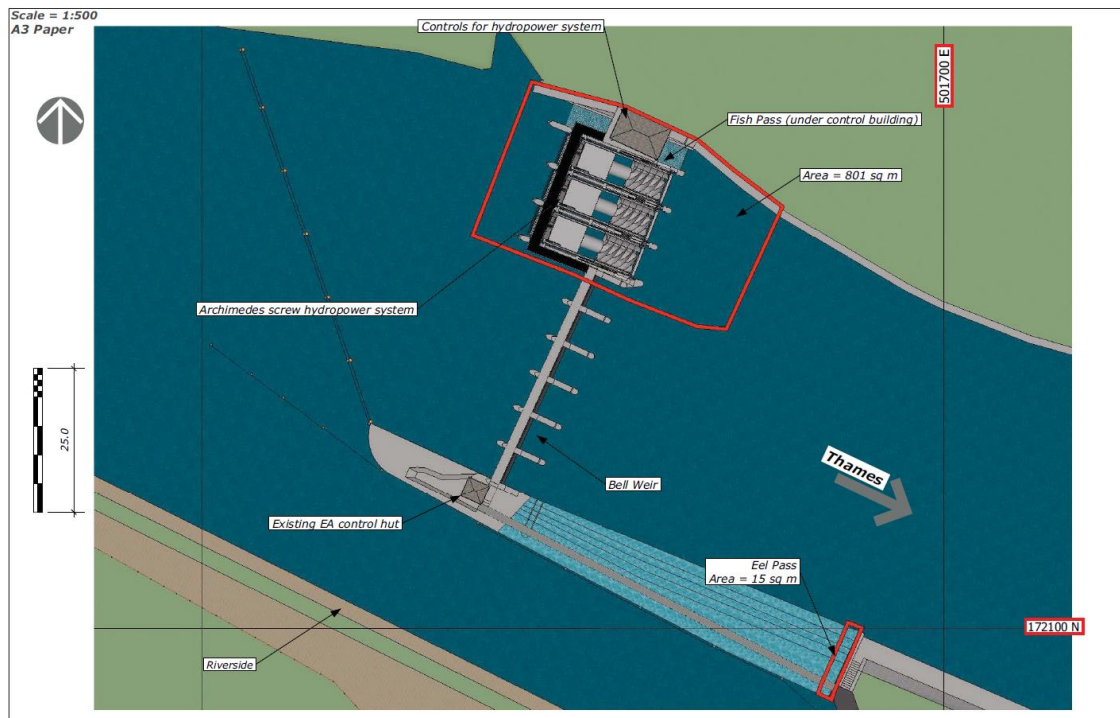
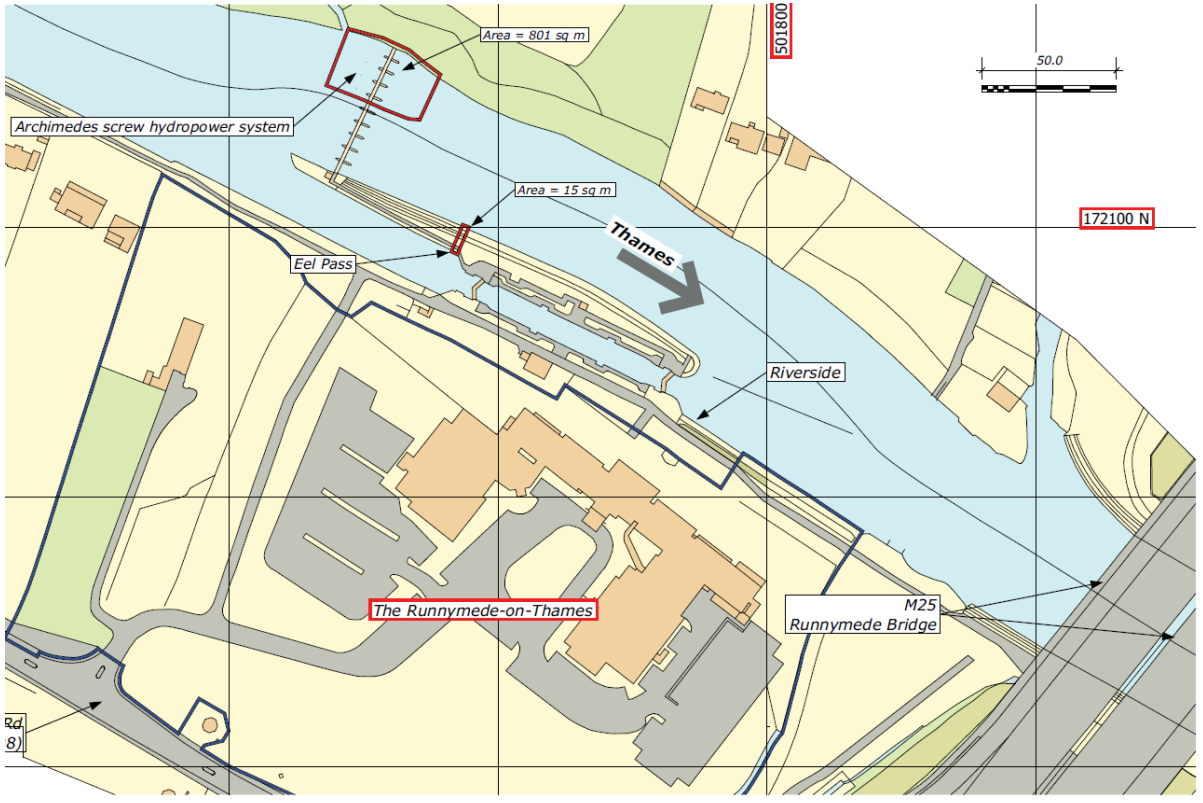
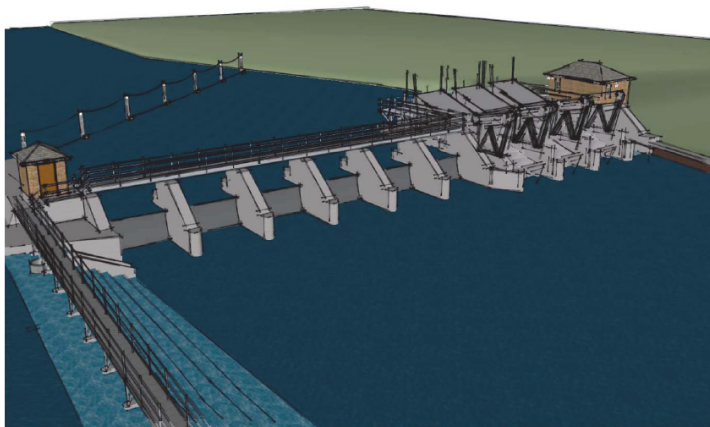


