T Level Technical Qualification in Agriculture, Land Management and Production

Ornamental and environmental horticulture and landscaping

Guide Standard Exemplification Material Distinction – Sample 2023

Version and date	Change detail	Section
November 2023 v1		
August 2024 v1.1	All placeholders replaced with photos and/or video links	Task 3, Task 4, Task 5

Contents

Introduction

The sample evidence within this document refer to the Ornamental and Environmental Horticulture and Landscaping Occupational Specialism assignment. The aim of these materials is to provide centres with examples of knowledge, skills and understanding that attest to a distinction grade. The evidence presented here has been developed to reflect a distinction grade within each task but is not necessarily intended to reflect the work of a single candidate. It is important to note that in live assessments a candidate's performance is very likely to exhibit a spikey profile and the standard of performance will vary across tasks. The Guide Standard Exemplification Material (GSEM) illustrates linear performance across all pieces of evidence at the grade. A distinction grade will be based on a synoptic mark across all tasks.

The evidence in this GSEM is separated into the sections as described below. Evidence is presented against tasks from the assignment. Assessors using the GSEM may find it helpful to review this document along with the sample assessment materials.

Task

This section details the evidence to be submitted for marking and any additional evidence required including any photographic/video evidence. Also referenced in this section are the performance outcomes and assessment themes the evidence will be marked against when completing the tasks within it. In addition, evidence that has been included or not been included in this GSEM has been identified within this section.

In this GSEM there is evidence from:

- Task 1
- Task 2
- Task 3
- Task 4
- Task 5
- Task 6

Evidence

This section includes exemplars of evidence, photos/video recordings of the evidence in production (or completed) and assessor observation records of the assessment completed by centre assessors. This will be exemplar evidence that was captured as part of the assessment and then internally marked by the centre assessor.

The items of evidence included in the GSEMs are designed to illustrate the grade at evidence level. They are not intended to reflect the performance of a single candidate across the assignment. Not all items of evidence are included in the GSEM, however a representative sample of evidence from across the assignment has been included to sufficiently illustrate the standard of performance expected for each type of evidence.

Commentary

This section includes detailed comments to demonstrate how the evidence attests to the standard of distinction.

It is important to note that the commentary section is not part of the evidence or assessment but are evaluative statements on how and why that piece of evidence meets a particular standard.

Grade descriptors

To achieve a distinction, a candidate will be able to:

Demonstrate an excellent performance that fully meets the requirements of the brief, applying strong technical skills and techniques for planning, preparing, and carrying out the work to consistently high standards including safety, establishment and aftercare of seed/plants/trees/turf, quality of finish of horticultural and landscape features.

Thoroughly interpret technical information, applying excellent technical knowledge and skill to plan, assess risk and follow safe working methods to practical tasks and procedures to a high standard in response to the requirements of the brief, working systematically, logically and efficiently.

Thoroughly prepare working area, mitigating potential risks prior to commencing tasks and consistently apply comprehensive control measures during tasks that allow safe and efficient working.

Work safely and make well founded and informed decisions on the selection and appropriate use of tools, materials and equipment within the working environments for establishment, maintenance and hard landscaping activities.

Carry out practical tasks to an excellent standard, producing an excellent quality of work that meets relevant regulations and standards, with a high quality of aesthetic appearance and finish that meets the brief.

Identify characteristics and features of horticultural areas and existing designed landscapes, applying excellent knowledge and skills in how to record, present and analyse the information to satisfy the requirements of the brief.

Consistently use technical terminology accurately.

Task 1 – Planning proposal

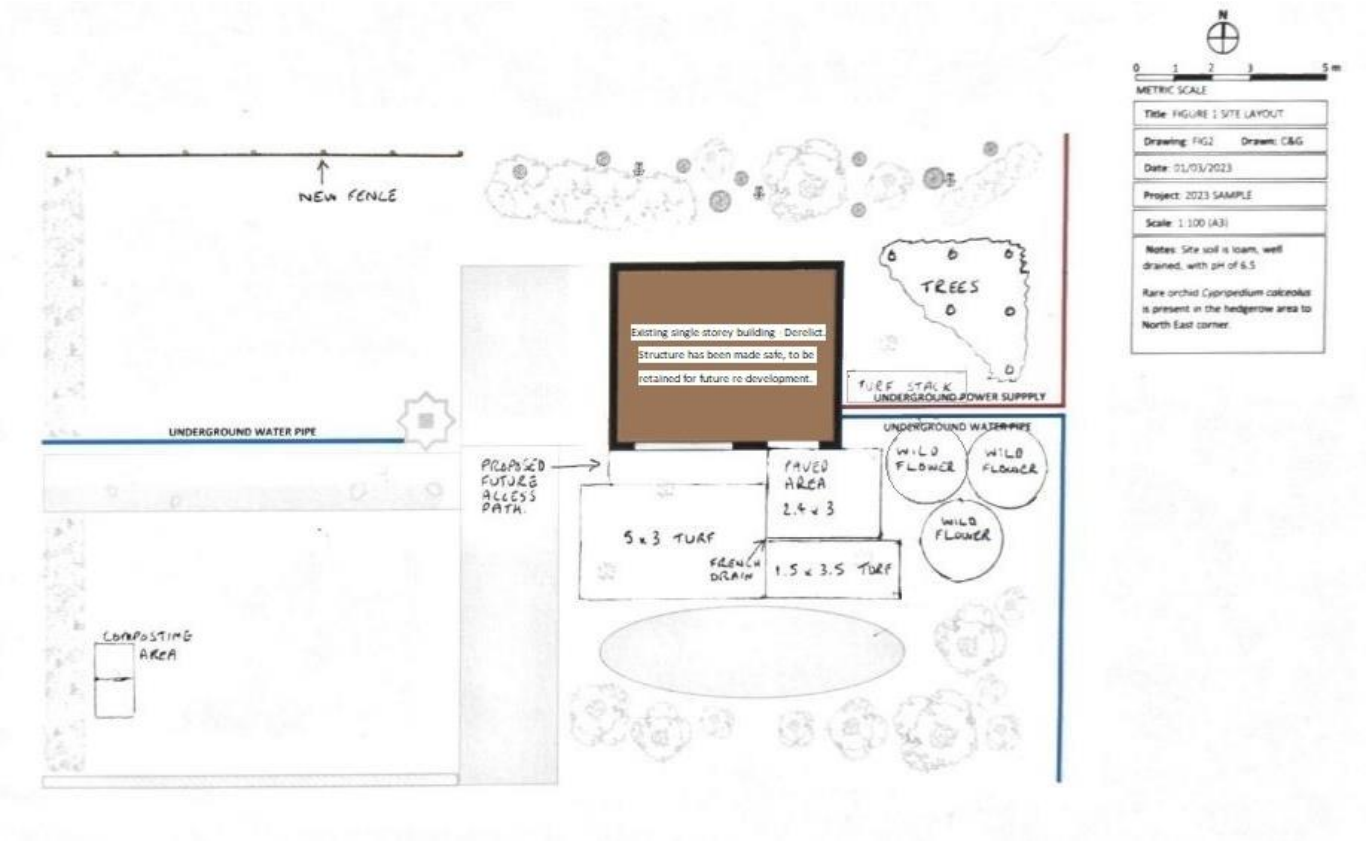
Evidence contributes to the following:

Performance outcome	Assessment themes
PO2 Establish ornamental and environmental horticultural areas	Environment Plan for establishment
PO4 Install landscape features	Environment Plan for installation

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
planning proposal including sketches	PO2: Environment PO2: Plan for establishment PO4: Environment PO4: Plan for installation	√		√

Candidate evidence - Planning proposal including sketches

Figure 1 – site layout drawing (with candidate's sketches)



Report

1. A small new planted area to include at least six trees

Written justification

The area proposed for the new planted area is to the north-east of the site, adjacent to the overgrown hedgerow area which has the rare orchid *Cypripedium calceolus* present. This is to give some protection to the protected species from public access but also to provide a suitable ecosystem for the preservation of the species. The trees will also form part of an interesting and educational ecological and wildlife corridor from pond to wildflower border to trees to encourage wildlife and biodiversity. *Cypripedium calceolus* also requires pollination by insects so proximity to or being upwind of flowering trees and the wild flower area would be beneficial.

Cypripedium calceolus grows better in shade with shelter so a low shelter belt of Willow (*Salix alba*) is planned. *Salix alba* can easily be maintained and pollarded potentially providing material for use around the garden (e.g. plant supports). Willow also flowers April to May so there is a small overlap with the flowering time of *Cypripedium calceolus* which is April to June. Willow will also grow in part-shade (in the later part of the day the derelict single-story building will cast some shade) and will grow in well-drained soil with mildly acid pH and is a native plant. Due to

the presence of the derelict building, little development can be done in this area and the trees will also act as a deterrent to public access from the west of the site.

Tasks

- Risk assess site using a standard landscaping pro forma to check for existing and historic safety issues
- Survey area for any underground services using CAT and Genny, undertake a visual check for pernicious or invasive species such as Ragwort (*Senecio jacobaea*) and perennial weeds such as *Taraxacum officinale* which would have deleterious effects on any future planting and maintenance issues
- Source suitable trees (90-120 cm bare root for winter planting) for the site from a reputable and biosecure local supplier. Check plants on delivery to ensure they are as stated and free from pests and diseases and quarantine for 2 weeks checking frequently for any sign of pathogens to ensure no pathogens are introduced onto the site
- Prepare ground using standard cultivation techniques by clearing perennial weeds and disposing of these appropriately to ensure no risk of further spread by either seed or vegetative propagation.
- Plant the trees using standard techniques in the dormant season when soil conditions are suitable (not frozen or waterlogged) taking care to ensure the roots do not dry out. Add rootgrow mycorrhiza to stimulate rooting by the symbiotic relationship between the plant and the fungi. Plant 1.5 metres apart to enable optimum early growth
- Stake to provide stability in windy conditions using locally grown wood with the takes placed to the south west of the trees, tie in with sustainable tree ties and add biodegradable tree guards to minimise any environmental damage
- Add locally-sourced organic leaf mulch to conserve water and suppress weeds, in a 0.5m circle around, but not directly touching, the trees.
- Clean up area carefully and return area as much as possible to original condition. Collect, handle and dispose of waste appropriately composting where appropriate, adding turf to the turf stack, redistributing excess soil to suitable place on the site.
- Clean using environmentally friendly methods and store tools safely in dry protected and secure conditions

Responsibilities

Risk assessment and project planning procedures to be undertaken by one team member, in consultation with other members of the team. One member of the team delegated to undertake underground services survey, if trained, or call in specialist operator.

Two members of staff to plant trees and mulch for expediency. One member of staff to inspect plants weekly and check tree ties and look for signs of rabbit damage

Resource Allocation (equipment, machinery, materials and staff)

- Equipment – 2 spades, 2 forks, 1 mell hammer for stakes, 1 claw hammer for nailing tree ties, tape measure for spacing trees. Shovel and wheelbarrow for mulch. PPE (Boots, gloves) to reduce risk of impact injuries.
- Machinery – CAT and Genny, trolley for transporting materials and mulch
- Materials - 6 *Salix alba* plants (90-120 cm bare root), 6 x 100 cm wooden stakes, 6 x sustainable treeguards, 6 x tree ties, nails, rootgrow (Mycorrizha), 1 barrow of mulch
- Staff (see above)

Timescales

Survey site and undertake underground service survey in first month of project. Order plants for delivery in advance of proposed planting time to allow for quarantine period at same time. Plant in late winter depending on soil and weather conditions, check weekly for damage and water if needed.

Evaluation of the potential environmental impacts of the work

This work has been planned to give a number of positive and sustainable environmental benefits. The overall context of a wildlife corridor (an area of habitat connecting wildlife populations separated by human activities or structure) s on the site has many positive benefits on wildlife security as it provides shelter and nesting sites and on the improvement of the overall biodiversity of the area by adding more species, more flower types and attracting more pollinators The choice of Willow for the tree area is closely integrated with the protection of the rare orchid. Pollination considerations for the orchid have also been taken into account with proximity to the wildflower border built into the design.

The willow is easily maintained requiring little input or environmental disruption and is capable of rapid regeneration (coppicing on a 5 year cycle) and very good for attracting wildlife with flowers in the spring. Willow has got great value to wildlife. Caterpillars and a number of moth species feed on the leaves. The catkins are an important source of early nectar and pollen for bees and other insects and the branches make good nesting sites for birds. It is also a native species which is a positive.

Planting trees has a very positive impact in general for the environment in terms of carbon capture by sequestration, reducing air pollution by absorbing pollutants such as sulphur dioxide, water purification, local temperature control and acting as a source of biodiversity for sustaining wildlife

Negative aspects include some potential soil disruption and compaction due to planting, removing weeds may also reduce biodiversity initially by removing potential pollination sources. There may be some minor impact on access routes during the planting but these will be mitigated by careful planning and timing. All waste will be minimised by careful planning and attention to using safe and sustainable collection, transport, storage and disposal methods such as composting.

2. A perennial wildflower border of at least 10 square metres in size

Written justification

Perennial wildflower borders can be extremely valuable for wildlife as they provide food and cover for many animals and act as a refuge for some wildflowers that are becoming rare in the countryside. They can also be a good source of nectar, seeds and cover for the wildlife which lives there. As part of the overall plan for the pond area, and the creation of a wildlife corridor it is proposed to develop a perennial wildflower area in the form of three 2.15 diameter circular beds to the east of site. This will also restrict access to the north-east corner where rare orchids are present. The wildflower area will also be adjacent to the proposed new hard-surface area outside the derelict

building and to the new turfed area to the west. It would also add interest to the area for families and children and act as focal point for the observation of insect and bird activity from the paved and turfed area. Once established, using a perennial wildflower system would be beneficial to the soil biodiversity due to minimal disruption and reduced maintenance. The choice of plant material would include species that flower between April and June, at the same time as the orchid, as well as throughout the summer to ensure insect activity and improved pollination. There is some shelter from the wind from the overgrown shrubs at the south of the site which would help pollinating insects.

The proposed area is actually 10.185 m2 on the plan, however, using three circular beds would enable a great diversity of species and interest, with themed areas of different species, colours or feature for each.

Tasks

- Risk Assessment of activity will be used to determine safe working methods.
- Survey area for any underground services, as above.
- Accurately measure and mark out area – three 2.15m diameter circles using gutter spike, tape measure, string, and a can of marking paint.
- Clear perennial weeds by digging out roots and dig up existing rough grass using turf cutter or turf lifter. Perennial weeds to be disposed of by bagging up and taking to a licensed waste disposal site means and rough grass to be used as a turf stack in the area to the west of the new tree planting to enhance soil microorganism biodiversity. Dig and turn over subsoil to a depth of 30cm using a rotavator.
- Source sufficient seeds, ordering 10% overage from a reputable UK supplier. Ensure the seeds include species that flower in the period April to June at the same time as the orchid.
- Rake, consolidate, and level the area using landscape rakes to prepare a tilth.
- Sow seed at appropriate density according to supplier's instructions and lightly rake in
- Water carefully using a watering can and fine rose to avoid displacing the seeds and net using a natural fibre 7mm diameter net on a wooden frame structure until seedlings emerge to prevent bird damage.
- Check and remove any weed seedlings every week. Dispose of weed seedlings in compost heap.
- If germination is patchy over-seed after three weeks using seed of same provenance at the required density
- As a contingency plan, water using an overhead sprinkler if dry. Water supplied from a bowser and a solar-powered pump used.
- Clean and reinstate area by removing all debris, organic to be composted (unless there is a risk of seeds in which case it will be bagged up and taken to a licenced waste disposal site). Site to be restored to original levels
- Clean tools using anti-bacterial spray and stored safely in a dry secure facility.

