

T Level Technical Qualification in Building Services Engineering for Construction (8710-30)

8710-033 Employer-Set Project

Exemplar – A Grade

Summer 2022

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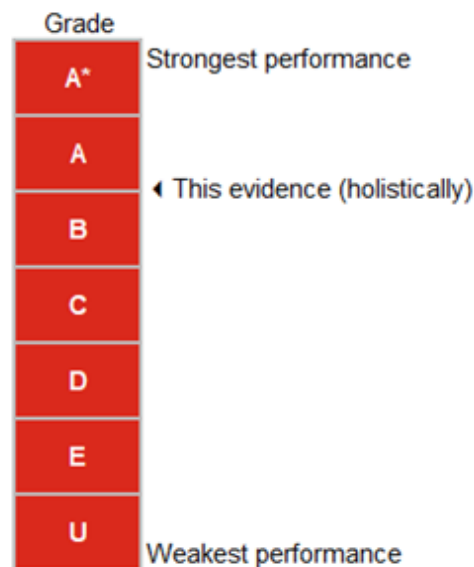
0. Introduction

This document is aimed at providers and learners to help understand the standard that was required in the summer 2022 assessment series to achieve an A grade for the 8710-033 Building Services Engineering in Construction Employer-Set Project (ESP).

Providers and learners may wish to use it to benchmark the performance in formative assessment against this to help understand a potential grade that may be achieved if a learner was to attempt the next summative assessment series.

The Employer-Set Project is graded A* to E and Unclassified.

The exemplar evidence provided for the 8710-033 Building Services Engineering in Construction Employer-Set Project (ESP) for the A grade displays the holistic standard required across the tasks to achieve the A grade boundary for the summer 2022 series.



The Employer-Set Project brief and tasks can be downloaded from [here](#).

Important things to note:

- The standard required of the A grade for summer 2022 was lower than what will be expected in the summer 2023 series and beyond. This was due to a generosity that was applied in the awarding of the summer and autumn 2022 T Level assessments in recognition of the continued impact of the pandemic on teaching and learning as well as the introduction of these new qualifications.
- The exemplar evidence presented, as a whole, was sufficient to achieve the A grade. However, performance across the tasks may vary (i.e. some tasks completed to a higher/lower standard than an A grade).

Marking of this Employer-Set Project is by task and Assessment Objective, below is a summary of these along with the mark achieved by the evidence presented and the maximum mark available for each aspect.

Task	Assessment Objectives	Mark achieved	Max mark available
Task 1.1 Research	<ul style="list-style-type: none"> - AO1 Planning skills and strategies - AO2a Apply knowledge to the context of the project - AO3 Analyse contexts to make informed decisions - AO4c Use digital skills 	7	9
Task 1.2 Report	- AO1 Planning skills and strategies	3	6
	- AO2 Apply knowledge and skills to the context of the project	7	12
	- AO3 Analyse contexts to make informed decisions	1	2
	- AO4 Use maths, English and digital skills	3	6
Task 1.3 Plan	<ul style="list-style-type: none"> - AO1 Planning skills and strategies - AO3 Analyse contexts to make informed decisions - AO4a Use maths skills 	6	8
	- AO2 Apply knowledge and skills to the context of the project	10	16
Task 1.4 Presentation	<ul style="list-style-type: none"> - AO1 Planning skills and strategies - AO3 Analyse contexts to make informed decisions - AO4b Use English skills 	5	6
	- AO2 Apply knowledge and skills to the context of the project	9	12

Task	Assessment Objectives	Mark achieved	Max mark available
Task 2.1 Collaborative problem-solving	<ul style="list-style-type: none"> - AO2 Apply knowledge and skills to the context of the project - AO3 Analyse contexts to make informed decisions - AO5 Carry out tasks and evaluate for fitness for purpose 	9	15
Task 2.2 Evaluation	<ul style="list-style-type: none"> - AO4b Use English skills - AO5 Carry out tasks and evaluate for fitness for purpose 	5	8

1. Task 1.1 Research

Assessment number (eg 1234-033)	8710-033
Assessment title	Employer-Set Project

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	Task 1.1
Evidence title / description	Research notes and record of sources
Date submitted by	DD/MM/YYYY

M Welfare facilities

Upon starting a project, it is essential that a suitable plan is in place from the beginning. This is a necessity because there will need to be certain guidelines and regulations met before work can commence.

One standard that must be met is welfare facilities as each worker needs access to the facilities. These facilities include a place to have a break, eat, use the toilet, clean drinking water, washing facilities, hot water and a place to store clothes or get changed. (SHPonline 2022). These are essential so all workers on site can relax when they need it. For a job it is expected that the principal contractor or site manager supply the workers with these facilities. Not supplying the workers with these facilities can lead to fines, work notices, high legal costs and jail time (highspeedtraining 2022).

