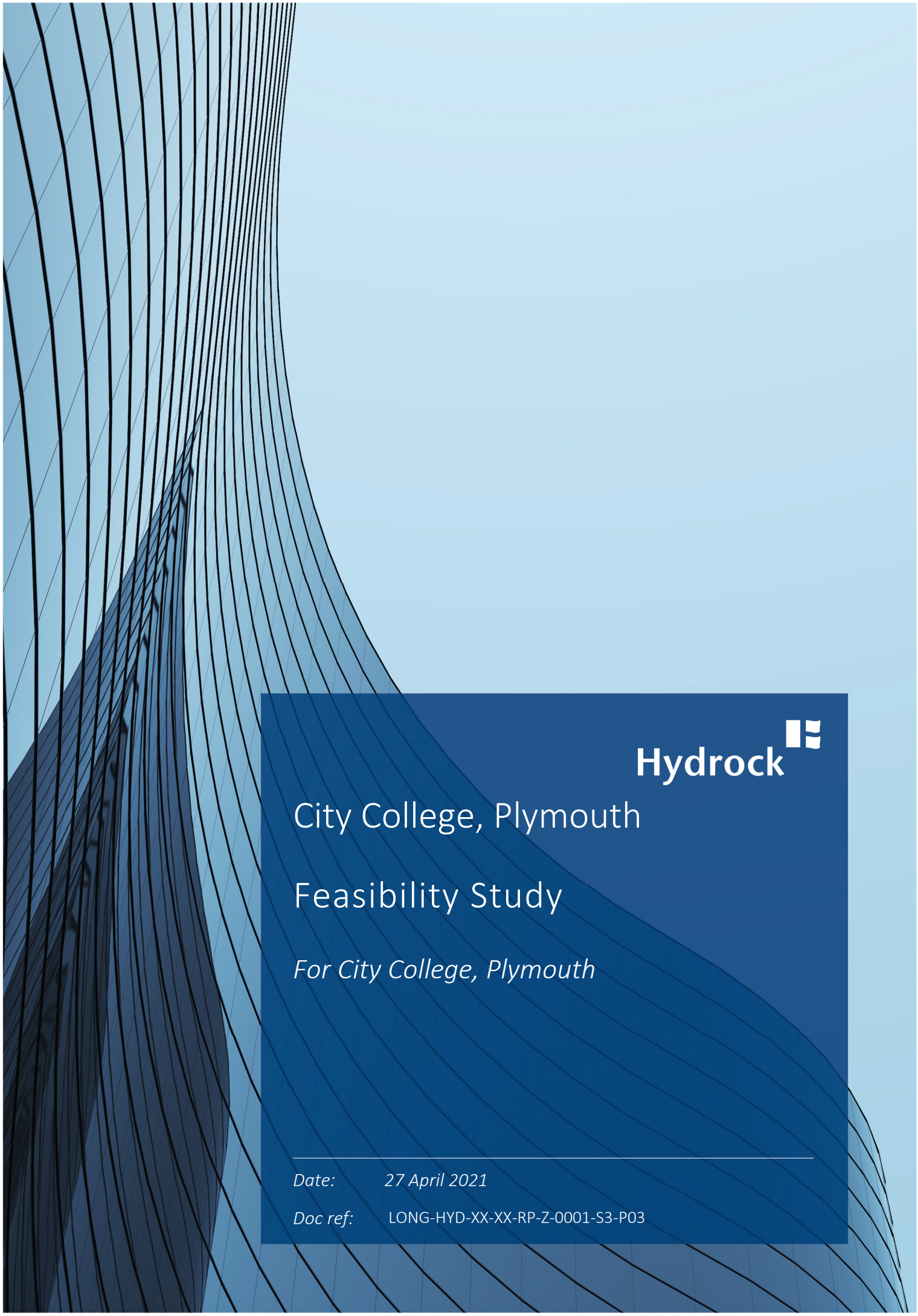

Hydrock

City College, Plymouth

Feasibility Study

For City College, Plymouth

Date: *27 April 2021*

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CONTENTS

Appendices

EXECUTIVE SUMMARY

This report provides an analysis and evaluation of the current and potential modifications to the Construction Building, The Innovation Building and Room Ref; KC18 or Building KC18. Methods of analyses were via site surveys, utility surveys, existing and proposed drawings by the client and further discussions with the client.

Mechanically, the proposed alterations are considered feasible and will not require an increase to the existing capacity of services. The exception is additional drainage requirements. There is limited existing drainage within the areas of refurbishment and any drainage will require the new below ground drainage points to be considered.

Electrically, the proposed alterations are considered feasible and will not require an increase of existing capacity of services. All the service are currently available at each location, existing luminaires (fluorescent tubes) have reached the end of their life and should be upgraded to LED fittings with controls installed, this will reduce energy consumption. Some existing distribution boards may need to be changed to meet current regulations (BS7671).

1. BRIEF AND BACKGROUND INFORMATION

1.1 BRIEF

City College Plymouth have commissioned a feasibility study to consider the provision of new T level teaching facilities within the Construction Building at the main City College campus. The alterations to the Construction Building will require some additional works to be carried out within the Innovation Building and building KC-18. Areas of work are as per the following plan;

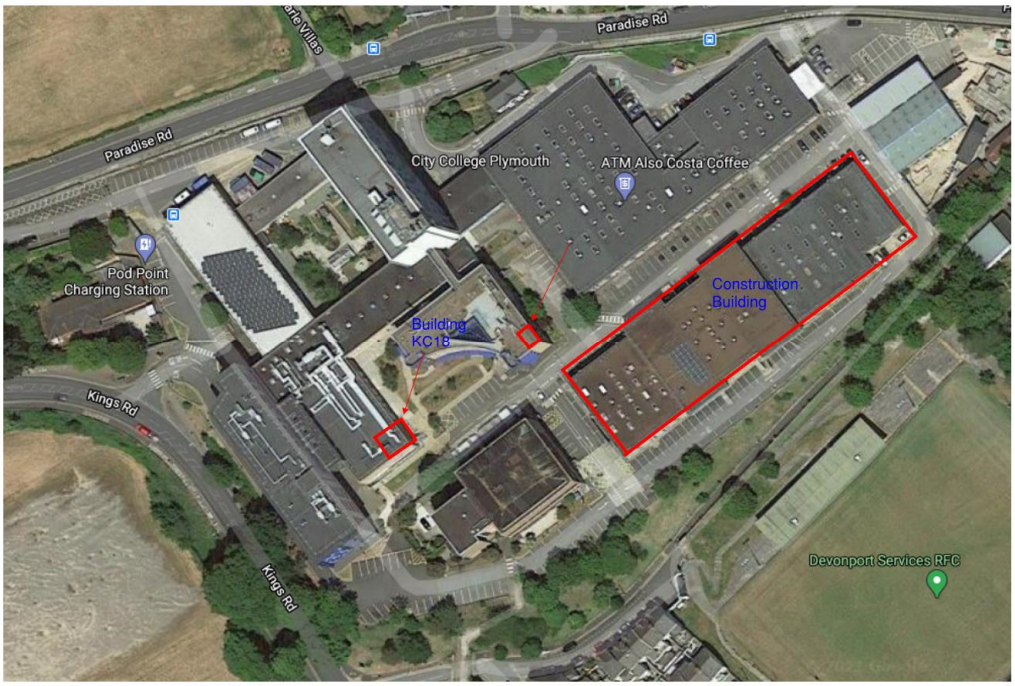


Figure 1: Aerial view of City College

The works are detailed within the drawings contained in appendix A of this report and comprise generally as follows:

Construction Building

- Conversion of office KW032 and admin hub KW032B in to a new teaching workshop KW032
- Conversion of office KW032A in to a new teaching workshop KW032A
- Conversion of store KW036A, classrooms KW036 B and C and admin hub KW036D in to a new workshop KW033
- Conversion of learning resources KW036 and the tutorial pods/office at the same level to a new workshop KW036, including addition of a new link corridor
- Conversion of Reprographics room KW031 in to a new store
- Conversion of Reprographics KW034 in to a new store
- Movement of existing glass entrance to workshop KW045 to create a larger teaching area
- Conversion of rooms KW039, KW039b, KW040 and KW054 in to a new teaching classroom KW039
- Removal of walls to store KW1010A to create a larger teaching area

- New partition in corridor recess KW107 to create new store room

Innovation Building

- Conversion of staff rest area KI001E to a new staff office

Building KC18

- Subdivision of LGF open plan office KC18 to provide new cellular office and smaller 4 person office
- Reconfiguration of the wardrobe store KC18D to provide new meeting pods

1.2 SITE SURVEYS

A site survey was carried out on 25th March 2021. No intrusive examinations have been carried out and only elements visible from the ground have been assessed. The existing services have been particularly scrutinised against the existing and proposed plans, which are joined to this report - See appendix A

1.3 UTILITY SURVEYS

No utility searches have been carried out for this report. It is assumed that the existing services and distribution have adequate capacity to cater for the proposed works.

