Method Statement

Project: SEW_Bridgetown Weir

Tasks: Installation of Larinier fishway at right hand bank
Installation of fish screen and cute at left hand bank

Revision	Date	Details	Author	Checked by
1	16.08.2021	First issue for Environmental Permit	P. Turnbull	
Signed:				

Site Name: Bridgetown Weir (WFD WBIS: GB108045015090)

OSGB NGR (centre): SS 92320 33770

Description of works

Installation of improved fish passage solution at Bridgetown Weir, in the form of a Larinier super-active baffle fishway within an existing fish pass channel including supporting infrastructure and banks works to accommodate, and a 10mm aperture seasonal static fish screen and fish chute with maintenance walkway and supporting infrastructure and bank works to accommodate. For details, see drawing '02900-Bridgetown-Detailed Design-210525'.

1. Health & Safety Considerations

- Works to be performed according to active existing current Risk Assessments at all times.
- Site specific Dynamic Risk Assessment to be performed if and whenever necessary according to WRT Health & Safety policy and accepted policy from awarded contractors.
- The contractor/s will have demonstrated suitable competency for the proposed works within a river channel and according to the type and location of the works as part of the competitive tender process to be awarded the contract.
- Health and safety talks for all operatives including any contractors and volunteers prior to starting works.
- Information on leptospirosis and Lyme's disease to be provided to all workers prior to works commencing.
- Suitable welfare facilities, clean water and hand sanitizer to be available for all operatives, contractors, volunteers and site visitors.
- Any accidents or near misses to be reported promptly.
- Works to be performed by appropriately qualified personnel for the task.
- Check for gas / electricity / sewerage / utilities before any ground-breaking work commences on site.

2. Protected Species

- Tree work to be conducted outside of bird nesting season wherever possible (April to September, although early nesting is possible in March due to warm spring weather).
- If working within this period, trees and suitable vegetation to be thoroughly checked before works at risk of disturbance commence, with continual dynamic assessment throughout task.
- Trees have been assessed for risks of disturbing bats prior to works, with no risk associated with the planned activity. Any trees affected by works to be checked visually for potential bat roosts prior to works commencing. Any trees deemed suitable or a potential for bats are not to be included in any tasks associated with the project before further consultation and planning.
- All site operatives to be supervised by an appropriately trained officer for continual dynamic assessment of local habitat for signs of protected species or suitability for protected species. If signs are observed, ensure all operatives are fully aware and designated appropriate exclusion zones for all activities.
- Works performed within the permitted 'in-river works' timescale, to ensure minimal disturbance of protected aquatic species and habitats.
- For more information, please refer to the Environmental Risk Assessment.

3. Invasive Species & Disease

- 'Check Clean Dry' protocol to be adhered to at all times. Virkon Aquatic recommended for use on footwear and equipment when arriving on site from another location and before leaving site.
- Himalayan balsam, Japanese knotweed and signal crayfish are known in the wider Exe catchment, and extra care should be taken to avoid spread of these species.

4. Method Statement

The following is a guide for construction method statements to be produced by the awarded contractor/s. This method statement has been produced in collaboration with the design contractor (FishTek Consulting) and is a description of the proposed construction sequence to ensure safe working practices for all works personnel, visitors, and the environment.

Site Clearance

1. The area for the site compound should be cleared of unwanted vegetation and have surfaces/turf protected to ensure possible damage due to plant movement is minimised.
2. Should any trees need to be removed, these should be removed intact, if possible, and replanted in a suitable position during demobilisation. If they cannot be removed intact, they should be replaced at the end of the project. It is advised that the Contractor consult with an ecologist to determine the replacement ratio and species. Removal of trees should be minimised as much as possible.

3. Should any invasive species be encountered, these will be disposed of as a controlled substance by a certified contractor. Site setup, including works compound, material storage if required, appropriate exclusion fencing, appropriate welfare facilities, and identified access/egress routes and emergency areas.