Many places supply these facilities but they all do it at different costs and in their own style so thorough research into them is essential to meet the workers needs. Buying a site cabin for the duration of this job would cause an increased cost so to avoid this, hiring one for the duration would be more suitable. The same applies for the on-site toilets as hiring them would be more cost effective than buying them. Since there will be a maximum number of 30 workers on-site, one singular toilet would not accommodate the needs of the workers so to accommodate the needs there would need to be an increased number of these toilets. To accommodate all 30 workers on site, it is recommended that there is one toilet per 7 workers per 40 working hour week (site equip 2022).

One main regulation for the monitorisation of these facilities would be the CDM or the construction design management, however many other regulations provide insight into this subject, the CDM is the most well-known.

First aid provisions and emergency plans

Health and safety regulations are the most important regulations when it comes to the workplace. Every company must follow these regulations or they can be shut down, work can be stopped, fines can be put in place and imprisonment.

To meet these regulations all the criteria must be met and this includes supplying workers with all the necessary provisions such as a first aid kit, emergency wash stations, emergency eye wash stations and adequate first aid assessments like risk assessments. All these provisions must be on site somewhere. Most cases there is one in site cabins and one in the place where work is taking place.

As part of the health and safety it is essential that all fire escapes are unobstructed and signed and that there is an emergency muster point that all workers must go in the event of an emergency, for this it is also essential that any changes to these procedures are told to all those on site. On this site, the emergency muster point will have to be away

from the actual building so a suitable place for this point would be the south side of the basketball court that is situated on the west side of the sports complex. In the case of an emergency the emergency services will have to arrive on site so to avoid any problems with this, the site access road must always remain unobstructed

Site offices/administration

Site administration or site office facilities aren't essential but could be used to accommodate for the site manager, health and safety officer and even some work that would have been carried out in the office of the sports complex so some work can continue while construction takes place. This would keep the employees at work and keep all online work up to date, this would cause extra expenses but it would be beneficial for the company as it would call for repeated business.

If these offices are implemented then the site manager, health and safety officer and security will have to be on site at all times during work however, the site security could be working 24/7 to ensure nothing bad happens such as theft. Again, this will cause for an increased expenses but it will be more beneficial for the job to have these facilities.

The site cabins and offices will be located at the south of complex on the open grass area to avoid blocking roads or access to the site. This will be important because the site access road is a single-track road so any blockages would cause many problems also with this road being a single-track road it may cause problems with access. Bigger vehicles such as the ones bringing the cabin on site will have to take right of way when on the road as there is very little room for the manoeuvrability of larger vehicles. To counter this problem a smaller cabin could be placed at the beginning and end of the road to help control the ingress and egress of site traffic.

Site services

On site there will be many different services as the workers need certain facilities and the building itself will need some facilities. One very important facility that the site will need is electricity and this is important because without it, the site cannot function. The electricity will need to be created by an onsite generator, this will have to power all site cabins and some facilities inside of the actual building. The generator will need refuelling if it is to work all day so fuel will have to be stored on site however, it will have to be stored correctly as if it is not, it could create a huge risk. The fuel will have to be regularly supplied to the site so the generator will have fuel so again it is instrumental that the site access road is kept clear. Another thing to note is the fact that a generator will create a lot of noise while it is working so it will have to be situated in a place that is away from the facilities so workers can relax without the sound of a loud generator. Regular checks on this generator would be required so no problems will arise without it being noticed by the person checking. This could prevent days where the entire site has no power so it may be fundamental that this happens. I previously stated that some cabins may be situated on

the access road to control traffic, these cabins will be too far away to be powered by one generator so smaller generators could be placed with these cabins so they can function separately to the main generator.

Another facility that will be very important on site will be water and this cannot be taken from the existing building as the water would have to be turned off to avoid leaks during construction or maintenance of the building so a planned temporary water supply will be necessary (water direct 2022). This will be the only way to get water without rerouting the mains network so to prevent more work from happening a temporary supply would be required. This water supply will also have to be accessed by those working in the buildings so it may have to be used in two different places across the site. The cabins will also need access to this water so they will have to be fitted to this water supply.

Waste management will be important on this site as a lot of the older components, waste from the cabins and the extension will require certain skips to help reduce the amount of waste that is kept on site. To help manage this there could be a number of different types of skips on site to help promote the recycling of materials and to make sure the waste is disposed of correctly. Although it would be more expensive, it would be more beneficial and since the client is trying to implement different types of green technology, this could be seen as us following and complying with their view. The skips will have to be emptied regularly to avoid an overflow and to make sure the correct waste can still fit in each skip. The skips cannot be stored in the grass area with the site cabins as the large truck may get stuck in wet grass if it drives on it so to avoid this, the skips will be stored in the car park on solid ground. The skips will take up all five spots that are located in the north of the car park, this is so the skips are out of the way of the normal site traffic but close to the site so materials don't have to be moved far.

