

RED LIST

Red List Items are **NOT** banned, but are undesirable. This procedure creates a hold point where they are to be used as follows:-

Where a red list item is proposed, approval by the Resident Principal Designer (is this the correct person) and acceptance by the Defra's Project Executive (is this the correct person) is required before the design is issued for construction. This can be achieved through full explanation of the potential risk and why it cannot be reduced or eliminated and what controls have be put in place.

The Project Executive will, in writing, accept/confirm that the restraints placed upon the designer force the red list item to be adopted.

The Resident Principal Designer will in writing approve the design, as being the most appropriate with no lower risk alternatives given the constraints involved.

Process

- Detailed design/construction without adequate pre-construction information in particular buried services information, ground conditions included contaminated land, structures survey, buried archaeology or protected and invasive species information.

People

- Designs or detailing of structural elements (steel, concrete, timber etc) which cannot accommodate systems to prevent falls from height or difficult access.
- Designs which do not consider the people-plant interface e.g. do not allow for the segregation of pedestrians (including members of the public) in construction, do not allow sufficient space on the construction site for segregated traffic, for managing plant, materials and waste safety and effectively. Designs that require traffic cones to protect personnel from errant vehicles.
- Designs likely to impose high vibration processes during construction, operation or maintenance such as hand scabbling of concrete, demolition by hand-held breakers.
- Operations likely to impose significant muscular skeletal risk during construction, operation, maintenance or demolition, such as frequent or repeated manual handling.

Plant

- Any design requiring a crane lift, without proper consideration of how the lift can be made (e.g. foundations, services, clearance, and access).

Place

- Designs or detailing of structural elements (steel, concrete, timber etc) which cannot accommodate systems to prevent falls from height.
- Designs imposing Access/Egress arrangements requiring special controls in construction or maintenance – (e.g. use of fall arrest).
- Designs which present unusual or significant risks during use or maintenance including legitimate use by the public, e.g. bank gradients making grass cutting possible only with special equipment or likely to create fall risks to those crossing or walking upon them.
- Creation of a confined space.
- Designs that include features to be built or maintained without making special provisions for access, i.e. at height or within a confined space, (requiring future access for maintenance etc.) including designs which include manholes/inspection covers in heavily trafficked areas.
- Processes likely to give rise to large quantities of dust i.e. dry cutting without appropriate control.
- Designs which involve intrusive construction techniques, (i.e. piling, trenching etc.) within 2 metres of a linear/parallel service or structure

Product

- Designs requiring the use of toxic or harmful chemicals including those damaging to the environment.
- Designs that require the contractor to remove Asbestos Contaminated Material if safely leaving it in place is an appropriate alternative.
- Use of tropical hardwoods (this requires Project Executive approval).

- Designs which are likely to cause contaminated discharges directly into controlled water or land and including designs which involve in-situ concrete pours within the watercourse. Site layouts which introduce a risk of flooding with associated pollution risk.
- Designs requiring the use of toxic or harmful chemicals including those damaging to the environment.

AMBER LIST

Amber list items are **NOT** banned but represent techniques which, where possible, should be substituted for lower risk alternatives. Often this will not be possible.

Where an amber list is proposed, justification and sign off is required by Resident Principal Designer ?? (is this the correct person)

Sign off by the Defra Project Manager/Project Executive is NOT required, but best practice is to inform/highlight potential issues to them.

Process

- Any design which does not include, either with the drawings or within the PCI, a buildability statement setting out the basic assumptions the designer has made as to how the contractor will approach construction.
- Designs likely to require high ongoing maintenance.
- Programmes that involve 'in-channel' working e.g. piling in or near spawning areas during spawning seasons.
- Environmental risks

People

- Designs likely to impose high vibration exposures upon constructors or the public.
- Design that are likely to result in an adverse impact on neighbouring residual properties for example due to noise, dust, odours, gases and vibrations.

Plant

- None

Place

- Designs likely to require tube and fitting scaffold systems (as opposed to much lighter system scaffolds or other access systems with reduced manual handling implications).
- Site access which imposes significant risk to the public, for example on corners, near bridges, junctions etc.
- Designs that introduce the need for frequent delivery of material and plant to site through residential areas.
- Designs which require entry into an existing confined space, in particular which do not provide adequate means of access and egress during construction and future operations or maintenance.
- Designs which involve wet working (use of grouts, concrete, piling etc) use in close proximity to watercourses or sensitive groundwater or coastal waters. Furthermore, designs which require significant piling into sensitive groundwater.
- Activities that will require/involve significant dewatering and discharge into watercourses with associated silt management issues.
- Designs which require excavation in areas of invasive species e.g. Japanese Knotweed, Himalayan Balsam.
- Designs which require felling or veteran trees, ancient woodland or mature hedges.

