

# **Brue Valley Water Level Management Plan 2006- 2011 Draft Stage 2 Plan [Revised 26 Feb 2007]**

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## **Brue Valley Water Level Management Plan 2006- 2011 Draft Stage 2 Plan**

### **Executive Summary**

This **Water Level Management Plan** covers the areas managed by the Upper Brue and the Lower Brue Drainage Boards in the Brue Valley, Somerset (9619 ha and 9117 ha respectively). This area can be considered as a single hydrological unit with several sub-catchments. Much of the land within the Plan area lies below 8 metres AOD, with the majority lying below the level of the high tide in the Bristol Channel (approx. 6.5 metres AOD).

**Stage 1** of the Water Level Management Plan was adopted by the Drainage Boards for the purposes of consultation in October 2006. It sets out the intended actions (regarding the management of water) which would be carried out by the Drainage Boards, and the Environment Agency, in the Brue Valley so that the Government's target regarding the favourable condition for SSSIs could be achieved. The Plan also includes a number of proposed changes in water management and infrastructure which are intended to benefit land outside designated wildlife sites.

This **Draft Stage 2 Plan** sets out the proposed **options for changing the management of water** which the Drainage Boards will consider in more detail in 2007-08, with a view to approving in principle the key capital improvement schemes in March 2008.

In particular, the Stage 2 Plan identifies the options which could be implemented by the Drainage Boards, and others, in order to help **achieve favourable condition** for habitats and species on the three priority SSSIs within the Plan area. These options would affect the management of water about **1130 ha** (about 2800 acres) of the Brue Valley by maintaining areas with **splash and shallow water conditions suitable for wintering wildfowl and waders** (December to February inclusive). About 150 ha of these 1130 ha have been successfully achieved so far, through the Environmentally Sensitive Area and Countryside Stewardship schemes. Of these 1130 ha, the Drainage Boards anticipate that some 450 ha would also be suitable **wet grassland habitats for breeding waders in the spring** (March to early June).

The Draft Stage 2 Plan identifies a number of **other options** which the Drainage Boards **propose to investigate**, with the Environment Agency and others, over the next two years, including the operation of the **South Drain** and the **North Drain**, and their associated **Pumping Stations**.

The Drainage Boards appreciate that the management of water is only one part of achieving the goal of favourable condition in these wetland SSSIs and that **other parties also have major roles to play**, including rate-payers (farmers), the Environment Agency, Natural England and the other Authorities and Agencies. The Boards have identified a number of key areas where **help and support is required from other parties** in order to make the Stage 2 Plan a success. The Plan includes an **extensive programme of consultation and collaborative working** for the next two years.

The Draft Stage 2 Plan includes information on the **likely costs** of implementing the options, recommends a **timetable** for the development and implementation of the options.

## Proposals being adopted in the Draft Stage 2 Plan

Through their adoption of this Draft Stage 2 Plan, the Drainage Boards propose to:

1. Complete their assessment of the options to change the management of water in the three priority SSSIs in the Brue Valley so that they can help to meet the Government's target for safeguarding these nationally important wetlands. These options would affect about 1130 ha of land (about 2800 acres) and would include changes water management around:
  - a) Catcott Grounds and Burtle Whites (about 155 ha)
  - b) Burtle Moor South (about 95 ha)
  - c) Catcott Lows (about 160 ha)
  - d) Chilton Moor – South (about 50 ha)
  - e) West Edington Heath (about 115 ha)
  - f) East Edington Heath (about 65 ha)
  - g) Manor Rhyne (about 30 ha)
  - h) Chilton Moor – North (about 90 ha)
  - i) Black Ditch
  - j) Tealham Moor – North (about 100 ha)
  - k) Tealham Moor – Southwest (about 70 ha)
  - l) Tealham Moor – Southeast (about 80 ha)
  - m) Aller Moor (about 115 ha)
2. Commission or carry out further investigations into several options which require further work, including:
  - a) Westhay Moor - water supply to the National Nature Reserve;
  - b) Westhay Moor – water supplies north of the North Drain;
  - c) Westhay Moor – future management of Dog Leg Ditch;
  - d) Operation of Gold Corner Pumping Station and the South Drain;
  - e) Function and operation of structures on the Back Ditch to the north and south of the South Drain;
  - f) Operation of the North Drain and its Pumping Station;
  - g) Opportunities for East and West Waste;
  - h) Operation of Upper Crannel Sluice on the Hartlake River;
  - i) The possible implications of climate change on water management in the Brue Valley.
3. Consult, and work collaboratively with, rate-payers, farmers and other parties throughout 2007 and 2008 in order to secure the support and agreement which will be required if the proposed changes are to be successful;
4. Seek and secure grant aid to assess these proposed options in 2007-08, and to implement the agreed capital improvement schemes that will be set out in the Approved Stage 2 Plan in March 2008.

