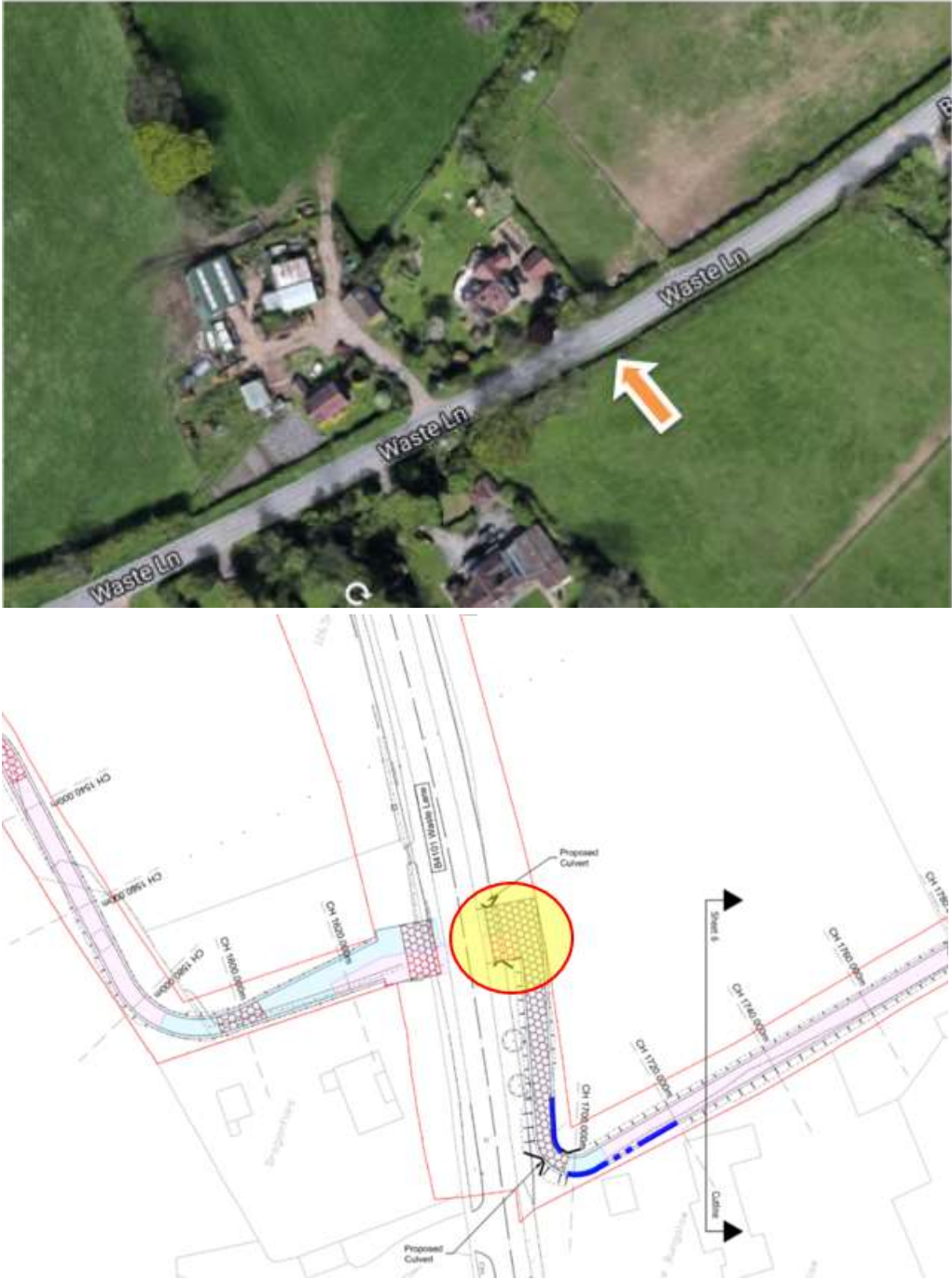


HIGH SPEED RAIL (LONDON – WEST MIDLANDS) ACT 2017

The contractor acting on behalf of, and as agent for, the nominated undertaker [High Speed Two (HS2) Limited] makes the following application under the High Speed Rail (London – West Midlands) Act 2017 (the 'Act').

Unique reference ID	TWH.AN.SMBC.LM-JV.0198		
Provision in the Act	Schedule 4 Part 1 paragraphs 1(7) and 1(10)		
Description	Consent for / approval of new accesses not shown on the deposited plans (location / plans and specifications)		
Nature of works <i>(tick one)</i>	Temporary	<input checked="" type="checkbox"/>	Permanent
Response period <i>(after which the location is to be treated as consented to / the plans and specifications are to be treated as approved if the highway authority fails to notify the nominated undertaker of its decisions)</i>	28 days from the date of submission		
Reference(s) of related application(s) <i>(if any)</i>	TWH.AN.SMBC.LM-JV.0028		

Note – A temporary interference submission under Schedule 4 Part 2 paragraph 6 of the Act may accompany this form, or be submitted separately.

Highway authority	Solihull Metropolitan Borough Council
Road number <i>(where applicable)</i>	USRN: 35006276
Road name(s)	B4101 Waste Lane
Location of access	<p>NMU and equestrian access point and highway crossing 230m northeast from Old Waste Lane/Waste Lane junction (east). Approximate location shown by arrow.</p> 

Description of access	<p>Existing hedge boundaries to fields affected to create safe access and egress for construction vehicles. Site access for the construction of Waste Lane Non-Motorised Users crossing point at given location, as part of the diverted Kenilworth Greenway scheme.</p> <p>Vehicle to access site limited to an excavator.</p> <p>Location: Easting 425656 Northing 276587</p>
-----------------------	---

Submission checklist *[tick as appropriate]* (give details in Annex A)

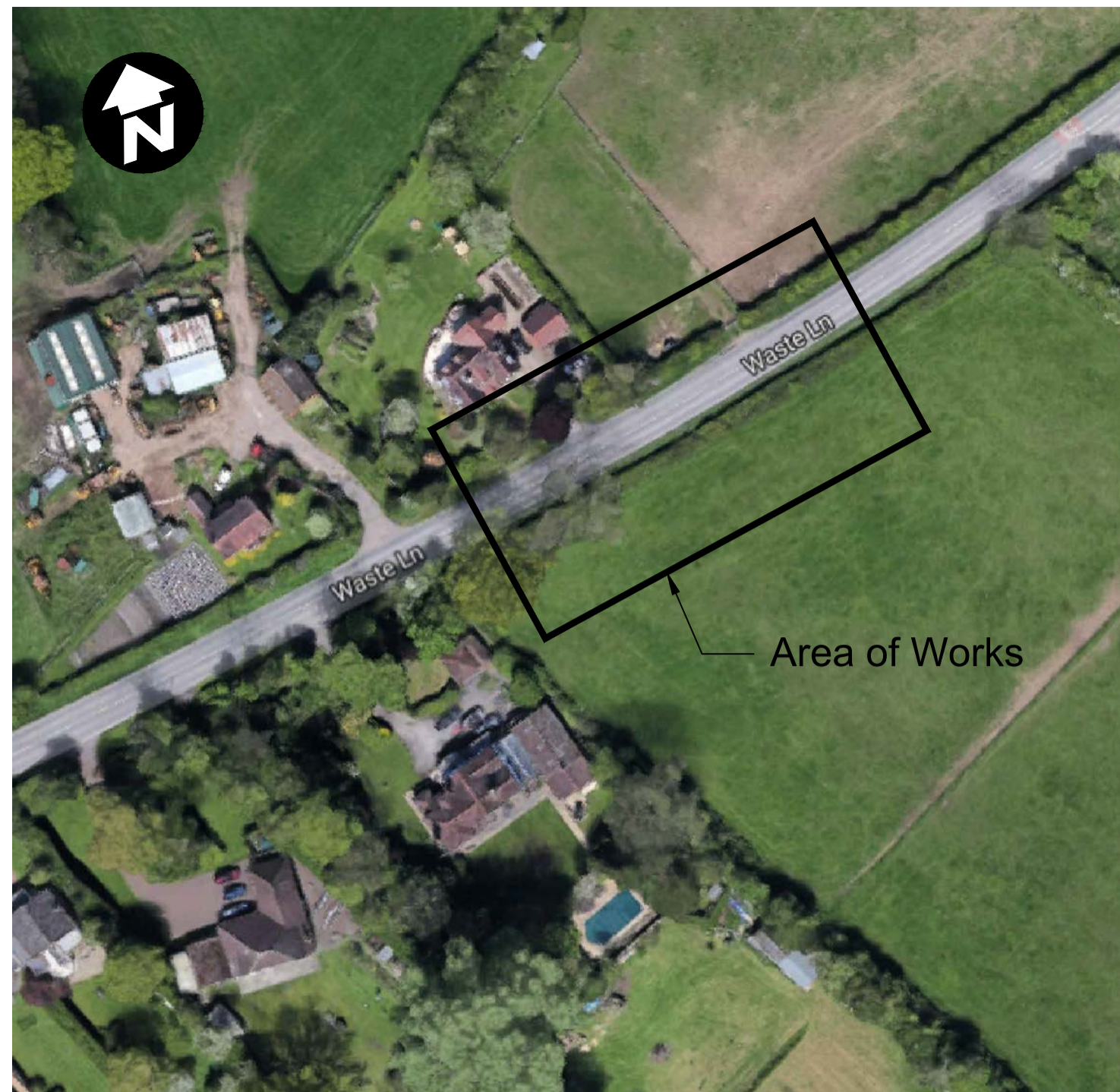
Plans and specifications (for approval)	Location plan and general arrangement	✓	Supporting documents (for information)	Road Safety Audit report(s) – stages 1 / 2	
	Standard details	✓		Road Safety Audit Response report(s)	
	Site clearance	✓		Road Safety Audit Exception report(s)	
	Fencing (<i>motorway boundary and within highway boundary only</i>)	✓		AIps for highway structures	
	Road restraint systems			Departures	
	Drainage and service ducts	✓		Public utilities information	
	Earthworks (<i>within highway boundary only</i>)	✓		Environmental information	
	Pavements (<i>including level information</i>)	✓		Third party information	
	Kerbs, footways and paved areas	✓		Health and safety / CDM information	✓
	Traffic signs and road markings	✓		Quality assurance information (e.g. BBA certificates)	
	Landscape (<i>within highway boundary only</i>)			DMRB design / check certificates	
	Street furniture			Other (please specify)	
	Other (please specify)				

Details of pre-application discussions (in relation to the Schedule 4 part 1 temporary access)

SMBC offices 18.03.19	<ol style="list-style-type: none"> 1. Provide clarity on where BPA's access is located; 2. Entry radii to be confirmed on Schedule 4 part 1 plans; 3. Concerns about forward visibility / stopping sight distances (to be checked); 4. Add notes to Sch 4 part 1 plans about how LM interact with the BPA site opposite (note – LM do not interact with BPA. The Schedule 4 part 2 process will manage the plant crossing); 5. BPA have undertaken speed surveys, acquire details for visibility assessments.
--------------------------	--

Annex A – Schedule of submitted plans, specifications and supporting documentation

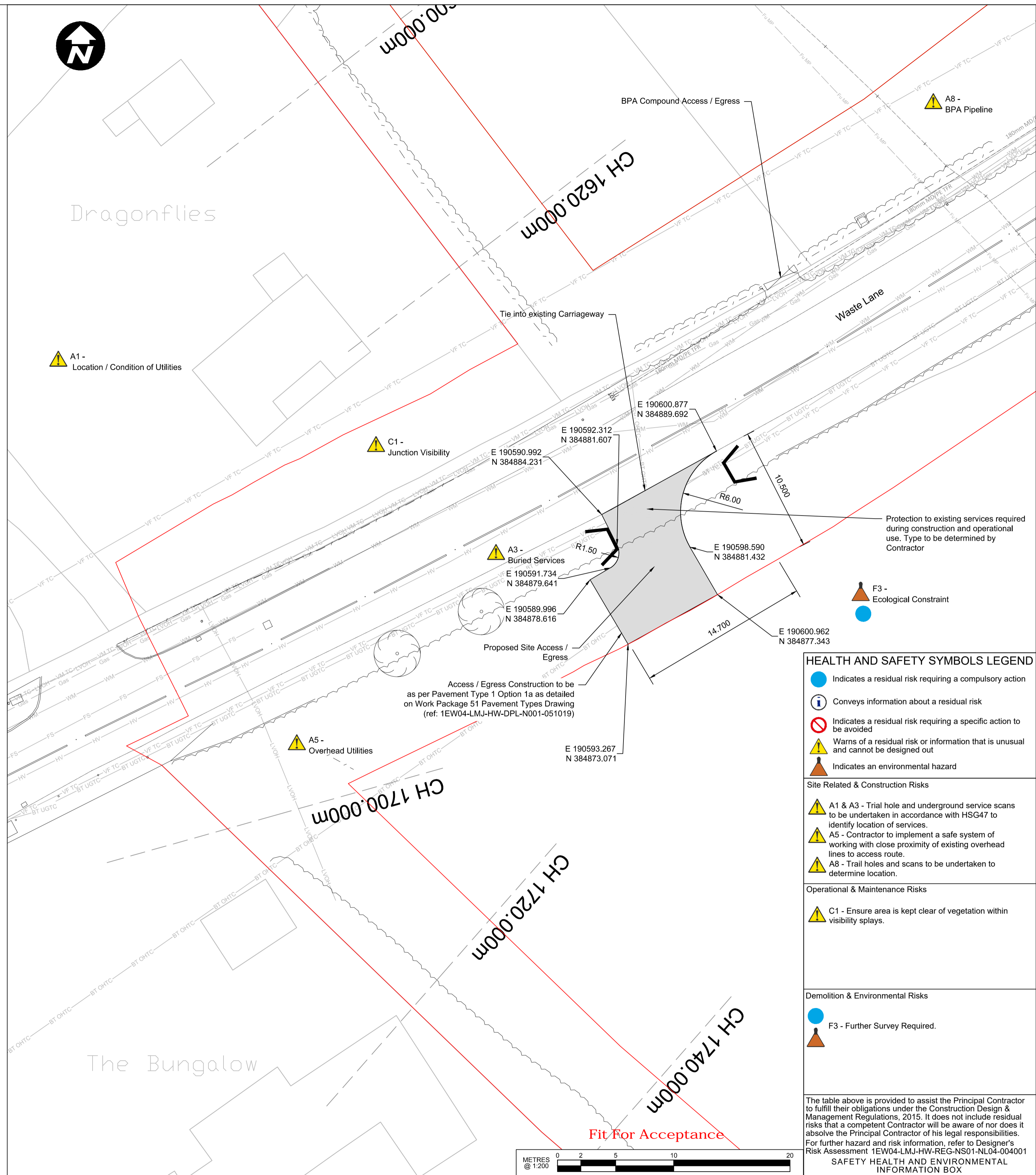
Title	eB reference	Version
<i>Plans (for approval)</i>		
WP004n - Kenilworth Greenway - Site Access / Egress General Arrangement Waste Lane	1EW04-LMJ_DJV-HW-DGA-NS01_NL03-004151	C01
Wp04b - Kenilworth Greenway - Site Access / Egress Site Clearance Waste Lane	1EW04-LMJ_DJV-HW-DGA-NS01_NL03-004251	C01
WP004b – Kenilworth Greenway - Site Access / Egress Vehicle Tracking Waste Lane	1EW04-LMJ_DJV-HW-DPL-NS01-NL03-004551	C01
WP004b – Kenilworth Greenway -Site Access / Egress Visibility Splays Waste Lane	1 EW04-LMJ_DJV-HW-DPL-NS01_NL03-004351	C01
Standard Detail - Ditch Crossing	1EW04-LMJ-DJV-HW-DDE-N001-004502	C01
Standard Detail - Access Route Construction	1EW04-LMJ-DJV-HW-DDE-N001-004503	C01
Pavement Standard Detail	1EW04-LMJ-HW-DPL-N001-051019	C03
Standard Detail - Utility Protection	1EW04-LMJ-DJV-HW-DDE-N001-004501	C01
Standard Detail – Overhead Protection	1EW04-LMJ-DJV-HW-DDE-N001-004500	C01
<i>Specifications (for approval)</i>		
<i>Supporting documentation (for information)</i>		
Access / Egress CDM Register	1EW04-LMJ-HW-REG-NS01_NL03-004002	C01
Design Egress Assumptions Log	1EW04-LMJ-HW-REG-NS01_NL03-004022	C01
DRAFT Traffic Management Plan Consilium	13395.003	



Waste Lane Site Access / Egress Location Plan



View along Waste Lane looking Eastbound



Utilities Legend		Legend	
— VF TC	Telecoms - Vodafone	—	Limits of Deviation
— VM TC	Telecoms - VirginMedia	—	Limits of Land to be Acquired or Used
— LVOH	Electricity - LV OHL	—	Proposed headwall (for details refer to WP51)
— Gas	Gas		
— WM	Water		
— FS	Sewer		
— HV	Electricity - HV Underground		
— BT UGTC	Telecoms - BT Underground		
— BT OHTC	Telecoms - BT Overhead		
— Fu MP	BPA Pipeline		
— LV	Electricity - LV Underground		

