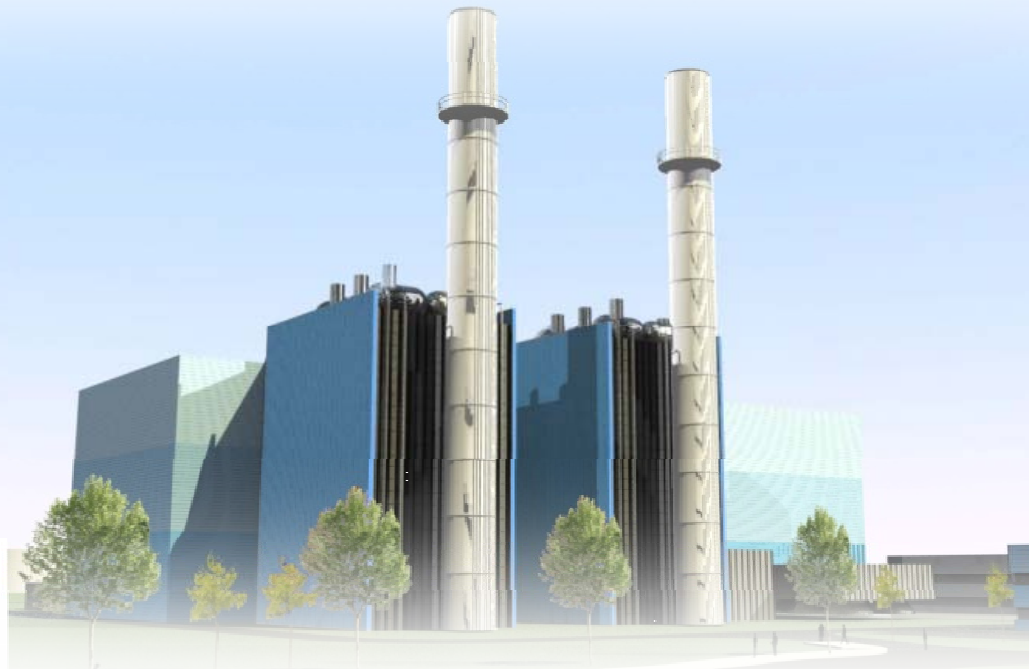




**Gateway Energy Centre**



# **ENVIRONMENTAL STATEMENT**

## **Volume 3**

Prepared by



February 2010

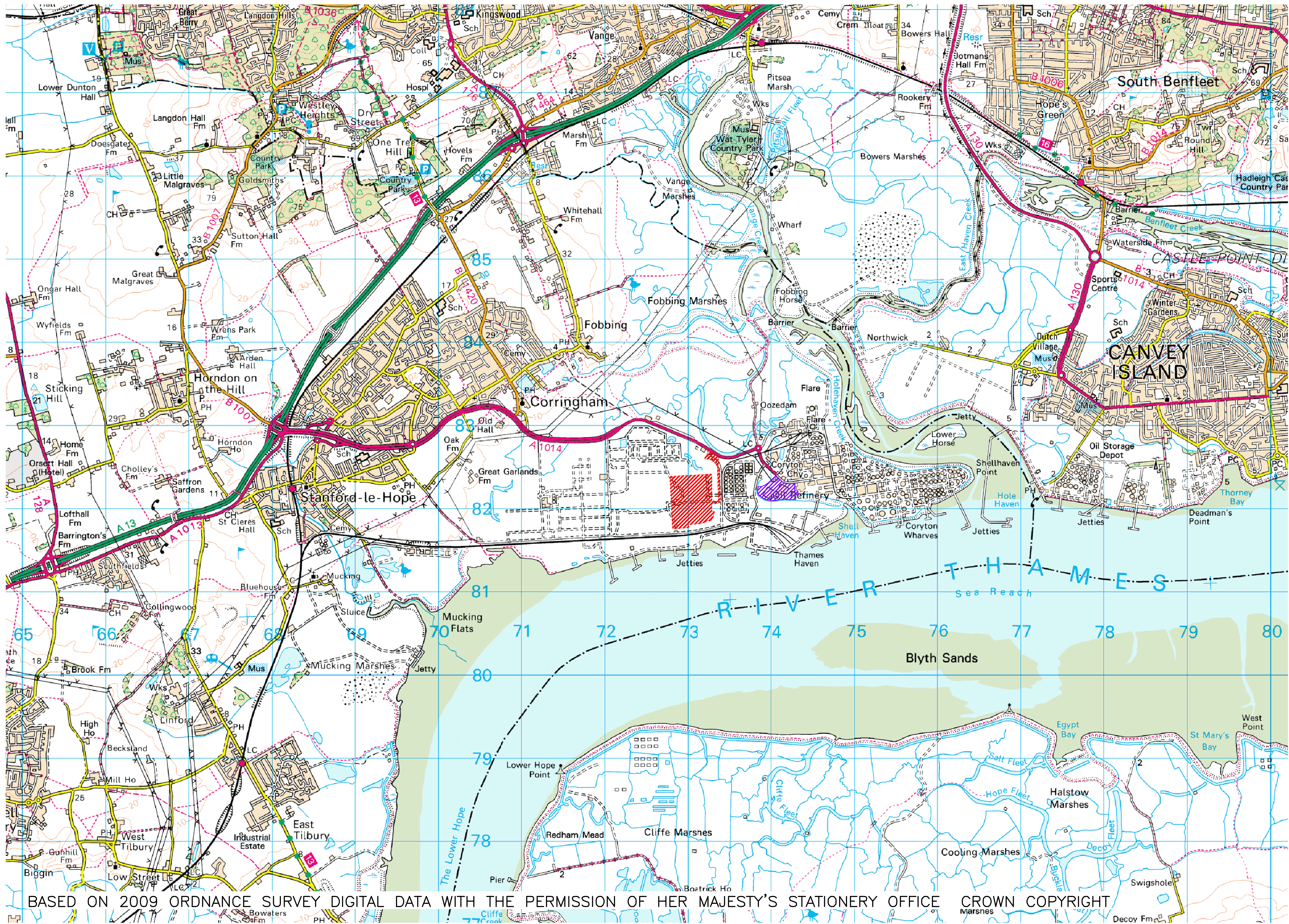
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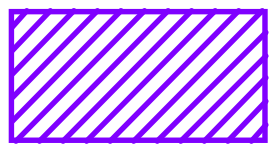


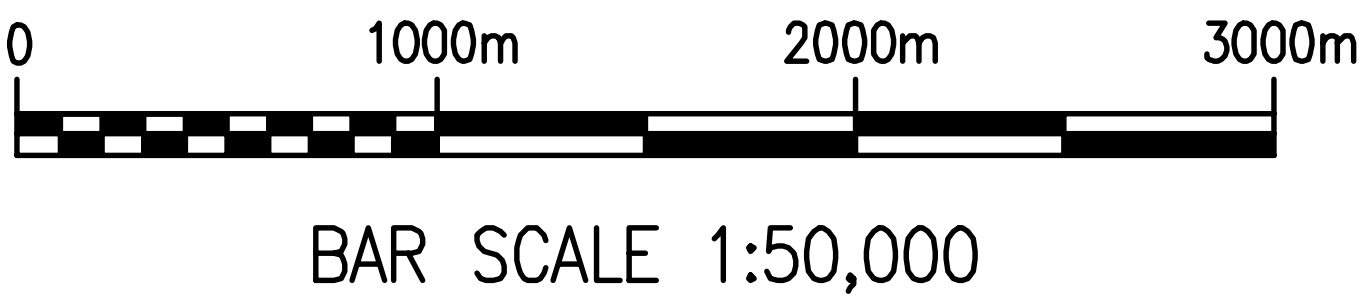
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LEGEND

-  GEC APPLICATION SITE LOCATION
-  CECL POWER STATION LOCATION



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CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

TITLE  
GEC APPLICATION  
SITE LOCATION

- DATE 13/10/09
- SCALE 1/50000
- CAD REF

DRAWN BY DD  
PRODUCED BY DD  
CHECKED EA  
APPROVED EA

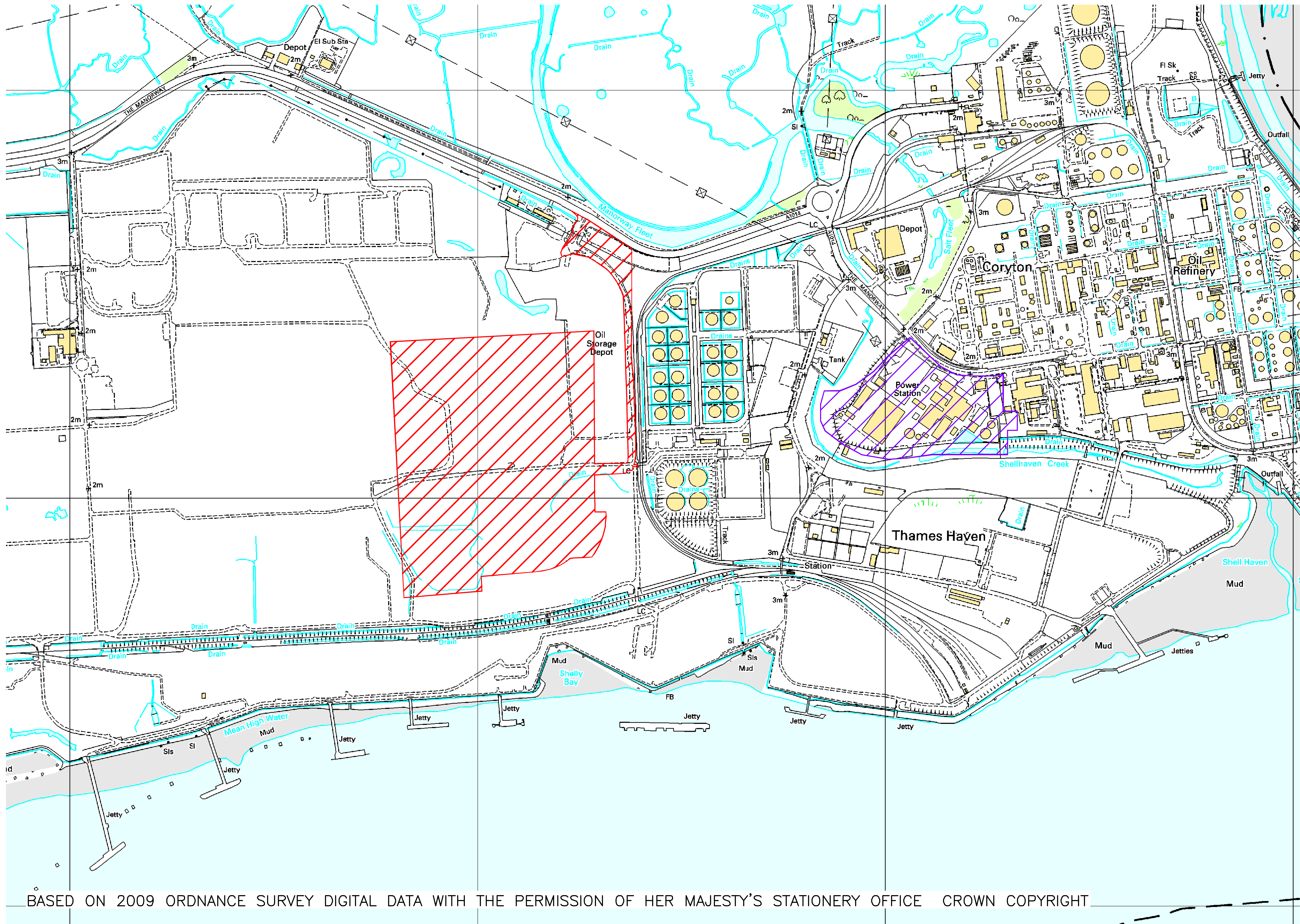
DRAWING NUMBER

FIGURE 1.1 | —


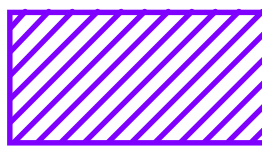
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LEGEND

