

ATTACHMENT D1 – SITE INFRASTRUCTURE

D1.a Site Security Arrangements

Vehicular access to Roadstone Ltd.'s property at Huntstown Quarry and the licensed site is directly off the R135 Regional Road (or 'North Road', the former N2 National Primary Road) which runs along its eastern perimeter. There is no other vehicular access to the existing quarries, production facilities or recovery facilities. All access is controlled by a manned security post along the internal access road leading off the R135 Regional Road. The post is manned by security staff on a 24 hour, 7 day a week basis.

In addition to the manned security cover, CCTV cameras are installed around all weighbridges at Huntstown and are routinely used for inspection of wastes being imported for recovery.

D1.b Design for Site Roads

All trucks delivering inert soil for quarry restoration or construction and demolition waste for recovery are confined within Roadstone's landholding at Huntstown.

At the present time, all heavy good vehicles (HGVs) importing inert soil and stone for recovery turn right at a T junction immediately past the existing wheelwash and travel north along the eastern side of the central production area. The HGV's then pass over a weighbridge, past the waste facility offices and continue northwards over a further short section of paved road. After passing the settlement ponds, they then turn left (and west) and run over a partially paved length of haul road towards the active backfilling area at the North Quarry.

Heavy good vehicles (HGVs) importing inert C&D waste to the Central Quarry run westwards over a paved road to the infrastructure area in the centre of the quarry complex. The HGVs continue past the blockyard on the left hand (southern) side and some existing site offices on the right hand (northern) side, before they turn through 180° and continued east up to the existing weighbridge at the rear of the site offices. After being weighed, the HGVs turn through 180° after the weighbridge office and turn left (south) after the maintenance shed. They then continue on taking the first left (east) turn thereafter and follow the descent road leading down to the Central Quarry.

In future, once the C&D recovery facility has relocated to the north-eastern part of the landholding, HGVs importing inert C&D waste will turn right (north) immediately past the existing wheelwash and head north along the existing internal paved road, over the existing weighbridge and past the recovery facility offices and settlement ponds. Thereafter, it will continue northwards over an upgraded (paved) haul road to the planned new C&D waste recovery facility at the north-eastern corner of the quarry complex.

Existing and planned haul routes around the licenced site are indicated on Drawing D1.1.

D1.c Design of Hardstanding Areas

Employee and visitor car parking is currently provided on existing hardstanding areas in front of the dedicated waste office and on the eastern side of the access road to the soil recovery area / new C&D waste recovery area. Additional parking is also provided on paved ground surrounding the main office building at the central infrastructure area.

Much of the access road to the recovery facilities and car parking areas is (or will be) sealed by concrete or asphalt surfaces which will remain in place for the duration of the waste recovery activities. There are also extensive permanent concrete hardstanding surfaces located around production facilities in the central infrastructure area. Surface water falling across these surfaces ultimately drains via existing drainage networks and on-site settlement ponds to a tributary stream of the Ward River, to the north of the central infrastructure area.

In other areas within the licensed site, there are unpaved hardstanding areas around the quarry voids. Rain falling across these areas either percolates downwards into the underlying soil / bedrock or runs-off over the existing ground surface, into the existing quarry voids. These unpaved hardstanding areas are occasionally used for the storage of site plant, equipment and/or materials required at the waste recovery facility.

D1.d Plant

Plant maintained on site will principally comprise mobile crushing and screening equipment, mechanical excavators and loading shovels.

Mobile plant and equipment undertaking the soil / C&D waste recovery works will be maintained / serviced on site or at the existing maintenance / workshop facility, at the location shown on Drawing D1-1. A small bunded area for waste oils is provided within the maintenance shed. Oil collected in tanks is emptied at intervals by a licensed waste contractor and disposed off-site at an authorised waste facility.

D1.e Wheelwash

In order to prevent transport of soil or mud out of the recovery facility onto public roads, an existing wheelwash facility is provided for all exiting HGV's along the paved road which runs out to the R135 North Road. The location of the wheelwash is indicated in the facility layout plan shown in Drawing D1-1.

D1.f Laboratory Facilities

Laboratory testing of soil, surface water, groundwater and soil water percolate (leachate) is undertaken off-site at an ILAB / UKAS accredited geo-environmental laboratory. Validation testing and laboratory testing required to confirm classification of waste soil / construction and demolition waste, is also undertaken by an external accredited laboratory. All samples taken on-site are forwarded to the laboratory and test results are typically returned to the Licensee within seven to ten working days.

Environmental monitoring equipment such as pH and temperature meters, conductivity meters and dissolved oxygen meters are not held on site. Such equipment is brought to site by an in-house environmental scientist and/or independent environmental consultant as and when required.