APPENDIX A – 15/02563 - BELL WEIR



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A3 Paper

Cover Page



**Drawings in Set:**

- Cover Page
- 2. Proposed Plan View (1:200)
- 3. Proposed Plan View - Larger Area
- 4. Section and Elevation Map
- 5. North & South Elevations - Normal Operation
- 6. East & West Elevations - Normal Operation
- 7. Screw Section
- 8. Fish Pass Section
- 9. Control Building Plan and Sections
- 10. North & South Elevations - Existing
- 11. East & West Elevations - Existing
- 12. North & South Elevations - Raised
- 13. East & West Elevations - Raised
- 14. North & South Elevations - 100 Yr + CC Flood Level
- 15. East & West Elevations - 100 Yr + CC Flood Level
- 16. Plan View - Eel Pass Location
- 17. Scour Pad Plan and Perspective
- 18. Fish Pass Alone

Change and Note Page

**NOTES:**  
Dimensions in metres  
Radial gates - tops raised 43 mm

**NOTE:**  
The hydropower screw system can be lifted out of the water in times of flooding and/or for maintenance.  
Because of this, this drawing set shows three different "configurations" in addition to the existing situation.

**1. Normal Operation**  
Screws are in their down position

**2. 100 Year Flood + Climate Change Increase**  
At least for the period of time between 1995 and 2009 this level was never reached. **16.73 mAOD (Environment Agency model)**

**3. Mid Flood**  
This is an arbitrary name for a specific level. We have daily upstream and downstream levels at the lock for the period from 1995 to 2008 (13 years). During this period of time, the water level rose above this "mid flood" level only 26 times - on average twice a year.  
We've shown where the screws would need to be lifted in the event of this particular condition. At that flow level the water downstream of the weir is nearly the same as upstream - water is nearly flat.  
"Mid Flood" level is ONLY 231 mm above the mean level maintained during this same period (excluding flood and very low flow periods). During that period of time:  
Average level (when not in flood or extra low) = 14.573 mAOD (past level - new target 14.504)  
Mid Flood = 14.804 mAOD (only exceeded 26 times, max during period = 15.693 mAOD)  
100 Yr + CC = 16.73 mAOD



Drawn by G.N.

July 22, 2015 ::

Grid Reference: TQ 01660 72153

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Drawing No: 111, V07

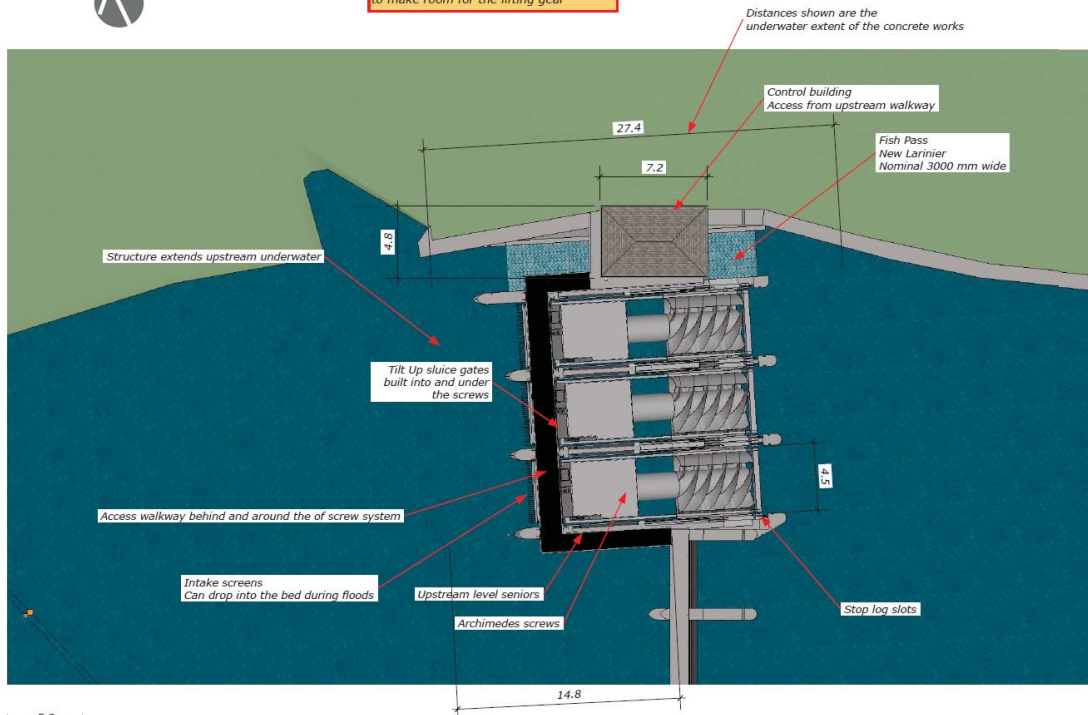
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Screw system and fish pass are rotated 3.5 degrees relative to the existing weir to make room for the lifting gear

