

 Aerodrome Works



ASWorks\_OSI\_004\_Appendix B  
Procedures for Working Airside

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## 1. Introduction

- 1.1 The following document serves to outline the procedures and guidance material which must be adhered to when working airside as required under AsWorks\_OSI\_004\_Control of Airside Works.
- 1.2 Where it is not possible to comply with the procedures outlined below, or where the procedures are unclear, guidance should be sought from the Airside Works Approval Team ([airside\\_works\\_approval@heathrow.com](mailto:airside_works_approval@heathrow.com)) or Airfield Operations (020 8745 6459).
- 1.3 The procedures detailed within apply to all persons involved in the undertaking of airside works and to those members of the Airfield Operations team who are responsible for management and control of works.
- 1.4 Red lines have been added to the left handside of this document to draw the reader's attention where changes or clarifications have been incorporated.

## 2. Definitions

Abbreviation	Description
ATM	Airfield Transformation Manager
AWA	Airside Works Approval
AWP	Airside Works Permit
AAB	Airside Approval Board
AGL	Airfield Ground Lighting
FOD	Foreign Object Debris
AWAP	Airside Works Approval Portal
AOO	Airfield Operations Officer
AOU	Aircraft Operations Unit
ASD	Airside Safety Department (Airfield Operations)
ATC	Air Traffic Control
GOL	Ground Operators Licences
ACE	Airport Control Engineer
AP	Authorised Person
Bolton Barrier	Mobile barrier used by Heathrow Airfield Operations to apply airfield closures. The wheeled barrier is made of alternating red/white boards with reflective strips and slots for portable lights. Contractors owning such barriers and wishing to use them must seek permission from Heathrow Airside Operations to avoid confusion.
Contractor	Term generically applied to the individual(s) conducting or undertaking the works
Red Traffic Cone	Red cone with white reflective strips, of at least 0.5m in height in order to comply with EASA CS.ADR-DSN.R.870
SWP	Standard Works Procedure

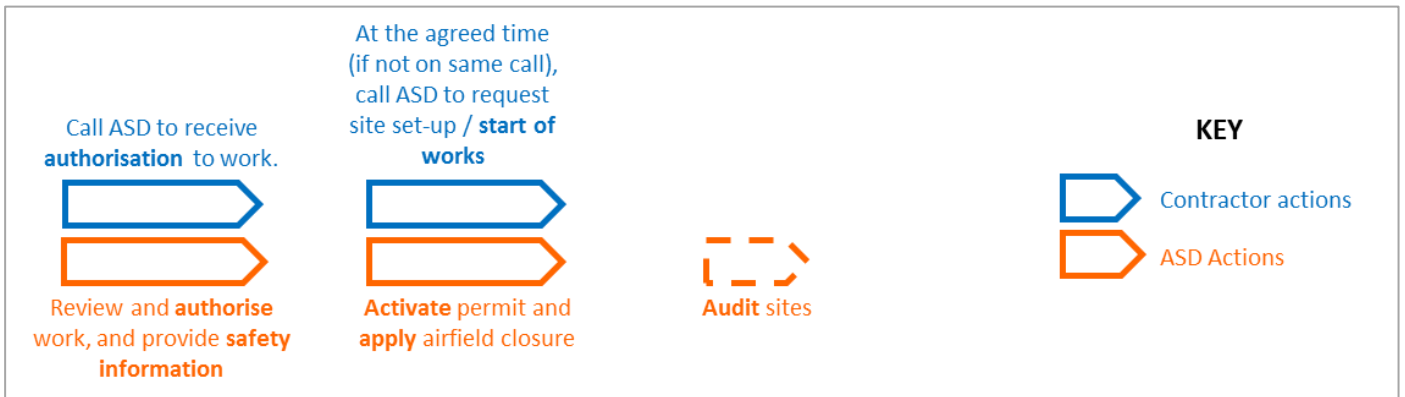


### 3. Process overview

#### 3.1 Start of works

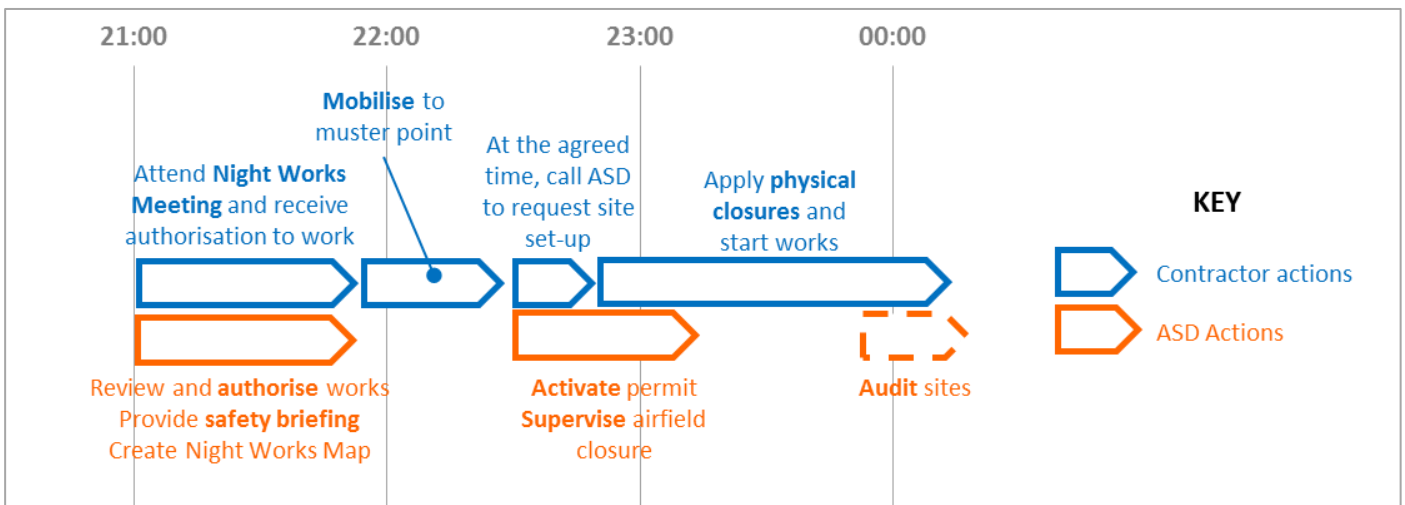
3.1.1 The overview of the process to be followed before planned works can start during the operational day is shown in Figure 1 below.

