

For Denbighshire County Council

Colomendy WTS Fire Prevention & Mitigation Plan

Report for Denbighshire County Council

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1.0 Colomendy Waste Transfer Station

1.1 Introduction

This plan is applicable to Denbighshire County Council's (DCC) Waste Recycling Centre, Graig Road, Denbigh, LL16 5US. This document has been developed to support the permit application for Colomendy WTS to accommodate waste activities at the new site.

The site operates as a waste transfer station (WTS) and depot, accepting a range of material streams from local residents, small commercial waste operators for processing (sorting and baling), and highways material. The site is permitted to accept up to 55,000 tonnes of material per year.

It is the objective of this plan to minimise the risk of a fire starting on site and to ensure that, in the event of a fire occurring, it is identified as early as possible and effective measures are implemented to extinguish it, whilst minimising the impacts of the incident.

This plan will support the site's Operational Techniques Document and Environmental Management System. It will be reviewed, and updated, if necessary, by the Site Manager on an annual basis, or more frequently if required (e.g., the operations or risks on site change, there is a fire, etc.).

1.2 Site Layout

The overall layout of Colomendy WTS is detailed in Figure 1-1. As shown in Figure 1-2 the working area of the site has impermeable surfacing and is accessed via a gate to the south west of site, from Graig Road. The site comprises of:

- The main waste transfer building contains:
 - Bays for residual waste, paper, absorbent hygiene products (AHP) sealed container, cardboard, mixed metals and plastics and sorted metals and plastics;
 - A sorting line;
 - Two balers; and
 - Office and welfare facilities, including PPE storage.
- Secondary sheds containing:
 - Gully waste, recyclable highways waste and green waste bays;
 - Food waste sealed skip area;
 - Vehicle wash; and
 - Bale storage.
- In addition to the waste mentioned above, there are external bays for glass, spare materials, fly-tipped waste, topsoil, non-recyclable highways waste, road sweepings (covered), containers for textiles, Waste Electrical and Electronic Equipment (WEEE), batteries and aerosols and a dedicated quarantine bay.
- The site has two weighbridges.
- The main building and secondary shed contain a dust and odour suppression system.
- There is parking for waste fleet vehicles and separate staff parking.
- To the north of the site is the firewater supply tank.

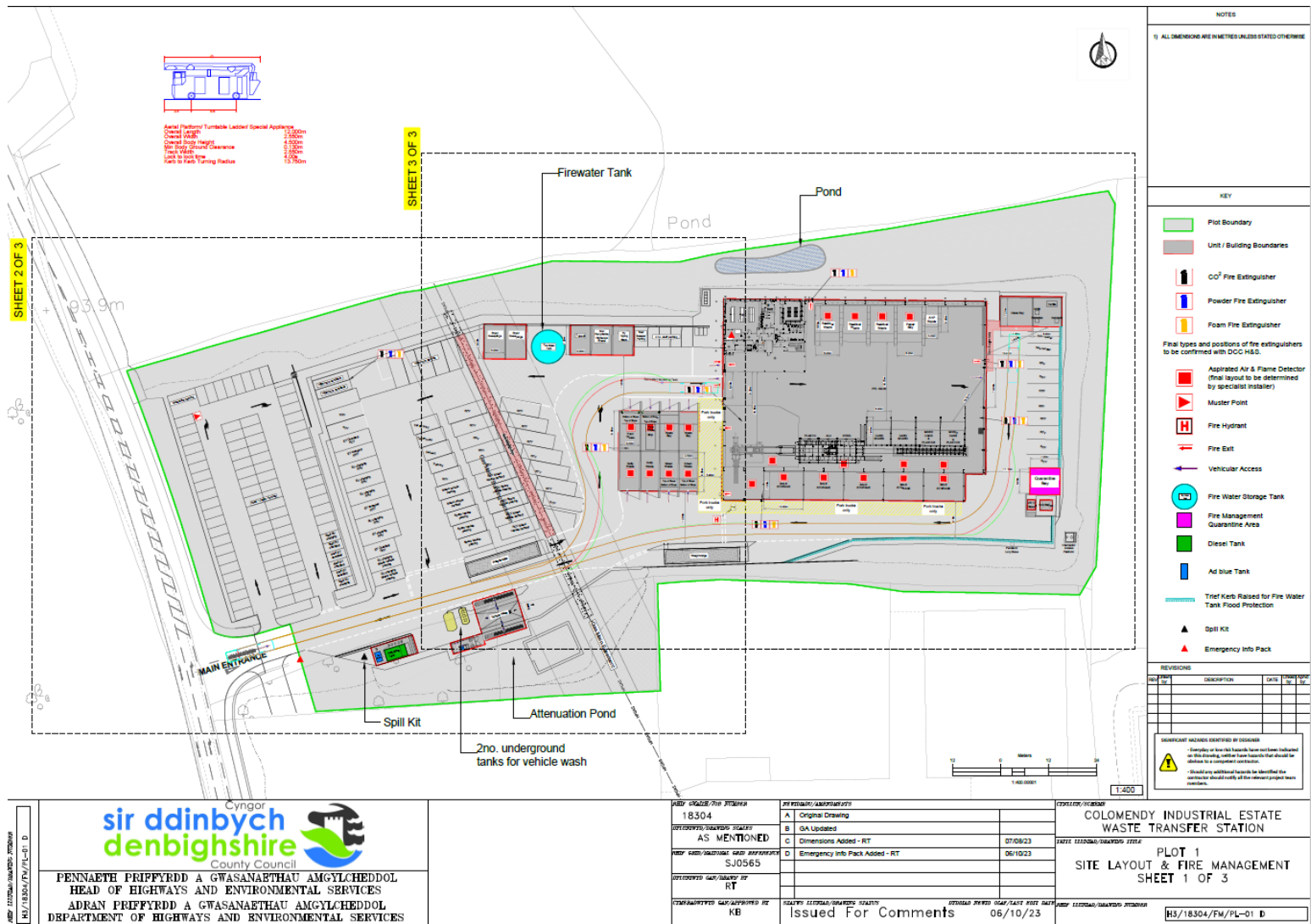
Other considerations:

- The site contains a newt pond to the north. This is behind the waste transfer building and located away from any site operations or traffic movements.
- There is a high pressured gas pipe underneath the site, running beneath the area dedicated to fleet vehicle parking. As required by the easement, there are no buildings or wastes situated on the ground above this pipe or within 6m. Further, no vehicles shall be parked on the 3m main easement strip.

- There is a 33kva cable around the main building with overhead poles to the north side of the building.

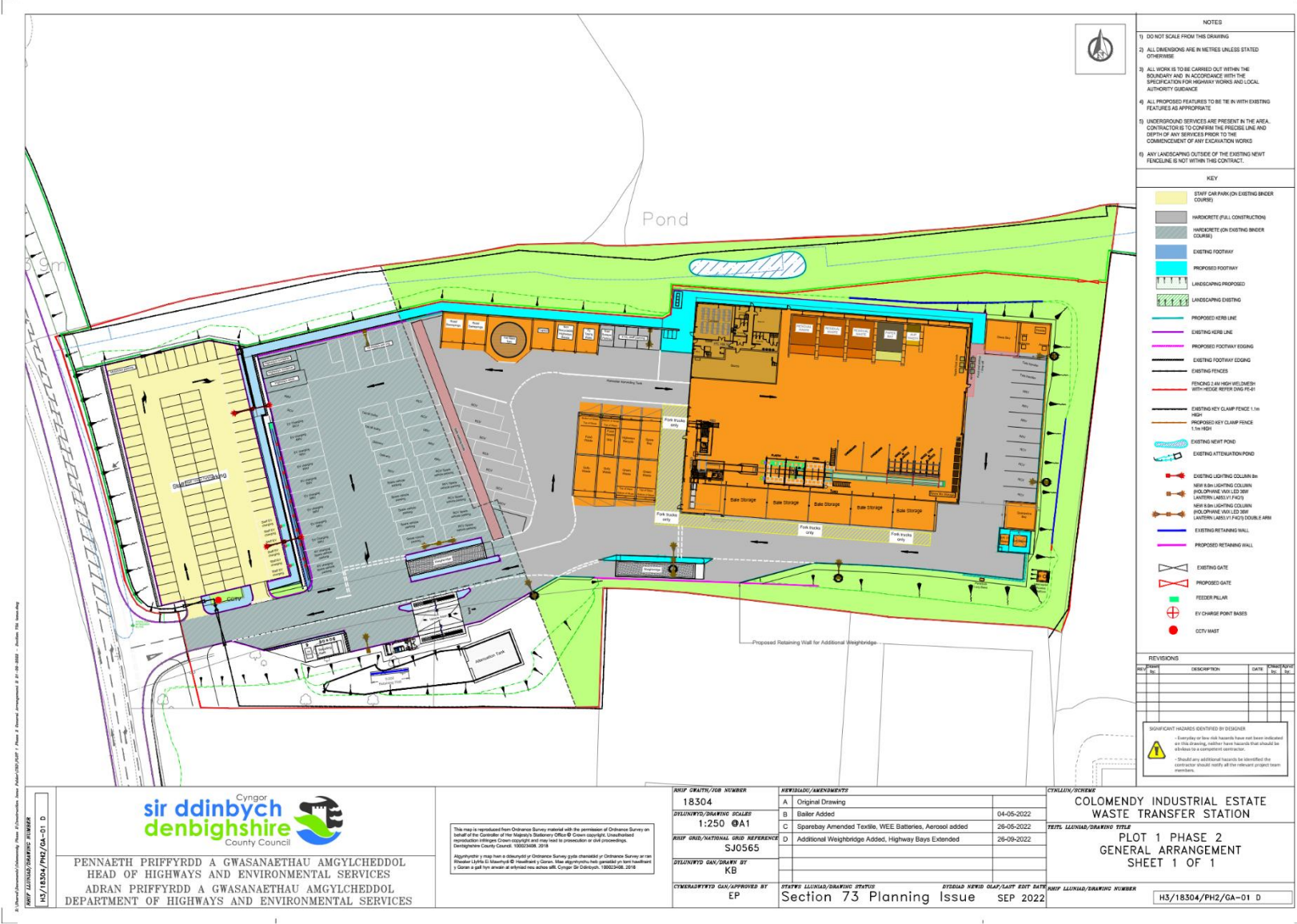
As shown in Figure 1-1, copies of this FPMP are kept on site, in the supervisors office on the ground floor in the main building and in an external weatherproof box fixed to the inside of the site security fence adjacent to the main entrance to the site. The location of this plan is communicated with staff regularly, including during induction and refresher training sessions. Electronic copies of the plan are also held remotely by H&S staff.

