Appendix 1

Amended drawings

GSDA Drawings

1404_PL105_A_ProposedSitePlan1to1000_NS
1404_PL106_A_ProposedSiteLayout1to500_NS
1404_PL107_A_ProposedMasterplan1to1000_NS
1404_PL108_A_FencingLayout1to500_NS
1404_PL310_A_NorthSiteElevation_NS
1404_PL311_A_EastSiteElevation_NS
1404_PL312_A_SouthSiteElevation_NS
1404_PL313_A_WestSiteElevation_NS
1404_PL363_A_FencingElevations_NS

Axis Landscape Drawings

2829-01-001-Softworks Rev E
2829-01-003-Tree species and densities Rev D
2829-01-002-Details Rev C

New drawings

GSDA Drawings

1404_PL202_TunnelUnderpassSection_NS

Axis Landscape Drawings

2829-01-004-Hardworks Rev A

Superceded drawings (for reference and information, not provided in this appendix)

GSDA Drawings

1404_PL105_ProposedSitePlan1to1000_NS
1404_PL106_ProposedSiteLayout1to 500_NS
1404_PL107_ProposedMasterplan1to1000_NS
1404_PL108_FencingLayout1to 500_NS
1404_PL310_NorthSiteElevation_NS
1404_PL311_EastSiteElevation_NS
1404_PL312_SouthSiteElevation_NS
1404_PL313_WestSiteElevation_NS
1404_PL363_FencingElevations_NS

Axis Landscape Drawings

2829-01-001-Softworks Rev D
2829-01-003-Tree species and densities Rev B
2829-01-002-Details Rev B

DRAWING REGISTER & ISSUE FORM

GSDA
GARRY STEWART DESIGN ASSOCIATES
London, SW19 1NE,
Tel. No. 020 8544 8085

Project:	**Ford EfW**
Excel File	1404 DwgReg Ford EfW
Sheet Name:	Planning PL

Drawing Reference Number	Drawing Title	Drawing CAD File Number	Scale	REVISION	D	16	23	24	16
	GSDA				M	03	03	03	07
	Drawing Title				Y	21	21	21	21
PL100	Existing Site Plan	1404_PL100	1:1000@A1			*		*	
PL101	Existing Site Layout	1404_PL101	1:500@A1			*		*	
PL105	Proposed Site Plan	1404_PL105	1:1000@A1			*	*	*	A
PL106	Proposed Site Layout	1404_PL106	1:500@A1				*	*	A
PL107	Proposed Masterplan	1404_PL107	1:1000@A1				*	*	A
PL108	Fencing Layout	1404_PL108	1:500@A1				*	*	A
PL110	ERF + WSTF Lower Ground Floor Plan -1.50m	1404_PL110	1:250@A0			*		*	
PL111	ERF + WSTF Ground Floor Plan +0.00m	1404_PL111	1:250@A0			*	*	*	
PL112	ERF + WSTF Level 1 +4.00m	1404_PL112	1:250@A0			*		*	
PL113	ERF + WSTF Level 2 +8.00m	1404_PL113	1:250@A0			*		*	
PL114	ERF + WSTF Level 3 +10.00m	1404_PL114	1:250@A0			*		*	
PL115	ERF + WSTF Level 4 +15.00m	1404_PL115	1:250@A0			*		*	
PL116	ERF + WSTF Level 5 +20.00m	1404_PL116	1:250@A0			*		*	
PL117	ERF + WSTF Roof Plan	1404_PL117	1:250@A0			*		*	
PL120	Ground Floor Admin Workshop +0.00m	1404_PL120	1:100@A1			*		*	
PL121	First Floor Admin Workshop +4.00m	1404_PL121	1:100@A1			*		*	
PL122	Second Floor Admin Workshop +8.00m	1404_PL122	1:100@A1			*		*	
PL123	Third Floor Admin Workshop +12.00m	1404_PL123	1:100@A1			*		*	
PL124	Fourth Floor Admin Workshop +16.00m	1404_PL124	1:100@A1			*		*	
PL125	Fifth Floor Admin Workshop +20.00m	1404_PL125	1:100@A1			*		*	
PL200	Existing Site Sections	1404_PL200	1:500@A1			*		*	
PL201	Proposed Site Sections	1404_PL201	1:500@A1			*		*	
PL202	Tunnel Underpass Section	1404_PL202	1:100@A1						*
PL300	ERF North Elevation	1404_PL300	1:250@A1			*		*	
PL301	ERF East Elevation	1404_PL301	1:250@A1			*		*	
PL302	ERF South Elevation	1404_PL302	1:250@A1			*		*	
PL303	ERF West Elevation	1404_PL303	1:250@A1			*		*	
PL304	ERF South Elevation ERF Only	1404_PL304	1:250@A1			*		*	
PL305	WSTF North and East Elevations	1404_PL305	1:250@A1			*		*	
PL306	WSTF South and West Elevations	1404_PL306	1:250@A1			*		*	
PL310	North Site Elevation	1404_PL310	1:500@A1			*		*	A
PL311	East Site Elevation	1404_PL311	1:500@A1			*	*	*	A
PL312	South Site Elevation	1404_PL312	1:500@A1			*	*	*	A
PL313	West Site Elevation	1404_PL313	1:500@A1			*		*	A
PL350	ACC Elevations	1404_PL350	1:200@A1			*		*	
PL351	EfW Weighbridege Gatehouse Plans and Elevations	1404_PL351	1:100@A3			*		*	
PL352	WSTF Office And Welfare Elevations	1404_PL352	1:100@A3			*		*	
PL353	ERF Fire Water Tank Elevations	1404_PL353	1:100@A3			*		*	
PL354	ERF Pump House Plan Elevations	1404_PL354	1:100@A3			*		*	
PL355	Diesel and Ammonia Tank Elevations	1404_PL355	1:100@A1			*		*	
PL356	Substation and Transformer Elevations	1404_PL356	1:100@A1			*		*	
PL357	Wash Area Elevations	1404_PL357	1:100@A1			*		*	
PL358	WSTF Fire Water Tank Elevations	1404_PL358	1:100@A3			*		*	
PL359	WSTF Pump House Plan Elevations	1404_PL359	1:100@A3			*		*	
PL360	Fuel Tank and Adblue Elevations	1404_PL360	1:100@A3			*	*	*	
PL361	Cycle Shelter Plan and Elevations	1404_PL361	1:100@A3			*		*	
PL362	Rainwater Harvesting Tank Elevations	1404_PL362	1:100@A3			*	*	*	
PL363	Fencing Elevations	1404_PL363	1:100@A3			*		*	A
IL500	Trafic Movement Drawing	1404_IL500	1:500@A1			*	*	*	
IL510	Vehicle Tracking Layout	1404_IL510	1:500@A1			*	*	*	
IL520	Sun Path Study: December 21st	1404_IL520	NTS					*	
IL521	Sun Path Study: June 20th	1404_IL521	NTS					*	
IL522	Sun Path Study: March 20th	1404_IL522	NTS					*	
2829-01-001	Landscape Softworks General Arrangement	2829-01-001	1:500@A1						E
2829-01-002	Landscape Softworks Typical Details	2829-01-002	1:500@A1						C
2829-01-003	Landscape Softworks Tree Species and Densities	2829-01-003	NTS						D
2829-01-004	Landscape Hardworks General Arrangement	2829-01-004	1:500@A1						A

Distribution		Copies				
Grundon	P McLaughlin		e	e	e	e
TOR	E Robinson				e	e

~ = first issue, A B C etc = drawing revision, e = electronic copy

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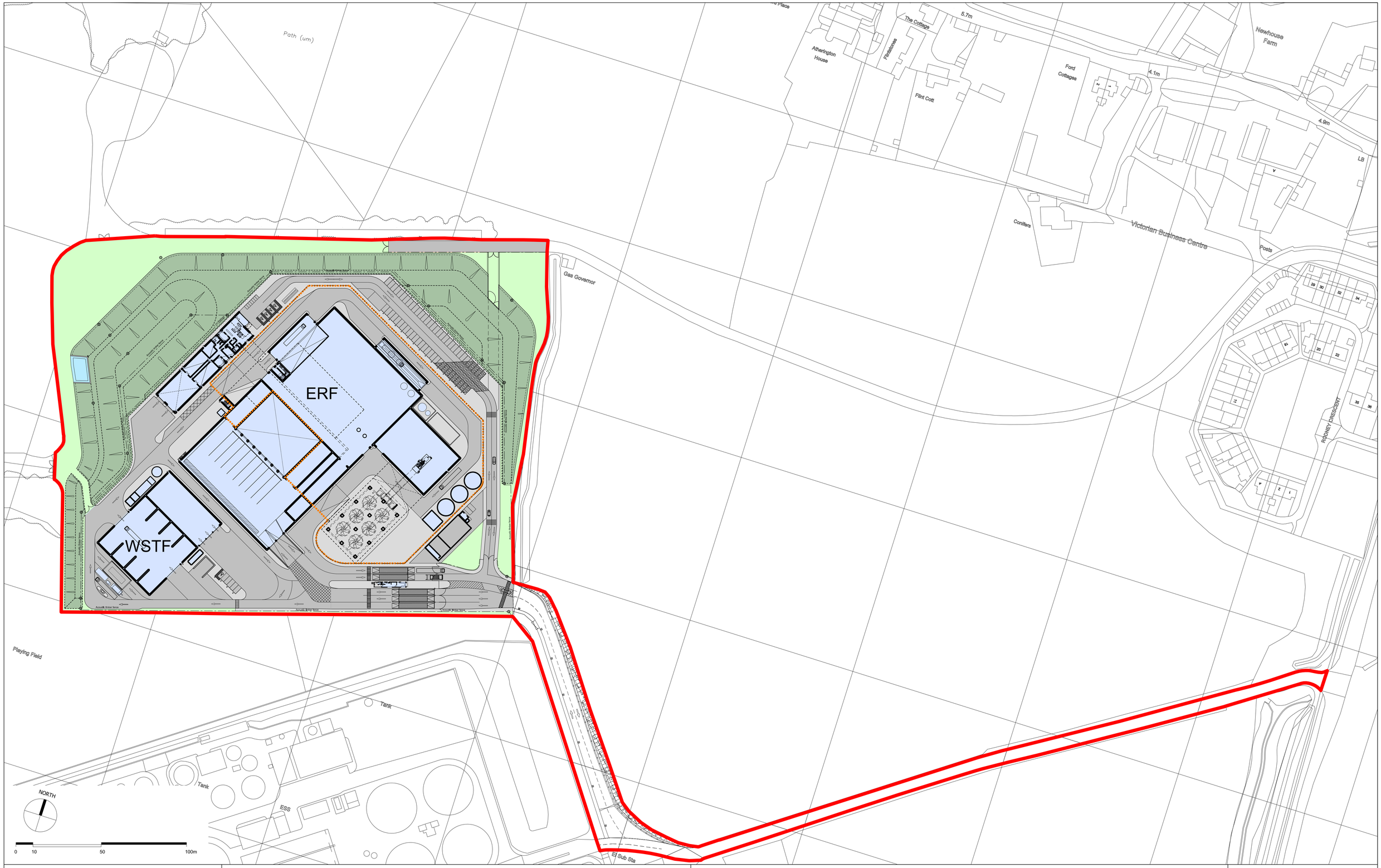
P	**P**	**P**	**P**	



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Key

- Planning Application Boundary
- Fencing Line
- -1.5m Lowered Area

NOTE: For detailed landscaping and planting proposals please refer to drawing 2829-01-001 Rev E
For detailed hard landscaping proposals please refer to drawing 2829-01-004 Rev A

PROJECT: FORD CIRCULAR TECHNOLOGY PARK

DRAWING: Proposed Site Plan

FOR PLANNING		-	21/03/16	Issued for planning							
1:1000@A1 SCALE	21/07/16 DATE	A	21/07/16	Issued for planning							
1404 PL105 DWG. NO.	A REVISION										

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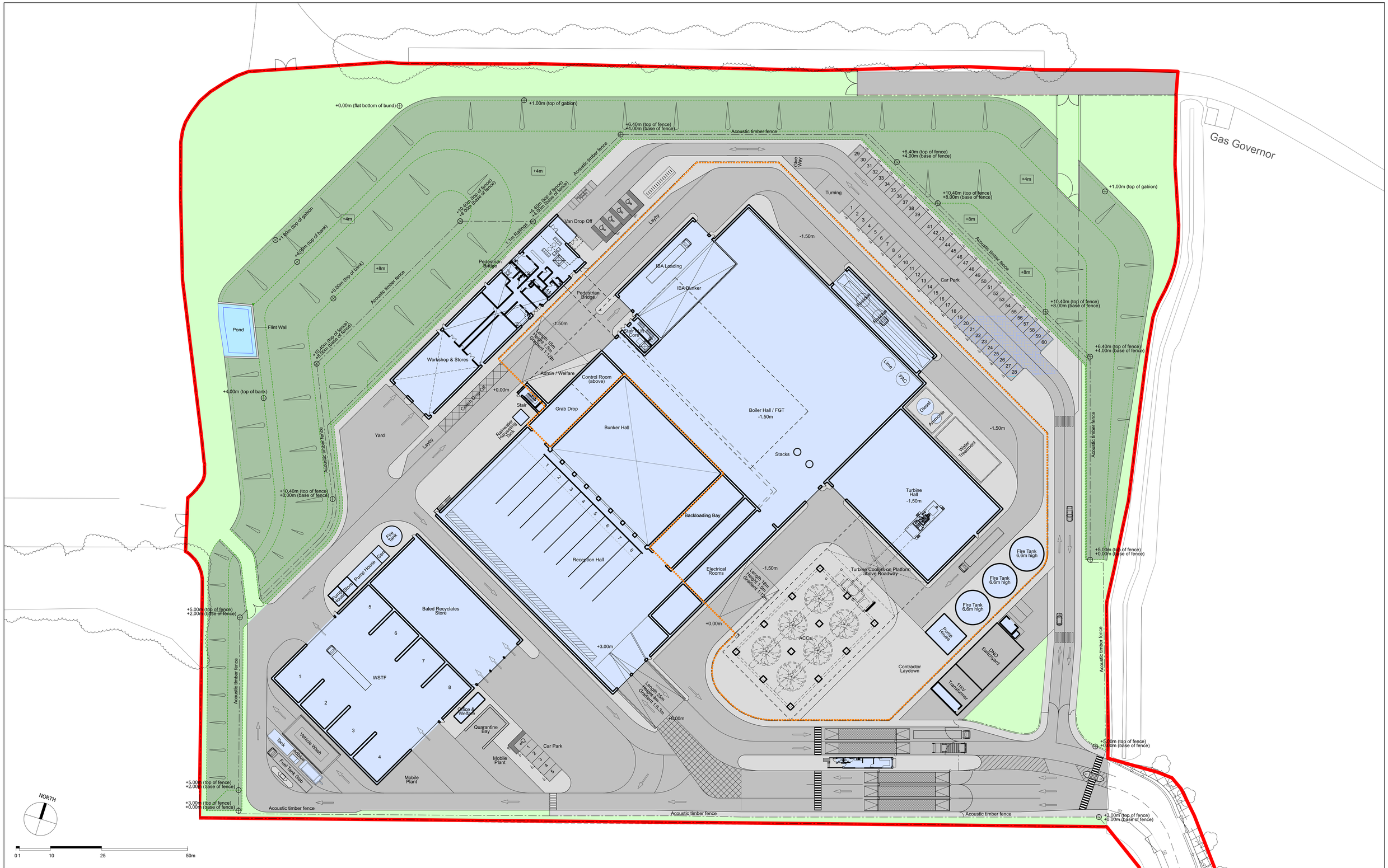

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Key

- Planning Application Boundary
- -1.5m Lowered Area
- Extent of bunding
- Fencing Line
- Pastel Blue Block Paving Symbolising Path of Old Canal
- Indicative Landscaping

NOTE: For detailed landscaping and planting proposals please refer to drawing 2829-01-001 Rev E
For detailed hard landscaping proposals please refer to drawing 2829-01-004 Rev A

PROJECT: FORD CIRCULAR TECHNOLOGY PARK

DRAWING: Proposed Site Layout

FOR PLANNING		-	21/03/16	Issued for planning	
1:500@A1 SCALE	21/07/16 DATE	A	21/07/16	Issued for planning	
1404 PL106 DWG. NO.	A REVISION				

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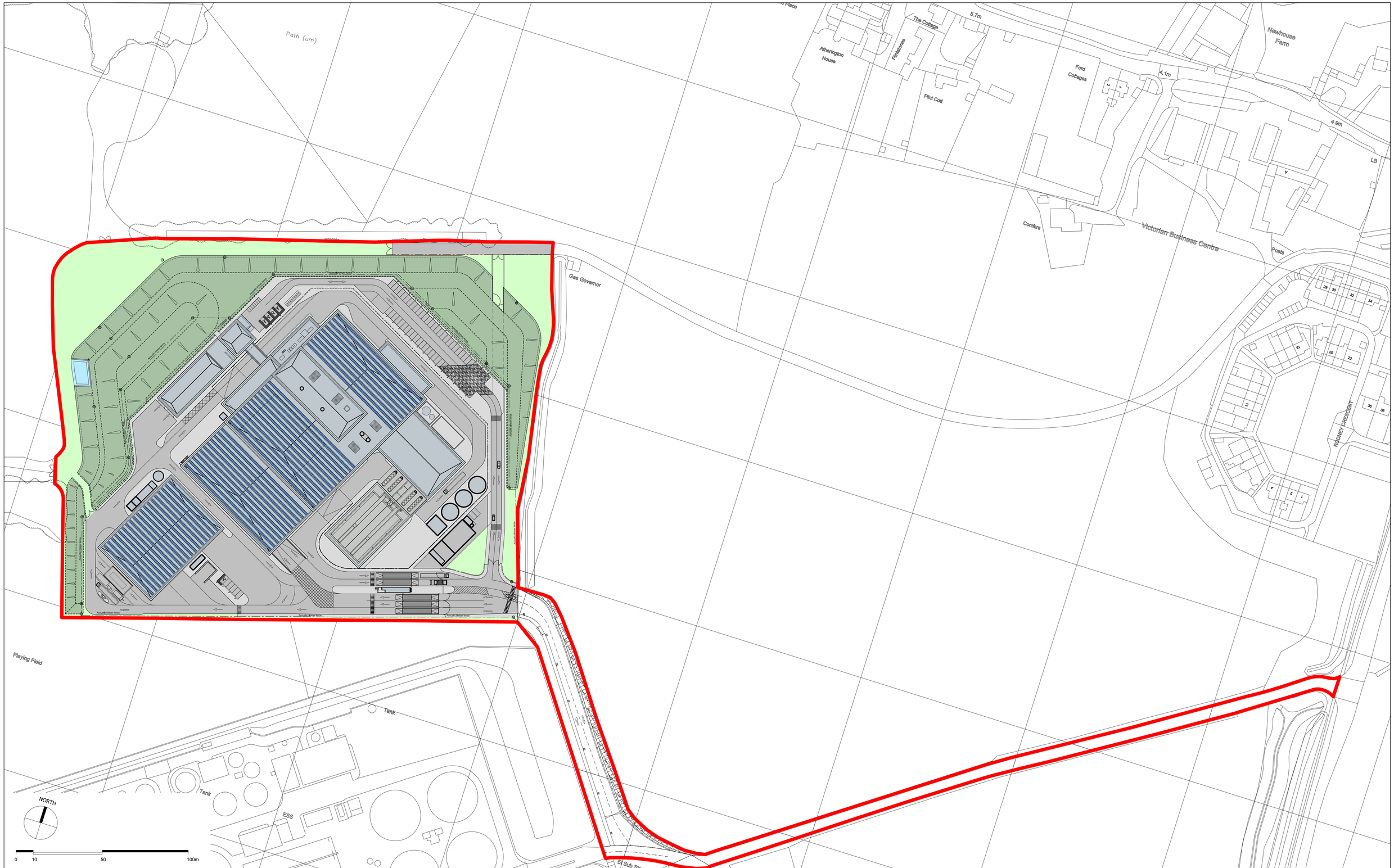

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Key

Planning Application Boundary

Fencing Line

NOTE: For detailed landscaping and planting proposals please refer to drawing 2829-01-001 Rev E
For detailed hard landscaping proposals please refer to drawing 2829-01-004 Rev A

PROJECT: FORD CIRCULAR TECHNOLOGY PARK

DRAWING: Proposed Masterplan

FOR PLANNING

		-	21/03/16	Issued for planning							
1:1000@A1 SCALE	21/07/16 DATE	A	21/07/16	Issued for planning							
1404 PL107 DWG. NO.	A REVISION										

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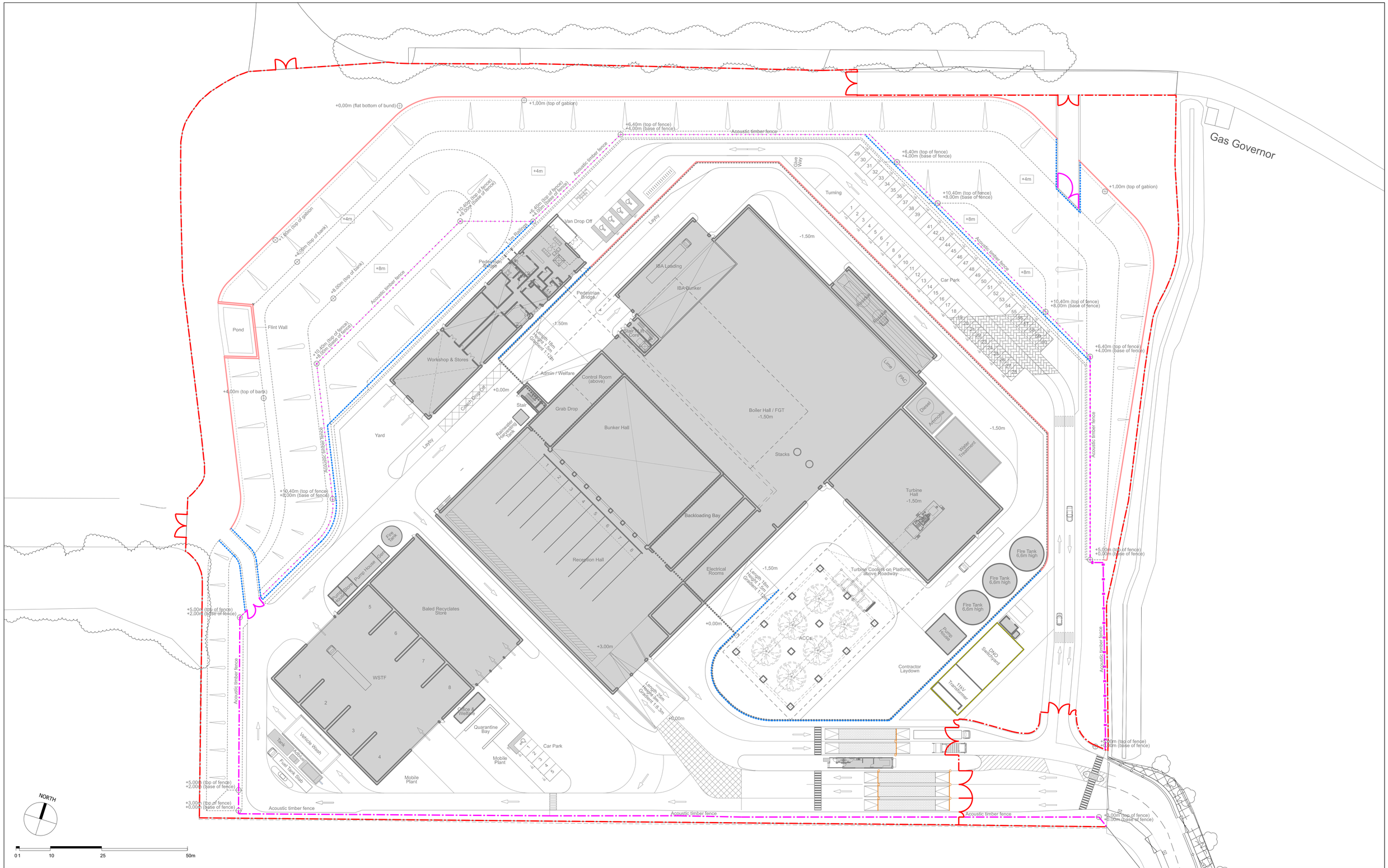

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Key

- 2.4m high metal 'paladin' security fencing with matching gates
- 2.4m Acoustic Timber Fence
- 3m Acoustic Timber Fence
- 5m Acoustic Timber Fence
- Tapering Acoustic Timber Fence
- 1.1m galvanised metal railings
- 2.4m high palisade fence
- Knapped flint wall, varies in height
- Vertical swing barriers

PROJECT: FORD CIRCULAR TECHNOLOGY PARK

DRAWING: Fencing Layout

FOR PLANNING		-	21/03/16	Issued for planning	
1:500@A1 SCALE	21/07/16 DATE	A	21/07/16	Issued for planning	
1404 PL108 DWG. NO.	A REVISION				