Responsibilities

One member of team to lead on this project to source appropriate seeds based on requirements for flowering time. Team of three to undertake clearing and ground preparation. One member of team responsible for sowing and maintaining

Resource Allocation (equipment, machinery, materials and staff)

- Equipment – 3 spades, string lines, pegs, line marker, 3 forks, 3 landscaping rakes, hoe, wheelbarrow, turf lifter, irrigation equipment, sprinkler (nozzle and stand), hosepipe, solar power water pump, bowser, PPE (safety boots, gloves) to reduce risk of impact injuries.
- Machinery – turf cutter, rotavator, PPE (ear defenders, eye protection, anti-vibration gloves, safety boots)
- Fuel for above stored in appropriate plastic jerry cans
- Materials - seed 75g (4g/m2 = including overage)
- Staff (see above)

Timescales – (work to be undertaken mid- late spring)

Team to spend three days undertaking site survey, removing weeds and turfcutting rough grass, removing this to a turfstack

One day to rotavate, first stage preparation to include minor levelling and consolidation

One day for final preparation to include final levelling and achievement of tilth, sowing and raking

One day per month maintenance.

Mowing to a height of 50cm six to eight weeks after emergence and again after 2 months in first year.

Second year onwards spring cut, summer hay cut and autumn cut to use up nutrients

Dependent on weather and soil conditions, as a contingency plan sowing could be delayed to late-spring if necessary

Evaluation of the potential environmental impacts of the work

The perennial wildflower mix would provide long lasting flowering enabling a wide range of pollinators and associated insects and interest. They also improve soil organic matter content, soil structure and porosity through the slow and steady decomposition of roots and leaves and preserve soil moisture. The corridor between the pond and the trees would enable the safe passage of wildlife such as insects and small mammals. The turf stack is a bonus feature, but one that would diversify potential wildlife sites and improve soil microflora and fauna. The soil in the perennial meadow bed, after some initial disturbance and potential compaction during ground preparation would remain undisturbed.

During preparation and planting, machinery may have a negative effect on the environment due to noise and air pollution and compaction. Access routes need to be planned carefully during preparation and reinstated after sowing.

3. A turfed area of at least 20 square metres

Written justification

The planned turfed area is part of the restoration of the eastern area of the site, and is planned to complement the paved area, adding textural and aesthetic interest and to provide a flexible space south of the building. It is also an open site with a southerly aspect which will ensure good growth and establishment of the grass, it also has some shelter, and good access from the driveway which would make it suitable for families, children and clients with

limited mobility issues. Soils are suitable for turf, with good drainage and neutral pH. Access for machinery and turf delivery would be directly from the driveway thus reducing any negative impact on the soil such as compaction. The proximity of the pond would add further aesthetic and environmental interest to the area. A pathway of 0.8 metres has been planned between the building and the turfed area to enable access to the paved area, though this is not part of this initial project

Tasks

- Risk assess area and activities using standard pro formas and procedures to determine level of risk and measures that need to be taken to ensure a safe site
- Survey area for any underground services using Ground Penetration Radar /Ground Probing Radar to avoid any accident or damage to services. Thoroughly inspect the area checking for evidence of pernicious or invasive species such as Ragwort (*Senecio jacobaea*) and perennial weeds such as *Taraxacum officinale*. These species need to be eradicated from the site due to their competitiveness and in the case of S.Jacobea, a potential poison risk
- Accurately measure using tapes and pins and mark out the area. The plan is for a rectangle of 5.0 x 3.0 metres and an extension to the south of the paved area of 3.5 x 1.5 metres totalling 20.25m2. This requires accurate marking out and cross checking using diagonal lines.
- Clear perennial weeds by digging out roots and dig up existing rough grass using turf cutter and/or turf lifter. Perennial weeds to be disposed of by carefully bagging, transporting and removal to a licenced waste disposal site, any vegetative annual or ephemeral weeds can be composted and rough grass to be used as a turf stack in the area to the west of the new tree planting to enhance biodiversity and increase soil microflora and fauna
- Rotavate systematically ensuring soil not too wet or dry to a depth of 30cm, consolidate the soil, and level the site using landscape rakes,
- Add base dressing of pre-turf fertiliser containing nitrogen to promote leaf growth, Magnesium Oxide to aid the production of chlorophyll to encourage lush, green colour, Phosphorus to keep the grass roots strong and healthy, Potassium to help fight disease and increase its water absorption, Trace Elements
- And seaweed to stimulate soil bacteria to help release nutrients re-rake with landscape rake to ensure accurate level.
- Order appropriate good quality turf (fescue and ryegrass blend) which is hardwearing, slow growing and drought tolerant from reputable local supplier, including 10% overage.
- When turf arrives check the quality and condition and ensure that the turflaying process start immediately (plan ahead to enable the staff and resources to be ready)
- Using scaffold boards to avoid compaction, lay the first row along a straight edge, slowly unrolling turf to avoid damaging. Butt each piece up closely to the last and ensure good contact with the soil by tamping down firmly with the back of the rake.
- Lay the next row, making sure the pieces of turf are pushed right up to the first row. Stagger this and subsequent rows in a brickwork pattern until the area has been covered.
- Lay turf and trim edges with a straight edged board and a half-moon cutting tool or knife if needed.
- Firm turf using the back of the rake ensuring consistent firming.
- Gap up where required using topsoil brushed into the joints
- Set up a sprinkler to water thoroughly to ensure rapid root development and turf establishment
- Clean up area of excess material and dispose of waste turf to turf stack. Any packaging material to be recycled
- Clean using anti-bacterial spray and store tools safely in dry secure conditions

- Rope off area to prevent people walking on the newly laid turf
- Water, when required, and check for pest damage

Responsibilities

One team member to oversee this task. Team to work on clearing, removing old grass and preparing site (3 days). Team member to order turf of required specification from a reputable local supplier and check quality on arrival and reject if not up to specification. Two team members to move turf to required area and lay turf. One member to maintain on a daily basis for first three weeks.

Resource Allocation

- Equipment – 3 x spades, string lines, pegs, spray marker, 3x forks, 3 x rakes (including landscape rakes), planks, buckets for topsoil, wheelbarrow to remove excess soils, fertiliser applicator, irrigation equipment, knife, half moon cutter, PPE (safety boots, gloves), brush
- Machinery – rotavator, turfcutter (hire in if required), PPE (safety boots, gloves, eye protection, ear protection), CAT and Genny.
- Materials - 24 x 1 metre square rolls of locally sourced high quality Fescue/ryegrass (10% overage), pre-turf fertiliser (50g/m2 = 1kg), top soil (2 tonnes for levelling)
- Staff (see above)

Timescales

One day planning and evaluation. Three days to prepare site in spring if weather and soil conditions are appropriate. One days work by team to lay turf and one day per week to maintain over the summer. As a contingency, there is some flexibility re timing according to weather and turf establishment

Evaluation of the potential environmental impacts of the work

In recent years, grass lawns have been stated as having a negative impact on the environment due to their lack of biodiversity and their perceived need for fertilisers and pesticides. However, using appropriate soil preparation procedures (including organic fertilisers), careful choice of turf specification and a more environmentally focussed maintenance plan (e.g. cutting at different heights, the use of mulching mowers, or allowing weeds to grow in places to provide a more biodiverse setting and facilitate pollination) the perceived issues can be largely countered.

Sourcing local materials such as turf and topsoil will also reduce carbon footprints.

There are risks of soil compaction and loss of biodiversity during the preparation period, but correct timing according to soil and weather conditions, sensitive access and environmentally aware maintenance activities would be more positive. Machinery use needs to be minimised to reduce emissions.

No pesticides are proposed to be used and the only fertilisers to be used would be seaweed based applied as a foliar feed. These measures will negate the risk of pond contamination due to leaching or runoff.

4. A new 3x 2.4 m hard surface area

Written justification

A hard surface area of locally sourced paving will be a valuable asset in the redevelopment of the garden to enable users of limited mobility a site to enjoy the proposed enhanced wildlife section in this sector of the garden and other features. It would also provide a level surface for cameras and video equipment, and any other purpose that would require a hard standing. The hard surface would be adjacent to the derelict single building entrance in anticipation of restoration of the building and access routes planned (see above) to ensure user safety. The paved area also has immediate proximity to the turf and wildflower areas and is a safe distance from the pond. The design and materials are to be sympathetic to the area and surroundings using local materials and styles to offer a textural contrast to the area

Tasks

- Risk Assess using standard pro formas and procedures to determine level of risk and measures that need to be taken to ensure a safe site and holding area for materials and equipment
- Survey area, including measuring level with sprit level, string line and pegs. Checks for any underground services will have been surveyed in previous activities
- Mark out site using tapes, stringlines, and pegs, cross checking diagonals for accuracy and grade site ensuring a 1:80 drop away from the building to ensure run off of rainwater
- Source sustainably produced materials (using local stone where possible) from reputable local suppliers
- Dig out area for foundations (200mm depth) using mini digger or by hand. Carefully stack soil close to site for reuse or upcycling elsewhere on site
- Lay the sub-base (compacted & 150mm depth) using appropriate recycled material and wearing appropriate PPE (boots, gloves)
- Mix (by hand) and lay a concrete mix mortar bed (50mm depth) observing all health and safety issues, minimising waste and emissions and manual handling restrictions.
- Calculate number of slabs required and cut slabs using equipment with additional PPE (Foot protection as appropriate to the machine. Overalls to be worn, closed at wrist. Dust mask to FFP3, COSHH assessment. Eye protection.
- Carefully lift (in pairs) and move the slabs from the holding area. Lay the paving slabs on to the mortar bed and tamp down and adjust as required. Leave the desired joint spacing (10mm) between the slabs and check the slabs are “level” to the fall using a spirit level and tape measure
- Fill the joints between the paving with pointing mix of cement and sand and press down using a triangular trowel
- Clean area, by sweeping paving once it is dry.
- Remove all waste materials and dispose of safely or upcycle on site if possible. Any spare slabs to be stored on site.
- Clean tools using water and organic detergent, and store safely in a dry secure area

Responsibilities

One team member to oversee design, specifications and planning including sourcing resources from local suppliers. Team to work on clearing and preparing site (3 days). Project manager to check quality of materials and machinery

on arrival. Two team members to lay slabs and finish site to required specifications. Contingency issues relate to weather and supply issues, but there is flexibility with staff resources and timing.

Resource Allocation (equipment, machinery, materials and staff)

- Equipment – 3 x spades, string lines, spirit levels or electronic surveying aids, wheelbarrow to remove excess soil, 3 x shovels, 2 x mallets, mixing boards, 2x trowels, water source, PPE (safety boots, gloves)
- Machinery – possible use of mini-digger, mixer, abrasive wheel for cutting slabs to shape and size, CAT and Genny, compactor, PPE (safety boots, gloves, eye protection, ear protection, dust mask)
- Materials - 500 kg sand and 190 kg cement (allowing extra for pointing), 2.3 tonnes sub-based materials (recycled material), 22 600x600 slabs (allowing 2 extra accounting for breakage) of local stone, water.
- Staff (see above)

Timescales

Install in spring when weather is dry. Three days preparation (all team) one day to lay slabs (2 staff).

Evaluation of the potential environmental impacts of the work

The use of local sustainably sourced stone, minimising waste by careful planning and economical cutting, safe disposal and recycling of materials will significantly reduce environmental impact. Keeping cutting times to a minimum will be done to save power and minimise noise and emissions. Safe access to the area for staff and machinery/equipment will be planned and the minimisation of environmental damage by clearing up every day and a completed clean up at the end of the project. Runoff water will be safely channelled away from the pond to prevent pollution using pipes and a collector. Waste materials will be repurposed around the site for example to create insect shelters.

The hard surface may also be of value for wildlife and could also be used a site for bird/mammal water points and feeding stations.

5. Restoration of a wooden fence

Written justification

Fences act as boundaries and as a means for partitioning areas of a garden and are often the first thing people see when approaching a site, so have aesthetic and reputational aspects. For safety (due to the degradation of the wood, risk of decay and splinters) and aesthetic reasons, the existing post and rail fence (10.5 metres long) along the northern border to the west of the site needs to be safely removed and materials removed or recycled on site and replaced with a new fence which is safe, functional, more in keeping with the site context and made using more sustainable FSC certified materials. This will provide a long-lasting feature that can be used not only as a boundary but as a feature within the garden.

Tasks

- Risk assess using standard pro formas and procedures to determine level of risk and measures that need to be taken to ensure a safe site and holding area for materials and equipment

- Using tape measures and spirit levels accurately measure up for the new fence, including considerations of levels and slope.
- Design and plan the new fence and source FSC certified materials that are responsibly produced from reputable local suppliers
- Plan a suitable time (accounting for staff and material availability and weather), for the removal and replacement of the fence and ensure all tools and disposal systems will be in place.
- Carefully and safely remove old rails and dig out posts clear and level site to required standards using spaded and rakes.
- Transport and dispose of old fence materials by placing material into a skip for offsite disposal by a licenced waste contractor, wearing gloves and eye protection bearing in mind that the wood may have been treated with creosote.
- Mark out the post line accurately using tapes and marker spray, dig holes for posts to required depth, mix up concrete mix according to instructions using appropriate PPE (gloves, safety boots, eye protection and dust masks), place posts in hole and level to required depth using tape and spirit levels
- Add pre-measured and cut rails, slot in. Cut final pole to required length using saw
- Check levels using a spirit level and adjust accordingly by tapping posts
- Fix in if required using hammer and nails
- Finish with one coating of environmentally safe sealant and preservatives using brush (wearing gloves, safety glasses and boots, old clothing) but only if temperature is above 5oC. Cover surrounding vegetation with plastic sheet in case of spillage
- Once finished, remove plastic coverings. Clean brushes in warm, soapy water to preserve them for future use. Carefully label and securely seal fence paint containers before storing them in a cool, dry place away from direct sunlight, and off the floor to avoid rusting.
- Clean any waste wood and dispose of any waste responsibly onto a woodpile or as a contingency option taken off site for burning

Responsibilities

Team member to plan and source material. All three staff required for two days fence removal and replacement.

Resource Allocation (equipment, machinery, materials and staff)

- Equipment – spit, 3 x spades, string lines, spirit levels, appropriate hammers, post knocker, PPE (safety boots, gloves, hard hats, face masks, eye protection), paint brushes, pots, wheelbarrow to remove old fence material and excess soils
- Machinery – possible use of auger
- Materials - nails, post holders, 7x 1.8m tall x 100mm posts, 6x 1.8m rails, concrete mix, environmentally-friendly preservatives, water-based coatings
- Skip for disposal of old fence materials
- Staff (see above)

Timescales

3 people, 1 day (any time of year unless soil or weather conditions do not allow this)

Evaluation of the potential environmental impacts of the work

A broken fence, particularly if decaying, may be a site for a range of diverse organisms. However, a new fence will act as a long-term resource. There are implications on the soil (compaction and excessive disturbance) due to the

removal and construction of the fence. All material removed needs to be safely disposed of or recycled where possible (perhaps use untreated wood for insect hotels on the site). Materials need to be responsibly sourced and only the amount required (plus a 5% overage) ordered to eliminate waste. Paints and preservative need to be non-toxic and all waste disposed of responsibly. Access to site to be considered to minimise disruption.

Wooden fences are particularly appropriate for improving the appearance of scenic areas and can be used to control access and provide wildlife benefits in habitat development programs such as that proposed on this site

Conclusion

The descriptions above would meet the requirements of the brief which are to restore and abandoned garden with the intention to open it as an environmentally sustainable resource for the public. The planned tasks would easily be completed within the time frame of the project, even allowing contingencies for weather or supply issues. There are no other issues other than continually rising costs of material that should cause any problems.