Figure 1-1: Site Layout – Emergency Equipment Locations & Emergency Vehicle Tracking



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Figure 1-3: Site Layout – Waste Material Locations

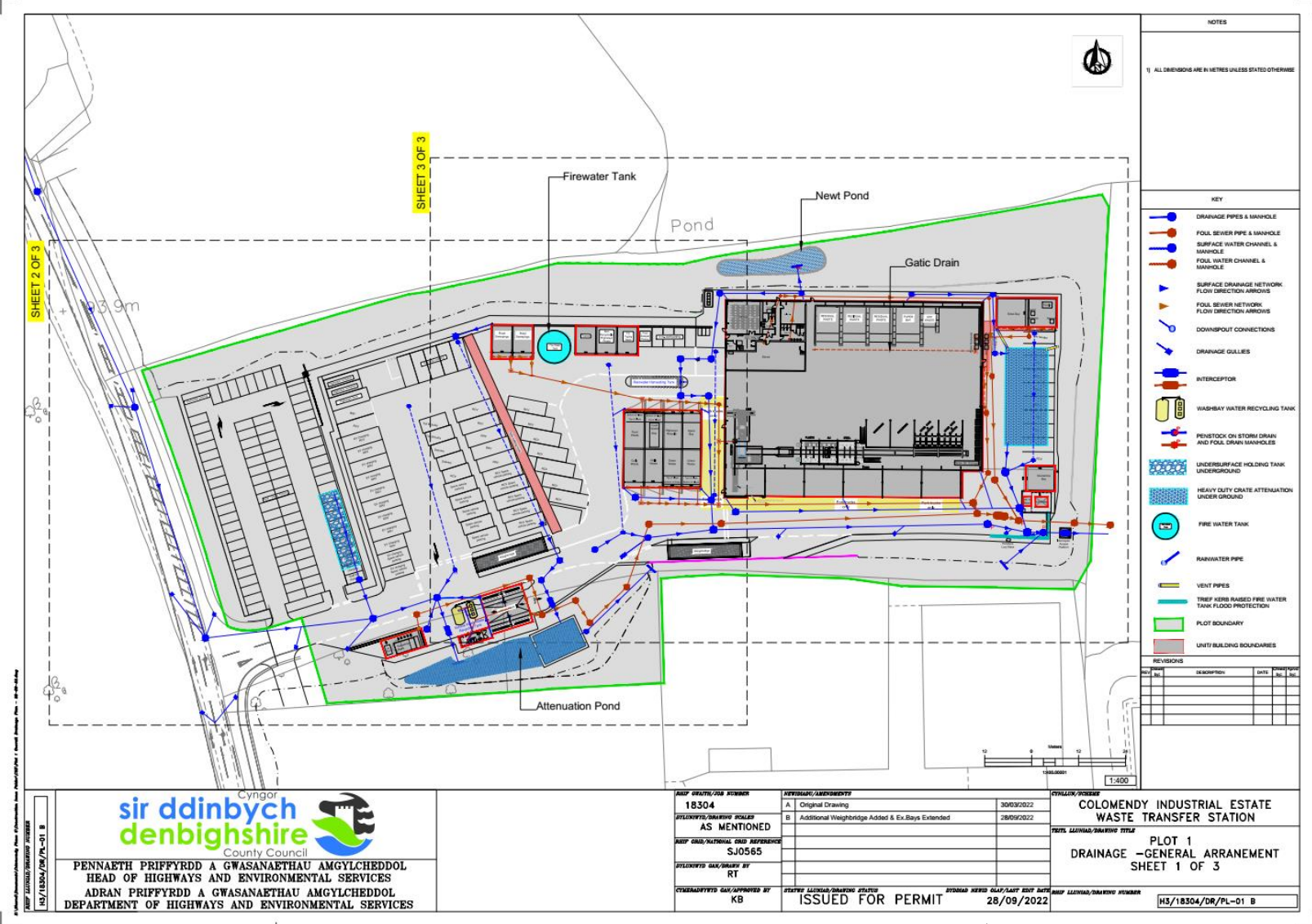


1.3 Site Drainage

The site drainage plan is illustrated in Figure 1-4. The fleet parking area, main WTS building roof and site perimeter drain to surface water, while the vehicle wash, internal material bays, baler, office and welfare and drainage gulleys around the external bays drain to foul water. Both foul and surface water drain to interceptors before reaching the outfall point in the South-East corner of site. Three penstock valves are located on both foul and surface drainage near the outfall point to isolate the system in an emergency and there is also a raised kerb in this area to contain firewater runoff.

Further detail about firewater containment is in section 4.2.

Figure 1-4: Site Drainage Plan



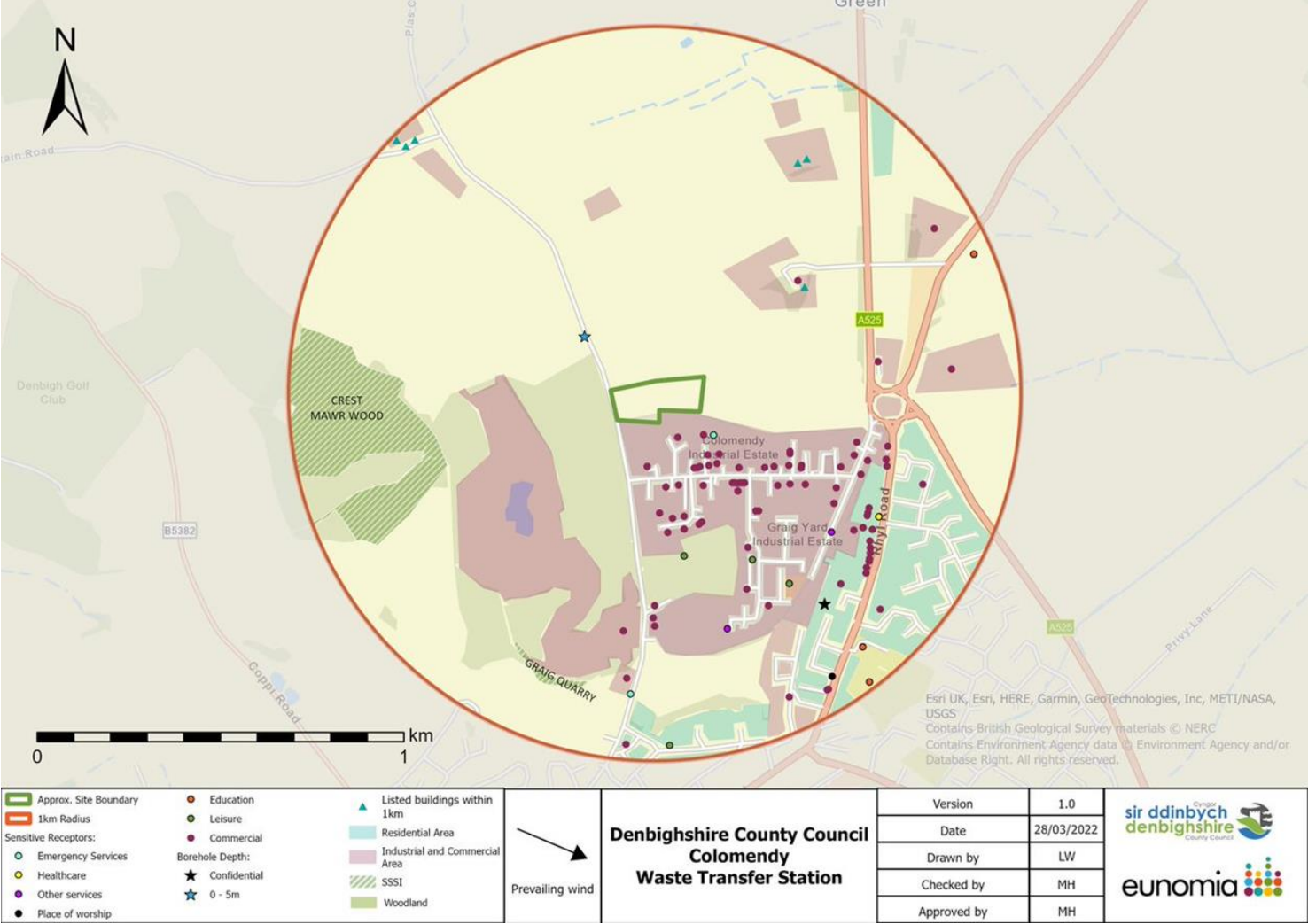
1.4 Sensitive Receptors

A map of the sensitive receptors within 1km of the site is detailed in Figure 1-5. Within 1km of the site to the south there are sensitive receptors that include commercial premises, residential areas, open water sources, educational facilities, a caravan park, leisure facilities, conservation areas and a borehole. Within 2km, there are two Sites of Special Scientific Interest (SSSIs). The nearest residential properties are located within 500m of the boundary of the site, to the southeast.

The majority of the sensitive receptors that may be affected by a site fire are commercial premises downwind of the site. These are shown on the map in Figure 1-5 with a full list provided in Appendix Table 7-1. These receptors, along with nearby residential receptors, will be contacted during a fire incident by phone with updates on the expected duration. DCC will use its website, social media channels and call centre to communicate information with sensitive receptors, including residents, throughout the borough. Additionally, the site manager and staff will ensure council officers are updated throughout the incident.

The site ID board, located at the site entrance, contains details of who can be contacted in an out-of-hours emergency.

Figure 1-5: Map of Sensitive Receptors¹



¹ There are no other SSSIs within 2km other than those shown in this 1km boundary

2.0 Daily Operations

2.1 Training

All staff engaged on the site are fully trained on fire prevention and mitigation measures, monitoring activities, and the emergency procedures on site. They are informed of any procedural updates on an ad-hoc basis and receive refresher courses as necessary. At all times, at least one member of staff on site is trained in how to use the fire extinguishers located on site, and a fire marshal will be available. The Site Manager is responsible for maintaining the training matrix which is located in the site office. Records of training are kept on site in the site office.

As part of the on-going management of the site, exercises are conducted on a regular basis to ensure the fire prevention and mitigation plan works and staff understand what to do in the event of a fire. A full drill exercise is undertaken at least every six months. Staff are trained in what to do in the event of an incident, how to raise the alarm and the procedure to follow if the alarm is sounded.

