TWO FRIARGATE

COVENTRY

TENANT HANDBOOK OFFICE FIT-OUT

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1 INTRODUCTION

11 PROFESSIONAL TEAM

Client Friargate

Project Manager Cumming

Architect Allies and Morrison

Civil and Structural Engineer Curtins

Building Services Engineer Ernest Griffiths

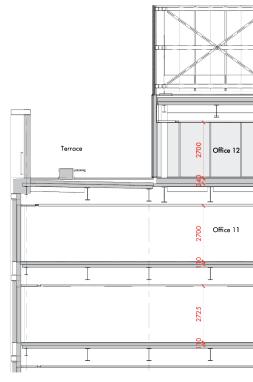
1.2 GENERAL TENANT CONSTRAINTS

This document sets out criteria which tenants are to adhere to when designing and installing their fitout works. All systems supplied and installed by the tenant are to comply with all relevant regulations and applicable standards. All plant, equipment and services installed by the tenant are to be of an acceptable standard and quality and are to be installed within the demise. Careful consideration should be given to the Landlords services within the demise. Tenant fit-out designs are subject to the Landlords approval. No works are to proceed unless approval has been provided; any alterations by the Tenant to Landlord Works are not to be progressed until approval has been provided and a Licence to Alter issued. In particular the tenant should be aware of the following:

- An Energy Performance Certificate is required from each tenant prior to occupation.
- Each tenant is responsible for obtaining Building Control Approval for their fit-out, certification to be given to the Landlord before occupation.
- This document should be read in conjunction with the fire strategy for the building authored by Design Fire Consultants.
- Fixings through the perimeter wall build up are to

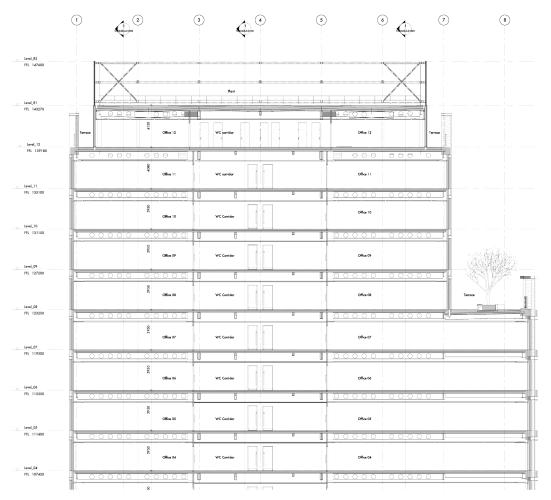
- be avoided in order to safeguard the fire resistivity, airtightness and acoustic performance of the building envelope.
- Guidance to fixings into the primary structure are set out in section 2.
- All fire encasement including vermiculite, gypsum board fire protection to beams and intumescent paint to the columns is to be retained without alteration.
- If partition walls are required to be fixed to metal columns or beams then the beam and the column must also be fire encased as the intumescent paint will be prevented from expanding. Similarly a clear zone of at least 50mm should be maintained around all painted beams and 25mm to painted columns to allow the intumescent paint to expand in the event of a fire.
- All fire stopping around services, to the slab edge and to core walls is to remain undisturbed.
- The typical floor void is 100mm with the exception of level 12 where this increases to a void of 230mm.

The floor to ceiling height is typically 2725mm with a slight reduction on floors 11 and 12 to 2700mm due to the sloping beams of the roof and deeper transfer beams.



FLOOR AND CEILING ZONES

- The rainwater pipe to the balconies is located at the intersection of gridline F & gridline 6 on all typical floor plates relocating slightly at first floor.
- Floors directly below the roof and terraces will have rainwater pipes within the ceiling void and in some locations dropping down beside a column. This will need to be considered in the tenants fit out. The floors this applies to are 6, 7, 9, 10, 11, 12.
- The ceiling voids on levels 7, 11, 12 vary due to the sloped roof structure above.
- The office floor plate has been designed to accommodate a central tenancy split along gridline
 4. The two halves of the floor plate can be serviced independently. The partition forming the demise line between tenancies will need to meet both fire and acoustic requirements.
- The floor plate has been designed to a 1.5m planning grid which aligns with the central mullion to the windows. Partitions should be aligned with the mullion if required within the window bay.



ROOF SECTION

1.3 TENANT CONSTRAINTS TO CAT A FLOORS

In addition to the general constraints noted above tenants fitting out a Cat A floor should be aware of the following:

- Apart from minor adjustments required to accommodate the tenants layout and additional partitions installed finishes must be maintained. This is to minimise waste and is required for the building to achieve a BREEAM Excellent rating.
- Fire barriers have been installed to the voids in the suspended ceiling & raised access floor. Care should be taken when fit out work is carried out in the proximity of these barriers and they should be assessed after work is complete to confirm they are still fit for purpose. If not it will be the tenants responsibility to replace with a suitable solution.

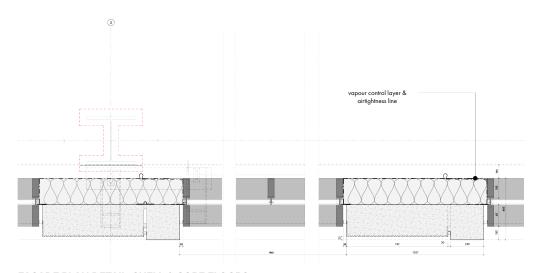


CAT A CEILING LAYOUT

1.4 TENANT CONSTRAINTS TO SHELL & CORE FLOORS

On the shell and core floors the following should be considered:

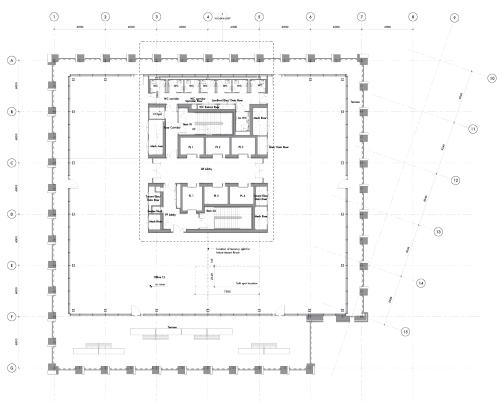
- The vapour control layer and air tightness membraneis exposed on the back of the facade.
 The tenant will be responsible for installing perimeter linings to close off the back of the facade and provide protection to the vapour control layer.
- The ceiling system and light fittings should match those used on the Cat A floors.
- Fire exit signs have been installed with temporary support and should be remounted when the ceiling system has been installed.
- Temporary door stops have been provided to the terrace doors on level 8. It is the tenants responsibility to ensure adequate door stops are installed as part of the fit-out to protect the doors from damage.



FACADE PLAN DETAIL; SHELL & CORE FLOORS

1.5 FUTURE FLEXIBILITY

Soft spots have been formed in the floor slab on levels 8 & 12. This is to allow for an accommodation stair to be installed should a tenant occupy one of these floors and the floor below. Consideration of how the stair flight will be lifted to the relevant floor will be required as well as the impact on the fire strategy.



SOFT SPOT LOCATION LEVEL 12

1.6 ACCESS & SECURITY

Various security systems have been installed throughout the building which is elaborated on in section 5 (Mechanical & Electrical Systems) of this handbook. Below is a brief description of the internal and external security points.

MAIN ENTRANCE

During office hours the revolving doors and pass door will allow free access into the reception. Security to the rest of the building is maintained via the speed gates which will require a security card to operate.

Out of hours access to the building is via the pass door which will be controlled by the access control system.

CAR PARK ENTRANCE

The car park has an automated roller shutter which will remain closed when no vehicles are entering or exiting the car park. The roller shutter will be activated via a fob provided to the tenants. Visitors will need to use the intercom provided on the right-hand side of the car park entrance to gain entry to the car park and then use a second intercom to gain entry to the core. Guests will need to be collected from the basement lift lobby.

CYCLE ENTRANCE

A separate door is provided for cyclists to enter the basement ramp operated via the access control system.

FLOOR PLATE

Tenant spaces are secured by the access control system and magnetic locks. The levels of the core are connected via the escape stairs allowing free movement between floors to use the WC facilities.

Guest who enter the building via reception will be taken to the correct floor level by the lift destination control but will need to be greeted at the lift lobby of the relevant floor by the tenant they are visiting.

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2 SUBSTRUCTURE & SUPERSTRUCTURE

21 DESCRIPTION OF BASE BUILD

SUBSTRUCTURE

A piled solution has been adopted with 750mm diameter CFA piles provided at 900mm centres to form the perimeter basement wall. 750mm diameter piles are also provided to pile caps at column and core locations, with individual piles provided to reduce the span of the 350mm thick RC basement slab.

The substructure has been developed on the basis of a piled solution. Piles are primarily required at column and core locations in the form of pile caps to spread the superstructure loads over the required number of piles. Lone piles with thickenings are also added to reduce The span of the slab. Due to the water table, the foundations also need to be designed for uplift from hydrostatic pressure.

need propping during construction until the basement slab has been constructed and the pile drawings show the assumed extent of propping required, to be confirmed by the Piling Contractor.

In the permanent condition the contiguous pile wall is propped by the basement slab at basement level and the ground floor slab at ground level. Where a ramp is present, the ground floor propping level reduces and the pile design should allow for this because the piles will cantilever past the ramp.

Further requirements for the design are outlined on the pile loads drawing and the piling specification (FCDLCUR-C10-ZZ-SP-S-00005).

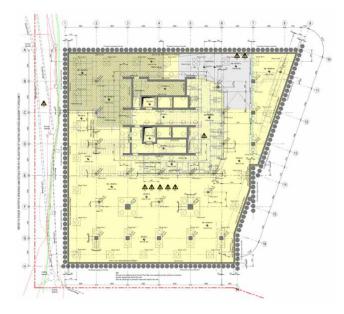


FIGURE 2.1 - PLAN OF BASEMENT

PILES

All piles are assumed to be 750mm diameter, the pile loads drawing specifies the loads the piles must be designed to take (see FCDL-CUR-C10-FN-DR-S-16001). All piles are assumed to settle 10mm under serviceability loads.

For the contiguous piled wall, 750mm diameter piles are provided at 900mm centres. The perimeter wall may

SUPERSTRUCTURE

A long span steel framed solution has been developed, with a central reinforced concrete core providing stability against lateral loads. The long span steel frame allows open office spaces to be provided without the need for intermediate columns.

FLOOR PLATES

The ground floor and below is constructed with in-situ concrete. A 350mm thick RC slab is used to form the ground floor slab and the basement slab is formed as part of the raft foundation.

A typical floor plate generally consists of cellular beams with a composite deck above forming long span composite beams. The floor plates are supported by steel columns at regular spacings to the façade of the building, with some columns present internally at lower levels due to the building stepping in. Internally, the steel beams are supported by the internal RC core, with wing walls provided to pick up riser trimming steelwork. At ground floor and below, an in-situ RC podium is proposed with contiguous piles forming the perimeter basement wall line. The perimeter columns are supported directly off the contiguous pile wall, with a capping beam provided to distribute the column load over multiple piles.

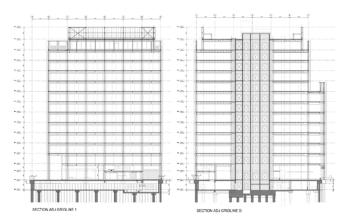


FIGURE 2.2 — TYPICAL SECTIONS THROUGH BUILDING

The ground floor slab is a 350mm thick RC flat slab, which has been achieved by the introduction of additional RC columns on a 6m x 6m grid. Where steel columns are present internally, a larger column is provided below to allow sufficient connectivity between the steel and concrete elements and also to transfer the axial forces from the floors above to the foundation.

At basement level, pile caps are provided for the primary structural columns and a piled base is provided to the central core. The basement slab is 350mm thick spanning between pile caps and additional lone piles are provided internally to reduce the span. A large step is present in the basement slab between two levels which are approximately 1m different. The water table has been measured above both levels of the slab so the slab has been designed to span between piles due to uplift, and many piles are required to resist uplift.

The in-situ reinforced concrete core provides stability to the building, with the walls varying between 250mm to 350mm thick. The core houses six lifts and two staircases, with risers provided to the exterior of the core. 350mm thick walls are provided where steel beams are incoming as this allows cast-in plates to be inserted into the core during construction for connectivity between the two.

Effective horizontal ties are required at each floor and vertical ties are required between storeys to meet the requirements for 2B disproportionate collapse.

TYPICAL FLOORS

The concrete slab is typically 150mm thick on metal decking acting compositely with steel beams.

SMDTR60+ is used for the decking, with a 0.9mm gauge deck suitable for the 3m span required. This slab also acts as a diaphragm to transfer lateral forces to the core.

The secondary beams are generally 610.UB's (rolled sections) which have a maximum span of 12m. These span between primary beams which are plated sections internally. The primary beams are plated because custom flange and web thicknesses can be specified, this allows for shallower (but heavier) sections to reduce the overall structural zone, along with increasing the stiffness of the web for cellular beam design.

Both primary and secondary beams are typically cellular beams, with 450mm diameter cells provided at 900mm centres to allow services to pass through. At riser locations elongated openings are required in some areas which require stiffening and where this is the case plate girders are provided.

The floor plates have been developed to accommodate typical office-imposed floor loadings in accordance with defined codes of practice. The maximum beamspan for a typical office floor plate is approximately 12m which means they may be sensitive to dynamic effects, which is controlled by limiting the response factor to a maximum of 8.

Each floor plate is limited to a maximum total deflection of 50mm beyond the structural zone, which in combination with the depth of the primary beam results in an overall structural zone of 1000mm excluding tolerances. Where secondary beams are supported off primary beams, cumulative deflections are present. This is covered further in section 8.5.

STABILITY CORE

The central stability core resists lateral and longitudinal loadings arising from wind together with notional horizontal loadings generated from construction imperfections. These forces are transferred to the core via the composite floor slabs at each level acting as diaphragms. Reinforcement is provided to the core walls to resist compressive and tensile loads arising within the core, which is reduced up the building as the forces reduce.

The wall thicknesses vary between 250mm – 350mm. The larger thickness of 350mm is used where cast-in plates will be placed to allow steelwork to connect later. The narrower thickness of 250mm is used between lifts where there are no incoming cast-in plates and the walls are less heavily stressed.

Pull-out bars and couplers were required to connect incoming RC elements to the core.

The steel beams will be connected to the RC core using cast-in plates, whereby a steel plate with reinforcement and shear studs to the rear is fixed and cast as part of the core construction. The steelwork fabricator will then weld a fin plate onto the cast-in plate after the core has been constructed.

PODIUM

In-situ concrete construction is used at ground floor level and below. This is partially to accommodate level changes at ground floor which can be accomplished by forming steps in the in-situ slab. This slab is also required to transfer shear and compressive forces from the earth from one side of the basement to the other, which is more efficient in RC flat slab construction as opposed to composite steel & concrete.

Concrete columns have been introduced between basement and ground to reduce the span of the suspended slab. The primary steel frame will be built off of the podium which will need to be sufficiently cured prior to the erection of the steel frame.

STEEL COLUMNS

Rolled steel column sections have been utilised on a regular grid located to the perimeter of the building, this results in columns at 6m centres. On the lower floors there are 5 internal columns, 3 of which are required due to the step in the building and 2 are required to reduce the span of the primary beams.

The two internal columns on gridline F carry more load than the rest of the columns as they support a much

larger floor area. As they are also not positioned on the capping beam, they require an RC stub column below which needs to be large enough to tie the two together for disproportionate collapse. The stub is also larger than the steel column as RC has a lower allowable compressive stress in comparison to steelwork.

In general, it is assumed that the first splice occurs above level 1 and then splices occur every 2 storeys after, which is where the steel section sizes reduce.

EXTERNAL CLADDING

The cladding will consist of a primarily of panels which combined precast concrete and glazing. A loading on elevation of 5.0 kN/m² has been allowed for this. This cladding system is assumed to be supported at column locations and does not directly load the slab. Elsewhere a primarily glazed system is used and a loading allowance of 1.5 kN/m² on elevation has been allowed for this, e.g. the inset level 12 office space. The glazing is assumed to be bottom-supported at every stack.

ROOF AND TERRACES

At level 12 the building is inset to provide an external terrace to the perimeter of the building and a reduced office space at the same level. The inset columns are supported on transfer beams at level 12 which supports plant loading from level 13 above. A plant screen is provided at level 13.

At all locations of external terraces, the parapet is formed by extending the perimeter columns past the floor level to create a full-height external wall. Any parapets should span between external columns to avoid cantilevered parapets fixed to the composite decking.

SERVICES DISTRIBUTON

Services have been coordinated through a series of key risers principally around the core. Early discussions with the M&E consultant have determined that large risers could be located near the perimeter of the central core, primarily to the perimeter of the WC's located just outside the core. The position of the risers impacts the internal column locations and setting out of any adjacent steelwork.

To the perimeter of the risers, cells (elongated where possible) are provided to allow services to pass through. These openings can be uniform up the building and can be pre-fabricated. As the riser positions and WC's are just outside the core, this will reduce the number of service penetrations through the core.

2.2 LOADING CRITERIA

This section of the report outlines the key design criteria for loadings that have been adopted in developing the permanent proposals.

The design loads and material densities in this document have been specified in accordance with BS EN 1991 1 1:2002, General Actions- Densities, Selfweight, Imposed Loads for Buildings. In addition to the design loads specified, the structural design and loadings are to meet current Building Regulations and legislative requirements.

The associated structures have been developed in accordance with the Eurocodes and the most onerous combination of dead, imposed and wind loadings has been considered in the permanent ultimate condition.

STRUCTURAL LOADS

Permanent/Dead loads (DL) take into consideration the self-weight of floor slabs, structural walls and columns; in effect the self-weight of the building shell before finishes are applied. Dead loads are calculated in accordance with BS EN 1991-1-1:2002, relevant trade literature and the client brief.

Superimposed dead loads (SDL) account for the finishes that are applied to the building shell, usually as part of the fit-out. Assumed superimposed dead (uniformly distributed) plan loads in the permanent case are summarised in the following table 7.1.

Variable/Imposed loads (IL) are those loads generally associated with the occupation and use of the building after fit-out. They include an allowance for people, furniture, machines and appliances, fixtures and fittings, partition walls and plant and essentially cover loads which could vary during the building life. Snow loads on the roof are considered as a variable load.

Loading plans have been produced showing the loads used for design, these are provided below

FILE STORAGE (ENHANCED OFFICE)

In accordance with the BCO requirements for offices, an increased imposed load of 7.5kN/m² should be taken over 5% of the office floor areas to account fo file storage.

The following locations have been proposed:

- Adjacent to the straight core wall parallel to and between gridlines D & E (52m²) chosen for its proximity to the core and to only load the end of a primary beam.
- To the rear of the core adjacent to the WC's (2 x 10m²) chosen as a result of the smaller primary beam spans.

The location of file storage loads are shown on the loading plans.

CLADDING LOADS

The cladding loads are provided on the loading plans.

WIND LOADS

Wind loads have been calculated in accordance with BS EN 1991-1-4:2005 (Actions on Structures-General Actions-Wind Actions) and are considered in conjunction with permanent, superimposed dead and variable loads on the structure in accordance with the requirements of Eurocode 2 (Design of Concrete Structures) or Eurocode 3 (Design of Steel Structures) as relevant.

LOCATION	MANCHESTER
Wind Speed Velocity	V _{b,map} = 21.7 m/s
Distance to shore	L _{shore} = 150 km
Altitdude above sea	A _{alt} = 100.00 m (AOD)
Fundamental Wind Speed Velocity	V _{b,0} = 23.9 m/s

TABLE 2.1 — WIND LOADING PARAMETERS

HORIZONTAL LOADS

Any structure anticipated to be adjacent to vehicular movements is not intended to be specifically checked for vehicular impact loading. Sacrificial barriers are assumed to be provided. Any elements not protected will need to be designed as critical elements.

Pedestrian balustrades will be designed in accordance with public assembly requirements where required in accordance with the National Annex to BS EN 1991-1-1:2002 Table NA.8. The design lateral loads for handrails and impact barriers are given below:

REF	CAT	SUB-CAT	DESCRIPTION	UDL (kN/m)
B1	C33	vi	Stair and communal areas (no overcrowding)	0.74
B2	C13	vii	Balconies/Roof edges (no overcrowding)	0.74
В3	C5	ix	Footways adjacent to sunken areas (overcrowding)	1.5

TABLE 2.2 — PARAPET LOADING

SNOW LOADS

The design snow loads at roof level have been calculated in accordance with BS EN 1991-1-3:2003 and are shown in table 7.4.

LOCATION	COVENTRY
Basic snow load	sk = 0.50 kN/m ²
Site altitude	A _{alt} = 100 m (AOD)
Site snow load	sk = 0.50 kN/m ²
Shape coefficient	μ1 = 0.80

TABLE 2.3 — SNOW LOADING PARAMETERS

Where snow drift loads are considered significant to the design of the superstructure and associated cladding, these should be calculated in accordance with BS EN 1991-1-3:2003

NOTIONAL HORIZONTAL LOADS

Notional horizontal loads are to be calculated in accordance with the following:

BS EN 1996-1-2:2005 – Code of Practice for Use of Masonry;

BS EN 1993-1-1:2005 – Structural Use of Steelwork in Buildings;

BS EN 1992-1-1:2004 – Structural Use of Concrete.

LOADS ARISING DURING EXECUTION

The Contractor was to develop the construction methodology and make due-allowance for temporary construction loads that may exceed the loading allowances.

2.3 FIXINGS INTO PRIMARY STRUCTURE

All fixings to the structure should be approved for the fixing substrate.

All fixings are to be installed in line with the manufacturers guidance.

When making fixings to structural elements, the fixed element should not exceed the design load of the installed structure, illustrated within the loading plans.

If questionable, a structural engineer and or building control must be consulted prior to installation of any elements.

3 ACOUSTIC NOISE & VIBRATION

31 ACOUSTIC NOISE & VIBRATION

FLOORS

The floor construction is considered commensurate with achieving the airborne sound insulation performance requirements for between office floors. The floors will achieve DnT,w 48 if fitted to Cat A standard (in conjunction with the ceiling). The reference reverberation time T0 is 0.8s.

Impact sound would be expected to be controlled in general by finishes installed as part of the Cat A and/ or Cat B fit-out. Therefore the tenant should specify soft floor finishes or resilient layers beneath hard floor finishes in the office floors to mitigate impact noise transfer. Impact sound insulation between office floors shall be $\leq 60 \text{dBLnT.w.}$

WALLS

Separating walls between tenancies will be a dry lined partition specified to achieve an acoustic performance of DnT,w48. The performance of these walls must not be compromised by the tenant via fixings or penetrations.

NOISE EMISSION TO ADJACENT AREAS

The tenant shall be responsible for limiting noise within their demise to avoid disturbance to adjacent occupants. The tenant shall design and install any measures in their fit-out to ensure they achieve this. Any amplified music systems shall be fitted with a noise limiting device which shall be set on the completion of the fit-out to ensure that there is no disturbance to any adjacent tenancy. The noise limiter settings shall be maintained thereafter, unless alterations are approved by the Landlord. Any loudspeakers shall be resiliently connected to the structure.

Tenant noise intrusion on adjacent tenants spaces must be limited to 55dBLA1.

The tenant is required to discuss and agree with the Landlord any noisy construction or fit-out activity so that this can be timed to avoid disruption to any other neighbouring Landlord and/or tenant areas

VIBRATION

The design shall ensure that the maximum peak acceleration in the building structure of 0.01m/s based on the Wb weighting curve as defined in clause 3.3 of

BS 6472-1:20082 when the building services operate simultaneously at design duty load conditions.

EXTERNAL NOISE

Noise from plant equipment needs to be limited to minimise disturbance to existing (and new) noise sensitive premises in the vicinity of the development, and new noise sensitive premises within the development.

The cumulative free field building services noise emission limits for all plant associated with the development are 54 dBLAr,Tr3 day time, 42 dBLAr,Tr3 night time.

The following cumulative plant noise emissions limits shall apply:

- Noise from rooftop plant shall be limited to 60dBLAr,Tr3 at 1m from the perimeter of the building at roof level.
- Noise from rooftop plant shall be limited to 48dBLAr,Tr3 on balconies and rooftop terraces.
- Noise emissions from louvres shall be limited to 48dBLAr,Tr3 at the nearest public circulation point.

INTERNAL NOISE

Internal noise within office areas including services and noise ingress from outside has been designed to achieve NR 38. Any new plant shall not increase the noise level in adjacent tenancies.

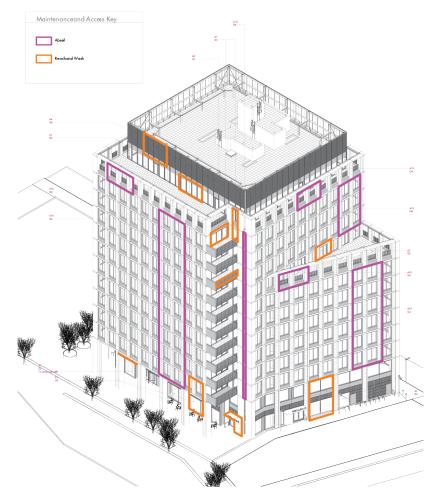
The demise walls separating the lift lobby and office area have been constructed to achieve a minimum Rw 45 DB with a double door of Rw 30 dB. Tenants may wish to consider having a further lobby within the office demise if greater acoustic separation is required.

For further information refer to the **Acoustics Employer's Requirements** produced by Arup.

4 ACCESS FOR MAINTENANCE & WASTE MANAGEMENT

4.1 ACCESS REQUIREMENTS

Access for window cleaning is required on levels 8 & 12 where rope access will be utilised from the terraces to reach the floors below. For this reason the terrace perimeter needs to be kept clear to allow safe access to the abseiling eyebolt fixings. Periodic testing of the eyebolts will also be required, for further information refer to the O&M manual.



MAINTENANCE ACCESS DRAWING

4.2 WASTE MANAGEMENT

The Landlord will be responsible for providing a cleaner's service to the common parts within the building, including the reception, WCs and showers, and the core areas on each floor. The Landlord will also manage the external cleaning regime for the car park and building frontage. Tenants will be responsible for providing a cleaning service to their demised areas.

Refuse bins will be provided by the Landlord in the secure, dedicated bin store located at ground floor, to the rear of the building. Tenants will be responsible for emptying their own refuse into the bins, and the Landlord will provide a regular waste and recycling collection service, as part of the overall building service charge. Tenants will be required to ensure that their refuse is properly emptied into the bins, and that any spillage is cleaned up immediately, to keep the area clean and tidy. No waste is to be stored outside the building or on the external footpath, under any circumstances.

5 MECHANICAL & ELECTRICAL SYSTEMS

5.1 INTRODUCTION & OVERVIEW

GENERAL

This section of the handbook provides a brief description of the various Building Services systems within the office building.

AIR-CONDITIONING AN VENTILATION

The office floors are air-conditioned by way of a 4-pipe fan-coil system. The system provides heating and cooling throughout the seasons. It also provides filtered ventilation air to all office areas from roof-mounted airhandling plant.

ELECTRICAL DISTRIBUTION

Electrical power is distributed to all floors with distribution boards for tenants' power supplies located in two locations per floor.

LIGHTING

Tenant areas are artificially lit by arrays of recessed ceiling-mounted luminaires fitted with LED light sources. Emergency lighting is also provided to illuminate escape routes in the event of a power failure.

FIRE SAFETY

The building is equipped with an automatic fire alarm system and an automatic sprinkler system. There is a fire-fighting lift in the central core together with a smoke ventilated Fireman's lobby and staircase.

ACCESS CONTROL

Entrance doors to the office suites and the main entrance into the building from outside are fitted with access control equipment. Access into the building, and then into the office suites, by authorised staff, is via cardcontrolled devices at each entry point.

Similarly, access into the Basement car park is via card controlled devices.

DATA CONNECTIVITY

Data connectivity to each floor is provided by a tubular containment system accepting blown optical fibre media. There are two dedicated containment tubes per floor. These are terminated close to the electrical distribution boards on each floor. Data connectivity to Wired Score Platinum Standard is provided.

CCTV

The Landlord operates a local CCTV system to monitor some of the common internal areas of the building. The CCTV also monitors the pedestrian walkways that are external to the building. The CCTV system does not extend into the tenanted areas.

VERTICAL TRANSPORTATION

Access to all floors above the Ground Floor is provided by six passenger lifts. One of the lifts is also configured as a fire-fighting lift. One of the other passenger lifts may be fitted with protective drapes and used to transport goods to the upper floors. The lifts are controlled by a destination control system whereby travellers key in their chosen destination upon arrival in the main Ground Floor Reception.

BUILDING MANAGEMENT SYSTEM

The mechanical services within the building are controlled by a Building Management system (BMS). This system, amongst other things, controls the temperature of the various zones in the office suites. User adjustable features are included.

ENERGY METERING

Tenants' electricity consumption for both lighting and small power is metered at each distribution board; there being two such boards serving each office floor.

In addition to electricity metering, there are heat meters connected to the Low Pressure Hot Water and Chilled Water branch connections on each tenanted floor. The meters allow the Landlord to measure and charge for the energy used by each tenant.

ELECTRIC VEHICLE CHARGING

The Basement car park has been fitted with two electric vehicle charging points. The electrical energy consumed will be charged to the recipient by way of the Landlord's metering agreement.

5.2 PARAMETERS

GENERAL

This section of the handbook describes the parameters used when designing the building services systems.

The parameters are based on the guidance offered by the 2019 Edition of the British Council of Office Guide to Specifications. All parameters described under the subsequent headings are based on the office floor plates being occupied on an open plan basis unless stated otherwise.

VENTILATION RATES

The ventilation rate to all office floors is based on a Workplace Density of one person per 8 m² of nett internal area. The ventilation rate to satisfy this density becomes 1.65 litres/second per m² of nett floor area when applying BCO guidelines. Ventilation air is distributed evenly throughout floors fitted out to Category A standards.

VENTILATION CONTROL ZONES

The ventilation system on each floor has been subdivided into four zones. Each zone is equipped with an air control valve which regulates the rate of ventilation to that zone. The control valves are often referred to as Variable Air Volume control boxes or VAV boxes. Regulation is controlled by a carbon dioxide sensor in each zone. In this way, the ventilation system, as a whole, adapts to the levels of occupancy in the building at any point of time. The tenant may alter, adapt, or introduce more air control valves to suit a particular space planning arrangement. The concentration of carbon dioxide is (at the design stage) anticipated to range from 400 part per million (unoccupied) to 1,100 part per million (densely occupied).

Floor plans indicating the ventilation zones are based on the Category A floors. It is anticipated that zones on shell and core floors will be similar unless a future tenant introduces a greater number of VAV boxes.



FIGURE 5.1 - VENTILATION CONTROL ZONES & VAV ARRANGMENT

COOLING LOAD ALLOWANCES

TEMPERATURE CONTROL ZONES

Office floors fitted out to Category A standards have been sub-divided into temperature control zones. Zoning is based on BCO guidance where perimeter zones extend to a depth of approximately 4.5 metres. The width of a perimeter zone is no more than 6.0 metres. Internal zones are larger in area but no more than 70 square metres in floor area.

The temperature control zones are indicated on the following floor plans where a fitting out has taken place to a Category A standards;

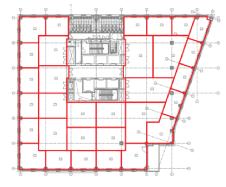
- Levels 02, 03 and 04
- Levels 10, 11 and 12

There is a fan-coil unit to control air temperature in each zone.

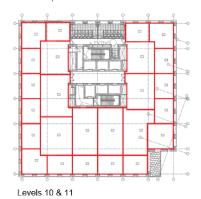
Temperature control zones for shell and core floors are not defined as these are to be determined by the tenant. The Landlord would encourage a tenant to follow the BCO Guidance, as a minimum requirement, when defining the temperature control zones.

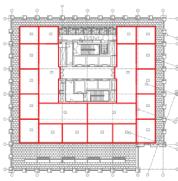
The shell and core floors are;

- Level 01
- Levels 05, 06, 07, 08 and 09



Levels 2, 3 & 4





Level 12

FIGURE 5.2 - TEMPERATURE CONTROL ZONES (CATEGORY A)

COOLING LOAD ANALYSIS

Cooling loads for each zone have been evaluated by computer software using standard CIBSE data to determine solar and transmission heat gains. Zoning for the shell and core floors follows the same zoning patterns as the Category A floors in order to establish central plant cooling loads.

CASUAL GAINS

Casual gains, meaning the heat gains generated within each zone from occupancy, lighting and small power, are based on the following criteria:

- (a) Occupancy 1 person per 8 m² of nett internal area using standard CIBSE data for metabolic gains.
- (b) Lighting
 An allowance of 6 Watts per m² of nett internal area is included for the heat gains from electric lighting.
- (c) Small Power
 An allowance of 20 Watts per m² of nett internal area is included for small power heat gains.

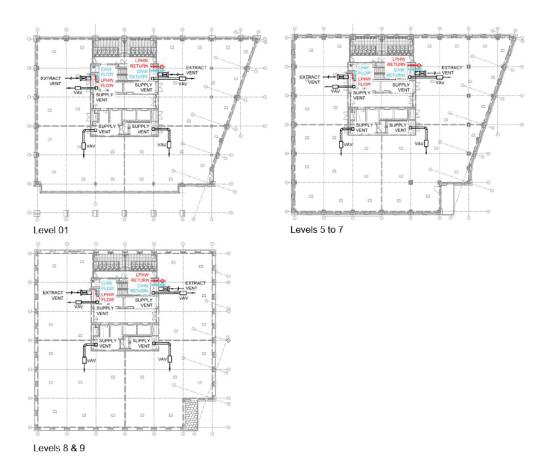


FIGURE 5.3 - SHELL & CORE FLOORS WITH SERVICES CONNECTIONS

A tenant wishing to occupy their tenancy with Workplace Densities greater than 1 person per 8 m² and/or consume small power with a dissipation rate greater than 20 W/m² should seek further guidance. The Landlord's Consulting Engineer will be happy to oblige.

LOAD DIVERSITY

It is not anticipated that the whole of an office floor plate will be occupied to a Workplace Density of 1 per 8 m². A diversity factor (or a utilisation factor) of 80% has been assumed at the design stage.

Over the area of a whole floorplate, the Effective Density becomes 1 person per 10 m². Similarly, the casual gains from small power heat dissipation reduces to 16 W/m² over a whole floor. However, this reduction has only been factored into the sizing and selection of the building's water chillers.

CENTRAL PLANT START AND STOP TIMES

The Landlord's heating, ventilating and air-conditioning plant will run on weekdays from 7.0 am to 7.0 pm. This time schedule is subject to amendment by the Landlord.

INTERNAL TEMPERATURES

The air-conditioning system serving the office floors has been designed to control the air temperature at the temperature sensor within a band between 20°C and 24°C (i.e. 22°C \pm 2°C).

The internal temperature for each control zone may be adjusted, either upwards or downwards, by amending the setpoint settings on the Building Management System (BMS). The BMS is under the control of the Landlord and such adjustments are to be made in consultation with the Landlord.

The building envelope is thermally-insulated to a high standard. It has also been constructed to achieve a high degree of airtightness. This will mean that internally generated heat will not readily escape through the walls and windows of a tenanted office area.

In view of this, it may be advisable to choose a higher than normal winter room air temperature to reduce the energy consumption attributable to cooling. This would be especially so where the density of occupation and the level of small power consumption for business machinery, (such as computers, printers, copiers, etc.) is very high. For example, choosing a temperature of 24°C will be more energy efficient than a temperature of 22°C in areas where internally generated heat gains exceed the heat loss through the structure and fabric of the building.

The choice of temperature is of course a matter for each tenant and how the office space is used. The foregoing example is given for information and guidance.

LIGHTING LEVELS

Office lighting has been designed to achieve an average level of 500 lux on the working plane under open plan conditions.