D1.g Design and Location of Fuel Storage Areas

Fuel for plant and equipment used at the recovery facility is stored in existing fuel storage tanks at the central infrastructure and production area within the Huntstown licensed facility / quarry complex. These tanks are constructed on sealed concrete surfaces and bunded to provide a storage volume equivalent to 110% of the tank storage volume. The mobile plant and equipment undertaking the recovery works are refuelled over concrete surfaces around the fuel storage tanks and on occasion, from mobile, double skin fuel bowsers.

D1.h Waste Quarantine Areas

All inert C&D materials imported to the facility are unloaded (end-tipped) from HGVs / trucks to build up stockpiles of unprocessed waste within a defined outdoor stockpiling area on a hardstand surface. Waste consignments are visually inspected by site personnel at that point to confirm that there is no intermixed non-inert construction or demolition waste or inclusions of non-hazardous or hazardous waste placed within it.

Any imported waste which, it is suspected, may not comply with waste acceptance criteria for the waste recovery facility, is either rejected immediately and transferred off-site or alternatively, is transferred across to a covered shed beyond the south-eastern corner of the North Quarry (refer to the facility layout plan in Drawing D1-1). This shed is constructed over a sealed concrete slab and serves as the dedicated waste inspection and quarantine facility for all waste recovery operations at Huntstown.

D1.i Waste Inspection Areas

If, following acceptance of waste, there are grounds for concern about the nature of the C&D wastes imported to site, it is segregated and transferred to the waste inspection and quarantine area for closer inspection and classification. A detailed record will be kept of all such inspections.

Should inspections and/or testing of suspect wastes at the inspection and quarantine facility indicate that they are non-inert and cannot be accepted and recovered at the licensed facility, they will be placed in skips and/or covered pending removal off-site by permitted waste collectors to a suitably permitted (or licensed) waste disposal or recovery facility.

D1.j Traffic Control

Internally, within the Huntstown Quarry Complex, direction signs, warning notices and speed restriction signs are in place along paved roads leading to and from the central infrastructure and production area and the waste recovery facility.

All HGV traffic entering the licensed facility is required to pass over existing weighbridges, while all egressing HGV traffic is routed through the existing wheelwash facility. Car and HGV / truck traffic routing through the proposed facility is indicated in Drawing D1.1.

D1.k Sewerage and Surface Water Drainage Infrastructure

Site staff at the Huntstown waste recovery facility use toilet, hand washing and welfare facilities provided at the main site offices at the central infrastructure area at Huntstown Quarry. There are further toilets, washbasins and sink units at the canteen facility. Wastewater from both these locations is currently collected and fed via a sewerage pipe to an on-site wastewater treatment plant (septic tank).

The only surface water drainage infrastructure at the Huntstown Quarry Complex exists across the central infrastructure area where aggregate processing and concrete production activities are currently concentrated.

This attachment will address surface water run-off of additional lands to be incorporated into the licenced site by way of this waste licence review application. The management of surface water at the soil recovery facility has been addressed in previous waste licence / waste licence review applications and is controlled by the existing waste licence (Ref. W0277) and, as such, will not be addressed herein.

Existing Recovery Facility – Central Quarry

Rain falling across the existing C&D waste recovery facility at the Central Quarry either

- runs over unsealed ground into the existing quarry void, to a small pond in the north-eastern corner of the quarry floor or
- percolates down through the existing soil / rock at the ground surface as recharge to groundwater, at which point it joins groundwater flow through the ground.

At the present time, groundwater levels around the Central Quarry are depressed by dewatering activities at the North Quarry and South Quarry which are located on either side.

Surface water run-off and any dewatered groundwater at the quarry collect in the pond on the quarry floor, from where it is pumped up to the ground surface to the existing water treatment infrastructure (settlement ponds) located on the eastern side of the central infrastructure area. Thereafter, the run-off is passed through an existing hydrocarbon interceptor and discharged to the Ballystrahan Stream and from there, to the Ward River which flows further to the north. The layout of the existing surface water management system is shown in Drawing D1-1.

Replacement Recovery Facility – North Eastern Corner

At the present time, rain falling over the proposed replacement C&D recovery facility, at the north-eastern corner of the Huntstown Quarry complex generally

- percolates down through soil at the ground surface and recharges to the underlying groundwater table or
- runs south and west over the existing ground surface to a minor (seasonal) pond in the south-western corner.

It is envisaged that when the long-term recovery facility is in place, rainfall will continue to percolate through a layer of permeable hardstanding (crushed rock) placed over the mineral subsoil and down to the underlying groundwater table, as it does at present. It is envisaged that any surface water run-off which does arise will fall over the built-up / regraded ground surface toward an open collector channel running in a verge on the eastern side of the access road leading to the facility (and along the western side of the C&D recovery facility).