Where required, all contractors and visitors to site are given an induction which includes information on the relevant fire prevention and evacuation procedures, and a site tour to show locations of assembly points. In addition, notices identifying fire marshals and outlining key instructions in case of hearing the raised alarm or discovering a fire on site are displayed prominently at key locations. The evacuation procedure is regularly reviewed and updated alongside the FPMP.

Copies of this FPMP are kept on site, in the site office and are accessible to all personnel. The location of this plan is communicated with staff regularly, including during induction and refresher training sessions. Electronic copies are also held remotely by H&S staff.

2.2 Waste Acceptance

A full waste acceptance procedure is in place as part of the site's EMS. All vehicles bringing waste material to the site will be purpose-built vehicles that are regularly cleaned and maintained and will report to the weighbridge. All wastes will undergo a visual inspection during deposition within the Waste Transfer Station, designated waste containers or waste bays.

Should the wastes be found not to conform the details will be recorded and the vehicle reloaded and turned away. Should wastes already be discharged within the Waste Transfer Station and subsequently be found not to conform with the permit or other operational requirements then the waste will be removed to the designated quarantine area /container as appropriate. Non-conforming wastes will be taken to an appropriately permitted facility for disposal.

2.2.1 Commercial Waste

Third party waste is accepted from a small number of private operators and other council departments/ housing associations. Additional controls are implemented based on the source of this waste. This waste is visually inspected prior to discharge, where possible, in order to confirm its description and composition as well as a further visual inspection during deposition within the Waste Transfer Station, designated waste containers or waste bays. Any waste that does not conform will be treated as the procedure in Section 2.2.

2.2.2 Kerbside Waste Collections (Household and Commercial)

The majority of waste accepted at the site will be from household kerbside collections via the Local Authority's regular waste collection service. Waste collection crews receive ongoing supervision and training to identify waste streams at the kerbside that are not permitted at the WTS, or that have any signs of ignition. DCC informs its residents and commercial customers about the Local Authority's waste collection services, what waste is accepted and in which waste stream. Waste presented at the kerbside which is not covered by the site permit is not collected and the householder/producer notified of the reason why.

2.2.3 Unauthorised waste

The site operatives ensure, as far as is practicable, that all wastes disposed at the site are permitted by the site permit. Any users that are identified as bringing unauthorised wastes onto the site are refused access and advised of the nearest permitted facility for that particular waste (if known). The unauthorised waste will be recorded in the site EMS. Details of the attempted unpermitted deposit will be recorded in the site diary including date & time, description of the waste and the vehicle registration number. Any suspicious circumstances will be reported to DCC management.

If any unauthorised waste is discovered on site, the site operatives will visually inspect the waste and only after determining that it is safe to do so, using the appropriate PPE, relocate the waste to the quarantine area.

If on visual inspection it is determined that the waste may be hazardous, physically unsafe to move, or the nature of the waste cannot be determined, then the immediate area will be cordoned off to prevent further contact and all site operations in the immediate vicinity will be suspended, and traffic and customers diverted as required. In certain circumstances the site may need to be temporarily evacuated and closed until the site is deemed safe to re-open. Procedures for waste acceptance and dealing with non-conforming waste are written in the EMS.

DCC management will be informed immediately and trained in-house personnel will be contacted to remove any non-conforming waste from site. If the waste cannot be safely removed, DCC management will contact NRW to agree a plan of action for the safe identification and/or removal of the un-authorised waste to an appropriately permitted facility as soon as possible.

All details will be recorded in the site diary and an incident report form will be completed.

2.3 Waste Storage

All combustible material is stored within bays within the main WTS building and secondary sheds, or in the case of WEEE and textiles, within lidded containers.

2.3.1 Baled Waste Storage

Baled are stored in pyramid stacks within bale storage bays which have 120min fire resistance concrete panel walls with any supporting steel work painted with 120min intumescent paint. There are five bale storage bays; three hold combustible waste (card and plastic) and two hold non-combustible wastes (aluminium and steel).

The bays have fill lines marked to allow 1m freeboard space at the top and front of each bay, to prevent overfilling and to comply with NRW's FPMP separation distance guidance. Baled waste is monitored following the procedure in Section 3.2.

2.3.2 Waste Stored Within a Building

All the bay walls within the building are comprised of a combination of concrete firewalls, Legato block walls and concrete panels all with 120 minute fire resistance. In addition, Legato blocks and concrete panels will have intumescent seal with 120 minute fire resistance and the steel columns supporting the concrete panels will be painted with intumescent paint with 120 minute fire resistance. The specification of these walls can be found in Appendix 7.2. Bay dimensions and separation distances are shown in Figure 1-1.

2.3.3 Waste Stored in Containers

Containerised combustible material streams are stored in containers of 1,100 litres capacity or less in fire resistant bays, of the specification as above. The specific containment used for each combustible material is detailed in Table 2-1. All containers will be positioned in a way that they can be easily accessed during a fire incident.

2.3.4 Combustible Waste Storage

The length of time combustible materials are stored on site is detailed in Table 2-3. This has been divided into 'Standard' operational activity and 'Exceptional Circumstances'. Standard storage times will only be exceeded in Exceptional Circumstances, for example, if hauliers are unable to remove containers from the site. In such instances, the Exceptional Circumstances storage times will be adhered to.

The following hazardous materials are stored on site. See Figure 1-3 for storage locations:

- Car batteries;
- Highways waste;
- Household batteries;
- WEEE; and
- Aerosol cans.

The following materials are stored on site, but are not considered combustible due to their nature and composition:

- Food waste;
- Sorted metals; and
- Glass.

Table 2-1: Maximum Dimensions and Volumes of Combustible Waste

Material	Container type	Dimensions* L x W x H (m)	Max Volume (m³) per pile**	Individual Container/Bay Area (m²)
Green waste	2x External material bay	4.5 x 8.85 x 3	99	56
Residual waste	3x Internal material bays	6 x 9 x 3	135	54
Paper	1x Internal material bay	6.2 x 9 x 3	148	56
Cardboard	2x Internal material bays	6 x 6 x 3	81	36
Mixed plastics & cans	2x Internal material bays	6 x 6 x 3	81	36
AHP	1 x Internal material bay with sealed container	3.2 x 5.4 x 3	35	18
Baled cardboard	2x Covered external material bays	10 x 6 x 3	90	60
Baled plastics	1x Covered external material bays	10 x 6 x 3	90	60
Small mixed WEEE	1,100L covered wheeled container	1.4 x 1.3 x 1	1.82	1.4
Textiles	1,100L covered wheeled container	1.4 x 1.3 x 1	1.82	1.4
Fly-tipping wastes	1x External material bay	5 X 6.2 x 3	71	31
Road/street sweepings	2x Covered material bay	5 x 7.4 x 3	89	37

*All bays have a 3m fill line and have a minimum 1m freeboard space at the top and front of the bay.

** This volume allows for the slope of the material in the bay and pyramid bale stacking.

Table 2-2: Hazardous Material Storage

Hazardous Material	Storage Type
Batteries	1,100L wheeled, covered container
Aerosol cans	CoSHH container
Highways material	Stored in a bay within the secondary shed
WEEE	Small WEEE is stored in a 1,100L wheeled, covered container. Any large WEEE items are stored beside this container, within the same bay, which has firewalls on 3 sides.

Table 2-3: Combustible Materials

Material	Max. Annual Throughput (Tonnes)*	Max. Daily Throughput (Tonnes)**	Max. tonnage stored at one time	Standard Max. Storage Time on Site (Days)	Exceptional Circumstances Max. Storage Time on Site (Days)	Management Arrangements
Green waste	6,100	23	50	3	7	1. Green waste is tipped into a bay for storage prior to transportation.
Residual waste	20,400	78	75	2	7	1. Residual waste is tipped into a bay for storage prior to transportation.
Paper	4,500	17	50	3	7	1. Paper is tipped into a bay for storage prior to transportation.
Cardboard	2,650	10	10	4	7	1. Loose card is tipped into a bay for temporary storage. 2. The material is moved to the onsite baler plant.
Mixed plastics & cans	1,900	7	10	7	14	1. Loose Mixed Material is tipped into a bay for temporary storage. 2. The material is transferred to a sort line for processing into separate streams of aluminium, steel and plastics. 3. The separated materials (mixed metals are not considered combustible) are stored in designated material bays awaiting baling.
AHP	2,007	7.7	10	3	7	1. AHP waste is deposited into a sealed container for storage prior to transportation.
Sorted plastics	1,500	6	10	7	14	1. Sorted plastics are stored in designated material bays awaiting baling.

Material	Max. Annual Throughput (Tonnes)*	Max. Daily Throughput (Tonnes)**	Max. tonnage stored at one time	Standard Max. Storage Time on Site (Days)	Exceptional Circumstances Max. Storage Time on Site (Days)	Management Arrangements
						2. The material is moved to the onsite baler plant.
Baled cardboard	2,650	16	50	4	7	1. Loose material is tipped at baler plant onsite and baled. 2. Bales moved to a designated bay for storage prior to transportation.
Baled plastics	1,500	6	50	14	28	1. Loose, sorted material is tipped at baler plant onsite and baled. 2. Bales moved to a designated bay for storage prior to transportation.
Small mixed WEEE	30	0.1	0.5	14	28	1. 1100l wheeled skips within covered bay.
Textiles	170	0.6	3	14	28	1. 1100l wheeled skips within covered bay.
Fly-tipped wastes	500	2	30	7	28	1. Waste is tipped into a bay for storage prior to transportation.
Street sweepings	3,800	15	50	4	14	1. Waste is tipped into a bay for storage prior to transportation.
Highways Waste	360	2	30	14	28	1. Waste is tipped into a bay for storage prior to transportation.

* DCC modelled tonnages plus 20% contingency

** based on 260 working days per annum

2.3.5 Seasonal Variation and Contingency Plan

The nature of WTSs means this site will experience seasonal variation in some waste streams throughput, specifically:

- **Garden waste** peaks in the summer, with lower quantities in the winter. There is a contingency plan in place with local hauliers and the option to direct deliver garden waste to the composting facility (Flintshire Greenfields) should any unexpected fluctuations in tonnages occur; and
- **Residual waste** and **dry recyclable** tonnages see a small increase at Christmas time and in the summer. The Depot Manager will be responsible for reporting monthly tonnages through to the Contract manager and any anticipated increases will be flagged at regular management team meetings within the service, allowing the ordering of extra collections, as required.

