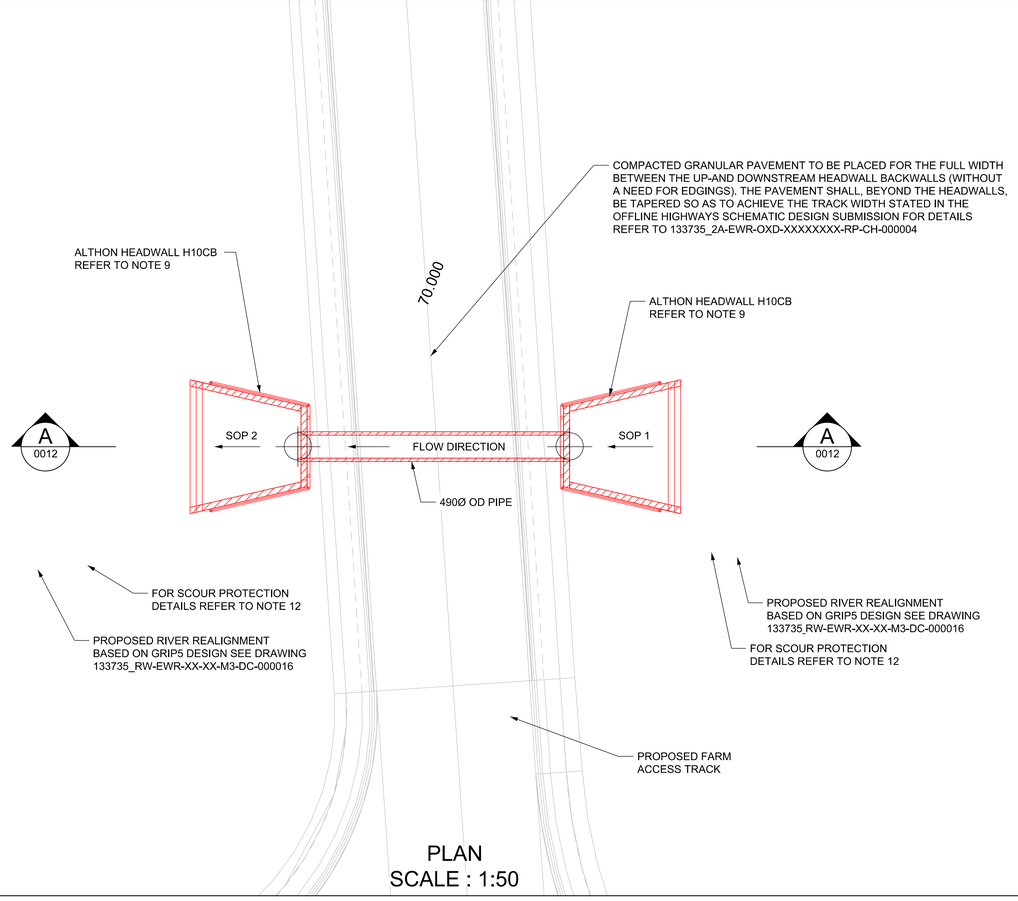
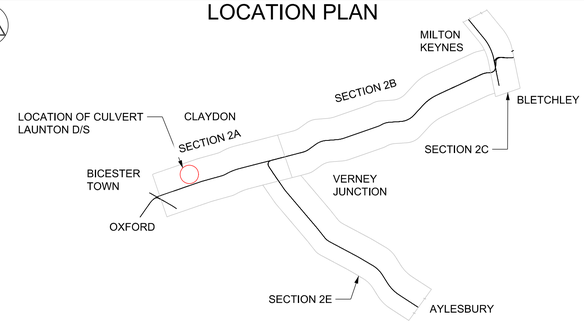
Revision & Version
B01.02

Drawing Number
133735_2A-EWR-OXD-XX-DR-DC-000012



PLAN
SCALE : 1:50

LOCATION PLAN



SCALE : 1:250000

KEY

70.000	CHAINAGE (m)	SOP	SETTING OUT POINT
	PERMANENT LAND BOUNDARY		HAZARD TRIANGLE
	PROPOSED HEADWALL	HWL	HEADWATER LEVEL
	PROPOSED CULVERT	TWL	TAILWATER LEVEL
	EXISTING GROUND	TBC	TO BE CONFIRMED
	PROPOSED GRANULAR BEDDING AND SURROUND		
	PROPOSED RIVER REALIGNMENT DRAINAGE		

NOTES CONTINUED:

11. TO INFORM TEMPORARY REQUIREMENTS INCOMING FLOWS FOR THE 1 IN 2 YEAR AND 1 IN 100 YEAR DESIGN STORM EVENTS ARE 136 l/s AND 137 l/s RESPECTIVELY.

12. SCOUR PROTECTION DETAILS ARE SHOWN BASED ON DOCUMENT 133735_RW-EWR-XX-XX-CA-DC-000049. SCOUR PROTECTION TO BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL DRAWING (REF: 133735-RW-EWR-XX-XX-DR-DC-050008) AND TABLE 1 (CULVERT DETAIL SUMMARY).