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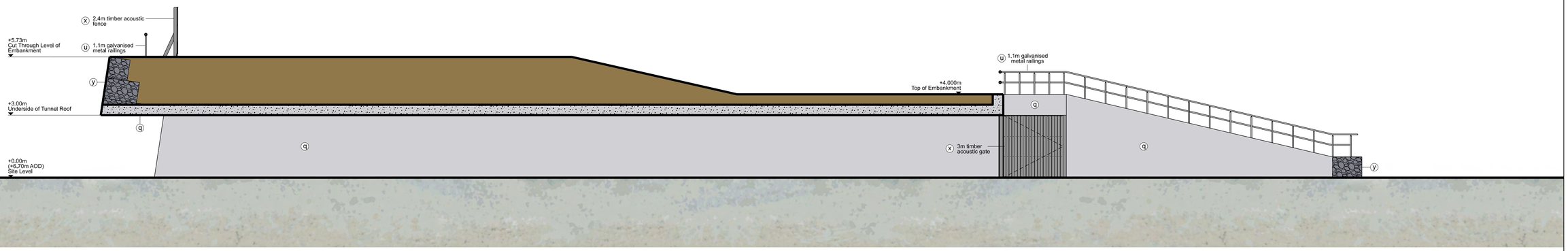
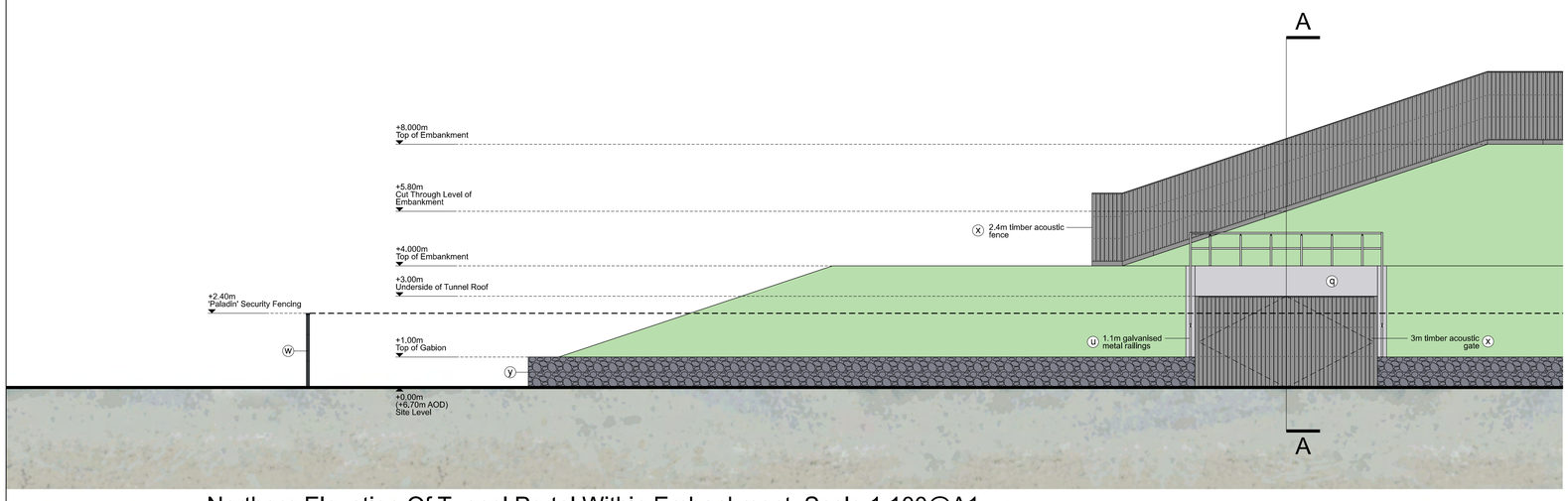
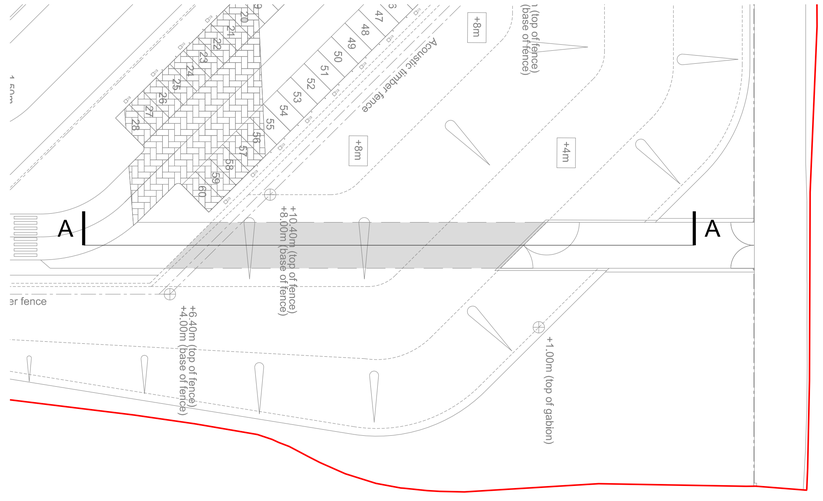


Section A Through Tunnel Looking West, Scale 1:100@A1



Northern Elevation Of Tunnel Portal Within Embankment, Scale 1:100@A1



Key Plan, 1:400@A1

NOTE: For detailed landscaping and planting proposals please refer to drawing 2829-01-001 Rev E

0 1 5 10m

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LEGEND

(a) Kalzip AluPlusPatina standing seam aluminium cladding and flashing Finish: Natural aluminium mill finish, standard
(b) Metal trapezoidal wall cladding / flashing Colour: Pure Grey (RAL 000 55 00)
(c) Metal trapezoidal profile roof cladding Colour: Albatross (RAL 240 80 05)
(d) PPC aluminium louvres with integrated access door, Colour / Finish:Seren Silver
(e) PPC aluminium louvres, Colour / Finish: Pure Grey (RAL 000 55 00)
(f) Metal roller shutter doors Colour / Finish: Seren Silver
(g) Metal roller shutter doors Colour / Finish: Pure Grey (RAL 000 55 00)
(h) PPC metal personnel doors Colour: Seren Silver
(j) PPC metal personnel doors Colour: Pure Grey (RAL 000 55 00)
(k) PPC metal stack casing, metal ducting, tanks and silos Colour: Oyster (RAL 7035)
(l) PPC metal stack casing, metal ducting, tanks and silos Colour: Albatross (RAL 240 80 05)
(m) PPC aluminium framed curtain walling, glazing and personnel doors Colour: Anthracite (RAL 7016)
(n) Curtain walling glass spandrel panels Colour: Alaska Grey (RAL 7000)
(p) Knapped Flint Wall
(q) In situ / pre fab concrete plinths, / bunds / retaining walls etc
(r) Engineering brick plinth Colour: Staffordshire Slate Blue Smooth (from Ibstock)
(s) Flat roofing - Single ply membrane system. Colour: Lead Grey
(t) Glass entrance canopy and bike shelter canopy
(u) Galvanised steel
(v) Bespoke PPC flat metal cladding panels and feature railings Colour: Anthracite (RAL 7016)
(w) Metal palisade and paladin security fencing Colour: Anthracite (RAL 7016)
(x) Timber acoustic fence with concrete posts Finish: Tikkurila waterbased full matt wood dark grey stain colour: TVT 3437
(y) Gabion walls
(z) Polycarbonate wall and roof panels Colour: Clear

Note: All materials, finishes and colours will be as stated or similar approved.

PROJECT	FORD CIRCULAR TECHNOLOGY PARK										
DRAWING	Tunnel / Underpass Section and Elevation										
FOR PLANNING		-	21/07/16	Issued for planning							
1:100@A1 SCALE	21/07/16 DATE										
1404 PL202 DWG. NO.	- REVISION										

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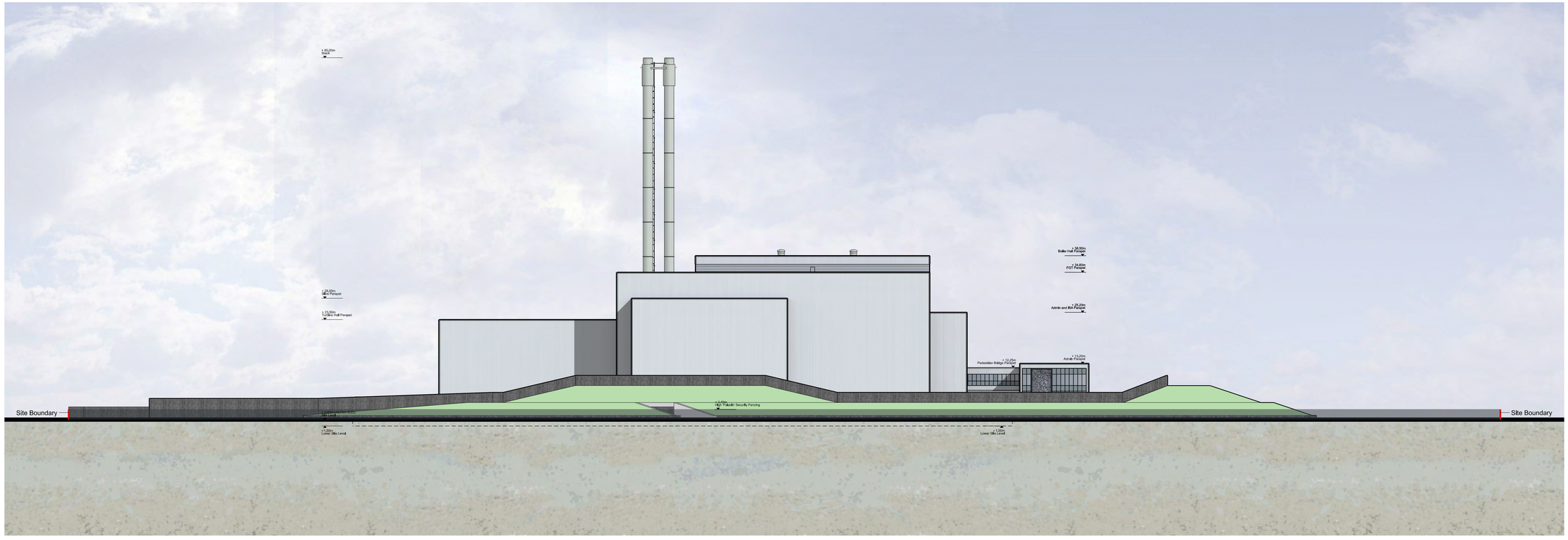

NOTE: For detailed landscaping and planting proposals please refer to drawing 2829-01-001 Rev E

0 1 10 25 50m

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PROJECT: FORD CIRCULAR TECHNOLOGY PARK

DRAWING: ERF North Elevation

FOR PLANNING		-	21/03/16	Issued for planning							
1:250@A1 SCALE	21/07/16 DATE	A	21/07/16	Issued for planning							
1404 PL310 DWG. NO.	A REVISION										

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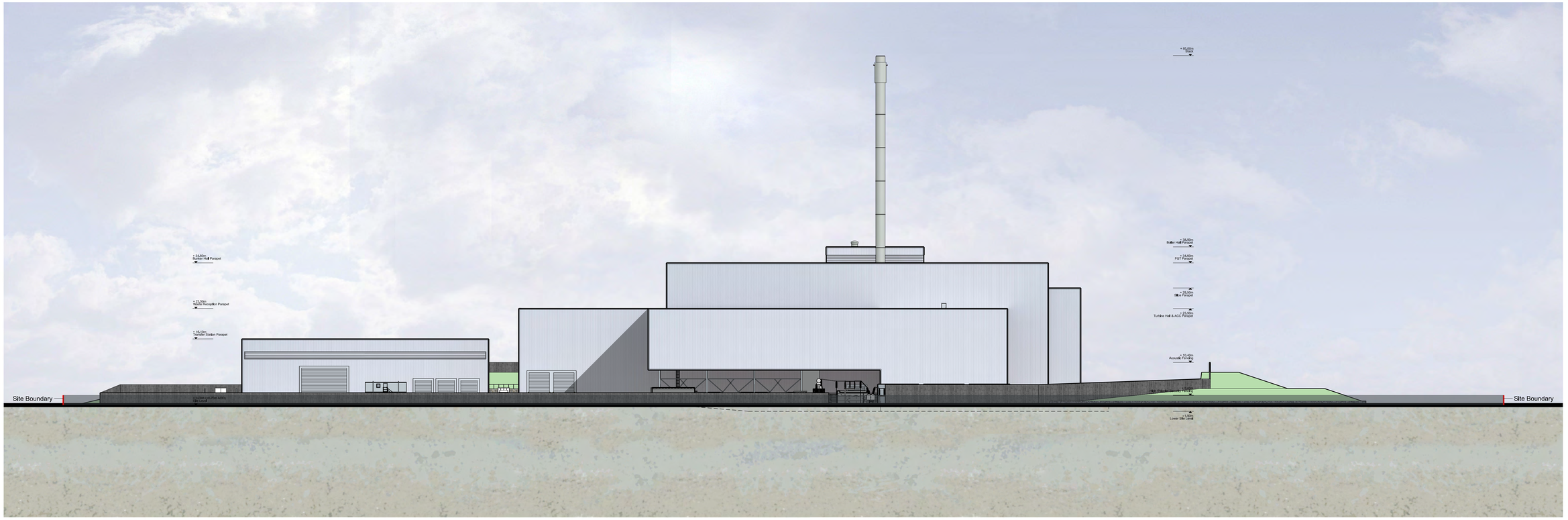

NOTE: For detailed landscaping and planting proposals please refer to drawing 2829-01-001 Rev E

01 10 25 50m

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PROJECT: FORD CIRCULAR TECHNOLOGY PARK

DRAWING: East Site Elevation

FOR PLANNING		-	21/03/16	Issued for planning							
1:250@A1 SCALE	21/07/16 DATE	A	21/07/16	Issued for planning							
1404 PL311 DWG. NO.	A REVISION										

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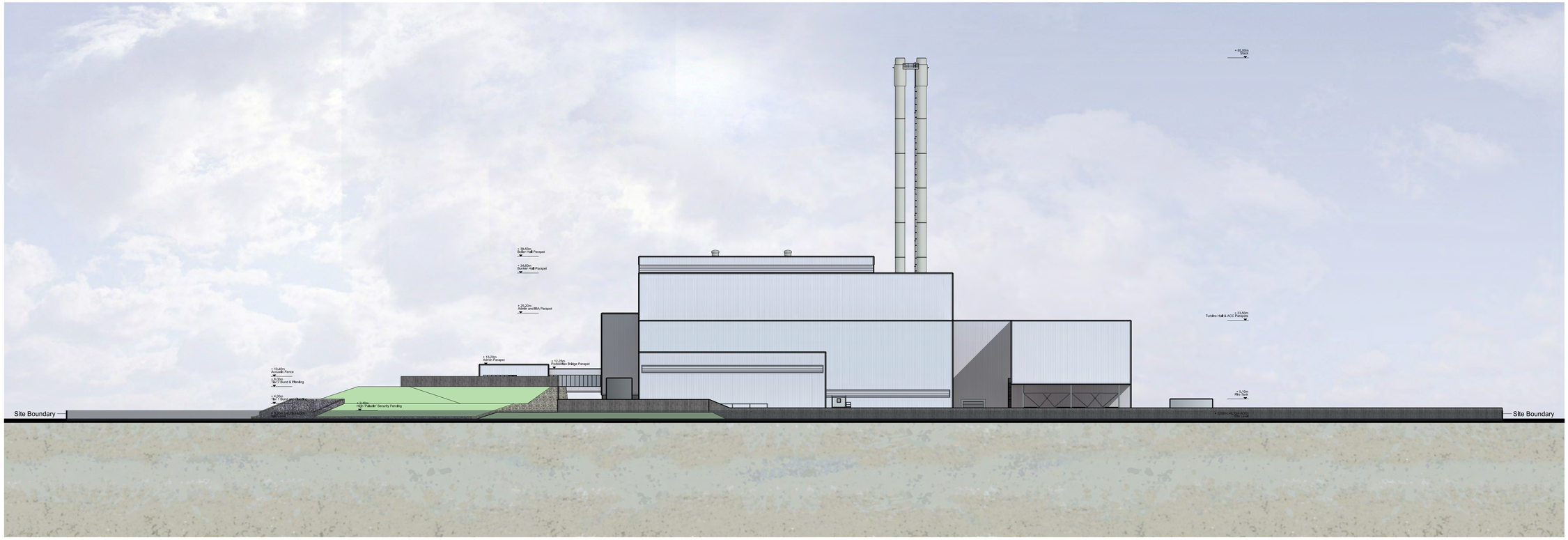

NOTE: For detailed landscaping and planting proposals please refer to drawing 2829-01-001 Rev E

01 10 25 50m

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PROJECT: FORD CIRCULAR TECHNOLOGY PARK

DRAWING: South Site Elevation

FOR PLANNING		-	21/03/16	Issued for planning							
1:250@A1 SCALE	21/07/16 DATE	A	21/07/16	Issued for planning							
1404 PL312 DWG. NO.	A REVISION										

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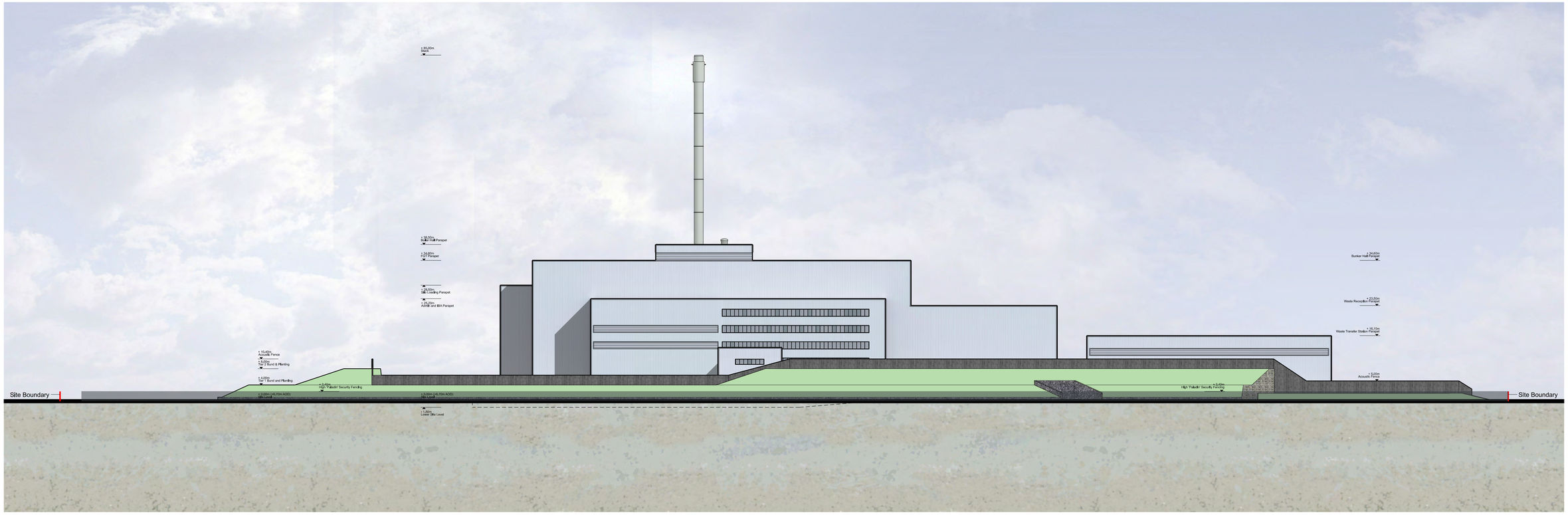

NOTE: For detailed landscaping and planting proposals please refer to drawing 2829-01-001 Rev E

01 10 25 50m

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PROJECT: FORD CIRCULAR TECHNOLOGY PARK

DRAWING: West Site Elevation

FOR PLANNING		-	21/03/16	Issued for planning							
1:250@A1 SCALE	21/07/16 DATE	A	21/07/16	Issued for planning							
1404 PL313 DWG. NO.	A REVISION										

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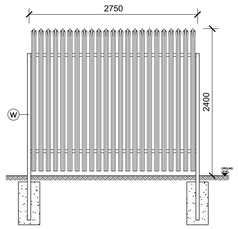
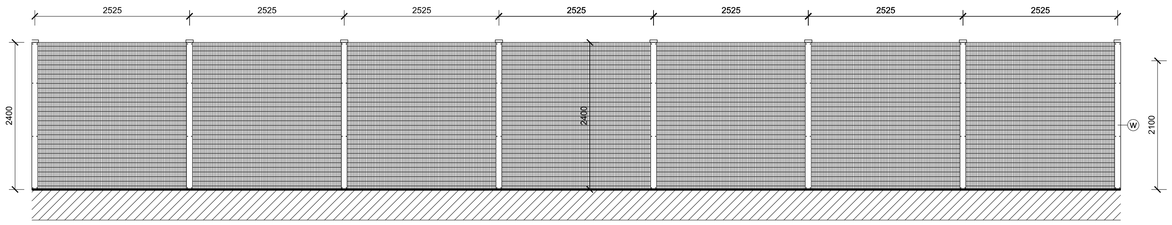
Note - For the sake of clarity the fencing has been unfolded flat to show the centre to centre dimensions for the fence posts. To be read in conjunction with Fencing Layout drawing: PL108_A

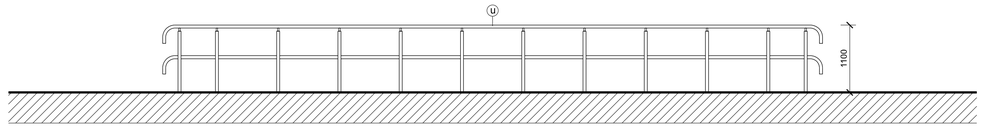
0 1 5m



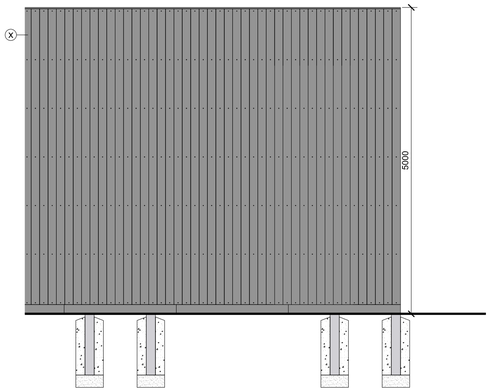
2.4m High Palisade Fence, Colour: Anthracite RAL 7016



2.4m High 'Paladin' Security Fencing, Colour: Anthracite RAL 7016

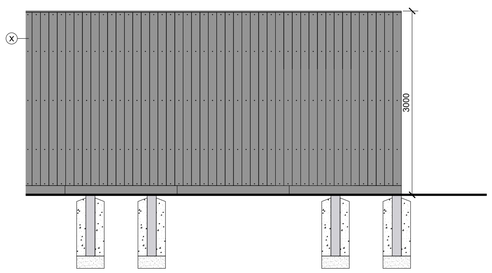


1.1m Galvanised Metal Railings



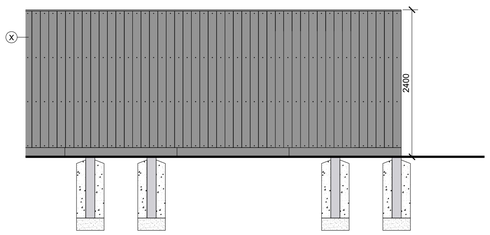
Front Elevation

5m High Timber Acoustic Fencing with Concrete Posts Finish: Tikkurila matt dark grey stain colour: TVT 3437



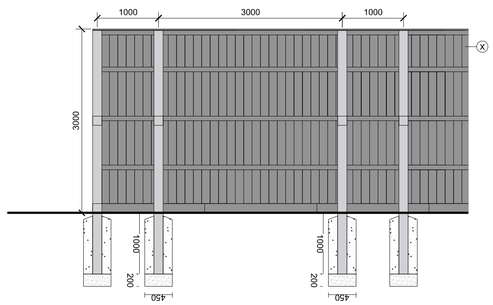
Front Elevation

3m High Timber Acoustic Fencing with Concrete Posts Finish: Tikkurila matt dark grey stain colour: TVT 3437

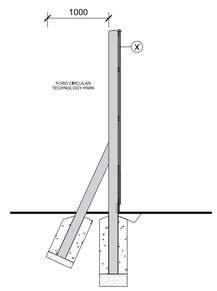


Front Elevation

2.4m High Timber Acoustic Fencing with Concrete Posts Finish: Tikkurila matt dark grey stain colour: TVT 3437



Rear Elevation



Section

NOTE

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3. WHERE ANY DISCREPANCIES ARE FOUND BETWEEN DIMENSIONS THESE MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECTS FOR RESOLUTION.
4. WHERE DISCREPANCIES EXIST BETWEEN REFERENCE OR ASSEMBLY DRAWINGS & DETAIL DRAWINGS, THE LATTER TAKE PREFERENCE.