Tonnage profiles are regularly examined and timings for receiving the bulk loads/skips are prearranged so as not to disrupt the core service vehicles from tipping. Third party waste is accepted from a small number of private operators and other council departments/ housing associations, however prioritisation is always given to DCC waste vehicles and the third-party service can be suspended should any short-term waste tonnage variation issues arise.

DCC will be marketing their materials through WRAP's material brokerage scheme which is built on longstanding relationship with off takers who have undergone due diligence checks.

DCC and the hauliers can also operate on a Saturday, if required, to manage any overstock on site. The number of staff trained in waste acceptance and removal allows for continued operations in the event of any staff absence.

2.4 Potential Ignition Sources and Control Measures

Table 2-4 sets out the ignition sources which could be present on site and the control measures in place to mitigate against any potential fire risk. In addition to these actions, fire watches will be undertaken at the start and end of each shift and at regular intervals throughout the day. Signage is provided throughout the site to reinforce the practices required to prevent a fire.

All staff are responsible for reporting new potential onsite ignition sources to senior staff, allowing an assessment of the risk to be made and fire prevention and mitigation plans to be updated.

Table 2-4: WTS Ignition and Control Measures

Potential Ignition Source	Risk	Control Measures / Procedures
Arson	<p>Combustible materials stored at the WTS are at risk of arson.</p> <p>It is possible that a trespasser may enter the site outside operational hours and commit either an act of vandalism leading to an ignition source, or an act of arson.</p>	<p>The site is manned at all times during operational hours. The site is locked when unmanned and all storage containers are securely locked. Staff check that the site and equipment is secure as part of their daily procedures.</p> <p>Signs are erected at the site entrance and perimeter to discourage trespassers. Weldmesh fencing (approximately 2.4m in height) is installed around the perimeter of the WTS and is checked daily, along with the secured gate, which is also 2.4m in height. Security lighting and CCTV is operational around the WTS site 24/7. The live CCTV feed is monitored by staff during the day and outside of operational hours nominated DCC employees, ensuring that emergency services could be swiftly notified out-of-hours, if required.</p>
Plant and Equipment Failure	A fault or electrical failure on the on-site equipment could provide an ignition source.	<p>The sorting and baling equipment is subject to a maintenance and servicing regime to minimise the risks from machinery failure. Two full services are undertaken each year, plus one further service inspection and daily pre-operation checks. All mobile plant and lorries that service the sites are fitted with suitable extinguishers for fighting vehicle fires. All mobile plant is part of DCC's preventative maintenance and service regime. Service records are maintained and stored securely on site.</p> <p>Pre-use daily inspections are conducted to identify any defaults. Where a default or defaults are identified, senior site staff will be informed and be responsible for isolating the equipment and arranging for the default(s) to be rectified by qualified service agents in accordance with the manufacturer's instructions. Any faults with the compactor machines are also reported in this way.</p> <p>All mobile plant not in use will be parked at the rear of the WTS building in the designated bays, and at least 6m from combustible materials.</p>
Electrical faults	No electrical equipment is stored within 6m of combustible waste	N/A
Discarded smoking materials	The whole site is designated as non-smoking.	N/A

Potential Ignition Source	Risk	Control Measures / Procedures
Hot works	Sparks from hot works pose an ignition risk	There may be the occasional requirement to conduct hot works. A permit procedure is in place which includes a risk assessment and safe method of work statement has been completed prior to works commencing. An example of this hot works permit is available in the appendices.
Industrial heaters	Industrial heaters can be an ignition source.	There are no industrial heaters used in the WT. The office accommodation has an air source heat pump to supply hot water and space heating via a combination of ceiling units and radiators. To reduce the risk of ignition, these systems will be used only in accordance with the manufacturer's instructions, checked visually each day for any sign of damage, and will undergo regular servicing and maintenance by an approved third party.
Hot Exhausts	Dust that has settled on exhausts and engine parts could cause an ignition source.	Regular visual checks are undertaken throughout the day to check for dust build up on site vehicles. Staff are trained to safely remove the build-up of dust on exhausts and engine parts when the risk is identified. When not in use, all site vehicles will be turned off and parked at least 6m away from material piles within the dedicated mobile plant parking area.
Ignition Sources	No naked flames or furnaces are used on site.	N/A
Batteries in ELV	No end of life vehicles stored on site	N/A
Batteries storage	Damaged batteries may provide a source of ignition if not stored appropriately.	Batteries are segregated from other wastes and stored in weatherproof, leak-proof battery boxes. Batteries from vehicles are stored separately, with separate containers for: <ul style="list-style-type: none"> • Batteries from vehicles; • Household batteries; and • Items that do/may contain li-ion batteries (such as WEEE).

Potential Ignition Source	Risk	Control Measures / Procedures
		<p>All vehicles bringing waste material to the site report to the weighbridge where the load is visually inspected where possible, in order to confirm its description and composition. All wastes undergo a further visual inspection during deposition within the Waste Transfer Station, designated waste containers or waste bays.</p> <p>Any batteries identified in the load will be removed and placed into the designated, leak-proof, acid-proof battery boxes, if it is safe to do so.</p>
Batteries within waste deposits	Batteries within waste deposits can cause fires when damaged, especially when entering processing machinery.	<p>Batteries will be collected separately to the residual waste. In addition to national awareness campaigns, DCC clearly communicate to residents and commercial clients on the collection methods and correct presentation of wastes, clearly instructing them not to put batteries in residual waste, to minimise the risk of them entering other waste streams.</p> <p>The waste acceptance procedure, as described in the site's EMS and outlined in Section 2.2, is undertaken on all waste streams as far as is practicable. Operatives collecting waste from the kerbside visually inspect the waste for any sign of heating, e.g. smoke or smouldering wastes. Any wastes with any signs of fire will not be accepted.</p> <p>Residual waste loads received at site will be visually inspected. If batteries are identified, and cannot be safely removed, the load will be rejected. After determining that it is safe to do so, any batteries identified in the residual waste stream will be segregated to the quarantine area for removal from site. DCC communicate with commercial waste producers following any identified non-conforming items or rejected loads to prevent recurrence.</p> <p>Further mitigation measures include short onsite storage times of residual waste, no treatment and minimal handling of the waste to prevent agitation, and a fire detection and incident response plan both during and out of operational hours.</p>

Potential Ignition Source	Risk	Control Measures / Procedures
		Staff check all loads for contamination and signs of fire throughout, and at the end of each day. Out of hours, the fire detection and alarm system monitors the site for signs of fire. The fire detection and alarm system comprises of a control and indication panel, optical type smoke sensors, thermal sensors, manual break glass call points, electronic sounders and flashing beacons. A 'Redcare GSM' communication unit is installed within the control panel to provide remote monitoring of the system via the equipment supplier's 24-hour monitoring station.
Leaks and spills of oil and fuels	There is the potential for fuel/ oil to leak from site vehicles or material deposited by site users.	<p>A loss of containment could lead to a spillage or leakage of potentially contaminating liquids. All substances stored on site have a CoSHH assessment and storage complies with the requirements of the assessment.</p> <p>To prevent loss of containment and minimise the risk and impact of releases, the following measures are implemented:</p> <ul style="list-style-type: none"> • There is one 40,000 litre steel tank on site for diesel. This tank is double skinned; • The AdBlue tank can hold 2,500 litres. This is located above ground and is made of double-skinned plastic; • All storage tanks are constructed to the appropriate British Standard and in accordance with CoSHH requirements; • Tanks are inspected visually on a daily basis by the site staff to ensure the continued integrity of the tanks. Identification of any damage or wear will be immediately reported and remedied; • Spill kits containing a range of materials suitable for absorbing and containing various minor spillages are located around the site in key locations, e.g. near the fuel tanks; and • Site staff undertake daily monitoring for evidence of spillage and leakage around the site. Any issues identified are immediately dealt with. <p>In the event of any potentially polluting leak or spillage occurring on site, the following action is taken:</p> <ul style="list-style-type: none"> • Minor spillages are cleaned up immediately, using sand or proprietary absorbent. The resultant materials are placed into containers and removed

Potential Ignition Source	Risk	Control Measures / Procedures
		<p>from site and disposed of at a suitably permitted facility. The incident is logged in the site diary;</p> <ul style="list-style-type: none"> In the unlikely event of a major spillage, which is causing or is likely to cause polluting emissions to the environment, immediate action would be taken to contain the spillage and prevent liquid from entering surface water or drains, e.g. by closing penstock valves and deploying temporary containment (absorbents or bunds). The spillage would be cleared, by a licensed contractor if applicable, and any contaminated materials will be placed in containers for offsite disposal. Senior management and NRW will be informed.
Build-up of loose combustible waste, dust and fluff	Build-up of loose combustible waste, dust and fluff on site could cause an ignition source.	Fire prevention-specific visual checks are undertaken throughout the day (at least once per day) to check for dust build up around the site. The main WTS building will have a Dust & Odour Management System (Mist-Air System) to cover the main and secondary building. This system will activate periodically throughout the day to control any airborne dust with a fine water mist. Loose, combustible waste is processed daily and regular housekeeping is undertaken, such as sweeping and vacuuming, to reduce loose waste, dust and fluff build-up. Deep cleans are conducted weekly to keep dust build-up to a minimum.
Reaction between wastes	A reaction between incompatible or unstable wastes could provide an ignition source.	<p>All material types are stored in separate containers to reduce the risk of reactions between wastes.</p> <p>Batteries are segregated from other wastes and stored in weatherproof, leak-proof battery boxes. Batteries from vehicles are stored separately, with separate containers for:</p> <ul style="list-style-type: none"> Batteries from vehicles; Household batteries; and Items that do/may contain li-ion batteries (such as WEEE).

