FAITHFUL+GOULD
Member of the SNC-Lavalin Group

St Monica's Junior School

Site Consolidation Feasibility Study

Southampton City Council

August 2021

St Monica's School

Notice

This document and its contents have been prepared and are intended solely as information for Southampton City Council and use in relation to a Feasibility Study reviewing different options available for additional classrooms following the consolidation of St Monica's School.

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Document history

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Document reference: St Monica's Junior School

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Client signoff

Client	Southampton City Council
Project	St Monica's Junior School
Job number	5206771
Client signature/date	

Contents

1. Introduction and Briefing

Faithful+Gould have been instructed by Southampton City Council (SCC) to consider feasibility options for the provision of permanent and temporary classroom accommodation following the consolidation of St Monica's Junior and Infant Schools.

The brief received from SCC was to provide a total of 5no. additional classrooms which will accommodate the increase in pupils once the two sites have been consolidated. As per the brief received, two of the 5no. new classrooms will be permanent additions to the school and the remaining three will be hired temporary classrooms, gradually reducing in number over the course of 4 years. The below 'Table 1' provides an overview of the temporary classroom provisions required to meet the school's needs.

Academic Year	Number of Temporary Classrooms
2021 - 2022	-
2022 - 2023	3
2023 - 2024	2
2024 - 2025	2
2025 - 2026	1
2026 - 2027	0
2027 - 2028	0

Table 1: Temporary Accommodation Hire Timescales

The existing school buildings are surrounded by soil embankments which make extending the existing school's buildings difficult to accommodate. The school is provided with large grassed areas to the South of the site, and hardstanding playground surfaces to the West. See image 1 below.

Image 1 – St Monica's School Site View

Due to the restricted site, modular classrooms were proposed as an ideal solution to provide the school with the necessary teaching facilities, with a fast turn around in manufacturing, allowing for the project to be completed before the start of the 2022/2023 academic year, which would have been difficult to meet through the use of traditional construction techniques.

2. Review of the Existing Site

2.1. Introduction

St Monica's Junior School is located in a principally residential area of Sholing, Southampton. Access to the site is gained off St Monica Road. 'Elim Church' is located on the corner to the entrance of the school.

A walk around of the school's boundaries provided insight into suitable areas on which potential modular units could be located. Due to access constraints around the school, the grassed areas to the South of the school's main building, as highlighted in the image below, presented the most feasible location.

Image 2 – Proposed area on which to locate the modular units

2.2. Access Restrictions

Following attendance by two large modular building suppliers, Portakabin and McAvoy Group, advice was obtained on best access routes available onto the site, including other elements which need to be taken into consideration going forwards with the project.

Both suppliers confirmed that the only available route into the site is from St Monica road, as the school is surrounded by residential properties and various large trees which prevent cranage onto the site from these locations.

The access route for flatbed transportation lorries has been considered and the following items will need to be actioned prior to the delivery of any modular buildings:

1. Temporary parking restrictions on St Monica road will be required.
2. Temporary removal of the half height timber pedestrian fencing to the main access road from St Monica road to the school's car park.
3. Temporary removal of the school's double access gate and fence.
4. Temporary removal of the 'yellow' pedestrian fence located in front of the church.
5. Removal of the small trees located on the proposed grassed area, south of the Annexe building.
6. Removal of the shed located on the proposed grassed area, south of the Annexe building.

See Appendix E, Schedule of Photographs for further information.

2.3. Existing Buildings

The existing school buildings are of single story, traditionally built construction. The site is divided into the main school building and an annexe to the South of the site.

The external walls are masonry brick provided with modern powder coated double glazed fenestration. The roofs are a mixture of bitumen felt flat roofs and mono pitched roofs with interlocking concrete tiles.

The main access into the school is via the reception, located at the southern end of the main building. Pedestrian paths are provided to the perimeter of the school, linking the main school buildings, annexe and hardstanding playground.

2.4. Tree Preservation Orders

A mixture of protected oak, silver maple and other trees are located on and around St Monica's School, including protected areas of woodland to the west of the site.

The TPO's are unlikely to be affected by the proposed works, which are relatively flexible in terms of siting the modular buildings far enough away from protected tree root zones. Advice will need to be sought from an arboriculturist regarding the trees located within relatively close proximity to the proposed works area, as highlighted on the image below.

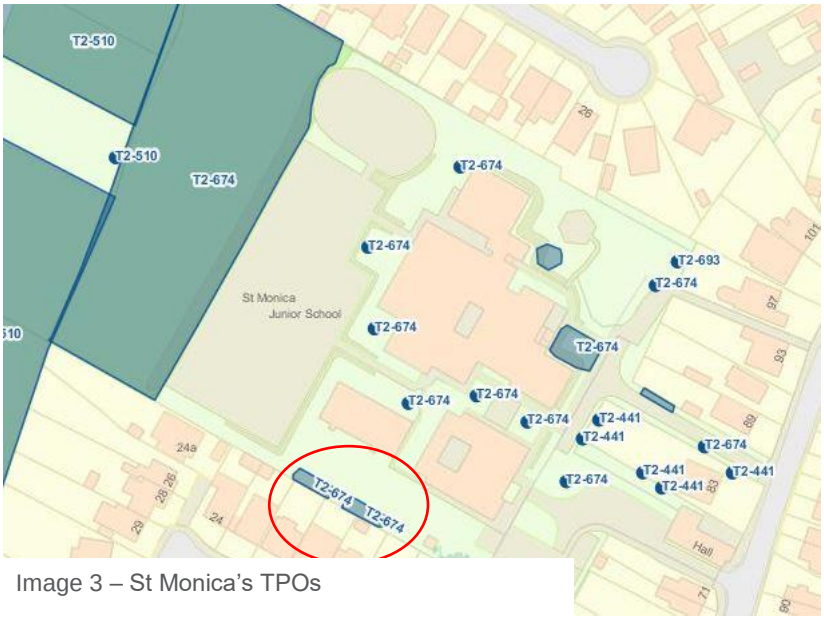

Image 3 – St Monica's TPOs

3. Net Capacity Assessment

A Net Capacity Assessment (NCA) including measured survey was completed by 'damss' which has provided a detailed overview of the existing site accommodation and whether there would be adequate scope to utilise existing spaces to accommodate future increased number of pupils. See Appendix B for full NCA document.

The NCA revealed that based on the existing school's available net floor area, the existing school has a Basic Workplace capacity of 532 and a Resource Workplace capacity of 202. The existing Net Capacity has been calculated as 319. This is the amount of space currently available for use.

Basic Workplace is defined as spaces which can accommodate numbers between 15 and 30, i.e teaching spaces and classrooms.

Resource Workplace is defined as those spaces with a capacity of less than 15 workplaces (undersized classrooms, small libraries, large stores, etc) AND/OR the Basic Workplaces which exceed 30.

The school have advised that there is currently a maximum capacity of 360 students. This number is above the 319 calculated by the NCA as the school are likely using spaces not 'technically' defined as useable spaces.

Based on the information provided by the NCA, it indicates that the net area of the existing site has the ability to provide an increase in student spaces, maximum of circa 500 total, should internal reconfiguration works be considered.

3.1. WC Provisions

As part of the Feasibility study, the general provision of WC's were reviewed. As per the Net Capacity Assessment carried out at the school, the school's existing WC provisions are adequate for the current number of pupils, based on a 1:20 ratio.

Total number of WCs, including annexe: 29no (cubicles).

Based on the 1:20 ratio, the school's existing WC provisions would accommodate a maximum total of 580no. pupils.

The modular classrooms are provided with their own designated WC's, suitable for the number of students within the units, therefore there would be no requirement to provide additional WC's as part of the consolidation scheme.

4. Investigations and Reports

4.1. Introduction

During the development of the Feasibility Stage information, various professional surveys were carried out to further advise on the suitability of the proposals, including risks which are to be taken into consideration during the next stages of design.

4.2. Civil

A visual survey was carried out by Scott White and Hookins (SWH) to review the existing site and provide a drainage strategy plan for the proposed works. Please see Appendix D for further information.

A new soakaway is proposed at the north east corner of the site however it is recommended that a full drainage survey of the existing site is undertaken in the following stages. Should a soakaway not be viable due to infiltration on site, an attenuated drainage system will be required, discharging to a surface water sewer or a ditch.

4.3. Mechanical and Electrical

A visual survey was completed by SSandA to review the M&E infrastructure at St Monica's Junior school, please see Appendix C for the detailed report.

The report produced is based off a total of 5no. additional modular classrooms. SSandA provided a detailed overview of the current services through a non-intrusive survey, services reviewed were:

1. Electricity
2. Gas
3. Water
4. Fire Alarm
5. Communications

SSandA provided the following conclusions and recommendations should the project proceed to the next stage:

Electrics

1. Based on the future load requirements of the extension at 84A and the existing capacity assumed at 104A, the following next steps are recommended.

2. Liaise with the local District Network Operator (DNO – SSE/UKPN etc) to understand the size of the existing infrastructure via a Nature of Supply application. This includes both the fuses and the incoming cable load capability.

3. Allow for upgrading the existing incoming electrical infrastructure with a minimum 200A incoming supply. Allowance should be made for a new supply, to terminate in a GRP enclosure with a metered service head and cut out. It may be that the incoming cable is rated close to or over the required loads, however this will need to be determined.

4. Provide 400A rated MCCB panel board adjacent to incoming supply fitted with 1no 125A supply to existing school and 1no 160A supply to feeder pillar for classroom.

5. Allow for 2no submains - 1no to the new portacabins and 1no new supply to the existing electrical switch cupboard to replace the existing incoming supply.

6. It is unclear as to how double and single classrooms will be connected electrically, however it may be prudent to allow for an additional feeder pillar to then provide 3-5no isolated supplies or a feed to each portacabin direct from the new MCCB panel.

7. Allow for a new LV panelboard to replace the existing aged and obsolete panel-board and to reconnect and test the existing school supplies.

Gas

Based on the school area at 2,200m2 and school's gas requirements typically ranging between 125 - 200W/m2 a total gas requirement of 440kW would be required.

For reporting purposes, it is unlikely that gas would be used as the primary fuel source for heating of the new proposed portacabins as confirmed by both Portcabin and McAvoys. It should be noted however, that the system does have spare capacity, should a fixed solution be required.

Water

Initial calculations suggest that the existing water loading units at 210LU are the equivalent to a 54mm supply. The extension will require an estimated 120 additional loading units, which is still within the capacity of a 54mm supply at a velocity of 1.5m/s.

The existing supply should be investigated further to determine the type of supply pipe in the ground. As a minimum, it is recommended that the following works are be undertaken:

1. A new water supply shall be connected to the existing supply in the driveway and a new PE water supply pipe should be routed in the ground to serve the Portacabins.

It is prudent to review the issues relating to the high iron levels in the domestic water systems, however we assume this will be addressed separately.

Fire Alarm

The existing services should be investigated further to determine the capacity however, the following works are recommended:

1. A dedicated fire alarm system shall be provided for the proposed extension. This system shall be connected to the existing repeater panel in the Annexe building routed at high level across to the new portacabins.

Communications

The existing services should be investigated further to determine the capacity, however the following works are recommended:

1. A new comms supply shall be connected to the existing comms room server in the Annexe building routed at high level across to the portacabins.

4.4. Ground Investigations

During an initial scoping visit, the site manager advised that there originally had been a swimming pool located on the site which had been subsequently removed approximately 10-15 years ago. See Image 1 of this report which indicates the approximate location of the removed swimming pool.

Dependant on the proposed location for the new modular buildings, this area will need to be further investigated due to the made up ground which will impact on foundation designs.

Furthermore, the composition of the made-up ground is unknown. Therefore there is a risk that hazardous materials were used to make up the ground. eg. Asbestos containing materials which would require specialist removal and disposal if disturbed.

Following the civil engineer's comments within Appendix D, it is recommended that further ground investigations are carried out in the following stages.

4.5. Condition Survey

A condition survey of the school's existing buildings has been undertaken by others, dated 20/05/2021 and is available by request through St Monica's School.

4.6. Asbestos Survey

No R&D survey was carried out as part of the Feasibility Report. A Management Report, register and survey (dated 2020) are available from the School.

A Refurbishment and Demolition Survey will be required in advance of any works taking place. Although the modular buildings themselves are fabricated off site with no interaction with the existing buildings, services will require connections to be made through penetration of existing external walls and upgrades of existing services, as detailed in the M&E report.

4.7. Additional surveys

Progressing into the next stages of design, it is recommended that the following surveys are completed:

1. CCTV Drainage Survey / CAT Scan
2. Refurbishment and Demolition Survey
3. Topographical Survey
4. Ground Investigations
5. Utility Searches
6. Below Ground Services Survey
7. Arboricultural Survey
8. Ecology Survey
9. Archaeological Survey

5. Proposed Solutions

5.1. An Overview to Modular Construction

Modular construction has made great strides in recent years when compared to traditional methods of construction which has led to an increased demand in recent years due developers exploring quicker and more cost effective alternative methods of construction.

In previous years, modular units have suffered from quality and durability issues, however in order to keep up with the ever changing standards and Regulations, modern modular buildings now equal the durability and quality of traditionally built buildings, being constructed to the latest Building Regulations and planning requirements.

General benefits when compared to traditional construction:

1. Time: The key advantage of modular construction is the significant time saving. On average, modular buildings are constructed circa 40-50% faster than the more traditional methods which can also result in an earlier return on investment.

2. Cost: Shorter build times generally result in reduced costs. In addition, costs are reduced further due to the units generally being planned, designed and fabricated in a single facility. Furthermore, on-site preliminary work and the off-site construction works can run simultaneously.

3. Lower risk of cost overruns and delays: Modular construction offers much higher cost and time certainty than traditional because of fewer risk factors that drive cost increases and delays. As major parts of construction are handled within a factory, weather conditions are often irrelevant during the majority of the project.

4. Quality: Modular buildings generally have tighter control of the production process due to a controlled factory environment. This in turn heavily reduces if not completely eliminates health and safety related risks common on construction sites.

5. Less disruption: Modular construction creates less noise, traffic, mess and therefore less disruption to the school.

6. Adaptability: Modular buildings benefit from being easily expanded, relocated and reused.

7. Sustainability: Sustainability has become an ever increasingly important consideration for planning authorities and developers as the social impact of construction is given greater importance. Modular buildings generally are considered to be less wasteful during the fabrication process; in addition due to the controlled fabrication process, modular buildings can lend themselves to being less wastfull as well as being better performing.

Aspects of modular construction to consider:

1. Access: As the modular units are manufacturer off site, the transportation on completion involves the use of large artic or flatbed lorries to deliver the structures. Careful consideration and planning is required to ensure access is achievable.

2. Traditional construction is generally a lot more accommodating with late design changes with modular construction requiring final sign off at an earlier stage.

3. Hire cost vs purchase: Typically, due to the hire costs of the units, the average hire period before it is more cost effective to purchase the units is around 4 years. The expected hire duration for the temporary

units at St Monica's is expected to be a maximum of 4 years, therefore hiring the units remains a viable option.

5.2. Preferred Option - Modular Classrooms

Due to the space restrictions on site, the following options represent the most feasible locations for the modular units, taking into consideration the specialist supplier's advice, whilst also minimising disruption to the school.

Area A' as per the site plan below, is suggested as the most appropriate location for the two permanent classrooms. This location provides better accessibility to the main school building with minimal travel distances for building occupants. Furthermore, as noted in the previous sections, the temporary units will gradually be reduced in numbers over a 4 year period; locating the permanent structures at the far end of the grassed area will ensure they will not impede on the eventual removal of the three temporary classrooms.

'Area B' as indicated on the above site plan, represents the suggested area on which to locate the three single temporary units. This location incurs longer travel distances to the main school buildings, however as the modular units will be provided with their own WC's, the units will be self-contained.

The modular classrooms are fabricated as either a double or a single as standard. The use of a double unit is recommended for the permanent 2no. classrooms as this will be the most advantageous in terms of space saving as well as being more economically viable as seen in section 5 of this Feasibility study.

As highlighted before, the three temporary classrooms will be removed one by one and as a result the classrooms need to be easily separated, ultimately down to a single unit. Therefore, it is suggested that three individual modular classrooms are hired for agreed timescales which will provide flexibility to remove the structures as and when required.

The above image demonstrates a potential layout for the modular buildings (blue representing the permanent double unit and green the 3no. single units). Exact locations to be agreed with the school.

Modular buildings are flexible in their design and can be manufactured to requirement. Typical classroom layouts including fixtures and fittings are available in Appendix F.

5.3. Alternative Options Explored – Locations

An option considered was to utilise the Southern area of the staff carpark (see image above for reference) to locate temporary classrooms. This option was rejected as parking capacity on the site is limited in its current state and once the two schools have consolidated onto a single site, staff numbers will also increase, resulting in increased parking requirements which this would negatively impact.

Another option considered was to locate temporary classrooms on the Northern end of the hardstanding playground. This option was also rejected due to the complexity involved with manoeuvring the large units to this inaccessible area, in addition, travel distances to the main school buildings would have been too far.

5.4. Traditionally Built Extension / New Build

An option to provide a traditionally built extension or new build permanent classrooms was considered early on in the Feasibility.

The below highlights possible locations for traditionally-built extension/new build classrooms. The surrounding ground levels and boundaries restrict extension of the existing buildings elsewhere on site without substantial landscaping and relevelling of grounds.

Option 1 – Extension of existing Annexe to provide two additional 56m2 classrooms.

Option 2 – Newly built teaching block provided with two 56m2 and self-contained WC's including additional storerooms.

Following discussions with Southampton City Council it was concluded that modular construction was the preferred option to explorer in greater detail, principally due to time constraints which require full use of the classrooms by September 2022 (this date has had to be pushed back due to delays with funding). Traditional masonry-built options were therefore not considered further as part of this Feasibility study.

6. Costings

Following consultation with modular building suppliers, the following costs have been estimated based on purchasing as well as hiring the units.

Hire cost of a Double Classroom Building (based on McAvoy's rates which were the more economically advantageous)

	Cost
Weekly Hire	**£550.00**
Delivery and installation	**£15,000.00**
Foundations and drainage	**£25,000.00**
Service connections currently assumed by other	-

Purchase cost of a Double Classroom Building (based on McAvoy's rates)

	Cost
Purchase of Unit	**£195,000.00**
Delivery and installation	**£15,000.00**
Foundations and drainage	**£25,000.00**
Service connections currently assumed by other	-

Hire cost of a Single Classroom Building (based on McAvoy's rates)

	Cost
Weekly Hire	**£360.00**
Delivery and installation	**£10,000.00**
Foundations and drainage	**£15,000.00**
Service connections currently assumed by other	-

Purchase cost of a Single Classroom Building (based on McAvoy's rates)

	Cost
Purchase of Unit	**£119,000.00**
Delivery and installation	**£10,000.00**
Foundations and drainage	**£15,000.00**
Service connections currently assumed by other	-

As part of the installation process, further queries were raised in regard to what was included/not included within the above weekly hire costs, the following items were confirmed:

1. Ramp access to the Classrooms – Included, although it may be possible to provide level access.
2. Air Conditioning – Included.
3. Emergency Lighting – Included.
4. Fire Alarm – Standalone system included, would need to be linked with the school's system.

5. Intruder Alarm – £80/week extra – Not included in the above weekly hire costs, however included in below project budget costs.
6. Fire Extinguishers – Not included, circa £35/week extra
7. Data points and interactive whiteboard with projector – Data points included but projector is not.

Based on the above costs and the suggested quantity/layout of modular classrooms (2no. permanent and 3no. temporary for timescales indicated in Section 1 of this report), the following cost predictions are detailed:

Item	Total Cost
1no. double unit purchased Inclusive of foundations, installation and delivery	£235,000.00
3no. single units hired based on agreed timescales. Inclusive of foundations, installation, delivery and removal	£300,000.00
Intruder alarm allowance for hired units	£16,600.00
Removal of concrete foundations at end of hire period and make good	£13,500.00
M&E Costs (see Appendix C)	£114,400.00
Civil / Drainage Costs (Assumed soakaway) – Prov. sum	£25,000.00
Facilitating Works – Temporary removal of fencing and reinstatement on completion	£10,000.00
Landscaping making good on completion	£5,000.00
ICT Connections	£5,000.00
Furniture	Excluded
Sub-total	**£724,500.00**
Inflation of 2.6% based on BCIS indices Q2 2021 – Q4 2022	£20,600.00
The Works Sub-total	**£745,100.00**
Contractor's Preliminaries @ £2,400/week, 9 weeks	£21,600.00
Contractor's OH&P @10% (not inclusive of hired cost)	£45,000.00
Contingency 12% (increased contingency allowed for to cover risk of uncovering ACM's during the ground investigations of the made-up ground	£97,400.00
Projected Construction Costs	**£909,100.00**
Professional Fees (10%) – Subject to formal quotation from supply chain	£90,900.00
Additional Survey (GI, ecology, arboricultural, etc) - Prov. sum	£15,000.00
Statutory Costs	£1,500.00
Internal SCC Project Management (circa 1%)	£10,000.00
Project Total Cost (excl. VAT)	**£1,026,500.00**

The estimates have allowed for the following:

- Works to be completed during normal working hours.
- An estimated fee for building regulations approval has been used.
- Provisional sum allowances have been used where exact quantities are unable to be determined.