## 1. Introduction and purpose of the Stage 2 Plan

The outline proposals described in the Stage 1 Plan identified the likely extent and possible locations of those areas which will be affected by the proposed changes in water level management and maintenance operations. The proposals outlined in the Stage 1 Plan included:

- An additional 900 ha of the priority SSSIs being made wetter each winter (December to February inclusive) for wintering wildfowl and waders (this is additional to the 150 ha currently managed with raised water levels through the Environmentally Sensitive Area and Countryside Stewardship schemes);
- An additional 300 ha of these SSSIs being kept in a better condition for breeding waders in the spring and early summer each year (March to early June) (this is additional to the 150 ha currently managed with raised water levels through the Environmentally Sensitive Area and Countryside Stewardship schemes);
- The peat soils in 60 – 70% of the SSSI's area being conserved and protected from shrinkage by allowing them to become saturated during the winter months, and keeping them wetter during the rest of the year. This would also be of direct benefit to conservation of the wet grassland flora and fauna;
- The aquatic flora and fauna in 80% of the SSSI's area being safeguarded by the appropriate management of the watercourses and by suitable ditch water levels throughout the year;
- Farming operations being able to provide the wet grassland and aquatic habitats which allows the wetland wildlife to thrive and prosper.

The Stage 1 Plan was adopted, for the purposes of consultation, by the Lower Brue and the Upper Brue Drainage Boards in October 2006.

This Draft Stage 2 Plan sets out to:

- Define the land, control structures and watercourses which would be affected by the options for changing the management of water in order to meet the agreed objectives set out in the Stage 1 Plan;
- Identify the best practicable option, at a reasonable cost, for each of the proposed options to change water management set out in the Stage 1 Plan;
- Describe the extensive programme for consultation and collaborative work that will be required to take forward these options and develop them into improvement schemes which can be implemented by the Boards;
- Set out a timetable for the major elements of work and estimate the likely capital costs of implementing the proposed changes.

The Draft Stage 2 Plan is a comprehensive approach to addressing the options to change the management of water in order to help achieve the favourable condition of the three priority SSSIs in the Brue Valley. It provides the basis for the Boards to discuss the options for change with the rate-payers and farmers that might be affected. The Draft Stage 2 Plan will also enable the Boards to seek the support and agreement of other parties, such as the Environment Agency and Natural England, whose help and collaboration will be crucial in achieving favourable condition.

In March 2008, the Drainage Boards will consider adopting an Approved Stage 2 Plan, setting out their firm proposals for the capital improvement schemes for water

management. These improvement schemes will then be drawn up in detail in order to apply for the capital grant aid necessary to implement the approved schemes.

## **2. The need to change the management of water**

The Government's Public Service Agreement with Defra requires that 95% of all nationally important wildlife sites (SSSIs) are in a favourable condition by 2010.

This Draft Stage 2 Plan sets out those actions (regarding the management of water) which will be carried out by the Drainage Boards and the Environment Agency (i.e. the two Operating Authorities for flood management) in the Brue Valley. These actions will enable each of these bodies to play their part in contributing to the achievement of the Government's target regarding the favourable condition for SSSIs.