Potential Ignition Source	Risk	Control Measures / Procedures
		<p>Crews continue to receive 'on-the-job' supervision and training to ensure only those waste streams in the formats specified within the permit are collected at the kerbside prior to acceptance at the Waste Transfer Station.</p> <p>Any waste presented at the kerbside which is not covered by the permit is not collected.</p> <p>All vehicles bringing waste material to the site report to the weighbridge where the load is visually inspected where possible, in order to confirm its description and composition. All wastes undergo a further visual inspection during deposition within the Waste Transfer Station, designated waste containers or waste bays.</p> <p>Should the wastes be found not to conform during the initial visual inspection, the details are recorded in the site diary and the vehicle is turned away. Should the non-conforming wastes already be discharged within the Waste Transfer Station, and subsequently be found not to conform with the permit or other operational requirements, then the waste is either reloaded on to the delivery vehicle or removed to the designated quarantine area /container. The wastes are then taken to a permitted facility for disposal.</p> <p>These procedures will reduce the risk of a reaction between wastes, by helping to ensure that only permitted wastes are received on site and that all wastes are correctly segregated and stored within the designated containment</p>
Self-combustion	Chemical reactions within a single stream waste pile could lead to self-combustion.	<p>No material that may self-combust is stored on site for more than 14 days, under standard operational circumstances.</p> <p>All materials that may self-combust are stored in the appropriate bays or containers.</p> <p>The high turnover of material through the site means all materials that may self-combust are only stored on site for longer than 14 days in exceptional circumstances, and never for more than 28 days.</p>

Potential Ignition Source	Risk	Control Measures / Procedures
		<p>Fire watches are undertaken at regular intervals throughout the day.</p> <p>A fire detection and alarm system comprising of a control and indication panel, optical type smoke sensors, thermal sensors, manual break glass call points, electronic sounders and flashing beacons is in place. A 'Redcare GSM' communication unit is installed within the control panel to provide remote monitoring of the system via the equipment supplier's 24-hour monitoring station.</p>
Deposited hot loads	Hot loads being deposited on site could cause an ignition source.	<p>Operatives collecting waste from the kerbside visually inspect the waste for any sign of heating, e.g. smoke or smouldering wastes. Any wastes with any signs of fire will not be accepted.</p> <p>Staff undertake regular visual checks for fire, hot loads, smoke and signs of smoulder in the containers.</p> <p>Baled waste is allowed to cool for 1 hour before being deposited into the storage bays, to allow monitoring and reduce the risk of depositing a hot load.</p> <p>All employees are trained to take action if a positive identification is made, following the procedure in Section 4.0.</p>
Damaged or exposed electrical cables	Damaged or exposed electrical cables within the office building could cause an ignition source.	<p>All electrics onsite have received approval by building control. An Electrical Installation Condition Report will be conducted every 5 years to confirm the condition of electrics. A permit to work protocol will be used to prevent unauthorised alterations to electrical installations and plant or works by unqualified engineers.</p> <p>Regular checks, maintenance and servicing of electrical equipment is undertaken and certified by a qualified electrician. The time intervals between the inspection dates are determined by a qualified electrician and take into consideration the type of installation and equipment, its use and operation, any known maintenance and the external influences to which it is subjected.</p>

3.0 Fire Prevention Techniques

3.1 Pile Turning

Due to the high turnover and low storage volumes of material at the WTS, most wastes will not be stored for more than 14 days in normal circumstances. Any wastes stored on site for more than 3 days will be turned. The site operates on a 'first in, first out' basis. To achieve this, records of loads arriving and the bale processing will be kept and updated during the working week, to ensure that the oldest bales are removed from site first. Where there are multiple bays for the wastes (e.g. residual waste), the bay in use will be rotated, where there is not, the bay will be unloaded moving from left to right. Waste is deposited within the material specific bays and emptied entirely ensuring the oldest material is included on the load and no waste can accumulate at the back of the bay. Containerised wastes will be removed off site within the container in one go. No material that may self-combust will be held on site for more than 14 days in normal circumstances and 28 days under any circumstance.

3.2 Monitoring, Reporting and Actions

Staff undertake regular visual checks throughout the day to identify any potential ignition sources within the material or signs of smoulder, smoke or flames which could indicate a fire. All baled waste is allowed to cool for 1 hour before being deposited into the storage bays, to allow monitoring and to reduce the risk of depositing a hot load. Monitoring of bales is recorded on daily check sheets and in the site diary. If any signs of a potential fire are identified during monitoring the fire procedure in Section 5.0 will be followed. Reporting of the fire and actions to prevent recurrence will also be taken following the procedure in Section 5.6.

3.3 Minimising Fire Spread

All combustible wastes comply the storage requirements within NRW's FPMP guidance, with adequate separation distances to help minimise fire spread. All waste material is stored within bays comprising of concrete walls with 120min fire resistance and all steel supports painted with 120min fire resistance intumescent paint to prevent the spread of fire. The bay walls allow a minimum of 1m of freeboard space to the front and top of the bay. There is an air aspirating fire detection system in place, as detailed in Section 4.3, allowing early detection of a fire.

4.0 Fire Prevention and Mitigation Infrastructure

4.1 Quarantine area

A quarantine area is located in the southeast corner of the site, behind the WTS building. This bay can hold at least 50% of the volume of the largest pile size which is the paper bay, measuring 6.2 x 9 x 3m. The quarantine bay dimensions are 7.4 x 6 with 5m high concrete bay walls. The open face of the quarantine bay is more than 10m from the external wall of main building (see Figure 1-1 for location and separation distances).

4.2 Water supply and containment

The largest single material pile on site is the paper waste material bay, which can hold 148m³ of combustible material. Using the calculation from NRW's FPMP guidance, the water

requirement for this bay is 2,000 litres of water a minute, a total of 177,600 litres for three hours.

The site has a firewater tank, located on the northern boundary near the staff parking which can hold ~215,000 litres of firewater and will be filled by a mains water supply. During a fire incident, the Fire Rescue Service (FRS) will connect to the firewater tank via a valve on the low level of the tank. The firewater tank will be refilled following a fire incident using the mains supply. In addition, there is a private fire hydrant within the site curtilage fed by the water main to the site and a further fire hydrant within 90m of the main depot building. Dŵr Cymru Welsh Water (DCWW) have tested the flow of this hydrant and found it to be equivalent to 500 litres per second.

Firewater runoff will be stored on the concrete surface of the site, within the continuous kerb line, during a fire incident. The surface of the site can hold ~337,000 litres of water, enough to retain the required 177,600 litres of firewater required by guidance to fight fire in largest pile size during a 1 in 100 plus 30% rainfall event on the site (worst case). Figure 4-1 shows where the water, as calculated based on the largest waste pile above, will be retained. When a fire is identified, automatic penstock valves on both the foul and surface drains will be closed to prevent firewater leaving the site's concrete surface.

Following the fire incident, the firewater will be pumped and tankered off site by a licensed hazardous waste carrier.

NOTES

- 1) ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE
- 2) ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS AND LOCAL AUTHORITY GUIDANCE
- 3) UNDERGROUND SERVICES ARE PRESENT IN THE AREA. CONTRACTOR IS TO CONFIRM THE PRECISE LINE AND DEPTH OF ANY SERVICES PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION WORKS

KEY

- FIRE WATER TANK
- FLOOD SURFACE TO FIRE WATER TANK
- THREE KERS RAISED FIRE WATER TANK FLOOD PROTECTION
- PLOT BOUNDARY
- UNIT BUILDING BOUNDARIES

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
SPILL SURFACE 1.000	1.000	4592.023sq.m	460.024 Cu. M.	122.741 Cu. M.	337.282 Cu. M.<Cut>	
Totals		4592.023sq.m	460.024 Cu. M.	122.741 Cu. M.	337.282 Cu. M.<Cut>	

REVISIONS

REV	NO.	DESCRIPTION	DATE	BY	CHK

IMPORTANT HAZARDS IDENTIFIED BY DESIGNER

- Any other hazards that have been identified on the drawing, whether or not they are identified as a hazard in the design, should be identified as a hazard in the design.
- Should any additional hazards be identified the designer should notify all the relevant project team members.

1:400

Project Information

18304

AS MENTIONED

SJ0565

RT

KB

STATIONING/ALIGNMENT

A Original Drawings

B Additional Weightbridge Addset, Ex.Bays Extended

26/09/2022

STATUS

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STATIONING/ALIGNMENT

26/09/2022

STATUS

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26/09/2022

STATUS</

4.3 Fire Suppression and Detection

A fire detection and alarm system comprising of a control and indication panel, optical type smoke sensors, thermal sensors, manual break glass call points, electronic sounders and flashing beacons is in place. The fire alarm system is interfaced with the VESDA aspirating system control panel. In the event of an activation of the aspirating system, full details of the activation (including relevant VESDA panel and zone of activation together with fault indication) is displayed on the fire alarm system.

Office areas have an addressable fire detection and alarm system comprising of a control and indication panel, optical type smoke sensors, thermal sensors, manual break glass call points, electronic sounders and flashing beacons. The addressable fire alarm system covers the working areas of the main building including the bale storage bays and the secondary building such that in the event of an activation of the aspirating system full details of the activation (including relevant VESDA panel and zone of activation together with fault indication) is displayed on the addressable fire alarm system. All necessary input/output relays will be supplied and installed at the addressable and VESDA panels to facilitate the required alarm/fault indications. The system fully accords with the requirements of BS5839:Part 1:2013 (incorporating all amendments to date). The system classification is 'L1'.

The system is tested, commissioned and demonstrated as fit for purpose by the equipment manufacturer/supplier. This includes undertaking sound level tests to verify that the sound levels achieved throughout the premises are in accordance with BS 5839. The results of the tests are recorded, together with all other necessary commissioning information and certification.

A 'Redcare GSM' communication unit is installed within the control panel to provide remote monitoring of the system via the equipment supplier's 24-hour monitoring station. The 'Redcare' unit is connected and wired, utilising BT approved fire resisting cabling, to the incoming telephone service position.

The CCTV system comprises of a 16 channel Network Video Recorder (NVR) with a 4TB hard drive and 16 no. 4MP IP cameras. These are located at key locations around site, as shown in Appendix 7.4. The CCTV system can be monitored offsite and can be accessible by nominated DCC employees.

Nominated DCC employees are trained in fire detection and safe working procedures for when the site is operational and for out of hours' situations. A fire-prevention specific site check will be undertaken at least once a day as part of the EMS.

5.0 Procedure in the Event of a Fire

This section details the procedures to be followed on site in the event of a fire.

If signs of a fire are identified on site, an alarm will be raised immediately and the fire service will be called by dialling 999. Site staff will be evacuated to the muster point, in the far northwest corner of the site to await the fire service.

Trained site fire marshals will assess if they are able to safely tackle the fire with the onsite fire extinguishers, the locations of which are marked in Figure 1-1. If it is deemed safe to do so, staff will extinguish the fire. If this is not possible due to the nature or scale of the fire,

staff will evacuate to the muster point, as mentioned above, and will not re-enter the area until given all clear by the fire service.

As soon as it is reasonably practicable, the fire marshal will report the incident to their line manager. Following the fire incident, action to prevent recurrence will be taken following the procedure in Section 5.6.