OS Location as per Schedule 4 Part 1 Application (ref. 1EW04-LMJ-DJV-HW-SCH-NS01_NL04-004001)	
EASTING	NORTHING
425656	276587

HEALTH AND SAFETY SYMBOLS LEGEND	
	Indicates a residual risk requiring a compulsory action
	Conveys information about a residual risk
	Indicates a residual risk requiring a specific action to be avoided
	Warns of a residual risk or information that is unusual and cannot be designed out
	Indicates an environmental hazard
Site Related & Construction Risks	
	A1 & A3 - Trial hole and underground service scans to be undertaken in accordance with HSG47 to identify location of services.
	A5 - Contractor to implement a safe system of working with close proximity of existing overhead lines to access route.
	A8 - Trial holes and scans to be undertaken to determine location.
Operational & Maintenance Risks	
	C1 - Ensure area is kept clear of vegetation within visibility splays.
Demolition & Environmental Risks	
	F3 - Further Survey Required.
<p>The table above is provided to assist the Principal Contractor to fulfil their obligations under the Construction Design & Management Regulations, 2015. It does not include residual risks that a competent Contractor will be aware of nor does it absolve the Principal Contractor of his legal responsibilities. For further hazard and risk information, refer to Designer's Risk Assessment 1EW04-LMJ-HW-REG-NS01_NL04-004001</p> <p>SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX</p>	

Rev	Description	Drawn	Checked	Approved	LM App	HS2 Acc
C01	Fit For Acceptance	JE	DP	RB	---	---
P01	Fit For Information	JE	DP	JBG	---	---

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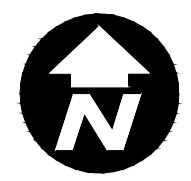
- Legends/Notes:**
- All dimensions in metres unless stated otherwise and must be checked on site and not scaled from this drawing.
 - Peg out the required area and check for utilities before commencement of work.
 - Contractor to remain within the LOD at all times when accessing and undertaking the works.
 - All construction works to be undertaken under the guidance of suitably qualified and experienced contractor.
 - Risk Assessment and Construction Method to be provided and approved by LMJV prior to work commencing.
 - All levels to be confirmed prior to construction.
 - Drawings have been developed in Snakegrid based on Topographical Survey Data received from City Surveys on 16/05/2018 and supplemented with LIDAR where gaps have been identified. Drawing reference 1EW04-LMS-DMA-NL03-051003_Ver2.
 - Drawing to be read in conjunction with Work Package 51 deliverables:-
 General Arrangement (ref: 1EW04-LMJ-HW-DPL-NS01_NL03-051054 to 051062 and 051064 to 051066).
 Fencing (ref: 1EW04-LMJ-HW-DPL-NS01_NL03-051128 to 051136).
 Site Clearance (ref: 1EW04-LMJ-HW-DPL-NS01_NL03-051115 to 051123).
 Drainage (ref: 1EW04-LMJ-HW-DPL-NS01_NL03-051069 to 051077).
 - Traffic Management is the responsibility of the Contractor and is to comply with Chapter 8.

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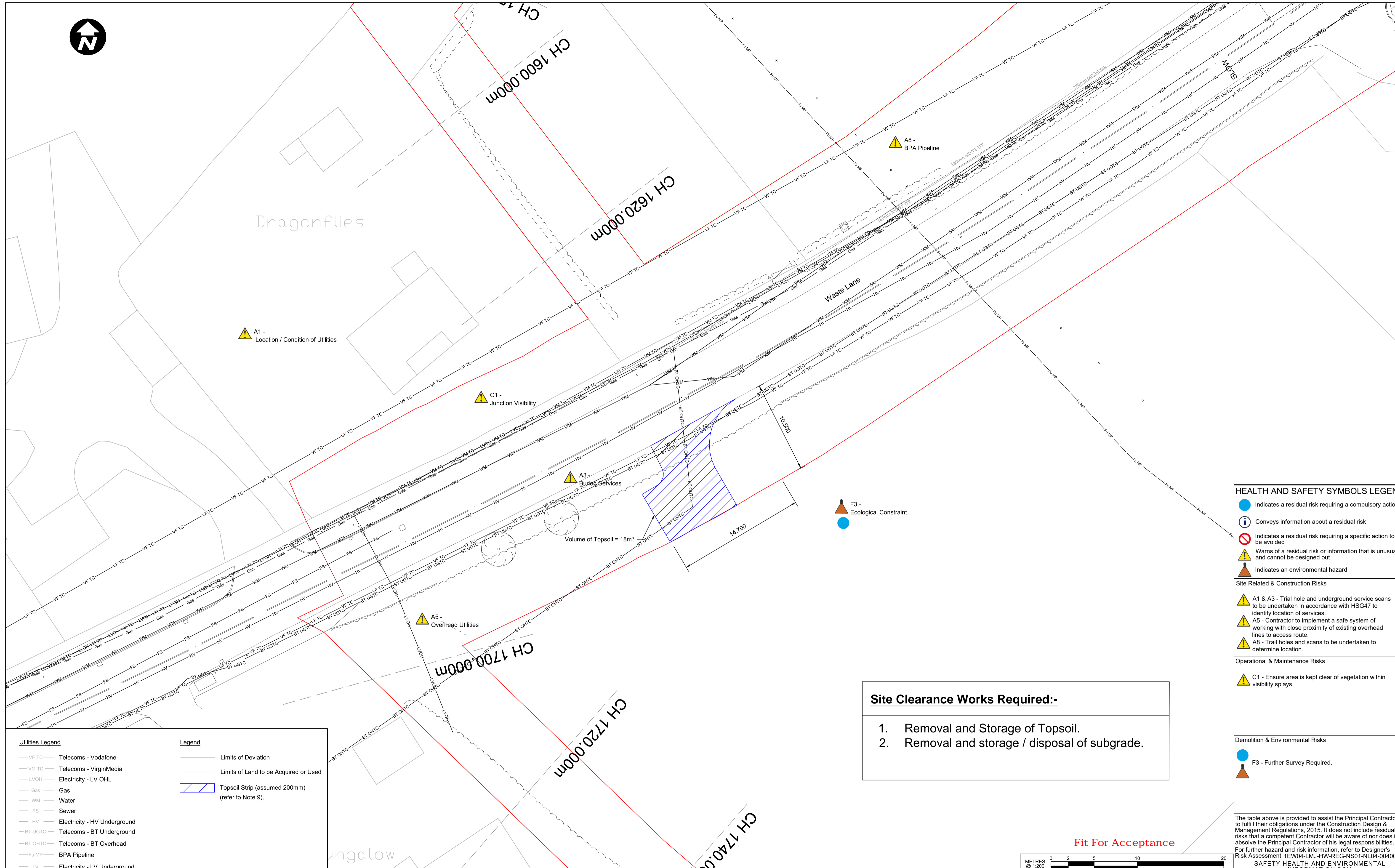
Suitability Code/Description	S6 - Issued for HS2 Acceptance
Design Stage	5 - Detailed Design
Drawing Title	WP004b
	Kenilworth Greenway - Site Access / Egress
	General Arrangement Waste Lane

Project/Contract			Enabling Works North - EWP-2104		
Discipline/Function			Highways		
Drawn	Checked	Approved			
JE	DP	RB			
Date	Scale	Size			
22.05.2019	1:200	A1			
Drawing No.		Rev.			
1EW04-LMJ_DJV-HW-DGA-NS01_NL03-004151		C01			



Dragonflies

Waste Lane



A1 - Location / Condition of Utilities

C1 - Junction Visibility

A3 - Buried Services

F3 - Ecological Constraint

A5 - Overhead Utilities

Site Clearance Works Required:-

1. Removal and Storage of Topsoil.
2. Removal and storage / disposal of subgrade.

Utilities Legend		Legend	
VF TC	Telecoms - Vodafone	Red line	Limits of Deviation
VM TC	Telecoms - VirginMedia	Green line	Limits of Land to be Acquired or Used
LVOH	Electricity - LV OHL	Blue hatched area	Topsoil Strip (assumed 200mm) (refer to Note 9).
Gas	Gas		
WM	Water		
FS	Sewer		
HV	Electricity - HV Underground		
BT UGTC	Telecoms - BT Underground		
BT OHTC	Telecoms - BT Overhead		
Fu MP	BPA Pipeline		
LV	Electricity - LV Underground		

HEALTH AND SAFETY SYMBOLS LEGEND

- Indicates a residual risk requiring a compulsory action
- Conveys information about a residual risk
- Indicates a residual risk requiring a specific action to be avoided
- Warns of a residual risk or information that is unusual and cannot be designed out
- Indicates an environmental hazard

Site Related & Construction Risks

- A1 & A3 - Trial hole and underground service scans to be undertaken in accordance with HSG47 to identify location of services.
- A5 - Contractor to implement a safe system of working with close proximity of existing overhead lines to access route.
- A8 - Trial holes and scans to be undertaken to determine location.

Operational & Maintenance Risks

- C1 - Ensure area is kept clear of vegetation within visibility splays.

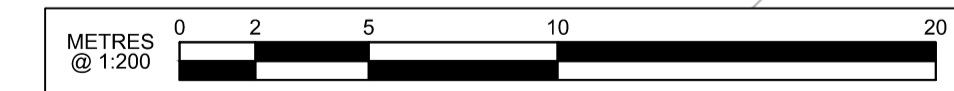
Demolition & Environmental Risks

- F3 - Further Survey Required.

The table above is provided to assist the Principal Contractor to fulfil their obligations under the Construction Design & Management Regulations, 2015. It does not include residual risks that a competent Contractor will be aware of nor does it absolve the Principal Contractor of his legal responsibilities. For further hazard and risk information, refer to Designer's Risk Assessment 1EW04-LMJ-HW-REG-NS01-NL04-004001

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX

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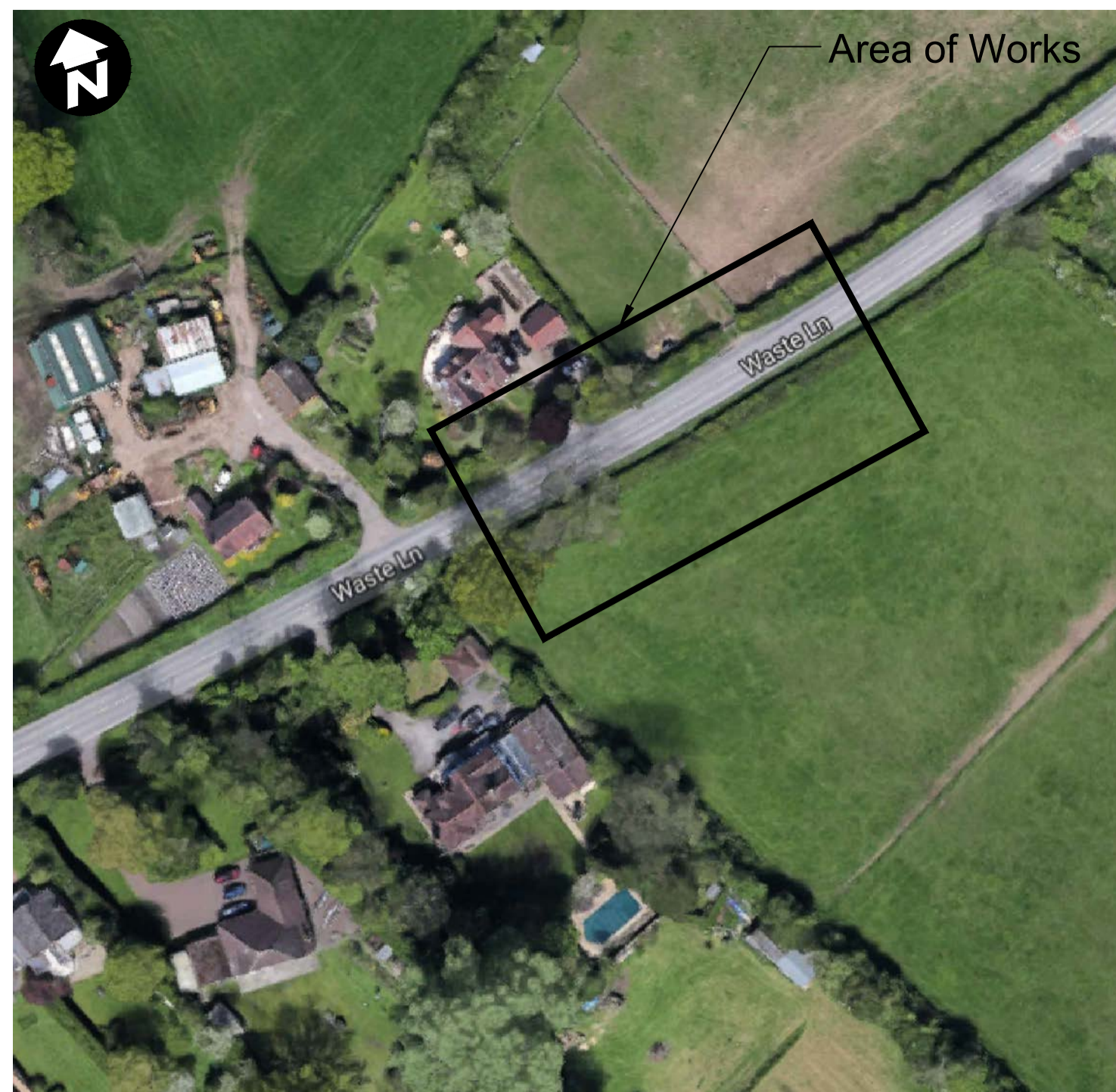
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5. Risk Assessment and Construction Method to be provided and approved by LMJV prior to work commencing.
6. Existing vegetation to be retained except where indicated.
7. All levels to be confirmed prior to construction.
8. Drawings have been developed in Snakgrid based on Topographical Survey Data received from City Surveys on 16/05/2018 and supplemented with LIDAR where gaps have been identified. Drawing reference 1EW04-LMS-DMA-NL03-051003_Ver2.
9. Topsoil Strip to be in accordance with HS2 Technical Standard - Soil Handling for Land Restoration (ref: HS2-HS2-EV-STD-000-000008).
10. Maintaining of existing road and footway routes during construction is the responsibility of the Contractor.
11. Drawing to be read in conjunction with Work Package 51 Site Clearance Drawings (ref: 1EW04-LMJ-HW-DPL-NS01_NL03-05115 to 051123).