Figure 1



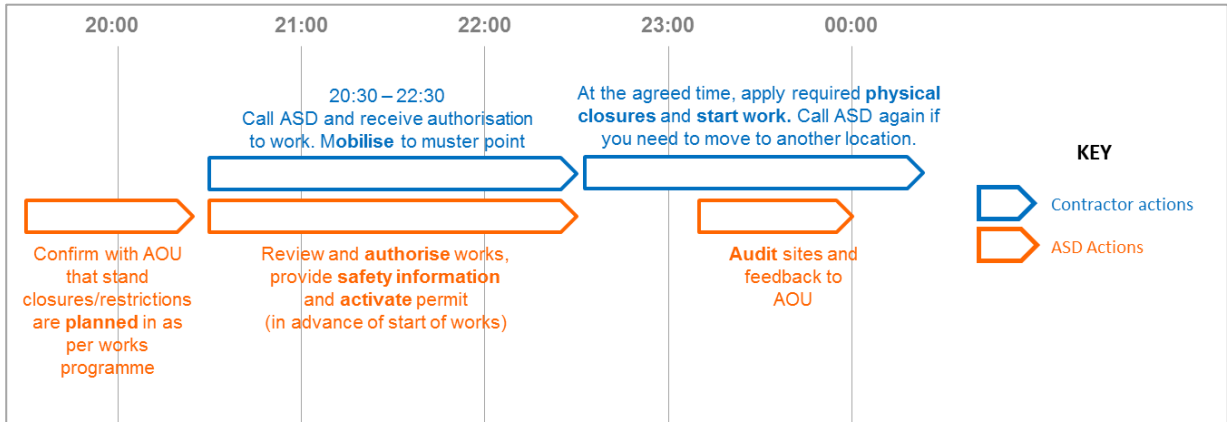
3.1.2 The overview of the process to be followed before planned manoeuvring area works can start at night is shown in Figure 2 below.

Figure 2



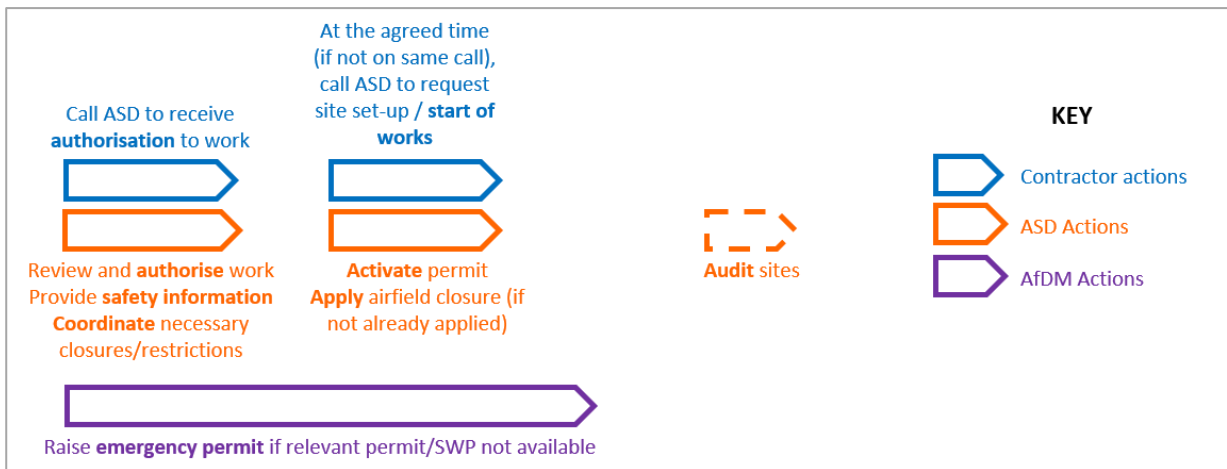
3.1.3 The overview of the process to be followed before planned apron works can start at night is shown in Figure 3 below.

Figure 3



3.1.4 The overview of the process to be followed before unplanned works (routine and reactive) can start is shown in Figure 4 below. Most routine and reactive maintenance activities should be supported by a Standard Works Procedure (SWP) document that will allow certain type of works to take place without reference to ASD (in which case Figure 4 does not apply).