**Proposed Plan View (Excluding Eel Pass)**

Normal Operation

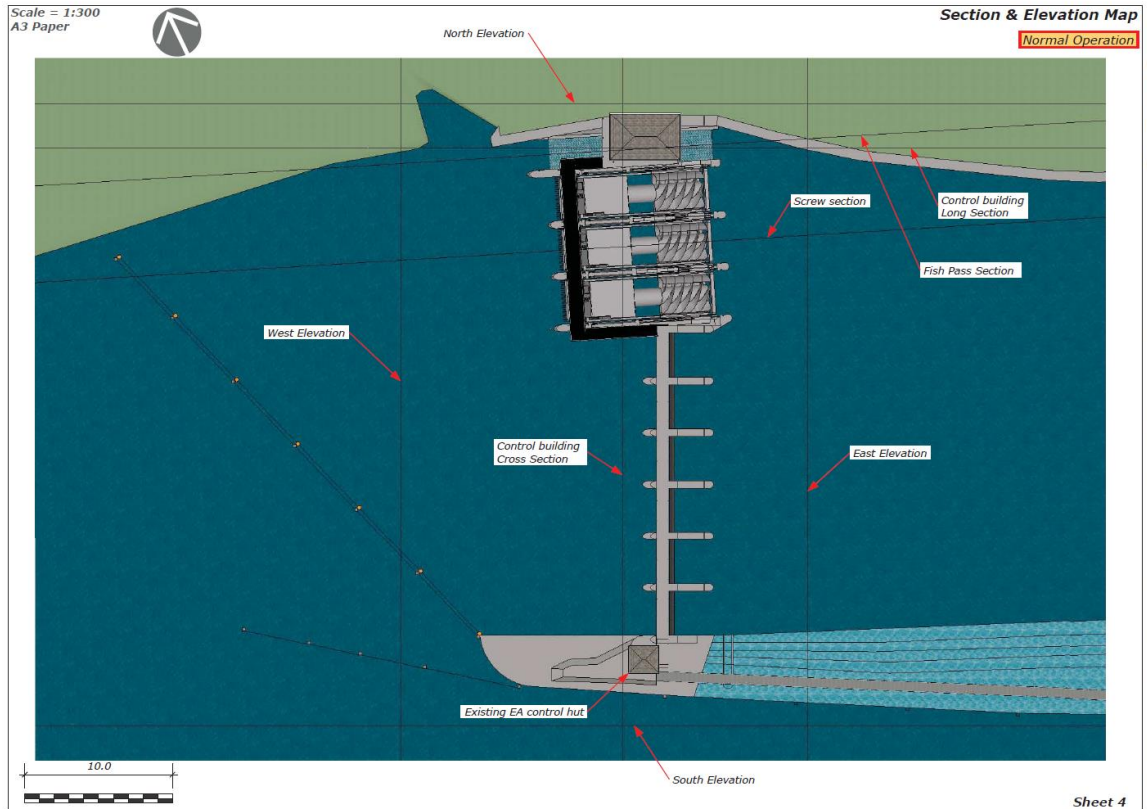


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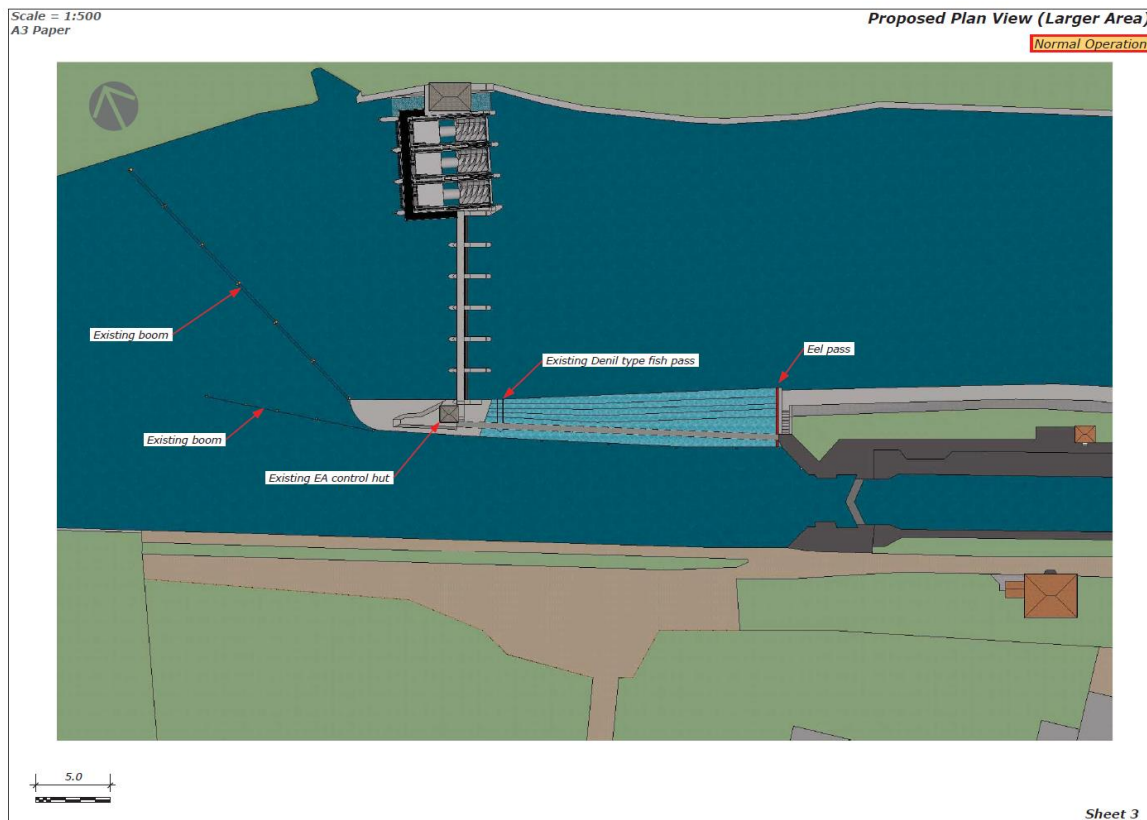
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Sheet 2