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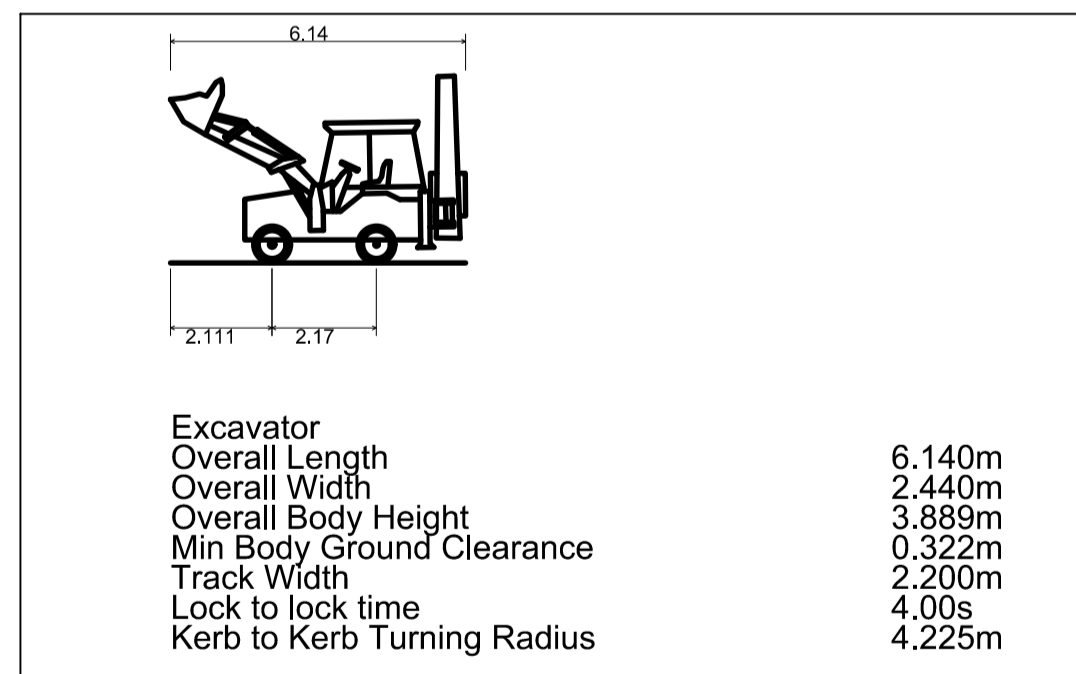
Suitability Code/Description S6 - Issued for HS2 Acceptance	Project/Contract Enabling Works North - EWP-2104		
Design Stage 5 - Detailed Design	Discipline/Function Highways		
Drawing Title WP004b	Drawn JE	Checked DP	Approved RB
Kenilworth Greenway - Site Access / Egress	Date 22.05.2019	Scale 1:200	Size A1
Site Clearance Waste Lane	Drawing No. 1EW04-LMJ_DJV-HW-DGA-NS01_NL03-004251	Rev. C01	



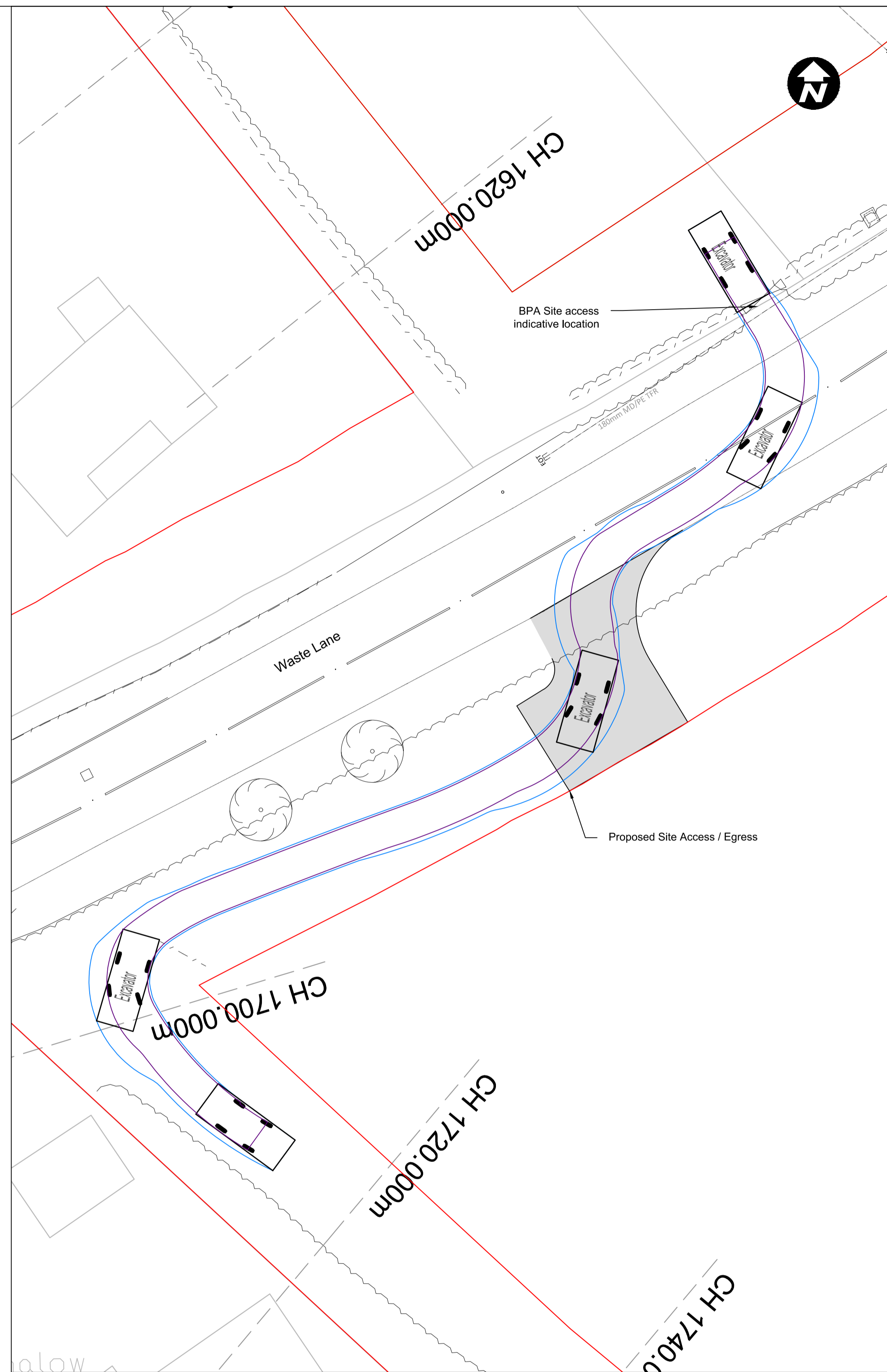
Waste Lane Site Access / Egress Location Plan



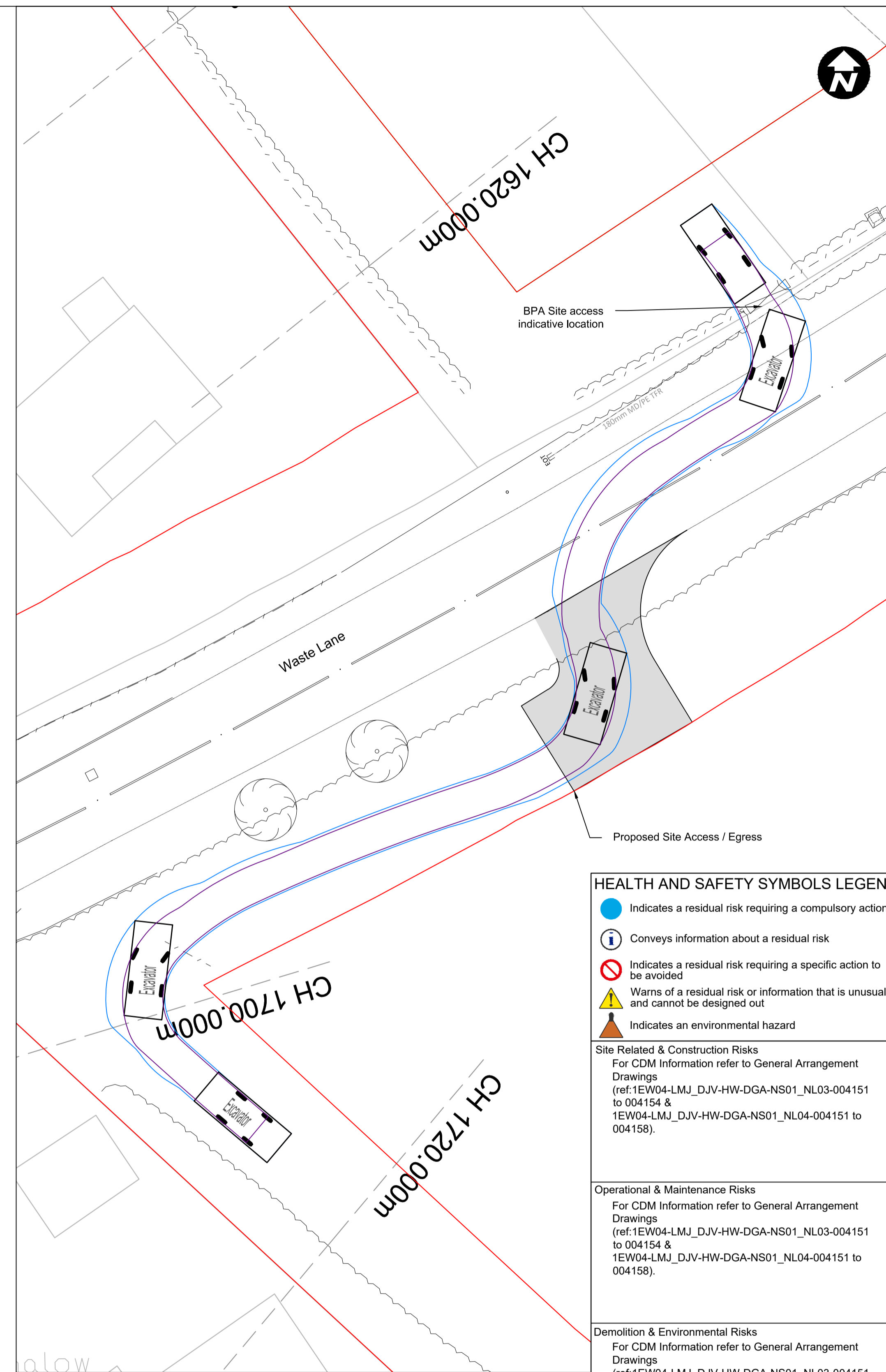
View along Waste Lane looking Eastbound



Vehicle used for Tracking Analysis



Southbound Tracking Manoeuvre



Northbound Tracking Manoeuvre

HEALTH AND SAFETY SYMBOLS LEGEND

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- Indicates an environmental hazard

Site Related & Construction Risks
For CDM Information refer to General Arrangement Drawings (ref:1EW04-LMJ_DJV-HW-DGA-NS01_NL03-004151 to 004154 & 1EW04-LMJ_DJV-HW-DGA-NS01_NL04-004151 to 004158).

Operational & Maintenance Risks
For CDM Information refer to General Arrangement Drawings (ref:1EW04-LMJ_DJV-HW-DGA-NS01_NL03-004151 to 004154 & 1EW04-LMJ_DJV-HW-DGA-NS01_NL04-004151 to 004158).

Demolition & Environmental Risks
For CDM Information refer to General Arrangement Drawings (ref:1EW04-LMJ_DJV-HW-DGA-NS01_NL03-004151 to 004154 & 1EW04-LMJ_DJV-HW-DGA-NS01_NL04-004151 to 004158).

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SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX

Legend

- Limits of Deviation
- Limits of Land to be Acquired or Used
- Vehicle Overhang
- Wheel Track

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 - Drawings to be read in conjunction with all other relevant drawings.

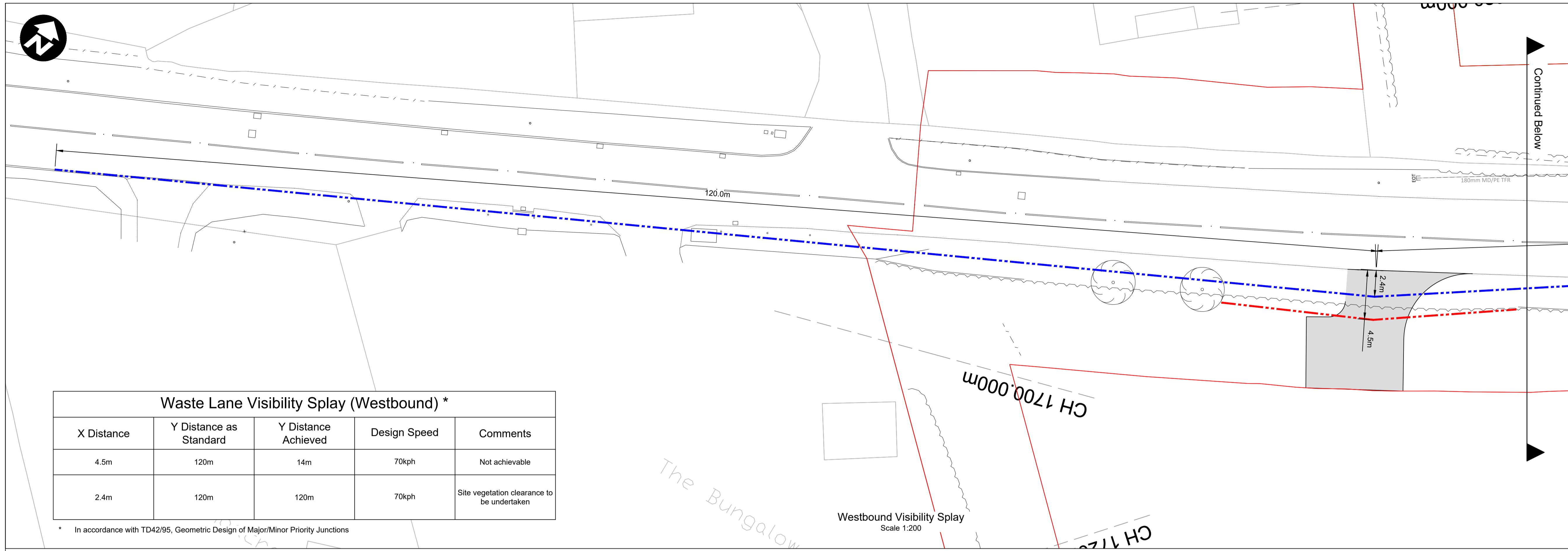
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Suitability Code/Description S6 - Issued for HS2 Acceptance		Project/Contract Enabling Works North - EWP-2104	
Design Stage 5 - Detailed Design		Discipline/Function Highways	
Drawing Title WP004b		Drawn JE	Checked DP
Kenilworth Greenway - Site Access / Egress		Approved RB	
Vehicle Tracking Analysis Waste Lane		Date 22.05.2019	Scale 1:200
		Size A1	
		Drawing No. 1EW04-LMJ_DJV-HW-DPL-NS01_NL03-004551	Rev. C01



Waste Lane Visibility Splay (Westbound) *				
X Distance	Y Distance as Standard	Y Distance Achieved	Design Speed	Comments
4.5m	120m	14m	70kph	Not achievable
2.4m	120m	120m	70kph	Site vegetation clearance to be undertaken

* In accordance with TD42/95, Geometric Design of Major/Minor Priority Junctions

Westbound Visibility Splay
Scale 1:200

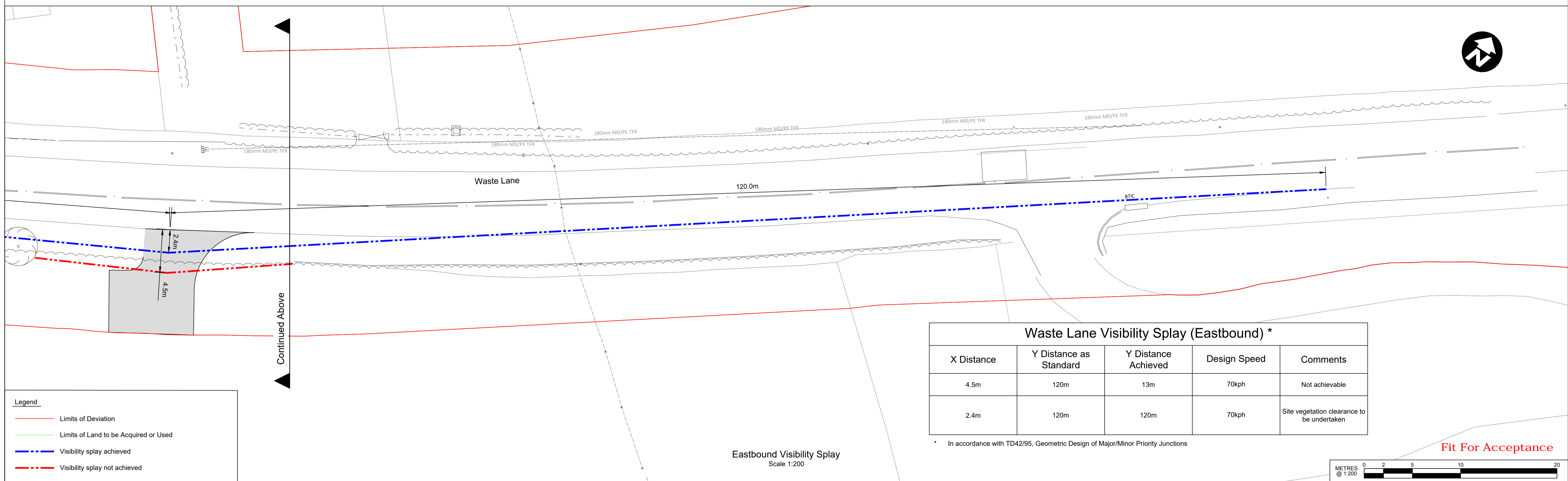
HEALTH AND SAFETY SYMBOLS LEGEND	
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	Indicates a residual risk requiring a specific action to be avoided
	Warns of a residual risk or information that is unusual and cannot be designed out
	Indicates an environmental hazard

Site Related & Construction Risks
For CDM Information refer to General Arrangement Drawings (ref:1EW04-LMJ_DJV-HW-DGA-NS01-NL03-004151 to 004154 & 1EW04-LMJ_DJV-HW-DGA-NS01-NL04-004151 to 004158).

Operational & Maintenance Risks
For CDM Information refer to General Arrangement Drawings (ref:1EW04-LMJ_DJV-HW-DGA-NS01-NL03-004151 to 004154 & 1EW04-LMJ_DJV-HW-DGA-NS01-NL04-004151 to 004158).

Demolition & Environmental Risks
For CDM Information refer to General Arrangement Drawings (ref:1EW04-LMJ_DJV-HW-DGA-NS01-NL03-004151 to 004154 & 1EW04-LMJ_DJV-HW-DGA-NS01-NL04-004151 to 004158).

