- Binding Margin -

The Chisholm Trail

A walking and cycling route from Cambridge Central Station to the planned Science Park Station, and a link between the Addenbrookes and the St Ives Busway cycling routes

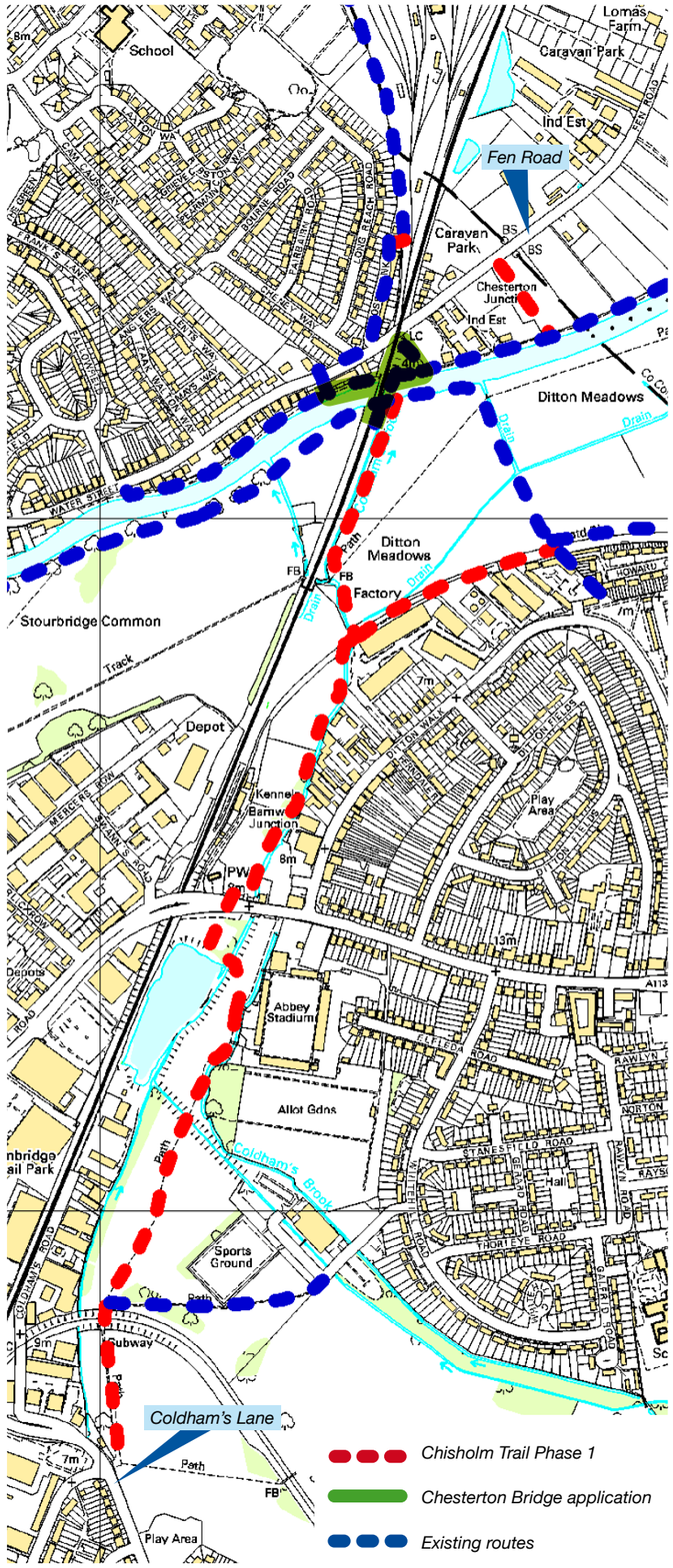
PLANNING APPLICATION

Stage 1 – River Cam to Coldham's Lane

March 2016

Barnwell Lake from the end of the proposed path

Cambridgeshire County Council



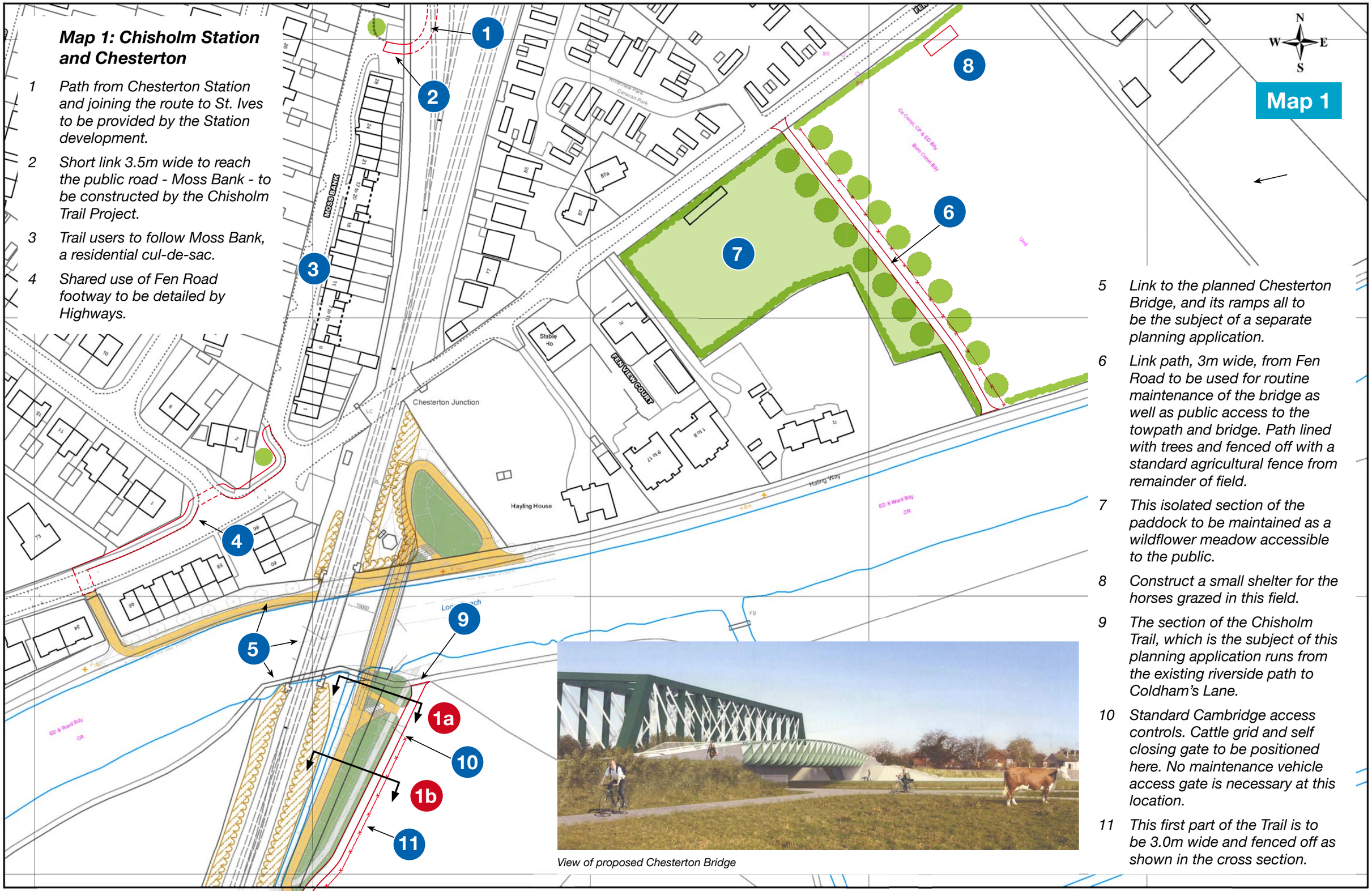
Map 1: Chisholm Station and Chesterton

1 *Path from Chesterton Station and joining the route to St. Ives to be provided by the Station development.*

2 *Short link 3.5m wide to reach the public road - Moss Bank - to be constructed by the Chisholm Trail Project.*

3 *Trail users to follow Moss Bank, a residential cul-de-sac.*

4 *Shared use of Fen Road footway to be detailed by Highways.*



5 *Link to the planned Chesterton Bridge, and its ramps all to be the subject of a separate planning application.*

6 *Link path, 3m wide, from Fen Road to be used for routine maintenance of the bridge as well as public access to the towpath and bridge. Path lined with trees and fenced off with a standard agricultural fence from remainder of field.*

7 *This isolated section of the paddock to be maintained as a wildflower meadow accessible to the public.*

8 *Construct a small shelter for the horses grazed in this field.*

9 *The section of the Chisholm Trail, which is the subject of this planning application runs from the existing riverside path to Coldham's Lane.*

10 *Standard Cambridge access controls. Cattle grid and self closing gate to be positioned here. No maintenance vehicle access gate is necessary at this location.*

11 *This first part of the Trail is to be 3.0m wide and fenced off as shown in the cross section.*

