

SAFETY, HEALTH, ENVIRONMENTAL, AND WELFARE INFORMATION

IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS:

CONSTRUCTION

24 Construction area is in the middle of a large river. Dry working area to be created upstream and downstream of weir during construction (working within a cofferdam). Pedestrian access only to the works area - all other access for plant and materials will need to be by boat.

ENVIRONMENT

47 Working, including the pumping and pouring of concrete within a watercourse.

MAINTENANCE / OPERATION

48 Ensure environmental regulations are adhered to when closing/decommissioning fish pass.

34 Public Right of Way. Public Interference. Operatives and public occupying same space on walkway.

DECOMMISSIONING

No unusual or special construction techniques are proposed that will not allow standard demolition.

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

SETTING OUT POINT COORDINATES

REF.	EASTING (m)	NORTHING (m)	LEVEL (mAOD)
H	461358.31	191216.31	0.000
G	461360.03	191222.48	0.000
F	461352.85	191223.84	0.000
E	461351.00	191217.18	0.000
D	461353.65	191217.49	0.000
C	461350.91	191206.76	0.000
B	461347.46	191193.24	0.000
A	461352.52	191191.94	0.000

SITE DATUM

E20610059 (see witness diagram)
(461302.566mE, 191171.536mN, 44.345mAOD)

GENERAL NOTES

- All dimensions are in meters unless noted otherwise.
- For Benson Weir Fish Pass Application Site Plan see Document Number: ENV0003198C-JAC-SF-00-DR-C-1501.
- For Benson Weir Long Sections Through Fish Pass (Brush & Baffles) see Document Number: ENV0003198C-JAC-SF-00-DR-C-1530.
- For Benson Weir Fish Pass Cross Sections - Sheet 1 of 2 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1535.
- For Benson Weir Fish Pass Cross Sections - Sheet 2 of 2 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1536.
- For stoplog guides and stoplog fabrication details see Hunton drawing number (TBC).

LEGEND

- WATERCOURSE FLOW DIRECTION
- SHEET PILES
- SETTING OUT POINTS

5.0 2.5 0 2.5 5.0 7.5 10.0
SCALE 1:125 (m)

Rev.	Sta.	Description	Date	Originator	Checker	Reviewer	Approver
P01	S3	Fish Pass Application	16/02/23	WS	RB	SK	SK
P02	S3	Fish Pass Plan Update	06/04/23	WS	JM	SK	SK
C03	A3	Fish Pass Plan Update	11/05/23	WS	JM	RB	SK
C04	A3	For Pricing	07/06/23	WS	RB	SK	SK

Document Control

Jacobs.

Project Title

Benson Weir Refurbishment

Drawing Title

Fish Pass General Arrangement



Environment Agency

© copyright reserved

Parent Model
ENV0003198C-JAC-SF-00-DR-C-1520.dwg

Security Classification
Official

Scale
1:125

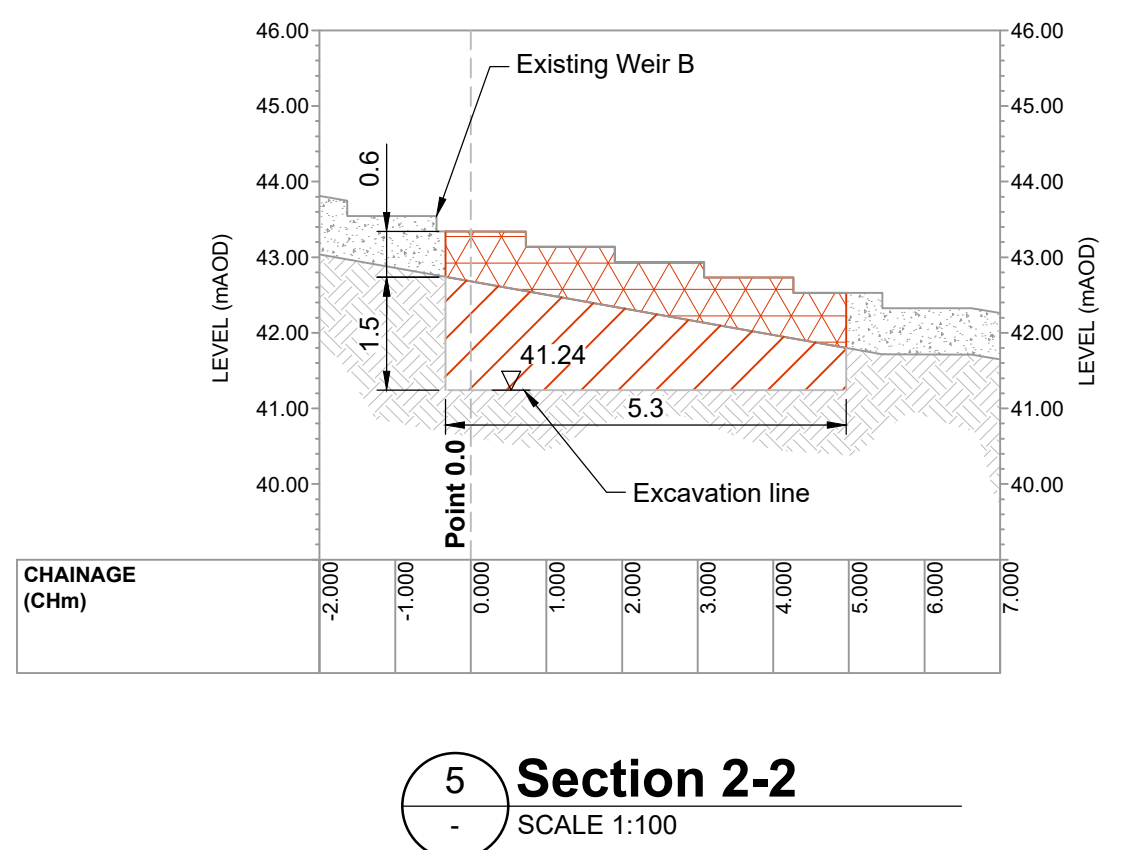
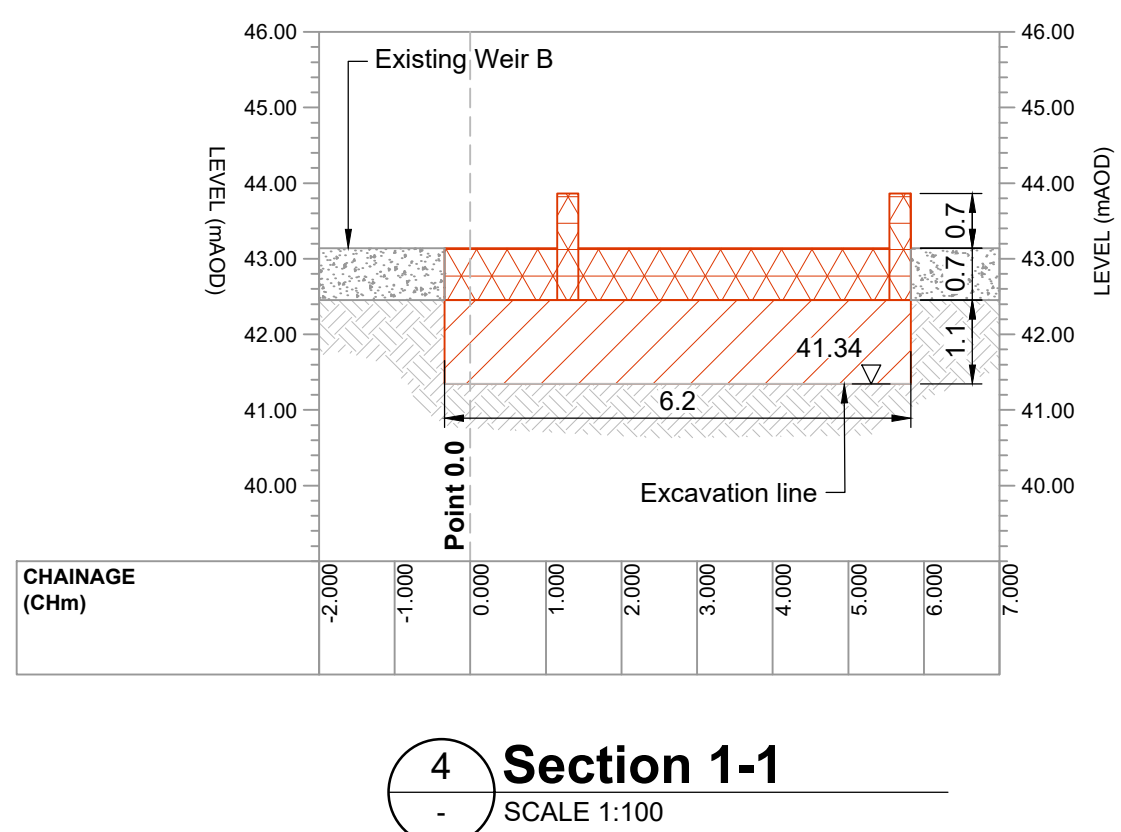
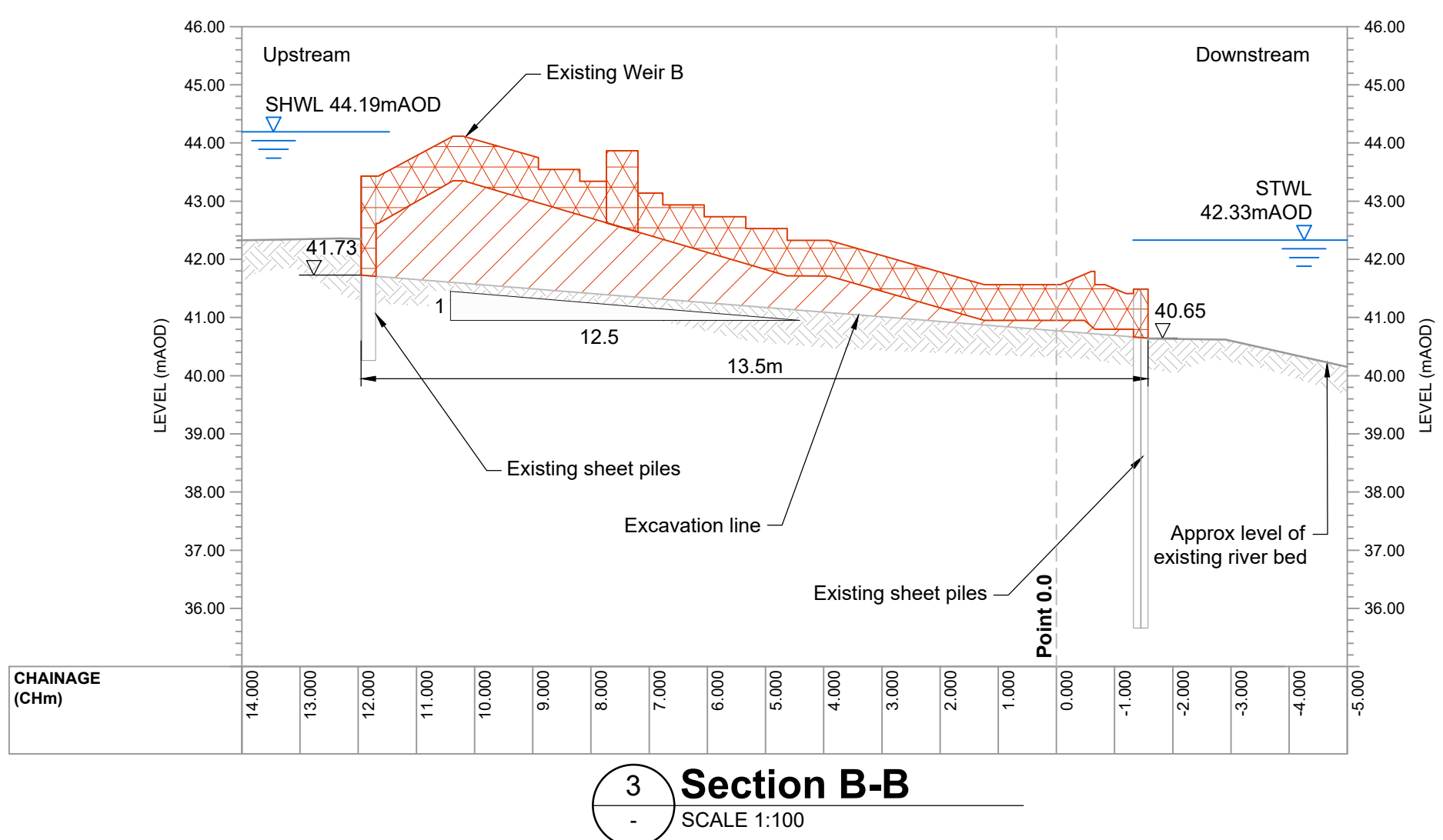
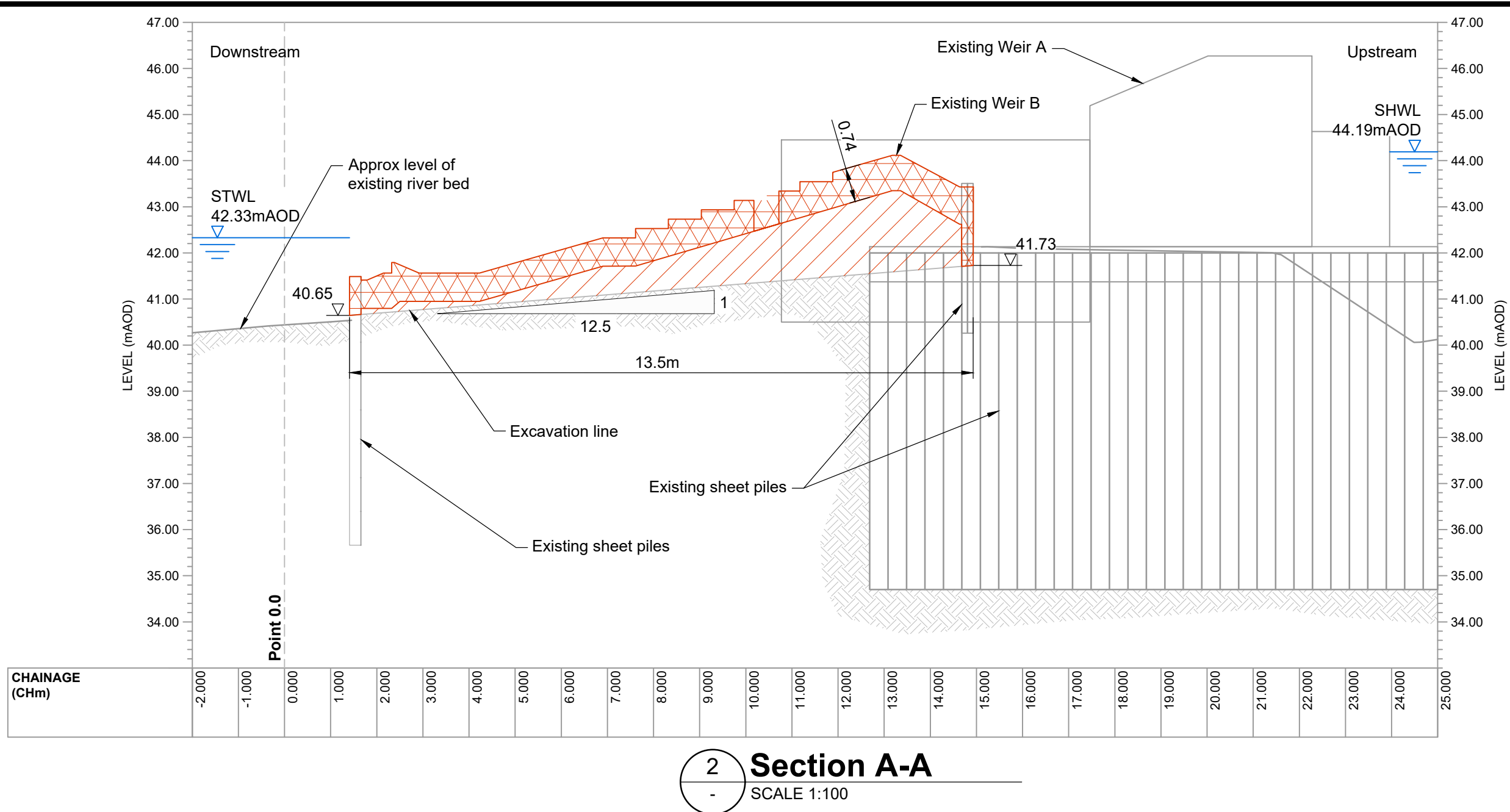
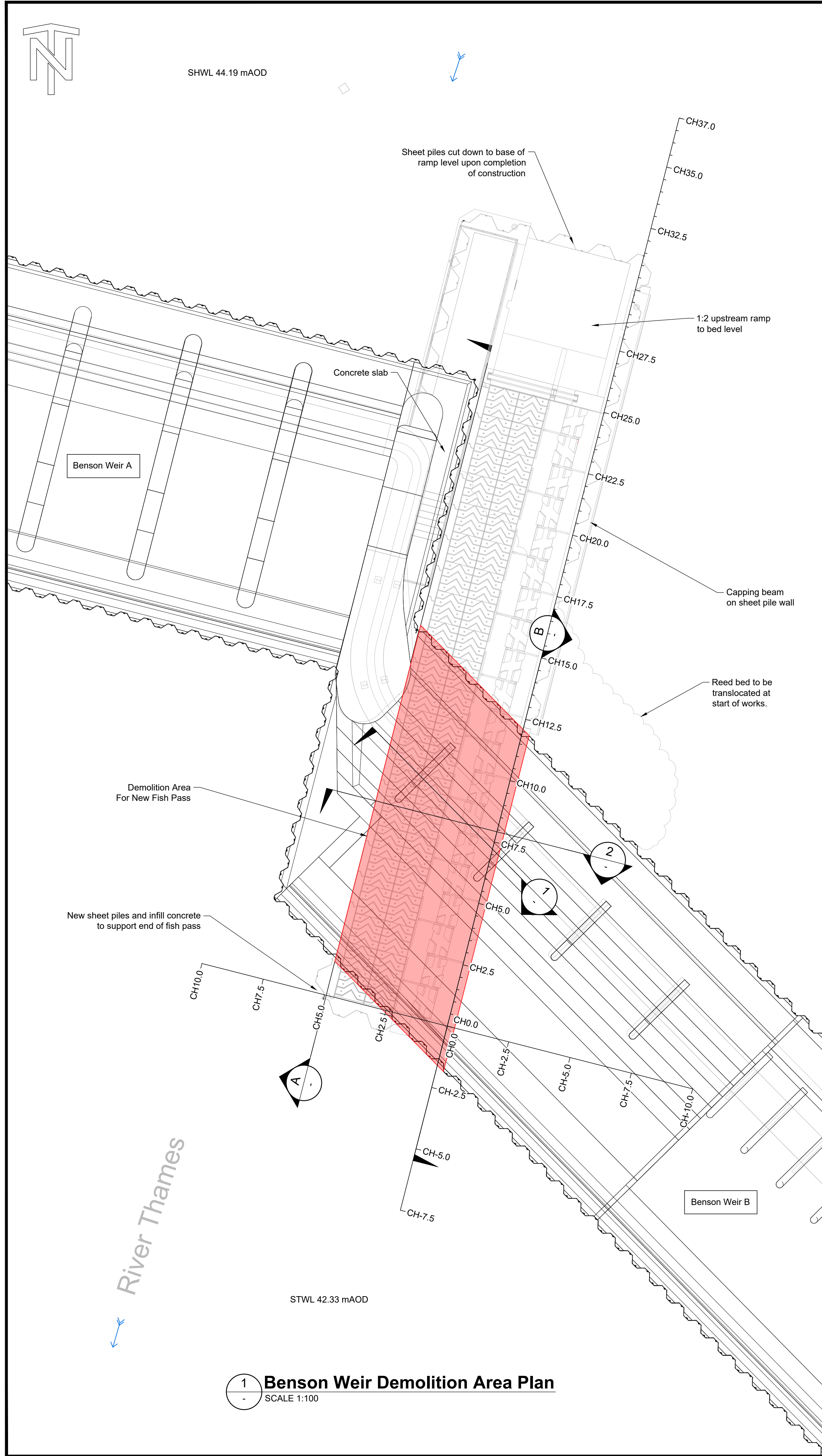
Originator W. SZAJOR	Checker R. BRANSBY	Reviewer S. KHAN	Approver S. KHAN
--------------------------------	------------------------------	----------------------------	----------------------------

Suitability A3 - Published Stage Gate 3	Status A3	Revision C04
---	---------------------	------------------------

Information Container
ENV0003198C-JAC-SF-00-DR-C-1520

A1 Sheet Size

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of His Majesty's Stationery Office © Crown copyright 2023. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Licence No. 100024198



SAFETY, HEALTH, ENVIRONMENTAL, AND WELFARE INFORMATION

IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS:

CONSTRUCTION

32		Cutting and demolition of existing weir structure required. Potential structural impact. Cutting methods should employ low vibration / low impact techniques such as wire saw and or disk cutting.
31		Potential uplift risk following demolition of structure. Timely construction of sub base and blinding recommended.
30		Risk of groundwater upwelling in to works area following demolition. Availability of Pumps recommended. Timely construction of sub base and blinding recommended.
24		Demolition area is in the middle of a large river. Dry working area to be created. Pedestrian access only to the works area - all other access for plant and materials will need to be by boat.