Gas can be very useful to the site but since the nearest gas pipe is 0.6 miles away, it would be unwise to rely on gas unless a large gas tank was fitted to the site and regularly refilled. This would make gas more usable but would cause the need for more work to be done so all facilities will have to be electric including all components in the cabins so electric heaters and boilers would have to be used in order to not rely upon gas. Gas would be cheaper to run (look after my bills 2022) but electricity will be better for the environment and be more convenient for this site.

Toilet cleaning would be very important because a lot of workers will be using the toilets regularly so they will become messy and smelly fast so to avoid this scheduled cleaning and emptying will have to be planned for to ensure the toilets stay clean. This schedule will be subjective to the number of workers working at one time because there won't always be 30 workers on site so there will be less need to clean them if there are only 10 on for a period of time.

JIT deliveries would be useful as it would mean less things to be stored on site at any given time and it would reduce the risk of things being stolen but if work is ahead or

behind schedule then things may not turn up in time or turn up too late. This idea would be good for a smaller site but since there is a lot of open space then this would not be necessary and would mean less vehicles driving on and off site which is good because the road is small and should be clear as much as possible.

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<https://lookaftermybills.com/blog/energy-comparison-gas-vs-electricity/> (Accessed on 06/04/2022)

2. Task 1.2 Report

Assessment number (eg 1234-033)	8710-033
Assessment title	Employer-Set Project

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	Task 1.2
Evidence title / description	Report
Date submitted by candidate	DD/MM/YYYY

Sports Facilities Plc

Building extension

The aim of this report is to provide the client with information on the new extension to the facility and changes to the existing building. This will include welfare facilities; how they are provided; where they are located; emergency evacuation plans; possible changes to the plan; ingress and egress.

Welfare and site facilities

When providing welfare facilities to the workers, there is a minimum that can be done and there is also more that can be done. If minimum is done then workers may have a lower moral due to less provisions, this would result in a slower work rate and poor work standard. Although this would be cheaper, it is not advised. However, if the workers are provided with all welfare facilities, then they will have a higher moral due to more provisions, this would result in higher performance works. Although this is more expensive, it is advised.

The minimum that would need to be provided would be a site cabin, toilets, clean water and hot water but there can be a lot more provided that would be highly beneficial. For a higher performance site, a lot more could be provided such as a changing room/dry room, site manager office, more toilets, a larger cabin and a site office.

A larger cabin would be highly beneficial because it would give workers more space to have a break and eat, however it would take up a larger space so less could be stored on site at any time. Having a site manager on site at all times would also be beneficial because it would mean that all work is monitored closely so it will be done to a higher standard, less faults will occur because there will be someone there to confirm things are done correctly, to the client's standards. More toilets would be beneficial because there will be a lot of people on site at once, a maximum of 30, so they will have a need of more toilets or they may struggle with work also these toilets will have to be regularly maintained to make sure they are clean and usable so cleaning/emptying will also have to be planned. A site office is not necessary but it can be beneficial as the workers from the sports complex can still complete office work and still attend work. The site office will also allow people from Sports Facilities PLC to work onsite to help the project run efficiently. Another optional facility would be a health and safety officer's cabin, this would ensure that all work is done correctly and safely meaning there will be less injuries or accidents on site. For this a cabin is not needed and they could be positioned inside the site office. Site showers could also be used and these

would help in an emergency or just for hygiene purposes.

Water will be needed for welfare of the workers but the water to the building has been turned off. To still meet the needs of the workers, there are two options that can be done. One option would be to use the mains water and redirect it towards the cabins or to get a temporary water supply fitted to the site, both would work and both would have its own benefits. I would recommend that we redirect the mains.

These cabins will have to be hired and not bought because it wouldn't be cost effective to own them. They will need to be transported onto site before work can begin and since they will be hired then it will fall down to the hire company to get them onsite. A company called Nixon Hire offer a wide range of site facilities that will be necessary for the site to function. They also offer more than what is needed at a reasonable price so Nixon Hire could be very useful towards the project. Toilets will also have to be provided and Nixon Hire also provide this so all site facilities could be provided by them. Nixon Hire also provide solar units which could help power the site facilities cleanly and quietly.

These cabins will have to be located on the south side of the site, on an open plot of grass and this is because it is close to the site and the entrance road. It is essential that these cabins are placed in suitable spot because it would cost a lot of time and money to adjust them so placing them here would cause for no problems. However, these cabins and facilities could be placed on one of the courts but this would disrupt the public use of them so this would be unsuitable. This could be done but it will only be done if it is necessary.

