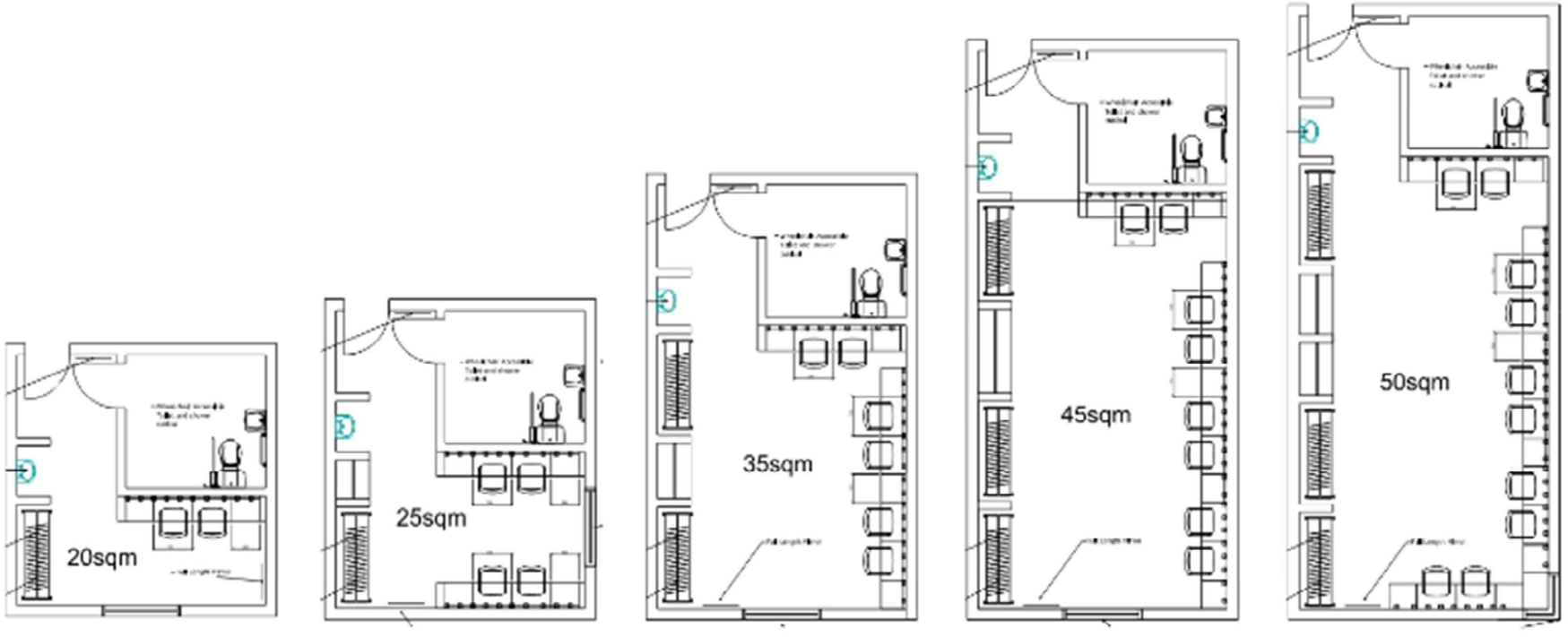
2.7.4. DRESSING ROOMS

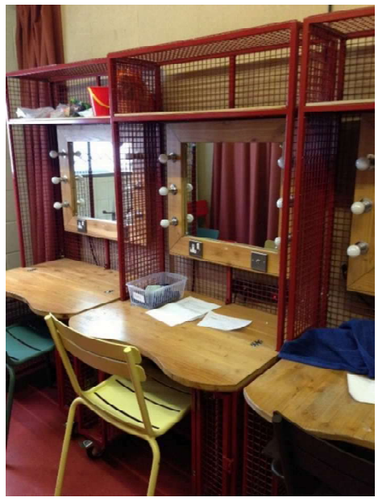
There is a desire to improve the back of house facilities.

As the venue is existing there are additional site constraints when considering optimal back of house arrangements - it is fully appreciated it may not be possible to incorporate all of the good practice guidance within the design: But further design stages will consider:

- Dressing rooms serve a vital role to performers across professional, amateur and community performance use. Dressing rooms ought to feature the following amenities:
- Located within close proximity to the performance space, other dressing rooms and the green room
- Accessible dressing rooms should be available adjacent to the staging area
- Venues where performers might be underage, dressing rooms or areas where children accompanied by an appropriate chaperone can change away from adults should be made available. This could also be set up as a family changing room, where children can get change with their parent present.
- 1no. toilet for every 4no. people, 1no. shower for every 4no. people and 1no. wash basin for every 4 people as a minimum.
- Natural daylight wherever possible is highly desirable, controlled with blinds.

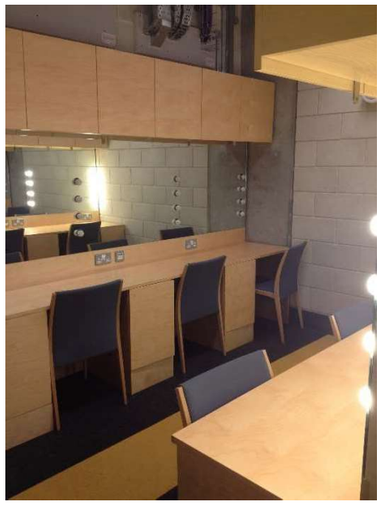


2 person Dressing Room | 4 person Dressing Room | 6 person Dressing Room | 8 person Dressing Room | 10 person Dressing Room



Dressing station at Young Vic, London

Dressing room at Everyman, Liverpool



Dressing station at GSMD, London

2.7.5. GET IN

To enable the transport of scenery and other technical equipment into the venue, the get in must be considered a critical route for the venue.

To support the range of events and productions envisaged by the Harlington we have worked with BFF to develop the get in route from the loading bay.