View of proposed Chesterton Bridge

Scale (at A3): 1:1250 Centred at: 547534,260254 Date: 29/01/2016 By: fh302

0 metres 50 100

Cross section drawings at 1:100

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- Binding Margin -

Chisholm Trail • Map 1 - Chisholm Station and Chesterton

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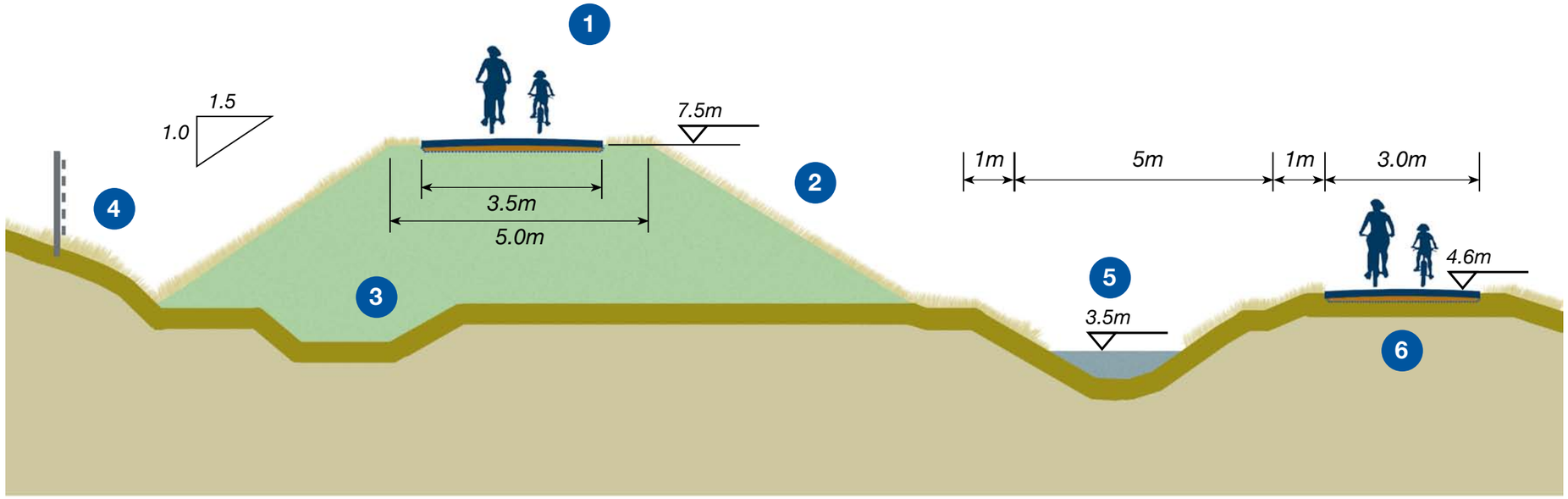


1a: Section 10m south of bridge abutment, ramp path level 7.5m, ground level 4.3m

1 *Path to be 3.5m wide, finished in bitmac with a central camber, with a gradient falling at 1:20.5. The verges are to be made up flush and grassed with wild flower mix.*

2 *Earthworks to be finished with 1:1.5 side slope and sown with wildflower and grass mix. The embankment to be made from available materials from compensation excavations where these are appropriate.*

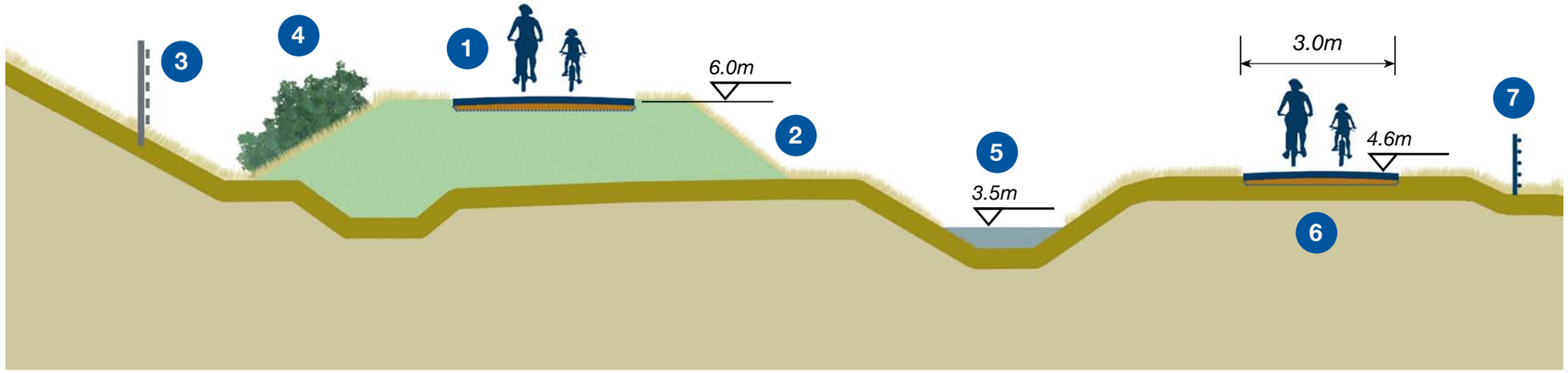
3 *Course of the current ditch to be filled.*

4 *Main line railway embankment. New boundary fence to be erected 2 metres from the toe of the embankment.*

5 *New ditch to be dug to be 2m wide at a level of 3.0AOD. this will allow for a 0.5m depth of river water. The ditch to be planted with material as recommended by the ecologist.*

6 *The main link path to be set at a level of 4.6m AOD all through. This ties in with the existing riverside path at this point and will ensure that the path remains dry at almost all times. Note that a path level of 4.6m will mean that the path will mostly run on a low causeway about 150mm high but increasing to 500mm over a short length.*

Note that this link to the riverside path is only 3m wide and is not fenced to the fields.



1b: Section 42m south of bridge, ramp path level 6.0m and ground level 4.3m

1 *3.5m wide path on 5m wide embankment.*

2 *Side slope at 1:1.5 seeded with wild grasses and flower mix.*

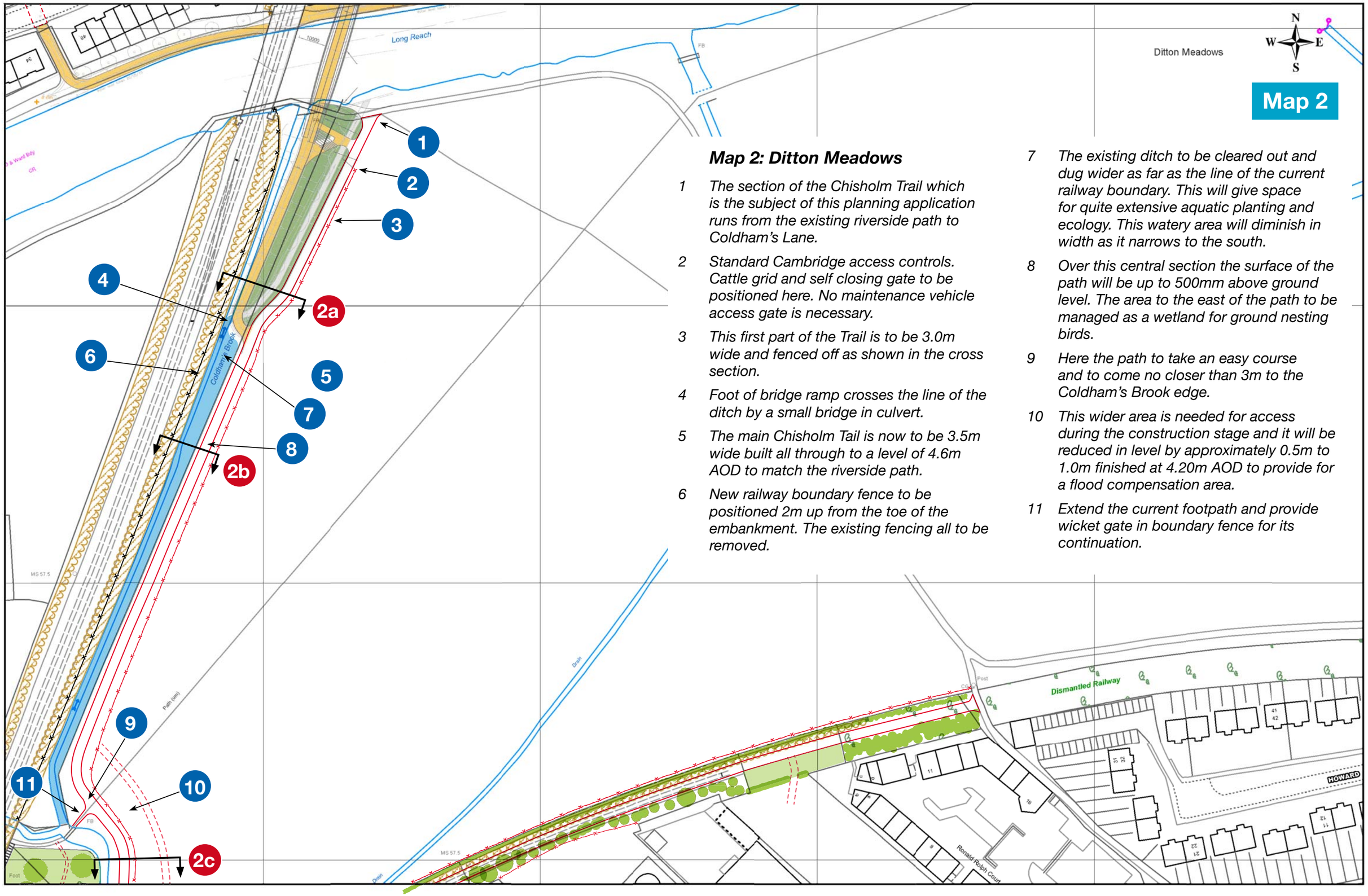
3 *New railway fence 2m from toe of embankment.*

4 *Plant this side with mixed bushes.*

5 *New location of ditch dug out 2m wide at bottom.*

6 *Path continues 3m wide on low causeway at 4.6m level. Rake in level verges either side and sow with wild grass mix.*