The lighting system has been sub-divided into control zones that allow the users to dim the lighting levels to suit their particular preferences.

The perimeter zones also include dimming features to account for daylight entering through the external glazing.

For modern offices with computer screens, it is suggested that the lighting levels are dimmed to an average level of between 300 and 400 lux.

As stated previously, the lighting system has been arranged for open plan conditions. It may be necessary to alter and/or enhance the lighting to account for partitions.



Typical Lower Floor

FIGURE 5.4 - LIGHTING CONTROL ZONES



Typical Upper Floor

5.3 LANDLORD MECHANICAL SERVICES

GENERAL

This section is intended to provide a general overview of the Landlord's mechanical services that are installed within the building. These systems are owned and operated by the Landlord but are described here to provide a tenant with some background knowledge as to how their tenancy is serviced.

HEATING

HEAT SOURCE

The building is heated by way of a connection to the Coventry District Energy Company's district heating scheme. There is a district heating sub-station in the Basement which provides a source of heat to the entirety of the building.

The heat supplied by CDEC is a low carbon energy source.

HEAT DISTRIBUTION

The heat arriving into each tenancy is in the form of piped hot water (known as Low Pressure Hot Water). This is circulated to the perimeter fan-coil units in those tenancies fitted out to Category A standards.

On shell and core floors, the tenant is to install piped hot water to the heat emitters of their choice.

Heat emitters are most likely to be 4-pipe fan-coil units of a similar specification to those installed on the Category A floors. The heating pipework, whether on a Category A floor or a shell and core, is to be arranged with a reverse return configuration.

HEAT METERING

There are heat meters on each floor to allow the Landlord to charge for the heat consumed by the tenant.

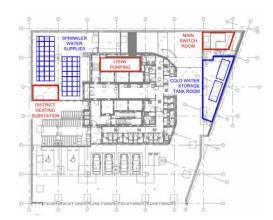


FIGURE 5.5 - BASEMENT SERVICES

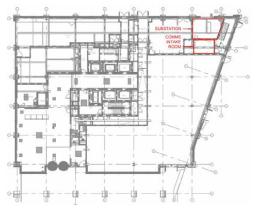


FIGURE 5.6 - GROUND FLOOR SERVICES

COOLING

WATER CHILLERS

The building is cooled by a pair of roof-mounted aircooled water chillers.

CHILLED WATER

Chilled water is distributed to all tenanted areas by way of pumping plant at roof level.

On the Category A floors, the chilled water is piped to all of the fan-coil units. On shell and core floors, the chilled water terminates with isolating valves in the ceiling void close to the main risers.

Chilled water pipework, whether on a Category A floor or a shell and core floor, is to be arranged with a reverse return configuration.

Tenants are to note that the chilled water is designed to arrive at each tenant floor at a temperature of 7° Celsius. This will mean that all pipework to be installed on the shell and core floors is to be thermally-insulated and vapour-sealed. Fan-coil units will need to be fitted with condensate drains.

CHILLED WATER METERING

There are "heat" meters on each floor to allow the Landlord to charge for the cooling energy consumed by the tenant.

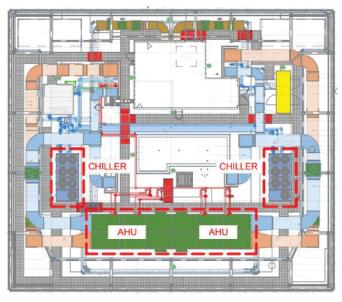


FIGURE 5.7 - AIR HANDLING UNITS AND CHILLERS AT ROOF LEVEL

VENTILATION

AIR-HANDLING PLANT

There are two air-handling units installed on the roof of the building. These units provide filtered and heated ventilation air to the tenanted areas of the building.

DISTRIBUTION

The ventilation air is ducted to each floor by way of two rising ducts; one on the Eastern Wing of the central core and one on the Western Wing of the core. There are ducted connections from the two riser positions supplying air to a total of four Variable Air Volume (VAV) controllers. The VAV controllers regulate the ventilation airflow in response to the concentration of carbon dioxide gas in the air within that zone of the office floor plate.

There is a range of ductwork on the downstream side of the VAV controllers that connects to each fan-coil unit on each of the Category A floors.

On shell and core floors, the incoming tenant will be obliged to install the ductwork distribution on the downstream side of the VAV controllers to suit the preferred space planning arrangements.

Tenants are at liberty to install a greater number of VAV controllers to suit their particular fitting-out plans. For example, a large Conference Room with a high, but infrequent, occupancy may benefit from having a VAV controller dedicated to that room.

EXHAUST AIR

Exhaust air is removed from the office floor plates through open grilles in the ceiling. Thereafter, air is drawn from the ceiling void into an air shaft that rises to roof level.

SPRINKLERS

GENERAL

The building is sprinkler-protected to an Ordinary Hazard III classification.

WATER SUPPLIERS

The water supplies for the sprinkler installation are located in a dedicated room in the Basement. This room contains two water storage tanks, two fire pumps, and the main valves that distribute fire-fighting water to the office floor plates.

SPRINKLER HEADS

Tenanted areas fitted out to Category A standards are equipped with both ceiling-mounted sprinkler heads and sprinkler heads protecting the ceiling void above.

Shell and core floors are fitted with basic arrays of high level sprinklers to satisfy BS EN 12845:2015. These may need to be amended as necessary to suit a tenant's space planning requirements.

HOT AND COLD WATER

GENERAL

Hot and cold water is supplied to the common areas of the building under the Landlord's control. Common areas in this context refer to the toilet accommodation on each floor and the Basement shower accommodation amongst others.

WATER SUPPLIES

There is a pair of cold water storage tanks in the Basement. Water is pumped to all draw-off points by way of a pressure booster located in the Tank Room.

Hot water is generated by a pair of fast recovery storage calorifiers in the Basement.

Primary heat for the calorifiers is sourced from the district heating sub-station.

TENANTS' WATER SUPPLIES

Tenants wishing to install kitchenettes and other similar facilities requiring a water supply are to connect to the building's boosted cold water service. Connections to the building's hot water service are not admissible.

Valved and demountable sections of cold water pipework are installed above the ceilings in the core areas of each floor. The tenant is to install a tee into the demountable sections when connecting into the Landlord's cold water system.

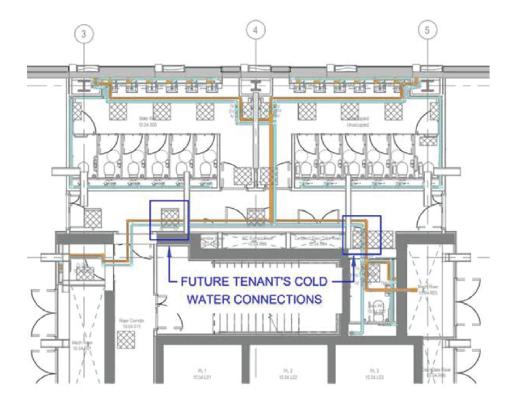


FIGURE 5.8 – LOCATION OF DEMOUNTABLE SECTIONS IN COLD WATER PIPEWORK FOR TENANT SERVICES CONNECTIONS

MISCELLANEOUS VENTILATION SYSTEMS

GENERAL

The following systems are dedicated to the common areas of the building. Their descriptions are given for information; they are unlikely to feature in any tenants' fitting-out work associated with the office accommodation.

TOILET VENTILATION

The Male, Female, and Disabled WC toilet accommodation on each office floor is equipped with extract ventilation. The extract fans are located at roof level.

Replacement air is drawn from the office ceiling voids by way of attenuated duct connections. These are firedampered where the duct penetrates the dividing wall between office and toilet.

BASEMENT SHOWER FACILITIES

This area is ventilated by way of a balanced system of supply and extract ventilation.

The air-handling plant associated with this system is located at Mezzanine level and is inclusive of a heat recovery device.

BASEMENT CAR PARK

The Basement car park is equipped with a fan-assisted extract system. The system has two principal functions:

- To control the level of pollution arising from vehicle exhausts.
- To evacuate heat and smoke in the event of an outbreak of fire.

Replacement air arrives into the Basement from the entrance at Ground Floor level and flows along the ramp leading to the Basement parking area.

The extract fans, of which there are two, are located in a dedicated plantroom at Mezzanine level.

BASEMENT GENERAL VENTILATION

There is a separate extract ventilation system serving the ancillary areas of the Basement, such as the switch room, the heating pump room, district heating substation, and the sprinkler water supply/pump room. Normally, this system provides general ventilation to these rooms.

In the event of a fire in any particular room, a series of automatically-controlled fire dampers open to the "fire" room and close to all other rooms, and extract heat and smoke to outside from the "fire" room. The fans associated with this system are located in the Mezzanine Fan Room which also houses the car park extract fans.

FIRE-FIGHTING LOBBY VENTILATION

The fire-fighting lobbies on each floor associated with the fire-fighting staircase and lift are equipped with an extract ventilation system. This system is designed to provide visibility to the fire service in their efforts to extinguish a fire on an office floor.

Replacement air for the extract system is introduced through an Automatic Opening Vent located at the head (i.e. at roof level) of the fire-fighting staircase.

There is an automatic damper at each lobby landing level. These dampers are connected to a rising builder's duct equipped with a pair of axial fans at roof level. The dampers are normally closed. In the event of a fire, the lobby damper on the "fire" floor opens and the extract fans located at the head of the ventilation shaft start.

SPRINKLER ROOM FRESH AIR VENTILATION

The Sprinkler Room in the Basement is equipped with a diesel engine-driven fire pump.

Aspiration and general ventilation air for the diesel engine is provided by a dedicated supply air system.

RECEPTION AND ENTRANCE FOYER

The Reception and Entrance Foyer are ventilated and air-conditioned by a dedicated constant volume air-handling system. The plant is located in a plantroom at Mezzanine level.

BIN STORE

This is equipped with an extract ventilation system.

RECEPTION OFFICE

This is ventilated and air-conditioned by way of a 4-pipe fan coil unit mounted in the ceiling void.

5.4 LANDLORD ELECTRICAL SERVICES

GENERAL

This section is intended to provide a general overview of the Landlord's electrical services that are installed within the building. These systems are owned and operated by the Landlord but are described here to provide a tenant with some background knowledge as to how their tenancy is serviced. Two Distribution Boards have been provided per half floor, one for power and one for lighting. These are solely for use by the individual tenancies.

POWER DISTRIBUTION

INCOMING ELECTRICAL SUPPLY AND LOW VOLTAGE DISTRIBUTION

A dedicated substation is located on the Ground Floor of the building to provide power throughout the building. The substation in turn feeds the main switchboard located within the basement. Power is then distributed throughout the building via submain cables, installed on containment, and rising busbars.

Distribution Boards have been provided throughout the building in order to provide power to the landlord services (lighting, door access, mechanical equipment etc.).



BUSBAR TAP-OFF



LIGHTING & POWER DISTRIBUTION BOARDS

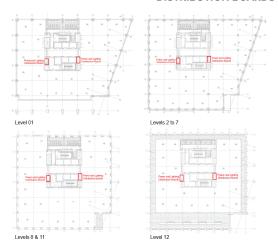


FIGURE 5.9 – LOCATION OF POWER & LIGHTING DISTRIBUTION BOARDS

GENERATOR

A diesel generator package is installed on the roof to provide power to essential services in the event of a power failure. The generator feeds a dedicated MCCB board also located on the roof. Essential power is then distributed to automatic transfer switches located adjacent to each piece of essential equipment. An 8-hour capacity service fuel tank has been installed.

- The following are the loads the generator supports:
- The firefighting lift.
- The two basement car park extract fans.
- The car park impulse fan.
- The smoke ventilation fans serving the fire fighting lobbies.
- The basement smoke clearance ventilation fans.
- The sprinkler diesel engine pump ventilation and aspiration air fans.
- The Firefighting stairs lighting.
- The three uninterruptable power supply units.

UNINTERRUPTABLE POWER SUPPLIES

To ensure that continuous power is supplied to the Landlord data infrastructure, UPSs have been installed in each of the three landlord data cabinets (two on the mezzanine and one on Level 8). The UPSs have a duration of 25 minutes.

POWER QUALITY

To provide the correct voltage and to correct any power factor issues on site, a harmonic mitigation and correction of displacement power factor units have been installed on the wall in the to the main LV Switchboard room.

The unit is able to operate to provide harmonic compensation and reactive power compensation to improve the displacement power factor (either leading or lagging) and load balancing to improve the mains current as seen by the utility supply. The unit is to correct the line-line or line-neutral connected loads.

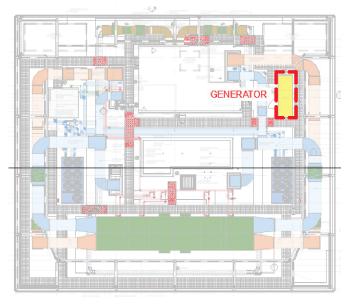


FIGURE 5.10 – LOCATION OF GENERATOR AT ROOF LEVEL

SURGE PROTECTION

In addition to the Units described above, Surge Protection Devices (SPDs) have been installed to provide protection from overvoltage (such as lightning strikes)

The SPDs as provided are located in/adjacent to the following:

- Type 1+2 connected to the Main LV panel.
- Type 1+2+3 on all MCCB boards and DBs serving external equipment.
- Type 1+2+3 on all DBs serving telecommunication rooms.
- Type 2+3 on all circuits supplying the landlord's comms room.
- All incoming utility supplies, including all telecommunications cabling.

EARTHING

The electrical installation has been installed complete with all required earthing arrangements. In addition provision has been made, in the form of a dedicated earth bar within each tenant's riser, for a clean earth.

This is intended to be used solely for any IT equipment installed within the tenancy.

LIGHTING

GENERAL

Lighting has been provided throughout the landlord areas including:

- Main entrance
- Lift lobbies
- Corridors and stairs
- Toilet/shower facilities
- Plantroom and risers
- Carpark
- External

All light fittings have an LED source to provide an energy efficient scheme.

LIGHTING CONTROL

To further enhance the efficiency of the system lighting control has been installed throughout. The user interface is a cloud-based software package which can be accessed via PC. Any future modifications to the layouts, or changes to the lighting requirements, can be achieved by using this interface. The DALI based system operates in the following way:

(a) Main entrance

Lighting is to be controlled via a DALI based control system with a scene setting plate located at the reception desk.

(b) Lift lobbies

The Ground Floor lift lobby is to be controlled from the main entrance scene setting plate.

Lift lobbies on other levels are to be controlled by local PIRs with simple ON/OFF, presence, and daylight functions. The PIRs are to be equipped with a run-on timer, the timers are to be set initially to 10 minutes.

(c) Corridors and stairs

Corridors are generally to be controlled by local PIRs with simple ON/OFF, presence, and daylight functions. The PIRs are to be equipped with a run-on timer, the timers are to be set initially to 10 minutes.

Fittings located within these areas which are equipped with smart controls are to be activated as groups by their internal sensors.

Stair fittings are to be programmed to operate in such a way that upon entry into the stairwell, the fittings on that level, one level above, and one level below are turned on.

(d) Toilet/shower facilities

Toilet and shower areas are to be controlled by local PIRs with simple ON/OFF, presence, and daylight functions. The PIRs are to be equipped with a run-on timer, the timers are to be set initially to 10 minutes.

(e) Plantroom and risers

Plantrooms and risers are controlled by local PIRs with simple ON/OFF, presence, and daylight functions. The PIRs are to be equipped with a run-on timer, the timers are to be set initially to 10 minutes.

(f) Carpark

Carpark fittings are controlled by local PIRs with simple ON/OFF, presence, and daylight functions. The PIRs are to be equipped with a run-on timer, the timers are to be set initially to 10 minutes.

(g) External Lighting

The external lighting is to be controlled with a DALI based system with a photocell and timer. The external lighting is also to be capable of scene setting and timed programmed scenes.

(h) Category A Fitout

A fully addressable DALI lighting has been installed. The office lighting system is equipped with user operated dimmable controls in zones with a floor area as indicated opposite to allow an illuminance range of between 300 and 500lux.

Lighting within each zone is controlled by suitable sensors which enable zones to be individually, and automatically, dimmed whenever external daylight can contribute to the interior lighting levels.

(i) Shell and core floors

A lighting control enclosure and data outlet has been installed within the rider for future installation and connection of control modules, 4,3,3

EMERGENCY LIGHTING

The general lighting is supplemented with emergency fittings and illuminated exit signs to illuminate the exit routes during any local or general power outage. The emergency lighting system is monitored and tested by the central DALI control.



TYPICAL LIGHTING CONTROL MODULE

FIRE SAFETY

FIRE ALARM SYSTEM

A Fire Detection and Alarm System has been installed throughout the building. The system comprises a number of panels, repeater panels, employs both conventional and aspiration detection, manual call points, interfacedevices, beacons, and voice evacuation alarms.

The entire system, including within the tenanted areas, is linked together to enable phased evacuation of the building.

The core areas, including interfaces to door access etc., are connected onto one of the two landlord's Fire Alarm Panels.

Each tenanted floor is equipped with one dedicated loop from one of the two tenant Fire Alarm Panels.

Detection within the shell and core floors is achieved by using an aspirating smoke detection system. Several loop devices have been installed onto these levels which will enable any future devices to be installed without interrupting other loops on the system. Within the Category A levels the void detection is in the form of an aspirating system and detection below ceiling level is by conventional optical detectors. These areas have also been equipped with beacons and voice evacuation alarms.



ASPIRATING SMOKE DETECTION SYSTEM

REFUGE ALARM

A refuge alarm system has been installed to enable less able-bodied persons to communicate with fire officers when the building is being evacuated.

Main panels are located at the reception desk and within the dedicated Fire response room, outstations are located within each escape stair on each level.

ACCESS CONTROL

FOB/CARD ACCESS

A number of fob/card readers have been provided throughout the building to allow authorised persons entry. The access system has been installed to the main entrances into the building, on all doors leading from the core area into the office space (5 per floor), and for the security barriers in the reception area.

AUDIO/VIDEO INTERCOMS

In addition to the fob/card entry there is an Audio/ Video intercom system which provides two-way audio and one way video between the three entry points and the two base stations (receivers) in the following locations:

Wall mounted vandal resistant external audio/video intercoms:

- Basement
- Ground floor external pass door (adjacent to main entrance)
- Ground floor cyclist door to car park

Desk mounted Internal Intercom Handset / Monitors:

- Reception desk
- Post Room / Management Office

DATA CONNECTIVITY

The building data infrastructure has been installed to achieve Wired Score Platinum status. It has two dedicated 'meet-me' chambers located externally which are linked to the dedicated intake rooms via several ducts. The potential to have two incoming lines provides resilience to the telecommunications system.

TELECOMMUNICATION INTAKE ROOMS

The building has two telecommunication intake rooms; one located within the basement and one on the Ground Floor. These are equipped with dedicated Distribution Boards and cooling.

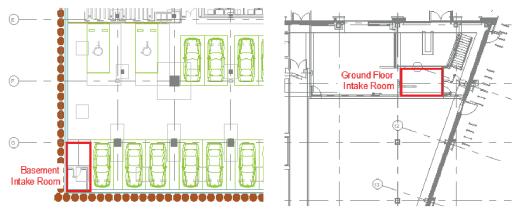


FIGURE 5.11 – LOCATION OF TELECOMMUNICATION INTAKE ROOMS

DATA CONNECTIVITY

The building data infrastructure has been installed to achieve Wired Score Platinum status. It has two dedicated 'meet-me' chambers located externally which are linked to the dedicated intake rooms via several ducts. The potential to have two incoming lines provides resilience to the telecommunications system.

TELECOMMUNICATION INTAKE ROOMS

The building has two telecommunication intake rooms; one located within the basement and one on the Ground Floor. These are equipped with dedicated Distribution Boards and cooling.

FIBRE TUBE/DUCT

A fibre ducting system has been installed to connect the landlord comms rooms and tenant risers to the intake rooms as follows:

- 12-way duct from Basement intake to Mezzanine comms room
- 12-way duct from Ground floor intake to Mezzanine comms room
- 12-way duct from Basement intake to ground floor intake

- 12-way duct from Mezzanine comms room to landlord satellite cabinet
- Basement intake to each and every tenant floor via the LHS riser utilising 2 x 12-way ducts
- Ground floor intake position to each and every tenant floor via the RHS riser utilising 2 x -way duct

The tenant ducting installed within the riser will be equipped with the following on each level:

- An internal tube distribution box
- Break out of two tubes from the duct
- The remaining tubes will be connected with clear straight connectors

Please note that the installation of the fibres within the tubes will be future IS/BT works.

LANDLORD COMMS ROOM

The landlord comms equipment is located on the Mezzanine level with an additional satellite cabinet located on the 8th Floor. The data installation serves systems such as CCTV, Door Access, Data outlets (within landlord areas), and Wi-Fi provision.



FIBRE OPTIC BREAKOUT BOX INSTALLED WITHIN TENANT'S RISER

WI-FI

Wi-Fi access points have been installed to provide coverage within the Ground Floor reception area and within the lift lobbies from level 1-12.

CCTV

The CCTV system has been installed to provide general surveillance and monitoring of the building at Ground Floor and within landlord areas.

Command and control of all the cameras is via the PC workstation located in the management office. The rack mounted NVR is set to record at a rate of 16 images per camera per second archiving for thirty days at 2Mp 1080p resolution.

The system design consists of the following cameras:

- 153 x HIK 4 MP IR Fixed Turret Network Camera
- 12 x HIK 8MP IR varifocal Bullet Cameras

ENERGY METERING

A sitewide metering system has been installed to facilitate the recording and viewing of all electric, water & heat meters.

The system comprises a Universal Gateway installed within the Basement Electrical Switchroom and Modbus wiring to meters throughout the building.

The gateway is fitted with a GPRS telephone module to enable connection to the Autometers remote servers

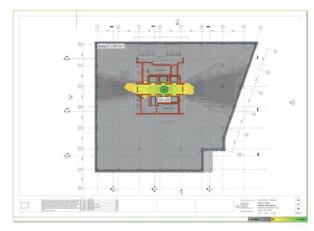
where information is recorded & can be viewed on-line. A data connection to the clients IT network will also be provided as back-up.

The electric meters record the Voltage, Current, kWh, kVAr, frequency, maximum demand and harmonics for all meters.

Two electrical meters are installed within each tenancy; one for power and one for lighting. These are located in the bottom enclosure of the Distribution Boards and can be read manually if required.



Ground Floor Wi-Fi Coverage



Typical Floor Wi-Fi Coverage

FIGURE 5.12 - PLANS ILLUSTRATING WI-FI COVERAGE

ELECTRIC VEHICLE CHARGING

The EV charging system in the basement consists of two 7kW wall mounted charging units with automatic load management. A dedicated distribution board has been provided with 12 TP&N ways and a 100A supply within a separate room in the basement.

The load management system allows for future expansion using the existing 100A supply. In addition, containment routes have already been installed to serve 7 additional spaces.

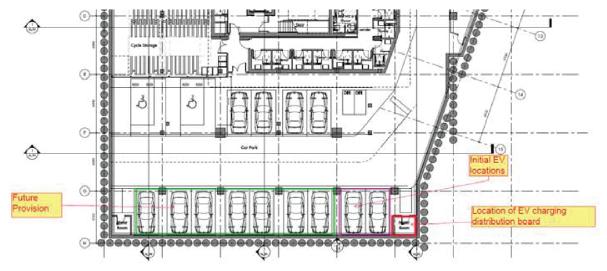
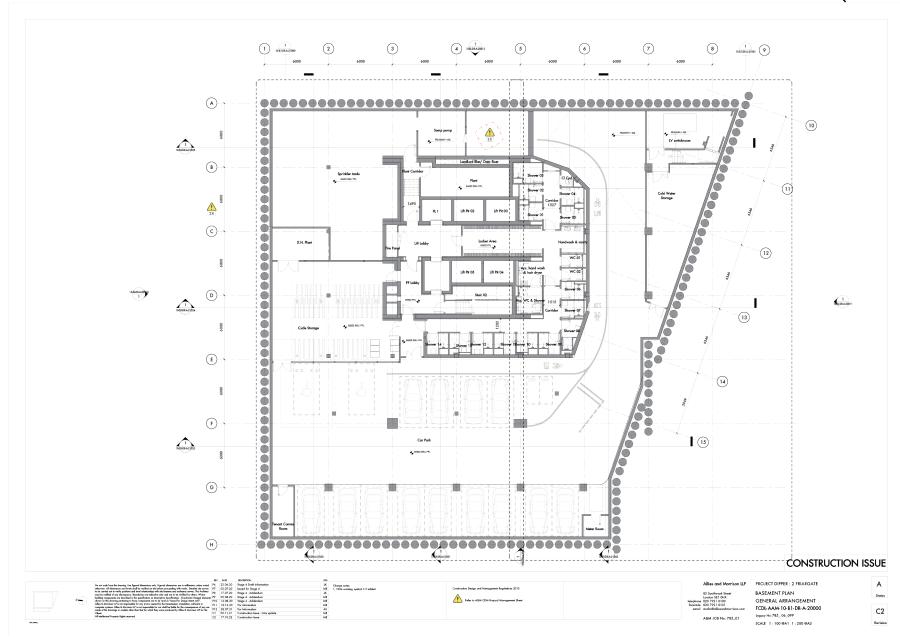
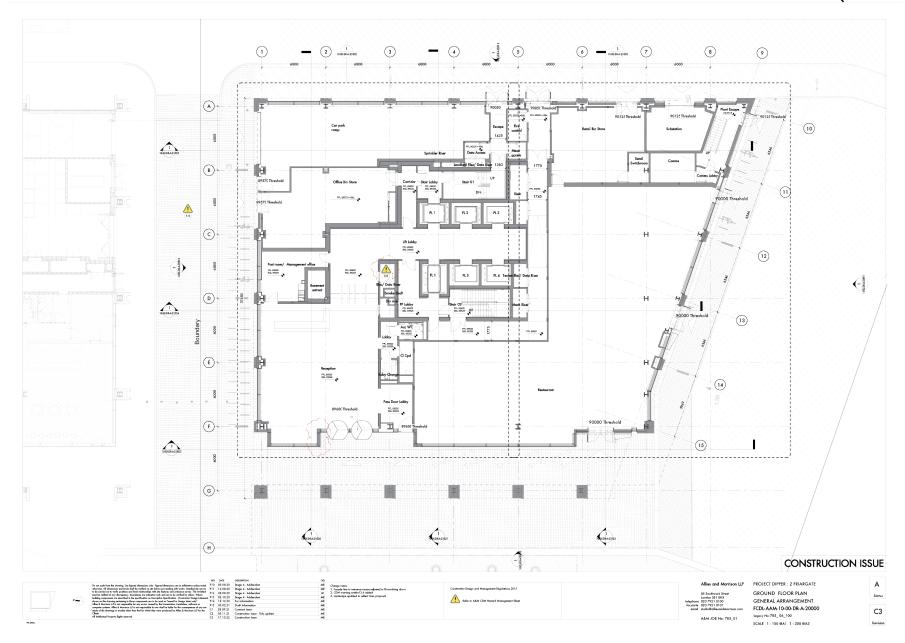