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SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX

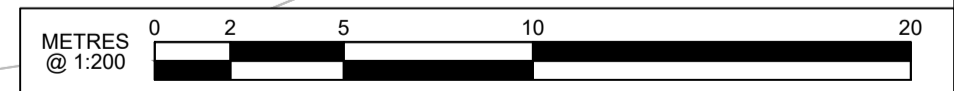


Waste Lane Visibility Splay (Eastbound) *				
X Distance	Y Distance as Standard	Y Distance Achieved	Design Speed	Comments
4.5m	120m	13m	70kph	Not achievable
2.4m	120m	120m	70kph	Site vegetation clearance to be undertaken

* In accordance with TD42/95, Geometric Design of Major/Minor Priority Junctions

Eastbound Visibility Splay
Scale 1:200

Legend	
	Limits of Deviation
	Limits of Land to be Acquired or Used
	Visibility splay achieved
	Visibility splay not achieved



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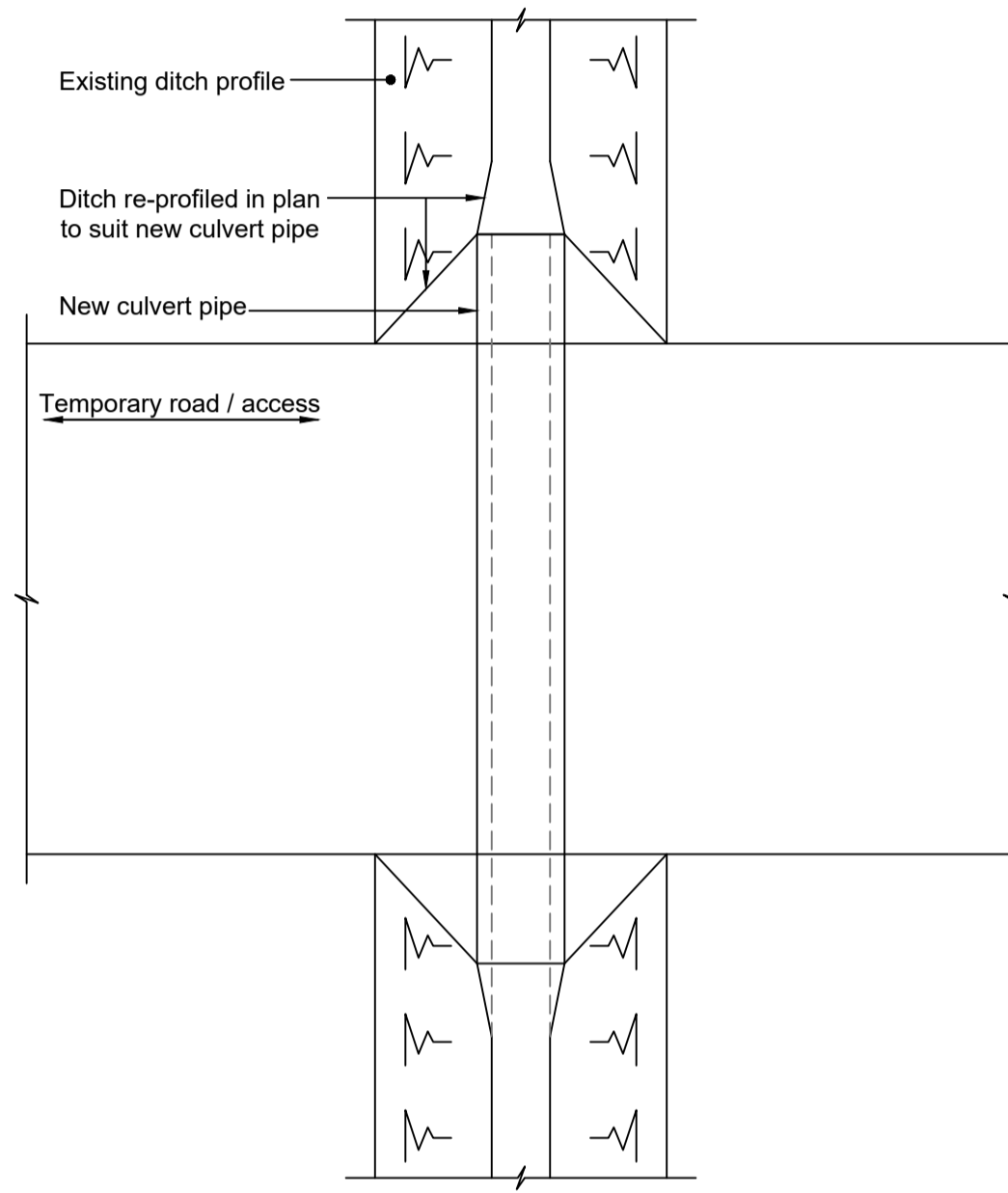
Legends/Notes:

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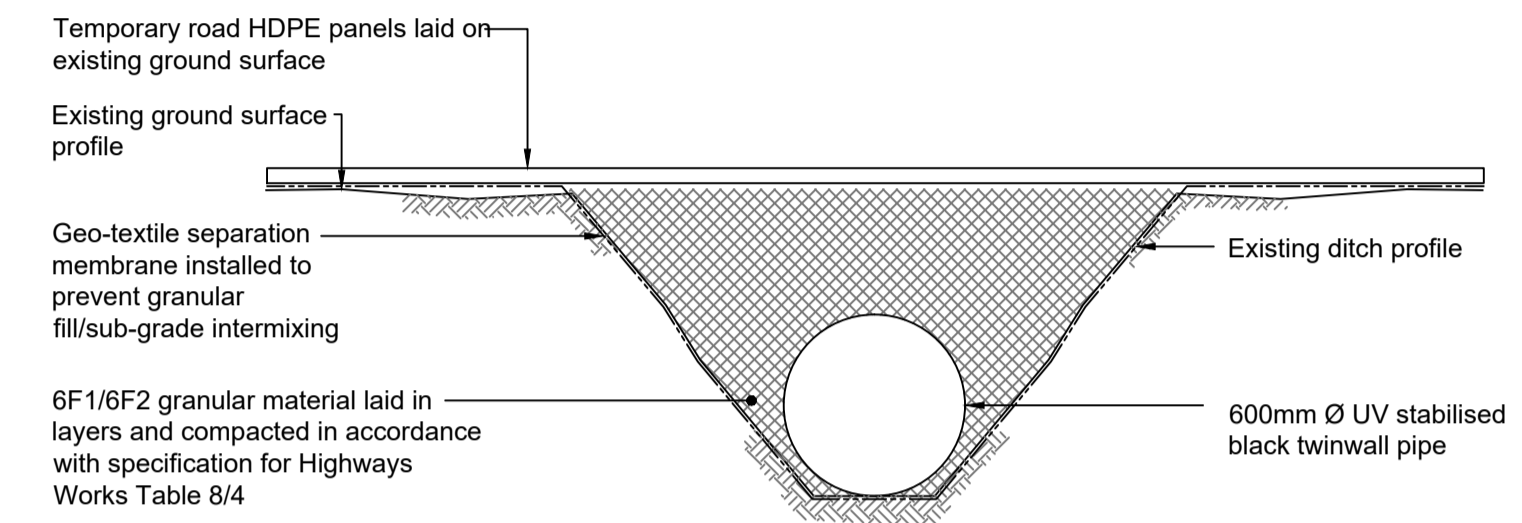
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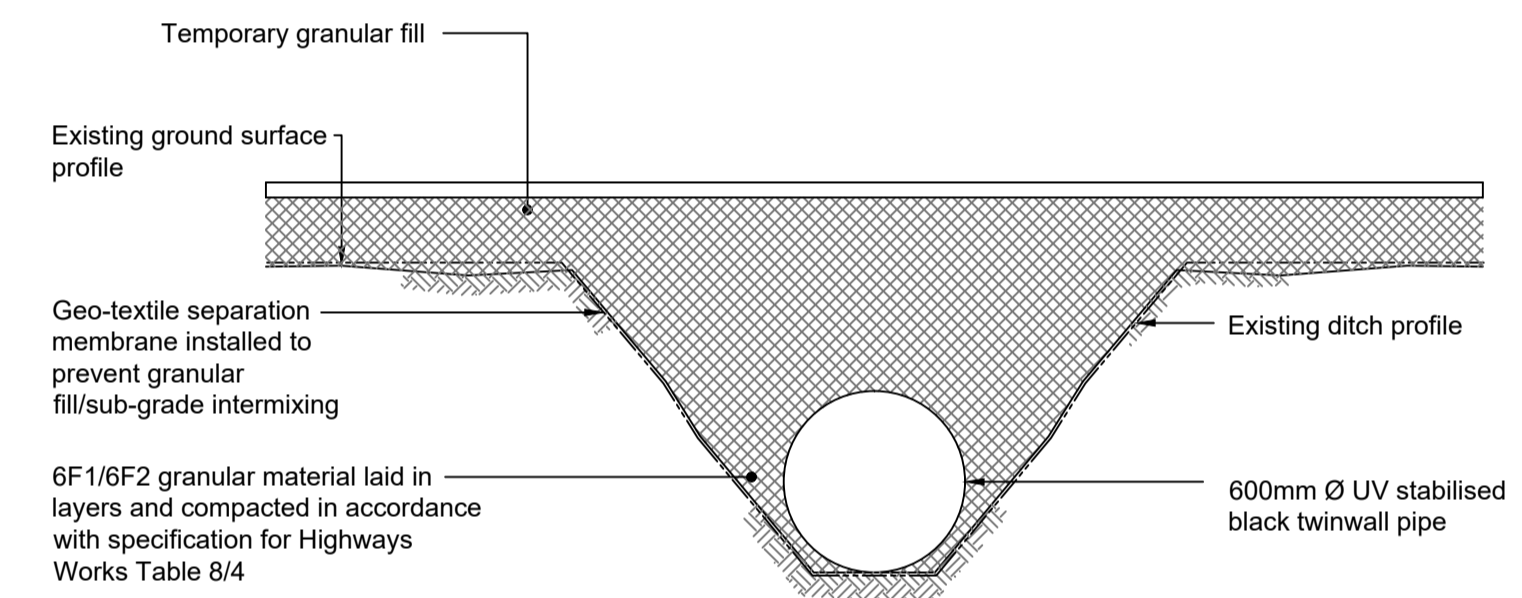
Suitability Code/Description		Project/Contract		
S6 - Issued for HS2 Acceptance		Enabling Works North - EWP-2104		
Design Stage		Discipline/Function		
5 - Detailed Design		Highways		
Drawing Title		Drawn	Checked	Approved
WP004b		JE	DP	RB
Kenilworth Greenway - Site Access / Egress		Date	Scale	Size
Visibility Splay - Waste Lane		22.05.2019	1:200	A1
		Drawing No.	Rev.	
		1EW04-LMJ_DJV-HW-DPL-NS01_NL03-004351	C01	



DITCH PIPED CROSSING
(SCALE 1:50)



DITCH PIPED CROSSING SECTION
OPTION 1 - HDPE GROUND MATS
(SCALE 1:25)



DITCH PIPED CROSSING SECTION
OPTION 2 - GRANULAR FILL HAUL ROAD
(SCALE 1:25)

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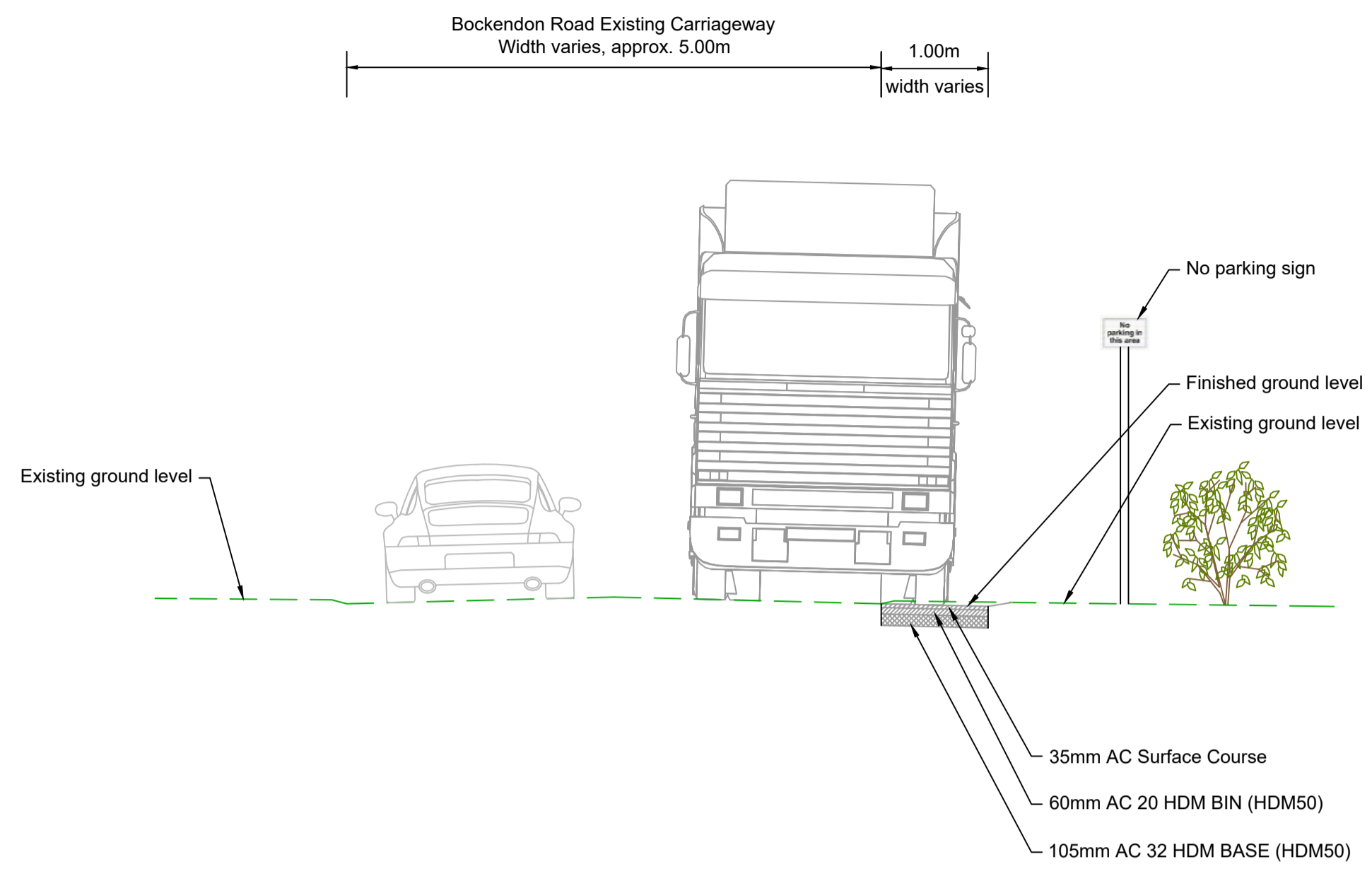
- Legends/Notes:**
- All dimensions are in millimeters unless stated otherwise and must be checked on site and not scaled from this drawing.
 - Contractor to be aware of all regulations concerning works on or near water course I.E. PPG5, Land Drainage Act 1991, Water Resources Act 1991 & Flood Management Act 2010 and obtain all permits and licenses required prior to commencement of work
 - The Environment Agency and Local Authority are to be informed of all works. Detailed Method Statements will be required.
 - Large Diameter twinwall pipes are to be handled and placed strictly in accordance with manufacturers instructions.
 - Twinwall pipes are to be UV stabilised for use in external environments
 - Site engineer to check area for utilities prior to commencement of works
 - The minimum size culvert installation required by the Environment Agency is 600mm. Should a culvert of a different diameter be required approval of the Local Enforcing Authority must be gained prior to submitting a consent application.