- Professional fees are subject to formal quotations being received from supply chain. (Structural, M&E, H&S, Civil). A lower percentage of 12.5% has been used due to the hired costs which need to be considered.
- Contingency has been increased (12%) to allow for shortages as a result of Covid-19.
- Contractor's OH&P's do not include the hired costs of the 3 units.

7. Statutory Consultation

7.1. Planning

Planning consultation will be required in the next stages of design. A planning pre-application is suggested to be completed early on.

Full Planning permission will be required for the proposed works. Southampton City Council are the responsible planning authority.

7.2. Building Control

Building Control consultation will be required in the next stages of design. Modular buildings to be manufactured in accordance with current UK Building Regulations.

8. Risk and Programming

8.1. Risks

See Appendix G for full Feasibility Stage Risk Register.

8.2. Programming

Please refer to Appendix H for Feasibility Stage programme.

Current lead in times for modular units is between 12-14 weeks from date of order. As previously noted, the preliminary works including laying of foundations, preparation of service connections, etc, can be undertaken during the fabrication process which is done wholly off-site.

Due to a delay in funding, the Feasibility Stage programme anticipates a completion date of the end of October 2022. The overall delivery of the project is achievable however careful coordination with the school will be necessary to ensure works are safely carried out during term time. The programme has been developed to utilise the summer holiday period for the more intrusive works, including M&E works and laying of foundations, thus minimising any disruption to the school.

9. Summary

The options explored within this report provide a detailed overview of considerations made throughout Feasibility. However following consideration and consultation with Southampton City Council, modular construction was the method reviewed in fuller detail due to project's time constraints which prevented traditional construction techniques from being considered.

Modular construction is the most practical solution to the increased number of classrooms required within a short timeframe.

The most appropriate location for the units has been determined to be the large, mostly unused grassed area located south of site.

A total of 5no. classrooms are required, 2no. of which will be permanent additions to the schools, with the other 3no. being removed separately over the course of a 4-year period (2023-2026).

The exact locations of the units are to be agreed with the Client in the next stages of design, including exact design requirements for the classrooms and associated spaces. It should be noted that once orders have been placed with the manufacturing company and the fabrication process has begun, there would be no flexibility with late design changes.

Early consideration is to be given to planning and ground investigations to de-risk the project early on in the design stage.

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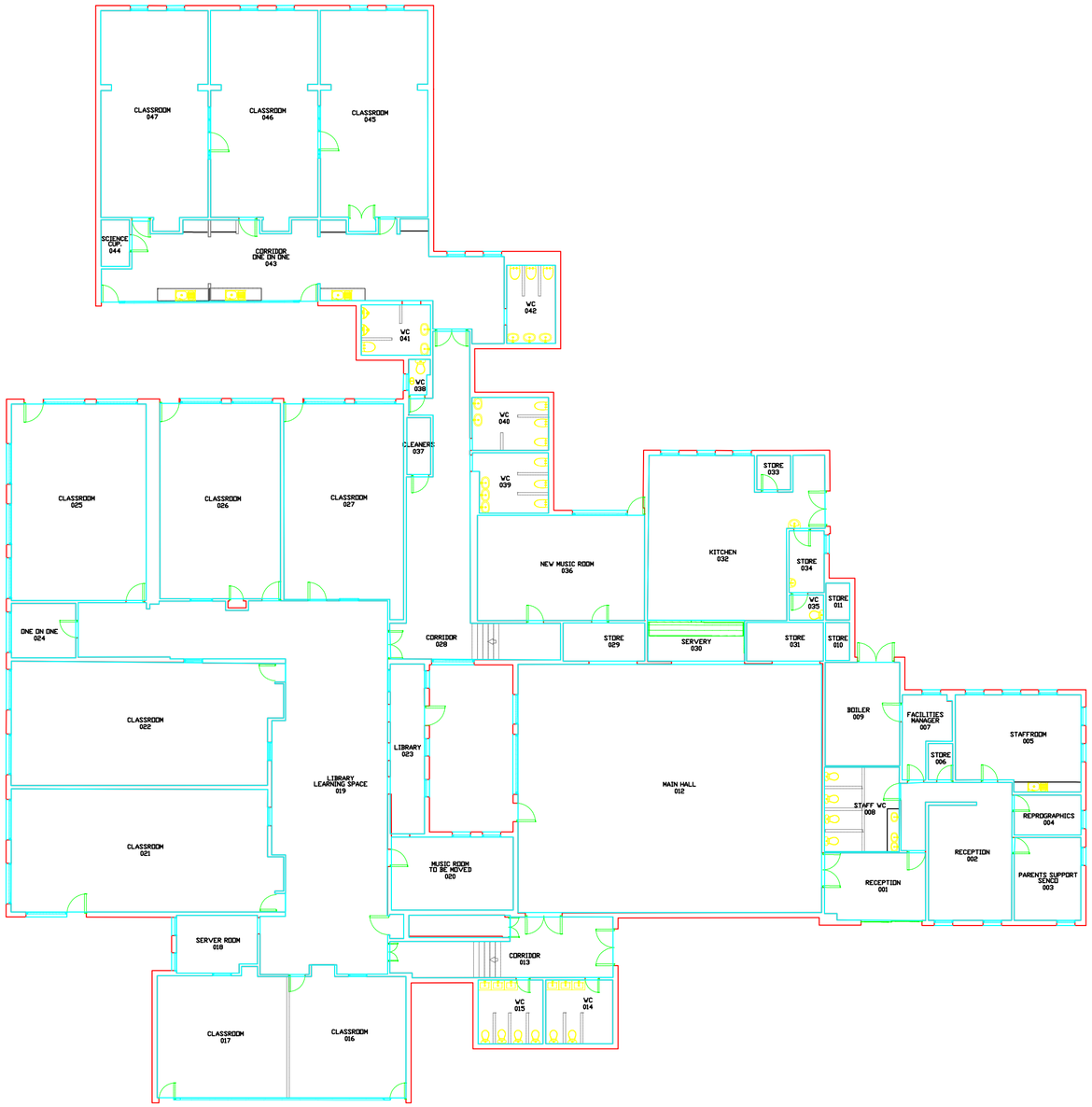
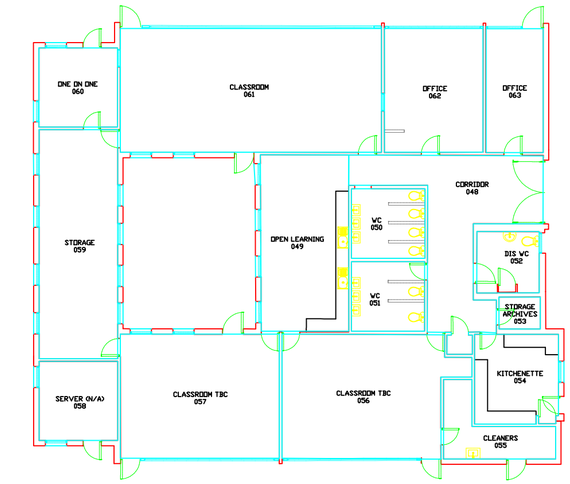
Appendices

Appendix A. Measured Survey





1. THE DETAILS SUPPLIED ON THIS DRAWING HAVE BEEN BASED ON INFORMATION CAPTURED ON SITE
2. THE DRAWING AND INFORMATION SUPPLIED HEREIN HAS BEEN PREPARED SOLELY FOR THE CLIENTS USE
3. DO NOT SCALE FROM THIS DRAWING.
4. ALL MEASUREMENTS ARE IN METRES UNLESS STATED OTHERWISE.

Rev.	Date	Description	By	Chk'd	Appr'd

DRAFT

dam

DWSS
PANTRHEVEDDI FARM
MICHAELSTON-Y-FEDW
NR OLD ST MELLONS
CARDIFF
CF3 6XV

PROJECT
SOUTHAMPTON
NET CAPACITY ASSESSMENT

DRAWING TITLE
ST MONICAS
PRIMARY SCHOOL
GROUND FLOOR

SCALE	DESIGNED	DRAWN	CHECKED	AUTHORISED
	--	SD	EH	CP
1:50@A2	DATE: --/--/--	DATE: 01/06/2021	DATE: 08/06/2021	DATE: 17/06/2021

Appendix B. Net Capacity Assessment

Please read the Net Capacity guidance (DfES/0739/2001) before filling in this form for the first time.
This form can be used to assess any primary, middle deemed primary or first and middle school.
It is easiest to use the computer spreadsheet, available at www.dfes.gov.uk (search for 'netcapacity').
Use this page to identify the basic information required. List all spaces in the Net Area Schedule on page 2 (following the notes on the facing page). All boxes shaded in grey will be worked out automatically in the computer spreadsheet. The 'Declaration of Accuracy' should be signed by the Head Teacher and a representative of the Local Education Authority.

School Details

LEA: Southampton

DfES LEA/school number: 852/2428 date:

school name: St Monica Primary School

age range: 4 to 11

If applicable: complete the boxes below if the school is on a small or split site or has more than one year of admission.

no. of sites: l

total site area (m^2): m

	first admission year	(second admission year, if applicable)	(third admission year, if applicable)	
normal year of admission	R			for instance 'Y2' or 'R' if reception (do not include nurseries: see below)
number of years	7			a — number of years that those in the admission year will be at this school (e.g. '7')
planned admission number	90	c	f	b — if known (allowing for infant class size limits)
		d	g	
		e	h	
		e = (c x d) / b	h = (f x g) / b	
number of age groups	7			n (a + e + h)

If applicable: Description of

LEA designated Early Years and Childcare provision, if any

non-school and support provision, not normally available to the school during the school day

including the age range and the number of places involved.
Enter area in 'net area' column and note with an 'E' at step 4

LEA designated specially resourced facilities, if any

non-school facilities (such as a community library, multi-agency facilities, or youth centre) or support facilities (such as an SEN support centre or a Learning Support Unit).
Include the number of any additional specially resourced places, if applicable.
Enter area in 'net area' column and note with an 'R' at step 4

LEA designated adult learning facilities, if any

(such as City Learning Centres, teacher training, or other Lifelong Learning facilities).
Enter area in 'net area' column and note with an 'A' at step 4

Net Area Schedule (and allocation of workplaces)

DfES no. 852/2428 school name St Monica Primary School

STEP 1					STEP 2		STEP 3		STEP 4
Room Reference	**Room Name** (based on the activities the room is designed or equipped to accommodate)	'Non-Net' Area, if known (m^2)		**Net Area** (m^2)	general	specialist	**Basic Workplaces**	**Resource Workplaces**	**Status**
TOTALS		397		1451	34	9	532	202	
001	Reception			16	1		0	8	
002	Reception			32	1		19	0	
003	Reception			13	1		0	6	
004	Reprographics			7	1		0	2	
005	Staff Room			28	1		16	0	
006	Store	2							
007	Facilities Manager	8							
008	Staff WC	19							
009	Boiler	19							
010	Store	2							
011	Store	2							
012	Main Hall			184	0	1	30	5	
013	Corridor			26	1		15	0	
014	WC	10							
015	WC	10							
016	Classroom 16			37	1		22	0	
017	Classroom 17			37	1		22	0	
018	Server Room			11	0	1	0	1	
019	Library learning space	70		70	1		30	14	C
020	Music room to be moved			22	0	1	0	5	
021	Classroom			79	1		30	20	
022	Classroom			79	1		30	20	
023	Library			14	1		0	7	
024	One on One			9	1		0	3	
025	Classroom			65	1		30	11	
026	Classroom			58	1		30	6	
027	Classroom			58	1		30	6	
028	Corridor	44		9	1		0	3	
029	Store			8	1		0	3	
030	Servery			10	0	1	0	1	
031	Store			7	1		0	2	
032	Kitchen	59							
033	Store			3	1		0	1	
034	Store			5	1		0	1	
035	WC	2							
036	New music room			43	0	1	0	14	
037	Cleaners			3	1		0	1	
038	WC	2							
039	WC	11							
040	WC	10							
041	WC	9							
042	WC	9							
043	Corridor/ one on one	36		36	1		21	0	C
044	Science Cup			3	0	1	0	1	
045	Classroom			55	1		30	4	
046	Classroom			55	1		30	4	
047	Classroom			55	1		30	4	
048	Corridor			35	1		21	0	

DfES no. 852/2428 school name St Monica Primary School

STEP 1					STEP 2		STEP 3		STEP 4
Room Reference	**Room Name** (based on the activities the room is designed or equipped to accommodate)	'Non-Net' Area, if known (m^2)		**Net Area** (m^2)	general	specialist	**Basic Workplaces**	**Resource Workplaces**	**Status**
049	Open learning	16		16	1		0	8	C
050	WC	11							
051	WC	11							
052	Disabled WC	8							
053	Storage Archives			3	0	1	0	1	
054	Kitchenette	16							
055	Cleaners	11							
056	Classroom TBC			43	1		26	0	
057	Classroom TBC			42	1		25	0	
058	Server N/A			13	0	1	0	2	
059	Storage			38	0	1	0	12	
060	One on one			13	1		0	6	
061	Classroom			69	1		30	13	
062	Office			26	1		15	0	
063	Office			15	1		0	7	
							BASIC	RESOURCE	

Capacity Calculation

	Basic Workplaces	Resource Workplaces	
Workplaces Not Included in Capacity Calculation (if measured)			
parents/community room	0	0	workplaces in space marked 'P' at step 4, only one per school
early years and childcare facilities	0	0	workplaces in spaces marked 'E' at step 4, as described under School Details
specially resourced facilities	0	0	workplaces in spaces marked 'R' at step 4, as described under School Details
adult learning facilities	0	0	workplaces in spaces marked 'A' at step 4, as described under School Details

All calculations below should be **rounded down** to the nearest whole number.

Workplaces Included in Capacity Calculation	532	p	202 q	totals of all workplaces except those shown above as excluded or marked 'W' at step 4
capacity based on classbases	51	r		basic workplaces in spaces marked 'C' at step 4, or ((p + q) x 70%), if lower
basic workplace allowance	75	s		(75 x l), plus 50 if (m) is less than (1500 + (15 x r))
maximum workplaces available	319	v		(r), or ((p - s) x 70%), if higher
minimum workplaces available	287	w		lower of (v x 90%) and v rounded down to nearest multiple of (30 x n / 4)
capacity based on planned admission no.	630	x		(b x n)
Net Capacity	319	y		if x is more than v, then y = v if x is between v and w, then y = x if x is less than w, then y = w

	first admission year			(second admission year, if applicable)	(third admission year, if applicable)
indicated admission number	45	z	(y / n) rounded down (n, c, e, f and h as calculated under School Details)		
				(z x e) / c	(z x h) / f

Declaration of Accuracy

We confirm that we are satisfied with the accuracy of the information given under School Details and

		Date			Date
Signature of Head Teacher		/ /	Signature on behalf of Local Eduction Authority		/ /

Appendix C. Mechanical and Electrical Engineer's Report

SS AND A
ENGINEERING CONSULTANTS

ST MONICA'S PRIMARY SCHOOL EXPANSION M&E INFRASTRUCTURE FEASIBILITY REPORT

SS and A

22.06.2021

Contents **Page**

Rev	Engineer	Date	Reviewer	Date	Issued
1	M. Smith	18.06.2020	S. Sodha F. Stringer	21.06.2020	22.06.2020

1.0 EXECUTIVE SUMMARY

SS and A were commissioned by Faithful & Gould to carry out a survey to determine the existing utility infrastructure at St Monica's Junior School to determine whether it is feasible to expand the existing school to include the Infant School, which is currently located in Bay Road.

The proposal is to provide 5no (1x double and 3no singles) temporary portacabin type classrooms and toilet provision on to the southwest grass area of the site, adjacent to the Annexe.

The report has considered the following after a non-intrusive survey undertaken on the 2nd June 2021;

1. Electricity
2. Water
3. Comms
4. Gas
5. Fire Alarm

Following the assessment, the table below schedules out the expected works:

Item	Description	Budget Cost exc VAT
1	**Prelims**	£7,500
2	**Validations -** Validate mechanical and electrical services including	£5,000
	• Fire alarm system cause and effect and connection configuration.	
	• Mains Cold Water Supply	
	• Electrical Supply confirming LV Infrastructure capacity	
3	**Provide new LV supply –** Provide new 250A supply, GRP enclosure, Feeder Pillar and new LV supplies to both the portacabins and existing school. (this does not include major infrastructure upgrade by UKPN)	£59,000
4	**Provide new LV panel board –** Strip out existing panel board and supply and install new panel board, connecting existing supplies	£10,000
5	**Provide new water supply –** Provide new water supply from the driveway to the portacabins.	£5,000
6	**Provide new fire alarm supply –** Provide fire alarm supply from the repeater panel to the new portacabins.	£10,000
7	**Provide new comms supply –** Provide a comms supply from the comms room in the Annexe building.	£2,500
8	**Builders Work in Connection (BWIC)**	By others
9	**Testing and commissioning** including record information.	£5,000
	SUB TOTAL	**£104,000**
	General Contingency at 10%	£10,400
	Total (Excluding VAT and Professional Fees)	**£114,400**

2.0 INTRODUCTION

SS and A has been appointed to undertake a feasibility study to understand the mechanical and electrical infrastructure and the works necessary to allow expansion of the St Monica's Junior School.

Saint Monica Primary School 69 St Monica Rd, Sholing, Southampton SO19 8ES

Southampton City Council wish to review how feasible it is to add the Infant School (located in Bay Road) on to the existing school in St Monica Road by implementing either 1x double classroom and 3x single classrooms with anciliary areas. Whist this report is based on the 5x portacabins, the infrastructure required would largely be the same as a fixed solution.

SS and A attended site on 2nd June 2021 to undertake a non-intrusive survey of the existing infrastructure.

3.0 INFRASTRUCTURE SERVICES

3.01 LV

Existing System Description

A Three Phase & Neutral utiltiy supply enters the school in the electrical intake cupboard just behind/north of the main reception. The service head, which is an old Lucy Oxford, suggests that it has 3x 300A fuses however the schematic (Figure 2) below and the size of the incoming cable suggests it is likely that the supply lower. Size of supply and fuses would need to be confirmed by UKPN via a Nature of Supply application.

Fig 1 – Incoming Electricity Service Head

From the service head, the supply enters an old 150A Ottermill panel board (Figure 3), this board and its components are aged and obsolete.

Design Considerations

Schools usually require approximately 30W/m^2 of power, the current school based on an assessment using Google Earth is 2,200m^2 and therefore would require an approximate 66kW, equating to 73kVA or 104A Three Phase.

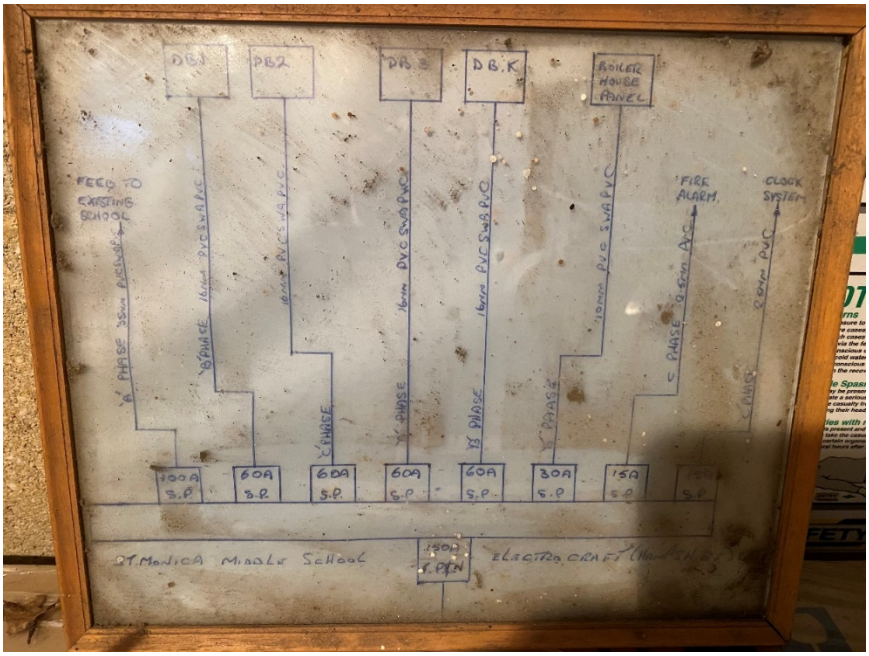


Fig 2 – Electrical Schematic

Fig 3 – Ottermill Panel Board

For calculation purposes the proposed expansion of the site includes 3x double classrooms at 135m^2 and each double classroom having an associated 35m^2 of common/anciliary area. However, electric heat pumps for heating could increase the electrical load for the extension areas as follows;

Item	Area and Allowance	Approximate Watts / Amps Three Phase
	Classroom (330m²)	
1	Small Power at 15W/m²	4,950 / 7.8
2	Lighting at 8W/m²	2,640 / 4.2
3	AC at 40W/m²	13,200 / 21
	Common Area (90m²)	
4	Lighting at 5W/m²	450 / 0.8
5	Electric Heating at 80W/m²	7,200 / 11
6	Hot Water – based on 8no 2kW Hot Water Heaters (with diversity)	12,800 / 20
7	Hand Dryers – based on 3no 1.2kW (with diversity)	1,200 / 1.9
	Sub Total	**42,440 / 67**
	25% Spare Capacity	10,600 / 17
	Total	**53,040 / 84**

Conclusion & Recommendations

Based on the future load requirements of the extension at 84A and the existing capacity assumed at 104A, the following next steps are recommended;

1. Liaise with the local District Network Operator (DNO – SSE/UKPN etc) to understand the size of the existing infrastructure via a Nature of Supply application. This includes both the fuses and the incoming cable load capability.
2. Allow for upgrading the existing incoming electrical infrastructure with a minimum 200A incoming supply. Allowance should be made for a new supply, to terminate in a GRP enclosure with a metered service head and cut out. It may be that the incoming cable is rated close to or over the required loads, however this will need to be determined.
3. Provide 400A rated MCCB panel board adjacent to incoming supply fitted with 1no 125A supply to existing school and 1no 160A supply to feeder pillar for classroom.
4. Allow for 2no submains - 1no to the new portacabins and 1no new supply to the existing electrical switch cupboard to replace the existing incoming supply.
5. It is unclear as to how double and single classrooms will be connected electrically, however it may be prudent to allow for an additonal feeder pillar to then provide 3-5no isolated supplies or a feed to each portacabin direct from the new MCCB panel.
6. Allow for a new LV panelboard to replace the existing aged and obsolete panelboard and to reconnect and test the existing school supplies.

