

NATIVE TREE PLANTING

Species	Form	Girth (cm)	Height cm	Clear stem (cm)	Root condition
Acer Campestre	EHS	14-16	300-350	Min 200	85L
Betula pendula	EHS	14-16	300-350	175-200	85L
Carpinus betulus	EHS	14-16	250-300	175-200	85L
Malus sylvestris	EHS	14-16	250-300	175-200	85L
Populus alba	EHS	14-16	300-350	175-200	85L
Prunus avium	EHS	14-16	300-350	175-200	85L
Quercus robur	EHS	14-16	350-425	175-200	85L
Tilia cordata	EHS	14-16	300-350	175-200	85L

THORNY SCRUB PLANTING MIX

To be planted 1/m²

Species	Mix %	Height cm	Form	Age	Root condition
Cornus sanguinea	20%	60-80	Branched	1+1	BR
Crataegus monogyna	20%	60-80	Branched	1+1	BR
Ilex aquifolium	10%	60-80	Branched	-	BR
Ligustrum vulgare	10%	40-60	Branched	0/2	2L
Prunus spinosa	10%	40-60	Branched	1+1	2L
Rosa canina	20%	40-60	Branched	1+1	BR
Sambucus nigra	10%	60-80	Branched	1+1	BR

NATIVE SHRUB MIX

Species	Mix %	Height cm	Form	Age	Root condition
Corylus avellana	20%	80-100	Branched	1+2	B
Crataegus monogyna	10%	80-100	Branched	1+1	B
Eunonymus europaeus	10%	60-80	Branched	1+2	B
Ilex aquifolium	10%	60-80	Leader with laterals	-	3L
Prunus domestica	10%	60-80	Branched	1+1	B
Prunus spinosa	10%	60-80	Branched	1+1	B
Rosa canina	10%	60-80	Branched	1+1	B
Viburnum lantana	10%	60-80	Branched	1+2	B
Viburnum opulus	10%	60-80	Branched	1+2	B

TUSSOCK GRASS MIX

Emorsgate EG10 has been devised to create areas of tussocky grassland that, once established, require little or no maintenance. Mixture to be sown at a rate of 5g/m².

Grasses		
2.5	Alopecurus pratensis	Meadow Foxtail (w)
25	Cynosurus cristatus	Crested Dogtail
20	Dactylis glomerata	Cocksfoot (w)
2.5	Deschampsia cespitosa	Tufted Hair-grass (w)
25	Festuca rubra	Strong-creeping Red-fescue
2.5	Holcus lanatus	Yorkshire Fog
12.5	Schedonorus arundinaceus - (Festuca arundinacea)	Tall Fescue (w)
10	Schedonorus pratensis - (Festuca pratensis)	Meadow Fescue (w)
100		

LONG MEADOW MIX FOR CLAY SOILS

Mixture to be sown at a rate of 4g/m².

%	Latin Name	Common Name
Wildflowers		
12	Achillea millefolium	Yarrow
0.2	Agrimonia eupatoria	Agrimony
0.1	Betonica officinalis	Betony
3.0	Centaurea nigra	Common Knapweed
0.4	Daucus carota	Wild Carrot
1.5	Galium verum	Meadowseet
0.3	Filipendula ulmaria	Lady's Bedstraw
1.5	Galium verum	Meadow Carne's-bill
0.4	Geranium pratense	Meadow Vechling
0.5	Lathyrus pratensis	Oxeye Daisy
1.0	Leucantherum vulgare	Birdsfoot Trefoil
0.2	Lotus corniculatus	Musk Mallow
2.5	Malva moschata	Ribwort Plantain
4.1	Plantago lanceolata	Cowslip
0.2	Primula veris	Meadow Buttercup
1.6	Ranunculus acris	Yellow Rattle
0.2	Rumex acetosa	Common Sorrel
0.1	Silium silaus	Pepper Saxifrage
1.0	Silene flos-cuculis	Ragged Robbin
19.7		
Grasses		
10	Agrostis capillaris	Common Bent
2.0	Anthoxanthum odoratum	Sweet Vernal-grass
2.0	Briza media	Quaking Grass
64.0	Cynosurus cristatus	Crested Dogtail
10	Festuca rubra	Red Fescue
10	Trisetum flavescens	Yellow Oat-grass
80		

NATIVE HEDGEROW

To be planted in triple staggered row 0.6m offset, with 9 plants per linear meter

Species	Mix %	Height cm	Form	Age	Root condition
Crataegus monogyna	40%	60-80	Branched	1+1	B
Eunonymus europaeus	15%	60-80	Branched	1+2	B
Ilex aquifolium	15%	60-80	Leader with Laterals	-	3L
Prunus spinosa	20%	60-80	Branched	1+1	B
Rosa canina	10%	60-80	Branched	1+1	B

NATIVE MARGINAL PLANTING MIX

Species	Mix %	Type	Root condition	Density per m2
Alisma-Plantago-aquatica	20%	Marginal	5Occ min	9
Caltha palustris	20%	Submerged	1L	5
Carex pendula	5%	Tall emergent	1L	2
Iris pseudacorus	5%	Marginal	1L	4
Juncus effusus	10%	Tall emergent	2L	5
Mentha aquatica	5%	Submerged	1L	3
Veronica beccabunga	5%	Marginal	2L	3

NATIVE WOODLAND & SHRUB MIX

To be planted at 1m centres

Species	Mix %	Girth (cm)	Height (cm)	Form	Age	Root Condition
Alnus glutinosa	15	-	100-125	Transplant	1+1	B
Corylus avellana	15	-	60-80	Branched	1+2	B
Corylus avellana (s)	5	6-8	230-300	Standard	5+	B
Crataegus monogyna	20	-	60-80	Branched	1+1	B
Ilex aquifolium	10	-	60-80	Leader with laterals	-	3L
Quercus robur	10	-	100-125	Transplant	1+2	B
Salix caprea	15	-	60-80	Branched	1+2	B
Sorbus aucuparia	10	-	100-125	Transplant	1+1	B

Note: mixes to be planted in an evenly spaced but irregular pattern (i.e. no grids or lines) in single species groups with approximately 5-9 plants per group.



MEADOW MIXTURE FOR WETLANDS

Mixture to be sown at a rate of 4g/m².

%	Latin Name	Common Name
Wildflowers		
0.5	Achillea millefolium	Yarrow
0.2	Achillea ptarmica	Sneezewort
1	Betonica officinalis	Betony
2.5	Centaurea nigra	Common Knapweed
2	Filipendula ulmaria	Meadowsweet
1.5	Galium verum	Lady's Bedstraw
0.4	Geum rivale	Water avens
0.6	Leucanthemum vulgare	Oxeye Daisy
0.8	Lotus pendunculatus	Greater Birdsfoot Trefoil
1	Plantago lanceolata	Ribwort Plantain
0.2	Primula veris	Cowslip
1.5	Prunella vulgaris	Selfheal
2.5	Ranunculus acris	Meadow Buttercup
1.5	Rhinanthus minor	Yellow Rattle
1.5	Rumex acetosa	Common Sorrel
1	Sanguisorba officinalis	Great Burnet
0.2	Silene flos-cuculi	Ragged Robin
0.6	Succisa pratensis	Devil's-bit Scabious
0.5	Vicia cracca	Tufted Vetch
20		
Grasses		
10	Agrostis capillaris	Common Bent
2	Alopecurus pratensis	Meadow Foxtail
2	Anthoxanthum odoratum	Sweet Vernal-grass
1	Briza media	Quaking Grass
32	Cynosurus cristatus	Crested Dogtail
1	Deschampsia cespitosa	Tufted Hair-grass
24	Festuca rubra	Slender-creeping Red-fescue
1	Hordeum secalinum	Meadow Barley
7	Schedonorus pratensis	Meadow Fescue
80		

KEY

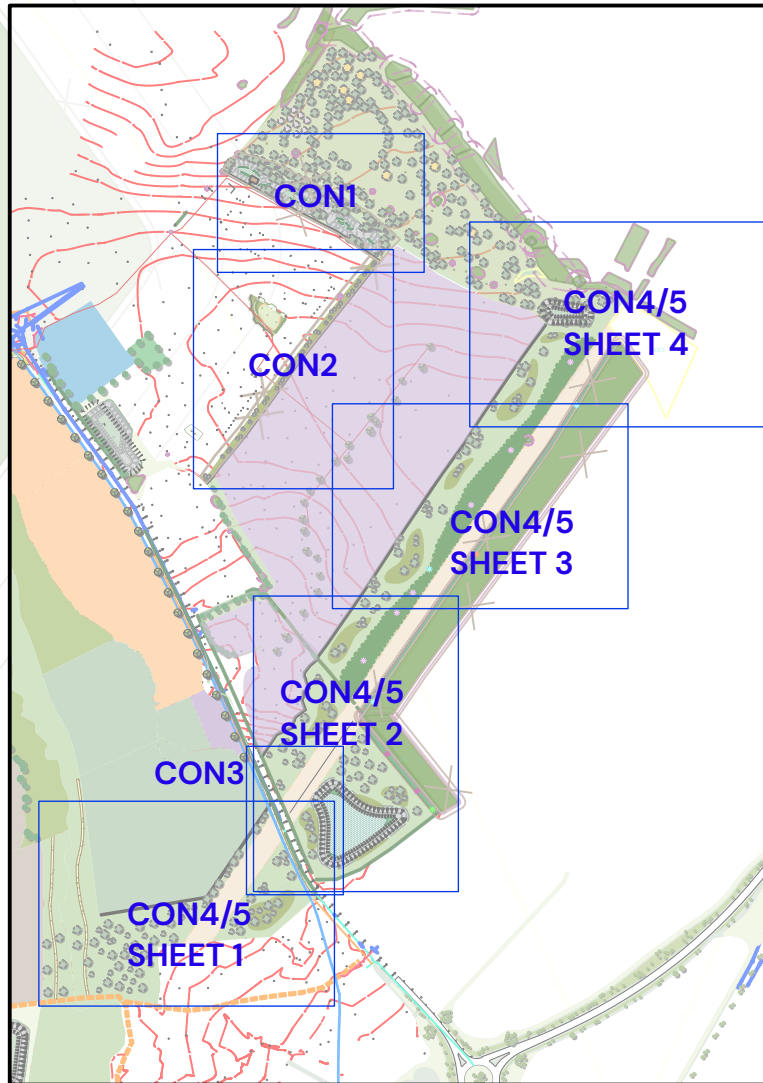
- Existing trees to be retained to BS5837
- Existing hedgerow to be retained and maintained to a minimum height of 2.5m strengthened with infill planting where required
- Proposed tree planting
- Proposed native shrub planting
- Proposed thorny scrub planting
- Proposed woodland and scrub planting to benefit bats and dormouse
- Proposed native hedgerow planting
- Proposed marginal planting
- 1.5m high post and wire fence
- 1.5m high post and rail fence
- 3m field gate entrance to Biss Wood
- Noticeboard at entrance to Biss Wood
 - The board is to be metal in construction and to include the following information:
 - Information on the space
 - Name and telephone number of the operator of the facility with an invitation to report any incident or damage

- Proposed long meadow grassland e.g Emorsgate EM4
- Proposed tussocky grassland e.g Emorsgate EM10
- Proposed wetland wildflower grassland e.g Emorsgate EM8
- Attenuation pond with areas of permanently wet
- River Biss
- Footpath/Cyclepath
- Existing Public Right of Way
- Existing overhead power lines

Ecological Enhancements

- Butterfly bank
- Hibernacula for reptiles and amphibians
- Habitat pile for reptiles, amphibians and invertebrates
- Hibernaculum for Lesser Horseshoe Bats
- Barn owl box on tree or pole if no suitable trees

LOCATION PLAN



Revisions:
First Issue: 09/12/2022 ASK
A: 12/05/2024 ASK (Revised to client comment - additional fencing around SUDS Basins) Sheet 2 and 4 only

Detailed Planting Plans (Sheet 4 of 4)

West Ashton - Trowbridge CON4/5 Biss Wood Buffer

Client: Persimmon

DRWG No: P22-2219_EN_002

REV: A Sheet No: 4

Drawn by: ASK

Date: 21/05/2024

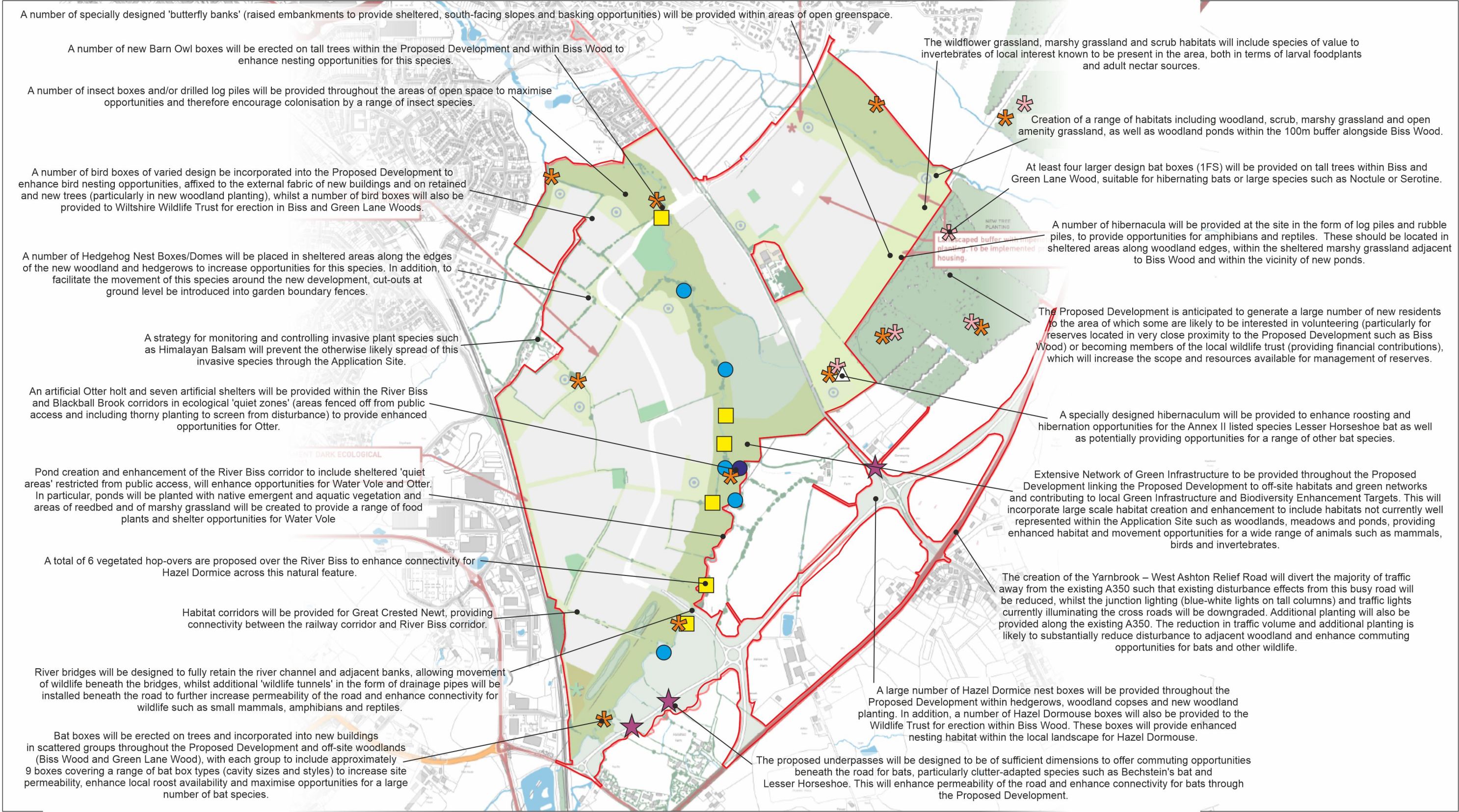
Approved by: ASK

Scale: 1:500 @A1

Pegasus Design

Appendix EDP 3

Indicative Ecological Enhancements



KEY:

SITE BOUNDARY

MAJOR OPEN SPACE & NATURE PARK EXTENSION

INFORMAL RECREATION/LANDSCAPING

WOODLAND

TREES

RIVER BISS

PROPOSED UNDERPASS (ADDITIONAL TO 'MITIGATION' UNDERPASSES ALONG BECHSTEIN'S FLIGHT-LINES)

LESSER HORSESHOE HIBERNACULUM*

GROUP OF BAT BOXES*

BAT HIBERNATION BOX*

DORMOUSE RIVER CROSSING*

OTTER HOLT*

OTTER SHELTERS*

* Locations of proposed faunal enhancements are indicative only

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Ashton Park, Trowbridge

Ecological Enhancements

1878/Figure 6.23a

February 2024

PROJECT

TITLE

DRAWING NO.

REV.

DATE

Appendix EDP 4

YWARR – Specific Ecological Mitigation Information

A4.1 To fulfil planning condition 20 the following specific ecological mitigation is required with regard to the Yarnbrook and West Ashton Relief Road (YWARR):

- *“Long and cross sections for each underpass based on site surveyed; measurements showing the relative positions of hedgerows, existing ground levels, earthworks and underpass;*
- *The timetable of works required to complete the culvert works having regard to seasonal ecological and planting constraints;*
- *The programme of construction works to demonstrate how the ecological constraints of the culverts works have been fully integrated into the project programme (i.e. Gantt chart) and how it affects the critical path.*
- *A protocol for constructing underpasses and hop-overs including exact timescales, demonstrating removal of as little hedgerow as possible, erection of 4m high bat fencing and establishing new planting.”*

CONNECTIVITY MEASURES

A4.2 The agreed location for connectivity measures, of which 7 are underpasses are indicated in **Appendix EDP 12**. Vegetative links/‘hop overs’ are indicated on **Appendix EDP 13** where dense planting of both ‘standard’ and ‘heavy standard’ trees will be planted to give ‘instant’ height. In addition,. These connectivity measures/crossing points are designed to ensure the YWARR is fully permeable to Bechstein’s bats.

A4.3 Detailed designs, including both long and cross sections have also been developed and are available on request. The designs have been developed in accordance with recommendations set out in the ES Chapter.