Option 1

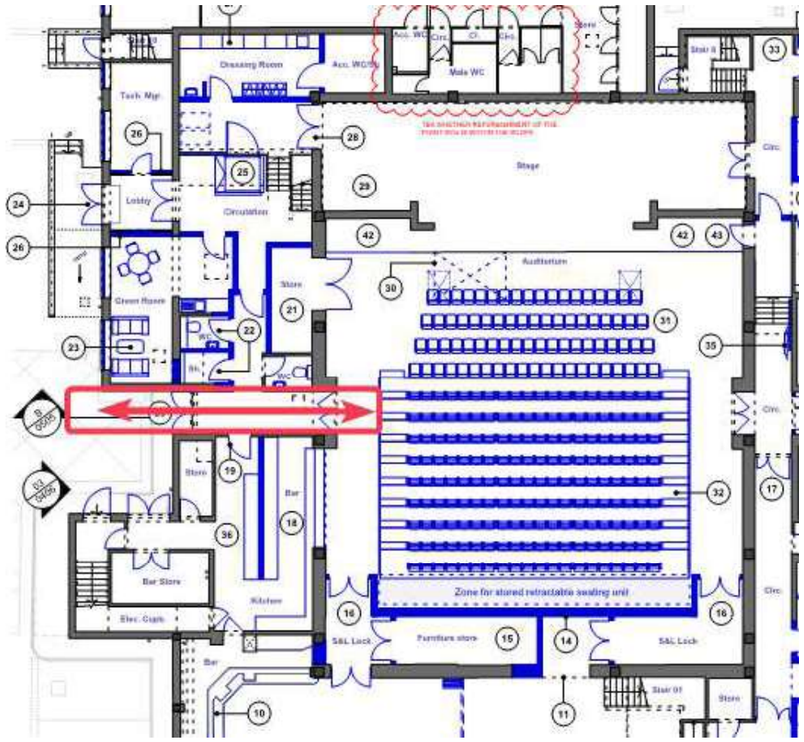
The existing get in route will be maintained through the side doors of the auditorium but to better enable the lifting of flight cases and other heavy elements, a platform lift will be introduced to the forestage area.

Option 2

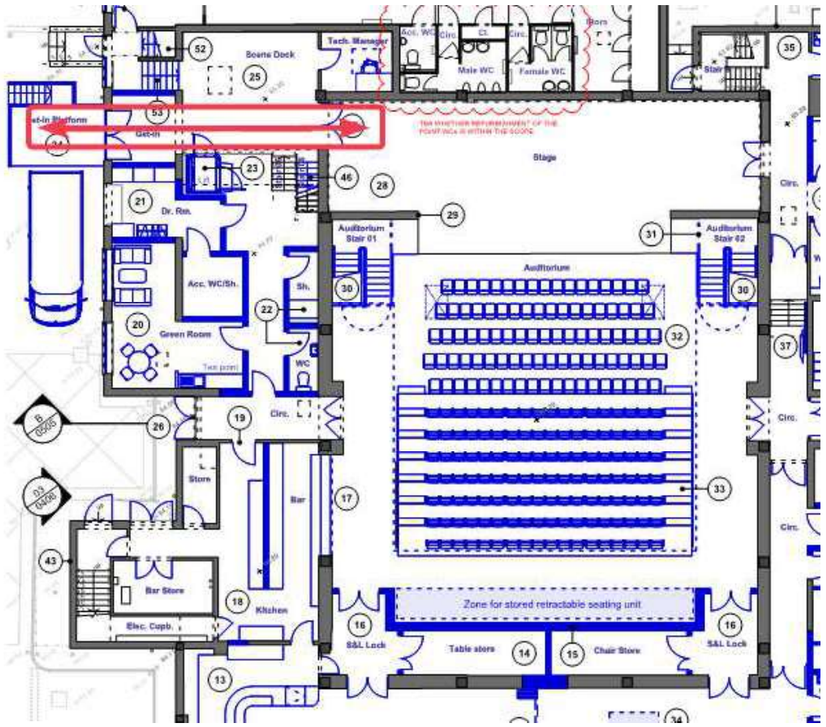
This option sees the introduction of a dedicated get in pier that will allow for unloading of equipment with a direct route through to the stage area.

Option 3

As this option is developed, detailed consideration must be given to the get in route for both the main venue and the studio space with, ideally, the same unloading location serving both venues.



Get in – Option 1



Get in – Option 2

3. STAGE ENGINEERING

3.1. Overview

A set of new Stage Engineering systems are proposed to support operations at The Harlington, bringing an increase in speed of rigging and improving operational safety. These have been reviewed during feasibility as a basis of design – assumptions made here will need to be tested further during following design progression stages.

A set of new motorised pilewind winch bars above the stage and floor area enable rigging equipment at floor level before raising it to height. Strongpoints on overhead structure enable fitting temporary overlay equipment using chain hoists for larger events.

These system proposals have been generated with reference to the existing systems, the Venue Design proposals, and comments from end users during consultations.

For the three options outlined above in the Venue Design section, the Stage Engineering systems remain broadly similar. Differences are highlighted below in the system-by-system description and the cost estimates.

We note that the third option is for an additional studio space which has not yet been drawn; initial designs and costs will be presented in the next design stage if this option is taken forward. lEarly discussions indicate this space would likely be fitted with a pipe grid rather than any motorised rigging.

We have presented two cost estimates for architectural options 1 and 2. As described above, the Stage Engineering systems are very similar between options.

Note that for option 3 we do not have sufficient information to present a cost estimate. However, based on initial discussions the additional larger studio space would have a pipe grid and fixed rigging, with no installation of motorised rigging or similar.

Loose equipment (chain hoists and access equipment) has been assumed to be client direct purchase to avoid attracting contractor overhead and project management fees.

3.2. System description

3.2.1. CROSS-STAGE HOIST BARS

In the stage area, a series of pile-wind hoist bars will be suspended across the stage at regular intervals. These provide the ability to suspend, raise and lower stage lighting equipment, scenery and props over the stage both in preparation for and during productions. Approximately ten bars are assumed.

