SITE survey. APP

SITE SURVEY REPORT

RAMS: Risk Assessment and Method Statement

Prepared for	Severnside NHS Estates (sample organisation), through Castlemead FM as principal contractor
Date	6 Nov 2026
Site	Wheatstone Outpatients Building
Prepared by	A. Pritchard

FORM

RAMS: Risk Assessment and Method Statement

1. The job

Project	Wheatstone Outpatients Building: plant room heating pipework repair (completed example)
RAMS reference	RAMS-SM-2026-114
Revision	B
Date written	6 Nov 2026
Client	Severnside NHS Estates (sample organisation), through Castlemead FM as principal contractor
Site	Wheatstone Outpatients Building, basement plant room B02
Site address	Wheatstone Outpatients Building, Great Western Road, Gloucester GL1 3NN
Where on site is the work?	Basement plant room B02 under the east wing. Access by the plant room stair from the service corridor off the ambulance bay. The work is on the 100 mm LTHW flow and return between the primary pumps and the riser, at low level on the flow and at 2.1 m on the return.
Work position on site (GPS)	Plant room stair door, east wing service corridor · 51.865210, -2.232040 (SO 84315 18585, ±9 m)
What type of work is this RAMS for?	Electrical and M&E
Task	Cut out a corroded section of 100 mm steel heating flow and return pipework and weld in new sections
Scope of the work	Cut out about 1.8 m of the 100 mm mild steel LTHW flow and 1.8 m of the return where external corrosion has thinned the wall under failed insulation, between the primary pump discharge headers and the riser. Weld in new 100 mm schedule 40 sections with full penetration butt welds (MMA, coded welder), add two new pipe brackets, pressure test the new sections, refill and vent with the estates team, dose with inhibitor and reinstate the insulation. The heating is drained down and the plant room taken out of service by the estates team before we arrive. The pumps, the plate heat exchanger and the controls are not touched beyond the electrical isolation of the pump starters. The building was completed in 2009 and the estates asbestos register shows no asbestos-containing materials, so asbestos is not expected.
Start date	14 Nov 2026
Expected finish date	15 Nov 2026

Calendar days, including the start and finish	2
Working hours	07:30 to 17:30, Saturday 14 and Sunday 15 November. Grinding only after 13:00 on the Saturday, once the morning clinics close.
Will the building, venue or area be in use while the work is done?	Yes
How are occupants and the public kept away from the work?	Outpatient clinics run on the ground and first floors on the Saturday morning and the building is open to patients and visitors all weekend. The plant room is a staff-only area behind a locked door; the service corridor outside it is signed as closed with a barrier at the ambulance bay end, and the public corridors are never used for materials. Estates staff who need the plant room sign in with P. Marsh at the door. The hospital fire alarm detectors inside the plant room are isolated and reinstated by the estates duty officer each day; detectors in the corridor and the rest of the building stay live. Noisy work is kept to the afternoon on the Saturday.
Is this construction work under CDM 2015?	Yes
Your role on this project	Contractor working for a principal contractor
Construction phase plan reference	CPP-WOB-2026-07 (Castlemead FM, estates term contractor and principal contractor)

> CDM 2015, regulation 12. A construction phase plan must be drawn up before the construction site is set up. It sets out the health and safety arrangements and site rules. This RAMS should follow it.

Does the work include demolition or dismantling of a structure?	No

2. People and competence

Written by	A. Pritchard
Role	Project engineer, Severn Mechanical
Supervisor on site	P. Marsh
Supervisor phone number	07700 900382

Crew 1: P. Marsh

Name	P. Marsh
Company	Severn Mechanical
Cards and training held	Manufacturer training for the equipment, Abrasive wheels, First aid at work
Earliest expiry date of the cards needed for this job	30 Sep 2027

Has this person the skills, knowledge, training and experience for the tasks given to them?	Yes

Crew 2: K. Dunne

Name	K. Dunne
Company	Severn Mechanical
Cards and training held	Abrasive wheels, IPAF, PASMA
Earliest expiry date of the cards needed for this job	31 May 2027
Has this person the skills, knowledge, training and experience for the tasks given to them?	Yes

Crew 3: L. Obi

Name	L. Obi
Company	Severn Mechanical
Cards and training held	Asbestos awareness
Earliest expiry date of the cards needed for this job	28 Feb 2027
Has this person the skills, knowledge, training and experience for the tasks given to them?	No

> Employers must take account of people's capabilities when giving them tasks (regulation 13 of the Management of Health and Safety at Work Regulations 1999). On construction work, a contractor must not employ or appoint anyone who does not have, or is not in the process of obtaining, the skills, knowledge, training and experience needed (CDM 2015, regulation 15). Record the training or supervision below.