The planned centralisation of the new resources will give an integrated area, which would be fit for a range of community activities and which then could be developed further if more funding became available.

One positive aspect of this proposed plan would be that it may be more efficient to undertake the general ground preparation and underground service analysis in one operation as the sites are linked, thus maximising resource use and staff time and minimising environmental damage.

Commentary

The candidate has demonstrated an excellent performance that fully meets the requirements of the brief and has applied strong knowledge and understanding to **plan for establishment**, and **plan for installation** of the horticultural and landscaping features required by the brief and task to a consistently high standard.

The candidate has thoroughly interpreted the technical information in the brief, and has applied excellent technical knowledge and skill to **plan for establishment** and **installation**, assess risk and describe in detail safe working methods for the proposed practical tasks (and made references to the potential issues of the derelict building and pond safety). The work has been carried out and presented in a systematic, progressive, logical and efficient form.

The candidate has interpreted the brief and original site layout drawing to plan and describe an imaginative and technically interesting restoration of the site, including all the requirements stated, to an excellent standard. The concept of an integrated design with future extensions is well-considered and details such as the proposed path for access to the paved area and the idea of a wildlife corridor are both indicative of a high level of knowledge and understanding of the subject and current thinking.

The candidate has identified the characteristics and features of horticultural areas and the existing designed landscapes, applying strong knowledge and skills to analyse the information to satisfy the requirements of the brief. All required features for the plan for the restoration of the community garden, taking into account characteristics, features and factors identified from the brief and layout plan, have been incorporated and detailed justifications given with the features specified in the task.

The resource allocation, to include equipment, machinery, materials and staff, and minimising waste have been described in good detail. Thoughtful regard to **environmental** practices has been considered in all cases.

Tasks and allocation of responsibilities required to complete the restoration within the six-month timescale have been identified and described. A six-month timeline or plan would be a useful addition.

The candidate has made a comprehensive selection of suitable resources in their **plans for establishment** and **installation** tasks with clear justifications and reasoning to support the chosen methods, resources, and quantities/sizes given. Detail regarding tree species, wildflower mixes and type of paving material are consistently appropriate.

There is reference to both contingency planning (for example ordering extra materials to account for breakages, alternative timing for activities etc.), alternative approaches (e.g. ground preparation of the entire area) and future plans.

The **environmental** impacts of establishing horticultural areas and landscape features have been considered throughout, for example with a detailed justification of the use of willow in the planted area. The impacts on protected plant species have been fully and imaginatively addressed, with a system for protection, the provision of ecosystem and pollination potential planned into the proposed design in an aesthetic and creative manner.

There are consistent and well-considered references to **environmental** factors that can be applied to the manipulation of the outdoor plant establishment environment.

The candidate has used technical terminology accurately and consistently throughout the report, an example being in the justification for the wildflower beds.

Task 2 – Management report

Evidence contributes to the following:

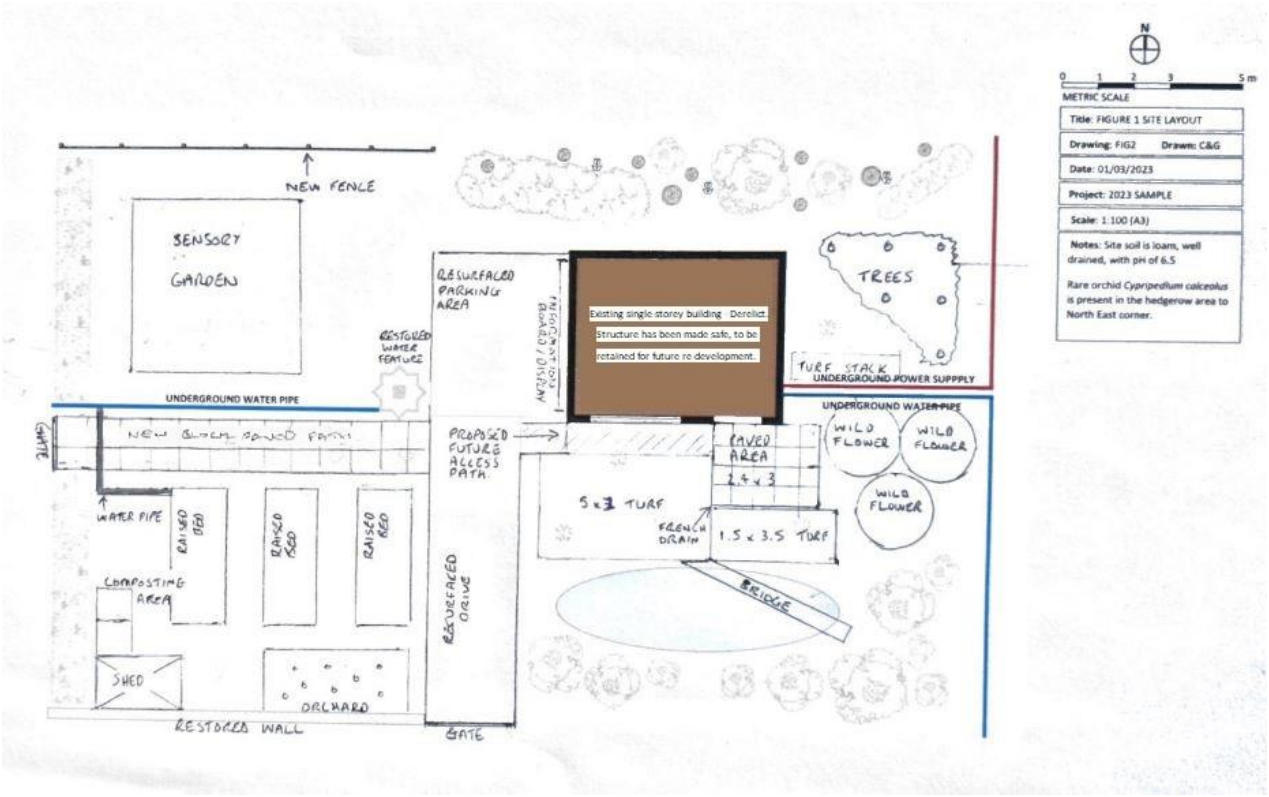
Performance outcome	Assessment themes
PO3 Maintain ornamental and environmental horticultural areas	Environment Identify requirements and plan maintenance
PO5 Manage existing designed landscapes	Environment Identify designed landscape features and characteristics Landscape management planning

Evidence	Assessment Theme	Candidate producing	Assessor producing	Included in this version of GSEM
	part a) management report			
management report	PO3: Environment PO3: Identify requirements and plan maintenance PO5: Environment PO5: Identify designed landscape features and characteristics PO5: Landscape management planning	√		√
	part b) presentation			
presentation	PO5: Landscape management planning	√		

assessor observation	PO5: Landscape management planning		√	
video recording of the presentation	PO5: Landscape management planning		√	

Candidate evidence - Management Report

Candidate sketch showing additional proposed features:



Report

The plan for initial restoration was submitted as a **Planning proposal.** With reference to Figure 1 the main features are:

- Removal of the existing damaged wooden fence at the top north-west boundary and replacing this with a new fence constructed using sustainable and locally sourced materials
- An ecologically planned new planted areas of six *Salix alba* trees at the north east section of the garden to protect, enhance and develop the existing protected species area. The trees can also be coppiced in the future to provide sustainable sources of support material around the grounds, and could also be used for coppicing or woodland management courses.
- A perennial wildflower border of 10m2 to be installed as circular beds linking the pond and protected species area in the form of a wildlife corridor and as a designed garden feature. The bed approach will also enable different species mixes and styles of planting to further enhance the new garden features.
- A turfed area of 20.25 square metres in total to be installed in the south-east area of the site to provide a level space for public use as part of the integrated plan to redevelop the derelict building into a social space and community resource. In addition, the turfed area will be a feature in itself sited between the redeveloped pond area and the renovated building. To the

north of the turfed area provision for a gap to enable a path of suitable surface material to be laid will provide access to the paved area.
- A new 3 x 2.4 m sustainable and locally sourced hard surface is to be installed to the south of the building to provide a level surface for wheelchairs adjacent to the potential café and social space to provide views of the wildlife corridor leading from the pond.

Following the initial site renovation project outlined above, the next stage will be the bigger programme of improvement and renovation of the area.

There are two dominant features in any future Plan.

- Firstly the importance of working with the community to find out what their ideas and requirements may be and to use this as the basis of any overreaching strategy. It is the Community Group that have obtained the funding so their input and objectives take priority
- Secondly the need to showcase sustainability and good horticultural practice in the planning, design, construction and maintenance of the garden features and landscaping.

PHASE ONE

Seven aspects have been highlighted (see Figure 2) for immediate attention:

1. **Check for health and safety issues around the site**

Site survey, check for any hidden underground services, check soil. Itemise potential hazards. Ensure all Risk Assessments and Safety audits are stored online in an accessible form

2. **Access routes**

It is important for current and future developments that access routes into and within the site need to be evaluated and brought up to safe standards. The first step is to ensure that all paths and horizontal surfaces are safe for use by the public. It is planned to replace the path with a poor surface in the middle of the site (West side) with a new block paving surface and the parking area and driveway which is the main access route will be restored by covering with a resin surface.

Costs:

- Local stone Paving, £100 m2 materials – 15m2 = £1500,
- Sub base material: 100mm depth, 1.5 tonnes MOT type 1 aggregate – 2 bags, £200
- Bedding material: 50mm depth, sand and cement – 0.5 tonnes sand (bulk bag) £60, 100kg cement £100
- Water for mixing and cleaning
- Driveway and parking area restoration (fix any cracks, prepare and level surface, install resin surface) £100 per m2 x 35 m2 = £3500
- Annual maintenance costs of £250 (cleaning, pressure wash once per year)
- Waste soil to be recycled on site (redistribute excavated soil on site), 1 bulk bag gravel from path to be removed from site - £250.

3. Security

1.Due to the location of the site it may be necessary to secure the boundaries to manage and control access to the site. The second step is to ensure the security of the perimeter by repairing the coping on the brick wall at the south of the plan (10.5 x 1.8 m) and put gates (made of local materials and in keeping with the local style) onto all entrances, at the west and south of the site. Also, another consideration would be to put a fence to mark the border all round the site. Chestnut could be used to blend with the local style of the surrounding landscape.

Costs:

- Repairing brick wall using local weathered coping stones £1000 (stones), £100 (mortar).
- Locally manufactured gates £2000 (1x pedestrian gate and 1x vehicular access gate, gate posts, locks)
- Locally sourced chestnut fencing perimeter (using sustainably sourced material) 100 metres - posts, rails, postcrete, wood preservative - £2500, screws/nails - £25)

All the hedging needs to be surveyed and a plan for what will be kept, what will be cut back and what will be replaced will be required.

- Initial cost of cutting back shrubs -hire in contractor to reduce hedges and shrubs to required level, remove brambles and cut out any dead diseased or damaged material: £600 including disposal.

4. Plant survey

In collaboration with, and using members of the Community Group to assist, it is proposed to undertake an initial recording of all plant species on the site to assess potential and opportunities. Also this will be an opportunity to check for any invasive species on the site and establish if there are any other endangered plants on the site. The outcome will be for the Community Group to develop a site flora which can be used for future plans.

For the *Cypipedium calceolus* area this needs to be fenced off initially (chestnut paling could be used to blend with local style) and access restricted further to any other action.

Costs:

- Wire cleft chestnut fencing (2x 10m rolls, £100 per roll) = £200

5. Pond safety and maintenance

The pond is a potentially valuable resource for biodiversity and to provide a feature of interest for the public but will require a full safety, species survey and maintenance plan.

This area will need early attention in the programme due to potential hazards. It is planned to fence off area prior to surveying. Also the initial work will include checking slopes, water depth, water quality and biodiversity (community group to assist in this activity) and prepare a report.

Costs:

- Water testing kit £150, and consumables £50
- Wire cleft chestnut fencing (2x 10m rolls, £100 per roll) = £200
- Annual costs (water testing, 6x £50 = £300

PHASE TWO

In collaboration with the local community group and stakeholders including local schools, colleges, businesses and residents, their vision for the garden will be discussed through meetings and online forums. One possibility may be to open the design ideas up for competition from local schools, college and designers.

The following is the framework we suggest will meet the brief for the future of the site.

This will be described by assigning features to each of the four main areas of the site (see Plan) though it is important that the overall themes of community and sustainability are prominently featured.

PLANTING AREA - NORTH-WEST

Area is approximately 9 x 6 metres, and has a north slope. The hedge to the left of the site will provide some protection and security, and shelter from prevailing winds.

Sensory garden

It is proposed to develop a 5 x 4 m sensory garden to include features, surfaces, objects and plants that stimulate the senses through touch, sight, scent, taste and hearing. This will be designed and run by the community group and funded through donations.

- There will be a cost of preparing the site for tool hire and materials total £375
- Maintenance costs £250 per year for mulch, plant replacement and renewal

Water feature

A survey of the derelict water feature will be done, to assess whether to remove, block off pipe, or renovate and use as a focal point for this area.

Safety features need to be checked and an assessment of whether to move or replace needs to be made, depending on the results of the community plan. Any new feature needs to be in keeping with the surroundings, made using sustainable materials, solar powered and ensuring there is no wasted water.

Costs (estimated)**:**

- Removal £500 (including disposal)
  OR
- Replacement £3500 (using a locally designed feature, plus installation)

- Annual maintenance and safety check £500

Fence and hedging upkeep

Develop an upkeep and maintenance plan including checking hedging height and condition, reduction where required and removal of pernicious weed species and plan a twice yearly cutting back programme.

- Annual Cost £500 (annual external boundary – outsourced)

PLANTING AREA- SOUTH-WEST

Area is approximately 9 x 6 metres and has a slight southerly slope. The hedge to the left of the site will provide some protection and security, though the wall to the south will have been repaired in Phase 1 of the work providing an enclosed area with a southerly aspect.

It is planned to establish a basic area that can then be handed over to the community group for their use as a Community Produce Garden. The area will be cleared, levelled and perennial weeds removed. Three 4m x 1.5m raised beds will be constructed and bark chip paths installed. An area for composting and a shed for tools will be installed. A water pipe will be taken off the underground pipe from the north to irrigate the area. A 4m x 2m area to the east of the site by the driveway will be prepared for fruit tree planting.

- There will be an additional labour cost of preparing the site of 40 hours at £15 p.h total £600
- Cost of wood and materials for raised beds £450
- Cost of installing water pipe £1000
- Wooden shed £850 including footings
- Composting Area £500, designed to prevent run off and cross-contamination

It is expected that the maintenance of the hedges and general upkeep of this area will be undertaken by the community group.

SOUTH EAST SECTOR

The area adjoins the building. It is flat and protected from the south by shrubs. This will have the paving and wildflower area installed in the initial proposal so should be ready for use in Year 1. The area can be developed further through a number of improvements:

Access Path

A path leading to the new paved area adjacent to the building redevelopment was proposed in the original plan and needs to be installed. The path was put in to enable access for wheelchair users from the driveway to the building. To be surfaced using sustainably sourced anti-slip decking material.

- Material cost £1000 (materials £50 per square metre, plus preparation costs)

Pond

It is proposed that in Year two that the pond, following the survey and initial safety work, will be drained, cleared and upgraded with safety features (including a picket fence, warning signs and pond protector mesh). It will be replanted with native aquatic species (including oxygenating plants and marginal plants), ramps for wildlife to get in and out of the pond, and a wooden bridge made from locally sourced materials will be constructed to enhance visitor experience.

- Hire of pump, pipework and drainage, pond protector mesh, new planting £3500

Seating

Wooden benches will be installed on the paved area and on the grass between the pond and the wildflower area to provide areas for visitors to sit. These will be locally sourced and made from sustainable materials, in keeping with the local style.