These bars will be driven by walkway or wall mounted pile-wind hoists via a series of pulleys, mounted to the steelwork over the stage.

Typically each hoist bar is attached to a single speed pilewind motorised hoist which can be individually raised or lowered to allow positioning where required by technicians. Using pilewind hoists provides best value, but it should be noted they generally cannot be stopped at a precise height other than at the endpoints of travel.

The maximum flying height will be set later in the design process; the current steelwork above the stage may be raised to provide additional flying height. The initial basis of design anticipates that each bar should be able to lift 500 kg (excluding the self-weight of the bar), to be tested as the structural design progresses. These bars are not intended to be used during a performance, only during set-up for a performance. Cable management for these bars is intended to be manually handed, with loose cable looms fed from the side of the stage and manually lowered and raised before/after movement of the bar.

Typical pilewind hoists on a gallery adjacent to the stage

3.2.2. HALL AREA HOIST BARS

In addition to the bars above the stage, a number of similar bars will be provided above the flat floor area of the hall. Approximately four bars are considered; the setting out requiring coordination with the ceiling and roof structure design.

The bars will be of similar design and load capacity, with the pulleys and hoists attached the overhead roof steelwork. A safe access strategy for maintenance of the motors and pulleys will be developed.

3.2.3. STRONGPOINTS

A grid of additional strongpoints will be defined on the overhead ceiling and roof structure where chain hoists or other rigging can be attached for additional overlay and larger productions.

Each strongpoint will have a permanent eye or similar where a hoist can be easily attached, and a clear marking of the load capacity of the point. Each point is proposed to have a capacity of 600 kg (500 kg load + 100 kg hoist allowance) – depending on the structural design.

A budget allowance for a small number of loose chain hoists and a controller has been included, though these would likely be client purchase as loose equipment.

3.2.4. FIXED RIGGING/UNISTRUT

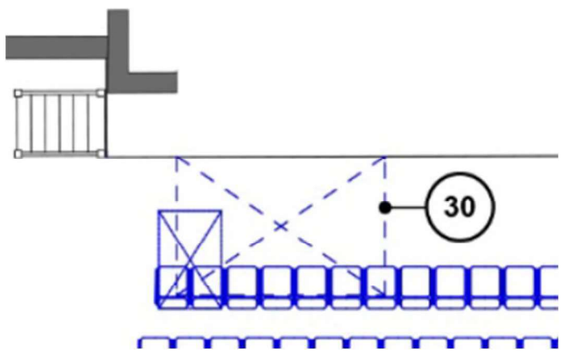
Some fixed rigging bars may be included as part of the hall, especially around the fixed balconies in option 2. Bars may be included on the front of the balconies, or on walls around the hall. Locations and extent of these bars will be developed in future design stages. Unistrut or similar channels may be embedded in finishes in some areas.

Fixed bars are not typically included as part of the Stage Engineering package and will normally form part of an Architectural metalwork package.

3.2.5. STAGE ACCESS LIFT (OPTION 1)

In architectural option 1 only, a lift is suggested in the floor of the hall in front of the stage to provide level loading access for larger items of equipment and flightcases. This lift is not intended for personnel or audience access.

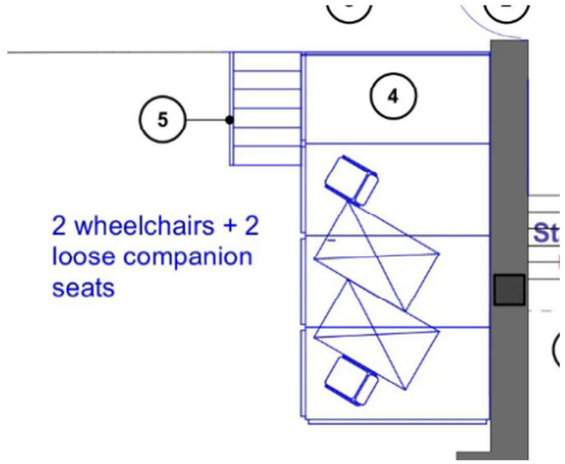
The lift would have platform dimensions of approximately 2x2 m with a load capacity of 500 kg. The lift would sit entirely flat within the floor when not in use, and may require demountable handrails to be installed for safety into the lift surface when raised.



Stage access lift position in plan – extract from BFF drawing

3.2.6. LEVEL SEATED PLINTH

To allow for level access seating for wheelchair users and mobility impaired audience at stage level (rather than at the floor level, giving more variety in accessible positions) a set of stage decks and accessories is suggested to create a temporary level access area.



Level seated plinth – extract from BFF drawing

Handrails, fascias, steps, and all relevant accessories will be required. The decks are assumed to be standard 'off-the-shelf' stage decking units to provide best value and maximise ease of use. It is assumed that no particular finishes need to be applied to the deck.

A typical steel framed stage deck with legs

3.2.7. LOOSE EQUIPMENT

Loose equipment is assumed to be directly purchased by the client to reduce overhead costs, but should still be regarded as part of the overall project cost.

A small number of chain hoists and a portable control box have been included in early budget allowances for using the overhead strongpoints for additional rigging.

It is essential that safe access is provided to all overhead locations both for operational and maintenance access. The access strategy for areas requiring regular operational access and those only requiring occasional maintenance access may be very different. It should be noted that access is often required whist carrying tools or equipment.

A small mobile elevating work platform (MEWP) is typically used for access to heights where there is a risk of injury from falling (for example when focusing luminaires at their trim position over stage).

A typical small 'push around' MEWP comprises of a mobile base with stability outriggers and carrying basket on a straight lift mast that is interlocked with the base outriggers. A MEWP is not intended to be moved with personnel in the basket.