LEGEND

(a) Kalzip AluPlusPatina standing seam aluminium cladding and flashing Finish: Natural aluminium mill finish, standard
(b) Metal trapezoidal wall cladding / flashing Colour: Pure Grey (RAL 000 55 00)
(c) Metal trapezoidal profile roof cladding Colour: Albatross (RAL 240 80 05)
(d) PPC aluminium louvres with integrated access door, Colour / Finish:Seren Silver
(e) PPC aluminium louvres, Colour / Finish: Pure Grey (RAL 000 55 00)
(f) Metal roller shutter doors Colour / Finish: Seren Silver
(g) Metal roller shutter doors Colour / Finish: Pure Grey (RAL 000 55 00)
(h) PPC metal personnel doors Colour: Seren Silver
(j) PPC metal personnel doors Colour: Pure Grey (RAL 000 55 00)
(k) PPC metal stack casing, metal ducting, tanks and silos Colour: Oyster (RAL 7035)
(l) PPC metal stack casing, metal ducting, tanks and silos Colour: Albatross (RAL 240 80 05)
(m) PPC aluminium framed curtain walling, glazing and personnel doors Colour: Anthracite (RAL 7016)
(n) Curtain walling glass spandrel panels Colour: Alaska Grey (RAL 7000)
(p) Knapped Flint Wall
(q) In situ / pre fab concrete plinths, / bunds / retaining walls etc
(r) Engineering brick plinth Colour: Staffordshire Slate Blue Smooth (from Ibstock)
(s) Flat roofing - Single ply membrane system. Colour: Lead Grey
(t) Glass entrance canopy and bike shelter canopy
(u) Galvanised steel
(v) Bespoke PPC flat metal cladding panels and feature railings Colour: Anthracite (RAL 7016)
(w) Metal palisade and paladin security fencing Colour: Anthracite (RAL 7016)
(x) Timber acoustic fence with concrete posts Finish: Tikkurila waterbased full matt wood dark grey stain colour: TVT 3437
(y) Gabion walls
(z) Polycarbonate wall and roof panels Colour: Clear

Note: All materials, finishes and colours will be as stated or similar approved.

PROJECT: FORD CIRCULAR TECHNOLOGY PARK

DRAWING: Fencing Elevations

FOR PLANNING

		-	21/03/16	Issued for planning							
1:100@A3 SCALE	21/07/16 DATE	A	21/07/16	Issued for planning							
1404 PL363 DWG. NO.	A REVISION										

GSDA
GARRY STEWART DESIGN ASSOCIATES
Highlands House, Office 300A, 165 The Broadway, Wimbledon, London, SW19 1NE
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Q:\2801-2850\2829-01 Ford EfW landscape design\Dwgs\CAD\2829-01-001-003-Rev E.dwg

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Follow any figured dimensions - do not scale for construction purposes. IF IN DOUBT ASK.

● Revision History		● Date
A	FOR PLANNING	02/03/21
B	FENCING UPDATED	05/03/21
C	FOR PLANNING	09/03/21
D	UPDATED LAYOUT	26/03/21
E	SPECIES UPDATED	14/07/21

KEY:

- 🟥 Site Boundary
- Indicative Existing Vegetation
- Former Canal
- -1.5m Lowered Area
- Retaining Wall
- Wooden Acoustic Fencing
- Paladin Fencing
- 1.1m Guard Rail
- Gabion Wall Knapped Flint Finish
- Benches
- Proposed Contours
- +8 Proposed Spot Heights
- Sloped Landform
- Pond
- Specimen Trees
- Woodland
- Visual Screening Woodland
- Native Scrub
- Hedge
- Trailing Plants
- Meadow Grass
- Grass Sward
- Wildflower Grass
- Marginal Planting

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Wilmslow
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client: --

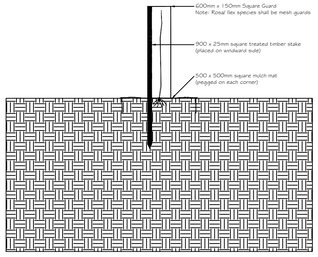
project: FORD CIRCULAR TECHNOLOGY PARK

drawing title: LANDSCAPE SOFTWORKS
General Arrangement

date: 19.02.21		drawn by:	checked:
drawing number:	2829-01-001	PHM	JM
		status:	FOR PLANNING
scale(s):	1:500 @ A1	rev:	E

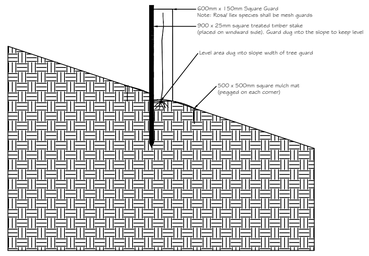
planning environment design

Transplant Typical Planting Detail (Biodegradable, square guard)
40 - 60cm Transplants
1:20 Scale



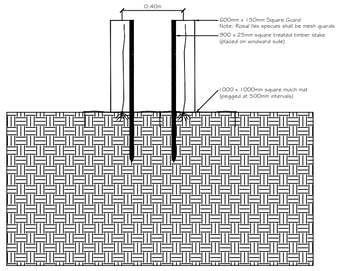
Notch planting
Transplants to be planted in groups of 5 -7 of same species.
Spacing as per specification/ schedule.
Ground to be cleared of tall vegetation by cutting and be sprayed with contact herbicide prior to planting.
If ground is compacted, soil should be cultivated to minimum 300mm prior to planting.
Root dip to be used on bare root stock if required.
Keep watring plants in water to prevent drying out.
Slow release fertiliser tabs to be added 3-5 per transplant at time of planting.
Notch plant, firm soil after planting.
Water to refusal.
Mulch mats to be secured with pegs maximum 500m apart.
Guard should be flush to the ground and stake minmum of 250mm in the ground and stake to be placed on the windward side and flush with top of guard.

Transplant Typical Planting Detail on 1 in 3 slope (Biodegradable, square guard)
40 - 60cm Transplants
1:20 Scale



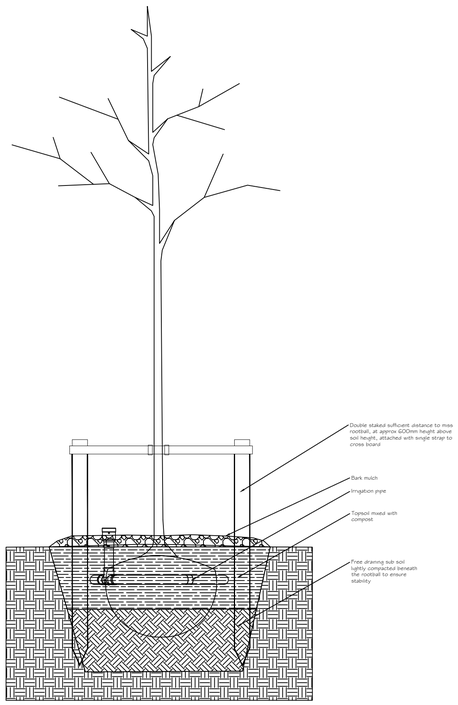
Notch planting
Transplants to be planted in groups of 5 -7 of same species.
Spacing as per specification/ schedule.
Ground to be cleared of tall vegetation by cutting and be sprayed with contact herbicide prior to planting.
If ground is compacted, soil should be cultivated to minimum 300mm prior to planting.
Root dip to be used on bare root stock if required.
Keep watring plants in water to prevent drying out.
Slow release fertiliser tabs to be added 3-5 per transplant at time of planting.
Notch plant, firm soil after planting.
Water to refusal.
Mulch mats to be secured with pegs, maxmum of 500mm apart.
Guard should be dug into the slope and flush to the ground on the downward side and stake minmum of 250mm in the ground and stake to be placed on the windward side and flush with top of guard.

Double Staggered Transplant Hedge Planting Typical Detail (Biodegradable square guard)
40 - 60cm Transplants
(Square Guards)
1:20 Scale



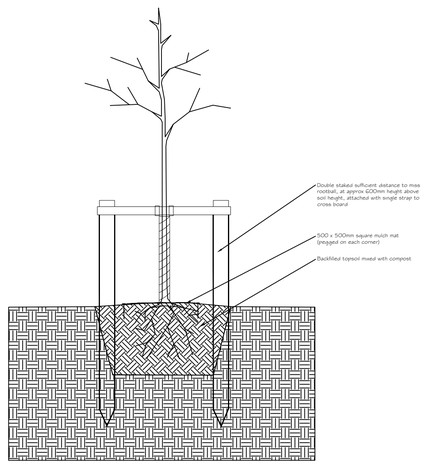
Hedge planting (notch planting)
Cut vegetation back, spray off minmum 1000mm wide x length with contact herbicide prior to planting.
Hedge run to be cultivated minmum 1000mm wide and 300mm deep.
Transplants to be planted in groups of 5 -7 of same species.
Spacing as per specification/ schedule.
Root dip to be used on bare root stock if required.
Keep watring plants in water to prevent drying out.
Notch plant, firm soil after planting.
Water to refusal.
Mulch mats to be secured with pegs maximum 500m apart.
Guard should be flush to the ground and stake minmum of 250mm in the ground and stake to be placed on the windward side and flush with top of guard.

Heavy Standard Tree Typical Detail
Double staked
1:20 Scale



Heavy Standard Tree Planting
Spacing and location as per scheduled/ drawing.
Ground to cleared of tall vegetation by cutting and be sprayed with contact herbicide prior to planting
Tree pit to be dug minmum of 800mm deep and 1000mm wide and at least 150mm deeper than the natural spread of roots whichever is greater.
Sides and bottom of tree pit to be broken up prior to being backfilled.
Stakes to be inserted into bottom of pit prior to backfilling.
Stakes to be minmum 75mm diameter, placed on windward side to prevent rubbing. Stakes shall be treated wood.
Stakes to be of sufficient length to be driven in a minmum of 300mm beyond depth of tree pit and 600mm above ground level.
Tree either to be staked to board with a single rubber tie or by two rubber ties, one from each post at approximately 600mm above soil level.
Tree draining sub soil to be backfilled and lightly compacted beneath the rootball to ensure stability.
Backfilled soil to be minmum 300mm deep mixed with compost if required as per specification.
3 - 5 slow release fertiliser tabs to be added with backfilled soil.
Irrigation pipe to be installed according to manufacturers specifications.
Trees to be kept watered while waiting.
Firm soil after planting and ensure tree is maintained at orignal depth.
Water to refusal.
Minmum 75mm of mulch to be added to tree pit to cover extent of tree pit.

Feathered Tree Typical Detail
Bare Root Double Staked
1:20 Scale



Feathered Tree Planting
Spacing and location as per scheduled/ drawing.
Ground to cleared of tall vegetation by cutting and be sprayed with contact herbicide prior to planting
Tree pit to be dug minmum of 400mm deep and 800mm wide and at least 75mm deeper than the rootball.
Sides and bottom of tree pit to be broken up prior to being backfilled.
Backfilled soil to be mixed with compost if required as per specification.
Trees to be kept watered while waiting.
3 - 5 slow release fertiliser tabs to be added with backfilled soil.
Firm soil after planting and ensure tree is maintained at orignal depth.
Water to refusal.
Mulch mats to be secured with pegs maximum 500m apart.
Guard should be flush to the ground and stake minmum of 250mm in the ground and stake to be placed on windward side to prevent rubbing. Stakes shall be treated wood.
Stakes to be of sufficient length to be driven in a minmum of 300mm beyond depth of tree pit and 600mm above ground level.
Tree either to be staked to board with a single rubber tie or by two rubber ties, one from each post at approximately 600mm above soil level.
If required e.g. rabbits then a biodegradable guard to be installed.

• Revision History		• Date
A	FOR COMMENT	19/02/21
B	ISSUED FOR PLANNING	26/03/21
C	UNDERGROUND GUYING REMOVED	14/07/21

Chester Office:
Well House Barns
Bretton
Chester
CH4 0DH

South Manchester Office:
Camellia House
76 Water Lane
Wilmslow
SK9 5BB

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client: --

project: FORD CIRCULAR TECHNOLOGY PARK

drawing title: LANDSCAPE SOFTWORKS TYPICAL DETAILS

date:	drawn by:	checked:
19.02.21	PHM	JM
drawing number: 2829-01-002	status: FOR PLANNING	
scale(s): 1:500 @ A1	rev: C	

planning environment design

Schedule

Specimen Trees

Species	Height	Girth	Specification
Acer campestre	350-425cm	12-14cm	Heavy Standard :Clear Stem min. 200 :3x :RB
Quercus robur	350-400cm	12-14cm	Heavy Standard :Clear Stem 175-200 :3x :RB
Quercus robur 'Fastigiata Koster'	350-425cm	12-14cm	Heavy Standard :Clear Stem min. 200 :3x :RB

Woodland

Species	Height	Girth	Specification	Mix Species Contribution	Centre's (M)
Acer campestre	40-60cm		1+1 :Transplant :2 brks :B	10%	4Ctr
Alnus glutinosa	40-60cm		1+1 :Transplant :2 brks :B	10%	4Ctr
Betula pendula	40-60cm		1+1 :Transplant :2 brks :B	10%	4Ctr
Carpinus betulus	40-60cm		1+1 :Transplant :2 brks :B	5%	4Ctr
Cornus sanguinea	40-60cm		1+1 :Transplant :B	5%	4Ctr
Corylus avellana	40-60cm		1+2 :Transplant :Branched :3 brks :B	5%	4Ctr
Crataegus monogyna	40-60cm		1+1 :Transplant :2 brks :B	12%	4Ctr
Malus sylvestris	40-60cm		1+1 :Transplant :2 brks :B	5%	4Ctr
Populus tremula	40-60cm		1+1 :Transplant :2 brks :B	10%	4Ctr
Prunus spinosa	40-60cm		1+1 :Transplant :B	5%	4Ctr
Quercus robur	40-60cm		1+1 :Transplant :2 brks :B	10%	4Ctr
Rosa canina	40-60cm		1+1 :Transplant :B	3%	4Ctr
Sorbus aucuparia	40-60cm		1+1 :Transplant :2 brks :B	10%	4Ctr
				Total :100%	

Visual Screening Woodland

Species	Height	Girth	Specification	Mix Species Contribution	Centre's (M)
Alnus glutinosa	2.0-2.5m	6-8cm	Feather :B	30%	4Ctr
Betula pendula	2.0-2.5m	6-8cm	Feather :B	15%	4Ctr
Corylus avellana	175-200cm		Feather :B	30%	4Ctr
Populus tremula	2.0-2.5m	6-8cm	Feather :B	15%	4Ctr
Salix fragilis	2.0-2.5m	6-8cm	Feather :B	10%	4Ctr
				Total :100%	

Native Hedgerow

Species	Height	Specification	Mix Species Contribution	Centre's (M)
Acer campestre	40-60cm	1+1 : Transplant: B	10%	0.4Ctr Double Staggered at 0.4m offset
Corylus avellana	40-60cm	1+1 : Transplant: B	15%	0.4Ctr Double Staggered at 0.4m offset
Crataegus monogyna	40-60cm	1+1 : Transplant: B	55%	0.4Ctr Double Staggered at 0.4m offset
Malus sylvestris	40-60cm	1+1 : Transplant: B	5%	0.4Ctr Double Staggered at 0.4m offset
Prunus spinosa	40-60cm	1+1 : Transplant: B	5%	0.4Ctr Double Staggered at 0.4m offset
Rosa canina	40-60cm	1+1 : Transplant: B	5%	0.4Ctr Double Staggered at 0.4m offset
Viburnum opulus	40-60cm	1+1 : Transplant: B	5%	0.4Ctr Double Staggered at 0.4m offset
			Total :100%	

Native Scrub

Species	Height	Specification	Mix Species Contribution	Centre's (M)
Euonymus europaeus	40-60cm	1+1 : Transplant: B	20%	2Ctr
Prunus spinosa	40-60cm	1+1 : Transplant: B	20%	2Ctr
Rosa canina	40-60cm	1+1 : Transplant: B	5%	2Ctr
Salix caprea	40-60cm	1+1 : Transplant: B	5%	2Ctr
Sambucus nigra	40-60cm	1+1 : Transplant: B	15%	2Ctr
Viburnum lantana	40-60cm	1+1 : Transplant: B	20%	2Ctr
Viburnum opulus	40-60cm	1+1 : Transplant: B	15%	2Ctr
			Total :100%	

Trailing Plants

Number	Species	Specification	Centre's (M)
557 -	Hedera helix 'Variegata'	Several Shoots	2/m

Seed Mixes

Header	Seed Mix Name	Seed Mix Supplier	Density
WILDFLOWER GRASS	BFS 14 - Brownfield Site	British Flora	3g/m²
MEADOW GRASS	EG1 - General Purpose Meadow	Emorsgate	5g/m²
GRASS SWARD	EH1 - Hedgerow Mixture	Emorsgate	5g/m²
MARGINAL MIX	EP1 - Pond Edge	Emorsgate	4g/m²

• Revision History		• Date
A	FOR COMMENT	19/02/21
B	UPDATED MIX	05/03/21
C	FOR PLANNING	09/03/21
D	MIXES, SPECIES AND SIZES UPDATED	14/07/21

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client: --

project: FORD CIRCULAR TECHNOLOGY PARK

drawing title: LANDSCAPE SOFTWORKS
TREE SPECIES AND DENSITIES

date:	drawn by:	checked:
02/03/21	PHM	JM

drawing number: 2829-01-003

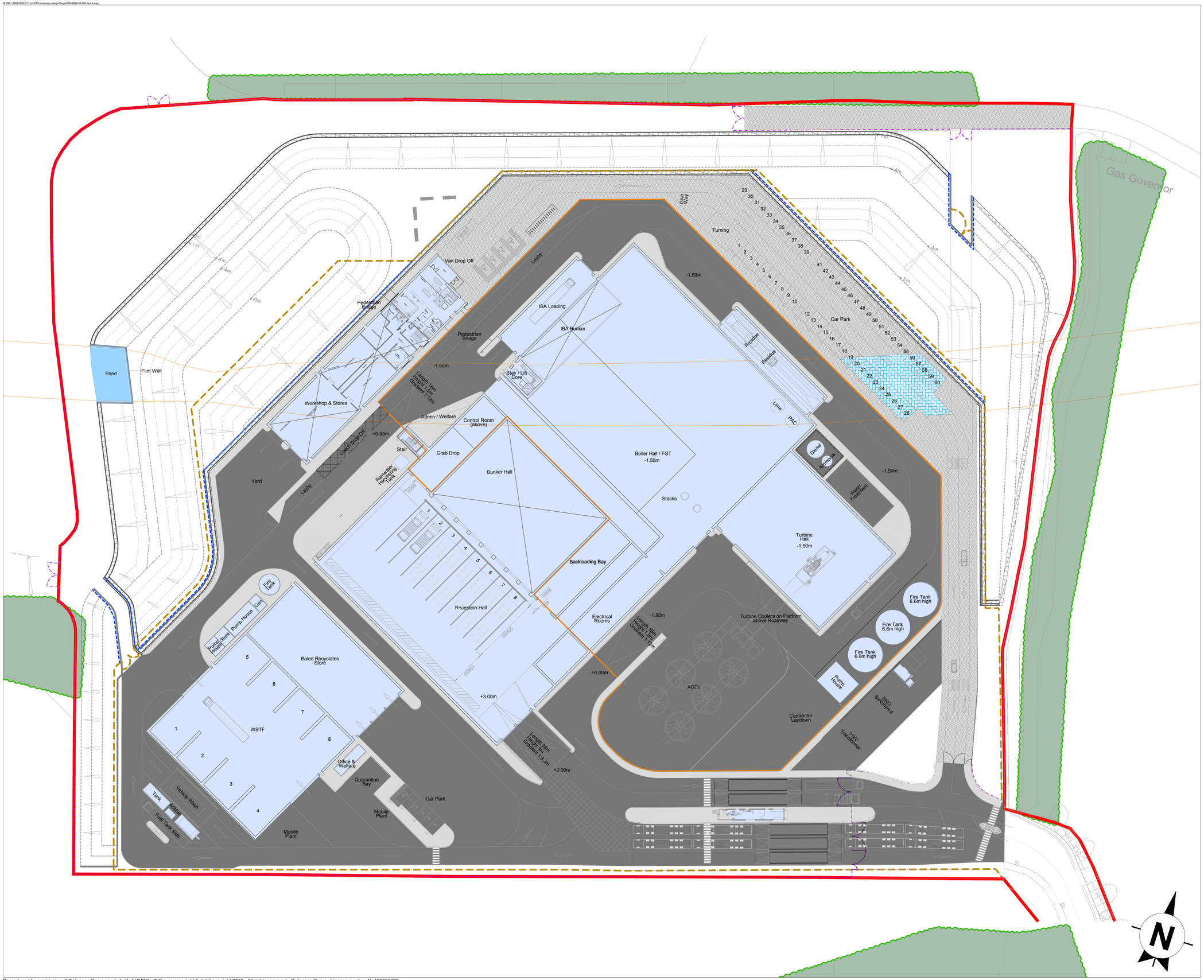
status: FOR PLANNING

scale(s): NTS

rev: D

planning environment design

Q:\2801-2850\2829-01 Ford EfW landscape design\Dwgs\CAD\2829-01-004 Rev A.dwg



• Revision History		• Date
A	FOR PLANNING	14/07/21

KEY:

- Site Boundary
- Indicative Existing Vegetation
- Former Canal
- -1.5m Lowered Area
- Retaining Wall
- Wooden Acoustic Fencing
- Paladin Fencing
- 1.1m Guard Rail
- Gabion Wall Knapped Flint Finish
- Pastel Blue herringbone hatch block paving surfacing to indicate former Canal Alignment
- Impermeable Concrete
- Impermeable asphalt
- Permeable asphalt
- Benches
- Proposed Contours
- +8 Proposed Spot Heights
- Sloped Landform
- Pond

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axis

client: --

project: FORD CIRCULAR TECHNOLOGY PARK

drawing title: LANDSCAPE HARDWORKS
General Arrangement

date:	drawn by:	checked:
14.07.21	PHM	JM

drawing number: 2829-01-004

status: FOR PLANNING

scale(s): 1:500 @ A1

rev: A

planning environment design

Appendix 2

Noise clarification figures

Legend

- Receivers
- Buildings

Daytime noise contours without screening

dB LAeq,16 hour

- > 0
- > 35
- > 40
- > 45
- > 50
- > 55
- > 60
- > 65
- > 70
- > 75
- > 80
- > 85

Figure Title

Daytime Noise Contours (07:00-23:00) at 1.5m height without screening

Project Name

Ford ERF and WSTF, Ford Circular Technology Park

Project Number	Figure No.
1620007820	
Date	**Prepared By**
July 2021	MB
Scale	**Issue**
1:7,000 @A4	1

Client

Ford EfW Ltd

RAMBOLL

Legend

- Receivers
- Buildings

Night-time noise contours without screening

dB LAeq,8 hour

- > 0
- > 35
- > 40
- > 45
- > 50
- > 55
- > 60
- > 65
- > 70
- > 75
- > 80
- > 85

Figure Title

Night-time Noise Contours (23:00 - 07:00) at 4m height without screening

Project Name

Ford ERF and WSTF, Ford Circular Technology Park

Project Number	Figure No.
1620007820	
Date	**Prepared By**
July 2021	MB
Scale	**Issue**
1:7,000 @A4	1

Client

Ford EfW Ltd

RAMBOLL

Legend

- Receivers
- Buildings

Night-time HGV noise contours without screening

dB LAeq,1 hour

- > 0
- > 35
- > 40
- > 45
- > 50
- > 55
- > 60
- > 65
- > 70
- > 75
- > 80
- > 85