Any surface water run-off will collect in an enlarged pond in the south-western corner of the facility, from whence it will be pumped across the licenced facility to the existing pond on the floor of the North Quarry, and from there, via existing piped infrastructure and intermediate ponds to the existing polishing pond (reed-bed) and hydrocarbon interceptor / grit trap before being discharged to the Ballystrahan Stream.

Proposed Waste Recovery Shed

Rain falling over the proposed new portal frame structure wherein C&D waste processing will take place will be collected by gutters along the eaves and flow to downpipes along the side of the structure. It will then flow via a network of buried stormwater drainage pipes around the shed to an open grassed channel (swale) running parallel to the eastern boundary of the Roadstone landholding. Thereafter the roof run-off will discharge to the channel of a former natural stream which runs east toward the Ballystrahan Stream.

As roof-run-off from the proposed shed will be uncontaminated, there is no requirement to provide any treatment prior to its discharge off-site. Flood attenuation for roof run-off will be provided by fitting a flow control device / hydrobrake at the downstream end of the swale (and immediately upstream of the channel leading to the Ballystrahan Stream) in order to limit the maximum stormwater run-off to the existing greenfield rate. The location of the proposed surface water management system at the replacement facility and around the proposed waste recovery shed is shown on Drawing D1-2.

Waste Inspection and Quarantine Area

Any suspect contaminated waste imported to the proposed waste facility is transferred to a covered shed beyond the south-eastern corner of the North Quarry. As the floor of the shed is sealed by a concrete slab, and as no rainfall will come into contact with consignments of suspected contaminated waste, there is no requirement to install drainage infrastructure for the separate collection, storage and/or and treatment of potentially contaminated surface water run-off at the waste inspection and quarantine facility.

D1.1 All Other Services

Electric power, lighting and heating are all currently provided via the electricity network to existing site offices and staff welfare facilities at Huntstown.

Site staff overseeing C&D waste recovery operations at the licensed site are contactable by mobile phone. Site staff are also contactable by fixed line telephone, fax and email facilities available at the waste facility office.

Site staff at the Huntstown C&D waste recovery facility use, and will continue to use, toilet, hand washing and welfare facilities provided at the main site offices and staff canteen at the central infrastructure area at Huntstown Quarry. Wastewater from these facilities is currently collected and fed via a sewerage pipe to an on-site permitted wastewater treatment plant (septic tank).

A potable water supply is provided to the main site office and canteen via a Local Authority water main.

High voltage overhead electricity transmission cables (110KV and 220KV) run to the east and south-west of the recovery facility, to and from the electricity substation north-west of the M50 / N2 Interchange. Lower voltage overhead cable and telephone cables also run across the Huntstown Complex.

A gas pipeline runs to the nearby electricity generating plant operated by Huntstown Power (Viridian). This pipeline runs from the western property boundary at Kilshane Road to the south of the existing blockyard and north of existing recycling facility at the Central Quarry. Thereafter it turns north and runs beyond the eastern side of the block yard, into the power station site.

Details of existing site services are shown on Drawing D1-3.

D1.m Plant Sheds, Garages and Equipment Compound

At the present time, mobile plant and equipment used in C&D waste recovery activities is either held at the existing recovery facility in the Central Quarry or on the sealed hardstand area in the centre of the Huntstown Complex. Plant will be relocated to the replacement facility as required in due course. Given the existing restriction on access to the Huntstown Complex, it is not considered necessary to provide a secure compound for plant and equipment servicing the waste recovery facility.

Any plant or equipment requiring specialist repair or overhaul is taken to the existing maintenance shed within the Huntstown Complex. Small items of mobile or hand-held plant and equipment are also stored as required in the existing maintenance shed.

D1.n Site Accommodation

All administration and management functions for the waste recovery facility are based at the dedicated waste facility office / weighbridge office adjacent to the weighbridge. Staff changing, washing and cooking facilities are provided separately at the main canteen facility at Huntstown, located to the east of the main office and weighbridge.

D1.o Fire Control System, including water supply

Given the lack of combustible waste materials at the licensed site, it is considered highly unlikely that a fire will break out during recovery operations. A range of fire extinguishers (water, foam and CO₂) will be kept at the site / weighbridge office to deal with any localised small scale fires which might occur. Additional fire-fighting capacity can be provided by storing water in a mobile bowser on unsealed

hardstand areas around the infrastructure area and ultimately, if required, by local firefighting services in Finglas or Swords. As previously mentioned, the water supply for the facility is provided via an existing public mains.

D1.p Civic Amenity Facilities

No civic amenity facilities are provided at this waste recovery facility.