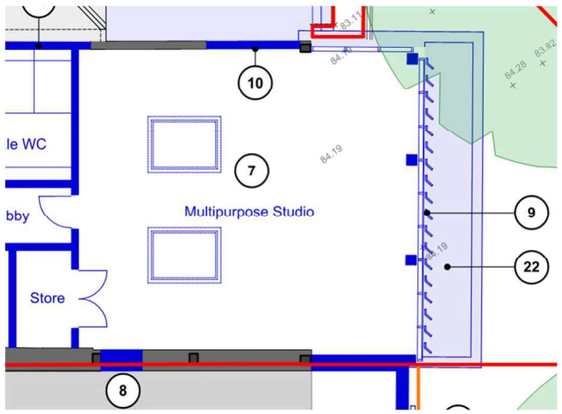
A small push-around mobile elevated work platform (MEWP) is assumed (eg. Genie AWP series) along with a small number of aluminium combination ladders.

Typical mobile elevated work platform (MEWP)

Budget allowances have not been included for masking drapery and loose rigging accessories as it is assumed these can be reused from the existing stock of the venue. This will be reviewed in future design stages especially as if the height of the proscenium is altered, which may need a new stock of taller masking drapery.

3.3. Flexible studio (option 2)

In architectural option 2, a small flexible/multi-purpose studio space is included on the first floor. This space might be used for meetings, presentations, rehearsals, and small scale performances. Very basic Stage Engineering systems could allow rigging of small loose equipment such as lights and loudspeakers overhead.



The proposed multi-purpose studio at the first floor

3.3.1. PIPE GRID

A pipe grid is assumed to suspend from the roof structure, comprising a 0-90° matrix of 48.3mm diameter steel bars at approx. 2m intervals. The pipe grid is intended to provide a flexible rigging system for Stagelighting and Audiovisual equipment to suit various room uses.

Bars can span wall-to-wall to support a perimeter curtain track and Stagelighting fixtures.

Typical pipe grid

3.3.2. PERIMETER DRAPE TRACK

A perimeter drape track in the studio for hanging wall masking drapery is noted. The track will be a manual, standard theatre type with ball raced runners and snap hooks for drapery attachment, clamped to the pipe grid above with demountable fixings.

Black wool serge drapes in sections will be provided for the drape track.

4. STAGELIGHTING AND AUDIOVISUAL

4.1. Overview

To support The Harlington after it's redevelopment we would propose that Stage Lighting and Audiovisual systems are upgraded to ensure the venue can support a wide variety of events well into its future.

For each of the three options described previously the Stage Lighting and Audiovisual systems would remain largely the same in the redeveloped space.

The third design option also includes a flexible studio space that has not yet been detailed. If this option is taken forward, we will provide additional details and costs for the audiovisual and stagelighting systems we would expect in that space. We have included an outline of what we may expect from this space at the end of this section.

The following sub sections provide outline details of the key systems that we would expect to be part of the refurbishment process of The Harlington. These systems will be developed in detail as the venue layout options are narrowed down and then coordinated in later design stages.

4.2. Systems Description

4.2.1. INFRASTRUCTURE

Typically the audiovisual systems will be designed to operate on a robust digital infrastructure to allow for maximum flexibility and compatibility with current Stagelighting and Audiovisual systems that are available. It will also enable the venue to upgrade and expand its capabilities to meet future needs.

We would expect there to be a dedicated technical equipment room containing the majority of the Stage Lighting and Audiovisual systems for the main space.

It is usual practice to separate the Stagelighting and Audiovisual equipment rooms into separate spaces. Due to the space available we are currently expecting to combine these spaces into a single room. As the design develops, we may need to position some technical equipment around the venue for efficiency, or if space is not available in the main technical equipment room.

Typical Equipment Racks

The sensitive audiovisual signal and control wiring must be kept a suitable distance from LV power wiring. The containment groups for the Stagelighting and Audiovisual systems will be defined at the next stages, but the general assumption is multiple groups are required:

- SL/1 - contains the 230V Stage Lighting power wiring.
- AV/1 contains 230V Audiovisual power wiring.
- AV/2 contains amplified audio wiring for loudspeakers.
- SLAV/3 contains the Audiovisual and stagelighting communications, data, control and video wiring (<50V).
- AV/4 Audio line signals – less than 1V.

The extra low voltage signal wiring infrastructure will link from the technical equipment racks to custom outlet boxes (SLBs and AVBs) distributed in strategic locations around the venues to enable patching of input and output devices, such as microphones, loudspeakers, control consoles, projectors and stagelighting fixtures.

Typical SLB and AVB

The containment for the Stage Lighting and Audiovisual infrastructure and the 230V audiovisual power wiring will form part of the electrical contract works and allowance should be made elsewhere in the cost plan for these elements of the work.

4.2.2. STAGELIGHTING FIXTURES

In recent years, LED-based Stagelighting fixtures have been developed to the point where their brightness, reliability and light quality offer the realistic alternative to traditional tungsten-based fixtures, leading to their widespread acceptance and adoption in venues around the world.

We would expect that all new Stagelighting fixtures will be LED based. This will reduce the heat and electrical loading compared to tungsten fixtures as well as provide greater flexibility and a simpler power infrastructure.

At this stage we expect the venue to be capable of supporting legacy tungsten fixtures requiring dimming power and LED based fixtures only requiring relay power. The venues existing fixtures shall be evaluated as the design develops. This will inform the design of the stagelighting power infrastructure and may lead to a move to a simpler power relay based infrastructure supported by deployable dimmers if required.

4.2.3. STAGELIGHTING CONTROL SYSTEMS

We expect a modern, flexible production lighting control console to be provided to control the lighting fixtures. The exact capabilities of this console shall be detailed as the design develops.

4.2.4. HOUSE LIGHTING AND WORK LIGHTING SYSTEMS

We expect the venue will have its own dedicated house lighting system. This shall provide lighting for when the audience is entering and exiting as well as low level lighting during the event to allow for audience members to enter and exit if required. We expect these systems to be LED based with the ability to slowly and smoothly dim down to zero without any flickering.