Ecological Protection Zones

A4.4 Habitats affected by construction must follow all requirements set out in the main body of this CEMP. The EPZs will protect retained habitats and will ensure any removal of hedgerow network is minimised to that working room required to create the underpass or bridge.

A4.5 A suitably qualified engineer must mark out the location of all underpasses in advance of construction to ensure that they are situated centrally on the route of the existing flanking hedgerow. This will be checked by the ECoW to ensure there will be an uninterrupted route from the hedgerow to the underpass.

A4.6 A suitably qualified engineer must mark out the location of the working room required for the bridges to ensure EPZs can be set out around retained habitats. The road bridges are designed to retain the riverbank and associated vegetation on either side of the river

channel, and it will be important to protect this habitat to allow bats to continue to fly at existing heights and below the new bridges.

Management of Hedgerows at Underpasses

- A4.7 The hedgerows on either side of each underpass will be reduced in height, taking into account other protected species constraints described in the main body of the report) to reduce the height at which Bechstein's bats currently fly so that they will enter the underpass without having to make any significant adjustments to their flight. The height of the hedges will be assessed by the ECoW prior to commencement and the reduction in height will be advised accordingly and taking into account the specific design of each underpass.

Management of Hedgerows at Hop Overs

- A4.8 During construction, and before it is possible to plant any vegetation, 2m high acoustic fencing will be installed as shown on detailed plans in **Appendix EDP 12**. Existing hedgerows leading up to the hop over will be allowed to grow tall to encourage bats to fly at height and continue to fly above the fence at height as well.

Lighting

- A4.9 A specific lighting scheme has already been designed for the proposed YWARR. The YWARR will be unilluminated, except at a proposed roundabouts/one of the three bridges proposed (Bridge 3/Roundabout 3). Light spill will be below 1lux where possible through careful selection of column positions and minimising column heights. In addition. Lighting power will reduce to 75% from 20:00 to 23:00 and to 50% from 23:00 to 06:00 to further minimise light-spill during these times when bats are most active.

LEMP

- A4.10 A detailed LEMP must be produced, similar to that produced for the advanced mitigation planting to ensure the specified planting is delivered and becomes appropriately established. This document will also set out the long-term management of this habitat to maximise connectivity and directional aids to the hop overs and underpasses to minimise the risk of road related mortality. Monitoring must be specified as well as the requirement for remedial measures and timescales for remediation.
- A4.11 At full maturity, hop-overs will comprise trees of a minimum height of 5-6m on either side of the road which will reduce the width of the gap created by the road itself and flanking commuting habitat. The planting of extra heavy standard trees must be captured in a LEMP designed for the YWARR, as well as other dense planting which will fill out the hop over feature and maximise the extent of green coverage leading up to the road (refer to **Appendix EDP 13**).
- A4.12 The planting of rowan, field maple, bird and wild cherry as well as alder and oak are considered the most appropriate species to select when creating the landscape elements of the hop overs. Species, size and density must be specified on detailed landscape plans.

A4.13 It is the responsibility of the Principal Contractor to ensure that obligations of any approved LEMP are delivered in conjunction with an approved CEMP as this will ensure compliance with Planning Condition 22 and specific obligations relating to the YWARR.

A4.14 The ECoW will also be responsible for reporting on compliance to the LPA in accordance with Planning Condition 22.

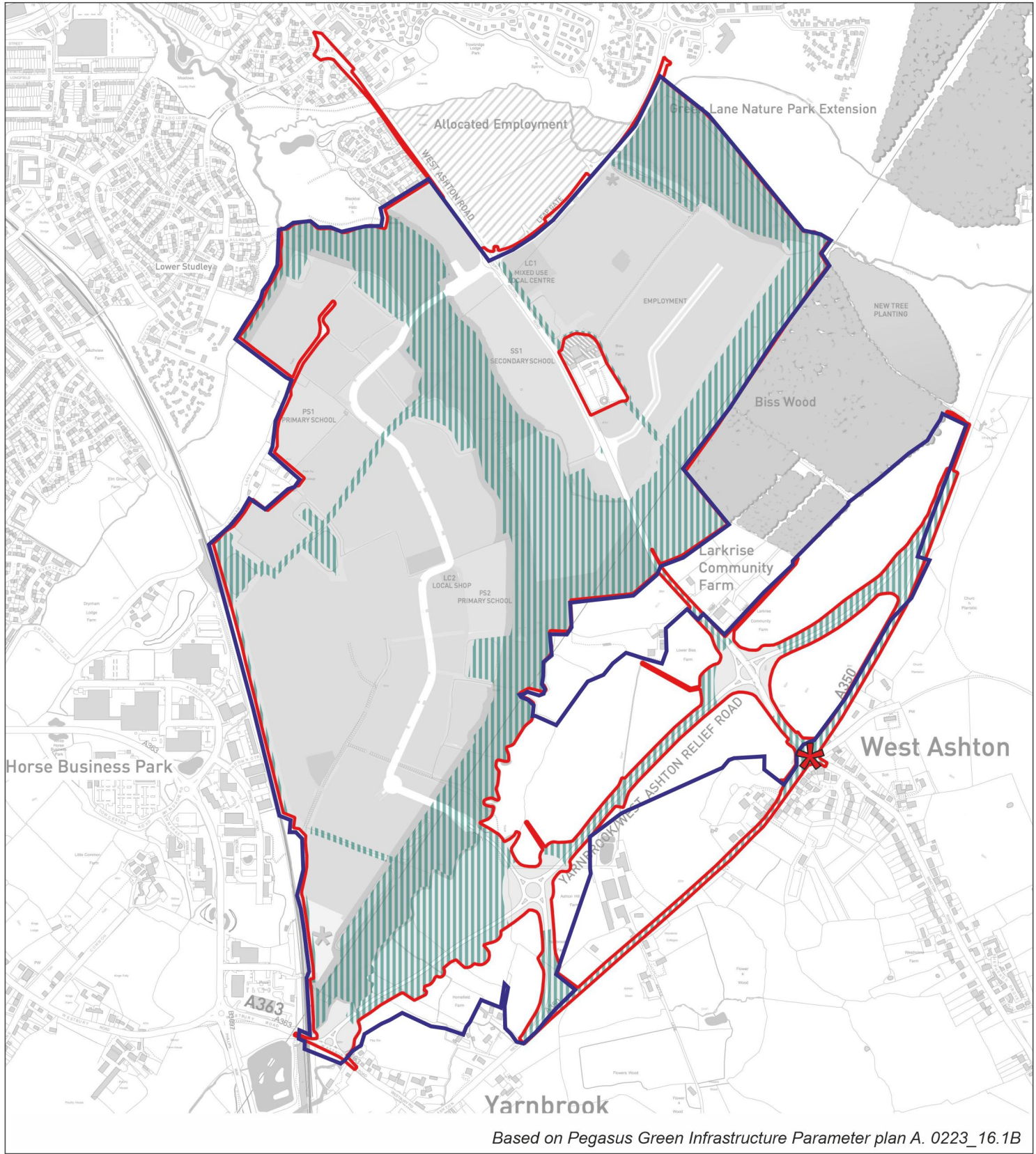
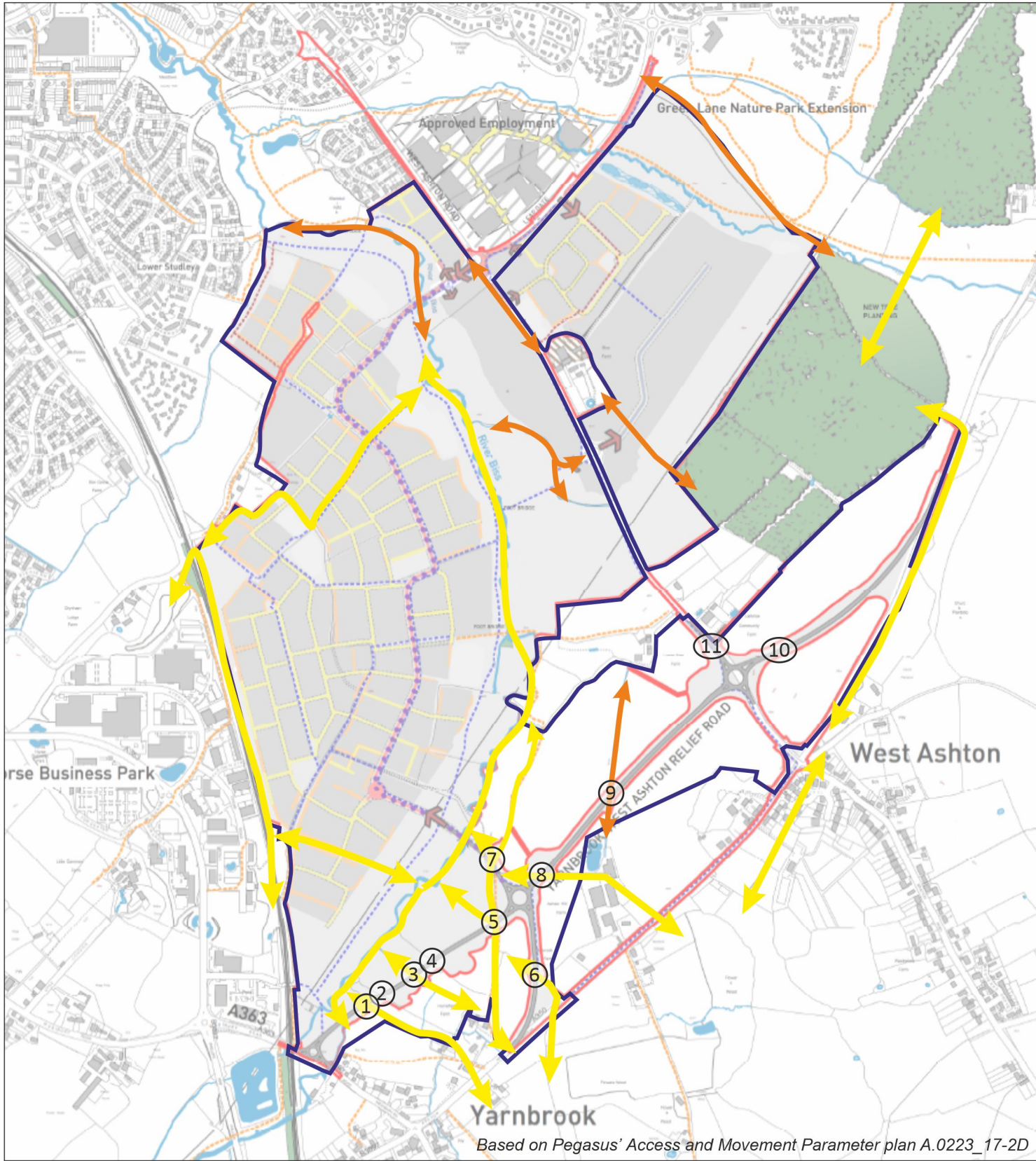
Timescales

A4.15 Underpasses must be programmed for creation at an early point in the construction of the YWARR. A Gantt chart should be produced to show when each connectivity feature will be constructed. The permeability of the new road should be prioritised to enable bats to move freely through the YWARR and have access to the remainder of the Site.

A4.16 Some or all of the underpasses should be constructed during the winter period, typically between November and February, when bat activity is markedly reduced. This will limit the duration in which connectivity is disrupted.

Appendix EDP 5

Bat Flight Lines and Lighting Plan and Dark Habitat Cross Sections



KEY:

-  Site Boundary
-  Study Area Boundary
-  Bechstein's Bat Flight Lines*
-  Other Bat Species Flight Lines
-  Crossing Point Reference Number

-  Demotion of Junction and Removal of Lighting
-  Dark corridor subject to light levels not exceeding 0.2 lux on the horizontal plane and 0.4 lux on the vertical plane

* The flightlines shown in this plan represent routes within or immediately adjacent to the Site recorded to be used by radio-tracked Bechstein's bats. Additional flightlines and foraging areas were recorded off-site which are not shown on this plan.

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Ashton Park, Trowbridge
Bat Flight Lines and Lighting

PROJECT
TITLE



1878/Figure 6.4a
February 2024

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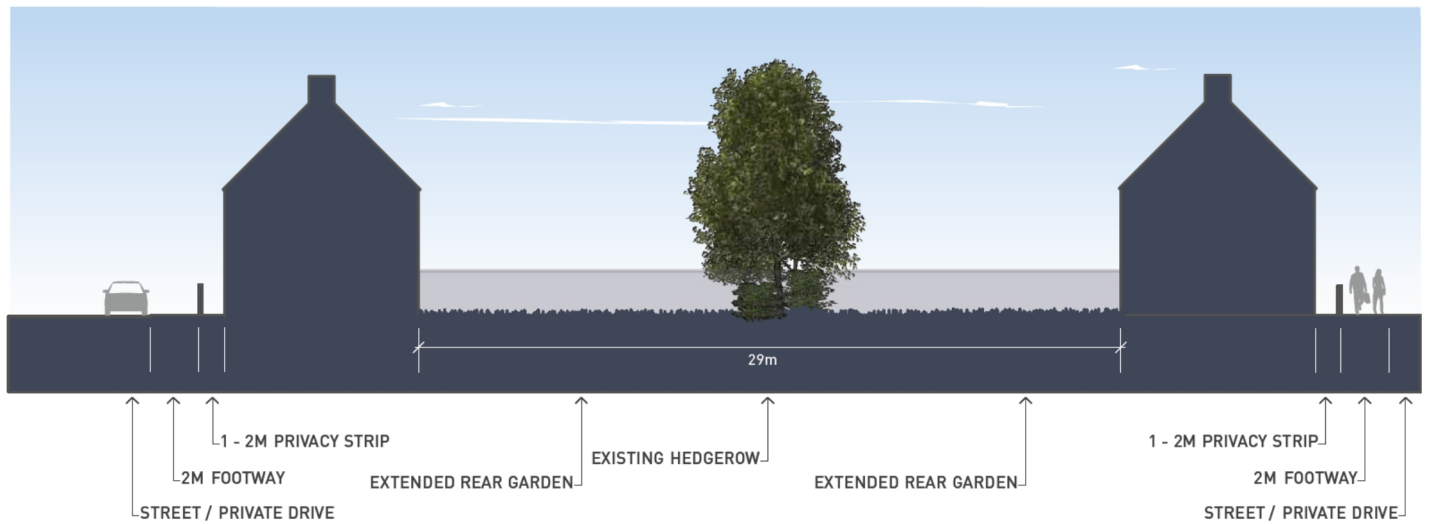


Image 1 - Lighting treatment, zone E1 (Primary dark bat habitat corridor), within public open space of minimum 16.5m width.

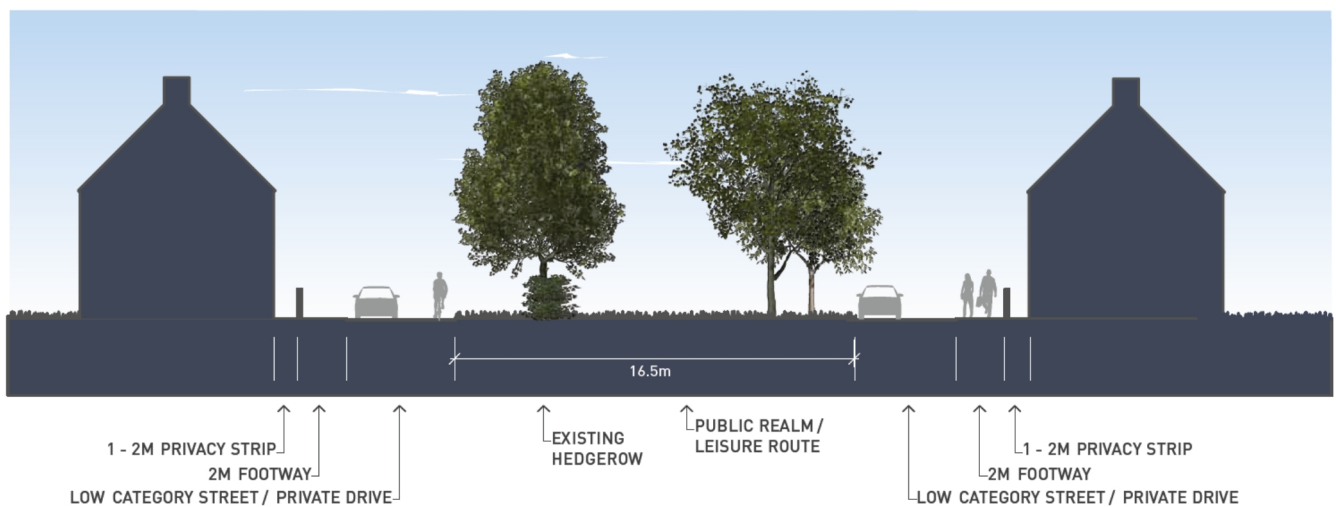


Image 2 - Lighting treatment, zone E2 (Secondary dark bat habitat corridor)

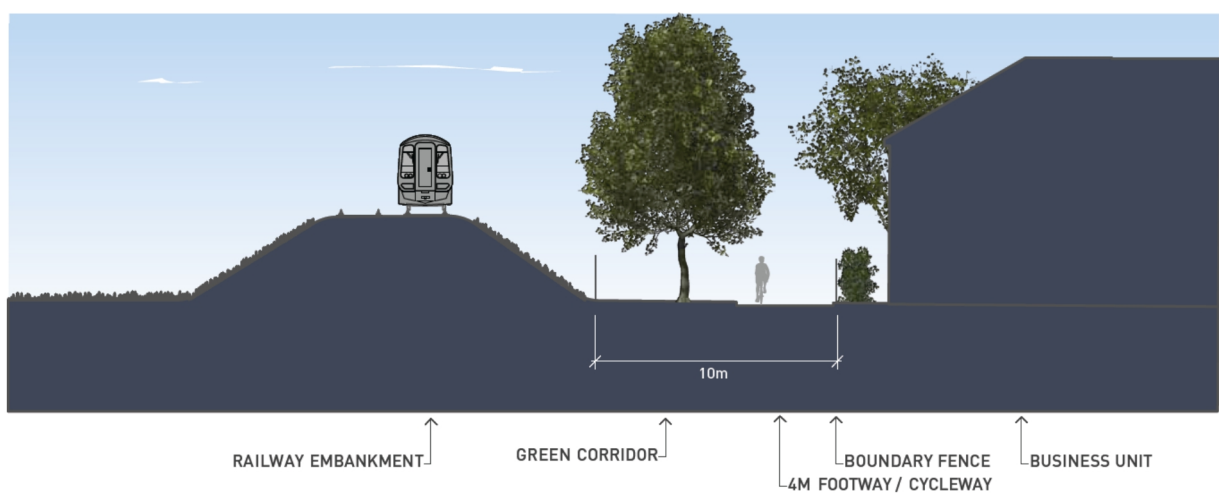


Image 3 - New wooded dark bat habitat corridor linkage along Wessex mainline railway.