3.02 Gas

Existing System Description

An 80mm utility gas supply enters the school in a gas cupbard adjacent to the incoming electrical intake cupboard. The supply passes through a gas meter and from the meter to the gas buring applianes including the boilers.

The meter is of a diaphrapm type and allows a maximum 3531ft^3 per hour (approx 1,100kW) of gas capacity. The size of gas supply (3" or 80mm) would suggest a maximum capacity supply of approxiamtely 585kW.

Fig 4 – Gas Meter

The current connected capacity appears to be an HWS gas fired hot water heater at 24.4kW and 2no gas fired boilers at 124kW each (although 1no is not operational) totalling 272.4kW.

The extension at 120W/m^2 for the classrooms and 80W/m^2 for the common area would require an additonal 57kW.

Design Considerations

Based on the school area at 2,200m^2 and school's gas requirements typically ranging between 125 - 200W/m^2 a total gas requirement of 440kW would be required.

Conclusions & Recommendations

For reporting purposes it is unlikely that gas would be used as the primary fuel source for heating of the new proposed portacabins as confirmed by both Portcabin anf McAvoys. It should be noted however that the system does have spare capacity, should a fixed solution be required.

3.03 Water

Existing System Description

A water supply enters the school at the the other entrance to the building off St Monica Road, where the meter is located in a dedicated pit. It was difficult to ascertain the size of the incoming supply due to the meter pit being filled with earth as seen in Figure 5 below.

Fig 5 – Water Meter

It was noted that the school are currently using bottled water for drinking, as the existing system appears to have high iron levels due to steel pipework rusting.

Design Considerations

Initial calculations suggest that the existing water loading units at 210LU are the equivalent to a 54mm supply. The extension will require an estimated 120 additional loading units, which is still within the capacity of a 54mm supply at a velocity of 1.5m/s.

Conclusions & Recommendations

The existing supply should be investigated further to determine the type of supply pipe in the ground. As a minimum, it is recommended that the following works are be undertaken:

1. A new water supply shall be connected to the existing supply in the driveway and a new PE water supply pipe should be routed in the ground to serve the Portacabins.

It is prudent to review the issues relating to the high iron levels in the domestic water systems, however we assume this will be addressed separately.

3.04 Fire Alarm

An existing fire alarm is provided with a main fire alarm panel in the main building, connecting to a repeater panel in the Annexe building. The fire alarm is of the analogue addressable type.

Design Considerations

Considertation needs to be given to the interface between any new system and the existing system and whether this can be undertaken including validations of the current devices connected. It is believed the JUNO 1-3 fire alarm currently installed utilises Apollo protocol/intelligence which is a common protocol and therefore a good chance to be compatible with the portacabin system.

Figs 6&7 – Main Panel and Repeater Panel respectively

Conclusions & Recommendations

The existing services should be investigated further to determine the capacity however, the following works are recommended:

1. A dedicated fire alarm system shall be provided for the proposed extension. This system shall be connected to the existing repeater panel in the Annexe building routed at high level across to the new portacabins.

3.05 Communications

An existing cooms room is located in the far west room of the Annexe building. We are advised that this is being upgraded and the new system shall have sufficient capacity to connect the new portacabins.

Conclusions & Recommendations

The existing services should be investigated further to determine the capacity, however the following works are recommended:

- A new comms supply shall be connected to the existing comms room server in the Annexe building routed at high level across to the portacabins.

3.06 General

It would be prudent to obtain Utility Searches at the next stage to understand the local utility infrastructure and a Cat Scan to determine the below ground services in and around the school.

4.0 SCOPE OF WORKS & BUDGET

Having surveyed the site and undertaken initial load calculations, the proposed infrastructure works are summarised in the image below:

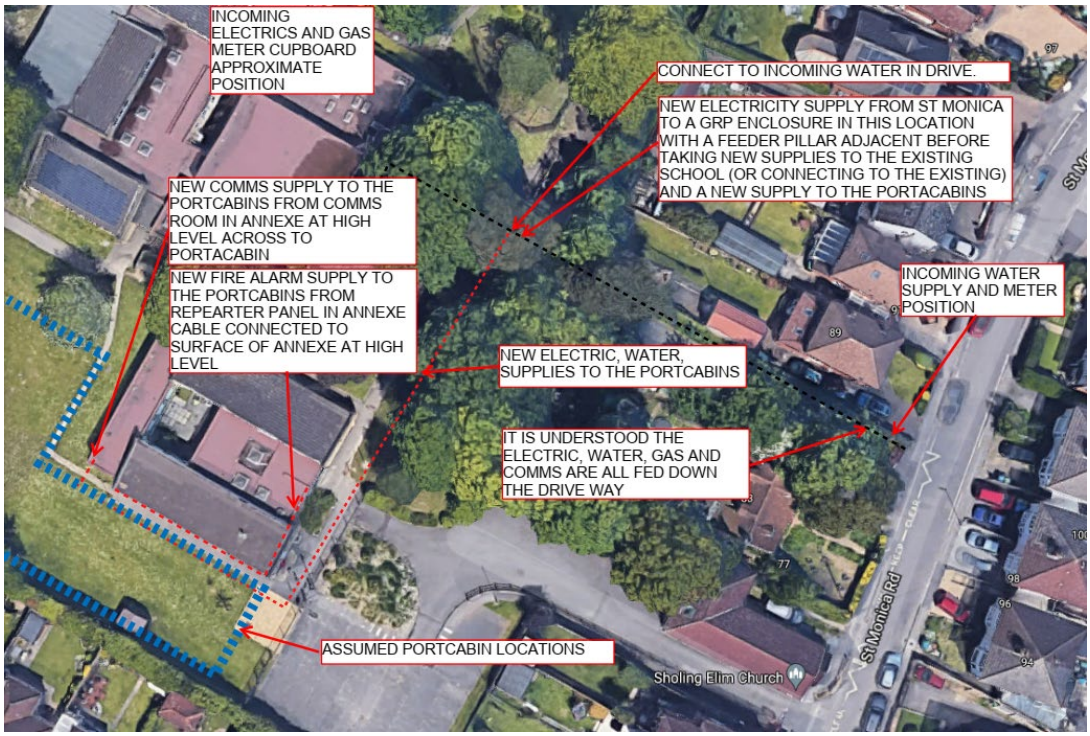


Fig 8 – General Infrastructure Works

A proposed schedule of works and potential costs are set out below:

Item	Description	Budget Cost exc VAT
1	**Prelims**	£7,500
2	**Validations -** Validate mechanical and electrical services including	£5,000
	• Fire alarm system cause and effect and connection configuration.	
	• Mains Cold Water Supply	
	• Electrical Supply confirming LV Infrastructure capacity	
3	**Provide new LV supply –** Provide new 250A supply, GRP enclosure, Feeder Pillar and new LV supplies to both the portacabins and existing school. (this does not include major infrastructure upgrade by UKPN)	£59,000
4	**Provide new LV panel board –** Strip out existing panel board and supply and install new panel board, connecting existing supplies	£10,000
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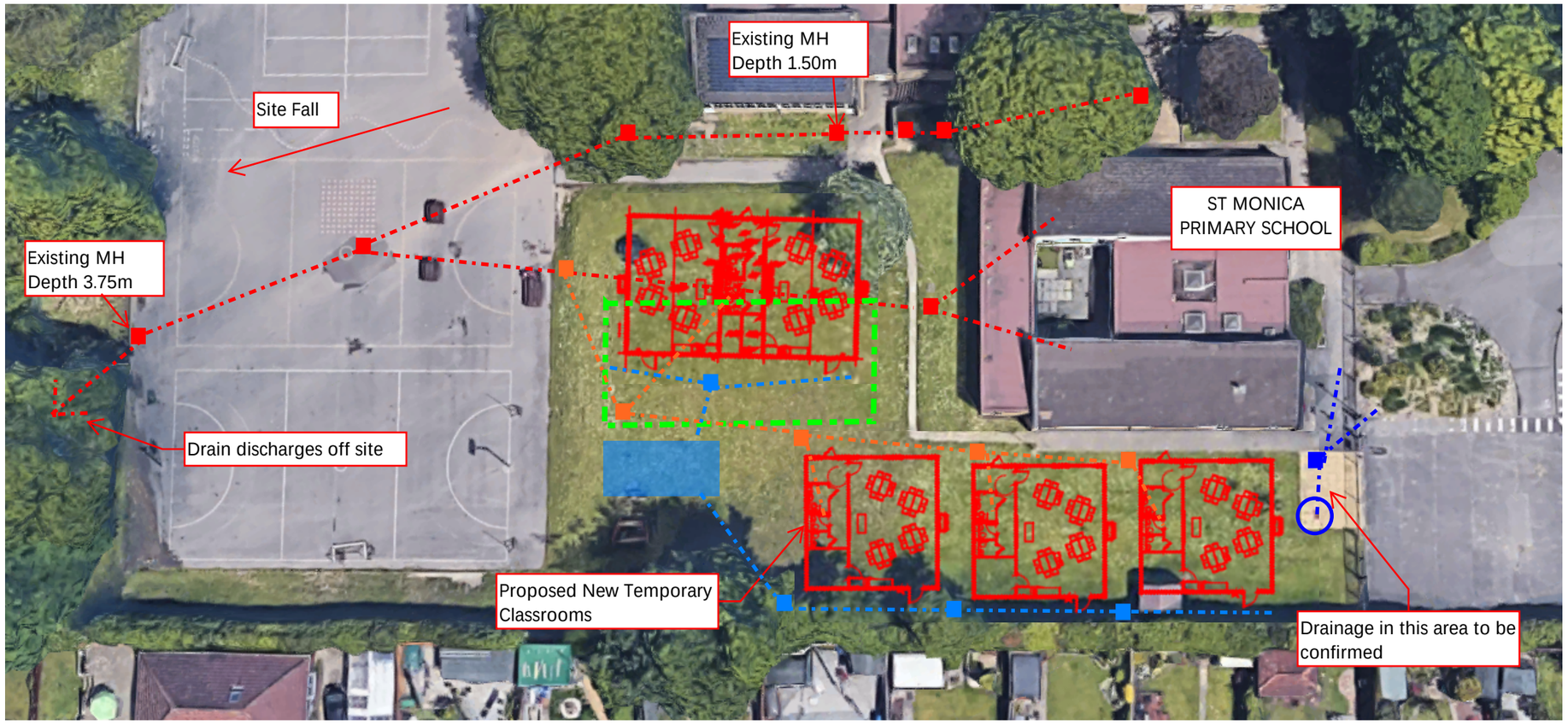
7	**Provide new comms supply –** Provide a comms supply from the comms room in the Annexe building.	£2,500
8	**Builders Work in Connection (BWIC)**	By others
9	**Testing and commissioning** including record information.	£5,000
	SUB TOTAL	**£104,000**
	General Contingency at 10%	£10,400
	Total (Excluding VAT and Professional Fees)	**£114,400**

*Costs do not include asbestos or ground surveys, builders work, trenching or M&E works within the portacabins (i.e. plug in and play).

Appendix D. Civil Engineer's Report



Notes

- Existing Foul/Combined Drains
- Existing Soakaway
- Existing Surface Drains
- Location of Former Swimming Pool
- Proposed Surface Drains
- Proposed Foul Drains
- Proposed Soakaway

All drain routes between manholes assumed.

DRAINAGE STRATEGY:
The existing site has a foul system that discharges to the south corner of the site.
This is assumed to connect into the adopted drain system surrounding the site

It is not clear, but we assume that part of the site is combined, with surface water connecting into this system.

We have located a soakaway to the north east corner of the site adjacent to the car park. This indicates that infiltration is viable on the site.

We would recommend a full drainage survey of the existing network is undertaken. This will include levels, pipe sizes, condition.

We would also recommend undertaking site ground investigations to determine the ground conditions for foundation design and to determine an infiltration rate for the design of new soakaways.

Care will need to be taken around the location of the former swimming pool.

If soakaways are not viable, an attenuated drainage system will be required discharging to a surface water sewer or a ditch.

DO NOT SCALE FROM THIS DRAWING

Rev.	Amendment	Drn.	Chkd.	Appd.	Date
P01	--	RDH	RH	RH	05.07.21

St Monica Primary School

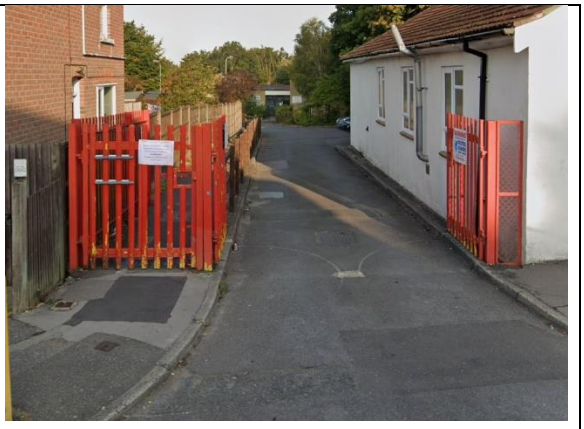
Phase 1 Drainage Strategy

Scott White and Hookins
Structural Engineering | Civil Engineering | Sustainability and BREEAM | CDM Consultancy

Scale at A3 1: NTS

303380-SWH-XX-XX-DR-C-500 P01
Project | Originator | Zone | Level | Type | Role | Number | Rev.

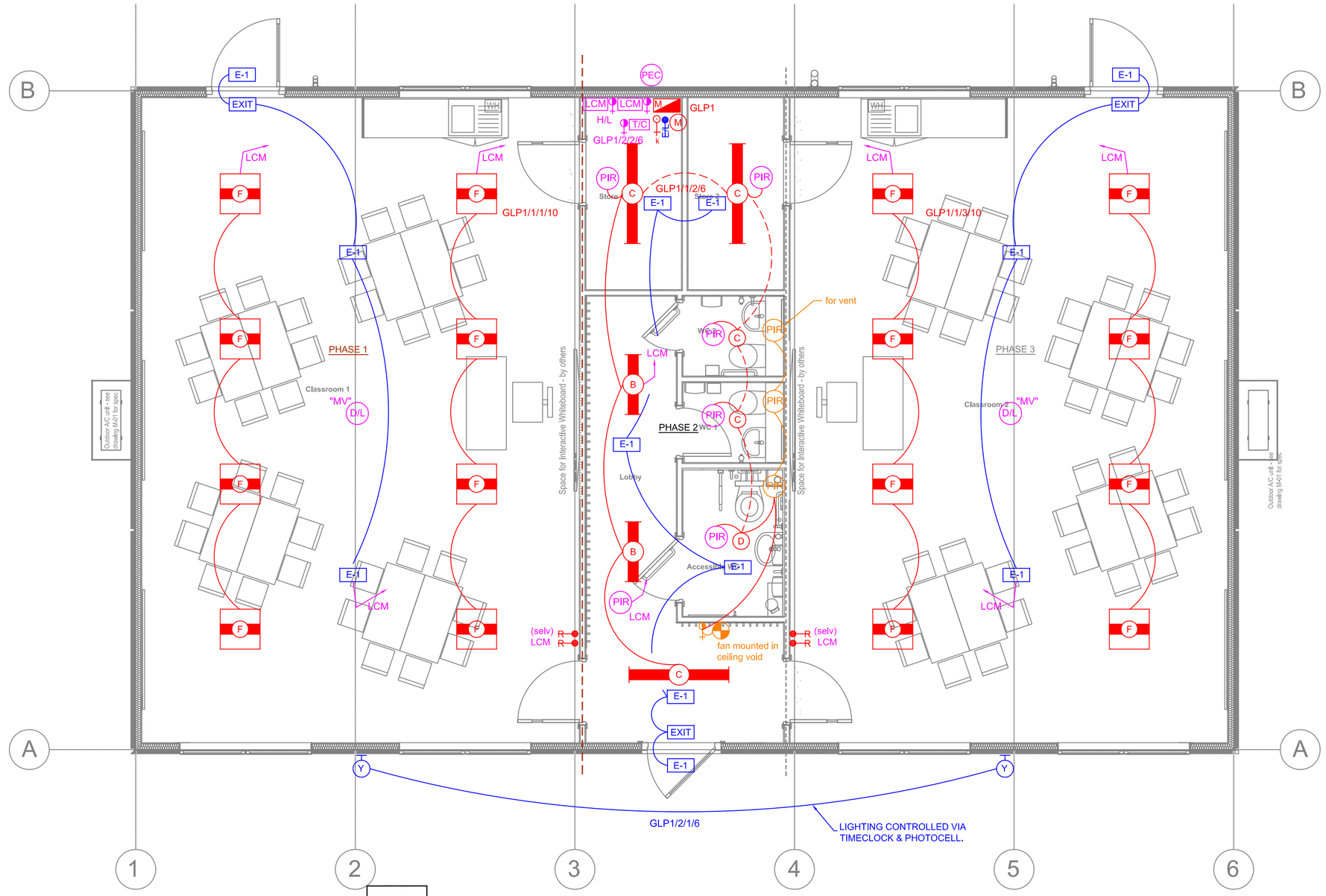
Appendix E. Schedule of Photographs

	
School Entrance road. Timber fence to be temporarily removed.	Entrance gates to be temporarily removed.
	
Yellow pedestrian fence to be temporarily removed. St Monica Road – Access route which will require temporary parking restrictions in place on day of modular building delivery.	Staff Carpark – Proposed location for crane to life modular units.
	
Grassed ‘Area A’ – Proposed location for permanent Modular Unit (1no. double classroom)	Grassed ‘Area B’ – Proposed location for temporary Modular Units (3no. single classrooms). Trees to the left of the photograph to be considered for tree root protection zones.