Training or supervision to be provided	First-year apprentice pipefitter. Works alongside K. Dunne at all times. No welding, no grinding and no use of the reciprocating saw. Tasks on this job: carrying with a second person, holding the fume extraction arm, fire watch alongside P. Marsh during welding, clearing and bagging waste, and helping with the insulation.
People on the crew	3
Are any subcontractors doing part of this work?	No
Who could be affected by this work?	The crew, Other contractors on site, Client staff or building occupants, Members of the public
Is anyone especially at risk?	Yes

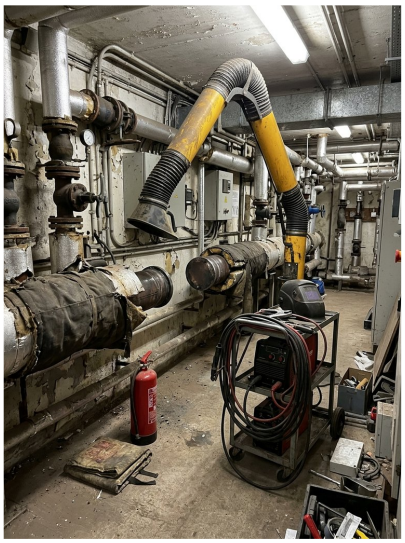
Who?	New starter or trainee, Children or vulnerable people on the premises
What is being done differently for them?	L. Obi is paired with K. Dunne for every step and his tasks are listed in the sequence of work. Patients and visitors upstairs include people who cannot move quickly, so the fire plan treats any fire in the plant room as a full building alarm: the fire watch is two people during welding, the extinguishers are at the weld before the arc is struck, and the estates duty officer is on site both days to reinstate the detectors and call the hospital emergency number.

3. Risk assessment

Hazards and controls 1: Hot works

Type of hazard	Hot works
Where is it?	The four butt welds and the grinding on the flow and return, between the pump headers and the riser
What is the hazard, who might be harmed, and how?	Welding arc, spatter and grinding sparks landing on the remaining pipe insulation, the cable trays and containment 1.5 m above the return, the pump motor cables and stored items in the plant room. Fire in a hospital basement under occupied clinics, and burns to the welder. The crew, estates staff and the building occupants.

Photos of the hazard



Controls in place or planned for this hazard	Hot works permit issued for each day and closed at the end, Combustibles moved or covered within the permit distance, Extinguishers and a fire blanket at the work before the torch is lit, Fire watch during the work and for the time the permit says afterwards, Flame resistant clothing and gloves for the person on the torch

How these controls apply on this job	A hot works permit is issued by the estates duty officer at 07:30 each day and closed after the fire watch. Before the permit is signed: all stored items are out of the room, the insulation is stripped back 1 m beyond each weld, the cable trays and pump cables are covered with fire blankets, and the floor under each weld is swept. Two 6 litre foam extinguishers, one 2 kg CO2 and a welding blanket are at the weld before the arc is struck. Welding and grinding by P. Marsh and K. Dunne only. L. Obi and K. Dunne keep a fire watch during welding and P. Marsh for 60 minutes after the last weld, logged on the permit. The hospital fire detectors in the plant room are isolated by estates for the permit period and reinstated before the fire watch ends; detectors outside the room stay live. A grooved mechanical coupling was considered and rejected because the system specification is welded steel and the client requires welded joints.
Likelihood of harm with these controls	3. Possible
Severity of the harm	5. Death
Risk score (likelihood x severity)	15
Rating	High

> High, 15 to 25. Do not start this work until further controls are in place and the risk has been rated again.

Further action needed	Permit HW-WOB-2026-114-01 and -02 issued each morning and checked at the step 1 and step 4 hold points. Fire blankets over the cable trays and the fire point photographed before the first weld each day.
What kind of control is it?	Instruction, briefing or supervision
Who will do it?	P. Marsh with the estates duty officer
Needed by	14 Nov 2026
Likelihood once the action is done	1. Very unlikely
Severity once the action is done	5. Death
Residual risk score	5
Residual rating	Medium

Hazards and controls 2: Fire

Type of hazard	Fire
Where is it?	Plant room B02 and the single escape route up the plant room stair to the service corridor
What is the hazard, who might be harmed, and how?	A fire starting in the room from the hot works or from waste, with the crew below ground and one stair out, and smoke reaching the service corridor and the clinics above. The crew, estates staff and the building occupants.

Controls in place or planned for this hazard	Flammable materials stored outside the building or in a cabinet, Fire routes and exits kept clear throughout the work, Waste removed from the work area every day, Extinguishers available at the work and the crew shown where they are, Alarm, assembly point and how to raise the alarm covered in the briefing
How these controls apply on this job	No flammable liquids are kept in the room: the cutting paste and inhibitor are in the van and brought down only when used. The plant room stair and the corridor outside are kept clear of pipe, tools and leads at all times, with the fire door to the corridor closed and not wedged. Welding electrode stubs, rags and swarf go into a steel bin with a lid and are taken out to the van at lunch and at the end of each day. The fire point (two foam, one CO2, blanket) sits at the foot of the stair and the crew are shown it at the briefing. The alarm is raised at the break glass at the top of the plant room stair, the hospital emergency number is called from the plant room phone, and the assembly point is marker B in the ambulance bay car park.
Likelihood of harm with these controls	2. Unlikely
Severity of the harm	5. Death
Risk score (likelihood x severity)	10
Rating	Medium

> Medium, 5 to 12. Record what further action would lower the risk, who will do it and by when.

