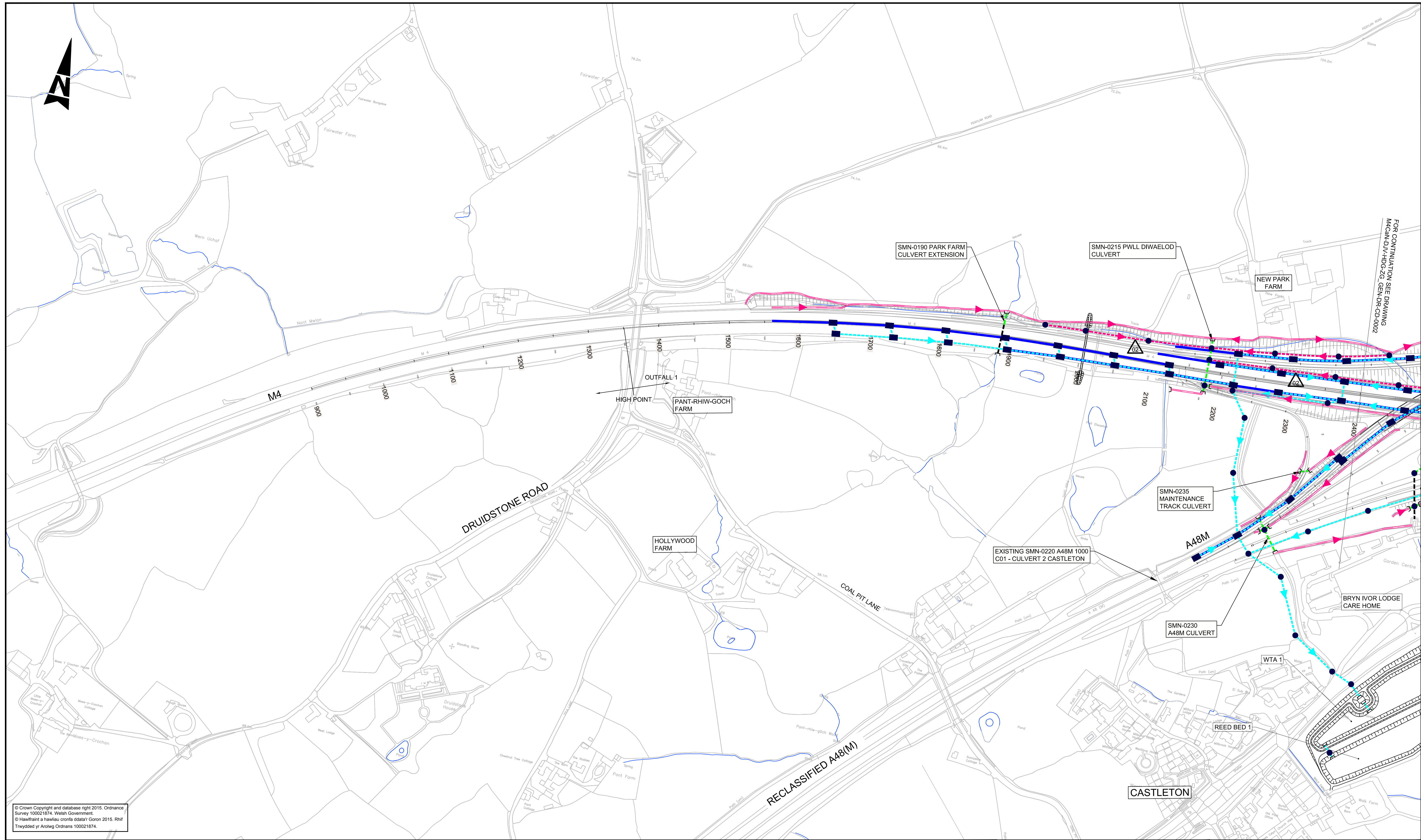


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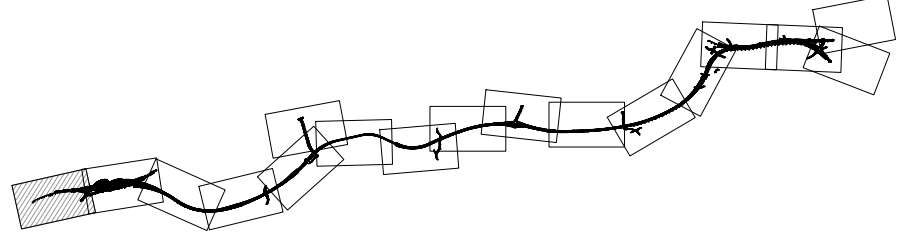
GENERAL NOTES:

- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
- ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
- FIN DRAINS NOT SHOWN FOR CLARITY, TO BE HCD F18 TYPE 7.

LEGEND:

- |   |   |  |
|---|---|--|
| CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7                          | REPLACEMENT REEN  | EXISTING NRW SLUICE                          |
| INTAKE CHAMBER - HCD F22 & F24  | REPLACEMENT FIELD DITCH                                 | PROPOSED NRW TILTING WEIR / PENSTOCK         |
| PETROL INTERCEPTOR  | HIGHWAY CUT OFF DITCH                                   | POTENTIAL NRW ACCESS (IN ABEYANCE)           |
| CONCRETE INTERCEPTOR  | FILTER DRAIN - HCD F2                                   | EXISTING CULVERT TO BE RETAINED              |
| CONCRETE INTERCEPTOR  | EXISTING REEN   | PROPOSED CULVERT                             |
| GRASS LINED DITCH IN BOX CULVERT  | EXISTING REEN TO BE FILLED                              | INDIRECT LOSS FIELD DITCHES                  |
| CARRIER PIPE - HCD F1   | EXISTING FIELD DITCH TO BE FILLED                       | SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY |
| CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12                                  | EXISTING FIELD DITCH TO BE RETAINED                     |  |
| CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW | PROPOSED CULVERT  |  |
| GRASS LINED CHANNEL   | COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW |  |
| COMBINED KERB DRAINAGE  |   |  |

KEY PLAN



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 residual risks (Reference shall also be made to the design hazard log).

Construction  
No exceptional risks

Maintenance / Cleaning  
No exceptional risks

Use  
No exceptional risks

Decommissioning / Demolition  
No exceptional risks

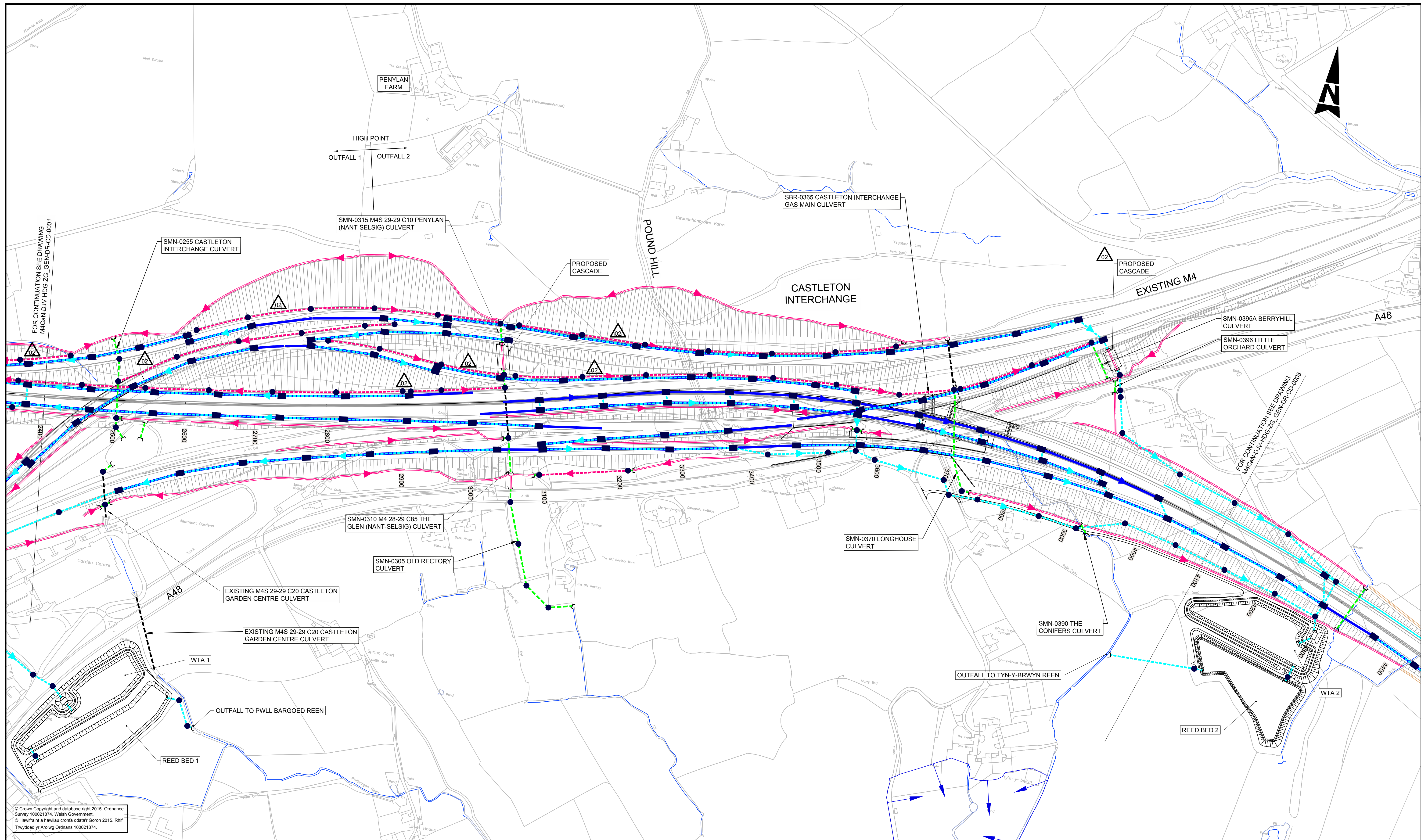
Rev.	Date	Description	By	Chk'd	App'd
ISSUE 1	27/01/16	FINAL ISSUE TO WG	DJW	TJD	HR
ISSUE 2	26/08/16	SUPPLEMENTARY ISSUE	DJW	WBO	HR