Appendix F. Modular Classroom Layouts

SCHEDULE OF LUMINAIRES

	REF.	DESCRIPTION	MANUFACTURER
GENERAL LIGHTING	A	39W LED SURFACE MOUNTED LUMINAIRE c/w PRISMATIC DIFFUSER & (4183Lm)	THORN PRISMA 4000K, 0.80 RENDERING
	B	18.3W LED SURFACE MOUNTED LUMINAIRE c/w PRISMATIC DIFFUSER & (2013Lm)	THORN PRISMA 4000K, 0.80 RENDERING
	C	39W LED SURFACE MOUNTED LUMINAIRE c/w PRISMATIC DIFFUSER & (4183Lm)	THORN PRISMA 4000K, 0.80 RENDERING
	D	14W SURFACE MOUNTED LED BULKHEAD (1000Lm)	THORN CLUB OR EQUAL & APPROVED.
	G	27.5W SURFACE MOUNTED LED BULKHEAD (1340Lm)	THORN LOIRE OR EQUAL & APPROVED.
	F	1x41w RECESSED MODULAR LED LUMINAIRE (3900 lm) DIMMABLE control gear. "E" denotes with 3 hour integral power pack.	4000K, 0.80 RENDERING
EMERGENCY LIGHTING	YE	1x42W SURFACE MOUNTED LUMINAIRES c/w OPAL DIFFUSER & VISOR. "E" DENOTES c/w 3Hr EMERGENCY POWER PACK. RECESSED LED DOWNLIGHT	THORN EYEKON
	EXIT	1x1W LED (STRIP) WALL MOUNTED EXIT SIGN c/w LEGEN & 3Hr INTEGRAL POWER PACK	THORN VOYAGER SIGMA LED
	E-1	1x8W SURFACE MOUNTED BULKHEAD c/w 3Hr POWER PACK	THORN VOYAGER
	E	SUFFIX "E" DENOTES INTEGRAL 3Hr EMERGENCY POWER PACK	
CONTROLS	"MV" D/L	OCCUPANCY SENSOR c/w DAYLIGHT SENSOR ("MV" DENOTES MICROWAVE)	
	"MV" PIR	OCCUPANCY SENSOR ("MV" DENOTES MICROWAVE)	
	LCM	LIGHTING CONTROL MODULE c/w SELV MODULE & ENCLOSURE	
	T/C PEC	7-DAY PROGRAMMEABLE TIMECLOCK & EXTERNAL PHOTOCLL FOR AMENITY LIGHTING INSTALLATION (North Facing Wall)	
SWITCHING & DISTRIBUTION	M H/O/A	DENOTES KEYSWITCH ("HOA" DENOTES HAND/OFF/AUTO, "M" DENOTES MAINTENANCE)	
	R E/L	MID POSITION RETRACTIVE LIGHT SWITCH E LIGHTING TEST SWITCH	
	M	GLP-1 TP&N SPLIT LOAD GENERAL LIGHTING & POWER DISTRIBUTION BOARD. ("M" DENOTES SEPERATE METERING FOR POWER & LIGHTING INSTALLATIONS)	
		DENOTES CONNECTION TO LOCAL EXTRACT VENTILATION. (TBC WITH MECH. CONTRACTOR)	



				DEVICE
63A T.P.&N. MCB/RCD SPLIT LOAD DISTRIBUTION BOARD COMPLETE WITH INTEGRAL ISOLATOR & HINGED LOCKABLE COVER INTEGRAL METER M	1	1	LCM LIGHTING CLASS 1	10
		2	LIGHTING STORE/TOILETS CORRIDOR SPUR EXTRACT VENT	6
		3	LCM LIGHTING CLASS 2	10
	2	1	AMENITY LIGHTING	6
		2	RADIAL TIME CLOCK	6
		3		
	3	1		
		2	RADIAL TUBULAR HEATERS	16
		3		
	4	1	RING MAIN CLASS 1	32
		2	RADIAL COMMS CABINET	16
		3	RING MAIN CLASS 2	32
	5	1		
		2	RADIAL TUBULAR HEATERS	16
		3		
	6	1		
		2	RADIAL OVERDOOR HEATER	16
		3		
	7	1	RADIAL WATER HEATER CLASS 1	16
		2	RADIAL WATER HEATER STORE	16
		3	RADIAL WATER HEATER CLASS 2	16
	8	1	RADIAL AIR CON CLASS 1	32
		2		
		3	RADIAL AIR CON CLASS 2	32
	9	1	RADIAL C02 SENSOR CLASS 1	6
		2	RADIAL DISABLED CALL	6
		3	RADIAL C02 SENSOR CLASS 2	6
	10	1		
		2	RADIAL FIRE ALARM PANEL	10
		3		
INTEGRAL METER M	11	1		
		2	RADIAL INTRUDER ALARM PANEL	10
		3		
REF: GLP1	12	1		
		2		
		3		

80A "+25% Spare Capacity

4C- SWA/XLPE/LSF + CPC BY OTHERS

NOTES

GENERAL NOTES:
The lighting installation shall be wired utilising 6242HB OHLSF (twin and earth) installed on cable basket/tray and UPVC conduit for drops. Lighting circuit wiring shall be a minimum size of 1.5mm² with separate 1.5mm² CPC.
All conduit drops to have 25% spare capacity.

Light fittings should incorporate lamps which provide good colour rendering properties (Ra of 80 or better).

The emergency lighting installation shall comply fully with BS 5266.

All lighting circuits to be protected via 6amp RCBO devices.

The complete electrical installation shall be installed, tested and inspected to BS 7671 17th edition IEEE wiring regulations. All commissioning certificates to be handed over on completion of the contract together with as installed drawings and operation and maintenance manuals.

Local means of isolation shall be afforded to the automatic lights controls for ease of maintenance. This should consist of a H/L key switch located in the area that the automatic light controls are installed. The isolating key switch shall be suitably labelled to identify its use.

Locally unswitched wiring shall not enter or pass through luminaires.

Where joints are made below ceiling level they shall be made within an adequately sized adaptable box.

Connectors shall be fixed within the box with an insulation backplate of 25mm overlap behind the connectors. All lighting connections shall be made in these boxes.

REV:	AMENDMENTS	DATE	BY	CHK BY
0	FOR APPROVAL	22/12/15	CWB	GT

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Client:
McAVOY HIRE

Project:
DOUBLE CLASSROOM

Project No.:
CD

Drawing No.:
DWG-MCA-CD -E-01

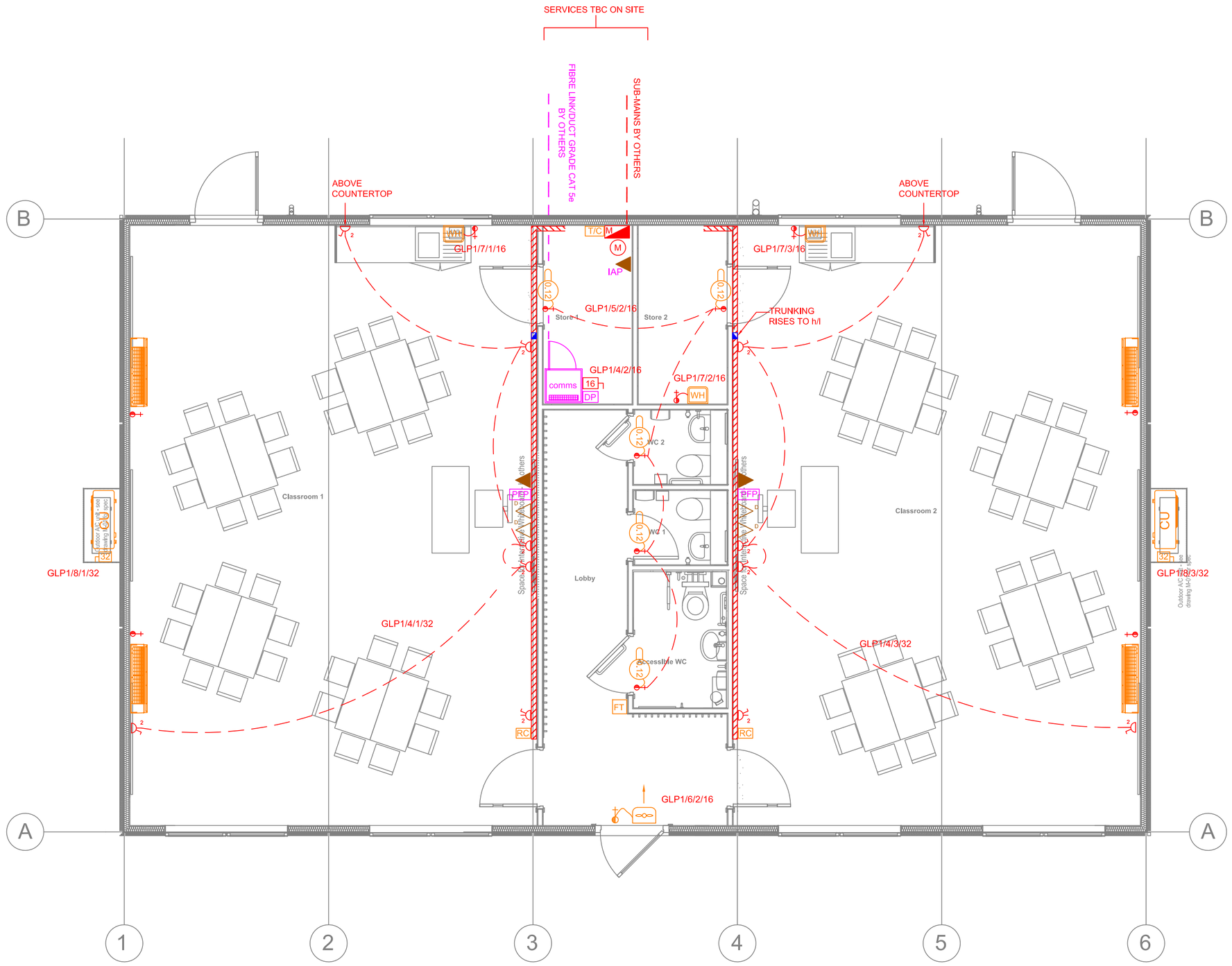
Revision:
0

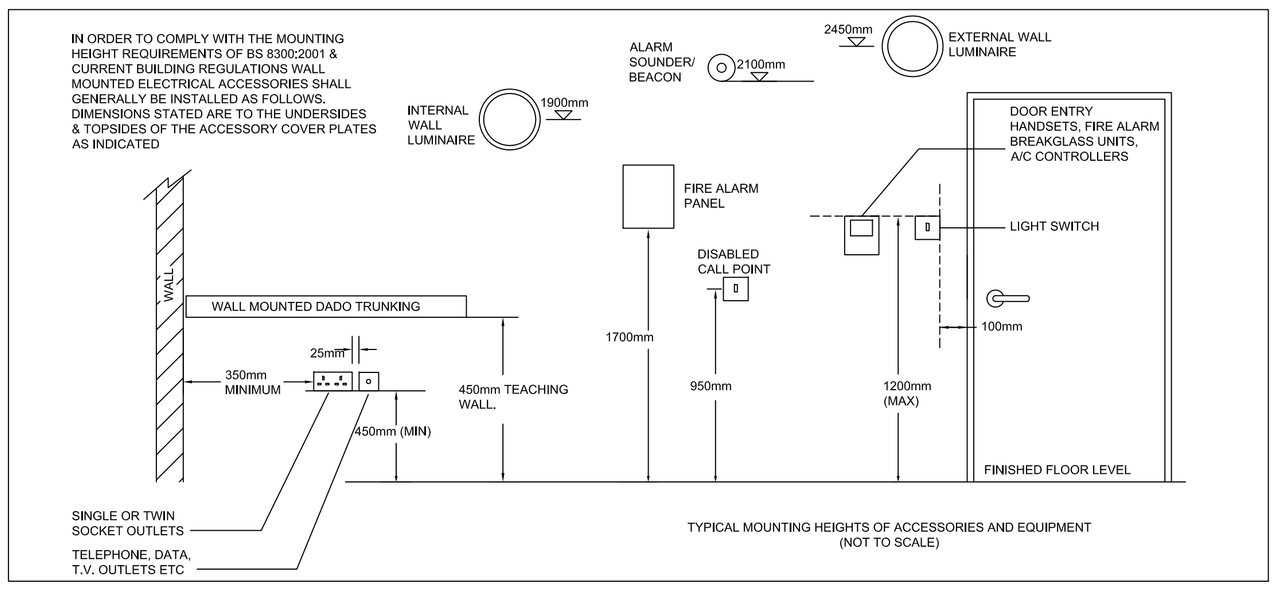
STATUS
FOR APPROVAL

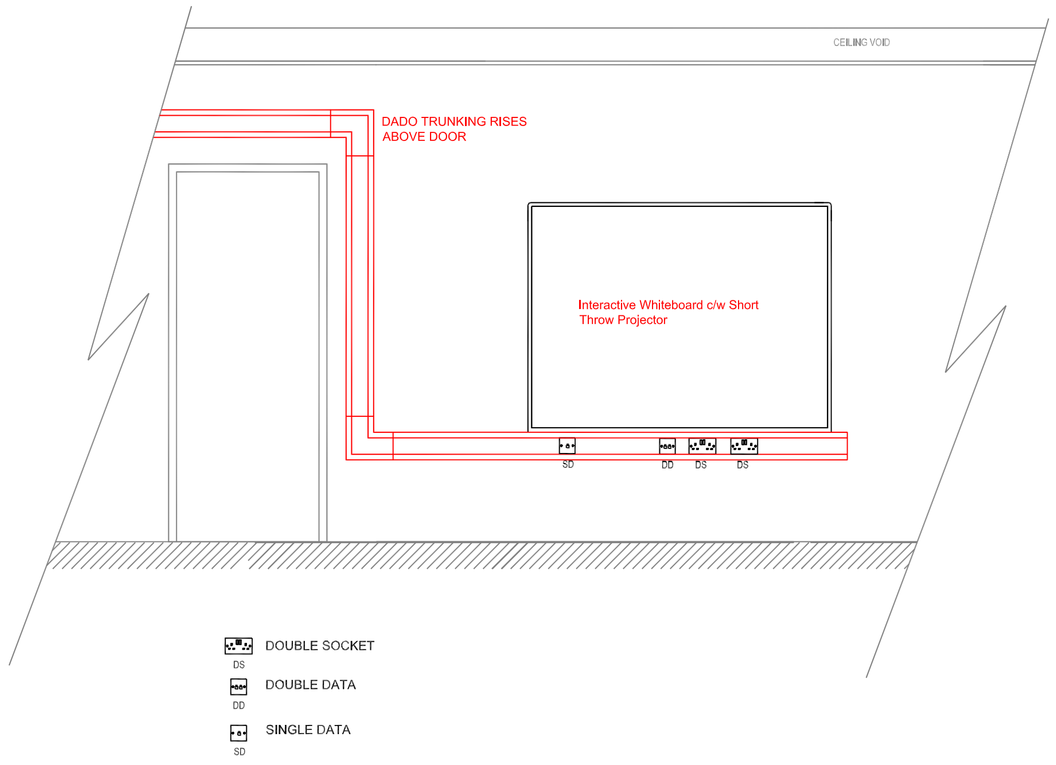
Drawing Title:
GENERAL & EMERGENCY LIGHTING INSTALLATION

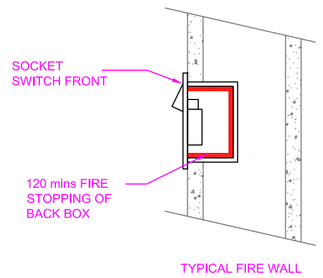
Drawn By	Checked By	DATE	SCALE @ A1
CWB	GT	DEC'16	1:50

	REF.	DESCRIPTION
POWER		MULTI-COMPARTMENT PVC TRUNKING
		SINGLE SWITCHED SOCKET OUTLET TWIN SWITCHED SOCKET OUTLET
	M	GLP1- TP&N SPLIT LOAD GENERAL LIGHTING & POWER DISTRIBUTION BOARD ("M" DENOTES SEPERATE METERING FOR POWER & LIGHTING INSTALLATIONS)
		20A DOUBLE POLE FUSED SWITCH c/w NEON
DATA/VOICE		TELEPHONE OUTLET RJ45 (CAT 5e)
	D	CAT 5e DATA POINT SUFFIX "2" DENOTES TWIN
	comms	DENOTES WALL MOUNTED DATA CABINET c/w Patch panel(s) & 1x 6WAY POWER MODULE.The data cables and outlet plates are to be tested and labeled at each end to clearly identify them. Comms installation to c/w manufacturers 25 year warranty.
	DP	INCOMING VOICE DISTRIBUTION POINT
	PFP	PROJECTOR FACEPLATE FOR IWB
	WIFI	DENOTES WIFI AT H/L (router by others) POE TYPE
MECHANICAL	T/C	7-DAY 2 CHANNEL PROGRAMMABLE TIMECLOCK FOR CONTROL OF WATER HEATING & SPACE HEATING
	FT	INDOOR FROST STAT
	WH	WATER HEATER (exact location to be confirmed with Mech. Contractor)
		OVERDOOR HEATER AS DIMPLEX AC3RN (1.5/3.0Kw)
	0.12	120W TUBULAR HEATER (Dimplex) AT H/L c/w INTEGRAL THERMOSTATIC CONTROL The heaters are to be mounted above doorway and controlled via time clock & connected via a double pole switch with neon indicator and engraved as to its use.
	RC	AIR CONDITIONING REMOTE CONTROLLER (EXACT TYPE TBC)
		WALL MOUNTED AIR CONDITIONING CASSETTE UNIT
	CU	EXTERNAL AIR CONDITIONING CONDENSING UNIT









NOTES

GENERAL NOTES:

All ring circuits to be wired in 2.5mm² pvc T&e+2.5mm² cpc utilising 6242HB OHLSF (twin and earth) installed on cable basket/tray and UPVC conduit for drops.
Ring circuits greater than 50m in distance shall be wired in 4.0mm² +4.0mm² cpc.
Circuit limit of 6 two gang power switched outlets.
All circuits to be protected via 32amp 30ma RCBO devices.

It shall be the responsibility of the electrical contractor to co-ordinate all electrical services with other disciplines.

The complete electrical installation shall be installed, tested and inspected to bs 7671 17th edition IEEE wiring regulations. All commissioning certificates to be handed over on completion of the contract together with as installed drawings and operation and maintenance manuals.

REV:	AMENDMENTS	DATE	BY	CHK BY
0	FOR APPROVAL	22/12/16	CWB	GT

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Client:
McAVOY HIRE

Project:
DOUBLE CLASSROOM

Project No.:
CD

Drawing No.:
DWG-MCA-CD -E-02

Revision:
0

STATUS
FOR APPROVAL

Drawing Title:
POWER & DATA INSTALLATION
(ASHP OPTION)

Drawn By	Checked By	DATE	SCALE @ A1
CWB	GT	DEC'16	1:50

	REF.	DESCRIPTION	TICK AS APPROPRIATE	
FIRE ALARM	FAP	FIRE ALARM PANEL c/w KEY OPERATED DP MAINS ISOLATOR (RED) (FIKE TWINFLEX PRO)	STAND ALONE (Default Option)	
	SD	OPTICAL SMOKE DETECTOR	INTEGRATED TO SITE	
	HD	HEAT DETECTOR	If yes provide details of existing specialist contractor Name; Address; Tel; Email;	
		DENOTES SOUNDER BASE		
		DENOTES BEACON BASE		
	FAJ	FIRE ALARM JUNCTION BOX		
		MANUAL CALL POINT		
		FIRE ALARM BELL		
	FA	FIRE ALARM SOUNDER		
	FAI	FIRE ALARM INTERFACE		
INTRUDER ALARM		INTRUDER ALARM (OPTIONAL EXTRA)	TICK IF REQUIRED	
	IAP	INTRUDER ALARM PANEL (HONEYWELL GALAXY)	STAND ALONE	
	DT	DUAL TEC DETECTOR	INTEGRATED TO SITE	
	DC	MAGNETIC REED DOOR CONTACT	If yes provide details of existing specialist contractor Name; Address; Tel; Email;	
	IS	INTRUDER ALARM SOUNDER		
	KP	KEYPAD		
DISABLED CALL	AA	AUDIBLE/VISUAL ALARM		
	PSU	POWER SUPPLY UNIT c/w FUSED DP KEYSWITCH AT H/L		
		PULL CORD		
	HR	ALARM RESET		
C02	C02	WALL MOUNTED C02 SENSOR AS DUOMO C02MC-R (Classroom) 230V, SUPPLIED & INSTALLED UNDER THE ELECTRICAL CONTRACT, (1.2-1.3m AFFL)		

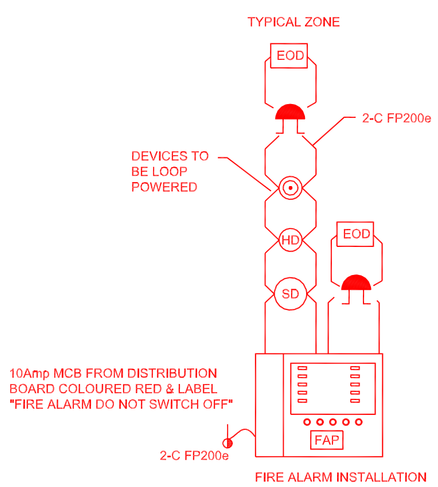
NOTE: SUBCONTRACTOR TO TAKE NOTE OF
- CONFIRMED DOOR POSITION & HANDING
- FIRE ALARM REQUIREMENT
- INTRUDER ALARM REQUIREMENT
- DOOR ACCESS REQUIREMENT

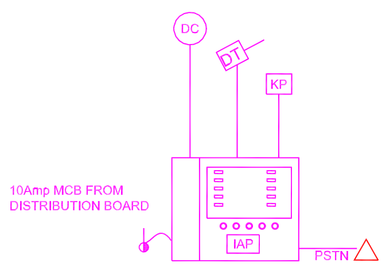
& ENSURE ELECTRICAL INSTALLATION IS COMPLETED TO SUIT THESE.