Currently three SSSIs are not in a favourable condition due to water management, and these were identified in the Stage 1 Plan as being priorities for action by the Drainage Boards. These are Catcott, Edington and Chilton Moors SSSI, Tealham and Tadham Moor SSSI and Westhay Moor SSSI.

In order to achieve favourable condition on these three priority SSSIs, the Drainage Boards propose to change the management of water over the next four years so that:

- A total of about 1130 ha (2800 acres) of these SSSIs are suitably wet each winter (December to February inclusive) for wintering wildfowl and waders;
- A total of about 450 ha (of the 1130 ha) is in a suitable condition for breeding waders in the spring and early summer each year (March to early June);
- Peat soils are conserved and protected from shrinkage by keeping them wetter throughout the year. This will also be of direct benefit to conservation of the wet grassland flora and fauna;
- Aquatic flora and fauna are safeguarded by the appropriate management of the watercourses and suitable ditch water levels throughout the year;
- Farming operations can continue to provide the wet grassland and aquatic habitats which allows the wetland wildlife to thrive and prosper.

This Stage 2 Plan includes details of the options for changing the management of water in the three priority SSSIs which will be considered by the Boards during 2007.

In addition, the Drainage Boards have identified a number of other options to improve the management of water outside the SSSIs which they would like to investigate, over the period of the Plan, in order to overcome the current difficulties managing water in the Plan area. These options for change are of strategic significance in the Plan area and include:

- The operation of the Gold Corner Pumping Station, the South Drain and its close association with the Back Ditches;
- The operation of the North Drain, and its related Pumping Station;
- Specific improvements to irrigation system and winter water level control structures;
- Changes in the local arrangements to operate water level control structures;
- Strategic floodwater storage areas, bearing in mind the possibility of changing weather patterns as a result of climate change.

### **3. Options for changing the management of water help achieve favourable condition in the priority SSSIs of the Brue Valley**

Stage 1 of the Brue Valley Water Level Management Plan outlined some of the areas where it might be possible to change the management of water in the priority Sites of Special Scientific Interest in order to help achieve favourable condition.

In preparing the Stage 2 Plan, the Drainage Boards have examined these outline areas in more detail and now present a number of options for capital improvement schemes which would help to achieve the common objectives set out in the Phase 1 Plan. These options have been developed in the light of Objectives 1-5 of the Stage 1 Plan (see Figure 1 below). In particular, the options reflect the local hydrology and topography of the area so that areas targeted for splash and shallow water conditions in the winter are the lower parts of the relevant Moors.

#### **Figure 1: Objectives 1 - 5 of the Stage 1 Water Level Management Plan**

##### ***Objective 1 – Balance of interests***

Firstly, ensure that all legal obligations and responsibilities are met, and secondly to balance different interests by managing water in a way that reflects the local hydrology and topography of the area and which best serves the owners and farmers of the majority of the land within each sub-catchment

##### ***Objective 2 – Agriculture***

Maintain seasonal water levels that provide wet fences, stock watering and drainage appropriate for the principal land management and farming practices in each sub-catchment.

##### ***Objective 3 – Biodiversity***

Maintain, and enhance when suitable opportunities arise, wet grassland, wetland and freshwater aquatic habitats and species throughout the Plan area, with particular attention being given to those protected by law or designated in some way.

##### ***Objective 4 - Favourable condition of SSSIs***

Implement a programme of improvement works to ensure that the management of water that affects the SSSIs in the Plan area helps to secure, or makes significant progress towards achieving, those SSSIs being in favourable condition by 2010.

##### ***Objective 5 - Peat soils and archaeology***

Maintain a stable, year round (fresh) water table that avoids desiccation and oxidation of the peat soils, supplemented by saturation of the inland moors as a result of retaining incident rainfall or flood events for suitable periods each winter.