APPENDIX B – 15/02563 BELL WEIR



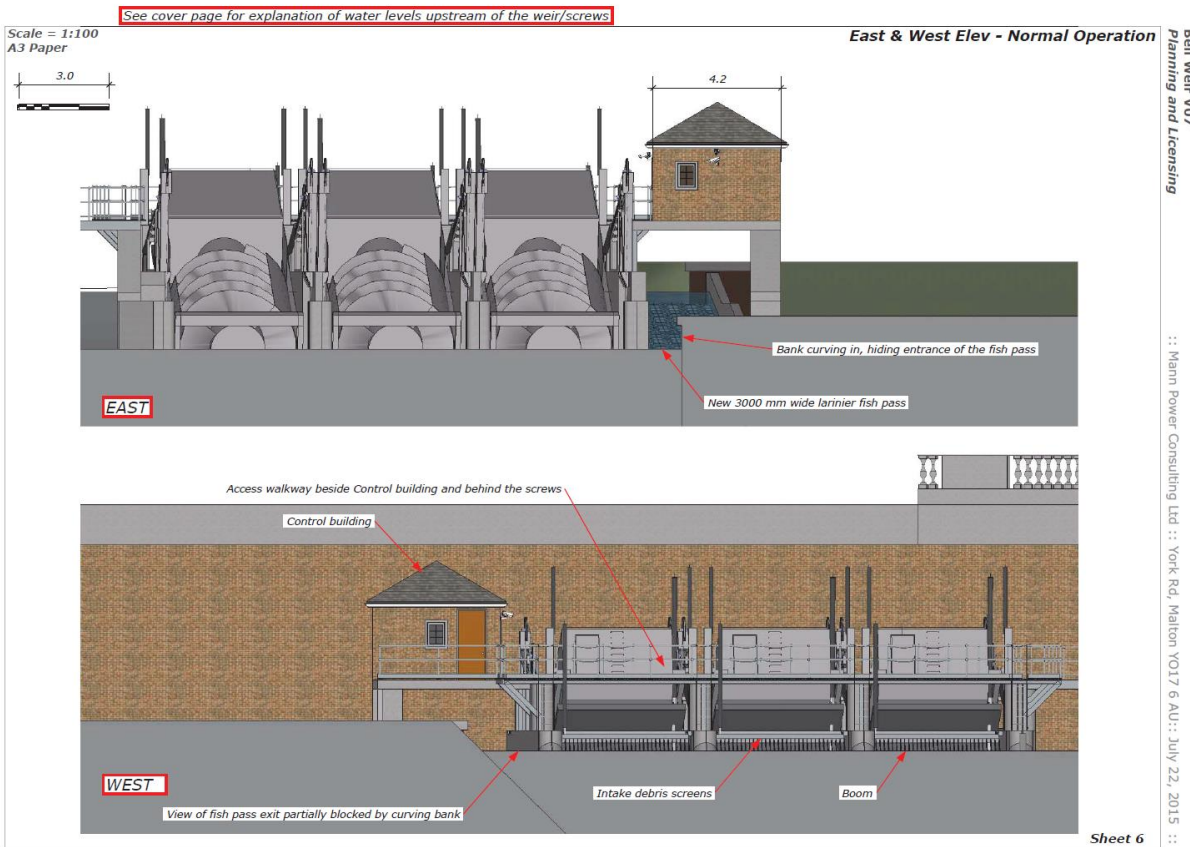
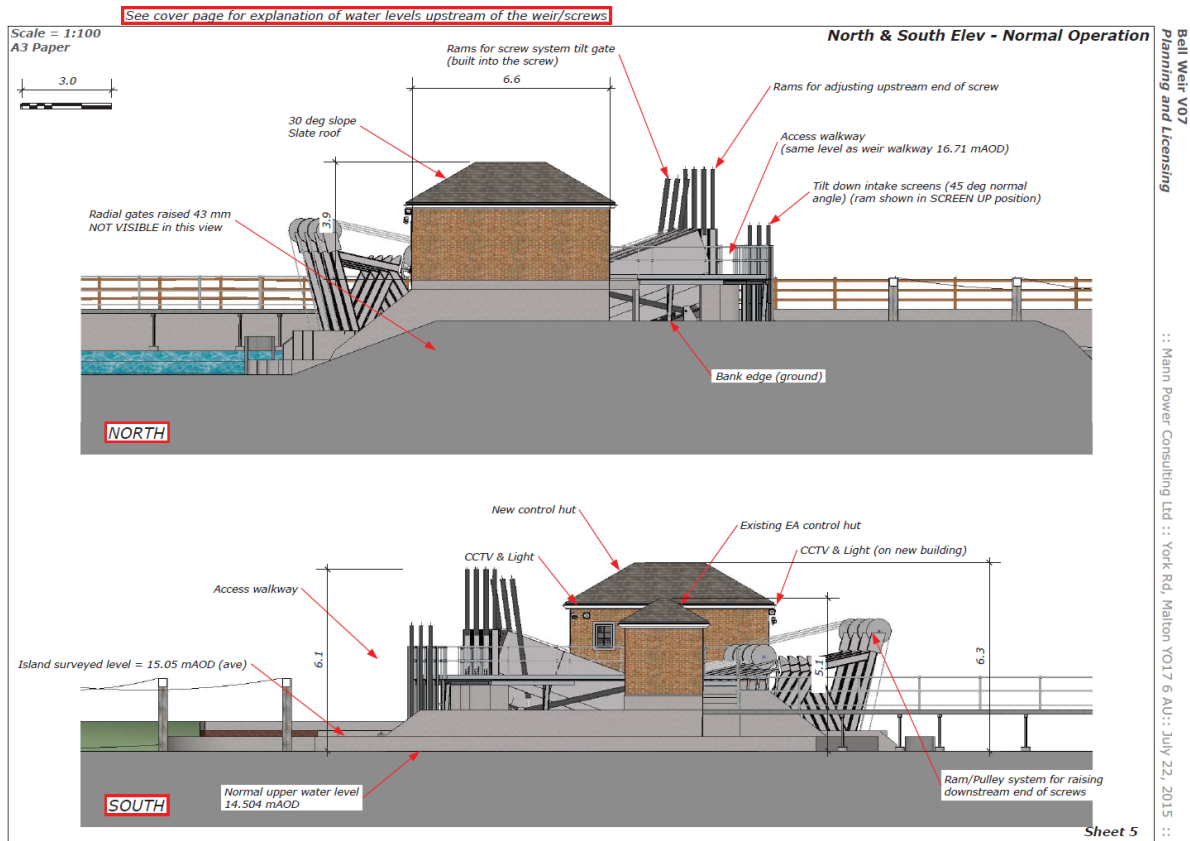
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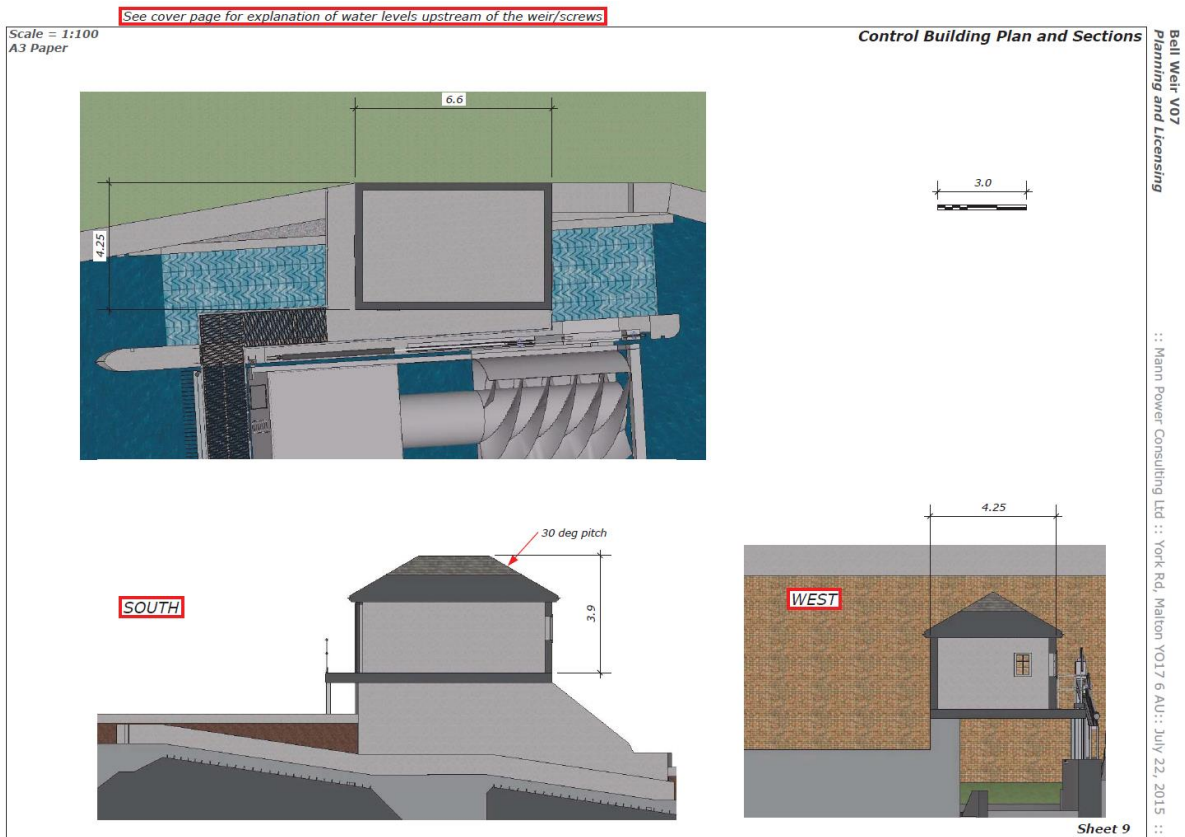