2. CONSTRUCTION BUILDING

2.1 Conversion of office KW032 and admin hub KW032B in to a new teaching workshop KW032

2.1.1 Mechanical Services

2.1.1.1 Heating

The existing heating distribution pipework follows the perimeter of the room at high level feeding existing radiators and fan coil units at low level. The condition of the existing services appears to be adequate.

There is no change in the room profile or the construction thermal efficiency and therefore the existing supplies to the space should be sufficient to cater for the demands of the new space.

However, the radiators and fan coil units are not suitable for the new room arrangement. It is proposed that the existing emitters are removed and new heating emitters installed.

As the new space will become a double height workshop it is proposed that high level radiant panels are provided with local thermostatic controls.

2.1.1.2 Ventilation

The existing ventilation to the space comprises of high level extract fans within KW032B and openable windows within each space.

An initial appraisal of the space indicates that the windows will not be adequate to provide ventilation for fresh air or to overcome the thermal comfort requirements outlined within CIBSE TM52; The Limits of Thermal Comfort.

Upon completion of thermal comfort analysis at the next design stage the extent of ventilation requirements will be determined. Should additional ventilation be required then it is proposed that local NVHR ventilation units are provided at high level with local controls for occupant operation.

2.1.1.3 Domestic Services

There are no existing domestic services within the space. The full extent of the workshop use has not been defined, however should domestic services be required, the potable cold water will be derived from the incoming main within room KW031. Depending on the level of requirement for domestic hot water a supply can be taken from the existing Andrews water heater located in the plantroom over room KW034.

2.1.1.4 Drainage

There is no existing drainage within this area. Therefore, should drainage be required, external below ground drainage works would be required.

2.1.2 Electrical Services

2.1.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N distribution board mounted in KW032A, this board will need to be replaced to meet the requirements of BS7671 and of the new scheme.

2.1.2.2 Small Power

Accessories are generally mounted on DADO 3 compartment trunking in ABS plastic with white PVC devices of various ages.

It is proposed to replace all the existing installation with new to meet the new requirements.

2.1.2.3 Internal Lighting and Controls

Internal lighting is generally provided by linear twin/four tube fluorescent luminaires.

It is proposed to replace all luminaires with new LED fittings mounted at high level.

There was no evidence of automatic controls. All lighting circuits are being operated by manual switches. It is proposed that the new installation will have absence detection.

2.1.2.4 Emergency Lighting

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires. These are located on the soffit of areas with lower ceiling heights.

Illuminated emergency exit signage is not provided. Exit signage relies on light available from local stand-alone emergency lighting.

External emergency lights are located above each final exit.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

2.1.2.5 Telecommunications Systems

Communication cabling appears to have been routed within the dado trunking with RJ45 outlets positioned as required.

It is proposed to upgrade the existing installation to CAT6a with the cables running back to the existing racks. New RJ45 outlets are to be positioned to meet the needs of the new room. With a high-level outlet for WiFi routers located on ceilings powered over ethernet (POE).

2.1.2.6 Security Installations

There was no access control or CCTV installations present. Intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

2.1.2.7 Fire Alarm Installation

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

Cabling is mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

2.2 Conversion of office KW032A in to a new teaching workshop KW032A

2.2.1 Mechanical Services

2.2.1.1 Heating

The existing heating distribution pipework follows the perimeter of the room at high level feeding existing radiators and fan coil units at low level. The condition of the existing services appears to be adequate.

There is no change in the room profile or the construction efficiency and therefore the existing supplies to the space should be sufficient to cater for the demands of the new space.

However, the radiators and fan coil units are not suitable for the new room arrangement and one low level fan coil unit will clash with the proposed new roller shutter door. It is proposed that the existing emitters are removed and new heating emitters installed.

As the new space will become a double height workshop it is proposed that high level radiant panels are provided with local thermostatic controls.

2.2.1.2 Ventilation

The existing ventilation to the space comprises of high level extract fans within KW032B and openable windows within each space.

An initial appraisal of the space indicates that the windows may be able to provide ventilation for fresh air or to overcome the thermal comfort requirements of CIBSE TM52, although the depth of the space is over the guidance of CIBSE AM11 for single sided ventilation.

Upon completion of thermal comfort analysis at the next design stage the extent of ventilation requirements will be determined. Should additional ventilation be required then it is proposed that local NVHR ventilation units are provided at high level with local controls for occupant operation.

2.2.1.3 Domestic Services

There are no existing domestic services within the space. The full extent of the workshop use has not been fully defined, however should domestic services be required, the potable cold water will be derived from the incoming main within room KW031. Depending on the level of requirement for domestic hot water a supply can be taken from the existing Andrews Water heat located in the plantroom over room KW034.

2.2.1.4 Drainage

There is no existing drainage within this area. Therefore, should drainage be required, external below ground drainage works would be required.

2.2.2 Electrical Services

2.2.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N distribution board mounted in KW032A, it is likely that this board will need to be replaced to meet the requirements of BS7671 and the new scheme.

2.2.2.2 Small Power

Accessories are generally mounted on dado 3 compartment trunking ABS plastic and white PVC devices of various ages. There are also some conduit drops to metal clad socket outlets.

It is proposed to replace all the existing installation with new to meet the new requirements.

2.2.2.3 Internal Lighting and Controls

Internal lighting is generally provided by linear twin tube fluorescent luminaires.

It is proposed to replace all luminaires with new LED fittings mounted at high level.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

2.2.2.4 Emergency Lighting

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires are provided on the soffit of areas with lower ceiling heights.

Illuminated emergency exit signage are not provided. Exit signage relies on light available from local stand-alone emergency lighting.

External emergency lights are located above each final exit.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

2.2.2.5 Telecommunications Systems

Communication cabling appears to have been routed within the dado trunking with RJ45 outlets positioned as required.

It is proposed to upgrade the existing installation to CAT6a with the cables running back to the existing racks. New RJ45 outlets are to be positioned to meet the needs of the new room. With a high level outlet for WiFi routers located on ceilings POE.

2.2.2.6 Security Installations

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

2.2.2.7 Fire Alarm Installation

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

2.3 Conversion of store KW036A, classrooms KW036 B and C and admin hub KW036D in to a new workshop KW033

2.3.1 Mechanical Services

2.3.1.1 Heating

The existing heating distribution pipework extends the perimeter of the room at high level feeding existing radiators and fan coil units at low level. The condition of the existing services appears to be in good condition

There is no change in the room profile or the construction efficiency and therefore the existing supplies to the space should be sufficient to cater for the demands of the new space.

Dependant on the room configuration and the room use it is proposed that the existing emitters are replaced with new ceiling mounted LPHW radiant panels with new local temperature controls. The existing heating will be removed back to KW036A and reconfigured to suit the new arrangement. The radiator within KW036D is fed from the ceiling and this pipework shall be utilised to feed the new heating emitters within this area of the new space.

The existing ceiling mounted Daikin DX fan coil unit and associated external condenser shall be removed and handed to the client.

2.3.1.2 Ventilation

The existing ventilation to the space comprises of an extract fan within KW036D, discharging in to the learning resources space, a high level surface mounted extract fan within KW036A, which extracts from KW036B and openable windows within each space.

An initial appraisal of the space indicates that the windows will not be able to provide ventilation for fresh air or to overcome the thermal comfort requirements of CIBSE TM52 and the depth of the space is over the guidance of CIBSE AM11 for single sided ventilation.

Upon completion of thermal comfort analysis at the next design stage the extent of ventilation requirements will be determined. Additional ventilation should be provided by local NVHR ventilation units are provided at high level with local controls for occupant operation.

2.3.1.3 Domestic Services

There are existing domestic services within the space. An existing 15mm cold water service is provided to a wash hand basin, point of use water heater and a waste pan. These services will be removed and disposed of, off site. The cold water service may not have capacity to provide services to the new space and therefore shall be removed back to the main and capped off, in accordance with Legionella Regulations.