-  GEC APPLICATION SITE LOCATION
-  CECL POWER STATION LOCATION

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• CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

• TITLE  
GEC APPLICATION SITE LAYOUT

- DATE 13/10/09
- SCALE 1:2500 @ A3
- CAD REF

DRAWN BY DD  
PRODUCED BY DD  
CHECKED EA  
APPROVED

- DRAWING NUMBER

FIGURE 1.2





LEGEND

 GEC APPLICATION  
SITE LOCATION

REV	DATE	DESCRIPTION	BY	CHKD	APPD	NOTES
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• CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

• TITLE  
AERIAL PHOTOGRAPH SHOWING  
APPROXIMATE LOCATION OF  
GEC APPLICATION SITE

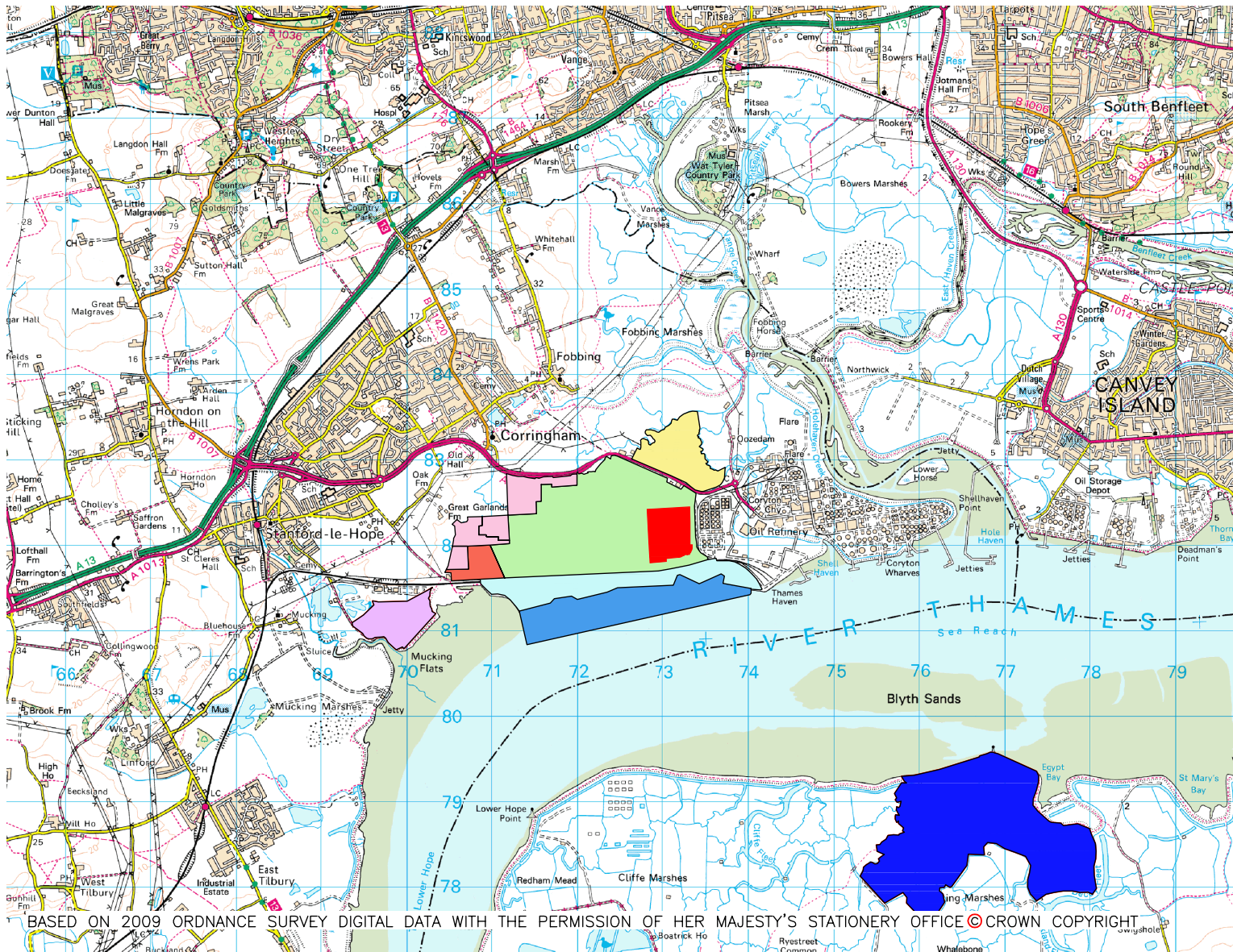
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• SCALE	NTS	PRODUCED BY	DD
• CAD REF		CHECKED	EA
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• DRAWING NUMBER	FIGURE 1.3	—
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- NORTHERN TRIANGLE
- RECLAMATION AREA
- PORT AREA
- FORMER REFINERY LAND
- REFINERY EXPANSION LAND
- THE TONGUE
- SITE "A"
- SITE "X"
- GEC APPLICATION SITE LOCATION



BAR SCALE 1:50,000

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CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

TITLE  
GEC APPLICATION SITE LOCATION  
& LG DEVELOPMENT

DATE 13/10/09  
SCALE 1/50000  
CAD REF

DRAWN BY DD  
PRODUCED BY DD  
CHECKED EA  
APPROVED EA

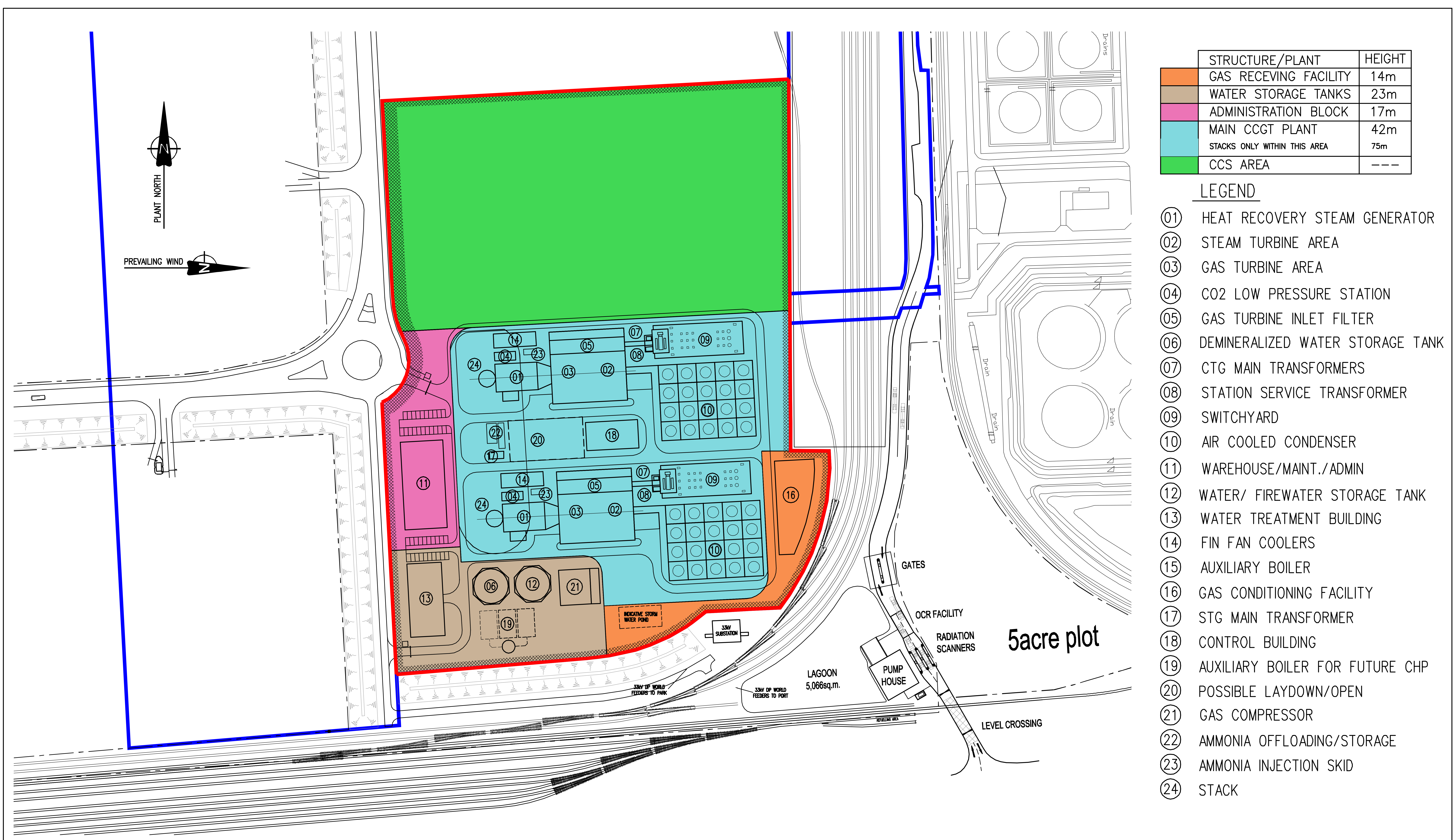
DRAWING NUMBER

FIGURE 1.4

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	STRUCTURE/PLANT	HEIGHT
	GAS RECEIVING FACILITY	14m
	WATER STORAGE TANKS	23m
	ADMINISTRATION BLOCK	17m
	MAIN CCGT PLANT	42m
	STACKS ONLY WITHIN THIS AREA	75m
	CCS AREA	---