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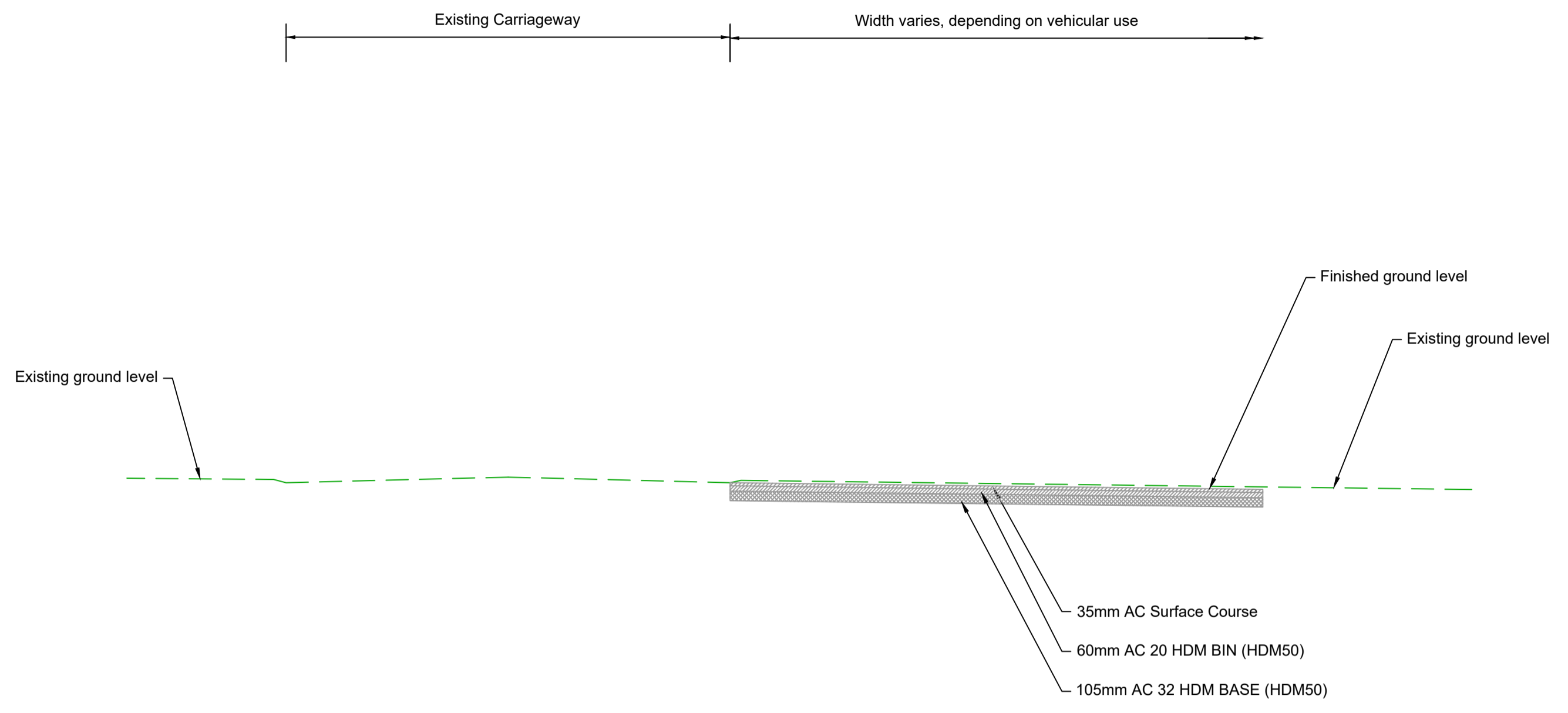
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Creator/Originator
LM JV

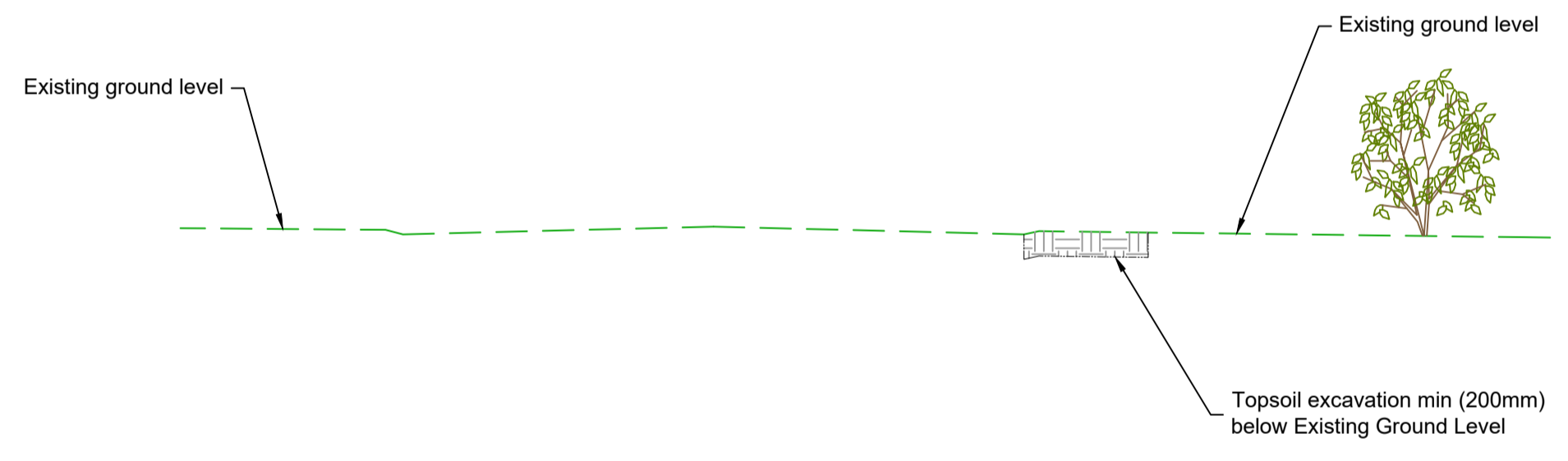
Suitability Code/Description	S6 - Issued for HS2 Acceptance			Project/Contract	Enabling Works North - EWP-2104		
Design Stage	5 - Detailed Design			Discipline/Function	Highways		
Drawing Title	WP004b Standard Detail Ditch Crossing			Drawn	Checked	Approved	
	JE	DP	RB	Date	Scale	Size	
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				Drawing No.	Rev.		
				1EW04-LMJ_DJV-HW-DDE-N001-004502	C01		



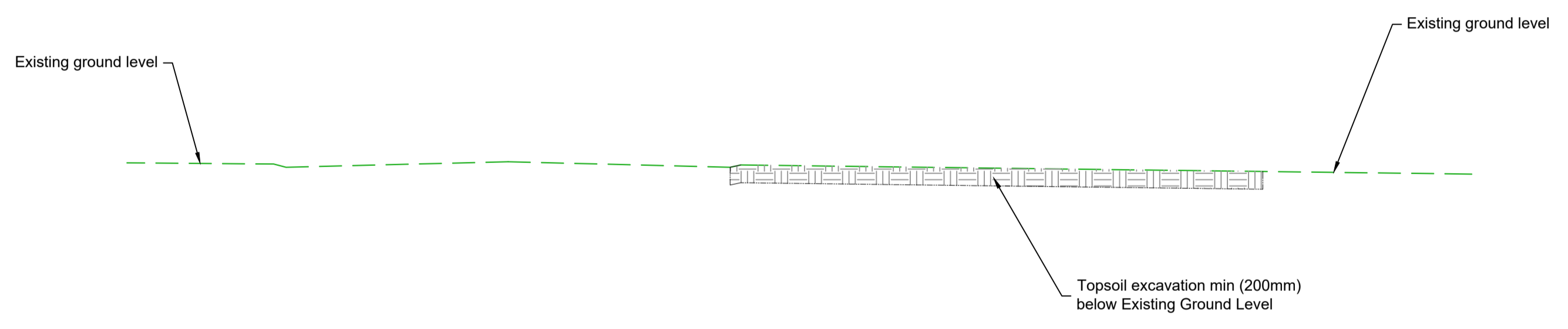
Bockendon Road Passing Bay
Typical Cross Section - Pavement Type 1 (Option 1a)
 Refer WP51 drg. 1EW04-LMJ-HW-DPL-N001-051019



Site Access/Egress
Typical Cross Section - Pavement Type 1 (Option 1a)
 Refer WP51 drg. 1EW04-LMJ-HW-DPL-N001-051019



Bockendon Road Passing Bay
Typical Cross Section - Pavement Type 1 (Option 1a)
Earthworks Excavation Detail



Site Access/Egress
Typical Cross Section - Pavement Type 1 (Option 1a)
Earthworks Excavation Detail

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Legends/Notes:	
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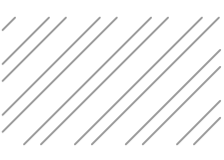

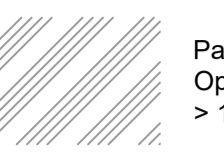


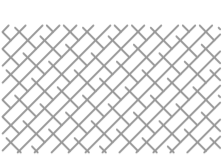
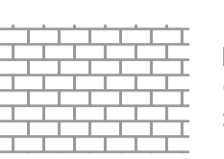



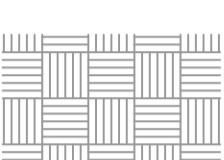

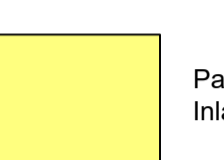


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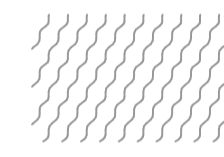

Creator/Originator
 LM JV

Suitability Code/Description S6 - Issued for HS2 Acceptance	Project/Contract Enabling Works North - EWP-2104		
Design Stage 5 - Detailed Design	Discipline/Function Highways		
Drawing Title WP004b Standard Detail Access Route Construction	Drawn JE	Checked DP	Approved RB
	Date 22.05.2019	Scale 1:50	Size A1
Drawing No. 1EW04-LMJ_DJV-HW-DDE-N001-004503		Rev. C01	

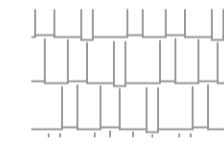
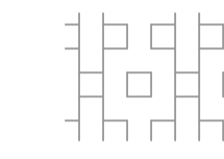

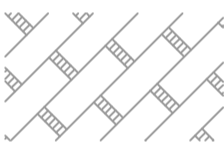
WP51 Pavement Types

	Pavement Type 1 Option 1a < 1msa	35mm AC Surface Course 60mm AC 20 HDM bin (HDM50) 105mm AC32 HDM base (HDM50) 200mm
	Pavement Type 1b < 1msa option 1b	50mm HRA Surface Course 60mm AC 20 HDM bin (HDM50) 90mm AC32 HDM base (HDM50) 200mm
	Pavement Type 2 Option 2a > 1 to 5msa	35mm AC Surface Course 60mm AC 20 HDM bin (HDM50) 145mm AC32 HDM base (HDM50) 240mm
	Pavement Type 3 Option 3a > 5 to 14msa	35mm AC Surface Course 60mm AC 20 HDM bin (HDM50) 90mm AC32 HDM base (HDM50) 95mm AC32 HDM base (HDM50) 280mm
	Pavement Type 4 Option 4a > 14 to 20msa	35mm AC Surface Course 60mm AC 20 HDM bin (HDM50) 90mm AC32 HDM base (HDM50) 95mm AC32 HDM base (HDM50) 280mm
	Pavement Type 5 Option 5a > 20 to 30msa	35mm TSCS 60mm AC 20 HDM bin (HDM50) 95mm AC32 HDM base (HDM50) 100mm AC32 HDM base (HDM50) 290mm
	Pavement Type 6 Option 6a > 30 to 38msa	35mm TSCS 60mm AC 20 HDM bin (HDM50) 125mm AC32 HDM base (HDM50) 100mm AC32 HDM base (HDM50) 320mm
	Pavement Type 7 Option 7a > 38 to 48msa	35mm TSCS 60mm AC 20 HDM bin (HDM50) 90mm AC32 HDM base (HDM50) 140mm AC32 HDM base (HDM50) 330mm
	Pavement Type 8 Option 8a > 48 to 60msa	35mm TSCS 60mm AC 20 HDM bin (HDM50) 105mm AC32 HDM base (HDM50) 140mm AC32 HDM base (HDM50) 340mm
	Pavement Type 9 Option 9a > 60 to 70msa	35mm TSCS 60mm AC 20 HDM bin (HDM50) 105mm AC32 HDM base (HDM50) 150mm AC32 HDM base (HDM50) 350mm
	Pavement Type 10 Option 10a > 70 to 79.9msa	35mm TSCS 60mm AC 20 HDM bin (HDM50) 115mm AC32 HDM base (HDM50) 150mm AC32 HDM base (HDM50) 360mm
	Pavement Type 11 Option 11a Bridge deck Surfacing	50mm HRA 35/14F 70mm HRA 50/20 binder 120mm
	Pavement Type 12 Pond Access	150mm Type 1 sub-base (Well compacted and blinded with limestone dust)
	Pavement Type 18 Residential Access	S/C 35mm C10 70/100 Base 110mm AC20 HDM510
	Pavement Type 19 Inlay Option	40mm Cold Milling 40mm Regulating HRA 55/10F Surf 100/150
	Pavement Type 20	285mm Type 1 Sub-base Tensor TX150 Geogrid Combi Geogrid with 300mm Class 6H Material Biaxial Geogrid (Abgrid 30/30 or similar) with Terram
	Pavement Type 21	40mm HRA (55/10F) Surf 100/150 60mm AC20 dense bin 100/150 150mm AC32 dense base 100/150

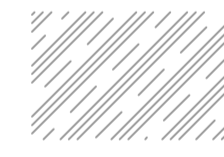
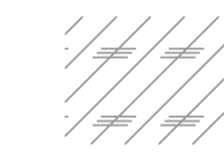

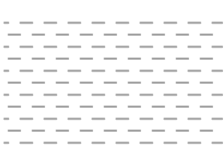

WP51 Pavement Foundation Options

	Class 2 Foundation (2.5% CBR) Option 1	450mm Type 1 Sub-base
	Class 2 Foundation (2.5% CBR) Option 2	350mm Type 1 Sub-base 250mm 6F2 Capping


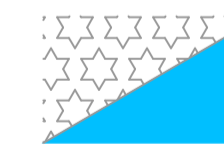
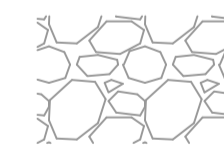
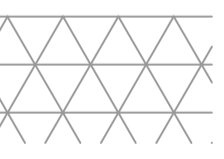


WP51 Compound Construction

	Pavement Type 13 Option 1 Compound Areas (un-bound)	450mm Type 1 Sub-base (well compacted and blinded with limestone dust)
	Pavement Type 13 Option 2 Compound Areas (un-bound)	350mm Type 1 Sub-base 250mm 6F2 Capping
	Pavement Type 13 Option 3 Compound Areas (un-bound)	285mm Type 1 Sub-base on Tensor TX150 Geogrid
	Pavement Type 14 Option 1 Compound Areas (paved)	35mm AC Surface Course 60mm AC 20 HDM bin (HDM50) 105mm AC32 HDM base (HDM50) 200mm

WP51 Access Roads

	Pavement Type 15 Option 1 Compound Access Roads (un-bound)	450mm Type 1 Sub-base (well compacted and blinded with limestone dust)
	Pavement Type 15 Option 2 Compound Access Roads (un-bound)	350mm Type 1 Sub-base 250mm 6F2 Capping
	Pavement Type 15 Option 3 Compound Access Roads (un-bound)	285mm Type 1 Sub-base on Tensor TX150 Geogrid
	Pavement Type 16 Option 1 Haul Road (TBM Access - Paved)	40mm AC Surface Course 70mm AC20 HDM bin (HDM50) 225mm Type 1 Sub-base Tensor TX5 Geogrid 300mm GF1/6F2 Tensor TX150 Geogrid
	Pavement Type 17 Option 1 Haul Road (TBM Access - Un-bound)	

WP51 Footway Types

	Footway Type 1 Footway Only (unsuitable for vehicular loading)	20mm AC6 dense surf 100/150 50mm AC20 dense bin 100/150 100mm Type 1 sub-base on a 2.5% CBR Foundation 170mm
	Footway Type 2 Footway Cycleway (unsuitable for vehicular loading)	20mm AC6 dense surf 100/150 60mm AC20 dense bin 100/150 150mm Type 1 sub-base on a 2.5% CBR Foundation 230mm
	Footway Type 3 Footway Light Vehicle Access Crossing	20mm AC6 dense surf 100/150 60mm AC20 dense bin 100/150 200mm Type 1 sub-base on a 2.5% CBR Foundation 280mm
	Footway Type 4 Footway Heavy Vehicle Access Crossing	25mm AC6 dense surf 100/150 90mm AC20 dense bin 100/150 300mm Type 1 sub-base on a 2.5% CBR Foundation 415mm
	Footway Type 6 Unbound Aggregate Surfacing Footway Only	20mm 3mm Limestone dust (nominal size) 150mm Type 1 sub-base Geotextile separator - Terram NW or similar
	Footway Type 7 Unbound Aggregate Surfacing Footway Only	20mm 3mm Limestone dust (nominal size) 150mm Type 1 sub-base Geotextile (Terram) Combi Geogrid with 300mm Class 6H Material Biaxial Geogrid (Abgrid 30/30 or similar) with Terram