D1.q Any Other Waste Recovery Infrastructure

In order to track and record the amount of material entering licensed facility, all HGV traffic importing wastes to the recovery facility is directed across existing weighbridges leading to the on-site recovery areas. Weighbridge locations are indicated on the site layout plan in Drawing D1.1.

D1.r Composting Infrastructure

No composting infrastructure is provided at this waste recovery facility.

D1.s Construction and Demolition Waste Infrastructure

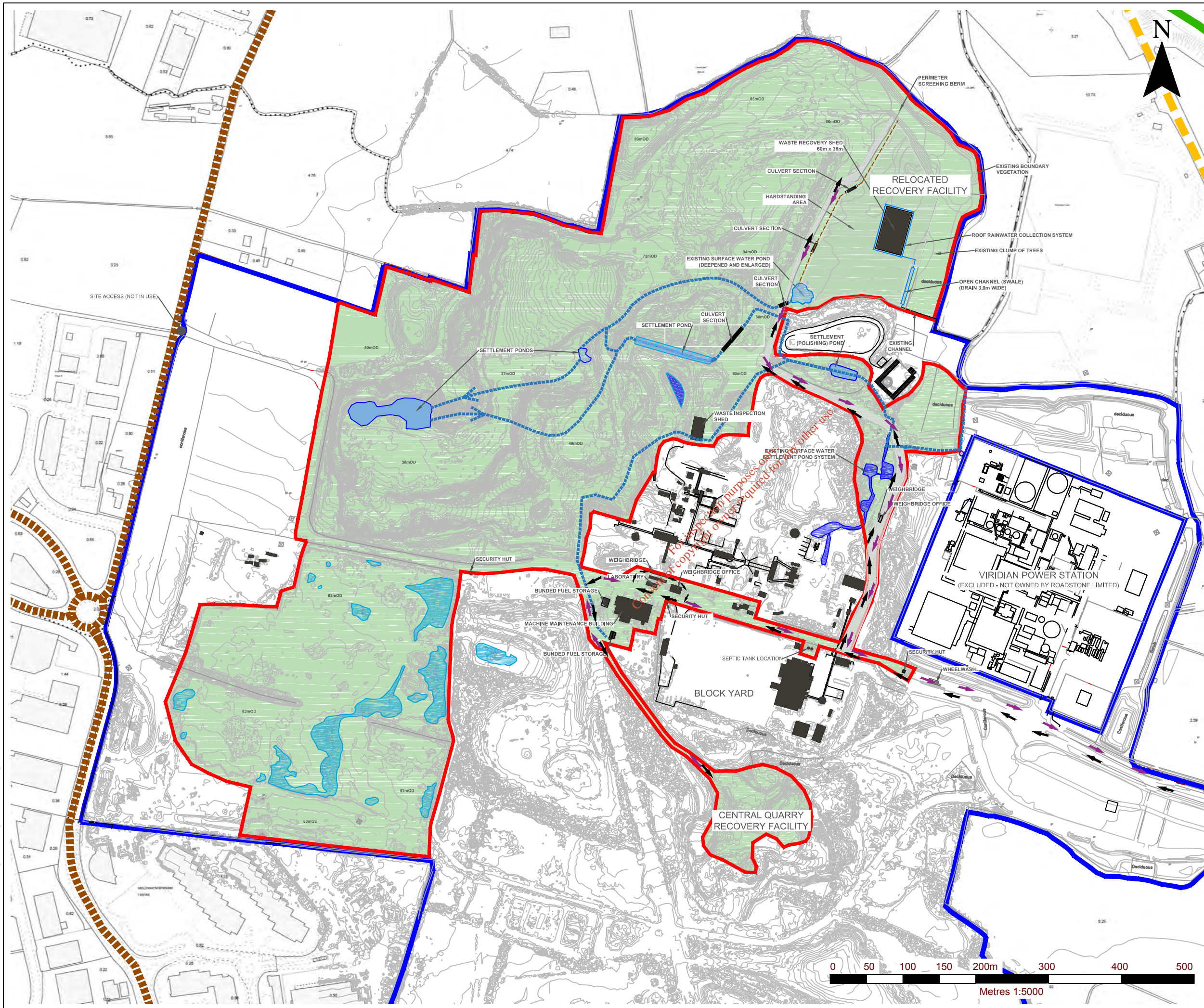
It is proposed to construct a large roofed portal frame structure, open on two sides at the replacement site of the C&D recovery facility in the north-eastern corner of the Huntstown landholding. All future C&D waste processing, crushing and recovery will take place within this structure in order to reduce noise and fugitive dust emissions.

The proposed structure will be of portal frame steel construction and will have a plan footprint area of approximately 60m by 36m, with the long axis orientated in a north-south direction. The structure height will vary from 10m at the haunch (top of sidewall column supports) to a maximum of 12m at the roof apex.

