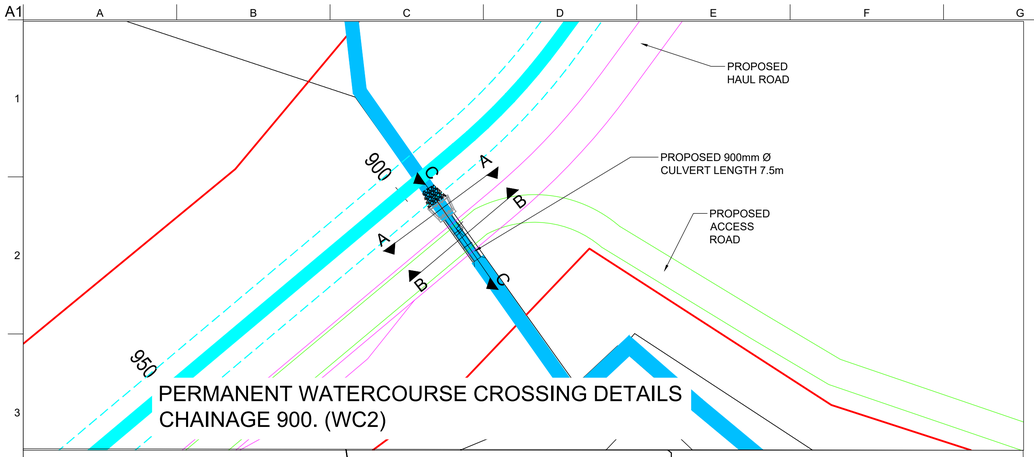


PERMANENT WATERCOURSE CROSSING DETAILS
CHAINAGE 900. (WC2)

SCHEDULE WATERCOURSE CULVERT / BRIDGE CROSSINGS FOR HV CABLE TRENCHES AND HAUL ROADS AND PERMENANT MAINTENANCE ROADS

Ref	Watercourse title	CH	Approx. Invert depth	PC CULVERT/ STEEL /UPVC FLUME BOTTOMLESS CULVERT Y/N	Approx. Culvert Pipe Dia.
OD1A	Open ditch	-435	1.9	Y	2m
WC 1	JOHNSTOWN NORTH	570	2.968	Y	2m
WC 2	JOHNSTOWN SOUTH	900	3.88	Y	900mm
OD1	Open ditch	1430	2.156	Y	2m
WC 3	TIKNOCK	1500	2.071	Y	2m
WC 4	COOLBOY	1940	3.068	N	N/A
WC 5	TEMPLERAINY	2700	2.771	N	N/A
WC 6	KILBRIDE	3830	4.189	Y	3m
WC 7	SHEEPWALK	4650/ 4460	1.610/ 1.610	N	N/A
WC 8	SHEEPWALK	4850	N/K	N	N/A
WC 9	Culvert at new Substation	5470	N/K	N	N/A

Notes:
1. Culvert / Bottomless Flume Pipe/Culvert sizes indicative and subject to structural / hydraulic design in relation to flow capacity of watercourse.

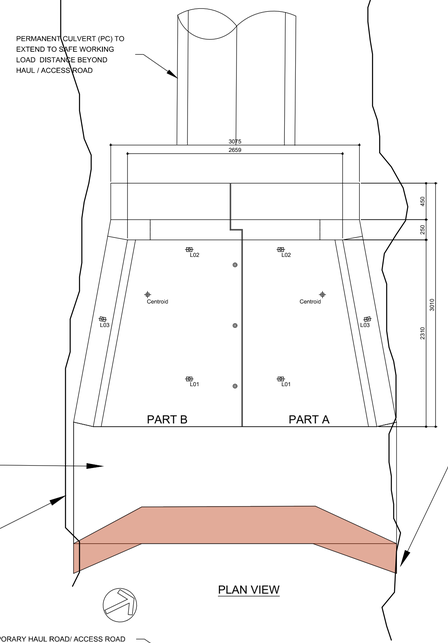
2. Inverts Depths and methods of works subject to trial pit & geotechnical investigation and soil types in relation to grading / trench box.