ENVIRONMENT

46		Potential noise impact.
46		Potential dust and pollution risk to river environment.

MAINTENANCE / OPERATION

-	-	N/A
---	---	-----

DECOMMISSIONING

-	-	N/A
---	---	-----

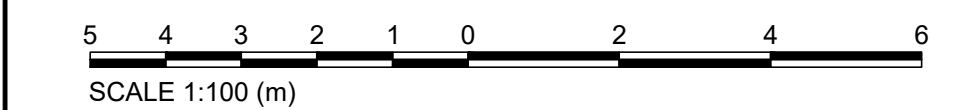
IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

GENERAL NOTES

- All dimensions are in meters unless noted otherwise.
- All levels are in metres relative to Ordnance Datum Newlyn (mAOD) unless noted otherwise.
- All co-ordinates are in metres relative to Ordnance Survey national grid.
- Do not scale from this drawing. All dimensions must be checked / verified on site.
- Contractor to agree with supervisor any material reuse arising from the demolition.
- No proposed works shown on section views for clarity.

LEGEND

	WATERCOURSE FLOW DIRECTION
	SHEET PILES
	AREA OF DEMOLITION
	EXISTING CONCRETE STRUCTURE TO BE BROKEN OUT
	EXISTING FILL MATERIAL TO BE EXCAVATED



Rev.	Sta.	Description	Date	Originator	Checker	Reviewer	Approver
P01	S3	First Revision	06/04/23	WS	JM	SK	SK
C02	S3	Demolition Details Update	11/05/23	WS	JM	RB	SK
C03	A3	For Pricing	07/06/23	WS	RB	SK	SK
C04	A3	For Pricing	05/07/23	WS	RB	SK	SK

Document Control

Jacobs.

Project Title

Benson Weir Refurbishment

Drawing Title

Fish Pass Demolition Details

© copyright reserved

Parent Model
ENV0003198C-JAC-SF-00-DR-C-1515.dwg

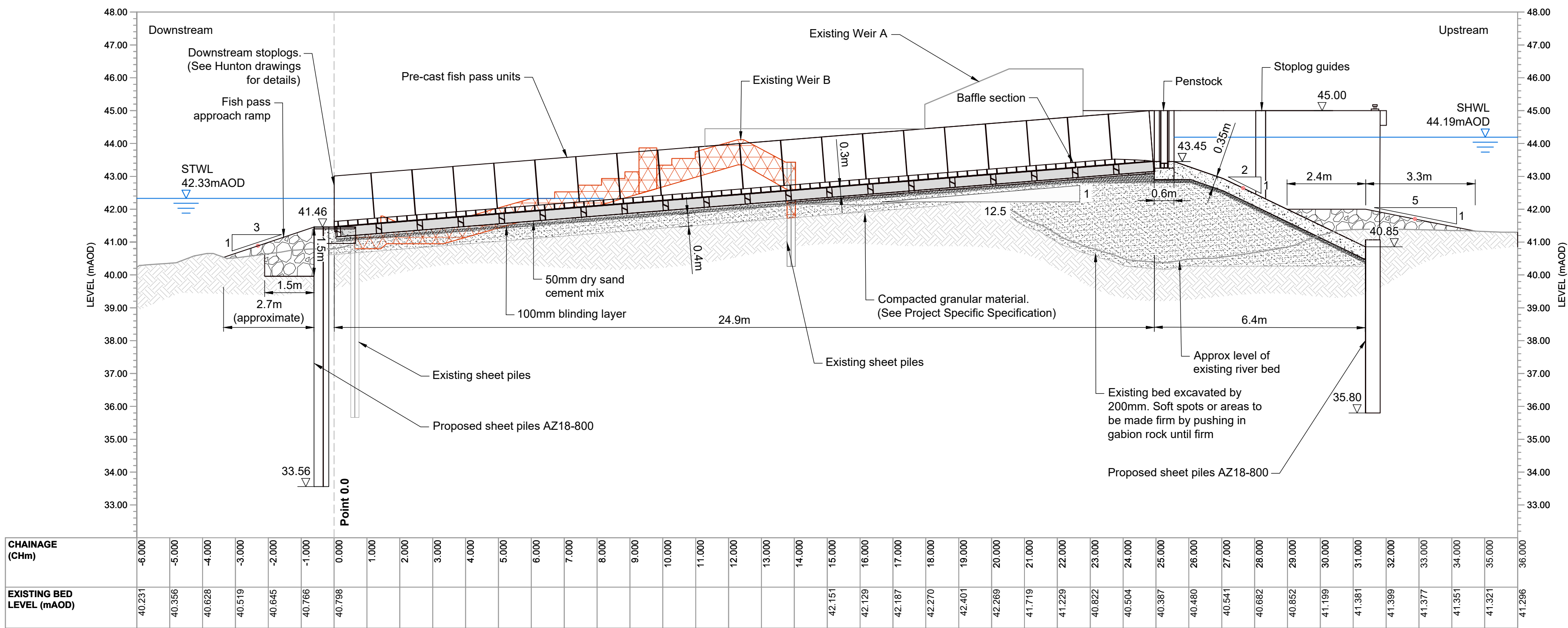
Security Classification
Official

Scale
1:100

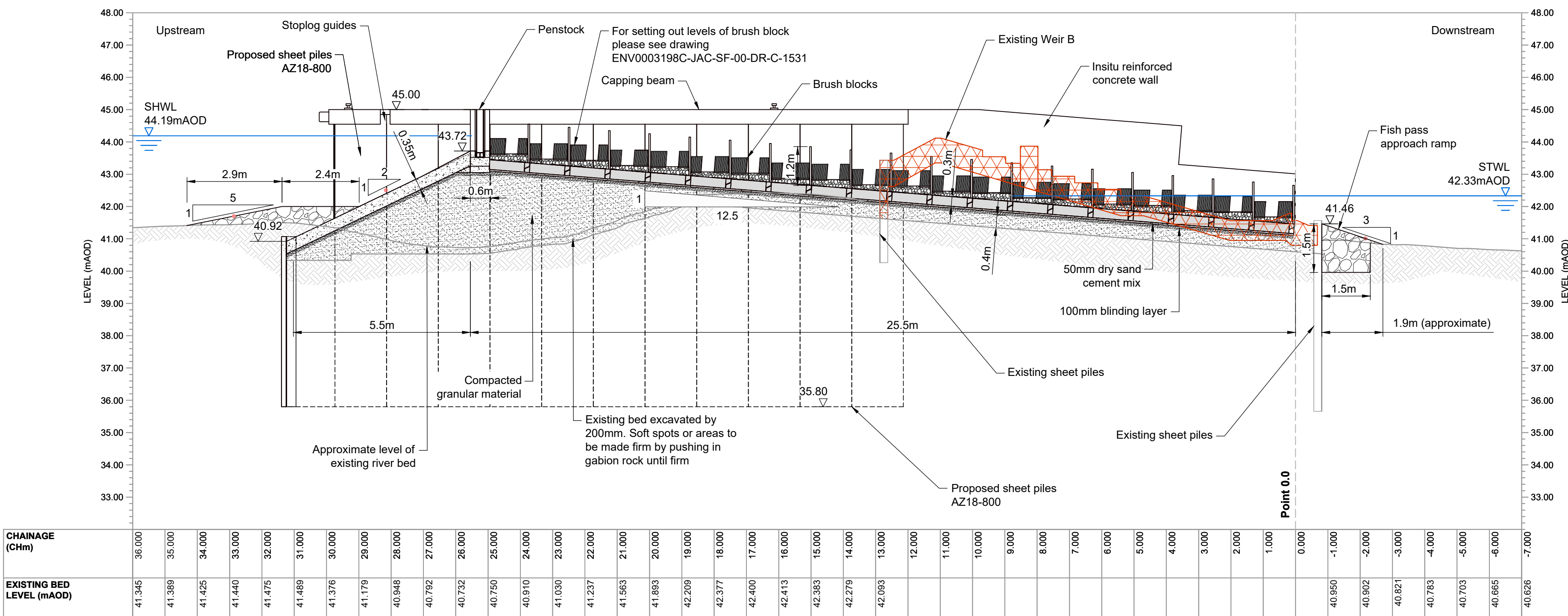
Originator W. SZAJOR	Checker R. BRANSBY	Reviewer S. KHAN	Approver S. KHAN
Suitability A3 - Published Stage Gate 3	Status A3	Revision C04	

Information Container
ENV0003198C-JAC-SF-00-DR-C-1515

A1 Sheet Size



1 Section A-A Through Baffle Pass (Looking West)
SCALE 1:100



2 Section B-B Through Brush Pass (Looking East)
SCALE 1:100

SAFETY, HEALTH, ENVIRONMENTAL, AND WELFARE INFORMATION

IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS:

CONSTRUCTION

-		No unusual construction techniques. Works involve sheet piling, reinforced concrete and placement of rock. Precast concrete elements are proposed for the fish pass channel construction.
24		Construction area is in the middle of a large river. Dry working area to be created upstream and downstream of weir during construction (working within a cofferdam). Pedestrian access only to the works area - all other access for plant and materials will need to be by boat. The walkway over the weir is a public footpath.

ENVIRONMENT

47		Working, including the pumping and pouring of concrete within a watercourse.
----	--	--

MAINTENANCE / OPERATION

48		Ensure environmental regulations are adhered to when closing/decommissioning fish pass.
6		Staircase, landing area, gantries and fish pass walkway to be utilised for maintenance access.
34		Public Right of Way (Weir Walkway). Public Interference. Operatives and public occupying same space on walkway.
6		Penstock and stop log system to be utilised in order to remove flows from baffle or bush units where man-entry access to the fish pass is required.

DECOMMISSIONING

-		No unusual or special construction techniques are proposed that will not allow standard demolition. Fish pass channel is of modular construction. Fish pass components (baffle units and brush blocks) are modular and can be replaced or removed in sections.
---	--	--

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

GENERAL NOTES

- All dimensions are in meters unless noted otherwise.
- For Benson Weir Fish Pass Application Site Plan see Document Number: ENV0003198C-JAC-SF-00-DR-C-1501.
- For Benson Weir General Arrangement of Fish Pass see Document Number: ENV0003198C-JAC-SF-00-DR-C-1520.
- For Benson Weir Fish Pass Cross Sections - Sheet 1 of 2 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1535.
- For Benson Weir Fish Pass Cross Sections - Sheet 2 of 2 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1536.
- For stoplog guides and stoplog fabrication details see Hunton drawing number (TBC).
- For Benson Weir Rip-Rap see drawings: ENV0003198C-JAC-ZZ-00-DR-C-1210, ENV0003198C-JAC-ZZ-00-DR-C-1211, ENV0003198C-JAC-ZZ-00-DR-C-1212.
- For Benson Weir Demolition including associated Hazards see ENV0003198C-JAC-SF-00-DR-C-1515.

LEGEND

	WATER LINE
	AREA OF DEMOLITION
	STONE RIP-RAP
	INSITU REINFORCED CONCRETE
	COMPACTED GRANULAR FILL

5 4 3 2 1 0 2 4 6
SCALE 1:100 (m)

Rev.	Sta.	Description	Date	Originator	Checker	Reviewer	Approver
P01	S3	Fish Pass Application	16/02/23	WS	RB	DH	DH
P02	S3	Fish Pass Sections Update	06/04/23	WS	JM	SK	SK
C03	A3	Fish Pass Sections Update	11/05/23	WS	JM	RB	SK
C04	A3	For Pricing	07/06/23	WS	RB	SK	SK

Document Control

Jacobs.

Project Title

Benson Weir Refurbishment

Drawing Title

Fish Pass
Long Sections
Through Fish Pass
(Brush & Baffles)

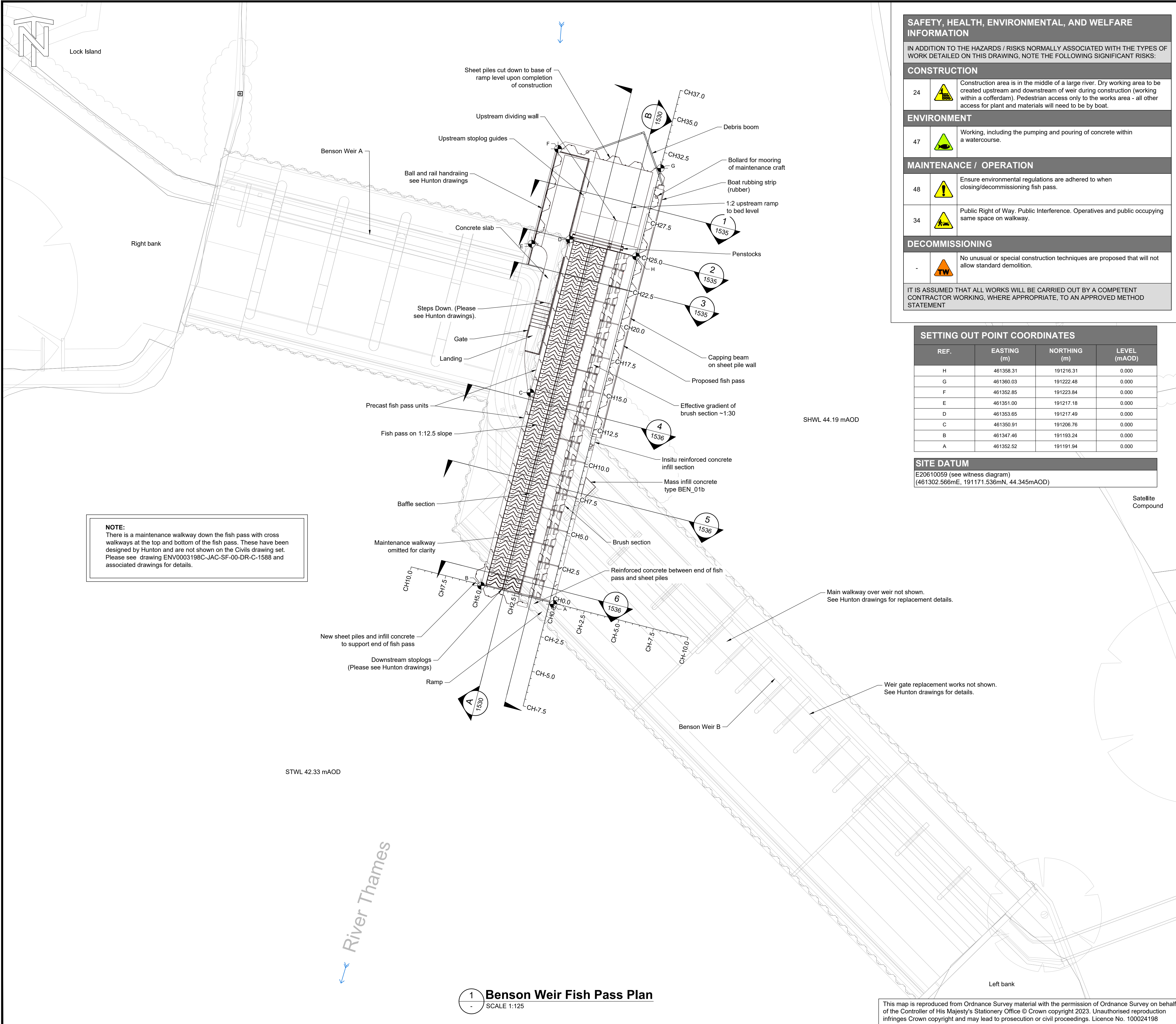


© copyright reserved

Parent Model
ENV0003198C-JAC-SF-00-DR-C-1530.dwg

Security Classification Official		Scale 1:100	
Originator W. SZAJOR	Checker R. BRANSBY	Reviewer S. KHAN	Approver S. KHAN
Suitability A3 - Published Stage Gate 3		Status A3	Revision C04
Information Container ENV0003198C-JAC-SF-00-DR-C-1530			A1 Sheet Size

A1 Sheet Size



SAFETY, HEALTH, ENVIRONMENTAL, AND WELFARE INFORMATION

IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS:

CONSTRUCTION

24 Construction area is in the middle of a large river. Dry working area to be created upstream and downstream of weir during construction (working within a cofferdam). Pedestrian access only to the works area - all other access for plant and materials will need to be by boat.

ENVIRONMENT

47 Working, including the pumping and pouring of concrete within a watercourse.

MAINTENANCE / OPERATION

48 Ensure environmental regulations are adhered to when closing/decommissioning fish pass.

34 Public Right of Way. Public Interference. Operatives and public occupying same space on walkway.

DECOMMISSIONING

- No unusual or special construction techniques are proposed that will not allow standard demolition.

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

SETTING OUT POINT COORDINATES

REF.	EASTING (m)	NORTHING (m)	LEVEL (mAOD)
H	461358.31	191216.31	0.000
G	461360.03	191222.48	0.000
F	461352.85	191223.84	0.000
E	461351.00	191217.18	0.000
D	461353.65	191217.49	0.000
C	461350.91	191206.76	0.000
B	461347.46	191193.24	0.000
A	461352.52	191191.94	0.000

SITE DATUM

E20610059 (see witness diagram)
(461302.566mE, 191171.536mN, 44.345mAOD)

GENERAL NOTES

- All dimensions are in meters unless noted otherwise.
- For Benson Weir Fish Pass Application Site Plan see Document Number: ENV0003198C-JAC-SF-00-DR-C-1501.
- For Benson Weir Long Sections Through Fish Pass (Brush & Baffles) see Document Number: ENV0003198C-JAC-SF-00-DR-C-1530.
- For Benson Weir Fish Pass Cross Sections - Sheet 1 of 2 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1535.
- For Benson Weir Fish Pass Cross Sections - Sheet 2 of 2 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1536.
- For stoplog guides and stoplog fabrication details see Hulton drawing number (TBC).

LEGEND

- WATERCOURSE FLOW DIRECTION
- SHEET PILES
- SETTING OUT POINTS

5.0 2.5 0 2.5 5.0 7.5 10.0
SCALE 1:125 (m)

Rev.	Sta.	Description	Date	Originator	Checker	Reviewer	Approver
P01	S3	Fish Pass Application	16/02/23	WS	RB	SK	SK
P02	S3	Fish Pass Plan Update	06/04/23	WS	JM	SK	SK
C03	A3	Fish Pass Plan Update	11/05/23	WS	JM	RB	SK
C04	A3	For Pricing	07/06/23	WS	RB	SK	SK

Document Control

Jacobs.