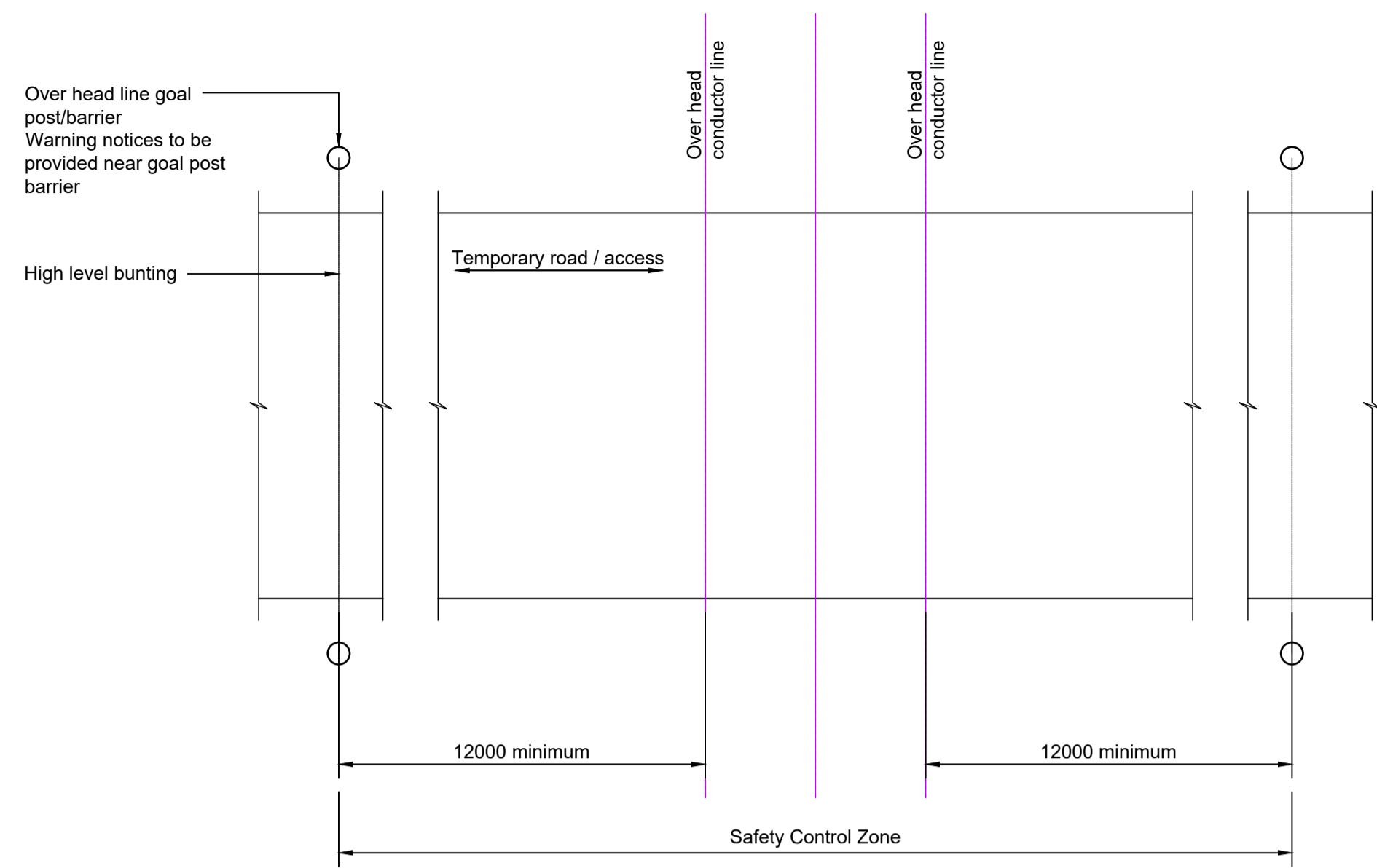
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C03	For Acceptance	MW	DP	RB	HS2 accepts no responsibility for any circumstances which arise from the reproduction of this document after alteration, amendment or abbreviation or if it is issued in part or issued incompletely in any way.	1. Flexible Pavement designs in accordance with HD26, based on a Class 2 Foundation in accordance with IAN 73. 2. Ground conditions: • Design is based on a minimum formation CBR of 2.5%. • Plate bearing tests to be undertaken at 20m centres to confirm the design basis; • Site to ensure that any services identified are suitably bridged/protected/removed; 3. Surface Course Materials selection; • Classified Un-numbered Roads - Asphalt Concrete AC 70/100; • Secondary Roads - Asphalt Concrete AC 70/100; • Primary Route - Thin Surface Course System (TSCS); • All-Purpose Trunk Road - Thin Surface Course System (TSCS); • Bridge Deck Surfacing - Hot Rolled Asphalt Surface Course; 4. Compound/Compound Access Roads (un-bound) - Design vehicles equivalent to 34,500 standard axles (assumed): • 4500 No. Standard 20T Trucks; • 2000 No. 6m3 Concrete Wagons; • 1000 No. 6T Dumpers; • 50 No. 8 Axle Mobile Cranes (600T Lift Capacity);	5. Design acceptance for all road legal vehicles; 6. Any manholes and drawpits installed within the access road or compound area to be suitable for highway loadings and to be provided with D400 covers and frames as a minimum. 7. Compound platform and unbound access road to be constructed from compacted Type 1 material to MCHW1. 8. Tracked plant should use the compound area and access road for travelling only. Any lifting operations should take place on platforms built for this purpose. If any variables are encountered are different to those upon which the design is based or changed subsequent to the design being issued, the designer should be informed as the design may need to be adjusted. 9. Design allows for up to 75mm surface deformation. Compound platform and access road will need to be trimmed and shaped to ensure that the surface is compact (limestone dust may be required) and that surface water is adequately shed. Some re-grading and re-compacting may be necessary during the life of the platform/access. 10. TBM Haul Road (Ridgway and Ulfon) - Design vehicles equivalent to 1msa (assumed) & TBM Components max. 250T payload; • 4500 No. Standard 20T Trucks; • 2000 No. 6m3 Concrete Wagons; • 1000 No. 6T Dumpers; • 50 No. 8 Axle Mobile Cranes (600T Lift Capacity);	11. The locations in which pavement types are to be installed are shown on the relevant layout drawings. 12. PSV requirements for the surface course will be detailed on the layout drawings. For all other information please refer to the relevant scheme specification.	Zone --	Project/Contract Enabling Works North EWP1-2104	
C02	For Acceptance	MW	DP	RB	© Crown Copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100049190				Design Stage Enabling Works	Discipline/Function Highways	
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P03	Fit For Information	DB	BW	CN					Drawn MW	Checked DP	Approved RB
P02	Fit For Information	DB	BW	CN					Date 28.03.2019	Scale 1:500	Size A1
Rev	Description	Drawn	Checked	Con App	HS2 App	Scale with caution as distortion can occur.			Drawing No. 1EW04-LMJ-HW-DPL-N001-051019	Rev. C03	

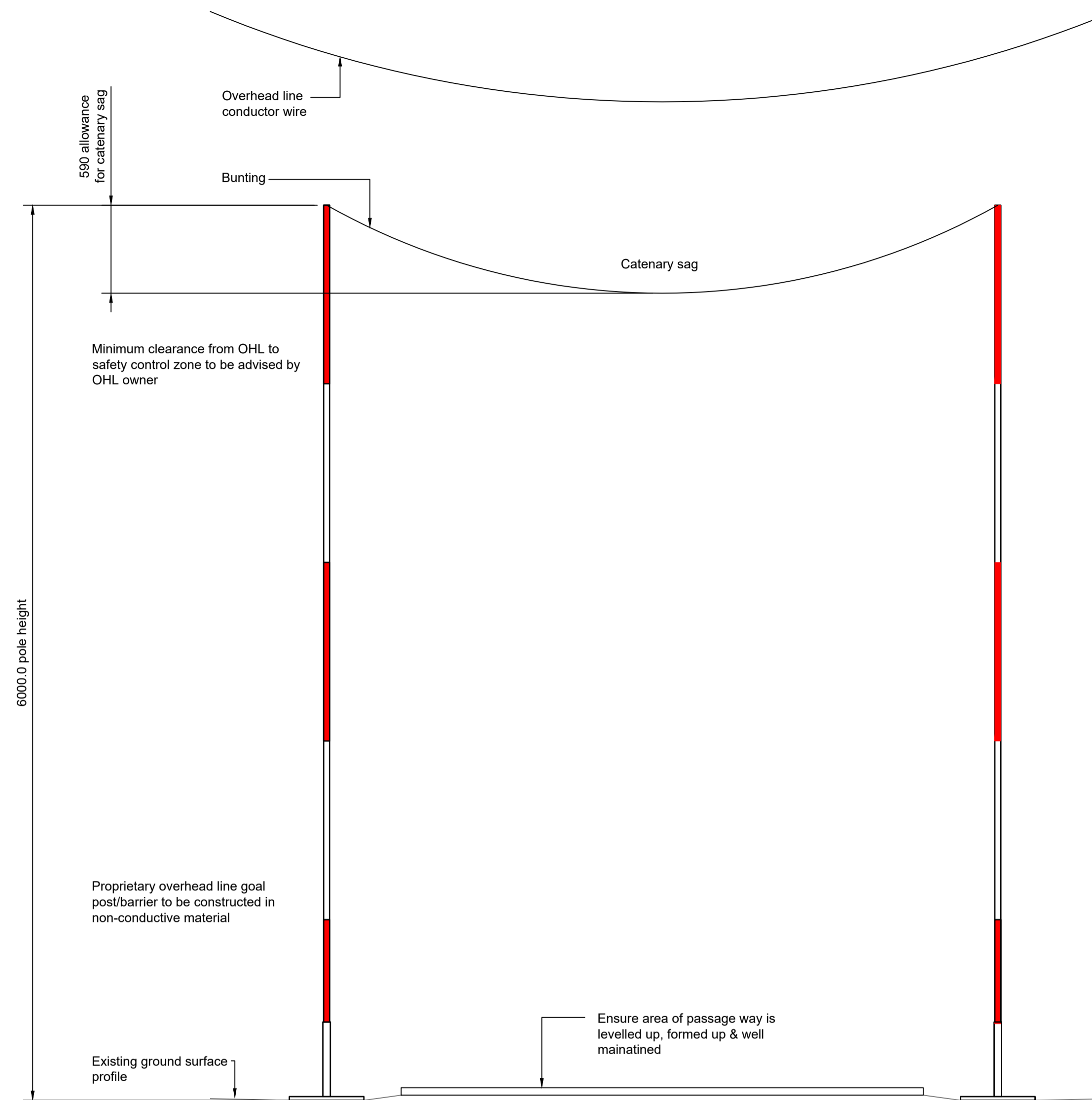
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PLAN ON OHL CROSSING
(SCALE 1:50)



OVERHEAD LINE (OHL) GOALPOST/BARRIER
(SCALE 1:25)

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Legends/Notes:

- All dimensions are in millimeters unless stated otherwise and must be checked on site and not scaled from this drawing.
- OHL protection goal post/barriers & signage to be in accordance with HSE Guidance Note 6 & OHL owner requirements.
- This drawing is to be read in conjunction with WP4b General Arrangement Drawings (ref: 1EW04-LMJ_DJV-HW-DGA-NS01-NL03-004151 to 004154 & 1EW04-LMJ_DJV-HW-DGA-NS01-NL04-004151 to 004158).



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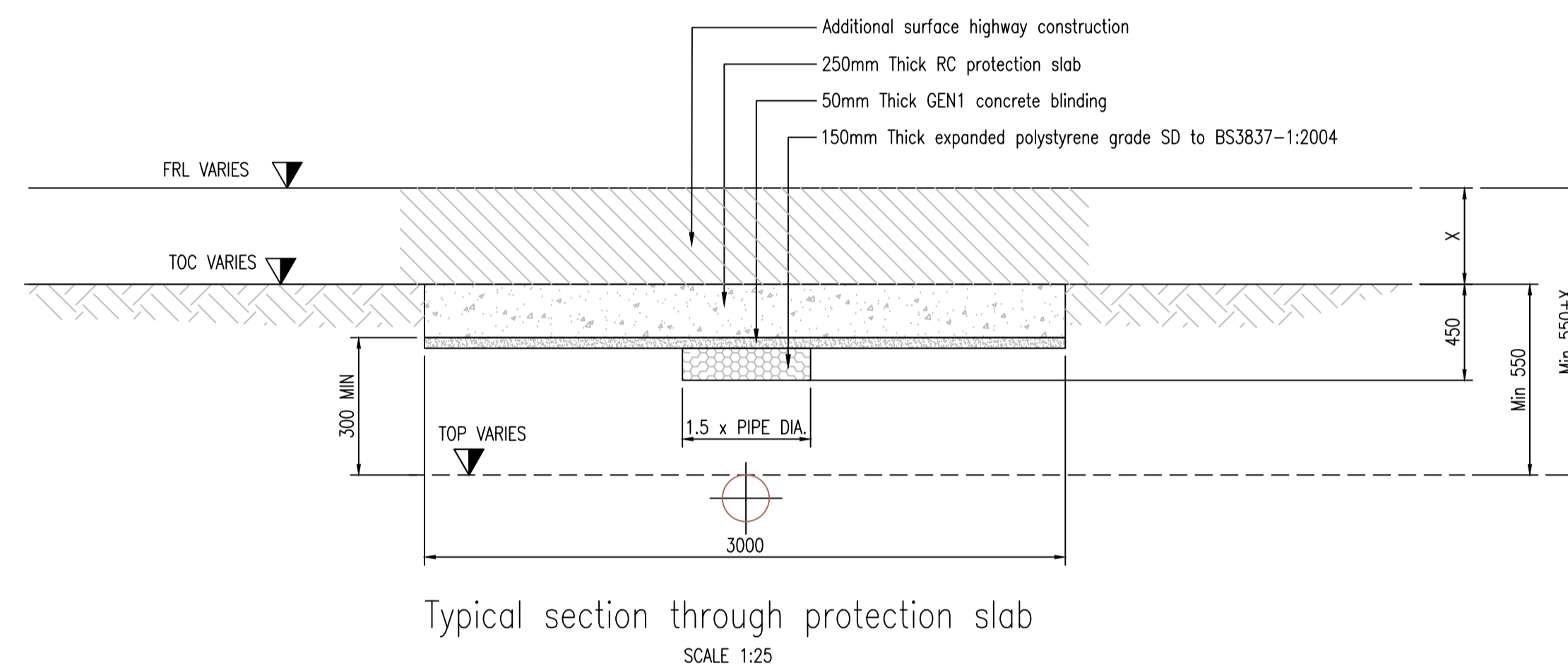
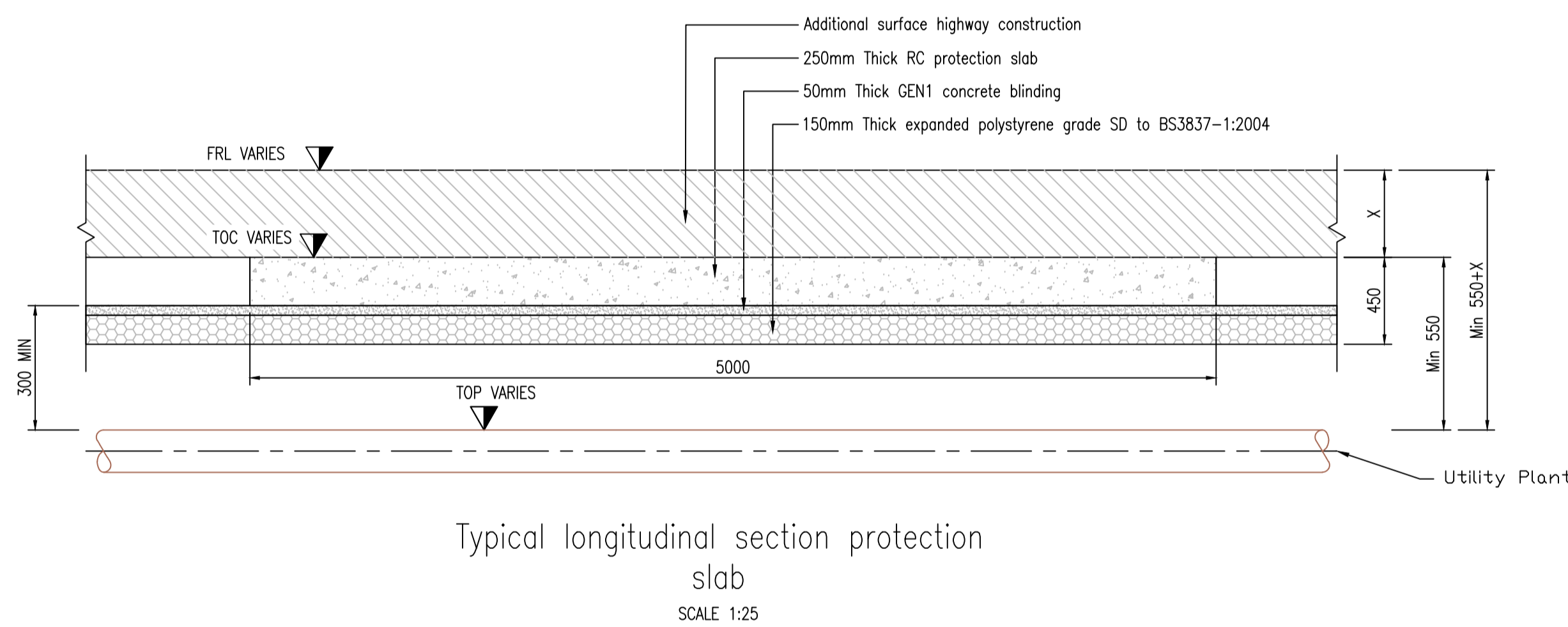
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Design Stage 5 - Detailed Design		Discipline/Function Highways	
Drawing Title WP004b Standard Detail Overhead Protection	Drawn JE	Checked DP	Approved RB
	Date 22.05.2019	Scale As shown	Size A1
	Drawing No. 1EW04-LMJ_DJV-HW-DDE-N001-004500		Rev. C01

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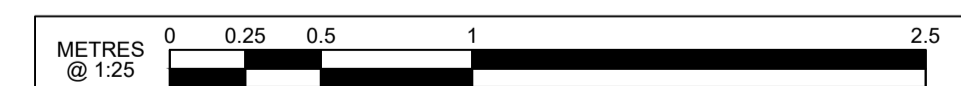
- All dimensions are in millimeters unless stated otherwise and must be checked on site and not scaled from this drawing.
- Currently there is no information available from trial excavations detailing the precise line and depth of the existing utilities that may be affected by the construction of the access route.
- In the absence of trial excavation results this indicative design drawing gives an overview of the probable requirements for the protection of utility.
- Where affected (confirmed by trial excavation) Major Utility Assets (MUA), including BPA Fuel Pipelines, High Pressure Gas Pipelines and Water Trunk mains **will** require protection by the installation of a plant protection slab as indicated herewith. This indicative design is detailed in section 6.8 of Cadent Specification T/SP/CE/12: Design, Construction and Testing of Civil and Structural Works Part Twelve; Protection works over steel pipelines. Additionally in order to comply with British Pipeline Agency (BPA) requirements the slab will be a minimum 250mm thick.
- The protection slab in detailed in T/SP/CE/12 reflects the design for a concrete protection slab for a shallow pipeline detailed in Section A.16 of the British Standard BS9295: Guide to the structural design of buried pipelines.
- Protection slabs hinder the access to utility plant in an emergency and may not be suitable for long term installation. The utility owner should approve all protection measures proposed.
- The minimum depth of cover requirement for most utilities, not considered to be MUA, in a roadway is 750mm cover from proposed finished level. (Telecoms 450mm min).
- No detailed design for protective measures for utility plant can be completed without the results from trial excavations being available detailing line and depth of the affected plant.