Backstage we would expect there to be a dedicated LED blues lighting system, this shall provide low level blue light illumination to ensure that technical staff and performers can move about the venue safely.

Typical low level backstage blues lighting system

When the venue is not in use for an event, we would expect there to be a white working light system. This should provide bright even coverage of lighting across all of the working and audience areas of the venue.

We expect that each of these systems shall be zoned into different areas and be controlled by the venue lighting control systems and also the production lighting console.

4.2.5. AUDIO SYSTEM

A common digital infrastructure should be manufacturer agnostic to enable support for a wide range of visiting companies control consoles. We also expect there to be a range of analogue audio I/O to enable connection of non-compatible/digital control consoles and equipment. But typically the audio system for the venue will use the digital infrastructure to distribute signals as required. This will provide both flexibility and interference free signal distribution. We expect there to be a digital control console that shall meet the majority of the expect needs of the venue.

To cater for the anticipated main music use of the space it is paramount that an installed system reduces the need to 'tour in' equipment. We expect this system to be augmented by deployable equipment when required, but would generally be permanently installed.

The details of this loudspeaker system will be developed as the venue layout is confirmed and existing equipment is considered for reuse.

4.2.6. VIDEO SYSTEM

Video systems could also use the digital infrastructure to distribute signals as required. The signals can require significant network bandwidth and so the supporting digital infrastructure for these systems will be sized to support this.

We expect the venue to have basic video capture capabilities for production archive recording and basic streaming. This is likely to be from a PTZ camera positioned in the venue and potentially augmented by a central stock of deployable equipment.

The venues is also likely to require some form of fixed video display equipment. At this stage we would expect this to be in the form of a projection screen and laser projector mounted in the venue.

In addition to production video use there shall also be video for monitoring purposes. Some of this may need to be show critical, low latency monitoring. There shall also be provision for a less critical, building wide, video show relay system.

4.2.7. PRODUCTION COMMUNICATION SYSTEM

The production communication system will provide the venue with a dedicated wired closed communication systems for technical production staff. Again, we expect this systems to use the digital infrastructure to provide flexibility around the venue, it would also be possible to extend the system with wireless interfaces.

Typical digital comms beltpack

4.2.8. PAGING SYSTEMS

A digital paging systems is required to provide backstage and FOH paging by technical production staff from a variety of positions around the venue. These systems shall be zoned to enable the venue to route voice announcements to the appropriate areas of the venue.

Often in the FOH areas the this system will utilise the PAVA systems designed by the relevant consultant, typically the Electrical engineer. This assumption shall be reviewed in the next stages.

4.2.9. ASSISTED LISTENING SYSTEMS

A coordinated assisted listening system will be required across the venue. At this stage we expect this to be the recently released Auracast system. This Bluetooth based system has the digital advantages of the WiFi based assisted listening systems combined with the broadcast-based advantages of the older IR or loop based systems. It is already in use in venues and built in to some existing Bluetooth devices. It is also being installed into shared common spaces such as railway stations, this may have parallels to the experience of the shared foyer space of the venue and will be useful to explore as the design develops.

A stock of user receivers should also be supplied to enable users without Auracast enabled devices to revive the assisted listening feed. These should include personal loop systems and direct headphone connections.

Auracast user receiver

4.3. Flexible studio

We would expect this space to have some basic technical facilities to support day to day operations such as workshops, classes and rehearsals. It should also have the option to enable simpler performances or events to be held.

Typically, a permanently positioned audio system in the corners of the space with a control rack located at a suitable position at the edge of the room is suitable.

We would also expect basic overhead facilities to including some power and data, to enable additional technical equipment to be deployed to support more complex events.

It would also be worth considering a permanently mounted projector and roll down screen to enable presentations and video content to be used in the space.

Drop down projection screen in a studio space

5. BUDGETARY GUIDANCE

The costs in the tables opposite are intended to provide some high-level guidance on our proposed systems. As the development of these systems is still at an early stage these may be added or subtracted to/ from. We will ensure that any significant changes to these costs are relayed to the client team as quickly as possible.

5.1.1. KEY EXCLUSIONS

Costs identified here do not include associated dependant works for the installation of these systems. It should be noted that the stage lighting and audiovisual systems will have dependant works that would be carried out by an Electrical Contractor, based on the Electrical Services Designer's work. This includes but is not limited to supply and installation of distribution boards, containment systems and load wiring. As well as fixing of back boxes as part of the containment system and any channel fixing systems required to support facility panels.

Cost allowances for these works would either need identifying by the cost consultant or the electrical services designer. There will also be some items pertaining to the secondary steelwork or strong points required for the Stage Engineering systems.

Other key exclusions from these budget allowances relevant to the systems:

- All containment, power & data wiring and general electrical installation
- Power supplies and distribution
- Rigging eyes, beams, or any primary & secondary steelwork required at high level to support technical theatre equipment
- Strongpoints – these are assumed to be part of the structural package
- Fixed rigging bars and Unistrut – these are assumed to be part of the architectural package.

Allowances here exclude VAT. They also do not include for design development, main contractors prelims etc. This is typically carried in the cost plan.