- Cost £1500

Overgrown shrubs to be cut back at correct time of the year to ensure leaves are not dropped in the pond, removal and replacement plan with local species to be developed.

- Annual maintenance of area cost £500 (including litter and waste removal, upkeep of benches and surface replacement costs)

NORTH EAST SECTOR

The derelict building is the major problem in this area. During restoration, attention must be made to not disturb native flora and avoid any run-off or spillage of materials. The willow tree area established in the initial project will enable a good level of environmental security to this area.

Protected species

The plants form an important feature of the area and any future plan has to ensure no disruption. It is proposed to sympathetically enhance the area making the protected species a priority as it is illegal under Section 9 of the Wildlife and Countryside Act to disturb them. Any maintenance procedures must avoid disturbance of their natural habitat so no compost, mulch or feed and definitely no pesticides should be used anywhere near site. This sensitivity causes problems with dealing with the overgrown Hedgerow. This will restrict the timing of operations such as cutting back.

There is, according to the plan, a need to beware of underground services in this area, this will require ground radar survey, marking with flags the lines and avoiding any ground disturbance in this area.

- Annual maintenance cost £500 (vegetation control, fencing, surveys, reports)

Environmental management and sustainability.

The use of sustainable, recycled and local material is to be the policy for any work in the garden wherever possible, see specific areas of the plan. The overall theme is one of sustainability, biodiversity and integration with local flora, fauna and with all aspects of the local community.

Policies to maintain environmental management will include the composting of waste materials (site will be in new community vegetable area) the use of water minimised and hopefully using rainwater captured on site. All machinery will be battery powered to reduce noise and emissions. An environmental and sustainability plan will be formulated in conjunction with the local community.

Regarding biodiversity, the plan is to protect and enhance existing species and, by the use of wildflower meadows, increased pond biodiversity, allotments for growing heritage vegetable and fruit, a mosaic of species will be developed and maintained. This will provide interest to the community and will be a focus of education and training.

These measures ensure the community group's brief is met, making the restored garden an environmentally sustainable resource for the public.

Opportunities for development of additional horticultural/landscaping features

Further developments that should be considered in conjunction with the community groups and local conservation groups will include

- Developing a Forest school for local schools and playgroups
- Building an outside educational area for local schools colleges and community groups
- Investigating the potential for using the garden for events such as arts, music, theatre and craft fairs
- Installing a children's play area including green equipment at the top of the driveway and banning all vehicular traffic on site
- Building an ecological fitness trail around the site
- Information boards for all areas should be installed and information sheets made available in the café/visitor centres
- A propagation area in the vegetable and fruit area to raise plants for the grounds and for sale to raise funds
- Installation of a pergola over the driveway, or in the sensory garden.
- Installing sculptures/statues
- Convert some of the hedges to topiary features.
- Establish pockets of additional wildflower planting to encourage pollinators and biodiversity.

Budget

SEE COSTINGS IN EACH SECTION FOR BREAKDOWN	Year 1	Year 2	Year 3	total
Access Routes	£5610	£250	£250	£6110
Security	£6225			£6225
Plant Survey	£200			£200
Pond safety and maintenance	£400	£300	£300	£1000
Restoration of water feature (costed as restoration, removal may be an option, see above)	£3500	£500	£500	£4,500
Sensory garden	£375	£250	£250	875
Community Fruit and Vegetable garden	£3400			£3,400
South East Sector	£1000	£3500	£500	5000
North East Sector	£500	£500	£500	£1,500
Machinery (itemised below)*	£10000	£500	£750	£11,250
Signage required for entrance and for site map	£1000			£1,000
Interpretation boards for each area	£400			£400
Staff**	£27300	£30300	£33300	£90,900
Running costs	£5000	£6000	£7000	£18,000
Plants	£1000	£500	£500	£2,000
Hiring in machinery	£300	£400	£500	£1,200
Contingency/overrun	£2500	£2500	£2500	£7,500
Total	£68710	£45500	£46850	**£161060**

Machinery costs

- Mower – adaptable rotary, battery powered for use on grass areas
- Store – lockable container for storing tools and equipment
- Strimmer – battery powered for general maintenance
- Hedge trimmers - battery powered for twice a year hedge trimming programme

*Based on replacement cost

** Staff costs (variable hours contracts)

One part time staff, working three days per week all year £16380

Two part time staff, an average of one day a week, on a seasonal basis £10920

Annual Maintenance Schedule for the grounds, planted areas and structures

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Turf												
Aeration												
Scarifying												
Overseeding (as required)												
Mowing (as required)					NO MOW MAY							
Irrigation (as required)												
Leaf blowing												
Top Dress												
Winter pruning of deciduous shrubs												
Pond												
Clean												
Replace plants as required												
Spring pruning of *Prunus* and *Cornus*												
Top up water												
Check wildlife ramps												
Wildflower beds												
Weed												
Cut down												
Fences and timber structures												
Check for damage and repair as required												
Paint/treat as required												
Paved areas and Access routes												
Check for damage												
Clean (pressure wash)												
New tree area												
Check stakes and ties, replace as required												
Weed around new plantings												
Formative pruning												
Pollarding Willow (**from year 3 only**)												
Mulching												
Routine pruning												
Community Fruit and Veg Garden (*)												
Empty compost												
Check raised bed structures												

Replace bark chip paths												
Sensory Garden (*)												
Routine checks												
Path maintenance												
Protected species area												
Check fencing												
Seasonal checks												
General												
Pest and disease monitoring (**weekly**)												
Mulching using compost produced on site												
Cutting back shrubs												
Hedge maintenance, trimming, removal of weeds, repair (**outside contractors**)												
Staking of shrubs and annuals												
Deadheading annuals, roses												

Commentary

The candidate has demonstrated an exemplary performance that fully meets the requirement of the brief, and has applied high levels of knowledge, understanding and creativity which show an ability to enter the industry to begin to work in the occupational area.

The candidate has comprehensively interpreted the brief to **identify designed landscape features and characteristics**, expanding on the proposal submitted in Task 1 to **identify requirements and plan maintenance** in a coherent and logical manner and produce a management report that is structured and imaginative with excellent levels of detail. The integration of the community group in key stages is an imaginative solution and one likely to be realistic.

The candidate used excellent knowledge and understanding to **identify requirements and plan maintenance**. The maintenance schedule covers the main areas in detail and is on a month-by-month basis. Linking this more directly to the staff resources would be a useful addition. The impacts of maintaining ornamental and environmental horticultural areas have been considered comprehensively throughout with a strong justification of the use of sustainable materials throughout. The impacts of maintenance on protected plant species have been fully and imaginatively addressed, with a system for protection, the provision of

ecosystem and pollination potential enhanced from the original design to enable sustainable and safe practice.

The candidate used excellent knowledge and understanding of **landscape management planning** to interpret the brief and original site layout drawing to propose an imaginative and technically interesting long-term development of the site. The concept of an integrated design with future extensions is well-considered and details such as the protection and enhancement of the protected species area show an understanding of the subject and current thinking. Opportunities for future development are imaginative e.g. the use of the garden for arts events and the Forest school and in keeping with the overall brief.

The candidate described suitable resources with very good justifications and reasoning to support methods, resources, and quantities/sizes given. There is consistent detail re specifications and sourcing of materials. Staffing resources are described clearly and appropriately.

The indicative budget, to include equipment, machinery, materials and staff has been described in a table which gives clear and well-justified information which is realistic.

There are consistent and well-considered references to **environmental** factors that can be applied to the manipulation of the outdoor plant establishment environments such as in the pond area. Reference to **environmental** management and sustainability has some interesting ideas and covers the main points well but could have been expanded further. There are, however, references to these aspects throughout the report

The work represents an integrated and well thought out report and shows an excellent understanding of the subject, in a realistic context, with excellent all round knowledge and understanding apparent.

The candidate has used technical terminology accurately and consistently throughout the report an example being in their references to environmental sustainability.

Task 3 – Establishment of new planting

Evidence contributes to the following:

Performance outcome	Assessment themes
PO2 Establish ornamental and environmental horticultural areas.	Health and safety Establish planted areas (Prepare establishment area) Establish planted areas (Establish plants)

Evidence	Assessment theme	Candidate producing	Assessor producing	Included in this version of GSEM
	part a) risk assessment			
risk assessment	PO2: Health and safety	√		√
	part; b) ground preparation; and d) aftercare			
assessor observation	PO2: Health and safety PO2: Establish planted areas (Prepare establishment area)		√	√
photographs	PO2: Establish planted areas (Prepare establishment area)		√	√
video	PO2: Health and safety PO2: Establish planted areas (Prepare establishment area)		√	√
	part c) planting, sowing, turfing; and d) aftercare			
assessor observation	PO2: Health and safety PO2: Establish planted areas (Establish plants)		√	√
photographs	PO2: Establish planted areas (Establish plants)		√	√

Candidate evidence - Risk Assessment

Candidate's name	Sample candidate	**Enrolment number**	CG12345
Task / Activity	Establishment of New Planting	Location	Sample site
Assessor's name	Sample assessor	Date	23/03/2023

Item no.	What are the hazards?	Who might be harmed and how?	What precautions are already in place?	Risk rating (High / Medium / Low)	What further action is necessary?	Action by who and when?	Residual risk rating (High / Medium / Low / Trivial)
1	Slips, trips and falls	Operator, anyone else on site. Tripping over poorly stored tools, over strings, tapes and irrigation equipment.	Good working practices re tools, tapes and stringlines. PPE – Safety boots.	Low	Ensure site is kept tidy throughout task. Ensure all marking canes have eye protectors on them.	Operator, ongoing	Low
2	Cuts and abrasions from tools	Operator, anyone else on site. Incorrect handling/storage.	Tools maintained and cleaned properly, PPE - gloves, safety boots	Low	Ensure tools maintained and checked after use. Reject any damaged tools. Specific operator training on tools.	Operator, supervisor. ongoing	Low
3	Working with soil	Operator, anyone else on site. Illness from contamination, inhalation of dust, struck by stones.	PPE - Gloves, dust mask, eye protection, safety boots	Low	Wash hands after work to ensure no contamination	Operator daily	Trivial
4	Use of rotavator causing injury	Operator, passers-by, injury from kickback, fumes, noise, injury to feet	Correct training and maintenance of equipment.	Medium	Check area is free of obstructions and remove them. Check operator is fully trained. Cordon off area or	Operator, supervisor, ongoing	Low

		from blades, burns from exhaust, manual handling injuries due to poor technique.	Pre-start checks according to manufacturer's specification. PPE – Safety boots, ear defenders, gloves, eye protection		place signage to warn passers-by.		
5	Use of mycorrhiza	Operator. Accidental inhalation	Read instructions, use appropriate equipment, PPE - gloves and dust mask, safety boots	Low	No further action necessary.	Operator	Low
6.	Trees and stakes causing injury	Operators Impact injuries, splinters.	Tree and stake checked for damage prior to use. PPE – Safety boots, gloves, hard hat (for driving in stakes)	Low	Specific operator training on tools and equipment.	Operator, supervisor, Before starting work	Low
7.	Cutting and laying turf	Operators Cuts from cutting equipment, manual handling injuries.	Safe manual handling techniques. Wear gloves when cutting the turf, ensure tools are clean, sharp and stored properly after use. PPE – Safety boots, gloves	Low	Complete specific manual handling training. Specific operator training on tools and equipment.	Operator, supervisor, ongoing	Low
8.	Cleaning tools, equipment and machinery.	Operator, passers-by. Cuts, contamination from dirt/debris/cleaning fluids.	Designated area, water, cleaning liquids. PPE – eye protection, safety boots, gloves.	Low	Ensure environmentally safe means of disposal. Signage to warn passers-by.	Operator, ongoing	Trivial

Date: 23/03/2023	Risk assessment carried out by: Sample candidate

Commentary

The candidate has provided a comprehensive and logical Risk Assessment identifying eight hazards covering all areas of the task including preparation and cleaning up and has applied their practical knowledge of **health and safety** to the tasks required.

The candidate has interpreted the requirements of this aspect of the task to a consistently high standard and has paid excellent attention to the tasks and their context. The ground preparation aspect has been well-considered including tools, equipment and the soil itself, specifying the hazards and a comprehensive range of actions including excellent regard to PPE. The marking out section refers to tapes and string lines and the risk of canes (if used) is covered in “further action”. Hazards related to sowing of seed and irrigation have been considered in item 1. The tree planting and turf have been covered with comprehensive attention to detail.

The candidate has used the correct technical terminology accurately throughout e.g. designated areas, good working practices, manual handling. The candidate described suitable precautions to control risk, and their risk ratings are realistic.

The candidate described in detail suitable precautions which would be highly effective in maintaining **health and safety**.

Assessor Observation Form (Task 3b/d – ground preparation)

Task	Assessment component number
Task 3 (b) (d)	8717-404
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO2: Health and safety PO2: Establish planted areas (Prepare establishment area)

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• Pre-use checks on tools and mechanical rotavator • Setup/adjustment of mechanical rotavator • Safe, efficient and effective use of hand tools, power tools and machinery • Ground preparation: rotavating, removal of large stones and vegetation, consolidation, levelling, preparation of suitable tilth for sowing.	Correct, clean, properly fitting and functional PPE worn by candidate Candidate carefully and correctly selected and systematically checked all hand tools (spades, forks, rakes) for damage and cleanliness, handling them and replacing them safely. Rotavator initially checked over visually for any signs of damage. Spark plug suppressor cap removed prior to checking. Checked fuel and oil levels, on/off switch, filters and tension and condition of starting cord. All handles, grips and levers checked. Blades examined for cleanliness and signs of damage. Safety guards checked and adjusted. Blades set up at appropriate height and double checked. Rotavator started first time, and used efficiently, turning correctly and taking the required depth. Machine move to one side and tuned off after use. All tools and equipment used safely, with good regard for anyone in the vicinity. Correct application of fork and spade, raking effectively undertaken using a professional two-way action. Large stones picked out and removed, stored safely off the site. Vegetation treated appropriately for instance removing tap roots fully. Tilth produced, and area consolidated using standard methods across entire area. Final tilth produced by light raking and treading and an excellent level surface achieved, checked by the candidate from all sides. All equipment was systematically and thoroughly cleaned using appropriate materials, with rotavator tines cleaned with detergent spray, a thorough post-use check on the rotavator completed and tools checked and safely moved to correct storage areas

Assessor signature	Date
Sample Assessor	23/03/2023

Photographic/video evidence

Photo evidence: prepared area before ground preparation (close up showing tilth).

Photo evidence: prepared area after ground preparation (close up showing tilth).

Video evidence: Video showing starting, effective control and use of the machine.

OEHL Task 3b Dist(V2).mp4

Commentary

The candidate fully interpreted the requirements of the task and applied the correct techniques and equipment required in a professional manner to complete the task to a high standard.

The candidate showed an excellent grasp of **health and safety** procedures and of safe working practice taking care to systematically and thoroughly pre-start check the rotavator before use and ensure that it was set up correctly, making the necessary adjustments.

The candidate demonstrated the use of tools and equipment to a very high professional standard in all tasks, with no errors or questionable practice.

The candidate undertook a thorough and systematic **preparation of the establishment area**, with correct application of tools and equipment with appropriate techniques to achieve a high level of finish.

The candidate took time to check all stages and to review their practice throughout.

All tools and equipment were thoroughly checked, cleaned and stored.