Further action needed	Estates duty officer to confirm the corridor break glass and the plant room phone are working at the Saturday permit sign-off. Fire door self-closer checked at the same time.
What kind of control is it?	Practical safeguard, such as a barrier or guardrail
Who will do it?	P. Marsh
Needed by	14 Nov 2026
Likelihood once the action is done	1. Very unlikely
Severity once the action is done	5. Death
Residual risk score	5
Residual rating	Medium

Hazards and controls 3: Hazardous substances and dust

Type of hazard	Hazardous substances and dust
Where is it?	Welding fume at the welds, grinding dust along the pipe, and residual system water in the pipe

What is the hazard, who might be harmed, and how?	Welding fume from the electrodes (manganese and iron oxide) in a basement room with no natural ventilation, grinding dust and sparks, and black system water with inhibitor residue draining from the cut pipe onto skin and the floor. The crew.
Controls in place or planned for this hazard	COSHH assessment for every product on this job, kept with the RAMS, Dust suppressed at source with water or on-tool extraction, Work in the open air or with ventilation, and skin contact avoided, Washing facilities available and used before eating, Respiratory protection face-fit tested and gloves suited to the product
How these controls apply on this job	An on-torch fume extraction unit with a HEPA and carbon filter is used at every weld, with the arm within 300 mm of the arc, held by L. Obi where the welder cannot. The plant room supply and extract fans are left running by estates for the whole job. P. Marsh wears a powered air welding helmet (face-fit not needed); K. Dunne and L. Obi wear FFP3 masks, face-fit tested in October 2026, when within 2 m of the arc or the grinder. The grinder has an on-tool dust shroud and vacuum for the bevelling. The pipe is drained to the low point by estates before we start, and the residual water in the dead section is caught in trays and a bund when the first cut is made, then taken to the plant room foul drain with the estates duty officer's agreement. Nitrile gloves for anything wet, overalls changed if soaked. Washing at the staff toilet in the service corridor before breaks. COSHH assessments for the electrodes, cutting paste and inhibitor are on page 5 and in the job folder.
Likelihood of harm with these controls	3. Possible
Severity of the harm	3. Injury needing time off work
Risk score (likelihood x severity)	9
Rating	Medium

> Medium, 5 to 12. Record what further action would lower the risk, who will do it and by when.

Further action needed	Fume extraction unit filter check and the fans running confirmed at the step 1 hold point.
What kind of control is it?	Changes the job, equipment or materials to reduce exposure
Who will do it?	P. Marsh
Needed by	14 Nov 2026
Likelihood once the action is done	1. Very unlikely
Severity once the action is done	3. Injury needing time off work
Residual risk score	3
Residual rating	Low

Hazards and controls 4: Noise

Type of hazard	Noise
Where is it?	Grinding and cutting in a concrete and blockwork room with a low ceiling
What is the hazard, who might be harmed, and how?	Grinder and reciprocating saw noise over 100 dB(A) in a hard-surfaced room, hearing damage to the crew and disturbance to the clinics on the ground floor directly above. The crew and the building occupants.
Controls in place or planned for this hazard	Quieter method or equipment used where there is one, Noisy work scheduled away from other people, Noise kept at source with enclosures, damping or distance, Hearing protection zones marked and protection worn inside them
How these controls apply on this job	The corroded sections are cut out with a reciprocating saw and a cold pipe cutter rather than a cutting disc, so the grinder is only used to bevel the ends and dress the welds. Grinding is not done before 13:00 on the Saturday while the clinics are open, and the clinic manager has the plant room phone number for the afternoon. The plant room is a hearing protection zone for the whole job with a sign on the door; everyone wears ear defenders (SNR 30) while the saw or grinder runs, and estates staff who come in are handed a pair. Grinding is done in runs of no more than 10 minutes with the door closed.
Likelihood of harm with these controls	3. Possible
Severity of the harm	2. Injury needing first aid
Risk score (likelihood x severity)	6
Rating	Medium

> Medium, 5 to 12. Record what further action would lower the risk, who will do it and by when.

Further action needed	Clinic manager confirmed the Saturday closing time with A. Pritchard; the time is written on the permit.
What kind of control is it?	Changes the job, equipment or materials to reduce exposure
Who will do it?	A. Pritchard
Needed by	13 Nov 2026
Likelihood once the action is done	1. Very unlikely
Severity once the action is done	2. Injury needing first aid
Residual risk score	2
Residual rating	Low