7 *South of the livestock controls, fence path with standard agricultural fencing, 7 line sheep mesh, 2 lines barbed wire on field side and 1 line smooth on the path side.*



Map 2: Ditton Meadows

1 *The section of the Chisholm Trail which is the subject of this planning application runs from the existing riverside path to Coldham's Lane.*

2 *Standard Cambridge access controls. Cattle grid and self closing gate to be positioned here. No maintenance vehicle access gate is necessary.*

3 *This first part of the Trail is to be 3.0m wide and fenced off as shown in the cross section.*

4 *Foot of bridge ramp crosses the line of the ditch by a small bridge in culvert.*

5 *The main Chisholm Tail is now to be 3.5m wide built all through to a level of 4.6m AOD to match the riverside path.*

6 *New railway boundary fence to be positioned 2m up from the toe of the embankment. The existing fencing all to be removed.*

7 *The existing ditch to be cleared out and dug wider as far as the line of the current railway boundary. This will give space for quite extensive aquatic planting and ecology. This watery area will diminish in width as it narrows to the south.*

8 *Over this central section the surface of the path will be up to 500mm above ground level. The area to the east of the path to be managed as a wetland for ground nesting birds.*

9 *Here the path to take an easy course and to come no closer than 3m to the Coldham's Brook edge.*

10 *This wider area is needed for access during the construction stage and it will be reduced in level by approximately 0.5m to 1.0m finished at 4.20m AOD to provide for a flood compensation area.*

11 *Extend the current footpath and provide wicket gate in boundary fence for its continuation.*

Scale (at A3): 1:1250 Centred at: 547552,260050 Date: 16/02/2016 By: fh302

0 metres 50 100

Cross section drawings at 1:100

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2a: Section 61m from bridge abutment

1 *At this point near the bottom of the embankment the path has dropped to the 100 year flood level. From here it slews around to cross the ditch.*

2 *The link path to the riverside continues at a level of 4.60m.*

2b: Section 130m from the bridge abutment

1 *Around this point the path runs on a causeway 500mm high, as the route crosses the lowest and wettest section of the Meadows. At the lowest point incorporate a cross drain in the causeway with a simple sluice so that the field to the east of the causeway can be maintained wet to suit ground nesting birds and their habitat.*

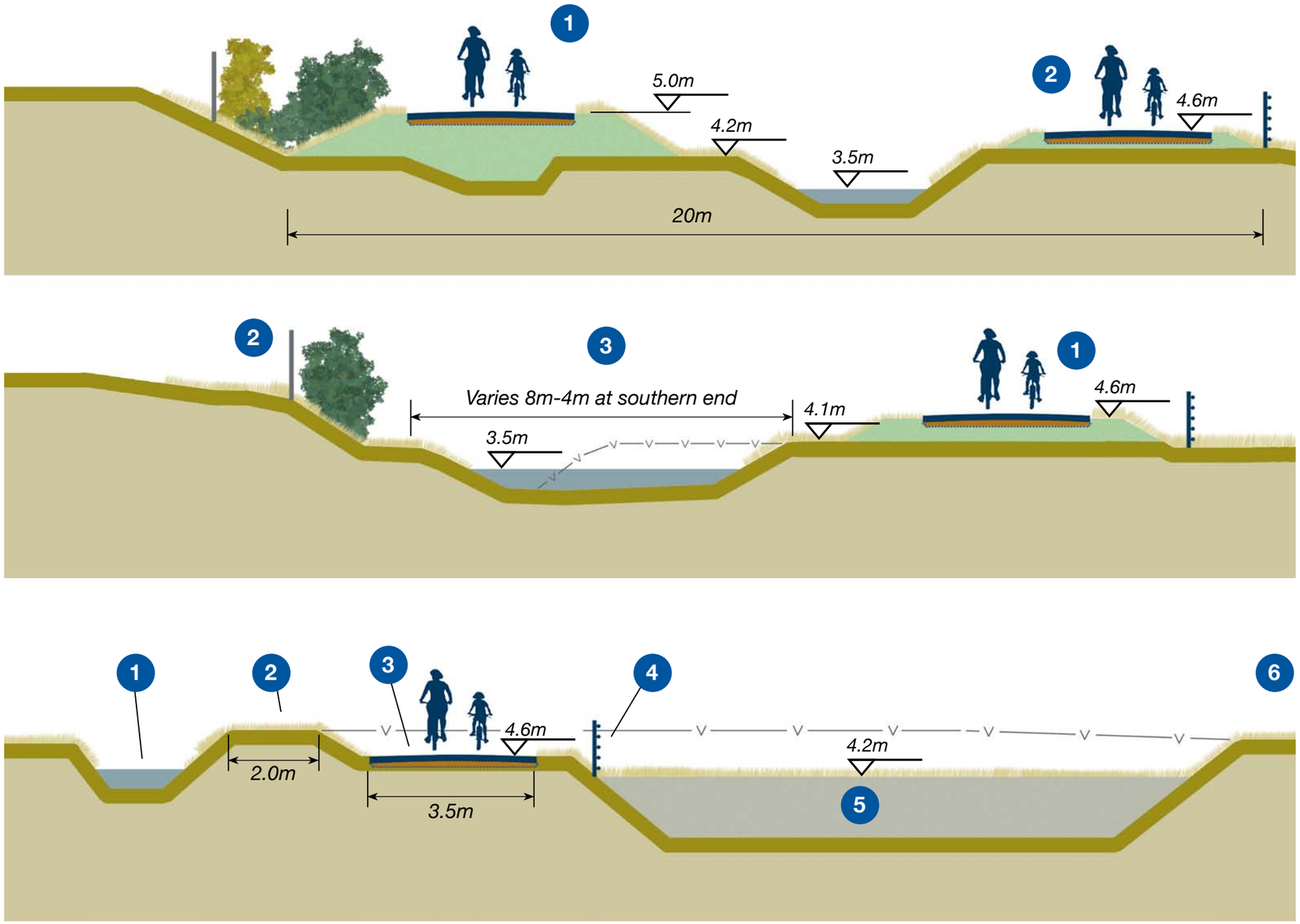
2 *Railway fence repositioned 2m from toe of embankment.*

3 *Excavate out existing ditch to provide an 8m wide wet area to propagate a variety of wetland species all along this boundary of the path. This will give variety of habitats either side of the path and the excavation will provide flood storage volumes.*

4 *New field fence.*

2c: Section approaching 20m north of Mildenhall Line

This section shows the extreme eastern section of the Meadows. Here the ground rises and we need to use the opportunity to adjust the general ground level so as to provide flood storage compensation for the volume occupied by the approach ramps to the Chesterton Bridge. The proposed area is approximately 15m wide and extends from the drain beside the main line railway to the Mildenhall line where the ground is reduced by an average of 600mm to a level of 4.20. This width will also help contractors' vehicles coming out from the railway sidings because the actual path alignment beside the Brook is not really suitable for them.