3. Silt Management plan to be provided for all crossings in advance of any relevant works

4. All works subject to permits and licences being approved by EPA, IFI, OPW and landowners in advance of any works.

5. All crossing points to facilitate for 2 number permanent 220 kv HV cable trenches (3nr 250mm OD dia) with earth bond + telecommunication cable (2nr 125mm OD dia.) Each trench with= 1.825m wide for flat formation and 800mm wide for trefoil formation).

6. All electrical works as per Electrical Engineers design.

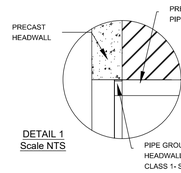


EXISTING RIVERBED TO BE PROTECTED WITH BIODEGRADABLE GEOTEXTILE

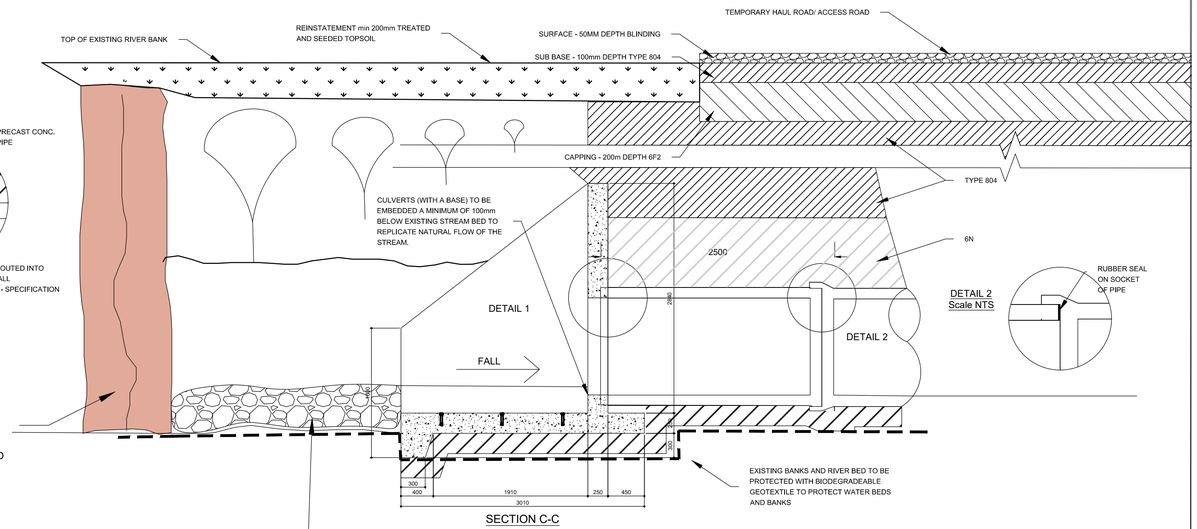
WATERCOURSE PROFILE EDGE

EXTENT OF SAND BAGS PLACED TO MATCH EXISTING PROFILE AND TO BE DAMMED UPSTREAM WITH WATERCOURSE REDIRECT ED DOWNSTREAM VI FILTER MEDIUM DURING INSTALLATION OF HAUL ROAD AND DUCTING FOR 220KV CABLES