Drawing Status	Suitability	Project Title
Project Team		M4 CORRIDOR AROUND NEWPORT
Client		Drawing Title
		FIGURE R2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 1 OF 16
		Scale
		1:2500
		Designed / Drawn
		DJW
		Checked
		WBO
		Approved
		HR
		Authorised
		KEN
		Original Size
		A1
		Date
		25/08/16
		Date
		25/08/16
		Date
		25/08/16
		Date
		26/08/16
		Drawing Number
		Project
		M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0001
		Originator
		Volume
		Revision
		ISSUE 2



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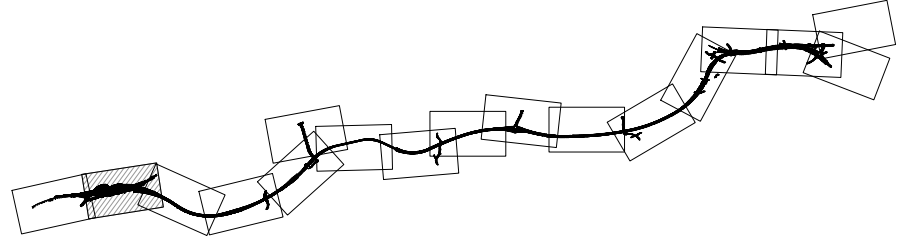
GENERAL NOTES:

- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
- ONLY WRITTEN DIMENSIONS SHALL BE USED. DO NOT SCALE.
- FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.

LEGEND:

- |   |   |  |
|---|---|--|
| CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7                          | REPLACEMENT REEN  | EXISTING NRW SLUICE                          |
| INTAKE CHAMBER - HCD F22 & F24  | REPLACEMENT FIELD DITCH                                 | PROPOSED NRW TILTING WEIR / PENSTOCK         |
| PETROL INTERCEPTOR  | HIGHWAY CUT OFF DITCH                                   | POTENTIAL NRW ACCESS (IN ABEYANCE)           |
| CONCRETE HEADWALL   | FILTER DRAIN - HCD F2                                   | EXISTING CULVERT TO BE RETAINED              |
| GRASS LINED DITCH IN BOX CULVERT  | EXISTING REEN   | PROPOSED CULVERT                             |
| CARRIER PIPE - HCD F1   | EXISTING REEN TO BE FILLED                              | INDIRECT LOSS FIELD DITCHES                  |
| CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12                                  | EXISTING FIELD DITCH TO BE FILLED                       | SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY |
| CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW | EXISTING CULVERT TO BE RETAINED                         |  |
| GRASS LINED CHANNEL   | PROPOSED CULVERT  |  |
| COMBINED KERB DRAINAGE  | COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW |  |

KEY PLAN



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 residual risks (Reference shall also be made to the design hazard log).

Construction  
No exceptional risks

Maintenance / Cleaning  
No exceptional risks

Use  
No exceptional risks

Decommissioning / Demolition  
No exceptional risks

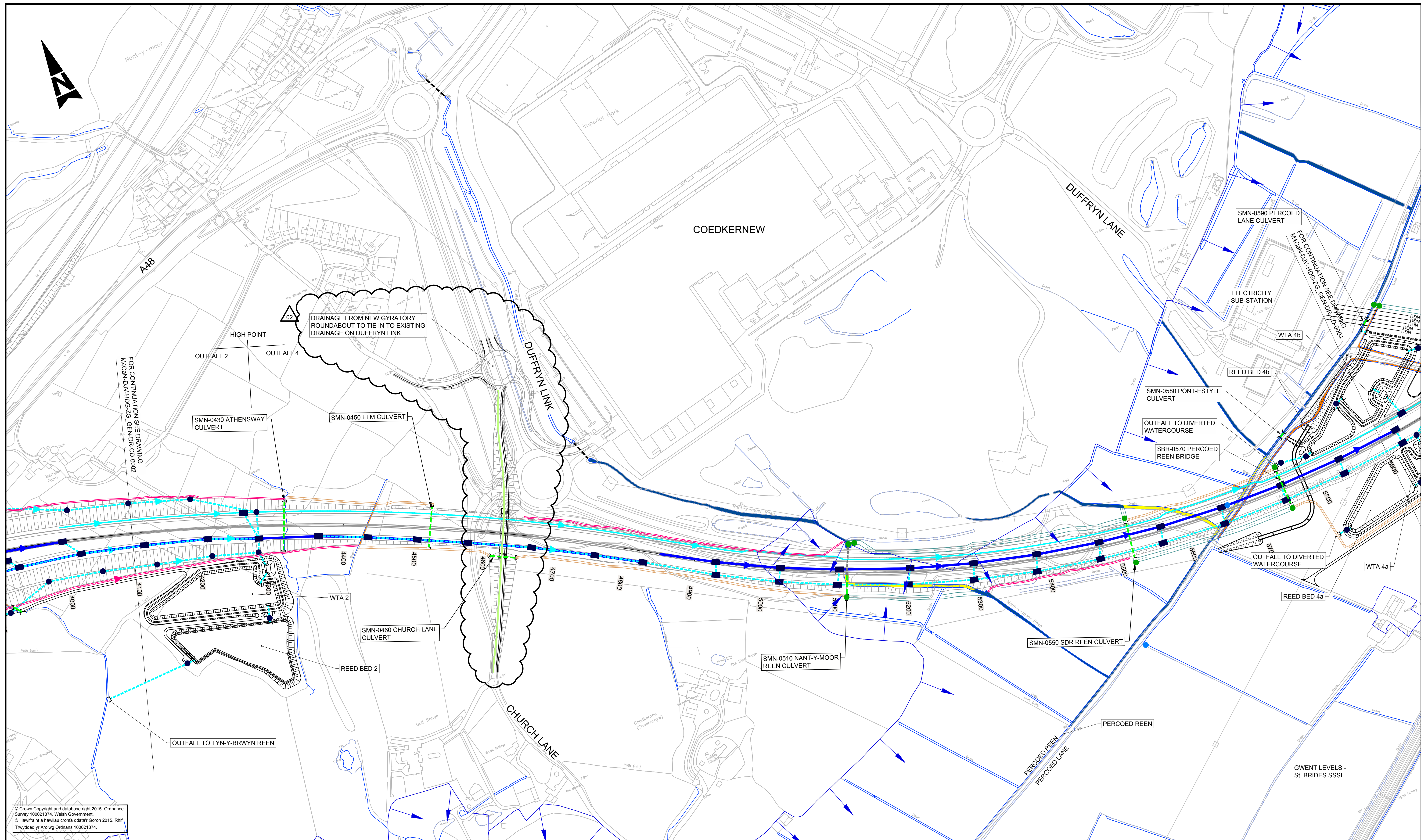
Rev.	Date	Description	By	Chkd	App'd
ISSUE 1	27/01/16	FINAL ISSUE TO WG	DJW	TJD	HR
ISSUE 2	26/08/16	SUPPLEMENTARY ISSUE	DJW	WBO	HR

Drawing Status	Suitability	Project Title
Project Team	Drawing Title	M4 CORRIDOR AROUND NEWPORT
Client	Figure R2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 2 OF 16	
Scale	Designed / Drawn	Checked
1:2500	DJW	WBO
Original Size	Date	Date
A1	25/08/16	25/08/16
Drawing Number	Originator	Volume
Project	M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0002	ISSUE 2
Location	Type	Role
		Number



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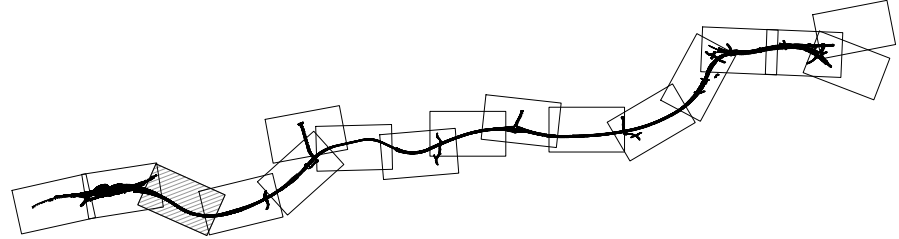
GENERAL NOTES:

- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- ONLY WRITTEN DIMENSIONS SHALL BE USED. DO NOT SCALE.
- FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.

LEGEND:

- |   |   |  |
|---|---|--|
| CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7                          | REPLACEMENT REEN  | EXISTING NRW SLUICE                          |
| INTAKE CHAMBER - HCD F22 & F24  | REPLACEMENT FIELD DITCH                                 |  |
| PETROL INTERCEPTOR  | HIGHWAY CUT OFF DITCH                                   | POTENTIAL NRW ACCESS (IN ABEYANCE)           |
| CONCRETE HEADWALL   | FILTER DRAIN - HCD F2                                   | EXISTING CULVERT TO BE RETAINED              |
| GRASS LINED DITCH IN BOX CULVERT  | EXISTING REEN   | PROPOSED CULVERT                             |
| CARRIER PIPE - HCD F1   | EXISTING REEN TO BE FILLED                              | INDIRECT LOSS FIELD DITCHES                  |
| CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12                                  | EXISTING FIELD DITCH TO BE FILLED                       | SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY |
| CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW | EXISTING CULVERT TO BE RETAINED                         |  |
| GRASS LINED CHANNEL   | PROPOSED CULVERT  |  |
| COMBINED KERB DRAINAGE  | COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW |  |

KEY PLAN



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 residual risks (Reference shall also be made to the design hazard log).