The following tables summarise the options for changes in water management which would help achieve favourable condition on the priority SSSIs. These options will be considered in more detail by the Lower Brue and Upper Brue Drainage Boards during 2007, whilst seeking the views of the other parties who are likely to be affected. An initial estimate of the capital cost for each option is also provided.

Further details of the options for changing the management of water in each of the relevant areas are set out in Appendices 1 and 2. A map illustrating each of the options being considered can also be found in Appendices 1 and 2.

## Catcott, Edington and Chilton Moors SSSI

Substantial parts of Catcott, Edington and Chilton Moors SSSI are reported to be in an unfavourable condition by Natural England, partly on account of low water levels in the winter and spring. The Lower Brue Drainage Board proposes a number of options to change the management of water to help achieve favourable condition.

Natural England advises that more extensive areas of splash and shallow water conditions are required in winter in order for the SSSI to be in a favourable condition. These options for change being considered by the Drainage Board are based on the natural topography of the area, and the opportunities to secure suitable supplies of water in winter to create the areas of splash and shallow water. The Nidon Rhyne, which forms the southern boundary of the SSSI is considered to be a suitable source of water in the winter and spring and the management of this watercourse would be a key element in achieving favourable condition.

It is estimated that about 770 ha (about 1900 acres) of Catcott, Edington and Chilton Moors SSSI could have splash or shallow water conditions during the winter months (November to February inclusive). A smaller part of this area, about 300 ha (about 750 acres) could be kept in a suitable wet or damp conditions for breeding waders in the spring (March to early June inclusive)

At present, water from the SSSI drains via various outfalls from the Back Ditch to the South Drain. These are affected significantly by the operation of the Gold Corner Pump Station which is just downstream. The Lower Brue Drainage Board proposes that tilting weirs are installed in the outfalls of the Back Ditch so that water levels in the SSSI can be managed more independently of the water levels in the South Drain. This will increase dramatically the possibilities of managing water levels in the SSSI in order to help achieve favourable condition.

**Figure 2: Options for changes in water management to be considered to help achieve favourable condition on Catcott, Edington and Chilton Moor SSSI (Lower Brue Drainage Board area)**

Area	Options for changes in water management to be considered	Estimated capital cost
Catcott Grounds and Burtle Whites	<ul style="list-style-type: none"> <li>• Approx. 130 ha of winter splash and 25 ha of shallow water conditions in winter;</li> <li>• Some winter splash remaining on the fields into the spring;</li> <li>• Summer conditions as present.</li> </ul>	£124,000
Burtle Moor South	<ul style="list-style-type: none"> <li>• Approx. 95 ha of splash conditions in winter;</li> <li>• Some winter splash remaining on the fields into the spring;</li> <li>• Summer conditions as present.</li> </ul>	£82,000
Catcott Lows	<ul style="list-style-type: none"> <li>• Approx. 100 ha of winter splash and 60 ha of shallow water conditions in winter;</li> <li>• Some winter splash will remain on the fields into the spring, and the central parts of Catcott Lows and the fields adjacent to the Black Ditch should be suitable as a target area for breeding waders (approx 35 ha);</li> <li>• Summer conditions as present.</li> </ul>	£249,000

**Figure 2 (continued): Options for changes in water management to be considered to help achieve favourable condition on Catcott, Edington and Chilton Moor SSSI (Lower Brue Drainage Board area)**