The full extent of the workshop use has not been fully defined, however should domestic services be required, the potable cold water will be derived from the incoming main within room KW031. Depending on the level of requirement for domestic hot water it is proposed that below bench local electrical point of use storage heaters are utilised where hot water is required.

2.3.1.4 Above Ground Drainage

There is an existing gully located within KW036A. This could be altered to a soil stack discharge should drainage be required in this space. It is recommended that any drainage points are located on the perimeter of the new space only to enable the use of the existing drainage point. Any drainage points elsewhere in the room will require the addition of new below ground drainage.

2.3.2 Electrical Services

2.3.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N distribution board mounted in KW036, it is likely that this board will need to be replaced to meet the current requirements of BS7671 and the new scheme.

2.3.2.2 Small Power

Accessories are generally mounted on dado 3 compartment trunking ABS plastic and white PVC devices of various ages, there are also conduit drops to outlets

It is proposed to replace all the existing installation with new to meet the new requirements.

2.3.2.3 Internal Lighting and Controls

Internal lighting is generally provided by linear twin/four tube fluorescent luminaires.

It is proposed to replace all luminaires with new LED fittings mounted at high level.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

2.3.2.4 Emergency Lighting

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires are provided on the soffit of areas with lower ceiling heights.

Illuminated emergency exit signage are not provided. Exit signage relies on light available from local stand-alone emergency lighting.

External emergency lights are located above each final exit.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

2.3.2.5 Telecommunications Systems

Communication cabling appears to have been routed within the dado trunking with RJ45 outlets positioned as required.

It is proposed to upgrade the existing installation to CAT6a with the cables running back to the existing racks. New RJ45 outlets are to be positioned to meet the needs of the new room. With a high level outlet for WiFi routers located on ceilings POE.

2.3.2.6 Security Installations

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

2.3.2.7 Fire Alarm Installation

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

2.4 Conversion of learning resources KW036 and the tutorial pods/office at the same level to a new workshop KW036, including addition of new link corridor

2.4.1 Mechanical Services

2.4.1.1 Heating

The creation of the new workshop and corridor will require the existing gas fired high level unit heater to be relocated. This will require extension of the gas supply and modification to the gas flue.

New heating will be required for the workshop. There are no existing LPHW heating services visible within this space and it is proposed that a new heating circuit is connected to the existing heating F/R at high level within the double height space of KW036. The new circuit will provide heating to new high-level ceiling mounted radiant panels with new local temperature controls.

2.4.1.2 Ventilation

There does not appear to be any ventilation within this area.

An initial appraisal of the space indicates that the windows will not be able to provide ventilation for fresh air or to overcome the thermal comfort requirements of CIBSE TM52 and the depth of the space is over the guidance of CIBSE AM11 for single sided ventilation.

Upon completion of thermal comfort analysis at the next design stage the extent of ventilation requirements will be determined. Additional ventilation should be provided by local MVHR ventilation units are provided at high level with local automatic controls to suit occupant comfort.

2.4.1.3 Domestic Services

There are existing domestic services within the space. An existing 15mm cold water service is provided to a tea point sink within the tutorial pods area. These services will be removed and disposed of, off site. The cold water service may not have capacity to provide services to the new space and therefore shall be removed back to the main and capped off, in accordance with Legionella Regulations.

The full extent of the workshop use has not been fully defined, however should domestic services be required, the potable cold water will be derived from the existing cold water services at high level within KW036. Depending on the level of requirement for domestic hot water it is proposed that below bench local electrical point of use storage heaters are utilised where hot water is required.

2.4.1.4 Above Ground Drainage

The existing drainage to the tea point sink unit is catered for by a pumped waste unit. This would indicate that there is no local drainage to this space. Any drainage points within this room will require the addition of new below ground drainage.

2.4.2 Electrical Services

2.4.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N distribution board mounted in KW036, it is likely that this board will need to be replaced to meet the current requirements of BS7671 and the new scheme.

2.4.2.2 Small Power

Accessories are generally mounted on dado 3 compartment trunking ABS plastic and white PVC devices of various ages, there are also numerous conduit drops to outlets.

It is proposed to replace all the existing installation with new to meet the new requirements.

2.4.2.3 Internal Lighting and Controls

Internal lighting is generally provided by linear twin/four tube fluorescent luminaires.

It is proposed to replace all luminaires with new LED fittings mounted at high level.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

2.4.2.4 Emergency Lighting

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires are provided on the soffit of areas with lower ceiling heights.

Illuminated emergency exit signage are not provided. Exit signage relies on light available from local stand-alone emergency lighting.

External emergency lights are located above each final exit.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

2.4.2.5 Telecommunications Systems

Communication cabling appears to have been routed within the dado trunking with RJ45 outlets positioned as required.

It is proposed to upgrade the existing installation to CAT6a with the cables running back to the existing racks. New RJ45 outlets are to be positioned to meet the needs of the new room. With a high level outlet for WiFi routers located on ceilings POE.

2.4.2.6 Security Installations

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

2.4.2.7 Fire Alarm Installation

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

2.5 Conversion of Repro graphics room KW031 in to a new store

2.5.1 Mechanical Services

We have been advised that the extent of works in this area will be fabric only and there will be no amendment to the existing services

2.5.2 Electrical Services

2.5.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N distribution board mounted in KW032A, it is likely that this board will need to be replaced to meet the current requirements of BS7671 and the new scheme.

2.5.2.2 Small Power

Accessories are generally mounted on dado 3 compartment trunking ABS plastic and white PVC devices of various ages.

It is proposed to remove the exist installation and provide a 2gang switch socket outlet to be confirmed.

2.5.2.3 *Internal Lighting and Controls*

Internal lighting is generally provided by linear four tube fluorescent luminaires.

It is proposed to replace all luminaires with new LED fittings mounted at high level.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

2.5.2.4 *Emergency Lighting*

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires are provided on the soffit of areas with lower ceiling heights.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

2.5.2.5 *Telecommunications Systems*

Communication cabling appears to have been routed within the dado trunking with RJ45 outlets positioned as required.

It is proposed to remove the existing installation.

2.5.2.6 *Security Installations*

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

2.5.2.7 *Fire Alarm Installation*

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

2.6 Conversion of Reprographics KW034 in to a new store

2.6.1 *Mechanical Services*

We have been advised that the extent of works in this area will be fabric only and there will be no amendment to the existing services

2.6.2 Electrical Services

2.6.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N distribution board mounted in KW032A, it is likely that this board will need to be replaced to meet the current requirements of BS7671 and the new scheme.

2.6.2.2 Small Power

Accessories are generally mounted on dado 3 compartment trunking ABS plastic and white PVC devices of various ages, there are also conduit drops to outlets

It is proposed to remove the existing installation and provide a new 2gang switch socket out.

2.6.2.3 Internal Lighting and Controls

Internal lighting is generally provided by linear four tube fluorescent luminaires.

It is proposed to replace all luminaires with new LED fittings mounted at high level.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

2.6.2.4 Emergency Lighting

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires are provided on the soffit of areas with lower ceiling heights.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

2.6.2.5 Telecommunications Systems

Communication cabling appears to have been routed within the dado trunking with RJ45 outlets positioned as required.

It is proposed to remove the existing installation.

2.6.2.6 Security Installations

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

2.6.2.7 Fire Alarm Installation

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

2.7 Movement of existing glass entrance to workshop KW045 to create a larger teaching area

2.7.1 Mechanical Services

2.7.1.1 Heating

The existing workshop heating is provided by high level LPHW radiant panels. It is proposed that the radiant panel on the corridor side of the space is extended in to the new area created by movement of the existing glass panels. The new panel will connect to the existing and will not require any additional controls

2.7.1.2 Domestic Services

Within the lobby outside KW045 is a cold water drinking unit. The cold water for this unit is fed from the ceiling within KW045. It is proposed that the unit and the cold water supply is modified to suit the new location of the wall.

2.7.2 Electrical Services

2.7.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N distribution board mounted in KW045, it is likely that this board will need to be replaced to meet the current requirements of BS7671 and the new scheme.

2.7.2.2 Small Power

Accessories are generally mounted on suspension wires with 110v socket outlets, there are also conduit drops to outlets with both 240v and 110v outlets.

It is proposed to install two new drops 2 110v outlets on each having extended the existing high level trunking.

2.7.2.3 Internal Lighting and Controls

Internal lighting is generally provided by linear twin tube fluorescent luminaires with lighting trunking.