Health and safety provisions will also have to be considered because there are some necessary facilities that are required by law. This includes an emergency eye wash station, emergency shower and first aid kits. This can all be supplied by Nixon Hire.

Security cabins will also have to be implemented because there will be materials on site that could be stolen so security will be important. These cabins will be located at different end of the single-track road and these will double as the traffic controller for this site. Again, this will cost more but it will be beneficial for the site as a whole.

Storage management will also be important to the site because there is a finite space on this site and it would be highly inconvenient for the materials needed to be stored far away so they may have to be stored in the car park or next to the other site cabins for convenience. These cabins need to be secure so they cannot be broken into. However, some things won't be able to be able to be stored so fencing surrounding the site cabins and storage would prevent unauthorised access and theft.

Waste management will also be important as skips will have to be regularly emptied and that the site is being left clean with minimal waste laying around on the site. As part of waste management, recycling will have to be promoted as it is highly important towards the client and towards a clean site. As part of the regular emptying of the skips more traffic

management will have to be planned. These skips will have to be located in the car park instead of next to the site cabins because large trucks will have to move these regularly so if it rains then they may get stuck so to avoid this they will be kept on the northeast of the car park.

Ingress, egress and evacuation plans

Entrance to the site will be via the single-track road located to the south of the site. The exit will have to be the same road as there is no other available options. One major problem with this is the fact that the road is single-track which means that the road will have to be closely controlled/monitored especially when it comes to larger vehicles. To manage this road, I suggest that we place two smaller cabins on different ends of the road and these cabins will control the flow of traffic on and off site. This will be essential because without some measures in place then the road could easily get blocked and cause many problems. Although the single-track road has passing places, this may not be enough so this management and some policies will have to be put in place. One policy that will be in place will be that those leaving the site will have right of way on the road. Another is that deliveries and other services will have to call ahead to make sure they can keep the road clear.

In the case of an emergency a plan will have to be in place to ensure that people are safe while it occurs. The plan must entail a muster point and a procedure in the event of an emergency. In the even of an emergency all workers must leave the building immediately and assemble at the muster point which will be the south of the basketball court, then the site manager or health and safety officer will do a register to make sure no one is still in the building. If necessary, someone must call the emergency services when they are safe. However, if the emergency is only small and a worker is competent enough to handle it then they can handle it with the appropriate equipment. For example, a small fire should be extinguished immediately instead of leaving it to grow using the appropriate fire extinguisher. The fire extinguisher should be located in various places around site and someone should check weather they are in date still. The muster/assembly point should not change over the duration of the site but if it does the new muster point will be the security cabin at the entrance of the single-track road. In cases of a serious emergency then the workers should go straight to the muster point at the security cabin because it may be dangerous to go to the basketball court. An emergency should not occur but if it does then this plan should be followed.

Summary

In summary welfare facilities are needed but even more can be utilized to make the moral better, water needs to be redirected on site, traffic management is significantly important and the evacuation plans must be followed. All these need to be followed for the site to function correctly.

3. Task 1.3 Plan

Assessment number (eg 1234-033)	8710-033
Assessment title	Employer-Set Project

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	Task 1.3
Evidence title / description	Project plan and supporting statement
Date submitted by	DD/MM/YYYY

1.3 Gantt Chart Report

The Gantt chart that I have created contains the work schedule for the extension.

On the Gantt chart there are arrows which point towards the next task, this means that the next piece of work cannot begin until the previous work is done.

One rule that was pointed out from the brief was that no more than 30 workers could be on site at any one time so to comply with the rules I have had to rework some aspects of the Gantt chart to fit these requirements. All companies that will be partaking in this work will have a number of workers that will be on site but these numbers were not specified so I have assumed a maximum of 8 workers per company. However, this may have to be altered again because the site manager and other roles will be on site permanently. To avoid these alterations, I have chosen not to include these roles into the worker count.