Construction  
No exceptional risks

Maintenance / Cleaning  
No exceptional risks

Use  
No exceptional risks

Decommissioning / Demolition  
No exceptional risks

ISSUE	27/01/16	FINAL ISSUE TO WG	DJW	TJD	HR
ISSUE 2	26/08/16	SUPPLEMENTARY ISSUE	DJW	WBO	HR
Rev.	Date	Description	By	Chkd	App'd

Drawing Status		Suitability		Project Title M4 CORRIDOR AROUND NEWPORT							
Project Team				Drawing Title FIGURE R2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 3 OF 16							
Client		Scale 1:2500		Designed / Drawn DJW		Checked WBO		Approved HR		Authorised KEN	
		Original Size A1		Date 25/08/16		Date 25/08/16		Date 25/08/16		Date 26/08/16	
		Drawing Number		Project		Originator		Volume		Revision	
 Llywodraeth Cymru Welsh Government				M4CaN - DJV - HDG -							
				ZG_GEN - DR - CD - 0003							
		Location		Type		Role		Number		ISSUE 2	





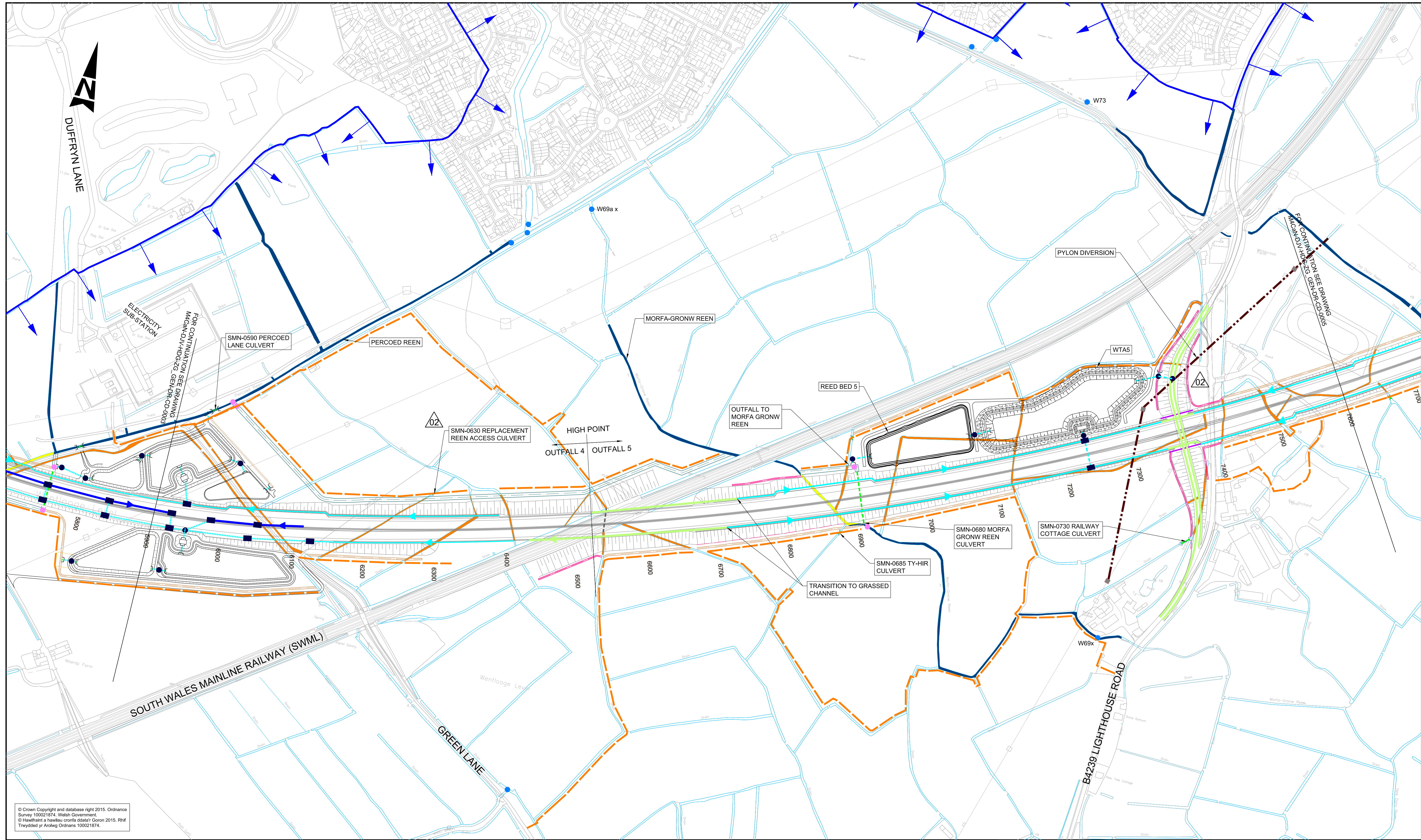
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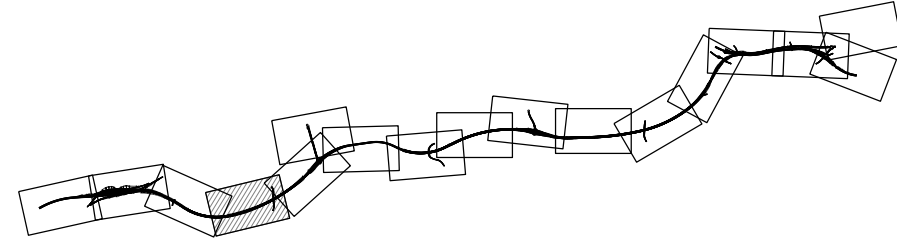
GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ONLY WRITTEN DIMENSIONS SHALL BE USED. DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7

LEGEND:

- CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7
- INTAKE CHAMBER - HCD F22 & F24
- PETROL INTERCEPTOR
- CONCRETE HEADWALL
- GRASSED CHANNEL IN BOX CULVERT
- CARRIER PIPE - HCD F1
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW
- GRASSED CHANNEL
- COMBINED KERB DRAINAGE
- REPLACEMENT REEN
- REPLACEMENT FIELD DITCH
- HIGHWAY CUT OFF DITCH
- FILTER DRAIN - HCD F2
- EXISTING REEN
- EXISTING REEN TO BE FILLED
- EXISTING FIELD DITCH TO BE FILLED
- EXISTING CULVERT TO BE RETAINED
- PROPOSED CULVERT
- COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW

KEY PLAN:



- EXISTING NRW SLUICE
- PROPOSED NRW TILTING WEIR/PENSTOCK
- POTENTIAL NRW ACCESS (IN ABEYANCE)
- INDIRECT LOSS FIELD DITCHES
- PROPOSED CULVERT
- COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW
- SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

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 residual risks (Reference shall also be made to the design hazard log).

Construction  
No exceptional risks

Maintenance / Cleaning  
Culverts partially submerged

Use  
No exceptional risks

Decommissioning / Demolition  
No exceptional risks

Rev.	Date	Description	By	Chk'd	App'd
ISSUE 1	27/01/16	FINAL ISSUE TO WG	AC	DOL	HR
ISSUE 2	26/08/16	SUPPLEMENTARY ISSUE	AC	DOL	HR