Hazards and controls 5: Hand-arm vibration

Type of hazard	Hand-arm vibration
Where is it?	Angle grinder for bevelling and weld dressing; reciprocating saw for the cuts
What is the hazard, who might be harmed, and how?	Vibration from the 125 mm grinder (about 6 m/s²) and the reciprocating saw over two days, risk of hand-arm vibration syndrome. P. Marsh and K. Dunne.
Controls in place or planned for this hazard	Breaking, cutting or grinding done by machine or avoided by a different method, Low vibration tools, maintained and with sharp bits or blades, Trigger times limited and the work shared across the crew, Hands kept warm and dry, with breaks built in, Symptoms reported and health surveillance in place where exposure is regular
How these controls apply on this job	The cuts are made with a cold pipe cutter where the pipe can be reached all round, and the reciprocating saw where it cannot, so the grinder is used only to bevel four ends and dress four welds. The grinder is the low vibration model from the van with an anti-vibration side handle, new flap discs and a sharp saw blade fitted on the Saturday morning. Grinder time is shared between P. Marsh and K. Dunne and logged on the HAV card: the limit on this job is 45 minutes of grinder trigger time each per day, which keeps both under the exposure action value. Gloves worn and breaks taken away from the tool. Both are on the company's annual health surveillance.
Likelihood of harm with these controls	2. Unlikely
Severity of the harm	3. Injury needing time off work
Risk score (likelihood x severity)	6
Rating	Medium

> Medium, 5 to 12. Record what further action would lower the risk, who will do it and by when.

Further action needed	HAV card for each of P. Marsh and K. Dunne filled in each day and handed to A. Pritchard with the job sheet.
What kind of control is it?	Instruction, briefing or supervision
Who will do it?	P. Marsh
Needed by	15 Nov 2026
Likelihood once the action is done	1. Very unlikely
Severity once the action is done	3. Injury needing time off work
Residual risk score	3
Residual rating	Low

Hazards and controls 6: Electricity and live working

Type of hazard	Electricity and live working
Where is it?	Primary pump starters P1 and P2 in the plant room motor control centre, the pump motor cables near the welds, and the supplies to the tools and welding set
What is the hazard, who might be harmed, and how?	Pumps starting under the building management system while the pipework is open, a welding earth return finding its way through the pump motor cables or the control centre, and shock from damaged leads on a wet plant room floor. The crew and estates staff.
What supplies the equipment?	110 V centre tapped to earth
Will any work be done on or near live conductors?	No
Controls in place or planned for this hazard	Supply isolated, locked off and proved dead before work starts, Battery tools, or 110 V centre tapped to earth on construction sites, 230 V equipment on an RCD, with leads and plugs checked before use
How these controls apply on this job	Estates isolate the P1 and P2 pump starters at the motor control centre, apply their locks and a Severn Mechanical lock on the multi-hasp, and prove dead with a proved tester at the motor terminals before the first cut, recorded on the permit to work. The building management system has the pumps set to off and the point locked by estates. The welding earth clamp goes straight onto the pipe within 500 mm of the weld, on bright metal, never onto a bracket, the pump or the tray, so no stray current runs through the plant. The grinder, saw and work lights run from a 110 V centre-tapped transformer at the top of the stair, leads run along the wall and up over the door. The inverter welding set is the one 230 V item: it is fed from the plant room's 16 A industrial socket through its own 30 mA RCD plug, has a PAT label dated October 2026, and the lead and the welding cables are checked for damage each morning. No live work is done at any point.
Likelihood of harm with these controls	2. Unlikely
Severity of the harm	5. Death
Risk score (likelihood x severity)	10
Rating	Medium

> Medium, 5 to 12. Record what further action would lower the risk, who will do it and by when.

Further action needed	Isolation locks and the proved-dead record checked and photographed at the step 1 hold point. Welding set RCD test button pressed each morning.
What kind of control is it?	Removes the hazard
Who will do it?	P. Marsh with the estates duty officer

Needed by	14 Nov 2026
Likelihood once the action is done	1. Very unlikely
Severity once the action is done	4. Major injury
Residual risk score	4
Residual rating	Low

Hazards and controls 7: Manual handling

Type of hazard	Manual handling
Where is it?	The plant room stair (14 steps, one half landing) and the route from the van in the ambulance bay service area
What is the hazard, who might be harmed, and how?	Carrying the 1.2 m lengths of 100 mm steel pipe (about 20 kg each), the welding set (28 kg), the fume extraction unit and the podium steps down a narrow stair, and lifting the cut-out sections (up to 35 kg with the brackets) off the pipe at 2.1 m. Back and shoulder strains, crushed fingers and a dropped load on the stair. The crew.
Controls in place or planned for this hazard	Loads broken down or smaller packs ordered, Two-person lifts for heavy or awkward items, Routes cleared and kept clear before carrying starts, Crew trained in lifting technique for the loads on this job
How these controls apply on this job	The new pipe was ordered in 1.2 m lengths rather than 6 m so each piece is a two-person carry. The welding set and extraction unit come across the car park on a sack truck and are carried down the stair by two people with the stair cleared first and a third person at the bottom. The cut-out sections are cut into pieces no longer than 1 m before they come off the brackets, and the high-level return pieces are lowered by two people from the podium with a rope sling to the floor rather than handed down. Nothing is carried on the stair while anyone else is on it. All three have had the company's manual handling training; L. Obi only carries with a second person.
Likelihood of harm with these controls	3. Possible
Severity of the harm	3. Injury needing time off work
Risk score (likelihood x severity)	9
Rating	Medium

> Medium, 5 to 12. Record what further action would lower the risk, who will do it and by when.