* STAND ALONE FIRE ALARM AS STANDARD

* INTRUDER ALARM OPTIONAL EXTRA

* DOOR ACCESS OPTIONAL EXTRA





NOTES

Fire Alarm System: SPECIALIST SUB CONTRACTOR FORTRESS
The Electrical Contractor to employ the services of a specialist contractor to install a fire alarm system to cover the new modular block.

Generally:
A flush or concealed installation for the fire alarm wiring is required.
Call points shall be mounted flush to the wall in all areas.

Fire Alarm Cables:
Cables shall be: FP200 Gold Type fire alarm cabling. Drops to break glass call points and wall/column mounted sounders shall be protected by buried conduits. The fire alarm cabling shall not be installed on any power cabling cable trays.

The fire alarm system shall be in accordance with BS 5839, Part 1 – L2, the Fire Authority requirements and the requirements of the system manufacture.
The system shall comprise automatic and manual operation, with smoke detectors, heat detectors, manual call points and sounders.
All devices to be open protocol.
Fully serviced system at appropriate intervals and emergency support contract included.
- Control panel with zonal display and backup batteries
- Optical smoke detectors with integrated sounder
- Rate of rise heat detectors with integrated sounder
- Manual call points with identification signage
- Sounder Beacons
- Fire log book with spare break glasses & test keys
- Fire action signage

The Contractor shall employ the services of a specialist sub-contractor to install a new Intruder alarm system including Internal sounders, external sounders, and passive infra-red detectors, The system shall be supplied, installed, tested and commissioned in accordance with the following:
- BS7671 IEE Wiring Regulations
- BS4737 Intruder Alarm Systems
- NACOSS Standards

The intruder alarm system shall be provided as listed
- Intruder Alarm Control panel with Backup Batteries
- Keypad with Proximity Reader
- Proximity Tags
- Dual Technology Detectors - Microwave and PIR Activated
- Door Contacts
- External Strobe Sounder

REV:	AMENDMENTS	DATE	BY	CHK BY
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Client:
McAVOY HIRE

Project:
DOUBLE CLASSROOM

Project No.:
CD

Drawing No.: DWG-MCA-CD -E-03

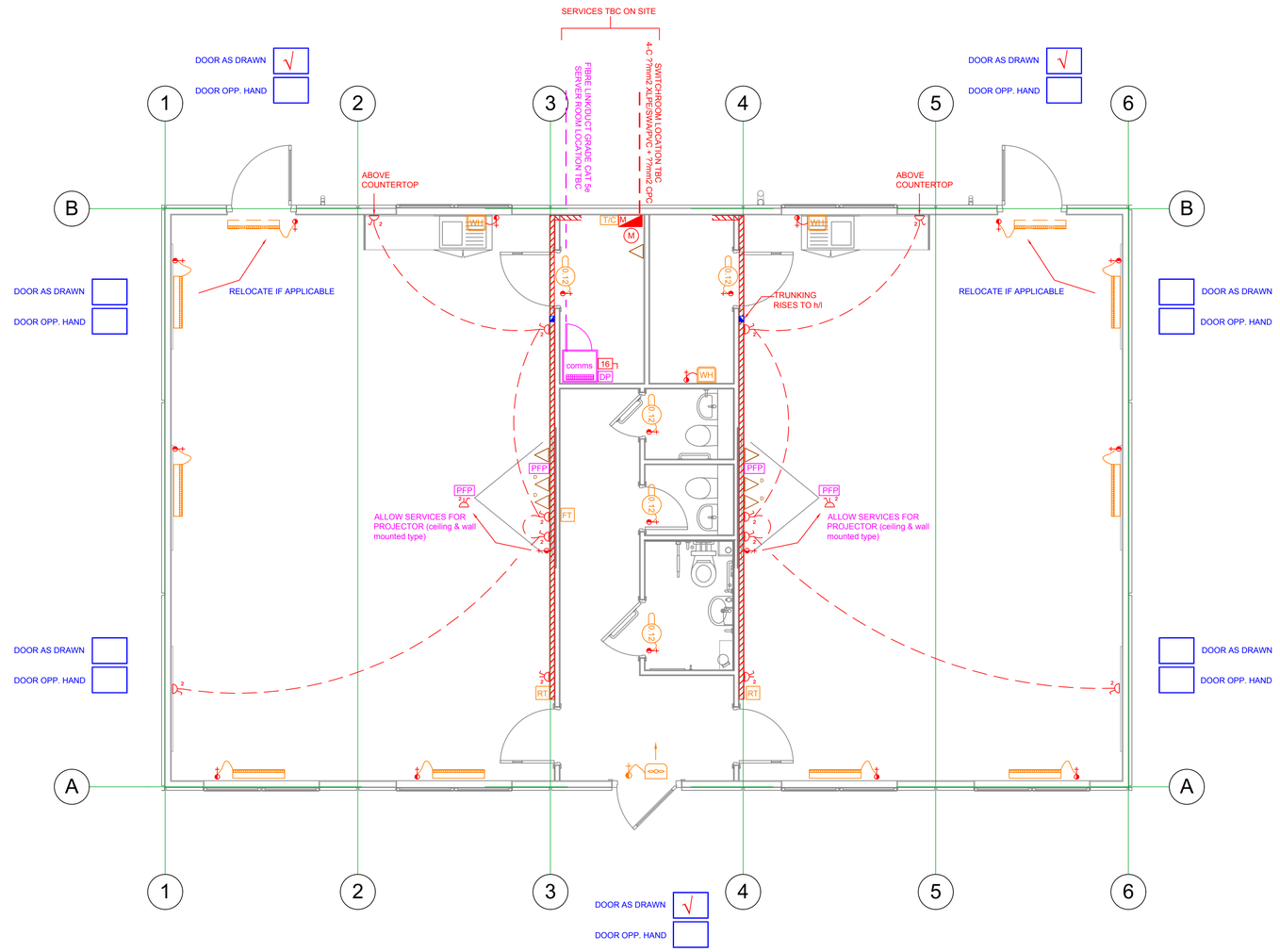
Revision: 0

STATUS
FOR APPROVAL

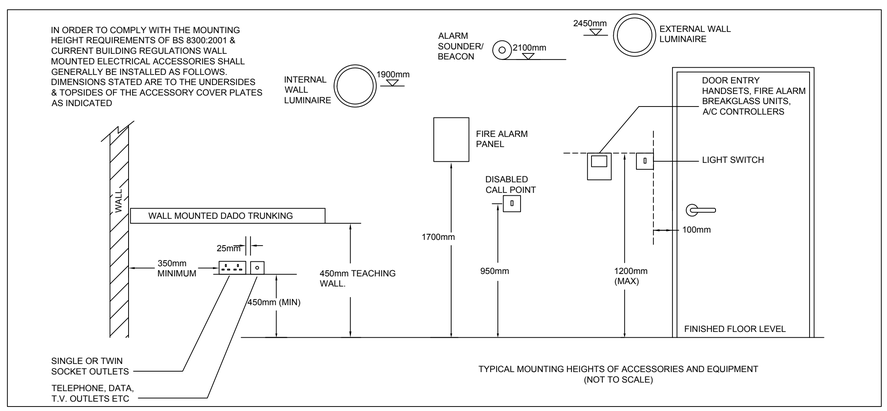
Drawing Title:
FIRE/INTRUDER/DOOR ACCESS/DIS ALARM INSTALLATION

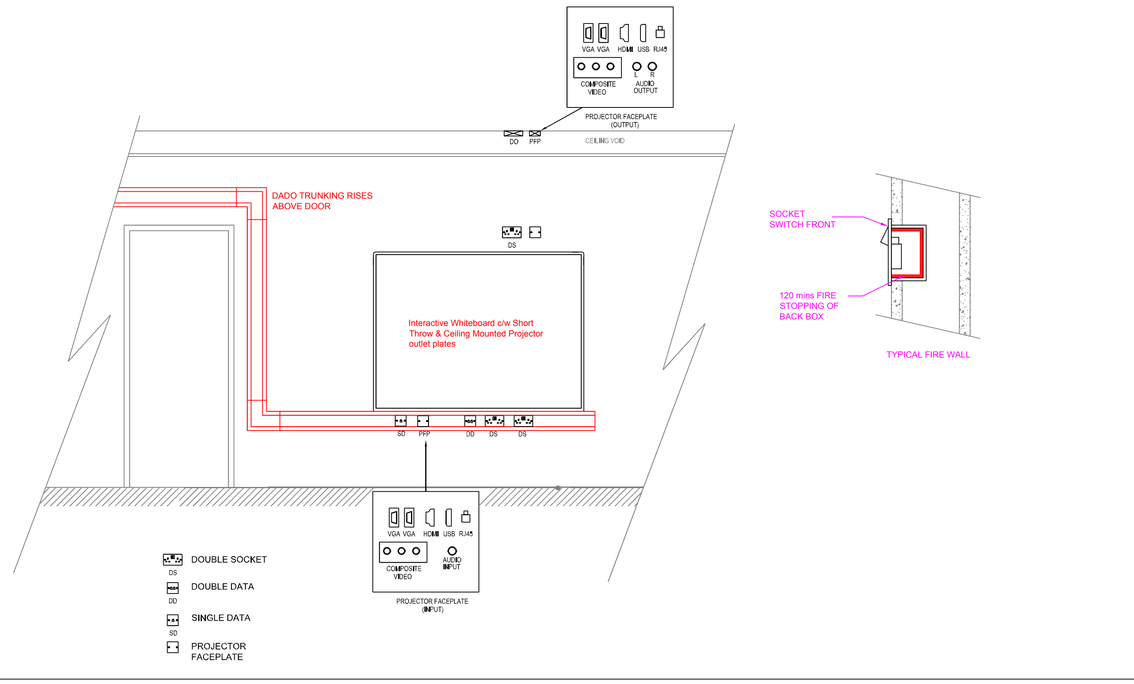
Drawn By	Checked By	DATE	SCALE @ A1
CWB	GT	DEC'16	1:50

	REF.	DESCRIPTION
POWER		MULTI-COMPARTMENT PVC TRUNKING
	2	SINGLE SWITCHED SOCKET OUTLET
	2	TWIN SWITCHED SOCKET OUTLET
	M / M	GLP1- TP&N SPLIT LOAD GENERAL LIGHTING & POWER DISTRIBUTION BOARD ("M" DENOTES SEPERATE METERING FOR POWER & LIGHTING INSTALLATIONS)
		20A DOUBLE POLE FUSED SWITCH c/w NEON
DATA/VOICE		TELEPHONE OUTLET RJ45 (CAT 5e)
	D	CAT 5e DATA POINT SUFFIX "2" DENOTES TWIN
	comms	DENOTES WALL MOUNTED DATA CABINET c/w Patch panel(s) & 1x 6WAY POWER MODULE.The data cables and outlet plates are to be tested and labeled at each end to clearly identify them. Comms installation to c/w manufacturers 25 year warranty.
	DP	INCOMING VOICE DISTRIBUTION POINT
	PFP	PROJECTOR FACEPLATE FOR IWB
	WIFI	DENOTES WIFI AT H/L (router by others) POE TYPE
MECHANICAL	T/C	7-DAY 2 CHANNEL PROGRAMMABLE TIMECLOCK FOR CONTROL OF WATER HEATING & SPACE HEATING
	FT	INDOOR FROST STAT
	WH	WATER HEATER (exact location to be confirmed with Mech. Contractor)
	RT	ROOM THERMOSTAT (ELECTRIC HEATING)
		OVERDOOR HEATER AS DIMPLEX AC3RN (1.5/3.0Kw)
	0.12	120W TUBULAR HEATER (Dimplex) AT H/L c/w INTEGRAL THERMOSTATIC CONTROL The heaters are to be mounted above doorway and controlled via time clock & connected via a double pole switch with neon indicator and engraved as to its use.
		2000W WALL MOUNTED PANEL HEATER AS DIMPLEX PLX RANGE c/w INTEGRAL ADJUSTABLE THERMOSTAT



NOTE: SUBCONTRACTOR TO TAKE NOTE OF CONFIRMED DOOR POSITION & HANDING & ENSURE ELECTRICAL INSTALLATION IS COMPLETED TO SUIT THESE.





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REV:	AMENDMENTS	DATE	BY	CHK BY
1	STATUS CHANGED TO CONSTRUCTION	01/02/16	GT	DC
0	FOR APPROVAL	07/01/16	CWB	SC
0	FOR APPROVAL	27/12/15	CWB	SC

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Client:
McAVOY HIRE

Project:
STANDARD HIRE 2016
DOUBLE CLASSROOM

Project No.:
Hire Double

Drawing No.:
DWG-MCA-Hire-Double-E-04

Revision:
1

STATUS
CONSTRUCTION

Drawing Title:
POWER & DATA INSTALLATION (ELECTRIC HEATING OPTION)

Drawn By	Checked By	DATE	SCALE @ A1
CWB	SC	DEC'15	1:50

AIR CONDITIONING

RC — REMOTE CONTROLLER

C1 — TWIN SPLIT AIR CONDITIONING INSTALLATION AS TOSHIBA (LOCAL AGENT EXITITE Tel. 02885548322)

INDOOR UNIT	SM806KRT-E
OUTDOOR UNIT	SM1603AT-E
COOLING CAPACITY	13,3Kw
HEATING CAPACITY	10,45Kw
EER/SEER/ESEER	2,65/4.94/5.17
OUTDOOR UNIT SOUND PRESSURE LEVEL	
COOLING/HEATING (dBA)	68/70
MAXIMUM RUNNING CURRENT	21,7A SP&N

R32 CU

BIG — BACK INLET GULLEY FOR CONDENSATE BY MAIN CONTRACTOR

NOTES

AIR CONDITIONING NOTES:
1 , THE INSTALLATION OF ALL INTERNAL AND EXTERNAL UNITS,REFRIGERANT PIPEWORK, INTER-CONNECTING WIRING, COMMISSIONING AND TESTING SHALL BE CARRIED OUT BY AN APPROVED REFRIGERANT SYSTEMS INSTALLERS.
2, SUPPLY, INSTALL, TEST AND COMMISSION ALL INTERCONNECTING REFRIGERATION PIPEWORK BETWEEN THE OUTDOOR AND INDOOR UNITS.
3, ALL PIPEWORK TO BE CARRIED OUT IN REFRIGERATION QUALITY SOFT/MEDIUM DRAWN COPPER TUBING TO BS2871 PART 2:1972 COMPLETE WITH THE APPROPRIATE JOINT PIPES FOR TWIN AND TRIPLE SYSTEMS.
4, PIPEWORK SHOULD BE CARRIED OUT IN ACCORDANCE TO BSEN378 2000 SPECIFICATION. R410A TOOLS REQUIRED FOR ALL PIPEWORK, TORQUE SPANNERS, FLARING BLOCKS ETC. LONGEST POSSIBLE LENGTHS OF COPPER PIPE SHOULD BE UTILISED TO MINIMISE JOINTS ON SITE.
5, ALL PIPEWORK (SUCTION AND LIQUID LINES) TO BE INSULATED WITH SLIP ON CLOSE CELL ELASTOMERIC PIPE INSULATION (AS MANUFACTURED BY ARMAFLEX OR EQUAL AND APPROVED) WITH A FIRE PERFORMANCE CLASS 0 OF THE BUILDING REGULATIONS, HAVING A WALL THICKNESS OF NOT LESS THAT 13MM.
6, AFTER INSTALLATION OF PIPEWORK, AND PRIOR TO SEALING OF INSULATION JOINTS AND STARTING OF EQUIPMENT, PIPEWORK SHOULD BE PRESSURE STRENGTH TESTED TO 42 BAR CHECKED FOR DEFORMATION, AND THEN LEAK TESTED AT 33 BAR AND HOLD FOR 24 HOURS AND CHECKED FOR LEAKS, THEN VACUUMED/DEHYDRATED TO (-752MM HG) 2 TORR, AND HELD
AT THAT SETTING FOR 12 HOURS (MINIMUM). HSE DOCUMENT GS4 SHOULD BE FOLLOWED DURING PRESSURE TESTING PERIOD, REFER TO INSTALLATION MANUAL CHAPTERS 1,5, 5.2,
5.3, 5.6, 5.7 REGARDING PIPEWORK INSTALLATION.
7, REFRIGERANT (R410A) CHARGE WEIGHT MUST BE CALCULATED, TO THE ACTUAL INSTALLED LENGTH OF PIPEWORK IN ACCORDANCE TO MANUFACTURERS RECOMMENDATIONS.
8, PIPEWORK TO BE PROPERLY FIXED AND SUPPORTED AT A MINIMUM OF 1 .5 METRE CENTRES AND WHERE REQUIRED SHOULD BE RUN ON GALVANISED TRAYS. ALL PIPEWORK TO BE
LABELLED WITH ID NUMBER (CONDENSING UNITS REF.) AT 3METRE INTERVALS.
9, A CONDENSATE LINE SHALL BE INSTALLED TO EACH FAN COIL UNIT, THIS SHALL BE INSTALLED AND INSULATED All AS PER THE STANDARD SPECIFICATION. MINIMUM SIZE OF CONDENSATE
PIPES TO BE 25MM COPPER OR PLASTIC, INSULATED AND PUMPED OR BY GRAVITY FROM EACH FAN COIL/CASSETTE, DRAINS TO RUN 1:80 MIN FALLS AS INDICATED ON DRAWINGS.
1 0, THE COOLING SYSTEM SHALL HAVE AN EFFICIENCY RATING OF NOT LESS THAN THAT RECOMMENDED FOR ITS TYPE IN THE DCLG PUBLICATION "NON-DOMESTIC HEATING, COOLING AND VENTILATION COMPLIANCE GUIDE"

REV:	AMENDMENTS	DATE	BY	CHK BY
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Client:
McAVOY HIRE

Project:
DOUBLE CLASSROOM

Project No.:
CD

Drawing No.: DWG-MCA-CD -M-01

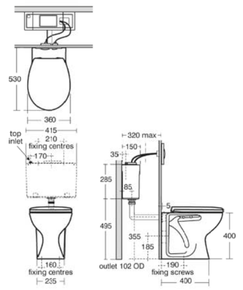
Revision: 0

STATUS
FOR APPROVAL

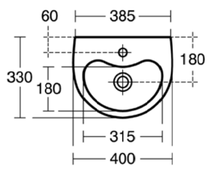
Drawing Title:
AIR CONDITIONING INSTALLATION

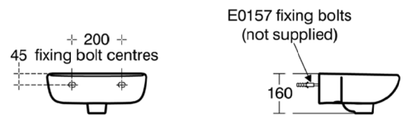
Drawn By	Checked By	DATE	SCALE @ A1
CWB	GT	DEC'16	1:50

(A) Back to wall rimless standard height WC pan with horizontal outlet
Concealo 2 cistern 4/2.6 litre dual flush valve side supply and internal overflow, flushplate seat , top fixing hinges and retaining buffers
(Available in White (01), Blue (36), Grey (LJ), Charcoal (RN))
S4504(MY)

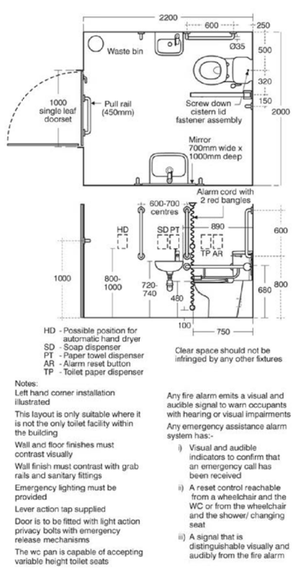


(B) WALL MOUNTED WHB c/w OVERFLOW & 1 TAP HOLE.
Washbasin mixer 1 hole, self closing push button, variable temperature control with 15mm female connector rigid hoses on inlets
Waste 1½" brass strainer waste, 80mm slotted tail
Wall fixing set, Mounted at 720 AFFL.