1 *Coldhams Brook*

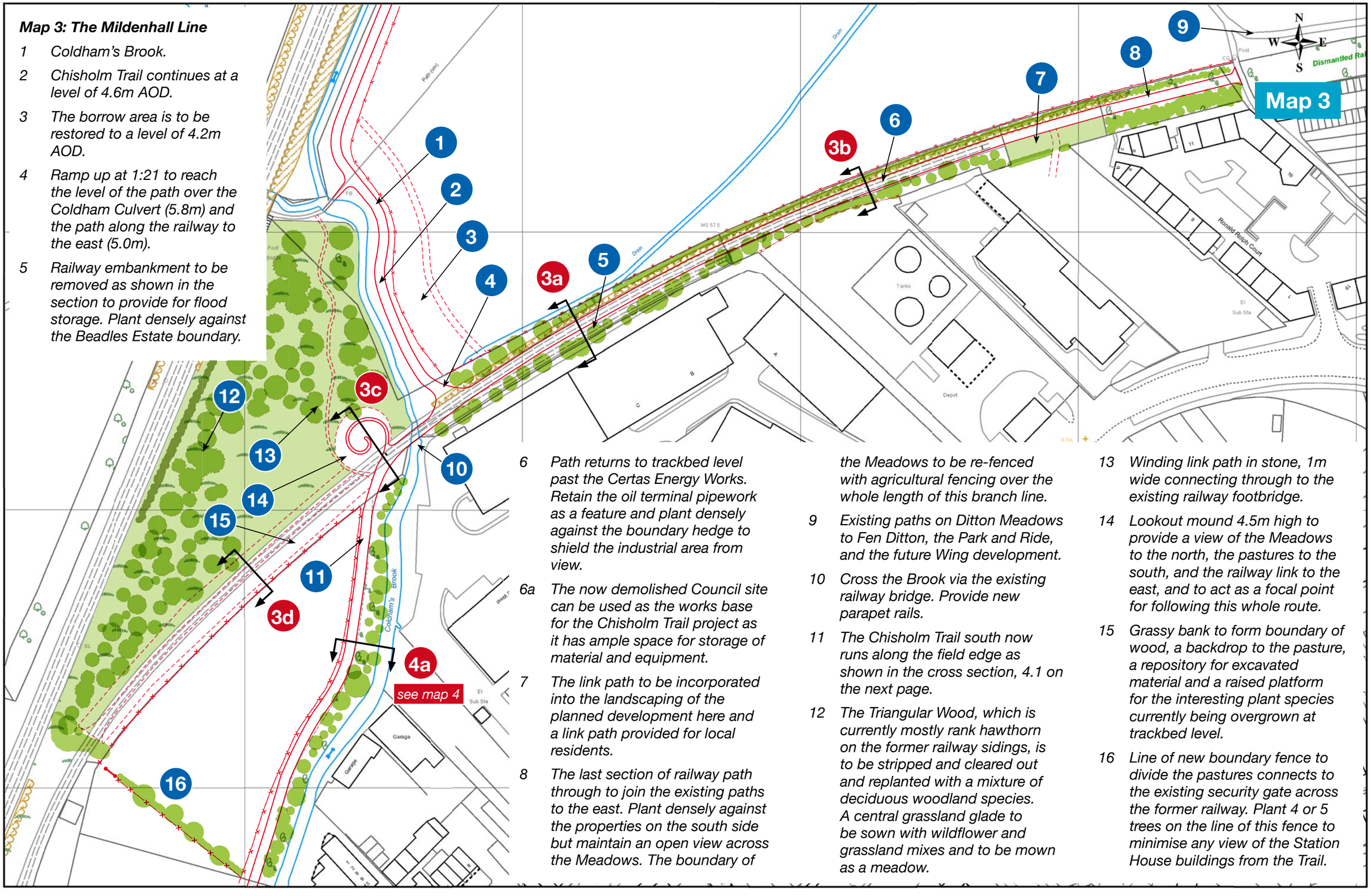
2 *Maintain a 2m wide bank.*

3 *The Chisholm Trail 3.5m wide at a level of 4.6m*

4 *New livestock fence*

5 *Area to be reduced in level to 4.2m. If good material is found during this operation then the area can be overdug to win material for the construction of the approach ramps with the ground then made back up to the 4.2m level with other unsuitable soils. This area is also to be temporally used for access during the construction period.*

6 *Remaining Ditton Meadows left undisturbed.*



Map 3: The Mildenhall Line

1 *Coldham's Brook.*

2 *Chisholm Trail continues at a level of 4.6m AOD.*

3 *The borrow area is to be restored to a level of 4.2m AOD.*

4 *Ramp up at 1:21 to reach the level of the path over the Coldham Culvert (5.8m) and the path along the railway to the east (5.0m).*

5 *Railway embankment to be removed as shown in the section to provide for flood storage. Plant densely against the Beadles Estate boundary.*

6 *Path returns to trackbed level past the Certas Energy Works. Retain the oil terminal pipework as a feature and plant densely against the boundary hedge to shield the industrial area from view.*

6a *The now demolished Council site can be used as the works base for the Chisholm Trail project as it has ample space for storage of material and equipment.*

7 *The link path to be incorporated into the landscaping of the planned development here and a link path provided for local residents.*

8 *The last section of railway path through to join the existing paths to the east. Plant densely against the properties on the south side but maintain an open view across the Meadows. The boundary of the Meadows to be re-fenced with agricultural fencing over the whole length of this branch line.*

9 *Existing paths on Ditton Meadows to Fen Ditton, the Park and Ride, and the future Wing development.*

10 *Cross the Brook via the existing railway bridge. Provide new parapet rails.*

11 *The Chisholm Trail south now runs along the field edge as shown in the cross section, 4.1 on the next page.*

12 *The Triangular Wood, which is currently mostly rank hawthorn on the former railway sidings, is to be stripped and cleared out and replanted with a mixture of deciduous woodland species. A central grassland glade to be sown with wildflower and grassland mixes and to be mown as a meadow.*

13 *Winding link path in stone, 1m wide connecting through to the existing railway footbridge.*

14 *Lookout mound 4.5m high to provide a view of the Meadows to the north, the pastures to the south, and the railway link to the east, and to act as a focal point for following this whole route.*

15 *Grassy bank to form boundary of wood, a backdrop to the pasture, a repository for excavated material and a raised platform for the interesting plant species currently being overgrown at trackbed level.*

16 *Line of new boundary fence to divide the pastures connects to the existing security gate across the former railway. Plant 4 or 5 trees on the line of this fence to minimise any view of the Station House buildings from the Trail.*

Scale (at A3): 1:1250 **Centred at: 547459,259823** **Date: 16/02/2016** **By: fh302**

0 metres 50 100

Cross section drawings at 1:100

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3a: Section behind Beadle Industrial Estate looking east

This length of double track railway is to be excavated to win material for the construction of the bridge approach ramps and to create Zone 2 flood storage volume.

1 *Ditton Meadows.*

2 *Renew boundary fencing with standard agricultural fence – 7 strand sheep netting with 2 lines of barbed wire.*

3 *Maintain existing hedging and bushes and plant specimen trees wherever there are gaps so as to gradually give more height to this boundary of Ditton Meadows.*

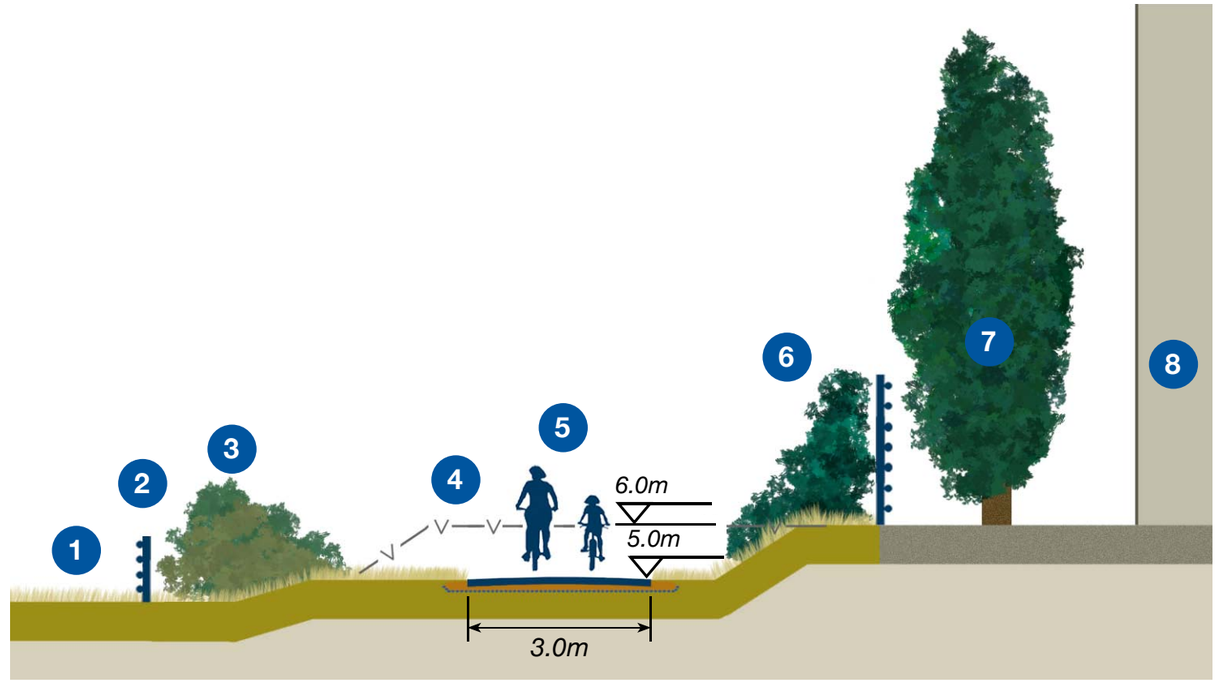
4 *Remove trackwork and excavate ballast and sub base material. Reuse as much as possible in the construction of the path and ramps. At either end slope gradually at gradient of 1:21 back to track level (or just below if further volume is required for Zone 3 compensation).*

5 *Construct link path 3m wide at bottom of excavation.*

6 *Plant bank and boundary solidly with mixed hedging. This will help to reinforce the security fence.*

7 *Existing conifers.*

8 *Existing industrial buildings*



3b: View looking through towards Fen Ditton on Certas Railway Sidings

1 Certas hard standing leading towards depot area.

2 Existing lighting column to remain.

3 New security fence to match existing palisade fencing.

4 Oil pipelines to be cleaned out and remain as historical feature (with explanation board showing a train unloading fuel).

5 Dense planting to screen plant and add to security.

6 Standard trees planted at intervals to further mask the industrial tanks and storage area.

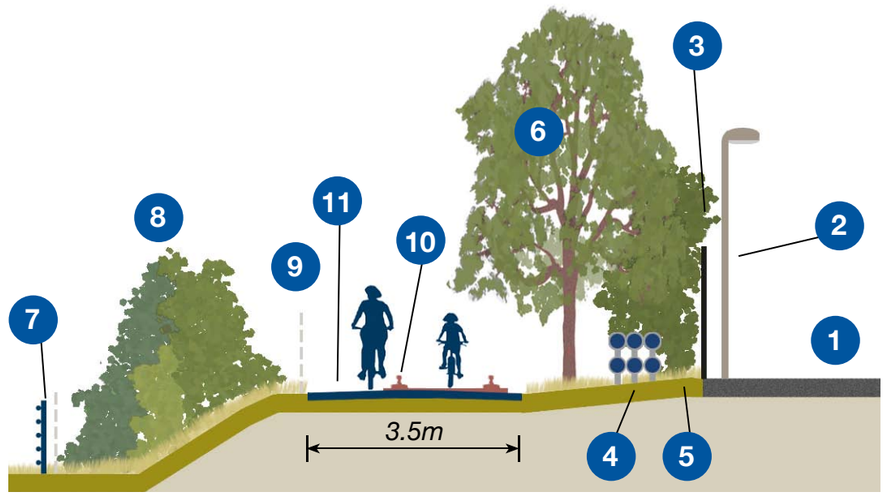
7 Existing eroded chain-link fencing to be removed and replaced with new livestock fencing.