Further action needed	Stair cleared and the landing checked by K. Dunne before each carry; pipe stored on the plant room floor against the east wall, not on the stair.
What kind of control is it?	Changes the job, equipment or materials to reduce exposure

Who will do it?	K. Dunne
Needed by	14 Nov 2026
Likelihood once the action is done	1. Very unlikely
Severity once the action is done	3. Injury needing time off work
Residual risk score	3
Residual rating	Low

Hazards and controls 8: Work at height

Type of hazard	Work at height
Where is it?	The 100 mm return at 2.1 m above the plant room floor, alongside the cable tray
What is the hazard, who might be harmed, and how?	Falls from the podium while cutting, grinding and welding the return at 2.1 m, and the podium being knocked while someone is on it. The crew.

Photos of the hazard



Can the work be done safely without working at height?	No
Access equipment	Podium steps
Could a person fall 2 metres or more?	No
Controls in place or planned for this hazard	Tower, MEWP or scaffold with guardrails and toeboards rather than ladders, Access equipment checked before use and inspected within the last 7 days, Rescue plan agreed and the equipment for it on site

How these controls apply on this job	The return cannot be lowered, so the work on it is done from a 1 m platform podium with a full guardrail and gate, which puts the weld at chest height. The podium is checked before use each morning (castors locked, platform clipped, guardrail and gate closed) and its inspection tag is in date. Only one person on the podium; the second person stays at the foot to pass tools and keep others away. The welding set and leads are kept off the podium and the welding cable is clipped to the guardrail so it cannot pull the welder. No work from a stepladder on this job.
Likelihood of harm with these controls	2. Unlikely
Severity of the harm	3. Injury needing time off work
Risk score (likelihood x severity)	6
Rating	Medium

> Medium, 5 to 12. Record what further action would lower the risk, who will do it and by when.

Further action needed	Podium inspection tag and the pre-use check recorded by K. Dunne on the Saturday morning.
What kind of control is it?	Practical safeguard, such as a barrier or guardrail
Who will do it?	K. Dunne
Needed by	14 Nov 2026
Likelihood once the action is done	1. Very unlikely
Severity once the action is done	3. Injury needing time off work
Residual risk score	3
Residual rating	Low

Hazards and controls 9: Members of the public and building occupants

Type of hazard	Members of the public and building occupants
Where is it?	Outpatient clinics on the ground and first floors, the service corridor outside the plant room and the ambulance bay
What is the hazard, who might be harmed, and how?	Patients, visitors and clinic staff above the work affected by noise, fume or a fire alarm; estates staff entering the plant room during hot works; people in the ambulance bay walking into the unloading of pipe. The building occupants, estates staff and members of the public.
Controls in place or planned for this hazard	Work timed for when the area is empty or closed, Work area fenced or barriered and signed, Occupants and neighbours told what is happening and when, Routes past the work kept open, lit and free of materials, No tools, materials or plant left unattended where people can reach them, Noisy or dusty work timed to suit the building

How these controls apply on this job	The work is on a weekend when the first floor is quiet and the ground floor clinics close at 13:00 on the Saturday; grinding waits until then. The clinic manager and the estates duty officer have been told the dates, the hours and what to expect, and have the plant room phone number. The service corridor is barriered and signed at the ambulance bay end, the plant room door is kept closed with a sign saying hot works in progress, and anyone from estates signs in with P. Marsh. The van unloads in the service area, not the ambulance bay, with the sack truck route kept clear and no pipe left on the ground. Nothing is left in the corridor at any time, and the room is locked when the crew leave for lunch.
Likelihood of harm with these controls	2. Unlikely
Severity of the harm	3. Injury needing time off work
Risk score (likelihood x severity)	6
Rating	Medium

> Medium, 5 to 12. Record what further action would lower the risk, who will do it and by when.

Further action needed	Corridor barrier and signs set out by L. Obi with K. Dunne at the start of each day and photographed.
What kind of control is it?	Practical safeguard, such as a barrier or guardrail
Who will do it?	K. Dunne
Needed by	14 Nov 2026
Likelihood once the action is done	1. Very unlikely
Severity once the action is done	3. Injury needing time off work
Residual risk score	3
Residual rating	Low
Hazards recorded	9
Highest risk score	15
Hazards rated high	1
Still high after further action	0

> Every hazard rated high has a further action that brings it below 15. Those actions must be done, and checked, before the step that needs them.