The supporting columns for the proposed C&D waste recovery shed will be founded on pad foundations constructed on rock and will be cross braced along the long axis to provide lateral stiffness. The sides of the structure will comprise a concrete wall to 3.5m above ground, with the remainder of the side walls clad to haunch level by single skin steel wall panels supported on side rails. Roof panels will be carried on purlins. There will be further cross-bracing between structural frames at roof level to enhance lateral stiffness as required. Plans and elevations of the proposed recovery shed are shown in Drawing D1-4.

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0180.00166.0.FIG_D1-1.Existing Site Layout Map.dwg



NOTES

- EXTRACT FROM 1:2,500 ORDNANCE SURVEY DIGITAL SHEET NO'S. 3062-A, 3062-B, 3062-C, 3062-D, 3063-A, 3063-C, 3130-A & 3130-B.
- ORDNANCE SURVEY IRELAND LICENCE NO. SU 0000717 (C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND

LEGEND

- ROADSTONE LIMITED LAND INTEREST (c. 200.3 ha)
- APPLICATION AREA (c. 55.0 ha)
- N2 DUAL CARRIAGEWAY
- NORTH ROAD (R135)
- LOCAL ROAD
- SEMI-PERMANENT / EPHEMERAL PONDS IN WEST QUARRY (JUNE 2016)
- HGV DIRECTION INBOUND
- HGV DIRECTION OUTBOUND

SLR global environmental solutions

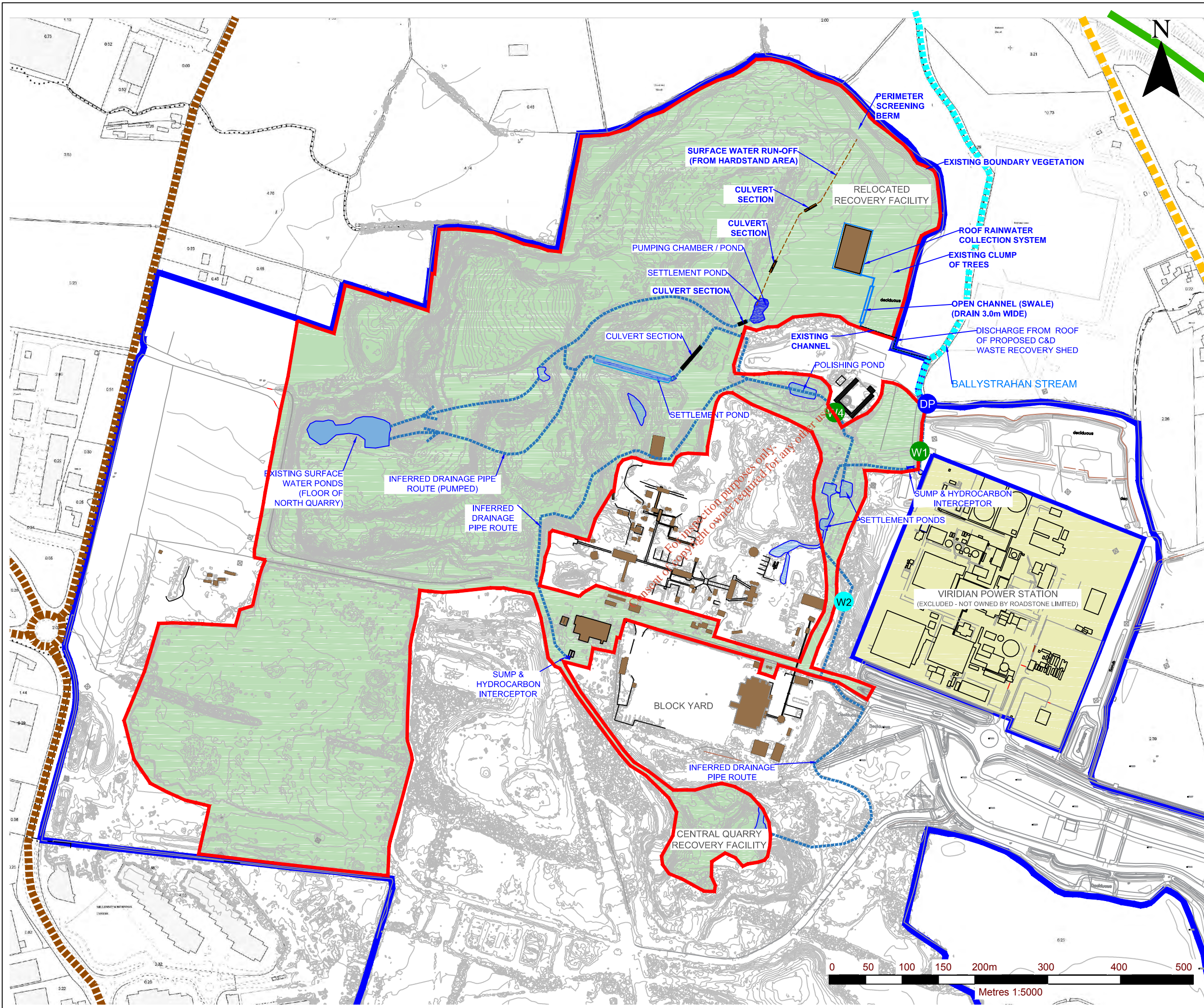
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ROADSTONE LIMITED
WASTE LICENCE REVIEW APPLICATION
HUNTSTOWN C&D WASTE RECOVERY FACILITY
NORTH ROAD, FINGLAS, DUBLIN 11
EXISTING / PROPOSED WASTE RECOVERY FACILITY LAYOUT