Chilton Moor South	<ul style="list-style-type: none"> <li>• Approx. 30 ha of winter splash and 20 ha of shallow water conditions in winter;</li> <li>• Some winter splash remaining on the fields into the spring;</li> <li>• Summer conditions as present.</li> </ul>	£59,000
West Edington Heath	<ul style="list-style-type: none"> <li>• Approx. 85 ha of winter splash and 30 ha of shallow water conditions in winter;</li> <li>• Some winter splash will remain on the fields into the spring, and the lower lying fields to the west of Back Drove should be suitable as a target area for breeding waders (approx 20 ha);</li> <li>• Summer conditions as present.</li> </ul>	£105,000
East Edington Heath	<ul style="list-style-type: none"> <li>• Approx. 60 ha of winter splash and &lt;5 ha of shallow water conditions in winter;</li> <li>• Some winter splash will remain on the fields into the spring;</li> <li>• Summer conditions as present.</li> </ul>	£124,000
Manor Rhyne	<ul style="list-style-type: none"> <li>• Approx. 30 ha of winter splash conditions;</li> <li>• Some winter splash remaining on the fields into the spring;</li> <li>• Summer conditions as present.</li> </ul>	£24,000
Chilton Moor North	<ul style="list-style-type: none"> <li>• Approx. 90 ha of winter splash conditions;</li> <li>• Some winter splash remaining on the fields into the spring;</li> <li>• Summer conditions as present.</li> </ul>	£61,000
Total estimated capital costs		£828,000

In addition to the options for Catcott, Edington and Chilton Moors SSSI being considered by the Lower Brue Drainage Board, the Upper Brue are proposing to look at an option to manage more effectively the water levels in the Black Ditch to the north and south of the South Drain. This option would enable water levels in the South Drain and the Black Ditch to be operated more independently of each other.

**Figure 3: Options for changes in water management to be considered to help achieve favourable condition on Catcott, Edington & Chilton Moor SSSI (Upper Brue Drainage Board area)**

Area	Options for changes in water management to be considered	Estimated capital cost
Black Ditch – north & south	Enable more effective management of water by controlling water levels in the Black Ditch (north & south) by providing an opportunity to keep them at different water levels to the South Drain.	£166,000

## Tealham and Tadham Moors SSSI

Substantial parts of Tealham and Tadham Moors SSSI are reported to be in an unfavourable condition by Natural England, partly on account of low water levels in the winter and spring. The Lower Brue Drainage Board proposes a number of options to change the management of water to help achieve favourable condition.

Natural England advises that more extensive areas of splash and shallow water conditions are required in winter in order for the SSSI to be in a favourable condition. The options for change being considered by the Drainage Board are based on the natural topography of the area, with the low lying areas at the western end of Tealham Moor and to the south of Allermoor Farm being most suitable for splash and shallow water conditions in winter months. Additional water at a higher level may be available in winter to supply these conditions from the Shipham Rhyne to the west, from the Panborough Drain to the northeast or from the River Brue to the south during high level flows. Some of these water supplies may also be available in the spring to create areas suitable for breeding waders.

It is estimated that about 360 ha (about 890 acres) of Tealham and Tadham Moors SSSI could have splash or shallow water conditions during the winter months (November to February inclusive). A smaller part of this area, about 150 ha (about 370 acres) could be kept in a suitable wet or damp conditions for breeding waders in the spring (March to early June inclusive). Ground levels rise in the southern and south-eastern parts of the SSSI making it difficult to supply and manage water to these areas in the winter months in order to create splash or shallow water conditions.

**Figure 4: Options for changes in water management to be considered to help achieve favourable condition on Tealham and Tadham Moor SSSI (Lower Brue Drainage Board area)**

Area	Options for changes in water management to be considered	Estimated capital cost
Tealham Moor - North	<ul style="list-style-type: none"> <li>• Approx. 70 ha of winter splash and 30 ha of shallow water conditions in winter;</li> <li>• Some winter splash will remain on the fields into the spring, and the area is a suitable target for breeding waders in the spring, particularly if it can be supplied with a higher level of water in the spring from the Shipham Rhyne;</li> <li>• Summer conditions as present.</li> </ul>	£137,000
Tealham Moor - Southwest	<ul style="list-style-type: none"> <li>• Approx. 70 ha of winter splash conditions;</li> <li>• Some winter splash remaining on the fields into the spring;</li> <li>• Summer conditions as present.</li> </ul>	£57,000
Tealham Moor - Southeast	<ul style="list-style-type: none"> <li>• Approx. 80 ha of winter splash conditions;</li> <li>• Some winter splash remaining on the fields into the spring;</li> <li>• Summer conditions as present.</li> </ul>	£49,000
Aller Moor	<ul style="list-style-type: none"> <li>• Approx. 85 ha of winter splash and 30 ha of shallow water conditions in winter;</li> <li>• Some winter splash remaining on the fields into the spring;</li> <li>• Summer conditions as present.</li> </ul>	£180,000
Total estimated capital costs		£423,000