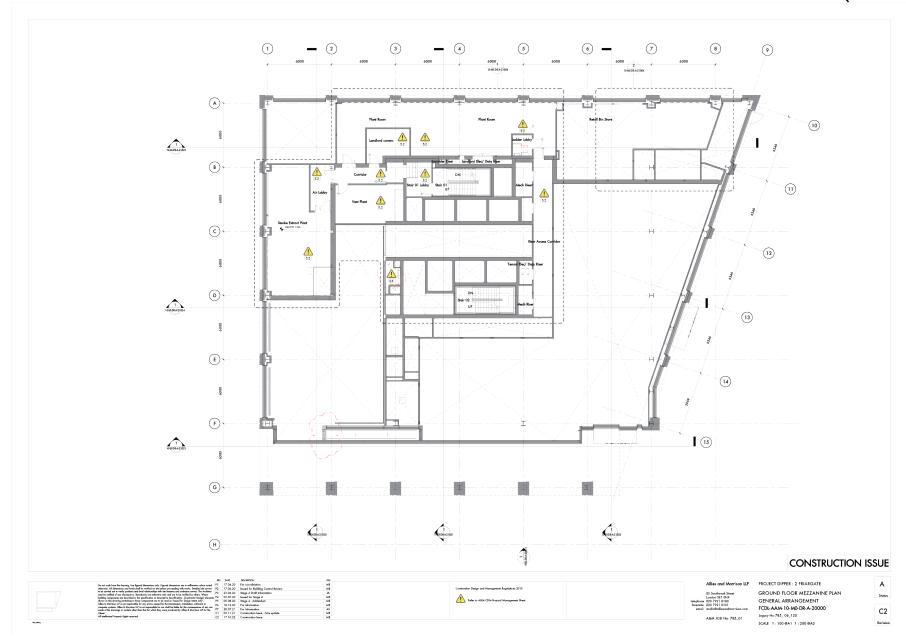
FIGURE 5.13 – EV CHARGING LOCATIONS & FUTURE PROVISION

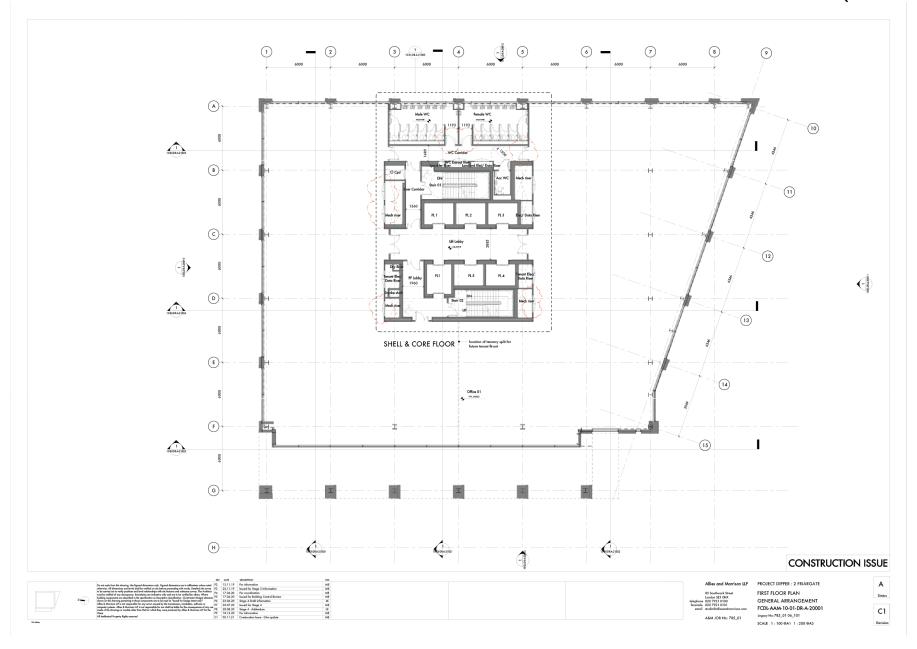
6 APPENDICES

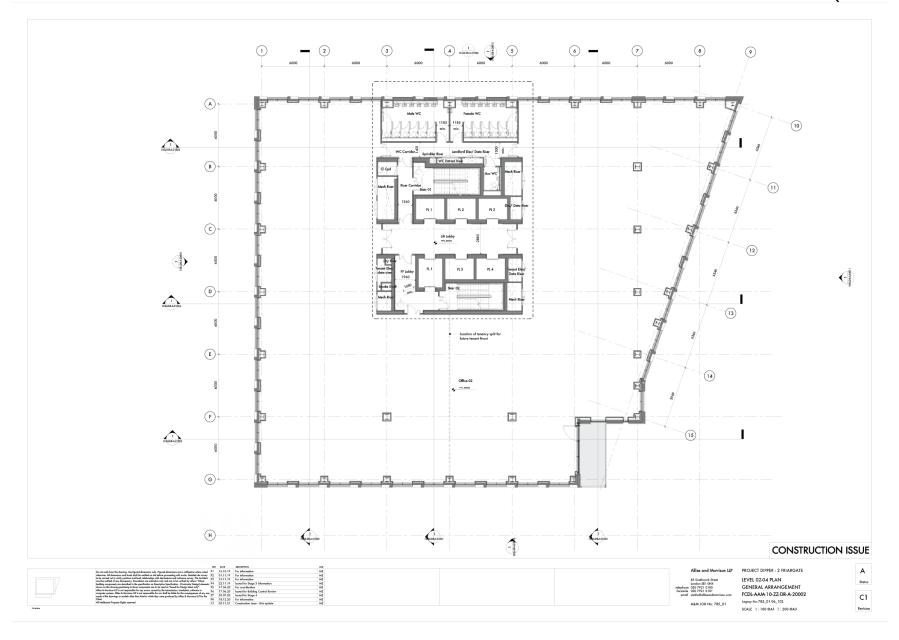
ARCHITECTURAL DRAWINGS

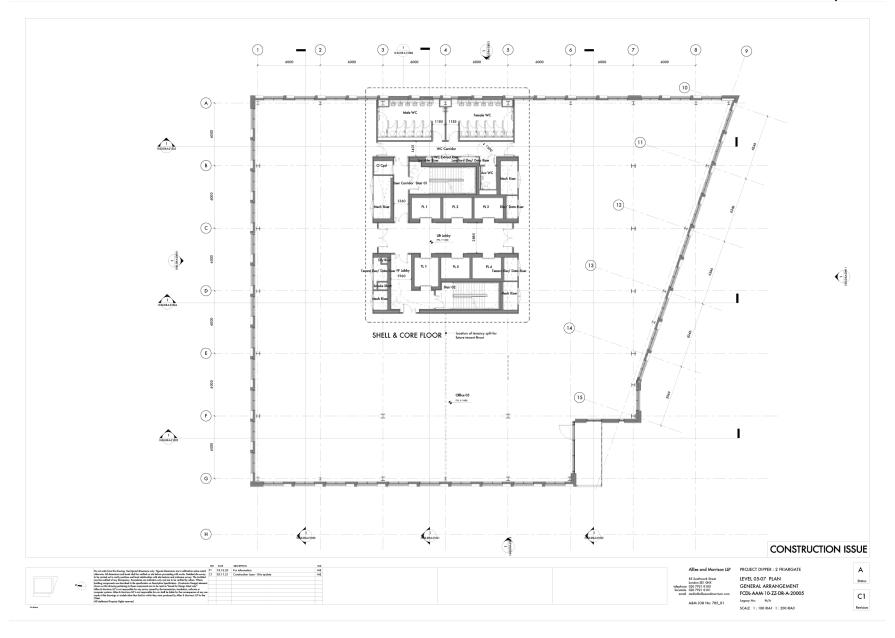


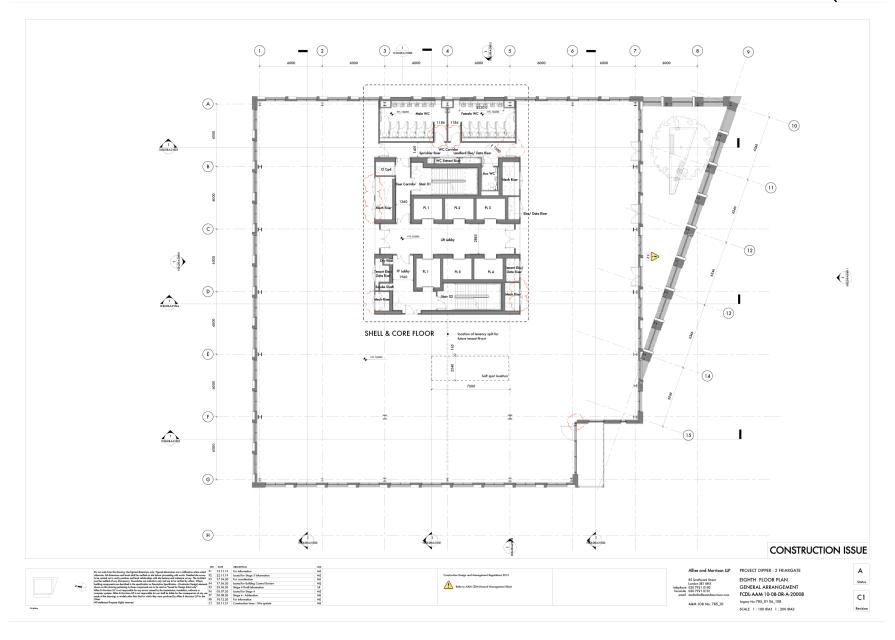


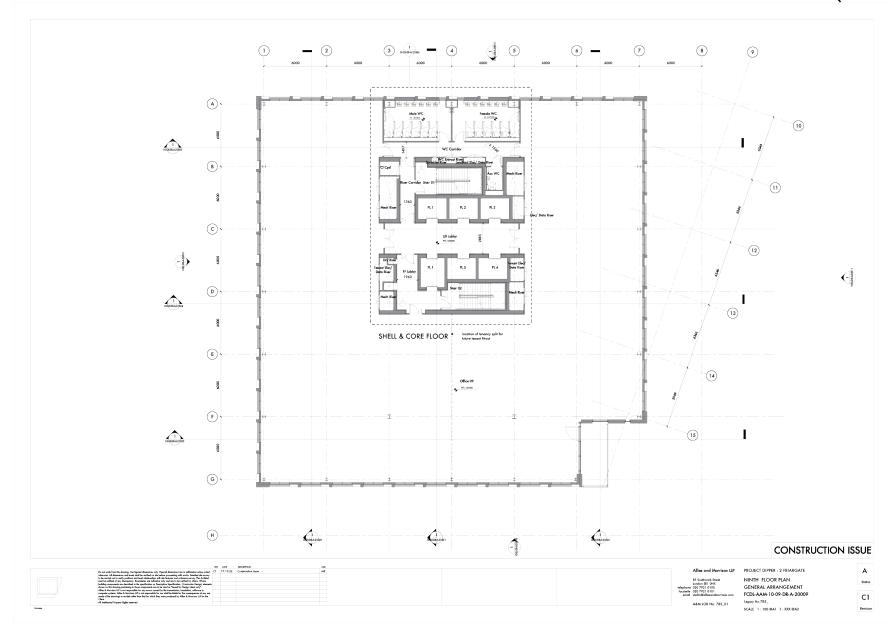


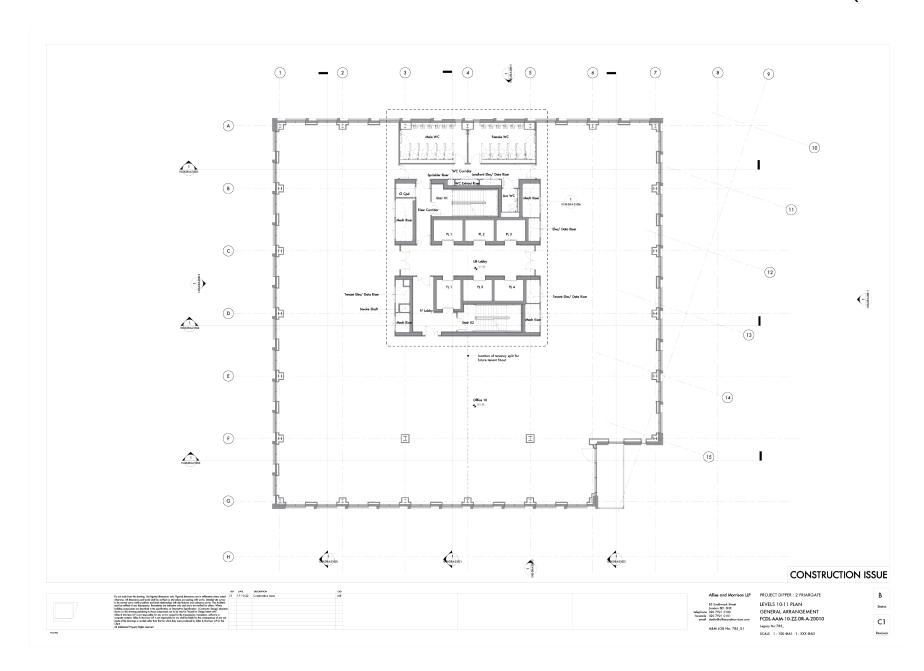


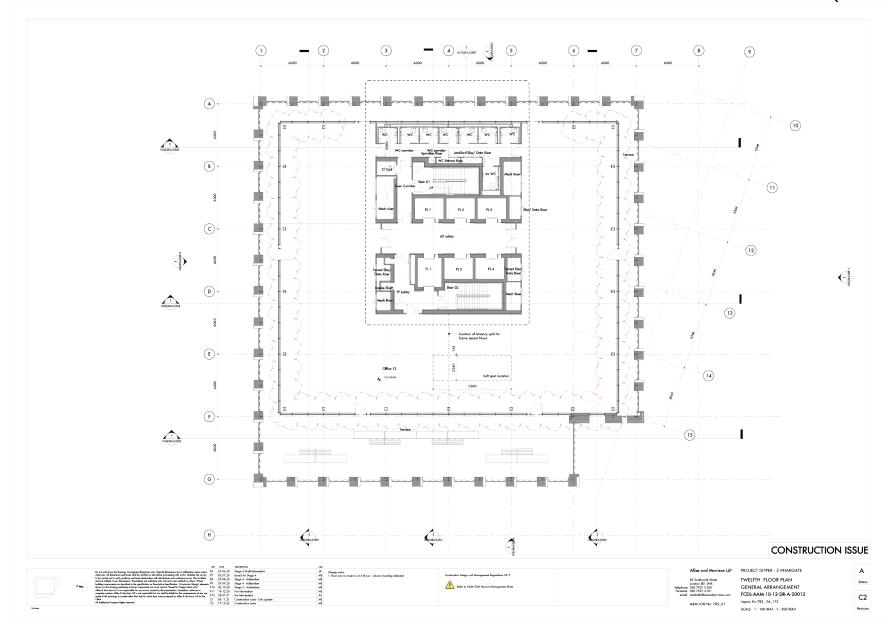


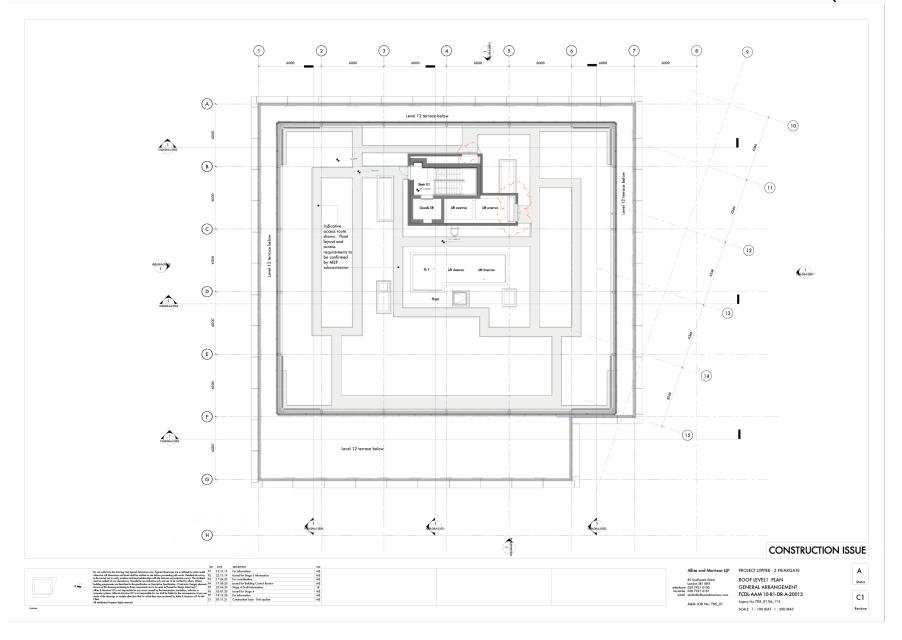


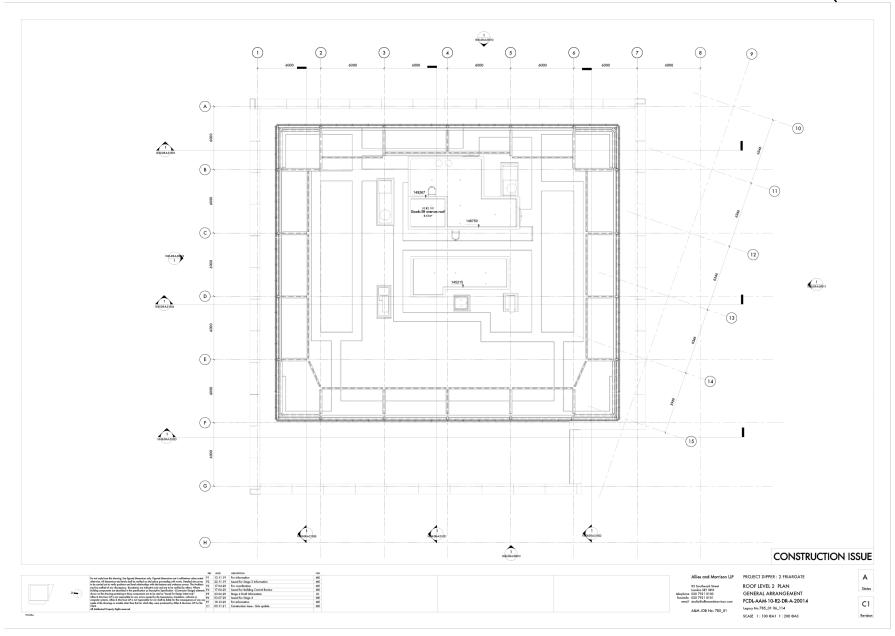


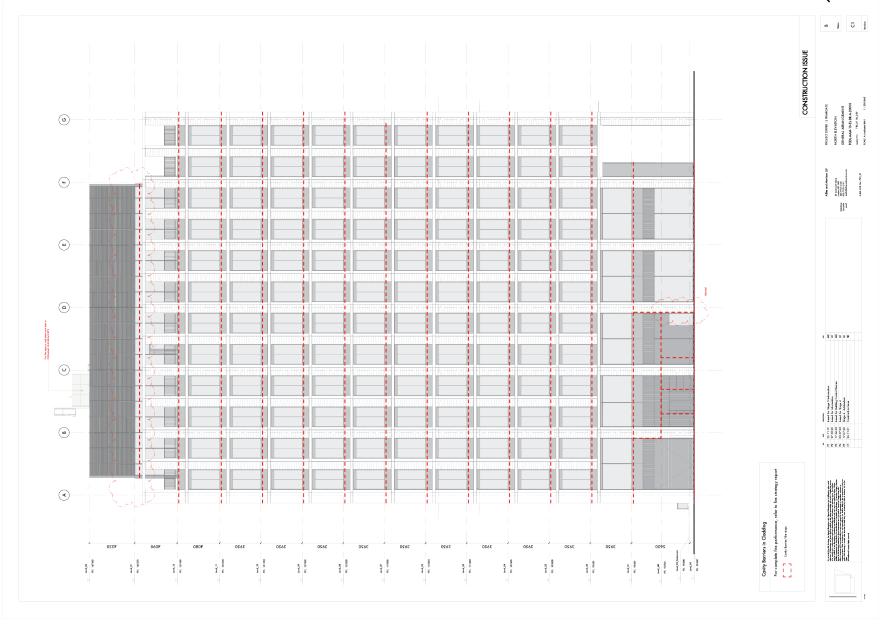


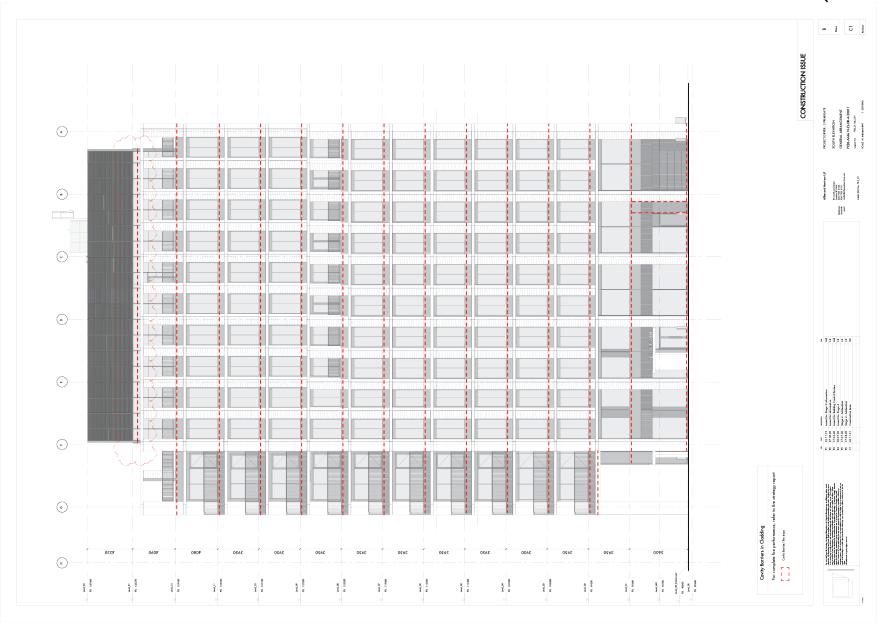


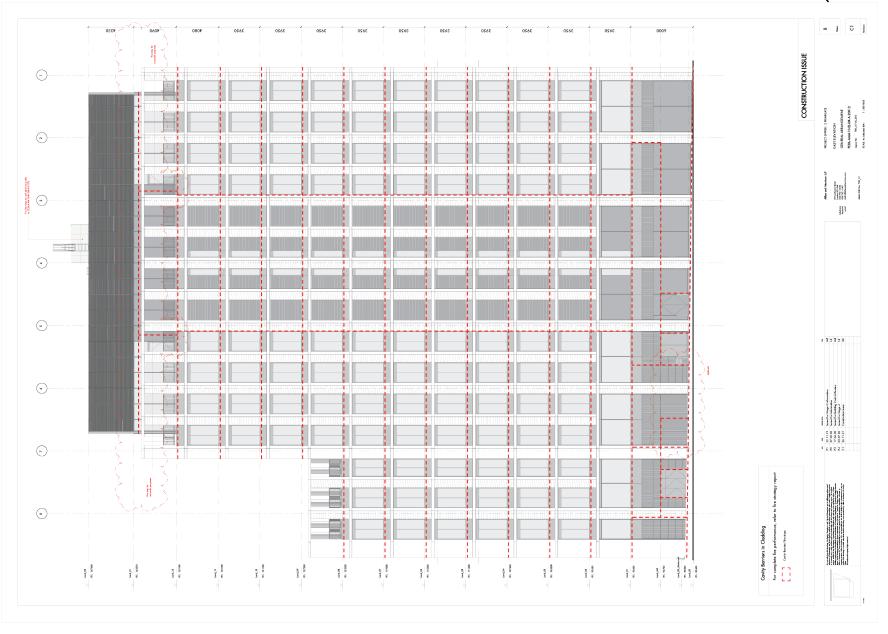


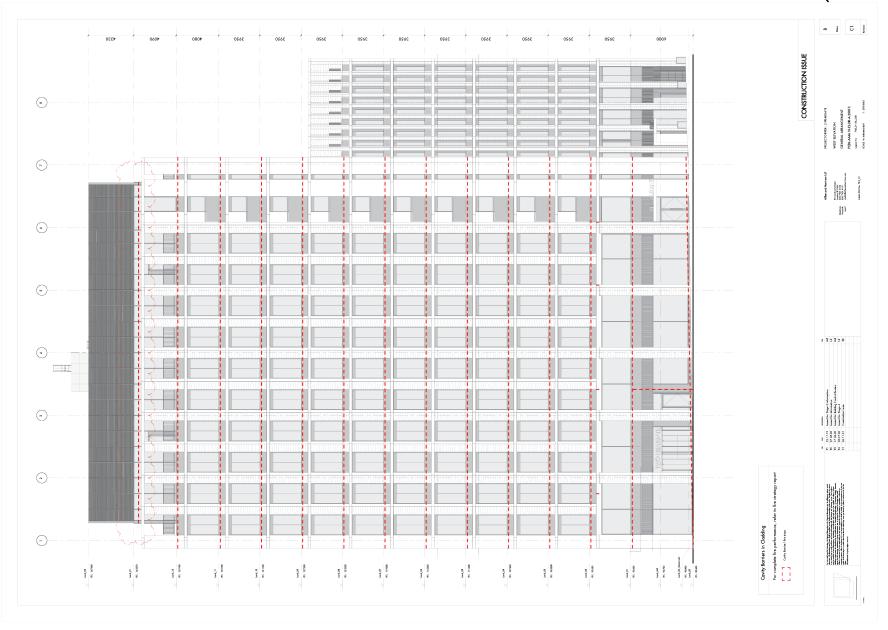


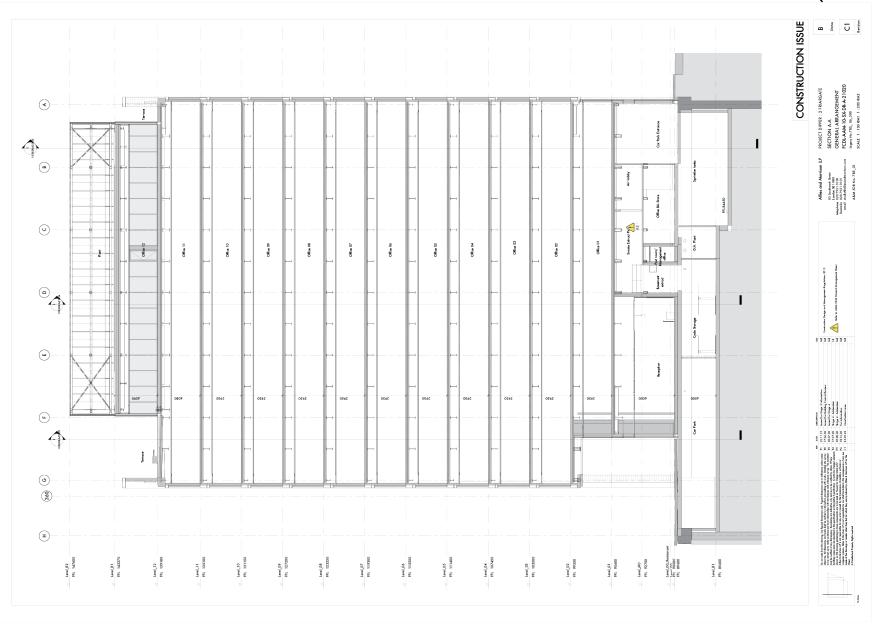


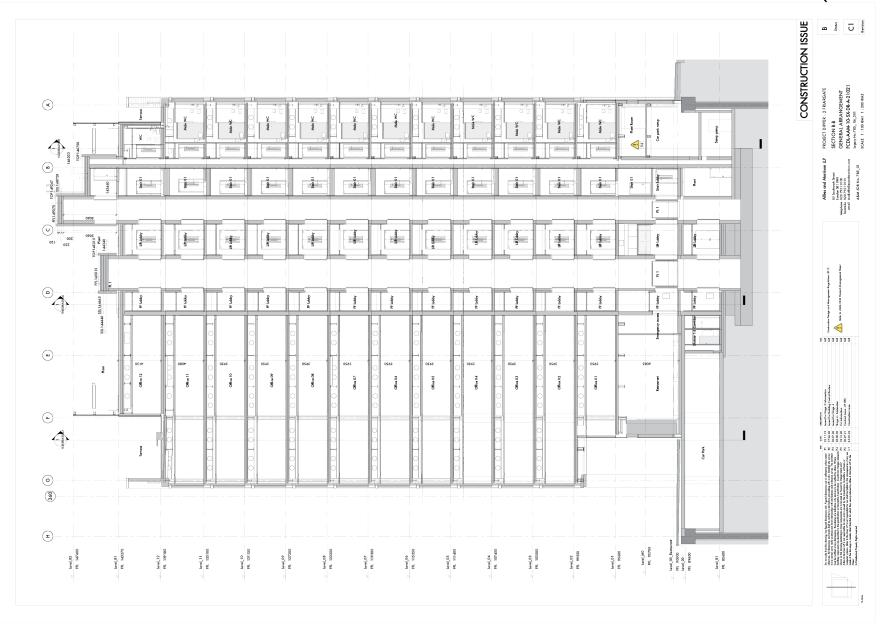


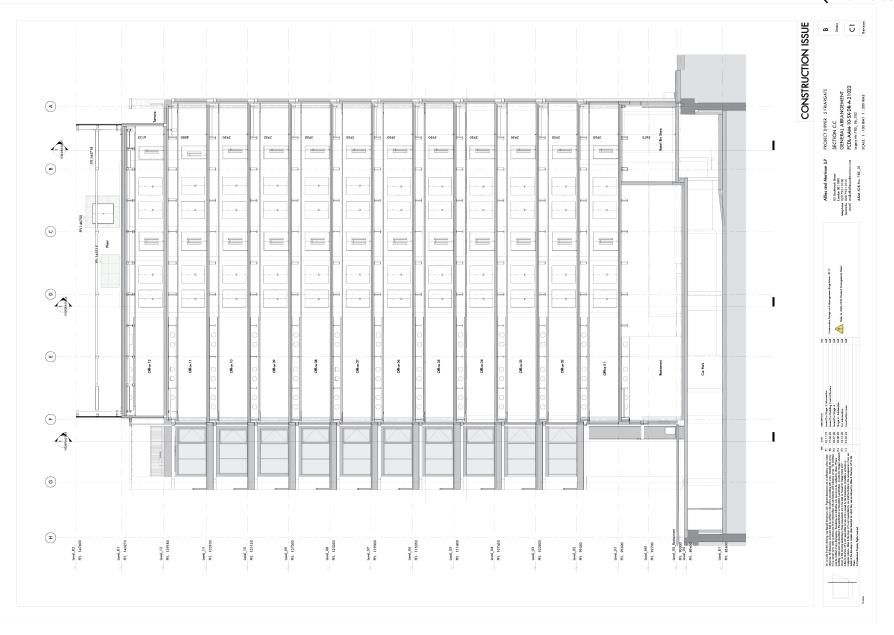


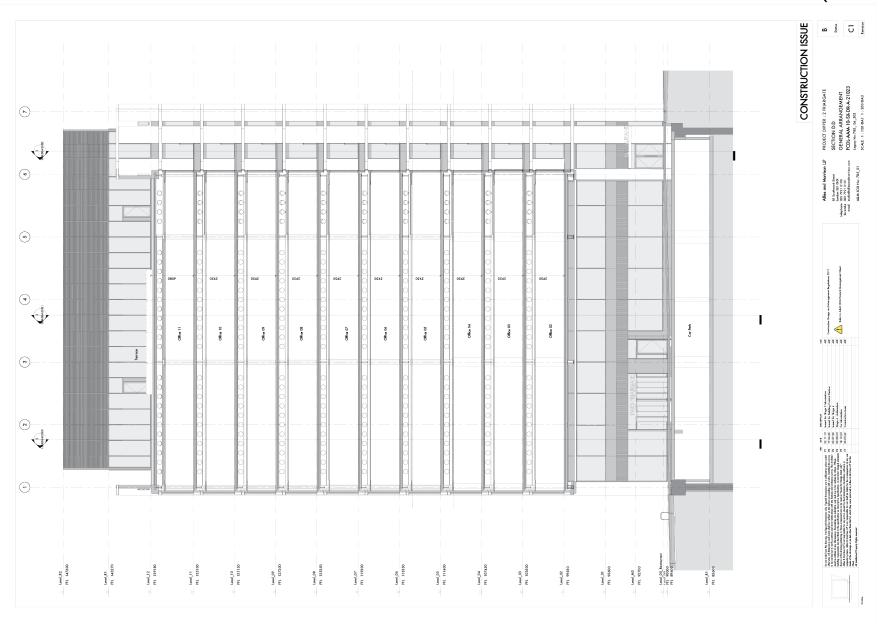


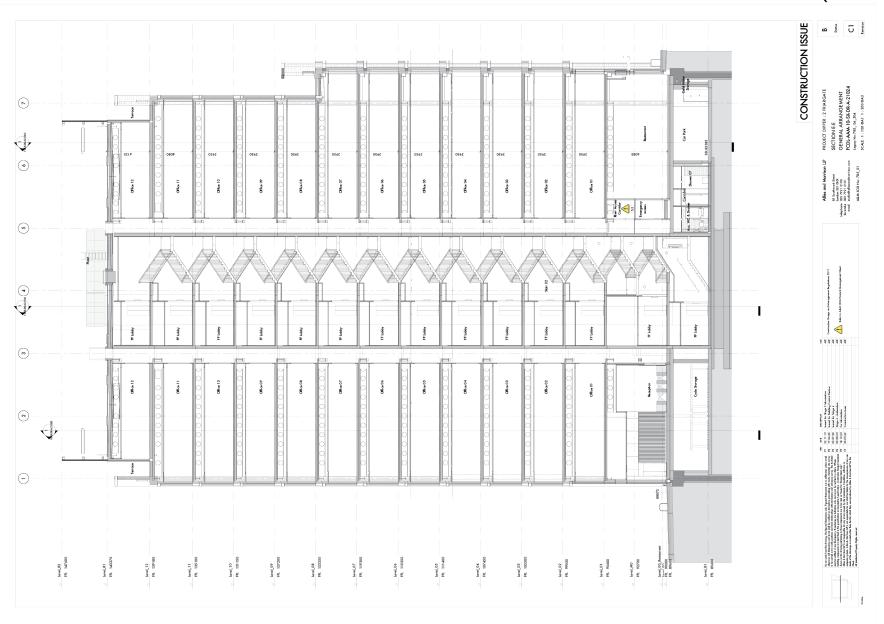


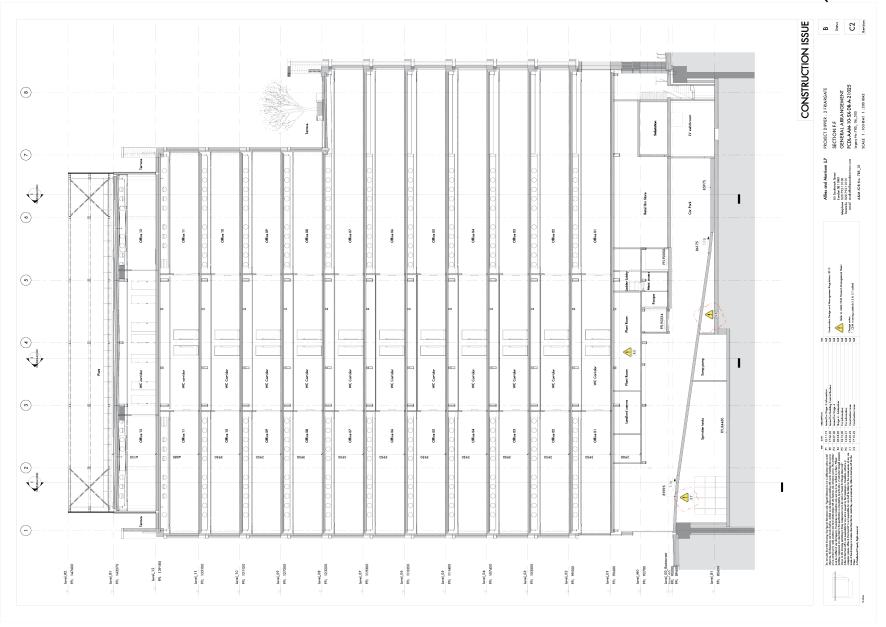




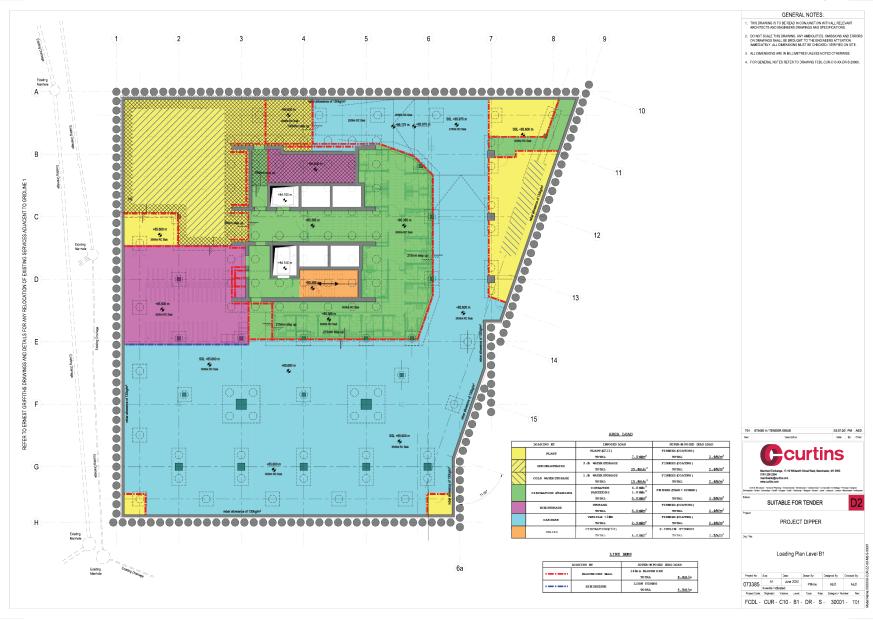


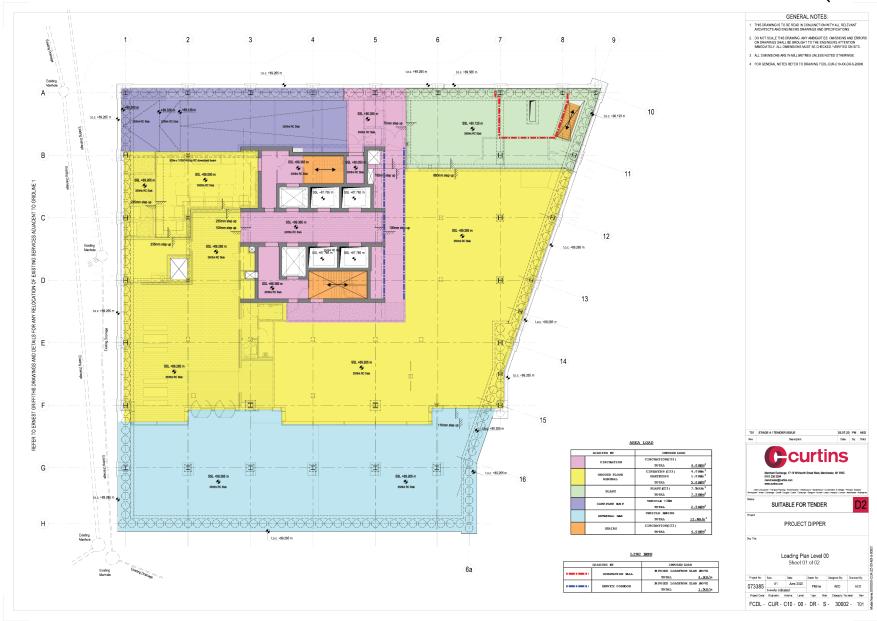


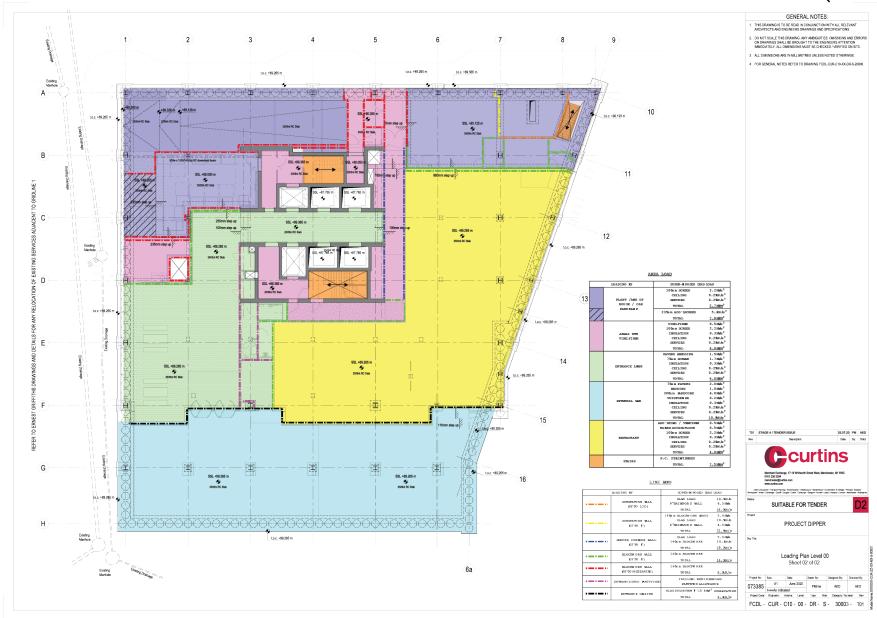




STRUCTURAL DRAWINGS



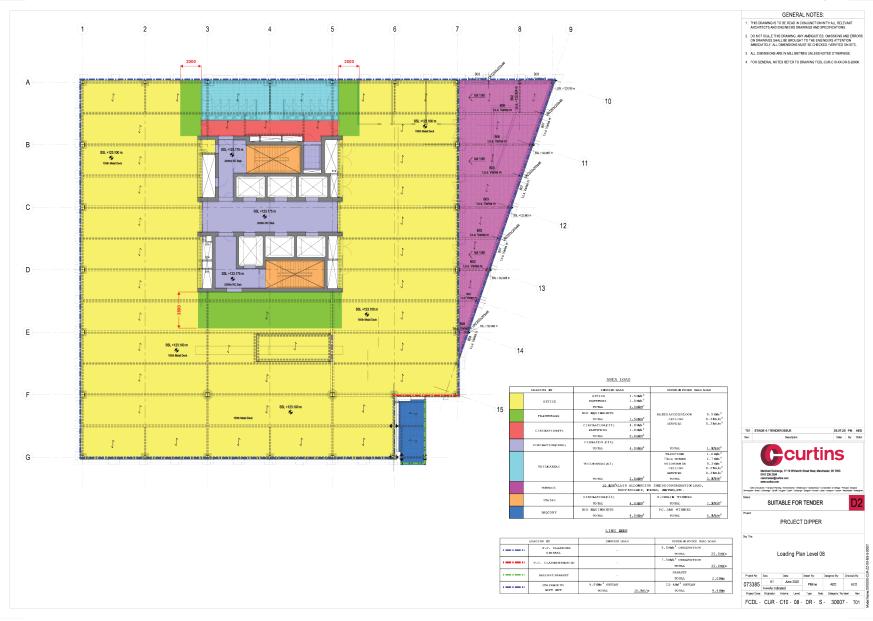


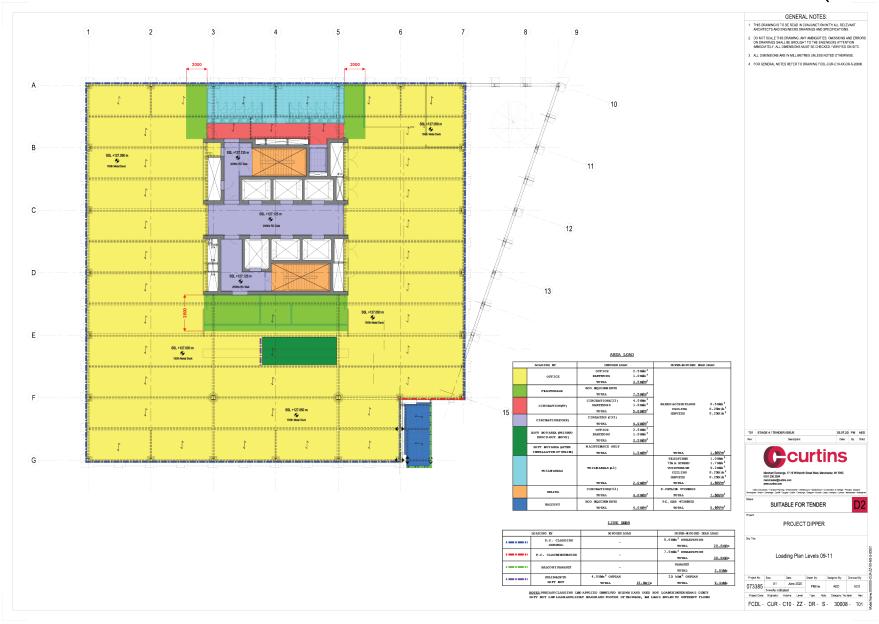


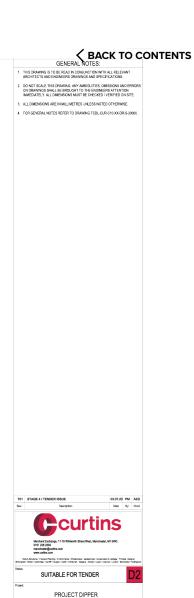












AREA LOAD SUPER-IN POSED DEAD LOAD LOADING MY OFFICE PARTEONS 2.516sts 2 1.016sts 2 OFFICE 3.516m² BCO ROULEMENTS FLESTORAGE CIRUATON (C33) CIRCUATION CORE) TOTAL TOTAL TILEDITNIN 75mm SCREED VOIDFORMER CEILING SERVICES 1.0 M/m² 1.0 M/m² 1.7 M/m² 0.3 M/m² 0.25 M/m² 0.25 M/m² TOTLE AREAS (A.3) TOTAL 2 . 0 M/m² TOTAL 3 . tkN/m² 10 %/m ALL-IN ALLOWINGE TO INCUDE CONGREGATION LOAD, ROOF BUILDUP, WIEHES, PROFESS, ETC. TERRACE 4.0 M/m² 2.dcN/m² TOTAL TOTAL.