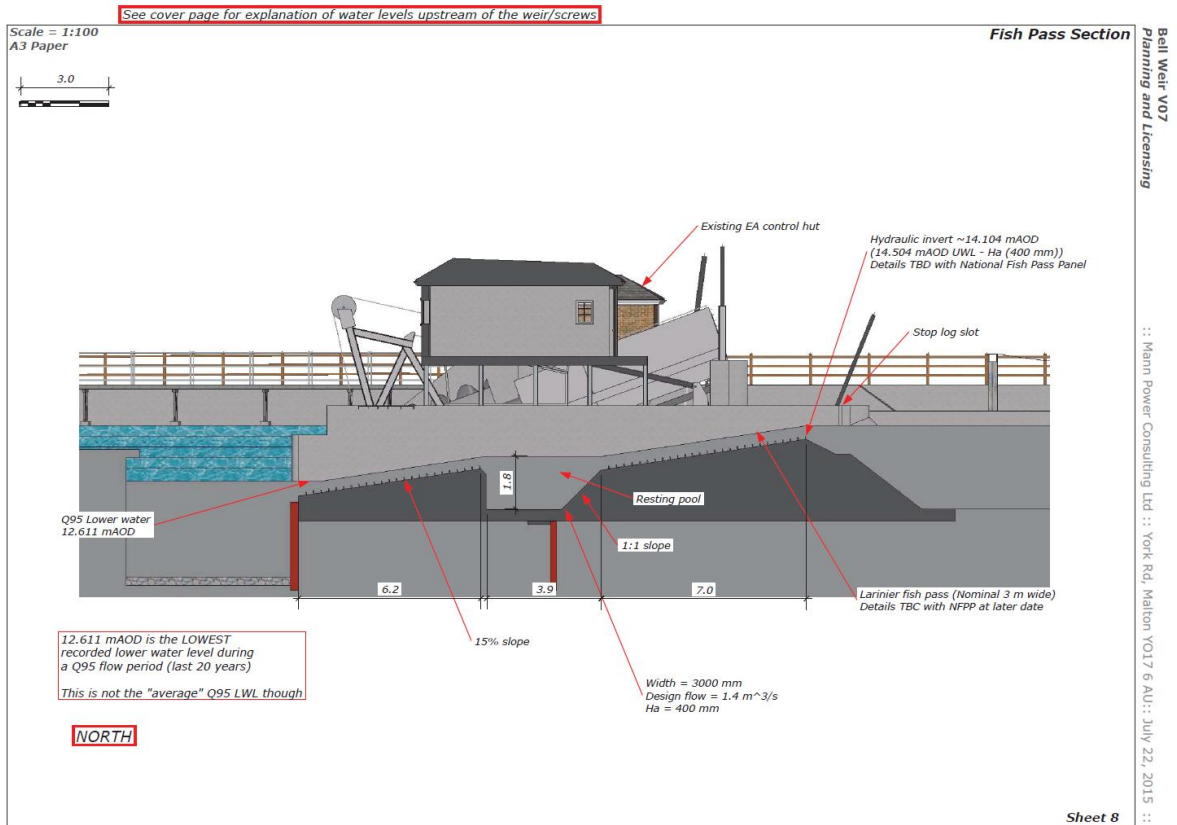
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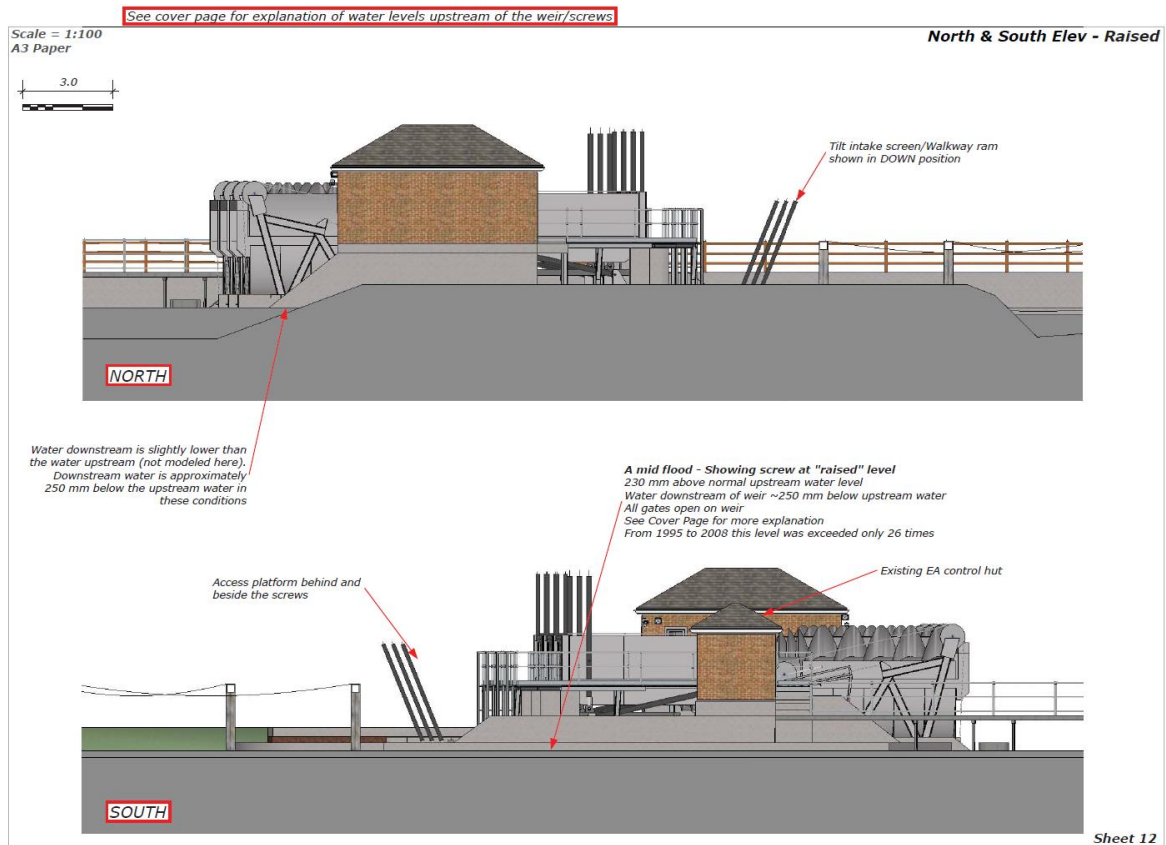
# APPENDIX B – 15/02563 BELL WEIR