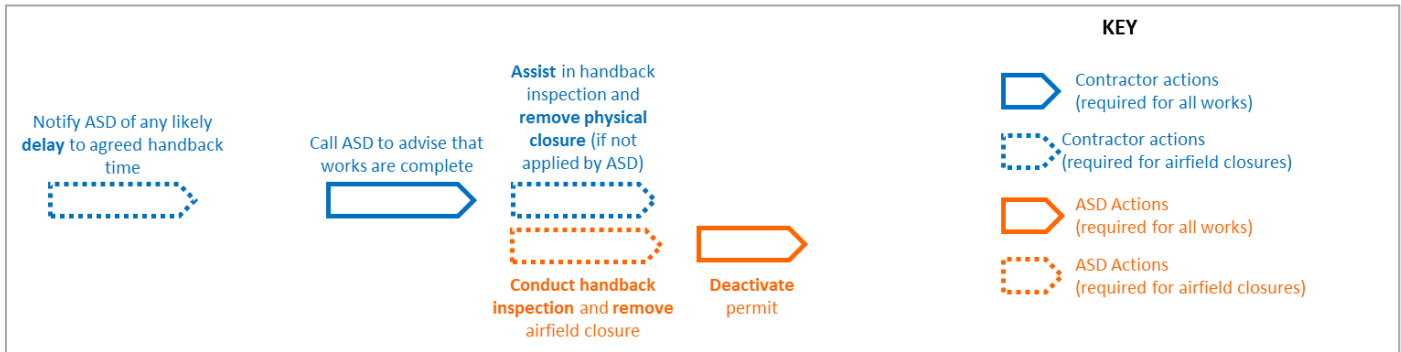
Figure 4



### 3.2 End of works

3.2.1 The overview of the process to be followed at the end of works is shown in Figure 5 below.

Figure 2



## 4. Management of Works

### 4.1 Planning

4.1.1 The planning of any works on the airfield is crucial to ensuring that works are conducted safely and efficiently with minimal impact to the operation. The following aspects should be considered during the planning phase:

- Requirements for any works permits
- Timeline, hours of work and duration
- Inside or outside operational hours
- Location of worksites
- Access routes to/from worksites
- Requirements for escort or supervision
- Safety precautions, practices and policies
- Protection of the site (barriers, markings, signage and lighting)
- Areas of closure or restriction required to the movement area (stand closures etc.)
- Impact to safeguarded surfaces (by the final construction or through the works method)
- Communication strategy
- Operational impact and integration with the operation (e.g. site phasing, road traffic modelling, aircraft/vehicle parking, FOD etc...)

4.1.2 When considering the planning of works airside, the works sponsor/project managers must consult with the Airside Works Approval (AWA) team and in the case of extensive, complex or access restricted airside works projects, the Airfield Transformation team.



## 4.2 Approvals

- 4.2.1 In order to control the impact of works on the airfield and ensure works are carried out safely and efficiently, all persons working airside must have an approval from Airfield Operations to work. Approvals take the form of an Airside Works Permit (AWP), the application process is covered in detail in **ASWorks\_OSI\_004\_App A\_Permits for Working Airside**.
- 4.2.2 Extensive airside works projects are subject to an additional approval process to ensure that these significant changes to the airside environment are controlled through the change management process and governed appropriately through the Airside Approvals Board (AAB). Projects which require approval through the board should refer to their ATM for guidance on the process.

## 4.3 Contractor Briefings

- 4.3.1 It is the responsibility of the Contractors or subcontractors undertaking airside works at HAL to ensure a site induction safety briefing in addition to any general airside induction is completed. The site induction should be specific to the project and cover the following:
- Works package, including method of works, risk assessments and permit agreements
  - Site setup and layout
  - Site access and egress
  - Welfare facilities
  - Foreign Object Debris (FOD) and waste disposal
  - Control of work processes (permit activation etc.)
  - Adherence to airside policies and procedures
  - Adherence to controls within an Airside Works Instruction or Standard Working Procedure (SWP)
  - Obligations under the Health and Safety at Work Act.
  - Airside hazards, including site proximity to live runways and taxiways.
  - The importance of remaining within site boundaries and actions to be taken if inadvertently entering a live taxiway/runway
  - Security processes
- 4.3.2 Where the site may contain infrastructure or systems that HAL or others must be able to access, or where HAL may access the site for interim inspections, Contractor briefings should be extended to those key HAL personnel.



## 4.4 Authorisation of Permits

- 4.4.1 All permits must be authorised by the Airfield Operations team:
- Planned works: before the start of each work shift (period of continuous work).
- NOTE:** permits for 24/7 worksites should remain active throughout the life of the project.
- Routine and reactive works covered under a Standard Works Procedure (SWP): before the start of “impacting” or “intrusive” works (see SWP for definition).
- 4.4.2 The request must be made by a responsible person who is in charge of the works throughout the works shift. The contractor must reference the WA permit number as well as any AWI or SWP number applicable to the works.
- 4.4.3 For night works taking place on or impacting the Manoeuvring Area, the Contractor must attend the Night Works meeting taking place at 21:00hrs every night at the Airside Operations Facility (AOF). Permits will be authorised at this meeting for all night works taking place on or impacting the Manoeuvring Area.
- 4.4.4 For all other night works, the Contractor must call Airfield Operations after 20:30hrs in order to request authorisation.
- 4.4.5 For all day works, the Contractor must call Airfield Operations in order to request authorisation.
- 4.4.6 There is no requirement for the permit to be physically signed.
- 4.4.7 All Contractors must receive a safety briefing from Airfield Operations prior to activating permits. This may be done via telephone, face to face or at the Night Works meeting. The following information should be provided:
- Weather overview
  - Specific access restrictions to sites
  - Tactical conditions or restrictions on work
  - Awareness and deconfliction with works or activities being undertaken in the vicinity
  - Safety procedures
  - Any other information pertinent to the safe undertaking of the works.
- 4.4.8 If the requirements stated in the permit cannot be met, the person requesting authorisation cannot satisfactorily answer questions, or if in the opinion of Airfield Operations, there are other operational reasons for stopping the work, the Contractor will be told they cannot carry out the work. The Contractor should then refer back to the relevant project sponsor.
- 4.4.9 Contractors should attend the AOF for further discussion if they are unclear or unsure of any safety instruction provided by Airfield Operations over the phone.





## 4.5 Activation of Permits

- 4.5.1 Permits will be activated by ASD:
- (a) When the permit is authorised, in advance of start of works  
(Apron works planned at night)
  - OR
  - (b) When the contractor is ready and calls ASD to request site set-up/start of works  
(other works)
- 4.5.2 Start of works must be coordinated as per Section 5 'Setup of Worksites'.