13. EARTHWORKS SHALL BE LOCALLY REGRADED ON SITE AT THE HEADWALL INTERFACE.

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.

2. ALL LEVELS ARE IN mAOD. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

3. ALL CULVERTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATION (REF: 133735-RW-EWR-XX-X

4. ALL COORDINATES ARE BASED ON "EWR2 SNAKE GRID".

5. FOR HAZARDS REFER TO HAZARD LOG ASSESSMENT (REF:133735-EWR-LOG-SSD-000004).

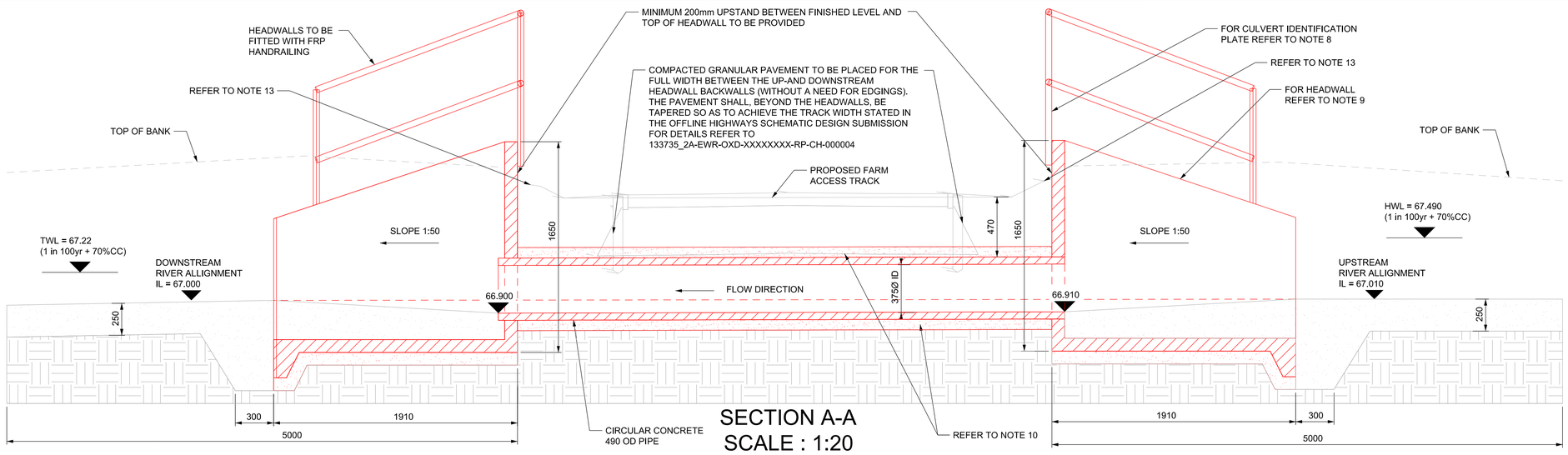
6. THE DEPICTION OF EARTHWORKS IS BASED ON THE LATEST AVAILABLE LIDAR DATA INFORMATION.

7. BURIED SERVICES DATA IS PROVIDED FOR INFORMATION ONLY AND IS BASED UPON AVAILABLE RECORDS WHICH MAY BE INCOMPLETE. FOR BURIED SERVICES RECORDS REFER TO DOCUMENT (REF:133735_RW-EWR-EWL-XXXXXXX-M2-IJ-010001). THE DELIVERY TEAM MUST NOT RELY ON THE ACCURACY OF THIS INFORMATION AND SHALL IDENTIFY THE LINE, LEVEL AND TYPE OF ALL SERVICES AND UNDERTAKE AN APPROPRIATELY DETAILED RISK ASSESSMENT BEFORE UNDERTAKING ANY WORKS THAT MAY CAUSE DAMAGE TO PROPERTY OR RISK TO HEALTH AND SAFETY.

8. POST MOUNTED CULVERT IDENTIFICATION PLATES TO BE INSTALLED AT THE FRONT FACE OF EACH HEADWALL. FOR INSTALLATION INSTRUCTIONS REFER TO ANCILLARY CIVILS SUBMISSION.

9. HEADWALLS ARE TO BE ALTHON H10CB WITH 1:3 WINGWALL SLOPE AND 1650 BACKWALL HEIGHT OR SIMILAR NETWORK RAIL APPROVED PRODUCT. HEADWALL TO BE BEDDED ON MINIMUM 150mm DR-W MASS CONCRETE IN ACCORDANCE WITH THE EWR CONCRETE SPECIFICATION 133735_RW-EWR-XX-XX-SP-Z-000001 WITH A NOMINAL 1:50 FALL ACROSS THE APRON. FOR DETAILS REFER TO HEADWALL STANDARD DETAIL DRAWING (REF: 133735-RW-EWR-XX-XX-DR-DC-050022).