It is proposed to replace all luminaires within the space with new LED fittings mounted at high level.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

2.7.2.4 Emergency Lighting

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires are provided on the soffit of areas with lower ceiling heights.

Illuminated emergency exit signage is not provided. Exit signage relies on light available from local stand-alone emergency lighting.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

2.7.2.5 Telecommunications Systems

Communication cabling appears to have been routed within high level trunking, with conduit drops to low level with RJ45 outlets positioned as required.

It is proposed to upgrade the existing installation to CAT6a with the cables running back to the existing racks. New RJ45 outlets are to be positioned to meet the needs of the new room.

2.7.2.6 Security Installations

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

2.7.2.7 Fire Alarm Installation

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

2.8 Conversion of rooms KW039, KW039b, KW040 and KW054 in to a new teaching classroom KW039

2.8.1 Mechanical Services

2.8.1.1 Heating

The existing heating distribution pipework extends the perimeter of the room at high level feeding existing fan coil units at low level. The condition of the existing services appears to be in good condition

There is no change in the room profile or the construction efficiency and therefore the existing supplies to the space should be sufficient to cater for the demands of the new space.

Dependant on the room configuration and the room use it is proposed that the existing emitters are replaced with wall mounted radiators with new local temperature controls and using the existing heating pipework within the ceiling void.

2.8.1.2 Ventilation

The existing ventilation to the space comprises of an extract fans within KW039b and openable windows within each space with an external wall.

An initial appraisal of the space indicates that the windows may be able to provide ventilation for fresh air or to overcome the thermal comfort requirements of CIBSE TM52, although the depth of the space is over the guidance of CIBSE AM11 for single sided ventilation.

Upon completion of thermal comfort analysis at the next design stage the extent of ventilation requirements will be determined. Should additional ventilation be required then it is proposed that local NVHR ventilation units are provided at high level with local controls for occupant operation.

2.8.1.3 Domestic Services

An existing sink is located within KW039b with hot and cold water supplies fed from the adjacent store KW038. It is not envisaged that domestic services will be required for the new classroom and therefore the existing supplies will be removed and capped off

2.8.1.4 Drainage

An existing sink is located within KW039b with waste drainage from the adjacent store KW038. It is not envisaged that domestic services will be required for the new classroom and therefore the existing waste will be removed and capped off.

2.8.2 Electrical Services

2.8.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N distribution board, it is likely that this board will need to be replaced to meet the current requirements of BS7671 and the new scheme.

2.8.2.2 Small Power

Accessories are generally mounted on dado 3 compartment trunking ABS plastic and white PVC devices of various ages, there are also conduit drops to outlets

It is proposed to replace all the existing installation with new to meet the new requirements.

2.8.2.3 Internal Lighting and Controls

Internal lighting is generally provided by linear twin/four tube fluorescent luminaires.

It is proposed to replace all luminaires with new LED fittings mounted at high level.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

2.8.2.4 Emergency Lighting

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires are provided on the soffit of areas with lower ceiling heights.

Illuminated emergency exit signage is not provided. Exit signage relies on light available from local stand-alone emergency lighting.

External emergency lights are located above each final exit.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

2.8.2.5 Telecommunications Systems

Communication cabling appears to have been routed within the dado trunking with RJ45 outlets positioned as required.

It is proposed to upgrade the existing installation to CAT6a with the cables running back to the existing racks. New RJ45 outlets are to be positioned to meet the needs of the new room. With high level outlet for WiFi routers located on ceilings POE.

2.8.2.6 Security Installations

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

2.8.2.7 Fire Alarm Installation

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

2.9 Removal of walls to store KW1010A to create larger teaching area

2.9.1 Mechanical Services

It is not envisaged that any mechanical services will be affected or require modification for this area

2.9.2 Electrical Services

2.9.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N distribution board, it is likely that this board will need to be replaced to meet the current requirements of BS7671 and the new scheme.

2.9.2.2 Small Power

Accessories are generally ABS plastic and white PVC devices of various ages, on conduit drops.

It is proposed to replace all the existing installation with new to meet the new requirements.

2.9.2.3 Internal Lighting and Controls

Internal lighting is generally provided by linear four tube fluorescent luminaires.

It is proposed to replace all luminaires with new LED fittings mounted at high level.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

2.9.2.4 Emergency Lighting

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires are provided on the soffit of areas with lower ceiling heights.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

2.9.2.5 Telecommunications Systems

Communication cabling appears to be limited with RJ45 outlets positioned as required.

It is proposed to upgrade the existing installation to CAT6a with the cables running back to the existing racks. New RJ45 outlets are to be positioned to meet the needs of the new room. With high level outlet for WiFi routers located on ceilings POE.

2.9.2.6 Security Installations

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

2.9.2.7 Fire Alarm Installation

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

2.10 New partition in corridor recess KW107 to create new store room

2.10.1 Mechanical Services

It is not envisaged that any mechanical services will be affected or require modification for this area

2.10.2 Electrical Services

2.10.2.1Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N distribution board, it is likely that this board will need to be replaced to meet the current requirements of BS7671 and the new scheme.

2.10.2.2Small Power

Accessories are generally ABS plastic and white PVC devices of various ages, on conduit drops.

It is proposed to replace all the existing installation with new to meet the new requirements.

2.10.2.3Internal Lighting and Controls

Internal lighting is generally provided by linear four tube fluorescent luminaires.

It is proposed to replace all luminaires with new LED fittings mounted at high level.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

2.10.2.4Emergency Lighting

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires are provided on the soffit of areas with lower ceiling heights.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

2.10.2.5Telecommunications Systems

Communication cabling appears to be limited with RJ45 outlets positioned as required.

It is proposed to upgrade the existing installation to CAT6a with the cables running back to the existing racks. New RJ45 outlets are to be positioned to meet the needs of the new room. With high level outlet for WiFi routers located on ceilings POE.

2.10.2.6Security Installations

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

2.10.2.7Fire Alarm Installation

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

3. INNOVATION BUILDING

3.1 Mechanical Services

3.1.1 Heating

The existing heating to KI001E is provided by two wall mounted steel panel radiators provided by two pipe flow and return heating at low level. The location of the existing radiators does not coordinate

with the proposed design locations and therefore it is proposed that the radiators are relocated to the southern wall and the pipework extended to suit the new arrangements.

3.1.2 Ventilation

Ventilation will be provided by the existing opening windows for fresh air and summer thermal comfort requirements

3.1.3 Domestic Services

The existing 15mm CWS supply shall be retained and made ready for connection future coffee machine or tea point.

3.2 Electrical Services

3.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a TP&N and a SP&N distribution boards mounted in KI1001, it is likely that this board will need to be replaced to meet the current requirements of BS7671 and the new scheme.

3.2.2 Small Power

Accessories are generally ABS plastic and white PVC devices of various ages, these are mounted on conduit drops.

It is proposed to replace all the existing installation with dado trunking, to meet the new requirements.

3.2.3 Internal Lighting and Controls

Internal lighting is generally provided by circular fluorescent luminaires.

It is proposed to replace all luminaires with new LED fittings to meet the requirements of the new space.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

3.2.4 Emergency Lighting

Rooms with lower ceiling heights are served by stand-alone three-hour non-maintained bulkhead luminaires are provided on the soffit of areas with lower ceiling heights.

Illuminated emergency exit signage is not provided. Exit signage relies on light available from local stand-alone emergency lighting.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

3.2.5 Telecommunications Systems

Communication cabling appears to have been routed to WAP mounted on the existing containment within the room.

It is proposed to utilise the existing WAP's are to be reused or upgrade as required to suit the new room layout.

3.2.6 Security Installations

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

3.2.7 Fire Alarm Installation

The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. It is proposed to leave the existing installation as is.

4. BUILDING KC18

4.1 Mechanical Services

4.1.1 Heating

The existing heating to the open plan and cellular offices of KC18 comprises two pipe flow/return emanating from the WC area. Pipework is distributed at high level either surface mounted or boxed in at high level. The pipework feeds a mixture of fan coil units and radiators at low level.

The floor area and the fabric construction of the space has not altered and therefore it is assumed that the load provision for the space is adequate.

The existing heating within KC18B and KC18C shall be retained as installed.

The fan coil units/radiators within KC18 and KC18A shall be removed and replaced with new wall mounted steel panel radiators to suit the room configurations.

The fan coil units within the open space that will form the new corridor shall be removed. The pipework to the unit outside KC18-C shall be removed back to the branch in KC18C and capped off. The second FCU shall be removed, the pipework removed back to high level in KC18 and a new 15mm supply provided to a new wall mounted radiator

It is not proposed that any heating is provided to the new meeting pods as there is no fabric losses within these spaces

4.1.2 Ventilation

Ventilation to new offices and external shall be via the existing opening windows.