Drawing Status	Suitability
Project Team	
Client	

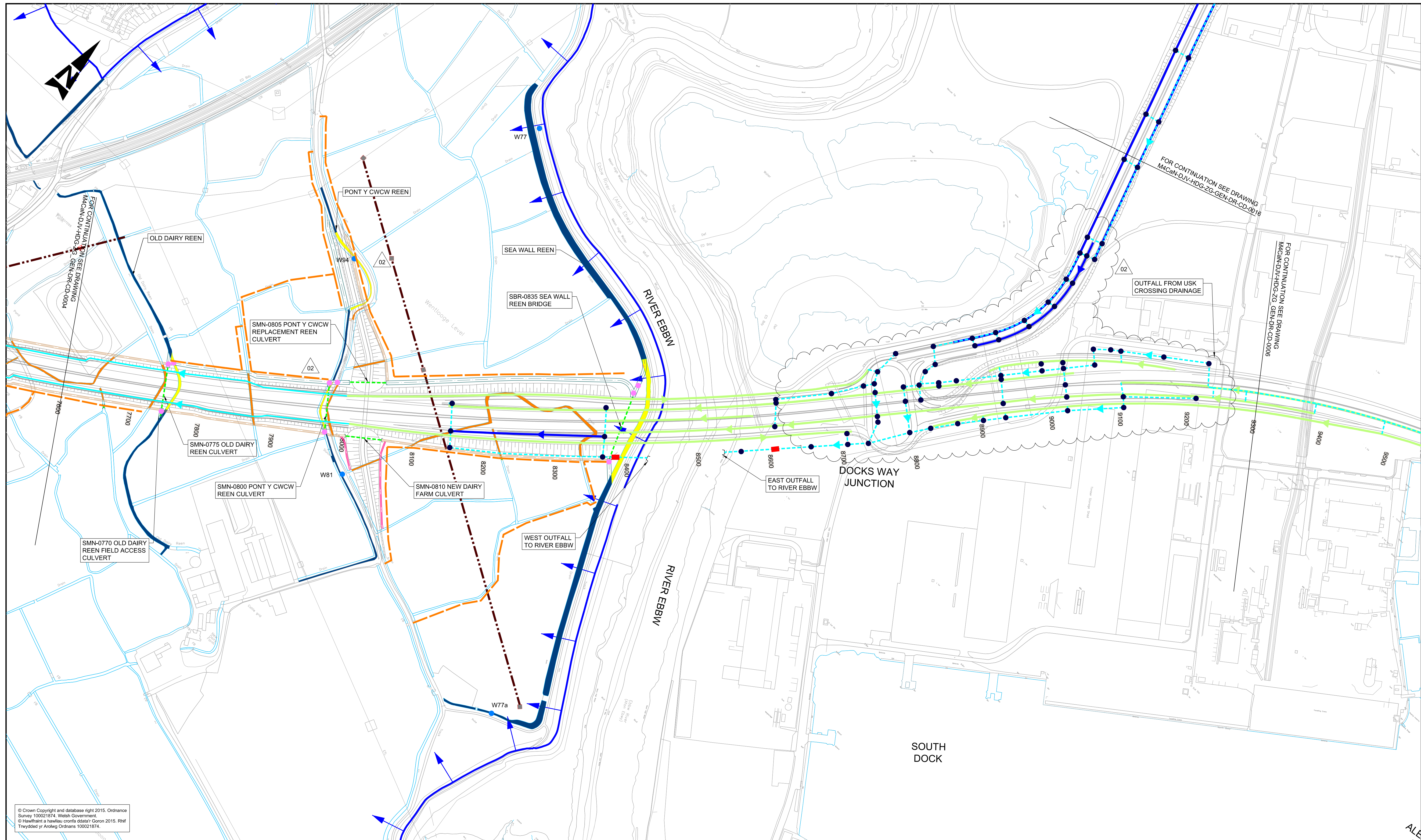


Project Title M4 CORRIDOR AROUND NEWPORT					
Drawing Title FIGURE R2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 4 OF 16					
Scale 1:2500	Designed / Drawn AC	Checked DOL	Approved HR	Authorised KEN	
Original Size A1	Date 25/08/16	Date 25/08/16	Date 26/08/16	Date 26/08/16	
Drawing Number Project	Originator M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0004	Volume	Revision ISSUE 2		



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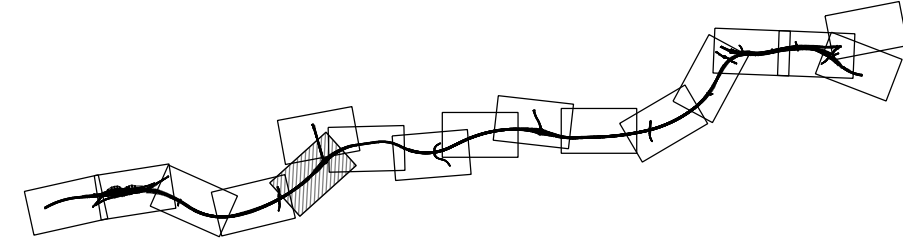
#### GENERAL NOTES:

- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
- FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F16 TYPE 7.

#### LEGEND:

- CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7
- INTAKE CHAMBER - HCD F22 & F24
- PETROL INTERCEPTOR
- CONCRETE HEADWALL
- GRASSED CHANNEL IN BOX CULVERT
- CARRIER PIPE - HCD F1
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW
- GRASSED CHANNEL
- COMBINED KERB DRAINAGE
- REPLACEMENT REEN
- REPLACEMENT FIELD DITCH
- HIGHWAY CUT OFF DITCH
- FILTER DRAIN - HCD F2
- EXISTING REEN
- EXISTING REEN TO BE FILLED
- EXISTING FIELD DITCH TO BE FILLED
- EXISTING CULVERT TO BE RETAINED
- PROPOSED CULVERT
- COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW

#### KEY PLAN:



- EXISTING NRW SLUICE
- PROPOSED NRW TILTING WEIR/PENSTOCK
- POTENTIAL NRW ACCESS (IN ABEYANCE)
- INDIRECT LOSS FIELD DITCHES
- SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

#### 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 residual risks (Reference shall also be made to the design hazard log).

Construction  
No exceptional risks

Maintenance / Cleaning  
Culverts partially submerged  
Main bridge drainage to outfalls at bridge abutment

Use  
No exceptional risks

Decommissioning / Demolition  
No exceptional risks

ISSUE 04/02/16  
ISSUE 2 26/08/16

FINAL ISSUE TO WG  
SUPPLEMENTARY ISSUE

Rev.	Date	Description	By	Chk'd	App'd
ISSUE 1	27/01/16	FINAL ISSUE TO WG		AC	DOL
ISSUE 2	26/08/16	SUPPLEMENTARY ISSUE		AC	DOL

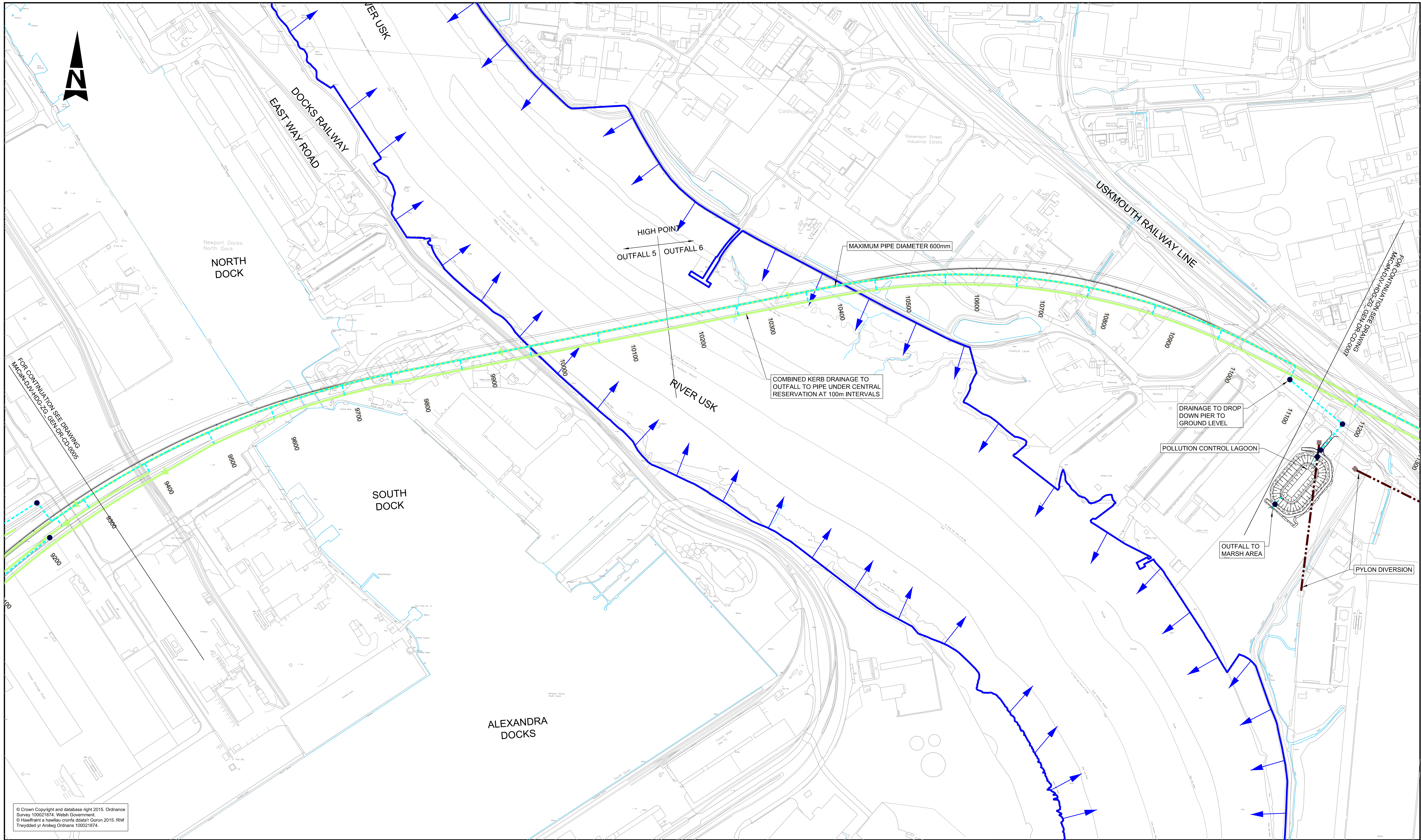
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Project Team		M4 CORRIDOR AROUND NEWPORT
Client		Drawing Title
		FIGURE R2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 5 OF 16
Scale	Designed / Drawn	Checked
1:2500	AC	DOL
Original Size	Date	Date
A1	25/08/16	25/08/16
Drawing Number	Originator	Volume
Project	M4Can - DJV - HDG - ZG_GEN - DR - CD - 0005	ISSUE 2
Location	Type	Role
		Number





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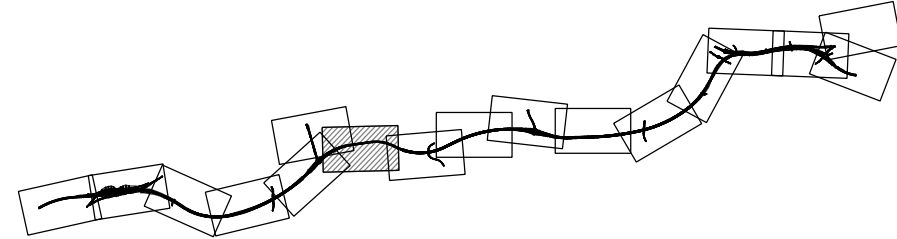
#### GENERAL NOTES:

- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
- FIN DRAIN NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.