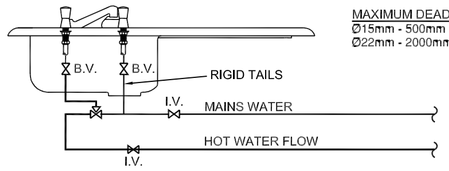




(C) Monaco Doc M close coupled corner pack, WC pan, water saving delay fill cistern with epatula lever, basin, grab raile, hinged support rail with toilet roll holder, seat no cover with retaining buffers, copper taile on TMV3 mixer tap.
(1ff) washbasin, 1 taphole, no overflow or chainstay hole, washbasin mixer thermostatic 1 hole, single sequential long lever, copper tails
Waste 1¼" brass swivel plug waste, 80mm unslotted tail
Trap 1¼" plastic bottle, 75mm seal, multi-purpose outlet
grab rail straight 80cm long x 35mm diameter (Avsilable in Blue (36), White (AC), Grey (LJ), Stainless Steel finish (MY), Charcoal (RN))

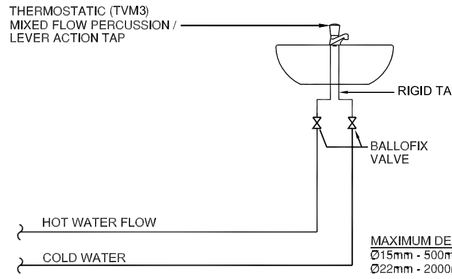


TYPICAL S/S SINK VALVE ARRANGEMENT



MAXIMUM DEAD LEGS:
Ø15mm - 500mm FROM OUTLET
Ø22mm - 2000mm FROM OUTLET

TYPICAL SINGLE WASH HAND BASIN VALVE ARRANGEMENT



MAXIMUM DEAD LEGS:
Ø15mm - 500mm FROM OUTLET
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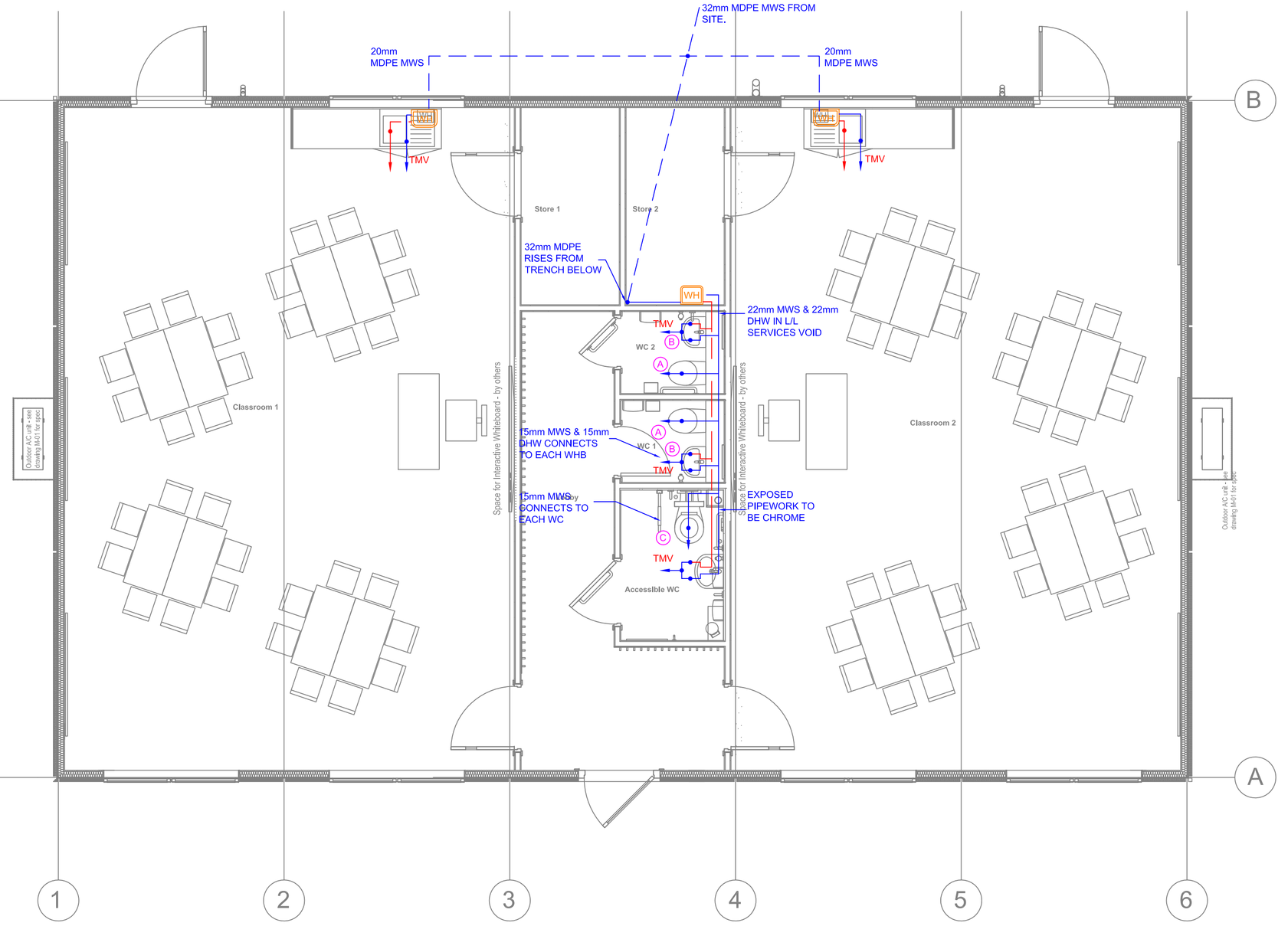
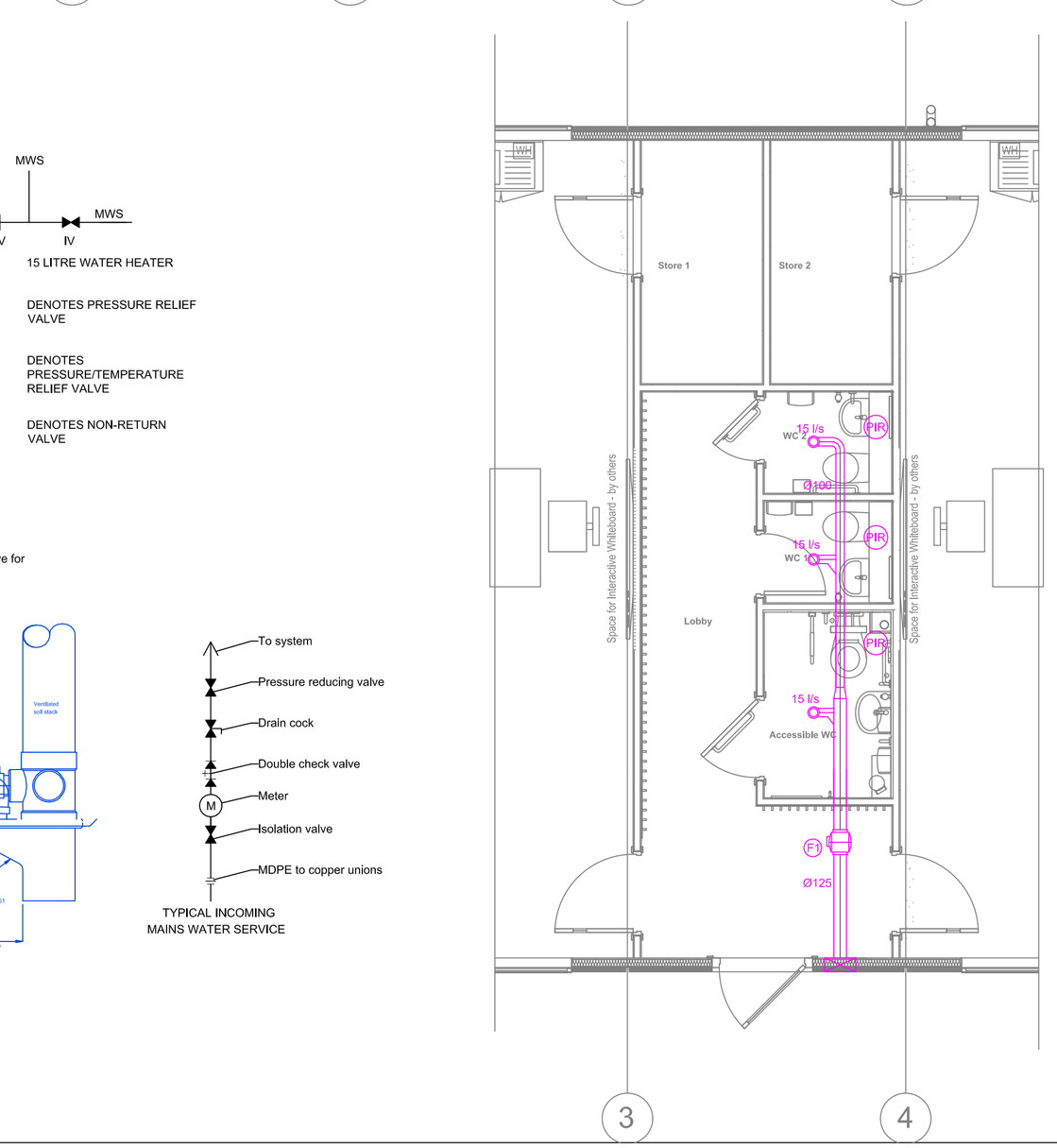
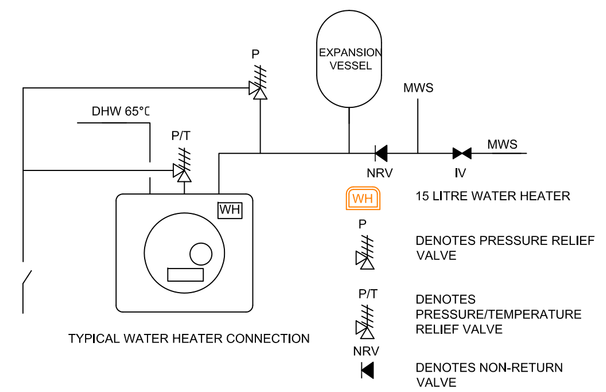


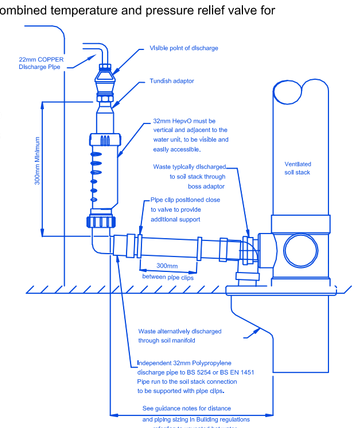




TYPICAL WATER HEATER CONNECTION

Figure 1. Self-sealing valve when used with a combined temperature and pressure relief valve for unvented hot water storage system

In Figure 1, the HepvO® valve is used in conjunction with a combined temperature and pressure relief valve. The hot water is discharged through the HepvO® valve. In this application, the discharge plpe should only be of elther polypropylene to BS EN 1451 Part 1 or copper.



TYPICAL INCOMING MAINS WATER SERVICE

VENTILATION

F1 S&P INLINE FAN TD-350/125 c/w EXTERNAL POWDER COATED LOUVRE, BACKDRAFT SHUTTER (SFP 0.3w/l/s) CONTACT FAIRHAVEN Tel. 02892611648

PIR OCCUPANCY SENSOR c/w ADJUSTABLE RUN ON TIMER

NOTES

DOMESTIC INSTALLATION NOTES

1. ALL ITEMS OF SANITARY WARE, ETC. SHALL BE PROVIDED WITH A "BALLOFIX" TYPE ISOLATING VALVE ON EACH WATER CONNECTION.
2. PLUMBING INSTALLATION SHALL COMPLY WITH THE WATER REGULATIONS.
3. THE ROUTE OF PIPEWORK SHALL BE CO-ORDINATED IN CONJUNCTION WITH ALL OTHER MECHANICAL AND ELECTRICAL SERVICES AND THE BUILDING STRUCTURE.
4. PLUMBING PIPEWORK SHALL BE CARRIED OUT USING COPPER TUBE TO BRITISH STANDARD BS 2871: TABLE X. ALL EXPOSED PIPEWORK HALL BE CHROME PLATED.
5. ALL PIPEWORK SHALL BE INSULATED IN ACCORDANCE WITH THE SPECIFICATION.
6. AFTER THE INSTALLATION IS COMPLETED THE ENTIRE WATER INSTALLATION SHALL BE FLUSHED OUT AND DISINFECTED IN ACCORDANCE WITH THE SPECIFICATION
7. DENOTES WASH HAND BASINS WITH A THERMOSTATIC MIXING VALVE WITH A "FACTORY SET" BLENDED WATER TEMPERATURE OF 41ºC, TMV3

TMV

REV:	AMENDMENTS	DATE	BY	CHK BY
0	FOR APPROVAL	22/12/16	CWB	GT

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Client:
McAVOY HIRE

Project:
DOUBLE CLASSROOM

Project No.:
CD

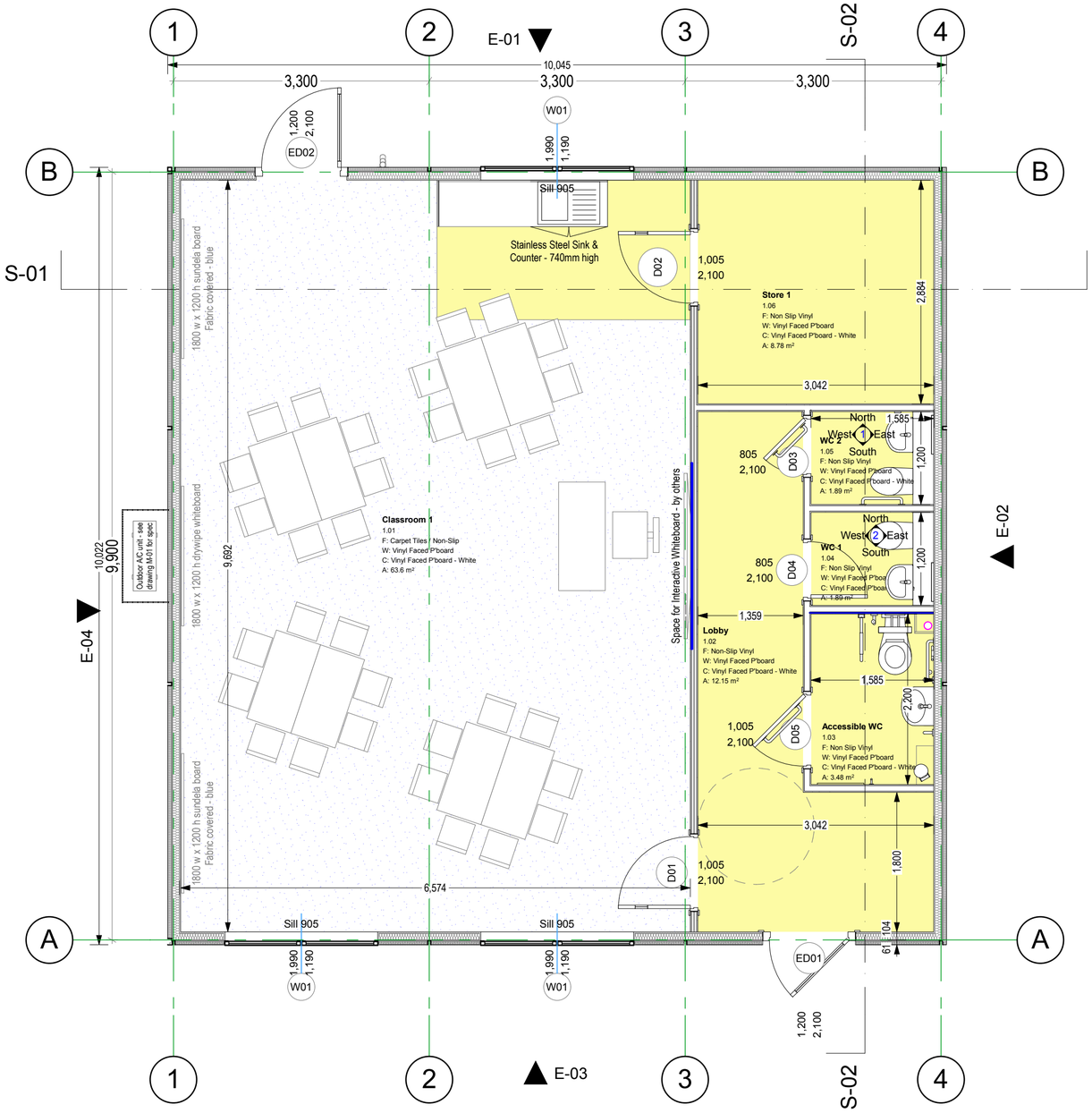
Drawing No.:
DWG-MCA-CD-M-02

Revision:
0

STATUS
FOR APPROVAL

Drawing Title:
PLUMBING/SANITARYWARE & VENTILATION INSTALLATION

Drawn By	Checked By	DATE	SCALE @ A1
CWB	GT	DEC'16	1:50



SCH_04 Room Finishes Schedule - Single						
Room Name	Classroom 1	Lobby	Accessible WC	WC 1	WC 2	Store 1
Room No.	1.01	1.02	1.03	1.04	1.05	1.06
Area (m2)	63.6	12.1	3.5	1.9	1.9	8.8
Height	2,400	2,400	2,400	2,400	2,400	2,400
Ceiling Spec/Colour	Vinyl Faced P'board - White	Vinyl Faced P'board - White	Vinyl Faced P'board - White	Vinyl Faced P'board - White	Vinyl Faced P'board - White	Vinyl Faced P'board - White
Floor Finish	Carpet Tiles / Non-Slip	Non-Slip Vinyl	Non Slip Vinyl	Non Slip Vinyl	Non Slip Vinyl	Non Slip Vinyl
Floor Spec/Colour	Heckmonwike Supacord - Anthracite / Polyflor Polysafe - Silver Birch	Polyflor Polysafe - Silver Birch	Polyflor Polysafe - Silver Birch	Polyflor Polysafe - Silver Birch	Polyflor Polysafe - Silver Birch	Polyflor Polysafe - Silver Birch
Skirting Type/Colour	PVC - Grey	PVC - Grey	Set in Coved - Grey	Set in Coved - Grey	Set in Coved - Grey	PVC - Grey
Wall Finish	Vinyl Faced P'board	Vinyl Faced P'board	Vinyl Faced P'board	Vinyl Faced P'board	Vinyl Faced P'board	Vinyl Faced P'board
Wall Spec/Colour	Moonstone	Moonstone	Moonstone	Moonstone	Moonstone	Moonstone

Rev	Comment	Mod by	Chkd by	Date

mcavoy
Think Smart. Build Smart.

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www.mcavoygroup.com

Working with:

Project name : Hire Single Classroom

Site name : INSERT SITE NAME

Building name : Single Classroom

Client : Standard Hire Fleet

Layout name : General Arrangement

Drawn by :	Checked by :	Approved by :	Date :
gt	stc	dc	05/2016

Drawing / Document Name:

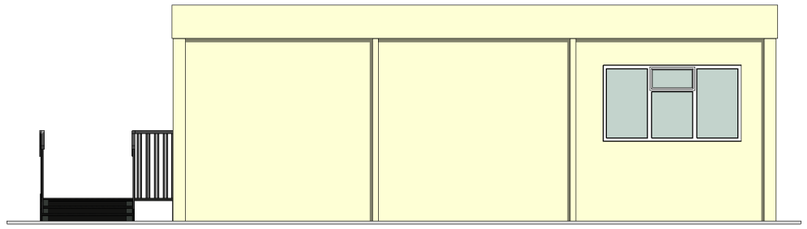
Project no. :	Originator :	Volume :	Level :	Type :	Role :	Number :
H_SINGLE	MCA	ZZ	GF	DR	A	0001

Status :	Suitability description :	Scale(s) @ A2 :
D4	FIT FOR MANUFACTURE/PROCUREMENT	1:50
Revision :	Devision description :	
C01	CONSTRUCTION	

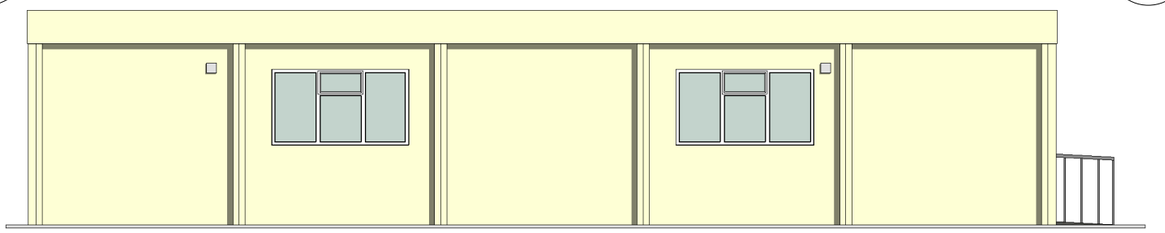
Hire Classroom ASHP

Date		03/07/2015				
Rev.		1				
Engineer		CWB				
Estimated Max Demand						
	General Lighting Installation					
	4 w/m2/100lux					
Floor plan	Floor Area #1		170	m2	2040	Watts
	Lux Level #1		300			
General	Floor Area #2		0	m2	0	Watts
	Lux Level #2		250			
Amenity Lighting						
Quantity of fittings		4				
Power W		8	32		32	Watts
	Small Appliance Load					
	180 w/twin outlet					
	quantity/m2		0	0		
or	quantity		12	2160		
				2160		
	Diversity Factor					
	first 3000 or less		100%		3000	Watts
	from 3001		35%		-294	Watts
	Electric Heating Installaton					
2.4	Ceiling Height m					
	35 w/m3					
	Electric Heating Area #1		35	m2	2940	Watts
General	Electric Heating Area #2		0	m2	0	Watts
	Air Conditioning Installation					
	120 w/m2					
	3 COP					
Classrooms	Air-Con Area #1		135	m2	5400	Watts
	Air Con Area #2		0	m2	0	Watts
	Electric Water Heating					
	2000 watts/heater					
	9000 watts/shower					
	Quantity of Water heaters		3	nr	6000	Watts
	Quantity of Showers		0	nr	0	Watts
	Addititional Equipment					
	Desc	Q	Load			
	Hand drier	3	1200		3600	Watts
	Mechanical plant	0	2000		0	Watts
	Contingency					
	Expansion			25.00%	5680	Watts
	Total				28398	Watts
	Diversity			0.85	24138	Watts
	Amps					
	SP&N		230 volts		105	Amps
	TP&N		**400 volts**		**35**	**Amps/Phase**