Application

- Major Utility Assets (MUA), **will** require protection by the installation of a plant protection slab as indicated herewith.
- If 750mm cover is available for all other utility assets (i.e. not MUA) no additional protection measures will be required and the BGHR and KG can be constructed as proposed.
- An exception to the above are Cast Iron (CI) or Asbestos Cement (AC) gas and water mains that are particularly vulnerable to damage during construction. These will require replacing, with PE (or steel pipe) and lowering if required to minimum 750mm cover.
- All utility plant that will have a final depth of cover less than 550mm will require lowering.
- It is probable all telecoms plant will require lowering to accommodate the new road construction and/or the installation of a protection slab.
- If the ground cover over utilities is between 550mm and 750mm provision of a protection slab can be considered. 550mm cover is the minimum depth required for construction of a plant protection slab as indicated herewith and detailed in Cadent Specification T/SP/CE/12.
- The 550mm depth of cover dimension assumes the top of the concrete slab, following installation will be level with or higher than the existing ground level prior to commencement of construction. Any requirement for pavement or road construction (X) to be included above the concrete slab protection and up to the existing ground level will increase the minimum depth of cover requirement to 550mm plus Xmm.
- Dimension X shall not exceed 500mm.



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Legends/Notes:

- All dimensions are in millimeters unless stated otherwise and must be checked on site and not scaled from this drawing.
- OHL protection goal post/barriers & signage to be in accordance with HSE Guidance Note 6 & OHL owner requirements.
- This drawing is to be read in conjunction with WP4b General Arrangement Drawings (ref: 1EW04-LMJ_DJV-HW-DGA-NS01-NL03-004151 to 004154 & 1EW04-LMJ_DJV-HW-DGA-NS01-NL04-004151 to 004158).

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Suitability Code/Description	S6 - Issued for HS2 Acceptance		
Design Stage	5 - Detailed Design		
Drawing Title	WP004b Standard Detail Utility Protection		

Project/Contract			Enabling Works North - EWP-2104		
Discipline/Function			Highways		
Drawn	Checked	Approved			
JE	DP	RB			
Date	Scale	Size			
29.05.2019	1:25	A1			
Drawing No.		Rev.			
1EW04-LMJ_DJV-HW-DDE-N001-004501		C01			

WP004b - Sector N1 - Enabling Works North Contract

Kenilworth Greenway - Waste Lane Access / Egress CDM Register

Document no.: 1EW04-LMJ-HW-REG-NS01_NL03-004002

Revision	Date	Author	Approved by	Revision Details
C01	17/05/2019	Dennis Powell	Rahul Bagchi	For Acceptance
P01	10/04/2019	Dennis Powell	Chris Ayerst	For Information

Rahul Bagchi
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 o=Ramboll UK Ltd, ou=Central
 Highways,
 email=rahul.bagchi@ramboll.co.uk
 Date: 2019.05.17 10:22:34 +01'00'

WP Title: Kenilworth Greenway - Waste Lane Access / Egress CDM Register

Item No.	Activity or Element Reference	Design item or work activity giving rise to hazard and hazard identified	Health, safety or environmental hazard	Raised by	Persons at risk		Design action to eliminate hazard or reduce risk (ERIC)	Residual risks to be managed by others			Status Live/Closed	Item No.	Activity or Element Reference	SHE Box Column (show with 'Y')			SHE Symbol (show with 'Y')				SHE Symbol Label	SHE Box Text	Drawing Number or Element Reference (show which SHE symbols, labels and text should appear on which drawings by indicating with a 'Y')																										
					Site (Y/N)	Others (Y/N)		SHE Box Item/Symbol	Other Communication	Health and Safety File				By	Site/Construction	Operation/Mainten.	Demolition/Environ	Compulsory	Information	Prohibitive			Permitted	Environmental	1EW04-LMJ-DJV-HW-DGA-NS01-NL03-006	1EW04-LMJ-DJV-HW-DPL-NS01-NL03-006	1EW04-LMJ-DJV-HW-DSE-NS01-NL03-006	1EW04-LMJ-DJV-HW-DGA-NS01-NL03-006	1EW04-LMJ-DJV-HW-DPL-NS01-NL03-006	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX							
A																																																	
A1 Site Related Hazards																																																	
A1	UTL	Location and condition of existing utilities is unconfirmed on site. Potential for explosion and electric shock.	Safety	DP	Y		1. Advise client on need for detailed utilities survey, based on utilities search provided. 2. Once utilities are identified, works will not be proposed in areas where they are likely to clash and cause risk to contractors on site. 3. Where risk cannot be eliminated and proposals might conflict with existing utilities (eg. pond excavation), the risk is to be identified on the detailed design drawing and contractor is to provide proposals to manage risk on site. 4. DJV are in the process of consulting with the utility providers to confirm the extent and requirements for utilities protection.				Y	CON	Live	A1	UTL	Y	Y	Y				Y	Location / Condition of Utilities.	Trial hole and underground service scans to be undertaken in accordance with HSG47 to identify location of services.	X																								
A2	EX FEA	Works adjacent to existing ditch. Potential for drowning / injury. Risk of trips / falls.	Safety	DP	Y		1. Minimise extent of proposed works adjacent to ditches and retain existing margins where possible. 2. Identify potential safety risks associated with existing ditches, on detailed design drawings.	N	N	Y	CON	Live	A2	EX FEA								N/A	N/A.																										
A3	UTL	Proximity of existing underground utilities.	Safety	DP	Y		DJV are in the process of consulting with the utility providers to confirm the extent and requirements for utilities protection.	Y	N	Y	CON	Live	A3	UTL	Y	Y	Y				Y	Buried Services.	Trial hole and underground service scans to be undertaken in accordance with HSG47 to identify location of services.	X		X																							
A4	GEO	No ground investigation, contaminated land or soil survey information.	Health & Safety	DP	Y		1. Advise client on need for survey to confirm existing ground conditions. 2. Once ground conditions have been confirmed, proposals are to eliminate risk to contractors on site. 3. Where risk cannot be eliminated, the risk is to be identified on the detailed design drawings and contractor is to provide proposals to manage risk on site.	N	N	Y	CON	Live	A4	GEO								N/A	N/A.																										
A5	UTL	Proximity of existing overhead lines to access route	Safety	DP	Y	Y	Risk can not be eliminated. Contractor to make site operatives aware of above ground risks. Provide goal post to limit vehicle height adjacent to overhead line. Apply for G6 permission.	Y	N	Y	CON	Live	A5	UTL	Y	Y	Y				Y	Overhead Utilities.	Contractor to implement a safe system of working with close proximity of existing overhead lines to access route.	X		X																							
A6	HIGH	Degradation of sub-grade compromising grass matting.	Safety	DP	Y		Maintain low speed limits. 1. Contractor to monitor condition of subgrade. 2. Need to consider replacement of grass matting/tracking system with stone construction. 3. Carry out Geotechnical Investigations (by client).	N	N	Y	CON	Live	A6	HIGH									N/A	N/A.																									
A7	ENV	UXO.	Safety	DP	Y	Y	Follow recommendations for UXO provided within the project UXO report.	N	N	Y	CON	Live	A7	ENV	Y	Y	Y					N/A	N/A																										
A8	UTL	BPA Pipeline.	Safety	DP	Y		GPR survey and trial holes to detect and avoid British Petroleum Association's mixed fuel line. Contractor to prepare RAMS / SSWP.	Y	N	N	CON	Live	A8	UTL	Y	Y	Y				Y	BPA Pipeline.	Trail holes and scans to be undertaken to determine location.	X		X																							
B																																																	
B1 Hazards During the Works																																																	
B1	GEO	Access route across field. Potential Risk of clashes with wildlife and Non Motorised Users.	Safety	DP	Y	Y	Establish ground conditions and profile, proposal to eliminate risk to contractors on site.	N	N	N	CON	Live	B1	GEO								N/A.	N/A.																										
B2	HIGH	Work adjacent to highway. Exposure to public / vehicles etc.	Safety	DP	Y	Y	1. Vegetation clearance is required in this location to ensure visibility is sufficient. 2. Appropriate TTM Signage to provide advanced warning of works access points to the public	N	N	N	CON	Live	B2	HIGH	Y	Y	Y					N/A.	N/A.																										
B3	PAV	Risk of tar products being encountered on existing roads. Tar products are classified as hazardous waste and must be treated as such.	Health	DP	Y	Y	This risk is generally mitigated by taking advance cores on sections being treated. These cores are tested to check for the presence of tar and measures can be put into place for dealing with this as part of the works.	N	N	Y	CON	Live	B3	PAV	Y							N/A.	N/A.																										
C																																																	
C1 Operational Hazards																																																	
C1	HIGH	Visibility at Junction / Crossing due to existing vegetation.	Safety	DP	Y	Y	Undertake additional vegetation clearance and maintain during works.	Y	N	N	CON	Live	C1	HIGH	Y	Y	Y				Y	Junction Visibility.	Ensure area is kept clear of vegetation within visibility splays.	X		X																							
C2	HIGH	Access onto the Greenway for construction works as cars etc are not able to get onto it. Potential clashes with Public and Operatives.	Safety	DP	Y	Y	Hazard cannot be eliminated through design. However, maintenance contractor to determine use of smaller vehicles or access via other means in their Operation and Maintenance Manual, RAMS and SSWP.	N	N	Y	CON	Live	C1	HIGH		Y	Y					N/A.	N/A.																										

Item No.	Activity or Element Reference	Design item or work activity giving rise to hazard and hazard identified	Health, safety or environmental hazard	Raised by	Persons at risk		Design action to eliminate hazard or reduce risk (ERIC)	Residual risks to be managed by others		Action (Y/N)	Status Live/Closed	Item No.	Activity or Element Reference	SHE Box Column (show with 'Y')			SHE Symbol (show with 'Y')	SHE Symbol Label	SHE Box Text	Drawing Number or Element Reference (show which SHE symbols, labels and text should appear on which drawings by indicating with a 'Y')																										
					Site (Y/N)	Others (Y/N)		By	Site/Construction					Operation/Mainten.	Demolition/Environ	Compulsory Information				Prohibitive Information	Environmental	1EW04-LMJL-DJV-HW-DGA-NS01-NL03-004	1EW04-LMJL-DJV-HW-DPL-NS01-NL03-004	1EW04-LMJL-DJV-HW-DSE-NS01-NL03-004	1EW04-LMJL-DJV-HW-DGA-NS01-NL03-004	1EW04-LMJL-DJV-HW-DPL-NS01-NL03-004	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX										
C3	PAV	Unbound material on accesses can get rutted and cause holes.	Health	DP	Y		Hazard cannot be eliminated through design. However, maintenance contractor to determine inspection and maintenance schedule in their Operation and Maintenance Manual, RAMS and SSWP.			N	N	Y	CON	Live	C3	PAV	Y	Y				N/A.	N/A.																							
		Maintenance Hazards																																												
D1	HAZ	Access onto the Greenway for maintenance as cars etc are not able to get onto it	Safety Risk	HAZ	Y	Y	Hazard cannot be eliminated through design. However, maintenance contractor to determine use of smaller vehicles or access via other means in their Operation and Maintenance Manual, RAMS and SSWP.			N	N	Y	CON	Live	D1	HAZ						N/A.	N/A.																							
		Demolition Hazards (Future)																																												
		Environmental Hazards																																												
F1	ECO	Sediment entering water courses	Safety	DP	Y	Y	Provision of hay bales and stilling ponds at appropriate intervals along ditches and prior to all outfalls.	Ensure hay bales and stilling ponds are provided during construction.		N	N	Y	CON	Live	F1	ECO	Y	Y	Y				N/A	N/A																						
F2	ENV	Potential presence of asbestos containing materials in areas of fill. Risk of exposure to asbestos fibres.	Environmental	DP	Y		Investigate areas of fill to establish presence (or absence) of ACM. If significant ACM is detected there may be a need to undertake remediation works in advance of (or during) construction.	Watching brief to monitor for presence of ACM (under Contamination Management Plan) will be required when undertaking excavation works in areas of fill. Contractor to include AMP on their RAMS / SSWP.		N	N	Y	CON	Live	F2	ENV			Y				N/A	N/A																						
F3	ECO	Presence of Great Crested Newts, Batts, Nesting Birds and Badgers.	Environmental	DP	Y		Ensure relevant ecology surveys have been undertaken and any relocation, protection or mitigation works have been completed prior to works commencing.			Y	N	N	CON	Live	F3	ECO	Y	Y	Y	Y		Y	Ecological Constraint.	Further Survey Required.	X	X																				

Designer's Risk Assessment

General

Design health and safety risk management should be an integral part of the overall design development. It is important that H&S considerations are recorded during the design for two reasons. Firstly, it provides an understanding of the designer's thought process for eliminating hazards and reducing risks. This is helpful to other designers who will be developing the design to avoid changes that potentially reintroduce a hazard or increase the level of risk. Secondly, it should highlight any significant residual risks at the end of the design process that others will need to manage. One of HS2's strategic H&S principles is that health hazards should receive the same attention as safety hazards.

Categorisation of Risk Considerations

Hazards/risks should be reviewed in a logical sequence against the following categories as the considerations will be slightly different for each category:

- Site related hazards (eg client existing operations, nearby site uses/activities, etc). Note that these may impact on any of the other categories in this list
- Hazards during the works (eg construction, installation, etc)
- Operational hazards, both for normal operation and foreseeable abnormal/emergency situations
- Maintenance hazards, including routine cleaning, routine and emergency maintenance, replacement of major plant/equipment and other components which are likely to require replacement during the overall design life of the facility
- Future alteration/decommissioning, dismantling and demolition hazards

Potential SHE Hazards

HEALTH HAZARDS	SAFETY HAZARDS	ENVIRONMENTAL HAZARDS
Asbestos	Falls from height	Invasive species
Manual handling	Falling objects	Hazardous materials
Dust	Moving vehicles	Nesting birds
Noise	Driving and fatigue	Waste material
Vibration	Electric shock	Pollution of water courses/aquifers
Contaminated Land	Hostile landowners	
Bird guano	Collapse of excavation	
Leptospirosis	Drowning	
Discarded syringes	Lone working	
Lyme disease	Slips and trips	

The following CIRIA guidance documents provide a useful checklist and detailed guidance on the identification of risks to be considered during design and how those risks might be addressed:

- C755 - CDM2015 - Construction work sector guidance for designers
- C756 - CDM2015 - Workplace 'in-use' guidance for designers
- C686 - Safe access for maintenance and repair. Guidance for designers
- C607 - Design for deconstruction to facilitate reuse and recycling

There are other more specific CIRIA publications which may also be of assistance to designers in relation to risk management

Hazard Elimination and Risk Reduction

The acronym ERIC provides a simple reminder of the basic risk management considerations as follows:

- **Eliminate** reasonably foreseeable hazards so far as is reasonably practicable*
 - **Reduce** the risks, so far as is reasonably practicable*, from any reasonably foreseeable hazards that cannot reasonably be eliminated. To do this designers are required to apply the principles of prevention which is a hierarchy of control, ie combat the risks at source, use latest technology, replace the dangerous by the non-dangerous or the less dangerous and give collective protective measures priority over individual protective measures
 - **Inform** others about any significant residual risks - see below for definition of what should be considered as significant in this context
 - The 'c' is for the control of all residual risks by contractors or operators and is not applicable to designers
- (* Proportionate action only taking into account other design considerations)

Permanent works designers must consider the temporary works implications of their designs and draw to the attention of relevant parties any special requirements/arrangements that may be necessary. They should also provide sufficient information about the permanent design criteria which will be necessary to enable the temporary works designer to assess all relevant factors

Designers should also identify specific erection/installation sequences required to ensure stability, safe installation, etc.