Assessor Observation Form (Task 3c/d - establishment)

Task	Assessment component number
Task 3 (c) (d)	8717-404
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO2: Health and safety PO2: Establish planted areas (Establish plants)

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
(i) **Tree planting:** • Check all appropriate tools and equipment. • Assess the quality of a tree for planting - check tree condition for damage, disease etc. • Mark out planting location on the site. • Dig a hole for tree planting, loosen the sides of the planting pit. • Appropriately loosen and spread out the roots of the tree • Position the tree in the planting pit to the correct depth/nursery mark. • Add ameliorants appropriate to the conditions. • Backfill the hole with soil and firm the tree into the hole. • Stake the tree. • Apply tree ties and pest guards to the tree.	Candidate correctly selected and systematically checked all hand tools (spades, forks, rakes) for damage and cleanliness, handling them and replacing them safely. The candidate handled the tree correctly and made a thorough inspection of the tree condition, including the roots. Some damaged material was removed. The planting hole was accurately marked out using tapes and a cane (with a plastic topper) at an appropriate distance from the other tree. The hole was carefully dug, separating the top soil and subsoil into two distinct piles. The sides and bottom of the hole were loosened using a fork, though this could have been more comprehensively done. The tree was carefully removed from its pot and roots closely inspected. The roots were teased out and spread out in the planting hole. The candidate made minor adjustments at this point. The tree was positioned accurately and the depth adjusted slightly by placing soil underneath the roots then rechecking the nursery line. Mycorrhiza was weighed out and sprinkled into the bottom of the planting hole, making sure that the granules were in direct contact with the roots. The hole was backfilled carefully placing top soil over the roots and firming in to ensure no gaps, before completing the back fill with the sub soil and firming the area with their boot, levelling the site and double checking the position and straightness of the tree.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• Irrigate the tree. (ii) **Marking out:** • Use rules and formulae (e.g. 345 triangle) to precisely set out shapes and measurements. • Accurately set out shapes on the ground. • Assessor checks accuracy of the marked-out area by measuring and recording diagonal measurements. (iii) **Sowing:** • Determine appropriate sowing/planting density according to product information • Calculate sowing requirements according to product information • Check all appropriate tools and equipment. • Broadcast seed for determined rate, consistently and economically. (iv) **Turf laying** • Check turf health.	The stake was handled correctly and placed at the correct distance and angle from the tree, driven in using a hammer (candidate wearing hard hat and gloves) to the required height. Tree tie used correctly in figure of eight configuration and tightened appropriately. The height could have been checked and adjusted at this point. A tree guard was selected, checked and placed carefully on the tree causing no damage, and firm to the ground. The tree was carefully irrigated, applying substantial amounts of water to the root zone and ensuring percolation of the water before applying more The candidate took time to check all the stages and to ensure all material and tools were tided away The candidate checked all tapes were clean and in good condition and placed the initial datum point cane (with rubber tops) into place carefully and accurately. The candidate laid out a base line ensuring tapes were tight then applying the 3,4 5 principles accurately measured out from this, placed canes at the apices of the triangle correctly before measuring off the points to complete the 10 square metre plot. **Assessor check on accuracy: checked the accuracy of the area by taking diagonal measurements which were less than 5mm out than the required distance.** The candidate scrutinized the instructions provided for the seed sowing. The candidate took notes and worked out that in this instance the recommended sowing rate was between 4 and 6 grams per square metre. The candidate elected to use the median, 5g per square metre for this task. The candidate calculated the required amount to be 10x 5 =50g correctly, taking care to avoid any spillage or contamination, weighed out the amount accurately using the 2 place balance, having checked that it was zeroed, clean and on a level surface first. The candidate selected a clean weighing container, and then split the sample into two 25g amounts. The balance was cleaned and reset after use. The candidate used a two-way sowing method, making a horizontal traverse followed by a vertical to ensure accurate and even coverage, this was facilitated by using the pre-prepared split sample. The candidate carefully avoided walking and compacting on the area by using a board to work from. The seed was

Assessor observation	Notes – *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• Check all appropriate tools and equipment. • Safely transport and store materials. • Lay turf onto soil and butt joints together. • Stagger joints in subsequent rows while using boards to walk on. • Cut turf to correct size and shape using hand tools. • Firm the turves. • Top dress as required. • Apply suitable protection.	distributed evenly, with no residue left or bare patches in the area. This was continually checked and adjusted by the candidate. The candidate checked the turf by unrolling a sample and ensuring that it was not chlorotic or etiolated, free from weeds, pests and diseases and that the roots were adequately hydrated. The candidate also checked the measurements of each roll. The candidate selected and checked all tools - fork, spade, landscape rake, wheelbarrow, boards, tamper and knife before use by assessing their condition and cleanliness. The candidate rejected some tools as inappropriate for the task. The tools were loaded carefully and in a logical sequence and safe orientation into the barrow. The load was balanced and safely assembled and moved in a predetermined route to minimize disruption. The rolls of turf were lifted in pairs and safely moved to the site, having pre-checked the area and removed any potential hazards such as tools. All tools and materials were safely stored between tasks ensuring that there was no risk of trips. The rolls of turf were placed into position starting at the first corner and unrolled carefully. The candidate then butted up the next roll ensuring a good connection by ensuring a brickwork style was used, checking the straightness of the connection and gently firming in, all while working off a board. For the second row the joints were staggered by cutting a roll of turf using a knife and board for ensuring a straight line into two halves. This was completed carefully and accurately using a knife. The joints were butted in, and boards used to walk on during all the laying. All turves were firmed in using the back of the rake, and levels checked. Top dressing was used to infill in two minor gaps. The turf was thoroughly watered in and the area roped off using correctly spaced canes and cord. All tools were carefully and systematically cleaned, transported and stored correctly and excess materials transported and stored either on or off site correctly.

Assessor signature	Date
Sample Assessor	23/03/2023

Photographic/video evidence

Photo evidence (i) Tree planting: Photo of roots after loosening and spreading.

Photo evidence (i) Tree planting: Photo of planted tree after stake, ties and guard are installed.

Photo evidence (iv) Turf laying: Photo of joints after butting up.

Commentary

The candidate interpreted the requirements of the task very well, and undertook the techniques of tree planting, marking out, sowing seed and laying turf to a high standard to successfully **establish planted areas** and **plants** with an excellent level of finish.

The candidate planted the tree accurately and carefully, with excellent regard to the sequence of procedures and consideration of the health of the tree: The candidate correctly adjusted the depth of planting using exemplary procedures and applied the mycorrhizae at the appropriate rate and to the optimum position re roots and soil. The planting was completed in a timely manner and area tidied to a professional standard with due regard to environmental issues.

The candidate undertook the marking out to a high standard of accuracy. The measurements could have been made even more accurate by applying the tapes to the same side of the cane, which led to the acceptable 5mm error. However, it was clear that the candidate fully understood the principles of the 3,4,5 process and could apply them accordingly.

The candidate undertook the seed sowing exercise in a logical manner, taking great care at each step, especially the weighing out stages, having double-checked the application rates. The finish was to a high standard, even and consistent.

The turfing exercise was carried out in a logical and efficient manner to a high standard. All tasks were completed efficiently, with a minimum of waste and adjustment. Finishing was to a very high standard, with efficient use of materials and tools and minimal waste which was cleared off the site in a professional manner.

Application of **health and safety** knowledge was evident with the candidate wearing appropriate PPE throughout and demonstrating safe manual handling techniques e.g. lifting rolls of turf with a partner.

Task 4 – Maintenance and propagation

Evidence contributes to the following:

Performance outcome	Assessment themes
PO2 Establish ornamental and environmental horticultural areas.	Health and safety Establish planted areas (Establish plants)
PO3 Maintain ornamental and environmental horticultural areas	Perform maintenance

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
	part a) hedge maintenance			
assessor observation	PO3: Perform maintenance		√	√
photographs	PO3: Perform maintenance		√	√
video	PO3: Perform maintenance		√	√
	part b) propagation			
assessor observation	PO2: Health and safety PO2: Establish planted areas (Establish plants)		√	√
photographs	PO2: Establish planted areas (Establish plants)		√	√

Assessor Observation Form (Task 4a – hedge maintenance)

Task	Assessment component number
Task 4a	8717-404
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Perform maintenance

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• Selection of appropriate personal protective equipment (PPE), equipment and materials • Checking the hedge, identify pruning requirements and check for wildlife, debris and hazards	The candidate selected the appropriate PPE: Visor, ear defenders, safety boots and gloves. taking care to check its condition and size. The equipment necessary for this task was carefully selected after consideration of the task: fuel, funnel, hedge trimmer, rake, wheelbarrow, leafblower, warning sign. The candidate carefully inspected the Yew hedge area looking for any hazards and potential obstructions. The candidate checked inside the hedge to ensure that no birds were nesting and no other wildlife was present. The areas beneath and in the vicinity of the hedge were also checked for debris and other hazards to ensure a clear path for using the equipment, and safety of others. The candidate identified that the hedge needed maintenance trimming of the top and sides to restore the required shape and size.
• Candidate's verbal risk assessment for the task – hazards, risks and controls identified. • Operators checks on the hedge trimmer, in accordance with the manufacturer's instructions • Use of equipment in a safe and effective manner throughout the operation.	The candidate's verbal risk assessment correctly identified potential hazards (flying debris, cuts from blades, slips/trips/falls, noise, others entering the work area, hitting obstructions hidden in the hedge, burns from exhaust, safe distance of working) and applied a risk rating to each. Suitable controls were suggested and implemented (use of PPE, surveying site for obstructions, removal of debris, pre-start checks of machine, correct use of machinery, warning signs placed at each end of the site at safe distance) each showing very good awareness and consideration of the risks of this activity. The explanations were clear and unambiguous. A petrol-powered hedge trimmer was provided. The candidate consulted the operating manual for the hedge trimmer and conducted a complete pre-start check including fuel level, pull cord condition, off/on controls, condition and lubrication status of the blades, air filter and spark plug.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• Carry out the work in a manner that minimises environmental damage • Dispose of any waste safely and correctly • Maintain and store equipment in a safe and effective manner after use. • Ensure the site is left in a safe and tidy condition	The equipment was started first time, appropriately and safely and used in the correct motion and economical sweeping action. The candidate was very aware and checked their surroundings frequently, and modified the height of the cut according to the hedge condition, resulting in an even and level cut with no patches or missed areas. The candidate conducted a thorough check of the site for wildlife before commencement, checking the exterior and interior of the hedge for any signs of activity. The candidate used the equipment at the correct speed (not over revving) for the minimum duration required to complete the task to minimize emissions and noise. The arisings were carefully raked up and collected into a pile for shredding and conversion into mulch. The candidate double-checked the area and also raked out debris from under the hedge and ground to pick up all arisings. The candidate cleaned and replaced all hand tools in their correct location safely and using PPE. The hedge trimmer was cleaned, blades checked and the blade protector replaced before storing the machine in an appropriate secure place. The surrounding site was raked and cleared by the candidate, all tools and equipment picked up and stored. The area was cleared of any potential obstructions and warning signs removed and stored.

Assessor signature	**Date**
Sample assessor	23/03/2023

Photographic/video evidence

Photo evidence: hedge before maintenance

Video evidence: Video showing starting up and use of the hedge trimmer.

OEHL Task 4a Dist.mp4
^links to internal SharePoint location – please update for publication

Photo evidence: hedge after maintenance

Commentary

The candidate used strong knowledge and understanding of how to **perform maintenance**, to interpret the requirements of the task and provide a comprehensive verbal risk assessment, describing the correct risk analysis techniques, handling procedures and equipment and tools required to complete the task to a very good standard.

The candidate showed an excellent grasp of safety procedures and of safe working practice taking care to summarise the potential risks and methods to avoid them at all stages of the process. Pre-start checks were thoroughly conducted with reference to the operator's manual and the inspection of the hedge and the area in the vicinity was carried out thoroughly.

The candidate demonstrated the use of tools to **perform maintenance** with great dexterity and skill to a strong standard. The hedge cutting was completed efficiently and to a high standard, resulting in an even and level cut with no patches or missed areas.

The candidate undertook a thorough and systematic preparation of the hedge and surrounding site and conducted the task requirements in an efficient, methodical and professional manner. All tools were used economically and safely with no unnecessary over-revving or over-use of the cutter.

The candidate was aware of environmental issues and took steps to ensure no wildlife was present and that the area was cleared with due regards to environmental issues.

The candidate took time to check all stages of the task and to review their practice throughout, and conducted the work to a high standard of finish.

Assessor Observation Form (Task 4b – propagation)

Task	Assessment component number
Task 4b	8717-404
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO2: Health and safety PO2: Establish planted areas (Establish plants)

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• Candidate's verbal risk assessment for the task – hazards, risks and controls identified.	The candidates verbal risk assessment correctly identified potential hazards (use of knives/secateurs, use of composts and rooting powder, slips/trips/falls) and applied a risk rating to each. The candidate correctly identified how to control risks associated with compost, rooting powder and the use of sharp blades. Suitable controls (using gloves for handling compost, dust mask if using perlite, safety boots to lower risk of slips/trips/falls, correct manual handling techniques for handling compost bags) were suggested each showing very good awareness and consideration of the risks of this activity. The explanations were clear and unambiguous. The importance of a safe working area was correctly stressed.
• Selection of personal protective equipment (PPE), equipment and materials	The candidate wore correct PPE (safety boots, safety glasses). The candidate chose to not wear gloves when using the sharp tools, but at all other times, stating that the importance of maintaining a good grip on the sharp bladed tool outweighed the risk of accidental cutting. The blades of the secateurs and knife were carefully cleaned using appropriate disinfectant and sharpness tested on trial material. Correct compost components were selected and clean pots of a uniform size and shape were used.
• Selection, collection and storage of vegetative propagation materials to ensure viability is maintained.	Plant material was selected from a range of over-wintered *Fuchsia* plants in variable condition. Disease-free, true-to type, actively growing softwood shoots at the correct stage were selected. 10 cm long shoot tips were carefully excised from the plant ensuring a sharp cut above a node. Immediately after removing the materials they were placed into a clear polythene bag and labelled. The bags of material were taken to the propagation area and kept in a cool dark place before processing.

Assessor observation	Notes – *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• Preparation of workstation for effective operation	The candidate cleared and disinfected the work area before laying out the tools, compost, pots and labels in an ergonomically efficient and safe configuration.
• Preparation of growing media and filling of pots	The candidate mixed the required amount of peat free seed compost with horticultural sharp sand in an accurate 50:50 proportion. The pots (of appropriate size) were correctly filled with the mix and lightly firmed.
• Preparation of cuttings, tools and techniques used	The cuttings were removed from the polythene bag and inspected by the candidate prior to cutting them to 5-10 cm in size taking care to make a clean cut just below a node. Some of the lower leaves were carefully removed to ensure a clean stem for insertion.
• Insertion of cuttings at appropriate depth into growing media	The candidate inserted the cuttings at equal spacings around the pot to the required depth carefully, checking orientation of each, using a dibber and firming in.
• Labelling the plant material with the date, plant name and any other requirements	The candidate labelled each pot with the date, botanical plant name and their own name in a legible manner using pencil. The label was inserted at the front of each pot to a depth which still ensures that the writing was visible.
• Immediate aftercare e.g. watering and transferring to propagation unit.	The pots were placed in a carrying tray and taken to the propagation area by the candidate in an efficient manner protecting the cuttings from environmental conditions. The pots were carefully watered in using a watering can and rose ensuring an even flow of water before sweeping across the pots to ensure even coverage.
• Disposal of waste in a manner that reduces environmental impact	The candidate had taken precautions to avoid any potential contamination of the surroundings. Any uncontaminated compost was stored for future use. Plant trimmings were placed into a bin for composting. The polythene bag was cleaned and stored for re-use. Watering was conducted efficiently to minimise waste.
• Work area left in a safe and tidy condition	The area was meticulously cleaned down by the candidate, with all tools cleaned, lubricated and stored safely. Unused pots and labels were stored correctly, and the area was disinfected using appropriate environmentally friendly cleaning materials.