Project Title

Benson Weir Refurbishment

Drawing Title

Fish Pass General Arrangement



Environment Agency

© copyright reserved

Parent Model

ENV0003198C-JAC-SF-00-DR-C-1520.dwg

Security Classification

Official

Scale

1:125

Originator

W. SAJOR

Checker

R. BRANSBY

Reviewer

S. KHAN

Approver

S. KHAN

Suitability

A3 - Published Stage Gate 3

Status

A3

Revision

C04

Information Container

ENV0003198C-JAC-SF-00-DR-C-1520

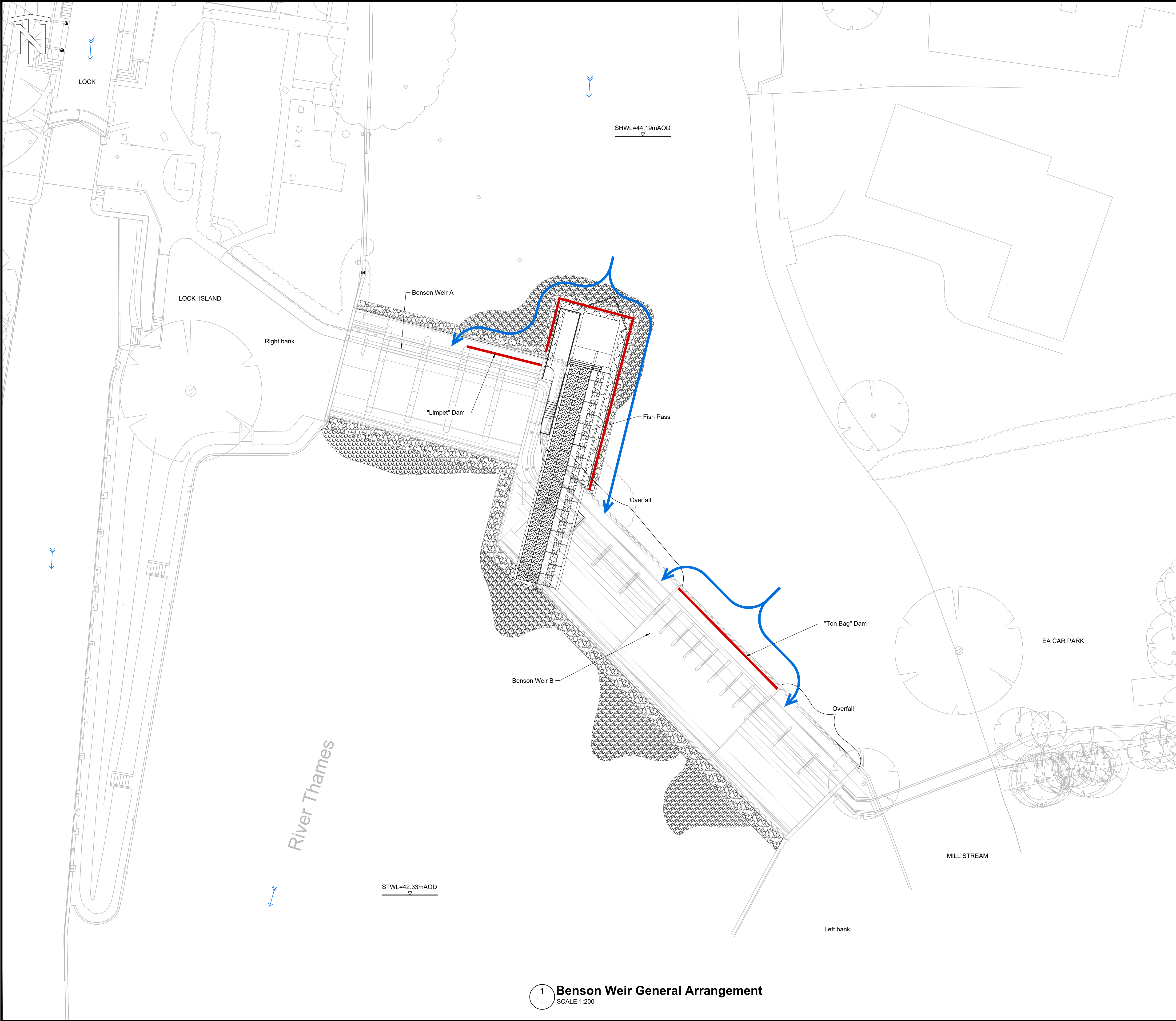
A1 Sheet Size

1

Benson Weir Fish Pass Plan

SCALE 1:125

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of His Majesty's Stationery Office © Crown copyright 2023. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Licence No. 100024198



- GENERAL NOTES**
- All dimensions in metres unless otherwise stated.
 - Level are meters above Ordnance Datum.
 - Impoundments likely to be concurrent.
 - Sketch intended to aid clarity for the Impoundment Licence Pre-Application. Not to be treated as part of Temporary Works design.

- LEGEND**
- WATERCOURSE FLOW DIRECTION ARROW
 - FLOW DIVERSIONS
 - IMPOUNDING STRUCTURES
 - SCOUR PROTECTION ROCK



P01	S3	For Impoundment Licence PreApp	17/08/23	WS	DH	SK	SK
Rev.	Sta.	Description	Date	Originator	Checker	Reviewer	Approver
Document Control							

Jacobs.

Project Title

Benson Weir Refurbishment

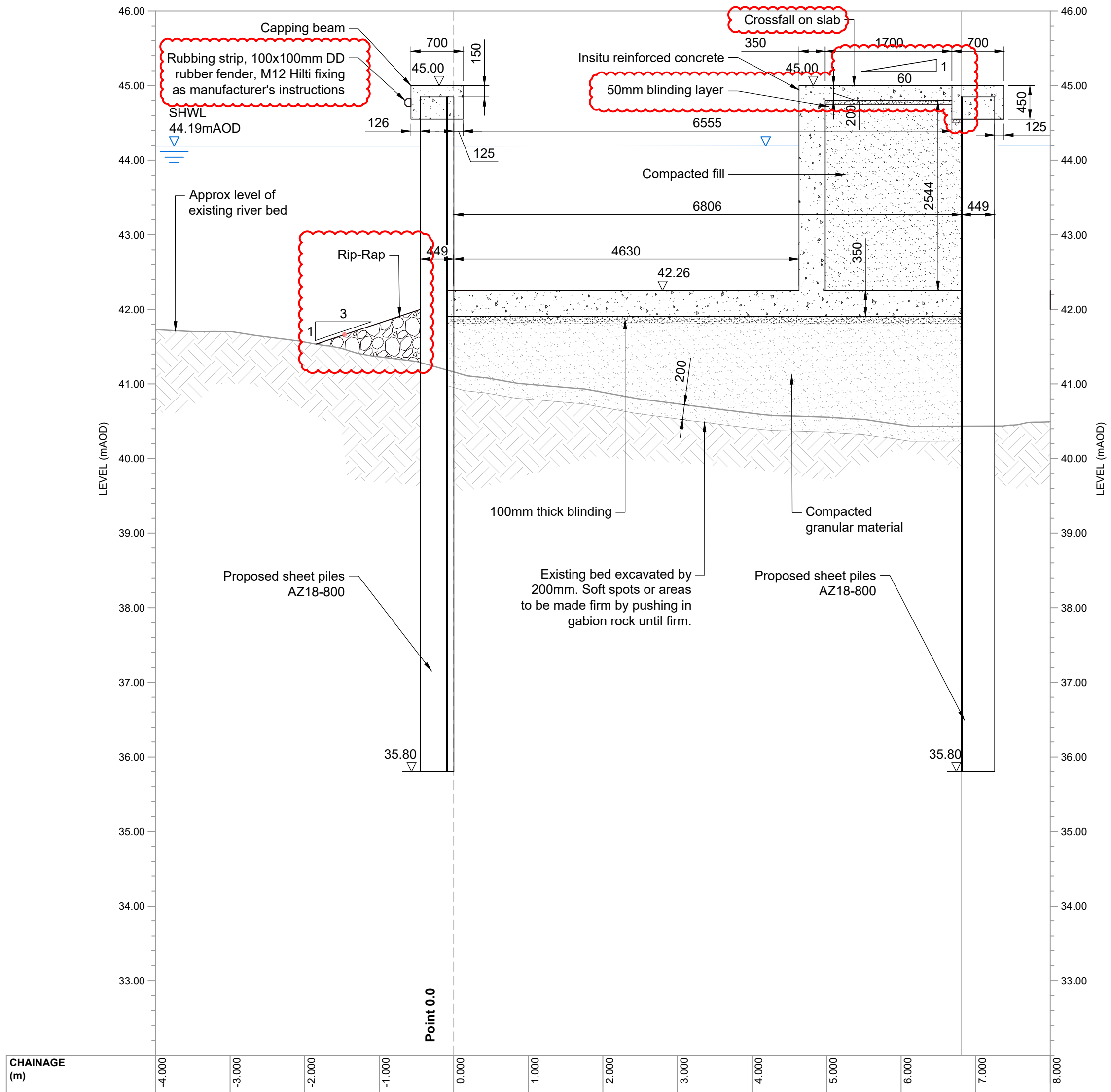
Drawing Title

**Benson Weir
Impounding Structures**

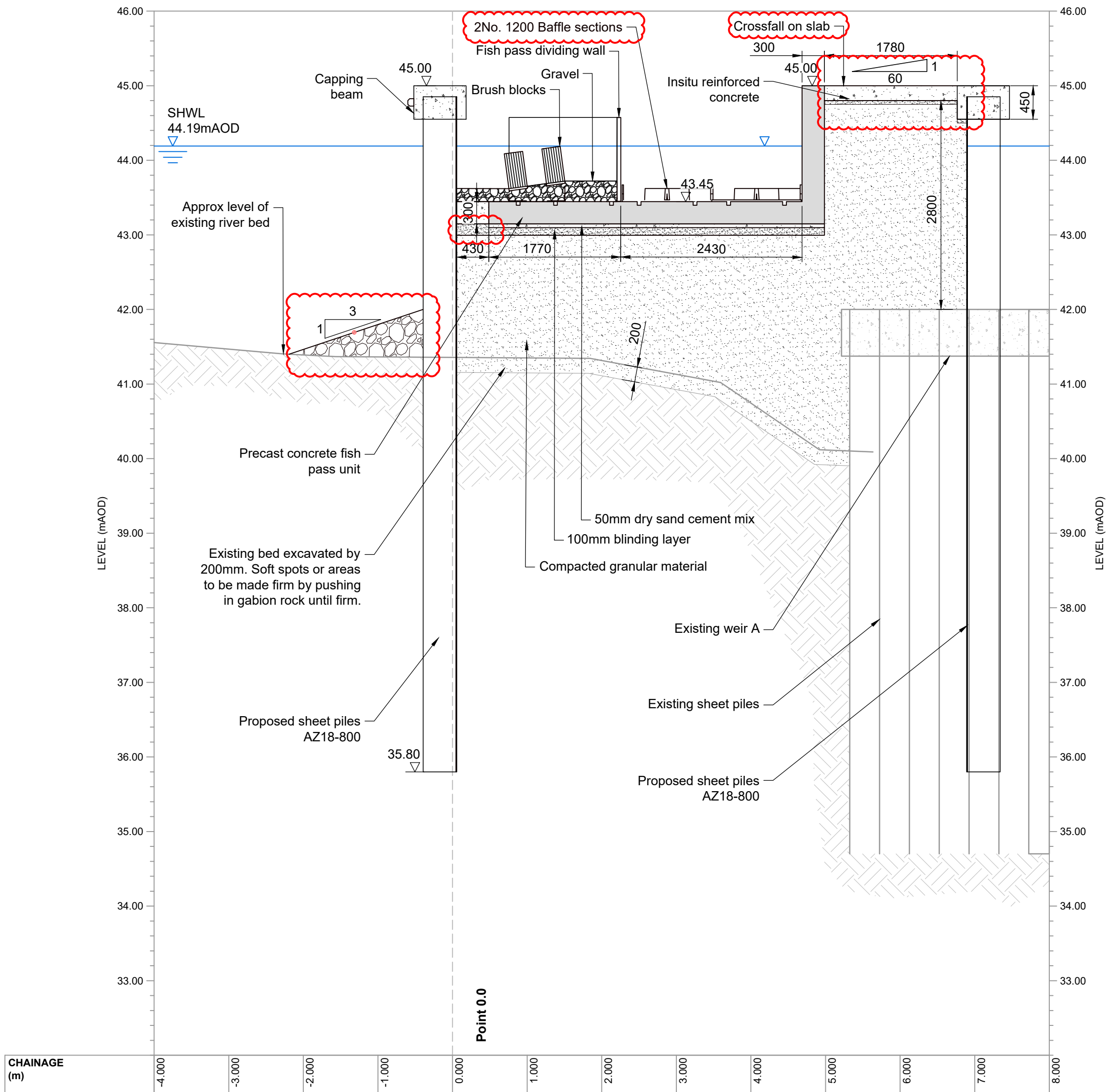


© copyright reserved							
Parent Model ENV0003198C-JAC-ZZ-00-SK-C-0002.dwg							
Security Classification Official				Scale 1:200			
Originator WS	Checker DH	Reviewer SK	Approver SK	Suitability S3 - Suitable for review and comment	Status S3	Revision P01	Information Container ENV0003198C-JAC-ZZ-00-SK-C-0002
A1 Sheet Size							

1 Benson Weir General Arrangement
SCALE 1:200



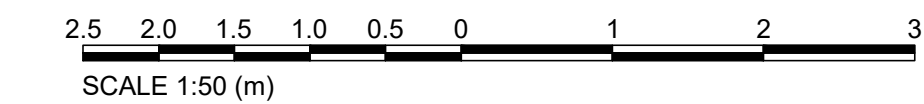
1 Section 1-1 Upstream Ramp
SCALE 1:50



2 Section 2-2 Top End Of Fish Pass
SCALE 1:50

LEGEND

- INSITU REINFORCED CONCRETE
- COMPACTED GRANULAR FILL
- PRECAST CONCRETE
- STONE RIP-RAP



GENERAL NOTES

- All dimensions are in millimeters unless noted otherwise.
- For Benson Weir Fish Pass Application Site Plan see Document Number: ENV0003198C-JAC-SF-00-DR-C-1501.
- For Benson Weir General Arrangement of Fish Pass see Document Number: ENV0003198C-JAC-SF-00-DR-C-1520.
- For Benson Weir Long Sections Through Fish Pass (Brush & Baffles) see Document Number: ENV0003198C-JAC-SF-00-DR-C-1530.
- For Benson Weir Fish Pass Cross Sections - Sheet 2 of 3 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1536.
- For Benson Weir Fish Pass Cross Sections - Sheet 3 of 3 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1537.
- Handrailing not shown but will be included as as required to provide safe access.
- For Benson Weir Demolition including associated Hazards see ENV0003198C-JAC-SF-00-DR-C-1515.

SAFETY, HEALTH, ENVIRONMENTAL, AND WELFARE INFORMATION

IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS:

CONSTRUCTION

- No unusual construction techniques. Works involve sheet piling, reinforced concrete and placement of rock. Precast concrete elements are proposed for the fish pass channel construction.
- Construction area is in the middle of a large river. Dry working area to be created upstream and downstream of weir during construction (working within a cofferdam). Pedestrian access only to the works area - all other access for plant and materials will need to be by boat. The walkway over the weir is a public footpath.

ENVIRONMENT

- Working, including the pumping and pouring of concrete within a watercourse.

MAINTENANCE / OPERATION

- Ensure environmental regulations are adhered to when closing/decommissioning fish pass.
- Staircase, landing area, gantries and fish pass walkway to be utilised for maintenance access.
- Public Right of Way (Weir Walkway). Public Interference. Operatives and public occupying same space on walkway.
- Penstock and stop log system to be utilised in order to remove flows from baffle or bush units where man-entry access to the fish pass is required.

DECOMMISSIONING

- No unusual or special construction techniques are proposed that will not allow standard demolition. Fish pass channel is of modular construction. Fish pass components (baffle units and brush blocks) are modular and can be replaced or removed in sections.

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

Rev	Sta	Description	Date	Originator	Checker	Reviewer	Approver
P01	S3	Fish Pass Application	16/02/23	WS	RB	SK	SK
P02	S3	Fish Pass Sections Update	06/04/23	WS	JM	SK	SK
C03	A3	Fish Pass Sections Update	11/05/23	WS	JM	RB	SK
C04	A3	For Pricing	07/06/23	WS	RB	SK	SK
C05	A4	For Construction	13/02/24	WS	RB	SK	SK

Document Control

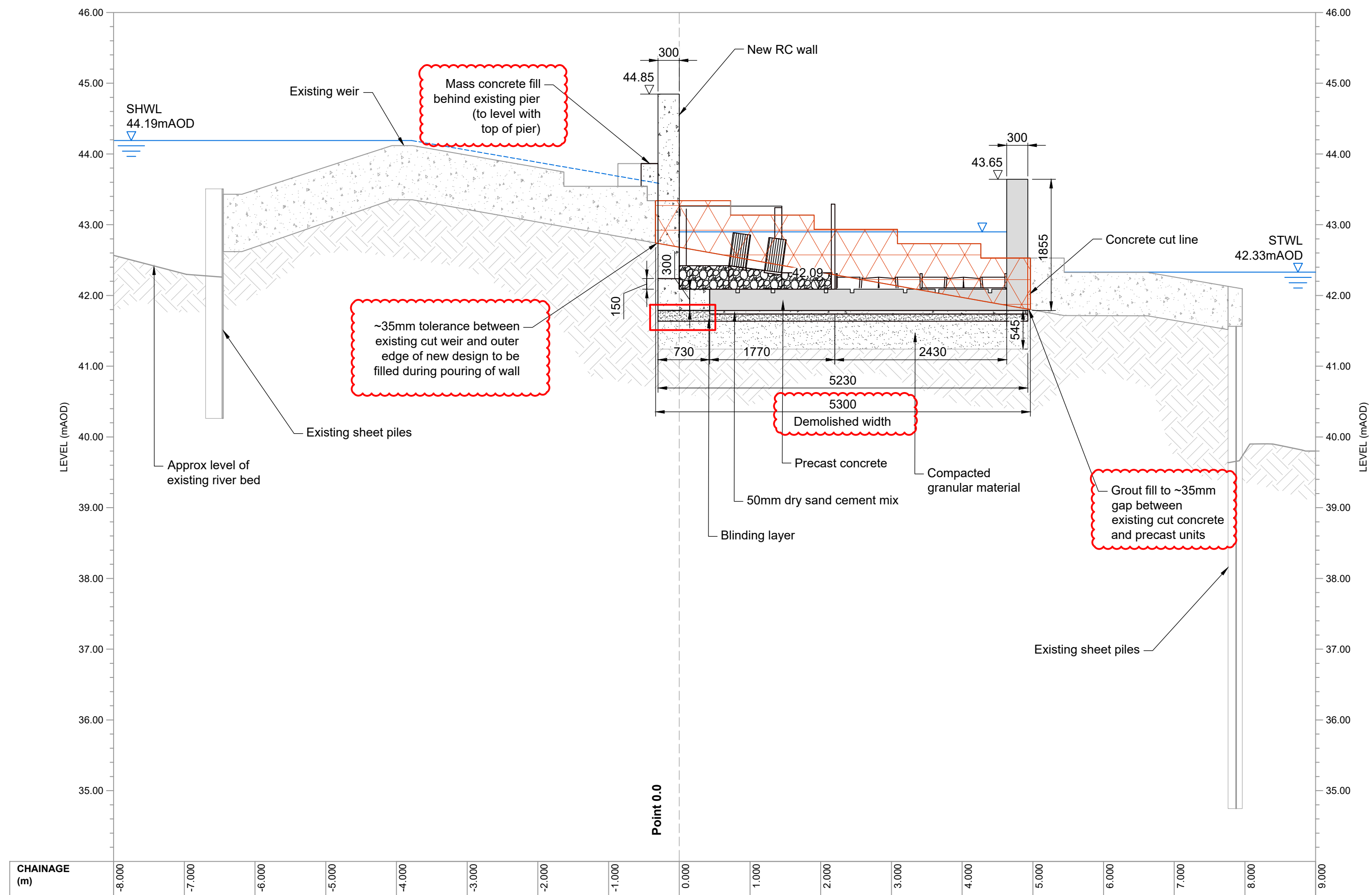
Jacobs.