2

В

4

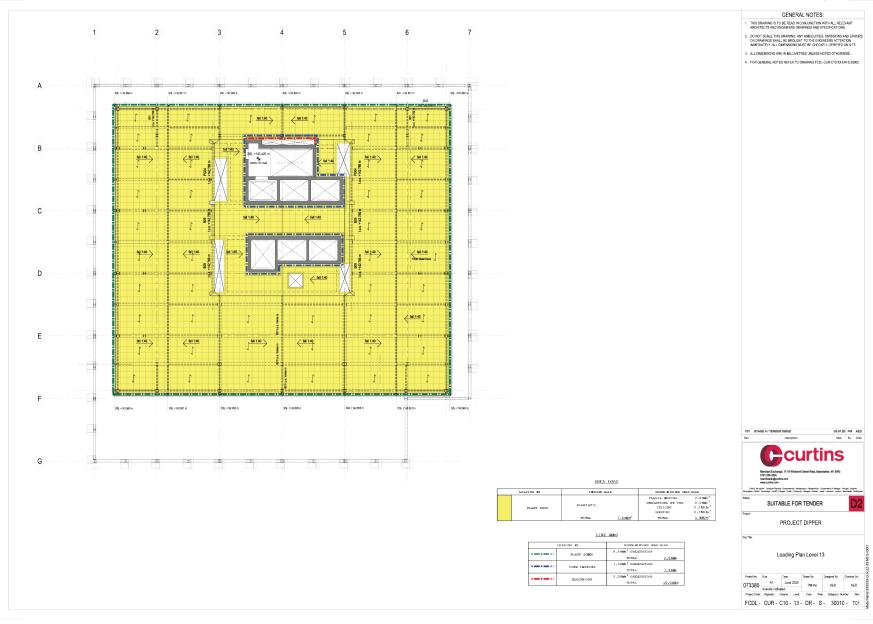
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SSL +138,900 m

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F.C. CLASSEXEMANCED TOTAL 10.58%i CLASSES CLASSES CRASSES CLASSES CRASSES CRAS		-			20.0NKm
GLASING TOTAL 6.0 Mm	 P.C. CLADMENNANCED	-			30.0NKm
O.D. Carlotte and	 GLASING	-			6 . 0 Mg/n
10 DEL 15.08/m 10 DEL 9.4 Mph	 STAIRMASE TO SOLT BOT	4.0 Mm² ONPLAN TOTAL	15.0eN/m	2.5 km/ ¹ ONPIAN TOTAL	9 . 4 Mgin

Loading Plan Level 12



- THE EXECUTION CLASS FOR THE PROJECT IS EKZ ONLY SUB-CONTRACTORS WITH CE MARKING ACCREDITATION SHOULD BE APPOINTED.
- ALL DISTURBED GROUND TO BE REINSTATED WITH GRANULAR FILL IN ACCORDANCE WITH THE SPECIFICATION.
- S. ALL PROPRIETARY PRODUCTS ARE TO BE USED STRICTLY IN ACCORDANCE
- THE CONTRACTOR SHALL ENSURE THAT TEMPORARY LOADS IMPOSED ONTO NOW STRUCTURES SHALL BE LESS THAN THOSE FOR WHICH IT HAS BEEN OFFICIAL.
- # THE ENVIORED ADDITION ON THE STRUCTURE PROVIDED
- REFERENCE SHOULD BE MIDE TO THE RELEVANT ARCHITECTURAL, SERVICES OR SUB-CONTINUCTOR DISWINGS FOR THIS INFORMATION.
- 19. REFER TO ARCHITECTS DRAWINGS FOR THE FOLLOWING:

 THERMA. INSULATION OTTALES:

 OLARDINA AND CARGODIS SYNTEMS

 FINNESS AND SCREED DETALES:

 LANGUAGEMEN

 TAKKING AND WATERPROOFING DETALS
- 11. THE STRUCTURE IS EXECUTED FOR THE PROMARMENT CONSTITUTION ONLY. THE CONSTITUTION IS EXECUTED IN THE STRUCTURE IS EXECUTED IN THE STRUCTURE OF THE STRUCTURE 12. CONSTRUCTION LOADING NOTE:
 - SELF MEIGHT OF CONCRETE DANNEY
 TEMPORARY CONSTRUCTION LONDING ON METAL DECK 1.5NN HY
 LOCALLY OR 8.75NN HY WHEN CONSIDERING THE ENTIRE LENGTH OF
- NEMBER AND THE CONTROLLED.

 N. PROMING OF THE PERCENCE OF THE STEEL FRAME AND THE REQUIREMENTS FOR TEMPORARY STAMELY RESIGNED OAL DON'T DO BY ASSES DURING RECEITION WORSES AND MITTERS TO BE OF COMPOSATION OF THE STREETWISE SUB-CONTROLLED AND THE MAIN CONTROLLED TO SIXT ALL SISSES ASSOCIATED WITH THE CONTROLL PROMISEM THE STEEL FRAMEWORS AND THE MAIN CONTROLLED AND THE MAIN CONTROLLED AND THE CONTROLLED AND THE STREET AND THE STREET AND THE CONTROLLED AND THE CONTRO
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT NOISE, VIBBATION AND DUST RESULTING FROM THE WORKS IS KEPT WITHIN REAGONABLE (LMTS.
- 16. FOR DIRE, WATER/RICOFING AND INSULATION REQUIREMENTS REPER TO ARCHITECTS DETAILS.
- 17. LOGATIONS AND SETTING OUT OF RECESSES TO DOOR CLOSERS TO BE CONFIRMED BY THE ARCHITECT.
- 19. OPENINGS WITHIN THE FLOOR (EXCLLIDING STAIR VOID) TO BE DECKED OVER TO PROVIDE FALL PROTECTION.
- 20. PROVIDE A SEALING COMPOUND TO THE SLAS TO PREVENT HOISTURE DAMAGING FINISHES (TO ARCHITECTS SPECIFICATION). 21. A LEVELLING SCREED IS TO BE APPLIED TO THE SLAB. THE THICKNESS AND SPECIFICATION OF THE SCREED IS TO SE TO ARCHITECTS DETAIL.
- 22. THE RECORDANION PROVIDED IS CONSIDERED TO BE DEVELOPED TO THE RELIATIVE RIBA STUDE. THE CONSIDERATE OF THIS IS THAT AS THE DESIGN IS DEVELOPED AND PLLY CO-OFFICIATION WITH THE PROJECT THAN, THE CONSISTENCY DEVELOPED FOR THE CONSISTENCY FROM THE TRADER AND PROMISSION FROM WHICH THE ELL OF COUNTRIES AND SIGNED PRODUCTED.
- 28 MET THERE FOR SUGGEST THAT SUFFICIENT CONTINUENCY IS ALLOWED
 WITHIN THE CHOMALL PROJECT SUGGEST FOR CHAMBES TO THE CONTINUENCY
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 WORK THE CHORALL CONTINUENCY TO BE IN THE CREEKE OF THIS OF THE
 THERE FORM.

CONCRETE GENERAL

- ALL BASES MUST BE CAST 7 DK/IS PRIOR TO ERECTION OF STEELWORKMASONRY MALLS.
- 2. THE WINIMUM LAP LENGTHS TO BE AS FOLLOWS:
- AND MEDIA SOften

 AND ME
- COMPOSITE DECK 25mm TOP
 CONCRETE ELEMENTS ON PILES 75mm BOTTOM, OTHERWISE 40mm
 FOR COVER FOR SPECIFIC ELEMENTS REFER TO RC INFORMATION.
- 4. ALL CONCRETE ENCASED STEEL SECTIONS TO HAVE DISWRAPPING FABRIC AROUND SECTIONS, REINFORCEMENT TO BE PLACED CENTRALLY WITHIN COVER.
- REFER TO ARCHITECTS DRAWINGS FOR DETAILS OF REBITES, CHAMFERS, ETC.
 TO EXPOSED CONCRETE CONSTRUCTION.
- 6. THE CONCRETE GRADES FOR EACH ELEMENT IS SPECIFED ON THE DRAWING SHOWING THAT ELEMENT.
- FOR CONDRETE USED IN FOUNDATIONS, THE DC CLASS OF THE CONDRETE GRADE SHOULD BE IN ACCORDANCE WITH CURTINS SITE INVESTIGATION
- FOR TENDER, THE REINFORCEMENT ESTIMATES ARE PROVIDED ON THE DRIAWINGS FOR COSTING PURPOSES, REINFORCEMENT SCHEDULES ARE PROPERTY OF A STAGE SERVICE CONTROLOGY.
- WHERE POST FORD CONNECTIONS ARE PROVIDED INTO CORE, ALLOHANDE IS TO BE MADE FOR FERROSCHAMER TO AVOID DRILLING THROUGH THE RESIR. 10. STEEL CHARS REQUIRED FOR SUPPORT TO BE DESIGNED BY THE CONTRACTOR.
 CHARS ARE TO BE OF ADEQUATE STABILITY AND NUMBER TO MAINTAIN THE
 REMODERATION IN ITS CORRECT POSITION
- 11. FOR SPECIAL SURFACE FINISHES REFER TO THE ARCHITECTS DETAILS

- ENSITING SIZE STRUCTURES COCUR-ON-SITE. ALL DRAWNED SHOULD BE INJURED TO COMMISSION OF THESE SAME WAS STRUCTURESCOST TRUCTURES CONSISTENCY OF THE SAME WAS STRUCTURED CONTRIBUTED TO COMPANY OF THE SAME OF THE SA
- TOP OF FORMATIONS LEVEL AS EMPLOYED ON THE DRAWNESS. FORMATIONS TO BE LOWERED SCOKELY FOR DRAWNESS AS INCIDENTED IN THE PLANS. ALLOWINGS TO BE MICE. FOR OWNERS.
- ALL CONCRETE FOUNDATIONS TO SE CAST ASAMST A SUTUBLE SUNDING LAYER ON SUTUBLE SCHOOLS STOCK.
- Wedle Existing DRANS AND FOUNDATIONS OCCUP (ADDRESS FOUNDATIONS THEY ARE 13 AS SPARRED OUT, SOFT SHOTS AT POLICEARTHS LEVELS ARE 13 AS EXCHANGED AND HARD FILLD IN ACCORDING WITH THE SPRONDSTOR. WHERE EXISTING FOLKMATCHES COCURTURERS THE GROUND SLAN, THE TOP LANS TO BE CLT DOWN TO TOXION BELOW THE UNDERSIDE OF THE SHOUND SLAN RICH
- ALL SURED ETRICTURES TO BE REMOVED AND MODIFILES TO FORMITOKILEVEL IN ACCORDINGS WITH THE ENTEROOMS INFORMATION. TEMPORARY SCE SUPPORT TO STEEP SOCID ESCANTIONS MAY SE REQUIRED TO PREPARE COLLEGAL.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROVISION AND MAINTENANCE OF ALL TEMPORARY MORES INCLICION MOMENIA PLATFORME, SLOPE STABLITY, TEMPORARY DANAGE & PROTECTION OF FORMATION IN RELATION TO RESIDENCE WORK.
- CONTRACTOR TO SUPPLY ALL RESIAN REQUIRED TO LOCATE AND SUPPORT THE BOLT OWIGE, STEELWORK CONTRACTOR IS TO SUPPLY SET ALL OF ALL HALDING DOWN SOLTS AND SHIEL HALDING DOWN SOLTS TO MAIN CONTRACTOR IN LINE WITH ASPRESD PROGRAMME.
- REMOVE MICE GROUNDSCORE MICEIUM, REMOVE GOTT SPOTS & PROOF ROLL, TO SHATTON, GROUND TO DE GROUNDST UP TO SHAE FORMATION IN SUB-BASE IN ACCORDING WITH THE ARTHMATION STREETMENT OF THE STREET OF THE STREET OF THE STREET, T
- 13. ANADOR TREPRICIONA OF FORMATION SHALL FOR BY FRAMITION.

 14. GROUND WATER SHOULD BE ARTICULAR FORMATION AROUN DAMANE EXCAUSTON AND THE APPROPRIATE THAT ORDINATE MANAGEMENT SHALL ON THE ARROWNING THAT ORDINATE MANAGEMENT SHALL ON A RECOGNIZATION AND OTHER APPROPRIATE SHALL ON A RECOGNIZATION AND THE ARROWNING MEDICAL MANAGEMENT SHALL ON A RECOGNIZATION AND THE ARROWNING MEDICAL MANAGEMENT SHALL ON A RECOGNIZATION AND THE ARROWNING MEDICAL MANAGEMENT SHALL OF THE ARROWNING MEDICAL MANAGEMENT AND THE ARROWNING MANAGEMENT AND THE ARROWNING MEDICAL MANAGEMENT A
- THE RESIDENCE OF EXCESS WATER PROWNING SITE IS THE RESPONSIBILITY OF THE OPERATION. THE CONTRACTOR WAST MANDED WITH PROPRECT TO THE GROUND WATER CONTRACTOR ON SITE AND TAKE MEASURES TO CORE, WITH LOCAL.
- 16. REFER TO SHOUND INVESTIGATION REPORT RESAMENES SITE REMEDIATION RECORDERS SITE REMEDIATION

PILING FOUNDATION DESIGN

- THE PILING LKYOUT INDICATED IS A PRELIMINARY DESIGN BY CURTING CONSULTING AND IS GIVEN FOR GUIDANCE ONLY. THE RESPONSIBILITY FOR PILE DESIGN RESTS WITH THE CONTRACTOR. THE PILMO CONTRACTOR SHALL SUPPLY A FULL METHOD STATEMENT FOR THE WORKST OF CURRENCE CONSULTING FOR APPROVAL PRIOR TO COMMISSIONED.
- 3. ALL PILE CAPS ARE TO BE CENTRED BELOW COLUMNS UND.
- 4. REFER TO QUITTING PILING SPECIFICATION.
- 6. PILES SHALL BE UNIFORMLY REINFORCED AROUND CIRCUMFERENCE.
- ALL PILES INSTALLED OUT OF TOLERANCE SHALL BE REASSESSED BY THE PLINS CONTRACTOR AND PROVIDE ANY REQUIRED REMEDIATION DETAILS.



PILE DESIGN FORCES SHALL BE WORSE COMMINATION OF THE FOLLOWING:



- THE FOLLOWING IS A LIST OF COP ITEMS WITH RESPECT TO STRUCTURAL ASPECTS OF THE PROJECT

 - PRECAST CONCRETE UFT SHAFTS PRECAST CONCRETE FLOOR, TERRACES & STANCASES
 - ARCHITECTURAL METAL WORK INCLIDING STARS, MALUSTRADES, HARDRALS ACCESS LACCERS, WALKWAYS, CLADDING AND ASSOCIATED FORMES FEDULESS MASCHEY!
 - PROPRIETARY MASORRY SUPPORT SYSTEMS (ANCON OR SMILAR APPROVED)
 - PLE DESIGN & ASSOCIATED PILING NAT
 - CURTAN WALLING, GLAZING AND WINDOW SYSTEMS INCLUDING STRUCTURAL FRAMING AND ALL ASSOCIATED COMMECTIONS
 - SPECIALIST EXTERNAL RETAINING WALLS E.G. PLED RETAINING WALLS
 - CELING AND SERVICES SUPPORTS/DONGS

THE RELEVANT DUE CONTINUETOR.

SUPPORT TO SERVICIOS

STRUCTUROS NOT THE CONTINUE SERVICIOS

MALIONAYS IND ACCESSI ALDERS

AL DISEA DESERVA OF ARCHITECTURAL METALMORY

5°S WALL FRANKOS ENSTEMS WHERE CLOSED SECTIONS ARE DRILLED TO FORM CONNECTIONS TO OTHER STEEL OR SHULDING ELEMENTS THE CONNECTIONS SHALL SE DETAILED TO DRIVINGE THE HOLD SHALLED THE ADMINISTRATION SHALL SHOULD NOT AN ANNEXED TO PROVIDE ADMINISTRATION OF THE CLOSED SECTION AND PROTECTION AND ANNEXE SHEET ALL CONSIGION AS FEGURED.

ALL STEELWORK TO BE PAINTED IN ACCORDANCE WITH THE CURTINS PAINT SPECIFICATION, ACCITICINAL COATING IS TO BE ALLOWED FOR WHERE STEELWORK IS TO BE LEFT EXPOSED DURING CONSTRUCTION.

ALL HOLDING DOWN BOLTS TO BE POSITIONED TO (H) 5 mm AND FIRING DESIGNED TO ALLOW A FIRES MOVEMENT OF 40mm IN ANY DIRECTION.

6. ALL BASEPLATES TO HAVE 1 NO SPOUT HOLE IN ADDITION TO HOLES FOR HOLDING DOWN BOL TS.

ALL BASEPLATES TO BE GROUTED USING HIGH STRENGTH NON-SHRINK GROUT AFTER STEEL HAS BEEN LINED AND LEVELLED IN ACCORDANCE WITH THE OUTTING STEELWORK OFFCE/CATION.

10. ALL COLUMNS TO BE CENTRALLY LOCATED ON INTERSECTIONS OF GRIDS LING

11. FOR THROUGH DECK MELDING, TOP FLANCES OF SUPPORT BEAMS MUST BE CLEANED AND FREE FROM PAINT.

12. ORDULAR HOLLOW SECTIONS ARE TO HAVE NO VISIBLE FABRICATION SEAMS & SEALED.

- 16. ALL STEELWORK TO BE GRADE SISSUR UND.
- TT. PROFEED METAL CECK, POUR STOPS ETC. TO BE NETALLED IN ACCORDANCE WITH HAMAFACTURERS RECOMMENDATIONS. THE CONTRACTOR MUST MAKE ALLOWINGS FOR FOOD TRIBES, POUR STOPS, TEMPORARY PROPPING AS REQUIRED IN THIS TRIBUTE.
- 19. BETAL DECORPT TO DUTING OWER THE FLOOR AREAS WITH EDGE
 TEMBARTION TO DEMPHORE AS A CHEEN ON THY PACE, EDGE SECTION, METAL
 EDGOSATIO TO HAVE A MARMARE OF THE MEMBER OF STEEL EASIER INSIDE.
 THANKITEL WITH, SECTION HAVE AS HOME ON THE THE MEMBER OF THE MEMBER OF THE MARMATER WITH, SECTION THAN THE MEMBER OF THE MEMBER OF
- 19. ALL STIEL MEMBERS SUPPORTING CONCRETE SLASS (INCLLIDING THOSE FORMED WITH FERMINISM METUL DECIMAL) SHOULD BE TREATED AS COMPOSITE SEAMS IN ACCORDANCE WITH 88 EN 1884.
- 21. WHERE DECKING IS INDICATED AS RUMANIO PERPENDICULAR TO FLOOR BOARS, THE LATERAL RESTRINANT OFFERED BY THE DECK HAS BEEN RELIED UPON IN THE DESIGN OF THE BEARS. 22. MILETSPAN DECKING MUST NOT BE OUT WITHOUT THE CONSENT OF THE DECKING MANUFACTURER.
- 25. DECIDING MUST BE CLEAR OF GREASE AND DRYT, WHICH COULD ADVERSELY AFFECT THE BONDING, HOWEVER, ANY WATER-SOLUBLE OIL REINWINNING ON THE DECIDING FROM THE ROLLING PROCESSES NEED NOT BE REMOVED.
- 34. WILDING THROUGH TWO THICKNESS OF SHEET STEEL SHOULD BE AVOIDED WHERE POSSIBLE. 25. SHEAR STUDS TO BE MANUFACTURED FROM LOW CARBON STEEL WITH MINERAL VIEW D.FT - NORWAY AND LIST TRANSPORT FURBILITY - AND HARD
- 26. ALL STEEL WORK IS DESIGNED ON THE BASIS OF FLOOR STEEL WORK DEFLECTIONS AT EARN CENTRES OF SHAUSS OR MAXIMAL OF SINNE CAMALITY FROM FRIEND "SHOWN SECONDARY FROM DEFLECTION," FLOOR SLASS AND THE TOP OF SLAS PROFILE WAL FOLLOW THE DEFLECTION SHAPE OF THE BASIS. 27. TEMPORARY LATSINA, RESTRAINT TO COLUMNS PRIOR TO THEIR PERMANENT COMMECTION TO THE RESIDENCE STRUCTURE SHALL BE FROMED. FOUNDATION WHILE DESCRIPTION POR THEIR COMMECTIONS SHALLDS SHALLDS
- 26. SHEAR STUDS ARE TO BE PROVIDED TO ALL COMPOSITE BEAMS, SHEAR STUDS TO BE TRAIN DIAMETER 100 mm LAW, HEADED STUDS IN ACCORDANCE WITH DIS DN 1981. ALLOW FOR THE STUDS PROVIDED TO ALL COMPOSITE BEAMS AT YOMN CONTREE. UNLESS MOTED OTHERWISE.
- 29. STUDG SUBJECT TO BEND TEST SHALL NOT BE STRAIGHTENED.
- 21. H19 UBARS TO BE PROVIDED AT 600mm CEMTRES TO PERMETER OF SLAB AND ANALOGHY KIRSCILLIAM OPENINGS (RISPINS 2017) SPOTE FTC.)
- 32. ALL OPENING LARGER THAN 200mm SCHARE ARE TO HAVE LOCAL RENFORCEMENT OR TRANSERS, SUPPLEMENTARY BAR RENFORCEMENT IS REQUIRED IN THE SLAW WHERE HOLES MOT TRANSED BY STRUCTURAL STEEL ROCKER SOOM. EXILED XXXvvv.

 30. OFFINISHED IN THE FINISHED BLAS BIRCLUD PREFERRALY BE FORBED REFORE DOCUMENTARIOS A CULTIVAD THE CONCRETE SLAS BAY DAY FINE TO LOSS OF SIGN SETWERN CONCRETE AND ELECTRICE. THE PREFINED BETTICO DE SIGN SIGN SETWERN CONCRETE AND ELECTRICE STREAM OF THE FINISH OF SIGN SETWERN CONCRETE BLASH OUT THE GEOMETRY CONCRETE BETTING A CULTIFIC SIGNAL SIGNAL SHOWN OUT THE CONCRETE WITH A HEAVY PREDUSINYE TICL SHOULD REVER SEE DOME.
- N. CONCRETE MEET DE POUISE DIVIDING TO THE PAIL BROAD BREAK IN OF SHAN OF THE COCKISIO, MANING OF THE CONCRETE MAINT BY AN ORDING SHOULD BROAD THE EXCUSION. THESE DEVILORS BY ADMINISTRATIONS DOWN, A SHOULD BROAD THE RECORDING THE CONCRETE MAINT BY AN ORDING SHOULD BE AND THE PAIR OF THE SHOULD BROAD THE RECORD THE PAIR OF THE SHOULD BE AND THE PAIR OF THE WARREST ON THE SHOULD BROAD BROAD BUT THE PAIR OF THE SHOULD AND THE SHOULD BE AND THE PAIR OF THE

- 38. CONTRACTOR TO MAKE ALLOWANCE FOR ADDITIONAL CONCRETE REQUIRE DUE TO DEFLECTION OF DECKING. 29. WHERE COMPOSITE CECK SPANS PERPENDICULAR TO ACLACION WILL ALLONWING SHOULD BE MAKE FOR SUPPORT ANGLES FRIED INTO WALL WIRESAN ANCHORS, WHERE ECCK RUMS FRANKLIS, TO WALL, TEMPORARY SUPPORT TO BE PROVIDED AT YAIR LOCATION WITH EAST SETTINGS. CURRO (PHO) WAY ALSO TIME THE FORM OF SUPPORT WALLS FRED TO THE MALL.

- THE STRUCTURE IS TO BE DESIGNED IN ACCORDANCE HITH BUILDING REQUILITIONS TO LIMIT ISSNIPS/CHITTOWITH COLLAPSE AND IS CAREGORISED OF STRUCK AND EXPLAINING OF STRUCK CONNECTIONS WHICH ARE TO BE DESIGNED TO SATISFY DEPREDICTIONATE COLLAPSE REQUIREMENTS, LOADS TO BE PROVIDED AT STATE S. 40. ALL EXTERNAL STEEL WORK TO BE GALVANISED IN ACCORDANCE WITH CLRITING STEEL WORK SPECIFICATION 41. INTUMESCENT PAINT TO BE PROVIDED TO ALL STEELWORK REQUIRING FIRE PROTECTION. FOR REQUIRED FIRE NATING REFER TO ARCHITECTS DETAILS OF HIS STRUTGY. ALL STEELWORK TO BE IN ACCORDANCE WITH BS EN 1985 AND CURTING STEELWORK SPECIFICATION
 - 42. ALL MEMBERS AND THEIR END CONNECTIONS TO BE DESIGNED TO RESIST A TENSILE FORCE EQUAL TO THE END REACTION OF THE MEMBER UNDER FACTORED LOADS AS OUTLINED BELOW.

 - 44. CAST IN PLATES CONNECTING STEELMORK TO THE RC CORE TO BE DESIGNED BY THE STRUCTURAL ENGINEER. FIN PLATE ON STUP FROM BEAM TO CAST IN PLATE TO BE DESIGNED BY THE STEELMORK FABRICATOR. CAST IN PLATES TO BE RESTALLED IN ACCORDANCE WITH GUITING TOURSAWED. 45. COLUMN BASEPLATES INCLUDING HOLDING DOWN BOLTS AR RESIN ANCHORS TO BE DESIGNED BY THE STEEL WORK FARRICATOR, BASEPLATE DESIGN TO BE SUITABLE FOR FOLMBATION TYPE GRADE OF CONCRETE.
 - 48. COLUMN SPLICE LOCATIONS TO ACCOUNT FOR COLUMN PRE-SETTING AS SPECIFICO AT STAGE 5. 47, SUB GRADES OF STEEL USED IN CONNECTIONS TO BE SPECIFIED BY THE STEELWORK FARRICATOR AS PART OF THE CONNECTION DEBIGN.
 - 48. CONTRACTOR NOTE FOR PRICING: NOTE STEELWORK SUB-CONTRACTOR TO MAKE SUTTABLE ALLOWINGE FOR CONNECTIONS INCLUDING SUFFICIENT QUANTITIES FOR SPLICES TO FACILITATE INSTALLATION.
 - 48. THE STEELMORK CONTINUETOR SHALL BE RESPONSIBLE FOR SURVEYING THE EXISTING STRUCTURE IN ORDER TO ESTABLISH THE FINAL POSITION & SETTING-OUT. SI, A CONTINUENCY OF 19% OF THE GROSS TOWNAGE SHOULD BE IMPEFOR SECONDARY ELEMENTS OF STEEL WHICH MAY BE REQUIRED AS DETALED DESIGN OF THE BUILDING IS DEVELOPED LE.

NOTE: STEEL WORK SUB-CONTRACTOR TO MAKE SIETURE E.A.L.OWANCE FOR CONNECTIONS INCLUDING SUFFICIENT QUANTITIES FOR SPLICES TO FACILITIES INSTRUMENTS.

- AN EXECUTIVE RETAINING WALL IS PRESENT ON SITE WHICH REGULARS DEMOLISHING, ALONG WITH ASSOCIATED SUBSTRUCTURE. CONTRACTOR TO PROVIDE WITHOUT EXTREMENT FOR DEMOLITION OF THE EXECTION DETAINING WALL, GARE MUST BE LAKEN NOT TO UNDERWINE THE EXISTING FOUNDATIONS USING CRIMIN TICK.
- THE CONTRACTOR SHALL BE FEESTAMSBILE FOR THE BIOLATION, DESCONMECTION AND REMOVAL OF ALL DIVISION. SERVICES COMMECTIONS ROLLINDING WHITE, ELECTRICATY DEVANAGE AND TELECOMMENDATIONS, MY SERVICES THAT CANNOT BE CUT OFF SHALL BE MARKED AND AMERILA.

- THE CONTRACTOR'S ATTENTION IS DRAWN TO THE HEALTH AND SAFETY MATTERS WHICH HAVE SEEN IDENTIFIED WITHIN THE HEALTH AND SAFETY PLAN AS BEIND POTENTIAL! YIMADOCUS HOWEVER THESE ITEMS SHOULD MOT SECONSIDERED AS A COMPLETE AND FINL SET.
- THE CONTRACTOR'S NORMAL HEALTH AND SAFETY OR IDATIONS WILL APPLY WHEN UNDERTORING CONSTRUCTIONAL OPERATIONS BOTH ON AND OFF SITE. THIS ALSO APPLIES TO ALL BUS CONTRACTORS AND SUPPLERS.

STARCASE SUB-CONTRACTOR

- THE FINAL DESIGN OF ALL STANDAGE MEMBERS AND FORMS WILL BE THE RESPONSIBILITY OF THE RELEVANT SUB-CONTRACTOR, FOLLOWING THE DESIGN AND INTENT ORVANNOS PRODUCED BY THE ENGANCER AND ARCHITECT.
- MATERIALS ALL STEELWORK, CONCRETE OR TIMBER SHALL BE TO THE RELEWANT EURO CODE STANDARDS.
- IMPOSED LOAD DEFLECTION A CONTINUOUS OR SIMPLY SUPPORTED MEMBERS SPAN + 360
- ALL PRECAST TREADS AND LANDING ELEMENTS SHALL BE FARRCATED TO SUIT FINAL SITE DISPRICASE PRINCIPAGE ARCHITECTURAL GLAPS ARE MAINTAINED.
- PROR TO THE FARRICATION OF STAR, A DETAILED SITE SURVEY SHALL BE UNDERSTARED TO ESTABLEM THE EXACT DIMENSION BETWEEN SUPPORT WALLS AND TLOOR BOARD. THE STREAMS LITTLE ILLEMENTS SHALL THEN BE PARRICATED TO SLITT DISES SITE DIMENSION.
- THE DETAILING OF THE CONNECTIONS OF THE PRECAST TREADS MUST ACCOMMODATE THE DEMATIONS OF THE WS BUILT STRUCTURE WHICH WILL WARY AT SACH FLOOR.
- 18. ALL PRECAST FLIGHTS AND LANDINGS ARE TO BE POSITIVELY FIXED BACK TO THE PREMARY STRUCTURE TO ANOD ACCIDENTAL COLLAPSE.

MATERIALS THE POLLOWING DELETERIOUS MATERIALS SHALL NOT BE EMPLOYED IN THE

- 7. POLYBOCHNURATE FOAM.
- MATERIALS WHICH ARE CENERALLY COMPRISED OF MINERAL FIRMES EITHER MAN-MADE OR NATURALLY COCURENCE WHICH HAVE AN AVENAGE DIAMETER OF 3 MCRORD OR LISS OF WHICH CONTAIN TIBES MODIFICATION OF DEPARTS STALL SIZED TO MINUSE! THAT FRETE MICRATION IS PROVIDED.
- 11. CIFCS OR HOFCS IN ANY FORM. 12. CALCIUM SELEXTE BRICKS OR TILES.
- N. READY MIXED CONCRETE CONTAINING ADDRESSATES APT TO CAUSE MUNCIC CONCRETE.

- THIS LIST IS NOT EXHAUSTIVE.
- RECTION OF THE CONCRETE STRUCTURE INCLUDING OUTLINE PROPOSALS TO FORMADINE RACK PROPPING AND RACK PROPPING SECURISHIES.

- 2. WHEN CARRYING OUT SENDLITION THE METHCO ADOPTED SHALL ENGURE THAT VERRATION AND NOISE LEVELS WITHIN AND AROUND THE SITE PLUS THE ADMINISTRATION FRAME AND APPORTURE.

- ALL CALCULATIONS AND DRAWINGS SHALL BE SUBMITTED TO THE CA 4 WEEKS BEFORE COMMENCEMENT OF ANY WORKS.
- 4. LOADINGS ALL STARCASES SHALL BE DESIGNED FOR AN INPOSED LOAD ALL CHANCE OF 400MP
- 5. DEPLECTION THE LIMITATIONS OF DEPLECTION OF ALL STANDASE MEMBERS AND USTED BELOW:
- B. CANTILEYER MEMBERS SPAN = 128, BUT NOT MORE THAN A MAXIMUM LOAD DEFLECTION OF 35mm.
- THE DESIGN AND DETAILING OF THE STANDASE SHALL ACCOMMODATE THE TOLERANCES MONEMENTS AND DETAILETING OF THE PRIMARY STRUCTURE.

- HIGH ALLMINA COMENT IN STRUCTURAL ELEMENTS.
- 2. WOOD WOOL SLASS IN PERMANENT FORM WORK TO CONCRETE OR IN STRUCTURAL RLEMENTS. 3. CALCIUM DALORDOS IN ALL ADMINITURES EDRI HER IN DEINEODOSTO CONCRETE
- LEAD, WHERE THE METAL OR ITS CORROSION PRODUCTS MAY SE DIRECTLY INDESTED, INHALED OR ASSOCIACO.
- SE. TROPICAL HARDWOODS OR OTHER HARDWOODS AND SOFTWOODS FROM MONACIFICAMAN F SOURCES.
- 13. CROCIDOUTE

- AS A MINIMUM, METHOD STATEMENTS SHOULD BE PREPARED FOR THE FOLLOWING SITE ACTIVITIES.
- EXCAVATION OF BASEMENT AREAS AND TEMPORARY MORRS SHOULD BE CONSIDERED WITH RESPECT TO METHOD AND SEQUENCE. MONITORING PROPOSALS OF THE SIDES OF BASEMENT EXCAVATIONS AND TO EXISTING ADJACINIT BUILDINGS TO BE PROVIDED.