Product

- Use of solvent based paints and coatings.
- Designs that require chasing out of concrete/brick/ block work.
- Structures which require on-site welding.
- Identification of where electrical services, due to age or other factors may be non-compliant with the current regulations not notified early enough such that early contact can be made with the service owner for repair or diversion.
- Environmental risks not included in SHE boxes on design drawings

GREEN LIST

Green items include examples of best practice which we would encourage. They require no sign off, but best practice is to record these for collation and potentially used for future users.

Process

- Where temporary works are required to support existing structures during construction, the locations, and relevant information such as expected loads are communicated clearly.
- Site investigations commissioned during design (if not previously undertaken) in order to reduce to a minimum the number of unknown features within the construction zone.
- Full engagement with the operational team from the outset of the design (e.g. reference to maintenance, operation, access etc).
- Designs which maximise the use of off site manufactured units, for example as opposed to in situ concrete pours.
- Provision for the early installation of permanent means of access and edge protection.
- Designs that eliminate or minimise risk of ongoing exposure to asbestos.
- Where designs incorporate, or require access to existing confined spaces, design access and egress improvements for safety during construction and maintenance.
- Design to reduce adverse impact on neighbouring properties for example due to noise, dust, odours, gases and vibrations.
- Designs that have documentary evidence demonstrating that they consider all environmental risks in the immediate and surrounding areas of the works and that use alternatives to reduce/design out the environmental risk.
- Sustainable designs which:
 - avoid or reduce the demand on virgin resources
 - minimise waste generation e.g. avoid temporary works such as haul routes that will consequently generate waste
 - maximise the reuse of materials generated on the project, e.g. local cut and fill, with materials balance being the objective
 - allow and encourage the use of recycled aggregates and other recycled/green materials and products (provided the specification suits the needs)
 - have reduced carbon footprints, e.g. by local resourcing of materials and staff, and minimal demands on all materials, but in particular concrete, aggregate and steel
 - integrate the project with other projects in the vicinity to maximise reuse of waste
 - Follow EA low carbon concrete arrangements
- Project programming takes account of relevant environmental windows for the works including the need to obtain and the duration of environment permits. Consideration and planning for the treatment/removal of invasive species sufficiently in advance of construction to minimise disruption and constraints on-site.
- Project programme allows sufficient time for the responsible parties to properly design, plan and mobilise so as to create a safe environment in which to commence construction.
- Pre-construction information has considered the distance from site to nearest hospital A&E department is greater than 8 minutes travel time and thus suggests that the site install an Automated External Defibrillator.

People

- Designs which deliver multiple benefits (e.g. recreational canoeing), disabled person access or open space amenity facilities for the local community.

Plant

- None

Place

- Where temporary works are required to support existing structures during construction, the locations, and relevant information such as expected loads are communicated clearly.
- Space to manoeuvre: consider adequate access for construction vehicles to minimise reversing requirements and contact with overhead services. Designs which show emergency site traffic routes. Designs including safe stopping/parking places for vehicles that will carry out known maintenance operations.

- Designs that give early consideration to site set ups which consider health, safety and environmental risks, make use of existing hard standings and buildings and take advantage of mains electricity, water and sewerage.

Product

- Projects that use constraints/hazards plans to communicate significant or unusual risks, and utilising photographs where appropriate, for issue to the construction team.
- Where temporary works are required to support existing structures during construction, the locations, and relevant information such as expected loads are communicated clearly.
- Drawings that clearly show the level of certainty of service information. (Refer to PAS 128) and highlight specific hazards through the use of appropriate symbols.
- Thoughtful location of mechanical and /or electrical equipment for safe maintenance including the use of remote greasing points to avoid the need for access into confined spaces or areas with moving machinery. Also, consider features which will enable future flexibility of M&E or civils structures so as to take advantage of future technological improvements or hydraulic models.
- Designs that eliminate or minimise the need for wet side construction or maintenance and avoids site compounds areas being on the wet side of a defence where there is a risk of flooding.
- Designs which promote opportunities for enhancement of the environment including Priority habitats/species creation/enhancement and SSSI remediation or water level management planning.
- Designs which include renewable energies in the operational phase of the scheme.
- Designs which establish vibration monitoring ahead of construction to set a baseline and which minimise vibration on existing structures (where vibration risk is likely to be an issue).
- Designs that avoid, or minimise as far as possible, extensive tree or hedge removal or work under canopies and over root protection zones.
- Designs that avoid or minimise impact on public access to footpaths and amenity areas for extended periods.
- Designs that improve (where appropriate) or at least do not obstruct the safe, natural movement of wildlife.
- Designs that consider and plan for the conservation of soil for reuse on the project, including programming to minimise impacts on natural soils from earthworks.