DRAWING D1-1

Scale 1:5,000 @ A3 Date JUNE 2017

0180.00166.0.FIG_D1-2.Surface Water Management System.dwg



NOTES

1. EXTRACT FROM 1:2,500 ORDNANCE SURVEY DIGITAL SHEET NO'S. 3062-A, 3062-B, 3062-C, 3062-D, 3063-A, 3063-C, 3130-A & 3130-B.

2. ORDNANCE SURVEY IRELAND LICENCE NO. SU 0000717 (C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND

LEGEND

	ROADSTONE LIMITED LAND INTEREST (c. 200.3 ha)
	APPLICATION AREA (c. 55.0 ha)
	N2 DUAL CARRIAGEWAY
	NORTH ROAD (R135)
	BALLYSTRAHAN STREAM
	SURFACE WATER MONITORING LOCATIONS
	DISCHARGE POINT
	SETTLEMENT PONDS

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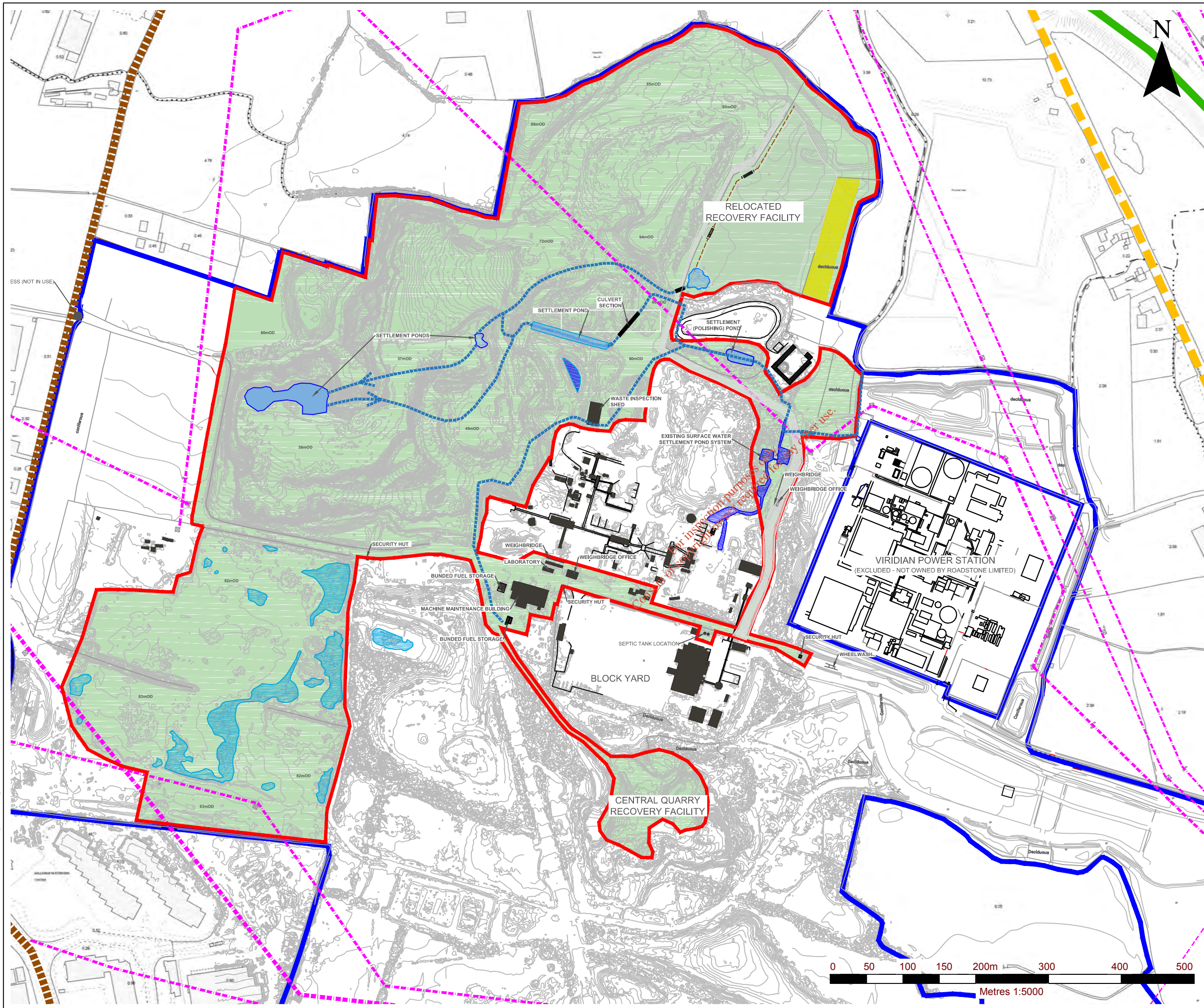
ROADSTONE LIMITED
WASTE LICENCE REVIEW APPLICATION
HUNTSTOWN C&D WASTE RECOVERY FACILITY
NORTH ROAD, FINGLAS, DUBLIN 11
SURFACE WATER MANAGEMENT SYSTEM