Figure Title

Night-time noise contours with HGVs (06:00-07:00) at 4m height without screening

Project Name

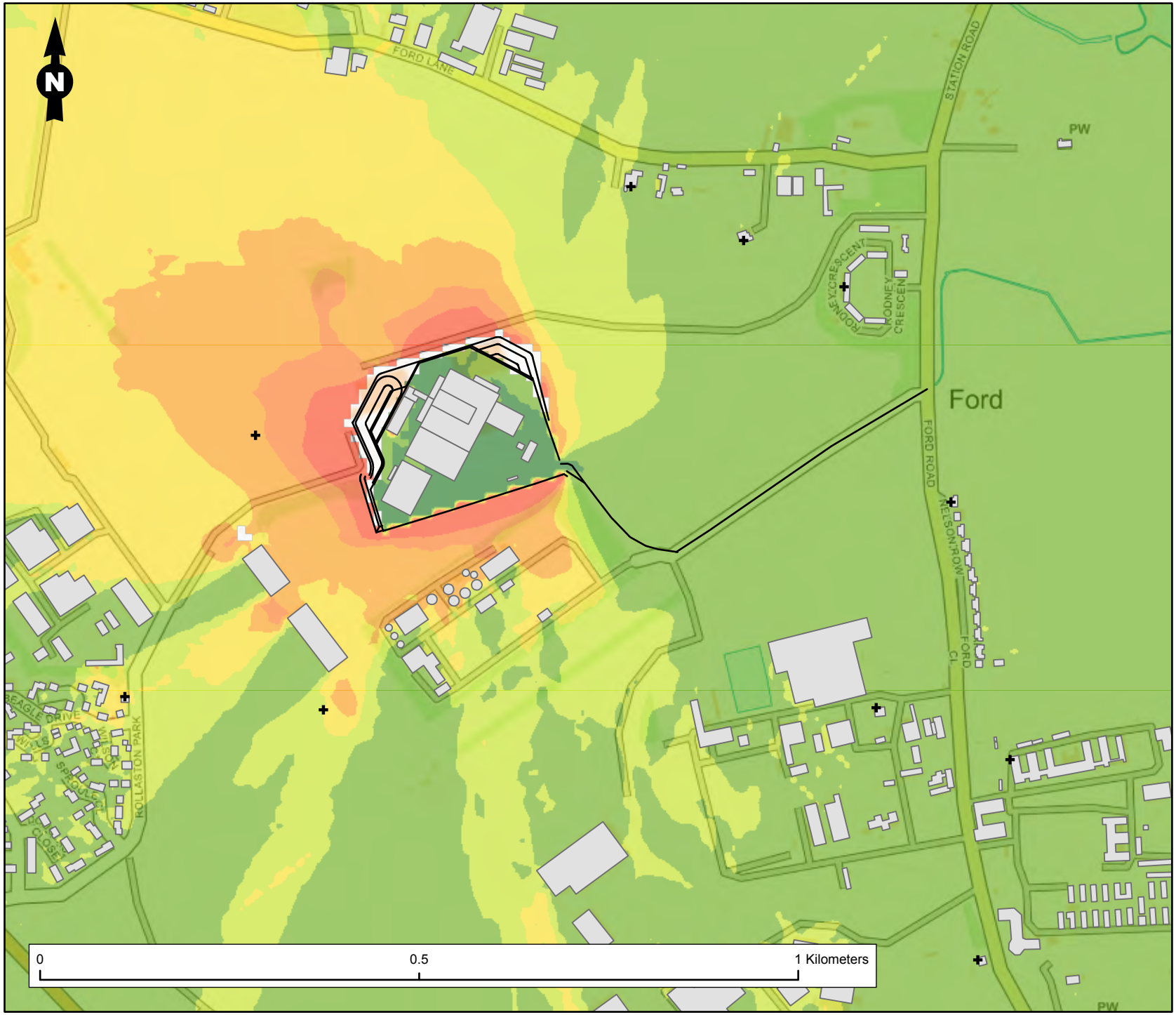
Ford ERF and WSTF, Ford Circular Technology Park

Project Number	Figure No.
1620007820	
Date	**Prepared By**
July 2021	MB
Scale	**Issue**
1:7,000 @A4	1

Client

Ford EfW Ltd

RAMBOLL



Legend

- Receivers
- Buildings

Daytime noise level difference map

dB

- ≤ 0
- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- ≥ 5

Figure Title

Daytime (07:00 - 23:00) noise barrier reduction at 1.5m above ground level

Project Name

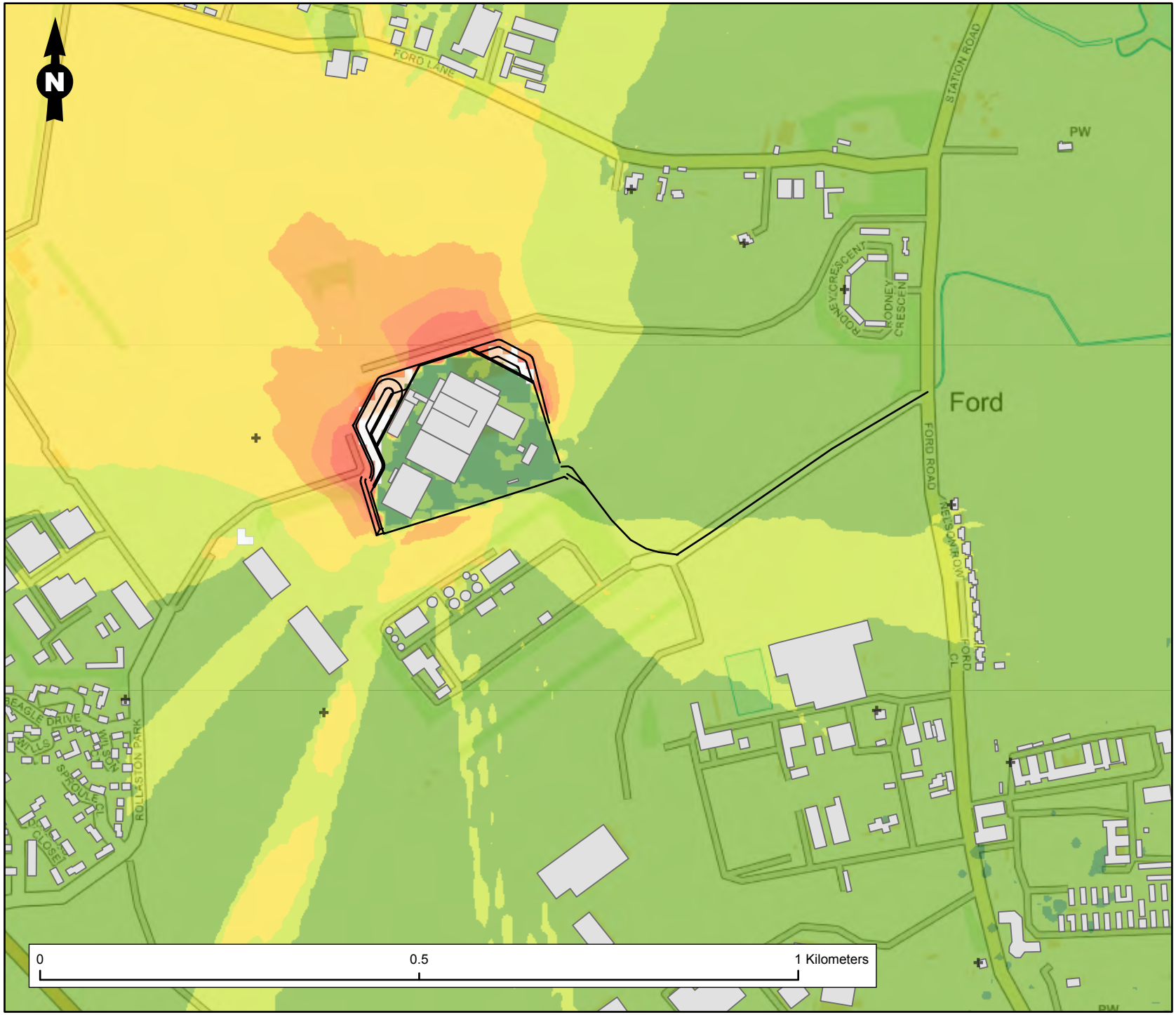
Ford ERF and WSTF, Ford Circular Technology Park

Project Number	Figure No.
1620007820	
Date	**Prepared By**
July 2021	MB
Scale	**Issue**
1:7,000 @A4	1

Client

Ford EfW Ltd

RAMBOLL



Legend

- Receivers
- Buildings

Night-time noise level difference map

dB

- ≤ 0
- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- ≥ 5

Figure Title

Night-time (23:00 - 07:00) noise barrier reduction at 4m above ground level

Project Name

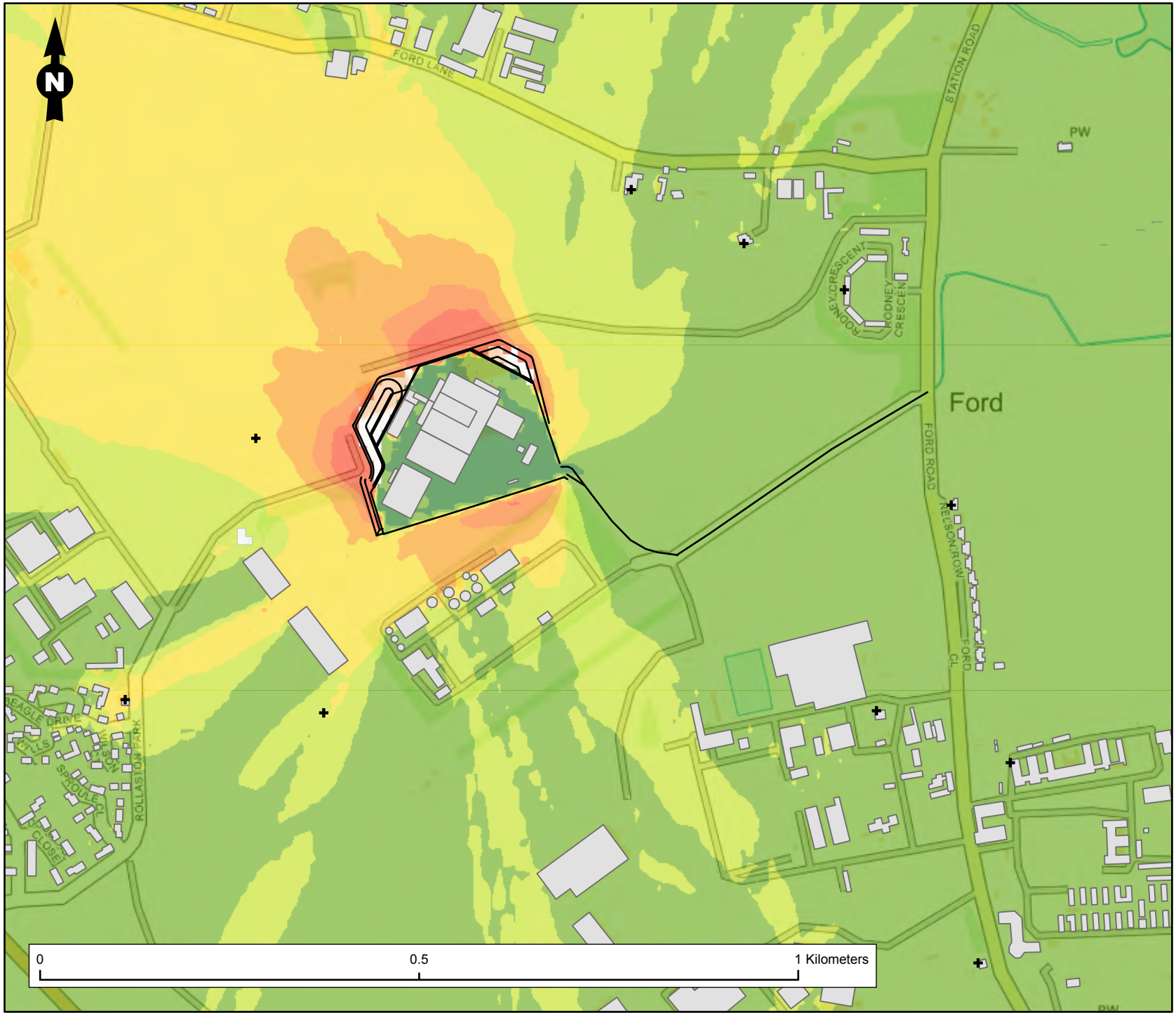
Ford ERF and WSTF, Ford Circular Technology Park

Project Number	Figure No.
1620007820	
Date	**Prepared By**
July 2021	MB
Scale	**Issue**
1:7,000 @A4	1

Client

Ford EfW Ltd

RAMBOLL



Legend

- Receivers
- Buildings

Night-time noise level difference map

dB

- ≤ 0
- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- ≥ 5

Figure Title

Night-time (06:00-07:00) noise barrier reduction at 4m above ground level with HGVs operational

Project Name

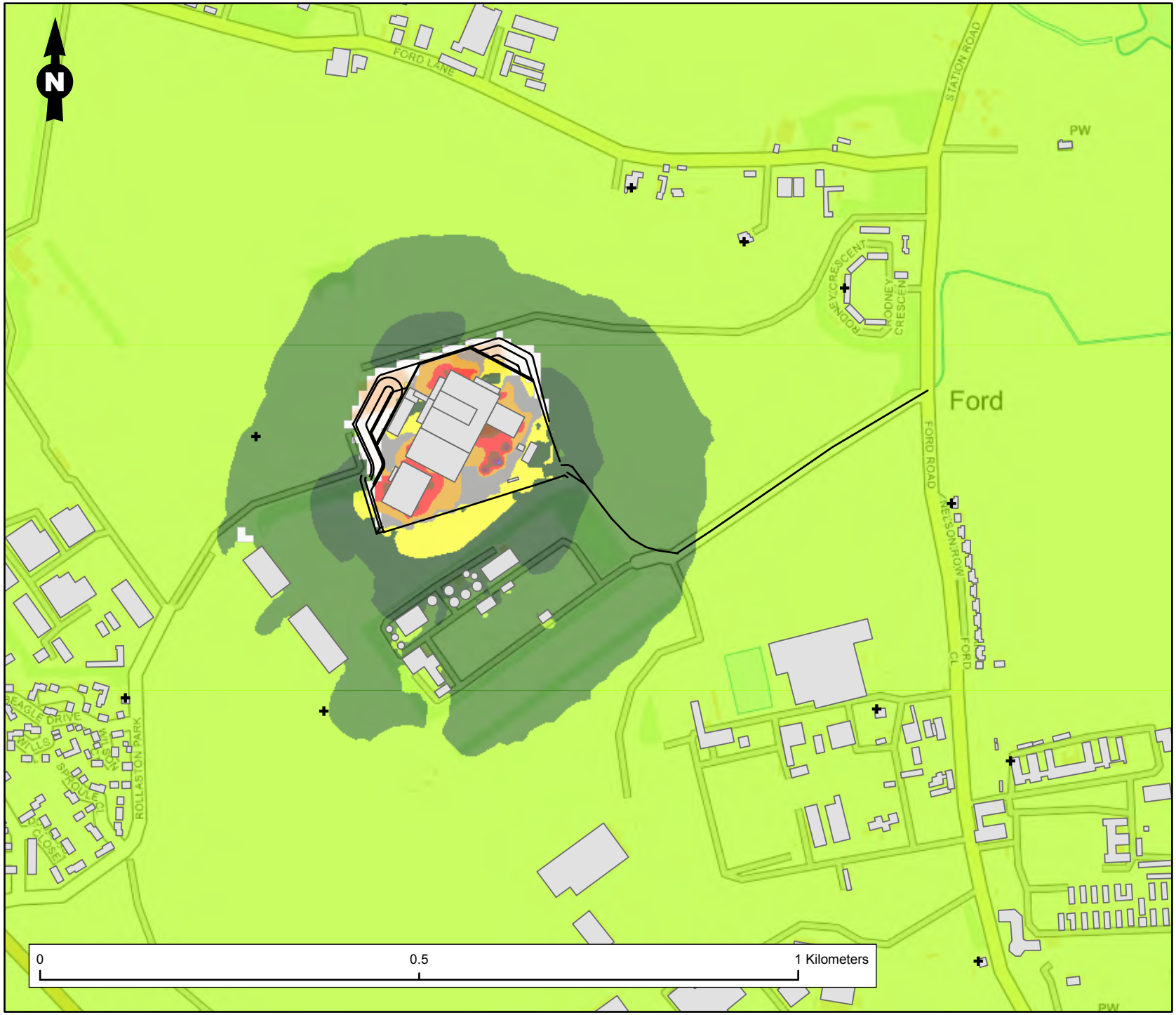
Ford ERF and WSTF, Ford Circular Technology Park

Project Number	Figure No.
1620007820	
Date	**Prepared By**
July 2021	MB
Scale	**Issue**
1:7,000 @A4	1

Client

Ford EfW Ltd

RAMBOLL



Legend

- Receivers
- Buildings

Daytime noise contours without HGVs

dB LAeq,16 hour

- > 0
- > 35
- > 40
- > 45
- > 50
- > 55
- > 60
- > 65
- > 70
- > 75
- > 80
- > 85

Figure Title

Daytime Noise Contours (07:00 - 23:00) at 1.5m height without HGVs

Project Name

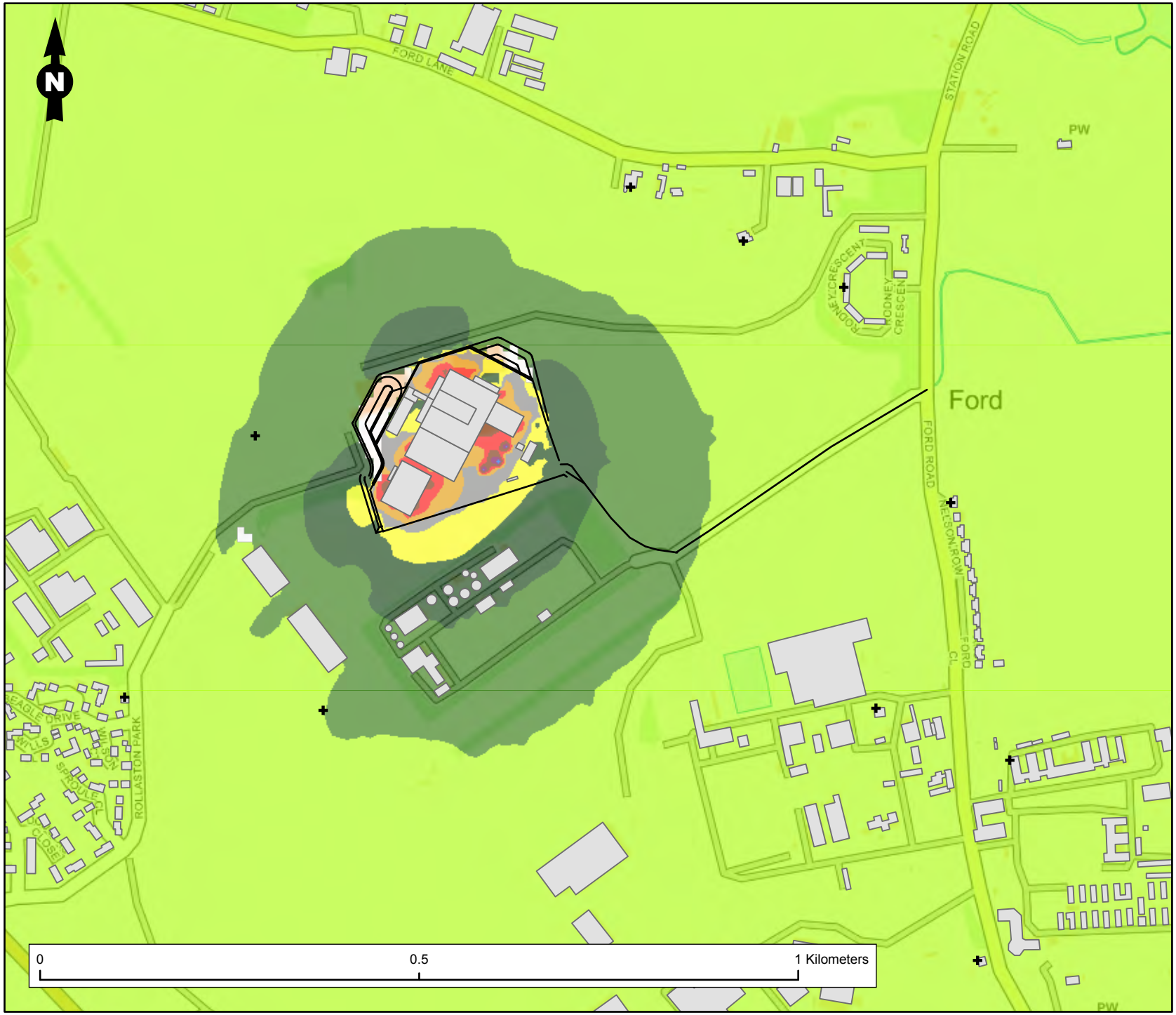
Ford ERF and WSTF, Ford Circular Technology Park

Project Number	Figure No.
1620007820	
Date	**Prepared By**
July 2021	MB
Scale	**Issue**
1:7,000 @A4	1

Client

Ford EfW Ltd

RAMBOLL



Legend

- Receivers
- Buildings

Night-time noise contours without HGVs

dB LAeq,8 hour

- > 0
- > 35
- > 40
- > 45
- > 50
- > 55
- > 60
- > 65
- > 70
- > 75
- > 80
- > 85

Figure Title

Night-time Noise Contours (23:00 - 07:00) at 4m height without HGVs

Project Name

Ford ERF and WSTF, Ford Circular Technology Park

Project Number	Figure No.
1620007820	
Date	**Prepared By**
July 2021	MB
Scale	**Issue**
1:7,000 @A4	1

Client

Ford EfW Ltd

RAMBOLL

Appendix 3

Drainage communication with WSCC as LLFA

Chara Sifaki

From: Ray Drabble <Ray.Drabble@westsussex.gov.uk>
Sent: 26 March 2020 11:21
To: Chara Sifaki
Cc: Kevin Macknay; Paul Cann
Subject: RE: Drainage Requirements | Ford Circular Technology Park

Chara,

I hope that this finds you well.

Further to your email, I acknowledge that my initial scoping response could have been better worded and has sent mixed messages.

The LLFA Policy for the Management of Surface Water is what you are asked to work to (third of your 3 bullets); the second bullet is an interpretation of that policy that you were referred to in my original scoping response.

The LLFA recommends that the applicant restricts flows to the 1:30 Greenfield rate for all events up to a 1:30 storm event. Exceedance flows beyond the 1:30 storm event can be discharged uncontrolled to the drainage system.

I hope that this clarifies the position for you.

Kind regards

Ray Drabble
Flood Risk Engineer (Sustainable Drainage)
Economy, Infrastructure and Environment
Highways and Transport
West Sussex County Council

CALL IM EMAIL

Location: Western Area Office, Drayton Lane, Nr. Chichester, West Sussex. PO20 2AJ.
Contact: Internal: 24077 | **External:** +44 (0)330 2224077 | **Mobile:** +44 (0)7590183138 | **E-mail:** Ray.Drabble@westsussex.gov.uk

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From: Chara Sifaki [mailto:chara.sifaki@ramboll.co.uk]
Sent: 23 March 2020 14:23
To: Ray Drabble
Cc: Kevin Macknay
Subject: Drainage Requirements | Ford Circular Technology Park
Importance: High

Hi Ray,

Thank you for your quick response, much appreciated.

I'm sending this email as I would like to clarify the surface water drainage approach that the LLFA is content to accept with respect to Ford Circular Technology Park. We have received the following three approaches:

- In the Scoping response (17/02/2020, refer to attached document) produced explicitly for this site, it is stated that *'In accordance with LLFA Policy we would expect the applicant to demonstrate 50% betterment in terms of reduction in discharge rates for the proposed brownfield development'*.
- In your response to my email (12/03/2020, refer to email below), it is stated that '*The LLFA would like to see a much lower discharge rate from any proposed attenuation say to a value of 32 l/s (1:30 event) and exceedance flows for storm events in excess of 1:30 could bypass the flow restriction and discharge unrestricted to the drainage network'*.
- In addition, in the LLFA policy document, it is stated that '*In all cases, including on brownfield sites, runoff should where possible be restricted to the greenfield of 1 in 1 year runoff rate during all events up to and including the 1 in 100 year rainfall event with climate change*' and that '*…If it is deemed that this is not achievable, evidence must be provided and developers should still seek to achieve no increase in runoff from greenfield sites and a 50% betterment of existing run off rates on brownfield sites (provided this does not result in a runoff rate less than greenfield)'*.

Could you please advise on what the LLFA would like Ramboll to take forward?

Please note that greenfield runoff rates were calculated for the site (7.14 ha) using the Interim Code of Practice for Sustainable Drainage Systems (ICP SuDS) method* in MicroDrainage 2018. The existing (pre-development) runoff rates from the site in its current configuration were calculated using Tekla Tedds (Version 2.0.00, 2017). The critical storm duration is 15 minutes. The outputs from MicroDrainage and Tekla Tedds are shown in Table 1 below.

Table 1: Greenfield and Pre-development Runoff Rate Calculations

Return Period (years)	1-in-1	1-in-2	1-in-10	1-in-30	1-in-100
Greenfield runoff rates (l/s)	22.5	23	43	60	84
Pre-development runoff rates (l/s)	559	723	1,119	1,371	1,772

*The ICP SuDS method is considered to be the most appropriate method for calculating runoff rates for a site of this size. MicroDrainage (2018) advises that it is unusual to use the IH124 method with an area <50 ha. The Interim Code of Practice recommends that the IH124 method is applied with 50 ha (or more) and the resulting discharge is linearly interpolated for the required area.

Considering the proposed type of the development (Waste Transfer Station and conventional Energy Recovery Facility), the extensive built footprint within the development boundary and most importantly, the hydrogeological setting of the site (very high groundwater levels), there a limited number of SuDS techniques that would be practically feasible and suitable. Lined below ground storage is considered to be a suitable option for the site but again restricted due to limited available area, groundwater levels and cost.