Appendix EDP 6

Indicative Skylark Plots



- KEY:
- FENCED SKYLARK HABITAT ENCLOSURES (25 SQM)
 - ASHTON PARK APPLICATION AREA
 - PROPOSED RESIDENTIAL AND STREET PATTERN
 - PROPOSED EMPLOYMENT
 - PROPOSED LOCAL CENTRE
 - PROPOSED SECONDARY SCHOOL SITE
 - PROPOSED PRIMARY SCHOOL
 - MAIN STREETS
 - PROPOSED YARNBROOK/WEST ASHTON RELIEF ROAD
 - PROPOSED VEHICLE ACCESS POINT
 - FOOT / CYCLEWAY / EMERGENCY ACCESS
 - FORMAL SPORTS PITCHES
 - 100M ECOLOGICAL BUFFER
 - INFORMAL RECREATION/LANDSCAPING
 - MAJOR OPEN SPACE AND COUNTRY PARK EXTENSION
 - EXISTING TREES AND HEDGES
 - CHILDRENS PLAY AREAS
 - DESTINATION PLAY AREA INCORPORATING NEAP & LEAP
 - ECOLOGICAL VISITORS FACILITY
 - POTENTIAL ALLOTMENTS
 - TOUCAN CROSSING
 - PROPOSED TREE PLANTING
 - EXISTING PUBLIC RIGHT OF WAY
 - PRIMARY FOOTPATHS
 - PRIMARY ON AND OFF STREET FOOT/CYCLE ROUTE
 - PROPOSED BUS ROUTE
 - FLOOD ATTENUATION AREA

BASED ON PEGASUS "INDICATIVE MASTERPLAN" A.0223_77 Rev Q

Ashton Park, Trowbridge	PROJECT
Skylark Plots	TITLE
1878/Figure 6.22	DRAWING NO.
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Appendix EDP 7

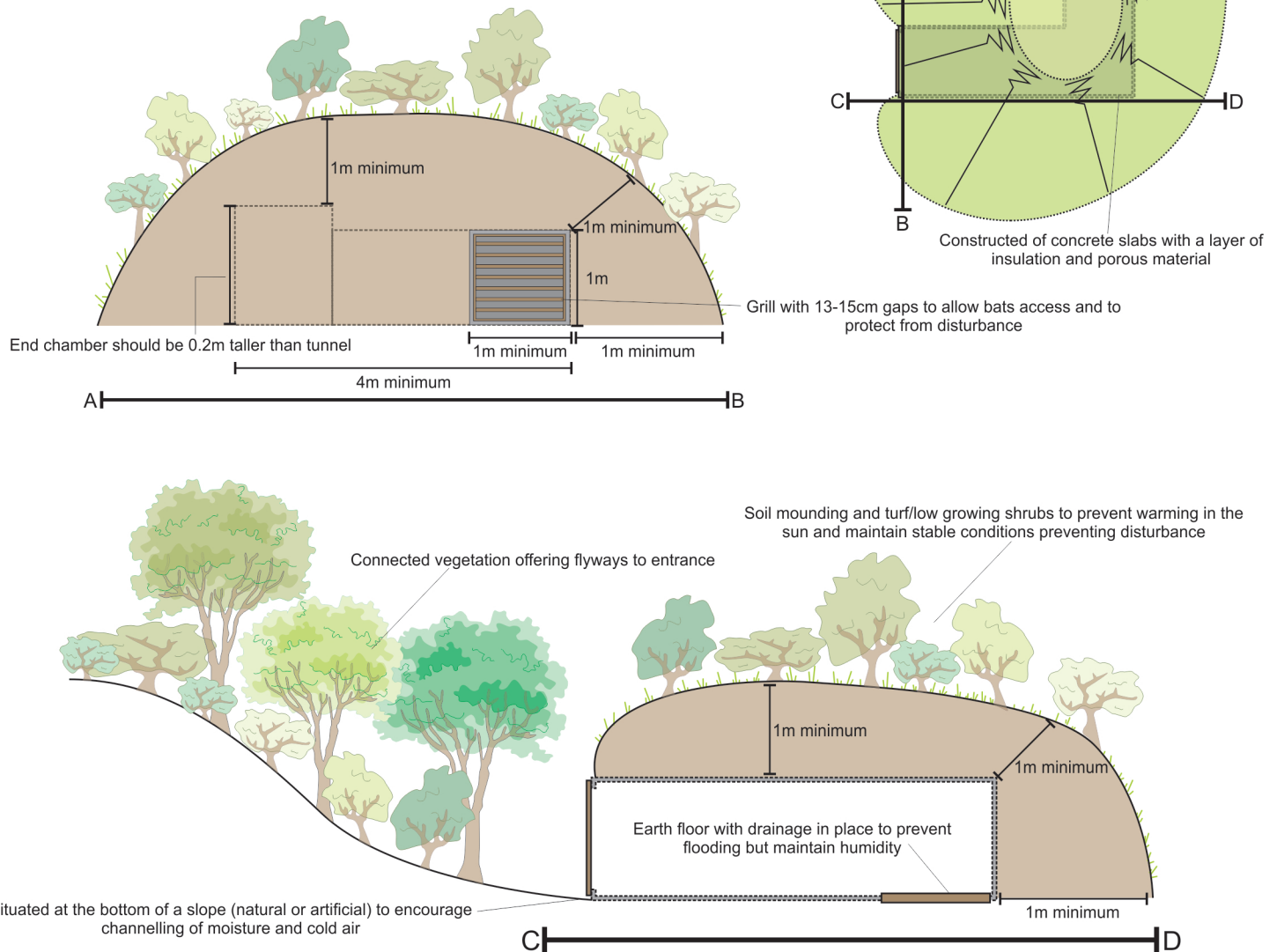
Lesser Horseshoe Hibernaculum Specification

Lesser Horseshoe Hibernaculum

Lesser Horseshoe Bat *Rhinolophus hipposideros* is one of the smallest British bat species, which roosts by hanging upside down in open voids. Like other bat species, Lesser Horseshoe Bat requires cool, stable and humid conditions to hibernate during winter months such that it is typically recorded hibernating in caves and mines underground.

In order to offer suitable hibernation opportunities for this and other bat species, an artificial hibernaculum should therefore ideally be:

- Stable temperature of 6-7°C and close to 100% humidity;
- Connected to suitable foraging habitat such as woodlands or ponds by vegetated flightlines;
- Prevented from disturbance (achieved by grills over the entrance and siting underground); and should
- Provide a variety of perching opportunities at different heights and sufficient flight space.



Based on recommendations within Schofield 2008 Lesser Horseshoe Conservation Handbook.

Appendix EDP 8

Otter Holt and Shelter Specification

Otter Holt & Shelters

Otter holts are structures used by Otters for breeding and raising young, whilst Otter shelters provide resting and sheltering opportunities for Otters away from the main holt.

- Otter holts and shelters should be surrounded by fenced secluded areas of suitable habitat (e.g. alongside sections of watercourses offering foraging opportunities) where they will remain undisturbed.
- The holt should be sited above the winter flood level. Shelters should be provided at varied levels with some above winter flood height.
- Durable materials should be used to ensure longevity.

Otter Holt

Example Otter Holt (Filcris) - <http://www.filcris.co.uk/products/product-details/otterholt>



Otter holt assembled and installed before lid is attached.

- The holt has both a front and rear entrance hole and an internal chamber 600mm x 600mm. While this may appear small, research has confirmed that female otters prefer a confined space in which to rear their young.

- The holt should be constructed above ground level on top of a free-draining surface (e.g. gravel).

- The top is crenelated to improve ventilation, so the holt can be partially buried and the top covered in turves or brash. Alternatively the holt can be completely buried, but ensure that ventilation is added.

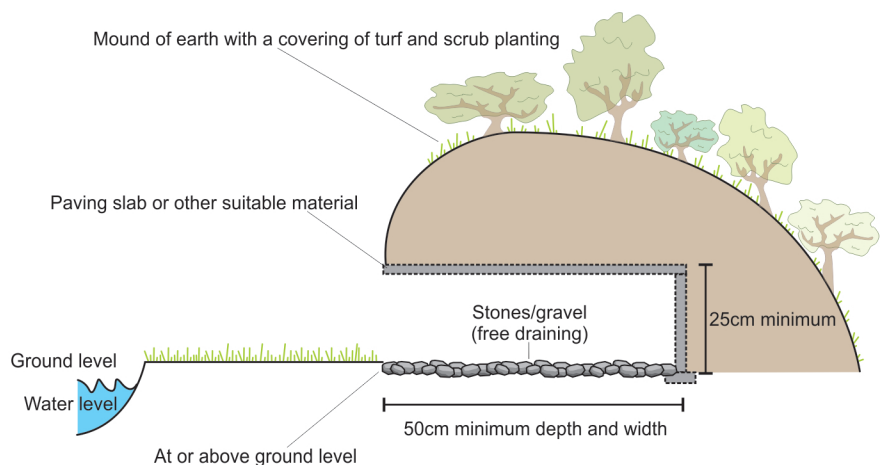
- Rough concrete pipes provide good grip for access tunnels (minimum 24cm).



Finished otter holt buried beneath turves and brash.

Otter Shelter

A simple artificial shelter can be made using log piles, rough stones, breezeblocks or paving stones to provide an enclosed space which is dry and hidden. This structure can be partially buried or covered with turf to incorporate it into a more natural setting. It can be sunk into the ground if a drain is fitted so that it does not flood.



Photographs taken from www.filcris.co.uk/case-studies/surve-wildlife-trust-otter-holt

Appendix EDP 9

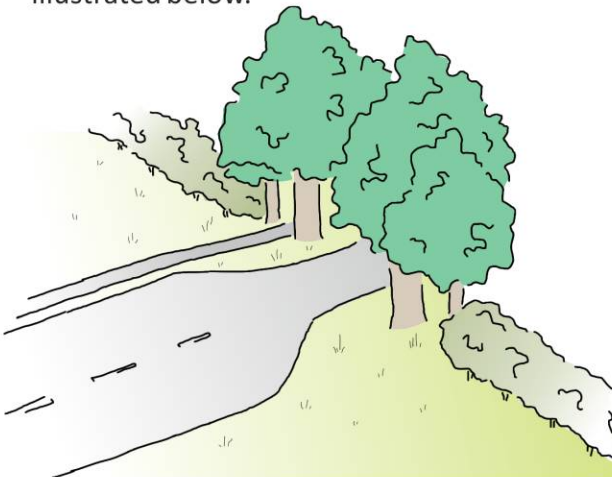
Ecological Connectivity – Dormouse ‘Hop-overs’ and Indicative Dormouse Mitigation

Ecological Connectivity

Dormouse 'Hop-overs'

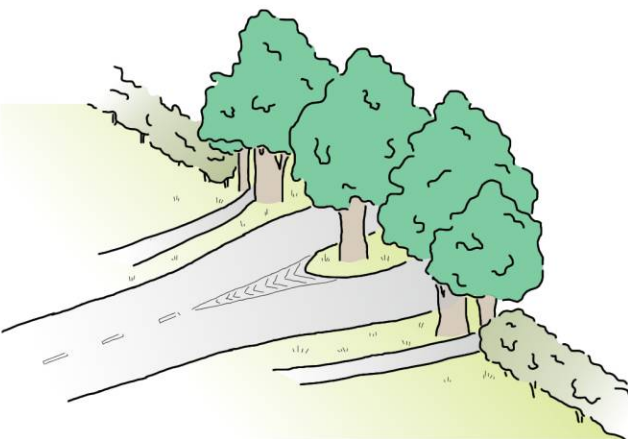
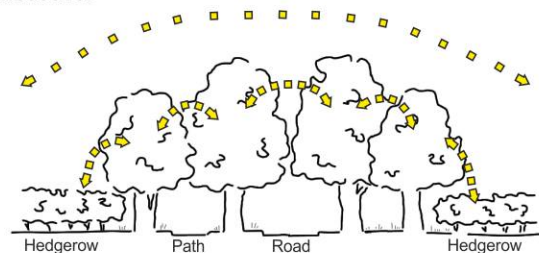
Dormouse are arboreal mammals and as such they favour continuous wooded vegetation cover for movement between habitat areas (such as hedgerows or wooded strips). The creation of gaps within such vegetation features for new road access has the potential to cause fragmentation and isolation of Dormouse populations by disrupting dispersal routes. As such, it is proposed that these road crossings (where required) are designed to reduce loss of habitat connectivity through the provision of Dormouse 'hop-overs', with the aim of maintaining continuous canopy cover across the road crossing. These features will also benefit other species which require continuous wooded habitat links, such as bats.

The key design objective for a 'hop-over' is to narrow the span of the road as far as possible such that a continuous canopy can be provided across the carriageway. Large standard trees can be retained or planted either side of the carriageway to provide a canopy height sufficient for vehicles to pass underneath (approx. 4m), whilst allowing the canopy to meet overhead forming connectivity for Dormice across the gap. Hop-overs should be unlit and connected to established wildlife corridors. There are two broad designs, as illustrated below.



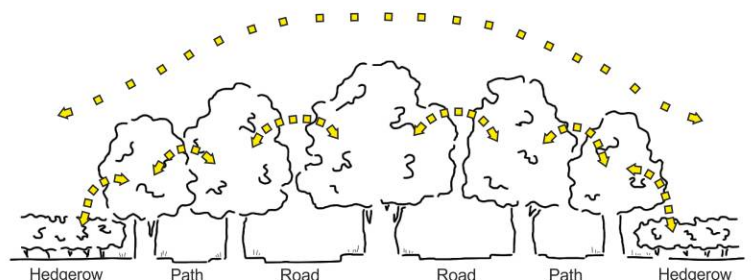
Single hop-over over road

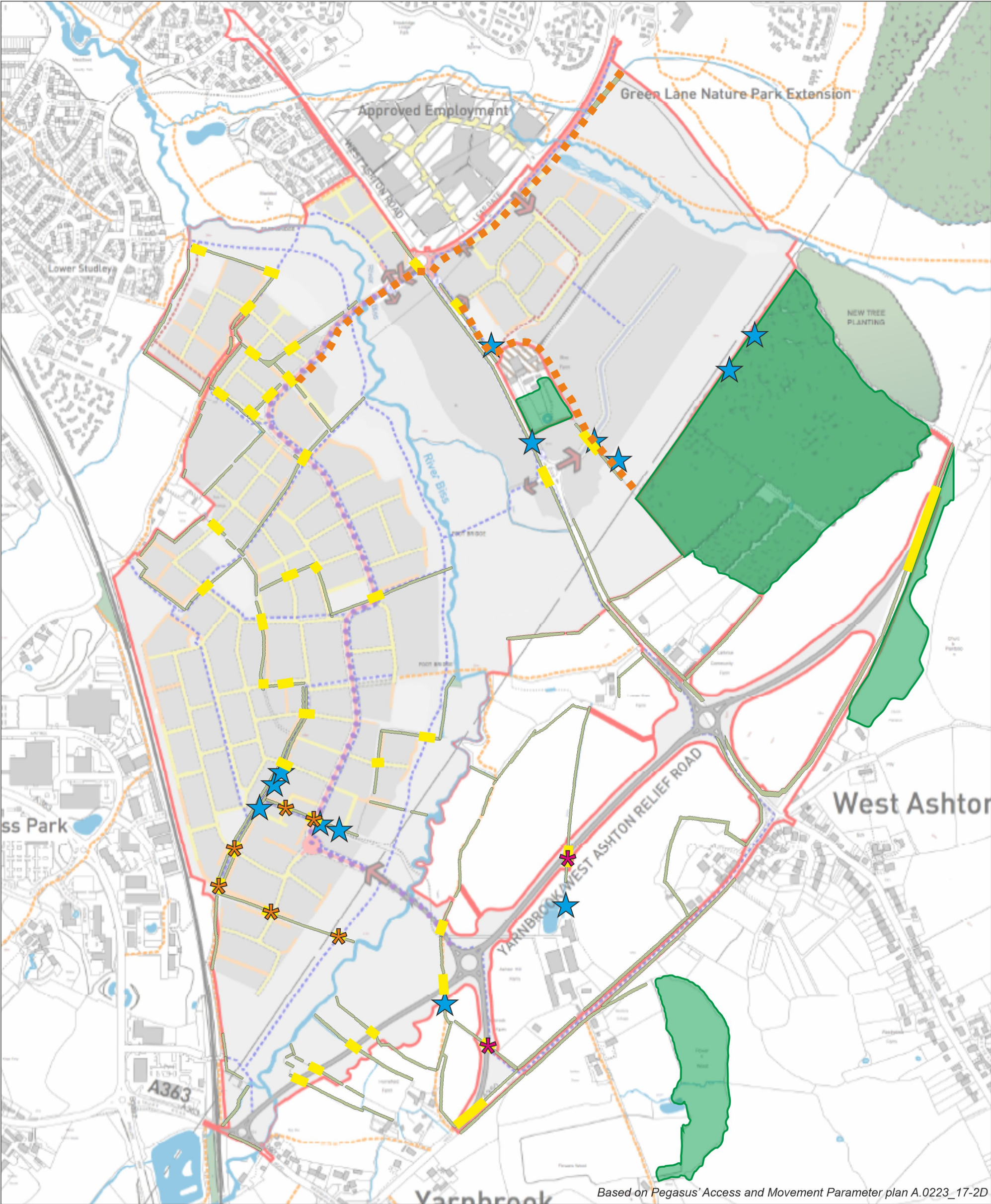
The road narrows as much as possible at the crossing point (to a single carriageway if feasible), with pedestrian access restricted to one side of the road if feasible. This design minimises the width of the vegetation corridor that is affected by the works and can be incorporated as a traffic calming measure.