THEATRE DESIGN - OPTION 1	COST
Retractable for audience seating: 9 rows, 20 seats per row	£180,000
Fixed / removable seats in balcony	£25,000
Loose interlocking seats (flat floor) + used for cabaret seating	£40,000
Spares / seat numbers / donor plates etc	£5,000
TOTAL	**£250,000**

THEATRE DESIGN - OPTION 2	COST
Retractable for audience seating: 7 rows, 18 seats per row	£130,000
Fixed / removable seats in balcony	£60,000
Loose interlocking seats (flat floor) + used for cabaret seating	£30,000
Spares / seat numbers / donor plates etc	£5,000
TOTAL	**£225,000**

STAGELIGHTING – BOTH OPTIONS	COST
Infrastructure	£160,000
Loose equipment	£140,000
TOTAL	**£300,000**

AUDIOVISUAL – BOTH OPTIONS	COST
Infrastructure	£250,000
Loose equipment	£70,000
TOTAL	**£320,000**

STAGE ENGINEERING - OPTION 1	COST
Infrastructure	£310,000
Loose equipment	£40,000
TOTAL	**£350,000**

STAGE ENGINEERING - OPTION 2	COST
Infrastructure	£300,000
Loose equipment	£40,000
TOTAL	**£340,000**

THEATRE SYSTEMS (OPTION 1)	COST
STAGE ENGINEERING	£350,000
STAGELIGHTING	£300,000
AUDIOVISUAL	£320,000
THEATRE DESIGN	£250,000
GRAND TOTAL	**£1,220,000**

THEATRE SYSTEMS (OPTION 2)	COST
STAGE ENGINEERING	£340,000
STAGELIGHTING	£300,000
AUDIOVISUAL	£320,000
THEATRE DESIGN	£225,000
GRAND TOTAL	**£1,185,000**

6. NEXT STEPS

Within the next design stage, key areas where design development and coordination will be required are as set out here.

6.1. VENUE DESIGN

- **Study tours –** We highly recommend that at the beginning of the next stage, we undertake visits to some of the precedent venues with the design and client team to better understand the options available.
- **Venue layout –** Working with the architect on the option that has been put forward for development.
- **Engage with client and user groups –** Continue talking to as many users of the building as possible to ensure the development of the proposals cater for the broadest possible demographic in Fleet.
- **Access** - Refining and developing access strategy for all different formats: retractable seating unit in use, cabaret seating and flat floor gig events.
- **Sightlines -** Analysis of sightlines for the chosen option and different formats
- **Dressing Rooms -** Providing more detailed advice on dressing rooms fit out.

6.2. STAGE ENGINEERING

- **Setting out of overhead rigging –** The setting out and number of hoist bars will be discussed and agreed to align with the layout of the room and budget expectations.
- **Structural coordination of overhead rigging –** The overhead strongpoints and hoist bars are expected to be suspended from steelwork above the stage and auditorium. There are several options currently being discussed for the roof steelwork. Setting out and detailed loading information will be agreed with the structural engineer.
- **Aligning with chosen architectural option –** There are a number of elements such as the front of stage access lift and the flexible studio space which require different approaches depending on the architectural option taken. These elements will be developed depending on the chosen option.
- **Developing safe access strategy –** The access and maintenance strategy for overhead rigging will be developed, especially for elements such as hoist motors which may be mounted on the wall and ceiling.
- **Developing fixed rigging locations –** Any fixed rigging requirements around balconies or other areas of the room will be discussed with the architect.
- **Proscenium size -** Any alternations to the proscenium size, which influences rigging and masking, will be agreed. Currently no allowance for a variable/flexible proscenium has been included but a simple system using drapes and a flat on overhead track to vary the size may be added at the next design stage.

6.3. STAGE LIGHTING AND AUDIOVISUAL

- **Equipment Reuse –** The venues existing equipment stock will need to be evaluated to determine what may practically be reused after the refurbishment. This shall primarily be used to inform the infrastructure design in the next stage.
- **Venue layout –** We expect the venue layout to be narrowed down in the next stage. This shall enable us to start to detail out the systems that depend on the venue form, such as the general loudspeaker locations and specifications, the control area requirements and the required lighting positions.
- **Electrical and Heat Loading –** The development of the design will enable us to identify the locations and capabilities of the main electrical supplies for the Stage Lighting and Audiovisual systems. We shall also be able estimate expected electrical and heat loading from the Stagelighting and Audiovisual equipment.

7. APPENDIX – STRUCTURAL LOAD INFORMATION

As part of the theatrical usage of The Harington, specialist equipment such as lights, loudspeakers, drapes, scenery, and other items will be used.

This equipment may be freestanding on the stage floor or may be suspended from overhead rigging above the hall and stage. This appendix gives initial loading requirements for the specialist equipment on floors and overhead for discussion and coordination with the structural engineer.

The design and setting out of the hall and any overhead rigging has not yet been determined. As such, we have shown overall estimated machinery self-weight (dead load) and overall estimated show load (live load) figures which can be integrated into the building's structural design. Further discussion will be required to agree the form of the overhead rigging and how it is attached to the building. Secondary structure which may be required to suspend the rigging from primary structure is also excluded.

In addition to the overall floor and overhead loadings here, as the hall is detailed additional smaller loads may be added, such as Unistrut channels embedded into finishes or balcony front rigging bars.

Unless specific loads are noted the recommended design loadings should be as set out in Table 12 of 'Technical Standards for Places of Entertainment', or as set out in BS EN 1991.

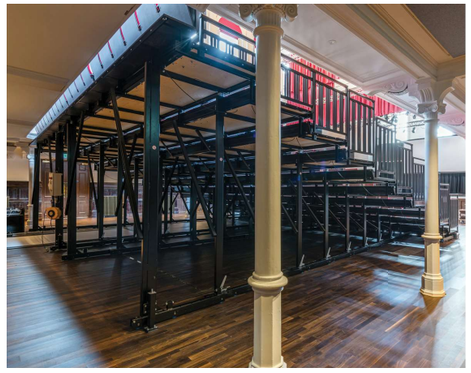
Exclusions

- Primary and secondary steel self-weight
- Any technical gallery self-weights
- Stage floor buildups and floor finishes
- Grids, access galleries, access ladders