Within the existing Wardrobe Store, KC18D, the existing ductwork and fan which feeds the stage area behind, shall be reconfigured to allow for installation of the new meeting pods. The client shall confirm if this ventilation system is still in use.

Ventilation to the meeting pods shall be mechanical extract allowing 10l/s person. A single system shall feed all of the meeting pods and discharge via the end wall at low level. The system shall be initiated by multiple PIRs within each space. The PIR shall be a combined unit with the lighting circuit.

4.1.3 Domestic Services and Drainage

It is not envisaged that there will be any domestic services or drainage modifications within this space

4.2 Electrical Services

4.2.1 Low Voltage Switchgear

The incoming three phase supply terminates in a SP&N distribution board mounted in KC18, it is likely that this board will need to be replaced to meet the current requirements of BS7671 and the new scheme.

4.2.2 Small Power

Accessories are generally mounted on dado 3 compartment trunking ABS plastic and white PVC devices of various ages, there are also conduit drops to outlets

It is proposed to replace all the existing installation with new to meet the new requirements.

4.2.3 Internal Lighting and Controls

Internal lighting is generally provided by linear four tube fluorescent luminaires surface mounted.

It is proposed to replace all luminaires with new LED fittings mounted at high level.

There was no evidence of automatic controls, all lighting circuits being operated by manual switches, the new installation will have absence detection.

4.2.4 Emergency Lighting

Rooms are served by stand-alone three-hour non-maintained bulkhead luminaires on the soffit.

Illuminated emergency exit signage is not provided. Exit signage relies on light available from local stand-alone emergency lighting.

External emergency lights are located above each final exit.

A number of key switches are provided for the purposes of testing and are located within the spaces served.

It is proposed to install a new installation of emergency lighting in accordance with BS5266.

4.2.5 Telecommunications Systems

Communication cabling appears to have been routed within the dado trunking with RJ45 outlets positioned as required.

It is proposed to upgrade the existing installation to CAT6a with the cables running back to the existing racks. New RJ45 outlets are to be positioned to meet the needs of the new room. With high level outlet for WiFi routers located on ceilings POE.

4.2.6 Security Installations

There was no access control or CCTV installations present intruder detectors were present.

The intruder alarm installation would remain in the new works with a new detector installed.

4.2.7 Fire Alarm Installation

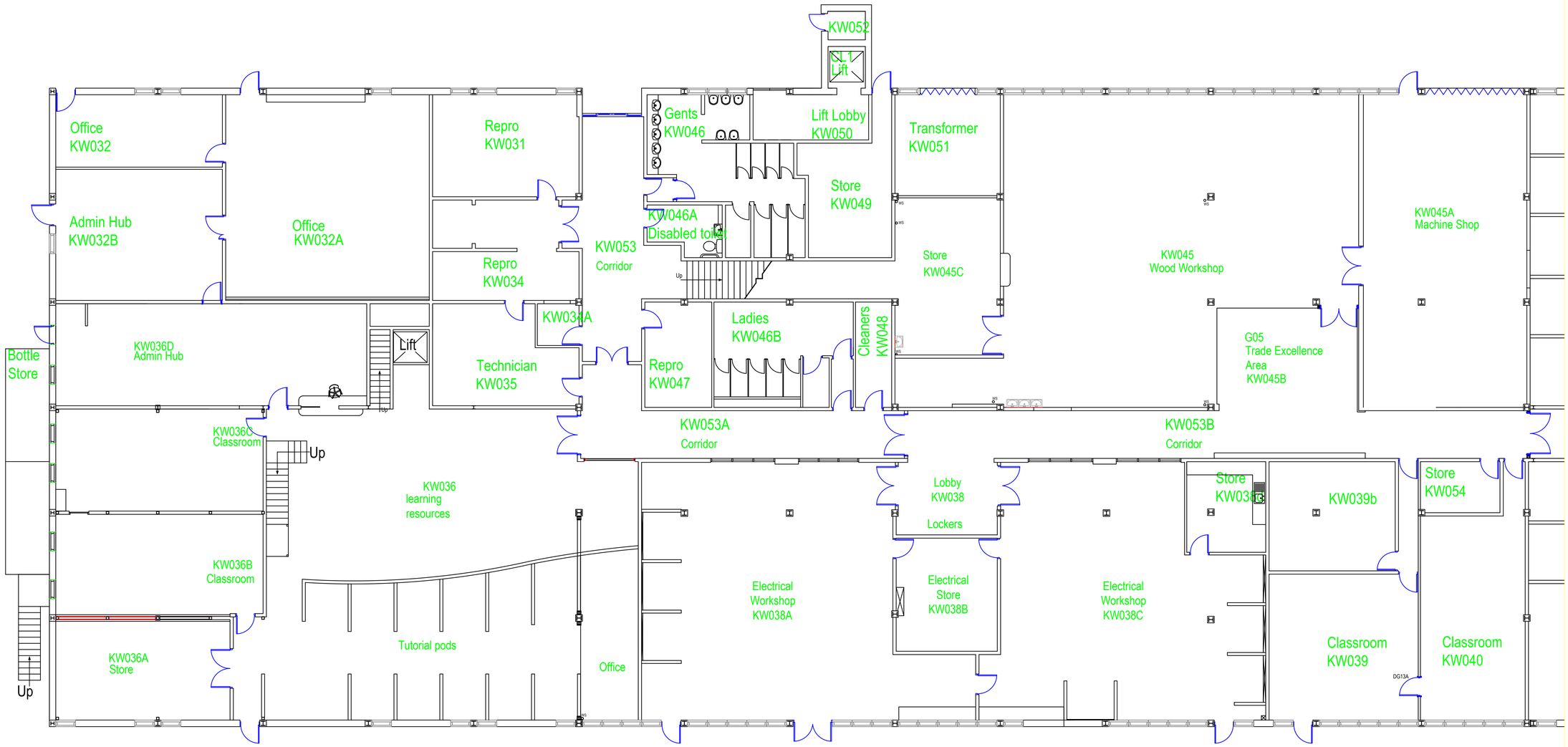
The building is provided with a fire alarm system which is linked to the main building reception. The category appears to be L2 as defined by BS5839.

The system comprises surface mounted break glass units located at final exits and detectors with sounder / beacons.

The system is served by cabling mainly run within white PVC conduit with some exposed sections run clipped direct. The existing installation will be modified to suit the new room layout.

Appendix A

Drawings



Existing Ground Floor Plan

Date	Rev	Description
17/02/21	-	Initial plan

city college plymouth

Title:
Existing Plan for;
Construction Building Grd Floor
City College Plymouth
Kings Road Centre
Plymouth
Devon
PL1 5QG