Project Title
Benson Weir Refurbishment

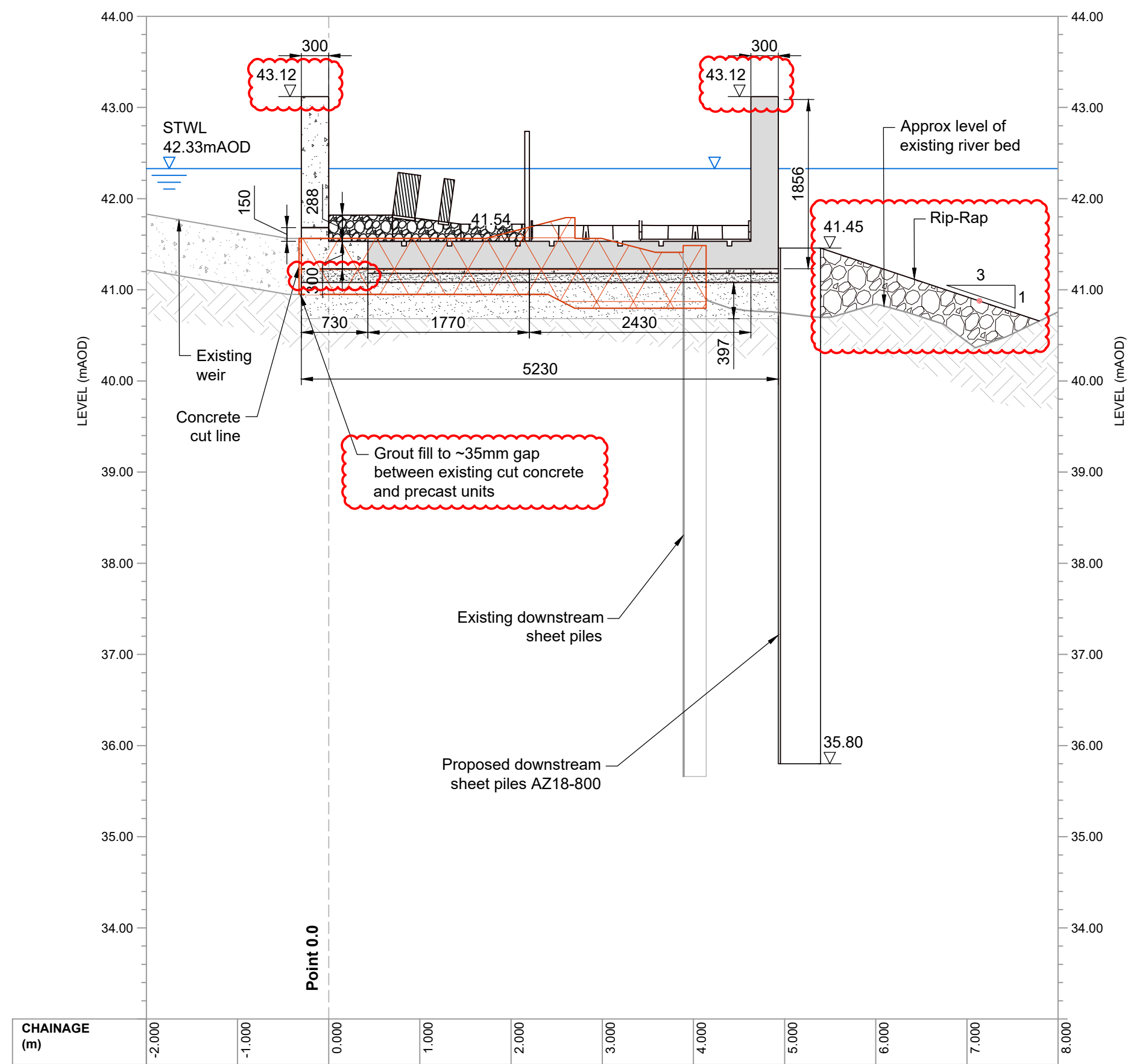
Drawing Title
**Fish Pass
Cross Sections
Sheet 1 of 3**



Parent Model ENV0003198C-JAC-SF-00-DR-C-1535.dwg	Scale 1:50
Security Classification Official	Information Container A4 - Published Stage Gate 4
Originator W. SZAJOR	Checker R. BRANSBY
Reviewer S. KHAN	Approver S. KHAN
Suitability A4 - Published Stage Gate 4	Status A4
Revision C05	Information Container ENV0003198C-JAC-SF-00-DR-C-1535



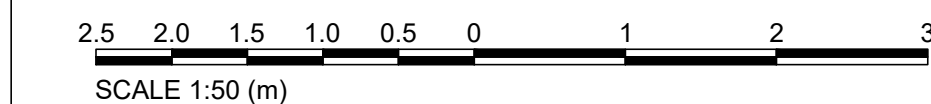
1 Section 5-5 New Fish Pass Through Existing Weir (B)
SCALE 1:50



2 Section 6-6 Downstream End Of Fish Pass
SCALE 1:50

LEGEND

	AREA OF DEMOLITION
	INSITU REINFORCED CONCRETE
	COMPACTED GRANULAR FILL
	PRECAST CONCRETE
	STONE RIP-RAP



GENERAL NOTES

- All dimensions are in millimeters unless noted otherwise.
- For Benson Weir Fish Pass Application Site Plan see Document Number: ENV0003198C-JAC-SF-00-DR-C-1501.
- For Benson Weir General Arrangement of Fish Pass see Document Number: ENV0003198C-JAC-SF-00-DR-C-1520.
- For Benson Weir Long Sections Through Fish Pass (Brush & Baffles) see Document Number: ENV0003198C-JAC-SF-00-DR-C-1530.
- For Benson Weir Fish Pass Cross Sections - Sheet 1 of 3 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1535.
- For Benson Weir Fish Pass Cross Sections - Sheet 2 of 3 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1536.
- For Benson Weir Demolition including associated Hazards see ENV0003198C-JAC-SF-00-DR-C-1515.

SAFETY, HEALTH, ENVIRONMENTAL, AND WELFARE INFORMATION

IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS:

CONSTRUCTION

-		No unusual construction techniques. Works involve sheet piling, reinforced concrete and placement of rock. Precast concrete elements are proposed for the fish pass channel construction.
24		Construction area is in the middle of a large river. Dry working area to be created upstream and downstream of weir during construction (working within a cofferdam). Pedestrian access only to the works area - all other access for plant and materials will need to be by boat. The walkway over the weir is a public footpath.

ENVIRONMENT

47		Working, including the pumping and pouring of concrete within a watercourse.
----	--	--

MAINTENANCE / OPERATION

48		Ensure environmental regulations are adhered to when closing/decommissioning fish pass.
6		Staircase, landing area, gantries and fish pass walkway to be utilised for maintenance access.
34		Public Right of Way (Weir Walkway). Public Interference. Operatives and public occupying same space on walkway.
6		Penstock and stop log system to be utilised in order to remove flows from baffle or bush units where man-entry access to the fish pass is required.

DECOMMISSIONING

-		No unusual or special construction techniques are proposed that will not allow standard demolition. Fish pass channel is of modular construction. Fish pass components (baffle units and brush blocks) are modular and can be replaced or removed in sections.
---	--	--

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

Rev.	Sta.	Description	Date	Originator	Checker	Reviewer	Approver
P01	S3	Fish Pass Sections Update	06/04/23	WS	JM	SK	SK
C02	A3	Fish Pass Sections Update	11/05/23	WS	JM	RB	SK
C03	A3	For Pricing	07/06/23	WS	RB	SK	SK
C04	A4	For Construction	13/02/24	WS	RB	SK	SK

Document Control

Jacobs.

Project Title
Benson Weir Refurbishment

Drawing Title
**Fish Pass
Cross Sections
Sheet 3 of 3**

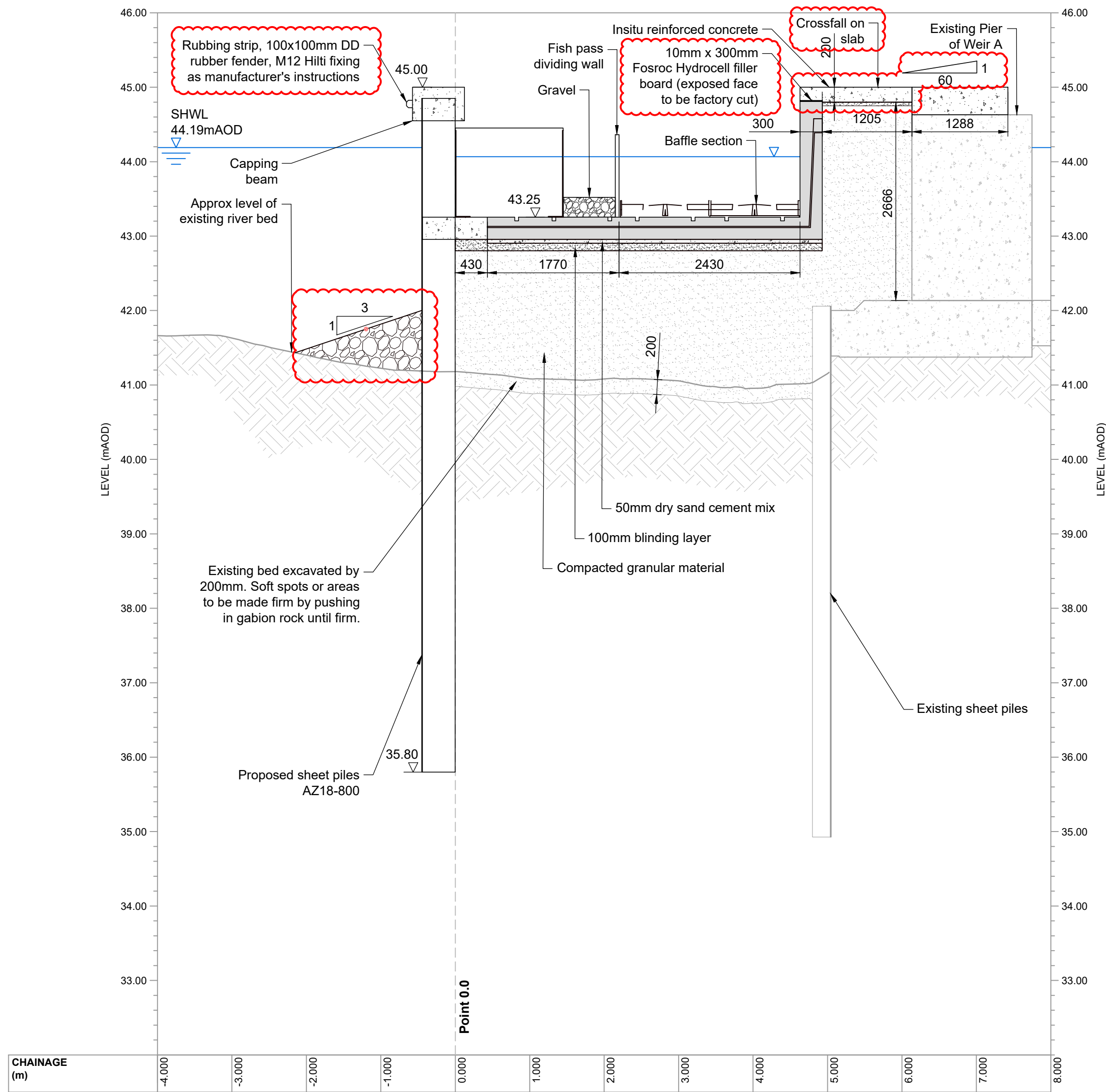
© copyright reserved

Parent Model
ENV0003198C-JAC-SF-00-DR-C-1537.dwg

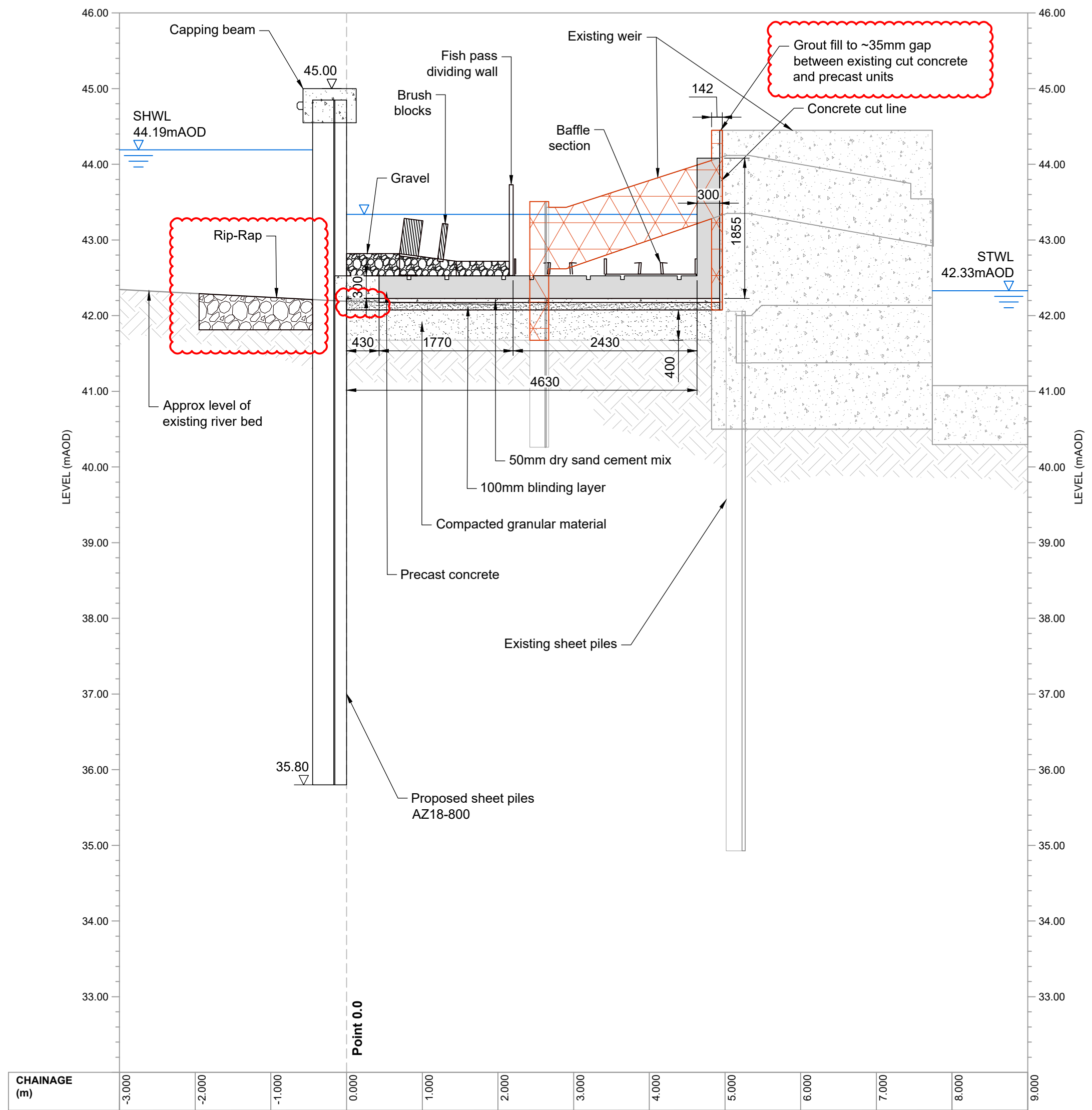
Security Classification Official	Scale 1:50		
Originator W. SZAJOR	Checker R. BRANSBY	Reviewer S. KHAN	Approver S. KHAN
Suitability A4 - Published Stage Gate 4	Status A4	Revision C04	

Information Container
ENV0003198C-JAC-SF-00-DR-C-1537

A1 Sheet Size



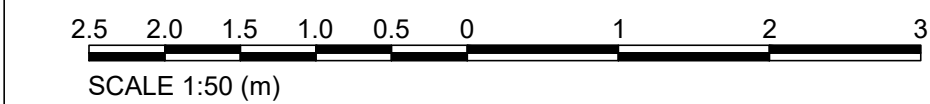
1 Section 3-3 New Fish Pass At Weir (A)
SCALE 1:50



2 Section 4-4 Half Way Down Fish Pass
SCALE 1:50

LEGEND

- AREA OF DEMOLITION
- INSITU REINFORCED CONCRETE
- COMPACTED GRANULAR FILL
- PRECAST CONCRETE
- STONE RIP-RAP



GENERAL NOTES

- All dimensions are in millimeters unless noted otherwise.
- For Benson Weir Fish Pass Application Site Plan see Document Number: ENV0003198C-JAC-SF-00-DR-C-1501.
- For Benson Weir General Arrangement of Fish Pass see Document Number: ENV0003198C-JAC-SF-00-DR-C-1520.
- For Benson Weir Long Sections Through Fish Pass (Brush & Baffles) see Document Number: ENV0003198C-JAC-SF-00-DR-C-1530.
- For Benson Weir Fish Pass Cross Sections - Sheet 1 of 3 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1535.
- For Benson Weir Fish Pass Cross Sections - Sheet 3 of 3 see Document Number: ENV0003198C-JAC-SF-00-DR-C-1537.
- For Benson Weir Demolition including associated Hazards see ENV0003198C-JAC-SF-00-DR-C-1515.

SAFETY, HEALTH, ENVIRONMENTAL, AND WELFARE INFORMATION

IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS:

CONSTRUCTION

- No unusual construction techniques. Works involve sheet piling, reinforced concrete and placement of rock. Precast concrete elements are proposed for the fish pass channel construction.
- Construction area is in the middle of a large river. Dry working area to be created upstream and downstream of weir during construction (working within a cofferdam). Pedestrian access only to the works area - all other access for plant and materials will need to be by boat. The walkway over the weir is a public footpath.

ENVIRONMENT

- Working, including the pumping and pouring of concrete within a watercourse.

MAINTENANCE / OPERATION

- Ensure environmental regulations are adhered to when closing/decommissioning fish pass.
- Staircase, landing area, gantries and fish pass walkway to be utilised for maintenance access.
- Public Right of Way (Weir Walkway). Public Interference. Operatives and public occupying same space on walkway.
- Penstock and stop log system to be utilised in order to remove flows from baffle or bush units where man-entry access to the fish pass is required.

DECOMMISSIONING

- No unusual or special construction techniques are proposed that will not allow standard demolition. Fish pass channel is of modular construction. Fish pass components (baffle units and brush blocks) are modular and can be replaced or removed in sections.

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

Rev.	Sta.	Description	Date	Originator	Checker	Reviewer	Approver
P01	S3	Fish Pass Application	16/02/23	WS	RB	SK	SK
P02	S3	Fish Pass Sections Update	06/04/23	WS	JM	SK	SK
C03	A3	Fish Pass Sections Update	11/05/23	WS	JM	RB	SK
C04	A3	For Pricing	07/06/23	WS	RB	SK	SK
C05	A4	For Construction	13/02/24	WS	RB	SK	SK

Document Control

Jacobs.