#### LEGEND:

- CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7
- INTAKE CHAMBER - HCD F22 & F24
- PETROL INTERCEPTOR
- CONCRETE HEADWALL
- GRASSED CHANNEL IN BOX CULVERT
- CARRIER PIPE - HCD F1
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW
- GRASSED CHANNEL
- COMBINED KERB DRAINAGE
- REPLACEMENT REEN
- REPLACEMENT FIELD DITCH
- HIGHWAY CUT OFF DITCH
- FILTER DRAIN - HCD F2
- EXISTING REEN
- EXISTING REEN TO BE FILLED
- EXISTING FIELD DITCH TO BE FILLED
- EXISTING CULVERT TO BE RETAINED
- PROPOSED CULVERT
- COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW

#### KEY PLAN:



- EXISTING NRW SLUICE
- PROPOSED NRW TILTING WEIR/PENSTOCK
- POTENTIAL NRW ACCESS (IN ABEYANCE)
- INDIRECT LOSS FIELD DITCHES
- SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

#### 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 residual risks (Reference shall also be made to the design hazard log).

Construction  
Large diameter pipe underneath bridge deck

Maintenance / Cleaning  
Large diameter pipe underneath bridge deck

Use  
No exceptional risks

Decommissioning / Demolition  
No exceptional risks

ISSUE	27/01/16	FINAL ISSUE TO WG	AC	DOL	HR
ISSUE 2	26/08/16	SUPPLEMENTARY ISSUE	AC	DOL	HR
Rev.	Date	Description	By	Chk'd	App'd

Drawing Status	Suitability	Project Title
Project Team		
Client		



M4 CORRIDOR AROUND NEWPORT					
Drawing Title					
FIGURE R2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 6 OF 16					
Scale	Designed / Drawn	Checked	Approved	Authorised	
1:2500	AC	DOL	HR	KEN	
Original Size	Date	Date	Date	Date	Date
A1	25/08/16	25/08/16	26/08/16	26/08/16	26/08/16
Drawing Number	Project	Originator	Volume	Revision	
		M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0006		ISSUE 2	
Location	Type	Role	Number		







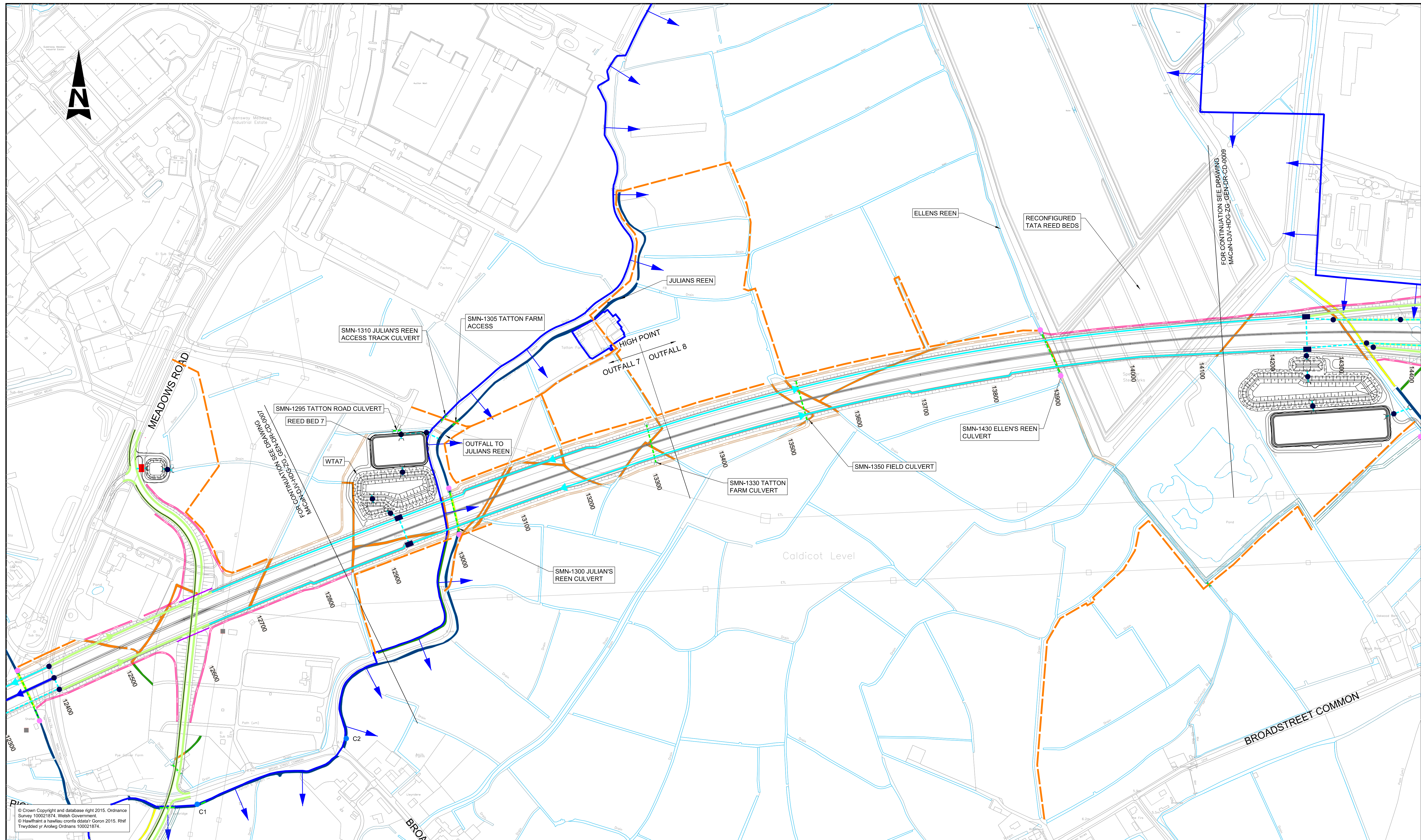
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GENERAL NOTES:

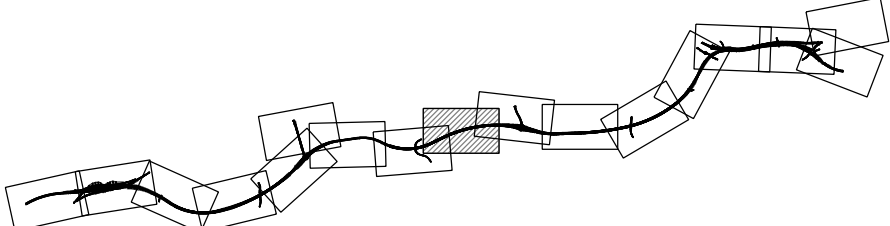
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
- FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F16 TYPE 7.

LEGEND:

- CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7
- INTAKE CHAMBER - HCD F22 & F24
- PETROL INTERCEPTOR
- CONCRETE HEADWALL
- GRASSED CHANNEL IN BOX CULVERT
- CARRIER PIPE - HCD F1
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW
- GRASSED CHANNEL
- COMBINED KERB DRAINAGE

- REPLACEMENT REEN
- REPLACEMENT FIELD DITCH
- HIGHWAY CUT OFF DITCH
- FILTER DRAIN - HCD F2
- EXISTING REEN
- EXISTING REEN TO BE FILLED
- EXISTING FIELD DITCH TO BE FILLED
- EXISTING CULVERT TO BE RETAINED
- PROPOSED CULVERT
- COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW

KEY PLAN:



- EXISTING NRW SLUICE
- PROPOSED NRW TILTING WEIR/PENSTOCK
- POTENTIAL NRW ACCESS (IN ABEYANCE)
- INDIRECT LOSS FIELD DITCHES
- PROPOSED CULVERT
- SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

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 residual risks (Reference shall also be made to the design hazard log).

Construction

No exceptional risks

Maintenance / Cleaning

Culverts partially submerged

Use

No exceptional risks

Decommissioning / Demolition

No exceptional risks

Rev.	Date	Description	By	Chk'd	App'd
ISSUE	27/01/16	FINAL ISSUE TO WG			
ISSUE 2	26/08/16	SUPPLEMENTARY ISSUE			

Drawing Status	Suitability	Project Title
Project Team		M4 CORRIDOR AROUND NEWPORT
Client		Drawing Title
		FIGURE R2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 8 OF 16
		Scale
		1:2500
		Original Size
		A1
		Date
		25/08/16
		Checked
		DOL
		Date
		25/08/16
		Approved
		HR
		Date
		26/08/16
		Authorised
		KEN
		Date
		26/08/16
		Drawing Number
		Project
		M4Can - DJV - HDG - ZG_GEN - DR - CD - 0008
		Originator
		DJV
		Volume
		1
		Revision
		ISSUE 2