DRAWING D1-2

Scale: 1:5,000 @ A3
Date: JUNE 2017



0180.00166.0.FIG_D1-3.Site Utilities Layout.dwg



NOTES

- 1. EXTRACT FROM 1:2,500 ORDNANCE SURVEY DIGITAL SHEET NO'S. 3062-A, 3062-B, 3062-C, 3062-D, 3063-A, 3063-C, 3130-A & 3130-B.
- 2. ORDNANCE SURVEY IRELAND LICENCE NO. SU 0000717 (C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND

LEGEND

- ROADSTONE LIMITED LAND INTEREST (c. 200.3 ha)
- APPLICATION AREA (c. 55.0 ha)
- N2 DUAL CARRIAGEWAY
- NORTH ROAD (R135)
- LOCAL ROAD
- SEMI-PERMANENT / EPHEMERAL PONDS IN WEST QUARRY (JUNE 2016)
- OVERHEAD POWERLINES 10Kv / 38 Kv / 110Kv / 220Kv

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ROADSTONE LIMITED
WASTE LICENCE REVIEW APPLICATION

HUNTSTOWN C&D WASTE RECOVERY FACILITY
NORTH ROAD, FINGLAS, DUBLIN 11

SITE UTILITIES LAYOUT

DRAWING D1-3

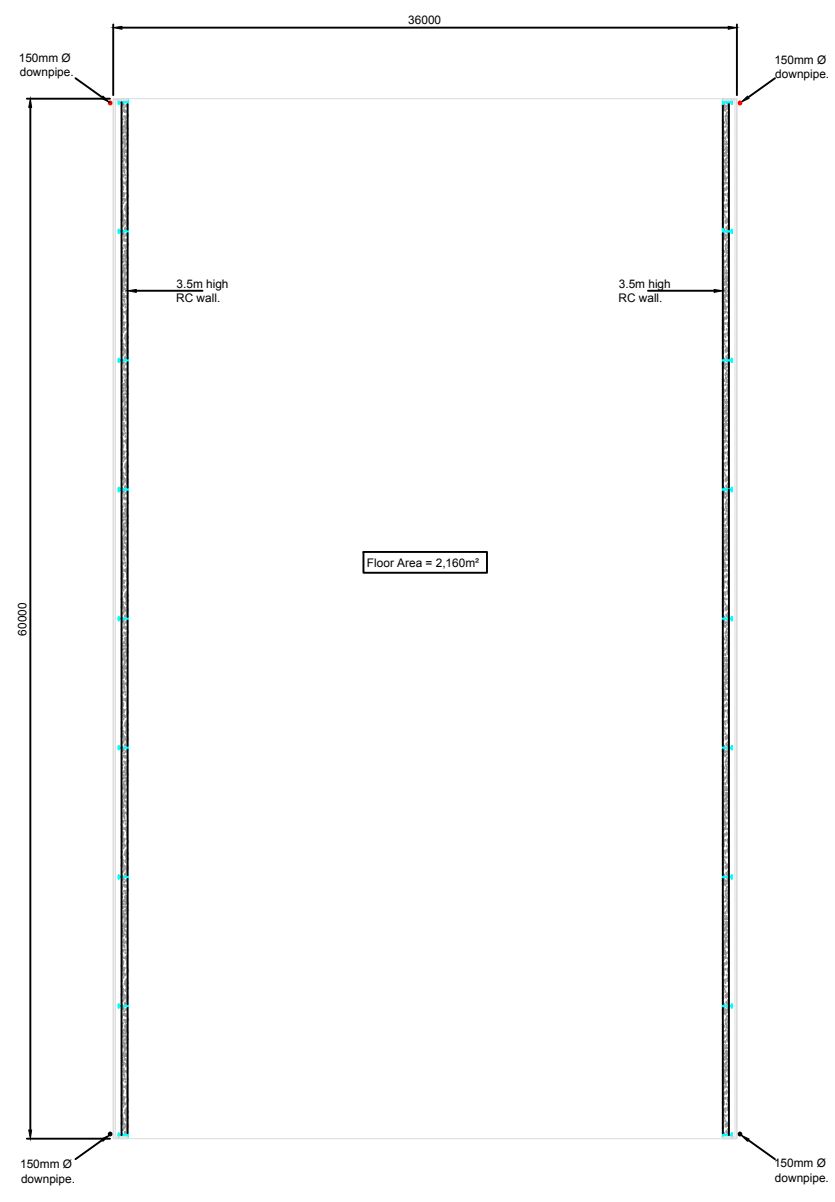
Scale 1:5,000 @ A3 Date JUNE 2017