Project Title

Benson Weir Refurbishment

Drawing Title

Fish Pass
Cross Sections
Sheet 2 of 3



Environment
Agency

© copyright reserved

Parent Model

ENV0003198C-JAC-SF-00-DR-C-1536.dwg

Security Classification

Official

Scale

1:50

Originator

W. SZAJOR

Checker

R. BRANSBY

Reviewer

S. KHAN

Approver

S. KHAN

Suitability

A4 - Published Stage Gate 4

Status

A4

Revision

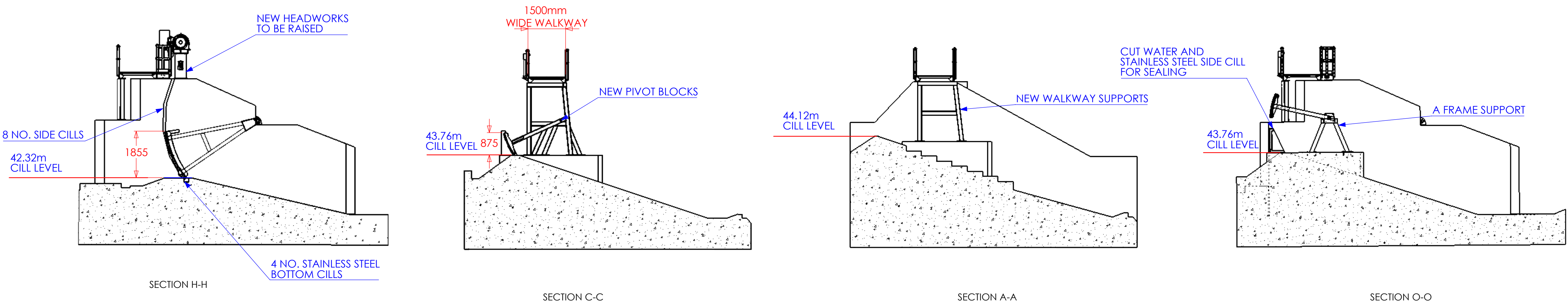
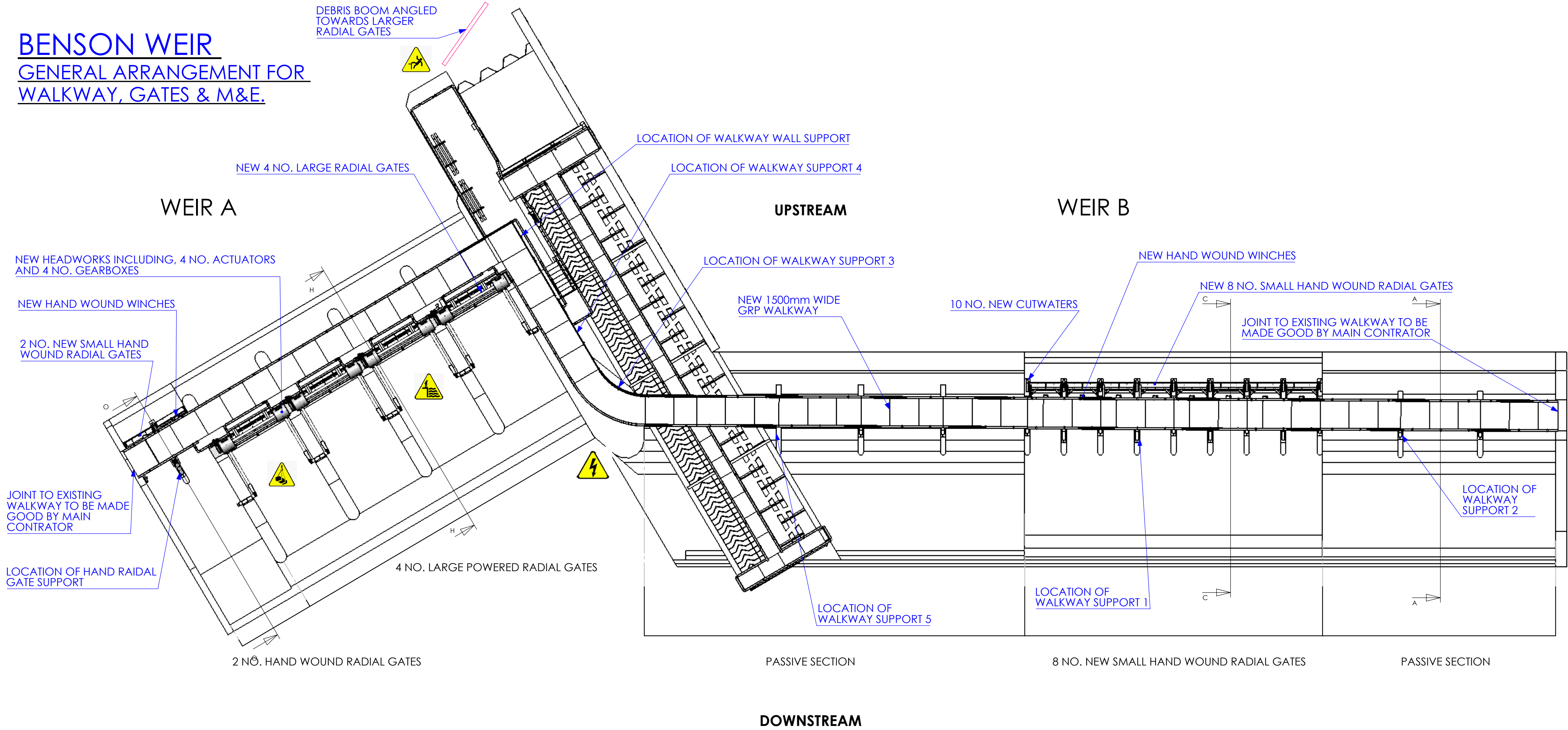
C05

Information Container

ENV0003198C-JAC-SF-00-DR-C-1536

A1 Sheet Size

BENSON WEIR
GENERAL ARRANGEMENT FOR
WALKWAY, GATES & M&E.



NOTES

- ALL DIMENSIONS ARE IN mm UNLESS STATED OTHERWISE.
- MANUFACTURE TO BSEN1090 EXECUTION CLASS 3. UKCA MARKED.
- ALL STRUCTURAL STEEL TO BE S355JO. ANCILLARY STEEL TO BE S275 JR.
- ALL FILLET WELDS TO BE CONTINUOUS 6mm CFW OR FP BUTT WELD UNLESS OTHERWISE STATED.
- SUBMERGED COMPONENTS TO BE PAINTED TO CS-IMI SPECIFICATION TO COLOUR RAL 7031.
- NON SUBMERGED COMPONENTS TO BE PAINTED TO C5-M SPECIFICATION TO COLOUR RAL 7035.
- ALL WATER LEVELS ARE MAOD AND TAKEN FROM THE AS BUILT DRAWINGS: 10408/1/C.
- GALVANIZED PARTS TO BE HOT DIP GALVANISED TO ISO1461.
- ALL DIMENSIONS ARE TO BE CHECKED BY THE CONTRACTOR.
- HAZARD TRIANGLE IS A REFERENCE TO THE HUNTONS '8148 - DOC - DRA.PDF' SIGNIFICANT RISKS TABLE.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION		
IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS		
CONSTRUCTION		
C.1		Working near river
C.2		Walkway has Mains power cable onboard
C.3		Falling from Height
C.4		Lifting Operation
ENVIRONMENT		
MAINTENANCE/CLEANING		
M.1		Gates shall be isolated before any maintenance works take place to prevent unexpected movement
M.2		Personnel may be exposed to hazardous materials during maintenance, COSHH data sheets to be used and correct ppe
M.3		Use of power winder - consult O&M for max allowable torque
DECOMMISSIONING/DEMOLITION		
D.1		Sufficient lighting equipment is used for the disassembly of the parts
D.2		When removing parts there is a risk of trapping hazards, care to be taken and appropriate equipment used to aid guidance
D.3		Sufficient lifting equipment is used for the disassembly of parts
IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT PERSON WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT		

THIRD ANGLE PROJECTION

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HUNTON ENGINEERING DESIGN LTD (HEDL). ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HEDL IS PROHIBITED.

FOR CONSTRUCTION

DIMENSIONS ARE IN MM UNLESS NOTED
TOLERANCES: GENERAL +/- 2MM AT ENGINEERS DISCRETION
ANGULAR: MACHINED AS NOTED, BEND +/- 1 DEGREE AT ENGINEERS DISCRETION
MACHINING: TOLERANCES AS NOTED ON DRAWING

	NAME	DATE
DRAWN	L.ROBERTS	18/12/2023
CHECKED	P.WARD	18/12/2023
APPROVED	S.TROW	18/12/2023

DO NOT SCALE DRAWING



CLIENT: **Jacobs**

DELIVERY REFERENCE	B1300	WORK STAGE	EA4	SUITABILITY CODE	S4	LOD	LOD4
--------------------	-------	------------	-----	------------------	----	-----	------

BIM REFERENCE
ENV0003198C-JAC-ZZ-00-DR-C- 1005

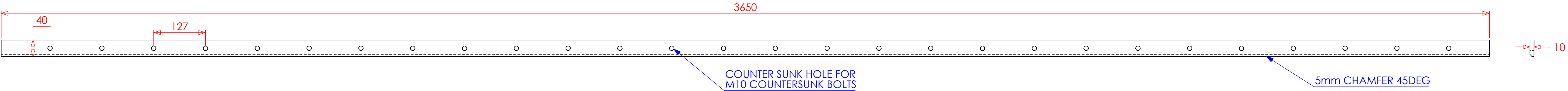
PROJECT NAME
THAMES WEIRS

HUNTON DRAWING No. 8148-BEN-DRA-01 SHEET No. 1 of 2

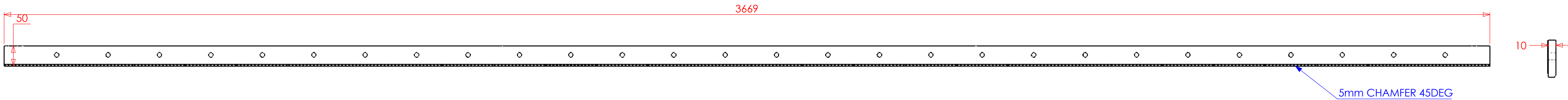
SHEET TITLE
SITE GA REV No. C03

4 NO. LARGE POWERED RADIAL GATE DETAILS

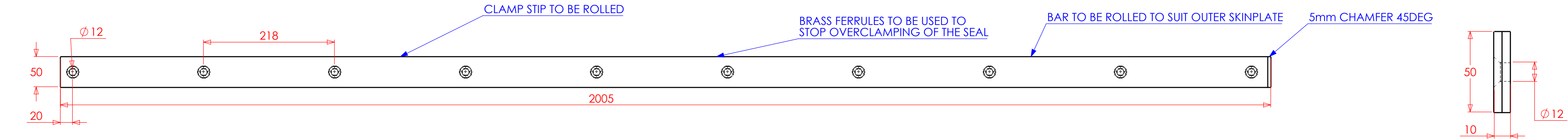
4 NO. BOTTOM CLAMP BAR - 304 STAINLESS STEEL



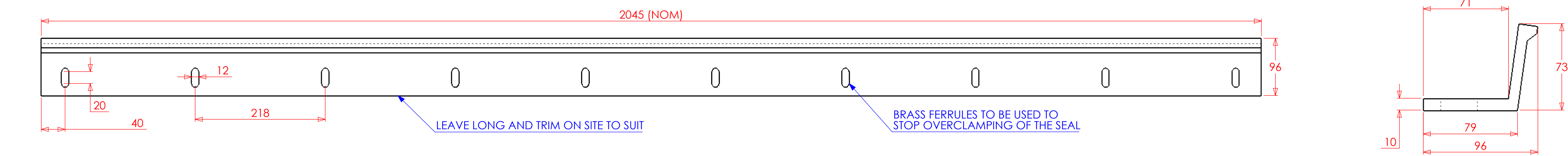
4 NO. BOTTOM SEAL - 65 SHORE NEOPRENE



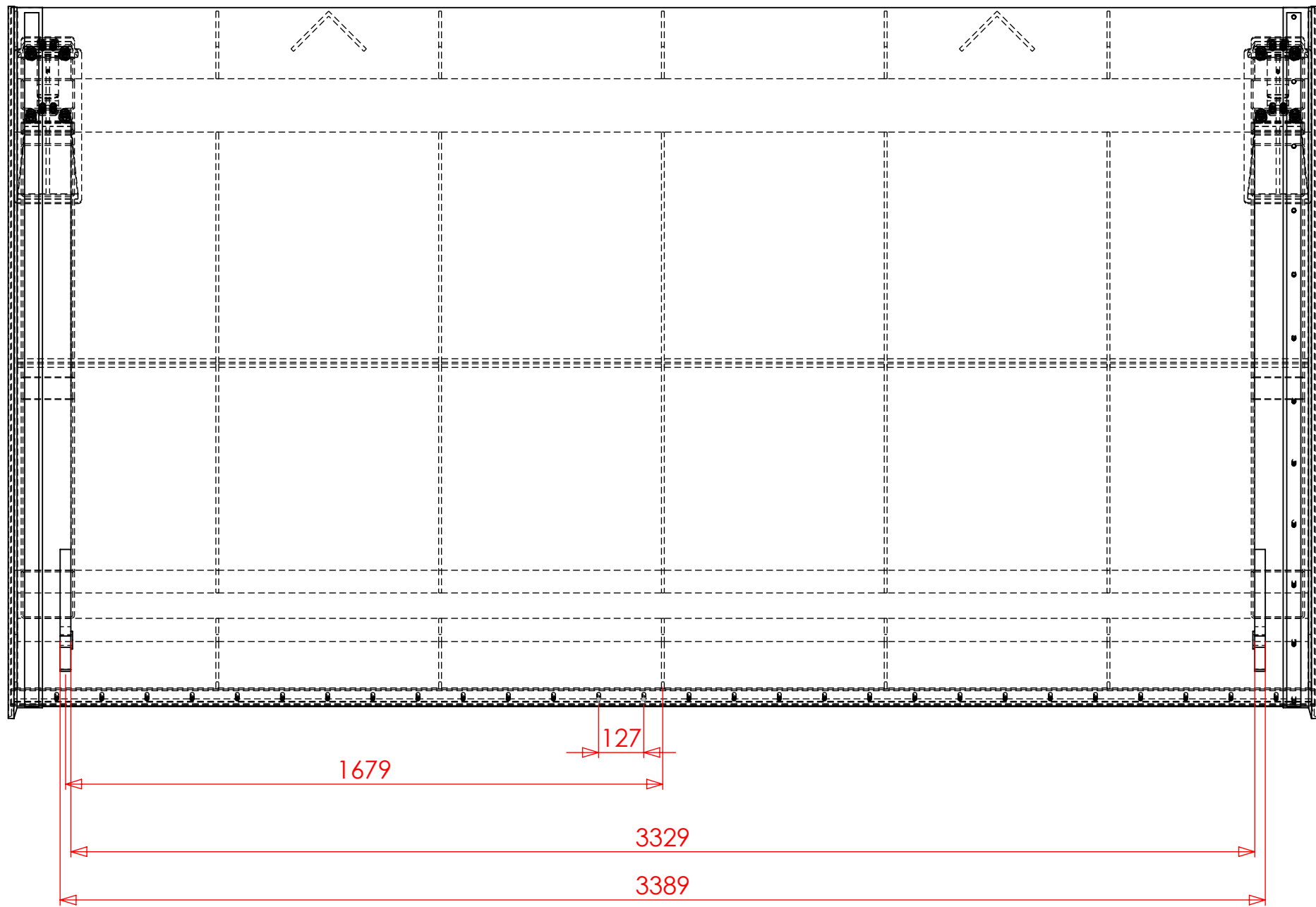
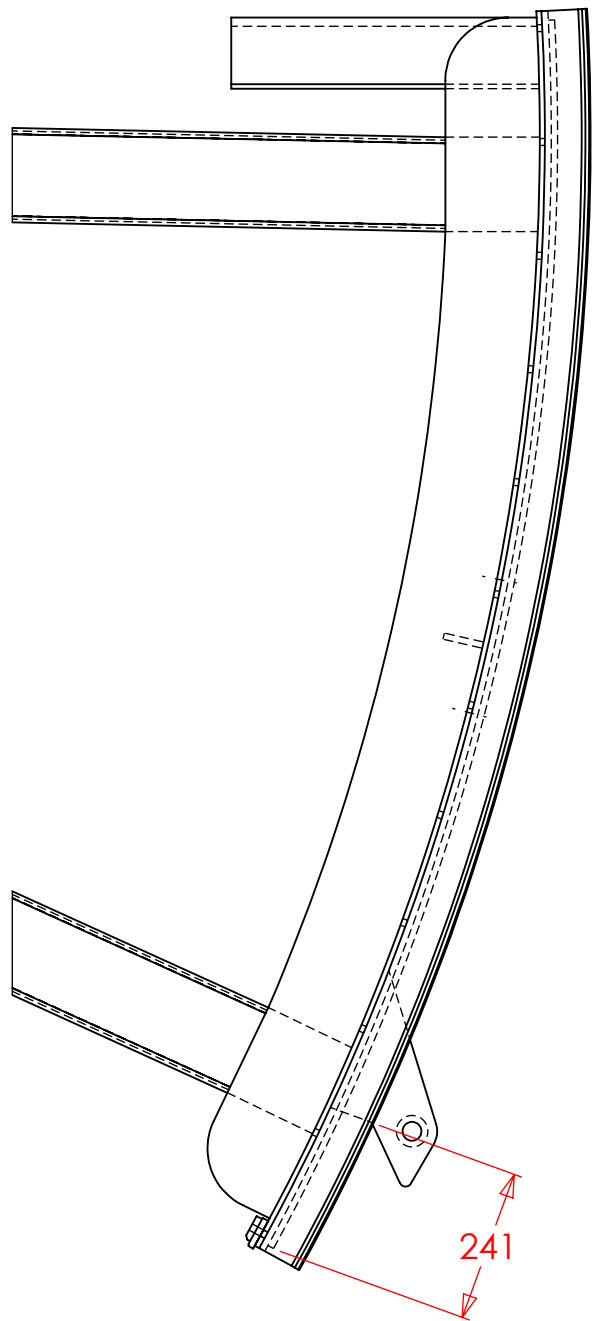
8 NO. CLAMP SIDE BAR - 304 STAINLESS STEEL



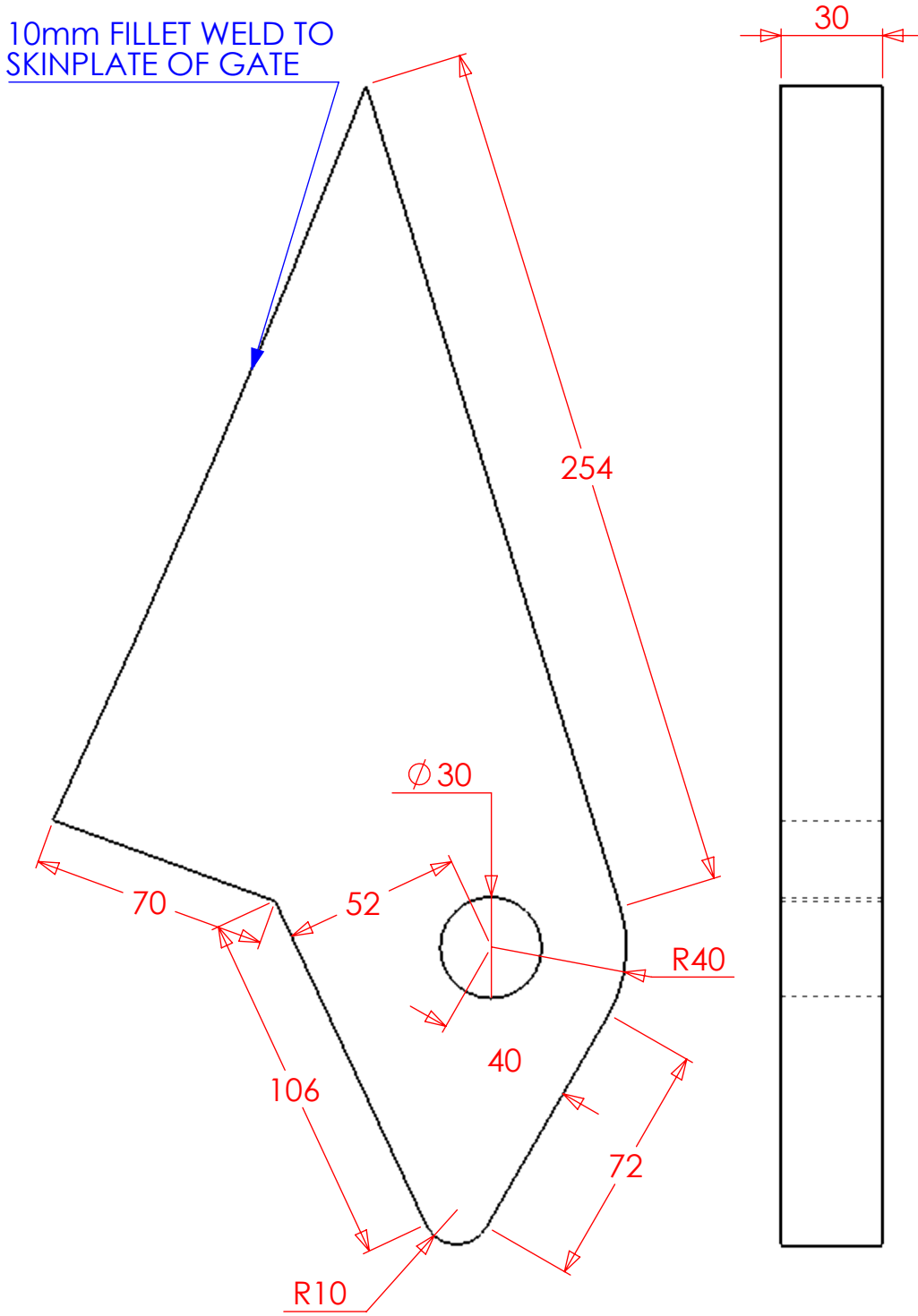
8 NO. SIDE SEAL - NEROPRENE 65 SHORE HARDNESS



LIFTING EYE LOCATION



LIFTING EYE DETAIL



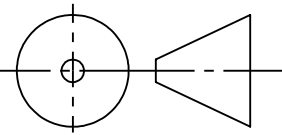
NOTES

- ALL DIMENSIONS ARE IN mm UNLESS STATED OTHERWISE.
- MANUFACTURE TO BSEN1090 EXECUTION CLASS 3. UKCA MARKED.
- ALL STRUCTURAL STEEL TO BE S355J0. ANCILLARY STEEL TO BE S275 JR.
- ALL FILLET WELDS TO BE CONTINUOUS 6mm CFW OR FP BUTT WELD UNLESS OTHERWISE STATED.
- SUBMERGED COMPONENTS TO BE PAINTED TO CS-IMI SPECIFICATION TO COLOUR RAL 7031.
- ALL DIMENSIONS ARE TO BE CHECKED BY THE CONTRACTOR.