10. CLASS S GRANULAR BED AND SURROUND TO BE CONSTRUCTED WITH A MINIMUM TRENCH WIDTH OF 1.170m IN ACCORDANCE WITH STANDARD DETAIL DRAWING (REF: 133735_EWR-XX-XX-DR-DC-050023). THE CULVERT BEDDING CALCULATION (AS PER BS 9295:2010) HAS BEEN UNDERTAKEN BASED ON A SUPPORTED EXCAVATION IN LIEU OF FACTUAL GROUND INVESTIGATION DATA; SHOULD SITE CONDITIONS ALLOW FOR AN UNSUPPORTED EXCAVATION THEN THE BEDDING CALCULATION SHOULD BE RE-EVALUATED TO ASSESS WHETHER A REDUCTION IN THE MINIMUM TRENCH WIDTH CAN BE ACHIEVED.THE CULVERT STRUCTURAL DESIGN IS BASED ON FIELD LOADING (IN ACCORDANCE WITH DMRB CD533), AND DESIGNED TO WITHSTAND A VEHICLE SURCHARGE OF 94.79 kN/m2 WITH A 0.470m DEPTH OF COVER FROM FINISHED ROAD LEVEL TO THE CROWN OF THE CULVERT. THE EWR ALLIANCE SHALL PROVIDE TEMPORARY PROTECTION TOTHE CULVERT ASSET FOR ALL CONSTRUCTION LOADS IN EXCESS OF THE STATED LOAD CRITERIA.



SECTION A-A
SCALE : 1:20

CULVERT REFERENCE:	COORDINATES: # UPSTREAM	COORDINATES: # DOWNSTREAM	CULVERT TYPE / MATERIAL:	INTERNAL DIAMETER (mm):	EXTERNAL DIAMETER (INC. WALL THICKNESS) (mm):	LENGTH (m):	MINIMUM DEPTH OF COVER BELOW ROAD (m):	GRADIENT OF CULVERT (1 in X):	HEADWALL TYPE:	DITCH INVERT LEVEL (mAOD): U/S	DITCH INVERT LEVEL (mAOD): D/S	PIPE INVERT LEVEL (mAOD): U/S	PIPE INVERT LEVEL (mAOD): D/S	DEPTH OF EMBEDMENT (mm):	DETAILS OF SCOUR PROTECTION:
	SOP 1	SOP 2													
EWR STATION ROAD LAUNTON D/S	X: 178858.454 Y: 142365.799 Z: 66.910	X: 178856.447 Y: 142361.843 Z: 66.900	CIRCULAR CONCRETE	375	490	4.437	0.470	443.7	ALTHON H10CB WINGWALL SLOPE 1:3	67.010	67.000	66.910	66.900	100	RIP RAP SCOUR PROTECTION TO A MINIMUM LENGTH OF 5m FROM HEADWALL. Dn50 (DOWNSTREAM) = 160 mm Dn50 (UPSTREAM) = 160 mm LAYER THICKNESS = 250

TABLE 1 : SUMMARY OF THE CULVERT DETAILS

Safety, Health and Environmental Information

The works are to be undertaken by a competent contractor, and therefore only exceptional risks relating to the works associated with this drawing are identified below. For further details and proposed safety measures refer "EWR Phase 2 Hazard Log Working Copy" eB doc. Ref: 133735-EWR-LOG-SSD-000004.

ID	Hazard description
-	-

⚠ INDICATES PROJECT RISKS (EWR2-DRIS- .....)
⚠ INDICATES H&S RISKS (EWR2-HAZ- .....)

0 0.4 0.8 1.2 1.6 2.0m
SCALE 1:20

0 1 2 3 4 5m
SCALE 1:50

Rev	Date	Description of Revisions	Dsnd	Chkd	Appr
B01	24/09/20	Shared for coordination	M.S.	M.S.	A.R.

Status: SHARED - for IDC Review
Suitability: S3

EWR Alliance
Connecting People

Project
East West Rail
(Western Section)
Phase 2

Drawing Title
Civil Engineering Culvert Design
Section 2A2 Culvert -
EWR Station Road Launton D/S
Long Section & General Arrangement

Designed	Mohd Shahid	Signed M. Shahid	Date 16/09/20
Drawn	Muthusamy M Kannan	Signed M. M. Kannan	Date 19/06/20
Checked	Mark Stevens	Signed M. Stevens	Date 17/09/20
Approved	Adrian Rose	Signed A. Rose	Date 24/09/20

Scale(s): AS SHOWN
ELR - Project Chainage (Miles Yards): OXD - N/A @ 17m 0178y
Design Package Risk Classification: Normal
Sheet: 1 of 1
Alternative Reference:
Revision: B01
Drawing Number: 133735_2A-EWR-OXD-XX-DR-DC-000012

Sheet Size A1 594 x 841