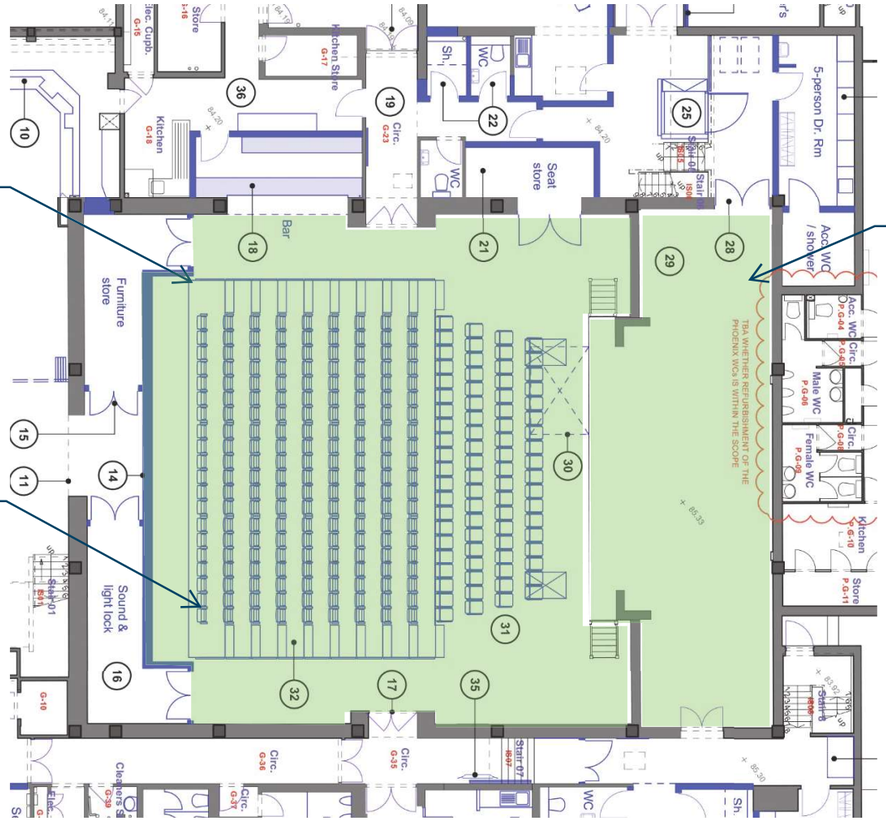
Floor loading

Point load capacity
The point load capacity of the hall and stage areas may need to be higher than typical to accommodate point loads from access equipment such as small MEWPs. Estimated point loads can be advised once an overhead rigging and safe access strategy is agreed.

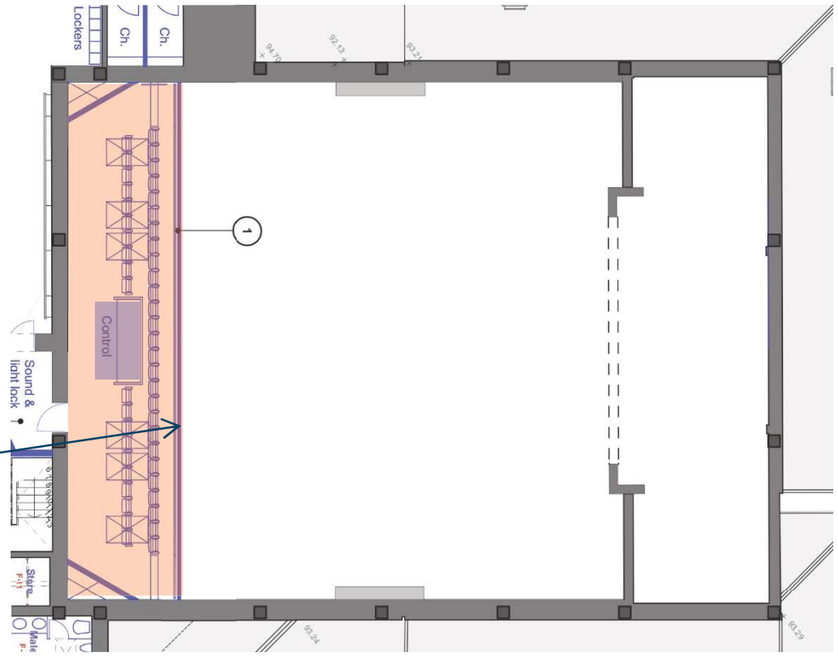
Retractable seating
Some proposed options for the hall use a retractable seating bank which stores at the back of the room. These systems are typically supported by lines of wheeled supports requiring areas of higher loading capacity on the floor for both extended and retracted modes. Further details can be advised once a strategy is agreed.



Example of retractable seating system with supports visible



Extract from Burrell Foley Fischer 2025-05-15 Proposed Option 1 Ground Floor



Extract from Burrell Foley Fischer 2025-05-15 Proposed Option 1 First Floor

Balcony seating
Some proposed options for the hall use a fixed balcony either at the rear of the room or at the rear and down the sides. This balcony should be rated for floor loads expected with permanently seating audience areas as required by code, typically 4 kN/m^2.

Stage and hall floor
To allow for a variety of performance configurations and seating/stage arrangements, both the fixed stage area and the main hall floor should be have a floor rating of 5 kN/m2.

Key

5 kN/m^2
Stage Floor
Specialist Rack Rooms *(not shown)*

4 kN/m^2
Fixed Seating

2.5 kN/m^2
Control Room

Notes

Do not scale from this drawing.

Figures show indicative static loads only. Allowances must be made for dynamic, consequential & resultant loads.

This drawing issued for information only.

Floor loads for other areas of the building (dressing rooms, circulation) should be designed to typical national standards as determined by the structural engineer.

Rack rooms
Spaces for specialist equipment racks associated with stage lighting and audio visual systems have not yet been identified, but these generally have a floor rating of 5 kN/m^2.

Overhead loading

Hall - Loading Zone 1

Overhead rigging in this area is expected to be ~4 pilewind hoist bars and a grid of regularly spaced strongpoints for overlay rigging using chain hoists. Numbers and setting out to be confirmed; note that hoist bars are typically suspended at 3-5 points spread along the bar. Additional horizontal or other loads may be imposed at pulleys and diverters - layout to be confirmed.