Considering the above, Ramboll have suggested to restrict runoff from the whole development to 280 l/s, providing 50% betterment on the existing peak brownfield runoff rates for an 1-in-1 year event. Could you please advise on whether this is an acceptable approach that the LLFA would consider?

Thank you for your time and cooperation, much appreciated. I am looking forward to hearing back from you.

Kind regards
Chara Sifaki

MSc MEng GMICE
Graduate Consultant
1621784 - E&H - Southampton

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Connect with us

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Chara,

Further to your telephone call and email, the relevant section of our policy for the management of surface water:
https://www.westsussex.gov.uk/media/12230/ws_llfa_policy_for_management_of_surface_water.pdf
states:

5.4.4 Redevelopment on brownfield land has the potential to rectify or reduce flood risk. In all cases, including on brownfield sites, runoff should where possible be restricted to the greenfield 1 in 1 year runoff rate during all events up to and including the 1 in 100 year rainfall event with climate change. An alternative approach would be for discharge rates to be limited to a range of greenfield rates, based on the 1 in 1, 1 in 30 and 1 in 100 year storm events. However, the use of this method to restrict discharge rates requires the inclusion of on-line long-term storage, sized to take account of the increased post development volumes, discharging at no greater than 2l/s/ha. While discharging at no greater than 2 l/s/ha is acceptable, it is still the LLFA's preference that the former approach is used wherever possible. If it is deemed that this is not achievable, evidence must be provided and developers should still seek to achieve no increase in runoff from greenfield sites and a 50% betterment of existing run off rates on brownfield sites (provided this does not result in a runoff rate less than greenfield). For further guidance see Susdrain Fact sheet on Designing attenuation storage for redeveloped sites: http://www.susdrain.org/files/resources/fact_sheets/01_15_fact_sheet_attenuation_for_redeveloped.pdf

Having reviewed the above guidance, and assessed the greenfield run-off for the site (see attached) the LLFA does not consider restricting the discharge from the site to 228 l/s aligned with the above policy although I appreciate that the wording leaves some room for interpretation. The LLFA would like to see a much lower discharge rate from any proposed attenuation say to a value of 32 l/s (1:30 event) and exceedance flows for storm events in excess of 1:30 could bypass the flow restriction and discharge unrestricted to the drainage network (see method 2 in Susdrain Fact sheet). Clearly there is the scope for the development to incorporate SuDS and implement source control that could very significantly reduce the run-off from hardstanding areas into the drainage and the LLFA would be happy to discuss any options under consideration for this.

I hope this answers your query.

If not, please come back to me.

Kind regards

Ray Drabble
Flood Risk Engineer (Sustainable Drainage)
Economy, Infrastructure and Environment
Highways and Transport
West Sussex County Council

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Location: Western Area Office, Drayton Lane, Nr. Chichester, West Sussex. PO20 2AJ.
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From: Chara Sifaki [mailto:chara.sifaki@ramboll.co.uk]
Sent: 11 March 2020 16:19
To: Ray Drabble
Subject: RE: Drainage requirements | Ford Circular Technology Park

Hi Ray,

Following our phone conversation, please find below the calculated pre-development runoff rates (Table 1). In your scoping response (17/02/2020), it is mentioned that the WSCC 'would expect the applicant to demonstrate 50% betterment in terms of reduction in discharge rates for the proposed brownfield development'.

We are therefore proposing to restrict runoff from the whole development to 280 l/s providing 50% betterment on the existing peak runoff rates for a 1-in-1 year event.

Table 1: Pre-development Runoff Rate Calculations

Return Period (years)	1-in-1	1-in-2	1-in-10	1-in-30	1-in-100
Pre-development runoff rates (l/s)	559	723	1,119	1,371	1,772

Could you please confirm that you are happy with the above so that I can then proceed with developing the Surface Water Drainage Strategy for Ford Circular Technology Park?

Thank you in advance for your time and cooperation.

Kind regards
Chara Sifaki
Graduate Consultant

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chara.sifaki@ramboll.co.uk

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Registered office: 240 Blackfriars Road, London SE1 8NW

From: Ray Drabble <Ray.Drabble@westsussex.gov.uk>
Sent: 26 February 2020 10:00
To: Chara Sifaki <chara.sifaki@ramboll.co.uk>
Subject: RE: Drainage requirements | Ford Circular Technology Park

Chara,

I attach a copy of our recent scoping response that should provide you with the information that you are seeking.

If you have any further queries, please come back to me.

Kind regards

Ray Drabble
Flood Risk Engineer (Sustainable Drainage)
Economy, Infrastructure and Environment
Highways and Transport
West Sussex County Council

CALL IM EMAIL

Location: Western Area Office, Drayton Lane, Nr. Chichester, West Sussex. PO20 2AJ.
Contact: Internal: 24077 | **External:** +44 (0)330 2224077 | **Mobile:** +44 (0)7590183138 | **E-mail:** Ray.Drabble@westsussex.gov.uk

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From: Chara Sifaki [mailto:chara.sifaki@ramboll.co.uk]
Sent: 25 February 2020 17:10
To: Ray Drabble
Subject: Drainage requirements | Ford Circular Technology Park

Good afternoon,

Ramboll have been commissioned to complete a flood risk assessment and an outline surface water drainage strategy of the proposed Ford Circular Technology Park (the former Tarmac blockworks site) to the west of the village of Ford. I would be grateful if you could advise on the WSCC drainage requirements and the level of detail you are expecting to see in the outline surface water drainage strategy. Information about the current site and proposed development is provided below.

Current site
The 7.14 ha site is partially used for existing waste transfer station (WTS) operations and is partially vacant. The existing WTS building is located towards the centre of the site and portacabins, parking and containers associated with this operation are situated to the west of the WTS. There are two vacant, derelict former hangar buildings towards the north of the site and a large area of hardstanding is situated towards the south and east of the site.

Proposed development
Ford EfW Ltd, a joint venture between Grundon Waste Management Limited and Viridor, is now proposing to build and operate a conventional energy recovery facility (ERF) at the site. Grundon Waste Management, the sole owner/operator of the existing WTS, is proposing to continue this operation in a new, purpose built facility on site. A full planning application, including the ERF and WTS and ancillary uses, will be submitted later this year. As part of this application Ramboll will be providing the flood risk assessment and an outline surface water drainage strategy.

Please do not hesitate to contact me if you need more information.

Kind regards
Chara Sifaki

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Appendix 4

Fire Prevention Plan (from the Environmental Permit Application)

FICHTNER

Consulting Engineers Limited

Ford Circular Technology Park

Ford EfW Limited

Fire Prevention Plan

Energy Recovery Facility

ENGINEERING CONSULTING

Document approval

	Name	Signature	Position	Date
Prepared by:	Katie Hampton		Environmental Scientist	02/02/2021
Checked by:	James Sturman		Lead Consultant	02/02/2021

Document revision record

Revision no	Date	Details of revisions	Prepared by	Checked by
00	28/05/2020	For Client	KLH	JRS
01	19/06/2020	Updated following Client comments	KLH	JRS
02	16/12/2020	Updated for design changes	TJM	JRS
03	17/12/2020	Updated following Client comments	KLH	JRS
04	02/02/2021	Updated for additional design changes	KLH	JRS

Contents

1 Introduction

Ford EfW Limited is applying to the Environment Agency (EA) under the Environmental Permitting Regulations (EPRs) for an Environmental Permit (EP) to operate an Energy Recovery Facility (ERF) (the 'Facility'), to be located on the Ford Circular Technology Park development. The Facility will comprise a waste incineration facility together with an associated electrical connection, and the potential to export heat.

A detailed description of the Facility is presented in Section 1.4 of the Supporting Information.

The objective of this report is to provide a preliminary Fire Prevention Plan (FPP) for the Facility, identifying the provisions which have been taken into account during the development phase of the Facility. In addition, provisional operational measures have been identified where these are available. The report will be subject to review following completion of detailed process design.

This report has been developed in accordance with Environment Agency guidance note: *Fire Prevention Plans: Environmental Permits* and the associated report template, as published on the UK government website. The requirements of the FPP will be integrated within the emergency plans and procedures for the Facility to ensure that they are consistent and compatible with other management systems associated with the operation of the Facility.

This document and the measures to mitigate the risk and impact of fires within the Facility have been (and will continue to be) developed in accordance with the requirements of the following:

- Environment Agency guidance note *'Fire Prevention Plans: Environmental Permits'*;
- Building Regulations – *Approved Document B (Fire Safety)*;
- ACE Technical Risks, Engineering Information Bulletin, Guidance document *Energy from Waste (EfW) – Fire Systems* Issue 1.0 (26 March 2014);
- ACE Technical Risks, Engineering Information Bulletin, *Guidance Document Waste Processing Plants – Fire Systems* Issue 1.0 (26 March 2014);
- National Fire Protection Association *'NFPA 850: Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations'*; and
- The insurer's requirements where structures or equipment fall outside published guidance or recommended practice.

The EA's Fire Prevention Plan guidance note has been designed with 3 objectives in mind:

1. minimise the likelihood of a fire happening;
2. aim for a fire to be extinguished within 4 hours; and
3. minimise the spread of fire within the site and to neighbouring sites.

The Facility will meet these objectives as follows:

1. The use of suitable management procedures and fire detection systems will minimise the likelihood of a fire happening – refer to sections 4, 5 and 9.
2. Active firefighting measures will be implemented should a fire break out – refer to section 10. Utilising these measures, the Facility aims to extinguish a fire within 4 hours.
3. Fire walls will minimise the spread of fire within the site and to neighbouring sites – refer to section 7.

This FPP is considered to be a 'working' document that is reviewed and updated annually or as required should any of the following occur:

- A fire on site;
- Changes on site that may impact the plan;

- A change or review of legislation; or
- If the site is instructed to do so by the EA.

It is the responsibility of the Site Manager or nominated person to maintain this FPP and to ensure it is adhered to in the event of a fire on site.

2 The fire prevention plan

2.1 Site location and description

The Facility will be located on land formerly host to the Ford Topblock concrete works, off Rodney Crescent, Ford, Arundel, West Sussex. The Facility will be located at an approximate National Grid Reference of SU 99436 03348.

The site currently comprises an unoccupied former airfield and concrete works buildings with associated hardstanding. The site is surrounded predominantly by agricultural fields.

There is a wastewater treatment plant located to the south of the site, with an industrial estate and HMP Ford prison present further to the south. The small village of Ford lies to the northeast of the site, with the River Arun running approximately 900m to the east of the site.

2.2 Activities at the site

Activities covered by this EP application include:

1. twin-line waste incineration plant processing incoming waste which is delivered to the site from off-site via road;
2. generation of power and export to the national grid, and the potential to export heat;
3. production of bottom ash material that will be transferred off-site to a suitably licensed waste treatment facility for recovery/disposal; and
4. generation of an air pollution control residue that will be transferred to a suitably licensed hazardous waste facility for disposal or recovery.

Table 1 lists the Schedule 1 activities, from the Environmental Permitting Regulations, and the Directly Associated Activities (DAA's).

Table 1: Scheduled and directly associated activities

Type of Activity	Schedule 1 Activity	Description of Activity
Installation	Section 5.1 Part A(1) (b)	The incineration of non-hazardous waste in a two stream waste incineration plant with a nominal design capacity of 32.5 tonnes per hour
Directly Associated Activities		
Directly Associated Activities		Waste reception, storage and handling facilities
Directly Associated Activities		Combustion and energy recovery processes including the export of electricity to the National Grid
Directly Associated Activities		Flue gas treatment
Directly Associated Activities		Residue storage and handling facilities

Type of Activity	Schedule 1 Activity	Description of Activity
Directly Associated Activity		Standby electrical generation to provide electrical power to the plant in the event of an interruption in the supply

The Facility will comprise of waste reception; waste storage; water, fuel oil and air supply systems; two furnaces; two boilers; steam turbine/generator set; facilities for the treatment of exhaust or flue gases; on-site facilities for treatment or storage of residues and wastewater; flue with associated stack; and devices and systems for controlling combustion operations and recording and monitoring conditions.

The Facility will process up to 275,000 tonnes per annum (at the design capacity of 32.5 tph with an NCV of 10.5 MJ/kg and an availability of approximately 8,500 hours). However, assuming a more realistic operational availability of 8,000 hours, the nominal annual capacity of the Facility will be approximately 260,000 tonnes per annum.

2.3 Site plans and drawings

The following plans and drawings are included within Appendix A:

- site location plan (Appendix A.1);
- access points around the perimeter to assist firefighting (Appendix A.2);
- indicative locations of fire hydrants and water supplies (Appendix A.3);
- indicative locations of fire walls (Appendix A.4);
- indicative location of quarantine area (Appendix A.5);
- materials storage areas (Appendix A.6);
- firewater containment (Appendix A.7); and
- fire receptor plan (Appendix A.8).

Detailed process design will be undertaken following final contract negotiations and selection of the EPC Contractor. Therefore, the information in relation to some of the drawings identified above must be considered to be indicative until detailed design has been completed. Following completion of detailed design, the following drawings will be included within the updated FPP:

- the location of drain covers and any pollution control features such as drain closure values and firewater containment systems;
- site drainage plan;
- the location of gas cylinders; and
- the location of plant, protective clothing and pollution control equipment and materials.

Wind roses indicating the direction of prevailing winds for the Facility from 2014 to 2018, taken from Brighton City Airport, are presented in Appendix B.

2.4 Plan of sensitive receptors near the site

The key human health receptors within 1km which could be impacted by a fire at the Facility are presented in the following table:

Table 2: Sensitive human receptors

Name	Location		Distance from the stacks (m)
	X	y	
Ford Lane 1	499101	103893	671
Ford Lane 2	499246	103908	613
Ford Lane 3	499674	103662	369
Rodney Crescent	499962	103515	505
Ford Road	500100	103236	622
Ford Open Prison 1	500137	102865	807
Horsemere Green Lane 1	500109	102385	1,143
Horsemere Green Lane 2	499847	102322	1,083
Beagle Drive	499015	102981	595
Yapton Primary School	497788	103647	1,726
Proposed Ford Airfield Residential 1	499218	103340	269
Proposed Ford Airfield Residential 2	499319	102906	469
Proposed Ford Airfield Residential 3	499249	103576	333
Proposed Ford Airfield Residential 4	498952	103288	538
Proposed Ford Airfield Residential 5	499156	103056	439
Proposed Landings Residential Development 1	499593	103313	110
Proposed Landings Residential Development 2	499744	103175	307
Proposed Landings Residential Development 3	499660	103040	350
Proposed Landings Residential Development 4	499470	103463	120
Proposed Allocation of Arun DC Secondary School	498749	103383	739
Proposed Residential Development Climping	499851	102072	1,035
Proposed Residential Development Bilsham Road	497709	102995	1,812
Proposed Residential Development Drove Lane	497575	103238	1,915
Proposed Residential Development Walberton	497446	106017	3,363

Name	Location		Distance from the stacks (m)
	X	y	
Proposed Residential Development Littlehampton	502954	103875	3,507

It should also be noted that it is currently proposed to build a Waste Sorting and Transfer Facility (WSTF) adjacent to the ERF, which will operate as a separate activity and under a separate EP. This is considered to be a potential fire receptor, as there would be employees present at the WSTF once operational.

A more detailed fire receptor plan, as required by the EA's FPP guidance, is presented in Appendix A.8.

2.5 Where the plan is kept and how know how to use it

The Fire Prevention Plan will form part of the documented management systems for the Facility. The documented management systems will be available in both electronic and hard copies at easily accessible locations. Staff induction programmes will be location and job role specific; however, they will include IMS awareness training as a minimum. All staff will be able to easily access the documented management systems, including the Fire Prevention Plan.

All visitors will be informed about the fire prevention measures adopted at the Facility as part of the site induction procedures.

2.6 Testing the plan and staff training

A suite of emergency procedures for the Facility will be written and included in the training package for all staff and contractors. Training of site operatives will commence approximately 6 months prior to commencement of commissioning of the Facility, and all operational personnel will be tested on the fire prevention and emergency procedures.

3 Types of combustible materials

3.1 Combustible waste

The non-hazardous waste types to be treated at the Facility, which may comprise municipal or commercial and industrial waste, are presented in the table below:

Table 3: Wastes to be processed in the Facility

EWC Code	Description of Waste
Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing	
02 02	***Wastes from the preparation and processing of meat, fish and other foods of animal origin***
02 02 02	Animal-tissue waste
02 02 03	Materials unsuitable for consumption or processing
02 03	***Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation***
02 03 04	Materials unsuitable for consumption or processing
02 05	***Wastes from the dairy products industry***
02 05 01	Materials unsuitable for consumption or processing
02 06	***Wastes from the baking and confectionery industry***
02 06 01	Materials unsuitable for consumption or processing
02 06 02	Wastes from preserving agents
02 07	***Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)***
02 07 01	Wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	Wastes from spirits distillation
02 07 04	Materials unsuitable for consumption or processing
Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard	
03 01	***Wastes from wood processing and the production of panels and furniture***
03 01 01	Waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	***Wastes from pulp, paper and cardboard production and processing***
03 03 01	Waste bark and wood
03 03 05	De-inking sludges from paper recycling
03 03 07	Mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	Wastes from sorting of paper and cardboard destined for recycling
03 03 10	Fibre rejects, fibre-, filler- and coating-sludges from mechanical separation

EWC Code	Description of Waste
Wastes from the leather, fur and textile industries	
04 01	***Wastes from the leather and fur industry***
04 01 08	Waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09	Wastes from dressing and finishing
04 02	***Wastes from the textile industry***
04 02 09	Wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 10	Organic matter from natural products (for example grease, wax)
04 02 15	Wastes from finishing other than those mentioned in 04 02 14
04 02 21	Wastes from unprocessed textile fibres
04 02 22	Wastes from processed textile fibres
Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks	
08 01	***Wastes from MFSU and removal of paint and varnish***
08 01 12	Waste paint and varnish other than those mentioned in 08 01 11
08 01 18	Wastes from paint or varnish removal other than those mentioned in 08 01 17
08 02	***Wastes from MFSU of other coatings (including ceramic materials)***
08 02 01	Waste coating powders
08 03 18	Waste printing toner other than those mentioned in 08 03 17
08 04	***Wastes from MFSU of adhesives and sealants (including waterproofing products)***
08 04 10	Waste adhesives and sealants other than those mentioned in 08 04 09
Wastes from the photographic industry	
09 01	***Wastes from the photographic industry***
09 01 07	Photographic film and paper containing silver or silver compounds
09 01 08	Photographic film and paper free of silver or silver compounds
09 01 10	Single-use cameras without batteries
09 01 12	Single-use cameras containing batteries other than those mentioned in 09 01 11
Wastes from shaping and physical and mechanical surface treatment of metals and plastics	
12 01	***Wastes from shaping and physical and mechanical surface treatment of metals and plastics***
12 01 05	Plastics shavings and turnings
Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified	
15 01	***Packaging (including separately collected municipal packaging waste)***

EWC Code	Description of Waste
15 01 01	Paper and cardboard packaging which is contaminated and not suitable for recycling
15 01 02	Plastic packaging
15 01 03	Wooden packaging
15 01 05	Composite packaging
15 01 06	Mixed packaging which is contaminated and not suitable for recycling
15 01 09	Textile packaging
15 02	***Absorbents, filter materials, wiping cloths and protective clothing***
15 02 03	Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
Wastes not otherwise specified in the list	
16 01	***end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)***
16 01 03	End-of-life tyres
16 01 19	Plastic
16 01 22	Components not otherwise specified
16 02	***Wastes from electrical and electronic equipment***
16 02 14	Discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16	Components removed from discarded equipment other than those mentioned in 16 02 15
16 03	***Off-specification batches and unused products***
16 03 04	Inorganic wastes other than those mentioned in 16 03 03
16 03 06	Organic wastes other than those mentioned in 16 03 05
Construction and demolition wastes (including excavated soil from contaminated sites)	
17 02	***Wood, glass and plastic***
17 02 01	Wood
17 02 03	Plastic
17 03	***Bituminous mixtures, coal tar and tarred products***
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01
17 06	***Insulation materials and asbestos-containing construction materials***
17 06 04	Insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 08	***Gypsum-based construction material***
17 08 02	Gypsum-based construction materials other than those mentioned in 17 08 01
17 09	***Other construction and demolition wastes***
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03

EWC Code	Description of Waste
Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)	
18 01	***Wastes from natal care, diagnosis, treatment or prevention of disease in humans***
18 01 04	Wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)
18 01 09	Medicines other than those mentioned in 18 01 08
18 02	***Wastes from research, diagnosis, treatment or prevention of disease involving animals***
18 02 03	Wastes whose collection and disposal is not subject to special requirements in order to prevent infection
18 02 08	Medicines other than those mentioned in 18 02 07
Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use	
19 02	***Wastes from physical/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)***
19 02 03	Premixed wastes composed only of non-hazardous wastes
19 02 10	Combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 03	***Stabilised/solidified wastes***
19 03 05	Stabilised wastes other than those mentioned in 19 03 04
19 03 07	Solidified wastes other than those mentioned in 19 03 06
19 05	***Wastes from aerobic treatment of solid wastes***
19 05 01	Non-composted fraction of municipal and similar wastes
19 05 02	Non-composted fraction of animal and vegetable waste
19 05 03	Off-specification compost
19 06	***Wastes from anaerobic treatment of waste***
19 06 04	Digestate from anaerobic treatment of municipal waste
19 06 99	Wastes not otherwise specified
19 08	***Wastes from waste water treatment plants not otherwise specified***
19 08 01	Screenings
19 08 02	Waste from desanding
19 08 09	Grease and oil mixture from oil/water separation containing edible oil and fats
19 09	***Wastes from the preparation of water intended for human consumption or water for industrial use***
19 09 01	Solid waste from primary filtration and screenings
19 10	***Wastes from shredding of metal-containing wastes***
19 10 04	Fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 06	Other fractions other than those mentioned in 19 10 05

EWC Code	Description of Waste
19 12	***Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified***
19 12 01	Paper and cardboard which is contaminated and not suitable for recycling
19 12 04	Plastic and rubber
19 12 07	Wood other than that mentioned in 19 12 06
19 12 08	Textiles
19 12 10	Combustible waste (refuse derived fuel)
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	***Wastes from soil and groundwater remediation***
19 13 02	Solid wastes from soil remediation other than those mentioned in 19 13 01
Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions	
20 01	***Separately collected fractions (except 15 01)***
20 01 01	Paper and cardboard (rejects from materials recovery plants only)
20 01 08	Biodegradable kitchen and canteen waste
20 01 10	Clothes
20 01 11	Textiles
20 01 25	Edible oil and fat
20 01 28	Paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 30	Detergents other than those mentioned in 20 01 29
20 01 32	Medicines other than those mentioned in 20 01 31
20 01 36	Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38	Wood other than that mentioned in 20 01 37 (rejects from materials recovery plants only)
20 01 39	Plastics (rejects from materials recovery plants only)
20 01 41	Wastes from chimney sweeping
20 01 99	Other fractions not otherwise specified
20 02	***Garden and park wastes (including cemetery waste)***
20 02 01	Biodegradable waste
20 02 03	Other non-biodegradable wastes
20 03	***Other municipal wastes***
20 03 01	Mixed municipal waste
20 03 02	Waste from markets
20 03 03	Street-cleaning residues
20 03 06	Waste from sewage cleaning
20 03 99	Municipal Waste not otherwise specified

3.2 Other combustible materials

In addition to the combustible wastes listed above, there will be a limited number of other materials on site which are potentially combustible. These include;

- maintenance materials; and
- gas cylinders.

Various maintenance materials such as oils and greases will be present in small quantities on site at various locations.

Gas cylinders will be stored within purpose-built dedicated storage facilities. All facilities for the storage of gas cylinders will be kept locked/secured. A system for the regular inspection of gas storage facilities will be developed as part of the operating and maintenance procedures and the site inspection regime.

The location of gas cylinder storage and maintenance materials will be subject to detailed design. A plan showing the location of gas storage facilities and maintenance materials will be developed upon completion of detailed design.

Low sulphur fuel oil will be used for auxiliary firing and will be stored in a dedicated storage tank on-site. A plan showing the location of the primary raw materials and residues is presented within Appendix A.6.

4 Managing common causes of fire

4.1 Arson

Security measures will prevent unauthorised access and prevent the risk of arson attacks or vandalism. The Facility will be surrounded by security fencing. A barrier will be present at the entrance and exit of the site to restrict vehicular access. Only authorised visitors will be able to enter the site.

The Facility will be operational and manned 24 hours a day, 7 days a week, with the CCTV system monitored in the control room by trained and competent operators. The shift team leaders will be responsible for security on the site, including delivery vehicles as they travel around the site.

Emergency response procedures will be developed for the Facility, prior to the commencement of operations, as part of the detailed Environmental Management System (EMS). The procedures will detail the response to a number of different emergency situations on site, including unauthorised personnel accessing the Facility.