Date: 02/21	Drawing No. CCP-CB0-TL-01	
Scale: 1:100@ A1	Drawn: G Parry	Rev: -

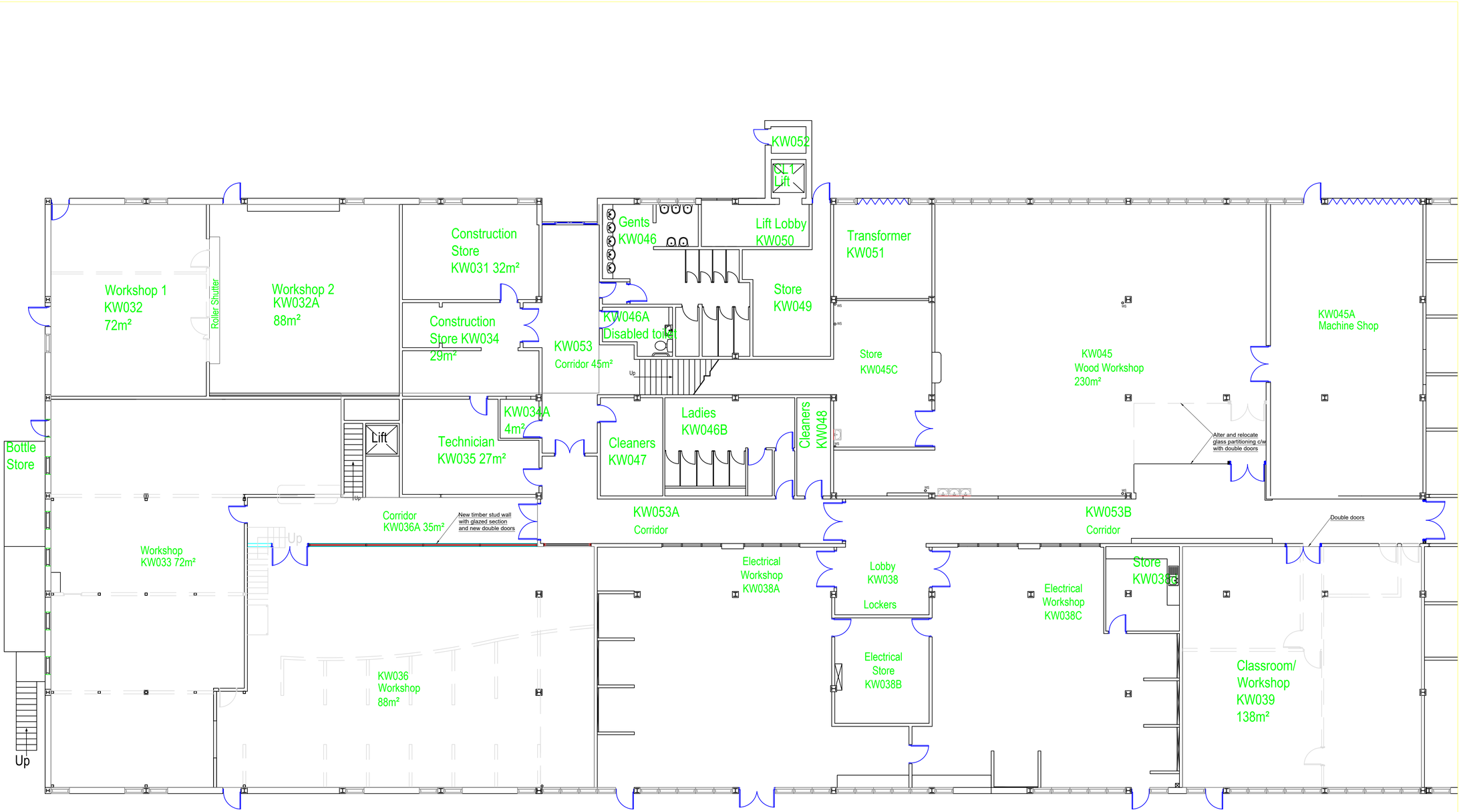
Existing First Floor Plan

Date	Rev	Description
17/02/21	-	Initial plan

city college plymouth

Title:
Existing Plan for;
Construction Building First Floor
City College Plymouth
Kings Road Centre
Plymouth
Devon
PL1 5QG

Date: 02/21	Drawing No. CCP-CB1-TL-01	
Scale: 1:100@ A1	Drawn: G Parry	Rev: -



Proposed Ground Floor Plan

Project Brief

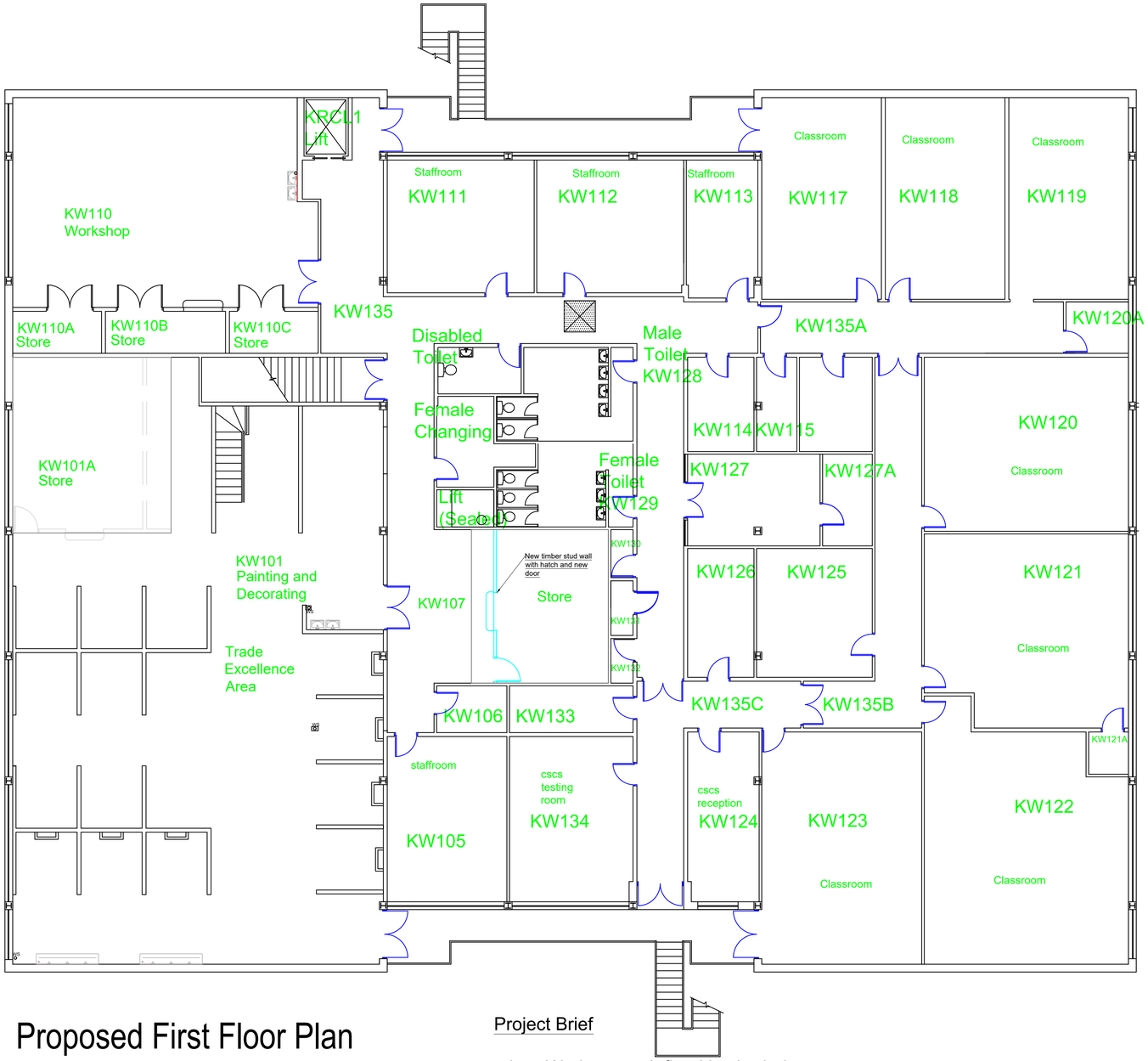
1. Work areas defined in shaded areas.
2. Build new walls to include new double doors and glazed sections.
3. Remove non load bearing walls and make good as denoted by dashed lines.
4. New single and double doors c/w furniture.
5. New full height insulated roller shutter door between KW032 and KW032A.
6. Redecorate all areas.
7. New flooring throughout.
8. LED lighting to all areas, subject to M&E Design.
9. Allow to relocate and alter glass partitioning to KW045.
10. Fitted work benches to all workshop areas.
11. Allow for specialist equipment to all workshops to include required services.
12. Allow for external works to include new windows, doors and decoration.

Date	Rev	Description
17/02/21	-	Initial plan

city college plymouth

Title:
Proposed Plan for;
T Level Funding- Grd Floor
City College Plymouth
Kings Road Centre
Plymouth
Devon
PL1 5QG

Date: 02/21	Drawing No. CCP-CB0-TL-02	
Scale: 1:100@ A1	Drawn: G Parry	Rev: -



Proposed First Floor Plan

Project Brief

1. Work areas defined in shaded areas.
2. Build new wall to include new single doors and hatch.
3. Remove non load bearing walls and make good as denoted by dashed lines.
4. New single door c/w furniture.
5. Redecorate all areas.