## 4.6 Completion of Works

- 4.6.1 In the case of 24/7 worksites, at the end of each work shift the works site should be left safe and secure with all tools, equipment, plant and materials stored in a tidy and secure fashion. The works area should be inspected by the Contractor to ensure that any FOD or loose waste is removed or secured. All barriers, lighting and signage should be checked to ensure it is serviceable and there are no areas of work extending beyond the physical boundaries of the site. There is no requirement to notify ASD when works are interrupted and the permit must remain active as long as the works site is in place.
- 4.6.2 In the case of temporary worksites, at the end of each shift the site of works should be cleared of all waste or FOD and if required the site swept by hand or through the use of mechanical sweepers. The Contractor must undertake their own inspection to ensure that the area is left safe and serviceable for use prior to the hand over. All barriers, temporary lighting and signage protecting the site should only be removed once the hand back is complete with Airfield Operations.

## 4.7 Site Hand Back Inspection and Permit Deactivation

- 4.7.1 The hand-back of sites and deactivation of permits should be arranged with Airfield Operations via telephone to allow sufficient time for all the works areas to be checked and declared serviceable prior to the planned 'end time' (as shown on the permit or agreed otherwise).
- (a) 24/7 worksites need only be 'handed back' at the completion of the works project. In certain circumstances, additional inspections at the end of each shift may be required as dictated by an Airside Works Instruction.
  - (b) Temporary worksites should undergo a hand back inspection and permit deactivation at the end of each period of continuous work.
  - (c) Works under a give-way basis should not normally require a hand-back inspection, if the area being worked is not suitable to be immediately available then it should only be conducted under the supervision of Airfield Operations who can immediately inspect it. Permits should be deactivated at the end of each period of continuous work.
- 4.7.2 The Contractor must ensure that a responsible person remains on site to provide the Airfield Operations Officer (AOO) who attends with an overview of the work undertaken and to answer any questions or queries they may have. In order to expedite the hand back process, the areas of work; particularly where ground has been disturbed, pits lifted or infrastructure



moved or affected, should be marked or highlighted to the attending AOO. Regardless of this, Airfield Operations will inspect the whole closed works area.

**NOTE:** In the case of extensive airside works projects taking place within 24/7 worksites, the hand-back process may be in-depth and should be arranged at least 2 days in advance to ensure that sufficient resource from Airfield Operations and the Airfield Transformation team are in place.

- 4.7.3 The Contractor must ensure that they retain sufficient staff and equipment on site as a contingency should an issue be identified during an inspection which requires immediate rectification.
- 4.7.4 On completion of all inspections, the AOO will advise the Contractor they are happy to reopen the area. The Contractor should remove any safeguarding measures (barriers, cones, lighting etc.) and vacate the site and be escorted back to the Airside road network/off-airfield. The AOO will ensure that the area is handed back to the appropriate controlling agency (ATC/AOU).

## 5. Setup of Worksites

### 5.1 Manoeuvring Area (Block) closures / restriction

- 5.1.1 All manoeuvring area closures / restrictions must be conducted under the supervision of Airfield Operations. Requests to close these areas should be confirmed at the time of permit activation (4.5) with a time and meeting point agreed.
- 5.1.2 An AOO will be dispatched by Airfield Operations to coordinate the closure of the area and supervise the site setup. The AOO will be responsible for closing the affected area with ATC and arranging for the physical protection of the site to be established at which point work will then be permitted to commence.
- 5.1.3 The physical protection of the manoeuvring area for temporary worksites must consist of the following as a minimum:
  - (a) A row of 8 red traffic cones, distributed across the centreline of the taxiway at 3 metre centres between each closed and open block(s)  
OR  
A string of 4 towable red/white 'Bolton' barriers, distributed across the centreline of the taxiway between each closed and open block(s)
  - (b) Adjacent Runway Guard Bars for a live runway, 'Bolton' barriers must be placed across the full width of the red stop bar (grass edge to grass edge).
  - (c) At night, steady red obstruction lights should be displayed at a spacing of no greater than 3 metres (if cones are used) or 5 metres (If 'Bolton' barriers are used). This lighting must have a minimum intensity of 10 candela.
  - (d) Where possible, all red stop bars between each closed and open block(s) should be illuminated while the AGL is in use.



- 5.1.4 This physical protection will be provided by ASD during operational hours. Outside operational hours (night works), the contractor is responsible for providing the physical protection listed in (a) and (c) and ASD remains responsible for delivering (b).
- 5.1.5 Within the worksite sufficient signage, marking and lighting should be provided by the contractor to safeguard the actual area of works along with ensuring the safety of persons and vehicles which may access the area.
- 5.1.6 The physical protection of the manoeuvring area for 24/7 worksites should be set up as per **5.4**.
- 5.1.7 If an uncontrolled crossing intercepts the closed block, consideration should be given to any risk of conflict between works activities and users of the uncontrolled crossing. If such risks exist, appropriate control measures must be discussed and agreed with the attending AOO before being implemented by the contractor. Examples of appropriate measures include but are not limited to:
- Safety briefing to highlight positions of uncontrolled crossings and requirement to give way to traffic using the crossing
  - Closure of the uncontrolled crossing if works take place in the vicinity of the uncontrolled crossing
  - Deviation of the uncontrolled crossing through the closed block if works take place in the vicinity of the uncontrolled crossing
- 5.1.8 When adjacent blocks are closed by different contractors, the stop bar(s) between the two works sites must be 'double-coned' (one set of cones per contractor) to ensure that if works sites hand back at different times, blocks for the remaining works site remain fully protected. This requirement also applies to two separate teams employed by the same contractor if they are not overseen by a single responsible person.

## 5.2 Aircraft Stand closures / restrictions

- 5.2.1 All aircraft stand closures / restrictions are approved by Airfield Operations and administered by the Aircraft Operations Unit (AOU) with the works being conducted under the supervision of Airfield Operations.
- 5.2.2 The Contractor must activate their works permit (**4.5**) with Airfield Operations. Airfield Operations must then contact AOU to implement closure of the aircraft stand. Once the closure is confirmed in the system by AOU the Contractor will be permitted to setup the physical protection of the site.