In accordance with the waste acceptance procedures to be developed for the Facility, unloading of all waste deliveries will be supervised by operational staff. CCTV will be installed in all areas where waste delivery vehicles discharge waste into the bunker. The design and location of the CCTV systems and security alarms will be undertaken during detailed design of the Facility and labelled on a site plan accordingly.

4.2 Plant and equipment

An operating and maintenance manual (O&M manual) will be developed and completed through the commissioning phase of the installation. The O&M Manual will set out detailed operating and maintenance instructions for all plant and equipment which requires maintenance.

Maintenance procedures and work instructions will be developed to cover all plant and equipment within the Facility. As part of such work instruction development, the risk of fire will be considered, and appropriate activities included within the work instruction to reduce the risk of fire in all plant and equipment.

As part of the maintenance system, responsibilities for retaining records of all maintenance undertaken and any actions taken following a problem will be defined.

4.3 Electrical faults including damaged or exposed electrical cables

The risk of electrical faults on site will be minimised by the use of qualified electricians and will comply with the relevant British Standards for the design and installation of electrical equipment and supplementary bonding/earthing.

Electrical equipment will be checked and maintained as part of the planned maintenance regime as required in the detailed operating manuals for each piece of equipment.

4.4 Discarded smoking materials

Smoking will be prohibited in operational areas. External areas designated for smoking within the Installation Boundary will be identified, with suitable facilities provided for staff.

4.5 Hot works safe working practices

Staff and contractors will follow safe working practices which will include a permit to work system when carrying out hot works such as welding or cutting. A fire watch will be carried out for a suitable period after hot works have ended, and at the end of a working day.

4.6 Industrial heaters

It is currently expected that industrial heaters will not be installed at the Facility, however, this will be confirmed during detailed design of the Facility. If applicable, the hot work management system will be extended to include the use of industrial heaters and the necessary safeguards required in each instance will be assessed and implemented to ensure their use is safe.

4.7 Hot exhausts and engine parts

A fire watch system will be implemented to detect signs of fires from dusts settling on hot exhausts. This will be developed as part of the operating procedures. This will include daily visual checks of dusts settling on hot exhausts as part of the operational checks by operational staff at the end of each shift. Maintenance work instructions will be raised for any items identified as requiring maintenance.

4.8 Ignition sources

A review under the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) will be completed during the detailed design of the Facility, with any risk areas identified on DSEAR zonal drawings.

Vehicles and electrical items necessary for the operation of the Facility will be regularly inspected for electrical faults. All mobile plants serving the Facility will be fitted with fire extinguishers or other suitable fire suppression systems and dust filters where appropriate.

Naked sources of ignition will be controlled through a hot work management system. This system will cover both staff and contractors working at the Facility. The hot work management system will also include requirements to train and authorise ‘hot work risk assessors’ for the purposes of eliminating, reducing and managing the risks associated with hot work. The hot work system will include for a period of fire watch following the hot works being undertaken.

As part of the hot work management system, the potential for sources of ignition to cause fires will be managed on a case-by-case basis. Where feasible, the guidance of keeping all sources of ignition at least 6 metres away from any combustible or flammable waste will be followed as part of this management system. This will include ensuring that the location of stored mobile plants, which is subject to detailed design of the Facility, will be stored at least 6 metres away from combustible wastes.

4.9 Leaks and spillages of oils and fuels

Emergency response procedures will be developed as part of the emergency procedures for the Facility. The procedures will include actions to be undertaken to respond to spills and leaks of chemicals. This will include actions to be undertaken to prevent liquids leaking or trailing from site vehicles. In addition, oil interceptors will treat surface water runoff from roadways prior to discharge off-site. Tanks containing potentially polluting liquids are constructed so that any

leaks/spillages are contained. Tanks are surrounded by a leakage containment bund capable of containing at least 110% of the volume of the largest tank within the bund.

The location of spill kits will be marked up on a site plan following detailed design of the Facility.

4.10 Build-up of loose combustible waste, dust and fluff

The Facility will be designed to prevent the accumulation of dusts by designing structural members such that their shape or method of installation minimises the surface area where dust can settle.

As part of the detailed design of the Facility, the control of dust and fluff has been considered. This includes:

- the use of an enclosed fuel reception/unloading building; and
- mechanical ventilation of the waste reception and storage areas to prevent fugitive emissions from the building façade.
- plant will be fitted with reverse fans and sealed engine bays to prevent dust or fluff build up and all are fitted with a fire extinguisher.

These systems will be checked as part of the planned maintenance regime as required in the detailed operating manuals for each piece of equipment.

On a regular basis, inspections will be undertaken to identify the build-up of loose combustible materials, such as waste, dust and fluff. Where inspections identify that there has been a build-up of loose combustible materials, appropriate cleaning will be undertaken to clean this material from the surfaces.

4.11 Reactions between wastes

Waste acceptance procedures will be in place which will minimise the risk of incompatible wastes coming into contact with each other, or unstable wastes being accepted at the Facility. Only vehicles that are accompanied by the correct documentation will be accepted onto site. Waste will undergo a visual inspection at the point of deposit into site.

In the unlikely event that waste identified as ‘unacceptable’ is received, a quarantine area will enable segregation of the waste prior to transfer off-site (refer to section 8).

4.12 Deposited hot loads

Hot loads, either identified in the bunker and removed, or identified prior to transfer to the bunker (if not immediately rejected) will be transferred to the dedicated quarantine area. Appropriate fire detection and protection measures will be installed in the quarantine area.

5 Preventing self-combustion

5.1 General self-combustion measures

It is acknowledged that some wastes can self-combust under certain conditions. Self-combustion can be managed through preventative measures, carefully managing storage times, pile volumes and height, and the temperature of the wastes.

In the event of a major failure then waste in the bunker may be removed by using the installed waste crane to load it into a vehicle. This waste may then be sent to another permitted facility.

5.2 Managing storage time

5.2.1 Methods used to record and manage the storage of all waste on site

The capacity of the waste bunker will be clearly stated and not exceeded. It is anticipated that the waste storage capacity of the bunker will be approximately 11,800 m^3, equivalent for up to 5 days of waste processing capacity. If required for short periods, to enable continued operation over extended bank holidays, this can be further increased by blocking some of the tipping bays. However, during normal operation, it is expected that the maximum period which waste will remain within the waste bunker is up to 5 days.

Prior to any planned shutdowns of the Facility, waste deliveries will be stopped and/or diverted to alternative waste management facilities, and the waste within the bunker will be combusted to minimize the quantity of waste remaining in the bunker prior to the shutdown commencing. This will ensure that there is only a small residue in the bunker during the period of shutdown. The duration of planned shutdowns will vary significantly, dependent on the nature of the work required, and typically will not extend beyond four weeks.

In the event that the Facility is not able to receive waste due to an unplanned incident forcing a full shutdown of the Facility, waste deliveries will be stopped and/or diverted to a suitably licenced waste management facility.

5.2.2 Stock rotation policy

Following the recommencement of waste deliveries after a period of shutdown, deliveries of ‘new’ waste will be mixed with residual quantities of waste within the bunker in accordance with the bunker management procedures for the Facility – refer to section 5.3.1. This ensures that older waste is not ‘buried’ within the bunker.

It is not expected that there will be seasonal variations in the demand or supply of waste.

5.3 Monitor and control temperature

5.3.1 Monitoring and controlling temperature

As part of the detailed design and construction of the Facility, the fire system design will be designed and installed by a suitably qualified and experienced fire engineering company, which employs appropriately qualified persons. The system will be developed in accordance with

NFPA 850, which is an industry standard for fire protection systems for power generating facilities, the local fire officer, the fire risk insurers and any relevant standards and codes of practice.

Operational staff will be briefed on the need for monitoring for the early signs of fires. The waste bunker and all main process areas will have CCTV to allow remote monitoring from the control rooms on a continuous basis. All waste delivered to the Facility will be supervised by operational staff, who will be responsible for the inspection and monitoring of waste deliveries. The frequency of inspection of waste storage areas (and other parts of the site) will be increased during a full shutdown, and a checklist utilised to ensure a complete record of issues and comments that may require further action, such as assessing the presence of hotspots.

Bunker

Thermal imaging cameras will be fixed around the perimeter of the bunker to provide the crane driver with a continuous thermal 'map' of the bunker. The temperature of waste in the bunker will continue to be monitored even during periods of shutdown.

During daytime operation, the bunker will be visually monitored by control personnel, such as the crane operator. At night-time, the control personnel will visually monitor the thermal imaging system as part of their responsibilities for operating the Facility. Therefore, the crane driver will be able to identify and react to hot areas in the bunker and undertake the mixing or feeding of waste as appropriate.

Bunker management procedures will be adopted to ensure that there is a regular turnover of waste within the bunker, preventing hotspots or anaerobic conditions developing within the bunker. The turning of waste within the bunker is standard practice at waste incineration plants in the UK. As well as helping to mix the waste (to produce a more homogenous fuel which is better for control of the combustion process), it helps to prevent the formation of hotspots. Turning helps to release heat that has built up in the waste. By taking grabs of waste and then spreading it over a wider area, it dissipates the entrained heat and removes thermal inertia within the waste. It also increases the evaporation of water, which is a heat absorbing process. These factors help to minimise the risk of self-heating and ignition. In addition, mixing the waste with the crane enables waste from the base of the bunker to be brought to the surface. The crane will be sized to allow for mixing and rotating the waste within the bunker, whilst providing appropriate quantities of waste within the feed hopper to maintain operation of the waste combustion process. The size of the crane will ensure that the mixing of waste is feasible in relation to the amount of waste present in the bunker. The crane operator will be trained in careful waste handling and crane operation as to maintain the integrity of the bunker.

In extreme cases, the firewater cannons may be used to extinguish any smouldering or burning waste. The thermal imaging cameras will be set with two trigger alarms at different temperatures within the bunker. The fire water cannons will be activated if the high-high temperature alarm is reached.

IBA storage

Due to the high thermal temperatures in which the IBA has been combusted, it will not be expected to contain any combustible materials which are able to self-combust from the elevated temperatures within the IBA. In addition, the quenching of the ash will ensure it has been suitably cooled prior to storage.

APCr Storage

The APCr is not expected to contain any combustible materials which could self-combust from elevated temperatures within the APCr.

5.3.2 Dealing with hot weather and heating from sunlight

The waste bunker will not have external windows, therefore sunlight will not penetrate during hot weather and cause hotspots to develop.

6 Manage waste piles

6.1 Maximum pile sizes

It is understood that the EA's maximum waste pile sizes are not applicable to waste stored within a waste bunker.

6.2 Storing waste materials in their largest form

Waste received at the Facility will not undergo any further treatment, such as shredding, prior to incineration.

6.3 Waste stored in containers

Air Pollution Control residues (APCr) will be stored within two silos. The design of the silos is subject to detailed design however it is expected that the storage capacity for APCr will be approximately 212 m^3per silo. The APCr silos will have sufficient capacity for the storage of approximately 5 days of APCr, assuming that the Facility operates continuously at the nominal capacity. As stated in section 5.3.1, the APCr is not expected to contain any combustible materials which could self-combust from elevated temperatures within the APCr.

Oversize and ferrous items will be removed from the bottom ash and stored in dedicated locations within the IBA storage area. Oversize material will be stored within containers, whereas ferrous metals would be stored within a below ground bunker – the IBA bunker would have an extra bay dedicated to the storage of ferrous metals. The storage capacity for oversize material will be approximately 8m^3,per container – equivalent to the quantity of oversize which will be generated by the Facility on a daily basis. There will be multiple oversize containers retained on site at any one time. The bunker for ferrous metal storage will have approximately 108 m^3 capacity, equivalent to the quantity of ferrous metals which will be generated every 3 weeks. The oversize containers will not be covered and will remain open at the top, making them easily accessible. Therefore, in the unlikely event of a fire within a container, the fire can be supressed easily.

7 Prevent fire spreading

7.1 Separation distances

Following consultation with the EA, it is understood that the storage requirements relating to pile separation distance (i.e. storing combustible waste piles with a separation distance of at least 6 metres) only applies to external storage of wastes. All wastes which are delivered or stored within the site will be within buildings and will primarily be stored within the waste bunker. Taking this into consideration, pile separation distances will be adopted as good practice where feasible.

7.2 Fire walls construction standards

Fire walls will be installed within the buildings as required. The location and specification for fire walls will be subject to detailed design of the Facility, and dependent on the layout to be further developed by the EPC Contractor. The indicative locations of these fire walls are given in Appendix A.4.

Subject to the location of the process equipment, operational areas will be segregated into fire zones (the "Fire Zones"). In accordance with NFPA 850, certain specific Fire Zones such as the waste bunker and boiler hall will be separated from each other by fire barriers with a minimum of 2-hour fire resistance rating, spatial separation, or by other approved means. The specific Fire Zones to which this applies, and the means of separation, will be subject to agreement with the fire risk insurers. A review under the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) will be completed during the detailed design of the Facility, with any risk areas identified on zoning drawings.

As part of the detailed design process, a fire risk assessment will be undertaken for each Fire Zone to identify the appropriate fire detection and protection systems in association with appropriate civil work design principles to control:

- the risk of fire propagation;
- the spread of fumes and smoke;
- firewater flooding; and
- to maintain the integrity of dedicated fire partition walls in the event of fire.

The fire zoning will be subject to the approval of Ford EfW Ltd and the fire risk insurers.

The dividing wall between the waste bunker hall and boiler hall and all other walls within the bunker will be suitably constructed in concrete, block work or a suitably rated cladding system up to roof level to form a continuous 2-hour fire rated barrier for the full width and height of the building structure. In addition, the base of the bunker will be constructed of reinforced concrete, and the whole structure has been designed as a water retaining structure. The structural design and construction of this dividing wall shall be such that the integrity of the fire barrier is maintained in the event of the collapse of the bunker hall roof due to a fire in the bunker. These walls and the base of the bunker will be resistant to crane grab impact and the impingement of water cannon jets. The structure of the waste bunker itself therefore will have adequate fire resistance.

All openings in fire barriers will be provided with fire doors, including fire dampers, penetration seals (fire stops), or other approved means having a fire protection rating consistent with the designated fire resistance rating of the barrier. Windows in fire barriers (e.g. control rooms, observation windows, computer rooms, etc.) will be provided with appropriate fire protection to maintain the integrity of the fire barrier, e.g. by means of a fire shutter, automatic water curtain,

window sprinkler system, etc. All cable trays or piping systems passing through fire barriers will be fitted with fire stops.

In addition, the glass partition in the control room/crane cabin will be 2-hour fire rated, and hence resistant to fire. Therefore, the site staff will be able to continue operating the crane for a limited amount of time in the event of a fire, depending on severity.

7.3 Storing waste in bays

Incoming waste to the Facility will be stored within a dedicated waste bunker and will not be stored in bays. Therefore, the EA's requirements for waste stored in bays does not apply to the Facility.

8 Quarantine area

8.1 Quarantine area location and size

A suitable area for the quarantine of unacceptable waste will be designated as part of the detailed design stage.

The Facility is subject to detailed design, but it can be confirmed that, where appropriate, the quarantine areas will be in accordance with the requirements of the fire prevention plan (FPP) guidance, i.e. it will:

- hold at least 50% of the volume of the largest pile, row or block of containers at the Facility; and
- where practicable, have a separation distance of at least 6 metres around the quarantined waste.

Following completion of detailed design, plans showing the location of all quarantine areas will be developed. The plans will show the size of the quarantine area, clearance areas around the perimeter, and infrastructure associated with the quarantine areas. A drawing which shows the indicative location of the quarantine area is presented in Appendix A.5.

8.2 How to use the quarantine area if there is a fire

The quarantine area will be used to temporarily store, if needed, any unacceptable waste prior to removal from site. Unacceptable waste is broadly defined as waste which does not meet the requirements set out in the fuel supply agreements which have been agreed with waste suppliers for the Facility, or other waste which is unsuitable for incineration and/or not compliant with the EWC codes stated in the EP (this may include hot loads).

Additionally, for unacceptable waste identified inside the bunker, a facility will be available to allow unacceptable waste to be back-loaded from the bunker into one of two back-loading bays either side of the bunker, for examination and/or removal from the site to a licensed disposal facility.

8.3 Procedure to remove material stored temporarily in the event of a fire

Hot loads stored within the quarantine area will be removed as soon as possible (i.e. within 1 hour of a fire starting). Appropriate fire detection and protection measures (e.g. smoke/flame detectors, hose reel, sprinklers, or water cannon) will be installed in the quarantine area. Therefore, fires within waste stored in the quarantine area will be extinguished prior to the waste being transferred off-site. The final design of the quarantine area will be subject to detailed design and agreed with fire risk insurers.

The unacceptable waste will be segregated from all other incoming waste, allowing it to be collected and loaded into appropriate road vehicles for removal off-site, once deemed safe to do so.

9 Detecting fires

Procedures will be in place at the Facility to detect a fire in its early stages, in order to reduce the impact of the fire.

The choice of fire detection system (smoke/heat/flame detectors) to be installed within the Facility will be subject to detailed design. However, it can be confirmed that the fire detection systems will be covered by a UKAS-accredited third-party certification scheme.

During detailed design, appropriate fire detection systems will be proposed for the different areas of the Facility. The chosen fire detection systems will be appropriate to the activities undertaken in the different areas. Following completion of detailed design, a plan showing the fire detection systems in each area will be included into this Fire Prevention Plan.

9.1 Detection systems in use

There will be a fire detection and alarm system which will cover all of the waste processing areas within the Facility. The fire alarm systems will include the following:

- local detectors/transducers and call points;
- sounders/high intensity flashing beacons;
- cabling and containment systems;
- local control and indication panels; and
- remote control and indication panel (incorporating integral printers) will be in the control room.
- All fire detection systems shall be installed in accordance with BS 5839, Part 1 (2002) and subsequent amendments to give level P1 + M coverage in accordance with the requirements of the Loss Prevention Council ("LPC") guidance. In low fire risk areas, such as the Boiler Hall, the requirements for a P1 detection system may be relaxed.

In areas which are identified as having a low fire risk, the proposed fire detection method(s) will be agreed with the requirements of the fire service and fire risk insurer. The fire detection, protection and alarm systems will comply with the requirements of the fire service and fire risk insurer. All fire detection systems will be design, installed and maintained in accordance with an appropriate UKAS-accredited third-party certification scheme.

The following fire detection systems will be incorporated into the design of the Facility:

1. Tipping hall fire detection and suppression will be provided by an automatic temperature-activated sprinkler system to protect roofing and steelwork, with fire hose reels used manually in the case of vehicle fires or similar ground-level fires. The tipping hall fire detection and suppression systems will be subject to detailed design of the Facility.
2. Waste bunker fire detection will be provided by thermal imaging cameras and/or flame detectors which will be fixed around the perimeter of the bunker with automatic scanning of the entire fire zone. The thermal imaging cameras will provide a continuous thermal ‘map’ of the surface of the waste within the bunker. The thermal mapping will be displayed in the control room and will be used by the crane operator to manage temperatures within the bunker. The staff within the control room, as well as the crane operator, will be trained in the identification and implementation of corrective measures in the event of elevated temperatures within the bunker. The thermal imaging cameras will enable the crane operator and/or the control room staff to identify and react to hot areas in the bunker and undertake mixing or feeding of waste as appropriate. In extreme cases, the use of firewater cannons which covers the entire extent of the waste bunker to extinguish any smouldering/burning waste may be required.

a) Water cannons and manual fire hoses are considered to be the primary means of fighting a bunker fire.

b) To proactively prevent fires, it is anticipated that the system will be configured to sound an alarm based on certain conditions. This would involve the thermal imaging cameras being set with two alarms at two different 'trigger' temperatures. These are described below.

   i) Temperature set-points would be determined during detailed design of the Facility and in consultation with the fire service. It is understood that the system will be designed so that trigger temperatures can be amended if required.

   ii) High temperature alarms in other UK waste incineration plants operate with a trigger temperature of approximately 90°C, with high-high temperature alarms operating with a trigger temperature of approximately 120°C. For the Facility, this is subject to detailed design, and will be set in consultation with the Fire Service. However, it is estimated that the trigger temperatures will be approximately 90°C and 120°C for the high temperature and high-high temperature alarms respectively.

c) Following activation of the high temperature alarm in an area within the bunker, the area with an elevated temperature can be readily identified and, if possible, extinguished based on operator action through mixing within the bunker or fed into the hopper to be incinerated.

d) Following activation of the high-high temperature alarm in an area within the bunker, the area with an elevated temperature will be targeted and the firewater cannons will be activated to reduce the temperature in the area where self-heating has occurred.

e) Furthermore, the crane will be sized appropriately so that the time for waste mixing, feeding and management is within an acceptable time range for feeding waste to the feed hopper.

3. Feed hopper area fire detection will be provided by the waste feed hopper supervision camera and firefighting nozzles or a deluge system to flood the feed hoppers if required.
4. In the boiler house the main cable trays and other fire sensitive areas will be protected with a sprinkler system.
5. Electrical rooms with significant concentrations of electrical equipment will be fitted with fire detection systems.
6. Oil type transformer protection will provide complete water spray impingement on all exposed exterior surfaces. Water spray application shall include the conservator tank, pumps, etc.

   a) Dry-type transformers will be used for indoor transformer installations. If appropriate, enclosures for dry-type transformers will be provided with suitably designed fire detection systems.

7. The fire sensitive areas of turbine-generator and ancillaries will be protected by a dedicated fire detection and automatic sprinkler fire protection system.
8. Procedures will be developed in the operation of the fire detection systems. Training will be provided to the relevant staff in the different fire detection systems. Training records in the operation of the fire detection systems will be retained on-site.
9. All automatic fire detection and alarm systems will be designed and maintained by a suitably qualified, experienced and registered fire protection engineer.
10. Detailed design calculations, risk assessments and system drawings to demonstrate compliance with the requirements of the building control officer, fire officer and the insurer's requirements will be produced during detailed design.
11. It will be the responsibility of the operators and shift managers to monitor fire alarms.

9.2 Certification for the systems

Where appropriate, the Facility will be designed and operated in accordance with the relevant fire prevention and detection standards, or alternative recognised international standards where they are available, including but not limited to the following:

- BS EN 671: Fixed fire-fighting systems (or NFPA equivalent);
- BS 5266: Emergency Lighting;
- BS 5041: Fire hydrant systems equipment;
- BS 5839: Fire Detection and Alarm systems for buildings;
- BS EN 15004: Fixed Firefighting systems – Gas extinguishing systems;
- BS EN 12845: Fixed firefighting systems – Automatic sprinkler systems – Design, installation and maintenance;
- BS 5306: Fire extinguishing installations and equipment on premises;
- BS 9990: Non-automatic fire-fighting systems in buildings – Code of practice;
- BS 9999: Code of Practice for Fire Safety in the design, management and use of Buildings;
- Building Regulations, in particular Approved Document B, Volume 2 – Buildings other than dwelling houses, Section B5, Access and facilities for the fire service;
- NFPA 850: Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations; and
- Requirements/guidance from the Insurer.

Records associated with the certification of the fire prevention and suppression systems will be retained on site throughout the lifetime of the Facility.

10 Supressing fires

The fire-fighting system on site will be subject to detailed design. The main features of the fire suppression system are described in the following sections.

10.1 Suppression systems in use

There will be a fire suppression system installed in the locations considered by the fire strategy and NFPA 850 to be at risk of fire. It is anticipated that the fire suppression systems will include the following (in appropriate locations at the Facility):

- automatic sprinkler/water deluge systems;
- automatic foam systems; and
- inert gas suppression and carbon dioxide gas suppression.

The automatic fire suppression systems will be designed and maintained by a suitably qualified, experienced and registered fire protection engineer. The fire suppression systems will be covered by a recognised (typically UKAS) third party certification scheme.

Detailed design calculations, risk assessments and system drawings to demonstrate compliance with the requirements of the building control officer, fire officer and the insurer's requirements will be retained on site throughout the lifetime of the Facility.

10.1.1 Bunker cannons

Thermal cameras will be installed over the waste reception bunker to detect any hot spots in the waste. If the temperature of any hot spot exceeds a defined set-point (for the Facility, this is subject to detailed design, and will be set in consultation with the Fire Service. However, it is estimated that the trigger temperatures will be approximately 90°C and 120°C for the high temperature and high-high temperature alarms respectively, subject to agreement with the fire risk insurers), water cannons installed around the bunker can be used to prevent the potential for fire spreading within the bunker.

Water cannons will be located in positions to optimise the horizontal and vertical coverage of spray for total firefighting suppression across the entire area of the bunker.

Through detailed design of the waste bunker, the number and position of the fire monitors and cannons will be established, alongside the manual and/or automatic remote-control systems. Thermal imaging screens will be installed within the control room.

10.1.2 Fire hose reel system and wet riser system

Hose stations will be designed in accordance with NFPA 14, Standard for the Installation of Standpipe, Private Hydrants and Hose Systems, or BS equivalent (e.g. BS EN 671-1:2012). Fire hydrant systems equipment will be provided at strategic positions within the Facility for firefighting in fire risk areas.

For firefighting purposes, hose reels and extinguishers where appropriate will be provided within the buildings.