5.1 Out of Hours Procedure

In case of a fire that occurs at a time the site is closed, the steps below will be followed:

- 1) Fire Alarm system is automatically activated through the systems described above.
- 2) Communication from Redcare and/or an automated messaging system will alert the nominated DCC employees.
- 3) The nominated employee(s) will respond to acknowledge if they can investigate or not. If the nominee doesn't respond within the given time, the system will automatically contact the next employee.
 - a. If the nominated employee can investigate, they will access the CCTV system to look for signs of a fire.
 - b. If the nominated employee cannot investigate, the system will contact the next employee on a list of nominees.
 - c. Geographically, the nominee(s) closest to the depot will be contacted first with the automated message to ensure a timely response.
- 4) If a fire can be detected from the CCTV, the nominated employee will then:
 - a. Phone the Fire Service and notify them of the fire and provide as many details as possible as they have at that point.
 - b. Phone the Depot Manager and inform them of the incident.
 - i. The depot manager will phone the waste service manager to inform them.
 - ii. If the nominated employee cannot contact the depot manager they will inform the Waste and Recycling Operations Manager or Recycling Service Manager.
 - iii. If they fail to contact both, they should proceed to site to meet with the fire service. They should continue attempts to contact a manager.
 - c. The nominated employee will travel to site to provide information to the fire service.
 - d. The depot manager and/or service manager will proceed to site to meet the fire service (unless the nominee has failed to contact either, in which case the nominated employee will proceed to site, as detailed above.)
- 5) If a fire cannot be detected through the CCTV footage:
 - a. The nominated employee will proceed to site. In the windowed travel time, a fire could have spread and would be visibly detected upon arrival.
 - b. If there are no signs of a fire, taking sensible care the employee should enter the building and approach the fire system panel. This should indicate the area of the fire.
 - c. If safe to do so, the nominee will investigate for signs of a fire. If none can be detected, the nominee will deactivate the alarm and make a record the false alarm.
 - d. If a fire can be detected, the nominee will immediately vacate the area to a safe distance (Fire assembly point) and call the fire service, following the above procedure.

The site insurer is in agreement on the provision of the current suppression and detection arrangements.

Following the fire incident, action to prevent recurrence will be taken following the procedure in Section 5.6.

5.2 Quarantine Area

A dedicated quarantine area has been designated in the southeast corner of site, near the exit from the the WTS building. Quarantined wastes are removed from site as soon as is practicable, to keep the quarantine bay accessible in case of a fire incident. During a fire incident, any wastes awaiting collection in the quarantine area will be immediately removed to a suitable container or skip within the adjacent parking area, if it is safe and practical to do so, and will be removed from site as soon as possible. This would allow non-burning combustible material to be moved and stored in the quarantine area, when practicable, to reduce the risk of fire spread.

5.3 Contingency Plan

If the fire occurs during operational hours, it is likely that there will be a large proportion of the fleet out collecting waste on the kerbside and these waste stream would need to be diverted in the event of an emergency of site. Contingency is via third parties and also agreed with Conwy County Borough Council in the event of the depot being out of action. They will be informed immediately via phone and email so that they can prepare to receive the additional volume of waste. In that event, the drivers would be contacted and the following diversions would be implemented:

- **Green waste** will be direct delivered to Greenfields site in Flintshire.
- **Recycling waste** will be diverted to Gofer WTS, Abergele LL22 9SE
- **Residual waste** will be divereted to Thornciffes WTS, Abergele LL22 9SE or Parc Adfer, 4 Weighbridge Rd, Deeside CH5 2LL.

Office staff and operational team leaders are set up for agile working. They are able to hot desk at a range of council buildings and at home in the event of an evacuation and the unavailability of the waste premises. This is critical to ensure business continuity. All staff are instructed to take home laptops each day, in the event the depot becomes unavailable through the night.

5.4 Emergency access to site

Emergency access to the site is via the main entrance gate from Graig Road. There is good emergency access around the whole site.

5.5 Disposal of Contaminated Material

Senior staff, working alongside the regulatory authorities, will ensure that any contaminated material and firewater is safely removed from site by a registered waste carrier for disposal. Any drainage interceptors that received firewater will be emptied and cleaned. Gwynedd Environmental Waste Services Limited (GEWS Ltd) will be contracted to remove the waste water from site and to assist with clean up and decontamination, including clearing drains.

5.6 Actions Following a Fire Incident

Following an incident of fire on site, all relevant bodies will be notified within 24 hours (e.g. Line Manager, Health and Safety Unit, NRW). A written report identifying causes and corrective measures will be submitted to NRW and Senior DCC management within one week of the incident. The FP&MP will be reviewed to ensure ongoing applicability and effectiveness.

Following a thorough cleaning of the depot, the site and all fixed operating equipment will undergo a full safety inspection and risk assessment by a competent and qualified fire service inspector before operations can resume.

If possible, the load will be traced back to its origin or waste producer. The waste producer will be notified of the incident and awareness of the fire risks of contamination and future prevention will be discussed. If a waste producer regularly deploys loads posing a serious fire risk, DCC will terminate their contract.

6.0 Impact Reduction

An assessment has been made of the potential impacts that could occur as a result of a fire incident at the WTS, these are detailed in Table 4.

Table 6-1: Approach to Minimising Impacts of Fire

Impact	Who the Impact Affects	How Impacts will be Minimised
Air pollution by carbon emissions and toxic chemicals in smoke plume	Local residents, businesses and services	Reduce the spread and duration of fire as swiftly as feasible.
Contamination of soil and water from items deposited by the smoke plume	Environment	The small quantities of material stored on site at one time will minimise the amount of blown material. During a fire incident the dispersion of material via the smoke plume will be monitored with preventative action taken if safe to do so.
Contamination of soil, groundwater and waste from firefighting water runoff	Environment	Firewater will be contained within the impermeable surfacing of the site. Drains will be isolated via the automatic penstock valves prior to firefighting commencing.
Temporary closure of surrounding roads	Local residents, businesses and services	Establish a communication plan with sensitive receptors so they are aware of the situation and can implement contingency plans.

7.0 APPENDICES

7.1 List of Sensitive Receptors

Table 7-1: Sensitive Receptor Contact Details

Sensitive Receptor Type	Contact Name	Contact Number	Location/Address
Commercial	21st Webb	0333 366 1289	Unit 1, Spencer Trading Estate, Rhyl Rd, Denbigh LL16 5TQ
Commercial	Acre House Equestrian	0174 581 6628	Unit 2, Spencer Trading Estate, Rhyl Rd, Denbigh LL16 5TQ
Commercial	A & D Motor Cycles Ltd	0174 581 5105	Spencer Trading Estate, Rhyl Rd, Denbigh LL16 5TQ
Commercial	Adjustamatic Beds Ltd	0800 080 5000	Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TS
Commercial	AG Leisure	0792 004 7435	AG leisure Unit 7E, Denbigh LL16 5TA
Commercial	ALDI	0800 042 0800	Station Rd, Denbigh LL16 3AL
Commercial	Aqualeisure	0174 581 5476	Unit 7 G&H, Colomendy Ind Estate, Denbigh LL16 5TA
Commercial	Baa Stool Ltd.	0182 479 0882	13 Colomendy industrial estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	ATS Euromaster Denbigh	0174 581 2217	Colomendy industrial estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Beth's Sandwich Bar	0174 581 4647	Maldwyn Williams Garage Services, Rhyl Rd, Denbigh LL16 5TH
Commercial	Birch Hire	0174 581 3583	Colomendy industrial estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Blind Solutions Ltd Workshop	01745 815549	Denbigh LL16 5TS
Commercial	Brady Global Ltd	01745 814 978	34 Bryn Gwyrdd, Colomendy Ind Est, Denbigh LL16 5TA
Commercial	BrickPlus	0174 547 2150	Colomendy Ind Estate, 34 Bryn Gwyrdd, Denbigh LL16 5TA
Commercial	Breedon Denbigh Quarry Aggregates	0174 527 4830	Plas Chambres Road, Denbigh LL16 5US
Commercial	CAD RECYCLING LTD	0174 581 2661	Spencer Trading Estate, Unit 5 & 6, Rhyl Rd, Denbigh LL16 5TQ
Place of worship	Capel Y Fron	None available	41 Rhyl Rd, Denbigh LL16 3DT
Commercial	Cake to Cake	0796 698 9583	9 Ffordd Celyn, Denbigh LL16 5UU
Commercial	Castle Steel Fabricators	0174 581 3341	Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Catalyst Systems	01745 816611	Unit 15b, Colomendy Industrial Estate, Denbigh LL16 5TA
Commercial	Celtic Dreams	0174 581 3245	Dyffryn Trading Estate, Rhyl Rd, Denbigh LL16 5SU
Leisure	Clwb Rygbi Dinbych	0174 581 4060	Ffordd Y Graig, Denbigh LL16 5US
Commercial	Clwyd Wood Products	0174 581 2010	Rhyl Rd, Denbigh LL16 5TH
Commercial	Clwydian	0174 581 6720	Clwydian, Rhyl Rd, Denbigh LL16 5TH