REVISIONS

REV.	DESCRIPTION	DATE	APPROVED
------	-------------	------	----------

THIRD ANGLE ROJECTION



THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HUNTON ENGINEERING DESIGN LTD (HEDL). ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HEDL IS PROHIBITED.

FOR CONSTRUCTION

DIMENSIONS ARE IN MM UNLESS NOTED
TOLERANCES: GENERAL +/- 2MM AT ENGINEERS DISCRETION
ANGULAR: MACHINED AS NOTED, BEND +/- 1 DEGREE AT ENGINEERS DISCRETION
MACHINING: TOLERANCES AS NOTED ON DRAWING

	NAME	DATE
DRAWN	L.ROBERTS	18/12/2023
CHECKED	P.WARD	18/12/2023
APPROVED	S.TROW	18/12/2023

DO NOT SCALE DRAWING



CLIENT: **Jacobs**

DELIVERY REFERENCE	B1300	WORK STAGE	EA4	SUITABILITY CODE	S4	LOD	LOD4
--------------------	-------	------------	-----	------------------	----	-----	------

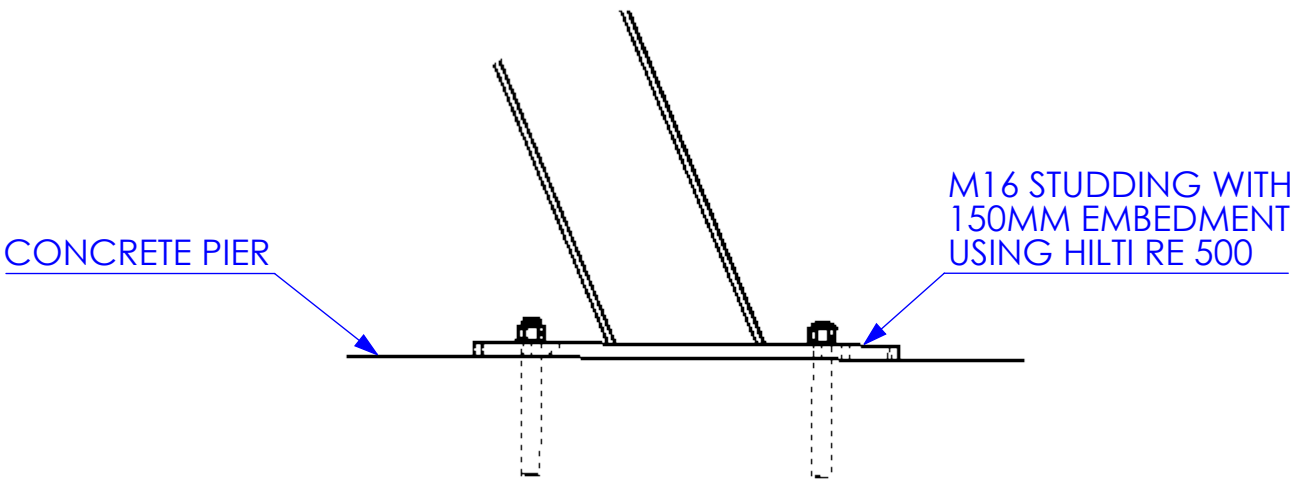
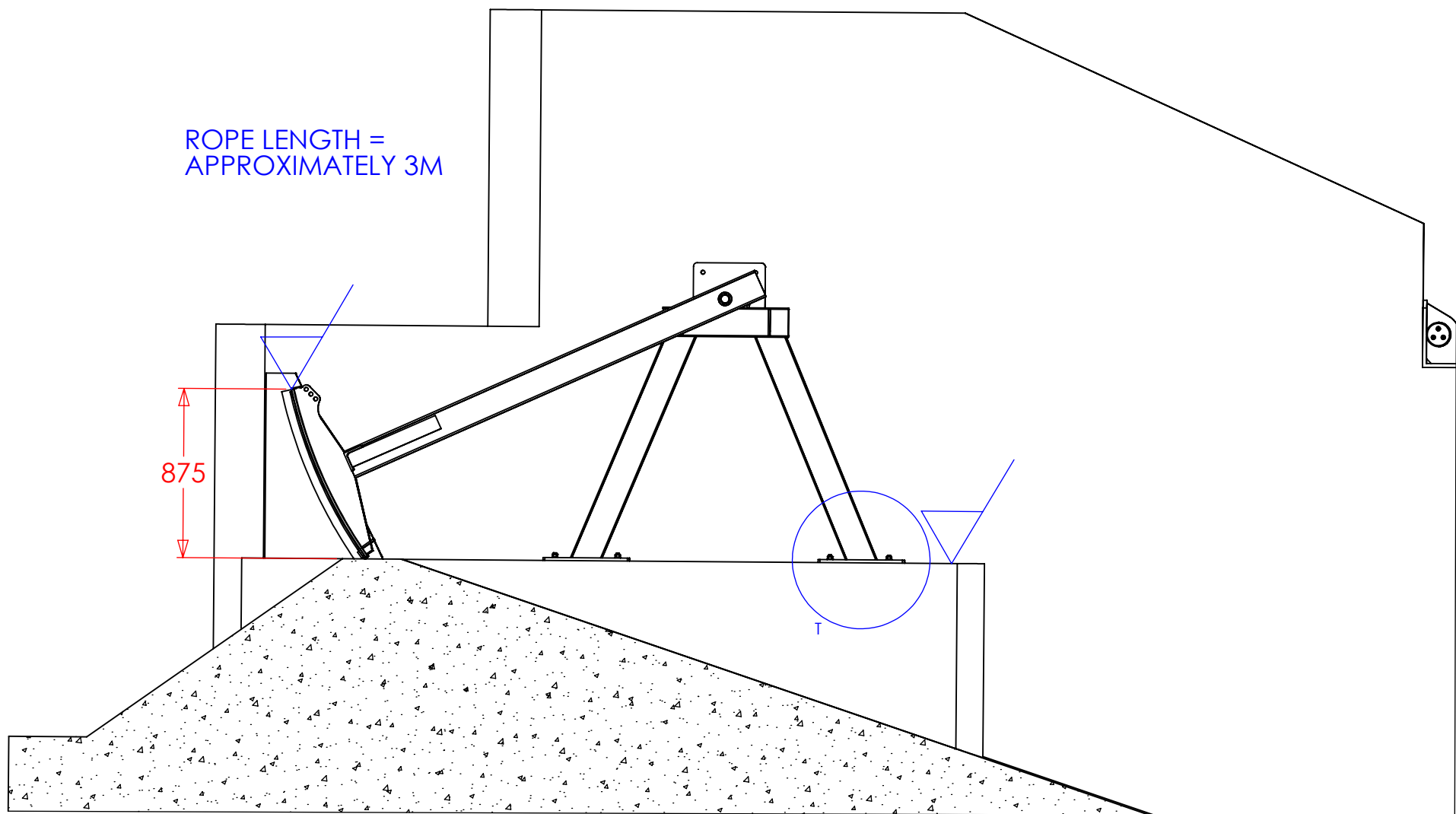
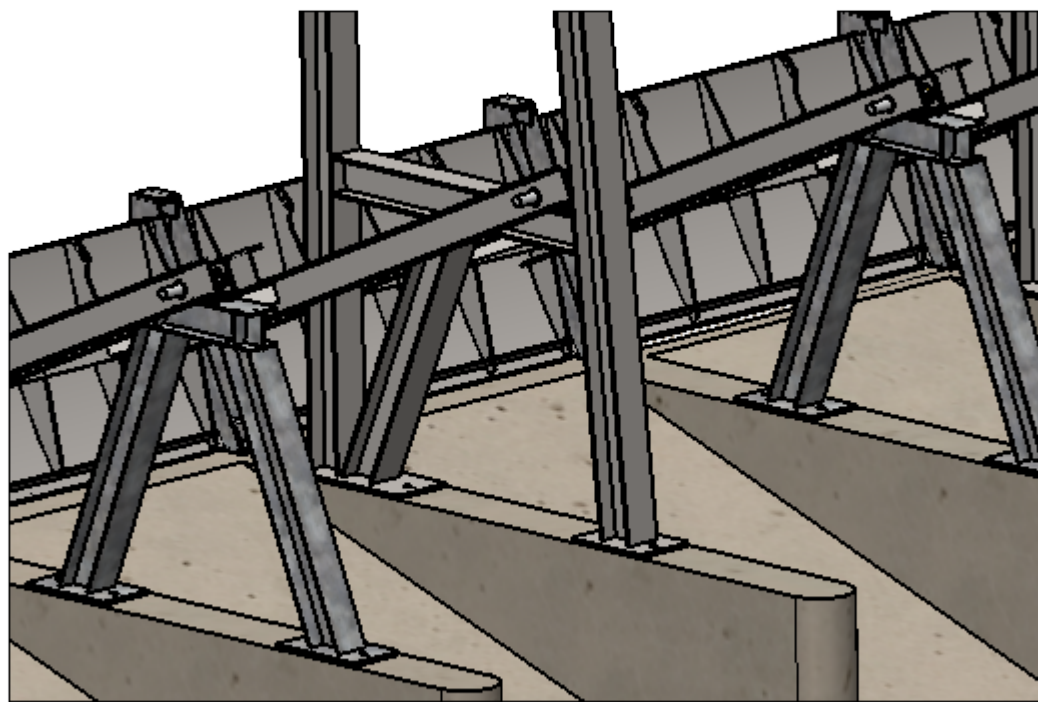
BIM REFERENCE
ENV0003198C-JAC-ZZ-00-DR-C-1303