APPENDIX B – 15/02563/FULL

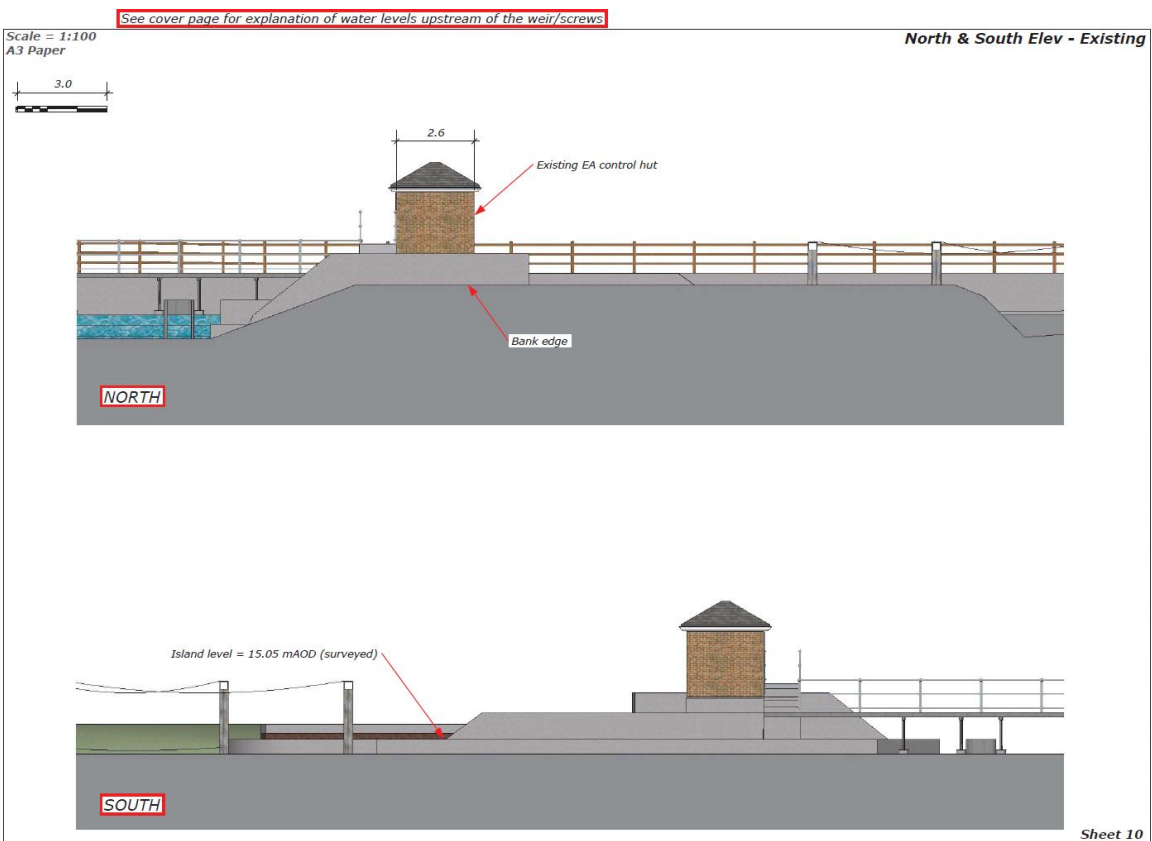


APPENDIX B – 15/02563/FULL



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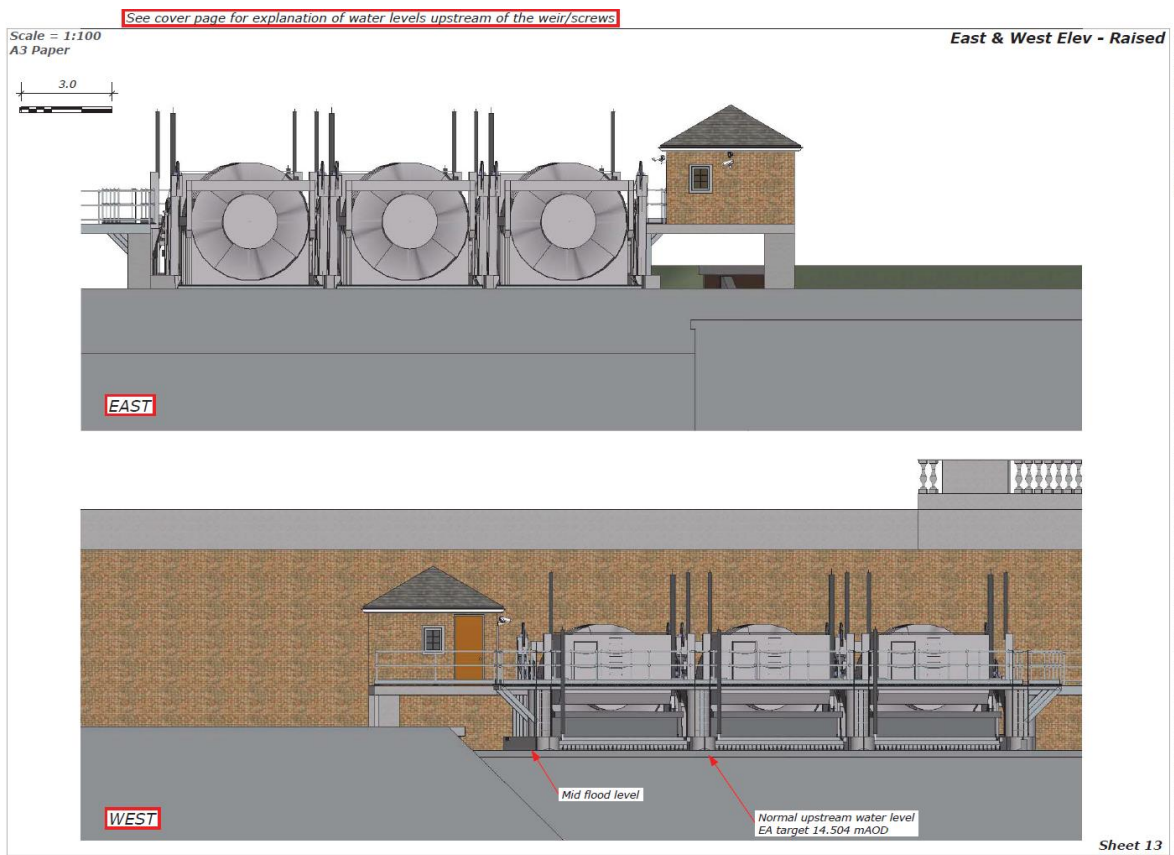


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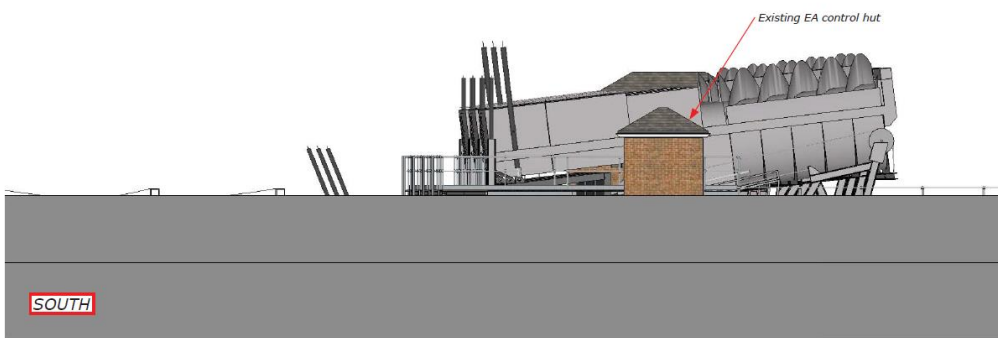
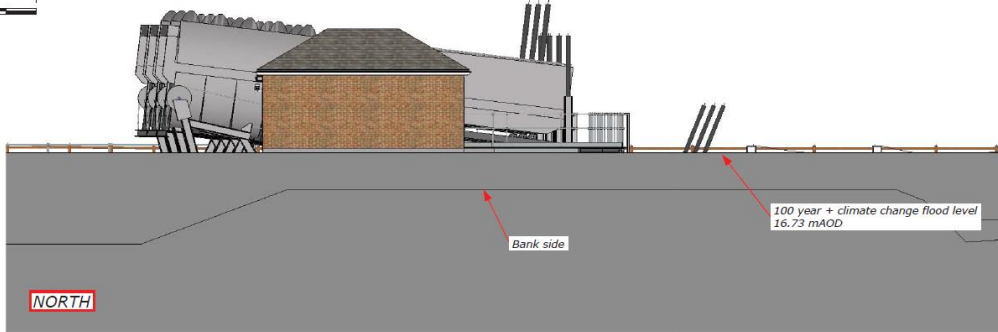