## Westhay Moor SSSI

Substantial areas of Westhay Moor SSSI are reported to be in a favourable condition by Natural England, and the management of water is generally regarded as beneficial to this condition. There are a number of exceptions to this condition which require further investigation and attention, including:

- The area lying to the north of the North Drain has a poor supply of water, making it difficult to control and manage water levels;
- Parts of Westhay Moor National Nature Reserve are higher than surrounding areas and would benefit for a regular supply of water at a higher level than is currently available;
- The management of water in the areas being extracted for peat in the southeast part of Westhay Moor is of some concern, and the future use and alignment of watercourses in this area should be reviewed.

**Figure 5: Further investigations required to help achieve favourable condition on Westhay Moor SSSI (Upper Brue Drainage Board area)**

Area	Options for changes in water management to be considered	Estimated cost
Westhay Moor National Nature Reserve	Investigate the options to supply water at a higher to the Nature Reserve via Galton's Canal to the West or Westhay Moor Drove Rhyne to the east.	£4,000
Westhay Moor – north of the North Drain	Investigate the options to supply more water at an appropriate level to Westhay Moor SSSI lying to the north of the North Drain, via the Panborough Rhyne to the north or via the Diversion Rhyne to the east.	£3,500
Westhay Moor – Dog Leg Ditch	Investigate the options for the future route and use of Dog Leg Ditch as peat extraction ceases in the area and reclamation takes place	£5,000
Total estimated costs of further investigations regarding favourable condition		£12,500

#### 4. Further investigations required for changes in the management of water in the Brue Valley

The Upper and Lower Brue Drainage Boards propose to carry out a number of further investigations which will help to identify further options to improve the management of water in the Brue Valley. These largely focus on the operation of the Gold Corner and North Drain Pump Stations which have been the subject of discussion for many years.

At present, water levels in SSSIs close to the Pump Station are determined by the operation of the Pump Station on the main drain. As a result, water levels in the SSSIs are drawn down if the Pump Station responds to high levels in the main drain. In this Draft Stage 2 Plan, the Drainage Boards are considering options which would allow the water levels in the SSSIs close to the Pump Stations to be managed more independently of those levels in the main drains. As a result, water levels in the SSSIs could be held at a higher level while the levels in the main drains are drawn down in response to a major rainfall event further up the catchment.

**Figure 6: Further investigations required prior to identifying options for water management (Lower and Upper Brue Drainage Boards area)**

Area	Options for changes in water management to be considered	Estimated cost
Operation of Gold Corner Pumping Station	Investigate the opportunities for, and merits of, changing the operating regime of the Pump Station so that it provides a more responsive service during times of flood and drought.	£10,000
Function and operation of structures on the Back Ditch to the north and south of the South Drain	Investigate the opportunities for, and merits of, the Lower Brue Drainage Board taking on responsibility for the Back Ditch (north & south) and its associated control structures so that they achieve the water management objectives set out in the Plan.	£6,000
Operation of the North Drain Pumping Station	Investigate the opportunities for, and merits of, changing the operating regime of the Pump Station so that it provides a more responsive service during times of flood and drought.	£7,000
Total estimated costs of further investigations involving both Drainage Boards		£23,000

The Upper Brue Drainage Board propose to carry out further investigations into other options for water management which could lead to further improvement schemes being put forward in their area. These investigations are listed in Figure 7 below.