Assessor signature	Date
Sample assessor	23/03/2023

Photographic/video evidence

Photo evidence: cuttings after preparation

Photo evidence: cuttings after insertion

Commentary

The candidate showed an excellent grasp of **health and safety** procedures and of safe working practice taking care to summarise the potential risks at all stages of the process.

The candidate interpreted the requirements of the task and applied the correct risk analysis techniques, handling procedures and tools required to complete the task to a very good standard.

The candidate demonstrated strong knowledge and skills of how to **establish plants**. They used tools and techniques with great dexterity and care to a very high professional standard. There was evidence of excellent understanding of the subject notably in the selection of the initial cutting material and rejection of material found to be unsuitable for the process.

The candidate undertook a thorough and systematic preparation of the workspace and stock plant site and conducted the task requirements in an efficient, methodical and professional manner. The compost was very carefully formulated and handled. All tools were used economically and safely, with strong application of techniques and attention to detail evidenced by the accuracy of the cutting size and insertion depth.

The candidate was clearly aware of environmental issues and took steps (e.g. minimising material and water use) to avoid waste and recycling the plastic bags.

The candidate took time to check all stages of the task and to review their practice throughout, stopping to reconsider and appraise, while completing a thorough final check before clearing the propagation area to a high standard.

Task 5 – Installation of hard landscaping features

Evidence contributes to the following:

Performance outcome	Assessment themes
PO4 Install landscape features	Health and safety Plan for installation Install hard landscaping features (Prepare installation sites) Install hard landscaping features (Install features)
PO3 Maintain ornamental and environmental horticultural areas	Identify requirements and plan maintenance Perform maintenance

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
	part a) preparation of bedding and patio installation			
risk assessment	PO4: Health and safety	√		√
method statement	PO4: Plan for installation	√		√
bill of quantities	PO4: Plan for installation	√		√
assessor observation	PO4: Health and safety PO4: Install hard landscaping features (Prepare installation sites) PO4: Install hard landscaping features (Install features)		√	√

photographs	PO4: Health and safety PO4: Install hard landscaping features (Install features)		√	√
video	PO4: Health and safety PO4: Install hard landscaping features (Install features)		√	√
	part b) fence renovation			
risk assessment	PO4: Health and safety	√		
method statement	PO3: Identify requirements and plan maintenance PO4: Plan for installation	√		
bill of quantities	PO3: Identify requirements and plan maintenance PO4: Plan for installation	√		
assessor observation	PO4: Health and safety PO4: Install hard landscaping features (Prepare installation sites) PO4: Install hard		√	√

	landscaping features (Install features) PO3: Perform maintenance			
photographs	PO4: Health and safety PO4: Install hard landscaping features (Install features) PO3: Perform maintenance		√	√

Candidate evidence - Risk assessment (Task 5a – patio installation)

This template may be modified by adding items/rows only.

Candidate's name	Sample Candidate	Enrolment number	CG12345
Task / Activity	Laying a Patio	Location	Centre hard landscaping area
Assessor's name	Sample Assessor	Date	23/03/2023

Item no.	What are the hazards?	Who might be harmed and how?	What precautions are already in place?	Risk rating (High / Medium / Low)	What further action is necessary?	Action by who and when?	Residual risk rating (High / Medium / Low / Trivial)
1	Slips, trips and falls	Operator(s), anyone else on site. Tripping over poorly stored tools, over strings, tapes, buckets, slabs	Good working practices re tools and slabs. PPE: safety boots	Low	Ensure site is kept tidy and material stored on safe surfaces.	Operator, before commencing task, during task and when clearing site	Low
2	Cuts and abrasions from tools, slabs and materials when handling and scribing slabs (for abrasive wheel see below).	Operator, anyone else on site	Tools maintained and cleaned properly, gloves worn	Medium	Ensure tools maintained and checked before and after use	Operator when doing these tasks	Low
3	Working with lime, inhalation of dust or ingress into eyes	Anyone on site	PPE: Gloves, dust mask, eye protection	Medium	Care when opening bags and measuring out material. Clear up any spillages using appropriate methods. Wash hands after work to ensure no contamination. Use dust	Operator prior to and during the task	Low

					suppression kit for abrasive wheel.		
4	Use of abrasive wheel causing injury • Incorrect mounting, wrong disc • Bursting of Abrasive wheel or Disc • Contact with Wheel • Clothing entanglement with moving parts • Inhalation of dust • Eye Injury from ejected particles • Noise • Vibration	Operator, passers-by, from fumes, noise	Correct training and maintenance of equipment. PPE: dust mask, eye protection, safety boots, gloves, hearing protection. Make sure that the safety guards are in place. Adequate ventilation. Use of correct filters. Dust suppression kit used. Adequate supervision.	High	Only trained personnel to change abrasive wheels. Double check and examine abrasive wheels and discs before their use. Correct and thorough pre-start checks (see hazards). Equipment mounted on safe surface. Foot protection as appropriate to the machine. Overalls to be worn, closed at wrist. Dust mask to FFP3, COSHH assessment. Eye protection. Minimise emissions and noise.	Operator/Supervisor prior to and during the tasks	Medium
5	Lifting, moving and laying slabs	Operator(s)	PPE: safety boots, gloves. Work in pairs, correct Manual Handling techniques.	Low	Clear area to ensure safe passage, move slabs close to patio beforehand using appropriate lifting tools	Operators before and during the tasks	Low

			Check workplace and routes before commencing work				
6.	Mixing materials, transporting and applying grout	Operator(s) – contamination of operators.	PPE: dust mask, eye protection, safety boots, gloves. Compliance with manual handling techniques.	Low	Mix only the required amount in appropriate containers and use tools correctly	Operator before and during the tasks	Low
7.	Cleaning of tools, equipment and machinery causing cuts, contamination.	Operator(s), passers-by	PPE: Gloves Designated area for cleaning	Low	Additional PPE: Eye protection.	Operator after completing main tasks	Low

Date: 23/03/2023	Risk assessment carried out by: Sample Candidate

Commentary

The candidate has provided a comprehensive and logical Risk Assessment identifying **health and safety** issues and seven hazards covering all areas of the task including preparation and cleaning up and has applied their strong practical knowledge to the tasks required. The candidate has correctly expanded the section on the use of the abrasive wheel to detail specific risks, listing a comprehensive range of appropriate additional controls to lower the overall risk rating (including specific details of PPE e.g. dust mask to FFP3).

The candidate has interpreted the requirements of this aspect of the task to a very good standard and has paid comprehensive attention to the sub-tasks and their context and sequence. The slab laying aspect has been well-considered to include tools, equipment and safe working practices. The candidate has correctly identified abrasive wheel hazards as being the highest risk and has detailed the appropriate controls.

The candidate has used the correct technical terminology accurately in the risk assessment (e.g. inhalation of dust, dust suppression kit, manual handling techniques, COSHH).

There are well-considered references to environmental factors such as the minimisation of fumes and noise and efficiency of operation (e.g. mixing only the required amounts of materials).

The candidate described extensive precautions. The candidate's consideration of the control measures for the risks has enabled the risk rating to be reduced appropriately.

Candidate evidence - Method statement (Task 5a – patio installation)

Method Statement

Job title: Laying a Patio

Date: 4th July 2023

Staff (including site supervisor)
A.Student, B.Student, Tutor

Description of Works

- Location
  Centre Hard Landscaping Area
- Task (s)
  Laying a 3 x 2.4 metre patio
- Start time
  09.30
- Duration
  Total of 7 hours over 2 days

Sequence of tasks

1.Team of two to check area is safe and clear of obstructions, discuss any issues and plan their sequence of work and starting positions

2. Individuals to check that all tools, materials and equipment needed are present, clean and in safe working condition, replace any that are not up to standard and ensure all tools are maintained and stored in a safe manner.

Tools and equipment required*: 2 x landscape rakes, 2 x shovels, 1 each of 1000 and 600mm spirit levels, 2 x bricklayers trowels, 2 x pointed trowels, 2 medium rubber mallets, cutting tools including scribe, chisel and builders square, 1 x abrasive wheel checked and in good condition, 2 x jute string lines with pegs (Contingency tools – bolster, spare angle grinder blades, extension lead and RCB), 2 buckets for mixing up, wheelbarrow, broom, dustpan and brush*

Materials required*: 22 paving slabs (2 for contingency), checked and ensured clean, appropriate quantities and quality of sand and lime, water, line marker spray*

PPE required: *boots, safety glasses, ear defenders, dust masks (P3), knee pads, gloves, overalls*

3. Individuals to compile and write risk assessment and review before commencement.

4. Individuals to apply appropriate PPE according to the Risk Assessment

5. Pair to ensure slabbing site clean and free of obstructions before marking out site using string lines and marker spray to within 5mm tolerance

6. Pair to accurately measure out sand and lime using appropriate containers and PPE and mix up required quantity 0.36m3 plus a 10% contingency of a 5:1 sand: lime (0.3 m3 of sand, and 0.06 m3 lime with appropriate amount of water) using shovels, ensuring an even mix and consistency and the minimisation of waste and contamination.

7. Pair to transfer using appropriate containers/wheelbarrow, remix and apply the pre-mixed bedding material to the correct depth (50mm) using shovels, ensuring a level surface using trowels and spirit levels

8.Individuals to review Risk Assessment and apply appropriate PPE

9. Individuals, in liaison with supervisor, to check abrasive wheel and components according to the checklist of measures described in the Risk Assessment. Any issues to be raised with supervisor who must approve the checklist before work can commence.

10. Pair to calculate number of slabs required and ensure quality of each prior to any handling. Set aside slabs for contingency.

11. Pair to lift and transport slabs, using correct manual handling techniques and PPE.

12. Individuals to lay slabs, starting at designated point and ensuring, using string line at right angles from the starting paver and spirit level, that first slab is plumb.

13. Individuals to continue laying rest of slabs according to the plan, checking levels and accuracy and make any adjustments necessary using appropriate tools

14. Individuals to measure out any slabs that need to be cut using a scribe and builders square and accuracy to be double checked prior to any use of the wheel to cut to size. Safe lifting in pairs.

15. Using abrasive wheel economically and efficiently according to Risk Assessment individuals to handle and manipulate slabs carefully and cut two slabs to required size. Ensure use of dust suppression kit. Switch off machine and check before moving onto next task. Ensure dust is disposed of appropriately.

16. Pair to mix up a sufficient quantity (with a 10% overage for contingency) of dry grout using appropriate materials and containers

17. Individuals to check gaps are equal and fall into standard joint width (8-14mm) and apply grout to gaps using pointing trowel, firming in and ensuring no waste

18. Pair to clear and tidy site to professional standard using brooms, shovels, dustpan and brush and dispose of any waste, including any broken slabs in an environmentally responsible way.

Commentary

The candidate has provided a detailed method statement including the main aspects required to **plan for installation**, considering a broad range of factors (e.g. health and safety, timescales, tools, equipment and machinery, sequence and methods of working, allocation of work).

The sequence of operations is complete and suitable to safely complete the task with some excellent details (e.g. consideration of safe manual handling throughout, consistent reference to quality/finish, mixing a sufficient quantity of grout before the next step, good consideration of environmental factors and cleanliness/tidiness of site).

Overall the method statement is of an excellent standard suitable for professional use.

Candidate evidence - Bill of quantities (Task 5a – patio installation)

TOOLS/EQUIPMENT		
Item	**Description**	**Quantity**
1.	Landscape Rakes	2
2.	Shovels	2
3.	14 litre Bucket (and water source)	1
4.	Spirit Levels (1000 and 600mm)	2
5.	Trowels (pointed and bricklayers)	2
6.	Medium Rubber mallet	2
7.	Cutting scribe	1
8.	Abrasive Wheel with dust suppressor kit	1
9.	Either petrol or extension lead for Abrasive wheel	1
10.	Spare blades for abrasive wheel	1 set
11.	String line (jute) and pegs	2
12.	Bolster and chisel (contingency)	1
13.	Broom	2
14.	Dustpan and Brush	1
15.	Wheelbarrow	1
16.	Builders square and tape measure	2
17.	PPE (boots, gloves, goggles, ear defenders, knee pads, overalls, P34 dustmasks)	2 sets

MATERIALS					
			Sand:Lime mix ratio:	**5:1**	
Item	**Description**	**Quantity**	**Unit**	**Cost/unit**	**Cost**
1.	Slabs (including 2 spare) Bedding material (including grout): 3m x 2.4m x 0.05m = 0.36m3, add 10% contingency 0.4m3 for overage and grouting	22	600 x 600 mm slab	20.00	280.00
2.	Sand (including 10% contingency)	21	25kg bag	3.00	63.00
3.	Lime (including 10% contingency)	7	25kg bag	17.50	122.50
4.	Marker spray	1	750ml	5.00	5.00
5.	Spare blades for abrasive wheel (contingency)	1 pack	Depends On machine	40.00	40.00
					Total: £510.50

Commentary

The candidate used strong knowledge and understanding of how to **plan for installation** of the landscaping feature. They selected a full range of resources correctly and the list of tools and equipment is comprehensive with a level of detail making it very clear for the user.

The necessary materials have been listed and the required quantities calculated are sufficient for completion of the task, and the candidate has also factored in additional materials as a contingency (e.g. spare slabs, additional sand and lime, spare blades). Calculations have been carried out accurately.

Assessor Observation Form (Task 5a – patio installation)

Task	Assessment component number
Task 5a	8717-404
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO4: Health and safety PO4: Install hard landscaping features (Prepare installation sites) PO4: Install hard landscaping features (Install features)

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• Candidate is wearing all necessary PPE.	Correct, clean, properly functional and fitting PPE selected and worn by candidate.
• Mixing of bedding material, correct proportions and quantity of sand/lime	Candidate handled all materials safely and efficiently. Correct ratio (5:1) and quantities of bedding materials carefully and accurately measured out using appropriate receptacles and tools. Materials checked to ensure aggregates and powders were free of clumps. Water applied carefully, in a stepwise manner before thorough and even mixing to ensure correct texture and viscosity of mix.
• transport, application and levelling of bedding material • laying slabs and minor adjustments as required	The candidate transported the bedding mix from the mixing area to patio site in an appropriate container. This was not overfilled, and the route was checked beforehand and a safe surface to place the container. The mix was applied using the correct tools (shovel, bricklaying trowel) in an efficient manner, with no spillage or waste. The candidate levelled each slab to their string line carefully and accurately, checking with a spirit level to ensure there were no dips.
• operator's checks on the abrasive wheel, in accordance with the manufacturer's instructions **Note: Assessor must be satisfied that the abrasive wheel is in a safe condition**	The candidate handled all the slabs safely using correct manual handling techniques. The slabs were carefully laid in place and adjusted using a rubber mallet where required before double checking spacings and levels. Spacings were accurate and consistent, and layout was in line with the design drawing. The candidate carefully and logically checked the abrasive wheel components by referring to the operating manual. (Fuel/oil level, condition of blade/wheel, pull cord, visual check for damage, presence, condition and security of safety guards, function of water kit/dust suppression kit if present, function of power on/off

Assessor observation	Notes – *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
for use before the candidate begins cutting • marking and cutting of slabs: Use equipment in a safe and effective manner • point gaps with dry grouting using sand/lime mixture. • Carry out the work in a manner that minimises environmental damage • Maintain and store equipment in a safe and effective manner after use. • Ensure the site is left in a safe and tidy condition.	switch). The mountings were checked, spindle hole and the wheel examined for any cracks or damage. The candidate carefully and accurately measured the slabs and checked measurements required prior to marking up the slabs using a scribe and builders square. The slabs were correctly positioned and held in place and all equipment used safely and efficiently, minimising waste and noise pollution. Cuts were accurate and straight. The candidate formulated the grouting mix in the correct proportion (3:1) using appropriate PPE and tools. The candidate ensured that all slabs were completely dry before applying the mix by dry brushing before using the blade of the pointed trowel to press down the mix and brushing in additional material where required. The candidate took obvious care in planning and completing all tasks efficiently to minimize any waste. All measurements were accurate, materials used efficiently, use of abrasive wheel efficiently done to minimize exhaust and noise pollution. Wastage of water and bedding material was minimised. The candidate carefully and systematically checked and cleaned all equipment including PPE before replacing it at the designated locations. Washing down was done in an efficient manner to minimise water use and run-off. All tools cleaned and stored correctly. Abrasive wheel checked, cleaned and dismantled safely prior to storing safely. The candidate removed all tools and equipment, and all unused material from the site. The site was swept carefully and sweepings were disposed of appropriately. The candidate undertook a final check of the site before completion.