8 Maintain and extend variety of planting with infill.

9 Remove fence.

10 Remove rails and sleepers and store on site as feature.

11 Construct new asphalt path 3m wide with central camber and grass.



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3c: Section through Viewing Mound

The purpose of this mound is to provide a feature to emphasises the continuity of the open spaces of Ditton Meadows to the north and the pasture to the south. Its location is such that it will give a view over these green fields, but not overlook any residential area. It will also provide a local area for surplus material from the Meadows.

1 *Ditton Brook.*

2 *Existing bank beside Brook.*

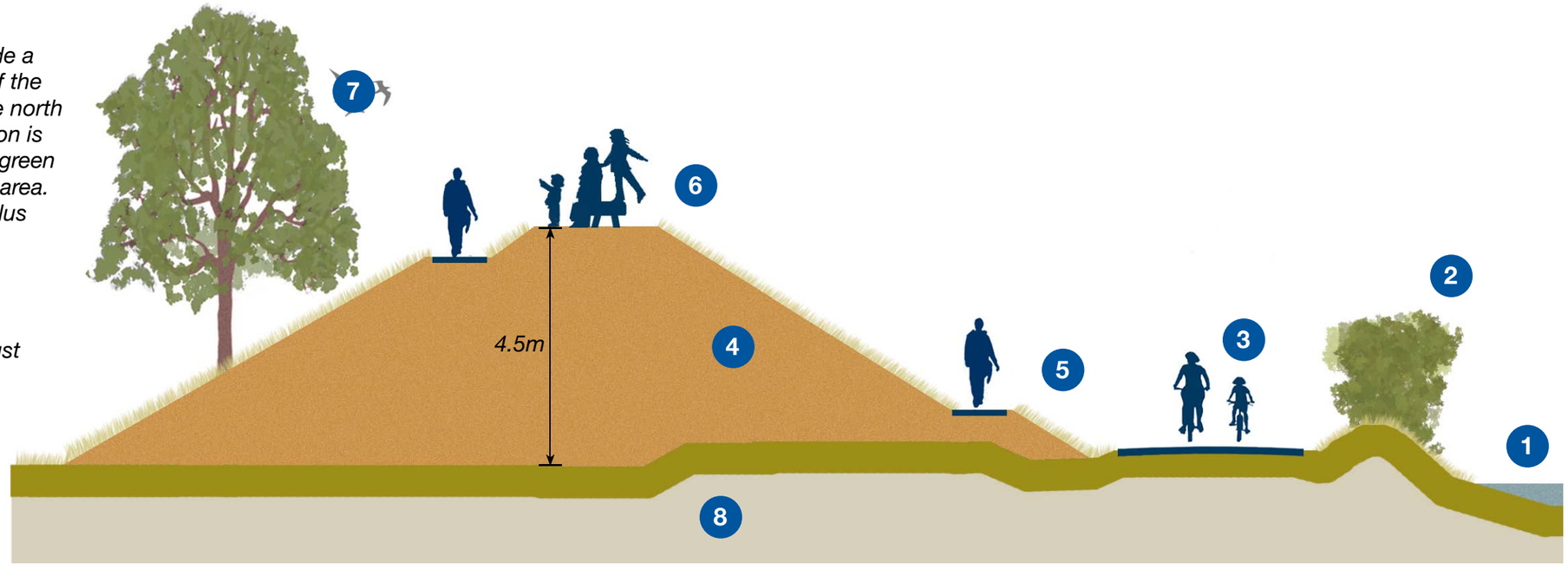
3 *Chisholm Trail constructed to a level just 100mm above the Meadow.*

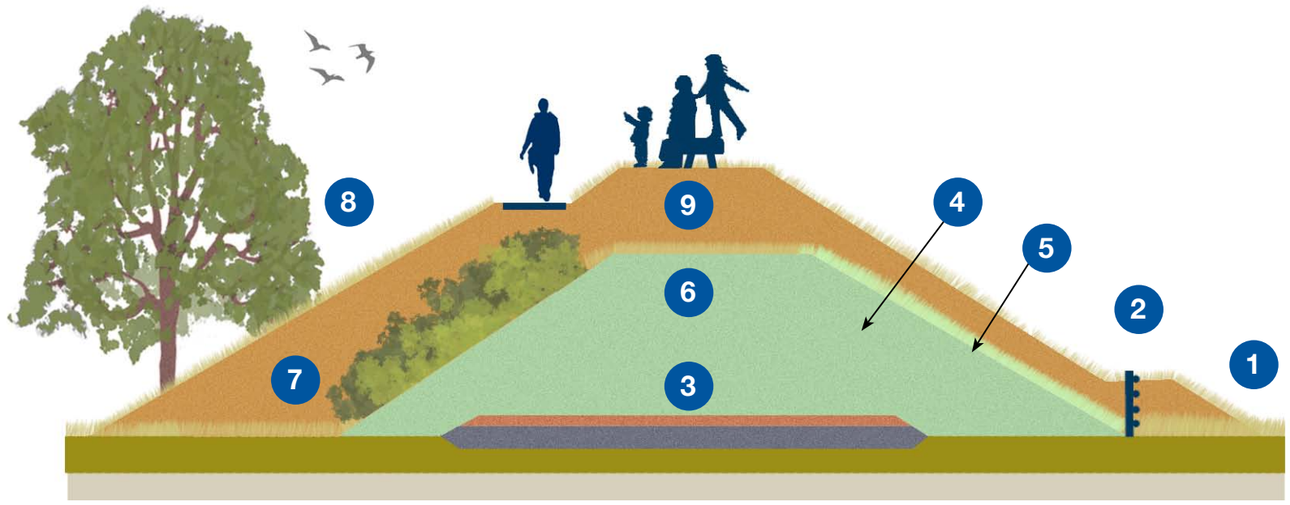
4 *The viewing mound.*

5 *Spiral path, 1 metre wide leading to the summit.*

6 *Summit seat to look both ways.*

7 *Surrounded by trees.*





3d: Section through railway embankment alongside the CPP&F pasture

The Mildenhall Railway forms the boundary between the Triangular Wood and the Pasture. This slightly higher land provides a good place to build up a bank using the soils excavated from the Ditton Meadows.

This slope can be planted with wild grasses and wildflowers to make a memorable backdrop when viewed from the trail across the meadow. The railway surface which harbours some interesting plants will be relaid at a higher level to gain more sun and stand clear of the currently encroaching undergrowth.

1 *Pasture.*

2 *Renew the boundary fence with standard stock-proof fencing, 7 strand sheep netting and 2 lines of barbed wire.*

3 *Remove the top surface of the railway and store for reuse as directed by the ecologist. Remove any sound material under the ballast for use in the bridge ramps.*

4 *Build up the embankment with excavated materials from Ditton Meadows.*

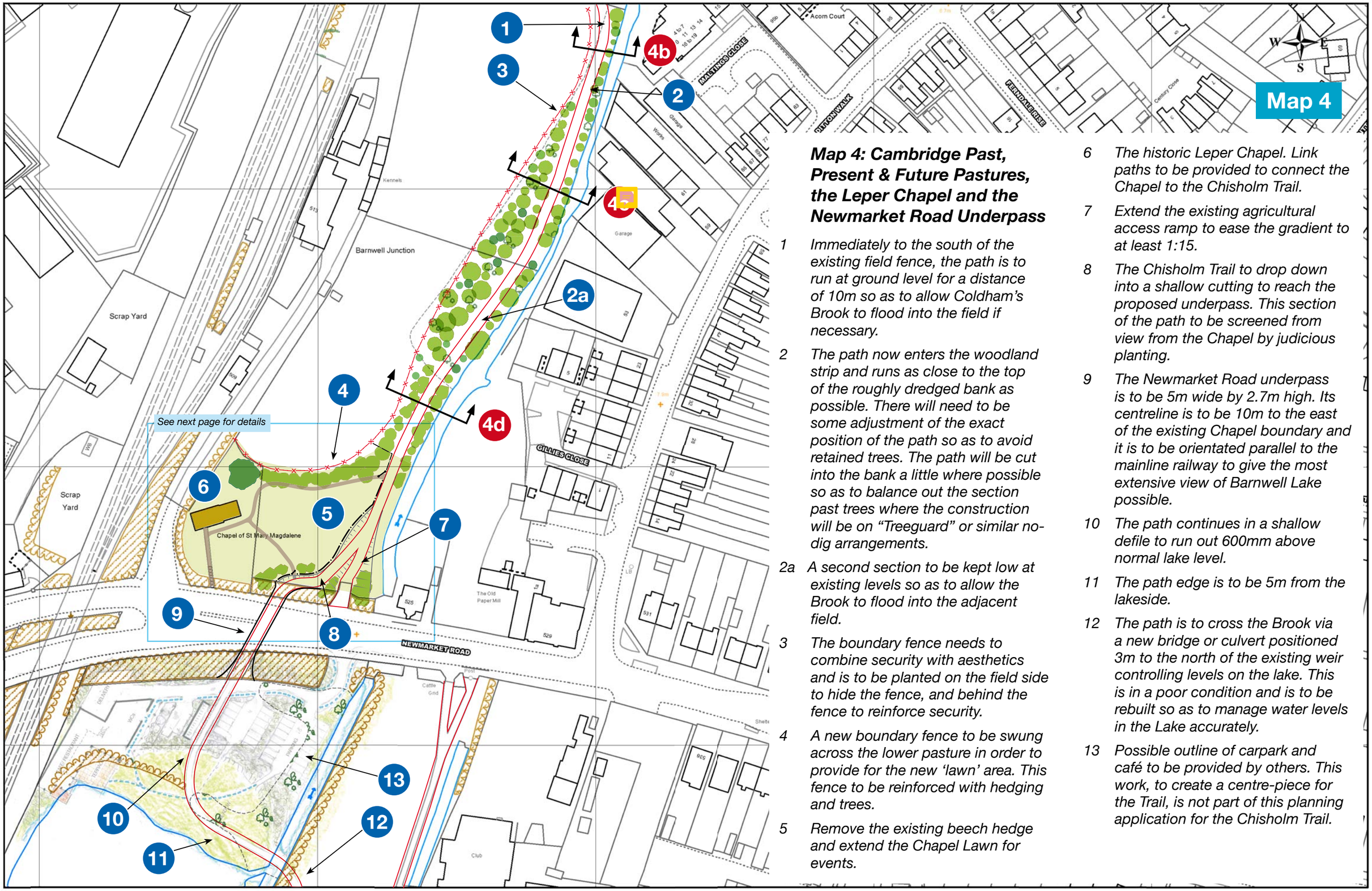
5 *Sow south facing slope with wildflower mixtures.*