Date	Rev	Description
17/02/21	-	Initial plan

city college plymouth

Title:
Proposed Plan for;
T Level Funding - First Floor
City College Plymouth
Kings Road Centre
Plymouth
Devon
PL1 5QG

Date: 02/21	Drawing No. CCP-CB1-TL-02	
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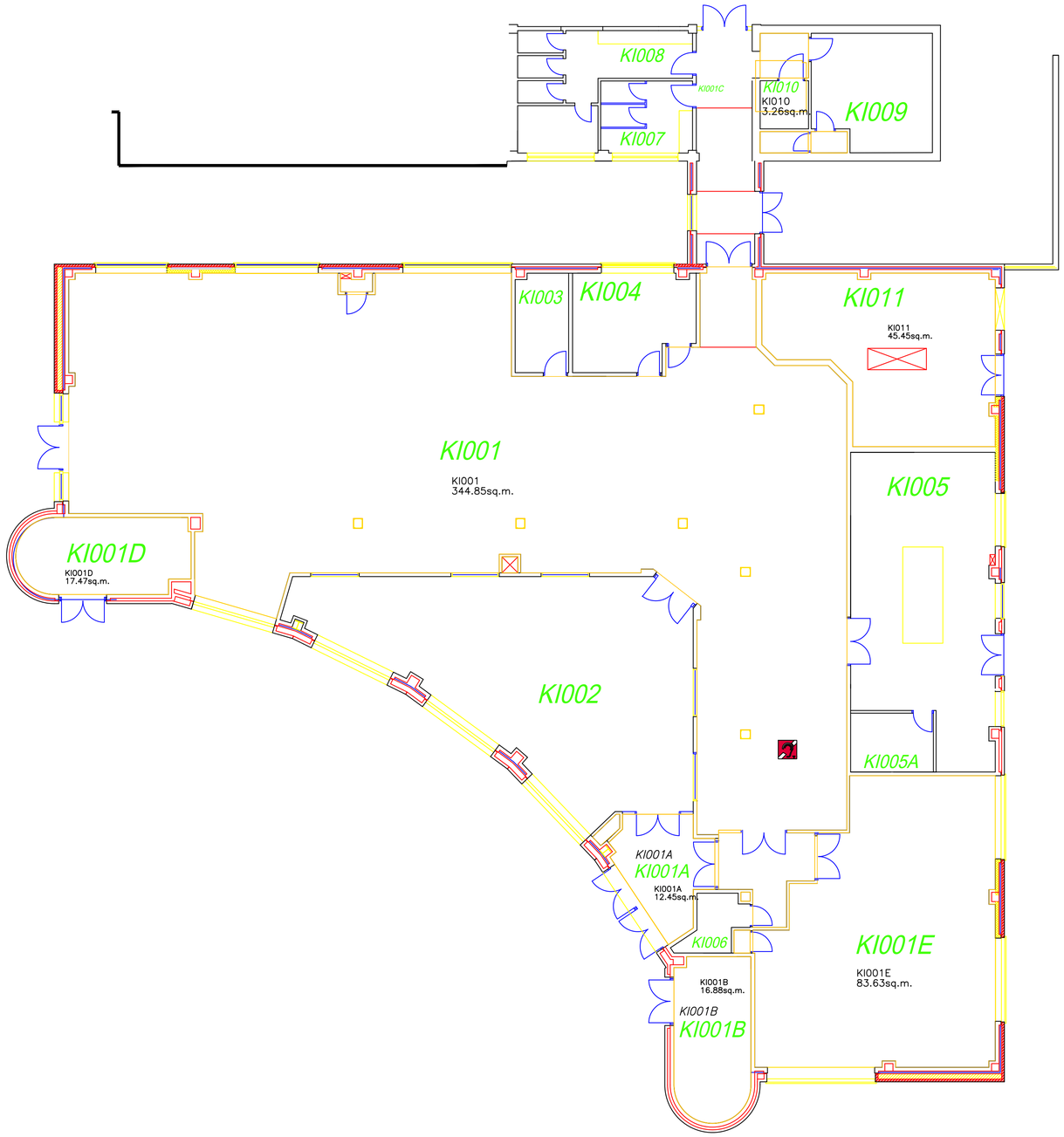

Date	Rev	Description
22/02/21	-	Initial plan

city college plymouth

Title:

Existing Plan for;
Ground Floor Innovation
City College Plymouth
Kings Road Centre
Plymouth
Devon
PL1 5QG

Date: 02/21	Drawing No. CCP-AH-IC-01	
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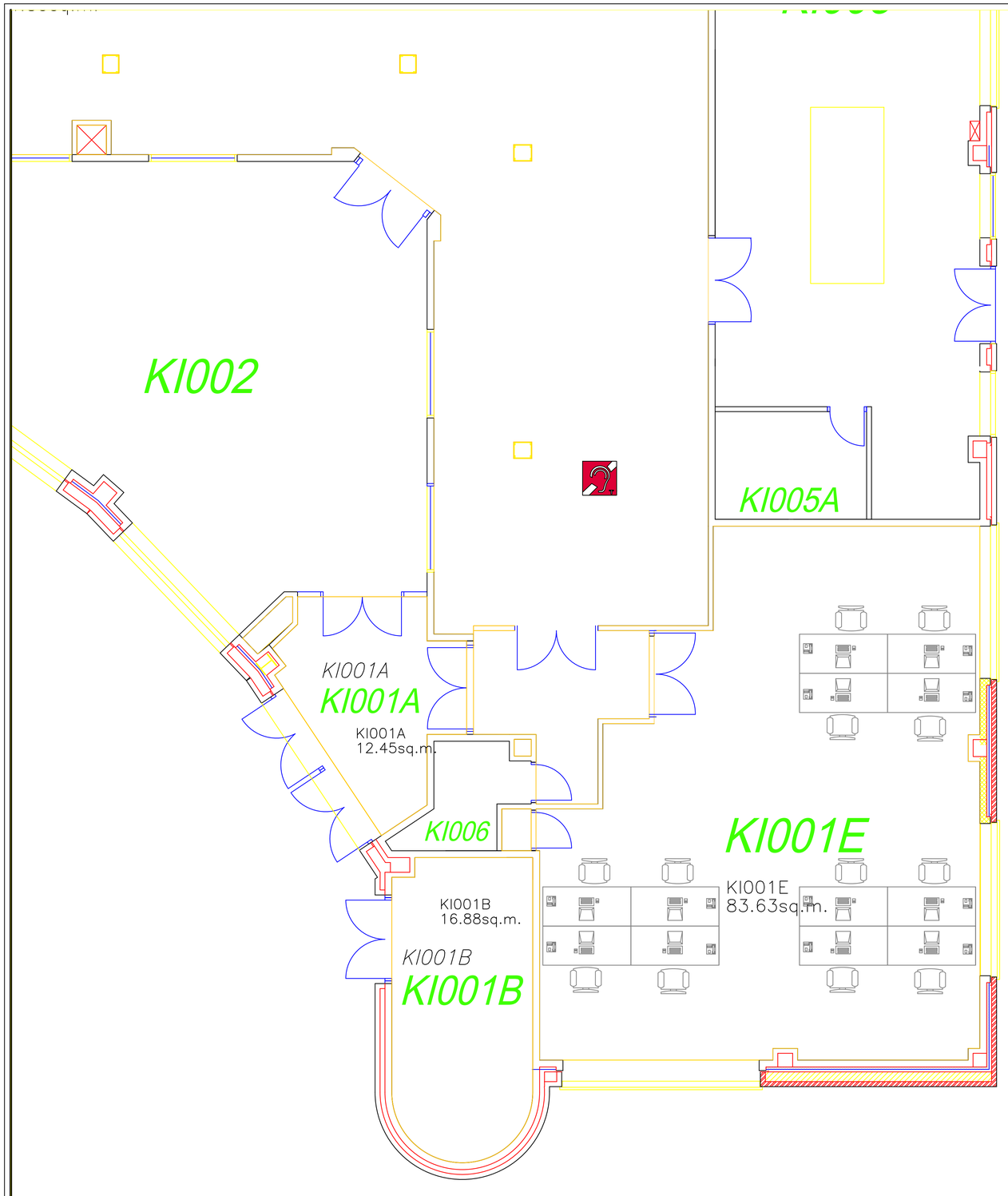

Project Brief

1. Install new power and data for 12 desk positions.
2. New desk and temporary room dividers providing flexible space for displaced staff.
3. Redecorate all areas.
4. New flooring.
5. LED Lighting subject to M&E Design.