- THE APPLANDEMENT OF FLOOR UNITS SHOWN ON CURTINS EPARATIOS APE INTERIOD TO BE INDICATED ONLY. THE FINAL APPLACEMENT AND SETTING OUT SHALL BE THE RESPONSIBILITY OF THE SUPPLIER.
- FLOOR UNITS TO BE 1200 OR 600mm WIDE X 200mm DEEP HOLLOW CORE BY BISON OR EQUINALENT UNC. FLOOR TO HAVE A MINIMAM FRE RAYING OF ONE HOUR.
- 3. THE UNITS APE TO BE DESIGNED IN ACCORDANCE WITH BILBTIO 1997 PART 1, UNITS ARE TO BE DESIGNED FOR THE LOADINGS IDENTIFIED SPECIFIED ELSEWHERE ON CURTING CRAWNICE.
- THE UNITS SHALL BE DEBIGHED IN SUCH A MANNER AS TO PRECLUDE DYFFRIGHTIM, DEFLECTION RETWESH ADJOINED UNITS (THE DIFFERENTIAL CAMBER RETWESH ADJOINTY FLANCES SHOULD NOT DICKED TOWN), IN ADDITION THE INDIVIDUAL UNITS SHALL BE DESIGNED FOR THE FOLLOWING.
- LIMIT OWERALL TOTAL DEPLECTION TO SIMPLY SUPPORTED CONDITION SPAN + 260, CANTLEVER CONDITION SPAN + 25.
- 7. UNITS TO BE ERECTED IN ACCORDANCE WITH MANUFACTURERS DATA SHEETS.
- ENSURE THAT THE HOLLOW CORES TO UNITS SUPPORTED ON THE INNER BLOCK LEAF OF A CONTY WILL ARE UNFILED TO A DEPTH OF AT LEAST 150mm. 13. SPOUT TO BE CISSO CONCRETE & 10mm.ASSPEGATE. PLOOR PLATE TO BE PULLY GROUTED BETWEEN PRECAST LIMITS TO ENSURE PULL DIAPHRASM

- ALL BRICKWORK BELOW OPC LEVEL IS TO BE A MINIBULA COMPRESSIVE STRENGTH OF STREAM? AND MAXIMUM WINTER ARROSOTTON OF 7%.
- ALL BLOCKWORK BELOW DIFC LEVEL IS TO BE DENSE SOLID BLOCK WITH NO VOIDS AND A MINIMUM COMPRESSIT STRENGTH OF 7.3Nime* ALL MORTAR BELOW DPC LEVEL IS TO BE 13 CEMENT: SAND (SANDE 2) NO ADDITIVES WILL BE PERMITTED WITHOUT THE PROR MENTER COASENT OF THE ENGINEER.
- 4. ALL BROOWORK ABOVE DPC LEVEL IS TO HAVE A MINIMUM COMPRESSIVE KTRENGTH OF 27 ORBINAL AND A MAXIMUM ABSORPTION RATE OF 12%. ALL BLOCKWORK ABOVE DPO LEVEL IS TO HAVE A WINNING COMPRESSIVE STRENGTH OF T SWIMM.
- CRUTTY MALL. THE S TO HAVE A MENIAL MEMBERMENT OF SOME INTO MORTAR
 JOST IN FACH LEAF WITH MINIST MET FROTTH AS FIRE TABLE ARE INCOMPANY

 OF THE PROPERTY ALL MORTAR ABOVE OPCLEIVEL FOR ELOCKWORK IS TO BE 11:5
 CEMENT SHE SAND. NO ADSTRUCE MILL BE PERMITTED WITHOUT THE PRIOR
 MORTEN OVERSHOLD OF THE ENGINEER.
- 8. ALL WALL TIES TO BE STANLESS STEEL AND SHALL SE IN ACCORDANCE WITH WHILL TEST TO BE AT \$50mm VERTICAL AND 80mm HORIZONTAL CONTRES.
 AROUND OPENIOS AND VERTICAL UNICONDED ON RETURNING EXCESS THIS SHALL BE PROVIDED AT SERVICE SHEET AND WITHOUT COMMENT OF THE SHALL BE PROVIDED AT SERVICE SHEET AND WITHOUT COMMENT.
- 13, NO INDIVIDUAL BLOCK WEIGHT SHALL EXCEED 20kg.
- 13. ALL TIES FORD TO STEEL WORK TO BE ELECTRONICALLY ISOLATED USING MEOPREME ISOLATION SLEEVES. TIES TO BE FIXED TO STEEL WORK USING BOLD TO GREEN LATER STORE TO THE MANN ENEXT BEFORE SEPCRICATION.
- MINIMAN SET OF ANY CROSS SECTION OF MASONITY TO BE COM-1, WHERE THIS CANNOT BE ACHEVED DUE TO OPENING SETTING OUT, ALLOWANCE TO BE MADE FOR ACCEPTIONAL MEANS OF SUPPORT FOR THE LINTE.
- ALLOWINGE TO BE INACE FOR LINTELS ACROSS OPENINGS IN MADDINGS. LINTEL SPECIFICATION TO BE CHECKED BY ARCHITECT / CONTINUCTOR AGAINST THE FIRE PROTECTION REQUIREMENTS AND ACCITYON FIRE PROTECTION ALLOWED FOR WHERE MICESSARY. 17. INTERNAL WALLS ARE NOT DESIGNED FOR EXTERNAL WIND LOADS AND SHOULD BE PROPED DURING CONSTRUCTION IF TEMPORARE, Y EXPOSED TO MANUAL COMMAN. 15. WIND POSTS SHOULD BE PROVIDED TO MAGINITY WALLS AT REQULAR CENTRES, ALL WIND POSTS TO HAVE VERTICALLY SLOTTED CONNECTIONS T ALLOW FOR 25mm FREE VERTICAL MOVEMENT OF MEMBER ABOVE.

- MODIFICATION

 ACCORDANCE OF THE CONTRACT OF T
- BOTH SHIP, ADDRESSITE FOR COMPARTS BRICE EXTENSION AND CODES LISTED BILLOW

 BILLOW SHIP, ADDRESSITE FOR COMPARTS

 BILLOW SHIP, ADDRESSITE FOR STANDARDS MITTINES AND BURFACE. TREATMENTS FOR BOXIOS,
 ADDRESS AS AND OWNER TRANSPORT MESON.
- BS IN 1996 BYTAMOUS MITURES MATERIAL SPECIFICATIONS PART 6: RECLAMED ADVANCE. THE TOTAL ARGUNE OF RECYCLED AND FOR SECREDARY ADDRESSATE TO BE GREATER THREE
 THE SET WINDOWS TO VISION OF THE TOTAL MINISTRANCE ADDRESSATE.
- TO CONTRIBUTE TO THE TOTAL MADURE, THE PERCENTIALS OF HERHARDES AGRISCHEE PER HPILLOVICKS (MARRIC PRESENT) THAT IS RECYCLED AND YOR SECONDARY AGRISCHEE, MALTHEET THE FOLLOWING BROMAN LEVEL. BY MELOT OF VICULABLE. ETRICTION FROM 275 MINION
 TO COST SEAST MINION STOCKED TO COST SEAST 275 MINION
 TO COST SEAST MICE STOCKED STOCKED TO COST SEAST 275 MINION ASSESSMENT
- BTARS OF PERMILICALLY BOUND BASE, BASES AND SURFACE COURSES FOR PAVED WEAR HIS DRIVE HE MARKET. CONCRETE FISAS SUFFACES SES NINMAN PIPE BEZONG COS NENHAM BULZING FOUNDATIONS ZUS MINMAN
- BRITCONFLAND ROTES IN INVESTMENT CONTOUR GLOST THE
- (BIT COMPLANDS NOTES IN REPEAR TO CHILD COUNTY ONLY

 GRAVEL, LACED OFFWO 100% REPEAR
 THE ADDRESS MUST MEET ONE OF THE FULL OWING REQUIREMENTS:

 OUT WARD THOSE WASTE PROCESSING STEELY INTENDAMS AND AS OF THE SITE.
- ALI SUPPLETS TO PROVIDE DOCUMENTATION CONFIRMING THE SOUNCE OF RECYCLES/ RECORDARY ADDRESS/TES AND PROOF THAT THE WANNAMIRECYCLES I RECORDARY ADDRESS/TES AS NOTE I ARE ADMENTS.

GENERAL NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEXING ARCHITECTS AND PROMPERS DRAWINGS AND SPECIFICATIONS.

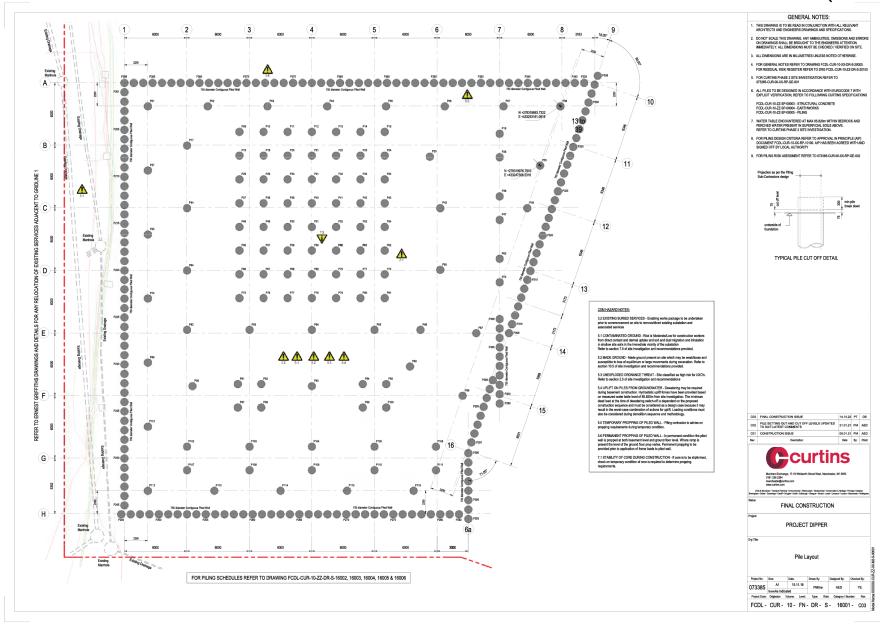
- DO NOT SCALE THIS DRAWNO, ANY AMBIDUTTES, OWISSIONS AND EITH ON DRAWINGS SHALL BE SECUCIANT TO THE EMGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE
- 1. ALL DIMENSIONS ARE IN HILL METRES UNLESS NOTED OTHERWISE



Ccurtins Newhord Disharge, 13-16 Withworth Street Newt, Nanotheries, Wr. SPRG 1991 200 2004 manufacturing com-sense authorisms. FINAL CONSTRUCTION

PROJECT DIPPER

General Notes



	PILE		COORDIN	ATES (m)		VERTI	CAL ACTION	NS (kN)		H	ORIZONTAL	ZONTAL ACTIONS (kN)				
ILE REF	SIZE	CUT OFF LEVEL	EASTING	NORTHING	Max Dead Gk, max	Min Dead Gk, min	Imposed Qk	Wind Wk	Hydrostatic Uplift (Uk)	Max Dead Gk, max	Min dead Qk, min	Imposed Qk	Wind Wk	Rev		
P01	750	9.45026	38.610051	74.501679	1050	100	1200	-	-400	15	10	5	25	CO		
P02	750	9.45026	44.351718	74.501679	1050	100	1200	-	-400	15	10	5	25	C02		
P03	750	9,45026	50.093384	74.501679	1050	100	1200	-	-400	15	10	5	25	C0:		
P04	750	10,10026	55.835051	74,501679	1000	450	400	-	-175	15	10	5	25	CO.		
P05	750	10.60026	61.466301	74.501679	1000	450	400	-	-175	15	10	5	25			
P06	750	10.60026	67.097551	74,501679	1000	450	400		-175	15	10	5	25			
P07	750	10.60026	72.728801	74,501679	1000	450	400		-175	15	10	5	25			
P08	750	10.60026	78.187315	74.501679	1000	450	400	- 1	-175	15	10	5	25	C0		
P09	750	8.45026	47.385051	72.06418	2200	1200	800	± 600	-200	25	15	10	100	CO		
P10	750	8.45026	49.710051	72.06418	2200	1200	800	± 600	-200	25	15	10	100	CO		
P11	750	8.45026	52.035051	72.06418	2200	1200	800	± 600	-200	25	15	10	100	CO		
P11										25						
	750	8.45026	54.360051	72.06418	2200	1200	800	± 600	-200		15	10	100	C02		
P13	750	8.45026	56.685051	72.06418	2200	1200	800	± 600	-200	25	15	10	100	C02		
P14	750	8.45026	59.010051	72.06418	2200	1200	800	± 600	-200	25	15	10	100	C02		
P15	750	8.45026	61.335051	72.06418	2200	1200	800	± 600	-200	25	15	10	100	C02		
P16	750	9.85026	72.360051	71.876679	2600	1350	1200	-	-150	15	10	5	25			
P17	750	9.45026	42.360051	70.751679	1050	100	1200		-400	15	10	5	25	C0.		
P18	750	8.45026	47.385051	69.785608	2200	1200	800	± 600	-200	25	15	10	100	C0.		
P19	750	8.45026	49.710051	69.785608	2200	1200	800	± 600	-200	25	15	10	100	C0:		
P20	750	8.45026	52.035051	69.785608	2200	1200	800	± 600	-200	25	15	10	100	C0:		
P21	750	8.45026	54.360051	69.785608	2200	1200	800	± 600	-200	25	15	10	100	C0:		
P22	750	8.45026	56.685051	69.785608	2200	1200	800	± 600	-200	25	15	10	100	C0:		
P23	750	8.45026	59.010051	69.785608	2200	1200	800	± 600	-200	25	15	10	100	C02		
P24	750	8.45026	61.335051	69.785608	2200	1200	800	± 600	-200	25	15	10	100	C0.		
P25	750	10.38526	65.664146	69.678935	1000	450	400	-	-175	15	10	5	25	CO		
P26	750	9.85026	72.360051	69.626679	2600	1350	1200		-150	15	10	5	25			
P27	750	9.45026	38.610051	68.359723	1050	100	1200		-400	15	10	5	25	C0:		
P28	750	8.45026	47.385051	67.507037	2200	1200	800	± 600	-200	25	15	10	100	CO		
P29	750	8.45026	49.710051	67,507037	2200	1200	800	± 600	-200	25	15	10	100	CO		
P30	750	8.45026	52.035051	67.507037	2200	1200	800	± 600	-200	25	15	10	100	CO		
P31	750	8.45026	54.360051	67.507037	2200	1200	800	± 600	-200	25	15	10	100	CO.		
P32					2200					25		10	100			
P32	750	8.45026	56.685051	67.507037	2200	1200 1200	800 800	± 600	-200	25	15			CO		
	750	8.45026	59.010051	67.507037				± 600	-200		15	10	100			
P34	750	8.45026	61.335051	67.507037	2200	1200	800	± 600	-200	25	15	10	100	C02		
P35	750	10.60026	76.233798	68.828604	1000	450	400	-	-175	15	10	5	25	C02		
P36	750	9.85026	72.360051	65.876679	2600	1350	1200	-	-150	15	10	5	25			
P37	750	8.45026	47.385051	65.228466	2200	1200	800	± 600	-200	25	15	10	100	C0.		
P38	750	8.45026	49.710051	65.228466	2200	1200	800	± 600	-200	25	15	10	100	C0:		
P39	750	8.45026	52.035051	65.228466	2200	1200	800	± 600	-200	25	15	10	100	C0:		
P40	750	8.45026	54.360051	65.228466	2200	1200	800	± 600	-200	25	15	10	100	C0.		
P41	750	8.45026	56.685051	65.228466	2200	1200	800	± 600	-200	25	15	10	100	C02		
P42	750	8.45026	59.010051	65.228466	2200	1200	800	± 600	-200	25	15	10	100	C0.		
P43	750	8.45026	61.335051	65.228466	2200	1200	800	± 600	-200	25	15	10	100	C0:		
P44	750	9.45026	42.360051	64.751679	1050	100	1200		-400	15	10	5	25	C0:		
P45	750	10.38526	66.661301	64.750429	1000	450	400		-175	15	10	5	25			
P46	750	10.60026	75.009861	64.751679	1000	450	400	-	-175	15	10	5	25			
P47	750	9.85026	72.360051	63.626679	2600	1350	1200		-150	15	10	5	25			
P48	750	8.45026	47.385051	62,949894	2200	1200	800	± 600	-200	25	15	10	100	CO.		
P49	750	8.45026	49.710051	62,949894	2200	1200	800	± 600	-200	25	15	10	100	CO		
P50	750	8.45026	52.035051	62.949894	2200	1200	800	± 600	-200	25	15	10	100	CO		
P51	750	8.45026	54.360051	62.949894	2200	1200	800	± 600	-200	25	15	10	100	CO		
P52	750	8.45026	56.685051	62.949894	2200	1200	800	± 600	-200	25	15	10	100	CO		
P53	750	8.45026	59.010051	62.949894	2200	1200	800	± 600	-200	25	15	10	100	CO		
P54	750	8.45026	61.335051		2200	1200	800	± 600	-200	25	15	10	100	CO		
				62.949894				1 000						CU.		
P55	750	10.60026	38.610051	62.217768	1050	100	1200		-400	15	10	5	25	-		
P56	750	8.45026	47.385051	60.671323	2200	1200	800	± 600	-200	25	15	10	100	C02		
P57	750	8.45026	49.710051	60.671323	2200	1200	800	± 600	-200	25	15	10	100	CO		
P58	750	8.45026	52.035051	60.671323	2200	1200	800	± 600	-200	25	15	10	100	C02		
P59	750	8.45026	54.360051	60,671323	2200	1200	800	± 600	-200	25	15	10	100	C0:		

PILE DESIGN NOTES:

PILES TO BE DESIGNED IN LINE WITH EUROCODE 7 WITH EXPLICIT VERIFICATION, TEST VERIFICATION TO BE IN LINE WITH CURTINS CONCRETE AND PILING SPECIFICATIONS AND EUROCODE 7.

ALL CONTIGUOUS PILES AND PILES TO 2-PILE CAPS TO BE DESIGNED FOR ECCENTRICITY MOMENTS RESULTING FROM PILE INSTALLATION TOLERANCES.

FOR CONTROLOUS PILES, HORZONTAL ACTIONS ARISING FROM SUPER STRUCTURE (E.G. DUE TO EHF & WIND) ARE PROVIDED WHERE THEY RESULT IN FORCESSEE/JUNE MOMENTS APPLE TO THE CONTROLOUS PILES WALL THESE AND EDITION TO THOSE RESULTING FROM PILE CONTROLOUS PILES IN ADDITION TO THOSE RESULTING FROM PILE MISTALLATION CHESANCES.

BEARING PILES ARE TO BE DESIGNED FOR HORIZONTAL ACTIONS PROVIDED IN THIS SCHEDULE WITH ACTIONS APPLIED AT PILE CUT-OFF LEVEL.

PLE DESIGN TO ACCOUNT FOR DISTRIBUTION OF SERVICES THROUGH CONTIGUOUS PILE WALL AND CAPPING BEAM.

PILE DESIGNER TO CONFIRM HORIZONTAL WHALING LOADS IN TEMPORARY AND PERMANENT CONDITION WHICH THE CAPPING BEAM MUST BE DESIGNED FOR.

ALL PILES SUBJECT TO A NET UPLIFT AT MAY POINT DURING TEMPORARY OR PERMANENT WORKS TO BE DESIGNED FOR 120 YEAR DESIGN LIFE. CONCRETE MIX AND COVER TO BE SPECIFIED FOR "AT LEAST 100 YEARS" TO 88560

COM HAZARD NOTES:

5.1 CONTAMINATED GROUND - Risk is Moderate Low for construction workers from direct contact and dermal uptake and soil and drust migration and inhalation in shallow alto soils in the immostiate vicinity of the substation Refer to section 7.0 of site investigation and recommendations provided.

5.2 MADE GROUND - Made ground present on site which may be weakfloose and susceptible to loss of equilibrium or large movements during excavation. Refer to section 10.5 of site investigation and recommendations provided.

5.3 UNEXPLODED ORDNANCE THREAT - Site classified as high risk for UXO's. Refer to section 2.5 of site investigation and recommendations

A CHIP FOR MESS FROM GROUNDWATER. Ownstaring may be required duting basement construction, hydrostatic until towards have been provided based on measured water babe level of 85.000 mm sails investigated. The minimum date load at the time of deseating water. Or is dependent on the proposed constructions seemed and must be constituted as a design case because it may result in the worst-case combination of actions for until Lossing conditions must also be considered during desertions and must be considered and seemed and minimum date.

TEMPORARY PROPPING OF PILED WALL - Piling contractor to advise on propping requirements during temporary condition.

5.6 PERMANENT PROPPING OF PILED WALL - In permanent condition the piled wall is prosport at both baserment level and ground foor level. Where ramp is present the level of the ground foor perp varies. Permanent propping to be provided prior to application of farme loads to piled wall.

7.1 STABILITY OF CORE DURING CONSTRUCTION - If core is to be slipformed, check on temporary condition of core is required to determine propping requirements.

FOR GENERAL NOTES REFER TO DRAWING FCDL-CUR-10-XX-DR-S-20000. FOR RESIDUAL RISK REGISTER REFER TO DRG FCDL-CUR-10-ZZ-DR-S-20100. 5. FOR CURTINS PHASE 2 SITE INVESTIGATION REFER TO 073385-CUR-00-307-RP-GE-001 6. ALL PILES TO BE DESIGNED IN ACCORDANCE WITH EUROCODE 7 WITH EXPLICIT VERIFICATION, REFER TO FOLLOWING CURTINS SPECIFICATIONS

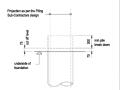
FCDL-CUR-10-ZZ-SP-00003 - STRUCTURAL CONCRETE FCDL-CUR-10-ZZ-SP-00004 - EARTHWORKS FCDL-CUR-10-ZZ-SP-00005 - PILING WATER TABLE ENCOUNTERED AT MAX 85.820m WITHIN BEDROCK AND PERCHED WATER PRESENT IN SUPERFICIAL SOUS ABOVE. REFER TO CURTINS PHASE 2 SITE INVESTIGATION.

FOR PILING DESIGN CRITERIA REFER TO APPROVAL IN PRINCIPLE (AIP)
DOCUMENT FODI_CUR_1G-XX-RP-10100, AIP HAS BEEN AGREED WITH AND
SIGNED OFF BY LOCAL AUTHORITY

GENERAL NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS. DO NOT SCALE THIS DRAWING, ANY AMBIGUITIES, OMISSIONS AND ERRORS
ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION
MAKEDIATELY, ALL DIMENSIONS MUST BE CHECKED I VERIFIED ON SITE.

3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

9. FOR PILING RISK ASSSSMENT REFER TO 073385-CUR-00-XX-RP-GE-002



TYPICAL PILE CUT OFF DETAIL

003	FINAL	CONSTRUCT	NON ISSUE		14.10.2	2 PT	DS					
C02		SETTING OUT JIT LATEST O		LEVELS UPDA	21.01.2	H PM	AED					
C01	CON	STRUCTION IS	SUE		08.01.2	1 PM	AED					
Rav.			Description:		Date:	By:	Chkd					
Cue Inninghan Setur: Toject	FINAL CONSTRUCTION											
		1	PROJECT	DIPPER								
ng Title:	₉ Tow Pile Schedule sheet 1											
Project	No:	Size:	Date:	Drawn By:	Designed By:	Checked	By:					
0733	305	A1	02.12.20	PMine	AED							
0100	000	Soale/As indica	ted	- mills	~20	١ ،	•					

FCDL - CUR - 10 - FN - DR - S - 16002 - C03

	PILE		COORDIN	ATES (m)			CAL ACTION	NS (kN)			ORIZONTAL	ACTIONS (k	N)	
PILE REF	SIZE	CUT OFF LEVEL	EASTING	NORTHING	Max Dead Gk, max	Min Dead Gk, min	Imposed Qk	Wind Wk	Hydrostatic Uplift (Uk)	Max Dead Gk, max	Min dead Qk, min	Imposed Qk	Wind Wk	Re
P60	750	8.45026	56.685051	60.671323	2200	1200	800	± 600	-200	25	15	10	100	C0
P61	750	8.45026	59.010051	60.671323	2200	1200	800	± 600	-200	25	15	10	100	C0
P62	750	8.45026	61.335051	60.671323	2200	1200	800	± 600	-200	25	15	10	100	CO
P63	750	9.85026	72.360051	59.876679	2600	1350	1200	-	-150	15	10	5	25	
P64	750	10.60026	42.360051	58.751679	1000	450	400	-	-175	15	10	5	25	
P65	750	10.38526	66.660051	58.819179	1000	450	400	-	-175	15	10	5	25	
P66	750	8.45026	47.385051	58.392751	2200	1200	800	± 600	-200	25	15	10	100	CC
P67	750	8.45026	49.710051	58.392751	2200	1200	800	± 600	-200	25	15	10	100	CC
P68	750	8.45026	52.035051	58.392751	2200	1200	800	± 600	-200	25	15	10	100	CC
P69	750	8.45026	54.360051	58.392751	2200	1200	800	± 600	-200	25	15	10	100	CC
P70	750	8.45026	56.685051	58.392751	2200	1200	800	± 600	-200	25	15	10	100	CC
P71	750	8.45026	59.010051	58.392751	2200	1200	800	± 600	-200	25	15	10	100	CC
P72	750	8.45026	61.335051	58.392751	2200	1200	800	± 600	-200	25	15	10	100	CC
P73	750	9.85026	72.360051	57.626679	2600	1350	1200	-	-150	15	10	5	25	
P74	750	10.60026	38.610051	56.075812	400	100	150		-175	15	10	5	25	
P75	750	8.45026	47.385051	56.11418	2200	1200	800	± 600	-200	25	15	10	100	CC
P76	750	8.45026	49.710051	56.11418	2200	1200	800	± 600	-200	25	15	10	100	CC
P77	750	8.45026	52.035051	56,11418	2200	1200	800	± 600	-200	25	15	10	100	CC
P78	750	8.45026	54.360051	56.11418	2200	1200	800	± 600	-200	25	15	10	100	CC
P79	750	8.45026	56.685051	56.11418	2200	1200	800	± 600	-200	25	15	10	100	CC
P80	750	8.45026	59.010051	56,11418	2200	1200	800	± 600	-200	25	15	10	100	C
P81	750	8.45026	61.335051	56.11418	2200	1200	800	± 600	-200	25	15	10	100	C
P82	750	10.60026	42.360051	53.066679	1000	450	400	-	-175	15	10	5	25	C
P83	750	10.60026	48.360051	53.066679	1000	450	400		-175	15	10	5	25	CC
P84	750	10.38526	54.360051	53.066679	1000	450	400		-175	15	10	5	25	CC
P85	750	10.38526	60.360051	53.066679	1000	450	400		-175	15	10	5	25	CC
P86	750	10.38526	64.760051	53.066679	1000	450	400	-	-175	15	10	5	25	CC
P87	750	10.60026	70.110051	52.751679	400	100	150		-175	15	10	5	25	-
P88	750	10.60026	38.610051	49.933857	400	100	150	- 1	-175	15	10	5	25	
P89	750	10.60026	63.760051	49.551679	1000	450	400		-175	15	10	5	25	
P90	750	10.60026	42.885051	47.676679	1000	450	400	- :	-175	15	10	5	25	
P91	750	9.60026	47.235051	47.876679	2600	1350	1200	- 1	-150	15	10	5	25	
P92	750	9.60026	49.485051	47.876679	2600	1350	1200	- :	-150	15	10	5	25	
P93	750	10.60026	54.360051	47.676679	1000	450	400		-175	15	10	5	25	
P94	750	9.60026	59.235051	47.876679	2600	1350	1200		-175	15	10	5	25	
P95	750	9.60026	61.485051	47.876679	2600	1350	1200		-150	15	10	5	25	
P95	750	10.60026	68.81158	46.751679	400	100	150	- :	-175	15	10	5	25	
								-				5	25	
P97 P98	750 750	9.60026 9.60026	47.235051 49.485051	45.626679 45.626679	2600 2600	1350 1350	1200 1200	-	-150 -150	15 15	10 10	5	25	
P98	750	9.60026			2600	1350	1200	-	-150 -150	15	10	5	25	
P99 P100	750		59.235051	45.626679		1350			-150	15	10	5	25	
P100	750	9.60026	61.485051 38.610051	45.626679 43.791901	2600 400	100	1200 150	-	-175	15	10	5	25	
						475		-				5	25	
P102	750	9.85026	42.360051	41.876679	2000		1000	-	-150	15	10			
P103	750	9.85026	48.360051	41.876679	2000	475	1000		-150	15	10	5	25	
P104	750	9.85026	54.360051	41.876679	2000	475	1000		-150	15	10	5	25	
P105	750	9.85026	60.360051	41.876679	2000	475	1000	-	-150	15	10	5	25	
P106	750	9.85026	66.250051	41.876679	2000	475	1000	-	-150	15	10	5	25	
P107	750	9.85026	42.360051	39.626679	2000	475	1000		-150	15	10	5	25	
P108	750	9.85026	48.360051	39.626679	2000	475	1000	-	-150	15	10	5	25	
P109	750	9.85026	54.360051	39.626679	2000	475	1000	-	-150	15	10	5	25	
P110	750	9.85026	60.360051	39.626679	2000	475	1000		-150	15	10	5	25	
P111	750	9.85026	66.250051	39.626679	2000	475	1000	-	-150	15	10	5	25	
P112	750	10.60026	38.610051	37.649946	400	100	150	-	-175	15	10	5	25	
P113	750	10.60026	44.985051	37.649946	400	100	150		-175	15	10	5	25	
P114	750	10.60026	51.360051	37.649946	400	100	150		-175	15	10	5	25	
P115	750	10.60026	57.735051	37.649946	400	100	150	-	-175	15	10	5	25	
P116	750	10.60026	64.110051	37.649946	400	100	150	-	-175	15	10	5	25	

PILE DESIGN NOTES:

PILES TO BE DESIGNED IN LINE WITH EUROCODE 7 WITH EXPLICIT VERIFICATION, TEST VERIFICATION TO BE IN LINE WITH CURTINS CONCRETE AND PILING SPECIFICATIONS AND EUROCODE 7.

ALL CONTIGUOUS PILES AND PILES TO 2-PILE CAPS TO BE DESIGNED FOR ECCENTRICITY MOMENTS RESULTING FROM PILE INSTALLATION TOLERANCES.

FOR CONTIGUOUS PILES, HORIZONTA, ACTIONS ARISING FROM SUPER STRUCTURE (E.G. DUE TO 16 4 WIND) ARE PROVIDED WHERE THEY RESULT IN PROSESSIONED MOMENTS PAPEED TO THE CONTRIGUES PILED WAIL. THESE ARE TO BE INCLUDED IN THE DESIGN OF THE CONTIGUOUS PLUS WAIL. THESE ARE TO BE INCLUDED IN THE DESIGN OF THE CONTIGUIOUS PILES IN ADDITION TO THOSE RESULTING FROM PILE INSTALLATION TO LEPRANCES.

PROVIDED IN THIS SCHEDULE WITH ACTIONS APPLIED AT PILE CUT-1FVF1

PILE DESIGN TO ACCOUNT FOR DISTRIBUTION OF SERVICES THROUGH CONTIGUOUS PILE WALL AND CAPPING BEAM.

PILE DESIGNER TO CONFIRM HORIZONTAL WHALING LOADS IN TEMPORARY AND PERMANENT CONDITION WHICH THE CAPPING BEAM MUST BE DESIGNED FOR.

ALL PILES SUBJECT TO A NET UPUFT AT ANY POINT DURING TEMPORARY OR PERMANENT WORKS TO BE DESIGNED FOR 120 YEAR DESIGN LIFE. CONCRETE MIX AND COVER TO BE SPECIFIED FOR "AT LEAST 100 YEARS" TO BISSOO

CDM HAZARD NOTES:

3.2 EXISTING BURIED SERVICES - Enabling works package to be undertaken prior to commencement on site to remover/divert existing substation and associated services

5.1 CONTAMINATED GROUND - Risk is Moderate1, ow for construction workers from direct contact and deemel upstate and soil and dust migration and inhalation in shallow sits soils in the immediate vicinity of the substation. Relatin section 17.0 of alls in-evelopation and recommendations provided.

5.2 MADE GROUND - Made ground present on site which may be week/loose and succeptible to loss of equilibrium or large movements during excavation. Refer to section 10.5 of site investigation and recommendations provided.

5.3 UNEXPLODED ORDNANCE THREAT - She classified as high risk for UXO's. Refer to section 2.5 of site investigation and recommendations

5.4 UPLET ON PILES FROM OROUNDWATER - Develoring may be recited during bearenet construction, hydrostatic upfill force have been provided beared on resourced water bale level of 65.50 from hash investigation. The minimum detect load at the time of develoring pattch—of its dependence on the proposed constructions resource and must be considered as a design case because it must be considered as a design case because it must result in the worst-class construction of actions for upfill. Loading conditions must also be considered may desire developed the considered and minimized by the considered and the considered and

5.5 TEMPORARY PROPPING OF PILED WALL - Piling contractor to advise propping requirements during temporary condition.

5.6 PERMANENT PROPPING OF PILED WALL - In permanent condition the piled wall is propped at both beasement level and ground floor level. Where ramp is present the level of the ground floor prop varies. Permanent propring to be provided prior to application of frame loads to piled wall.

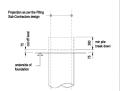
7.1 STABILITY OF CORE DURING CONSTRUCTION - If core is to be slipformed, check on temporary condition of core is required to determine propping requirements.