PLAN VIEW



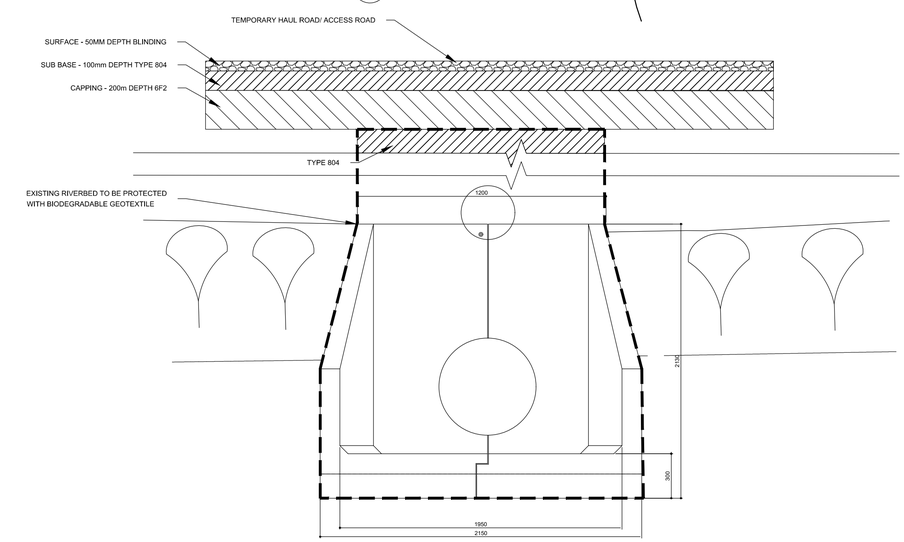
DETAIL 1
Scale NTS



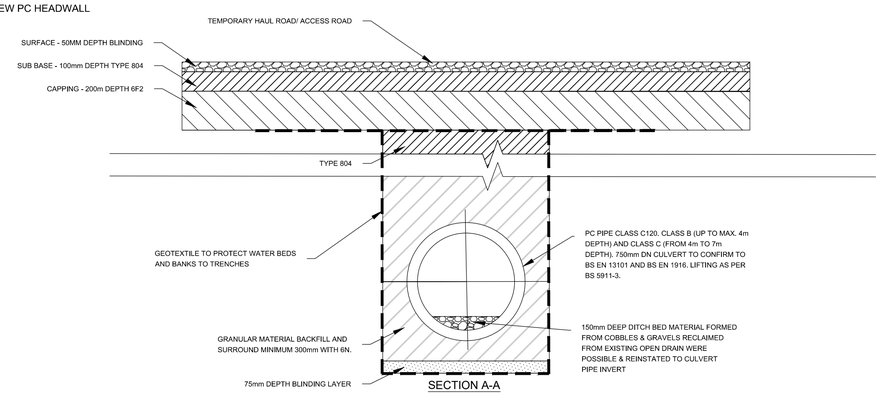
SECTION C-C

DETAIL 2
Scale NTS

SCOUR PROTECTION APRON PROVIDED OVER WIDTH OF OPEN DRAIN AT ABUTMENT TO NEW PC HEADWALL



SECTION B-B



SECTION A-A

DETAIL 3

NOTE:
1. ALL HEADWALLS AND PC PIPES TO BE SUPPLIED AND INSTALLED STRICTLY AS PER MANUFACTURERS DATA (OR OTHER EQUAL AND APPROVED).
2. ALL WORKS TO CONFORM TO TII SPECIFICATION AND COMPACTED AND CONSOLIDATED IN LAYERS NOT EXCEEDING 200mm AS PER TII SPECIFICATION 800 AND 600 SERIES.
3. REINSTATEMENT TO RIVER BANKS WITH GEOTEXTILE AND PROFILE TO MATCH EXISTING.
4. FINAL PIPE SIZE SUBJECT TO HYDRAULIC DESIGN AND OPW, IFI, EPA STATUTORY APPROVAL.
5. ALTERNATIVE UPVC PIPES TO BE INSTALLED AS PER MANUFACTURERS DATA AND STRUCTURALLY/HYDRAULICALLY ASSESSED AND APPROVED PRIOR TO ANY RELEVANT WORKS BEING UNDERTAKEN.

Rev	Date	By	Chkd	Appd
PL1	22.03.21	SB	SO'S	MW

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Sure Partners Limited

Design Consultant
AECOM

Project Title
Arklow Bank Wind Park
Phase 2
Onshore Grid Infrastructure

Drawing Title
Typical Watercourse Crossing Details
Sheet 1 of 2

Scale at A1: Plan NTS, Sections 1:25
Role: Civil
Suitability: Planning
Arup Job No: 271715-00
Rev: PL1
Name: ONS-GEN-003