The positioning of hose points will take into account the following:

- location and physical protection as to avoid potential damage by vehicles;
- size and number to be determined for the specific works layout (e.g. push wall positions);

- ease of use, maintenance, and storage, such as through the use of continuous-flow, non-collapsible hose reels; and
- protection from freezing in unheated areas.

Following detailed design of the Facility, a plan identifying the location of the fire hose reels will be developed.

10.1.3 Fire hydrants and mains

Fire hydrants will be designed in accordance with NFPA 14 Standard for the Installation of Standpipe, Private Hydrants, and Hose Systems (or BS equivalent), and will be connected to a ring main at strategic positions around the Facility to provide firewater supplies to external fire risk areas. The fire hydrants will be designed in accordance with the requirements of the Building Regulations and the fire service; and, where appropriate, spaced at no greater than 100 m apart and within 12 m of the building.

The location of hose reels and hydrants will be subject to detailed design and will be agreed with the fire insurers and the fire officer. The positioning of fire hydrants will take into account:

- location and physical protection as to avoid potential damage by vehicles;
- size and number to be determined for the specific layout; and
- protection from freezing.

The fire hydrants will be fed from the fire water storage tank and maintain the required pressure in accordance with the requirements of the fire service.

Following completion of detailed design, a plan identifying the location of the fire hose reels and hydrants will be developed. An indicative drawing showing the location of the fire hydrants is presented in Appendix A.3.

10.1.4 Fire extinguishers

Fire extinguishers will be strategically located throughout the operational areas in accordance with the requirements of BS 5306.

The location of the fire extinguishers will be subject to implementation of the recommendations of the fire officer for the Facility. Following completion of detailed design, a plan identifying the location of the fire extinguishers will be developed.

10.2 Certification for the systems

The relevant standards for the fire prevention and suppression systems are described in section 9.2.

It is anticipated that the automatic fixed fire suppression systems for the Facility will be designed in accordance with the requirements of ACE (ACE Technical Risks - Engineering Information Bulletin Guidance Document) and NFPA 850.

11 Firefighting techniques

11.1 Alternative fire detection and suppression measures

In addition to the fire detection and suppression systems identified in Sections 9 and 10, the design of the Facility will include 'additional measures' to prevent the spread of fire, such as fire walls (Section 7.2).

It is acknowledged that the Facility is not designed strictly in accordance with all of the requirements of the FPP guidance (specifically, the provision of water for firefighting, refer to section 12). However, the overall design of the Facility, including the fire detection and fire suppressions systems, where applicable, have been designed to achieve the requirements of the guidance, namely:

- minimising the likelihood of a fire happening;
- aim for a fire to be extinguished within 4 hours; and
- minimise the spread of fire within the site and to neighbouring sites.

In addition, in the event of a significant fire within the waste bunker, the plant can be shut-down which will include the shut-down of the induced draft (ID) fan and the extraction of combustion air from within the bunker. The plant shut-down will reduce the risk of fire spread between the 'fire compartments' within the Facility.

12 Water supplies

12.1 Available water supply

The Facility will have a firewater storage tank designed in accordance with the requirements of BS 5306. The firewater storage tank will be connected to the local water supply and will be installed with a suitable system to prevent freezing. The tank will be fitted with a local external water level indicator as well as with remote water level control and level alarm indication to the distributed control system (DCS). The firewater tank will be designed to ensure the required firewater capacity is always available for fire protection.

It is estimated that the size of the firewater tank will be approximately 1,300 m^3. The firewater tank will be designed to ensure the required fire water capacity is available for fire protection at all times. The firewater tank has been sized to exceed the minimum requirements of NFPA 850. The exact size of the firewater tank will be confirmed following detailed design. When specifying the sizing for the firewater tank, it will be based on early fire detection and automatic fire suppression systems in the waste reception and storage areas such that any fire can be rapidly contained and extinguished.

The FPP Guidance requires a supply of firewater of 2,000 l/min for 3 hours for a 300 m^3 pile of waste but this is based on an open pile of waste with free run off, rather than storage in a bunker which contains the water. For a waste bunker with a waste storage capacity of 11,800 m^3, the guidance implies the need for a 14,160 m^3 fire water tank, which is excessive. It should be noted that the potential volume of firewater required to extinguish a fire in the bunker will be considerably less than the total 'airspace' volume of the bunker, as the waste present in the bunker will reduce the available volume.

It is acknowledged that the provisions for the supply of firewater at the Facility are not in accordance with the EA's FPP guidance. The waste bunker will be a contained concrete structure, with thick fire resistant concrete walls. The provisions for firefighting in this area will be in accordance with NFPA 850 and as required by the fire risk insurers. In addition, foam may be used as an additive in the firewater system which will reduce the quantity of water required for firefighting (the use of foam will be subject to detailed design). It is acknowledged that this approach has previously been accepted by the EA for recent applications for EfW plants.

It is proposed that the design of the systems for the provision and containment of firewater are confirmed via a pre-operational condition.

13 Managing fire water

13.1 The containment of fire water

The waste bunker will be design and constructed as a water retaining structure in accordance with BS EN 1992-3. This will protect against the leak of contaminated firewater from the bunker and minimise the risk of contamination of groundwater in the event of a fire within the bunker.

Drainage systems will be designed for the prevention of flooding of equipment. Fire water retention will be accomplished through the installation of one or a combination of:

- floor drains;
- floor trenches;
- open doorways or other wall openings;
- kerbs for containing or directing drainage;
- equipment pedestals; and
- pits, sumps, and sump pumps.

The provisions for drainage and any associated drainage facilities will be sized to accommodate the concurrent flow due to operation of the following components (in accordance with NFPA 820):

- the spill of the largest single container of any flammable or combustible liquids in the area, where the bund around oil tanks should be large enough to contain the oil and the water from suppression systems;
- the maximum expected number of fire hose lines operating for a minimum of 10 minutes; and
- the maximum design discharge of fixed fire suppression systems operating for a minimum of 10 minutes.

There are three different types of firewater flows which will be required to be contained if there was a fire at the Facility:

1. Firewater resulting from treating fires in the bunker and tipping hall area. This firewater will be routed to the bunker which is watertight and hence can contain large amounts of firewater. The total below-ground volume of the bunker will be approximately 4,200 m^3, however, this will be reduced by the quantity of waste present.
2. Firewater from inside any other process building or from the IBA storage area. Such firewater is expected to be extremely rare and small in quantity so only small amounts of firewater will arise. This drainage will be contained, to prevent contaminated water discharging off-site. It is anticipated that the process water tank will have a capacity of approximately 50 m^3.
3. Firewater from outside any building. Such firewater will be contained in the site drainage systems. The underground SUDS system will have a capacity of approximately 2,900 m^3, subject to detailed design of the drainage systems. The drainage system will be installed with a penstock valve which will prohibit the discharge of contaminated surface water from being discharged off-site. Additional storage will be available from site kerbing and areas of hardstanding. It is anticipated that shallow ponding will allow approximately 1,500 m^3 of additional storage in managed external areas on site. The water used for fire-fighting will be sampled and analysed to identify whether it is suitable to be used as process water, or if treatment/disposal is required. If the firewater is considered to be contaminated, it will be transferred off-site, via tanker, to a suitably licensed waste management facility.

A plan showing the proposed landscaping to surround the site (which shows the locations of natural and unmade ground surrounding the Facility) is presented in Appendix A.9. The landscaping shown within this drawing is indicative and will be subject to detailed design of the Facility.

14 During and after an incident

14.1 Dealing with issues during a fire

Emergency procedures will be developed during the construction and commissioning phase. The emergency procedures will include, but not be limited to:

- fire identification and reporting procedures;
- an evacuation plan;
- emergency communication procedures;
- responding to chemical spillages;
- containment of firewater;
- requirements for diverting incoming waste; and
- Notification of any adjacent residential properties and businesses which may be impacted by the incident.

All staff and contractors will be trained in the emergency response procedures for the waste combustion process as well as the site-wide emergency procedures. Where specific responsibilities are given to specific staff, training will be provided to those employees. Training records in the emergency response procedures for all staff and contractors will be retained on-site as part of the documented management systems.

The effectiveness of the emergency response procedures will be reviewed following any emergency incidents on-site. Where appropriate the procedures will be updated, and staff trained in the updated procedures.

A copy of the emergency procedures will be maintained at the gate house, or other suitable location, and will include the fire system mimic panel to allow co-ordination of the emergency response to a fire in the event that the main offices are unavailable.

On a periodic basis, tests of the emergency procedures will be undertaken. The intention of the tests is to verify that all staff and contractors are aware of the emergency procedures. Following all tests, the implementation of the procedures will be reviewed. If appropriate, the procedures will be amended, or additional training provided to all staff and contractors.

In the event of an incident resulting in the Facility not being capable to receive waste, waste deliveries to the Facility will be stopped or diverted to a suitably licensed waste management facility.

Deliveries of waste to the Facility will not be recommenced until it has been deemed safe for the Facility to be restarted following the incident. During a complete shutdown of the Facility, the fire detection systems will remain operational.

14.2 Notifying residents and businesses

Dependent on the nature and scale of any incidents, it may be necessary to notify local residents and businesses of the incident. Prior to commencement of operation of the Facility, and as part of the development of the documented management systems associated with the operation of the Facility, communication procedures will be developed and implemented.

14.3 Clearing and decontamination after a fire

Following a fire which requires the presence of the emergency services; materials, building structures, furnishings, vehicles, equipment and raw materials could be damaged. Once the fire had been fully extinguished and the emergency services given approval to enter the Facility, an assessment will be undertaken by the management team for the Facility, insurance assessors, structural engineers and fire damage/salvage specialists to assess the extent of the damage.

Once a full inventory of the damage and equipment has been completed under the strict supervision of specialist structural engineers, any building or structure will be made safe. Severely damaged equipment or building materials will be removed from site by a licenced waste/scrap company. Building structures that are deemed safe will be cleaned, as necessary.

Waste within the bunker which is not suitable to be incinerated will be backloaded from the bunker into HGV's and removed from site by a licenced waste carrier. Affected areas will be cleaned and washed before equipment and structural repairs will take place.

14.4 Making the site operational after a fire

After a fire event, the following procedure will be implemented depending on the severity of the fire:

1. A small and containable fire that can be safely dealt with in-house using suitably trained staff and firefighting equipment located on site: The fire will be recorded in the site diary, including the causes of the fire and methods used to manage the fire. An assessment will be carried out to determine whether further mitigation measures could have prevented the fire. Any outcomes to be implemented onsite will be incorporated within this FPP and the site's EMS as required.
2. A larger fire that requires the presence of the FRS: If the site operatives have been told to evacuate or cease operations by the EA and/or FRS, the site will wait until told safe to re-enter site and resume operations. An assessment will be undertaken by the site's management team with the assistance of any relevant insurance assessors, structural engineers and fire specialists. Any damaged buildings will be made safe and any severely damaged equipment or building materials will be removed by a licenced scrap waste company. All building structures and equipment deemed to be safe will be cleaned as necessary.

If there was a significant fire requiring a full shutdown of the Facility, the Facility will not restart operations until the relevant regulatory authorities (Fire Service, Health and Safety Executive, Environment Agency, etc.), as well as the fire insurers, advised that it was safe to do so.

The Site Manager will liaise with the EA to determine a plan-of-action to introduce normal operations at the site, and the timescales involved to achieve this. To ensure that updates are frequent and accurate the Communications team will prepare and release statements for local businesses and the general public. These will be communicated via the EA.

Appendices

A Plans and drawings

A.1 Site location plan

A.2 Access points around the perimeter to assist fire-fighting

A.3 Indicative locations of fire hydrants

A.4 Indicative locations of fire walls

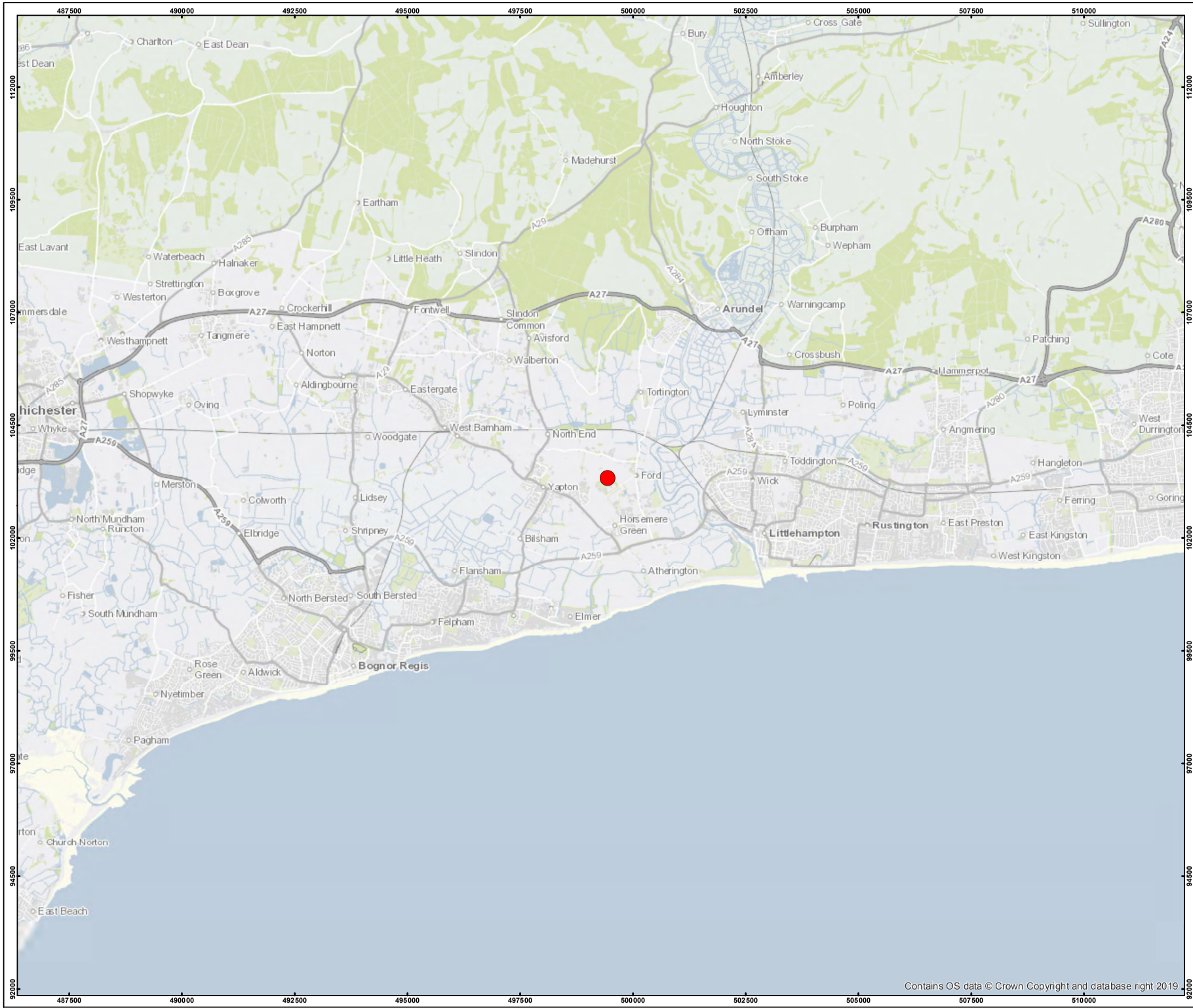
A.5 Indicative location of quarantine area

A.6 Materials storage areas

A.7 Firewater containment

A.8 Fire Receptor Plan

A.9 Indicative Landscaping Design



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Site:	Ford
Project:	Ford Circular Technology Park
Title:	Site Location Plan
Drawn by: Rhys Weir	Date: 01/06/2020

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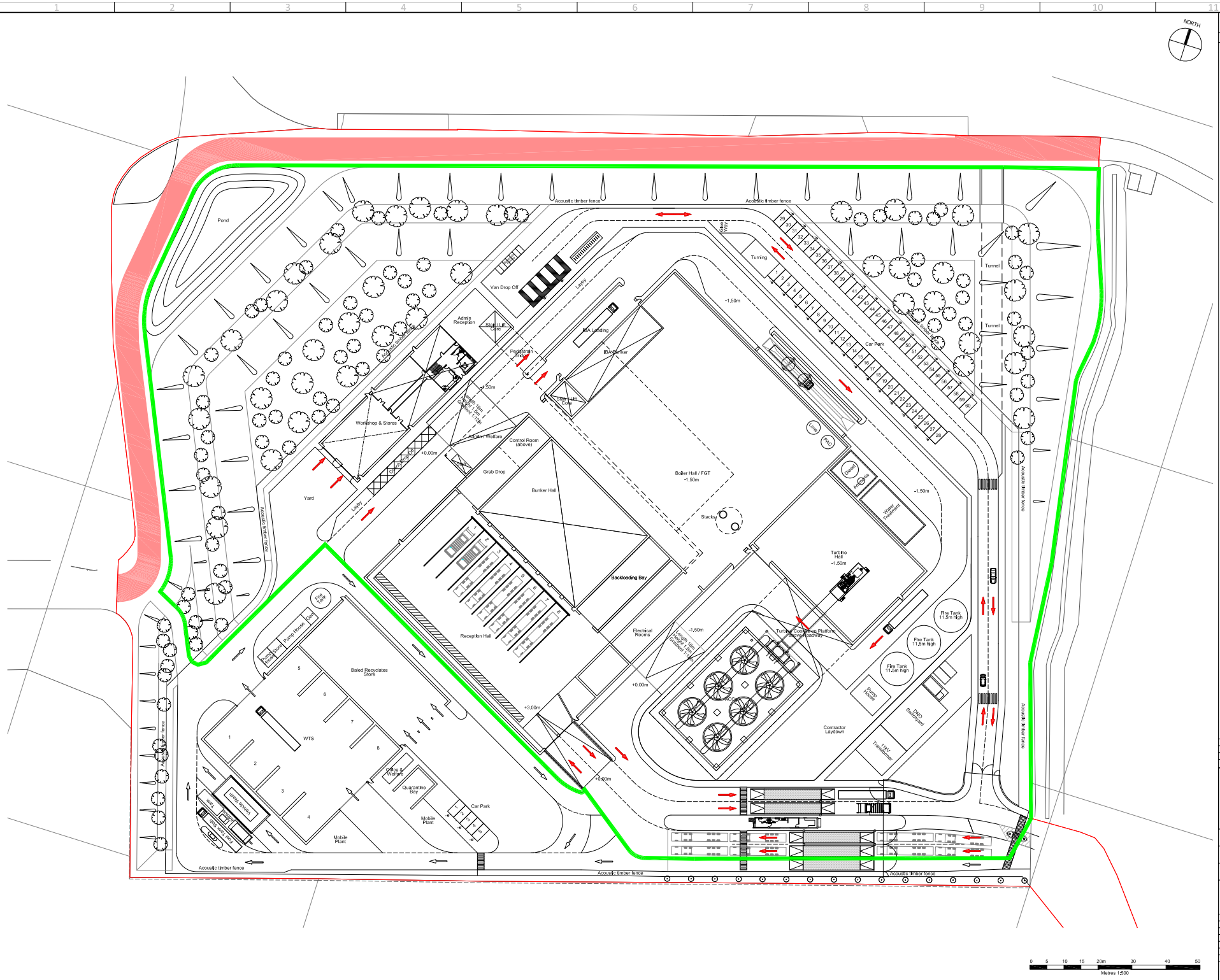

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- INSTALLATION BOUNDARY
- ACCESS POINTS

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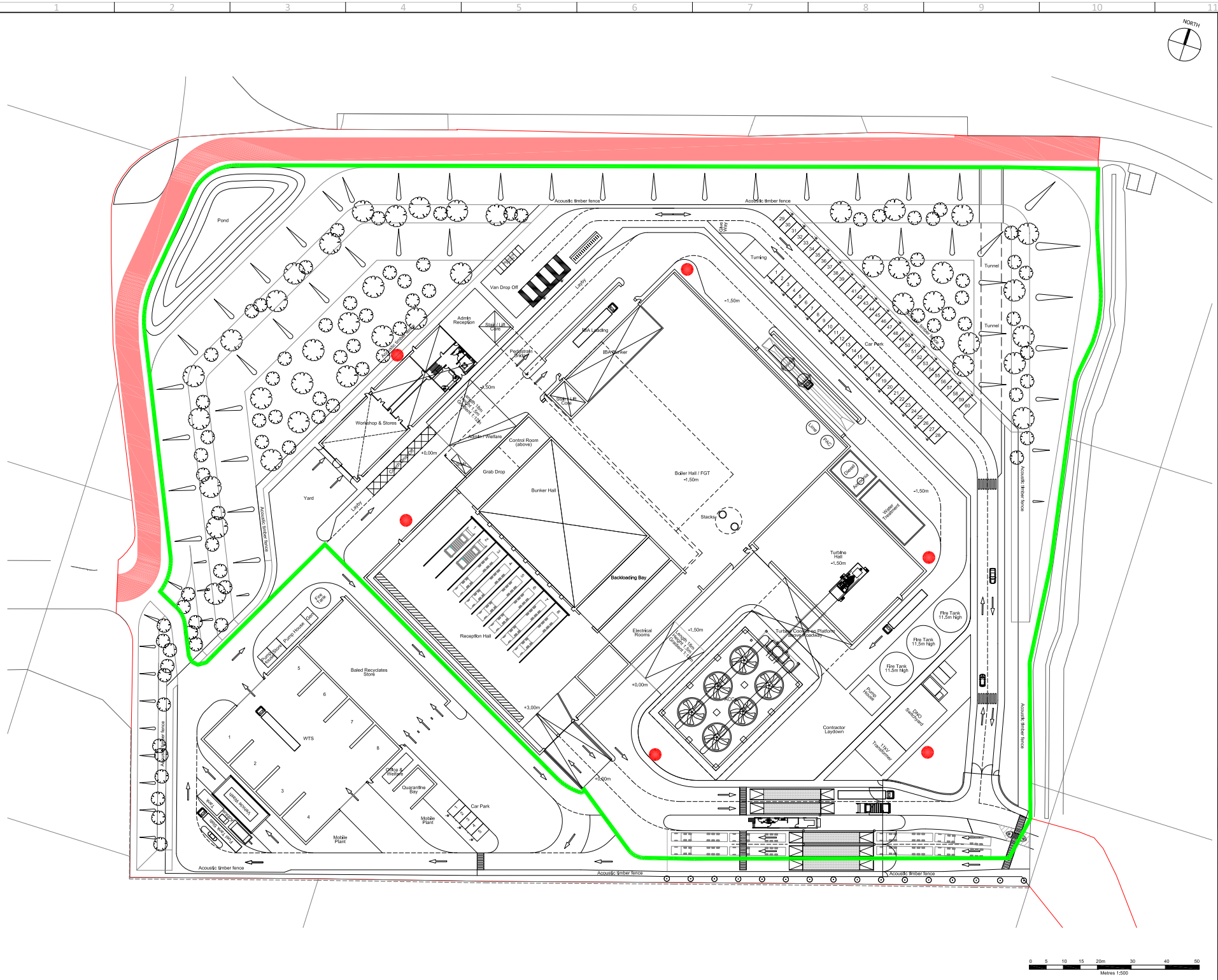

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- INDICATIVE LOCATION OF FIRE HYDRANTS