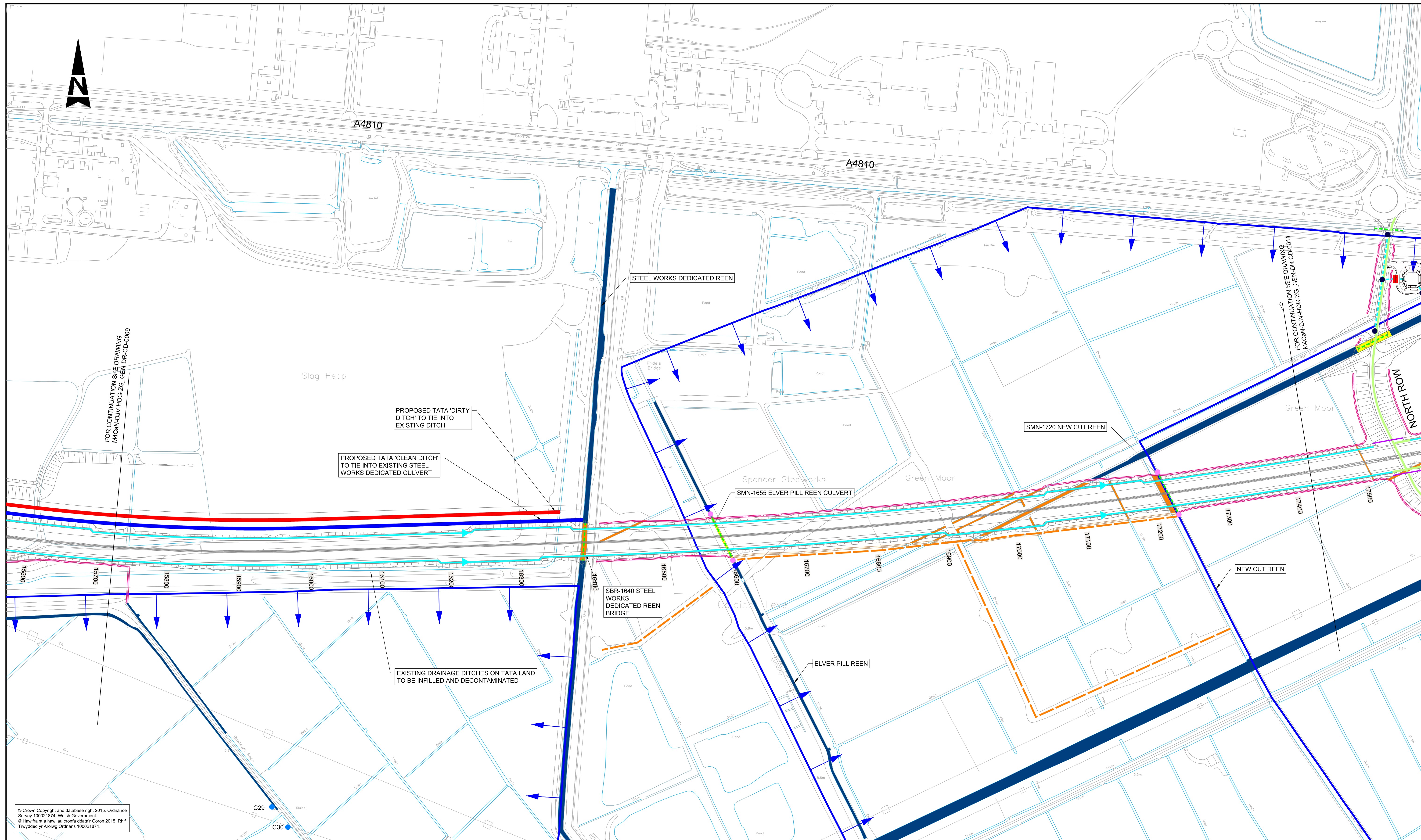






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- ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
- FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F16 TYPE 7.

**LEGEND:**

● CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7	REPLACEMENT REEN
■ INTAKE CHAMBER - HCD F22 & F24	REPLACEMENT FIELD DITCH
■ PETROL INTERCEPTOR	HIGHWAY CUT OFF DITCH
— CONCRETE HEADWALL	FILTER DRAIN - HCD F2
— GRASSED CHANNEL IN BOX CULVERT	EXISTING REEN
— CARRIER PIPE - HCD F1	EXISTING REEN TO BE FILLED
— CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12	EXISTING FIELD DITCH TO BE FILLED
— CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW	EXISTING CULVERT TO BE RETAINED
— GRASSED CHANNEL	PROPOSED CULVERT
— COMBINED KERB DRAINAGE	COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW

**KEY PLAN:**

● EXISTING NRW SLUICE	● PROPOSED NRW TILTING WEIR/PENSTOCK
— POTENTIAL NRW ACCESS (IN ABEYANCE)	— INDIRECT LOSS FIELD DITCHES
— EXISTING CULVERT TO BE RETAINED	— PROPOSED CULVERT
— SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY	

**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 residual risks (Reference shall also be made to the design hazard log).

Construction	Contaminated land
Maintenance / Cleaning	Culverts partially submerged
Use	No exceptional risks
Decommissioning / Demolition	No exceptional risks

Drawing Status	Suitability	Project Title
Project Team		M4 CORRIDOR AROUND NEWPORT
Client		FIGURE R2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 10 OF 16
		Scale: 1:2500 Original Size: A1
		Designed / Drawn: AC Date: 25/08/16
		Checked: DOL Date: 25/08/16
		Approved: HR Date: 26/08/16
		Authorised: KEN Date: 26/08/16
		Drawing Number: Project
		Originator: M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0010
		Volume: ISSUE 2
		Location: Type: Role: Number:

**Llywodraeth Cymru  
Welsh Government**



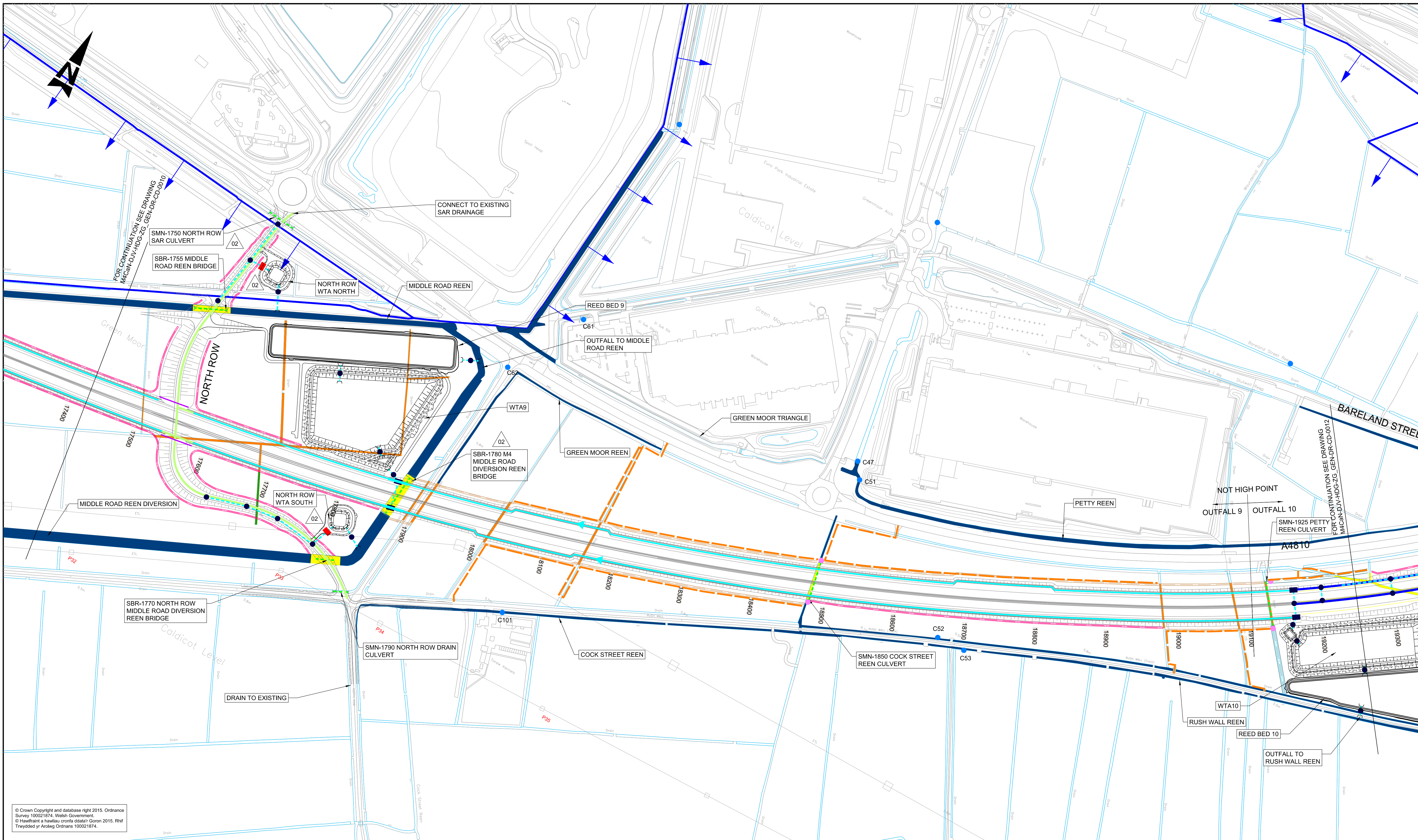
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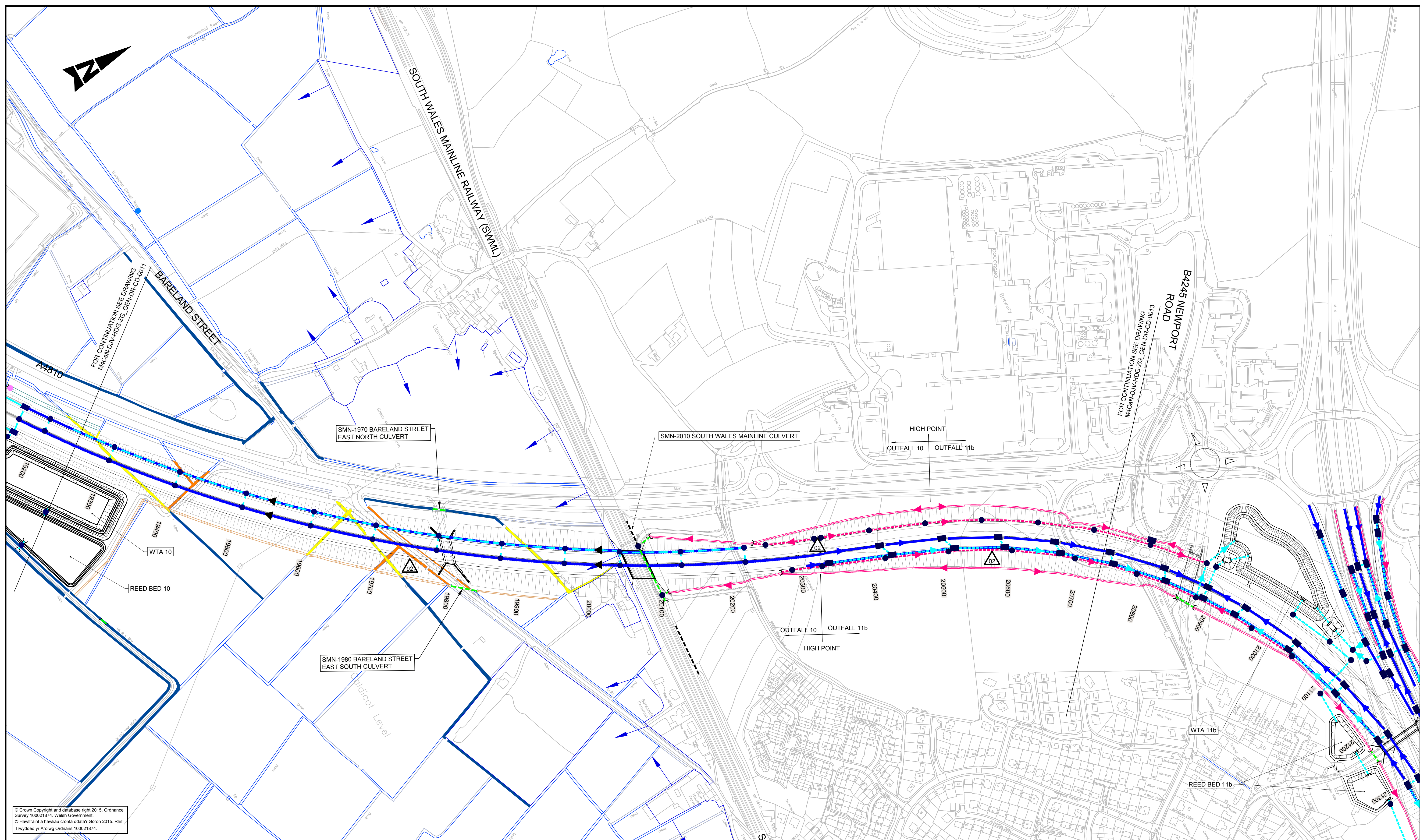