PROJECT NAME
BENSON WEIR

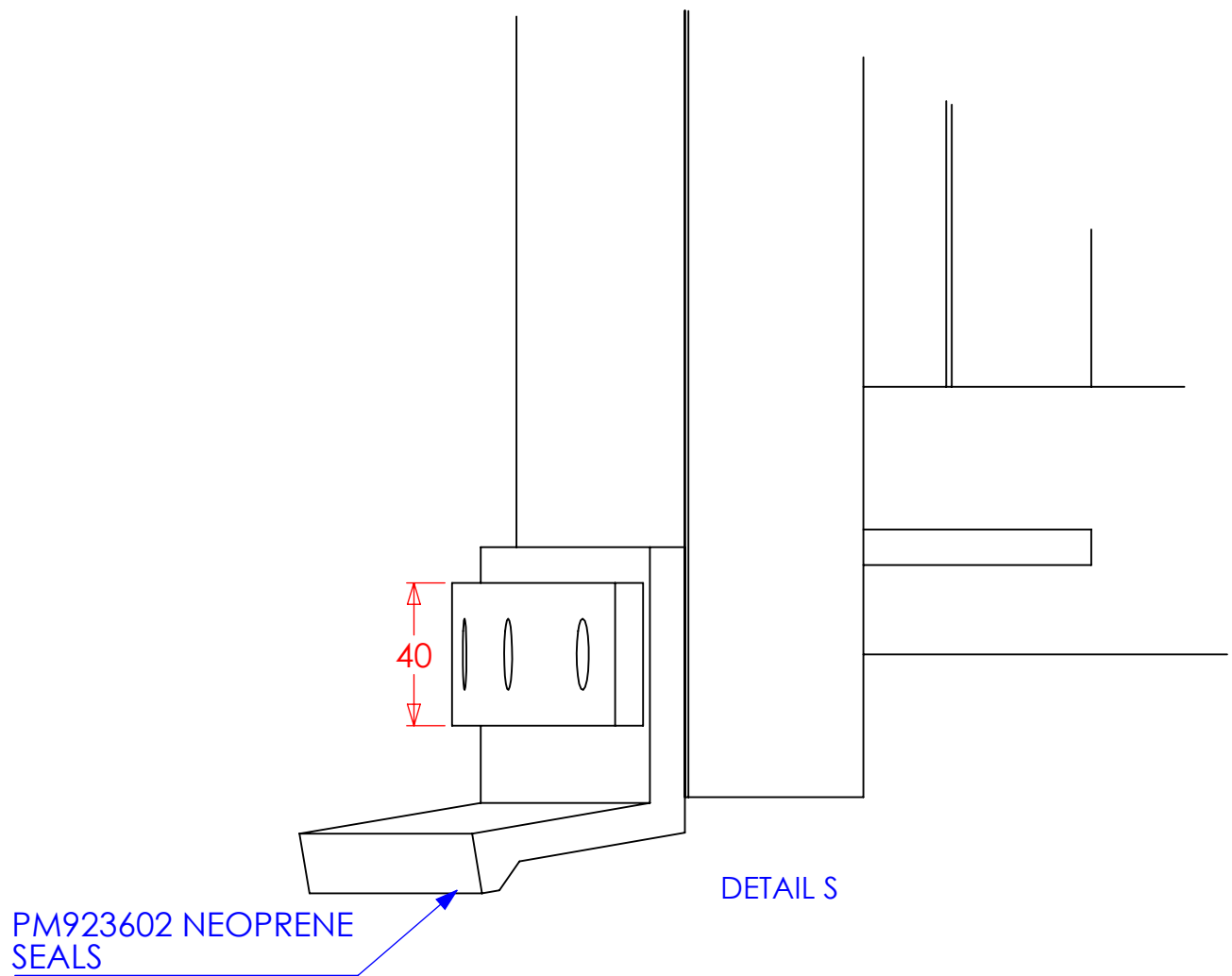
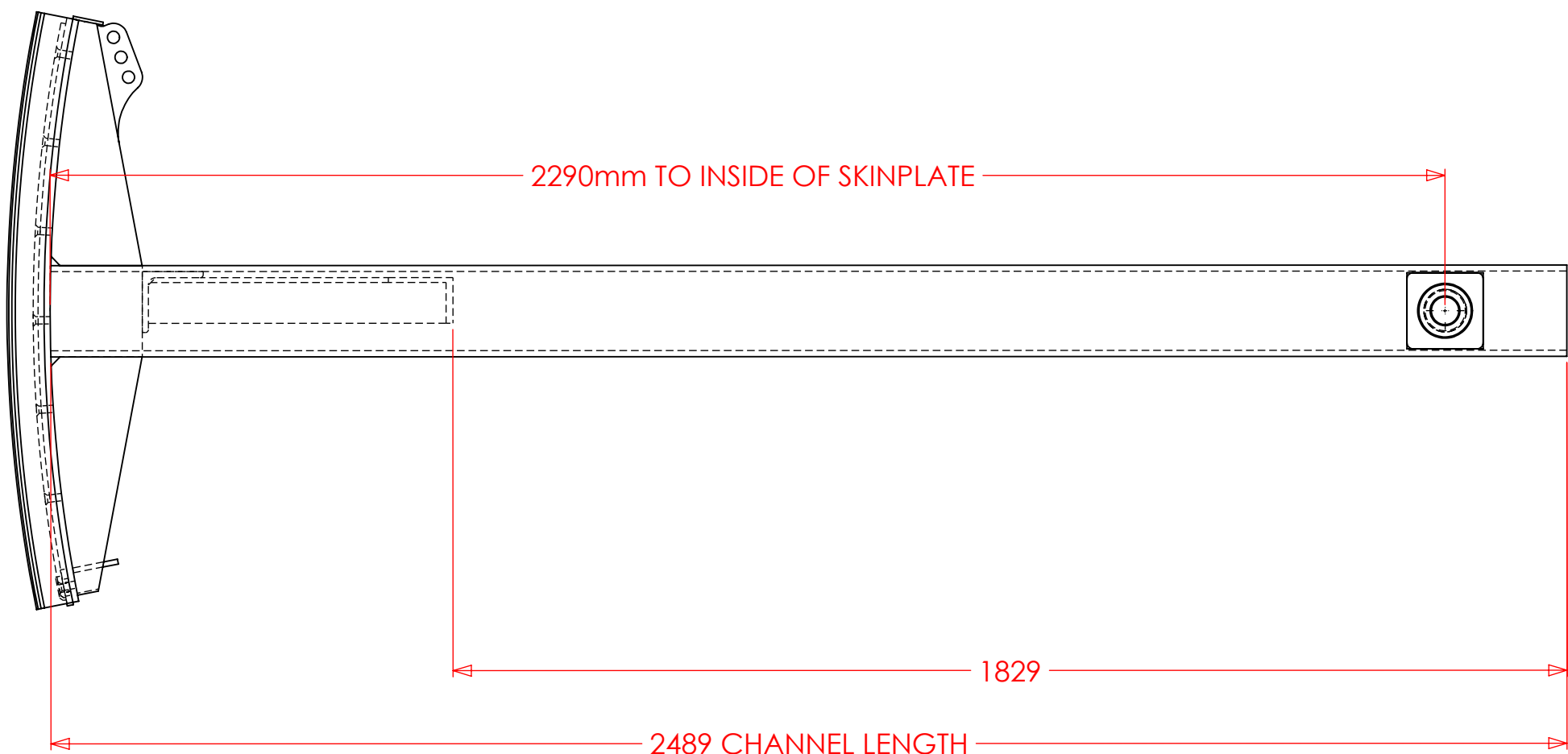
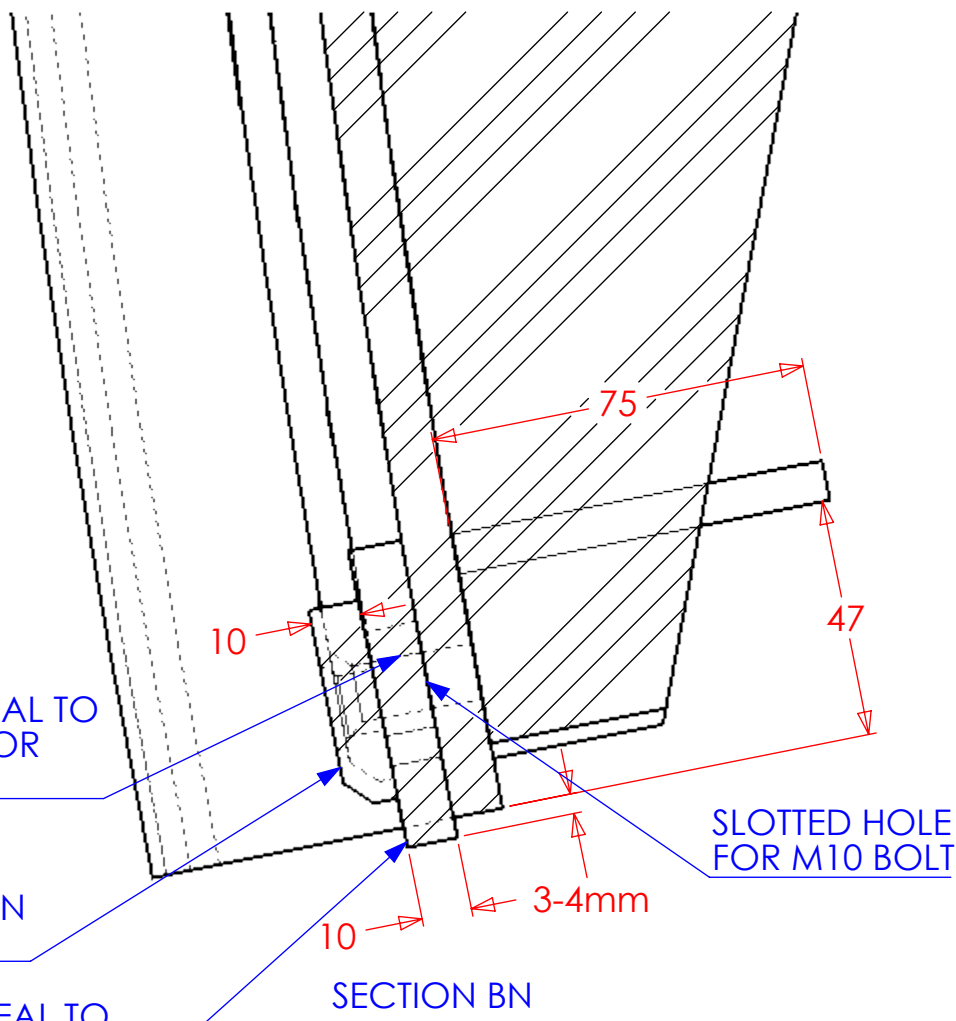
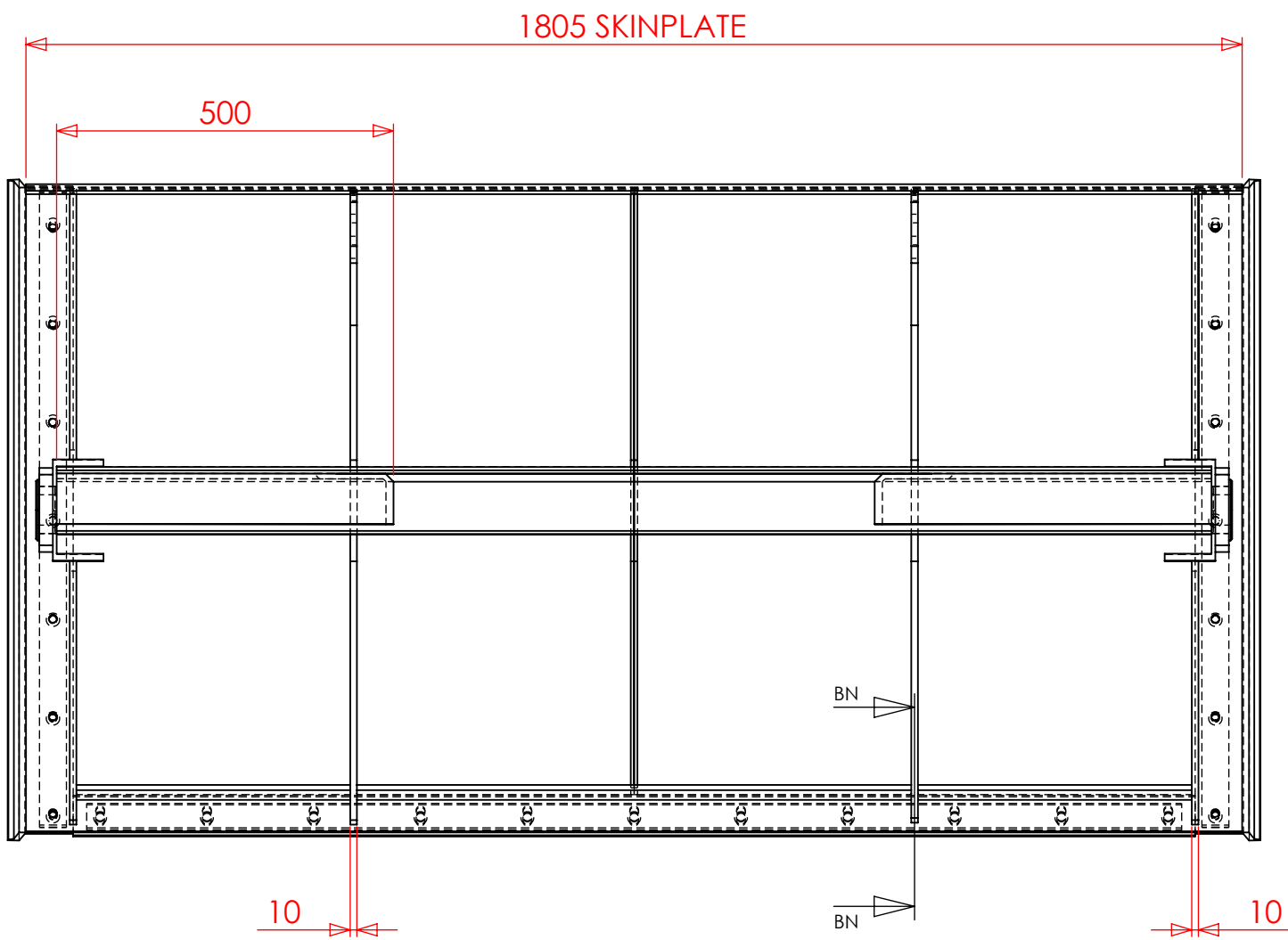
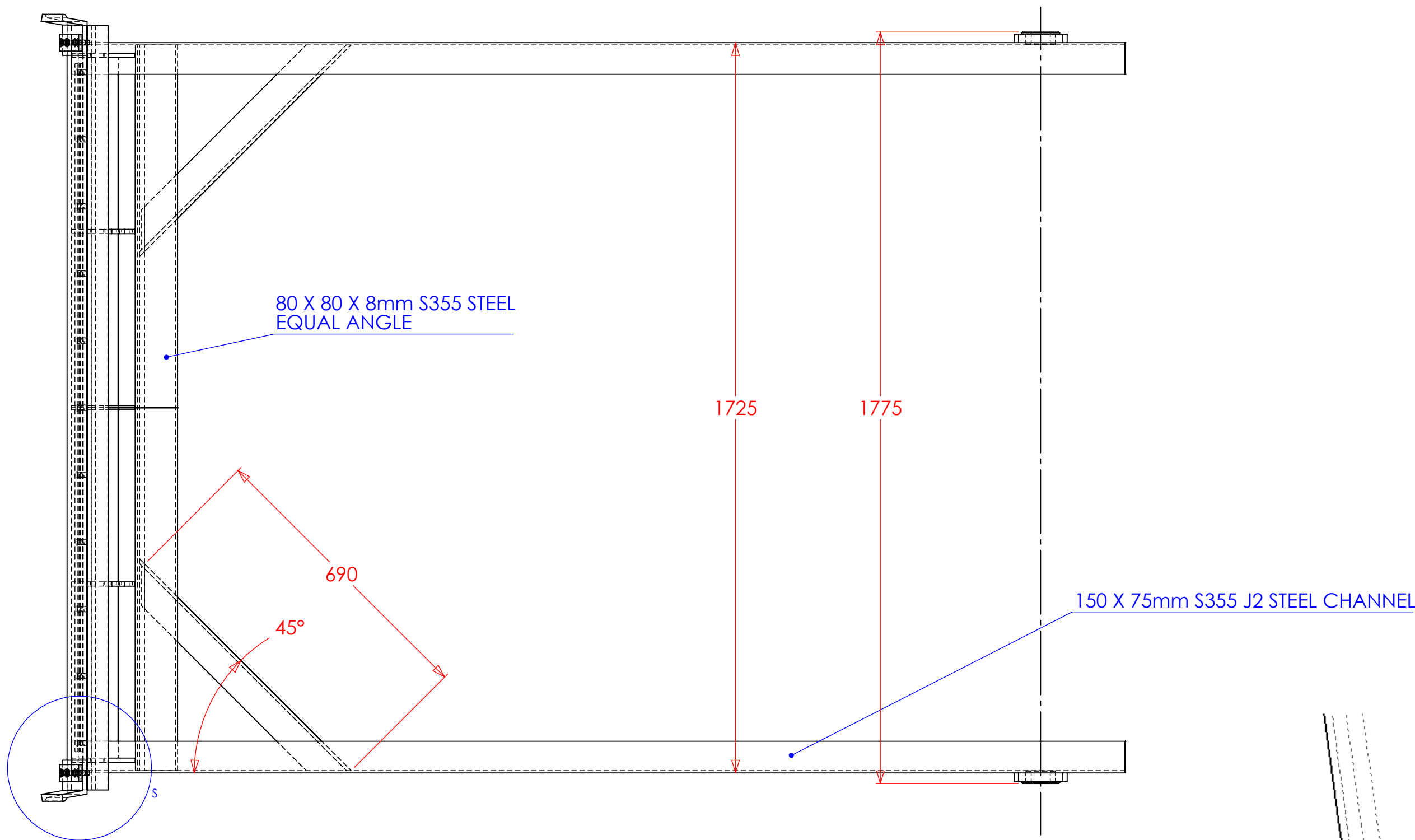
HUNTON DRAWING No. 8148-BEN-DRA-02 SHEET No. 3 of 14

SHEET TITLE SEAL AND COMPRESSION STRIP REV No. C04

10 NO. SMALL HAND RADIAL GATES



DETAIL T

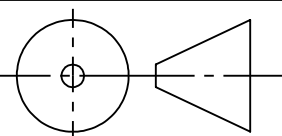


DETAIL S

NOTES

- ALL DIMENSIONS ARE IN mm UNLESS STATED OTHERWISE.
- MANUFACTURE TO BSEN1090 EXECUTION CLASS 3. UKCA MARKED.
- ALL STRUCTURAL STEEL TO BE S355J0. ANCILLARY STEEL TO BE S275 JR.
- ALL FILLET WELDS TO BE CONTINUOUS 6mm CFW OR FP BUTT WELD UNLESS OTHERWISE STATED.
- SUBMERGED COMPONENTS TO BE PAINTED TO CS-IMI SPECIFICATION TO COLOUR RAL 7031.
- GALVANIZED PARTS EG. HANDRAIL, HANDRAIL POST AND KICK STRIP ETC. TO BE HOT DIP GALVANISED TO ISO1461.
- ALL DIMENSIONS ARE TO BE CHECKED BY THE CONTRACTOR.

THIRD ANGLE ROJECTION



THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HUNTON ENGINEERING DESIGN LTD (HEDL). ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HEDL IS PROHIBITED.

FOR CONSTRUCTION

DIMENSIONS ARE IN MM UNLESS NOTED
TOLERANCES: GENERAL +/- 2MM AT ENGINEERS DISCRETION
ANGULAR: MACHINED AS NOTED, BEND +/- 1 DEGREE AT ENGINEERS DISCRETION
MACHINING: TOLERANCES AS NOTED ON DRAWING

	NAME	DATE
DRAWN	L.ROBERTS	18/12/2023
CHECKED	P.WARD	18/12/2023
APPROVED	S.TROW	18/12/2023

DO NOT SCALE DRAWING



CLIENT: **Jacobs**

DELIVERY REFERENCE	B1300	WORK STAGE	EA4	SUITABILITY CODE	S4	LOD	LOD4
--------------------	-------	------------	-----	------------------	----	-----	------