5.2.3 The physical protection of aircraft stands for temporary worksites must consist of the following as a minimum:

(a) A row of 3 red traffic cones, distributed across each affected centreline of the closed stand(s)

OR

A string of 2 towable red/white 'Bolton' barriers, distributed across each affected centreline of the closed stand(s)

**NOTE:** In the case of Multi Choice Apron's (MCAs), the number of barriers should be increased to ensure visually the stand is closed to the same standard as would be normally expected of a MARS stand.

(b) At night, steady red obstruction lights should be displayed at a spacing of no greater than 3 metres (if cones are used) or 5 metres (If 'Bolton' barriers are used).. This lighting must have a minimum intensity of 10 candela.

5.2.4 This physical protection will be provided by ASD during operational hours. Outside operational hours (night works), the contractor is responsible for providing the physical protection, unless specified otherwise by SWP/AWI.

5.2.5 Within the worksite sufficient signage, marking and lighting should be provided by the contractor to safeguard the actual area of works along with ensuring the safety of persons and vehicles which may access the area.

5.2.6 Where access is only required to pits or for non intrusive works on stands, this may be done whilst the stand is 'night stop aircraft only' after all aircraft and personnel movements have been completed. The area of works must be at least 5 metres from the aircraft footprint and must be marked as per **5.2.5**.

5.2.7 The physical protection of aircraft stands for 24/7 worksites should be setup as per **5.4**.

### 5.3 Road closure or restriction

5.3.1 The Contractor should activate their works permit (**4.5**) and then set up the physical protection of the site as detailed in this section.

5.3.2 Road closures or restrictions must be mitigated with Traffic Management measures compliant with **Chapter 8 - Traffic Signs Manual (Department for Transport/Highways Agency)**.

5.3.3 For road closures or restrictions, the AWA team or Airfield Transformation team may request the Contractor to provide a documented Traffic Management Plan (including schematics).



## 5.4 24/7 worksites

5.4.1 The physical protection for 24/7 worksites must be designed in conjunction with an ATM to achieve the following as a minimum:

(a) **Conspicuity during normal hours**

The limits of permanent works sites must be delineated with barriers/markers of alternating red/white colour. This pattern must be maintained to a good standard throughout the life of the works site.

(b) **Conspicuity during the hours of darkness**

The limits of permanent works sites must be lit by red obstruction lights at a maximum spacing of 7.5 metres, or 3 metres where the works sites closes a stand or taxiway block. The lighting must have a minimum intensity of 10 candela and be displayed H24, unless otherwise instructed on the Permit or AWI.

(c) **Protection from intrusion**

Adequate physical separation between the worksite and operational areas of the airfield, ensuring inadvertent access by aircraft, vehicles or persons is prevented.

(d) **Compliance with obstacle height limitations**

The position of the barriers/markers in relation to operational taxiways/runways may restrict the height of the barriers/markers.

(e) **FOD protection**

Minimise the risk of FOD or other materials and equipment stored within the worksite becoming displaced and a safety hazard.

(f) **Blast protection**

Appropriate blast protection fencing must be used to protect the working party from the hazard of aircraft jet blast.

(g) **Habitat management**

Barriers and markers must not provide habitat for wildlife.

(h) **Security**

In some cases equipment stored inside the site may need to be protected by secured barriers.

(i) **Grass area damage**

Heavy barriers/markers may damage grass areas and require reinstatement works.

(j) **Information and wayfinding**

Appropriate signage must be displayed to provide information on the works site (including contact detail and relevant Health and Safety notifications) and to redirect personal around the boundaries of the site.



## 5.5 Fire Routes

- 5.5.1 Fire Routes may be required through a worksite to enable the Airport Fire Service (AFS) and Airfield Operations team the response times to all parts of the airfield. Generally speaking a Fire Route will be required on both the Northern and Southern sides of the airfield running in an East/West direction as well as from the Fire Stations out to one of these arterial routes. Worksites which impede this access may have to provide a Fire Route through them.
- 5.5.2 The fire Route may also be used by Airfield Operations for the escorting of large or slow moving vehicles. This will be arranged with the Contractor prior to the commencement of the escort.
- 5.5.3 The Contractor will ensure Airfield Operations are notified of any other vehicles found to be using a Fire Route.
- 5.5.4 Fire Routes should be setup as follows:
- Red traffic cones forming a lane of a minimum width of 6 metres spaced at no greater than 10 metre centres. In the case of 24/7 sites an alternative physical marker may be provided as agreed by an AWI
  - Entrance and exit to the route marked by signage 'FIRE ROUTE' for 24/7 sites and/or Green cones for temporary sites
  - At night the entrance and the exit of the route should be lit with steady amber or purple lights of at least 10 candela

## 5.6 Working on a Give-way basis

- 5.6.1 'Works on a give-way basis' is the name given to works that are carried out without putting a closure in place. The contractor must have a permit or SWP that specifically authorises that method for given works, locations and times.
- 5.6.2 When working on a give-way basis the Contractor must ensure that the works can be conducted giving-way to all aircraft, vehicles and persons. When working in this way there must be no impact to the operational environment left after the works party have vacated.
- 5.6.3 When working under a give-way basis a "look-out" operative must be nominated/provided. The look-out must monitor aerodrome/road traffic and ensure that the works team are able to vacate the area when instructed. The look-out will be provided by the Contractor (where authorised) or by the Airfield Operations Team "Leader in Attendance" (Section 6).
- 5.6.4 The contractor must ensure that the working party is sufficiently visible to vehicles that may transit in the area. At night, personnel on foot must be 'protected' by the use of vehicles or floodlighting. If this is not achievable works should be conducted inside a temporary works site.
- 5.6.5 The Contractor must activate and deactivate their works permit in compliance with **4.5, 4.6** and **4.7**.