4. Sequence of work

Sequence of work 1: Saturday set-up: isolation, permits and fire precautions

What is done at this step	Saturday set-up: isolation, permits and fire precautions
How it is done	Meet the estates duty officer at 07:30. Confirm the heating is drained to the low point and the plant room is out of service (estates drain-down record signed). Walk the plant room together, clear stored items, strip the insulation 1 m back from each weld position and check it against the asbestos register (none expected). Estates isolate pump starters P1 and P2 at the motor control centre, lock off with both locks on the multi-hasp and prove dead; the BMS points are set off and locked. Estates isolate the plant room fire detectors. Set out the corridor barrier and signs, fire point at the foot of the stair, fire blankets over the cable trays and pump cables, the fume extraction unit and the 110 V transformer at the top of the stair. Receive the permit to work and the day's hot works permit.
Hazards at this step	Electricity and live working, Fire, Members of the public and building occupants
Controls at this step	Nothing is cut until the isolation is proved dead and recorded. No hot works until the permit is signed and the fire point is in place. Fire door to the corridor closed, stair clear.
Is there a hold point before the next step?	Yes
What is checked, and by whom?	Hot works permit, permit to work, isolation locks and proved-dead record, detector isolation and the fire point checked and photographed by P. Marsh with the estates duty officer before any cutting or hot work. Repeated at 07:30 on the Sunday with a new hot works permit before step 5.

Sequence of work 2: Bring the equipment and pipe down to the plant room

What is done at this step	Bring the equipment and pipe down to the plant room
How it is done	Unload the van in the service area. Sack truck the welding set, fume extraction unit, podium and tool boxes to the top of the plant room stair. Carry each item down the stair with two people and a third at the bottom, stair cleared first. Carry the six 1.2 m lengths of 100 mm pipe and the brackets down two at a time, one length per pair. Stack the pipe against the east wall on timber bearers.
Hazards at this step	Manual handling, Members of the public and building occupants
Controls at this step	Two-person carries only. Nobody else on the stair during a carry. L. Obi carries only with K. Dunne. Corridor barrier in place, nothing left in the corridor or on the stair.
Is there a hold point before the next step?	No

Sequence of work 3: Cut out the corroded sections of flow and return

What is done at this step	Cut out the corroded sections of flow and return
How it is done	Mark the cut lines 150 mm beyond the corroded length on both pipes. Fit temporary pipe props under the flow and a chain sling to the structural beam for the return either side of the cuts so nothing drops when the pipe is parted. Set trays and absorbent under the cut points. Make the first cut on the flow at the low point with the cold pipe cutter and let the residual water drain into the trays; take the water to the plant room foul drain. Cut the remaining lines with the cold cutter where it can be turned all round and the reciprocating saw where it cannot. Cut each removed section into pieces under 1 m before it comes off the brackets, lower the return pieces from the podium with a rope sling, and stack the scrap by the stair for the van.
Hazards at this step	Hazardous substances and dust, Noise, Hand-arm vibration, Manual handling, Work at height
Working height at this step (m)	2.1

> Work at Height Regulations 2005, regulation 4. Work at height must be properly planned, appropriately supervised and carried out as safely as is reasonably practicable. Say here how the work is reached and how falls are prevented.

Controls at this step	Ear defenders on for the saw. Nitrile gloves and eye protection for the wet cuts. One person on the podium, a second at the foot. Pipe props and the sling checked before the last cut on each line. No grinder before 13:00.
Is there a hold point before the next step?	No

Sequence of work 4: Prepare the ends, fit up and tack the new sections; Saturday close-down

What is done at this step	Prepare the ends, fit up and tack the new sections; Saturday close-down
How it is done	After 13:00, bevel the eight pipe ends to 30 degrees with the grinder and dust shroud, clean 25 mm back to bright metal and remove any coating. Offer up the new flow sections on the props, align with the existing pipe, check the fall back to the drain point with a level, and tack weld. Repeat for the return from the podium. Fix the two new brackets to the wall. Tack welds by P. Marsh only. At the end of the day: last weld or grind no later than 16:30, fire watch for 60 minutes, permit closed and signed, detectors reinstated by estates, waste bin out to the van, room locked.
Hazards at this step	Hot works, Hand-arm vibration, Noise, Hazardous substances and dust, Work at height, Fire
Working height at this step (m)	2.1

> Work at Height Regulations 2005, regulation 4. Work at height must be properly planned, appropriately supervised and carried out as safely as is reasonably practicable. Say here how the work is reached and how falls are prevented.

Hot works are listed at this step. Record the permit on page 6.

Controls at this step	Hot works permit live, fire point at the weld, fire blankets on the trays and cables, extraction arm at the arc, earth clamp on bright metal within 500 mm of the weld. Grinder time logged on the HAV cards. L. Obi on fire watch with K. Dunne, never on the grinder or torch.
Is there a hold point before the next step?	Yes
What is checked, and by whom?	Sunday 07:30: the new hot works permit, fire point, fire blankets, detector isolation, isolation locks still in place and the fit-up alignment checked by P. Marsh with the estates duty officer before any welding on step 5.

Sequence of work 5: Weld out the four butt joints

What is done at this step	Weld out the four butt joints
How it is done	Weld the root, fill and cap on the two flow joints from the floor and the two return joints from the podium, MMA with E6013 root and E7018 fill and cap, electrodes from a heated quiver. Chip and wire brush between runs, dress the caps lightly with the grinder. Fire watch throughout and for 60 minutes after the last weld, logged on the permit. Visual inspection of each weld by P. Marsh as the coded welder and recorded on the weld log with the electrode batch numbers.
Hazards at this step	Hot works, Hazardous substances and dust, Work at height, Hand-arm vibration, Fire
Working height at this step (m)	2.1

Work at Height Regulations 2005, regulation 4. Work at height must be properly planned, appropriately supervised and carried out as safely as is reasonably practicable. Say here how the work is reached and how falls are prevented.