Multiple hop-overs with split carriageway

Alternatively, the road could split into two separate carriageways at the crossing point and a central vegetated island used to maintain connectivity. This design allows a hop-over to be established more rapidly than over a standard 2-way road. A footpath can be provided on both sides of the carriageway, but these may need to be split from the road to reduce the width and ensure a continuous canopy.





Background Key:

- Dormouse Nest Recorded
- High Quality Habitat Blocks
- New Severance of Habitat
- Hedgerow

MITIGATION KEY:

- Hop over
- Bat hop over - designed for bat species but will also enhance connectivity for dormouse
- New linear habitat link enhancement, diverse food plants and structural cover / connection

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**Ashton Park,
East Trowbridge**

Indicative Dormouse Mitigation

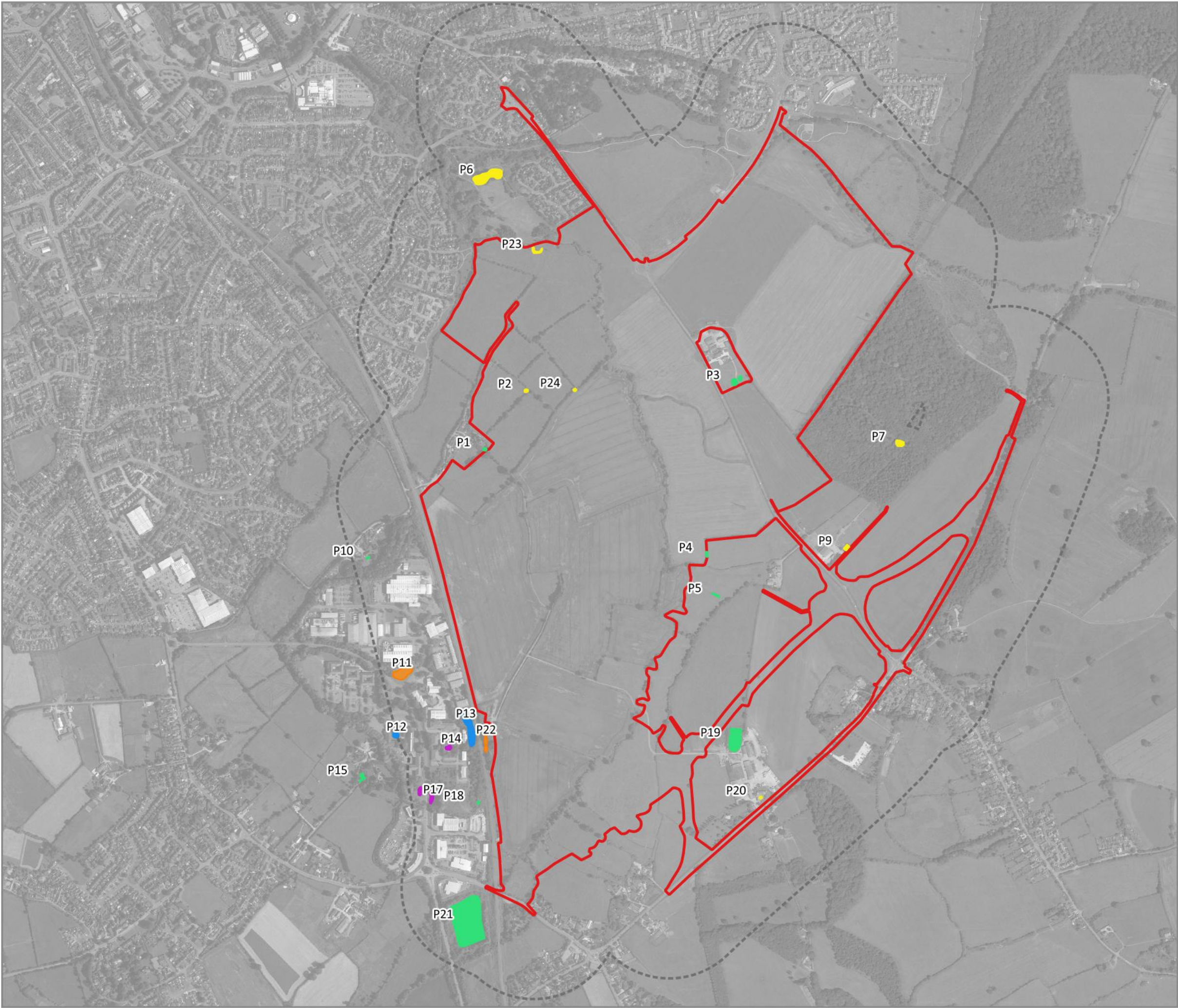
1878/Figure 6.20a

February 2024

PROJECT
TITLE
DRAWING NO.
REV.
DATE

Appendix EDP 10

Great Crested Newt Survey Results



- Key:
- Site Boundary
 - 250m Site Buffer
 - Population Surveys - Medium Population
 - Population Surveys - Small Population
 - Population Surveys - No Newts Found
 - eDNA Survey - Negative Result
 - Pond – No Access Granted / No Longer Present



Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Ashton Park, Trowbridge

Great Crested Newt Survey Results

1878/ECO8

A/CN

February 2024



Appendix EDP 11

Example of Wildlife Friendly Kerb for Amphibians

ACO Wildlife Kerb

Amphibians naturally proceed along any vertical barrier they meet. In a road situation, this is a kerb line where it meets the road surface. When they encounter a gully pot where there is no gap between it and the vertical kerb face, they often fall in.

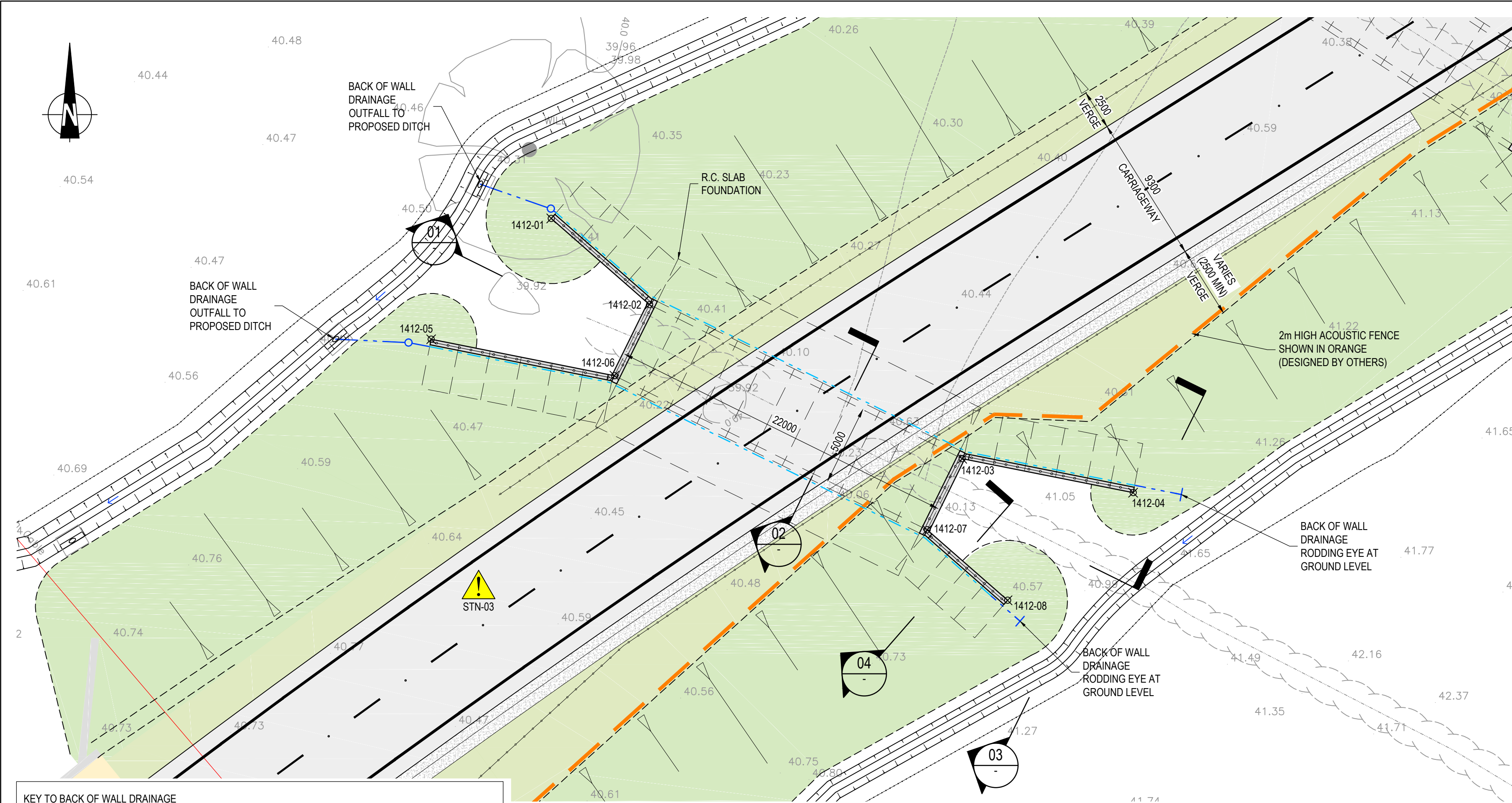
ACO Wildlife Kerb is designed to counter this problem by providing a 'bypass pocket' set into the kerb. When installed it is positioned so that the gully is in the middle of the Wildlife Kerb. Then when an amphibian arrives at the 'bypass pocket' it naturally moves into the kerb and safely passes the gully.



Available from www.aco-technologies.com.

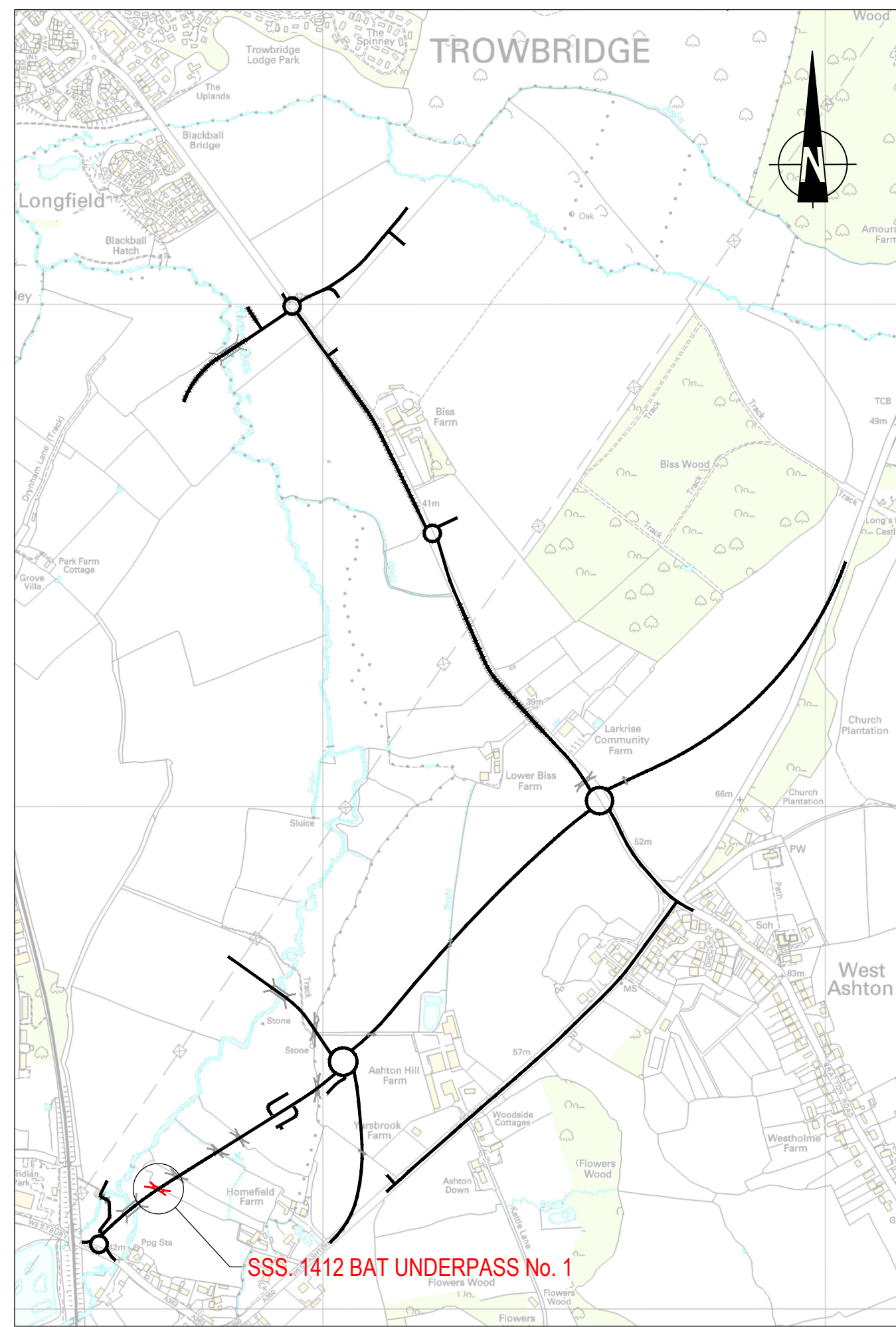
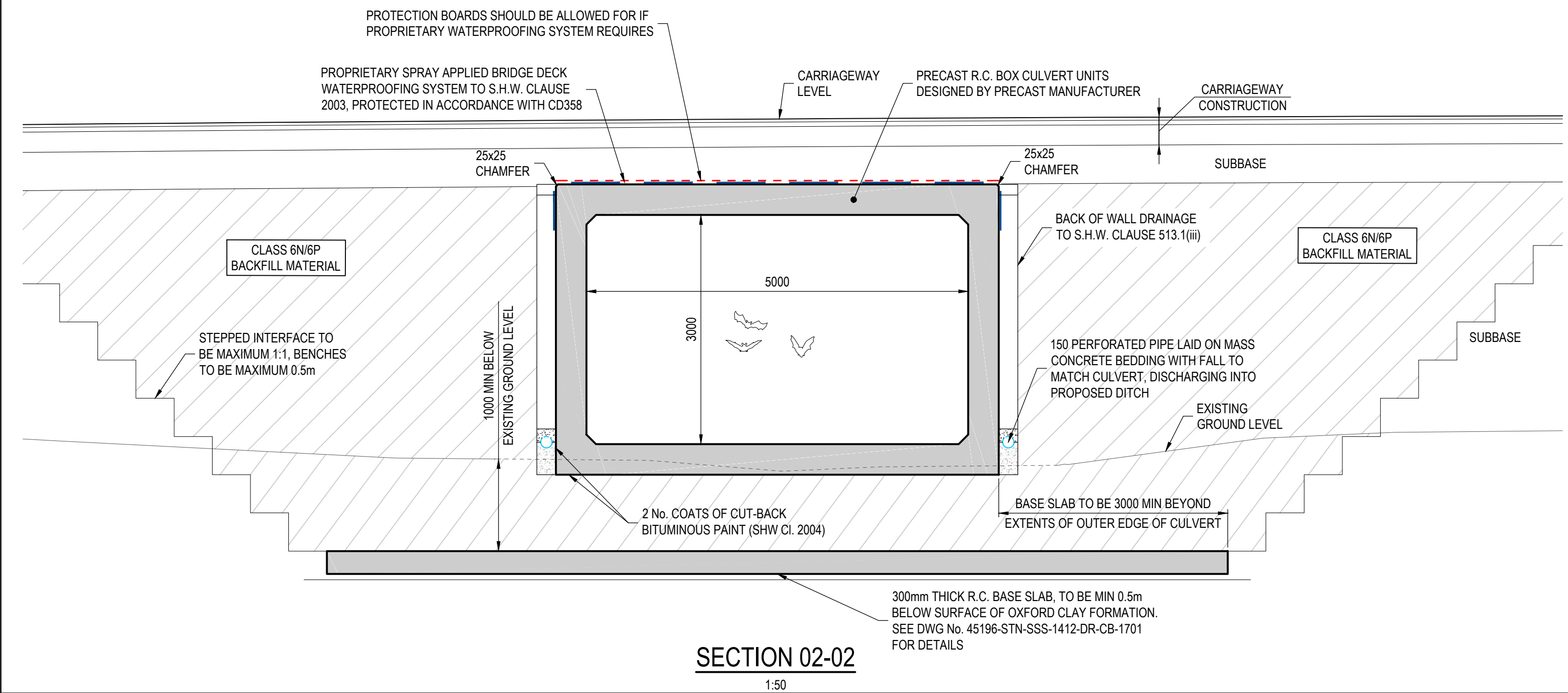
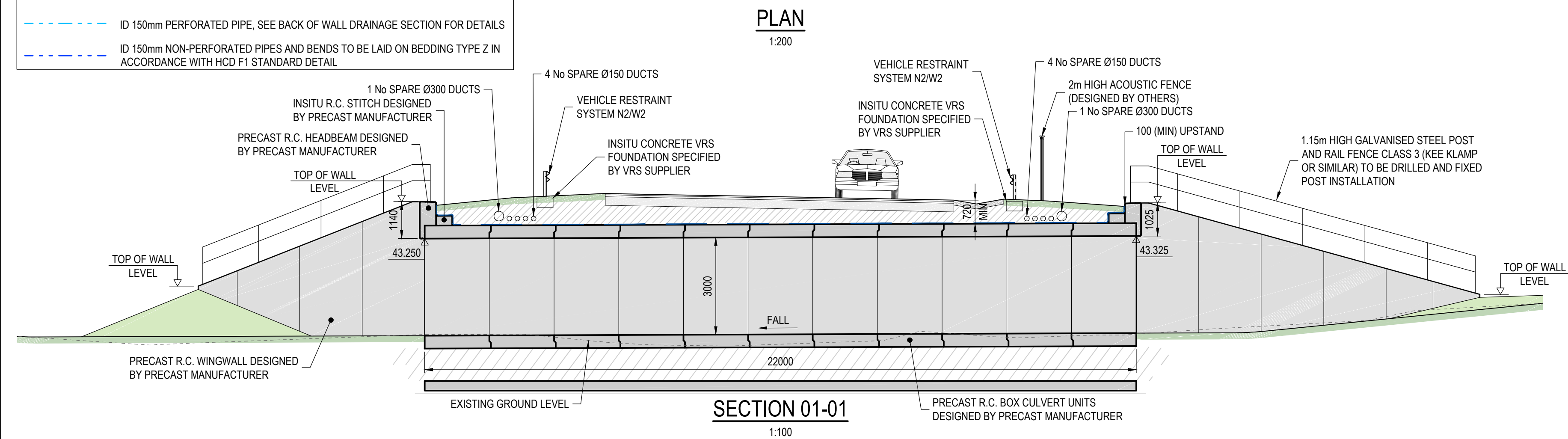
Appendix EDP 12