Site Setup

4. Works should take place during a period of likely low flows.
5. It is suggested that a main site compound is established as close to the site as possible. It is expected that the main site compound will be set up in the fields on the true right side and satellite compound established on the true left bank (within the caravan park)
6. The site compound/s should be secured using Heras fencing or similar. The working area must be suitably segregated from the public and suitable signage provided. If a compound is established on the true left side, public access will need to be maintained.
7. Any existing fencing within the working area that separates the river from the bank blocking access will be temporarily removed to allow plant access onto the riverbank.
8. Access onto the riverbed will be via existing sloped sections of riverbank, which will be reinforced using appropriate track matting or similar.
9. The Contractor will form an appropriate cofferdam around the two working areas, using dumpy bags, sheet piles or similar.
10. It is assumed that the Contractor will be able to form a cofferdam close enough to the A396 retaining wall to allow the remaining gaps to be properly sealed.
11. Any remaining water or seepage can be drained via over pumping.
12. Once the working area has been coffer-dammed and drained, work can take place.
13. Contractor to determine the top of pile level needed to provide a suitable level of flood protection for the working area.
14. The coffer damming should be inspected at the start and end of each working day to ensure it is still functioning safely and adequately.

Fabrication and Installation of Fish Pass

15. It is assumed that the fish pass will be fabricated in 6 separate units off site and delivered to site.
16. The units can be individually lifted and fixed into place or connected into larger units and then lifted into place.
17. Contractor to determine what their preferred working method is and how the units are to be lifted.

18. It is suggested that the Contractor check the location and levels of the support structure elements against the fish pass units and where they should be installed on the weir, prior to drilling and holes or inserting any fixings.
19. Where there is currently no concrete, the bed is to be excavated to the formation level and a blinding layer poured.
20. Formwork may then be erected, and the mass concrete infill poured.
21. Once the relevant support elements have been set out, installed, and any poured concrete has sufficiently cured the fish pass units can then be lifted and fixed in place.

Landscaped Bank and Scour Protection

22. Once the relevant areas have been coffer dammed and drained, the areas of scour protection excavated down to the formation level.
23. It is suggested that the rip rap is placed around the support infill before the fish pass and under/around the smolt chute are lifted into place, to avoid damaging them.
24. Material to be placed via excavator or craned hopper, ensuring proper interlocking, as necessary.
25. Once all lifts for the fish pass units have been carried out, the area of landscaped bank can be excavated to the foundation level.
26. Material to be placed via excavator or craned hopper, ensuring proper interlocking as necessary with a minimum of 3 points of contact between block stone pieces.
27. Levels to be checked as material is placed and levelled using excavators.

Fabrication and Installation of Smolt Chute

28. It is assumed that the smolt chute pass will be fabricated in 1 unit off site and delivered to site.
29. Contractor to determine what their preferred working method is and how the unit is to be lifted.
30. The concrete support elements are to be excavated and poured, as necessary.
31. Where the concrete is being poured on the riverbed, a layer of concrete blinding should be poured prior to the main pour to provide a level surface to start from.
32. Formwork may then be erected, and the mass concrete infill poured.
33. It is suggested that the Contractor check the location and levels of the support concrete against the unit and where they should be installed, prior to drilling and holes or inserting any fixings.
34. Once the relevant support elements have been set out, installed, and any poured concrete has sufficiently cured the smolt chute can then be lifted and fixed in place.

35. Finally, the remaining rocks may be placed against the sides of the smolt chute, being careful to not dent it.

Fabrication and Installation of Smolt Screen and Maintenance Platform

36. It is assumed that the platform will be fabricated as a single unit off site and delivered to site and that the handrailing will not installed until after the platform is lifted in place.
37. It is also assumed that the smolt screens will be fabricated off site and then delivered to site.
38. Contractor to determine what their preferred working method is and how the unit is to be lifted.
39. The area for the concrete support slab is to be excavated, with the contractor taking care to monitor and support the existing retaining wall, as necessary.
40. A layer of concrete blinding should be poured prior to the main pour to provide a level surface to start from.
41. Formwork and the reinforcement cage may then be erected, and the concrete poured.
42. It is suggested that the Contractor check the location and levels of the concrete against the stanchions and platform and where they should be installed, prior to drilling and holes or inserting any fixings.
43. Once the relevant support elements have been set out, and any poured concrete has sufficiently cured the stanchions may be installed and the platform lifted into place.
44. The handrailing may then be installed into the sockets.

Demobilisation/Site Egress

45. Once all works have been completed:
46. Remove any rubbish from site and dispose of appropriately.
47. Remove cofferdam in a controlled manner so as not to shock-load new structures.
48. Remove and off-hire plant & equipment when possible.
49. Reinstate working areas and site compounds as necessary, including reinstatement of any existing fencing.
50. Once all tasks are finished and all equipment removed, staff may leave site

5. Operation and Maintenance

The following is how it is assumed the fish passage improvements may be accessed and maintained. However, this list is not exhaustive, and operators may have alternative means or policies that could affect this.