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APPENDIX B – 15/02563/FULL

See cover page for explanation of water levels upstream of the weir/screws

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A3 Paper

North & South Elev - 100 YR+CC Flood Level



Sheet 14

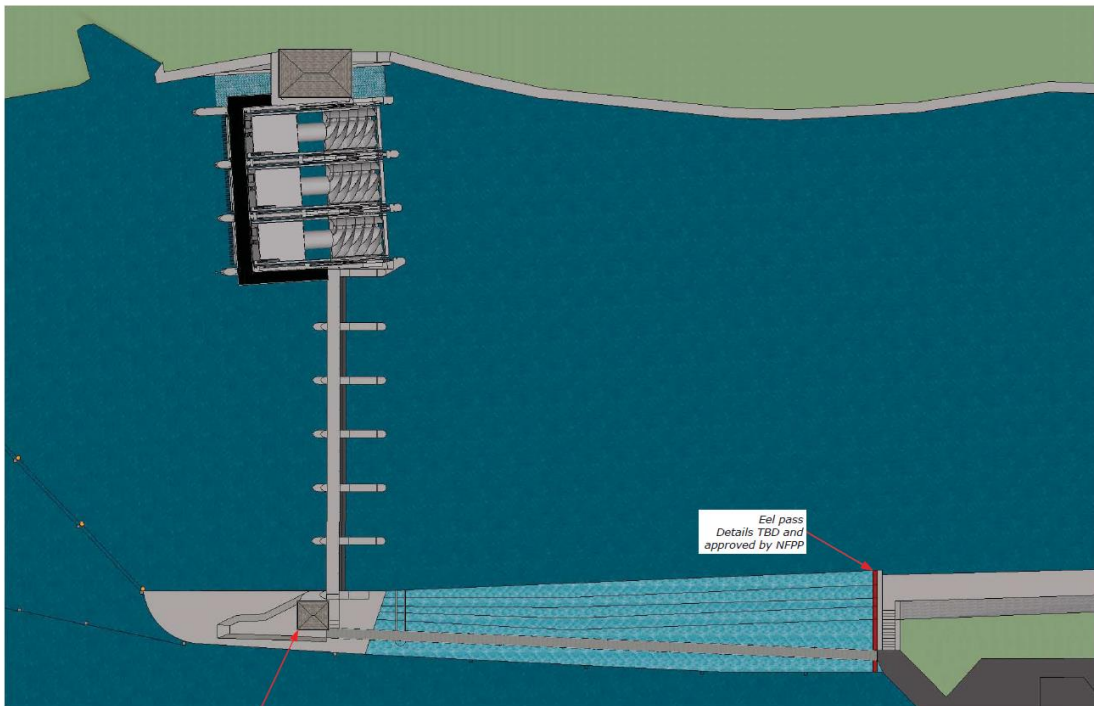
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A3 Paper