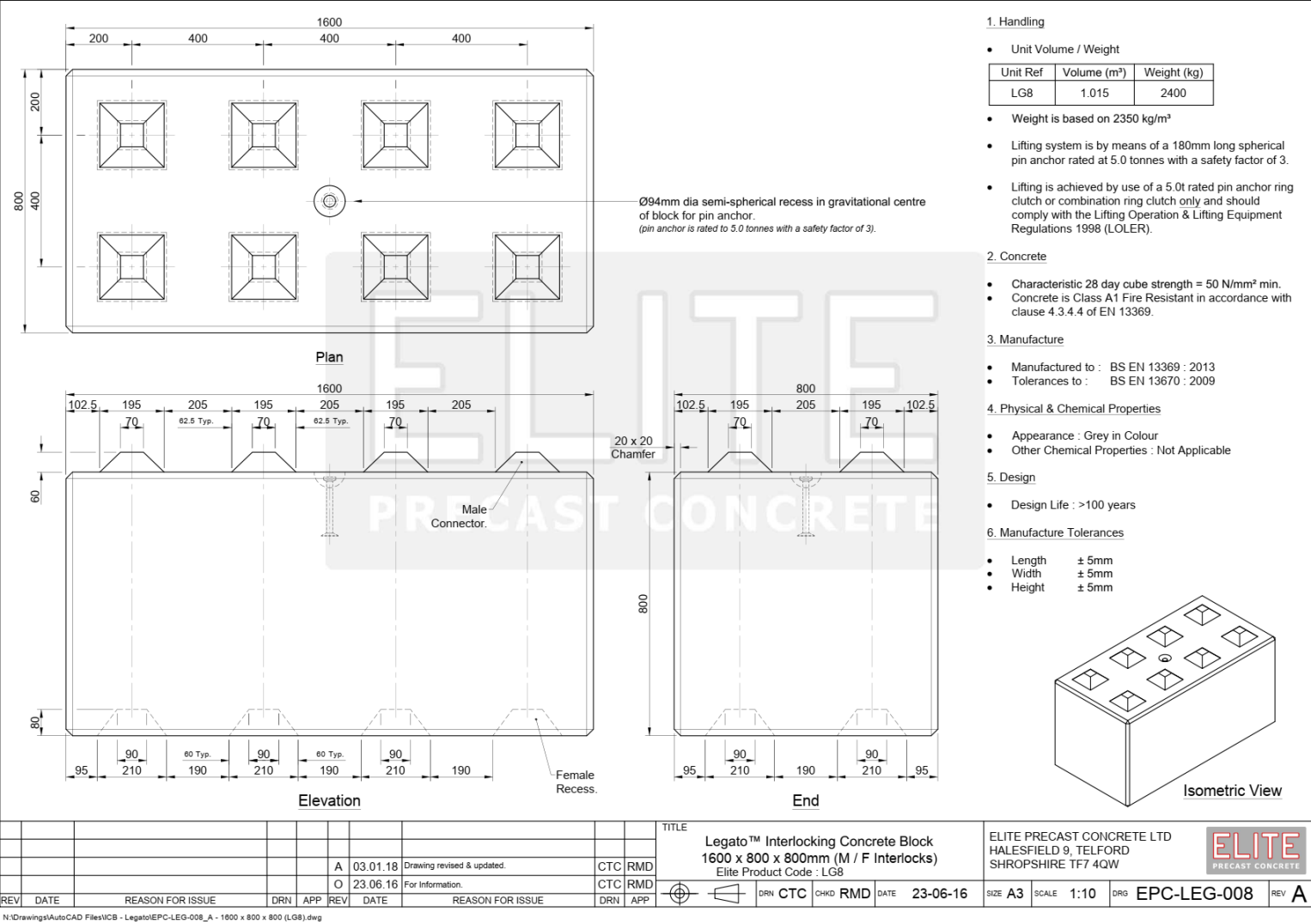
Sensitive Receptor Type	Contact Name	Contact Number	Location/Address
Commercial	Clwydian Leasing	0174 581 6720	Rhyl Rd, Denbigh LL16 5TH
Commercial	Con Amici	0174 581 4444	Rhyl Rd, Denbigh LL16 3DS
Commercial	CVAM Ltd	0174 581 6775	Rhyl Rd, Denbigh LL16 5SU
Commercial	D Jones Plant Hire & Sales Ltd	0174 581 5554	Unit 5, Colomendy Ind Est, Rhyl Rd, Denbigh LL16 5TA
Commercial	DAS Outdoors	0174 581 4978	Colomendy industrial estate, 34 Bryn Gwyrdd, Denbigh LL16 5TA
Commercial	DB Touring	0778 744 6658	Dyffryn Trading Estate, Rhyl Rd, Denbigh LL16 5SU
Other services	Denbigh Ambulance Station (NHS Supply Store)	01824 706000	Denbigh LL16 5TD
Commercial	Denbigh Auto Body	0174 581 5559	Ffordd Y Graig, Denbigh LL16 5US
Commercial	Denbigh Building Plastics Limited	0174 581 8849	Colomendy industrial estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Denbigh Carpet & Bed Centre	0174 581 7034	Dyffryn Trading Estate, Rhyl Rd, Denbigh LL16 5SJ
Commercial	Denbigh Locksmiths	0781 385 0008	Unit A1/Trem y Dyffryn/Erw Las/Colomendy Ind Est, Denbigh LL16 5TX
Commercial	Denbigh Plant Services - Denbigh	0174 581 4762	Unit 10B, Colomendy Industrial Estate, Denbigh LL16 5TA
Leisure	Denbigh Museum	0174 581 4323	Grove Rd, Denbigh LL16 3UU
Other services	Denbigh waste and recycling park	01824 706000	Ffordd Colomendy, Denbigh LL16 5TA
Commercial	Denbighshire Antiques	0174 581 8888	Rhyl Rd, Denbigh LL16 3DY
Leisure	Denbighshire Leisure Ltd	None available	Colomendy industrial estate, 8-11 Trem Y Dyffryn, Denbigh LL16 5TA
Education	Denbighshire Music Co-operative	0174 581 3542	1, Spencer Trading Estate, Rhyl Rd, Denbigh LL16 5TQ
Commercial	Dovecote Brewery	0790 895 7116	Unit 2 Enterprise Centre, Colomendy Industrial Estate, Denbigh LL16 5TA
Commercial	Drysuit Doctor	0174 581 5476	Colomendy Industrial Estate, Units G & H 7, Denbigh LL16 5TA
Commercial	E. Jones & Son	0174 581 5717	Denbigh LL16 5US
Commercial	Emyr Evans	0174 581 2333	Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	ForFarmers	0174 581 6391	Denbigh LL16 5TD
Commercial	G & G Motors NW Ltd	0174 581 2483	Colomendy industrial estate, Bryn Gwyrdd, Denbigh LL16 5TA
Commercial	Glyn Evans Autoclinic Ltd	0174 581 5141	Erw Las, Colomendy industrial Estate, Denbigh LL16 5TA
Commercial	Graig Motors	0174 581 5606	Graig Yard, Graig Road, Denbigh LL16 5US
Commercial	Happy Homes Furniture Factory	0174 581 2377	Denbigh LL16 5TD
Commercial	Harrison Machinery Ltd	0182 470 7003	Cae Gwyn Farm, Mold Road, Denbigh LL16 4BH

Sensitive Receptor Type	Contact Name	Contact Number	Location/Address
Commercial	Henllan Bakery	0174 581 2671	Colomendy industrial estate, 1, Rhyl Rd, Denbigh LL16 5TA
Commercial	Howdens – Denbigh	0174 581 7484	Colomendy industrial estate, Unit 10 Rhyl Rd, Denbigh LL16 5TA
Commercial	J & G Tyres	0174 581 7676	Unit 1, Dyffryn Trading Estate, Rhyl Rd, Denbigh LL16 5SJ
Commercial	Humphreys Signs Ltd	0174 581 4066	Rhyl Rd, Denbigh LL16 5TA
Commercial	Jewson Denbigh	0174 581 2606	Colomendy industrial estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Lawson Civil Engineering & Utilities Ltd	0174 581 4681	Graig Farm Buildings, Graig Road, Denbigh LL16 5US
Commercial	Londis	0174 581 6524	Denbigh LL16 5SU
Commercial	Mac3	0174 581 6266	B12, Colomendy Industrial Estate, Trem Y Dyffryn, Denbigh LL16 5TX
Commercial	Maldwyn car wash	01745 812542	Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Malmö International	None available	Colomendy Ind Estate, 34 Bryn Gwyrdd, Denbigh LL16 5TA
Commercial	Marg's Takeaway	0174 581 7080	1 Rhyl Rd, Denbigh LL16 5TA
Commercial	Malpas Tractors	0174 581 7060	33a, Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Maldwyn Williams Ltd Garage Services	0174 581 2542	Maldwyn Williams Garage Services, Rhyl Rd, Denbigh LL16 5TH
Commercial	Mars-Jones Ltd	0174 581 8721	Vale Park Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Mason's Arms	0174 581 2831	Rhyl Rd, Denbigh LL16 3DT
Commercial	Meifod Wood Products	0174 581 6900	Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Meirion Davies & Co	0174 581 2400	2 Colomendy Industrial Estate, Rhyl Road, Denbigh LL16 5TA
Commercial	MGM-Worktops	0174 581 2532	Morris Granite & Marble, Denbigh LL16 5TA
Commercial	MJ Driver Training	0174 581 3226	29 Lllys Gwydyr, Denbigh LL16 3ET
Commercial	Monster Munchiez Cafe	0788 549 3071	Colomendy industrial estate, Unit 1 Enterprise Centre, Denbigh LL12 5TA
Commercial	Morris E G	0174 581 3272	Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Nixon Plumbing & Heating	0174 528 4700	Colomendy Industrial Estate, Unit 1 Norparc, Denbigh LL16 5TA
Commercial	NHC Technology Ltd.	0174 581 1200	Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TS
Emergency Services	North Wales Police	0330 330 0101	Ffordd Y Graig, Denbigh LL16 3YB
Commercial	Oelheld UK Ltd	0174 581 4777	Unit 16, Colomendy Industrial Estate, Denbigh LL16 5TA
Commercial	Oshwash	0756 851 2024	Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Pen-Y-Bryn Joinery Ltd	0174 581 5481	Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Healthcare	Plas Eleri Nursing Home	0174 581 4613	Denbigh LL16 5SY