Visual Inspection of Fish Pass and Removal of Debris

1. It is assumed staff will only attempt to access the pass during low flows and that staff will not enter the water course if alone.
2. Operatives to wear appropriate PPE (dry suits, life jackets), according to operator's working practices, when carrying out any maintenance.
3. The fish pass is to be accessed through the field on the true right bank, from the lane off Edbrooke Road to the North of the site.
4. Staff are to stand on the bank and check for visible debris.
5. If necessary, staff can walk down the existing sloped areas of bank, downstream of the pass, to look at the pass from a lower level.
6. If small debris (within manual handling limits) is seen and can be removed safely with available equipment and transportation, staff may do so:
    a. Arrange adequate fencing and signage to segregate the public from the working area.
    b. If possible, use pole or long handled rake to nudge debris or blockage out of pass.
    c. Access the river via the existing sloped areas of bank.
    d. Approach blockage and remove from pass or river.
    e. Remove blockage from site and dispose of in an appropriate manner.
    f. Remove fencing and signage.
7. If larger debris (exceeding manual handling limit) is seen:
    a. Arrange adequate fencing and signage to segregate the public from the working area.
    b. Access river as described above.
    c. If possible, break blockage into smaller pieces (if it is a tree or other natural object) that can be lifted out manually. Staff may need to return to site with a chainsaw or similar tool, provided that have sufficient permission and training to use power tools within watercourses.
    d. If blockage cannot broken down safely within the river, an excavator or other lifting apparatus will be required to remove the blockage from the bridge.
    e. Staff will be required to fit appropriate lifting strops, from within the river.

f. Lifts should only be carried out with appropriate supervision and by adequately trained staff.

g. Debris is then to be removed from site and disposed of appropriately.#

h. Remove fencing and signage.

8. Once work is complete, staff may then leave site

Visual Inspection of Fish Screen and Chute and Removal of Debris

1. It is assumed staff will only attempt to access the pass during low flows and that staff will not enter the water course if alone.
2. Operatives to wear appropriate PPE (dry suits, life jackets), according to operator's working practices, when carrying out any maintenance.
3. The smolt chute/screen is to be accessed through the caravan site on the true left bank, from Week Lane to the South of the site.
4. Staff are to stand on the bank and check for visible debris.
5. For the Chute:
   a. If necessary, staff can walk down the existing sloped areas of bank, downstream of the chute, to look at the pass from a lower level.
   b. If small debris (within manual handling limits) is seen and can be removed safely with available equipment and transportation, staff may do so:
      i. Arrange adequate fencing and signage to segregate the public from the working area.
      ii. If possible, use pole or long handled rake to nudge debris or blockage out of pass.
      iii. Access the river via the existing sloped areas of bank.
      iv. Approach blockage and remove from pass or river.
      v. Remove blockage from site and dispose of in an appropriate manner.
      vi. Remove fencing and signage.
   c. If larger debris (exceeding manual handling limit) is seen:
      i. Arrange adequate fencing and signage to segregate the public from the working area.
      ii. Access river as described above.
      iii. If possible, break blockage into smaller pieces (if it is a tree or other natural object) that can be lifted out manually. Staff may need to return to site with a chainsaw or similar tool, provided that have sufficient permission and training to use power tools within watercourses.

iv. If the blockage cannot broken down safely within the river, an excavator or other lifting apparatus will be required to remove the blockage from the bridge.

v. Staff will be required to fit appropriate lifting strops, from within the river.

vi. Lifts should only be carried out with appropriate supervision and by adequately trained staff.

vii. Debris is then to be removed from site and disposed of appropriately.

viii. Remove fencing and signage.

6. For the Smolt screen:

   a. Arrange adequate fencing and signage to segregate the public from the working area.

   b. If debris has built up on the screens, attempt to clean them using rakes or brushes.

   c. If necessary, the screens can be removed and cleaned on the bank.

   d. If larger debris is trapped across the screen, staff will need to enter the watercourse and approach the upstream side of the weir.

   e. Follow the process of debris removal as described for the chute.

   f. Debris is then to be removed from site and disposed of appropriately.

   g. Remove fencing and signage.

7. Once work is complete, staff may then leave site.