LEGEND

- 01 HEAT RECOVERY STEAM GENERATOR
- 02 STEAM TURBINE AREA
- 03 GAS TURBINE AREA
- 04 CO2 LOW PRESSURE STATION
- 05 GAS TURBINE INLET FILTER
- 06 DEMINERALIZED WATER STORAGE TANK
- 07 CTG MAIN TRANSFORMERS
- 08 STATION SERVICE TRANSFORMER
- 09 SWITCHYARD
- 10 AIR COOLED CONDENSER
- 11 WAREHOUSE/MAINT./ADMIN
- 12 WATER/ FIREWATER STORAGE TANK
- 13 WATER TREATMENT BUILDING
- 14 FIN FAN COOLERS
- 15 AUXILIARY BOILER
- 16 GAS CONDITIONING FACILITY
- 17 STG MAIN TRANSFORMER
- 18 CONTROL BUILDING
- 19 AUXILIARY BOILER FOR FUTURE CHP
- 20 POSSIBLE LAYDOWN/OPEN
- 21 GAS COMPRESSOR
- 22 AMMONIA OFFLOADING/STORAGE
- 23 AMMONIA INJECTION SKID
- 24 STACK

00/00/00

REV	DATE	DESCRIPTION	BY	CHKD	APPD	NOTES
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CLIENT/PROJECT  
GATEWAY ENERGY CENTRE  
SINGLE SHAFT

TITLE  
PROPOSED INDICATIVE  
LAYOUT  
900MW CCGT

DATE 19/08/09  
SCALE 1:2500 @ A3  
CAD REF

DRAWN BY DD  
PRODUCED BY DD  
CHECKED EA  
APPROVED

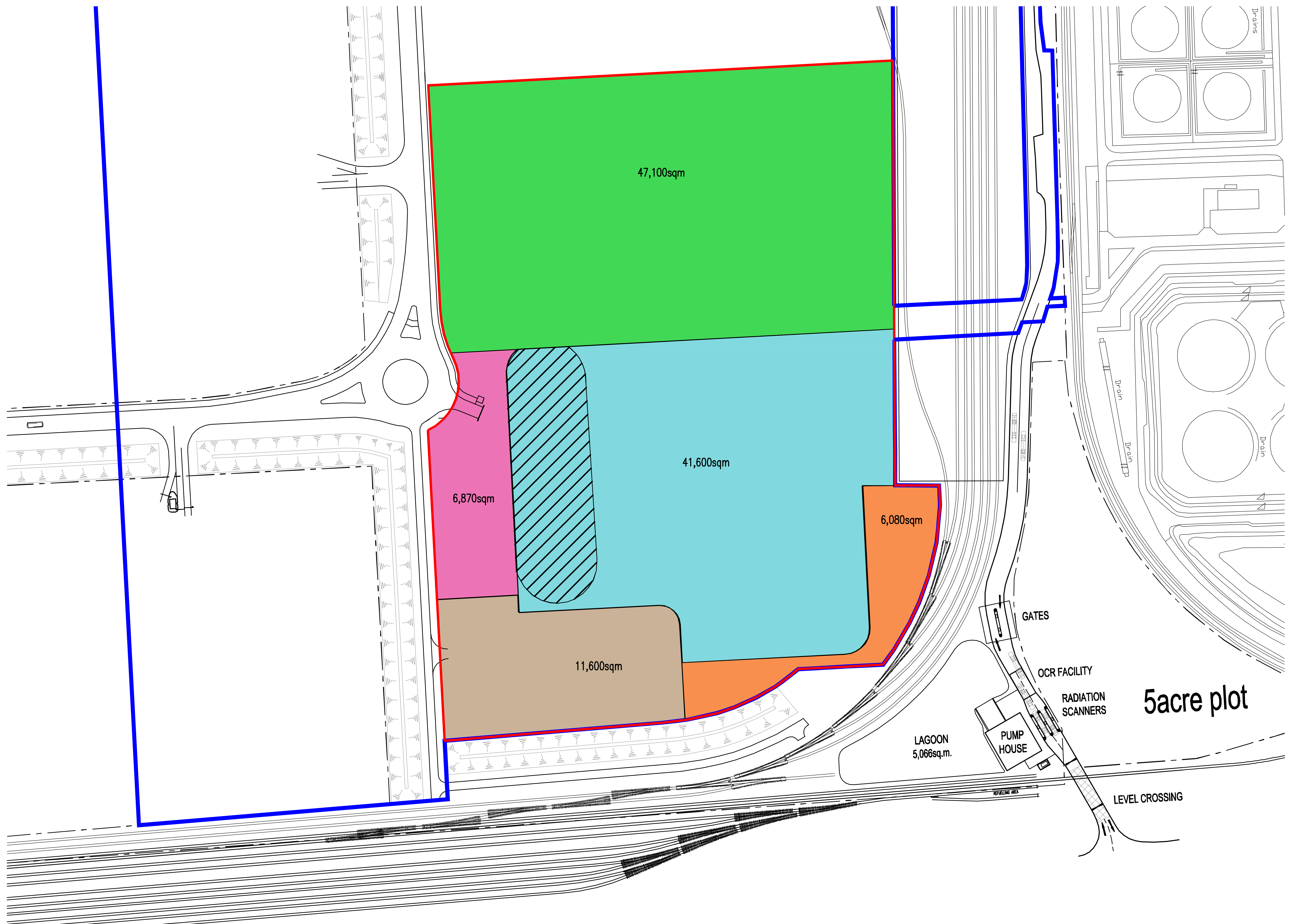
DRAWING NUMBER  
**FIGURE 4.1**

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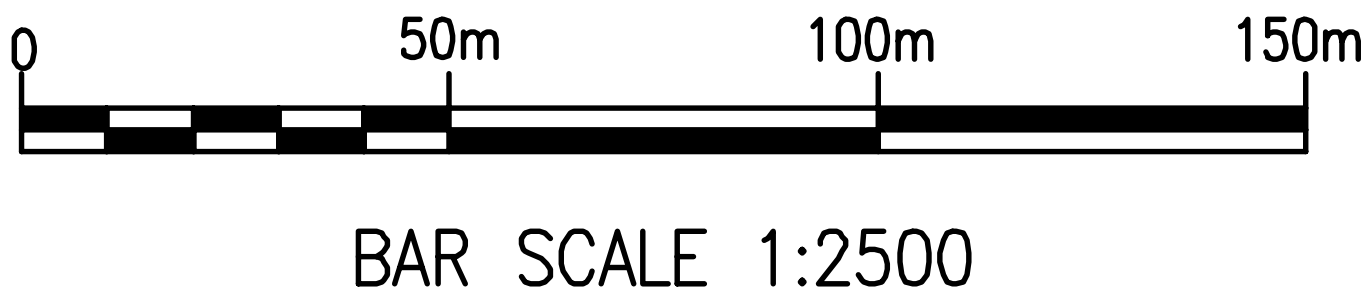








STRUCTURE/PLANT	HEIGHT
GAS RECEIVING FACILITY	14m
WATER STORAGE TANKS	23m
ADMINISTRATION BLOCK	17m
MAIN CCGT PLANT	42m
STACKS ONLY WITHIN THIS AREA	75m
CCS AREA	---



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						THIS LAYOUT IS INDICATIVE ONLY AND SUBJECT TO FURTHER ENGINEERING STUDIES DURING THE DEVELOPMENT PHASE

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CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

TITLE  
PROPOSED INDICATIVE  
LAYOUT / PARAMETER  
BLOCK MODEL LAYOUT

DATE 19/08/09	DRAWN BY DD
SCALE 1:2500 @ A3	PRODUCED BY DD
CAD REF	CHECKED EA
APPROVED	

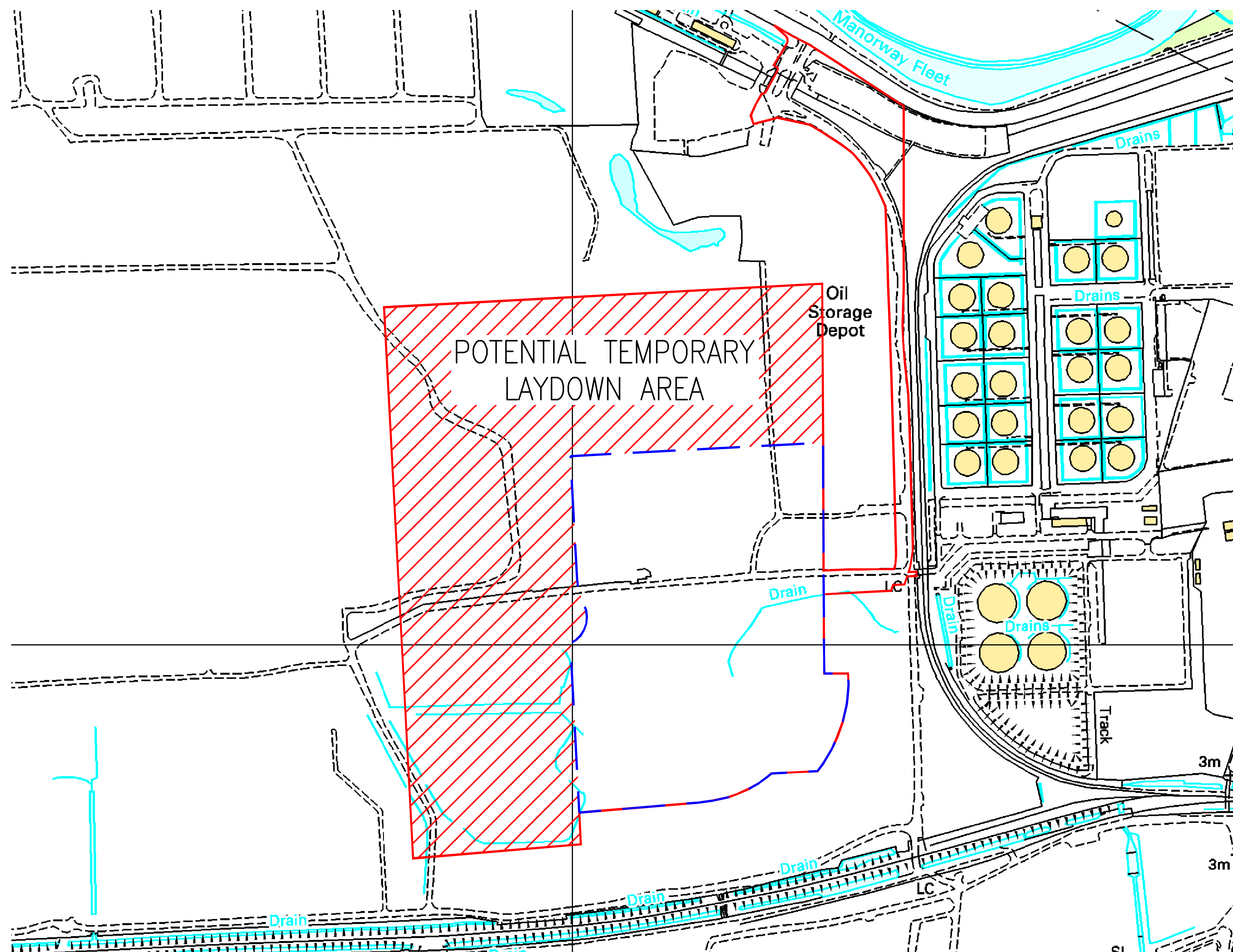
DRAWING NUMBER

**FIGURE 4.3**

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• CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