GENERAL NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
- DO NOT SCALE THIS DRAWING, ANY AMBIGUITIES, OMISSIONS AND ERRORS
 ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION
 IMMEDIATELY, ALL DIMENSIONS MUST BE CHECKED I VERIFIED ON SITE.
- 3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- FOR GENERAL NOTES REFER TO DRAWING FCDL-CUR-10-XX-DR-S-20000.
 FOR RESIDUAL RISK REGISTER REFER TO DRG FCDL-CUR-10-ZZ-DR-S-20100.
- 5. FOR CURTINS PHASE 2 SITE INVESTIGATION REFER TO 073385-CUR-00-30K-RP-GE-001
- ALL PLES TO BE DESIGNED IN ACCORDANCE WITH EUROCODE T WITH EXPLICIT VERIFICATION, REFER TO FOLLOWING CURTING SPECIFICATIONS
 FCD.-CUR-10-Z2S-P00003 - STRUCTURAL CONCRETE FCD.-CUR-10-Z2S-P00003 - EARTHMORKS
 FCD.-CUR-10-Z2S-P00003 - FULNG

 TOL-CUR-10-Z2S-P00003 - FULNG

 TOL-CU
- WATER TABLE ENCOUNTERED AT MAX 85.820m WITHIN BEDROCK AND PERCHED WATER PRESENT IN SUPERFICIAL SOILS ABOVE. REFER TO CURTINS PHASE 2 SITE INVESTIGATION.
- FOR PILING DESIGN CRITERIA REFER TO APPROVAL IN PRINCIPLE (AIP)
 DOCUMENT FODL-QUR-19-XX-RP-10100, AIP HAS BEEN AGREED WITH AND
 SIGNED OFF BY LOCAL AUTHORITY
- 9. FOR PILING RISK ASSSSMENT REFER TO 073385-CUR-00-XX-RP-GE-002



TYPICAL PILE CUT OFF DETAIL

003	FINA	L CONSTRU	CTION ISSUE		14.10.2	PT	DS
C02		SETTING OL	JT AND CUT OFF COMMENTS	LEVELS UPDA	TED 21.01.2	РМ	AED
001	CON	STRUCTION	ISSUE		08.01.2	PM	AED
Rev:			Description:		Date:	By:	Chké
On Binnington Startus:		Morchant Exchar 0161 236 2364 mark/sefan@cu www.curtins.com use - heaport/free Centrop - Certif-		Street West, Mand waters - Germannian - Co - Giorgon - Kanda' - Lee	hester, MT SWG manation & Heritiga - Fr to - Disepool - Candon - N	nited Cont	gw Notingham
Project			PROJEC1	DIPPER			
Drg Title	E						
Projec	t No:	P	Pile Schedu			Cherise	(Br
Projec		·		Drawn By:	Designed By:	Checke	
Project 073		Sizac	Duta: 02.12.20				i By:

FCDL - CUR - 10 - FN - DR - S - 16003 - C03

PILE REF	PILE	CUT OFF LEVEL	EASTING	NATES (m) NORTHING	Max Dead Gk, max	Min Dead Gk, min	ICAL ACTION Imposed Qk	Wind Wk	Hydrostatic Uplift (Uk)	Max Dead Gk, max	Min dead Qk, min	Imposed Qk	Wind Wk	Re
P201	750	13.91526	36.360051	75.851679	1500	300	500	-	-50	-	-	-	-	
P202	750	13.91526	36.360051	74.951679	750	150	250	-	-50	-	-	-	-	
P203	750	13.91526	36.360051	74.051679	750	150	250	-	-50	-		-	-	
P204	750	13.91526	36.360051	73.151679	750	150	250	-	-50		-	-	-	
P205	750	13.91526	36.360051	72.251679	750	150	250	-	-50	-	-	-	-	
P206	750	13.91526	36.360051	71.351679	1500	300	500	-	-50		-	-	-	
P207	750	13.91526	36.360051	70.451679	1500	300	500		-50					
P208	750	13.91526	36.360051	69.551679	1500	300	500	-	-50	-	-		-	
P209	750	13.91526	36.360051	68,651679	750	150	250		-50			-		
P210	750	13.91526	36.360051	67.751679	750	150	250		-50					
P211	750	13.91526	36.360051	66.851679	750	150	250		-50	-		-	-	
P212	750	13.91526	36.360051	65.951679	1500	300	500	- :	-50	-	- :			
P213	750	13.91526	36.360051	65.051679	1500	300	500	- :	-50					
							500	-	-50	-	-	-	-	
P214	750	13.91526	36.360051	64.151679	1500	300		-		-	-	-	-	
P215	750	13.91526	36.360051	63.251679	750	150	250		-50		-	-	-	
P216	750	13.91526	36.360051	62.351679	750	150	250		-50				-	
P217	750	13.91526	36.360051	61.451679	750	150	250	-	-50	-	-	-	-	
P218	750	13.91526	36.360051	60.551679	750	150	250	-	-50	-	-	-	-	
P219	750	13.91526	36.360051	59.651679	1500	300	500	-	-50	-	-	-	-	
P220	750	13.91526	36.360051	58.751679	1500	300	500		-50	-			-	
P221	750	13.91526	36.360051	57.851679	1500	300	500	-	-50		-		-	
P222	750	13.91526	36.360051	56.951679	750	150	250		-50				-	
P223	750	13.91526	36.360051	56.051679	750	150	250		-50	-			-	
P224	750	13.91526	36.360051	55.151679	750	150	250		-50	-			-	
P225	750	13.91526	36.360051	54.251679	750	150	250	-	-50	-	-		-	
P226	750	13.91526	36.360051	53.351679	1500	300	500	- :	-50					
P227	750	13.91526	36.360051	52.451679	1500	300	500	-	-50	-	_	-	-	
P228	750	13.91526	36.360051	51.551679	1500	300	500	- :	-50		- :	-		
P229	750	13,91526	36,360051	50.651679	750	150	250	- :	-50			-		
											-	-	-	
P230	750	13.91526	36.360051	49.751679	750	150	250	-	-50	-	-	-	-	
P231	750	13.91526	36.360051	48.851679	750	150	250	-	-50	-	-	-	-	
P232	750	13.91526	36.360051	47.951679	1500	300	500	-	-50	-	-	-	-	
P233	750	13.91526	36.360051	47.051679	1500	300	500	-	-50	-	-	-	-	
P234	750	13.91526	36.360051	46.151679	1500	300	500	-	-50	-	-	-	-	
P235	750	13.91526	36.360051	45.251679	750	150	250	-	-50	-	-	-	-	
P236	750	13.91526	36.360051	44.351679	750	150	250	-	-50	-	-	-	-	
P237	750	13.91526	36.360051	43.451679	750	150	250	-	-50	-	-	-	-	
P238	750	13.91526	36.360051	42.551679	750	150	250		-50					
P239	750	13.91526	36.360051	41.651679	750	150	250		-50			_		
P240	750	13.91526	36.360051	40.751679	750	150	250	- :	-50					
P240	750	13.91526	36.360051	39.851679	750	150	250	-	-50	- :	-		- :	
P241	750	13.91526	36.360051	38.951679	750	150	250	- :	-50	-	-	-		
P242 P243	750	13.91526	36.360051	38.951679	750	150	250	-	-50	- :	-	-		
								-			-	-		
P244	750	13.91526	36.360051	37.151679	750	150	250	-	-50	-	-	-		
P245	750	13.91526	36.360051	36.251679	750	150	250	-	-50	-	-	-		
P246	750	13.91526	36.060051	35.399946	150	50	100	-	-25	-	-	-	-	
P247	750	13.91526	36.960051	35.399946	150	50	100	-	-25	-	-	-	-	
P248	750	13.91526	37.860051	35.399946	150	50	100	-	-25	-	-	-	-	
P249	750	13.91526	38.760051	35.399946	150	50	100	-	-25	-	-	-	-	
P250	750	13.91526	39.660051	35.399946	150	50	100	-	-25	-	-	-	-	
P251	750	13.91526	40.560051	35.399946	150	50	100	-	-25	-	-	-	-	
P252	750	13.91526	41.460051	35.399946	150	50	100		-25					
P253	750	13.91526	42.360051	35.399946	150	50	100	- :	-25					
P254	750	13.91526	43.260051	35.399946	150	50	100		-25					
P254 P255	750	13.91526	43.260051	35,399946	150	50	100		-25	-		-	-	
P255 P256	750				150	50	100	- :						
		13.91526	45.060051	35.399946					-25	-	-		-	
P257	750	13.91526	45.960051	35.399946	150	50	100	-	-25	-	-	-	-	
P258	750	13.91526	46.860051	35.399946	150	50	100		-25				-	
P259	750	13.91526	47.760051	35.399946	150	50	100	-	-25	-	-	-	-	
P260	750	13.91526	48.660051	35.399946	150	50	100	-	-25	-	-	-	-	
P261	750	13.91526	49.560051	35.399946	150	50	100	-	-25	-	-	-	-	
P262	750	13.91526	50.460051	35.399946	150	50	100	-	-25					
P263	750	13.91526	51.360051	35.399946	150	50	100		-25	-		-	-	
P264	750	13.91526	52.260051	35.399946	150	50	100		-25	-		-	-	
P265	750	13.91526	53.160051	35.399946	150	50	100		-25				-	
P266	750	13.91526	54.060051	35,399946	150	50	100		-25				-	
P267	750	13.91526	54.960051	35.399946	150	50	100		-25	-				
P268	750	13.91526	55.860051	35.399946	150	50	100	- :	-25	-		- :	- :	
P269	750	13.91526	56.760051	35.399946	150	50	100	- :	-25	- :	- :		- 1	
						50		· ·					-	
P270	750	13.91526	57.660051	35.399946	150		100	-	-25	-		-	-	
P271	750	13.91526	58.560051	35.399946	150	50	100		-25		-	-	-	
P272	750	13.91526	59.460051	35.399946	150	50	100		-25	-		-	-	
P273	750	13.91526	60.360051	35.399946	150	50	100	-	-25	-	-	-	-	
P274	750	13.91526	61.260051	35.399946	150	50	100		-25	-	-	-	-	
P275	750	13.91526	62.160051	35.399946	150	50	100	-	-25	-			-	
P276	750	13.91526	63.060051	35.399946	150	50	100	-	-25	-			-	
P277	750	13.91526	63.960051	35.399946	150	50	100	-	-25	-	-	-	-	
	750	13.91526	64.860051	35.399946	150	50	100		-25				-	
P278														
P278 P279	750	13.91526	65.760051	35.399946	150	50	100		-25	-				

PILE DESIGN NOTES:

PILES TO BE DESIGNED IN LINE WITH EUROCODE 7 WITH EXPLICIT VERRICATION, TEST VERIFICATION TO BE IN LINE WITH CURTINS CONCRETE AND PILING SPECIFICATIONS AND EUROCODE 7.

ALL CONTIGUOUS PILES AND PILES TO 2-PILE CAPS TO BE DESIGNED FO ECCENTRICITY MOMENTS RESULTING FROM PILE INSTALLATION TOIL FRANCES.

FOR CONTIGUOUS PILES, HORZONTAL ACTIONS ARISING FROM SUPER STRUCTURE (E.G. DUE TO 19-14 WIND) ARE PROVIDED WHERE THEY RESULT IN POGESSEROIMAN MOMENTS APPLIED TO THE CONTIGUOUS PLES WALL. THESE ARE TO BE INCLUDED IN THE DESIGN OF THE CONTIGUOUS PLES IN ADDITION TO THOSE RESULTING FROM PILE INSTALLATION TO GERMANES.

BEARING PILES ARE TO BE DESIGNED FOR HORIZONTAL ACTIONS PROVIDED IN THIS SCHEDULE WITH ACTIONS APPLIED AT PILE CUT-OFF LEVEL.

PILE DESIGN TO ACCOUNT FOR DISTRIBUTION OF SERVICES THROUGH CONTIGUOUS PILE WALL AND CAPPING BEAM.

PILE DESIGNER TO CONFIRM HORIZONTAL WHALING LOADS IN TEMPORARY AND PERMANENT CONDITION WHICH THE CAPPING BEAM MUST BE DESIGNED FOR.

ALL PILES SUBJECT TO A NET UPLIFT AT ANY POINT DURING TEMPORARY OR PERMANENT WORKS TO BE DESIGNED FOR 120 YEAR DESIGN LIFE. CONCRETE MIX AND COVER TO BE SPECIFIED FOR "AT LEAST 100 YEARS" TO 884800.

CDM HAZARD NOTES:

3.2 EXISTING BURIED SERVICES - Enabling works package to be undertaken prior to commencement on site to remove/divert existing substation and associated services

5.1 CONTAINNATED CRCUND - Risk is Moderated use for construction workers from direct contact and dermal uptake and soil and dust migration and inhabition in datalow site soils in the immediate inclining of the suboration Patter to section 7 of site investigation and seconomisations provided.

5.2 MADE GROUND - Made ground present on sits which may be weakfloose and susceptible to lose of equilibrium or large movements during excavation. Refer to section 10.5 of site investigation and recommendations provided.

5.3 UNEXPLODED ORDNANCE THREAT - Site classified as high risk for UXO's. Refer to section 2.5 of site investigation and recommendations

5.4 UPLET ON PILES PROM GROUNDWATER: Deseateing may be required during basement construction. Pull-violatisic upilit bross have been provided based on measured water basel to 65 EAR of mass live vedigation. The minimum dead load if the time of deseateing earth-of it dependent on the proposed construction sequence of must be constituding as design as deep sections. If must reconstruction sequence or frust be constituding as design as deep sections must also be considered under general and must dead be considered under general configuration.

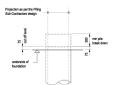
5.5 TEMPORARY PROPPING OF PILED WALL - Pling contractor to advise on propping requirements during temporary condition.

5.6 PERMANENT PROPPING OF PILED WALL - In permanent condition the piled wall is propped at both basement level and ground floor level. Where many is present the level of the ground floor pops varies. Permanent propping to be provided prior to application of frame loads to piled wall.

7.1 STABILITY OF CORE DURING CONSTRUCTION - If core is to be slipformed check on temporary condition of core is required to determine propping requirements.

- GENERAL NOTES:

 1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT
 ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
- DO NOT SCALE THIS DRAWING, ANY AMBIGUITIES, OMISSIONS AND ERRORS
 ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION
 IMMEDIATELY, ALL DIMENSIONS MUST BE CHECKED I VERIFIED ON SITE.
- 3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- FOR GENERAL NOTES REFER TO DRAWING FCDL-CUR-10-XX-DR-S-20000.
 FOR RESIDUAL RISK REGISTER REFER TO DRG FCDL-CUR-10-ZZ-DR-S-20100.
- 5. FOR CURTINS PHASE 2 SITE INVESTIGATION REFER TO 073385-CUR-00-XXR-GE-001
- ALL PILES TO BE DESIGNED IN ACCORDANCE WITH EMPROCOSE 2 WITH DPULOTY VERPICATION, REFER TO FOLLOWING OUTTINS SPECIFICATIONS FOLLOW, PIOZ 25 PO0001 - STRUCTURAL CONCRETE FOLLOW, PIOZ 25 PO0001 - FORTHWORKS FOLLOW, PIOZ 25 PRO0005 - FOLLOW, PIOZ 25
- WATER TABLE ENCOUNTERED AT MAX 85.820m WITHIN BEDROCK AND PERCHED WATER PRESENT IN SUPERFICIAL SOILS ABOVE. REFER TO CURTINS PHASE 2 SITE INVESTIGATION.
- FOR PILING DESIGN CRITERIA REFER TO APPROVAL IN PRINCIPLE (AIP)
 DOCUMENT FODL-QUR-19-XX-RP-10100, AIP HAS BEEN AGREED WITH AND
 SIGNED OFF BY LOCAL AUTHORITY
- 9. FOR PILING RISK ASSSSMENT REFER TO 073385-CUR-00-XX-RP-GE-002



TYPICAL PILE CUT OFF DETAIL



UT OFF E UT OFF E LEVEL 0 13.91526	EASTING 7650051 68.460051 69.800051	NORTHINDS 53.399946 35.399946 34.959424 35.859424 36.759422 37.69424 37.69424 34.159424 42.284605 43.1595424 42.284605 43.159768 43.159768 44.837768 45.396727 46.85954 46.85954 46.85956 46.8596 46.8596	Max Dead (dk, max.) 150 150 150 150 150 150 150 150 150 150	Min Dead (5k, min 1) (50) (5	Imposed Qk 100 100 100 100 100 100 100 100 100 10	Wind Wis	hydrostatic Upilif (Uk) [1] [2] [2] [2] [2] [2] [2] [2] [2] [2] [2	Max Dead Gk, max	Min dead Qk, min	Imposed Qk	Wind Wk	Ref
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0 13.91526	75.308364	58.707927	750	150	250		-50	-			-	
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0 13.91526	75.601391	59.558888	750	150	250	-	-50	-	-	-	-	
0 13.91526	75.894419	60.409849	750	150	250	-	-50	-	-	-		
0 13.91526	76 187446	61 26081	750	150	250		-50					
						-		_	_		_	
									-		-	
						-		-	-	-	-	
0 13.91526	77.066529	63.813693	750	150	250	-	-50	-	-	-	-	
0 13.91526	77.359557	64.664654	750	150	250	-	-50	-	-	-	-	
	77 652594	GE E1E616	750	160	260		-60					
						-		-	-	-	-	
						-		-	-	-	-	
0 13.91526	78.238639	67.217538	750	150	250	-	-50	-	-	-	-	
0 13.91526	78.531667	68.068499	750	150	250	-	-50	-	-	-	-	
			760	160	260		60					
						-		-	-	-	-	
								-	-	-	-	
0 13.91526	79.41075	70.621382	750	150	250	-	-50	-	-	-	-	
0 13.91526	79.703777	71,472343	750	150	250	-	-50	-	-	-	-	
								-	-	-		
									-	-	-	
	80.58286	74.025227				-	-50	- 1	-	-	- 1	
0 14.21526	80.875888	74.876188	750	150	250	-	-50	-	-	-	-	
	81 168915		750		250		-50					
						-		-	-	-		
						-		-	-	-	-	
						-		-	-	-	-	
0 14.21526	80.460051	76.751679	750	150	250	-	-50	-	-	-	-	
	79.560051	76.751679	750	150	250	-	-50	-		-	-	
						-			-			
								-			-	
						-		-	-	-	-	
0 14.21526	76.860051	76.751679	750	150	250	-	-50		-	-	-	
0 14.21526	75.960051	76.751679	750	150	250	-	-50	-	-	-	-	
			750		250		-50					
										-		
								-		-	-	
						-			-	-	-	
0 14.21526	72.360051	76.751679	1500	300	500	-	-50	-		-	-	
0 14.21526	71 460051	76 751679	1500	300	500		-50					
						-		-	-	-	-	
	69.660051	76.751679		150		-	-50	- 1	-	-	-	
0 14.21526	68.760051	76.751679	750	150	250	-	-50	-	-	-	-	
						-		-	-	-	-	
						-		-	-	-	-	
0 13.91526	66.060051	76.751679	1500	300	500	-	-50	-	-	-	-	
		76 751679	1500	300	500		-50			-	-	
						-		-	-	-	-	
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0 13.91526	62.460051	76.751679	750	150	250	-	-50	-	-	-	-	
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PILE DESIGN NOTES:

PILES TO BE DESIGNED IN LINE WITH EUROCODE 7 WITH EXPLICIT VERIFICATION, TEST VERIFICATION TO BE IN LINE WITH CURTINS CONCRETE AND PILING SPECIFICATIONS AND EUROCODE 7.

ALL CONTIGUOUS PILES AND PILES TO 2-PILE CAPS TO BE DESIGNED FOR ECCENTRICITY MOMENTS RESULTING FROM PILE INSTALLATION TOLERANCES.

FOR CONTIGUOUS PILES, HORIZONTAL ACTIONS ARISING FROM SUPER STRUCTURE (E.O., DUE TO EHF & WIND) ARE PROVIDED WHERE THEY RESULT IN FORCESBERIONS MAMERITS APPLIED TO THE CONTIQUOUS PILED WILL. THESE ARET O BE INCLUDE IN THE DESIGN OF THE CONTIQUUS PILES IN ADDITION TO THOSE RESULTING FROM PILE INSTITULATION TOLERANCES.

BEARING PILES ARE TO BE DESIGNED FOR HORIZONTAL ACTIONS PROVIDED IN THIS SCHEDULE WITH ACTIONS APPLIED AT PILE CUT-OFF LEVEL.

PILE DESIGN TO ACCOUNT FOR DISTRIBUTION OF SERVICES THROUGH CONTIGUOUS PILE WALL AND CAPPING BEAM.

PLE DESIGNER TO CONFIRM HORIZONTAL WHALING LOADS IN TEMPORARY AND PERMANENT CONDITION WHICH THE CAPPING BEAM MUST BE DESIGNED FOR.

ALL PILES SUBJECT TO A NET UPUFT AT ANY POINT DURING TEMPORARY OR PERMANENT WORKS TO BE DESIGNED FOR 120 YEAR DESIGN LIFE. CONCRETE MIX AND COVER TO BE SPECIFIED FOR "AT LEAST 100 YEARS" TO 88590

CDM HAZARD NOTES:

2.2 EXISTING BURIED SERVICES - Enabling works peckage to be undertaken prior to commencement on site to remove/divert existing substation and associated services

5.1 CONTANINATED GROUND - Risk is Moderated, ow for construction vertices from direct contact and deemal uptake and soil and dust neignation and inhalation in hallow ello soils in the immediate vicility of the substantion. Peter to section 7.0 of alle investigation and recommendations provided.

5.2 MADE GROUND - Made ground present on site which may be weak/sloose and susceptible to loss of equilibrium or large movements during excavation. Refer to section 10.5 of site investigation and recommendations provided.

5.3 UNEXPLODED ORDNANCE THREAT - Site classified as high risk for UXO's. Refer to section 2.5 of site investigation and recommendations

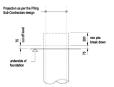
5.4 LPLET ON PLES FROM GROUNDWATER. Observiering may be required during bearement construction. Physiosistic upfill bross have been provided based on measured water bate level of 8.55 EMD most sell investigation. The minimum detail load at the time of deseathering settlich-of its dependent on the proposed construction resource and must be constituted as a design case because it may be not actived as a design case because it may result in the versical case constitution of actions for upfill. Loading conditions must also be considered during deneation sequence and methodology.

5.5 TEMPORARY PROPPING OF PILED WALL - Piling contractor to advise on propping requirements during temporary condition.

5.6 PERMANENT PROPPING OF PILED WALL: In permanent condition the pi wall is propped at both beasement level and ground floor level. Where ramp is present the level of the ground floor prop varies. Permanent propping to be provided prior to application of flame loads to piled well.

7.1 STABILITY OF CORE DURING CONSTRUCTION - If core is to be slipformed, check on temporary condition of core is required to determine propping requirements.

- GENERAL NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
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- FOR GENERAL NOTES REFER TO DRAWING FCDL-CUR-10-XX-DR-S-20000.
 FOR RESIDUAL RISK REGISTER REFER TO DRG FCDL-CUR-10-ZZ-DR-S-20100.
- 5. FOR CURTINS PHASE 2 SITE INVESTIGATION REFER TO 073385-CUR-00-XX-RP-GE-001
- ALL PILES TO BE DESIGNED IN ACCORDANCE WITH EUROCODE 7 WITH EXPLICIT VERIFICATION, REFER TO FOLLOWING CURTINS SPECIFICATIONS FCDL-CUR-10-ZZ-SP-00003 - STRUCTURAL CONCRETE FCDL-CUR-10-ZZ-SP-00004 - EARTHWORKS FCDL-CUR-10-ZZ-SP-00005 - PILING
- WATER TABLE ENCOUNTERED AT MAX 85.820m WITHIN BEDROCK AND PERCHED WATER PRESENT IN SUPERFICIAL SOUS ABOVE. REFER TO CURTINS PHASE 2 SITE INVESTIGATION.
- FOR PILING DESIGN CRITERIA REFER TO APPROVAL IN PRINCIPLE (AIP) DOCUMENT FODL-QUR-19-XX-RP-10100. AIP HAS BEEN AGREED WITH AND SIGNED OFF BY LOCAL AUTHORITY
- 9. FOR PILING RISK ASSSSMENT REFER TO 073385-CUR-00-XX-RP-GE-002



TYPICAL PILE CUT OFF DETAIL



	PILE		COORDIN	ATES (m)		VERT	CAL ACTION	NS (kN)		H	ORIZONTAL	ACTIONS (kl	N)	
PILE REF	SIZE	CUT OFF LEVEL	EASTING	NORTHING	Max Dead Gk, max	Min Dead Gk, min	Imposed Qk	Wind Wk	Hydrostatic Uplift (Uk)	Max Dead Gk, max	Min dead Qk, min	Imposed Qk	Wind Wk	Rev
P361	750	13.91526	60.660051	76.751679	1500	300	500	-	-50	-	-	-	-	C02
P362	750	13.91526	59.760051	76.751679	1500	300	500	-	-50	-	-	-	-	
P363	750	13.91526	58.860051	76.751679	750	150	250	-	-50	-	-	-	-	
P364	750	13.91526	57.960051	76.751679	750	150	250	-	-50	-	-	-	-	
P365	750	13.91526	57.060051	76.751679	300	150	150	-	-50	10	10	5	20	
P366	750	13.91526	56.160051	76.751679	300	150	150	-	-50	10	10	5	20	
P367	750	13.91526	55.260051	76.751679	750	300	300	-	-50	10	10	5	20	
P368	750	13.91526	54.360051	76.751679	750	300	300	-	-50	10	10	5	20	
P369	750	13.91526	53.460051	76.751679	750	300	300	-	-50	10	10	5	20	
P370	750	13.91526	52.560051	76.751679	300	150	150	-	-50	10	10	5	20	
P371	750	13.91526	51.660051	76.751679	300	150	150	-	-50	10	10	5	20	
P372	750	13.91526	50.760051	76.751679	300	150	150	-	-50	15	10	5	20	
P373	750	13.91526	49.860051	76.751679	900	300	450	-	-50	15	10	5	20	
P374	750	13.91526	48.960051	76.751679	900	300	450	-	-50	15	10	5	20	
P375	750	13.91526	48.060051	76,751679	900	300	450	-	-50	15	10	5	20	
P376	750	13.91526	47.160051	76.751679	900	300	450	-	-50	15	10	5	20	
P377	750	13.91526	46.260051	76.751679	300	150	150	-	-50	15	10	5	20	
P378	750	13.91526	45,360051	76,751679	300	150	150	-	-50	15	10	5	20	
P379	750	13.91526	44.460051	76.751679	300	150	150	-	-50	10	10	5	20	
P380	750	13.91526	43.560051	76.751679	600	300	200	-	-50	10	10	5	20	
P381	750	13.91526	42.660051	76.751679	600	300	200	-	-50	10	10	5	20	
P382	750	13.91526	41.760051	76.751679	600	300	200	-	-50	10	10	5	20	
P383	750	13.91526	40.860051	76.751679	600	300	200	-	-50	10	10	5	20	
P384	750	13.91526	39.960051	76.751679	300	150	150	-	-50	10	10	5	20	
P385	750	13.91526	39.060051	76.751679	300	150	150		-50	10	10	5	20	
P386	750	13.91526	38.160051	76.751679	300	150	150		-50	10	10	5	20	
P387	750	13.91526	37.260051	76.751679	1500	300	500	-	-50	-	-	-	-	
P388	750	13.91526	36.360051	76.751679	1500	300	500	-	-50	-	-	-	-	

PILE DESIGN NOTES:

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FOR CONTIQUOUS PLES, HORIZONTAL ACTIONS ARSING FROM SUPER STRUCTURE E.G. DUE TO 164 K WIND) ARE PROVIDED WHERE THEY RESULT IN FORCESSENDING MOMENTS APPLIED TO THE CONTIQUOUS PLED WALL. THESE ARE TO BE RICLIDED IN THE DESIGN OF THE CONTROLOGY PLES IN ADDITION TO THOSE RESULTING FROM PILE INSTITUTION OF THE STRUCTURE AND THE THOSE PROPERTY.

BEARING PILES ARE TO BE DESIGNED FOR HORIZONTAL ACTIONS PROVIDED IN THIS SCHEDULE WITH ACTIONS APPLIED AT PILE CUT-OFF LEVEL.

PILE DESIGN TO ACCOUNT FOR DISTRIBUTION OF SERVICES THROUGH CONTIGUOUS PILE WALL AND CAPPING BEAM.

PILE DESIGNER TO CONFIRM HORIZONTAL WHALING LOADS IN TEMPORARY AND PERMANENT CONDITION WHICH THE CAPPING BEAM MUST BE DESIGNED FOR.

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CONTRACTOR MOTEO

3.2 EXISTING BURIED SERVICES - Enabling works package to be undertaken prior to commencement on site to remove/divert existing substation and associated services

5.1 CONTANINATED GROUND - Risk is Moderatel ow for construction workers from direct contact and demail uptake and sell and deat negation and inhelation in station will soils in the interestate unknowled provided. Refer to section 7.0 of alle investigation and recommendations provided.

5.2 MADE GROUND - Made ground present on site which may be weak/cose and susceptible to loss of equilibrium or large movements during excernation. Refer to section 10.5 of site investigation and recommendations provided.

5.3 UNEXPLODED ORDNANCE THREAT - Site classified as high risk for LXXO's. Refer to section 2.5 of site investigation and recommendations

S.4 UPLET ON PLES FROM GROUNDWATER - Dewatering may be required during beamert construction. Highestatic upil filtores have been provided based on neasured water table level of 55.05 min sea leveratigation. The minimum does load at the time of dewatering webs-fell is dependent on the proposed construction sequence and must be considered as design case because it may result in the worst-case combination of actions for upil. Leading condition must also be considered my sequence and methodology.

5.5 TEMPORARY PROPPING OF PILED WALL - Piling contractor to advise on propping requirements during temporary condition.

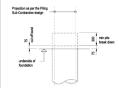
5.8 PERMANENT PROPPING OF PILED WALL - In permanent condition the piled wall is propped at both beament level and ground floor level. Where ramp is present the level of the ground floor prop varies. Permanent propping to be provided prior to application of financiacids to piled wall.

7.1 STABILITY OF CORE DURING CONSTRUCTION - If core is to be slipformed check on temporary condition of core is required to determine propping regularments.

- GENERAL NOTES:

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- FOOL-CUR-No-ZZ-SP-00003 STRUCTURAL CONCRETE
 FOOL-QUI-No-ZZ-SP-00003 PARTHMORKS
 FOOL-QUI-NO-ZZ-SP-00005 PLINO
 7. WATER TABLE ENCOUNTERED AT MAX 58.620m WITHIN BEDROCK AND
 PERDINED WATER PRESENT IN SUPERFICIAL SOLIS ABOVE.
 REFER TO CURTUR PHASE 2 STRE INSENSITIATION.
- REFER TO CURTINS PHASE 2 SITE INVESTIGATION.

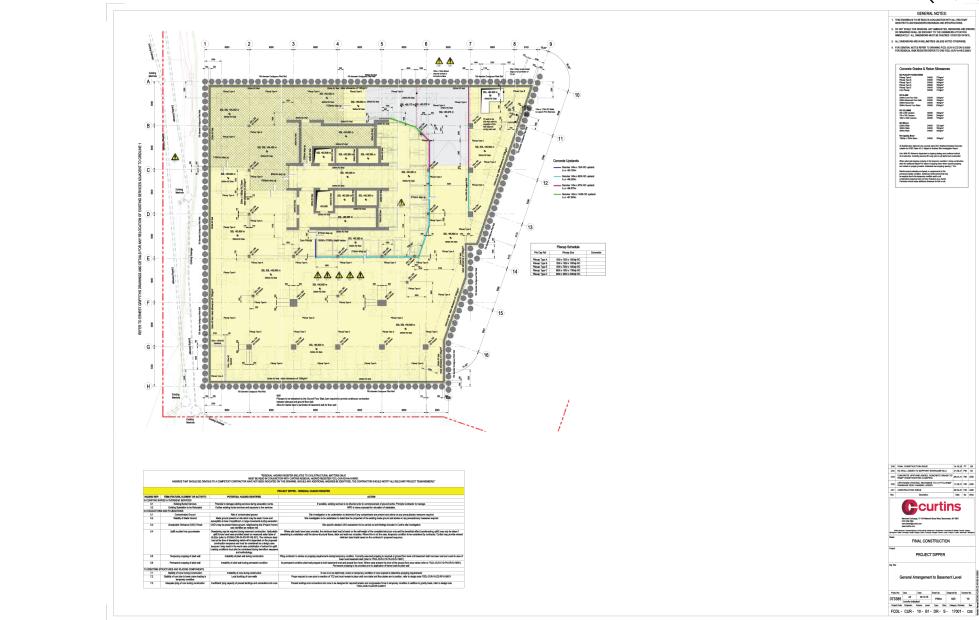
 8. FOR PLING DESIGN CRITERIA REFER TO APPROVAL IN PRINCIPLE (AIP)
 DOCUMENT FOOL-CUR-10-XX-RP-10100, AIP HAS BEEN AGREED WITH AND
 SIGNED OFF BY LOCAL AUTHORITY
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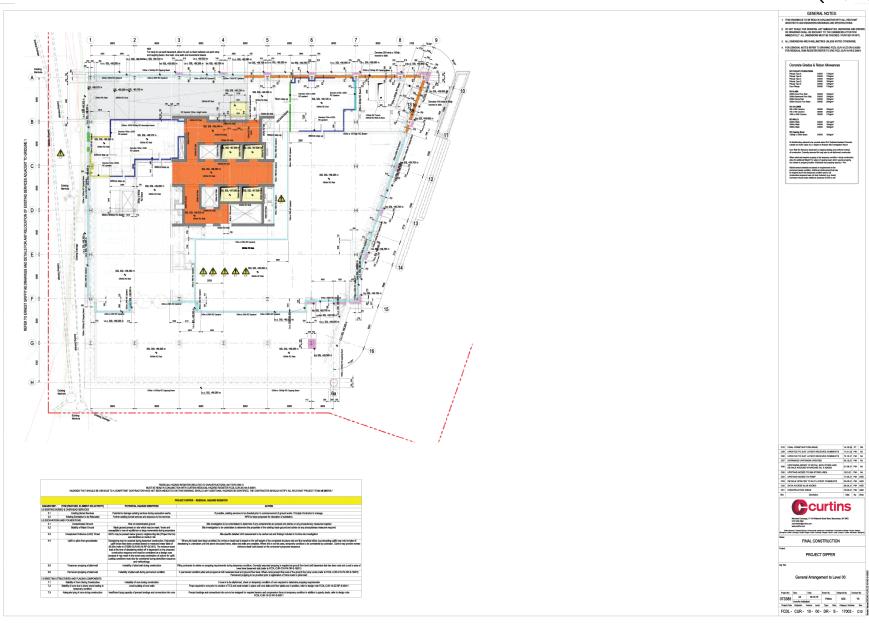


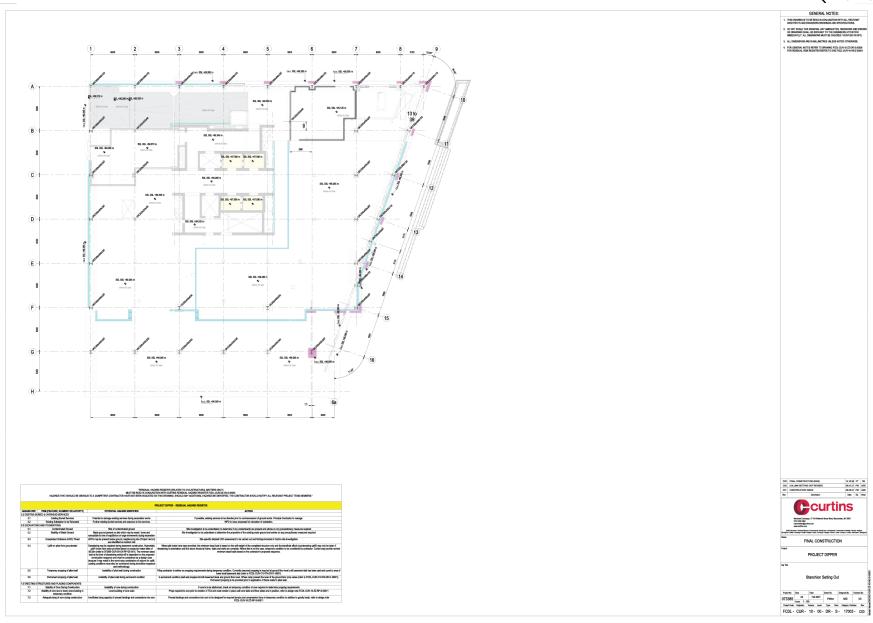
TYPICAL PILE CUT OFF DETAIL

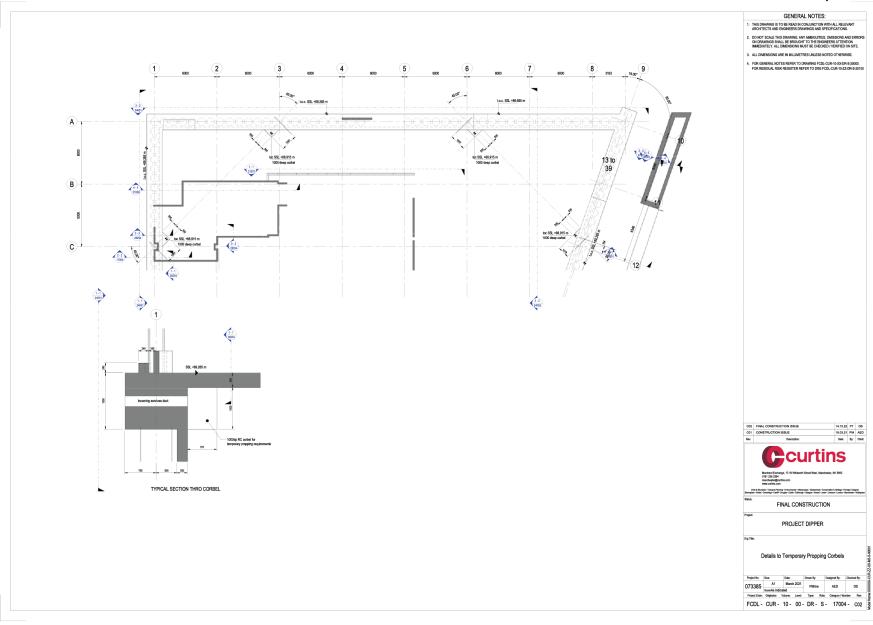
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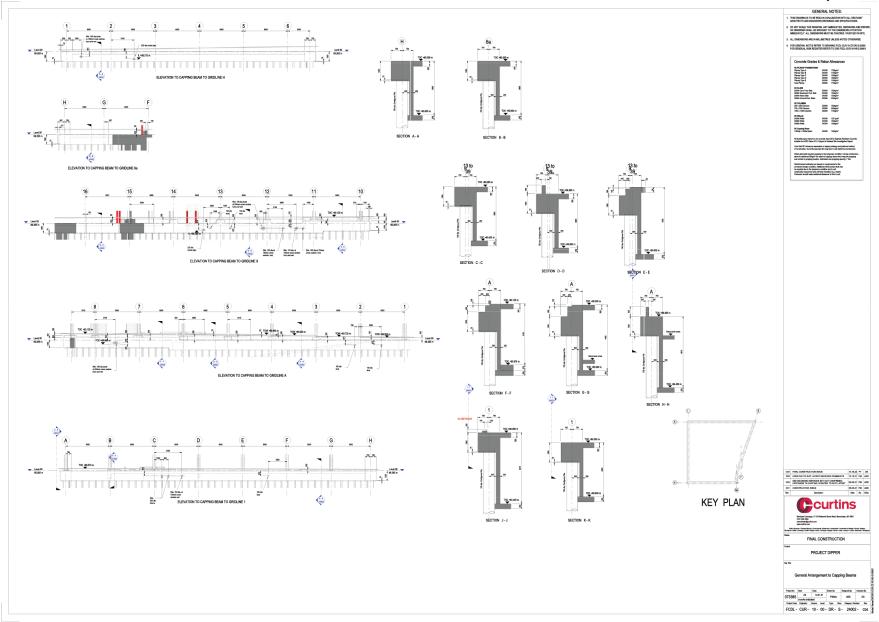
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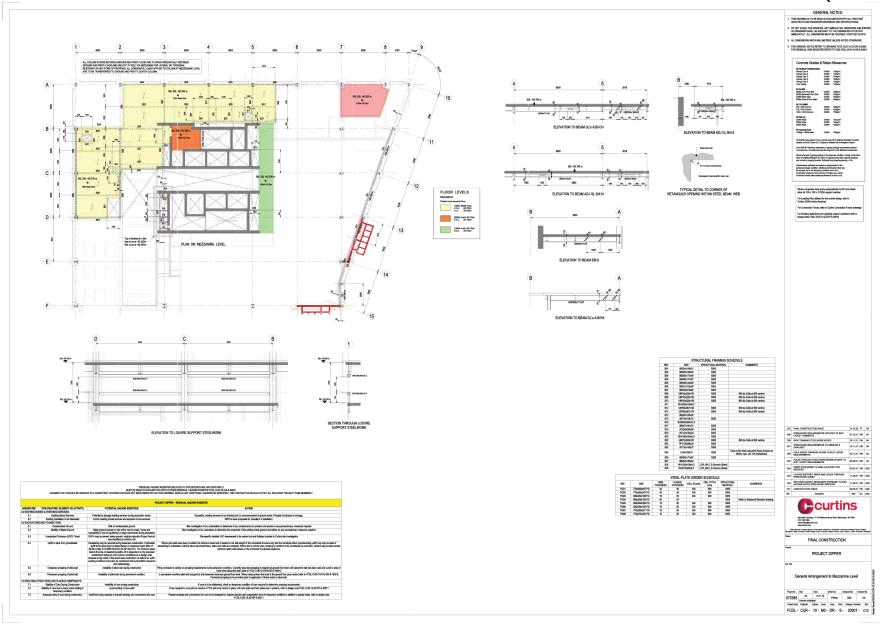