NOTES

1. This drawing to be read in conjunction with all relevant Architects and Engineers drawings and specifications.
2. Do not scale this drawing.
3. All cladding finishes to be colour 'Goose Wing Grey' or similar approved.
4. Final ground level = 78mOD.

LEGEND

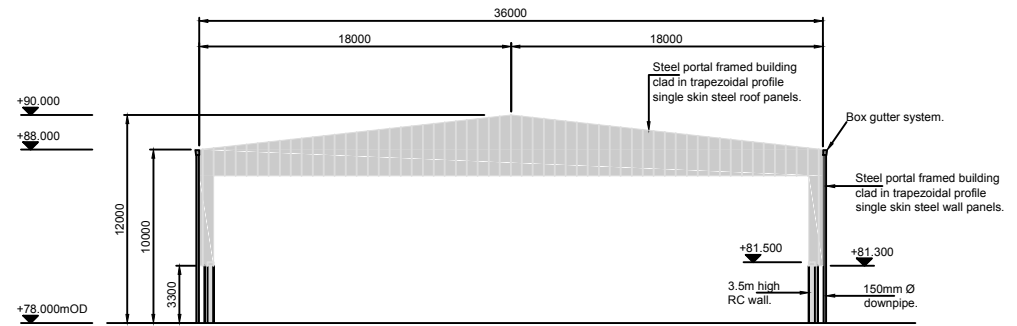


GROUND FLOOR PLAN

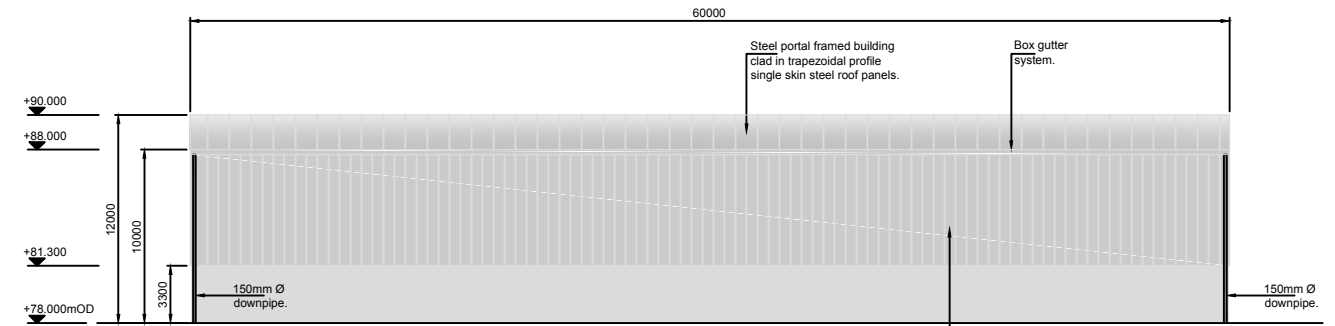


ROOF PLAN

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**NORTH ELEVATION
(SOUTH ELEVATION SIMILAR)**



**EAST ELEVATION
(WEST ELEVATION SIMILAR)**




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ROADSTONE LIMITED
WASTE LICENCE REVIEW APPLICATION
 HUNTSTOWN C&D WASTE RECOVERY FACILITY
 NORTH ROAD, FINGLAS, DUBLIN 11
**PROPOSED OPEN COVERED STORAGE
 SHED - PLAN & ELEVATION**

DRAWING D1-4

Scale	1:500 @ A3	Date	JUNE 2017
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