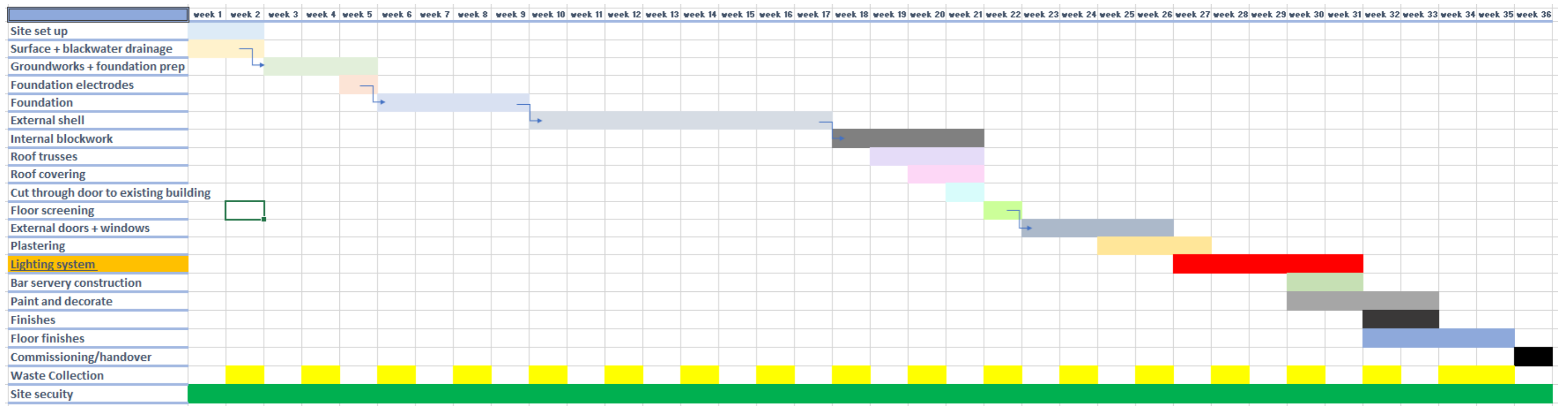
There are a range of key points that need to be made clear in the Gantt such as a few jobs overlapping, this is because it would be more time effective to have multiple trades in at once, another is that waste collection must be done more often closer to the end because the site will be cleaned before it is handed over so all waste will have to be gone by the end. A third thing to note is that it is imperative that the site security is present the whole duration of the extension to avoid any theft or any unauthorised access.

Waste collection is essential for this site to function because the complex will still be used by the sports club attendees when work isn't taking place, most likely on weekends, so to avoid trip hazards no waste can be laying around the site. Even though the attendees will not have access to the site, it is necessary for the site to be tidy. To make sure the site stays clean regular waste collection slots must be allocated and in rare occurrences it may have to come more often to cater for an excess of waste.

When work is taking pace there will need to be specialist workers and equipment. The equipment will include cranes, generators and each piece of equipment will need a specialist worker to use it or set it up. For example, a crane will be needed to assist in the erection of the frame and for the crane to function correctly it will need an operator, regular checks of a qualified contractor and a signaller. Another thing that will be needed are diggers or excavators, they will be used for the foundations and will require a specialist operator to use it. These specialist workers and the equipment will be fundamental towards the construction of the extension, these workers will have to take priority when it comes to having too many workers on site at a time.

Besides the specialist operators there are other key roles that will have to be done to help finish the extension, this will include other building services engineers like heating/gas engineers. Although they are not on my Gantt chart other roles will also be in and they will undertake many jobs that are essential for the extension. Most roles will have to work in unison to make sure the project is finished on time and to make sure all work is done correctly.

All work will have to be done by the 35th week so it is ready to be signed off and handed over to the client. This includes all work and there will be no exceptions however, if some work is behind for a valid reason which would mean work is not completed by the 35th then the client will be informed of the delay as this cannot be helped. This could be caused by a late delivery or issue with equipment so the client should be informed of possible delays.



4. Task 1.4 Presentation

Employer-Set Project - Observation Record (Task 1.4 Presentation)

8710-30 T Level Technical Qualification in Building Services Engineering for Construction

8710-033 Employer-Set Project (Summer 2022)

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234
Date	DD/MM/YYYY

Provider name	<provider name>
City & Guilds Provider No.	999999a

Record observation notes below to inform external marking. Notes must be detailed, accurate and differentiating. They should identify areas of strength and weakness to distinguish different levels of performance quality for each of the prompts below.

Structure/detail

The PowerPoint was well put together, structured sensibly and had relevant content. There were areas of the presentation where the level of detail was very good reflecting the candidate's knowledge of the subject.

Techniques

The technique used (basic PowerPoint delivery) was adequate for the task at hand. All information was suitably presented in this manner.

Terminology

The terminology used was good for the given scenario with some technical terms used.

Theories and concepts

Links to theories and concepts were infrequent.

Communication

The candidate demonstrated an excellent level of confidence whilst communicating clearly at all times. Their speech was clear, fluid and was used to supplement the PowerPoint content.

Tutor questions to candidate	Candidate responses
What was the most challenging aspect of the brief?	Finding out when everything was suitable for everything to go, being able to co-ordinate. The start of the Gantt chart to the end of it. Planning it to make sure it all runs smoothly will be the hardest part of the project.
What are the key aspects related to Health and Safety?	Key is that everyone works in a safe manner. Everyone needs to be serious and work in a way that is compliant with all the health and safety regulations, such as the Health and Safety at Work Act of 1974. Regular health and safety checks would be scheduled as well as surprise checks (e.g. PPE). Disciplinarys may be required for some staff.