Plan View - Eel Pass Location

Normal Operation



Existing EA control hut

Sheet 16

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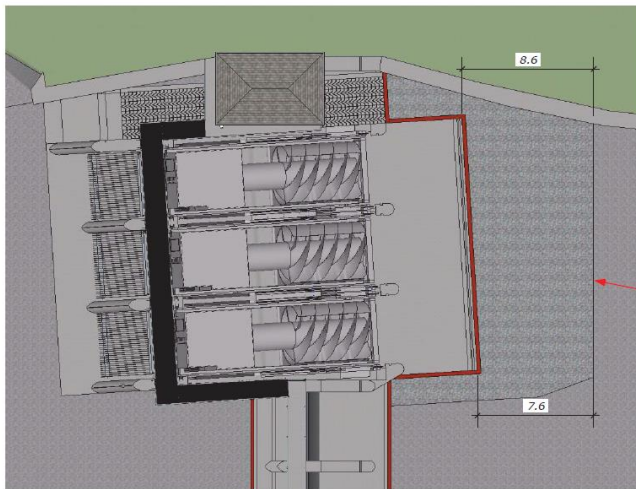
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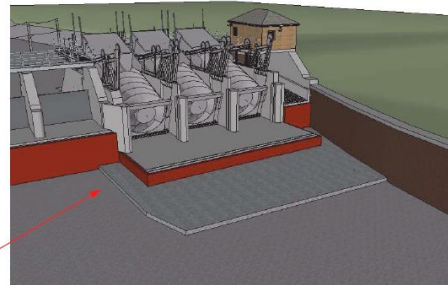
APPENDIX B – 15/02563/FULL

Scale = 1:200 (plan view)  
 13 Paper

Scour Pad Plan & Perspective



Scour protection



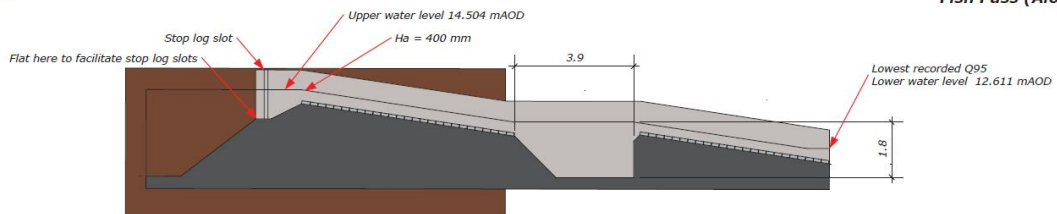
Notional scour pad  
 Details provided as part of FDC

Sheet 17

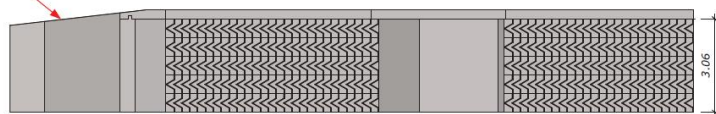
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Scale = 1:100  
 A3 Paper

Fish Pass (Alone)

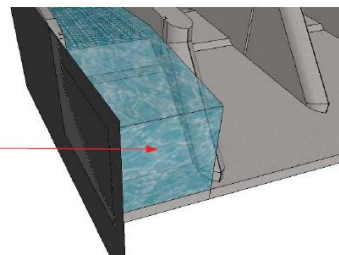


Exit of pass narrows, BUT  
 it also gets deeper  
 (greatly increasing cross section)



See other fish pass page for more dimensions  
 This page is here to show the narrowing, but much  
 deeper channel upstream of the fish pass - and how  
 this is not a problem in terms of velocity

Nominal cross section at narrowest point =  $8.1 \text{ m}^2$   
 For  $1.4 \text{ m}^3/\text{s}$  flow in the pass  
 Average velocity at this narrow region =  $0.17 \text{ m/s}$



Sheet 18

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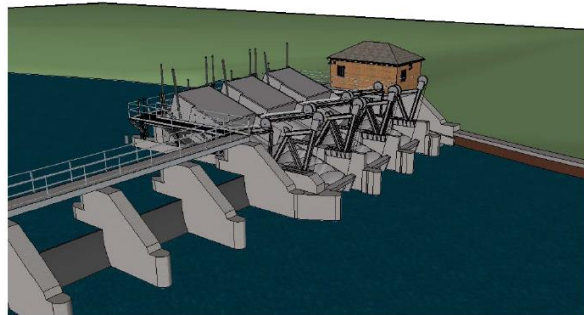
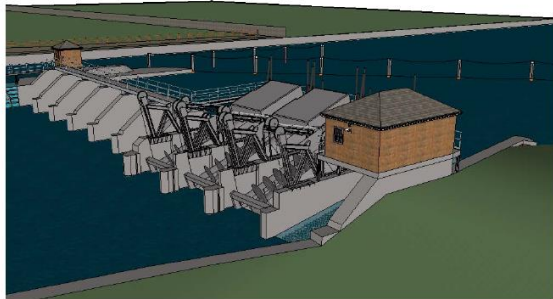
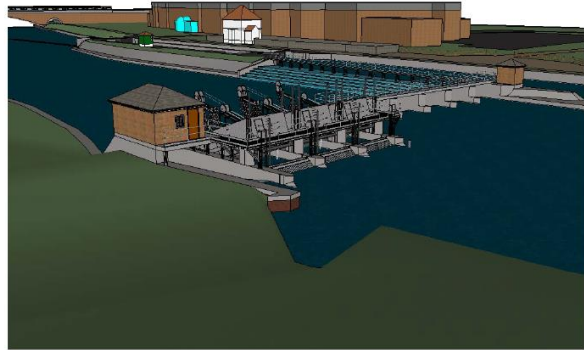
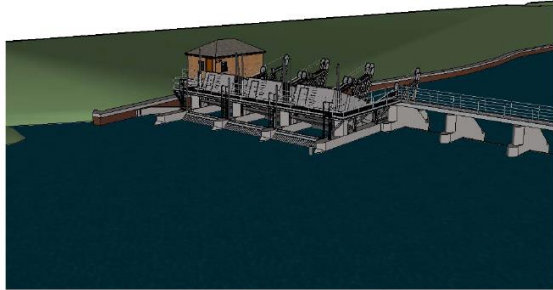


Figure 4: 3D illustrative view of application proposals - Normal operation