• TITLE  
POTENTIAL TEMPORARY LAYDOWN AREA

• DATE 19/08/09  
• SCALE 1:5000 @ A3  
• CAD REF

DRAWN BY DD  
PRODUCED BY DD  
CHECKED EA  
APPROVED

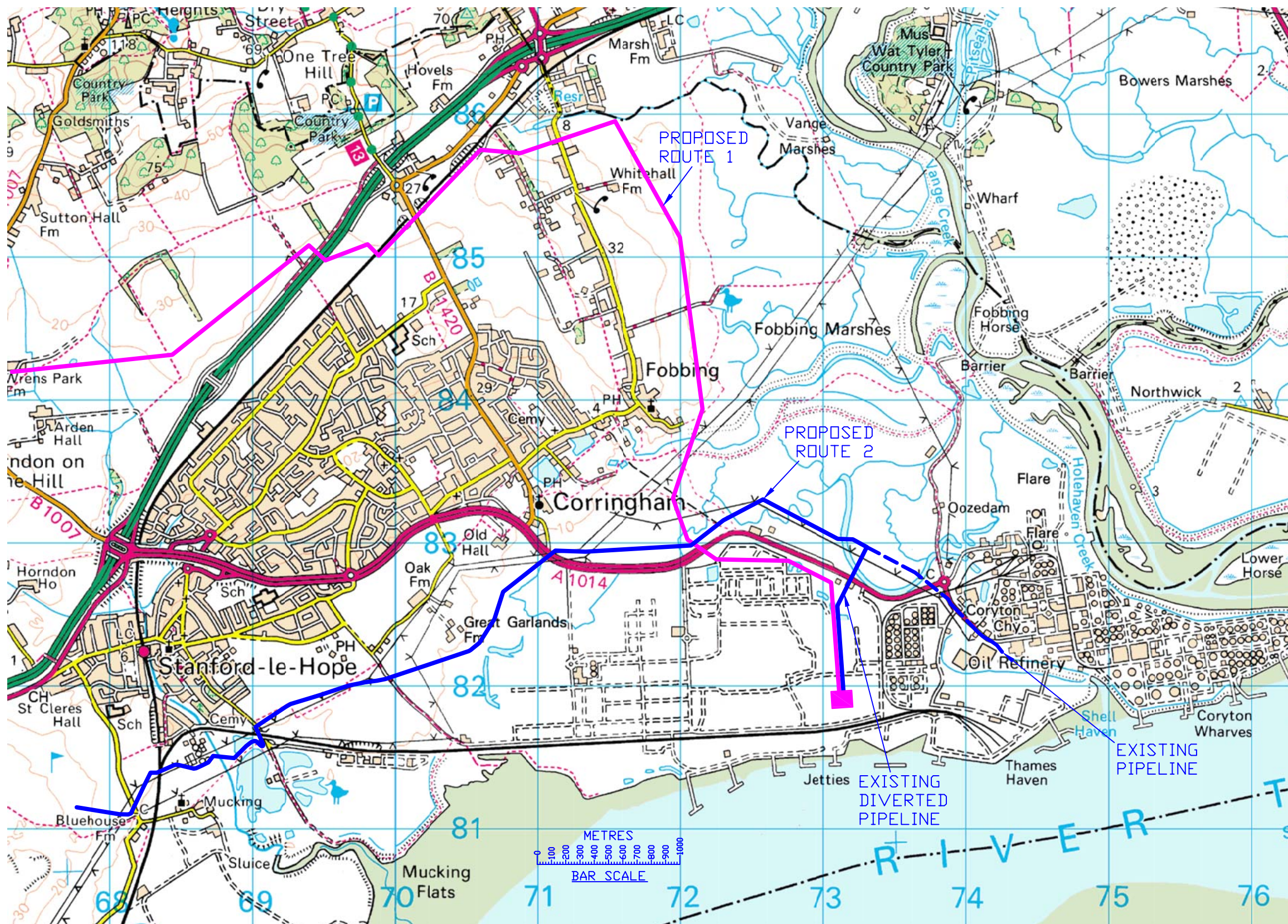
• DRAWING NUMBER

FIGURE 4.5

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• CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

• TITLE  
GEC GAS PIPELINE ROUTE OPTIONS

• DATE	17/02/2010	DRAWN BY	TRW
• SCALE	N/A	PRODUCED BY	EM
• CAD REF	TRW\ FIG 6.1	CHECKED	EM
		APPROVED	MW

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• DRAWING NUMBER

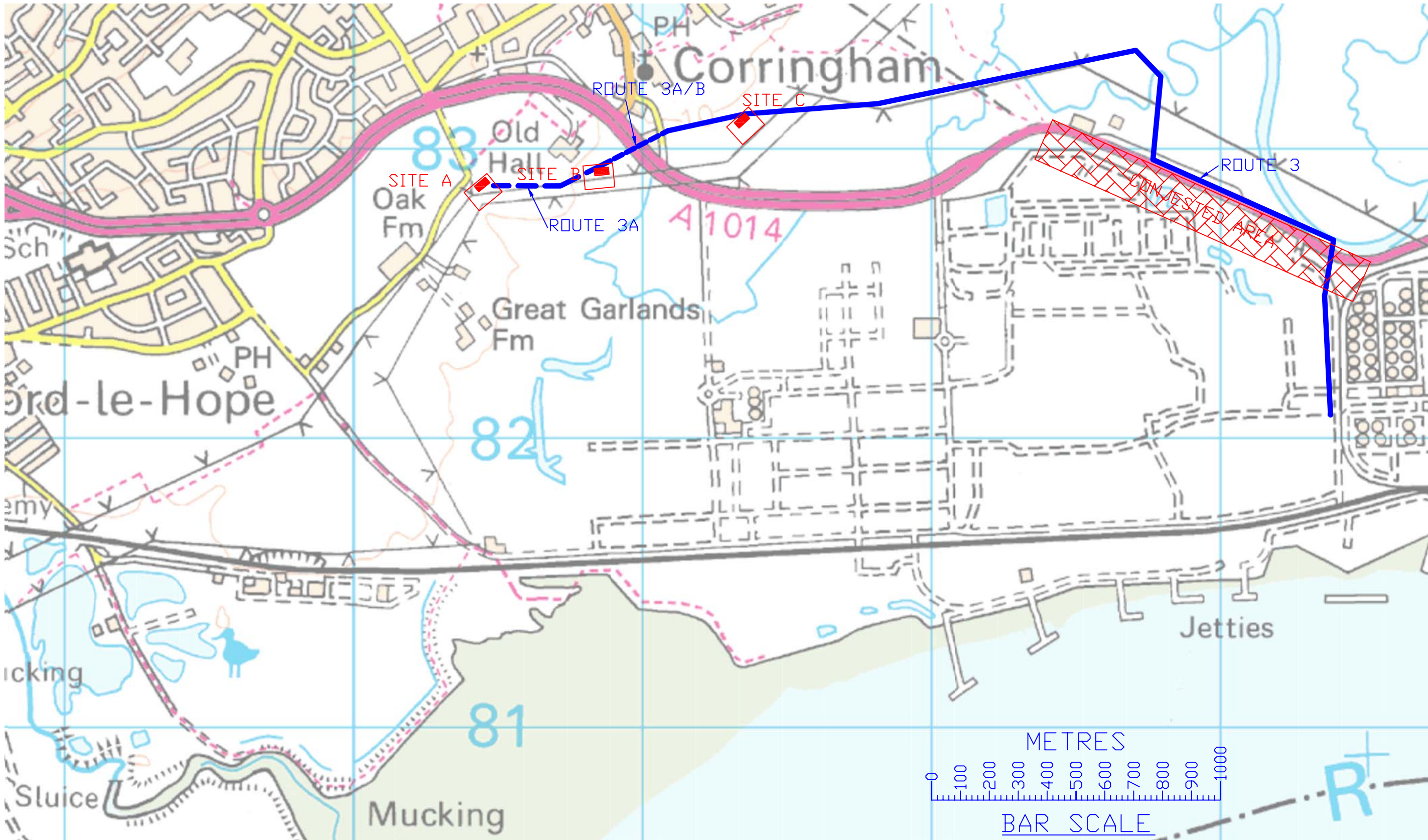
FIGURE 6.1

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1	22/02/2010	ROUTES 1, 2 DELETED. ROUTE 3 MODS.	TRW	EA	MW

