:	
Project Number	Originator - Zone - Level - Type - Role - Drawing Number	

2 of 2

Preliminary

Application Number - TR020002

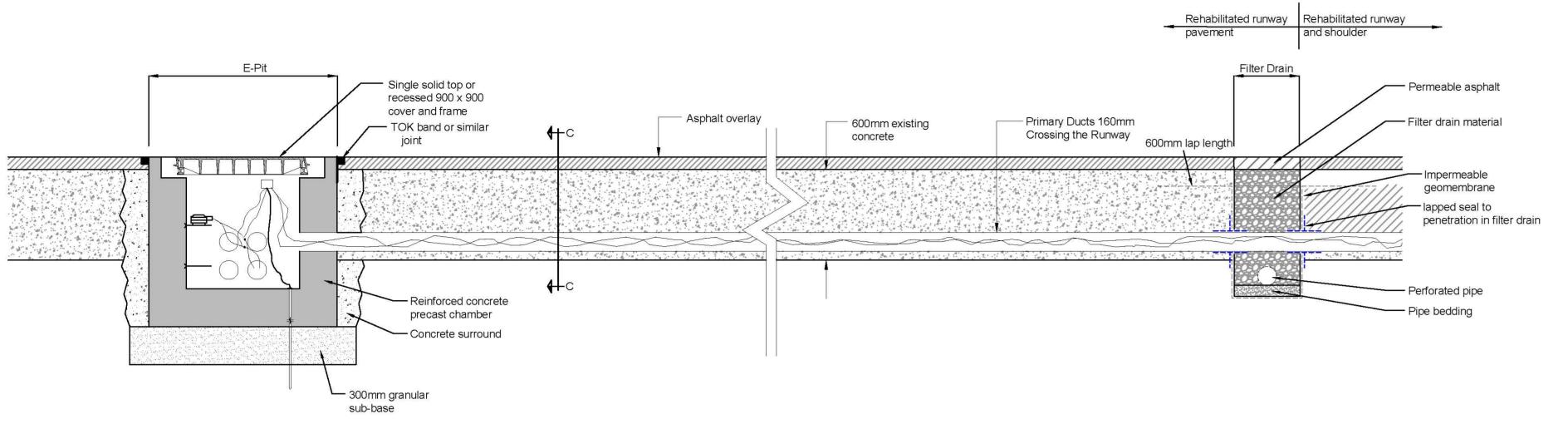
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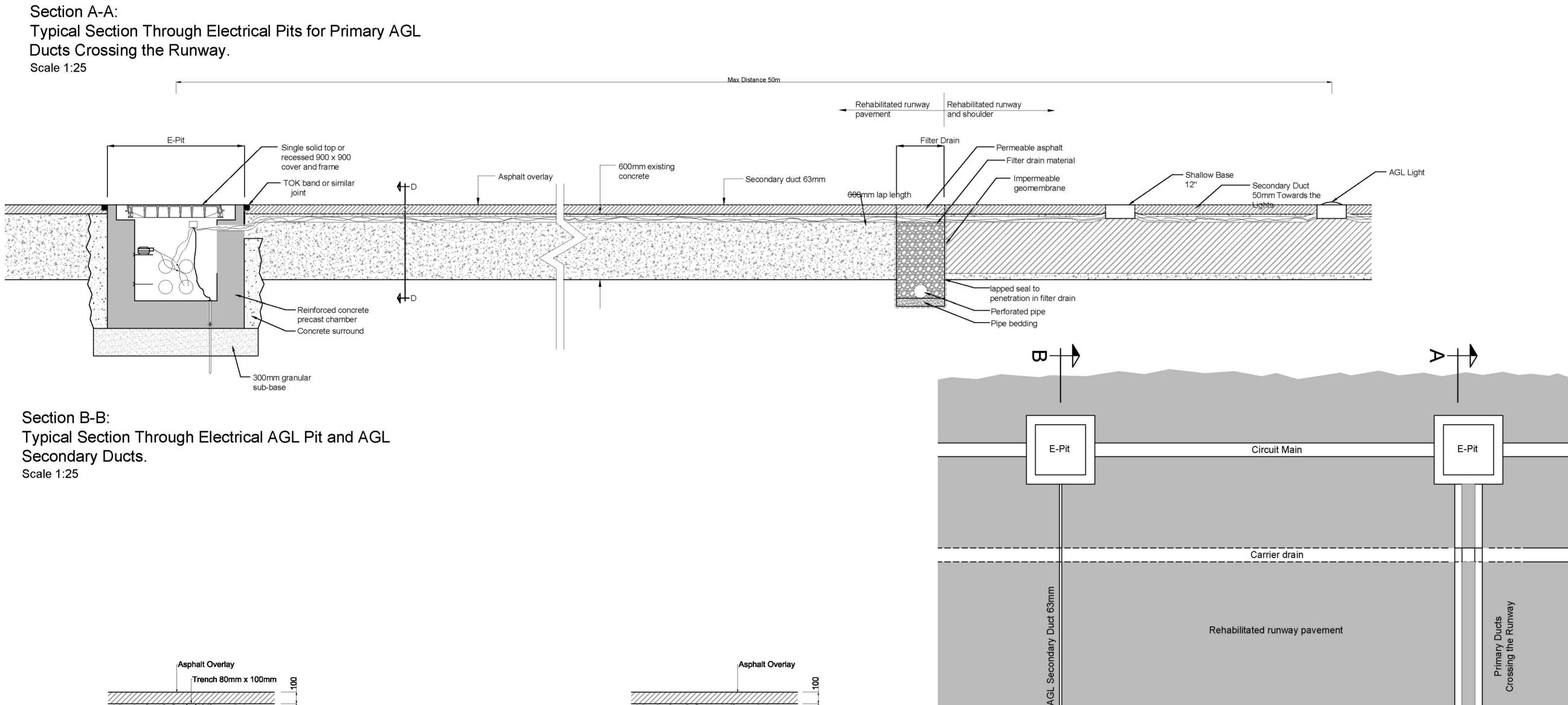
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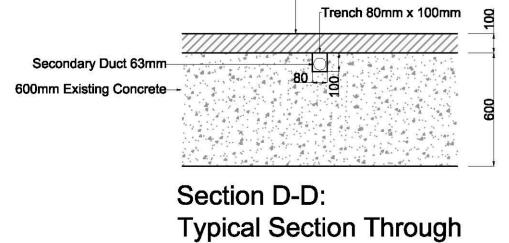
#### MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - DRAINAGE PENETRATION IN EXISTING PAVEMENT REGULATION 5(2)(o) THANET DISTRICT COUNCIL Rehabilitated runway pavement Rehabilitated runway and shoulder E-Pit Filter Drain Permeable asphalt Single solid top or recessed 900 x 900 cover and frame 600mm existing concrete — Asphalt overlay Secondary duct - TOK band or similar joint 600mm lap length geomembrane - lapped seal to penetration in filter drain - Reinforced concrete Rehabilitated Runway pavement Rehabilitated runway and shoulder Concrete surround Filter Drain Permeable asphalt - 300mm granular sub-base Granular filter drain material Asphalt overlay-——Asphalt overlay 600mm lap length — Section A-A: Drainage carrier pipe Typical Section Through Electrical Pit and Filter Drain Scale 1:25 geomembrane Rehabilitated runway pavement Rehabilitated runway and shoulder 600mm existing\_ Existing runway Perforated pipe Heavy duty F900 loading 600x600. F900 loading gully grating & frame, ---single top cover and frame Depth of slab around gully matches Expansion joint provided 850x450 clear opening. pavement thickness — Asphalt overlay Rebate filled with C45 concrete -5mm Drop to gully -(to suit frame size) 600mm existing concrete Expansion joint provided — Soft spots excavated and filled Typical Section through Filter Drain with type 1 granular fill Scale 1:25 600mm existing concrete Precast concrete chamber sections to BS 5911, -Incoming filter drain pipe bedded on mortar, proprietary bitumen or resin mastic \_\_\_\_ 50mm Blinding concrete 150mm concrete surround C40 Concrete to gully connection pipe Benching slope - Concrete surround to P.C Ring. 300mm thick 1:10 