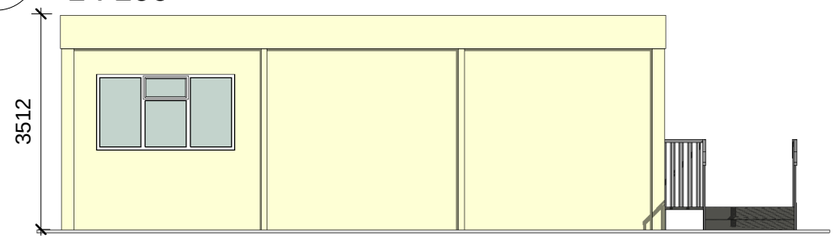
2 Front Elevation
1 : 100



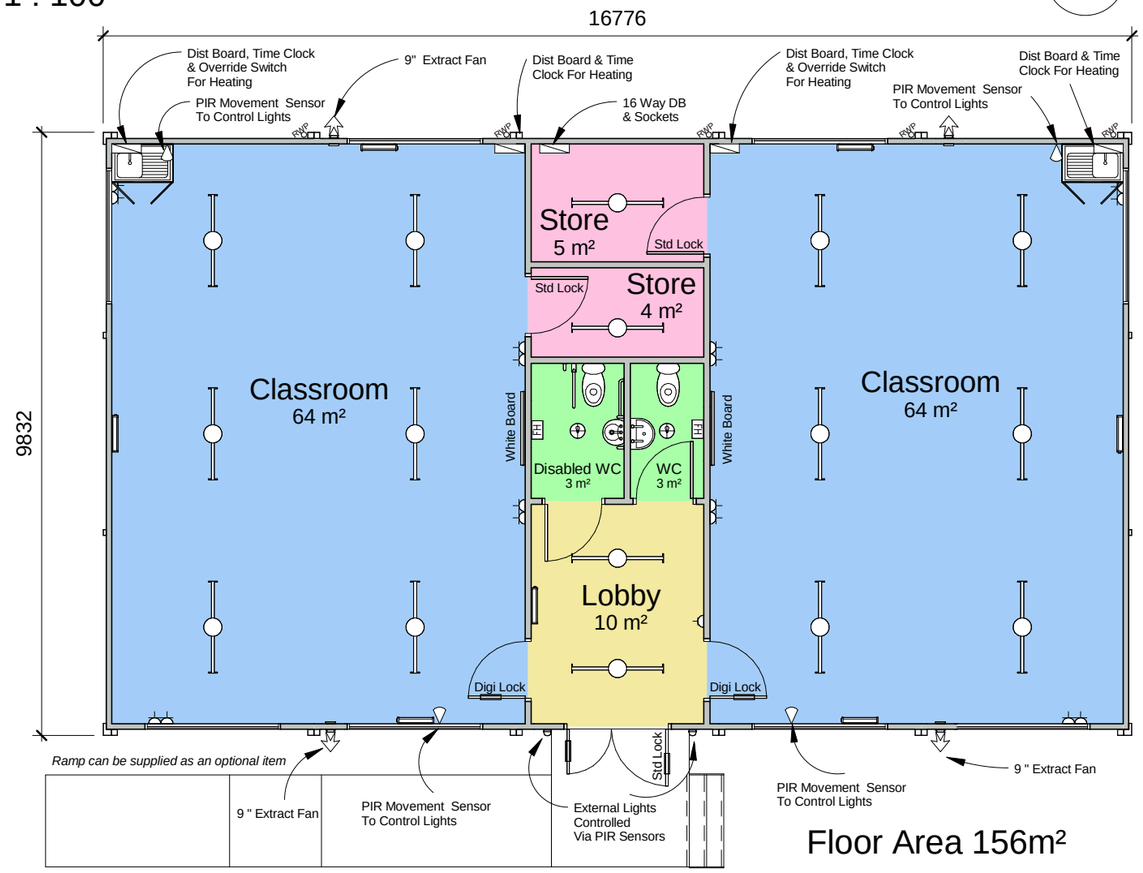
3 Right Elevation
1 : 100



4 Rear Elevation
1 : 100



5 Left Elevation
1 : 100



Floor Area 156m²

N.B. ramp shown assumes building finished floor level is at maximum 450mm above ground level, and has 1:15 criteria in accordance with Part M of the building regulations (DDA)

1 Plan Layout
1 : 100

Portakabin®

Quality - this time - next time - every time

Standard floor loading is 3kN/m². Any loading imposed on a floor that is greater than 3kN/m² may require strengthening. Please contact your hire centre if you expect to exceed 3kN/m².

Please note that this and any accompanying drawing(s) are for illustrative purposes only and as such, the building shown may vary from the actual finished building on site.

The position of windows, external doors and electrical fixtures (if shown) are dependent on stock availability at time of order.

Notes

1. Windows - white UPVC double glazed 2250 x 1250 - 2 Nr side opening and 1 Nr top opening. All to be fitted with locks and restrictors.

2. Steel External double doors with standard lock, fitted with white UPVC vision panels and 2 Nr and finger guards.

3. 2mm Flint grey polyfloor vinyl with polyurethen coating.

4. Internal doors to be American White Oak with finger guards. Classroom doors 926mm for disabled access, 3 Nr vision panels and kickplates fitted.

5. Each classroom to have whiteboards (2000mm x 1200mm).

6. Classroom lighting to be operated by PIR detectors, with manual override available. Note 2 Nr external bulkhead lights also PIR controlled.

7. 4 Nr double sockets to each classroom, 1 Nr single socket to lobby.

8. 2 Nr 9" extractor fans in each classroom

9. All partitioning supplied to be half hour fire resistant.

10. Painted skirting board

11. 2 kW wall mounted fan assisted heaters to each classroom, with time clock control.

12. The lighting provided is designed to be Category 3 level. This ensures a good general level of lighting is available to the teaching areas.

13. To ensure minimum running costs, lights in the teaching areas controlled by PIR's, will automatically be turned off 30 minutes after the last person has left the room - please note however that the PIR's can be over-ridden by the teacher and the lights turned off should there be a requirement; eg if the class is watching TV etc.

14. The two extractor fans supplied in each classroom to provide mechanical extract ventilation if required are operated via a wall switch in the classroom.

External Colour Scheme

Walls	- Honesty nearest BS ref 10C31
All Columns	- Honesty nearest BS ref 10C31
All Trims	- Honesty nearest BS ref 10C31
External Skirt	- Honesty nearest BS ref 10C31
Roof	- White nearest BS ref 00E55
Windows	- White nearest BS ref 00E55
Vision Panels	- White nearest BS ref 00E55
Doors	- Honesty nearest BS ref 10C31

Rev	Revision Description	Date	By

Project Name: Double Classroom Block

Client Name: -

Sheet Name: Plan and Elevations - Double Classroom Block with toilets and kitchen sinks - 5 x UK093 Ultima Modules

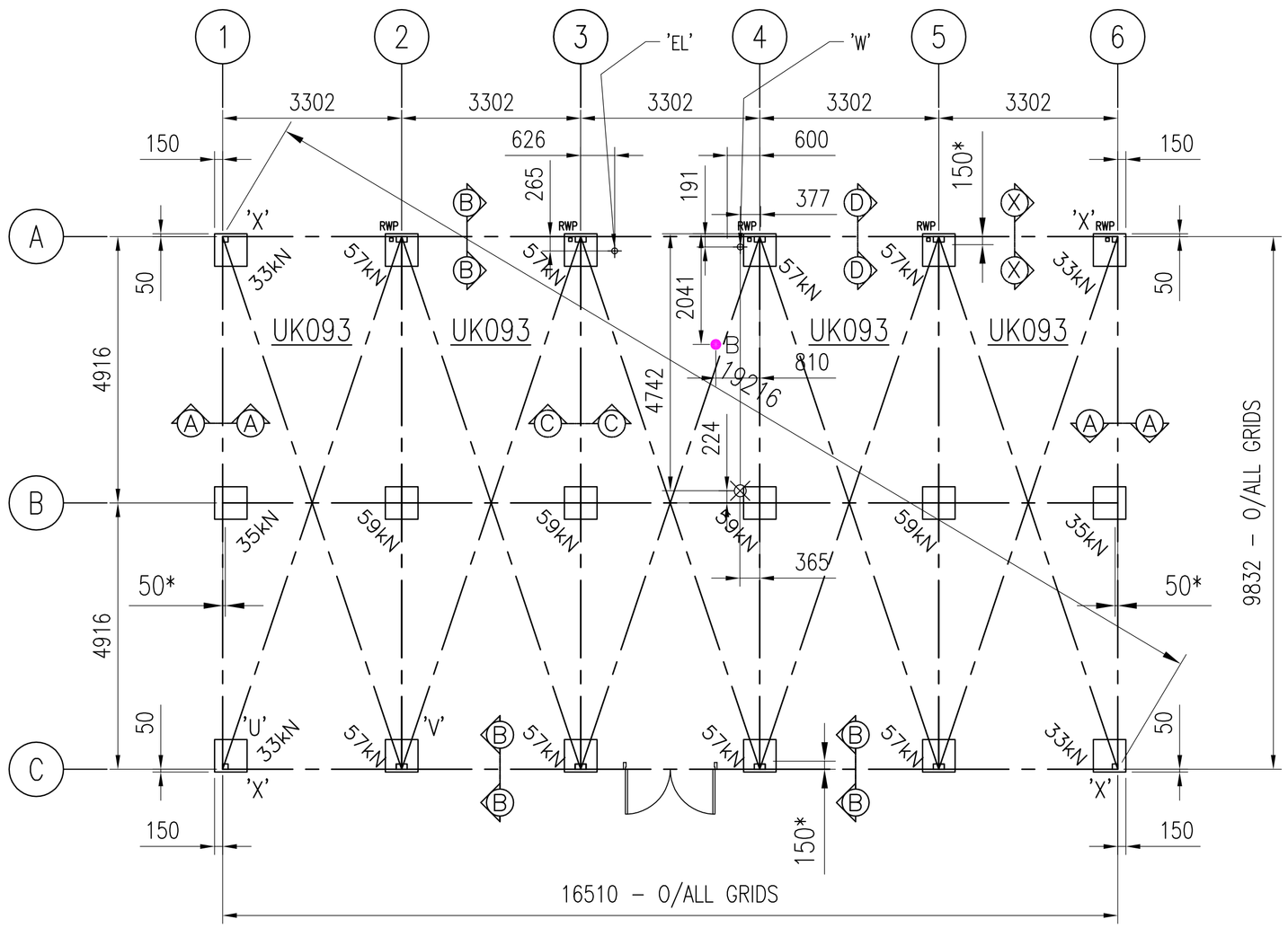
Date: 2013

Scale: 1 : 100 @ A3

Drawing Number: HD/9254/02

Rev.:

Drawn by: CS

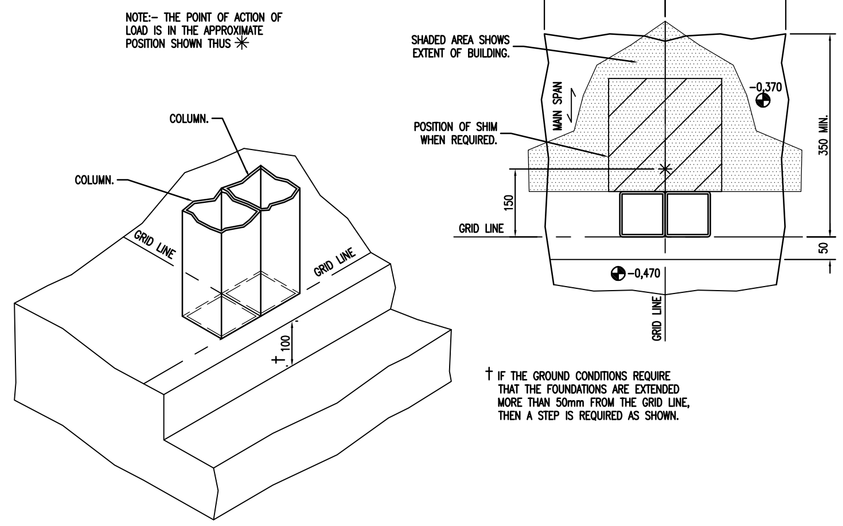


THE 150* AND 50* DIMENSIONS INDICATE POINT OF ACTION OF LOAD OFFSETS FROM GRID LINES AROUND THE PERIMETER OF THE BUILDING.

ELECTRICAL LOADINGS
DIVERSE LOAD = 29.76kW
THREE PHASE DIVERSIFIED LOAD = 46.00 Amps/phase (37.20 KVA)

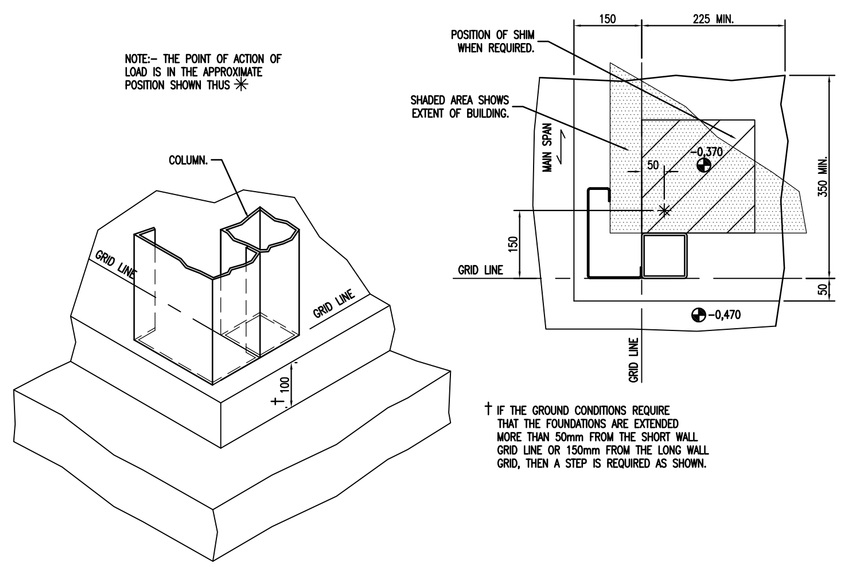
'W' = ø25mm MDPE MAINS COLD WATER INLET
'EL' = ELECTRICAL INLET POINT
⊗ = ø110mm SOIL CONNECTION
●B = ø 50mm WASTE CONNECTION

DETAIL 'V'

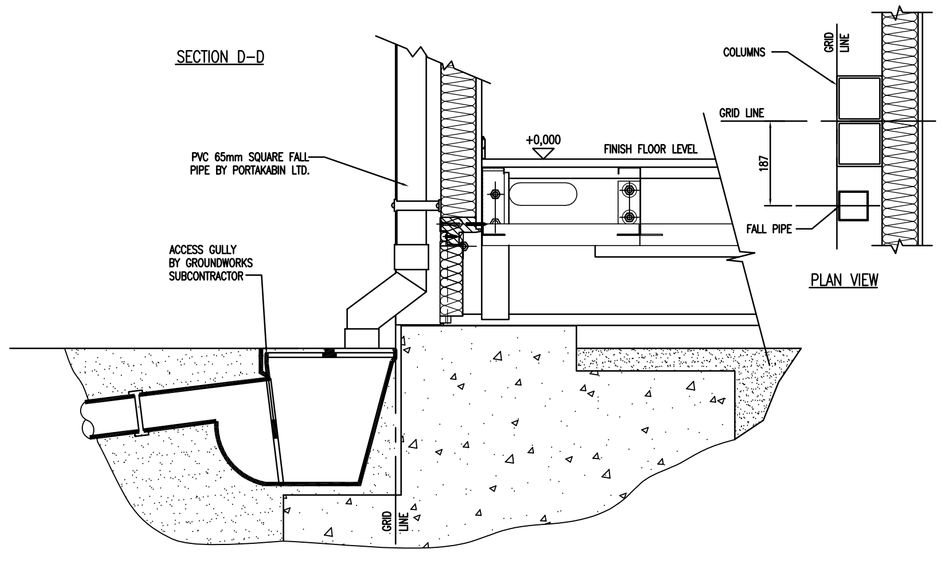


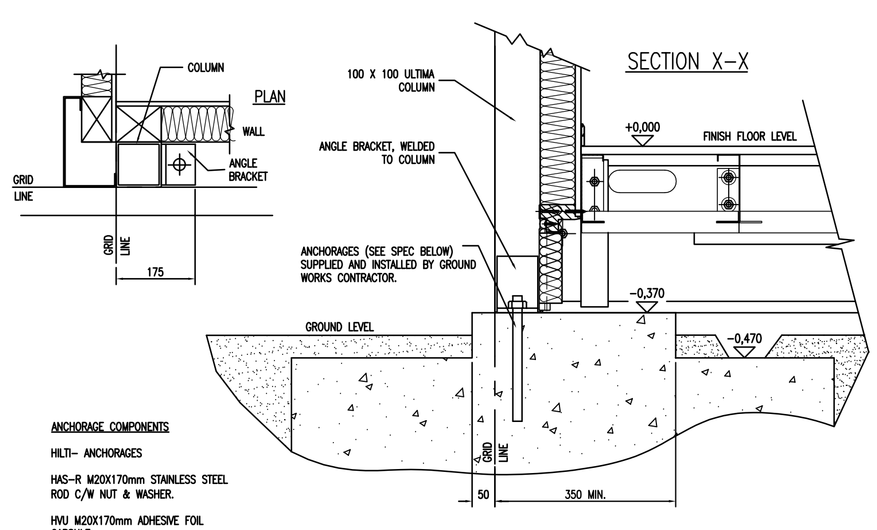
† IF THE GROUND CONDITIONS REQUIRE THAT THE FOUNDATIONS ARE EXTENDED MORE THAN 50mm FROM THE GRID LINE, THEN A STEP IS REQUIRED AS SHOWN.

DETAIL 'U'



† IF THE GROUND CONDITIONS REQUIRE THAT THE FOUNDATIONS ARE EXTENDED MORE THAN 50mm FROM THE SHORT WALL GRID LINE OR 150mm FROM THE LONG WALL GRID, THEN A STEP IS REQUIRED AS SHOWN.





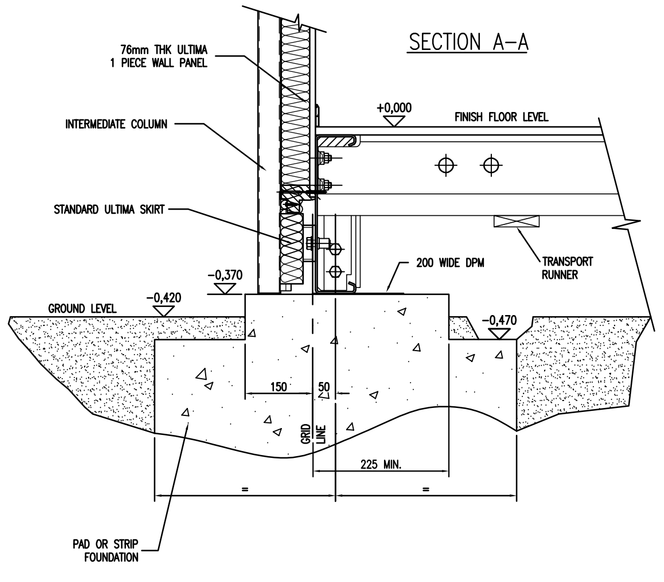
ANCHORAGE COMPONENTS

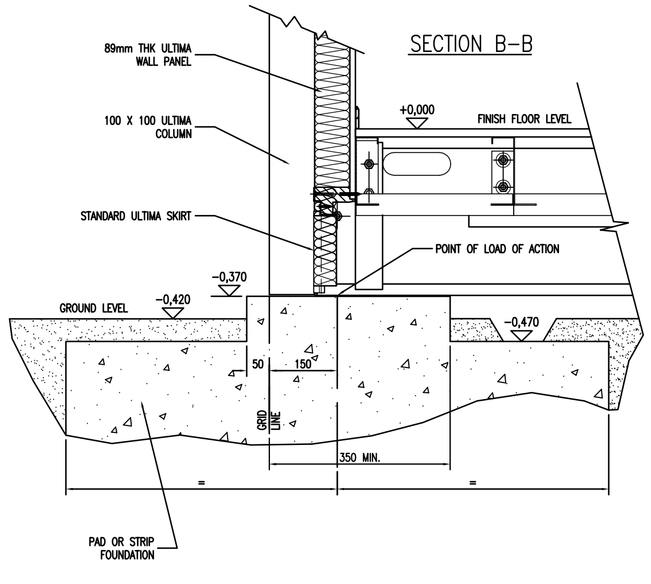
HILTI- ANCHORAGES

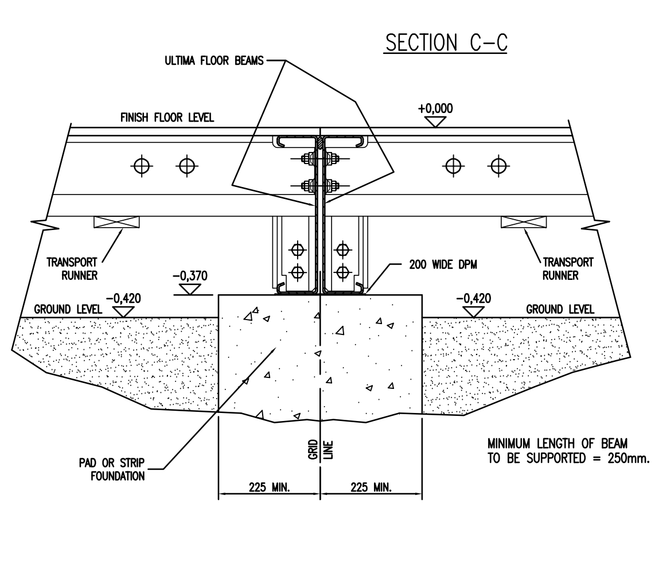
HAS-R M20X170mm STAINLESS STEEL ROD C/W NUT & WASHER.