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








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GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.
4. WTA 11a REMOVED.

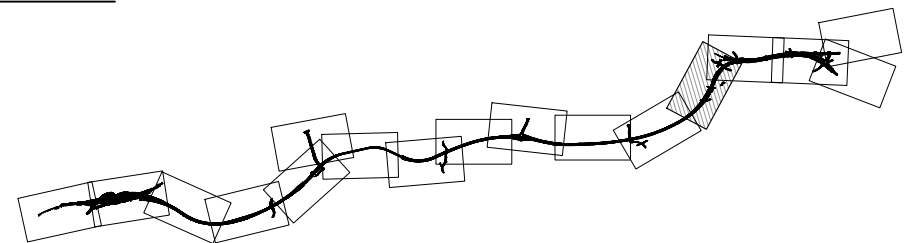
LEGEND:

-  CATCHPIP - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7
-  INTAKE CHAMBER - HCD F22 & F24
-  PETROL INTERCEPTOR
-  CONCRETE HEADWALL
-  GRASS LINED DITCH IN BOX CULVERT
-  CARRIER PIPE - HCD F1
-  CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12
-  CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW
-  GRASS LINED CHANNEL
-  COMBINED KERB DRAINAGE

- |   |                                   |
|---|-----------------------------------|
|  | REPLACEMENT REEN                  |
|  | REPLACEMENT FIELD DITCH           |
|  | HIGHWAY CUT OFF DITCH             |
|  | FILTER DRAIN - HCD F2             |
|  | EXISTING REEN                     |
|  | EXISTING REEN TO BE FILLED        |
|  | EXISTING FIELD DITCH TO BE FILLED |
|  | EXISTING CULVERT TO BE RETAINED   |
|  | PROPOSED CULVERT                  |
|  | COMBINED KERB DRAINAGE WITH       |

-  EXISTING NRW SLUICE
-  PROPOSED NRW TILTING WEIR / PENSTOCK
-  POTENTIAL NRW ACCESS (IN ABEYANCE)
-  INDIRECT LOSS FIELD DITCHES
-  SITE OF SPECIAL SCIENTIFIC INTEREST

## KEY PLAN



## 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 residual risks (Reference shall also be made to the design hazard log).


Construction
No exceptional risks

Maintenance / Cleaning
------------------------

1

Decommissioning / Demolition
No exceptional risks

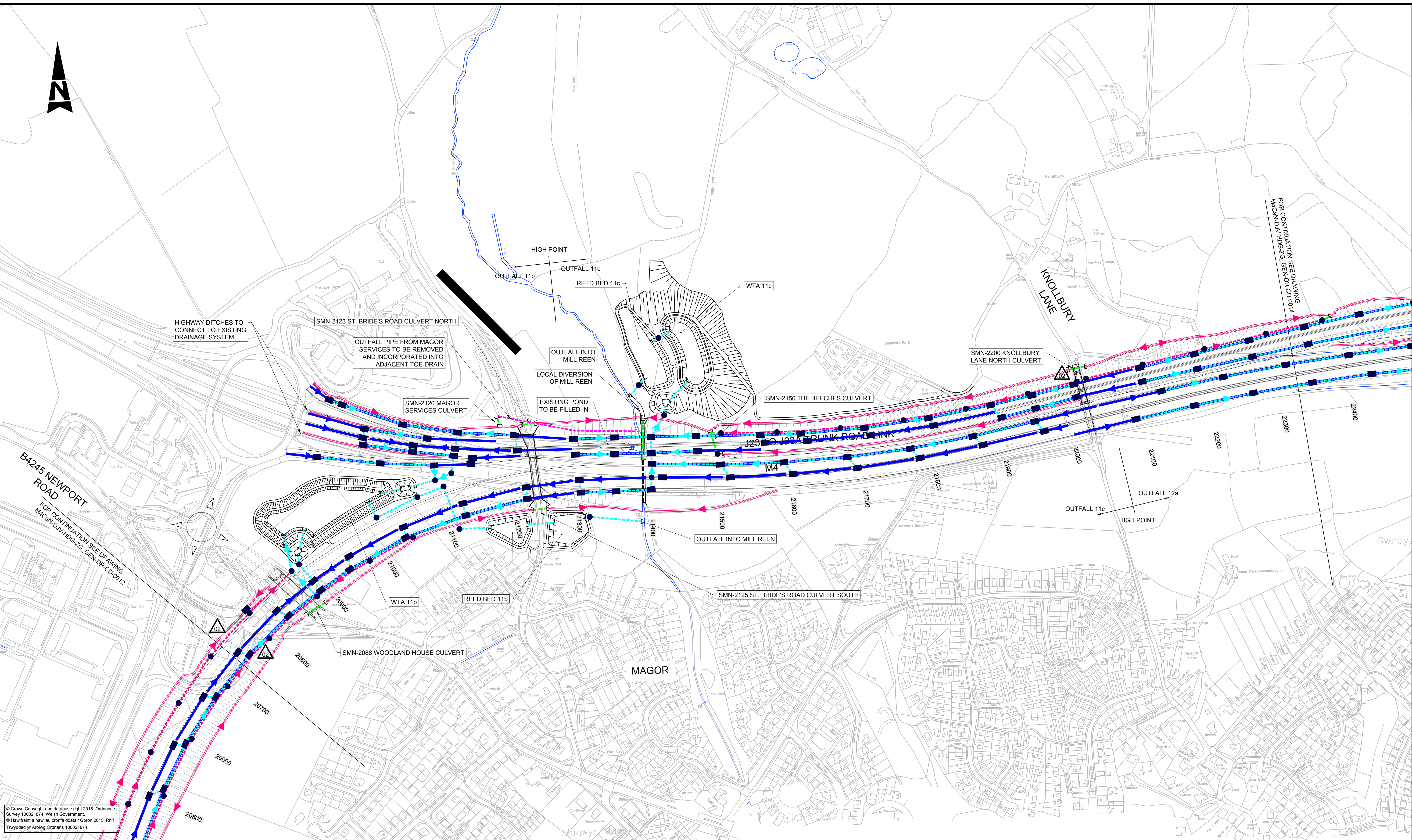
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Drawing Status		Suitability		Project Title M4 CORRIDOR AROUND NEWPORT				
Project Team				Drawing Title  FIGURE R2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 12 OF 16				
				Scale 1:2500	Designed / Drawn DJW	Checked WBO	Approved HR	Authorised KEN
Client				Original Size A1	Date 25/08/16	Date 25/08/16	Date 25/08/16	Date 26/08/16
 Llywodraeth Cymru Welsh Government				Drawing Number			Revision	
				Project	Originator	Volume	ISSUE 2	
				M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0012				
				Location	Type	Role	Number	



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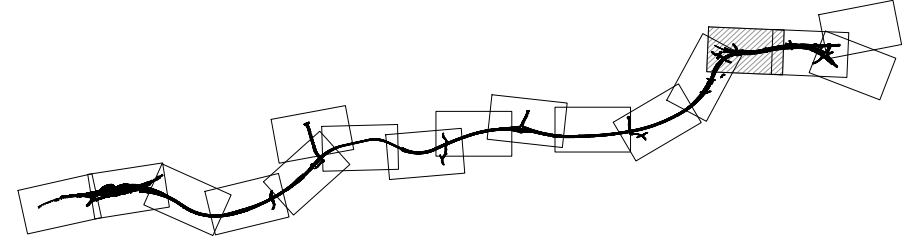
GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY, TO BE HCD F18 TYPE 7.