## 5.7 Runway works

- 5.7.1 Runway works are defined as any work taking place within one of the following areas:
- Runway paved surface (up to the active runway guard bar);
  - ILS Critical Areas (marked by red linelans spaced at 10/15 metres and information signs spaced at 45/50 metres) ;
  - Grass areas within 107.5 metres either side of the runway centreline and extended centreline (marked by burn line in grass areas)
  - Runway End Safety Area (RESA).
- 5.7.2 Runway works are generally undertaken when the runway is closed. Runways are regularly closed at night to facilitate this. A fixed Runway Alternation pattern is in place and published on the [heathrow.com/noise](http://heathrow.com/noise) website. Any requirement to work on a live runway should be discussed with the Airside Works Approval team or Airfield Transformation Team.
- 5.7.3 Access to both the closed and live runway must be discussed at the Night Works Meeting.
- 5.7.4 Contractors must endeavour to transit along the runway using the shoulders.

### 5.7.5 Works on a closed runway

- 5.7.5.1 A closed runway must only be accessed via the Runway (Contractor) Access Point set-up by Airfield Operations. Contractors must hold at the Runway Access Point and call Airfield Operations to request clearance to enter the closed runway before proceeding.
- 5.7.5.2 Access to the closed runway requires the vehicle and driver to meet the requirements of the 'A' Airside Driving Permit, and the driver to be briefed on the specific procedures of accessing a closed runway. If any live part of the airfield must be entered to access the Runway Access Point, a 'M' Airside Driving Permit or Leader Escort is required.
- 5.7.5.3 If the southern runway is closed, a Live Crossing Route will be set-up by Airfield Operations. This crossing route will be a live part of the airfield under ATC control. Vehicles wishing to cross the Live Crossing Route in an Easterly or Westerly direction, remaining on the closed runway, must treat the route as an uncontrolled crossing across a live portion of taxiway and comply with all relevant airside regulations in relation to this activity. Drivers must therefore give way accordingly to any aircraft movements and only cross when safe to do so.

### 5.7.6 Works on a live runway

Access to the live runway can only be done under Leader escort. Works must be of a nature that allows a withdrawal with 15 minutes notice, i.e. within 15 minutes the area must be reinstated and inspected by Airfield Operations and all equipment must



have been removed. Typically only works of a non-intrusive nature or critical reactive maintenance will be allowed to take place on the live runway.

## 5.8 Leader In Attendance / Leader escort

- 5.8.1 Airfield Operations may be called upon to provide support to the Contractor in the form of “Leader in Attendance” or “Leader Escort”. For certain types of works, Airfield Operations support may be mandatory.
- 5.8.2 Leader in Attendance may be required to facilitate working on a give-way basis (5.6) particularly in manoeuvring area locations where Contractors are often not trained or authorised or immediate inspection will be required to confirm serviceability. The AOO attending will remain responsible for acting as the look-out and providing radio telephony cover with ATC as well as supervising the compliance and safety of the works.
- 5.8.3 In addition, Leader Escorts are available to facilitate liaison, transit or deliveries to isolated parts of the airfield, in particular, manoeuvring area locations. In the case of multiple deliveries, it may be necessary to request a Leader available for the full shift.
- 5.8.4 Requests for Leader in Attendance/Leader Escort should be made by email to: [ASD\\_Coordinator@heathrow.com](mailto:ASD_Coordinator@heathrow.com). In addition the appropriate permit condition should be selected on the Airside Works Permit, indicating the requirement.
- 5.8.5 Leader services will be charged at the prevailing rate.

## 6. Site Inspections

Airfield Operations will undertake regular inspections of works in progress. The purpose of these inspections is to ensure that:

- (a) All works activities take place with the correct permits in place.
- (b) Works sites are set-up as agreed on the permit or attached AWI.
- (c) Works sites remain properly marked and lit.
- (d) Any equipment, work methods, or materials are properly utilised such that they will present no danger to the operation.

## 7. Ground Operations Licensing

- 7.1.1 As a stipulation of the Heathrow Conditions of Use, any company conducting any IATA SGHA ground handling activity or using vehicles/plant/machinery Airside, must gain a Ground Operation licence (GOL) prior to working airside. This includes contractors and subcontractors involved in airfield works. The purpose of this activity is to provide governance and control over the organisations working at Heathrow, ensuring they have the appropriate insurances and management systems in place to comply with all the Heathrow regulations.
- 7.1.2 Vehicles/plant/machinery that require access airside will require a Vehicle Apron Pass (VAP), this process is managed via ID Gateway and can only be accessed by companies





with a GOL. For further details on how to obtain a GOL refer to **ASDRVE\_OSI\_008\_Vehicles and Equipment Airside - Requirements.**

## 8. General Safety Requirements

### 8.1 FOD Management

- 8.1.1 Works must be conducted such that the chances of FOD being generated is limited. This relates specifically to materials (shrink wrap plastic, cable ties, pallets etc.), spoil, equipment or tools being dislodged from the worksite, posing a hazard to operations.
- 8.1.2 When planning works, consideration should be given to FOD fences, as well as housekeeping and sweeping routines which reduce this risk. Of particular concern will be vehicles leaving sites carrying or being contaminated with spoil which may fall on roads or aircraft movement areas.
- 8.1.3 Included within this is a requirement to manage airborne contaminants such as dust and debris from activities such as breaking out and saw cutting. Wherever practicable, dust suppression measures should be employed.
- 8.1.4 All skips used must be of the covered variety or kept covered when not in use, this should be checked during periods of Adverse Weather.
- 8.1.5 Attention should be paid to all vehicles transporting, particularly removing, waste from site to ensure these are also covered whenever they are in transit.