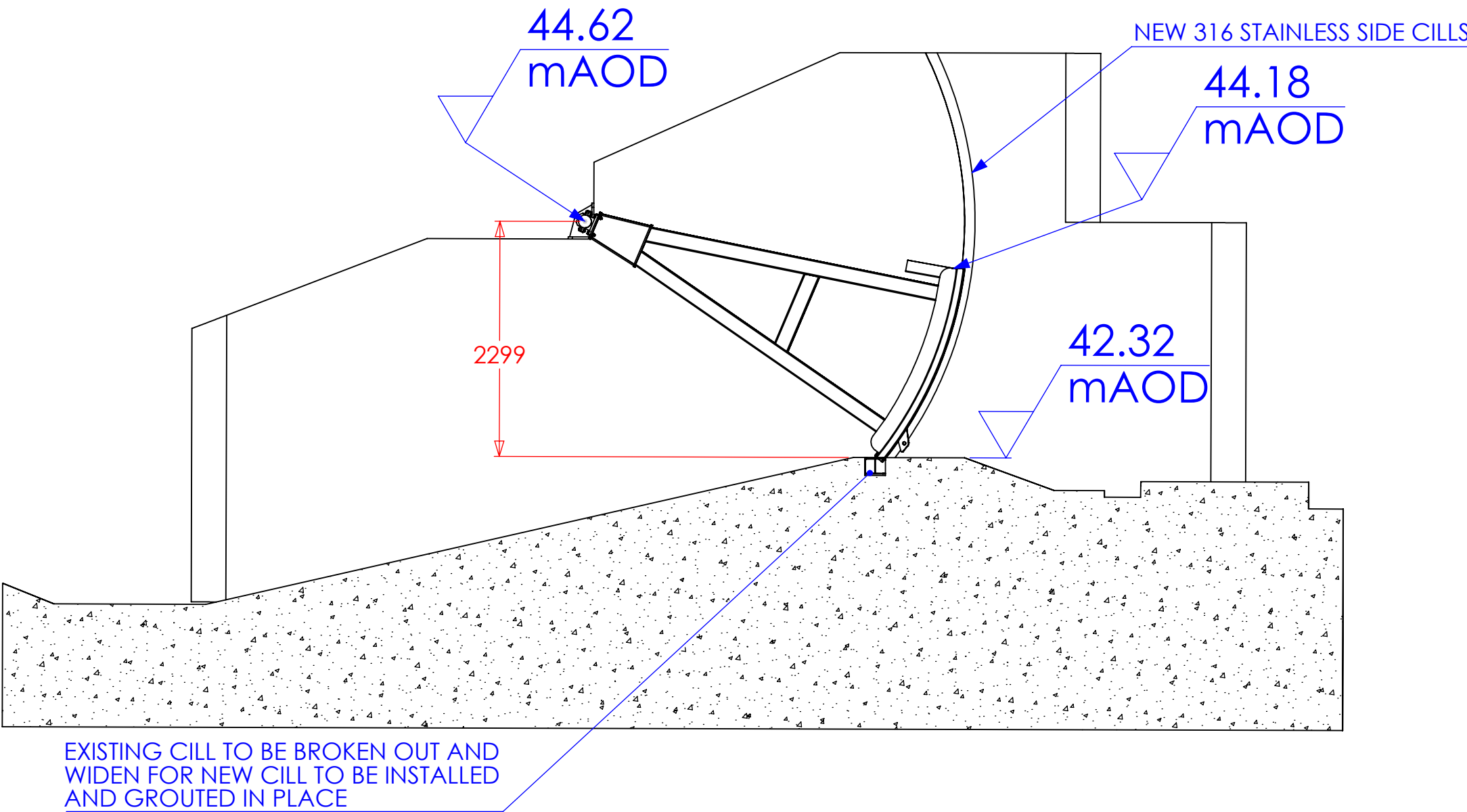
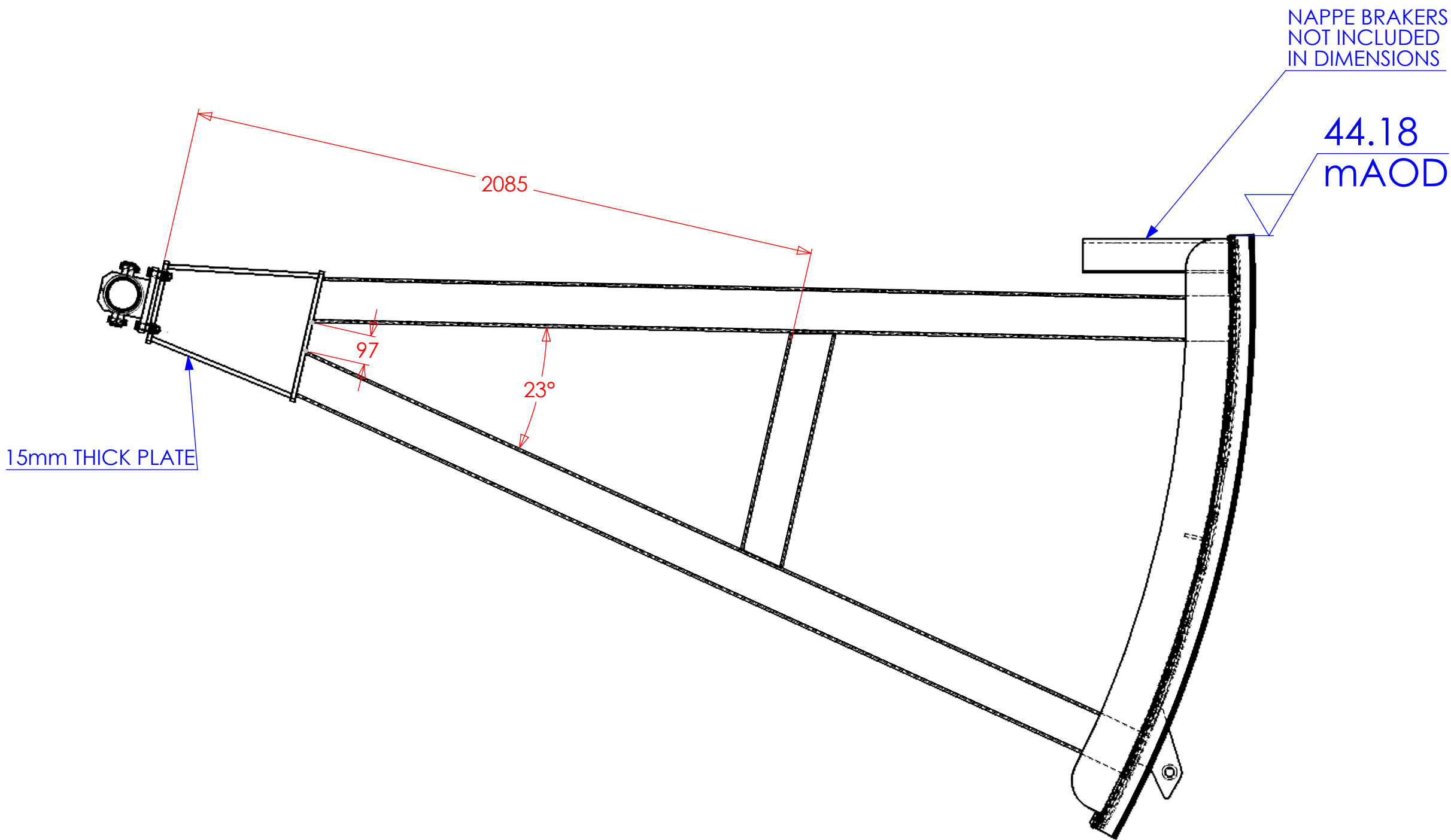
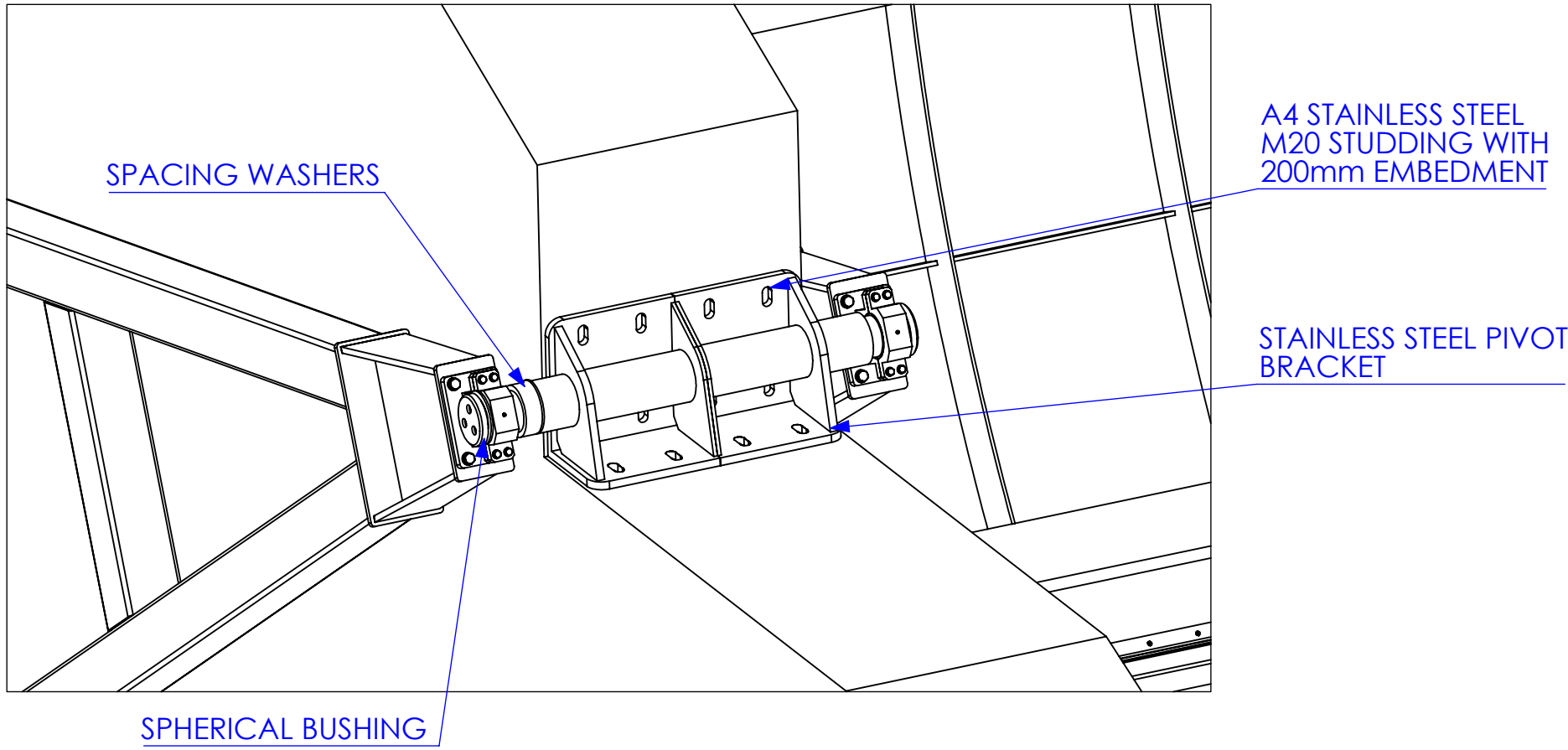
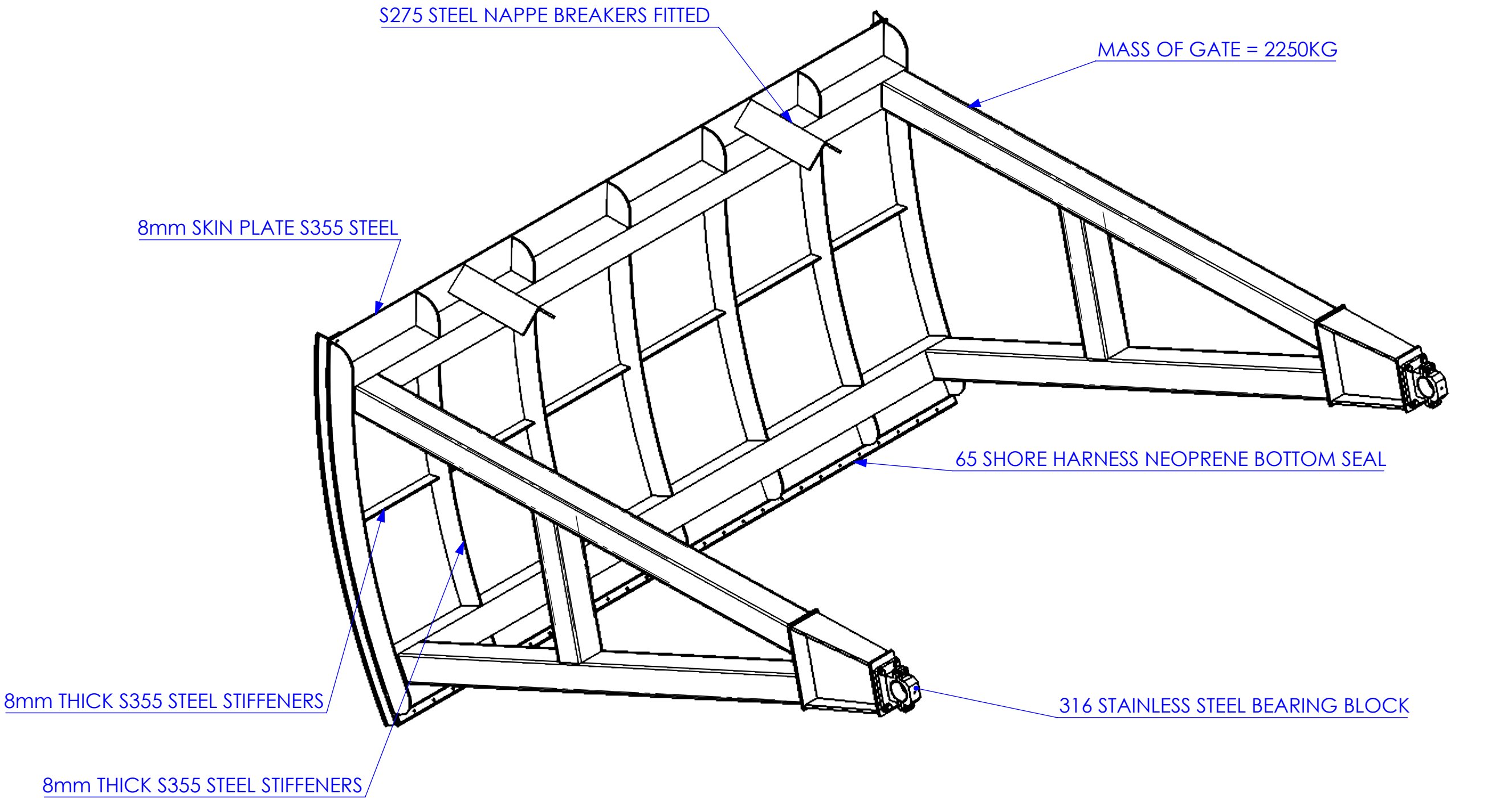
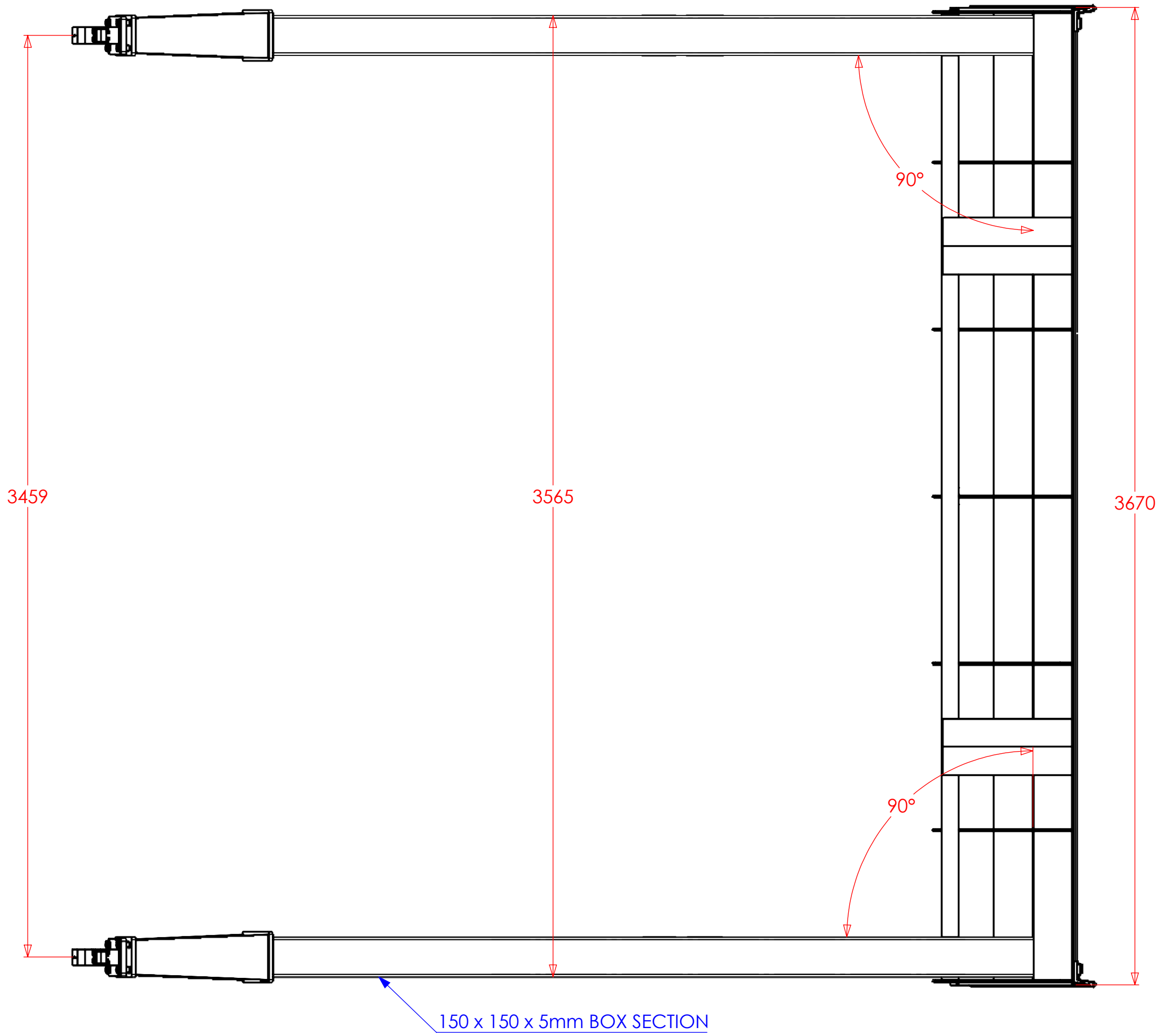
BIM REFERENCE
ENV0003198C-JAC-ZZ-00-DR-C- 1350

PROJECT NAME
BENSON WEIR

HUNTON DRAWING No. 8148-BEN-DRA-02 SHEET No. 5 of 14

SHEET TITLE
HAND GATE GA REV No. CO4

4 NO. LARGE POWERED RADIAL GATE
MASS = 2310KG PER GATE



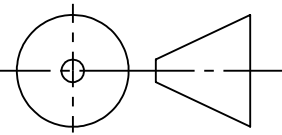
NOTES

- ALL DIMENSIONS ARE IN mm UNLESS STATED OTHERWISE.
- MANUFACTURE TO BSEN1090 EXECUTION CLASS 3. UKCA MARKED.
- ALL STRUCTURAL STEEL TO BE S355J0. ANCILLARY STEEL TO BE S275 JR.
- ALL FILLET WELDS TO BE CONTINUOUS 6mm CFW OR FP BUTT WELD UNLESS OTHERWISE STATED.
- SUBMERGED COMPONENTS TO BE PAINTED TO CS-IMI SPECIFICATION TO COLOUR RAL 7031.
- ALL DIMENSIONS ARE TO BE CHECKED BY THE CONTRACTOR.

REVISIONS

REV.	DESCRIPTION	DATE	APPROVED
------	-------------	------	----------

THIRD ANGLE ROJECTION



THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HUNTON ENGINEERING DESIGN LTD (HEDL). ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HEDL IS PROHIBITED.

FOR CONSTRUCTION

DIMENSIONS ARE IN MM UNLESS NOTED
TOLERANCES: GENERAL +/- 2MM AT ENGINEERS DISCRETION
ANGULAR: MACHINED AS NOTED, BEND +/- 1 DEGREE AT ENGINEERS DISCRETION
MACHINING: TOLERANCES AS NOTED ON DRAWING

	NAME	DATE
DRAWN	L.ROBERTS	18/12/2023
CHECKED	P.WARD	18/12/2023
APPROVED	S.TROW	18/12/2023

DO NOT SCALE DRAWING



CLIENT:

Jacobs

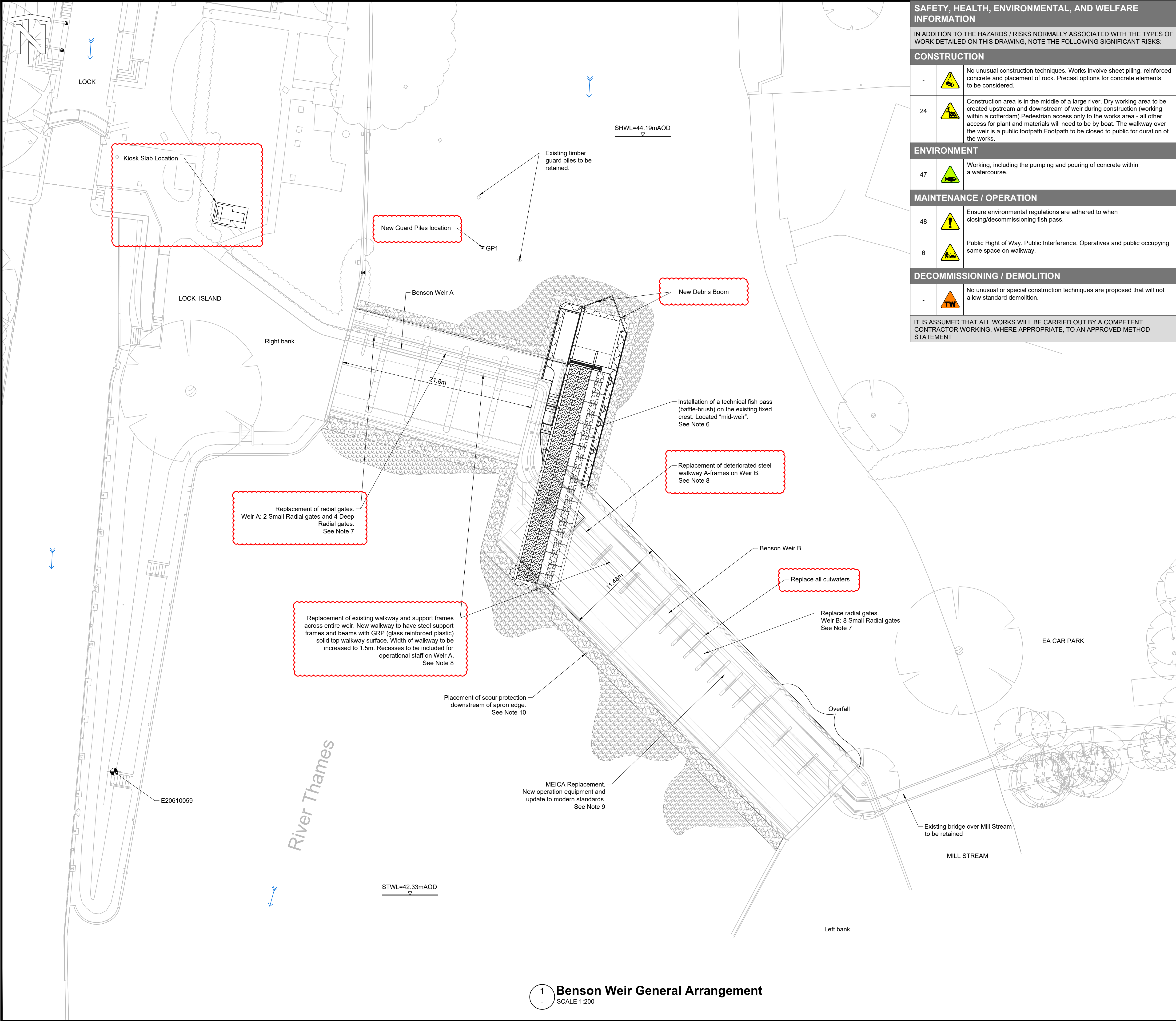
DELIVERY REFERENCE	B1300	WORK STAGE	EA4	SUITABILITY CODE	S4	LOD	LOD4
--------------------	-------	------------	-----	------------------	----	-----	------

BIM REFERENCE	ENV0003198C-JAC-ZZ-00-DR-C- 1300
---------------	----------------------------------

PROJECT NAME	BENSON WEIR
--------------	-------------

HUNTON DRAWING No.	8148-BEN-DRA-02	SHEET No.	1 of 14
--------------------	-----------------	-----------	---------

SHEET TITLE	LARGE RADIAL GATE	REV No.	C04
-------------	-------------------	---------	-----



SAFETY, HEALTH, ENVIRONMENTAL, AND WELFARE INFORMATION

IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS:

CONSTRUCTION

-

No unusual construction techniques. Works involve sheet piling, reinforced concrete and placement of rock. Precast options for concrete elements to be considered.

24

Construction area is in the middle of a large river. Dry working area to be created upstream and downstream of weir during construction (working within a cofferdam). Pedestrian access only to the works area - all other access for plant and materials will need to be by boat. The walkway over the weir is a public footpath. Footpath to be closed to public for duration of the works.

ENVIRONMENT

47

Working, including the pumping and pouring of concrete within a watercourse.

MAINTENANCE / OPERATION

48

Ensure environmental regulations are adhered to when closing/decommissioning fish pass.

6

Public Right of Way. Public Interference. Operatives and public occupying same space on walkway.

DECOMMISSIONING / DEMOLITION

-

No unusual or special construction techniques are proposed that will not allow standard demolition.

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

GENERAL NOTES

- All dimensions in metres unless otherwise stated.
- OS Mapping Background.
- For Benson Weir Site Plan see Document Number: ENV0003198C-JAC-ZZ-00-DR-C-1000.
- For Benson Weir Utilities Plan see Document Number: ENV0003198C-JAC-ZZ-00-DR-UT-1002.
- For Benson Weir Access & Compound Locations see Document Number: ENV0003198C-JAC-ZZ-00-DR-C-1300.
- For Fish Pass General arrangement, see drawing ENV0003198C-JAC-SF-00-DR-C-1520.
- For Gate Replacement Details, see drawings ENV0003198C-JAC-ZZ-00-DR-C-1300 & ENV0003198C-JAC-ZZ-00-DR-C-1350.
- For Walkway & A-Frame Replacement Details, see drawings ENV0003198C-JAC-ZZ-00-DR-C-1100-1102 & ENV0003198C-JAC-ZZ-00-DR-C-1190-1198.
- For Headworks Details, see drawing ENV0003198C-JAC-ZZ-00-DR-ME-7000-7007.
- For Rip-rap extents and details, see drawings ENV0003198C-JAC-ZZ-00-DR-C-1210-1212.
- Level are meters above Ordnance Datum.

LEGEND

WATERCOURSE FLOW DIRECTION ARROW

SITE DATUM POINT

SCOUR PROTECTION ROCK

SITE DATUM

E20610059 (see witness diagram)

(461302.566mE, 191171.536mN, 44.345m AOD)

108642051015

SCALE 1:200 (m)

Rev.	Sta.	Description	Date	Originator	Checker	Reviewer	Approver
P01	S3	First Revision	11/10/22	WS	DH	DH	DH
P02	S3	Second revision	05/04/23	SB	DH	SK	SK
C03	A3	Third Revision	11/05/23	WS	DH	RB	SK
C04	A3	For Pricing	07/06/23	WS	RB	SK	SK
C05	A4	For Construction	13/02/24	WS	RB	SK	SK

Document Control

Jacobs.

Project Title

Benson Weir Refurbishment

Drawing Title

General Arrangement

Environment Agency

© copyright reserved

Parent Model

ENV0003198C-JAC-ZZ-00-DR-C-1001.dwg

Security Classification

Official

Scale

1:200

Originator

W. SZAJOR

Checker

R. BRANSBY

Reviewer

S. KHAN

Approver

S. KHAN

Suitability

A4 - Published Stage Gate 4

Status

A4

Revision

C05

Information Container

ENV0003198C-JAC-ZZ-00-DR-C-1001

A1 Sheet Size