LEGEND:

- |   |   |                     |                                      |                                    |                             |  |                     |                                      |                                    |                             |
|---|---|---------------------|--------------------------------------|------------------------------------|-----------------------------|--|---------------------|--------------------------------------|------------------------------------|-----------------------------|
| CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7                          | REPLACEMENT REEN  | EXISTING NRW SLUICE |                                      |                                    |                             |  |                     |                                      |                                    |                             |
| INTAKE CHAMBER - HCD F22 & F24  | REPLACEMENT FIELD DITCH                                 |                     | PROPOSED NRW TILTING WEIR / PENSTOCK |                                    |                             |  |                     |                                      |                                    |                             |
| PETROL INTERCEPTOR  | HIGHWAY CUT OFF DITCH                                   |                     |                                      | POTENTIAL NRW ACCESS (IN ABEYANCE) |                             |  |                     |                                      |                                    |                             |
| CONCRETE HEADWALL   | FILTER DRAIN - HCD F2                                   |                     |                                      |                                    | INDIRECT LOSS FIELD DITCHES |  |                     |                                      |                                    |                             |
| GRASS LINED DITCH IN BOX CULVERT  | EXISTING REEN   |                     |                                      |                                    |                             | SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY |                     |                                      |                                    |                             |
| CARRIER PIPE - HCD F1   | EXISTING REEN TO BE FILLED                              |                     |                                      |                                    |                             |  | EXISTING NRW SLUICE |                                      |                                    |                             |
| CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12                                  | EXISTING FIELD DITCH TO BE FILLED                       |                     |                                      |                                    |                             |  |                     | PROPOSED NRW TILTING WEIR / PENSTOCK |                                    |                             |
| CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW | EXISTING CULVERT TO BE RETAINED                         |                     |                                      |                                    |                             |  |                     |                                      | POTENTIAL NRW ACCESS (IN ABEYANCE) |                             |
| GRASS LINED CHANNEL   | PROPOSED CULVERT  |                     |                                      |                                    |                             |  |                     |                                      |                                    | INDIRECT LOSS FIELD DITCHES |
| COMBINED KERB DRAINAGE  | COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW |                     |                                      |                                    |                             |  |                     |                                      |                                    |                             |

KEY PLAN




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 residual risks (Reference shall also be made to the design hazard log).

Construction	No exceptional risks
Maintenance / Cleaning	No exceptional risks
Use	No exceptional risks
Decommissioning / Demolition	No exceptional risks

Rev.	Date	Description	By	Chk'd	App'd
ISSUE 1	27/01/16	FINAL ISSUE TO WG	DJW	TJD	HR
ISSUE 2	26/08/16	SUPPLEMENTARY ISSUE	DJW	WBO	HR

Drawing Status		Suitability		Project Title			
				M4 CORRIDOR AROUND NEWPORT			
Project Team				Drawing Title			
				FIGURE R2.5			
				HIGHWAY DRAINAGE AND REEN MITIGATION			
				SHEET 13 OF 16			
Scale		Designed / Drawn	Checked	Approved	Authorised		
1:2500		DJW	WBO	HR	KEN		
Original Size		Date	Date	Date	Date		
A1		25/08/16	25/08/16	25/08/16	26/08/16		
Client		Drawing Number		Project	Originator	Volume	
 Llywodraeth Cymru		M4CaN - DJV - HDG -		ZG GEN - DR - CD - 0013		Revision	
						ISSUE 2	



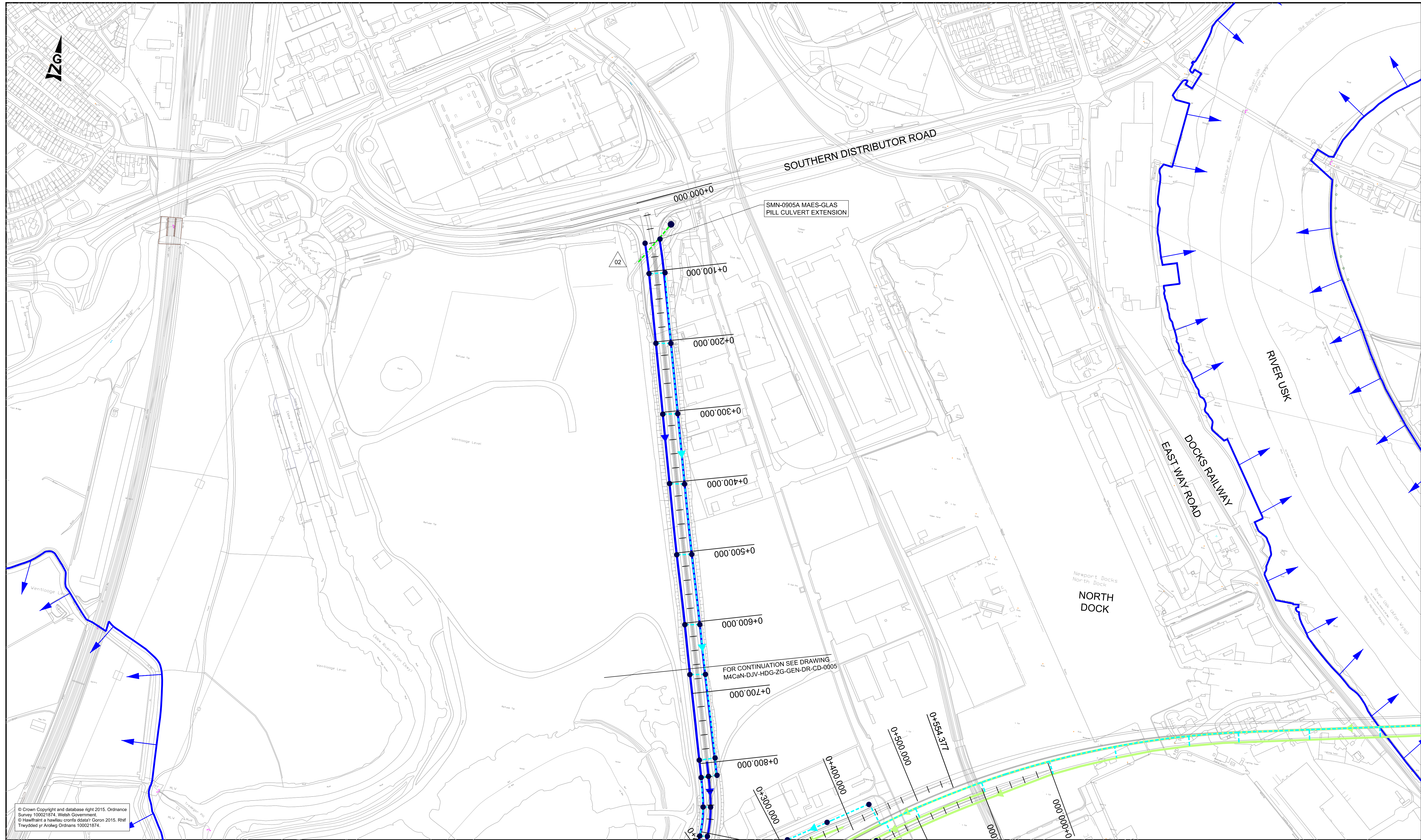






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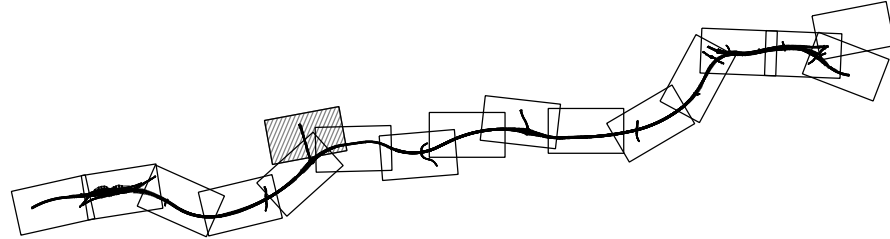
GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F16 TYPE 7.

LEGEND:

- CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7
- INTAKE CHAMBER - HCD F22 & F24
- PETROL INTERCEPTOR
- ▬ CONCRETE HEADWALL
- ▬ GRASSED CHANNEL IN BOX CULVERT
- ▬ CARRIER PIPE - HCD F1
- ▬ CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12
- ▬ CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW
- ▬ GRASSED CHANNEL
- ▬ COMBINED KERB DRAINAGE
- ▬ REPLACEMENT REEN
- ▬ REPLACEMENT FIELD DITCH
- ▬ HIGHWAY CUT OFF DITCH
- ▬ FILTER DRAIN - HCD F2
- ▬ EXISTING REEN
- ▬ EXISTING REEN TO BE FILLED
- ▬ EXISTING FIELD DITCH TO BE FILLED
- ▬ EXISTING CULVERT TO BE RETAINED
- ▬ PROPOSED CULVERT
- ▬ COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW

KEY PLAN:



- EXISTING NRW SLUICE
- PROPOSED NRW TILTING WEIR/PENSTOCK
- ▬ POTENTIAL NRW ACCESS (IN ABEYANCE)
- ▬ INDIRECT LOSS FIELD DITCHES
- ▬ SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

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 residual risks (Reference shall also be made to the design hazard log).

Construction  
No exceptional risks

Maintenance / Cleaning  
Maes Glas Pill Culvert access

Use  
No exceptional risks

Decommissioning / Demolition  
No exceptional risks

ISSUE	27/01/16	FINAL ISSUE TO WG		AC	DOL	HR
ISSUE 2	26/08/16	SUPPLEMENTARY ISSUE		AC	DOL	HR
Rev.	Date	Description		By	Chk'd	App'd

Drawing Status	Suitability	Project Title
Project Team		M4 CORRIDOR AROUND NEWPORT
Client		FIGURE R2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 16 OF 16



Drawing Title	Scale	Designed / Drawn	Checked	Approved	Authorised
	1:2500	AC	DOL	HR	KEN
Original Size	Date	Date	Date	Date	Date
A1	25/08/16	25/08/16	26/08/16	26/08/16	26/08/16
Drawing Number	Project	Originator	Volume	Revision	
		M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0016		ISSUE 2	
Location	Type	Role	Number		