<p>What aspect will have the most impact on the environment and sustainability?</p>	<p>The noise can really disrupt any habitats around the area, especially since there may be some birds' nests on the existing sports complex roof. So to counteract that, you'd have to be mindful, keep quiet (which may be hard on a building site).</p> <p>Due to the bar in the extension, there will be more jobs for the area. As well as training new people involved in the project.</p> <p>The update to the sports complex will also help the local community in terms of fitness and health and so they may start respecting the environment more.</p>
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Any other aspects
<p>An A4 copy of the presentation slides was given as a handout, printed with six slides per page.</p>

Tutor signature	Date
<p>X _____</p>	<p>DD/MM/YYYY</p>

If completing electronically, double click next to the 'X' to add an electronic signature once the record is **finalised**.

Task 1.4 Presentation (slide deck)

Assessment number (eg 1234-033)	8710-033
Assessment title	Employer-Set Project
Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234
Provider name	<provider name>
City & Guilds provider No.	999999a
Task(s)	Task 1.4
Evidence title / description	Presentation
Date submitted by candidate	DD/MM/YYYY



Site Induction

Contents

- ▶ General site safety
- ▶ General first aid
- ▶ Site rules
- ▶ Provisions and welfare facilities
- ▶ Site emergency procedures
- ▶ Ingress and egress
- ▶ Installation planning timings
- ▶ Impacts of work

General site safety

Site safety must be maintained throughout the project and it must be compliant with all necessary regulations. Failure to meet these regulations and requirements may cause a cascade of issues, which could stop all work.

After some work has commenced, the work station should be left tidy to avoid any unnecessary injuries.

Upon a delivery all items should be stored in the appropriate places, if this means that materials will be stored inside the building then they should be organised and in a place that is convenient to all.

Since the site is a smaller site only 30 workers should be on site at any one time, this does not include site managers and other similar roles.

If work is to commence and it is too dark then work must stop until site lighting can be provided.

Site rules

- ▶ There should be no unauthorised people on site at all.
- ▶ All workers on site must be dressed in appropriate PPE.
- ▶ No more than 30 workers on site at once, this excludes site managers and other roles.
- ▶ All workers must read and sign risk assessments during induction.
- ▶ All work must be compliant with method statements and relevant regulations.
- ▶ All work permits must be in date.
- ▶ No nests/habitats may be destroyed over the course of the project, they can be moved but only with permission.

General first aid

- ▶ Any incidents/injuries would have to be reported as soon as possible to the relevant authority such as the site manager. First aid kits should be positioned around site and all workers should be made aware of these locations, any uses of the first aid kit must also be reported so it can be refilled for the next use.
- ▶ Located on site there should be a emergency eye wash station and an emergency shower to cater for emergencies.

Provisions and Welfare facilities

Site offices locations must be discussed with all workers.

Site cabin must be provided for workers.

Cold, clean and warm water must be provided. Temporary water supply may be needed or connecting to mains.

Dry room/changing room must be provided for workers.

PPE must be provided for workers if they require it.

Other facilities will be needed

Site emergency procedures

In the event of an emergency all workers must stop work and leave the area immediately, once they have left they must go to the muster point. This point is located at the south side of the basket ball court. However, if the issue can be resolved safely then workers can tackle the emergency themselves. Once they have arrived at the muster point, a register must be done to make sure everyone is out of the building. If not done already the emergency services will be contacted.

This muster point should not change over the course of the project but if any changes to these procedures happen then the workers must be informed.

Ingress and Egress Management

Since the entry road is single track, it will be rather narrow so to avoid any problems on this road there will be 2 small cabins at either end. These cabins will manage the movement on this road by communicating with each other this would avoid any jams/stoppages on the road so the site is always accessible.

These cabin will also double as the site security to make sure there are no unauthorised access and nothing gets stolen.

All workers will have access to the sports complex car park so there should be no issues with site access.