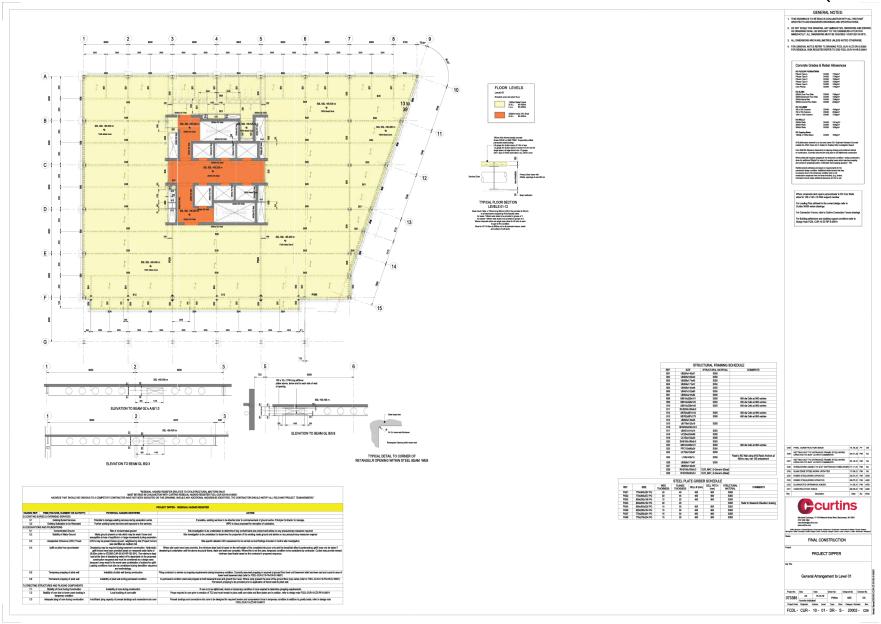


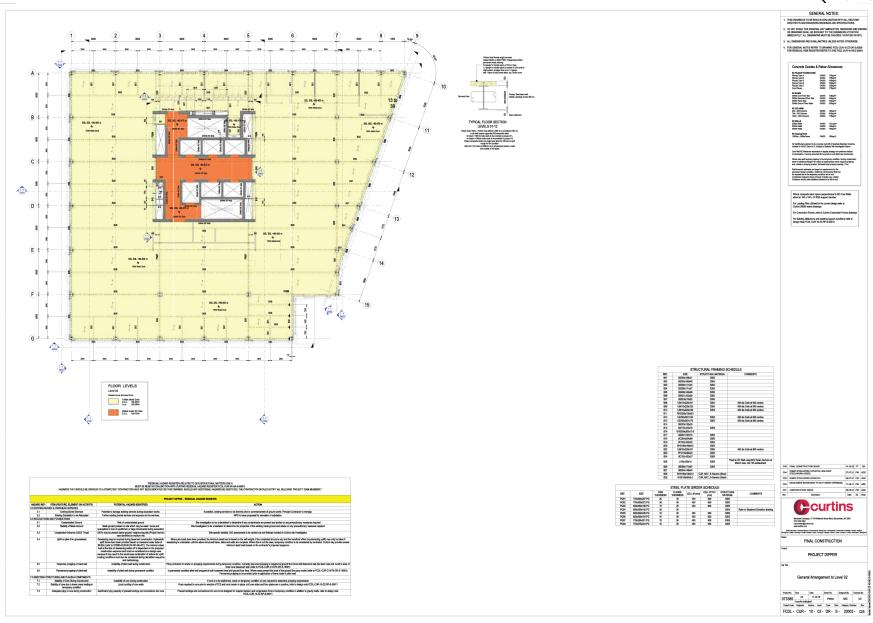


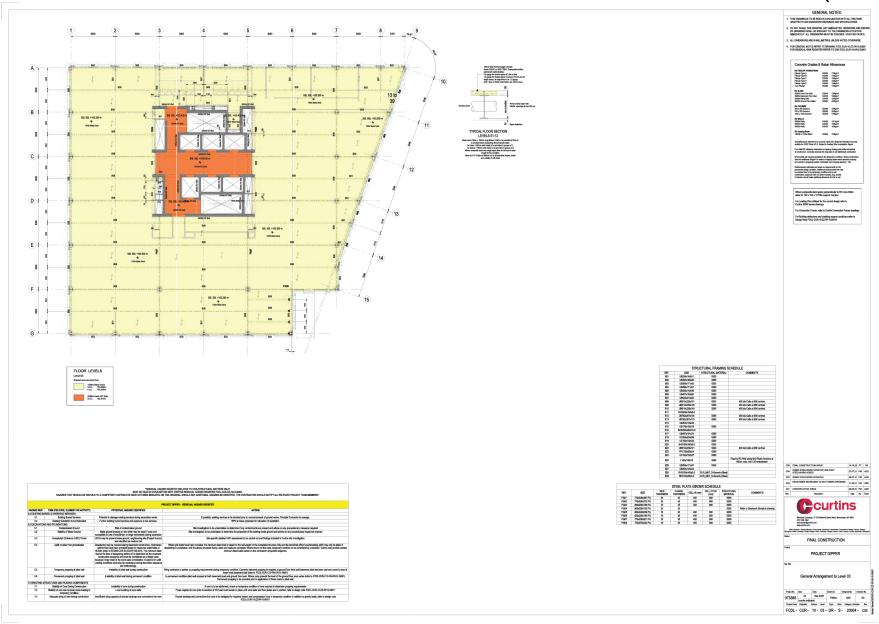


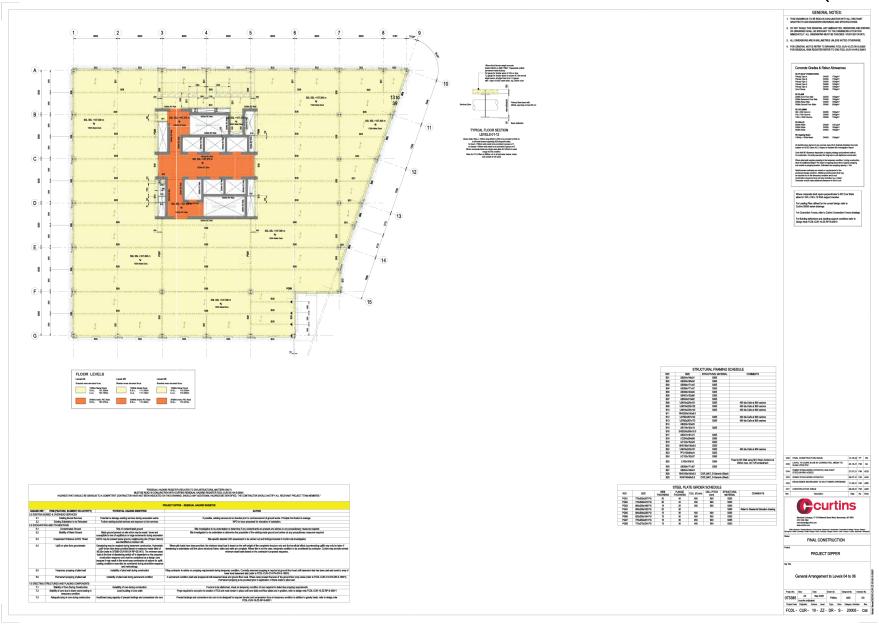


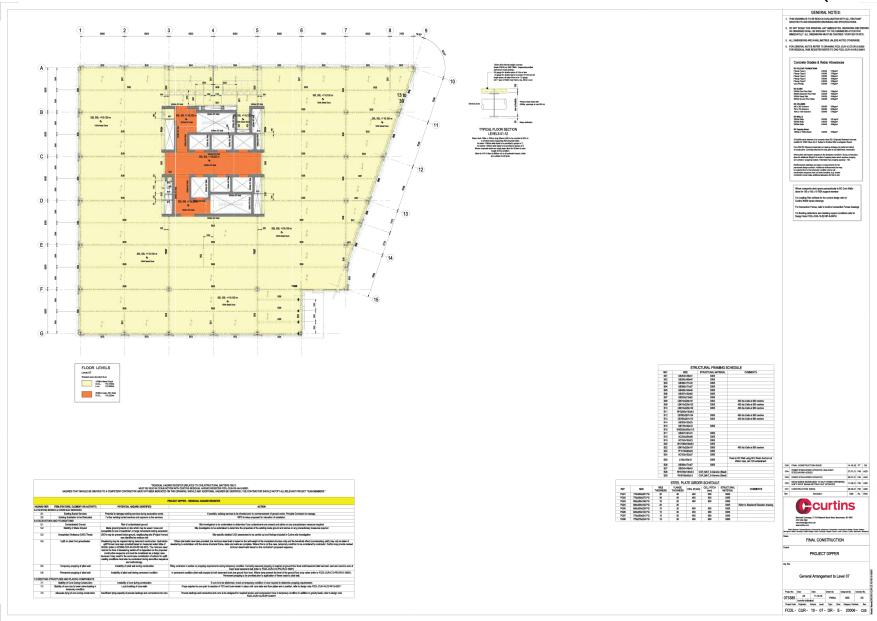


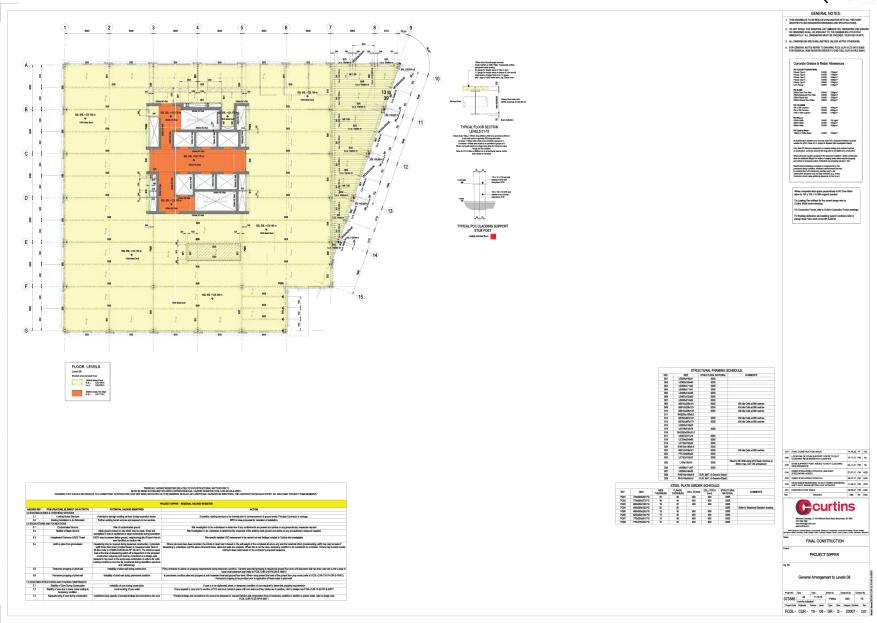


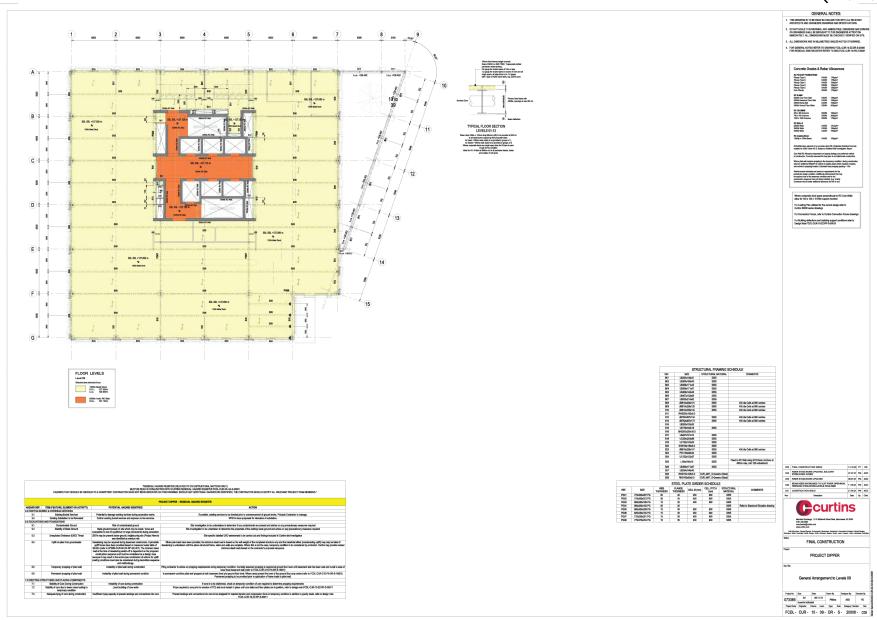


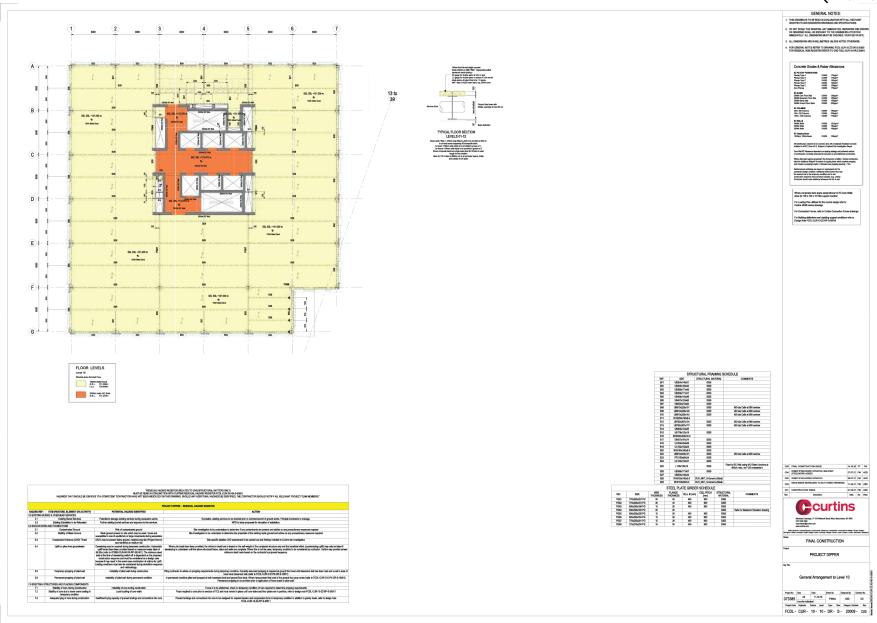


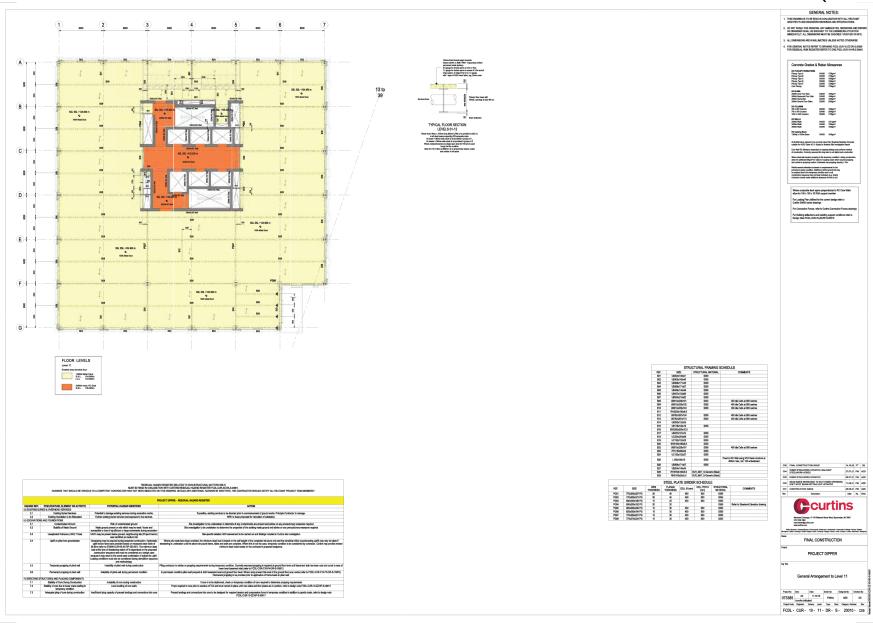


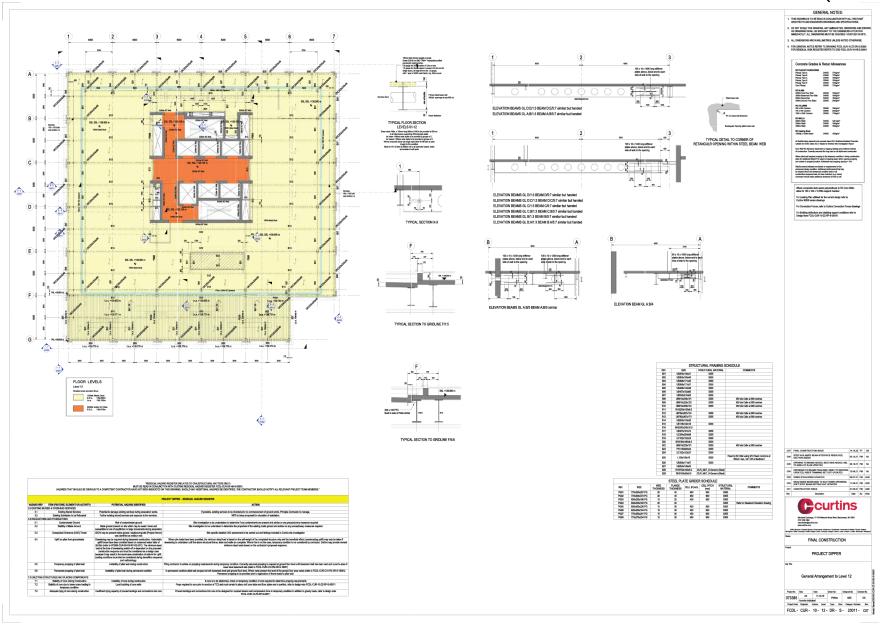


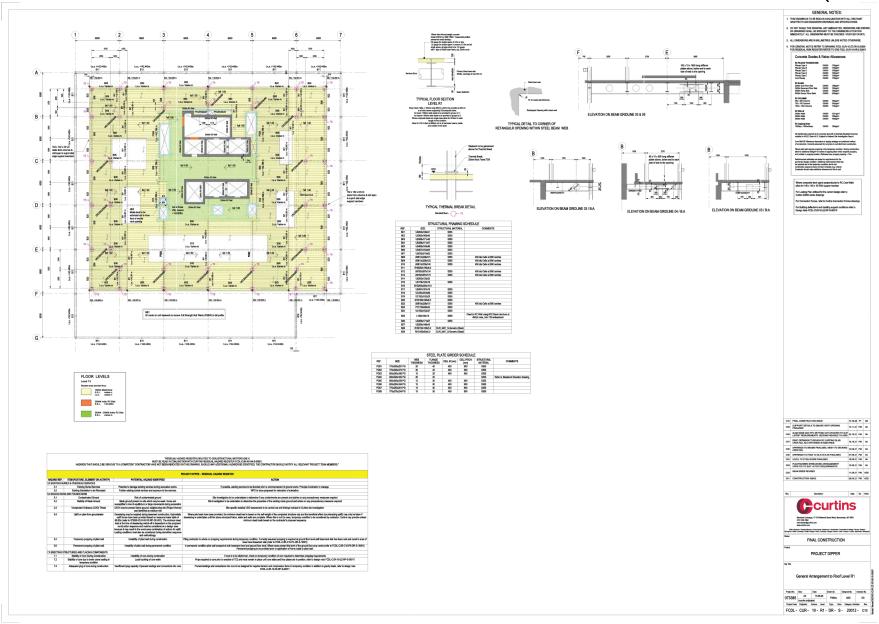


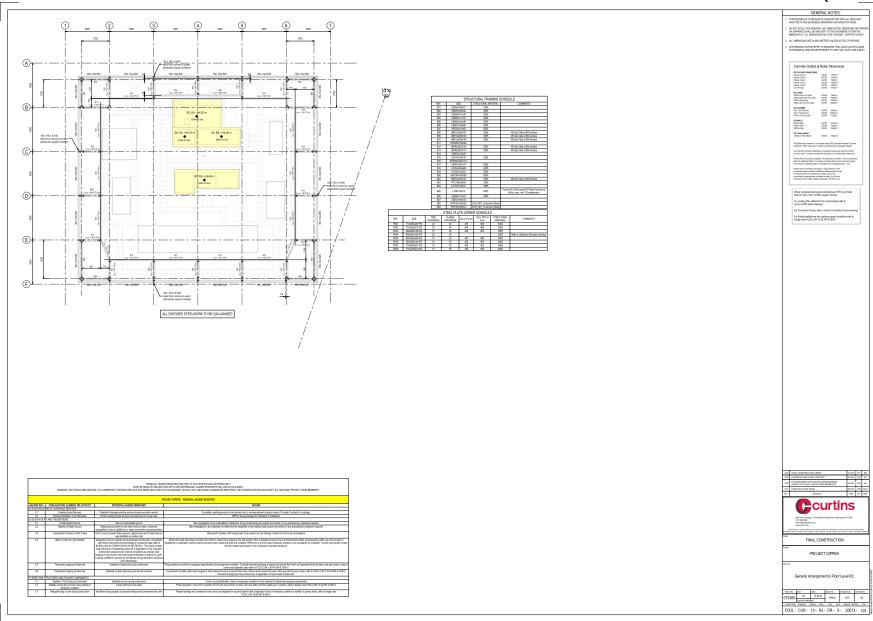






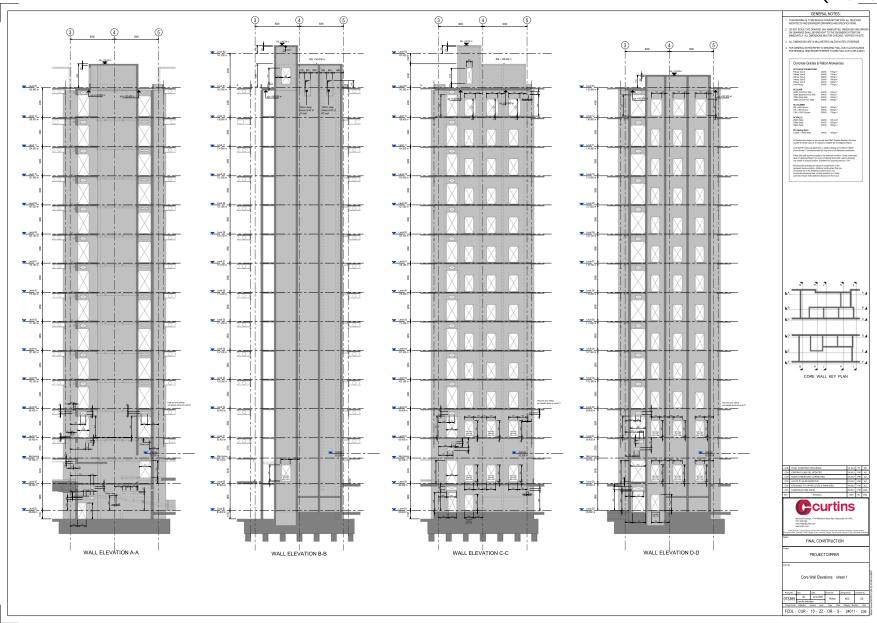


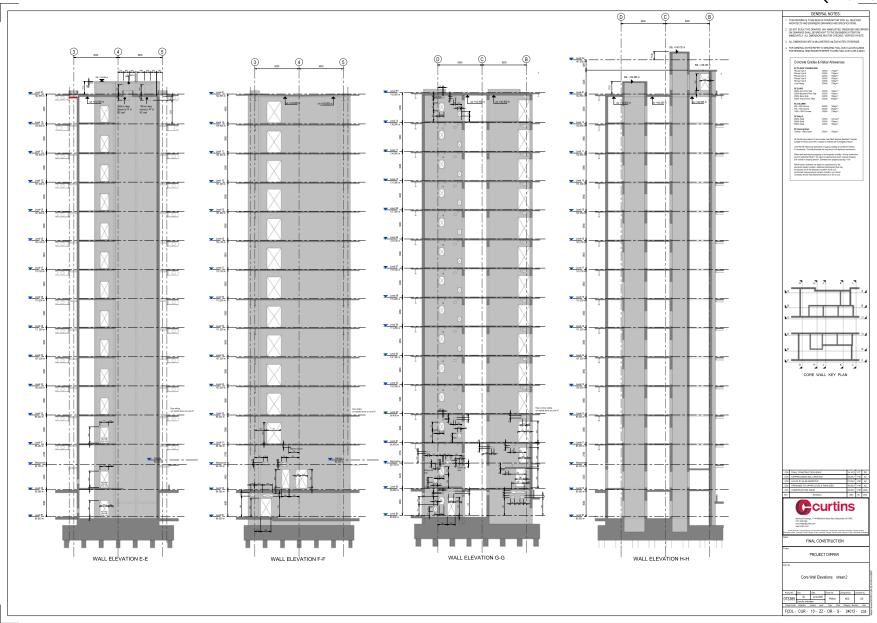




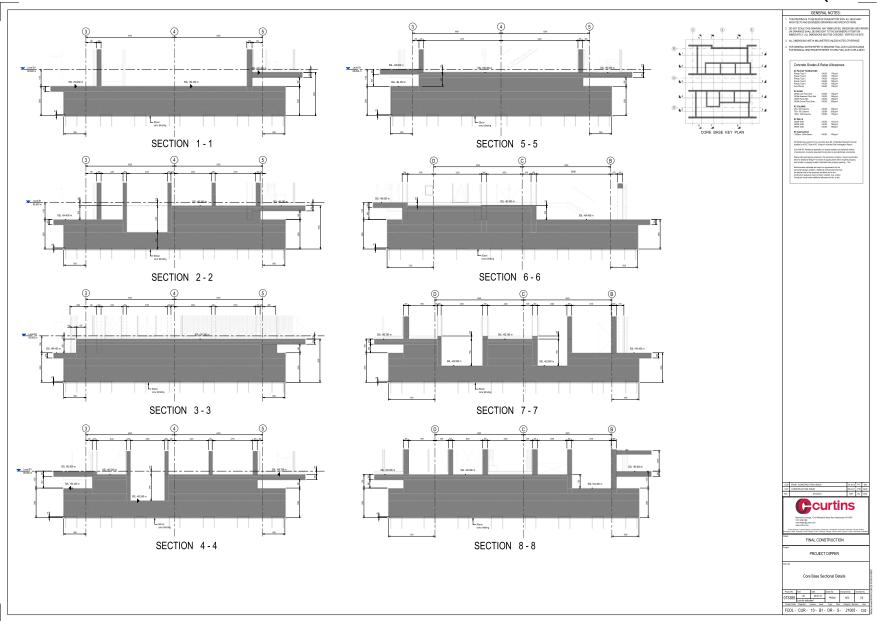


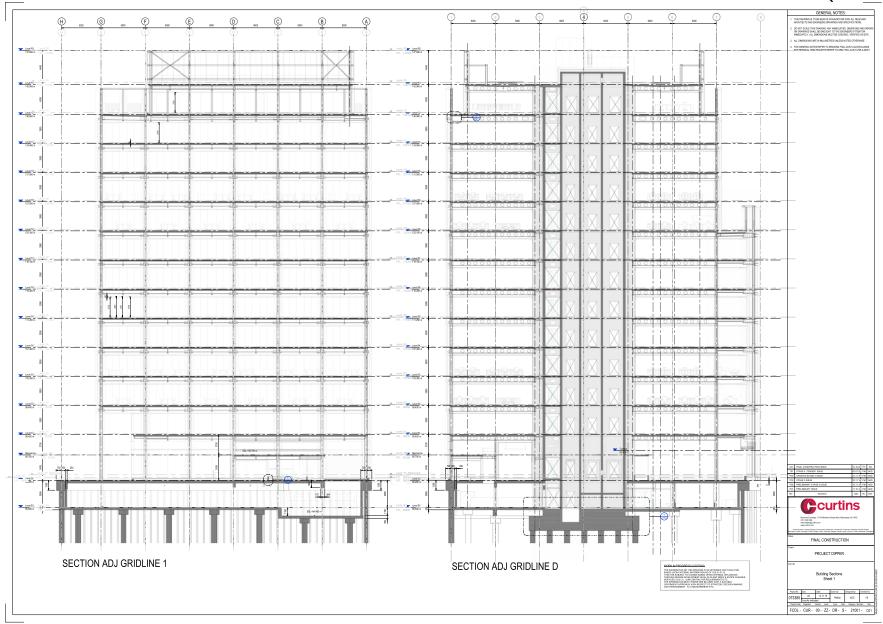


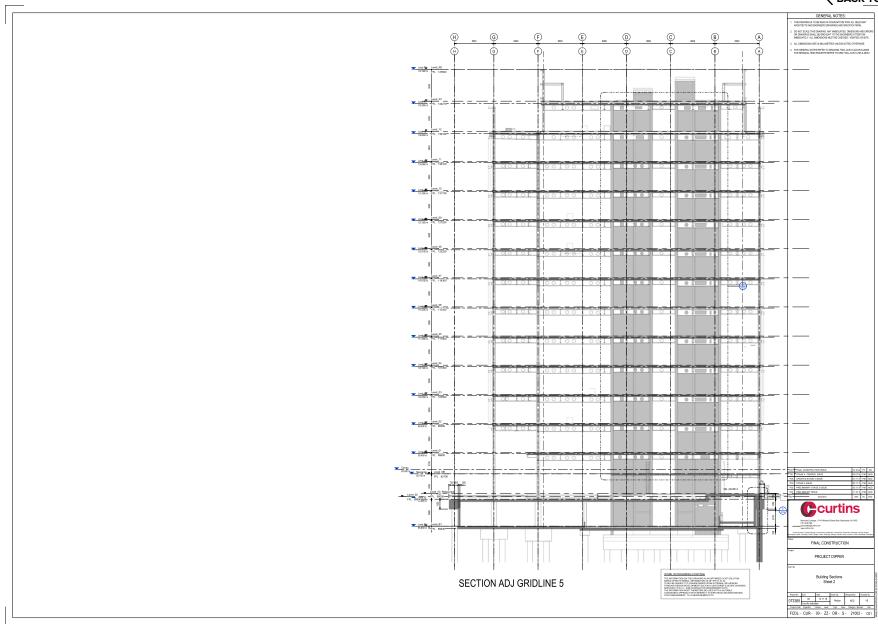


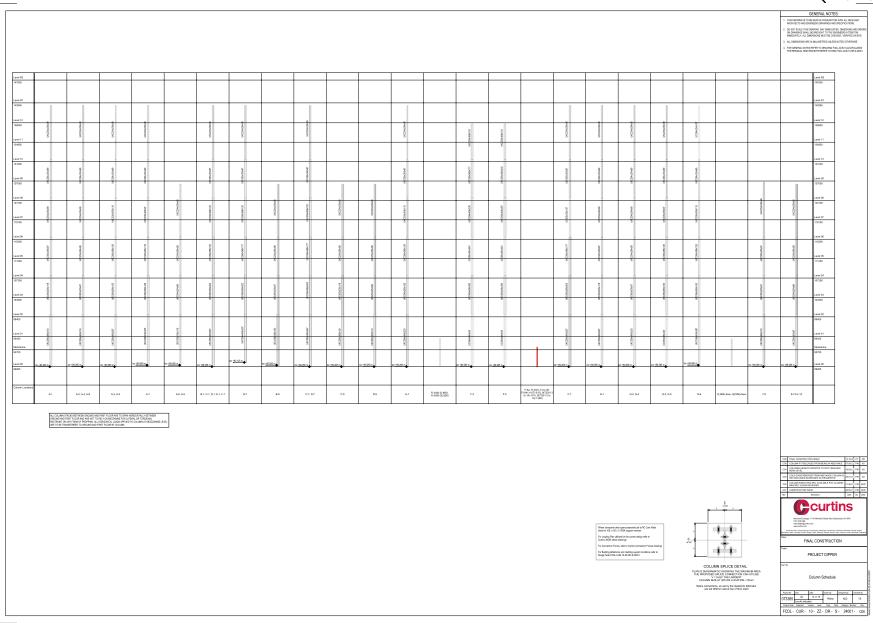


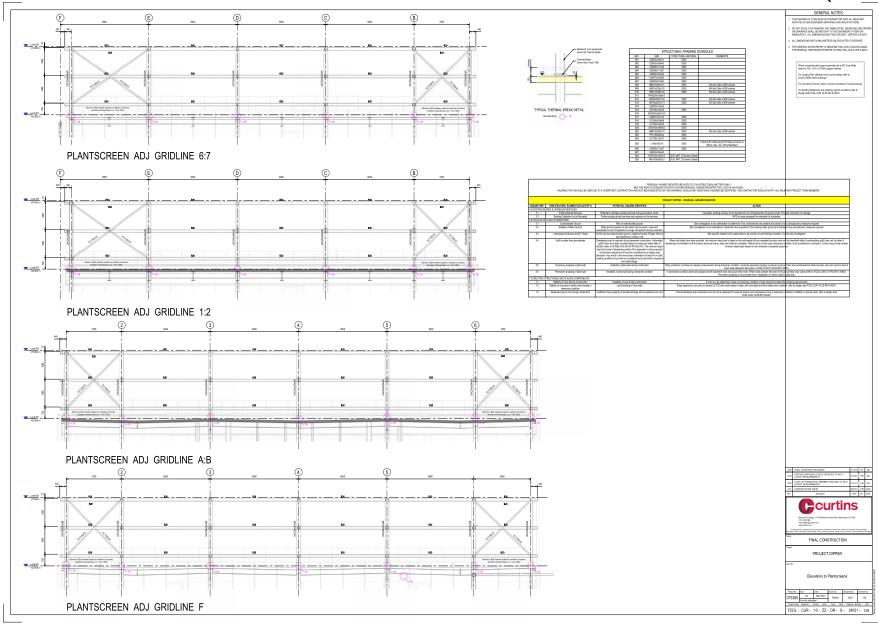


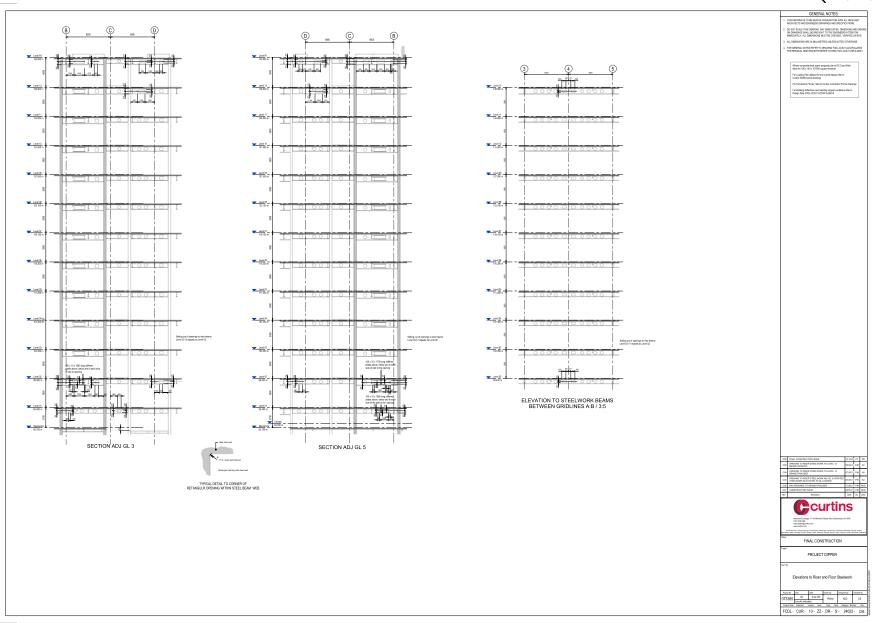


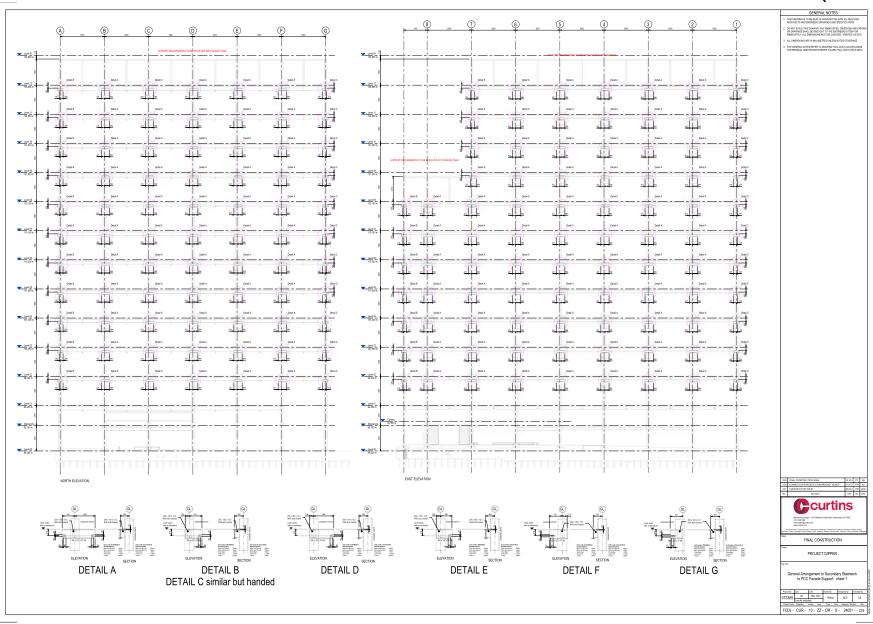


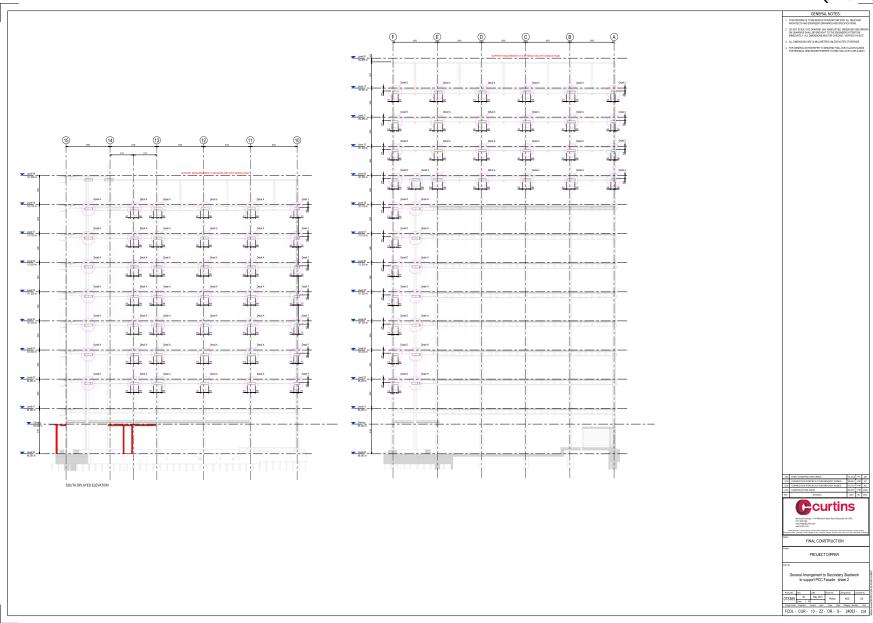


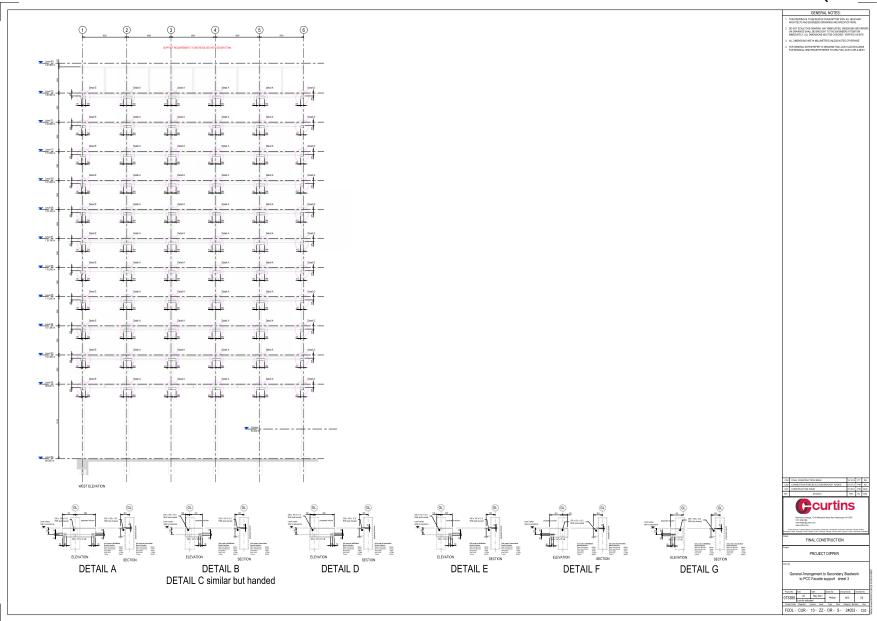


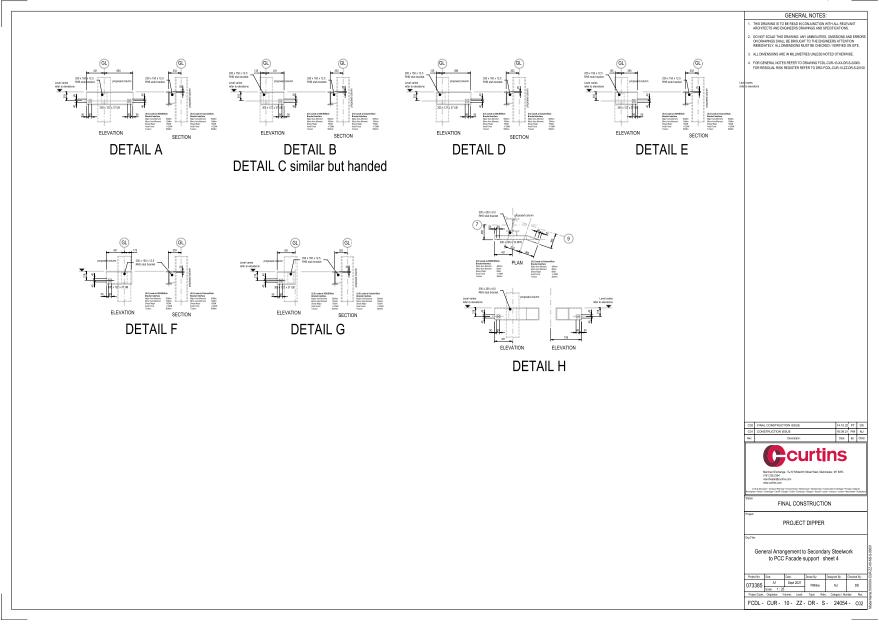


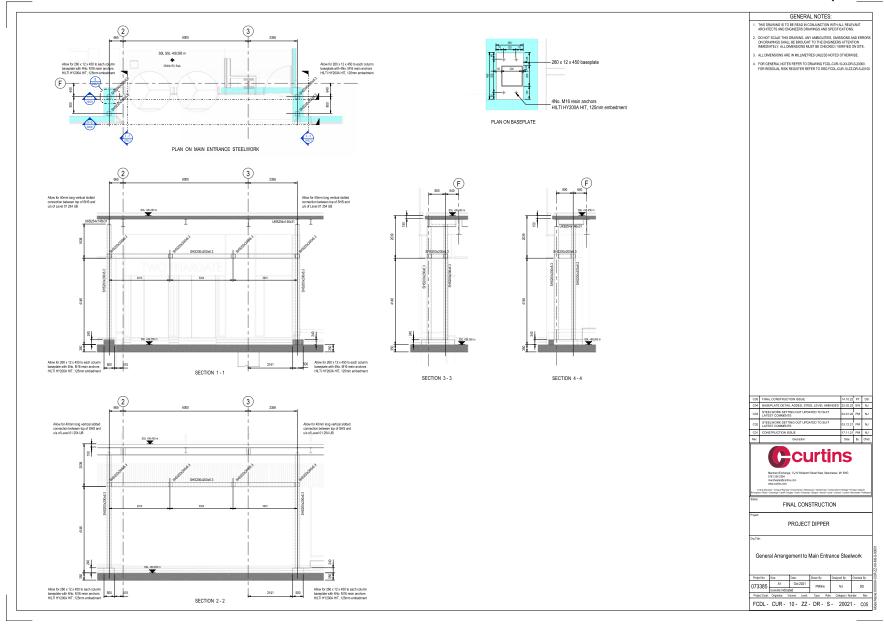


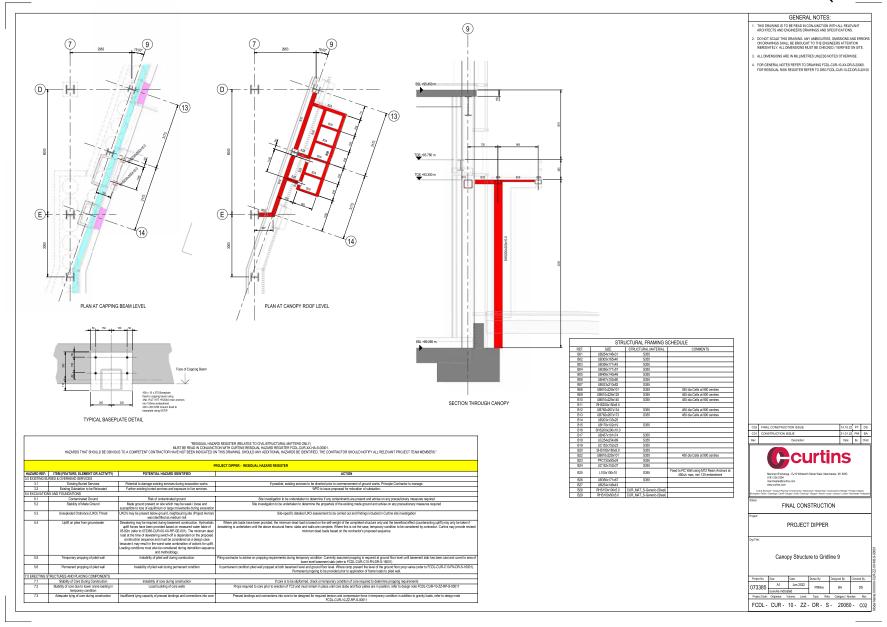


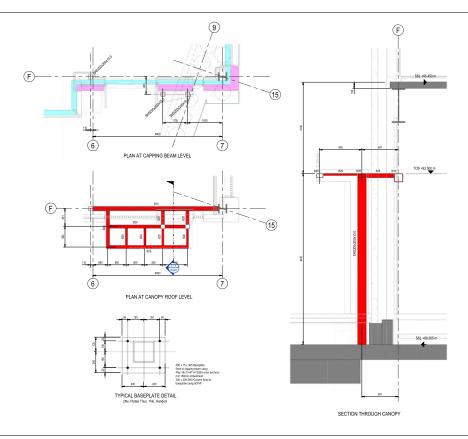












REE	SIZE	STRUCTURAL MATERIAL	COMMENTS
PO1	UR254y148y31	\$355	
B02	UB305x165x40	S355	
B03	UB356x171x45	\$355	
B04	UB356x171x57	\$355	
B05	UB406x140x46	\$355	
B06	UB457x152x60	5355	
B07	UB533x210x82	\$355	
B08	UB610x229x101	\$355	450 dia Cells at 900 centres
B09	UB610x229x125	\$355	450 dia Cells at 900 centres
B10	UB610x229x140	\$355	450 dia Cells at 900 centres
B11	RHS250x150x8.0		
B12	UB762x267x134	S355	450 dia Cells at 900 centres
B13	UB762x267x173	\$355	450 dia Cells at 900 centres
B14	UB203x133x25		
B15	UB178x102x19	\$355	
B16	SHS200x200x10.0		
B17	UB457x191x74	S355	
B18	UC254x254x89	\$355	
B19	UC152x152x23	S355	
B20	SHS180x180x8.0	\$355	
B22	UB610x229x101	\$355	450 dia Cells at 900 centres
B23	PFC150x90x24	\$355	
B24	UC152x152x37	\$355	
B25	L100x100x10	\$365	Fixed to RC Wall using M12 Resin Anchi 450cic max, min 125 embedment
B26	UB356x171x67	S355	
B27	UB254x146x43		
B28	RHS150x100x5.0	CUR_MAT_S-Generic-(Steel)	
B29	RHS100x50x5.0	CUR MAT S-Generic-(Steet)	

STRL	JCTURAL FRAMING S	CHEDULE
SIZE	STRUCTURAL MATERIAL	COMMENTS
JB254x146x31	\$365	
JB305x165x40	\$355	
JB356x171x45 JB356x171x57	\$355 \$355	
JB406x140x46	S355	
JB457x152x60	\$365	
JB633x210x82	\$355	
B610x229x101	\$355	450 dia Cells at 900 centres
B610x229x125	8355	450 dia Cells at 900 centres
B610x229x140	S355	450 dia Cells at 900 centres
HS250x150x8.0		
B762x267x134	\$355	450 dia Cells at 900 centres
B762x267x173 JB203x133x25	\$355	450 dia Cells at 900 centres
JB178x102x19	\$355	
S200x200x10.0	0000	
JB457x191x74	\$355	
JC254x254x89	\$355	
JC152x152x23	8355	
HS180x180x8.0	\$355	
B610x229x101	\$365	450 dia Cells at 900 centres
PFC150x90x24 JC152x152x37	\$355 \$355	
		Fixed to RC Wall using M12 Resin Anchors at
L100x100x10	\$355	450c/c max, min 125 embedment
JB356x171x67	\$355	
JB254x146x43		
HS150x100x5.0	CUR_MAT_S-Generic-(Steel)	
HS100x50x5.0	CUR_MAT_S-Generic-(Steel)	

WORK IN PROCRESS (COSTING)
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	HAZAROS THAT SHOULD BE OBVIOU	MUST BE READ IN CONJUNC	ARD REGISTER FIGURES TO CHILE STEUCHARM MUTTERS CALLY. TOWN WITH CARRISS RESUMM ALVARE REGISTER FOLO, JANNAH 4-0005. IN THIS DRAWMAS SHOULD MY ADDITIONAL HAZANDS BE DRITTED, THE CONTRACTOR SHOULD NOTIFY ALL RELEVANT PROJECT TEAMMEMBERS.*
			PROJECT DIPPER - RESIDUAL HAZARD REGISTER
HAZARD REF:	ITEM (FEATURE, ELEMENT OR ACTIVITY)	POTENTIAL HAZARD IDENTIFIED	ACTION
3.0 EXISTING BU	RIED & OVERHEAD SERVICES		
3.1	Existing Buried Services	Potential to damage exisiting services during excavation works.	If possible, existing services to be diverted prior to commencement of ground works. Principle Contractor to menage.
3.2	Existing Substation to be Relocated	Further existing buried services and exposure to live services.	WPD to issue proposasi for relocation of substation.
	IS AND FOUNDATIONS		
5.1	Contaminated Ground	Risk of contaminated ground	Site investigation to be understaken to determine if any contaminents are present and advise on any precautionary measures required
5.2	Stability of Made Ground	Made ground present on site which may be weak / loose and susceptible to loss of equilibrium or large movements during excavation	Site investigation to be undertaken to determine the properties of the existing made ground and advise on any precautionary measures required
5.3	Unexploded Ordnance (UXO) Threat	UXO's may be present below ground, neighbouring site (Project Herron) was identified as medium risk.	Site-specific detailed UKO assessment to be carried out and findings included in Curtims site investigation
5.4	Uplift an piles from groundwater	Devotating may be required during beasement constitution. Hydrostatic upfill frozes have been provided beased on measured water table of 85.85m (refer to 073885-CUR-00-XX-RP-GE-001). The minimum dead soal at the time of devastering water-fel is dependent on the proposed construction sequence and must be considered as a design case because it may result in the worst-sease combination of extension for upfill. Leading conditions must also be considered during demolition sequence and methodology.	
5.5	Temporary propping of piled wall	Instability of piled wall during construction	Plling contractor to advise on propping requirements during temporary condition. Currently assumed propping is required at ground floor level until basement stab has been cast and cured to area of lower level basement stab (refer to FCDL-CUR-C10-FN-DR-S-16001)
5.6	Permanent propping of piled wall	Instability of piled wall during permanent condition	In permanent condition piled wall propped at both basement level and ground floor level. Where ramp present the level of the ground floor prop varies (refer to FCDL-CUR-C10-FN-DR-S-18001). Permanent propping to be provided prior to application of frame loads to piled wall.
7.0 ERECTING S	TRUCTURES AND PLACING COMPONENTS		
7.1	Stability of Core During Construction	Instability of core during construction	If core is to be slipformed, check on temporary condition of core required to determine propping requirements
7.2	Stability of core due to tower crane loading in temporary condition	Local buckling of core walls	Props required to core prior to exection of TC2 and must remain in place until core slabs and floor plates are in position, refer to design note FCDL-CUR-10-ZZ-RP-S-00011