Hot works are listed at this step. Record the permit on page 6.

Controls at this step	Permit HW-WOB-2026-114-02 live. Extraction arm within 300 mm of the arc, powered air helmet for the welder, FFP3 for the fire watch within 2 m. Welding cable clipped to the podium guardrail. Nobody enters the room during welding without signing in with P. Marsh.
Is there a hold point before the next step?	No

Sequence of work 6: Pressure test the new sections

What is done at this step	Pressure test the new sections

How it is done	Blank the open ends of the repaired lengths with test caps at the existing flanges either side, fill the test section with water from the plant room hose, vent, and raise to 6 bar (1.5 times the 4 bar working pressure) with the hand test pump. Hold for one hour, check every weld and bracket for weeps, and record the start and finish gauge readings on the test sheet. Drop the pressure slowly and remove the test caps.
Hazards at this step	Hazardous substances and dust, Work at height
Working height at this step (m)	2.1

> Work at Height Regulations 2005, regulation 4. Work at height must be properly planned, appropriately supervised and carried out as safely as is reasonably practicable. Say here how the work is reached and how falls are prevented.

Controls at this step	Hydraulic test only, never air. Everyone away from the test caps while the pressure is raised. Trays under the joints in case of a weep.
Is there a hold point before the next step?	Yes
What is checked, and by whom?	Pressure test witnessed by the estates duty officer: no pressure drop over one hour and no weeps, test sheet signed by P. Marsh and the duty officer before the system is refilled.

Sequence of work 7: Refill, vent, reinstate and hand back

What is done at this step	Refill, vent, reinstate and hand back
How it is done	With estates, close the drain, refill the primary circuit from the fill point, vent at the high points and at the riser, and dose the system with inhibitor to the manufacturer's rate through the dosing point. Estates remove their locks, we remove ours, and estates start P1 on hand and check for leaks at the new welds and brackets under circulation, then return the pumps to the BMS. Reinstate the insulation and cladding over the new sections, remove the temporary props and sling, clear the room and corridor, bag the waste, load the van, close the permit to work, and hand the plant room back with the weld log, test sheet and HAV cards to the estates duty officer.
Hazards at this step	Hazardous substances and dust, Manual handling, Electricity and live working, Members of the public and building occupants
Controls at this step	Inhibitor handled in gloves and eye protection, COSHH-SM-021. Isolation locks removed only after the test sheet is signed and everyone is clear of the pumps; estates start the pumps, not the crew. Scrap carried up the stair in two-person loads with the stair cleared. Corridor barrier is the last thing to come down.
Is there a hold point before the next step?	No
Steps recorded	7
Steps with a hold point	3
Steps with work at height	4

Highest working height (m)	2.1

5. Plant, materials and PPE

Plant and power tools	Cordless power tools, 110 V power tools, Cutting or grinding equipment
Access equipment	Podium steps

> Work at height is planned. The Work at Height Regulations 2005, regulation 4, require it to be properly planned and appropriately supervised, and done only when the weather does not put people at risk. Planning includes emergencies and rescue: see page 6.

Will equipment be checked before each use, and faults reported?	Yes
Materials delivered and used	Six 1.2 m lengths of 100 mm nominal bore mild steel pipe, schedule 40, bevelled on site; two 100 mm pipe brackets with wall fixings; E6013 and E7018 welding electrodes; cutting paste; heating system inhibitor; mineral wool pipe insulation and aluminium cladding to match the existing; absorbent pads, drip trays and a bund; temporary pipe props and a rated chain sling.
Will any hazardous substances be used or produced?	Yes

Hazardous substances 1: Welding electrodes E6013 and E7018 (welding fume)

Product or substance	Welding electrodes E6013 and E7018 (welding fume)
Has a COSHH assessment been made for this work?	Yes
COSHH assessment reference	COSHH-SM-012

Hazardous substances 2: Cutting paste for the pipe cutter and saw

Product or substance	Cutting paste for the pipe cutter and saw
Has a COSHH assessment been made for this work?	Yes
COSHH assessment reference	COSHH-SM-004

Hazardous substances 3: Heating system inhibitor (dosed at refill)

Product or substance	Heating system inhibitor (dosed at refill)
Has a COSHH assessment been made for this work?	Yes
COSHH assessment reference	COSHH-SM-021

Could the work disturb materials that may contain asbestos?	No
PPE to be worn	Safety helmet, Safety boots, Gloves, Eye protection, Hearing protection, Respiratory protective equipment, Flame resistant clothing