• NOTES



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• CLIENT/PROJECT

GATEWAY ENERGY CENTRE

• TITLE

GEC ELECTRICAL CONNECTIONS  
ROUTE OPTIONS

- DATE 24/02/2010
- SCALE N/A
- CAD REF TRW\ FIG 6.2

DRAWN BY TRW  
PRODUCED BY EM  
CHECKED EM  
APPROVED MW

• DRAWING NUMBER

FIGURE 6.2

1

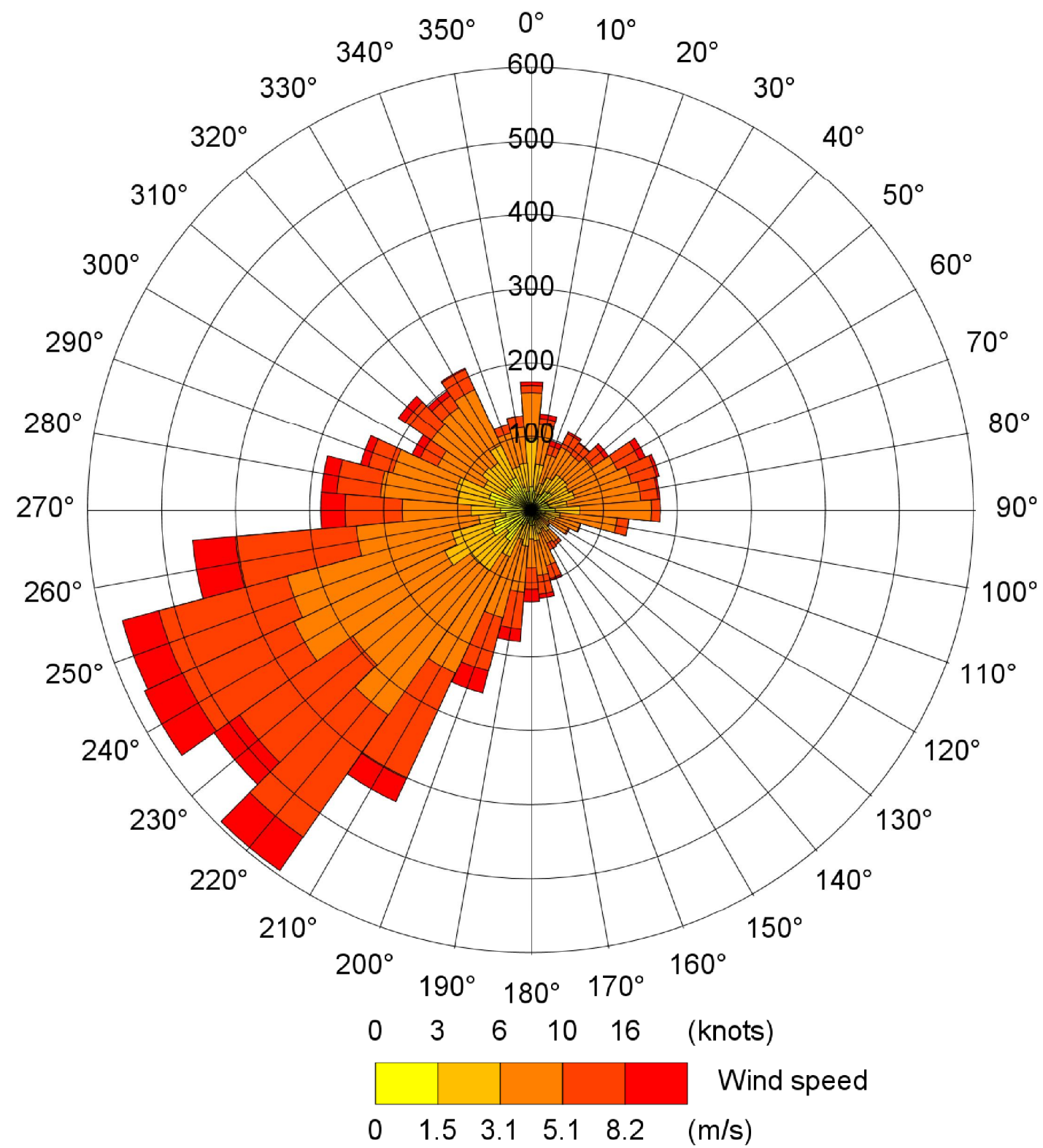
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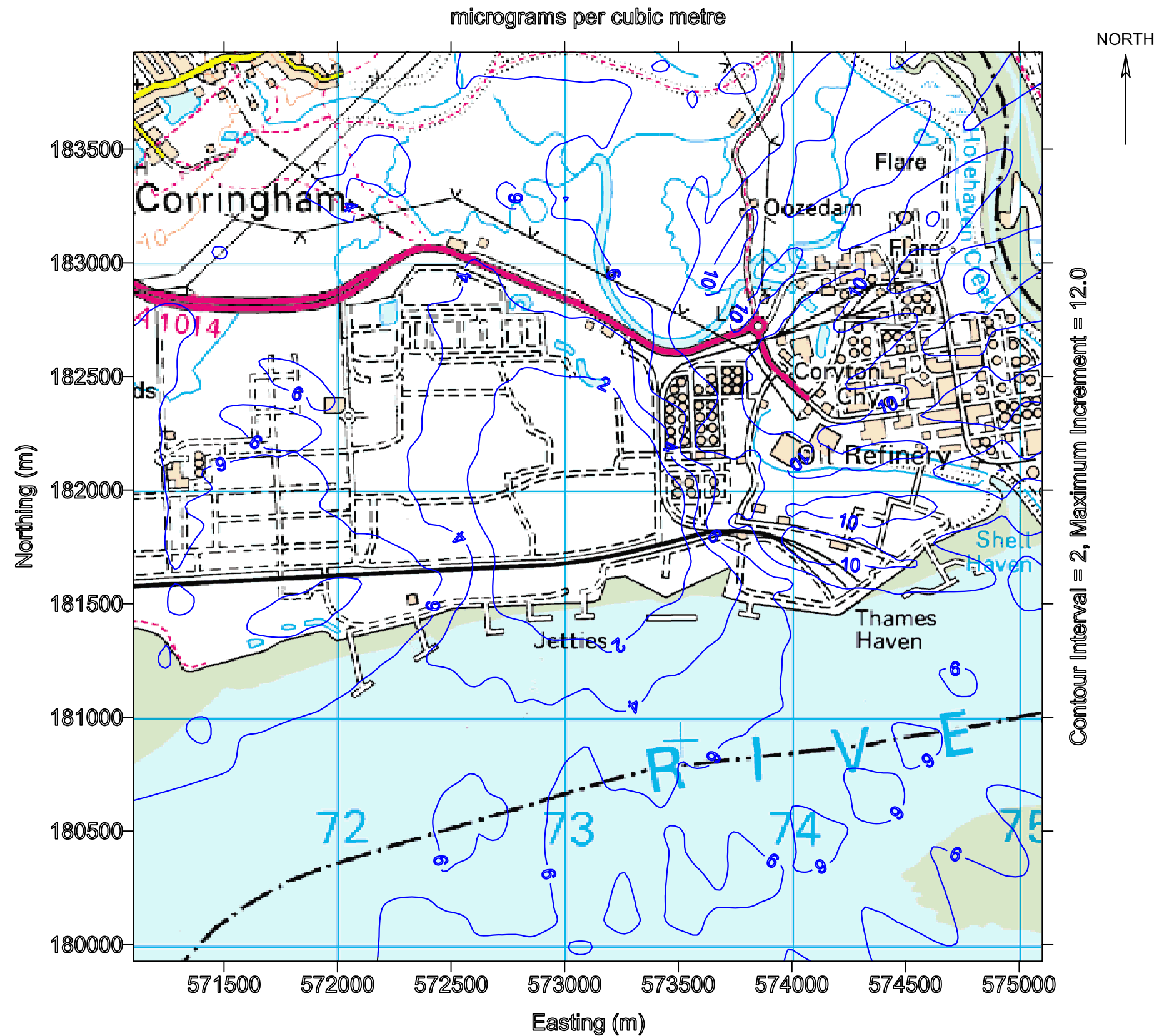


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• CLIENT/PROJECT	GATEWAY ENERGY CENTRE
• TITLE	WINDROSE 2008

• DATE	26/10/09	DRAWN BY	PDO
• SCALE	N.T.S	PRODUCED BY	EA
• CAD REF		CHECKED	EA
		APPROVED	MW
• DRAWING NUMBER	FIGURE 9.2		—
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• CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