Assessor signature	Date
Sample assessor	23/03/2023

Photographic/video evidence

Photo evidence: checking and levelling slabs.

Video evidence: Video recording of candidate using the abrasive wheel to cut one slab.

OEHL Task 5a Dist-1(V2).mp4

Photo evidence: Photo showing manual handling techniques

Video evidence: Video showing finish of laid slabs.

OEHL Task 5a Dist-2.mp4

Commentary

The candidate interpreted the requirements of the task and applied the correct techniques, measurements, handling procedures and equipment required to complete the task to a high standard.

The candidate showed an excellent grasp of **health and safety** procedures and of safe working practice taking care to systematically and thoroughly pre-start check the abrasive wheel before use and ensure that it was set up correctly.

The candidate demonstrated the use of tools and equipment to a very high standard in all tasks, with minimal errors. There was evidence of very good knowledge and understanding of the principles and key points e.g. taking care in the use of the dry mix for pointing.

The candidate undertook a thorough and systematic **preparation of the installation site** and **installed the feature** in an efficient, methodical and professional manner, with correct application of tools, good techniques and very good attention to detail evidenced by the accurate levels and spacings of the slabs at the end of the process.

The candidate was clearly aware of environmental issues and took steps e.g. minimising material and water usage to reduce waste.

The candidate took time to check all stages and to review their practice throughout and completed a thorough final check before thoroughly clearing the site to a very high standard.

Assessor Observation Form (Task 5b – fence restoration)

Task	Assessment component number
Task 5b	8717-404
Candidate name	**Candidate number**
Sample Candidate	CG12345
Centre name	**Assessment themes**
Sample Centre	PO3: Perform maintenance PO4: Health & Safety PO4: Install hard landscaping features (Prepare installation sites) PO4: Install hard landscaping features (Install features)

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• Candidate is wearing all necessary PPE.	Correct, clean, properly functional and fitting PPE selected and worn by candidate.
• Removal of damaged rail • removal of damaged fence post	Candidate identified, assessed condition of and safely removed damaged rail using appropriate techniques ensuring no risk of injury. Effectively sawed off the rail, and efficiently pried remaining part from the post using hammer. Removed fixings and disposed of them accordingly, without damaging other parts of the fence. Candidate identified, assessed condition of and removed loose post using appropriate using digging tools and correct manual handling techniques ensuring no risk of injury. Tools and equipment used safely and correct handling techniques applied to avoid manual handling injury.
• marking and cutting of fence post and rail to size • installation of post	The candidate ensured that the new post and rail were measured accurately and marked using pencil, size checked by candidate by lining materials up in situ. Cutting done using sharp saw, checked beforehand and used safely and efficiently on a level surface.
• fixing of rail	Candidate placed post on the ground in the proper locations for a "test fit" and made adjustments to ensure the correct spacing of the posts and rails. The candidate test fitted the rail, to make sure spacing was correct. Post installed correctly in hole dug using post hole digger and spade to correct depth (1/3 post length), backfilled and adjusted to ensure post upright by candidate applying spirit level correctly and checking.

Assessor observation	Notes – *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
• painting/application of protective coating • Carry out the work in a manner that minimises environmental damage • Maintain and store equipment in a safe and effective manner after use. • Ensure the site is left in a safe and tidy condition.	Candidate appropriately and efficiently inserted rail in correct positions, checked levels and adjusted using a mallet. Rail firmly fixed in place using appropriate fixings. The new post and rail were painted carefully by the candidate using the correct liquid and tools, applied using a smooth action, ensuring complete and even coverage, and minimal waste/ spillage. The candidate took care in planning and completing all tasks efficiently to minimise any waste. All measurements were accurate, materials used efficiently, excess wood removed and stored correctly, protective coatings used efficiently and waste disposed of appropriately. The candidate carefully and systematically checked and cleaned all equipment including PPE before replacing it at the designated locations. All tools cleaned and stored correctly. The candidate removed all tools and equipment, and all unused material from the site. The candidate undertook a final check of the site before completion.

Assessor signature	Date
Sample assessor	23/03/2023

Photographic/video evidence

Photo evidence: Photo showing post installed

Photo evidence: Photo showing fixing of rail.

Photo evidence: Photos showing finished fence.

Commentary

The candidate interpreted the requirements of the task and applied the correct techniques, measurements, handling procedures and equipment required to **perform maintenance** and **install features** to a high standard.

The candidate showed an excellent grasp of **health and safety** procedures and of safe working practices.

The candidate conducted a thorough analysis of the existing material and correctly identified the material that needed to be replaced.

The candidate demonstrated the use of tools and equipment to an excellent standard to **install the feature** and **perform maintenance**, with examples of good practice in the cutting, measuring and positioning of the component parts of the fence.

The candidate undertook systematic **preparation of the installation site** and materials and conducted the task requirements in an efficient, methodical manner, with excellent application of tools, techniques and attention to detail evidenced by the accurate levels and spacings of the post and rails at the end of the process.

The candidate was clearly aware of environmental issues and took steps e.g. minimising material use to avoid waste, and careful use of liquid protectants.

The candidate took time to check all stages and to review their practice throughout and completed a thorough final check before clearing the site to a high standard of finish.

Task 6 – Site survey and report

Evidence contributes to the following:

Performance outcome	Assessment themes
PO2 Establish ornamental and environmental horticultural areas	Identify features and characteristics Plan for establishment
PO4 Install landscape features	Health and safety

Evidence	Assessment themes	Candidate producing	Assessor producing	Included in this version of GSEM
	part a) site survey			
survey recording form	PO2: Identify features and characteristics	√		√
	part a) site survey; and b) locate utilities			
assessor observation	PO2: Identify features and characteristics PO4: Health and safety		√	√
photographs	PO2: Identify features and characteristics		√	√
	part c) report			
report on site survey	PO2: Identify features and characteristics PO2: Plan for establishment	√		√

Candidate evidence - Survey recording form

Site Location

South of main A28 Road, located 500m down unmarked track

Address 101 South Lane, Hilltown, BX20 4UU

GPS

Latitude: 50° 48' 35.39" N

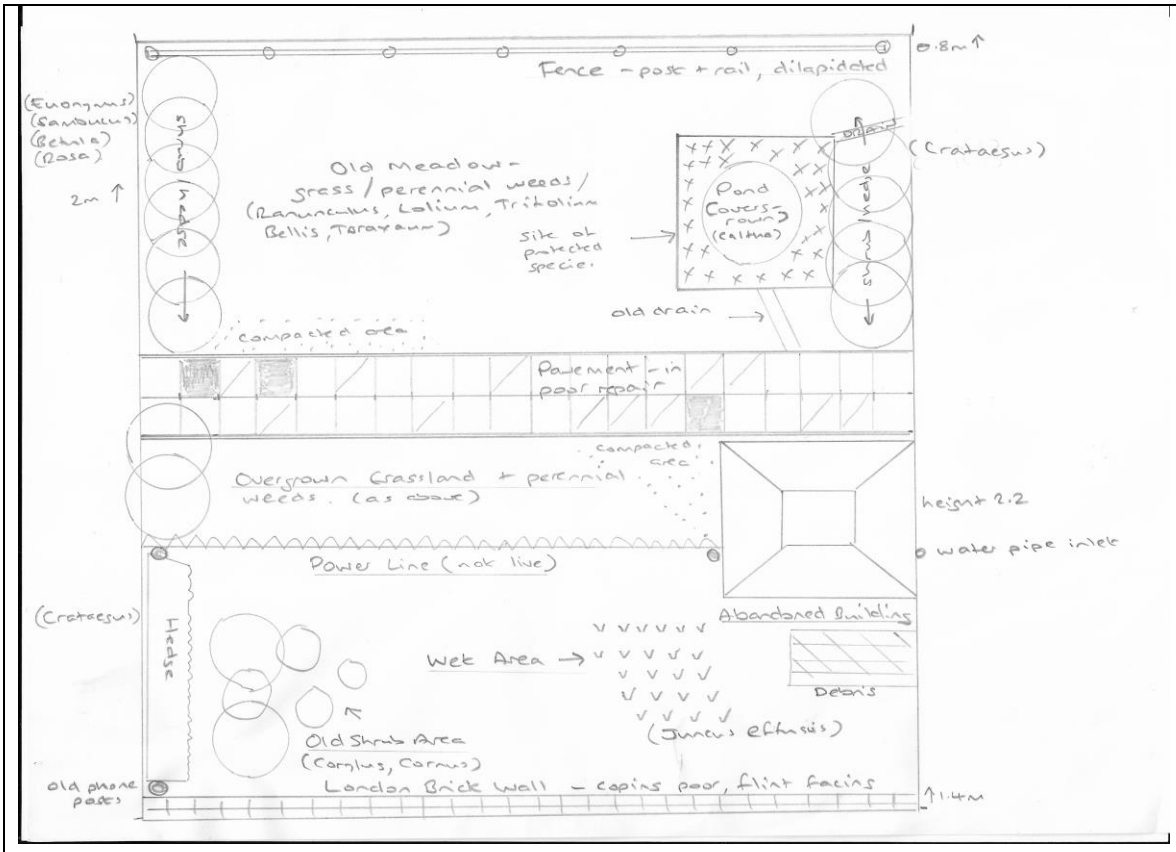
Longitude: 0° 08' 8.40" E

Note parking limited due to narrow track

Existing landscaping features

Notes:

- A generally level site of 10 x 10 metres but with a slope towards the westerly corner. Some undulations due to animal damage and previous cultivation
- A brick wall identified along the southern edge of the site, this was 1.4 metres high with coping in poor condition and faced with flint, much of which is loose or fallen out. Foundations appear to be sound.
- A dilapidated post and rail fence at the northern boundary 5 metres long x 0.8 metres high. There are 6 fence posts in need of replacement, and all rails are broken or missing, old rails left to decay on ground.
- A pavement of 600 mm concrete slabs. Many are broken with pointing in poor condition throughout and three slabs are missing.
- An overgrown pond of approximately 2 x 2 metres in size, with a butyl liner, which is probably leaking as water level is low. Depth is around 1 metre at the centre, and pond is overgrown with marsh marigold and overhanging hawthorn.
- Hedges and old shrubs up to 2 metres high around the site are in poor condition.
- Access points are in a poor state of repair and are partially blocked with overgrown plants.



(Mark location/s on map)

Site Characteristics

Aspect:

South-south-westerly facing (200 degrees on the compass) when taken from centre of the site. Full sun, no significant shade from vegetation.

Topography:

Site is generally flat but with a slight fall off as stated above. It is in the hollow of a Northwest to south westerly running valley, with low hills surrounding the area to the east and west. River south of the site. No tall trees in the area around the site.

Exposure and situation:

Site is fully exposed to prevailing wind direction from south-west, and also open to any other wind due to lack of shelter in vicinity. Risk of flooding due to proximity of river.

Exposure issues could be a particular problem in winter due to lack of shelter.

Microclimate factors:

x Frost pocket

x Wind

x Other (specify):

Risk of frost pockets due to being down in a valley, brick wall at bottom of site a particular risk.

Potential wind tunnel effect from northerly winds funnelling down valley.

Exposed areas due to lack of shade in places.

Sunlight levels:

X Full sun (6 hrs or more)

□ Partial sun or filtered light

□ Shade

Services and Structures:

□ Overhead power/communications lines – location and estimated height:

Evidence of an old telephone line, 3m posts found, no evidence of wires.

□ Estimated proximity to buildings/structures:

Abandoned building on site, see sketch. Brick construction 2m x 2m, height 2.2, slate roof (mainly fallen off) windows boarded up. Unmarked road passes adjacent to western border

□ Underground utilities identified, location marked and noted on sketch:

Water pipe leading into old building noted from outside of the wall

Drains found from old building to pond and outfall from pond toward river

Soil Characteristics

Approximate rooting depth for site:

Five samples were taken across the site and the rooting depth varied from 15-40 cm.

Top soil varied from 10 - 25cm, subsoil from 15-60 cm depth.

Texture (particle size distribution)

x Clay

x Loam

□ Sand

□ Other (specify):

A soil texture test using the ADAS hand soil texture method showed that the soil was a clay loam. Repeated all steps to confirm findings.

Comments on structure:

From a visual examination of the soil profile pit, the following was deduced:

Top soil was mainly granular but single prismatic aggregates were observed in the subsoil. Likely to swell when wet and shrink when dry.

Subject to clod formation and structural problems when wet due to clay content.

Evidence of compaction.

pH:

Five samples taken, mean of 6.95

Drainage Characteristics and water holding capacity:

□ Presence of groundwater

x Low-lying topography

Water holding capacity:

□ high □ medium X low

Notes (including testing method and results):

Tested using simple water infiltration method. Soil found to be poorly drained with a slow infiltration rate of less than 100 ml in 20 minutes, 200ml after 60 minutes

Indicator plants suggest site drainage as:

x wet □ well-drained □ dry

Compaction Levels

□ Severely compacted

x Compacted

□ Uncompacted

Notes:

Presence of Ranunculus repens indicative of poor drainage. Compaction evident by surface water around the paths, wet areas around pond.

Soil profile pit found no evidence of a soil pan - compaction likely due to pedestrian traffic.

Areas of compaction marked on the map

(Mark any areas with particular problems of compaction on map.)

Other Soil Considerations:

□ Indications of soil layer disturbance

□ Evidence of recent construction

x Presence of construction debris likely

□ Noxious weeds present

Notes:

Construction debris found near old building, old bricks, slates and mortar, will have affected drainage and compaction in the area.

No noxious weeds found but needs to be monitored throughout the year.

Anaerobic conditions in pond area evidenced by the smell of the soil when disturbed.

Plants present on site

	Genus	Species	Common name	Protected species?
1	*Ranunculus*	*repens*	Creeping Buttercup	No
2	*Taraxacum*	*officinale*	Dandelion	No
3	*Corylus*	*avellana*	Hazel	No
4	*Betula*	*pendula*	Silver Birch	No
5	*Cornus*	*alba*	Dogwood	No
6	*Sambucus*	*nigrum*	Elder	No
7	*Rosa*	*canina*	Dog rose	No
8	*Euonymus*	*europaeus*	Spindle	No
9	*Lolium*	*perenne*	Perennial ryegrass	No

10	*Juncus*	*Effusus*	Corkscrew rush	No
11	*Caltha*	*palustris*	Marsh marigold	No
12	*Mentha*	*pulegium*	Pennyroyal	Yes
13	*Trifolium*	*repens*	Clover	No
14	*Bellis*	*perennis*	Daisy	No
15	*Crataegus*	*monogyna*	Hawthorn	No

Habitats present on site

(E.g. hedgerow/woodland/aquatic/grassland/rocks etc.)

1	Hedgerows – native species
2	Established Grassland
3	Overgrown pond and margins

Commentary

The candidate's survey has **identified** and detailed the **features and characteristics** of the site, and all sections of the form have been completed in detail.

Identification of the required site characteristics has been completed to very good level. For example, aspect and topography have been comprehensively considered.