### 8.2 Wildlife/Habitat Management

- 8.2.1 Sites should be managed to ensure that the risk of attracting wildlife is mitigated as much as reasonably practicable.
- 8.2.2 In order to address this specific attention should be paid to managing areas of exposed soil, areas of ponding water, equipment or facilities which will allow roosting or nesting, and the build of up vegetation/weeds.
- 8.2.3 General housekeeping must also be considered, removing and managing waste from welfare areas.
- 8.2.4 In certain circumstances there may be a requirement to work closely with the HAL safeguarding team or habitat management contractor to assist in the mitigation actions. In the first instance contractors should seek advice from the Airside Works Approval team or Airfield Transformation team.

### 8.3 Floodlighting



- 8.3.1 The use of mobile floodlighting can cause confusion to aircraft crews, therefore advice on the positioning and any subsequent repositioning of mobile floodlighting should be sought from the Works Approval team or Airfield Operations.
- 8.3.2 As a general rule, floodlights should be angled downwards, away from direction of approaching aircraft and the luminosity managed such that they do not provide excessive glare or distraction to aircraft, vehicles or persons operating in the rest of the airfield environment.
- 8.3.3 A mobile floodlighting tower must be treated as tall construction equipment, therefore the procedures in **ASWorks\_OSI\_003\_Procedures for Approval of Cranes & Other Tall Construction Equipment** must be followed if its height exceeds 10 metres or that of the surrounding structures or trees.

## 8.4 Restricted Areas

- 8.4.1 Runways are restricted areas and must not be entered without prior clearance from ATC (live runway) or Airfield Operations (closed runway).
- 8.4.2 Access to the following areas is restricted to protect navigational equipment and services for each active runway, works required in these areas may require specific consultation, procedures or dependencies:
- ILS Critical Areas, marked by red linlaners spaced at 10/15 metres and information signs spaced at 45/50 metres.
  - Runway Graded areas – areas within 107.5 metres either side of the runway centreline and extended centreline (marked by burn line in grass areas and CAT I hold points on paved surfaces)
  - Runway End Safety Area (RESA)
- 8.4.3 When works require access inside these areas, this must be identified on the Airside Works Permit and highlighted to Airfield Operations where support is required for liaison with ATC. The appropriate procedures and dependencies should be complied with.
- 8.4.4 Additional areas become restricted when Low Visibility Safeguarding is in force, see Section 9.6 and **ASWeather\_OSI\_052\_Low Visibility Operations**.
- 8.4.5 Security Sterile Areas (up to 3 metres from security fences) are enforced at Heathrow. Works should not be undertaken in these areas without authorisation from HAL Campus Security teams who may require additional measures to monitor or bolster protection. The Airfield Transformation Team and Airside Works Approval Team will ensure that contractors comply with these requirements or make alternative arrangements, and engage with HAL Campus Security when appropriate.



- 8.4.6 Emergency Rendezvous Points (RVPs) are established at the North, East, South and West boundaries of the campus for emergency services vehicles. Works must not impact the access to, egress from or parking capacity of any of these locations.

## 8.5 Incidents/Accidents (including Environmental)

- 8.5.1 All incidents or accidents occurring within or due to the presence of airfield works must be reported to the airport's emergency number (Internal: 222, External: 0208 759 1212).
- 8.5.2 Airfield Operations will send initial responders who will support the Contractor in the initial containment and recovery following an incident, providing a link into any first aid or emergency services or other agencies/departments which are required. Following this activity they will take initial details which will be reported for investigation.
- 8.5.3 Contractors who are enrolled in the First Alert scheme must submit their own report to the HAL Health & Safety team in addition to any reporting action taken by Airfield Operations.

## 8.6 Adverse Weather

- 8.6.1 Any potential for adverse weather will be disseminated by Airfield Operations. Contractors should be mindful that in periods of adverse weather, particularly low visibility, airfield works may be suspended or cancelled to protect aircraft operations.
- 8.6.2 Where adverse weather is forecast in advance and expected to impact airfield works, the Works Approval Team or Airfield Duty Manager will send notification to affected working parties that their works are cancelled / at risk of being cancelled.
- 8.6.3 It is the responsibility of the permit applicant to disseminate any such notification to all working parties.
- 8.6.4 If Low Visibility conditions are expected, Airfield Operations will prepare the airfield by instigating the process of 'Low Visibility Safeguarding'. Airfield works in all locations may be subject to restrictions or cancellations. The latest procedures can be found in **ASWeather\_OSI\_052\_Low Visibility Operations**.
- 8.6.5 Strong winds can cause unsecured items to be moved in an uncontrolled manner. This leads to the possibility of significant damage or injury caused to aircraft, equipment or people. The contractor is responsible for ensuring that any/all physical protection measures used are able to withstand situation of high winds and suitable enhancements are made when safeguarding measures reach their design limits.
- 8.6.6 The normal precautions against FOD damage become more critical in adverse weather situations. The following actions must be taken by Contractors when warned of strong winds:



- Extra vigilance must be exercised to prevent accumulations of waste. All loose items should be removed and/or stowed.
- All covers should be closed and secured on any waste containers such as skips or compactors. Any containers which are full and at risk of becoming a FOD hazard due to them not being secured should be reported to Airfield Operations.
- All ground equipment and vehicles within site should be checked to ensure it is parked suitably with the appropriate brakes or chocks in place. Where possible equipment should be parked facing into wind or kept in sheltered positions.
- Drivers of high sided vehicles should take particular care when driving on exposed airside roads or uncontrolled crossings.

8.6.7 A detailed list of all procedures which apply in periods of adverse weather can be found in **ASWeather\_OSI\_52, 53 & 54**.