• TITLE  
19TH HIGHEST HOURLY AVERAGE  
CONCENTRATION OF NO<sub>2</sub>  
4 x 4km GRID

• DATE 19/02/2010  
• SCALE N.T.S  
• CAD REF

DRAWN BY	PDO
PRODUCED BY	EA
CHECKED	EA
APPROVED	MW

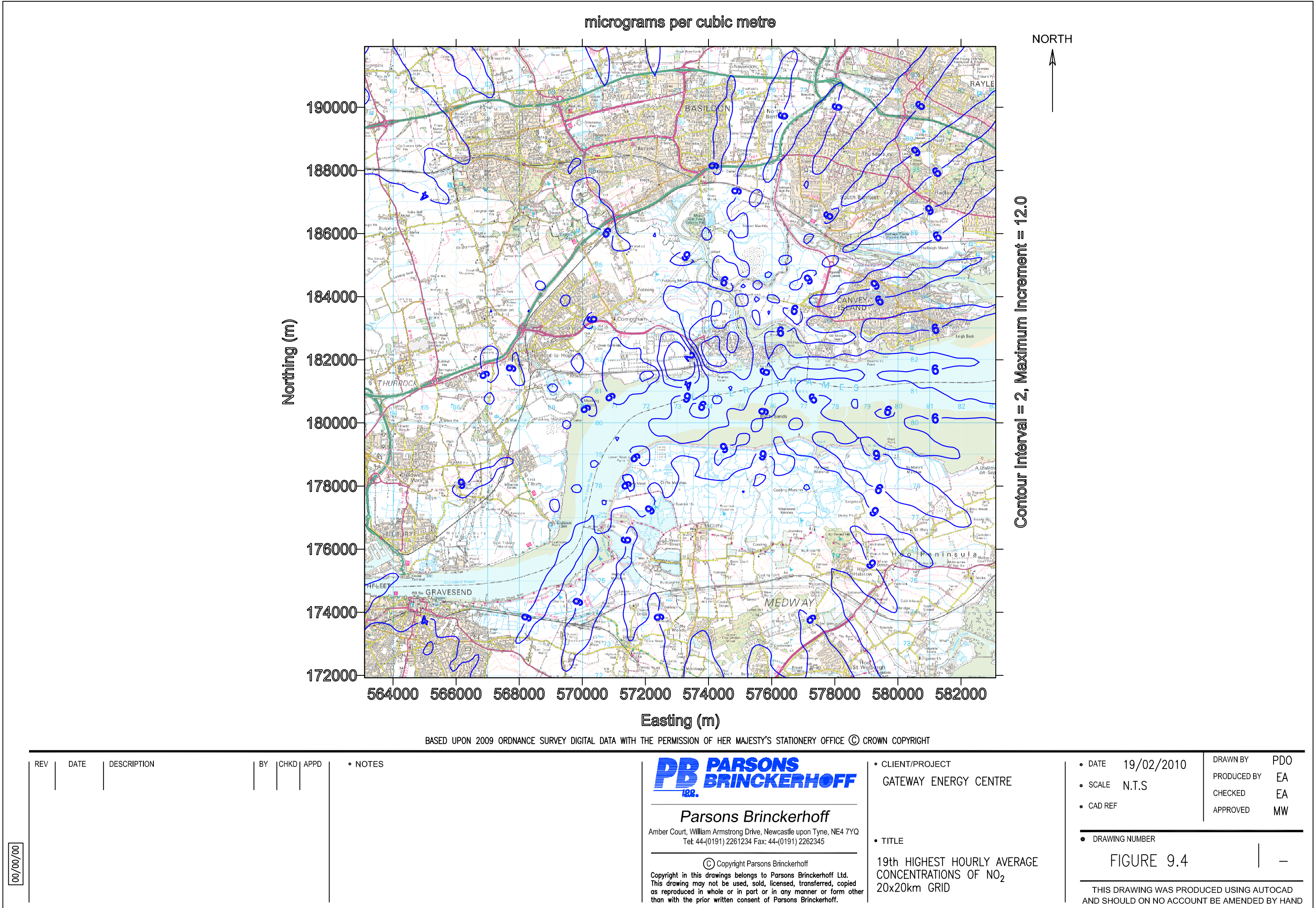
• DRAWING NUMBER

FIGURE 9.3

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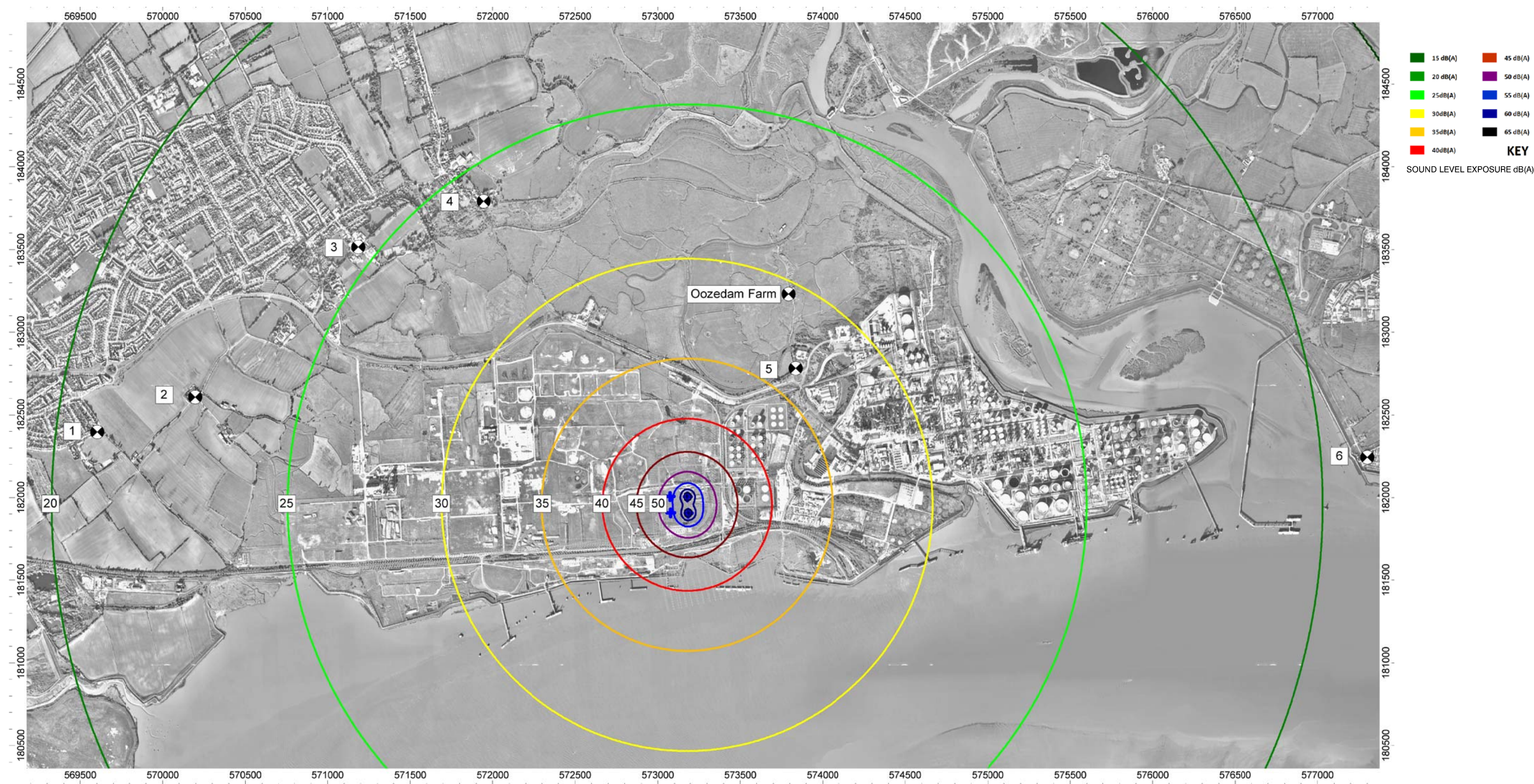












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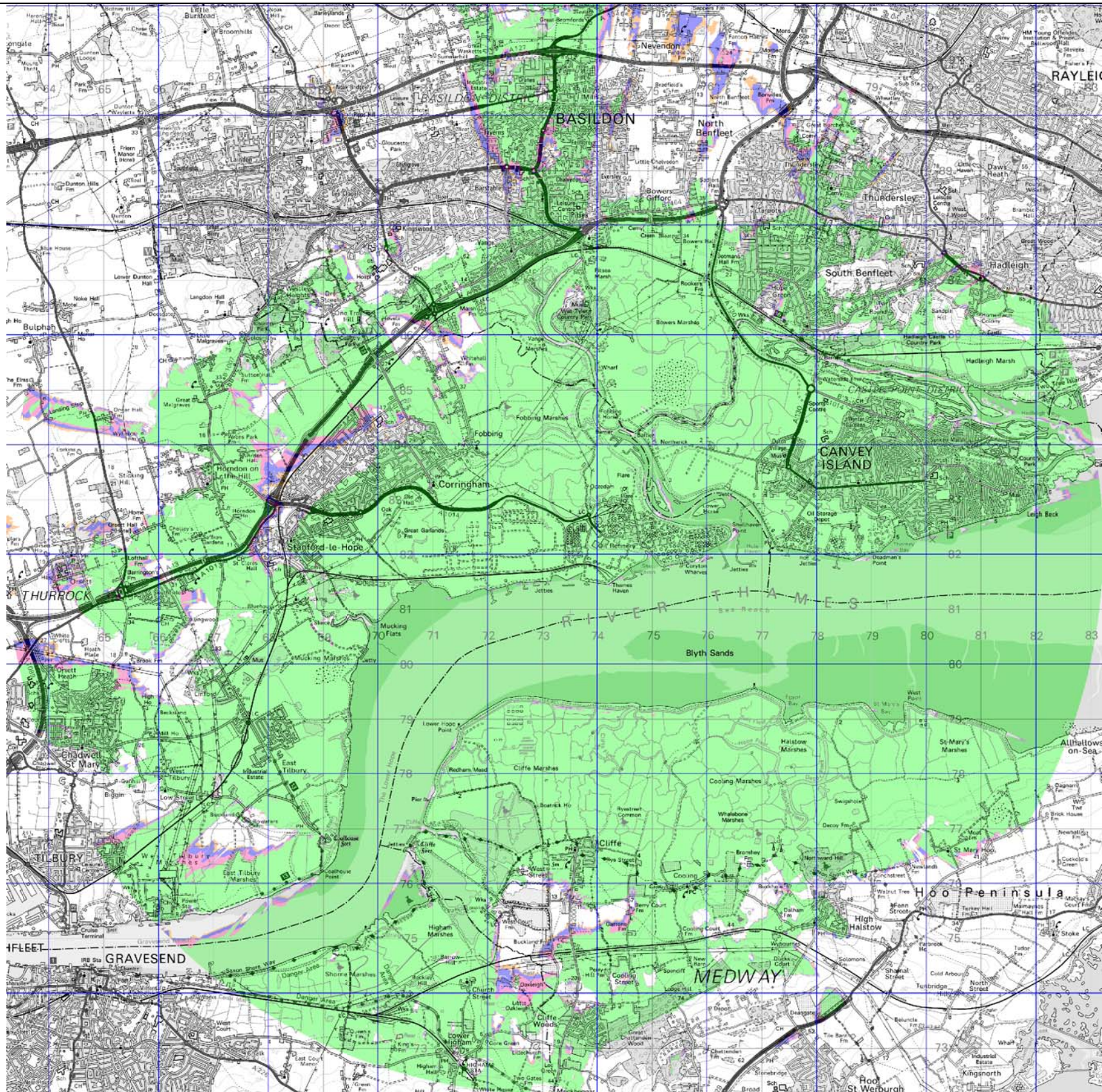
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• CLIENT/PROJECT	GATEWAY ENERGY CENTRE
• TITLE	LOCATIONS OF NOISE SENSITIVE RECEPTORS / PREDICTED OPERATIONAL NOISE CONTOUR PLOT

• DATE	18/02/2010	DRAWN BY	PDO
• SCALE	N.T.S	PRODUCED BY	EA
• CAD REF		CHECKED	EA
		APPROVED	MW
• DRAWING NUMBER	FIGURE 10.1		—
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Visibility

- 85m stack
- 75m stack + 85m stack
- 65m stack + 75m stack + 85m stack
- 55m stack + 65m stack + 75m stack + 85m stack

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CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

TITLE  
ZONE OF THEORETICAL VISIBILITY

DATE 18/02/10  
SCALE N.T.S  
CAD REF

DRAWN BY PDO  
PRODUCED BY EA  
CHECKED EA  
APPROVED MW

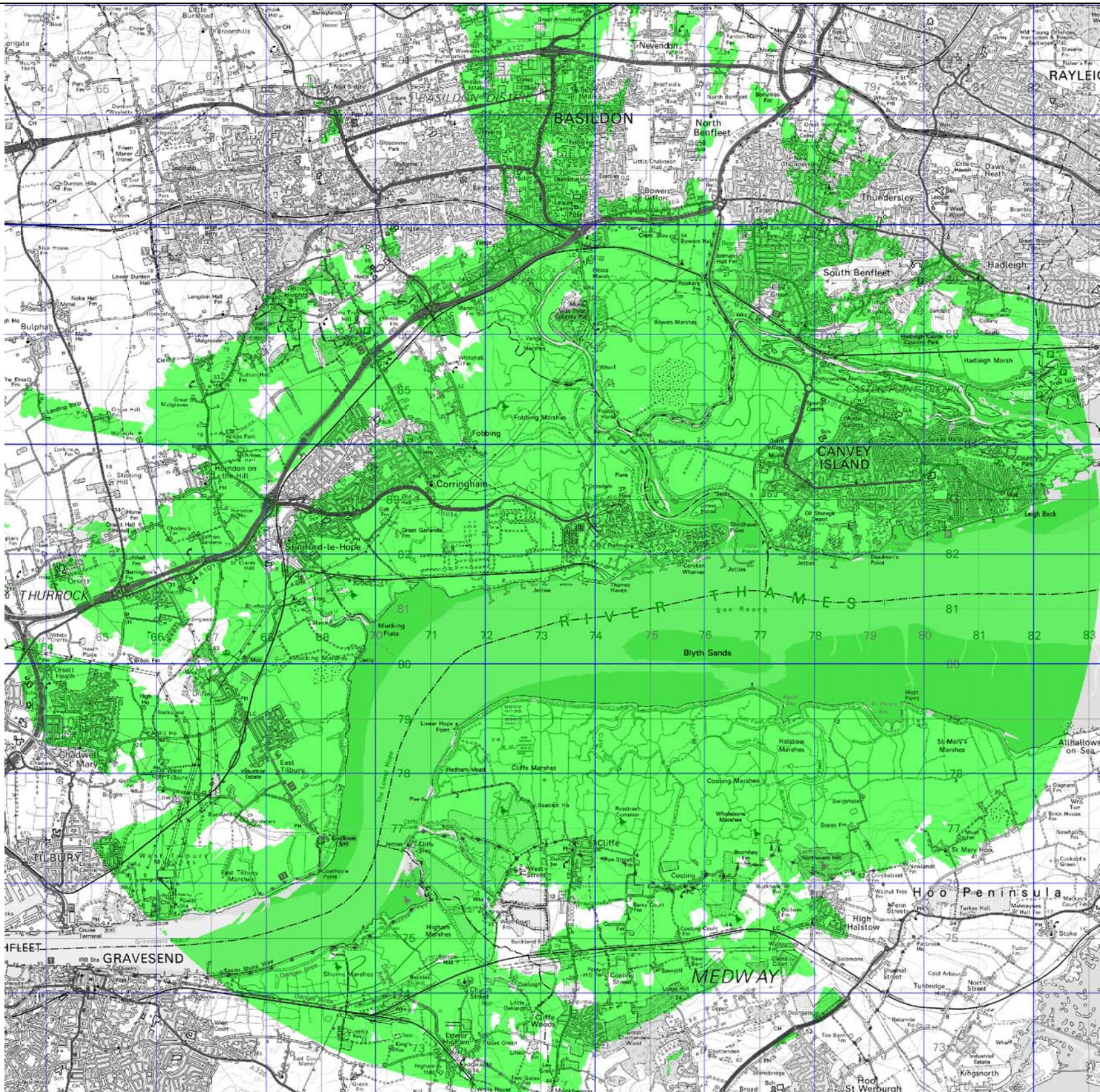
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Visibility  
1