Excellent identification of soil characteristics and conditions was completed through testing, including thorough interpretation of all results.

The candidate correctly identified the common and full scientific names of almost all (apart from #6 – incorrect species – should be '*nigra*') of the plant species present, including weeds and the protected species. Three specific examples of habitats were also identified correctly.

The candidate identified the main existing landscaping features in detail and marked their locations accurately on the plan. Comprehensive detail about the majority of features was recorded on the form, resulting in useful information on which to base subsequent decisions when planning for establishment.

Assessor Observation Form (Task 6 a/b – site survey)

Task	Assessment component number
Task 6 (a) (b)	8717-404
Candidate name	**Candidate number**
Sample candidate	CG12345
Centre name	**Assessment themes**
Sample centre	PO2: Identify features and characteristics PO4: Health and safety

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*

a) site survey.
• correct use of plant identification tools
 	
• accuracy of plant identification and if/when images were used in place of live specimens on site (copies of any images used must be submitted with the observation form)
 	
• Tests carried out to determine soil characteristics and conditions including:
  ○ texture and structure.
  ○ soil pH.
  ○ Water holding capacity.
	All plants were carefully examined, including leaf, flower and stem characteristics, and identified by use of simple keys and carefully checked using the flora to accurately establish the genus and species. The candidate returned to a number of the species to make a confirmatory check.
	
	The plants present were identified accurately by common and full scientific names for all of the plants (apart from #6 where the genus was correct but species was recorded as '*nigrum*'), and the protected species. The candidate cross checked all samples at the end and noted down their locations accurately on the plan.
	
	No images used, all identification from living plants on the site.
	
	The soil testing was performed systematically and to a very good standard. All activities were carefully planned, and all resources were identified and collected, then checked to ensure they were fit for purpose. Finally, they were cleaned and where necessary calibrated.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
b) underground cable location. • set up and use of CAT and Genny • interpretation of results • storage of equipment marking on the ground of detected pipe/cable location	The candidate wore gloves for all activities and was careful not to cross-contaminate any samples. Soil texture samples were taken at the correct depth across a W-shaped matrix covering the site, and were combined before analysis. The candidate took further individual samples to check for compaction. The candidate sieved the samples through a 2mm mesh prior to conducting a thoroughly comprehensive hand texture test using the chart and checking each stage carefully before proceeding to the next. The sample was analysed again to ensure a consistent response. The texture was identified correctly. Soil structure was assessed at each sampling site and notes on compaction and any evidence of capping or other structural feature made. The pH was conducted using an industry standard pH testing kit. All kit components were checked and cleaned and candidate wore gloves before starting the test which was conducted according to the instructions with great care and accuracy. Five samples were tested and the result averaged. The samples were left for the prescribed amount of time before being carefully assessed against the colour chart, and held up carefully to confirm the pH. All reagents and components were carefully replaced avoiding any cross-contamination. Several replicated tests of the water holding capacity test were completed, all were accurately setup, measured and timed correctly. All equipment was returned in a clean condition after use. The equipment was selected, checked carefully (including battery) before use and instructions were read before commencing the task. The candidate checked the site for obstructions, any evidence of existing services and evidence of points of entry/exit of previous services before starting.

Assessor observation	**Notes –** *detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.*
	The equipment was carefully set up and calibrated and the correct mode established before commencing the task. Equipment was used safely, effectively and efficiently throughout. The candidate surveyed the site using a disciplined grid pattern ensuring the whole area was covered. The ground was accurately marked to show the layout of the cable using canes with plastic tops for safety. The results were double-checked and interpreted correctly providing excellent detail. The equipment was switched off, fully cleaned down, checked for damage and stored carefully in the carrying case.

Assessor signature	**Date**
Sample assessor	23/03/2023

Photographic/Video evidence:

Photo evidence: Soil texture test

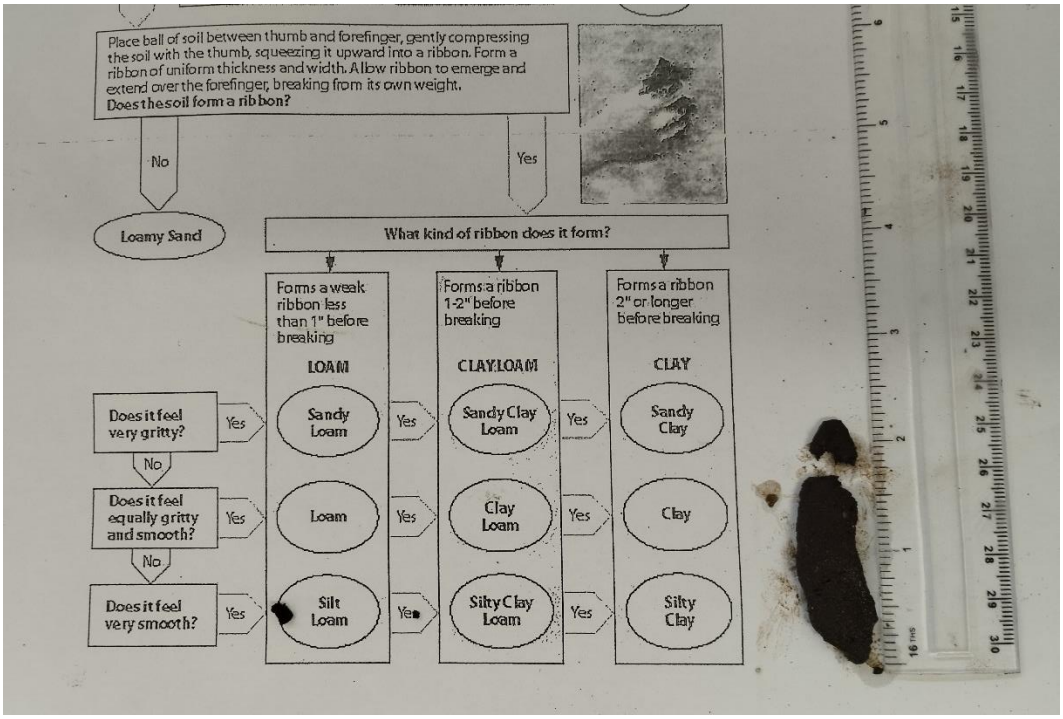
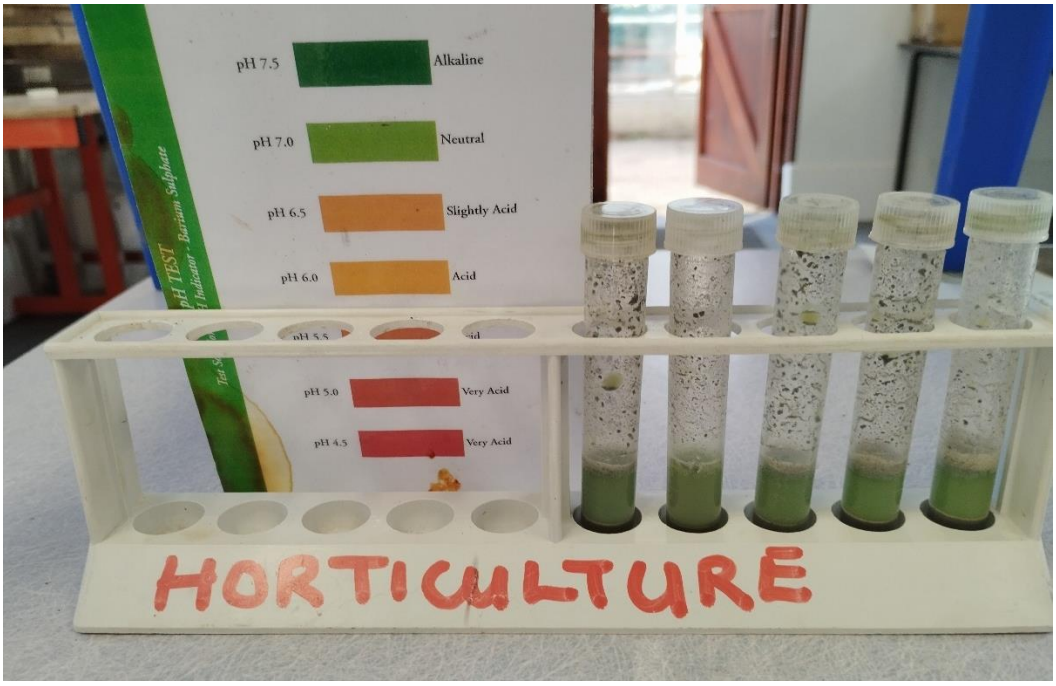


Photo evidence: Soil pH test



Commentary

The candidate has demonstrated an excellent application of knowledge and skill to **identify features and characteristics** to meet the requirements of the brief, diligently and carefully applying their knowledge and research to the tasks required.

The plant identification exercise was carried out professionally using appropriate higher demand techniques (e.g. keys, flora) giving indicative data, which the candidate carefully cross-checked and confirmed to give 100% correct results. The candidate correctly identified all the plants by common name, genus and species apart from one (mistake made recording species of #6), including the protected species and located them on the plan accurately.

The soil tests were undertaken in a logical, sequenced manner, using checked and calibrated equipment and tools throughout with a high level of accuracy. Sample collection methods were carefully planned and executed to ensure that the samples were accurate and representative of the site.

The pH and texture test were completed with excellent regard to, accuracy and with correct adherence to protocols - the tests were carefully conducted and the candidate checked samples before proceeding to take the next reading. The soil was carefully sieved to ensure a reliable sample. The pH sample was very accurately set up and reagents used precisely and with good regard to avoiding cross-contamination and waste. The results were interpreted correctly and were also cross-checked.

The water holding capacity investigation was detailed, with all steps planned and checked prior to starting the experiments. The test was timed accurately, and replicated to ensure that results were sound.

The CAT/Genny equipment was checked, calibrated and used safely, correctly and efficiently. The candidate was able to locate the underground services efficiently, to ensure **health and safety**.

The comprehensive survey provided clear results and interpretation was accurate and informative. The equipment was cleaned, checked for damage and stored correctly after use.

Overall, the candidate completed the required tasks to an excellent standard, including carrying out checks to ensure that accurate and repeatable data was obtained.

Candidate evidence – Report on site survey

Report on survey of site at 101 South Lane, Hilltown, BX20 4UU

The site was surveyed and found to be an area of 100m2 (10 x10m) sloping slightly towards the west (for details see survey recording form) The ground was found to have some undulations due to animal damage and previous cultivation. Despite the generally poor condition, with areas of overgrown trees and shrubs, drainage issues caused by lack of water management and problems with access points the site would be suitable, with its generally favourable aspect, for the development a range of horticultural options, though any major restoration or redevelopment work would be costly and would disturb a number of important ecological habitats.

The survey recorded a number of existing hard landscaping features, including a dilapidated post and rail fence, pavements in an unsafe condition for public access and walls which were in a poor state or repair but with fundamentally sound foundations. All these features would require significant renovation or replacement depending on the eventual purpose of the area.

The presence of an abandoned pond, though overgrown and in need of maintenance, offers a number of opportunities for development as a wildlife area, though some remedial work ensuring its safety and integrity will be required before any public access can be permitted.

The sites topography, which was found to be in a hollow surrounded by hills, offers scope for using “the borrowed landscape” as a backdrop for any planned renovation or new features. The sites exposure could be managed by the provision of improved fencing, planting shelter belts or improving the existing hedging. Flooding risks could also, following appropriate surveys and consultation with the Environmental Agency, be mitigated by drainage renovations. The lack of shade could easily be remediated by planting fast growing native trees such as Willow or Hazel.

There is an abandoned building on the site, which is in poor condition and may require substantial work to bring it up to a usable standard. This would be a major cost, though it may be possible, in line with many recent high profile garden designs to incorporate its dilapidation into the overall plan of the site.

The utilities detected onsite need to be considered in any new plans, the water pipe could be used for irrigation and the drains renovated to improved drainage.

The soil analysis revealed that the soil was a clay loam with a near neutral pH which would allow a wide range of native or wildlife-friendly plants to be grown without any major soil amelioration. Depending on the plans for the area the structure and drainage may require improvement, which could be facilitated by a programme of organic matter addition, installation of drainage and alleviation of compaction. The top soil depth was found to be sufficient for the continued growth of the existing species, but a major programme of new planting of any plants that require more specific

conditions would require substantial planning, soil disturbance and remediation. This would also take a number of years to attain.

It was found from the survey that the site is rich in biodiversity and wildlife horticultural interest, with a diverse range of habitats found within the site including several hedges, old grassland meadows and the pond. The area also has a wide number of potentially interesting microhabitats such as pond edges, walls and the old meadow. The plant survey revealed some interesting findings with a range of relatively common native and wildlife-friendly trees and shrubs, and also interesting aquatic and marginal plants which have excellent biodiversity potential. The survey also detected a Protected Species *Mentha pulegium* which is currently considered endangered in Britain. As a minimum, the presence of this plant requires that any activity on site should be timed and mitigated to avoid causing harm to this protected species.

At least four species of broadleaved weeds were found on site, despite current horticultural thinking re the status and classification of weeds some form of perennial weed management will be necessary for any proposed project, though this could be facilitated by the community group forming working parties and removing some of the perennial weeds by hand rather than the use of chemicals.

Recommendation for an appropriate horticultural development for the area.

It is proposed that the site be renovated sympathetically and with due regard to existing flora and fauna into a wildlife centre for use by the community as a resource for social and environmental activities.

The development should include the following:

- Renovation of walls and fences using local stone and material
- Cutting back of existing overgrown plantings to encourage new growth and more wildlife habitats
- Planting of native hedging (*Salix alba, Crataegus monogyna*) which will grow on the neutral, damp clay-loam soil to provide shelter belts and wildlife habitats
- Removal of pernicious weeds (*Ranunculus repens, Taraxacum officinale*) and sowing of local wildflower mixes
- Drainage to prevent flooding but protect the pond
- and enable the management of the wet areas
- To facilitate access to the site without disturbing habitats it is proposed to construct a **mixed-media corridor walkway** across the site in the form of a narrow mown grass winding path from the western entrance across the old meadow (leaving the rest of the meadow undisturbed) to the pond edge where an elevated wooden pathway made from repurposed wood would run alongside the pond then arc around the old building (which could be planted with climbers) across the wetland area the past the old shrub area back to the access point to enable all visitors to safely view the full range of habitats without causing any ecological damage

The justification for this proposal is that the community group have a keen interest in environmental sustainability, and this would be extension of their first garden restoration project to a more natural and ecological site. It would also require only limited investment but would facilitate inclusivity and safe access and be suitable for schools and range of community groups.

Commentary

The candidate has demonstrated strong knowledge and understanding of how to **identify features and characteristics** and **plan for establishment** that meets the requirement of the brief, and has applied high levels of knowledge, understanding and creativity which show an ability to enter the industry to begin to work in the occupational area.

The candidate has comprehensively, but concisely interpreted the brief expanding on the information described in Task 6 survey record in a coherent and logical manner to come up with a report that is structured and detailed with some excellent technical detail, e.g. the integration of the community group in key stages is an imaginative solution.

The candidate has **planned for establishment** and proposed an imaginative and topical re-purposing of the site. Details such as in the protection and enhancement of the protected species area show an understanding of the subject and current thinking.

The candidate demonstrated strong knowledge of the requirements for planting/establishment of different species/features, evidenced by the appropriate species selection for the hedges.

The candidate has used technical terminology accurately and consistently throughout the report.

Reference to environmental management and sustainability has some interesting ideas which could have been expanded further.

Opportunities for future development are appropriate and realistic and show an awareness of wider issues and the importance of relating back to the community group scenario and the context of the existing designed landscape.

The work represents an integrated and well thought out report and shows some excellent understanding, in a realistic context, with holistic knowledge of the subject apparent.