## 8.7 Environmental Controls

8.7.1 Contractors should ensure that all works they undertake have suitable environmental controls. This pertains to process and procedures covering the following as a minimum:

- Handling of waste materials (including spoil, redundant materials etc.)
- Management of airborne pollutants (noise, fumes etc...)
- Spillages of hazardous substances
- Discharge of water/liquids into HAL drainage systems

8.7.2 Where there has been some sort of environmental incident including minor spillages, these must be reported as per the procedures outlined in **ASEnv\_OSI\_059\_Airside Environment – Incident Reporting Procedures**.

## 9. Guidance Material on Methods of Work

### 9.1 Excavation works

#### 9.1.1 Excavation activities

9.1.1.1 Excavation activities must always be carried out inside temporary or 24/7 works sites, and cannot be carried out on a 'give way' basis.

9.1.1.2 In addition to measures put in place to set up the works sites, individual excavations, holes or areas of unconsolidated ground must be marked by cones or other form of approved marker. All excavations must be lit at night if the site is maintained without any form of flood lighting.

#### 9.1.2 Excavations left after the works

9.1.2.1 Contractors must provide detailed footprints of any excavation that cannot be fully reinstated at the end of a works shift.



- 9.1.2.2 The Contractor may be required to backfill the excavation and protect exposed soil (e.g. tar spary) and/or delineate the excavation with markers, red obstruction lights and/or reflective material, depending on distances to operational areas.
- 9.1.2.3 Exposed excavations may not be left unattended unless sufficient protection is put in place to prevent a person/vehicle from inadvertently falling into them.
- 9.1.2.4 Spoil heaps may be required to be removed from site or covered depending on location to prevent becoming a wildlife or FOD hazard.

### 9.1.3 Use of road plates

- 9.1.3.1 In order to maintain access and use of an area for operational requirements, it may be necessary to use road plates to bridge excavations, or damaged areas until permanent repairs can be carried out. 'Road' plates may be used in any airside location except runways.
- 9.1.3.2 If plates are to be used on the airside road system, the appropriate 'RAMP' warning signs are required to be positioned in the direction of the traffic flow to warn drivers of the plated area.
- 9.1.3.3 The following specifications applies to the use of road plates:
  - Must be of sufficient bearing strength to allow the safe passage of largest aircraft or vehicle which may traverse them.
  - As a minimum plates must be of rolled steel construction 25mm thick with bevelled edges.
  - Must have counter sunk holes to allow bolting down to the surrounding pavement surface.
  - Bolts are to be fit for purpose with bolt heads fitting flush with the plate surface and not protruding
  - Must be etched or textured in a way as to provide reasonable anti slip properties particularly when used on airside roads.
- 9.1.3.4 It is the Contractor's responsibility to ensure that the road plates and retaining bolts remain secure for the duration of the works. These should be inspected periodically to ensure they remain compliant with a log kept of the location and status of each road plate.

## 9.2 Pit lifting

- 9.2.1 All pits which are lifted as part of works should be suitably safeguarded to ensure there is no risk of others inadvertently falling into them.
- 9.2.2 Pits which are lifted must be cleaned and greased before being fully reinstated after works have been completed, ensuring that the pit lid sits flush with the surround. A lip of up to



5mm is acceptable as long as the pit is secure, will not move when trafficked and does not present a sharp/broken edge. In cases where the pit lids or surround are found to be damaged or not able to be seated correctly, they should be highlighted to the Airfield Operations team who will raise a fault for reactive maintenance.

- 9.2.3 At night, the contractor must present a drawing of pits that will be lifted that night at the Night Works Meeting, and again to the attending AOO at the hand back inspection. The contractor must also mark physically with a red traffic cone each pit that has been lifted.

### 9.3 Hot works

- 9.3.1 Hot Works present a potential risk to aircraft operations, buildings, equipment and personnel. Hot Works are defined as works that generate heat, sparks or flame that could become a source of ignition, plus Hot Works causing dust which may activate a fire alarm detector.

- 9.3.2 The following list contains examples of activities which would require a Hot Works Permit:

- hot air blowers
- bitumen heaters
- thermal lance equipment
- oxyacetylene welding
- grinding and cutting discs
- brazing
- drilling and coring

- 9.3.3 No Hot Works may take place within 16 metres of the nearest part of a parked aircraft.

- 9.3.4 When making an application to work airside via the Works Approval System the applicant must click on the 'Hot Works' button and complete the relevant section.

- 9.3.5 A Hot Works Permit application must be completed by the Authorised Person (AP) on site and a Hot Works Permit number issued via a phone call to the Airport Control Engineer (ACE) Safe System of Working (SSOW) telephone number 020 8738 0035. The ACE will enter the details into a safety document register giving the AP a unique Hot Works (HW) number. Permits can be in force for a calendar month.

### 9.4 Isolating services

When isolating services the Contractor must notify all parties affected by the isolation as well as ensuring that sufficient contingencies are in place or provided throughout the outage (e.g. standby generators). The Works Approval Notice (WAN) process is to be followed.

### 9.5 Site compound or material storage



The location and fencing of 24/7 site compounds and material storage should be designed with the same principles as for 24/7 worksites but must be approved separately:

- by an Airfield Transformation Manager and;
- by the Ramp Assurance Team in the case of affect to roads and GSE parking.

## 9.6 Non-intrusive surveys

The physical footprint of surveys must be made clear on the Airside Works Application.

## 9.7 Aircraft type restricted

- 9.7.1 Works which take place within the footprint of a stand or affecting stand infrastructure may impact the availability of the stand.
- 9.7.2 The demand for stand capacity at Heathrow is high and therefore where possible work should be done such that the closure of stands is avoided and restrictions on aircraft size, movement type or equipment available should be considered to allow stands to be kept available, even in a limited fashion.
- 9.7.3 The Airfield Transformation team must be engaged to advise on the most appropriate restrictions, and accurate drawings must be provided by the Contractor to complete the risk assessment process.