Bat Underpass and General Arrangement



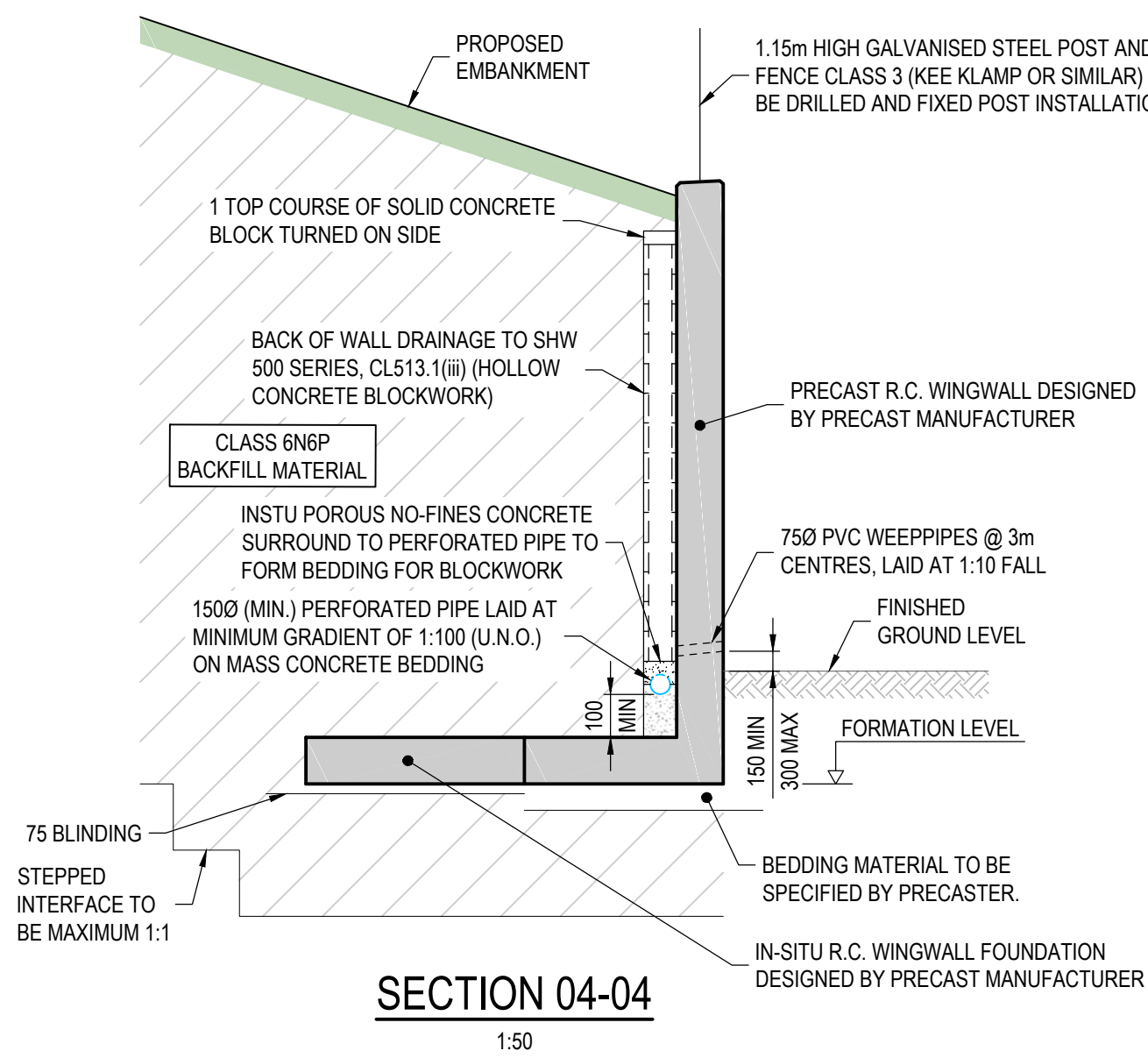
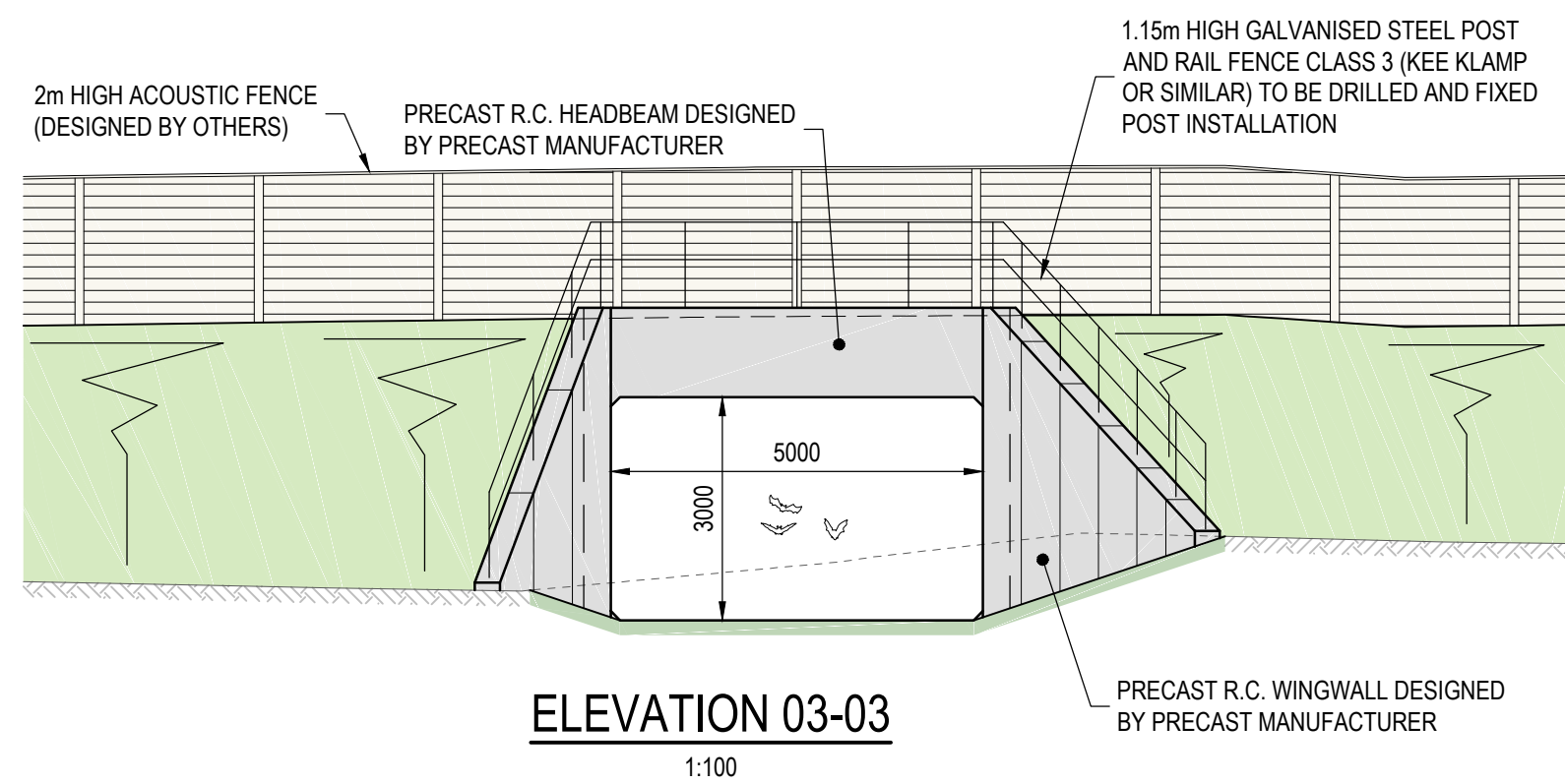
KEY TO BACK OF WALL DRAINAGE

---	ID 150mm PERFORATED PIPE, SEE BACK OF WALL DRAINAGE SECTION FOR DETAILS
---	ID 150mm NON-PERFORATED PIPES AND BENDS TO BE LAID ON BEDDING TYPE Z IN ACCORDANCE WITH HCD F1 STANDARD DETAIL



LOCATION PLAN

BAT UNDERPASS 1 SETTING OUT POINT CO-ORDINATES			
SOP	EASTING	NORTHING	TOP OF WALL LEVEL
1412-01	386656.961	155252.013	41.515
1412-02	386663.165	155246.575	44.390
1412-03	386682.897	155236.852	44.350
1412-04	386693.689	155234.708	42.705
1412-05	386649.381	155244.388	41.430
1412-06	386660.955	155242.090	44.390
1412-07	386680.690	155232.366	44.350
1412-08	386685.766	155227.917	42.030



NOTES

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- 0100.3 FOR TYPICAL DETAILS REFER TO DRAWING No. 45196-STN-SSS-1412-DR-CB-0111.

CDM, HEALTH, SAFETY AND ENVIRONMENTAL NOTES

			DENOTES THE LOCATION OF RISK. FOR MORE INFORMATION REFER TO RISK REFERENCE AND DESCRIPTION	
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RISK REF.		RISK DESCRIPTION		RISK PHASE
STN-01		LIFTING, HANDLING AND TRANSPORTATION OF PRECAST ELEMENTS BY VARIOUS METHODS.		C
STN-02		CONSTRUCTION VEHICLES MAY WISH TO TRAFFIC OVER BOX CULVERT BEFORE ROAD OPENS. CONTRACTOR TO REFER TO PRECAST DESIGNER FOR ALLOWABLE LOADS.		C
STN-03		EXISTING SERVICES TO BE DIVERTED.		C
STN-04		GROUNDWATER IS EXPECTED TO BE CLOSE TO EXISTING GROUND LEVEL.		C, D

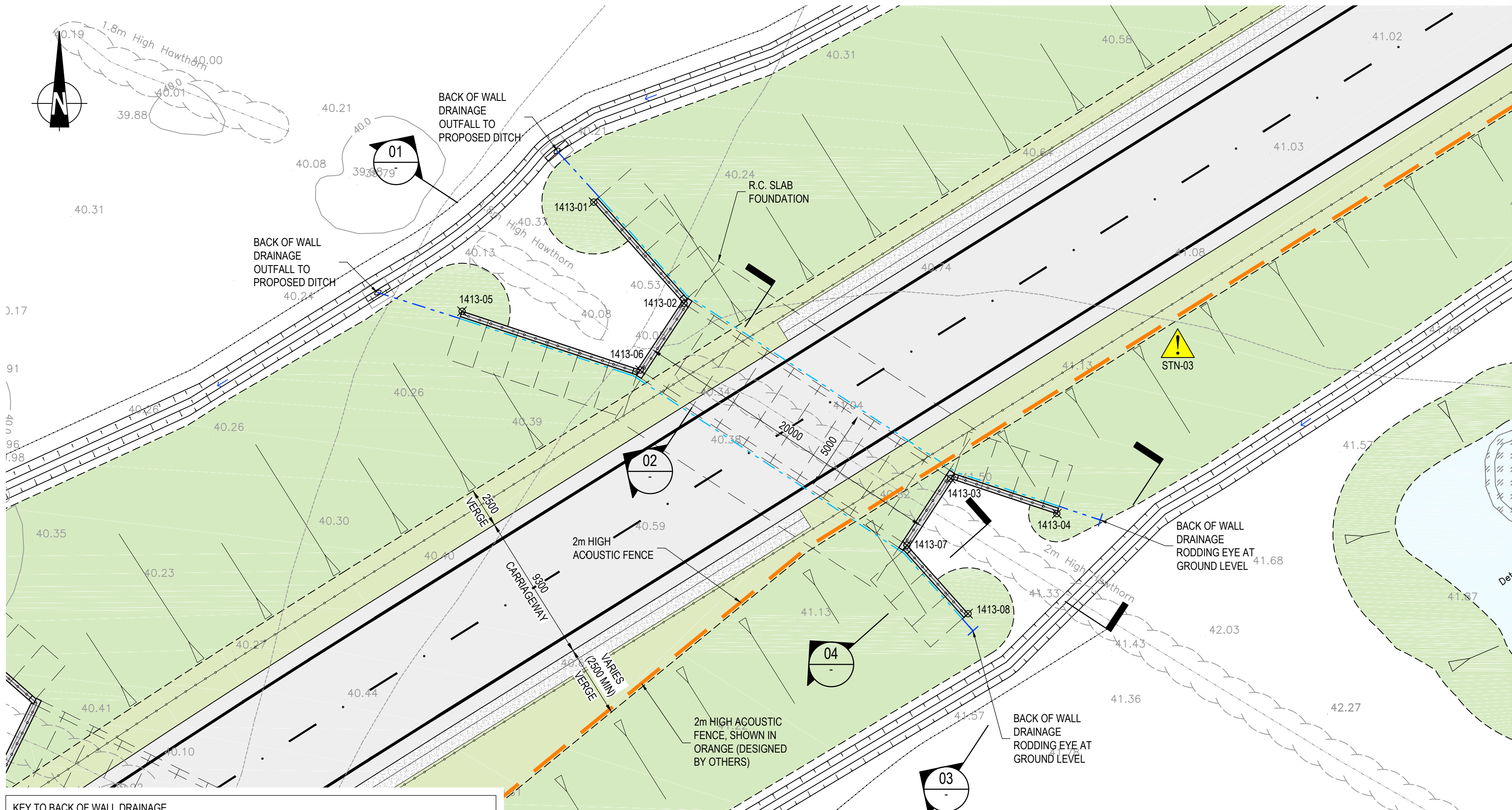
Mark	Revision	Date	Drawn	Chkd	Appd
C01	FOR CONSTRUCTION ISSUE	28/03/22	CRD	JAS	PC

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CONSTRUCTION

YARNBROOK AND WEST ASHTON RELIEF ROAD AREA 1A BAT UNDERPASS 1. STRUCTURE No. 1412 GENERAL ARRANGEMENT

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A1 Scale	As Indicated	Checked	JWS		Approved	JWS
Drawing Number	45196-STN-SSS-1412-DR-CB-0101		Revision		C01	



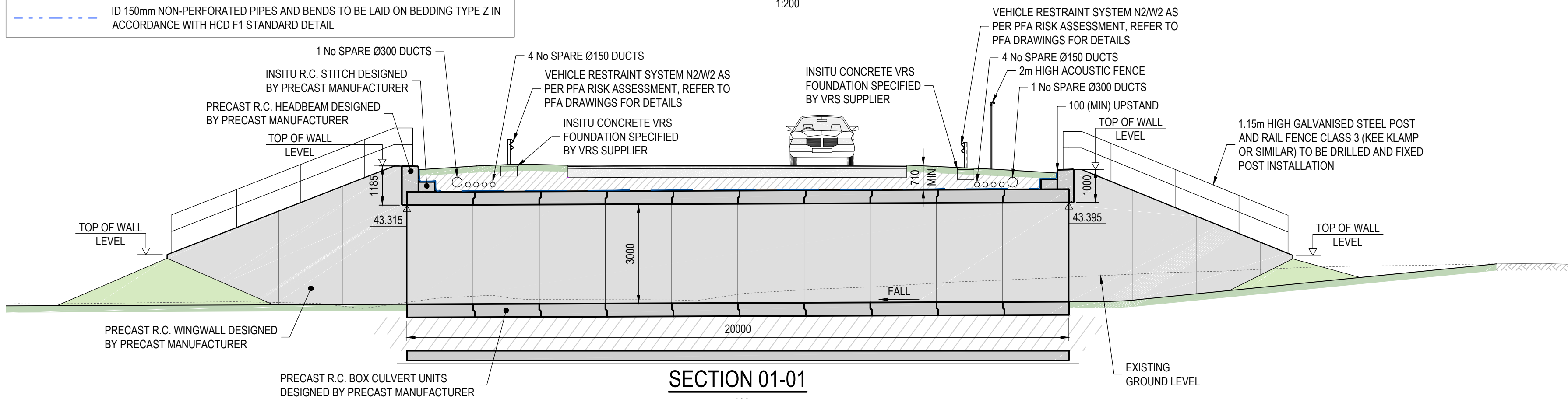
KEY TO BACK OF WALL DRAINAGE

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--- ID 150mm NON-PERFORATED PIPES AND BENDS TO BE LAID ON BEDDING TYPE Z IN ACCORDANCE WITH HCD F1 STANDARD DETAIL