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CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

TITLE  
ZONE OF THEORETICAL VISIBILITY  
FOR 75m STACKS

DATE 18/02/10  
SCALE N.T.S  
CAD REF

DRAWN BY PDO  
PRODUCED BY EA  
CHECKED EA  
APPROVED MW

DRAWING NUMBER

FIGURE 11.2

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NORTH

- VIEWPOINT 1: OOZEDAM COUNTRY ROAD
- VIEWPOINT 2: ROAD BRIDGE ON THE CANVEY WAY (A130)
- VIEWPOINT 3: HADLEIGH CASTLE
- VIEWPOINT 4: SWIGSHOLE
- VIEWPOINT 5: NORTHWARD HILL (CORNER OF COOLING ROAD AND WYBOURNES LANE)
- VIEWPOINT 6: COOLING
- VIEWPOINT 7: CLIFFE MARSHES NORTHERN BORDER WITH THAMES
- VIEWPOINT 8: EAST TILBURY - COALHOUSE FORT
- VIEWPOINT 9: OAK FARM
- VIEWPOINT 10: WAT TYLER COUNTRY PARK

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CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

TITLE  
LOCATION OF VIEWPOINTS SELECTED

DATE 18/02/2010  
SCALE N.T.S  
CAD REF

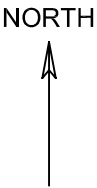
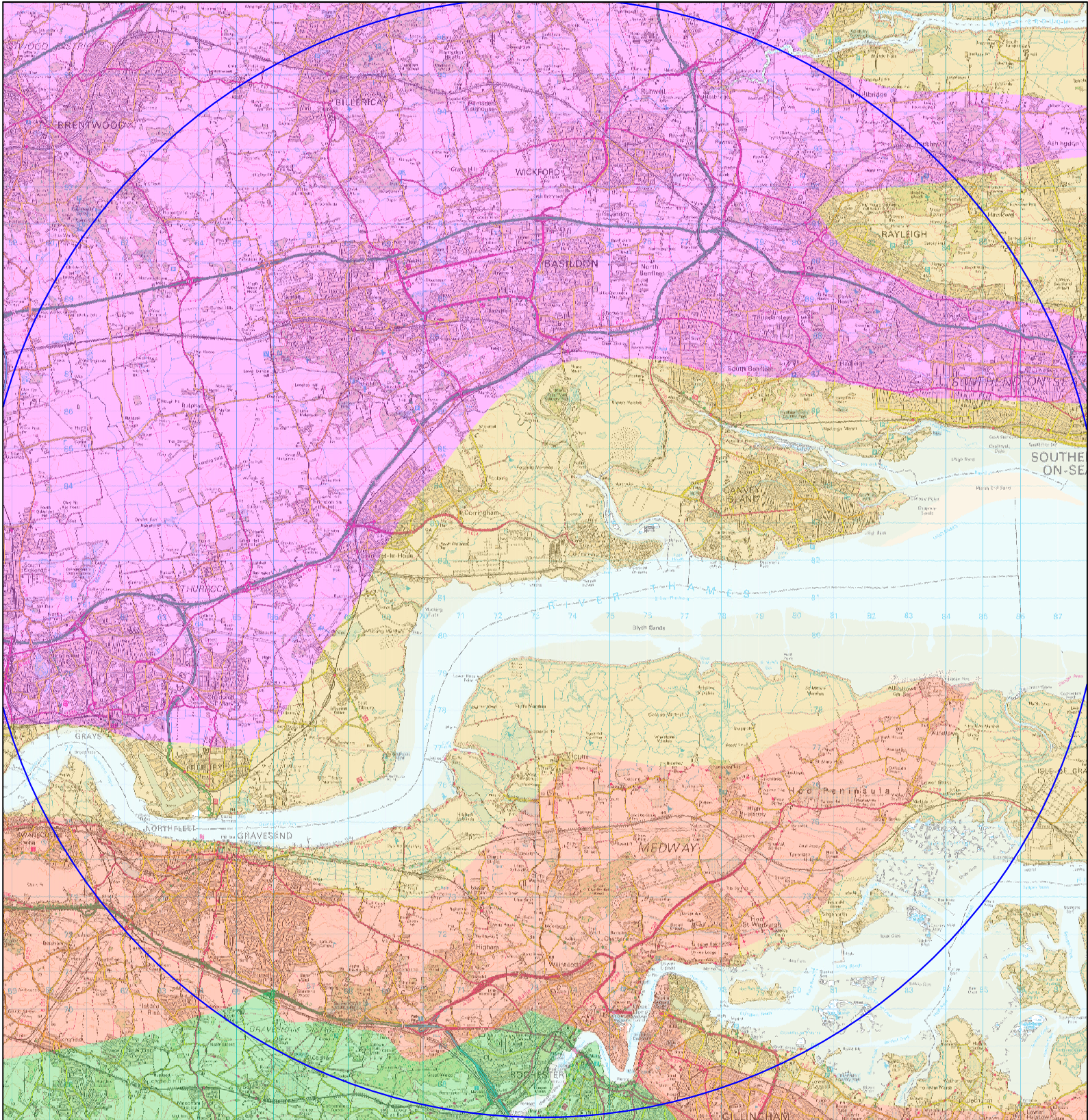
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PRODUCED BY EA  
CHECKED EA  
APPROVED MW

DRAWING NUMBER

FIGURE 11.3

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- KEY
- NORTH DOWNS
  - GREATER THAMES ESTUARY
  - NORTH KENT PLAIN
  - NORTHERN THAMES BASIN

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REV	DATE	DESCRIPTION	BY	CHKD	APPD	NOTES	CLIENT/PROJECT	DATE	SCALE	CAD REF	DRAWING NUMBER	DRAWN BY	PRODUCED BY	CHECKED	APPROVED
							GATEWAY ENERGY CENTRE	18/02/2010	N.T.S		FIGURE 11.4	PDO	EA	EA	MW
							NATIONAL LANDSCAPE CHARACTER AREAS WITHIN 15KM OF THE SITE								

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CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

TITLE

NATIONAL LANDSCAPE CHARACTER  
AREAS WITHIN 15KM OF THE SITE

DATE 18/02/2010  
SCALE N.T.S  
CAD REF

DRAWN BY PDO  
PRODUCED BY EA  
CHECKED EA  
APPROVED MW

DRAWING NUMBER

FIGURE 11.4

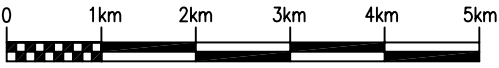
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- KEY
- LANDSCAPE CHARACTER AREAS LIKELY TO EXPERIENCE LANDSCAPE AND/ OR VISUAL EFFECTS BOTH SIDES OF THE RIVER THAMES.
- 'N' REFERENCES INDICATE NORTH OF THE RIVER THAMES.  
'S' REFERENCES INDICATE SOUTH OF THE RIVER THAMES.
- N1 NORTHERN THAMES MARSHES
    - N1a OPEN COASTAL MARSHES
    - N1b INDUSTRIAL MARSH
    - N1c MARSHLAND FRINGE
  - N2 FOBHING & CORRINGHAM
  - N3 STANFORD MARSHES
    - N3a OPEN COASTAL MARSHES
    - N3b MARSHLAND FRINGE
  - N4 MUCKING
    - N4a OPEN COASTAL MARSHES
    - N4b MARSHLAND FRINGE
  - N5 COALHOUSE
  - N6 EAST TILBURY
  - N7 LINFORD/ BUCHINGHAM HILL RIDGE
  - N8 ORSETT/ SAFFRON GARDEN
  - N9 HORNDON
  - N10 LANGDON HILLS
  - N11 PITSEA RIDGE
  - N12 HADLEIGH & SOUTH BENFLEET
  - N13 THE MANOR WAY CORRIDOR
  - S1 RIVER THAMES
  - S2 EASTERN THAMES MARSHES
    - S2a OPEN COASTAL MARSHES
    - S2b MARSHLAND FRINGE
  - S3 HODD PENINSULA FLAT OR UNDULATING FARMLAND
    - S3a MIXED FARMLAND
    - S3b OPEN FARMLAND
  - S4 HODD PENINSULA PROMINENT HILLS
    - S4a WOODED HILLS & RIDGES
    - S4b OPEN FARMED HILLS & RIDGES



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• CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

• TITLE  
LOCAL LANDSCAPE CHARACTER AREAS

• DATE 17/02/2010  
• SCALE N/A  
• CAD REF TRW\ FIG 11.5

• DRAWING NUMBER

FIGURE 11.5

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DRAWN BY TRW  
PRODUCED BY EM  
CHECKED EM  
APPROVED MW



EXISTING VIEW



PHOTOMONTAGE



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							<div><div>DRAWING NUMBER</div><div>FIGURE 11.6</div></div> <div><div>THIS DRAWING WAS PRODUCED USING AUTOCAD AND SHOULD ON NO ACCOUNT BE AMENDED BY HAND</div></div>			



EXISTING VIEW



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								<div><div>• DRAWING NUMBER</div><div>FIGURE 11.7</div></div>	<div>—</div>		
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- CLIENT/PROJECT

GATEWAY ENERGY CENTRE
- TITLE

VIEWPOINT 3  
HADLEIGH CASTLE

• DATE	18/02/10	DRAWN BY	PDO
• SCALE	N.T.S	PRODUCED BY	EA
• CAD REF		CHECKED	EA
		APPROVED	MW

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• DRAWING NUMBER	
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FIGURE 11.8		—
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## A wide-angle photograph of a vast, flat green field, likely a pasture or marsh. The field is covered in low-lying vegetation and stretches to a flat horizon. In the distance, a cluster of industrial structures, including tall chimneys or towers, is visible against the horizon line. The sky is filled with heavy, grey clouds, suggesting an overcast day. In the foreground, there are some dry, brown reeds or grasses on the right side, and a few small trees or bushes on the left. The overall scene is desolate and expansive.