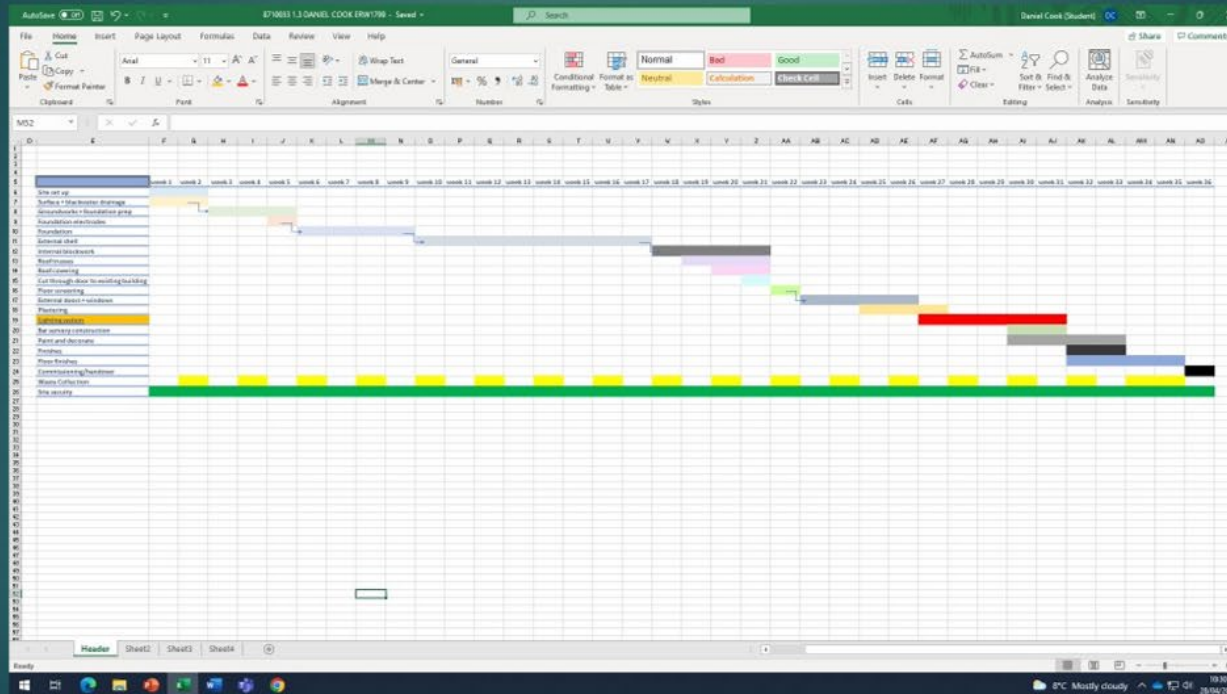
Installation planning timings

The length of the project will be 36 weeks and on the 36th week the building will be handed back to the client. However, if there are delays that cannot be helped then this date may change and the client must be informed on this.

There are many shortages of materials currently due to COVID so there may be a few instances where this happens. The client will have to be understanding of this. If there are delays that can be helped then something shall be done about it and if necessary disciplinarys may be given out.

Gantt chart of project on next slide.

Installation planning timings



Installation planning timings

On the gantt chart a section is highlighted and this is due to the fact that this can now begin as the ceilings are finished and the plastering is done so the entire lighting grid can be completed in one go. The lighting system can be first fixed in week 20 but they do not arrive until week 27 to try and prevent them from repeatedly coming and going over the duration of the project.

Impacts of the work

Over the duration of the project there will be many impacts, one of these will be the disruption of the sports complex and this cannot be helped. Another impact will be the amount of emissions that is released over the course of the project. A third impact may be the disruption of the wildlife.

Other impacts would be down to delays as some work cannot start until the previous work has been completed so a backlog of work may start. Delivery times will also impact on the work timings.



Any questions?

Hand outs will be provided

5. Task 2.1 Collaborative problem-solving

Assessment number (eg 1234-033)	8710-033
Assessment title	Employer-Set Project

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	Task 2.1
Evidence title / description	Email
Date submitted by candidate	DD/MM/YYYY

Dear Sir/Madam,

I am writing to you today to express my ideas on the heating and water system.

I believe that a gas fired and a solar thermal system would be appropriate because it meets a requirement of the client and it will be more reliable. The gas fired system is a suitable choice because it is already installed in the existing building so an expansion of this would be cheaper and a lot easier. The solar thermal system would be a good choice as it cannot function effectively enough by itself but with the help of the gas system then it will work effectively at heating the water and the building. The gas system will be there as a support of the solar thermal so less gas will be used making this building more environmentally friendly. Also the solar thermal panels can only face in certain ways so only a small number of panels can fit on the roof and this the reason why this system is backed by the gas system.

Gas has been picked over the other available options because there is a lpg tank already on the site so regular deliveries of gas will have to be scheduled. This shouldn't be an issue because this has been previously done so that will be able to continue and this may not be done as regularly because gas is no longer the main system therefore saving money.

The air source and ground source heat pumps were considered closely for this however they were decided to be too expensive and too large scale for this project. Finding workers for this project would also be difficult because the technology is new so there are few specialists in this field so they could overcharge and this couldn't be helped as there would be no other alternatives.