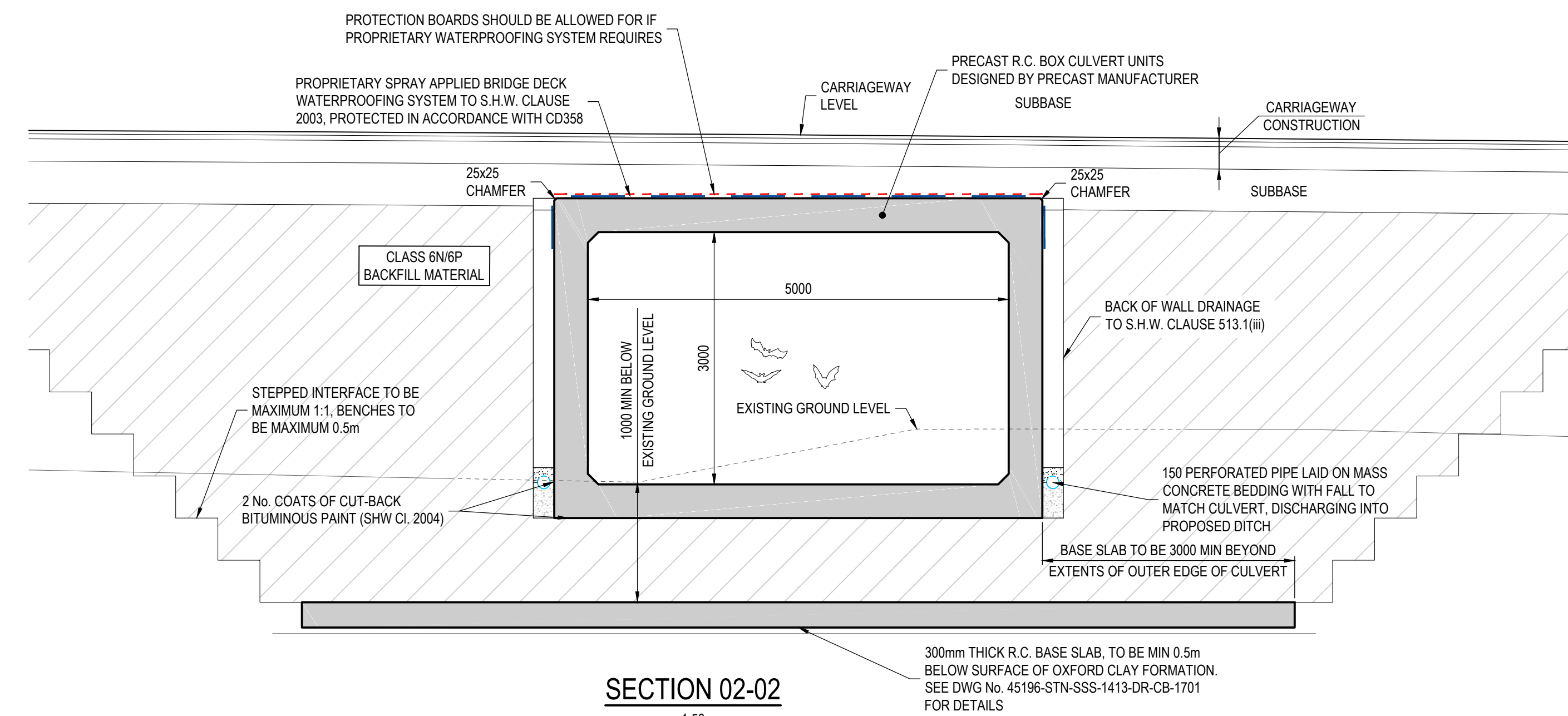
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1:200



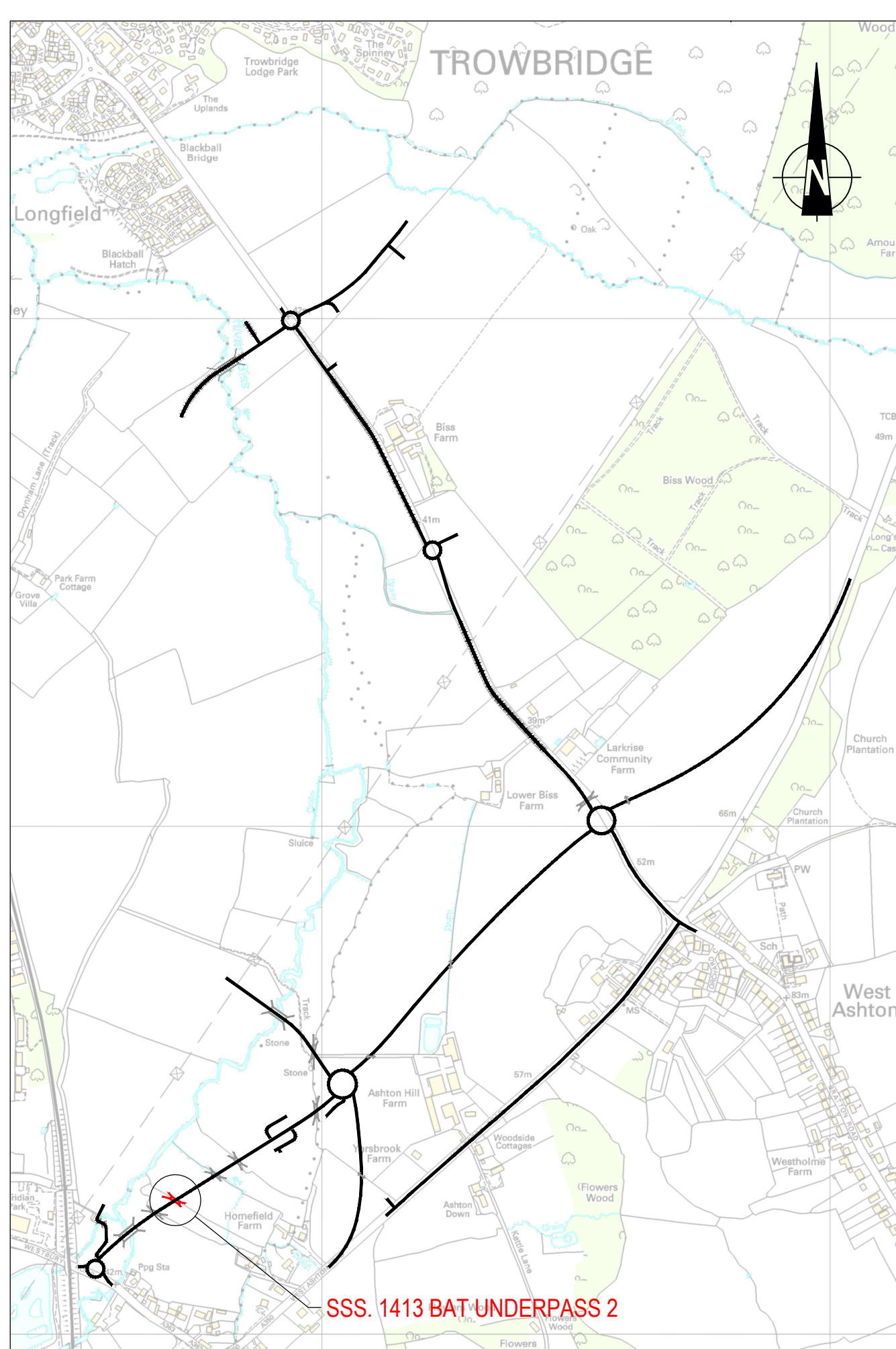
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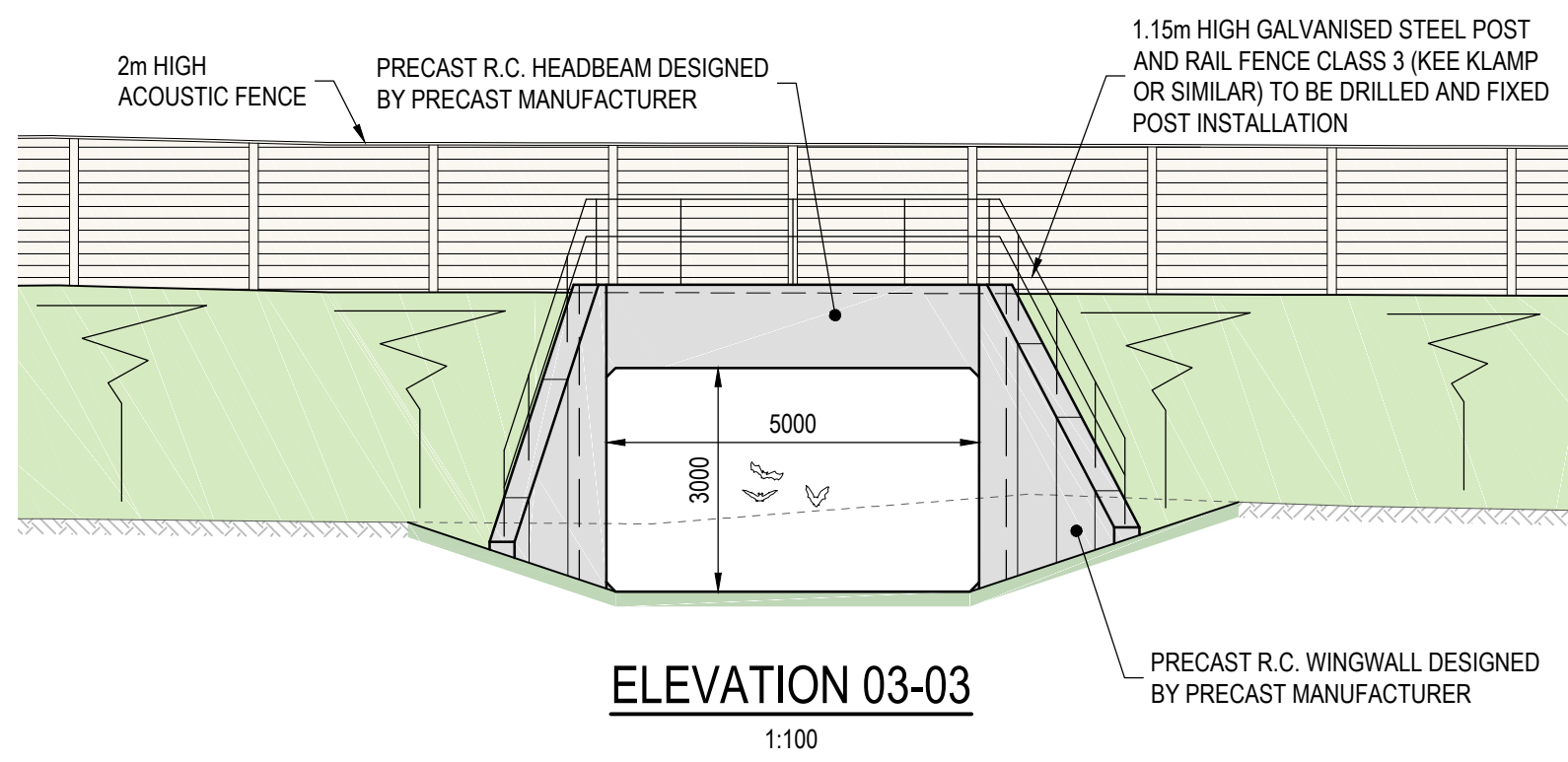
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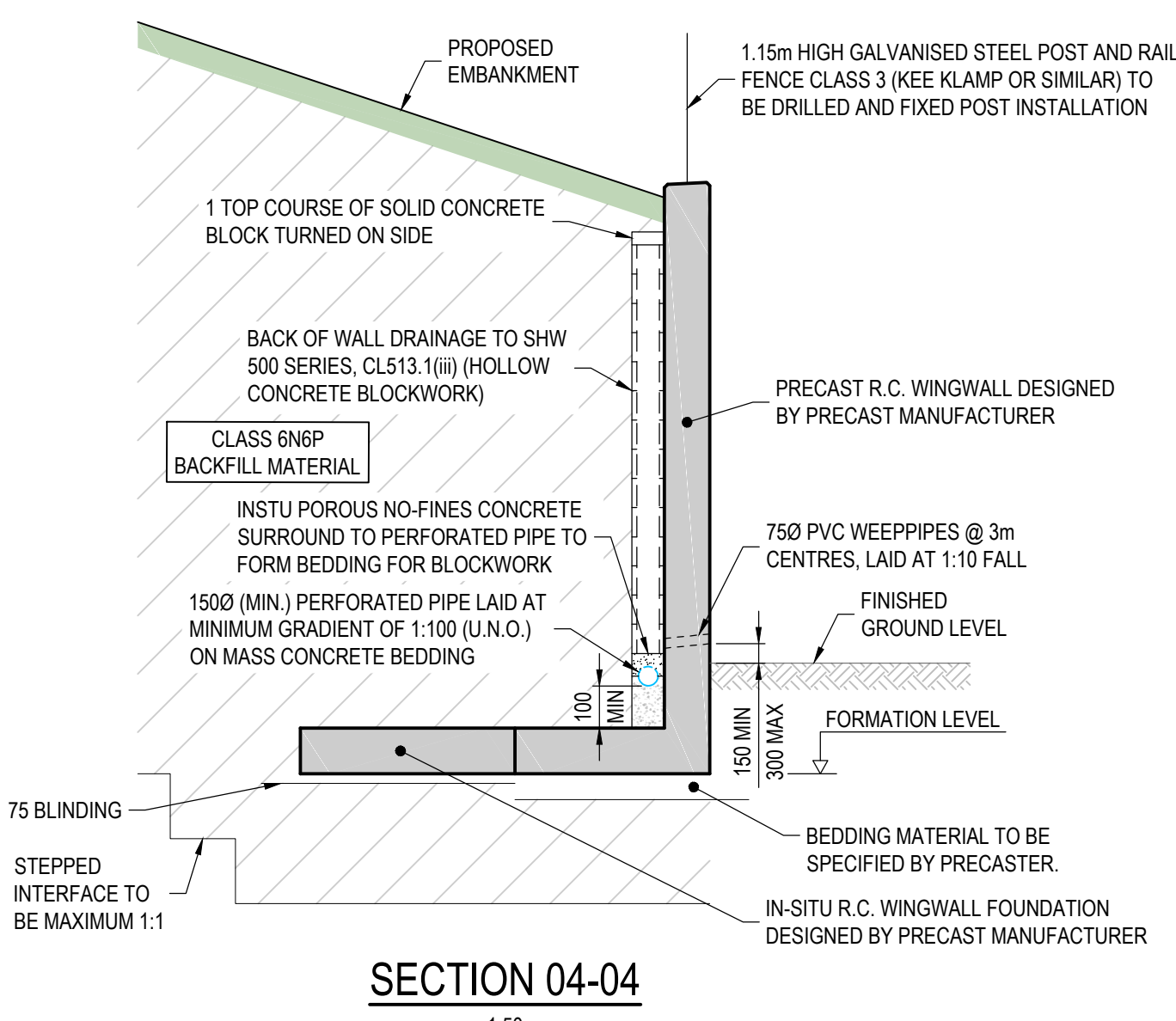
LOCATION PLAN

BAT UNDERPASS 2 SETTING OUT POINT CO-ORDINATES			
SOP	EASTING	NORTHING	TOP OF WALL LEVEL
1413-01	386698.261	155278.029	41.455
1413-02	386703.917	155271.683	44.500
1413-03	386720.635	155260.706	44.395
1413-04	386727.282	155258.509	42.460
1413-05	386690.016	155271.191	41.370
1413-06	386701.173	155267.504	44.500
1413-07	386717.891	155256.526	44.395
1413-08	386721.717	155252.234	42.455



ELEVATION 03-03

1:100



SECTION 04-04

1:50

NOTES

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- 0100.3 FOR TYPICAL DETAILS, REFER TO DRAWING No. 45196-STN-SSS-1412-DR-CB-0111.

CDM, HEALTH, SAFETY AND ENVIRONMENTAL NOTES



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RISK REF.	RISK DESCRIPTION	RISK PHASE
STN-01	LIFTING, HANDLING AND TRANSPORTATION OF PRECAST ELEMENTS BY VARIOUS METHODS.	C
STN-02	CONSTRUCTION VEHICLES MAY WISH TO TRAFFIC OVER PRECAST BOX CULVERT BEFORE ROAD OPENS. CONTRACTOR TO REFER TO DESIGNER FOR ALLOWABLE LOADS.	C
STN-03	EXISTING SERVICES TO BE DIVERTED.	C
STN-04	GROUNDWATER IS EXPECTED TO BE CLOSE TO EXISTING GROUND LEVEL.	C, D

Mark	Revision	Date	Drawn	Chkd	Appd
C01	FOR CONSTRUCTION ISSUE	28/03/22	CRD	JAS	PC