## A wide-angle photograph of a vast, flat, green field under a heavy, overcast sky. In the distance, a small cluster of buildings and industrial structures is visible on the horizon. The foreground is dominated by tall, dry grass and some low-lying shrubs on the right side.

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CLIENT/PROJECT

GATEWAY ENERGY CENTRE

TITLE

VIEWPOINT 4  
SWIGSHOLE

DRAWN BY PDO

PRODUCED BY EA

CHECKED EA

APPROVED MW

DATE 18/02/10

SCALE N.T.S

CAD REF

DRAWING NUMBER

FIGURE 11.9

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EXISTING VIEW



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• CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

• TITLE  
VIEWPOINT 5  
NORTHWARD HILL (CORNER OF  
COOLING ROAD & WYBOURNES LANE)

• DATE 18/02/10  
• SCALE N.T.S  
• CAD REF

DRAWN BY PDO  
PRODUCED BY EA  
CHECKED EA  
APPROVED MW

• DRAWING NUMBER  
FIGURE 11.10 | —

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## A wide-angle photograph of a vast, flat agricultural field under a heavy, overcast sky. The field is covered in green grass and patches of brown, dry vegetation. Several large, cylindrical hay bales are scattered across the field. In the background, a line of trees with autumn foliage separates the field from a distant industrial area with buildings and smokestacks. The sky is filled with dark, grey clouds.

## A wide-angle photograph of a rural landscape under a heavy, overcast sky. The foreground is a green field with several large, cylindrical hay bales scattered across it. A dirt path leads from the bottom left towards the center. In the background, there is a line of trees with autumn foliage, and further back, some industrial structures and distant hills are visible.



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## A wide panoramic view of a coastal area under a cloudy sky. The foreground shows a rocky shoreline with some yellow lichen. The middle ground is a large body of water. In the distance, a long industrial pier or breakwater extends into the water, with various structures and cranes visible. The sky is filled with large, grey clouds.

## A wide panoramic view of a coastal area under a cloudy sky. The foreground shows a rocky shoreline with some yellow lichen. The middle ground is dominated by a large body of water. In the distance, a long industrial pier or breakwater extends into the water, featuring various structures, including a large blue and white building and several tall cranes. The horizon is visible in the far distance.

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CLIENT/PROJECT

GATEWAY ENERGY CENTRE

TITLE

VIEWPOINT 7  
CLIFFE MARSHES NORTHERN  
BORDER WITH THAMES

DATE 18/02/10

SCALE N.T.S

CAD REF

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PRODUCED BY EA

CHECKED EA

APPROVED MW

DRAWING NUMBER

FIGURE 11.12

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## A wide panoramic view of a coastal landscape. In the foreground, a concrete walkway runs along a grassy field. The middle ground shows a body of water with industrial structures in the distance. The sky is filled with large, white clouds.

## A wide panoramic view of a coastal landscape. In the foreground, a concrete walkway runs along a grassy area. The middle ground shows a body of water with industrial structures in the distance. The sky is filled with large, white clouds.

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DATE

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• CLIENT/PROJECT

GATEWAY ENERGY CENTRE

• TITLE

VIEWPOINT 8  
EAST TILBURY  
COALHOUSE FORT

• DATE

18/02/10

• SCALE

N.T.S

• CAD REF

DRAWN BY

PDO

PRODUCED BY

EA

CHECKED

EA

APPROVED

MW

• DRAWING NUMBER


FIGURE 11.13

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## A wide panoramic photograph of a vast green agricultural field under a dramatic, cloudy sky. In the distance, a line of trees separates the field from an industrial area featuring several tall electricity pylons and a power plant. The foreground shows a wooden fence and tall grass on the left side.

## A wide panoramic photograph of a green agricultural field under a dramatic, cloudy sky. In the background, a line of trees and industrial structures, including several tall electricity pylons, are visible. The foreground shows a grassy slope and a wooden fence.

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						<div> <p>CLIENT/PROJECT</p> <p>GATEWAY ENERGY CENTRE</p> </div>
						<div> <p>TITLE</p> <p>VIEWPOINT 9</p> <p>OAK FARM</p> </div>
						<div> <p>DATE 18/02/10</p> <p>SCALE N.T.S</p> <p>CAD REF</p> </div>
						<div> <p>DRAWING NUMBER</p> <p>FIGURE 11.14</p> </div>
						<div> <p>DRAWN BY PDO</p> <p>PRODUCED BY EA</p> <p>CHECKED EA</p> <p>APPROVED MW</p> </div>
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## A wide panoramic photograph of a coastal area during low tide. Several small boats, including a red and white motorboat in the foreground and a white sailboat to the right, are moored in the water. The shoreline is flat and muddy, with some vegetation. In the background, there are industrial buildings and several tall electricity pylons under a cloudy sky.

## A wide panoramic photograph of a river or estuary under a dramatic, cloudy sky. Several small boats are visible in the water, including a red and white boat in the foreground. In the background, there are industrial structures and large electricity pylons.

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NORTH  
↑

- Dense / Continuous Scrub
- Hardstanding
- Inundation Swamp
- Semi Improved Grassland
- Swamp
- Scattered Shrub
- Spoil
- Bare Ground

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CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

TITLE

PHASE 1 HABITAT SURVEY OF THE  
PROPOSED GEC SITE (TAKEN FROM  
THOMSON ECOLOGY (APR/MAY 2008)

DATE 18/02/10  
SCALE N.T.S  
CAD REF

DRAWN BY PDO  
PRODUCED BY EA  
CHECKED EA  
APPROVED MW

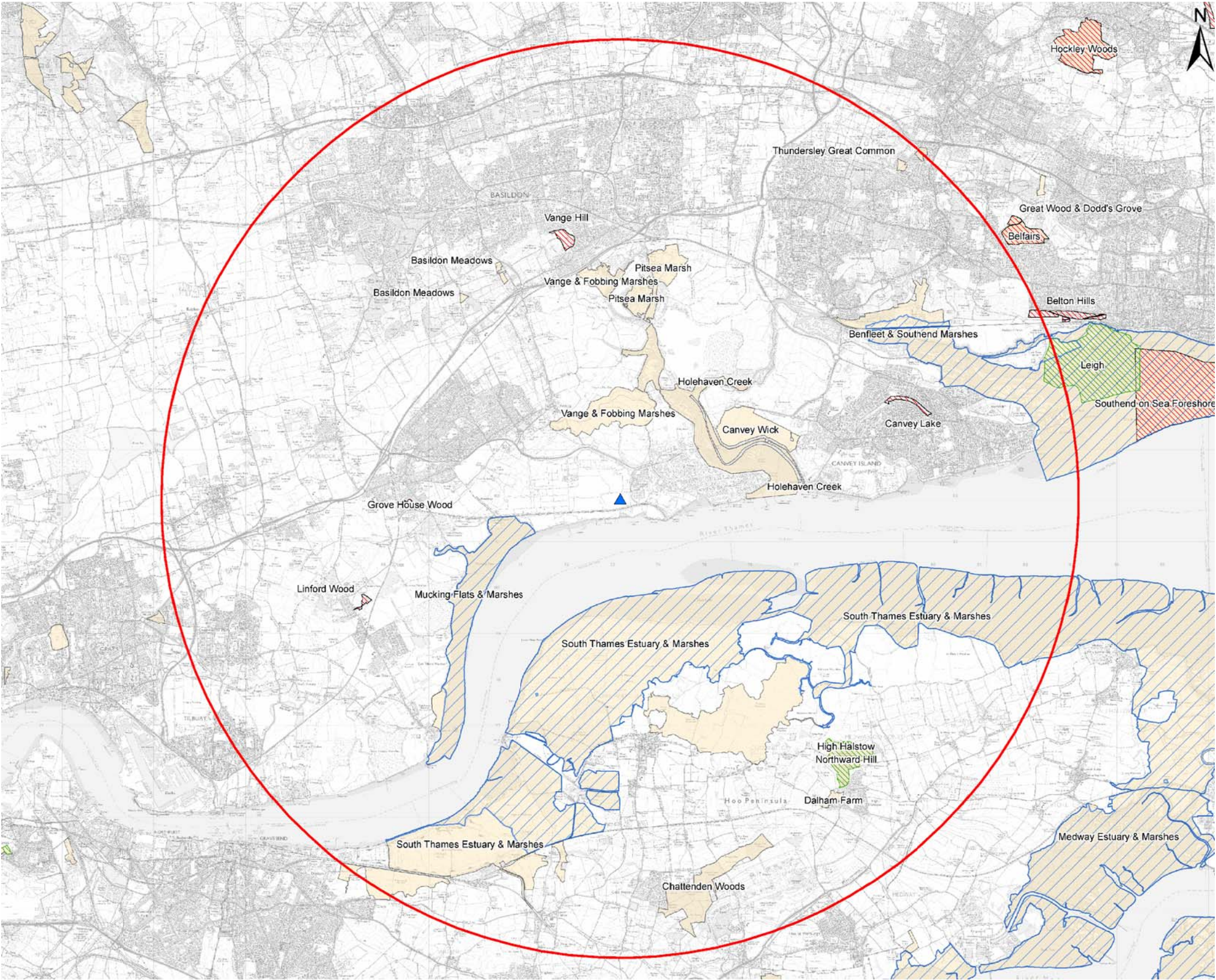
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FIGURE 12.1

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- 5km radius around proposed site
- Corringham Marshes SINC
- Country Parks
- Proposed Site

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CLIENT/PROJECT  
GATEWAY ENERGY CENTRE

TITLE  
LOCATIONS OF STATUTORY  
DESIGNATED SITES WITHIN 10km  
OF THE PROPOSED GEC SITE

DATE 18/02/10  
SCALE N.T.S  
CAD REF

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CHECKED EA  
APPROVED MW

DRAWING NUMBER

FIGURE 12.2

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