6 *Spread out the top layer from the railway to recreate an enclosed habitat.*

7 *Plant the north side as an extension of the wood.*

8 *The Triangular Wood is to be replanted.*

9 *Outline of viewpoint mound to be made at the northern end of the railway to give a seat overlooking both Ditton Meadows and the Pasture.*



Map 4: Cambridge Past, Present & Future Pastures, the Leper Chapel and the Newmarket Road Underpass

1 *Immediately to the south of the existing field fence, the path is to run at ground level for a distance of 10m so as to allow Coldham's Brook to flood into the field if necessary.*

2 *The path now enters the woodland strip and runs as close to the top of the roughly dredged bank as possible. There will need to be some adjustment of the exact position of the path so as to avoid retained trees. The path will be cut into the bank a little where possible so as to balance out the section past trees where the construction will be on "Treeguard" or similar no-dig arrangements.*

2a *A second section to be kept low at existing levels so as to allow the Brook to flood into the adjacent field.*

3 *The boundary fence needs to combine security with aesthetics and is to be planted on the field side to hide the fence, and behind the fence to reinforce security.*

4 *A new boundary fence to be swung across the lower pasture in order to provide for the new 'lawn' area. This fence to be reinforced with hedging and trees.*

5 *Remove the existing beech hedge and extend the Chapel Lawn for events.*

6 *The historic Leper Chapel. Link paths to be provided to connect the Chapel to the Chisholm Trail.*

7 *Extend the existing agricultural access ramp to ease the gradient to at least 1:15.*

8 *The Chisholm Trail to drop down into a shallow cutting to reach the proposed underpass. This section of the path to be screened from view from the Chapel by judicious planting.*

9 *The Newmarket Road underpass is to be 5m wide by 2.7m high. Its centreline is to be 10m to the east of the existing Chapel boundary and it is to be orientated parallel to the mainline railway to give the most extensive view of Barnwell Lake possible.*

10 *The path continues in a shallow defile to run out 600mm above normal lake level.*

11 *The path edge is to be 5m from the lakeside.*

12 *The path is to cross the Brook via a new bridge or culvert positioned 3m to the north of the existing weir controlling levels on the lake. This is in a poor condition and is to be rebuilt so as to manage water levels in the Lake accurately.*

13 *Possible outline of carpark and café to be provided by others. This work, to create a centre-piece for the Trail, is not part of this planning application for the Chisholm Trail.*

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Scale (at A3): 1:1250 **Centred at: 547333,259508** **Date: 16/02/2016** **By: fh302**

0 metres 50 100

Cross section drawings at 1:100

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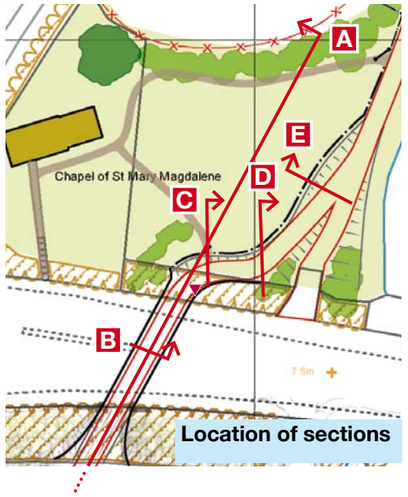
Chisholm Trail • Map 4 - Cambridge Past, Present & Future Pastures, the Leper Chapel and the Newmarket Road Underpass



1 *Barnwell Fishing Lake.*

2 *Area of waste ground associated with the former brick pit.*

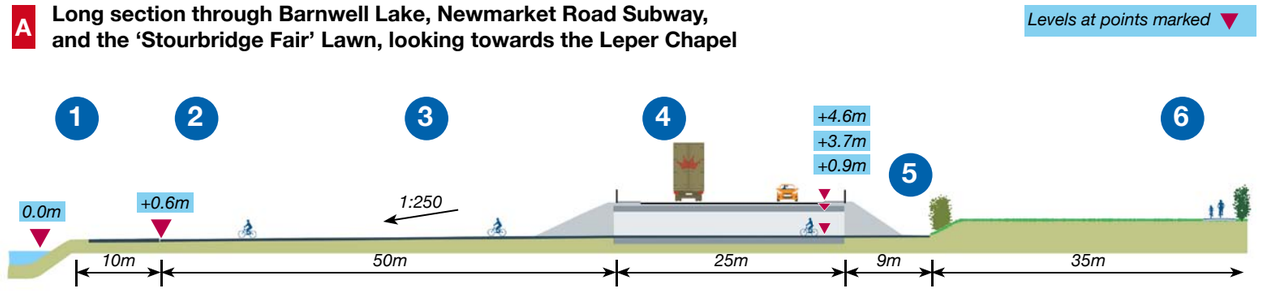
3 *Chisholm Trail to run in a shallow groove cut through the existing ground to give a direct view of the Lake and to drain dry at all times.*

4 *Newmarket Road scheduled to become a bus priority route.*

5 *Path emerges from underpass at a level approximately 1.2 metres below field level.*

6 *The 'Stourbridge Fair' lawn can be extended down towards the Chisholm Trail and the brook.*

A **Long section through Barnwell Lake, Newmarket Road Subway, and the 'Stourbridge Fair' Lawn, looking towards the Leper Chapel**

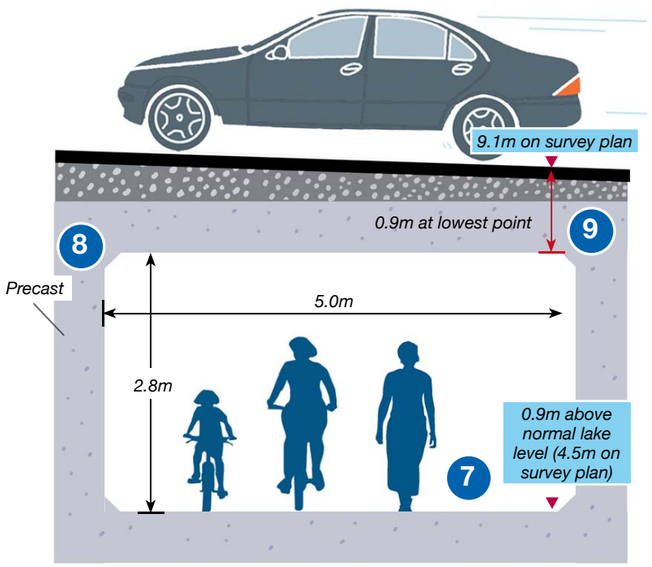


B **Cross section through the proposed subway showing the level of the Newmarket Road at its most critical point**

7 *Floor of subway 0.9m above normal water level in Lake (4.5m on survey plans). This will allow the path to drain clear in all but the most abnormal situations.*

8 *Precast concrete subway 2.7m high, floor to ceiling, with bulkhead lighting and mosaic or other artwork along walls.*

9 *Soffit to be a minimum of 0.9m below the current road surface to allow for the subway structure and the road surfacing itself. The most critical point is the northeast gutter level 13m to the east of the Chapel fence line as marked by a timber post in the iron railings.*



a) *Gutter level on the Newmarket Road. It is anticipated that the services can be relocated to run under the footway which is approximately 3m wide at this point.*

b) *Precast concrete subway, 5m wide and 2.7m high inside. The subway is orientated so as to obtain a clear view down the length of the lake and is set at a slight fall of 1:250 which will have to be supplemented by drainage to be kept dry.*

c) *This wing wall to curve around so as to give maximum visibility on the approach to the subway. Any artwork mosaic or similar on the walls of the subway could be extended around this wall or it could be finished in local stone to match Chapel.*

d) *Approximate level of existing field.*

e) *Path to emerge from the portal of the subway at about 1.2m below field level. The surface can then climb at 1:21, a gradient suitable for wheelchair users, as well as being convenient for cyclists of every ability.*

f) *Gently sloping bank to include hedge planting over its section nearest the underpass so as to hide the view of this from the Chapel.*

g) *Existing field to be levelled and grassed as a 'Lawn' suitable for visitors to the Chapel and for the occasional events.*

h) *The existing steep ramp of the overgrown field access needs to be reconstructed with a 1:21 gradient so that it can also be used by the public as an access from Newmarket Road.*