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Drawing Issue Status

CONSTRUCTION

YARNBROOK AND WEST ASHTON RELIEF ROAD
AREA 1A
BAT UNDERPASS 2. STRUCTURE No. 1413
GENERAL ARRANGEMENT

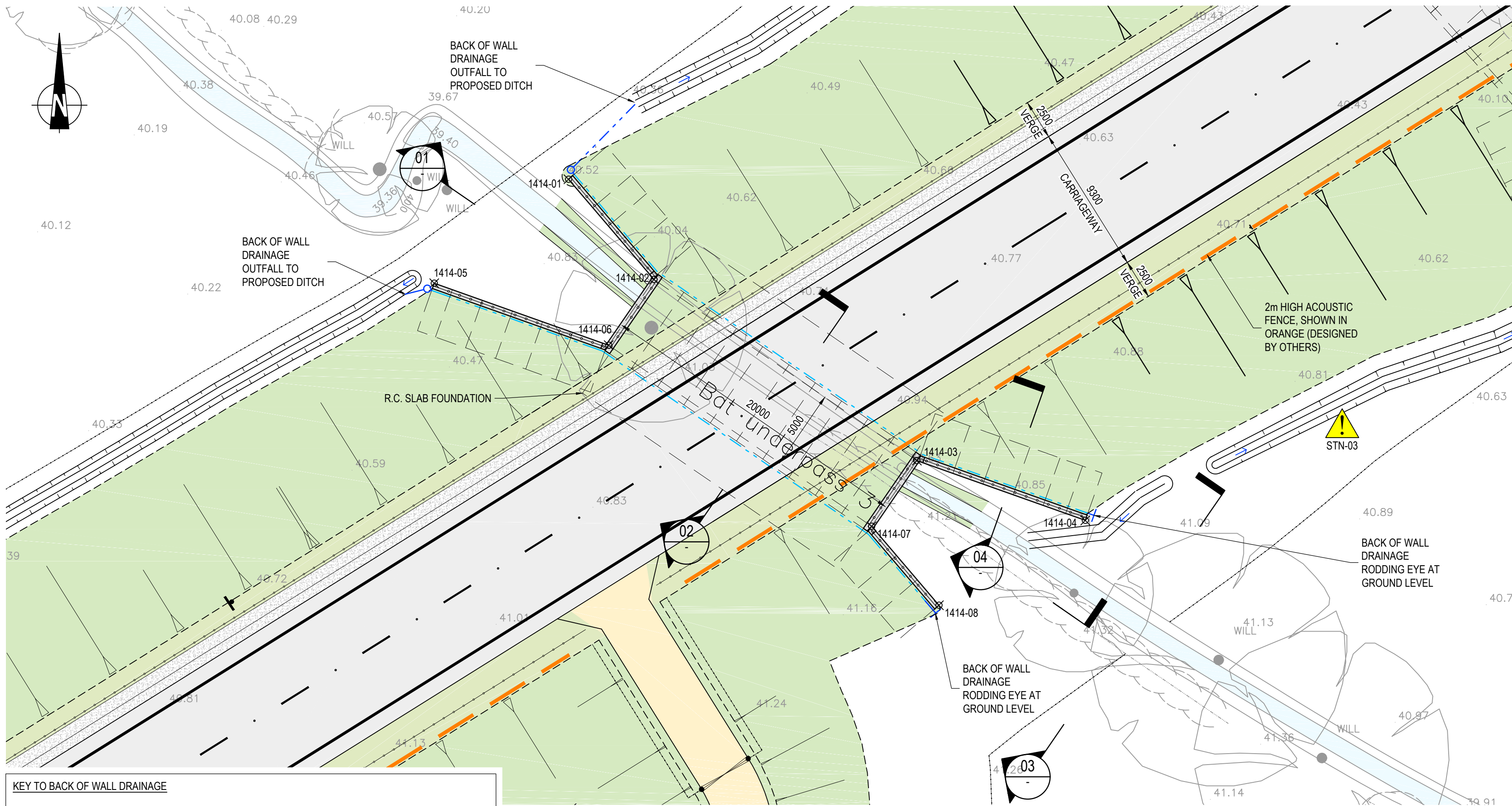
Client		ASHTON PARK TROWBRIDGE LTD AND PERSIMMON HOMES LTD	
Date of 1st Issue	03.03.2020	Designed	GG
A1 Scale	As Indicated	Checked	JWS
Drawing Number	45196-STN-SSS-1413-DR-CB-0101	Drawn	CRD
Revision	C01	Approved	JWS



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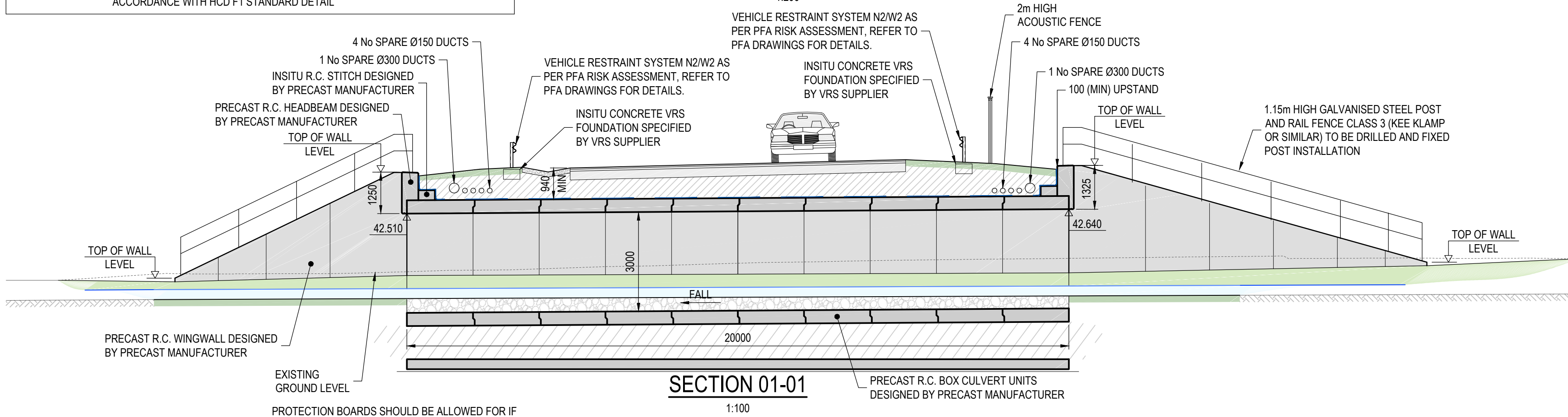


KEY TO BACK OF WALL DRAINAGE

---	ID 150mm PERFORATED PIPE, SEE BACK OF WALL DRAINAGE SECTION FOR DETAILS
---	ID 150mm NON-PERFORATED PIPES AND BENDS TO BE LAID ON BEDDING TYPE Z IN ACCORDANCE WITH HCD F1 STANDARD DETAIL

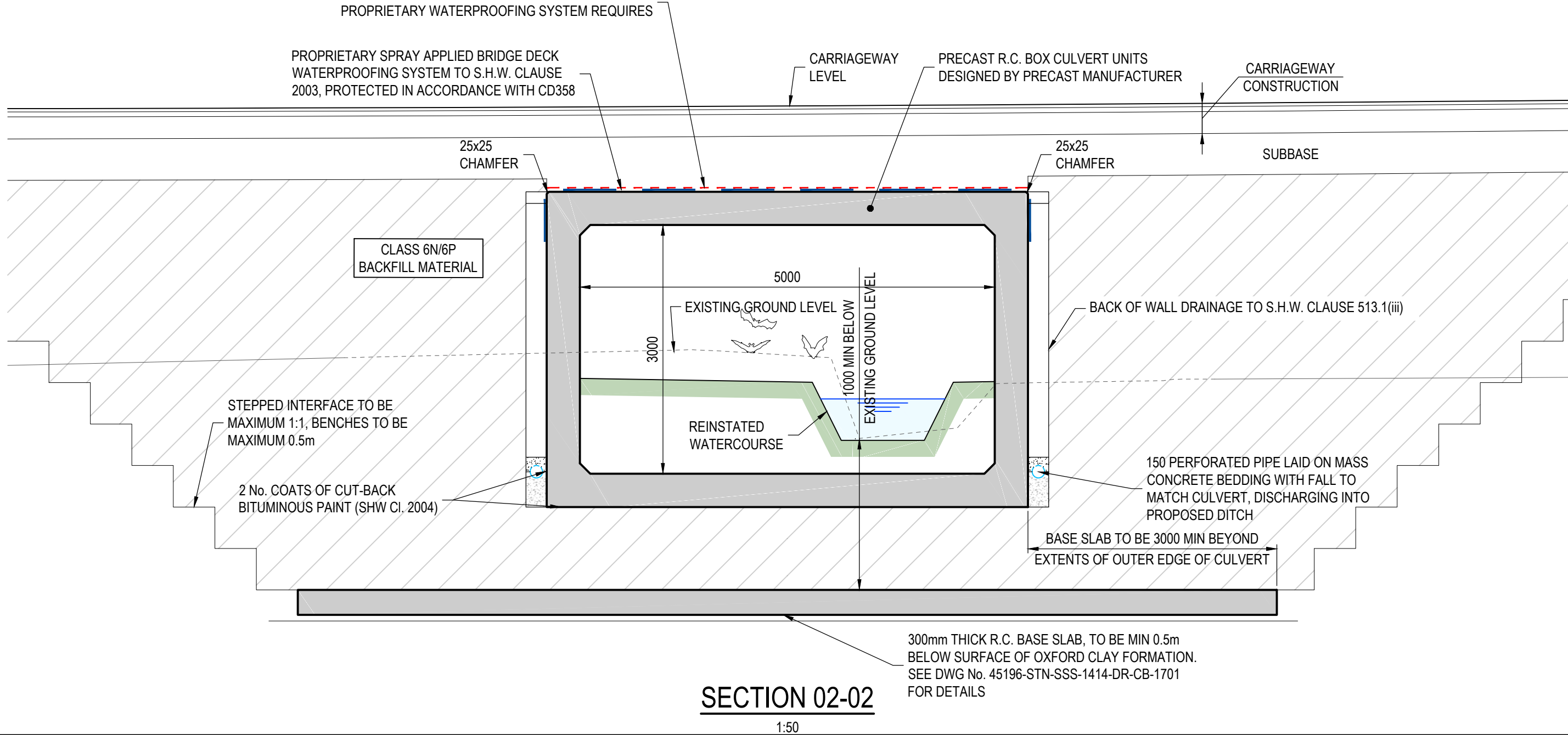
PLAN

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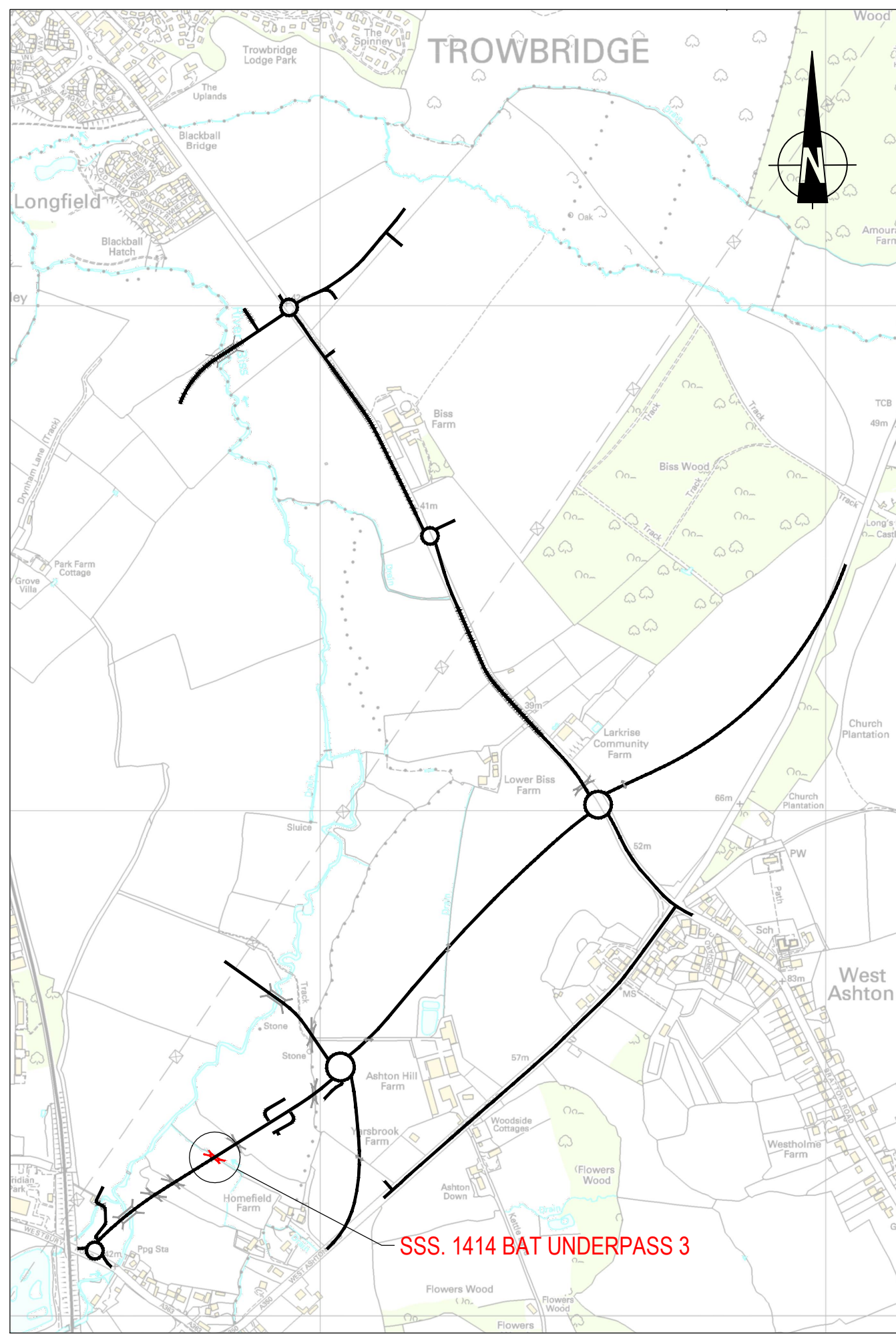
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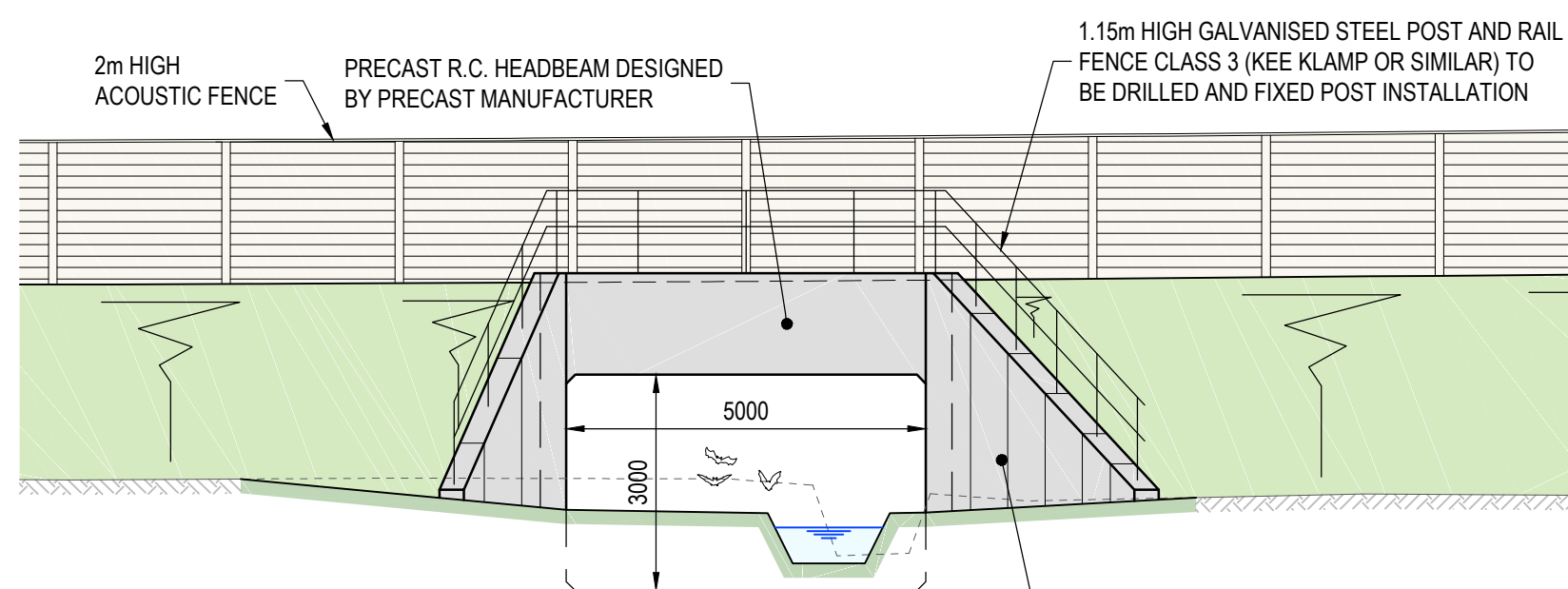
SECTION 02-02

1:50



LOCATION PLAN

BAT UNDERPASS 3 SETTING OUT POINT CO-ORDINATES			
SOP	EASTING	NORTHING	TOP OF WALL LEVEL
1414-01	386778.541	155328.037	40.750
1414-02	386783.893	155321.759	43.760
1414-03	386800.366	155310.418	43.965
1414-04	386810.921	155306.670	41.025
1414-05	386770.126	155321.522	40.630
1414-06	386781.058	155317.641	43.760
1414-07	386797.531	155306.299	43.965
1414-08	386801.748	155301.353	41.425



ELEVATION 03-03

1:100

NOTES

- 0100.1 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL DRAWINGS LISTED ON DRAWING No. 45196-STN-SSS-1412-DR-CB-0100 AND ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
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- 0100.3 FOR TYPICAL DETAILS, REFER TO DRAWING No. 45196-STN-SSS-1412-DR-CB-0111.