Self-weight (dead) load

	Qty	Self-weight	Subtotal
Pilewind hoists and bar	4	400 kg	1600 kg
		Total	**1600 kg ~ 16 kN**

Show (live) load

	Qty	Load	Subtotal
Pilewind hoists and bar	4	500 kg	2000 kg
Strongpoints	16	600 kg	9600 kg
		Show load diversity factor	**0.5**
		Total	**5800 kg ~ 57 kN**

Stage - Loading Zone 2

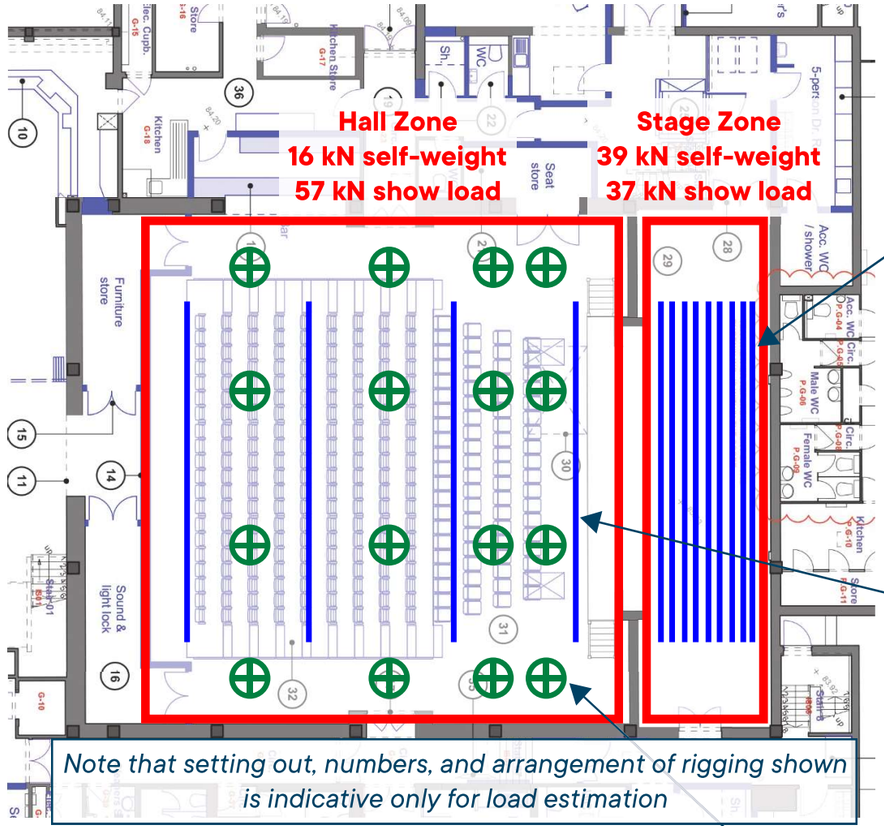
Overhead rigging in this area is expected to be ~10 pilewind hoist bars at 300-400mm intervals. Numbers and setting out to be confirmed; note that hoist bars are typically suspended at 3-5 points spread along the bar. Additional horizontal or other loads may be imposed at pulleys and diverters - layout to be confirmed.

Self-weight (dead) load

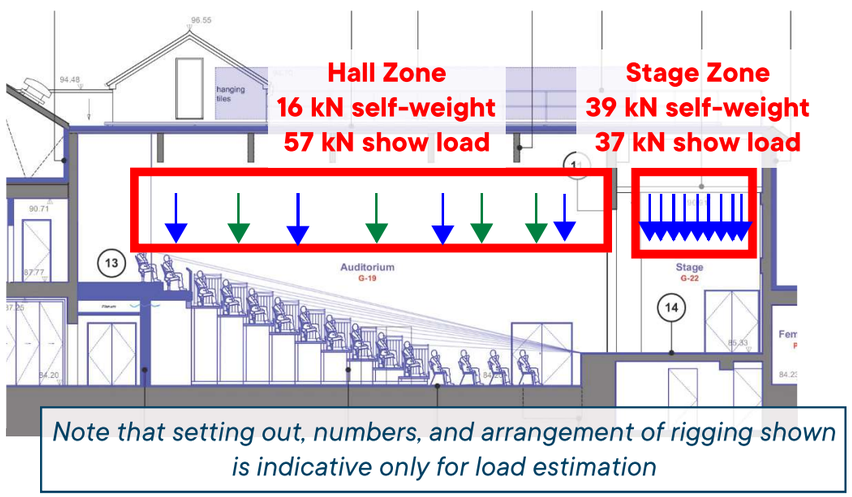
	Qty	Self-weight	Subtotal
Pilewind hoists and bar	10	400 kg	4000 kg
		Total	**4000 kg ~ 39 kN**

Show (live) load

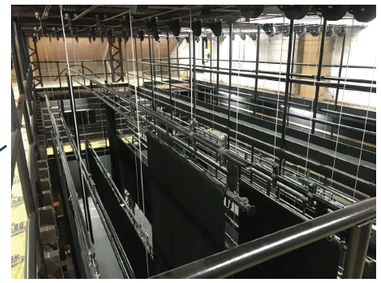
	Qty	Load	Subtotal
Pilewind hoists and bar	10	500 kg	5000 kg
		Show load diversity factor	**0.75**
		Total	**3750 kg ~ 37 kN**



Extract from Burrell Foley Fischer 2025-05-15 Proposed Option 1 Ground Floor



Extract from Burrell Foley Fischer 2025-05-15 Proposed Option 1 Section AA



Example of pilewind hoist bars above a stage area

Example of pilewind hoist bars above an auditorium

Example of chain hoist hung from a fixed strongpoint

Key

Loading Zone

Refer to annotations for estimate of self-weight (dead) and show (live) loads

Ladder bar

Each suspended from structure on 3-5 points

Strongpoint

Used for temporary rigging using chain hoists

Notes

Diversity factors are included for show/live loads as not every bar or strongpoint is simultaneously loaded; equipment will be moved around as required

Do not scale from this drawing.

Figures show indicative static loads only. Allowances must be made for dynamic, consequential & resultant loads.

This drawing issued for information only.

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