Refer to the DJV CDM RAG Lists for guidance on what to eliminate/avoid and what to encourage.

Identification of Significant Residual Risks

Significant residual risks in the context of this schedule does not mean those that involve the greatest risks but means those, including health risks, which are:

- unusual in the context of this project/facility; or
- not likely to be obvious to competent contractors, operators or other designers; or
- particularly difficult to manage effectively; or
- critical design assumptions apply in respect of erection/installation or demolition/dismantling sequences or the temporary works requirements

Significant residual risks are usually communicated using a Safety, Health and Environment (SHE) box and hazard symbols on drawings. They can also be communicated on specific drawings such as hazard maps and construction sequence drawings and via written briefing notes and presentations to site operatives.

The right hand half of the Designer's Risk Assessment template should be used to identify what specific notes and hazard symbols should appear on particular drawings.

The symbols in the table below should be used to identify the type of hazard:

Symbol	When to use symbol	Further Guidance
	Warns of a residual risk or information that is unusual and cannot be designed out	Significant hazards that are unusual, difficult to manage and cannot be designed out, eg fragile roof lights, holes through floors, etc
	Indicates a residual risk requiring a compulsory action by the Contractor or Maintainer	Compulsory actions to encourage the contractor to carry out specific tasks in a particular way, eg structural erection or demolition sequences
	Indicates a residual risk requiring a specific action to be avoided	Prohibited Actions having identified significant existing hazards and risks the contractor may need to be informed of particular actions to be avoided, eg use of access roads prohibited at certain times on school sites
	Conveys information about a residual risk, or information that may affect the way a project is managed or undertaken	Significant Information to inform the contractor or user of issues that have been mitigated but of which they need to be aware, eg maintenance and inspection access to difficult parts of the building once scaffolding removed
	Warns of a residual environmental aspect (hazard) and impact (risk)	Significant aspects and impacts , eg special measures required to prevent pollution

The standard DJV SHE box is shown below:

Health and Safety Symbols Legend		
	INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION	
	CONVEYS INFORMATION ABOUT A RESIDUAL RISK	
	INDICATES A RESIDUAL RISK REQUIRING A SPECIFIC ACTION TO BE AVOIDED	
	WARNS OF A RESIDUAL RISK OR INFORMATION THAT IS UNUSUAL AND CANNOT BE DESIGNED OUT	
	INDICATES AN ENVIRONMENTAL HAZARD	
A1. B1.	C1. D1.	E1. F1.
Site Related & Construction Risks	Operational & Maintenance Risks	Demolition & Environmental Risks
The table above is provided to assist the Principal Contractor to fulfill their obligations under the Construction Design & Management Regulations, 2015. It does not include residual risks that a competent Contractor will be aware of nor does it absolve the Principal Contractor of his legal responsibilities. For further hazard and risk information, refer to Designer's Risk Assessment 1EW04-LMJ-XX-RIA-XXXX-XXXX-XXXXXX SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX		

WP 004b – Sector N1 – Enabling Works North Contract

Kenilworth Greenway - Waste Lane Access / Egress Design & Assumptions Log

Document Number: 1EW04-LMJ-HW-REP-NS01_NL03-004022

Revision	Author	Checked by	Approved by	Date	Reason for revision
C01	Dennis Powell	Anthony Cabria	Rahul Bagchi	17.05.2019	For Acceptance
P01	Max Wilkinson	Dennis Powell	Rahul Bagchi	10.04.2019	For Information

Rahul Bagchi
Digitally signed by Rahul Bagchi
 DN: cn=Rahul Bagchi, c=GB,
 o=Ramboll UK Ltd, ou=Central
 Highways,
 email=rahul.bagchi@ramboll.co.uk
 Date: 2019.05.17 08:20:21 +01'00'

DOCUMENT OWNER: RAHUL BAGCHI

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3.1	Abbreviations	6

1 Purpose

1.1 Context

- 1.1.1 This document is maintained as a WIP document during the design stage for the work package and issued for information at the completion of the design stage. It will be hosted on DJV ProjectWise until issue at the end of the design stage.

2 Scope

2.1 Design of Temporary Site Access / Egress at Waste Lane to support Schedule 4 Part 1 Applications – Design Decisions

- 2.1.1 Design decisions are summarised below:

Reference	Design Decision	Rationale
KGWL001	Use of proposed Greenway Crossing in the Detailed Design under Work Package 51, at point of new site access / egress.	To keep with LoD / LLAU and minimise disruption to existing environment.
KGWL002	Design Vehicle Requirements are gt Dumper and JCB.	Information provided by Contractor to inform Design.
KGWL003	Traffic Volume per Day is 90 vehicles.	Information provided by Contractor to inform Design.
KGWL004	Where BPA Fuel Pipeline intersects design, concrete slab protection will be required to protect asset.	BPA pipeline is a major asset and damage to the asset would cause a major incident. Slab design developed and to be agreed with BPA subject to trial hole results. Protection to services to be in place before works commence as per design undertaken in Work Package 51.

Reference	Design Decision	Rationale
KGWL005	Existing ditches to be re-used / incorporated into the design have allowance made for clearance of vegetation and detritus.	Ditches cleared to allow free flow of water through works where new and existing ditches / drainage is required.
KGWL006	Site Access.	Access to site OCOg2 utilises a new access point from Waste Lane through a gap in the hedge in accordance with a U&A for the adjacent landowner.
KGWL007	Utility Protection.	Goal Post protection to existing Overhead Line crossing the access route. Protection to below ground utilities to be confirmed in accordance with the requirements of the utilities providers. Protection / diversion to services to be in place before works commence.
KGWL008	Site Access Warning.	Signage proposed to provide advanced warning of works access points to the public. Vegetation clearance is required in this location to ensure visibility is sufficient.
KGWL009	Site boundaries.	Site boundaries to be defined by existing established hedgerows or fence-lines where possible. Fencing (post and wire) selected to provide temporary boundary that can be removed upon establishment of planting.
KGWL010	Post & wire boundary fencing.	Low vehicle design speeds (approximately 15mph) anticipated, the temporary nature of the access routes and the low volume of traffic anticipated.

Reference	Design Decision	Rationale
KGWL011	Interface with Public.	Traffic Management implemented to protect users. It is anticipated low vehicle movement.
KGWL012	Undertakings and Assurances (U&A).	It is assumed constructability, consenting and other potential implications have been considered and will be addressed, as applicable, within the construction phase of works.
KGWL013	Site Access Junction – paved / granular fill.	Paved / Granular Fill section leading into access route from public highway to reduce debris pollution and to provide safe access and egress. Lifecycle of access to be six months.
KGWL014	Pavement Construction for Access.	Use of Pavement Type 1 Option 1a (WP51 Access Roads) from drawing reference 1EW04-LMJ-HW-DPI-N001-051019. This Pavement assumes CBR of 2.5% and is suitable for Construction Traffic.
KGWL015	Access design only undertaken.	All other elements such as General Arrangement, Fencing, Drainage etc has been referenced via Work Package 51.
KGWL016	Visibility Splay at Access / Exit.	Assessment carried out using TD42/95 – Geometric Design of Major / Minor Priority Junctions. Findings have been detailed on Visibility Splay drawings submitted under Schedule 4 Part 1 Application, detailed on Visibility Splay

Reference	Design Decision	Rationale
		Drawing (ref: 1EW04-LMJ_DJV-HW-DPL-NS01_NL03-004351).
KGWL017	Traffic Management not included within design.	Contractor to be responsible for Traffic Management and to ensure compliance to Chapter 8.
KGWL018	200mm Topsoil strip throughout extent of works.	Decision based on guidance from HS2 Technical Standard – Soil Handling for Land Restoration (ref: HS2-HS2-EV-STD-000-000008). This may change following further review / discussion with HS2.
KGWL019	Topsoil Management.	Topsoil Management / Storage to be in accordance with WP51 Material Management Plan, Document Reference 1EW04-LMJ-EV-PLN-NS01_NL03-051001.

2.2 Design of Temporary Site Access / Egress at Waste Lane to support Schedule 4 Part 1 Applications - Assumptions

2.2.1 The following assumptions have been made during the design:

1. Survey information procured and undertaken by HS2 or LM in previous work stages is provided at commencement of the works in a native electronic file format suitable for our use and accessible in a suitable collaborative design environment provided by others.
2. All temporary works and traffic management design, unless otherwise identified in the Baseline Design Report, checking and management will be undertaken by LM or others.
3. It is assumed that HS2 will act as Principal Designer for the scheme and LM as the Lead Designer EWC North. Regarding CDM roles and responsibilities. DJV will be engaged as Designer.

4. It is assumed that any departures identified as required during the design are accepted by the relevant Highway Authorities and HS2. These will be flagged as soon as possible to allow early agreement with the approval authority.
5. No allowance has been made for liaison with Environmental Regulators in relation to contamination at any of the sites
6. There are no illegal foot and mouth pits present at any of the sites covered under WP51.
7. That existing flood models are fit for purpose, have taken account of new allowances for climate change (from February 2016), have been approved by the Environment Agency and have no issues that need to be addressed before they can be utilised.
8. Construction planning and phasing drawings are excluded from the design.
9. The available HS2 LiDAR information from the EDP/Hybrid Bill reference design stage will be sufficient for the design stage. If the topographical survey identifies any significant discrepancies during the design this will be the subject of a compensation event.
10. The Design has been undertaken using appropriate assumptions for the geotechnical properties. The assumed properties will be compared with the output from the Geotechnical Investigations undertaken. It is assumed no redesign will be required.
11. There is no requirement to undertake any quantitative whole life cost assessments. In considering value for money qualitative assessments will be undertaken.
12. Results of trial excavations may result in additional utility diversionary works beyond those indicated in the design.

3 Abbreviations

3.1 Abbreviations

3.1.1 For reference see below list of abbreviations used with this Design & Assumption Log:-

- EWC – Enabling Works Contract
- EA – Environment Agency
- HS2 – High Speed 2
- LiDAR – Light Detection and Ranging (survey data methodology)

Document no.: 1EW04-LMJ-HW-REP-NS01_NL03-004022

Revision: C01

- LM - Laing Murphy
- MWCC – Main Works Civils Contractor
- DJV – Design Joint Venture
- CDM – Construction, Design & Management
- U&A – Undertakings & Assurances.
- LOD – Limits of Deviation
- LLAU – Limits of land to be acquired or used

Vehicle Actuated phase timings

Phase 1: B4101 WASTE LANE NB	Red	15s	→
	Green	45s	
Phase 2: B4101 WASTE LANE SB	Red	15s	←
	Green	45s	
Please note: Timings may only be adjusted by a qualified operative to suit changing traffic conditions if required.			

- KEY**
- Sign
 - Cone
 - ▨ Work area
 - ▨ Closed area
 - ↑ Traffic light head
 - PH1 Traffic light phase

DETAIL B

Single/Dual carriageway 40mph or less - 450mm traffic cones, spacing 1.5m.
 Single/Dual carriageway 50mph or more - 750mm traffic cones, spacing 1.5m.
 Dual carriageway national speed limit - 750mm traffic cones, spacing 1.5m, relaxation 3m.

Notes:

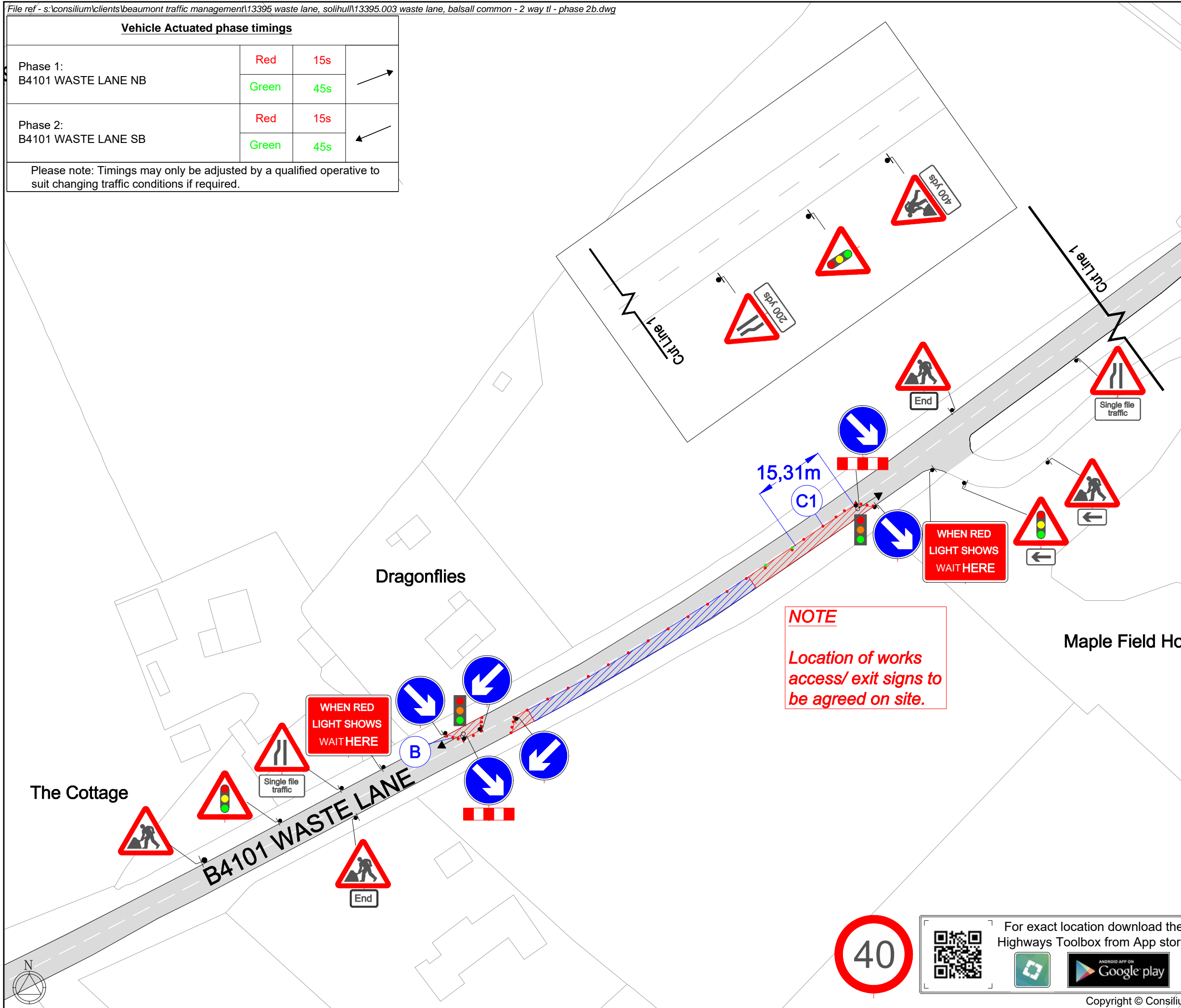
- 1) During darkness, warning lights to BS EN 12352:2006 should be provided in accordance with Table A1.3 (Appendix 1).
- 2) 45° tapered cones have 1.5m spacing, no relaxations.
- 3) On motorways and NSL AP roads with hard shoulders, 1m cones will be required for both standard and relaxation works for lead tapers and the facing wall of lane changes.

DETAIL C1

Single/Dual carriageway 40mph or less - 450mm traffic cones, spacing 1.5m.
 Single/Dual carriageway 50mph or more - 750mm traffic cones, spacing 1.5m.

Notes:

- 1) During darkness, warning lights to BS EN 12352:2006 should be provided in accordance with Table A1.3 (Appendix 1).
- 2) For relaxation to Detail C1 see Table A1.3 (Appendix 1).



NOTE
 Location of works access/ exit signs to be agreed on site.

Rev	Description	By	Chkd	Date
Revisions				

Client
Beaumont Traffic Management Ltd.

Project
 B4101 WASTE LANE
 BALSALL COMMON
 GRID REF: 425709, 276625

Title
 TEMPORARY
 2 WAY TRAFFIC
 LIGHTS
 PHASE 2B



409 Tyburn Road, Birmingham, B24 8JU - 0121 328 7266
 info@consilium-ts.co.uk - www.consilium-ts.co.uk

Design: RD	Drawn: DM	Chkd: RD
Date: 03/06/19	Date: 03/06/19	Date: 03/06/19
Scale: NTS @ A3	Status: PROPOSED	Rev:
Drawing No	13395.003	



For exact location download the Highways Toolbox from App store.