6. Permits, emergency and environment

Permits needed	Hot works permit, Permit to work, Electrical isolation
Hot works permit reference	HW-WOB-2026-114-01 (Saturday) and HW-WOB-2026-114-02 (Sunday), issued by the estates duty officer each morning and closed after the fire watch
Permit to work reference	PTW-EST-4471 (Severnside NHS Estates permit to work, plant room B02, heating drained and out of service)
What is isolated, where, and how is it locked off?	Primary pump starters P1 and P2 at the plant room motor control centre MCC-B02, isolators locked off with an estates lock and a Severn Mechanical lock on a multi-hasp, keys held by the estates duty officer and P. Marsh. Proved dead at the motor terminals with a proved tester and recorded on PTW-EST-4471. The BMS pump points are set to off and locked by estates. The plant room fire detectors (zone B02) are isolated at the fire panel by estates for each hot works permit period and reinstated before the fire watch ends. The 230 V socket for the welding set and the 110 V transformer supply stay live and are not part of the isolation.
First aider on site	P. Marsh
Where is the first aid kit?	Severn Mechanical van in the service area, with a travel kit and burns dressings on the plant room bench
Nearest hospital with an emergency department	Gloucestershire Royal Hospital emergency department, Great Western Road, the building next door (about 200 m on foot from the ambulance bay)
Fire assembly point	Ambulance bay car park, marker B, outside the east wing
Assembly point (GPS)	Ambulance bay car park, marker B · 51.865050, -2.232450 (SO 84284 18567, ±6 m)
What happens in an emergency	Fire: stop welding, switch off the set at the isolator if it is safe to, leave by the plant room stair, break the glass at the top of the stair and call the hospital emergency number from the corridor phone, giving plant room B02 east wing. Do not fight anything bigger than the first extinguisher can put out. Meet at marker B and P. Marsh counts the crew. Injury: P. Marsh gives first aid. For a serious injury call 999 and ask for the ambulance to the Wheatstone Outpatients Building ambulance bay, or walk the casualty to the emergency department next door if they can walk. Burns: cool under the running tap in the corridor staff toilet for 20 minutes. Flooding or a leak on refill: stop the fill at the fill point, tell the estates duty officer. All incidents and near misses reported to A. Pritchard the same day and to the estates duty officer under the permit.

Rescue plan for work at height	The work at height is from a 1 m podium with a guardrail, so a fall is onto the plant room floor and no suspension rescue is needed. A casualty on the floor is treated where they lie by P. Marsh and the ambulance crew come down the plant room stair; the emergency department next door can send staff on foot. If the casualty is on the podium platform, P. Marsh goes up, K. Dunne holds the podium, and the casualty is helped down the steps or kept still on the platform until the ambulance crew arrive.
Waste produced	General waste, Metal, Packaging, Hazardous waste
Will waste be taken off site?	Yes
Waste carrier and licence number	Severn Mechanical, upper tier waste carrier CBDU287431. Steel off-cuts to Gloucester Metals for recycling. Electrode stubs, slag, used absorbents and contaminated rags in a labelled drum as hazardous waste to the Hempsted transfer station with a consignment note.
Noise, dust, spills and neighbours	Grinding and saw work only after 13:00 on the Saturday and no noisy work after 16:30 either day. Welding fume captured at source and filtered; the plant room extract runs throughout. Drained system water goes to the foul drain with the estates duty officer's agreement, never to the surface water gullies in the ambulance bay. Trays, absorbents and a bund under every cut and at the fill point; any spill of inhibitor is absorbed and bagged as hazardous waste. The van engine is off in the service area and the unloading is done without blocking the ambulance bay.

7. Briefing

Has everyone on the crew had the site or venue induction?	Yes
Has the crew been briefed on this RAMS?	Yes
Briefed by	P. Marsh
Date	14 Nov 2026
Does anyone need the briefing in another language or format?	No
Has the crew been told to stop and report if the work or conditions change from this RAMS?	Yes
Questions or points raised by the crew	K. Dunne asked whether the return could be welded from a stepladder to save bringing the podium down the stair: no, the podium is the access for all work on the return. L. Obi asked what to do if an estates engineer walks in during welding: stop the arc, ask them to sign in with P. Marsh and give them ear defenders and eye protection before they come past the screen. P. Marsh asked for the clinic closing time to be on the permit: done, 13:00 Saturday.

Crew briefed and signed 1: P. Marsh

Name	P. Marsh
Signature	

Crew briefed and signed 2: K. Dunne

Name	K. Dunne
Signature	

Crew briefed and signed 3: L. Obi

Name	L. Obi
Signature	
People signed	3

8. Approval and review

Points to resolve before work starts	0

> Nothing counted above. The RAMS is ready for the work to start, once the site conditions match it.

Written by	A. Pritchard
Author signature	

Has someone other than the author checked and approved this RAMS?	Yes
Approved by	G. Whitlock, contracts manager, Severn Mechanical
Date approved	10 Nov 2026
Approver signature	
Review date	15 Nov 2026
Days from writing to review	9
What would prompt a review on this job?	New people joining the crew, Change to the method or sequence, Incident or near miss, Isolation changed or removed, Building occupancy changed