7.3	Adequate tying of core during construction	Insufficient tying capacity of precast landings and connections into core	Precast landings and connections into core to be designed for required tension and compression force in temporary condition in addition to gravity loads, refer to design note FCDL-CLR-10-ZZ-RP-S-00011

	Merchant Exchang 1161 236 2364 manchestan@curti eww.curtins.com	ps, 17–19 Whitworth	arti Stret West, More	heater, M1 SWG	
Dvis & Struct Birmingham - Drabil + Strabus:	ures - Transport Plannin Cembridge - Dardiff - Do	g - Environmentat + Inflanti uglas + Dublin + Edinburgi	scurs - Gedechnical - Co - Gargos - Kendal - Lee	neervelion & Hestage + P ds + Liverpool + Landen +	rindpal Designer Nanchester - Nottingham
	FI	VAL CON	STRUCTION	NC	
Project		PROJEC1	DIPPER		
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Project No:	Size	Date:	Drawn By:	Designed By:	Checked By:
073385	A1 ScaleAs indica		Author		Checker
Project Code:	Originator: 1	folume: Level	Type: Role	: Category / Nu	mber: Rev.
FCDL -	CUR.	10 - 77	- DR - S	- 2006	1 - C01

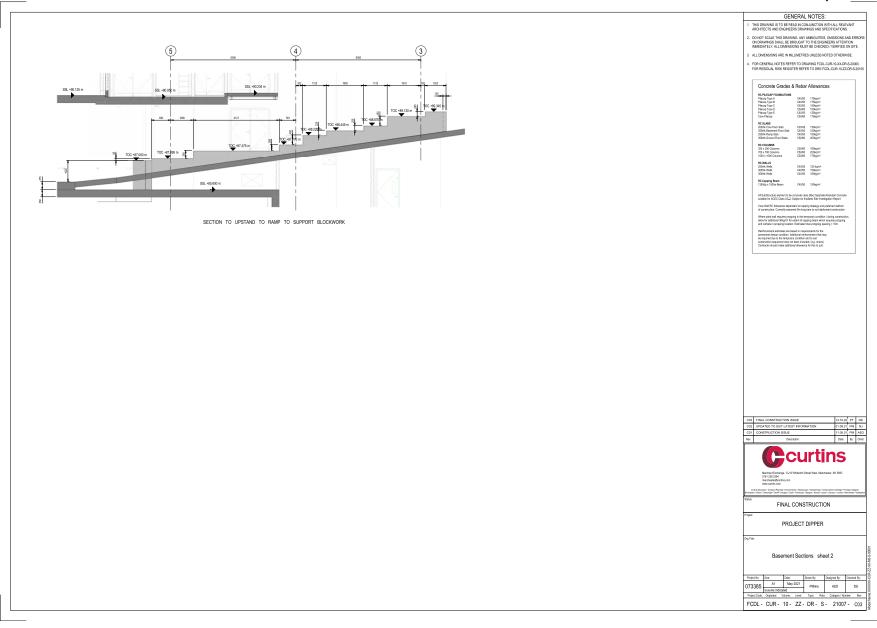
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			PROJECT DIPPER - RESIDUAL HAZARD REGISTER
AZARD REF:	ITEM (FEATURE, ELEMENT OR ACTIVITY)	POTENTIAL HAZARD IDENTIFIED	ACTION
EXISTING BL	RIED & OVERHEAD SERVICES		
3.1	Existing Buried Services	Potential to damage existing services during excavation works.	If possible, existing services to be diverted prior to commencement of ground works. Principle Contractor to manage.
32	Existing Substation to be Relocated	Further existing buried services and exposure to live services.	WPD to issue proposasi for relocation of substation.
	IS AND FOUNDATIONS		
5.1	Contaminated Ground	Risk of contaminated ground	Site investigation to be understaken to determine if any contaminents are present and advise on any precautionary measures required
5.2	Stability of Made Ground	Made ground present on site which may be week / loose and susceptible to loss of equilibrium or large movements during excavation	Site investigation to be undertaken to determine the properties of the existing made ground and advise on any precautionary measures required
5.3	Unexploded Ordnance (UXO) Threat	LIXO's may be present below ground, neighbouring site (Project Herron) was identified as medium risk	Site-specific detailed UKO assessment to be carried out and findings included in Curtins site investigation
5.4	Uplift on piles from groundwater	Dendering may be required during beament construction. Injuriously, perfect to the construction of the con	Where yell bods here been provided, the informational bods in based on it in the eff-wayful of the completed induction only und the benefits affect counteracting split (im you gray be basen? Consuming a understaten until the above structural turne, stillad and varied ass compress the bits and the ours, purposed enquence, serious and official based on the contraction proposed enquence.
5.5	Temporary propping of piled wall	Instability of piled wall during construction	Pling contractor to advise on propping requirements during temporary condition. Currently assumed propping is required at ground floor level until basement slab has been cast and cured to area lower level basement slab (refer to PCDL-CLR-C10-PN-DR-S-16001)
5.6	Permanent propping of piled well	Instability of piled wall during permanent condition	In permanent condition piled wall propped at both basement level and ground floor level. Where ramp present the level of the ground floor prop varies (refer to PCDL-CUR-C10-PN-DR-S-16001). Permanent propping to be provided prior to application of frame loads to piled wall.
0 ERECTING S	TRUCTURES AND PLACING COMPONENTS		
7.1	Stability of Core During Construction	Instability of core during construction	If core is to be slipformed, check on temporary condition of core required to determine propping requirements
7.2	Stability of core due to tower crane loading in femporary condition	Local buckling of core walls	Props required to core prior to exection of TC2 and must remain in place until core states and floor plates are in position, refer to design note FCDL-CUR-10-22-RP-S-00011
7.3	Adequate tying of core during construction	Insufficient tying capacity of precast landings and connections into core	Precast landings and connections into core to be designed for required tension and compression force in temporary condition in addition to gravity loads, refer to design note FCIDL-CUR-10-2Z-RP-S-00011

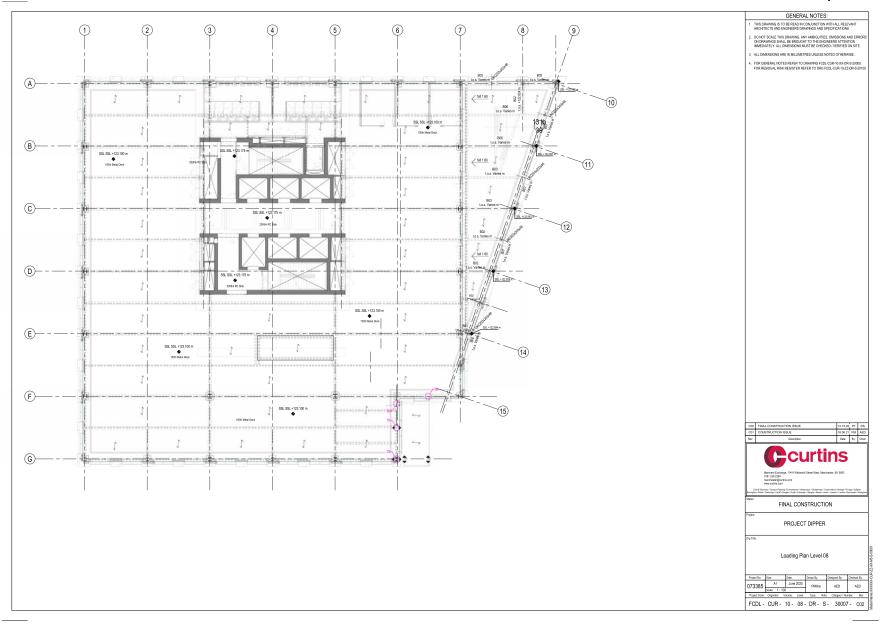
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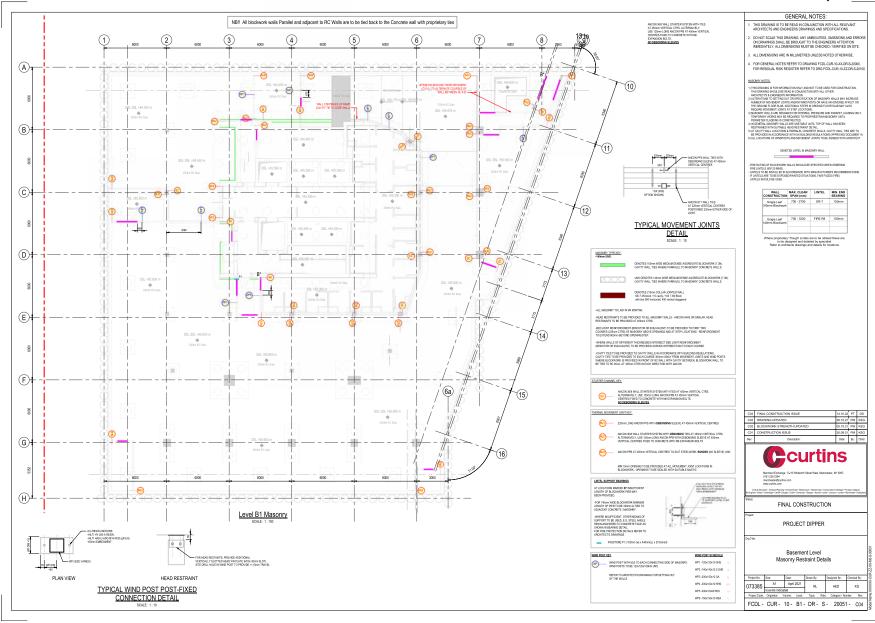
C01	FINAL CONST	RUCTION ISSUE		14.1	10.22 P	T DS
T01	FINAL CONSTI	NDER ISSUE		03.0		M VEC
	STAGE 4 / TEN	Description:		ns	07.20 P	M VEC
T01	STAGE 4 / TEN	Description:		ns	07.20 P	M VEC
T01	Merchant Ex 016120523 manchostels www.cuflis.	Description:	s Street West, Man:	ns hester, M1 5W	07.20 P	M AEC
T01 Ray:	Merchaet II. Olf 1236 23 manchaet III. Olf	Description: Description: Cl Cl Schange, 13-19 Whitwork 64 (gourins.com	n Street West, Manc history - Genterhold - Co h - Strager - Manca - Los	Discharder, MI 5W	07.20 P	M AEC
Ray:	Merchaet II. Olf 1236 23 manchaet III. Olf	Description: Descr	n Street West, Manc history - Genterhold - Co h - Strager - Manca - Los	Discharder, MI 5W	07.20 P	M AEC
T01 Risv.	STAGE 4 / TEP Merchant E. Mer	Description: Descr	n Street West, Mano mature - Generated of - Co - Street - Manager	Discharder, MI 5W	07.20 P	M AEC
T01 Risv.	STAGE 4 / TEN Merchant E. Onto 1292 20 Merchant E. Onto 1292 20 Merchant E. M	Description: Descr	1-Street West, Mano Instan - Generatived - Co. STRUCTIV F DIPPER	header, M1 9W	07.20 P	M AEC
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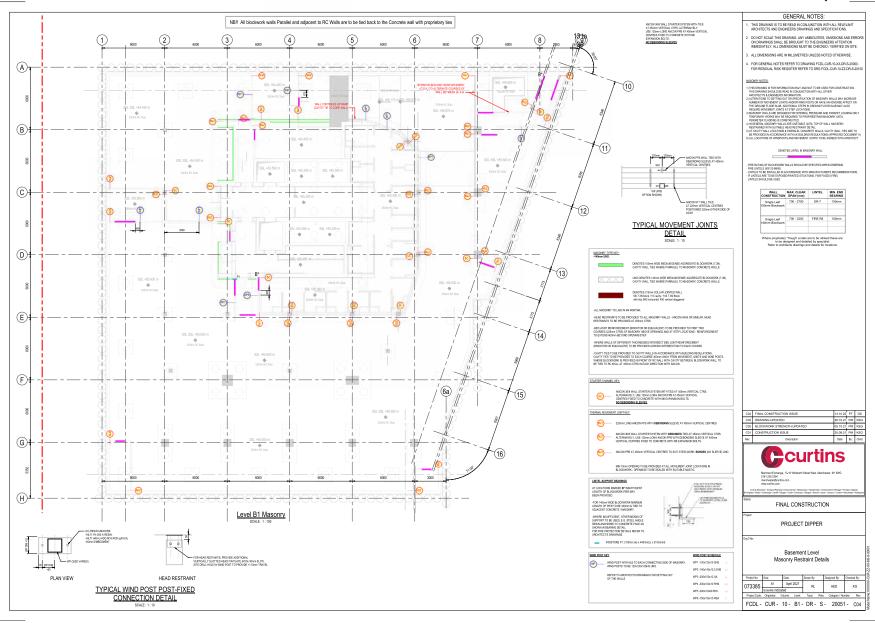
GENERAL NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS. DO NOT SCALE THIS DRAWING, ANY AMBIGUITIES, OMISSIONS AND ERROR ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION INVEDIATELY, ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE. 3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. FOR GENERAL NOTES REFER TO DRAWING FCDL-CUR-10-XX-DR-S-20000.
FOR RESIDUAL RISK REGISTER REFER TO DRG FCDL-CUR-10-ZZ-DR-S-2010.

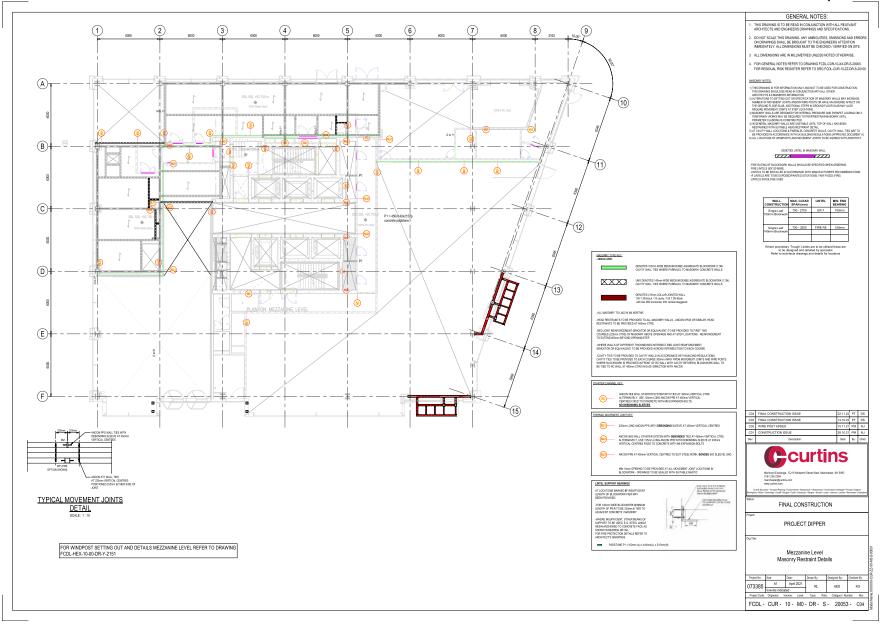












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