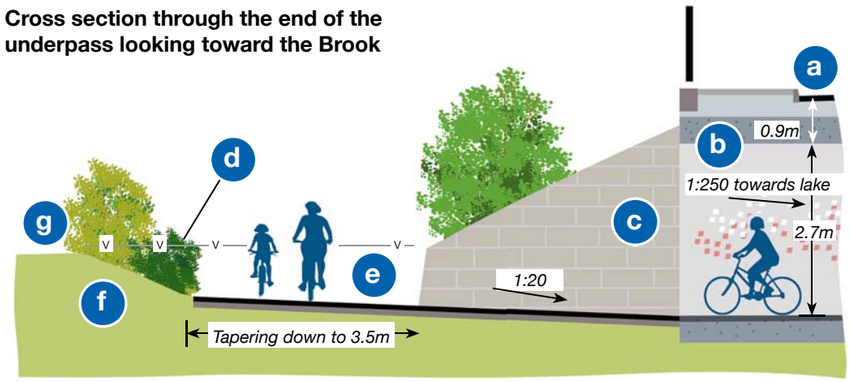
i) *The main Chisholm Trail will eventually reach field level as it climbs away from the subway and then on reaching the field access earthworks will need to veer away to the north still climbing at 1:21 till it joins with the dropping field access.*

j) *Here the Chisholm Trail is at its maximum height about 0.5m above the field to join the field access ramp.*

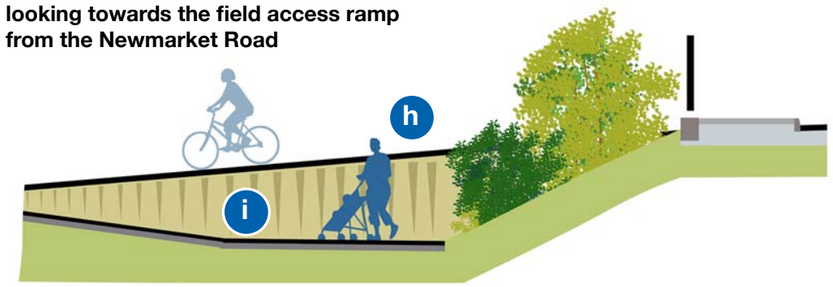
k) *The field access ramp will be about 35m in length overall.*

l) *The foot of the ramp should be set about 3-4m from the top of the bank of the Brook.*

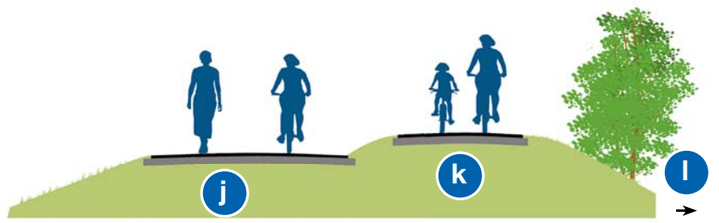
C **Cross section through the end of the underpass looking toward the Brook**



D **Cross section through the Chisholm Trail looking towards the field access ramp from the Newmarket Road**



E **Cross section showing Chisholm Trail rising to meet the field access ramp at a convenient point**



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Detail of the path section with no dig and rootguard

1 *Bitmac surface, 3.5m wide, central camber, 60mm thick.*

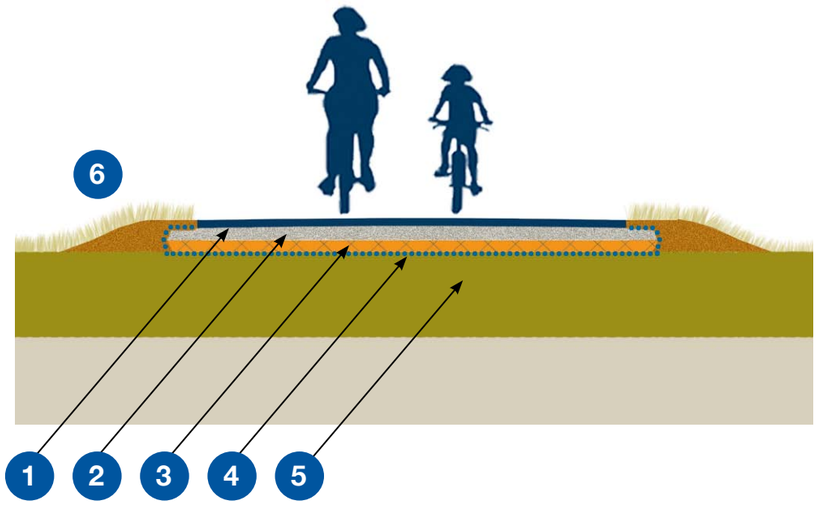
2 *Stone sub base, 100mm thick, 4.0m wide.*

3 *Rootguard cellular structure 4.0m wide, 100 thick.*

4 *Polypropylene filter fabric 4m wide and wrapped up side.*

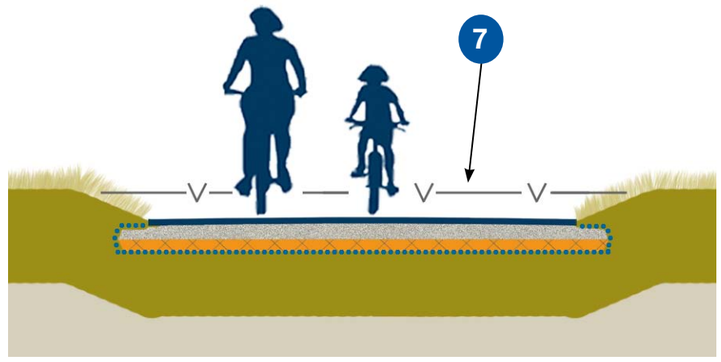
5 *Bank below.*

6 *Shoulders built up.*



Detail of path excavated into ground level where there are no tree roots.
The transition between sections by gentle slopes 1:30

7 *Cut down from ground level.*



4a: Section along the edge of the northern pasture

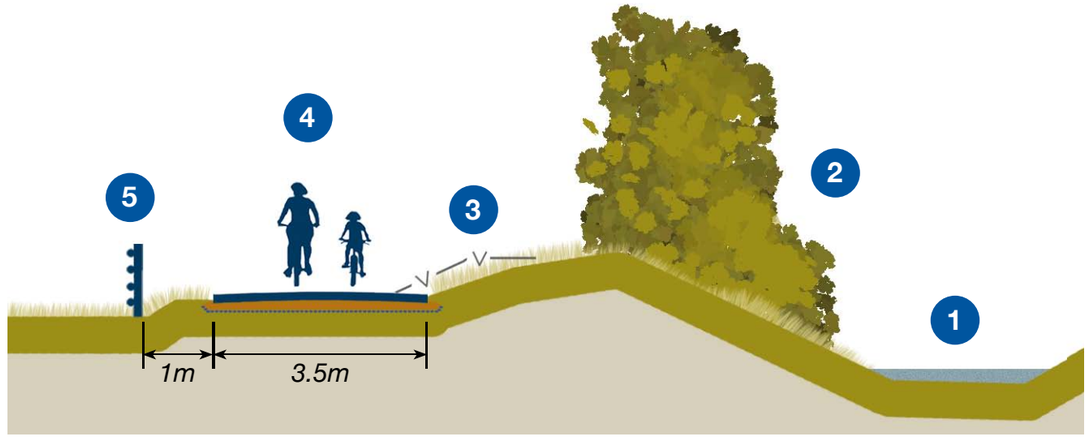
1 *Coldham's Brook.*

2 *Maintain existing hedging and plant with greater variety.*

3 *Trim back bank (old dredgings) to make an even edge so as to keep the path as close to the edge of the field as possible.*

4 *Construct path to a finished level 100mm above the pasture on average.*

5 *New field fence, post and 3 rails with 7 strand sheep netting to prevent dogs getting into the pasture.*



- Binding Margin -

Chisholm Trail • Map 4 - Cambridge Past, Present & Future Pastures, the Leper Chapel and the Newmarket Road Underpass

4b: Path just south of boundary to northern grazed paddock

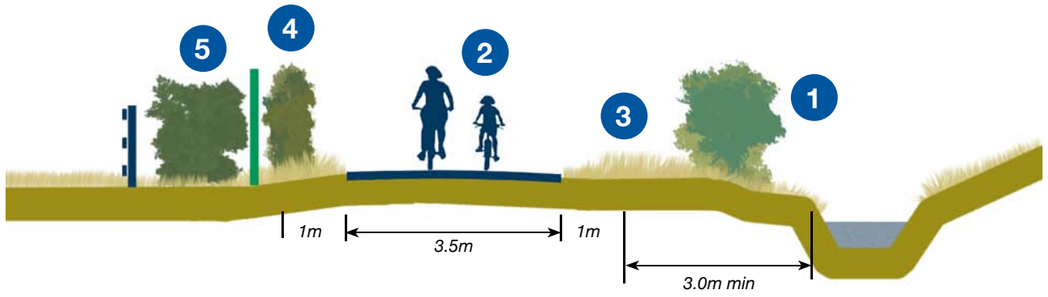
1 *The planting on this side should be of just a sufficient height as to shield the adjacent flats from view from the path, but not so high as to restrict their view over the pastures. Maintain the hedging 1.8m high.*