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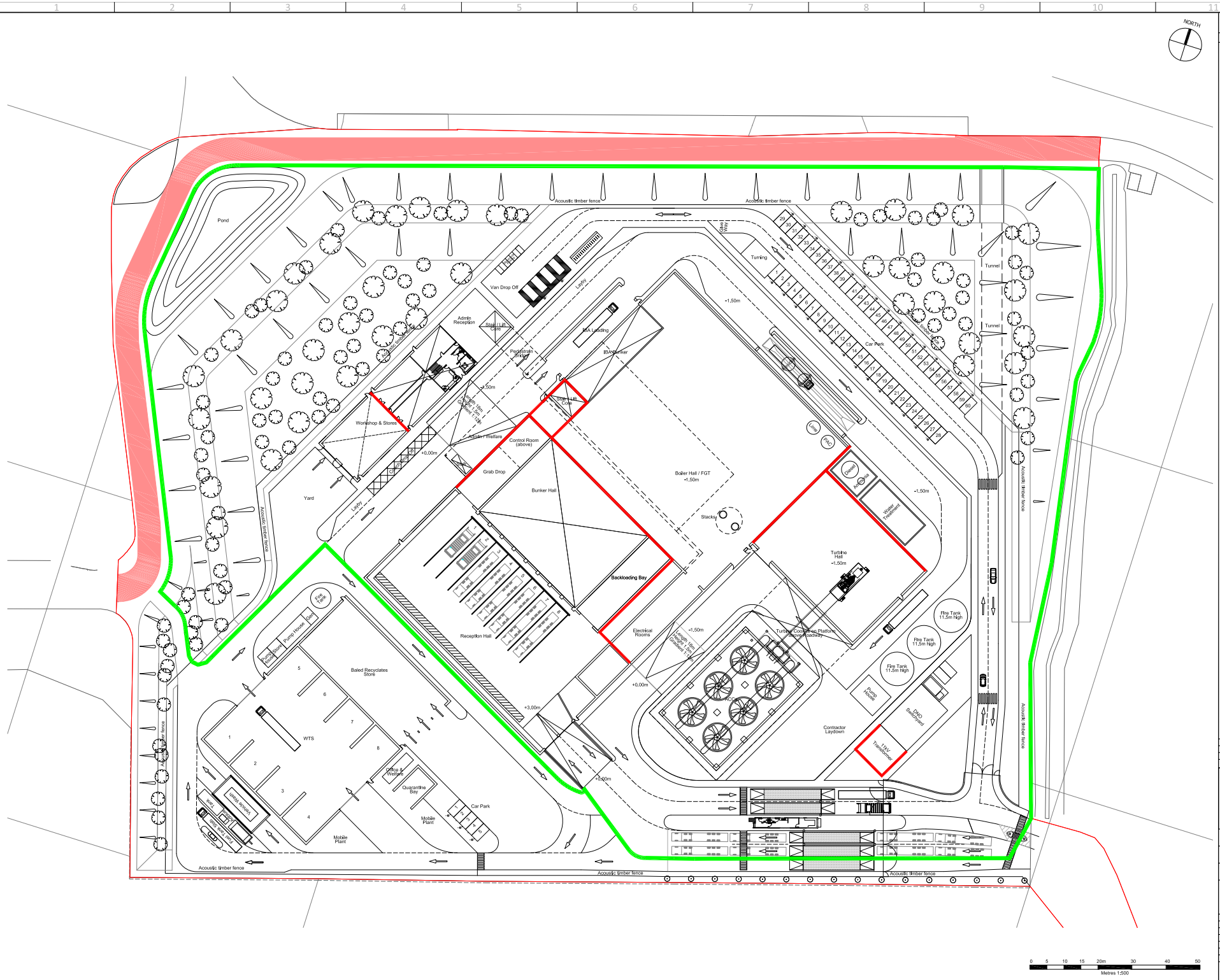

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- INDICATIVE FIRE WALLS

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- INDICATIVE LOCATION OF QUARANTINE AREA

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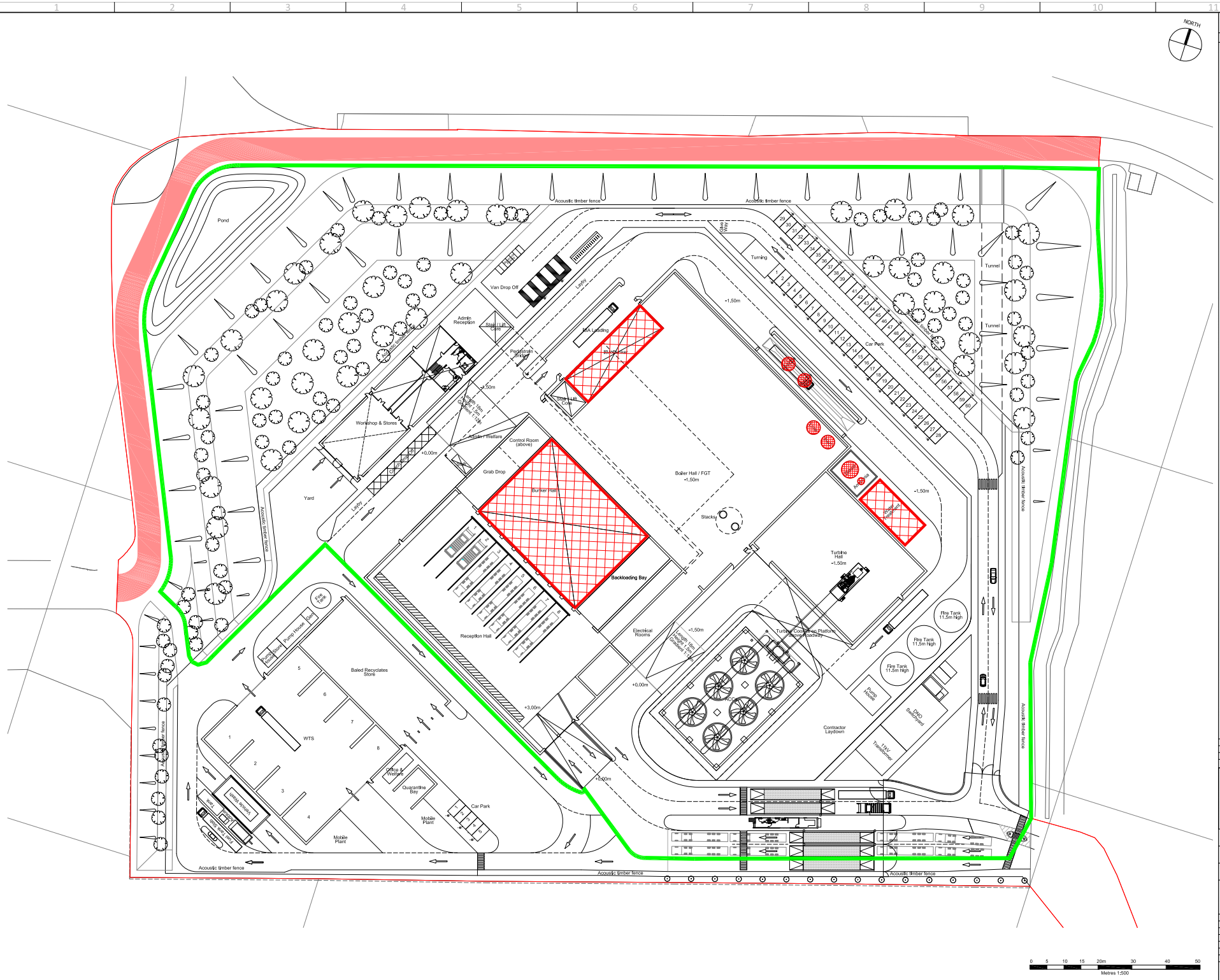

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- MATERIALS STORAGE AREAS

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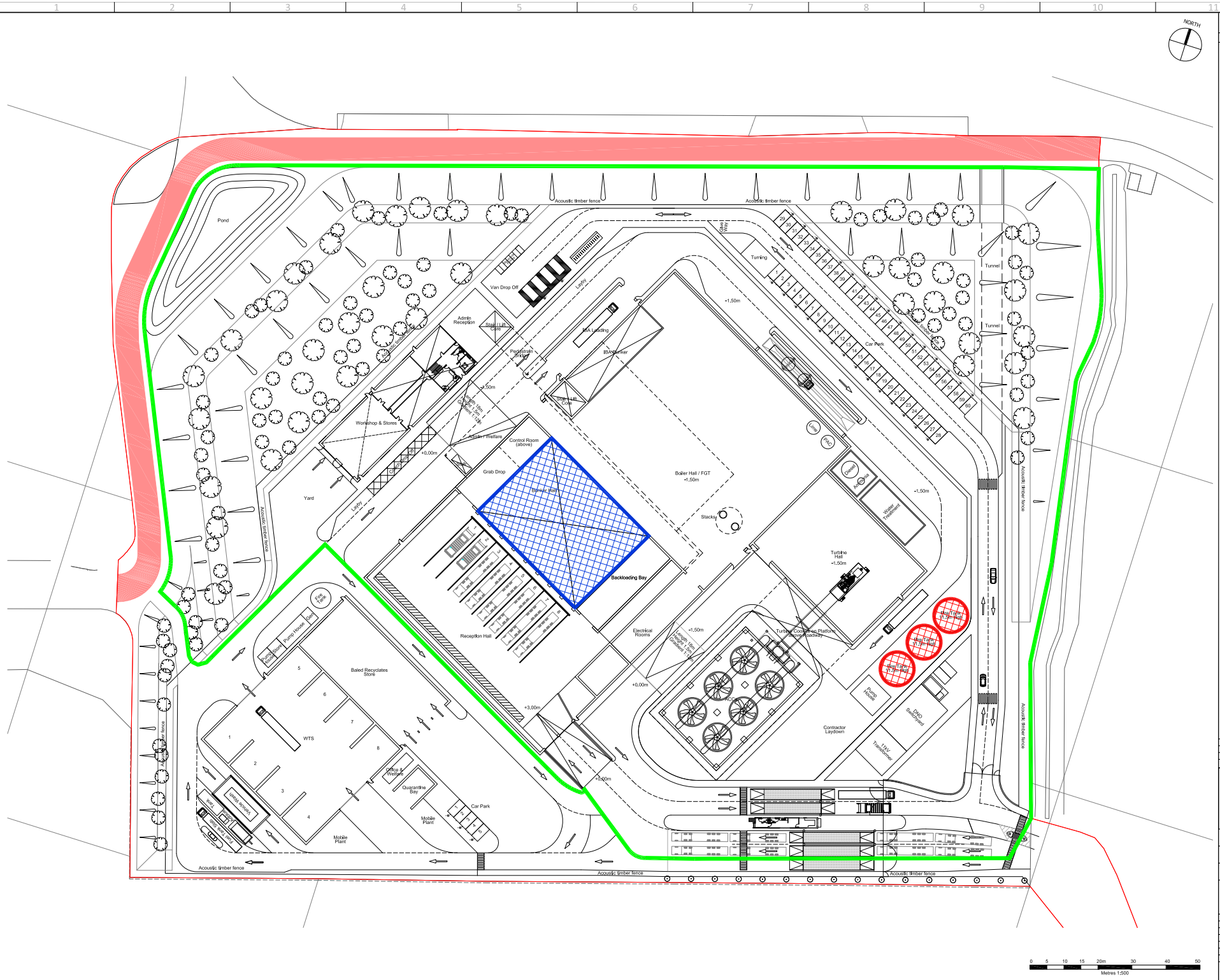

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- INDICATIVE FIREWATER CONTAINMENT
- FIREWATER SUPPLY

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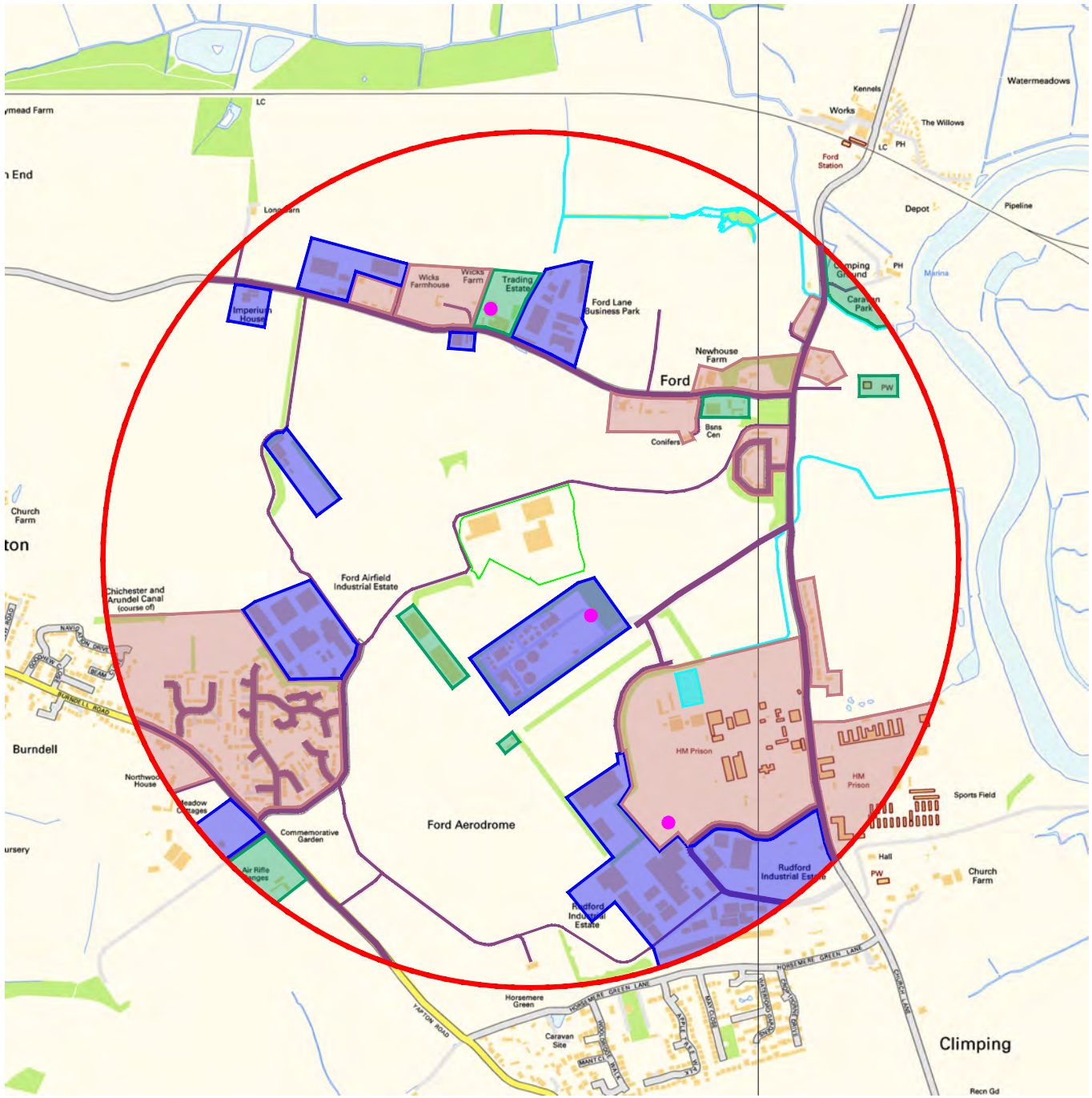

PREVAILING WIND DIRECTION SOUTHWEST

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0 100 200 300 400m 600 800 1000

Metres 1:10,000

ALL INFORMATION ON THIS DRAWING IS INDICATIVE ONLY, AND MAY BE SUBJECT TO FURTHER DESIGN DEVELOPMENT.

DO NOT SCALE

LEGEND

- ERF INSTALLATION BOUNDARY
- 1km RADIUS
- INDUSTRIAL RECEPTORS
- COMMERCIAL RECEPTORS
- RESIDENTIAL RECEPTORS
- WATERCOURSE
- ROADS
- WATER WELLS

REV.	DETAILS OF REVISION	DRAWN	CHKD	APR	DATE
R2.0	SITE LAYOUT AMENENDED	AO	KLH	JRS	26.01.21
R1.0	PRELIMINARY	AO	KLH	JRS	17.12.20
R0.0	PRELIMINARY	AO	KLH	JRS	15.12.20

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CLIENT: FORD EfW Ltd

SITE: FORD CIRCULAR TECHNOLOGY PARK

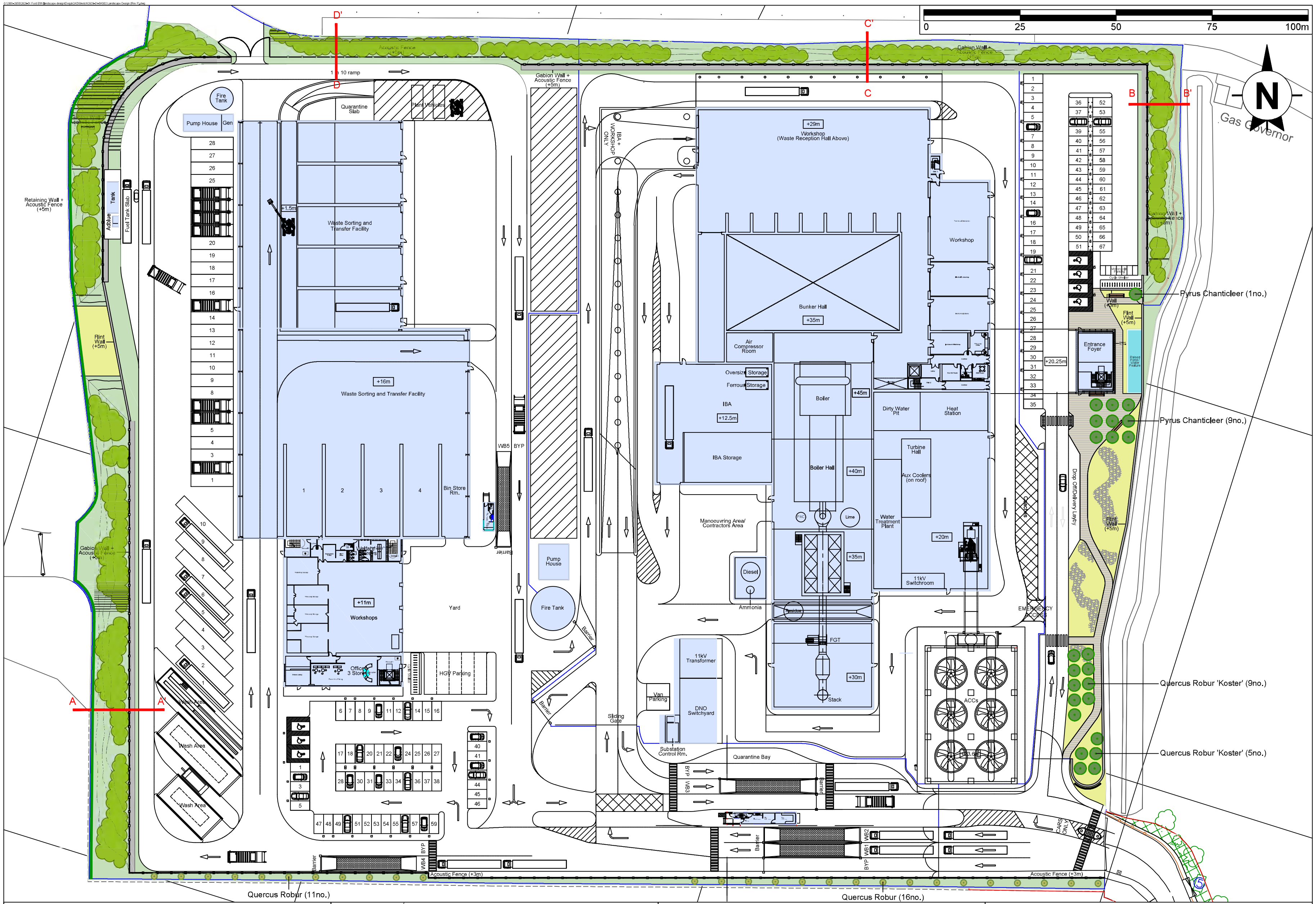
PROJECT: EP APPLICATION RESUBMISSION

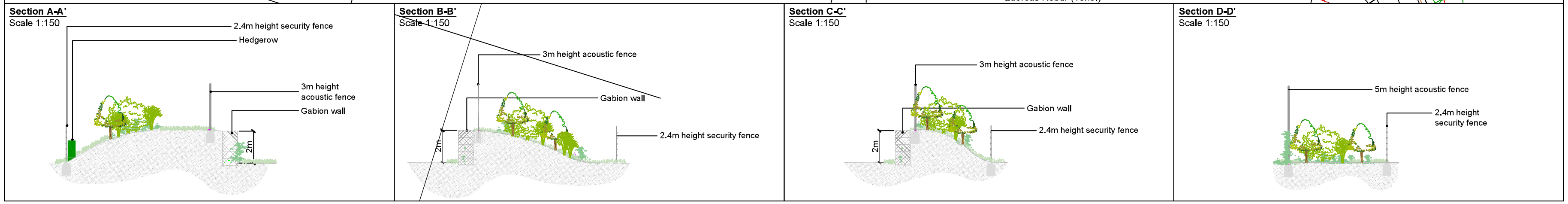
TITLE: FIRE RECEPTOR PLAN - ERF

DRAWING STATUS:	PRELIMINARY	
DRAWN BY:	AO	DATE: 15.12.20
CHECKED BY:	KLH	DATE: 15.12.20
APPROVED BY:	JRS	DATE: 15.12.20
FILENAME:	S2881-8000-0009AO1 FIRE RECEPTOR PLAN - ERF R2.0	
OFFICE OF ISSUE:	STOCKPORT	
SHEET SIZE:	A3	SCALE: 1:10,000

DRAWING No.: S2881-8000-0009 Sheet 1 Of 1

REVISION: R2.0





Follow any figured dimensions - do not scale for construction purposes. IF IN DOUBT ASK.

•	Revision History	• Date
A	Updated layout	11-05-20
B	Fencing on southern boundary & Schedule	12-05-20
C	Trees & Hedges added	13-05-20
D	Hedge updated	13-05-20
E	Minor amendments	14-05-20
F	Updated layout	08-06-20

- Fastigiate Specimen Trees
- Specimen Trees
- Scrub Mix
- Conservation Grassland
- Perennial Pollinator Meadow
- Drifts of Flint Gravel (or Seashell Mulch)
- Paving
- Flint Wall
- Gabion Wall
- Acoustic Fence
- Hedgerow
- Ornamental Pond (designed to support wildlife)
- Nature Trail Path

Type	Quantity	Notes
Specimen Trees		
Pyrus calleryana 'Chanticleer' - Callery Pear	10no.	20-25cm girth
Quercus robur 'Koster' - Fastigiate Oak	14no.	20-25cm girth
Quercus robur - Oak	27no.	12-14cm girth
Perennial Pollinator Meadows		
Super Pollinator Mix By Pictorial Meadows	1075m²	
Gabion Walls	396m	
Climbing Plants		1 Plant every 4m
25% Hedera helix - Ivy	25no.	
25% Lonicera peridymenum - Honeysuckle	25no.	
25% Clematis vitalba - Old Mans Beard	25no.	
25% Humulus lupulus - Common Hop	25no.	
Scrub Planting	2122m²	1 plant/m²
20% Crataegus monogyna - Hawthorn	425	
20% Prunus spinosa - Blackthorn	425	
10% Fragula alnus - Alder Buckthorn	212	
10% Sambucus nigra - Elder	212	
10% Corylus avellana - Hazel	212	
5% Quercus robur - Oak	106	
10% Betula pendula - Silver Birch	212	
5% Ilex aquifolium - Holly	106	
10% Rosa canina - Dog rose	212	
Conservation Grassland		
Emorsgate EH1 - Hedgerow Mixture	5660m²	4g/m²
Hedgerow	237m	5 plants/m double staggered row
60% Prunus spinosa - Blackthorn	711	
20% Crataegus monogyna - Hawthorn	237	
10% Ilex aquifolium - Holly	119	
5% Rosa canina - Dog rose	59	
5% Clematis vitalba - Old Man's Beard	59	
Ornamental Pond	56m²	

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axis

client: GSDA

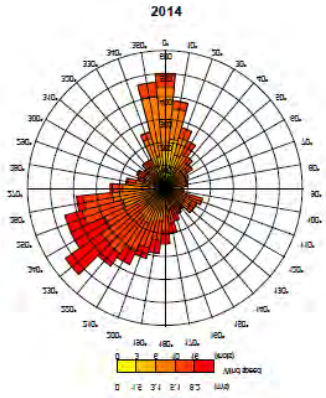
project: FORD EFW

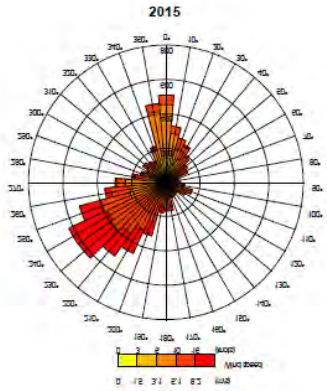
drawing title: LANDSCAPE DESIGN

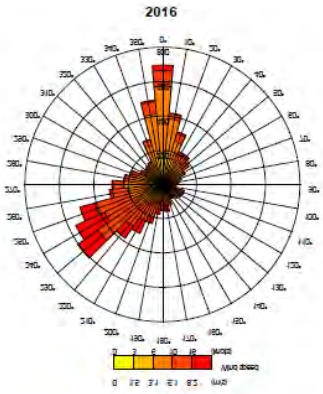
date: May 2020	drawn by: SM	checked: JM
drawing number: 2829-01-SK002	status: For Planning	
scale(s): 1:500@A1	rev: F	

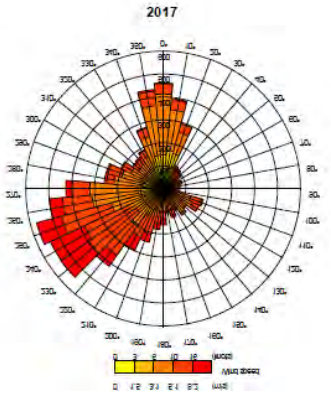
planning environment design

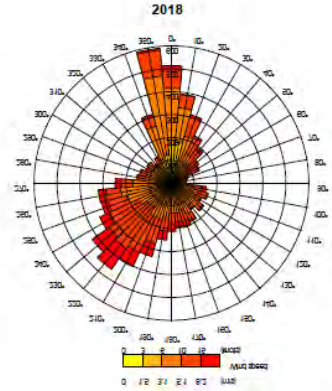
B Wind roses











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