Date	Rev	Description
25/02/21	-	Initial plan

city college plymouth

Title:
Proposed Plan for;
Ground Floor Innovation
City College Plymouth
Kings Road Centre
Plymouth
Devon
PL1 5QG

Date: 02/21	Drawing No. CCP-AH-CI-02	
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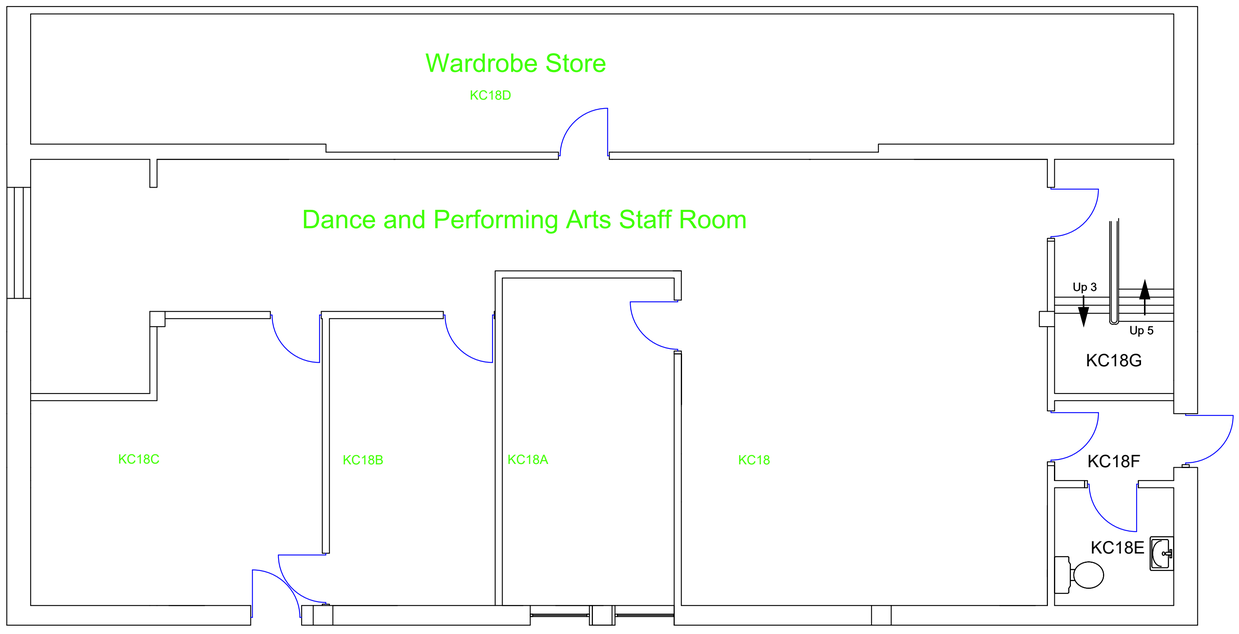

Lower Ground Floor Level

Date	Rev	Description
22/02/21	-	Initial plan

city college plymouth

Title:
Existing Plan for;
KC 18 A-G
City College Plymouth
Kings Road Centre
Plymouth
Devon
PL1 5QG

Date: 02/21	Drawing No. CCP-AH-KC-01	
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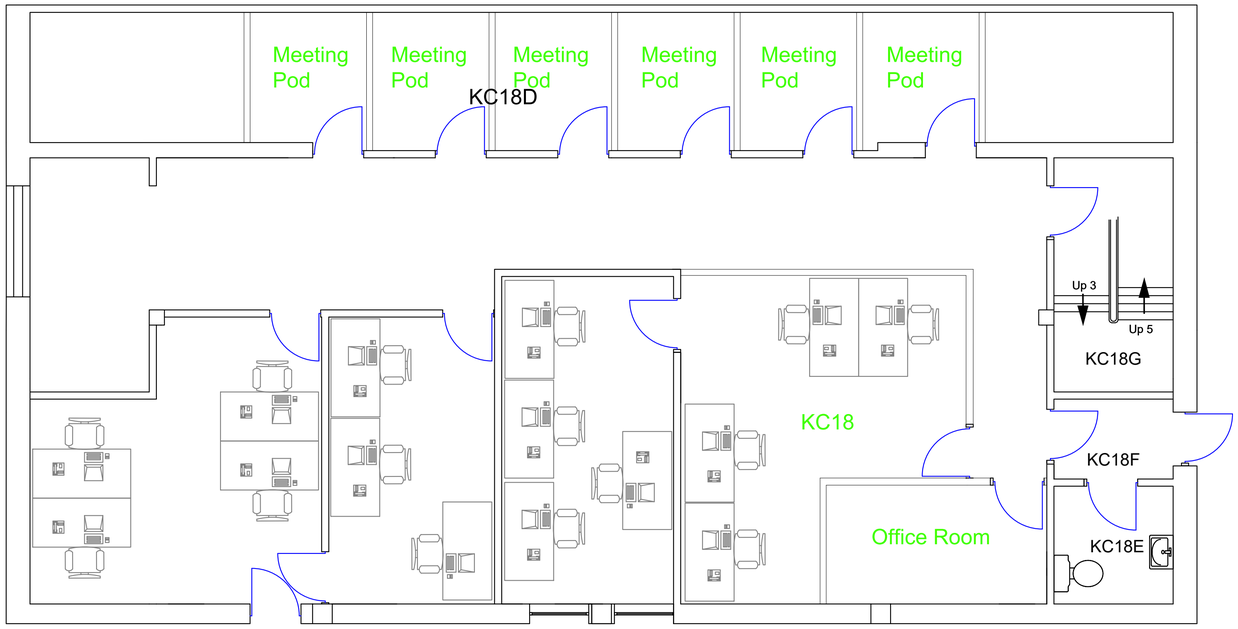
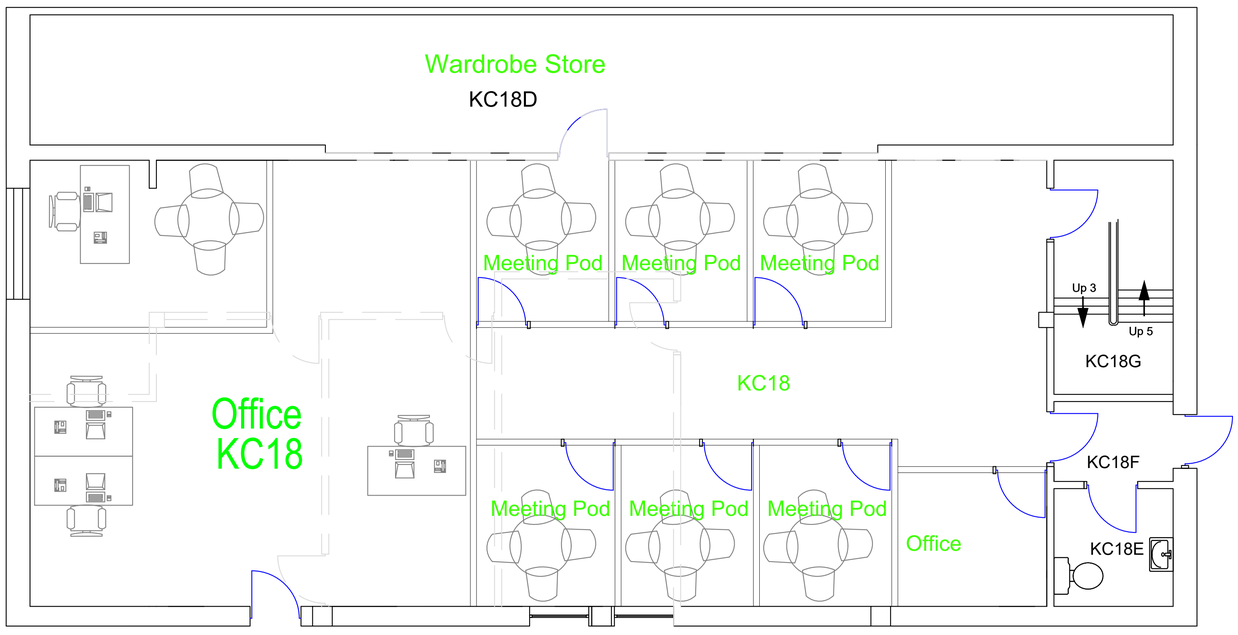


Option 1



Option 2

Project Brief

1. Build new wall to include new single doors and hatch.
2. Remove non load bearing walls and make good as denoted by dashed lines.
3. New single doors c/w furniture.
4. Redecorate all areas.
5. New flooring.
6. LED Lighting subject to M&E Design.
7. Provide suitable ventilation to room pod's as per M&E design.

Date	Rev	Description
22/02/21	-	Initial plan

city college plymouth

Title:
Proposed Plan for;
KC 18- Option 1 & 2
City College Plymouth
Kings Road Centre
Plymouth
Devon
PL1 5QG

Date: 02/21	Drawing No. CCP-AH-CB0-02	
Scale: 1:50@ A1	Drawn: G Parry	Rev: -