2 *Construct the path to 5.5m AOD.*

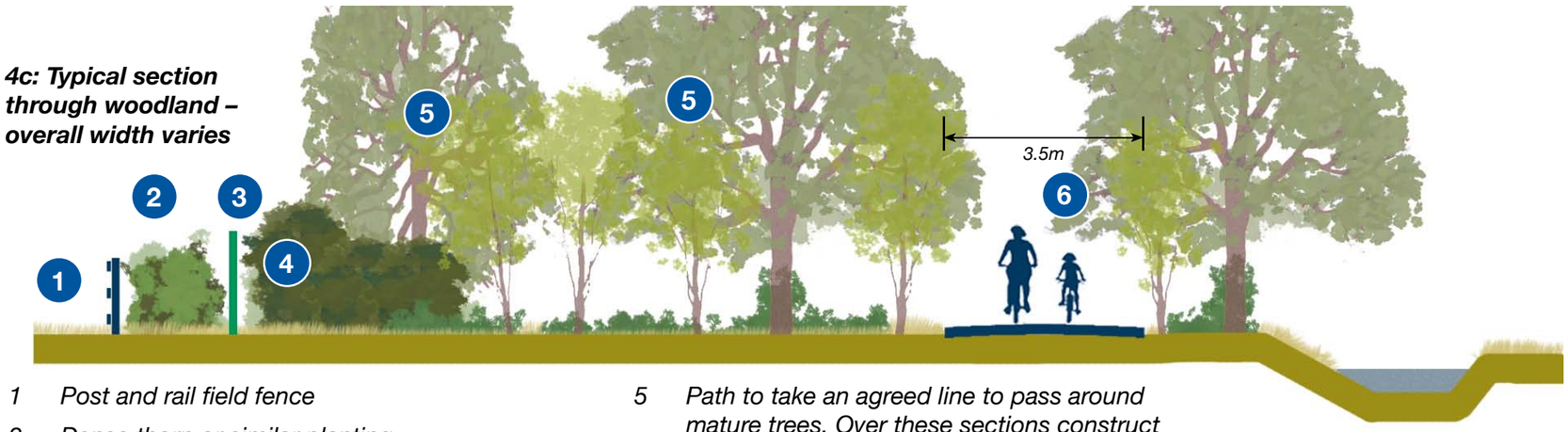
3 *The ground on this side to slope gently from the path towards the Brook.*

4 *On this side the hedging is to prevent the public overlooking the station house. Again it should be maintained 1.8m high.*

5 *The fencing the whole way around the southern pastures is to be 1.8m high Vbeam weldmesh finished in green, on steel posts, planted with a hedge 1m wide to a standard post and 3 rail field fence to protect the hedging so that it grows up to hide the mesh fence.*



4c: Typical section through woodland – overall width varies



1 *Post and rail field fence*

2 *Dense thorn or similar planting*

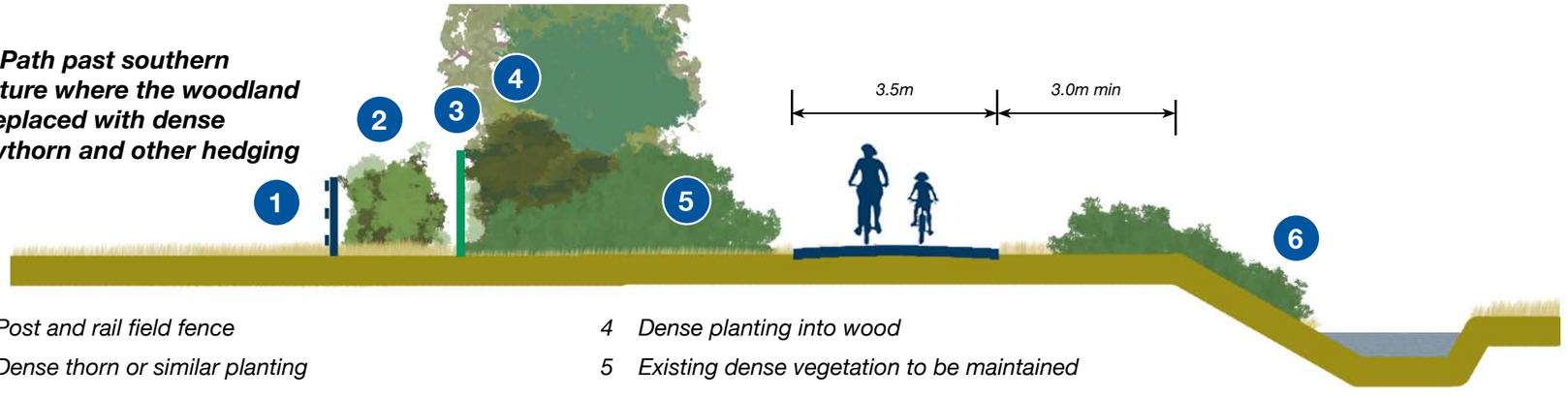
3 *1.8m high 'Vbeam' weldmesh fence, finished in green, on steel posts*

4 *Dense planting into wood*

5 *Path to take an agreed line to pass around mature trees. Over these sections construct with no-dig cellular root protection*

6 *Maintain all the mature trees as far as possible. Trim and reduce dead limbs*

4d: Path past southern pasture where the woodland is replaced with dense hawthorn and other hedging



1 *Post and rail field fence*

2 *Dense thorn or similar planting*

3 *1.8m high 'Vbeam' weldmesh fence, finished in green, on steel posts*

4 *Dense planting into wood*

5 *Existing dense vegetation to be maintained*

6 *Path to be located generally 3 or 4m from bank top. Ground to Brook to be covered by ivy or similar*

- Binding Margin -

Map 5: Barnwell Lake and Coldham's Common

1. *The Chisholm Trail will open up an excellent view of Barnwell Lake and the grassy area here will be a popular stopping off point.*
2. *Bridge over Coldham's Brook.*
3. *Link path 3.5m wide across the Common to join up with the existing path.*
4. *This section of path is to be unchanged.*
5. *Widen the existing path to 3.5m towards the west.*

Map 5

Lighting Provision

The scale of lighting proposed along this route is very modest. Across Coldham's Common there are some very sparsely spaced lighting columns. These could be retained and perhaps a few more installed at key points, but this will be a long way short of continuous lighting. The railway subway should be well lit, but at a subdued level so as not to blind people emerging into the darkness either side. Similarly the planned Newmarket Road underpass will be lit. The remainder of the Trail north to the River Cam will be unlit except for pv studs as used elsewhere in the area. Through all the wooded sections these will be hard wired so as to ensure that there can function even when deep under tree canopies.

Scale (at A3): 1:1250 Centred at: 547135,259327 Date: 16/02/2016 By: fh302 0 metres 50 100 Cross section drawings at 1:100

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Map 6: Coldham's Common

1 *Widen the path to the east side here to give an improved approach to the bridge.*

2 *Reconstruct the parapets of the existing culvert.*

3 *Widen path to this side to enhance approach to bridge.*

4 *Widen the path to the east all through, to a finished width of 3.5m.*

5 *Slow path so as to line the public up with the barrel of the railway subway.*

6 *Rearrange junction of path from Sports Centre.*

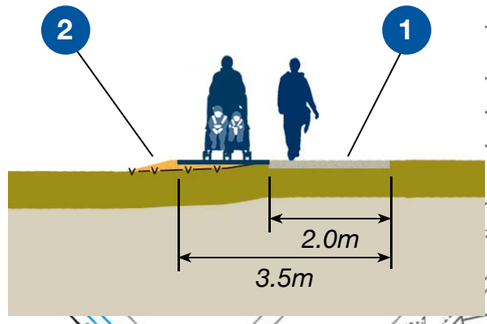
7 *New livestock controls.*

Coldham's Common

6a: Section through path across Coldham's Common

1 *Existing tarmac path generally about 2m wide set on a slight raised bank.*

2 *Planned widening to create a 3.5m wide path. At the same time resurface the original path so that it looks uniform.*



View of standard Cambridge cattle grid and wicket gate as used throughout the Backs

Map 6

Scale (at A3): 1:1250 Centred at: 547192,259009 Date: 17/02/2016 By: fh302

0 metres 50 100

Cross section drawings at 1:100

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Map 7: Newmarket Road to Coldham's Lane

1 *Line up approach path with the barrel of the subway and provide new double cattle grids and wicket gate.*

2 *Slightly lower path through subway by 100mm in the centre and 300mm at either end. Rebuild the ramps either side to achieve 1:21 gradient.*

3 *Position new access controls at end of 1:21 gradient from the bridge.*

4 *Widen the path to 3.5m on to the east.*

5 *Remove material from this wide section of tarmac to leave 3.5m of path.*

6 *Existing cattle grids and wicket gates. Note that this point is the end of this phase of the planning application. A subsequent application will continue the route to the Carter Bridge and the railway station.*

Newmarket Line subway

Notes on the extension over the railway, for information only

1 *The junction and crossing of Coldham's Lane is not easy or convenient at present. Once the Ridgeons development is in hand it may be possible to simplify the arrangements at this junction so as to create a single phased crossing for pedestrians and cyclists. The addition of a small fragment of land at the back of the Nuffield car park would help to provide the space needed to avoid crowding at this crossing point.*

2 *Existing cycling bridge over the railway climbs rather high but otherwise is of a good standard.*

3 *The existing cycling routes do not link up across this section and a further phase of the Chisholm Trail would aim to deliver this link so as to create a continuous route suitable for all.*

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Scale (at A3): 1:1250 Centred at: 546814,258739 Date: 27/01/2016 By: fh302 0 metres 50 100 Cross section drawings at 1:100

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