Regards,

<first name> <surname>

Assessment number (eg 1234-033)	8710-033
Assessment title	Employer-Set Project

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	Task 2.1
Evidence title / description	Discussion notes
Date submitted by	DD/MM/YYYY

	Advantages	Disadvantage
Ground source	Clean energy / eco friendly Efficient. Low maintenance	Expensive Hard access
Air Source	Clean energy / eco friendly efficient	Expensive
Gas Fired	effective Log tank	not eco friendly NO access Prices are up
Oil fired	Effective	Expensive not eco friendly
Electric powered	Clean / eco friendly	No power = no heating
Solar thermal	Clean / eco friendly	Roof may not face correct direction
Biomass	Sustainable	Not clean / eco friendly Expensive

Employer-Set Project - Observation Record (Task 2.1 Collaborative)

8710-30 T Level Technical Qualification in Building Services Engineering for Construction

8710-033 Employer-Set Project (Summer 2022)

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234
Date	DD/MM/YYYY

Provider name	<provider name>
City & Guilds Provider No.	999999a

Record observation notes below to inform external marking. Notes must be detailed, accurate and differentiating. They should identify areas of strength and weakness to distinguish different levels of performance quality for each of the prompts below.

Communication skills

The candidate demonstrated good communication skills throughout the discussion. He spoke clearly and fluidly with an appropriate tone. He responded to the statements of others with a professional attitude and used diction that precisely expressed his intent.

Collaboration/contribution

The candidate was able to contribute valuable information to the discussion. He worked well in collaboration with their peers to form conclusions and justifications for recommendations.

Methods to solve the problem

The original brief and client specifications were recalled addressing the problem. Various methods were used as the video will clearly show.

Any other aspects

The candidate was confident and made valid points throughout the discussion.

Tutor signature	Date
X _____	DD/MM/YYYY

If completing electronically, double click next to the 'X' to add an electronic signature once the record is **finalised**.

6. Task 2.2 Evaluation

Assessment number (eg 1234-033)	8710-033
Assessment title	Employer-Set Project

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	Task 2.2
Evidence title / description	Evaluation
Date submitted by	DD/MM/YYYY

Evaluation

Throughout all tasks I believe I worked well and in a good pace however I do think I could have improved in a few fields.

Task 1.1, the research, went well as I talked about all relevant things and met all requirements for this task however I believe I should have talked in more detail and expanded on more things. One of these things being the reasoning behind why certain things were needed, in some cases I left it too brief. Next time I complete this task I will have more of a plan to do it and do more research so I can achieve the detail I want. Also next time I need to do more relevant research because some of the time I spent researching was wasted as I did not keep it relevant enough.

Task 1.2, the report, This task asked me to create a report on the research that I had created. Task 1.2 went well as I talked about all relevant things but I did not talk about enough as there were some instances where I left the information too brief. A large issue I found was the fact I was relying on memory more than reflecting back to the previous task. I did look back to task 1.1 but I should have done it more often so I could keep things as relevant as possible. Next time I do this task I will make sure to use my notes/research more often. Also I believe I repeated myself a few times as some points were similar so I will try to not do this in the future. I found myself stretching out to reach the work count in a few cases.

Task 1.3, the gantt chart, this task asked that I create a gantt chart and talk about why I had people in at certain times. Task 1.3 did not go as well as I had planned due to the fact of the presentation of my gantt chart, I think it could have been presented in blocks of eight weeks instead of being stretched out into one long row. This would make the gantt chart more readable and clearer to the viewer. My gantt chart is long so I believe it is a struggle to read it. The reasoning of the gantt chart also was not the best as I kept it far too brief and unclear as to what some of my points were. Next time I will redesign my gantt chart to make it clear and simple to read. However, I believe that I got the task complete in a timely manner.

Task 1.4, the presentation, this task asked that I present my research and ideas to the relevant people. Task 1.4 went well in my opinion regardless of the time it took me to complete it. This task was a struggle for me because I am not used to giving presentations however, I believe it was a good attempt. In future I will need to read towards the audience rather than looking at the screen so much. I also believe that I need to portray more confident body language to show the audience that I was confident and competent when presenting.

Task 2.1, the group discussion and email, this task asked that I discuss the heating system with my group and write an email to the relevant people. This was my most confident task and the one that I am the happiest with because I believe I contributed a lot of relevant and good points towards my group. This task was also a struggle because some members of my group weren't contributing a lot so I tried to get them involved in a few instances by asking for their

opinion on the subject and getting them to make some points. Overall, as a group I believe we were very confident and made so very interesting points towards the building. The group talked well for the twenty-five minutes and covered a lot of subjects.

Get in touch

City & Guilds Technicals Quality Team

We are here to answer any queries you may have regarding your T Level Technical Qualification delivery.

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