HVU M20X170mm ADHESIVE FOIL CAPSULE.

SPECIAL PRODUCT REF. 28 NYLON ISOLATING BUSH.







NOTES:

1. THE INFORMATION CONTAINED ON THIS DRAWING DESCRIBES THE FOUNDATION REQUIREMENTS FOR THE PROPOSED BUILDING TO ASSIST WITH THE DESIGN AND DETAILING OF CONSTRUCTION DRAWINGS. THE GRID REFERENCES AS SHOWN SHOULD BE INCLUDED ON ALL FOUNDATION CONSTRUCTION DRAWINGS.
2. FOUNDATIONS MAY TAKE THE FORM OF EITHER PADS OR STRIPS, DEPENDING ON SITE CONDITIONS. WHERE STRIP FOUNDATIONS ARE TO BE USED REVISED FOUNDATION DESIGN LOADS CAN BE PROVIDED ON REQUEST. THE DESIGN SHOULD BE ESTABLISHED BY AN ENGINEER, ARCHITECT OR EXPERIENCED BUILDING CONTRACTOR.
3. FOUNDATIONS SHOULD BE DESIGNED IN ACCORDANCE WITH BS 8004 & BS8110. CONCRETE FOUNDATIONS SHALL BE AT LEAST TO C20P OR C30 GRADE TO BS5328.
4. FOUNDATION DESIGN LOADS AS SHOWN AT EACH PAD POSITION ARE IN kN & INCLUDE:
   THE DEAD WEIGHT OF THE BUILDING
   IMPOSED FLOOR LOAD OF 3kN/m^2
   IMPOSED ROOF LOAD OF 0.75kN/m^2
   IMPOSED WIND LOAD
   FOR BOLTING DOWN REQUIREMENTS WHEN REQUIRED SEE SECTION X-X. BOLTING DOWN POSITIONS ARE INDICATED ON FOUNDATION LAYOUT (4 NO. MARKED "X")
5. CONSTRUCTION TOLERANCES:
   TOPS OF FOUNDATIONS MUST BE SMOOTH, FLAT & LEVEL.
   ALL FOUNDATIONS MUST BE LEVEL TO +0, -5mm. THE POSITION OF FOUNDATIONS MUST BE WITHIN 5mm OF STATED DIMENSIONS. CHECKS SHOULD BE MADE FOR SQUARENESS. THE OVERALL DIAGONAL TO BE + −10mm OF CALCULATED DIMENSION.
6. ALL GRID LINES TO BE CLEARLY MARKED WITH INDELIBLE MARKING ON THE COMPLETED FOUNDATIONS TO ASSIST WITH CHECKING LEVELS & POSITIONING THE BUILDING.
7. LEVELS AT THE POINT OF LOAD FOR EACH GRID REFERENCE TO BE TAKEN & RECORDED ON THE FOUNDATION COMPLETION FORM.
   THE FOUNDATION COMPLETION FORM IS TO BE COMPLETED & RETURNED TO PORTAKABIN LTD. BY THE AGREED DATE, IDEALLY 7 DAYS MINIMUM PRIOR TO THE ERECTION OF THE BUILDING.
8. ASSOCIATED GROUNDWORKS:
   THE FOLLOWING WORKS SHOULD BE COMPLETED AFTER THE ERECTION OF THE BUILDING:
   BOLTING DOWN (WHERE REQUIRED), DRAINAGE & SERVICE CONNECTIONS, CONCRETE FLOORS, ENTRANCE RAMPS, STEPS, PERIMETER PAVING, BRICK PLINTHS, & KERBING,
9. ALL DIMENSIONS ARE FROM GRID LINES.
10. THE UNDERSIDE OF THE BUILDING SHALL HAVE AN INERT SURFACE. TOPSOIL & ANY VEGATABLE MATTER SHALL BE REMOVED FROM THE AREA TO BE COVERED BY THE BUILDING & A CHEMICAL WEED KILLER APPLIED TO THIS AREA. A LAYER OF CRUSHED STONE 100mm THICK MINIMUM SHALL BE PLACED & COMPACTED BY APPROPRIATE MECHANICAL MEANS, TO THIS AREA.
11. IF PAVEMENTS, LANDINGS, RAMPS, WALLS, ETC. ARE TO BE CONSTRUCTED ADJACENT TO THE WALLS OF THE ULTIMA BUILDING, SUCH WORKS SHALL BE DESIGNED & CONSTRUCTED TO AVOID DAMAGE TO THE ULTIMA BUILDING. THE REQUIREMENT FOR ADEQUATE VENTILATION TO THE UNDERSIDE OF THE BUILDING TO MEET THE BUILDING REGULATIONS SHOULD BE TAKEN INTO ACCOUNT.
12. RWP = RAINWATER FALL PIPE (5 No.).

Rev. Date By

Portakabin Ultima
Portakabin Limited Huntington York YO32 9PT
Telephone 01904 611655 Fax 01904 611644

Project CLASSROOM SOLUTIONS

Client CLASSROOM STOCK WITH 5 W/C's

Title
FOUNDATION LOADING DRAWING SINGLE STOREY

Date 25/6/15

Drawn DF

Scale 1:75 & 1:10 @ A1

Drg. No. U0367/ME

Rev. —

Appendix G. Risk Register

Project Title: St Monica's Consolidation Feasibility Study

Project Risk Register - Feasibility

Project No: 520 6771

ID	RISK DESCRIPTION 'There is a risk that....'	CAUSE 'Results from ....'	CONSEQUENCE 'Leading to....'	PRE-MITIGATION			RESPONSE ACTION	ACTION OWNER	POST-MITIGATION		
				Probability	Severity	Score			Probability	Severity	Score
1	Budget v design during design process	Increased design work	Over spend and changes in programme.	3	2	9	Prepare a robust cost plan and include 10% design and construction risk contingency. Undertake all necessary surveys during early design stages to ensure adequate provision for scope has been included. Regular cost checks during design and review of brief requirements.	Client / Consultant	2	2	4
2	Client brief is not established	Lack of coordination	Ambiguous scope of service, higher potential for client dissatisfaction	3	3	9	Regular meetingsm contact and review with client to ensure requirements are fully udnerstood.	Client / Consultant	2	3	6
3	Project is put on hold or is cancelled by the client	Construction cost is above budget and unaffordable. Failure to achieve Planning Consent, etc.	Commitments are cancelled resulting in loss in fees	2	2	4	Close management of client expectation and early communication around key deliverables, budget estimates, pre-planning advise etc.	Client / Consultant	1	2	2
4	Staff do not have the correct qualifications; DBS, CRB, CSCS, Asbestos Awareness	Failure to correctly undertake training of staff on a regular basis	Limited availability of appropriately qualified staff, difficulty in achieving deadlines with reduced team numbers.	2	3	6	Plan formal training for all relevant staff within the team.	Client / Consultant	2	2	4
5	Access around site will be restricted	Failure to develop an acceptable logistics plan	Non acceptance by client - programme delays and increased costs	2	4	8	Site logistics plan to be developed in coordination with client and building users to ensure an acceptable location and traffic plan is in place prior to starting on site.	Client / Consultant	1	2	2
6	Noise from construction	Construction work	Disruption of teaching	3	2	9	Employ contractors who adhere to schemes such as the Considerate Constructors Scheme. Ensure a site manager is employed and good liaison is implemented.	Contractor	1	2	2
7	Works in a school environment	Working around staff and pupils	Programme, disruption to teaching, H&S	2	4	8	Ensure access routes are separated from the school site through robust Logistics plan and traffic management. Movement of contractors to and from compounds to be coordinated not to coincide with pupil movements.				
8	Contractor knowledge and appreciation of requirements is poor	Contractor does not fully review and consider the contents of the contract brief.	Cost increases and poor quality	2	4	8	Appropriate selection of contractors by SCC with good track record. Comprehensive tender documents.	Client / Consultant	1	2	2
9	Asbestos or other deleterious materials being uncovered during construction	Lack of asbestos information / inadequate surveys carried out during design stage.	H&S, cost and programme increases	3	4	12	Review existing asbestos management survey information and carry out a detailed R&D survey of areas of work.	Contractor/consultant	2	4	8
10	Interruption to services during works	Isolating services for modular building connections and/or new connections made.	H&S, cost and programme increases	2	4	8	Carful coordination with the school to agree suitable dates/times for connections/disconnections.	Contractor	1	4	4
11	COVID-19 pandemic causing lockdown	COVID-19 causing lockdown	Cost and programme changes	3	5	15	Site set up to be in accordance with latest CLC SOP guidelines	Contractor	3	4	12
12	COVID-19 labour shortage	Outbreak of COVID-19 causing self-isolation	Cost and programme changes	3	5	15	Works to be done in accordance with latest CLC SOP guidelines	Contractor	3	4	12
13	Weather causes delays	Poor weather conditions	Cost and programme changes	2	2	4	Elements of work will be weather dependant however the fabrication of the modular units are completed within factory environments, thus reducing risk.	Contractor	2	2	4
14	Planning permission is rejected	Poor planning application submission and or lack of supporting information	Programme delays and increased costs	3	5	15	Early discussion with the LPA and submission of a pre planning application	Client / Consultant	1	5	5
15	Unforeseen ground conditions or obstructions	Poor ground conditions	Cost and programme changes	3	5	15	Carry out early ground investigations. Contingency allowance to be included to allow for further unforeseen ground related issues.	Client / Consultant	1	5	5
16	Below ground services are damaged	Undetected below ground services	Cost and programme changes	2	4	8	Undertake below ground services scans during design	Client / Consultant	1	5	5
17	Cranage safety	Use of crane during moving of modular units	H&S, Cost and Programme changes	3	5	15	Crane lifts to be carefully coordinated with the client and site to agree suitable dates and times. Site logistics plan to be developed to indicate safe lifting areas. Contractor to develop a lifting plan and method statement to be agreed by CA.	Contractor	1	4	4
18	TPO's	Building within close proximty to tree root protection zones	Cost and programme changes	3	5	15	Early consultation with arboriculturist to agree tree root zones to avoid.	Client / Consultant	1	5	5
19	Made up ground	Made up ground is poor and/or hazardous material found	H&S, Cost and Programme changes	3	5	15	Early Ground Investigations to determine build up of ground.	Client / Consultant	1	5	5

Ranking Methodology note

Ranking	Probability	Financial	Programme	Impact On Business
1	Improbable	Insignificant	Insignificant	Insignificant
2	Remote	Minor	Minor	Minor
3	Moderate	Moderate	Moderate	Moderate
4	Probable	Major	Major	Major
5	Frequent	Catastrophic	Catastrophic	Catastrophic

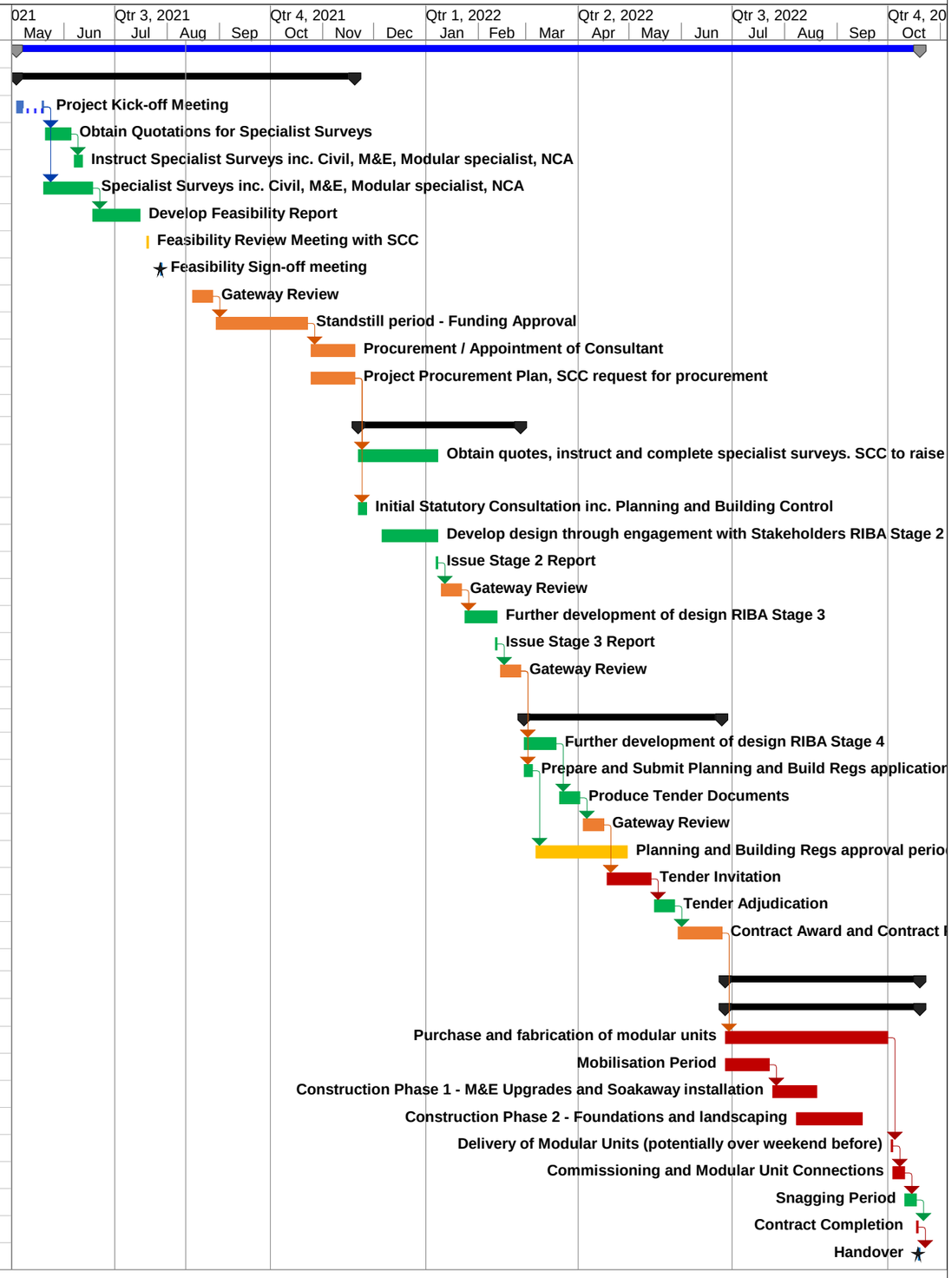
Appendix H. Programme

Rev 1

St Monica's Feasibility Stage Programme

Job Number: 5206771

ID	Task Name	Duration	Start	Finish	Predecessors
0	**St Monica's Feasibility Stage Programme**	**75.4 wks**	**Tue 04/05/21**	**Wed 19/10/22**	
1	**RIBA Stage 1 - Feasibility**	**28.6 wks**	**Tue 04/05/21**	**Fri 19/11/21**	
2	Project Kick-off Meeting	5 days	Tue 04/05/21	Wed 19/05/21	
3	Obtain Quotations for Specialist Surveys	2 wks	Fri 21/05/21	Fri 04/06/21	2
4	Instruct Specialist Surveys inc. Civil, M&E, Modular specialist, NCA	1 wk	Mon 07/06/21	Fri 11/06/21	3
5	Specialist Surveys inc. Civil, M&E, Modular specialist, NCA	4 wks	Thu 20/05/21	Thu 17/06/21	2
6	Develop Feasibility Report	4 wks	Fri 18/06/21	Thu 15/07/21	5
7	Feasibility Review Meeting with SCC	1 day	Tue 20/07/21	Tue 20/07/21	
8	Feasibility Sign-off meeting	1 day	Wed 28/07/21	Wed 28/07/21	
9	Gateway Review	2 wks	Mon 16/08/21	Fri 27/08/21	
10	Standstill period - Funding Approval	8 wks	Mon 30/08/21	Fri 22/10/21	9
11	**Procurement / Appointment of Consultant**	**4 wks**	**Mon 25/10/21**	**Fri 19/11/21**	10
12	Project Procurement Plan, SCC request for procurement	4 wks	Mon 25/10/21	Fri 19/11/21	
13					
14	**RIBA Stage 2 & 3 - Concept Design and Spatial Coordination**	**13 wks**	**Mon 22/11/21**	**Fri 25/02/22**	
15	Obtain quotes, instruct and complete specialist surveys. SCC to raise PO's	6 wks	Mon 22/11/21	Fri 07/01/22	12
16	Initial Statutory Consultation inc. Planning and Building Control	1 wk	Mon 22/11/21	Fri 26/11/21	12
17	Develop design through engagement with Stakeholders RIBA Stage	4 wks	Mon 06/12/21	Fri 07/01/22	
18	Issue Stage 2 Report	1 day	Fri 07/01/22	Fri 07/01/22	
19	Gateway Review	2 wks	Mon 10/01/22	Fri 21/01/22	18
20	Further development of design RIBA Stage 3	3 wks	Mon 24/01/22	Fri 11/02/22	19
21	Issue Stage 3 Report	1 day	Fri 11/02/22	Fri 11/02/22	
22	Gateway Review	2 wks	Mon 14/02/22	Fri 25/02/22	21
23					
24	**RIBA Stage 4 - Technical Design**	**17 wks**	**Mon 28/02/22**	**Fri 24/06/22**	
25	Further development of design RIBA Stage 4	3 wks	Mon 28/02/22	Fri 18/03/22	22
26	Prepare and Submit Planning and Build Regs applications	1 wk	Mon 28/02/22	Fri 04/03/22	22
27	Produce Tender Documents	2 wks	Mon 21/03/22	Fri 01/04/22	25
28	Gateway Review	2 wks	Mon 04/04/22	Fri 15/04/22	27
29	Planning and Building Regs approval period	8 wks	Mon 07/03/22	Fri 29/04/22	26
30	Tender Invitation	4 wks	Mon 18/04/22	Fri 13/05/22	28
31	Tender Adjudication	2 wks	Mon 16/05/22	Fri 27/05/22	30
32	Contract Award and Contract Formation	4 wks	Mon 30/05/22	Fri 24/06/22	31
33					
34	**RIBA Stage 5 & 6 - Construction to Practical Completion**	**16.8 wks**	**Mon 27/06/22**	**Wed 19/10/22**	
35	**Construction Phase**	**16.8 wks**	**Mon 27/06/22**	**Wed 19/10/22**	
36	Purchase and fabrication of modular units	14.2 wks	Mon 27/06/22	Fri 30/09/22	32
37	Mobilisation Period	4 wks	Mon 27/06/22	Fri 22/07/22	
38	Construction Phase 1 - M&E Upgrades and Soakaway installation	4 wks	Mon 25/07/22	Fri 19/08/22	37
39	Construction Phase 2 - Foundations and landscaping	6 wks	Mon 08/08/22	Thu 15/09/22	
40	Delivery of Modular Units (potentially over weekend before)	1 day	Mon 03/10/22	Mon 03/10/22	36
41	Commissioning and Modular Unit Connections	1 wk	Tue 04/10/22	Mon 10/10/22	40
42	Snagging Period	5 days	Tue 11/10/22	Mon 17/10/22	41
43	Contract Completion	1 day	Tue 18/10/22	Tue 18/10/22	42
44	Handover	1 day	Wed 19/10/22	Wed 19/10/22	43



St Monica's Feasibility
Date: Thu 12/08/21

SCC | F&G | FGSCC | Milestone | Project Summary
SCC Key Decision | Contractor | Split | Summary

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