Sensitive Receptor Type	Contact Name	Contact Number	Location/Address
Commercial	Pressed 2 Perfection	0174 579 8055	Denbigh LL16 5TX
Commercial	Pro Finish Cosmetic Car Repairs	0757 688 4976	Dyffryn Trading Estate, Rhyl Rd, Denbigh LL16 5SU
Commercial	R R Auto	0758 674 6122	Unit 8c, Denbigh LL16 5SU
Commercial	Ravenscroft & Thackeray Fine Foods	0174 581 8900	Colomendy industrial estate, Cranswick House, Denbigh LL16 5TA
Commercial	R Smith & Son	0174 581 2043	Coal Yard, Ffordd Y Graig, Denbigh LL16 5US
Commercial	Rich Thomas Personal Training	0774 800 2273	Unit 3, Speddyd Industrial Units, Llandyrnog, Denbigh LL16 4LE
Commercial	Riley Land Rover	0747 342 2588	Dyffryn Trading Estate, Rhyl Rd, Denbigh LL16 5SJ
Commercial	Rizzi	0174 581 2548	Fron Eirian/Rhyl Rd, Denbigh LL16 5TG
Leisure	Ruthin & Denbigh Gymnastics Club Ltd	0777 907 9838	Colomendy Industrial Estate, Erw Las, Denbigh LL16 5TA
Commercial	Sam's cafe	0739 596 2724	Sams Cafe, Spencer Industrial Estate, Denbigh LL16 5TQ
Commercial	Screwfix	0333 011 2112	Unit 3, Retail Park, Denbigh LL16 3AL
Commercial	Shell	0174 581 6524	Rhyl Rd, Denbigh LL16 5SU
Commercial	Shorecliffe Training	0174 581 5977	Colomendy industrial estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Simply Fish & Chips	0174 581 2999	31 Rhyl Rd, Denbigh LL16 3DT
Education	St. Brigid's School	0174 581 5228	Plas Yn Green, Denbigh LL16 4BH
Commercial	Star Premier Stores	0174 579 7026	3EA, Rhyl Rd, Denbigh
Commercial	Telsol	0174 581 4678	23-24 Colomendy Industrial Estate, Rhyl Road, Denbigh LL16 5TA
Commercial	The Garment Spa	0174 581 3312	Vale Park Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	Travis Perkins	0174 581 3332	Colomendy industrial estate, Plot 10C, Denbigh LL16 5TA
Commercial	Vale Of Clwyd Memorials	0174 581 5770	Colomendy Industrial Estate, Rhyl Rd, Denbigh LL16 5TA
Commercial	W T Pritchard Ltd	0174 581 2047	Veterinary Centre/Colomendy Ind Est/Rhyl Rd, Denbigh LL16 5TA
Commercial	Welsh Adventure Racing	0174 581 8893	Denbigh LL16 5TL
Commercial	Welsh Health Supplies	0174 581 8200	Denbigh NHS Stores/Colomendy Ind Est/Rhyl Rd, Denbigh LL16 5TA
Commercial	Visage Beauty Salon	0174 581 2215	Maes y Mes/Rhyl Rd, Denbigh LL16 5TH
Commercial	Y Bwthyn Bach	0174 581 2311	5 Frances Ln, Saundersfoot SA69 9HB
Commercial	Wern Vets	0174 581 2336	Rhyl Rd, Denbigh LL16 5TH
Education	Ysgol Frongoch County Primary School	0174 581 2410	Ffordd, Rhyl Rd, Denbigh LL16 3DP
Education	Ysgol Twm O'r Nant	0174 581 2261	Ty'n Fron School Annexe/Rhyl Rd, Denbigh LL16 3DP

Sensitive Receptor Type	Contact Name	Contact Number	Location/Address
Commercial	Ty'n Yr Eithin	0174 581 3211	Mold Rd, Denbigh LL16 4BH

7.2 Firewall Specifications





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Prestressed Concrete Panels are a versatile product which can be used to store wide variety of materials.



- ✓ Panel Thicknesses 100mm to 280mm
- ✓ Custom Lengths up to 7m
- ✓ 20kN/m² Surcharge Capacity
- ✓ C60 Concrete Mix Strength
- ✓ Installation Service Available

Features

Corner angles can be supplied to create bays of any height with ease.

Horizontal and vertical joints between the precast elements can be sealed, enabling these products to be used for the storage of liquids.

Wall units are manufactured under factory-controlled conditions, designed to relevant British Standards and are CE marked.

The prestressed concrete panels are suitable for a wide range of applications including:

- Fire & Blast Walls
- Flood Defence Walls
- Grain Walling
- Storage Bays
- Dairy & Livestock Buildings
- Silage Clamps
- Bund Walling

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PRODUCT SPECIFICATIONS

Below is a table outlining the characteristics of the prestressed concrete panels.

Here you can find information on concrete strength, material density and surcharge capacity.

Wall units are manufactured under factory control, have been designed to relevant British (BS) standards and are CE marked.

If you require any further details please contact us and one of our product experts will be happy to provide more information.

Concrete Strength	C60	Material Density	18	Surcharge Capacity	20*	Design Life	100*
Compressive strength of concrete after 28 days of curing.		Maximum material density of retained material, measured in kN/m ³		Maximum surcharge capacity of precast element, measured in kN/m ²		Number of years precast element has been designed for.	
Connection		Edge Detail		Concrete Finish	A*	Fire Resistance	180*
Precast elements interlock with tongue and groove edges.		Chamfered edges create softer sight lines & reduce damage during installation		Smooth mould finish Type A to precast element, defined in British Standards		Number of minutes precast element would provide fire resistance.	
Reinforcement Cover	25	Tolerances	6	Foundation Type	N/A	Retained Face	DL
Minimum cover to steel reinforcement in precast element, measured in mm.		Typical manufacturing tolerances & dimensional variations +/- in mm.		Panels fixed to steel columns, no additional foundation required.		Double Load - Precast element is suitable for retaining material on both faces	

* These are the maximum values that can be achieved with concrete panels, this will vary depending on the panel thickness & panel length. Concrete panel finish is class A to the front face and hand trowel finish to the back face.

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PRODUCT RANGE

There are four standard width options and three height options. Non-standard heights can be manufactured from 500mm to 1500mm.

Installation of the concrete panels is quick and easy, the elements can either be positioned into the web of a steel column, or clipped to the outside face. The panels require a steel at each end to attach to, so ideal for using in portal frame building. The panels sit directly on top of the pad foundations and no additional support is required under the panels.

100mm



Width	100mm
Length	1000mm – 6500mm
Height	1000mm, 1200mm & 1500mm
Weight	Varies

150mm



Width	150mm
Length	1000mm – 7000mm
Height	1000mm, 1200mm & 1500mm
Weight	Varies

180mm



Width	180mm
Length	1000mm – 7000mm
Height	1000mm, 1200mm & 1500mm
Weight	Varies

280mm



Width	280mm
Length	1000mm – 7000mm
Height	1000mm, 1200mm & 1500mm
Weight	Varies

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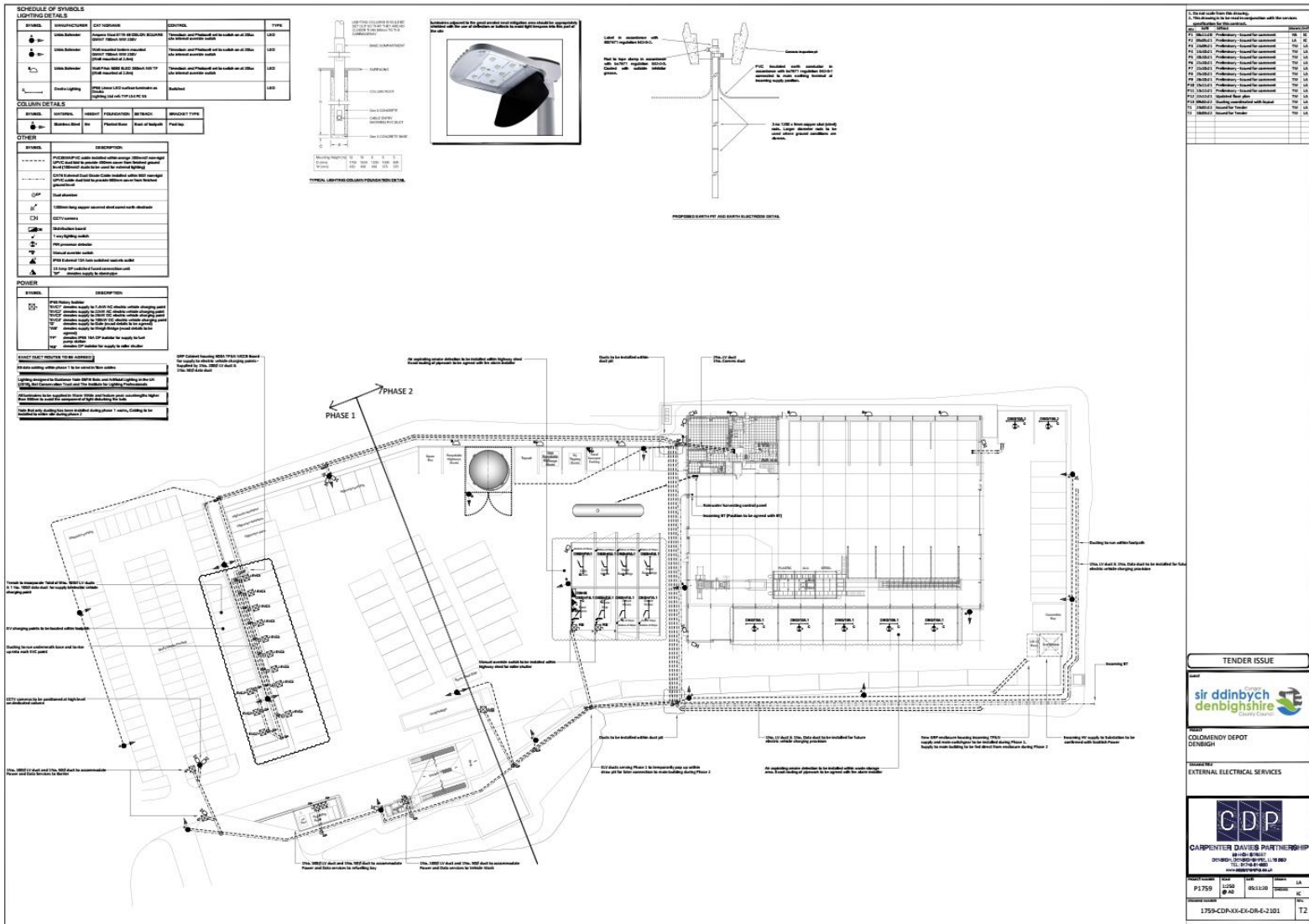
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7.3 Hot Works Permit Template



HOT WORK PERMIT				
Applicable to: CUTTING , WELDING, GRINDING, SOLDERING, BRAZING, BLOW LAMPS OR BLOW TORCHES, or the use of any equipment producing HEAT, SPARKS OR NAKED FLAME				
Contract No		Permit No		
EXACT LOCATION AND DESCRIPTION OF WORK TO BE CARRIED OUT				
Permit valid from	Date:		Time:	
Permit valid to	Date:		Time:	
HEALTH AND SAFETY CHECKLIST: BEFORE WORK COMMENCES				YES, or NO or N/A
Has a risk Assessment been carried out specifically for this work?				
Has a Safe Method of Work Statement been produced specifically for the work?				
Have persons been informed of the details of the Risk Assessment and Safe Method of Work Statement specific to this work?				
Have combustible materials and flammable liquids or gases been identified and removed from the area or protected?				
Where work is above floor level, have non-combustible curtains or sheets been suspended beneath the work to collect sparks?				
Is sufficient suitable firefighting equipment in place and persons able to use it?				
Is all equipment in a safe condition and are persons trained to use it?				
Has the Contractor discussed any isolation requirement for smoke detectors and have safe isolation procedures been implemented?				
Are there emergency procedures in place?				
Are there arrangements for the work area to be watched for hot spots/fire smouldering for an hour after hot work as ceased?				

7.4 CCTV Locations



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