CDM, HEALTH, SAFETY AND ENVIRONMENTAL NOTES



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P - DETAILED DESIGN, C - CONSTRUCTION, S - IN SERVICE / MAINTENANCE, D - DECOMMISSIONING / DEMOLITION

RISK REF.	RISK DESCRIPTION	RISK PHASE
STN-01	LIFTING, HANDLING AND TRANSPORTATION OF PRECAST ELEMENTS BY VARIOUS METHODS.	C
STN-02	CONSTRUCTION VEHICLES MAY WISH TO TRAFFIC OVER PRECAST BOX CULVERT BEFORE ROAD OPENS. CONTRACTOR TO REFER TO DESIGNER FOR ALLOWABLE LOADS.	C
STN-03	EXISTING SERVICES TO BE DIVERTED.	C
STN-04	GROUNDWATER IS EXPECTED TO BE CLOSE TO EXISTING GROUND LEVEL.	C, D

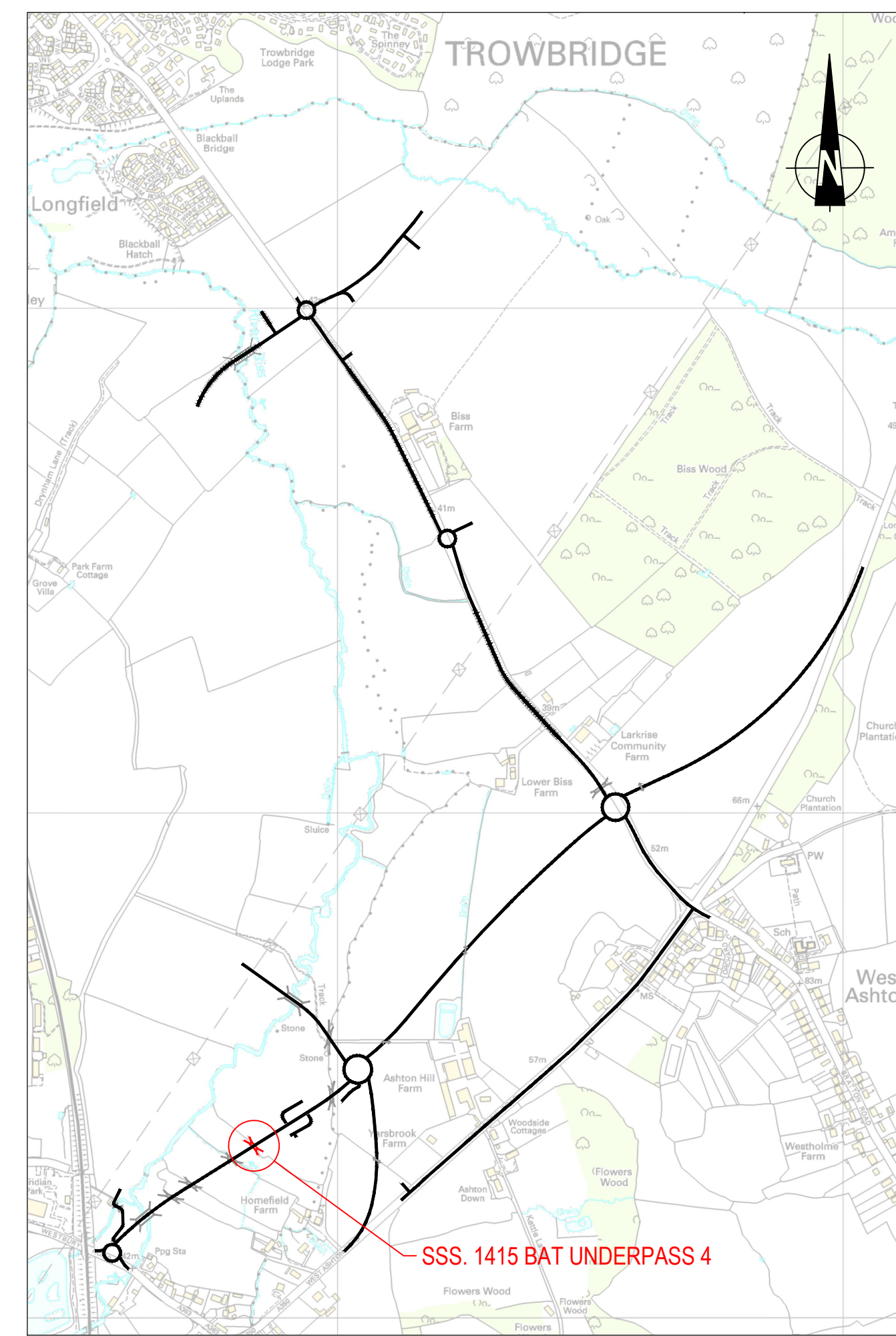
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Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status	CONSTRUCTION
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YARNBROOK AND WEST ASHTON RELIEF ROAD
AREA 1A
BAT UNDERPASS 3. STRUCTURE No. 1414
GENERAL ARRANGEMENT

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A1 Scale As Indicated	Checked JWS		
Drawing Number 45196-STN-SSS-1414-DR-CB-0101	Revision C01		



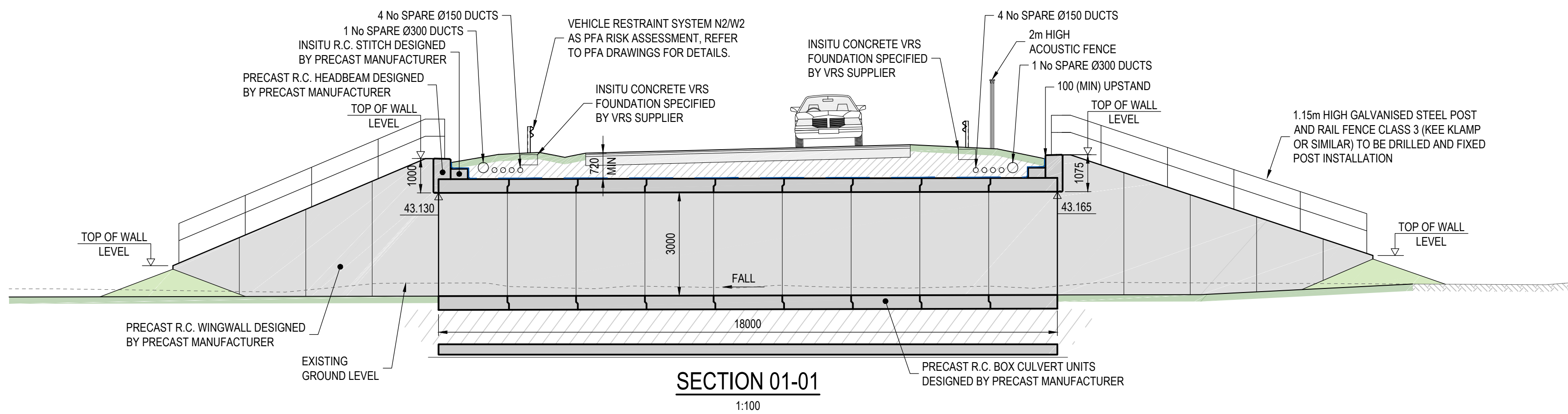
NOTES

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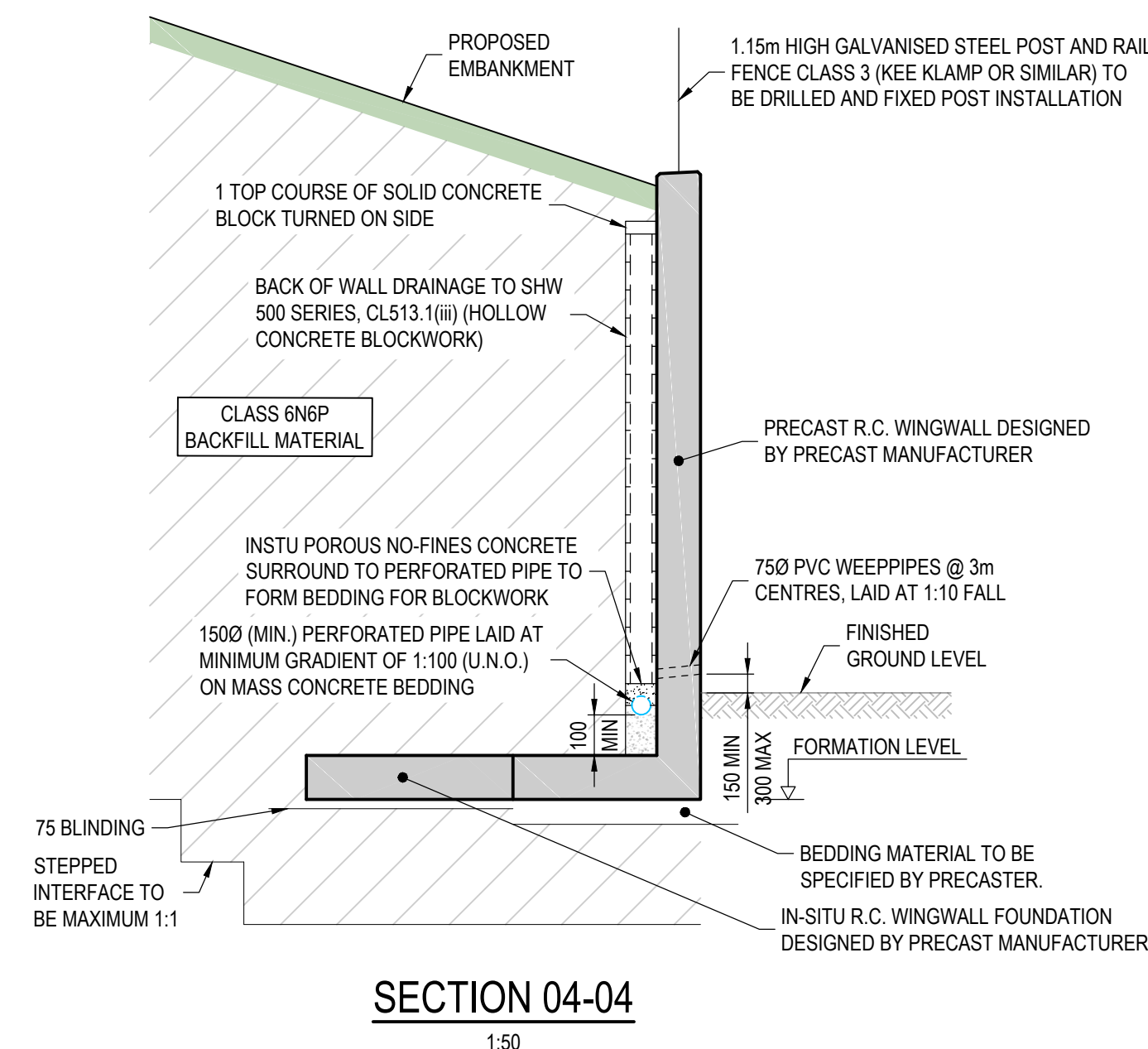
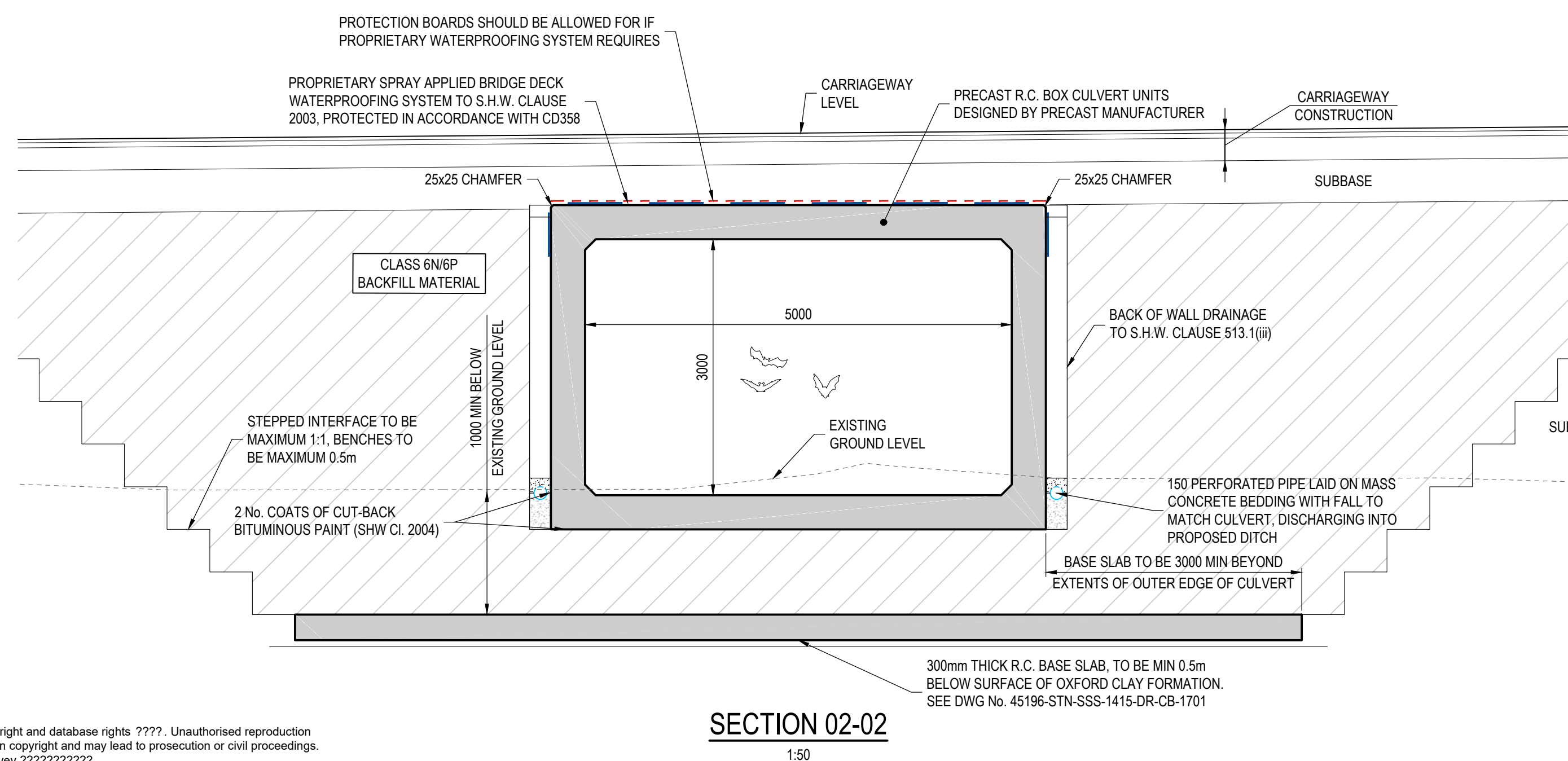
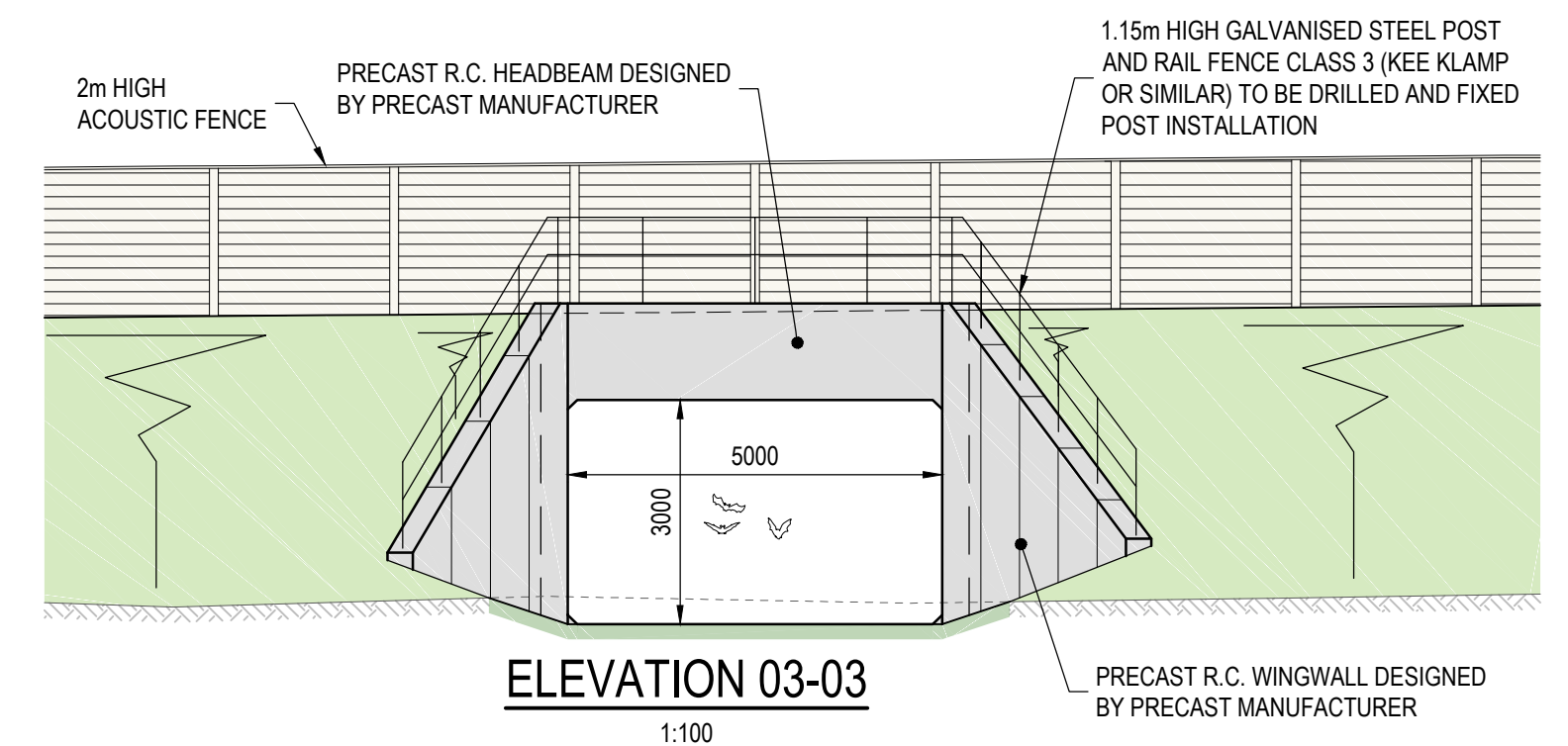
0100.2 FOR GENERAL NOTES, REFER TO DRAWING No. 45196-STN-SSS-1412-DR-CB-0110.

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CDM, HEALTH, SAFETY AND ENVIRONMENTAL NOTES		
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RISK REF.	RISK DESCRIPTION	RISK PHASE
STN-01	LIFTING, HANDLING AND TRANSPORTATION OF PRECAST ELEMENTS BY VARIOUS METHODS.	C
STN-02	CONSTRUCTION VEHICLES MAY WISH TO TRAFFIC OVER PRECAST BOX CULVERT BEFORE ROAD OPENS. CONTRACTOR TO REFER TO DESIGNER FOR ALLOWABLE LOADS.	C
STN-03	EXISTING SERVICES TO BE DIVERTED.	C
STN-04	GROUNDWATER IS EXPECTED TO BE CLOSE TO EXISTING GROUND LEVEL.	C, D



BAT UNDERPASS 4 SETTING OUT POINT CO-ORDINATES			
SOP	EASTING	NORTHING	TOP OF WALL LEVEL
1415-01	368625.849	155357.535	41.015
1415-02	368629.912	155349.505	44.130
1415-03	368641.919	155336.094	44.240
1415-04	368649.872	155330.898	41.310
1415-05	368618.234	155351.366	41.135
1415-06	368626.187	155346.170	44.130
1415-07	368638.194	155332.759	44.240
1415-08	368642.257	155324.729	41.125



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Drawing Issue Status

CONSTRUCTION

YARBROOK AND WEST ASHTON RELIEF ROAD
AREA 1B
BAT UNDERPASS 4. STRUCTURE No. 1415
GENERAL ARRANGEMENT

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