to 1:30 Construction joint -Bottom chamber section built 100mm into Inverts formed using channel pipes --- Granular surround to precast ring 300mm Thickness below pipe E-Pit Circuit Main Type 1 in accordance with SHW clause 803 300 Section B-B: Typical Section through Manhole and Gully Scale 1:25 Manhole Carrier drain — Joints to be sealed in accordance SO CJ GDD 23.03.18 with joint sealing detail P04 Application number added. Cracks <13mm to be sealed with a hot</li> AAG CJ GDD 21.03.18 P03 DCO Boundary Updated. Finished surface level Finished surface level N2 sealant or similar material P02 Title Amended. TAW CJ GD 22.02.18 Cracks >13mm to be caulted and sealed -Remove spall overall P01 First Issue. SW CJ CJ 15.11.17 with a hot N2 sealant or similar material width < 50mm Rehabilitated runway pavement N2 Sealant to be laid flush \_\_\_\_ N2 Sealant to be laid flush, Rev Description. By Ckd Apr Date to concrete surface to concrete surface Min 220mm asphalt overlay to provide FOD mitigation Depth 2:1 Depth 2:1 \_\_Sealant Project MANSTON AIRPORT ratio to width ratio to width DEVELOPMENT CONSENT ORDER ~200mm existing PQC (1955) Caulking\_ Caulking -Existing Existing PQC PQC 600mm existing Joint filler Joint filler ~250mm existing RDLC (1955) concrete pavement **ENGINEERING DRAWINGS** Gully ~150mm existing PQC (1943) AND SECTIONS - RUNWAY Filter drain AGL AND DRAINAGE X Made ground X PENETRATION IN EXISTING PAVEMENT REGULATION Rehabilitated runway and shoulder Joint Sealing Detail 1 Joint Sealing Detail 2 5(2)(0)Chalk subgrade (Only Where Joint Groove Voided) and aquifer THANET DISTRICT COUNCIL Repairs to Redundant Runway Pavement Document Number Scale 1:20 NK018417-RPS-MSE-XX-DR-C-2095 P04 Plan showing Typical Drainage/Ducting Layout Application Number - TR020002 Scale 1:500 Status S. 56 Sheet No SHOWN 1 of 1 A1

# MANSTON AIRPORT DEVELOPMENT CONSENT ORDER ENGINEERING DRAWINGS AND SECTIONS - RUNWAY AGL PENETRATION IN EXISTING PAVEMENT REGULATION 5(2)(o) THANET DISTRICT COUNCIL









Scale 1:20

AGL Secondary Ducts.