**Figure 7: Further investigations required prior to identifying options for water management (Upper Brue Drainage Board area)**

Area	Options for changes in water management to be considered	Estimated cost
East and West Waste	Investigate the opportunities for, and merits of, flood water storage in the vicinity of East and West Waste, with spillways from the right banks of the Millstream and the River Brue (initial investigations only).	£5,000
Upper Crannel Sluice on the Hartlake River	Investigate the opportunity for, and merit of, the day-to-day management of the Upper Crannel Sluice being passed from the Environment Agency to the Upper Brue Drainage Board.	£1,000
Total estimated costs of further investigations in the Upper Brue area		£6,000

In adopting Proposal 10 in the Stage 1 Plan, the Drainage Boards recognised the importance of working with the Environment Agency to develop a strategic approach to flood management issues which may arise from future development pressures in the Brue Valley. The Boards propose to implement this proposal through their contributions to the forthcoming Catchment Flood Management Plan which the Agency intends to draw up in 2007.

In the Stage 1 Plan, the Drainage Board also recognised the importance of considering how the implications of climate change should be taken into account in the planning water management for the Brue Valley. In order to address this matter, the Boards propose to work together on an initial study on the possible impact of climate change on water management in the Brue Valley. This study would identify those areas that are most likely to be affected by changes in rainfall patterns and the possible scale of adaptation required in order to cope with these changes.

**Figure 8: Initial investigations on the possible impact of climate change on the Brue Valley (Upper and Lower Brue Drainage Board areas)**

Area	Scope of investigations	Estimated cost
Brue Valley	Initial study on the possible implications of climate change on water management in the Brue Valley, identifying those areas that are most likely to be affected by changes in rainfall patterns and the possible scale of adaptation required in order to cope with these changes.	£12,000

## **5. Maintenance of watercourses**

Both the Drainage Boards and Environment Agency have implemented sympathetic watercourse maintenance practices in parts of the Brue Valley in recent years. This has enhanced habitat quality, helped stabilise ditch profiles and vegetation communities, and successfully demonstrated the value of sensitive maintenance. In particular, the Drainage Boards will need to work closely with their contractors to understand the impacts of changes in maintenance practices and identify where adjustments are needed to maintain habitat quality and the function of the water management system (e.g. occasional scrub control and appropriate management of bank profiles where ditches have started to close in due to poaching by cattle).

The Drainage Boards will use this experience to develop appropriate guidance for watercourse maintenance and provide training and monitoring for operators and land managers. The Boards will also continue to monitor watercourse maintenance and the condition of ditch habitats on the moors and report on activities and actions through the WLMP process. Agri-environment agreements for land in the Brue Valley should encourage and support rotational maintenance of field ditches, levelling of spoil banks, ditch re-profiling, retention of berms and other ditch habitat features, and the maintenance and management of gutter systems.

## 6. Action required by other parties for the water management options to be successful

The Drainage Boards fully recognise their leading role, in collaboration with the Environment Agency, in securing changes to the management of water in order to help achieve the water levels required for favourable condition in the SSSIs.

The Boards also appreciate that the management of water is only one part of achieving the goal of favourable condition in these wetland SSSIs and that other parties also have major roles to play, including rate-payers (farmers), the Environment Agency, Natural England and the other Competent Authorities (as defined by the Habitat Regulations).

Figure 9 below sets out the crucial support and actions required from other parties in order to achieve favourable condition in the priority SSSIs in the Brue Valley.

**Figure 9: Action required by other parties**

Party	Support and action required
Rate-payers (farmers)	<ul style="list-style-type: none"> <li>• Understanding and appreciating how the proposed options for change may affect their farming enterprises or properties;</li> <li>• Adapting their farming enterprises in order to accommodate the proposed changes in water management;</li> <li>• Seeking additional financial support from the Entry Level or Higher Level Stewardship schemes to help adapt to the proposed changes in water management.</li> </ul>
Environment Agency	<ul style="list-style-type: none"> <li>• Assessing the implications of the proposed options on the current management of the Agency's structures and watercourses;</li> <li>• Adapting the management of the Agency's structures and watercourses to accommodate the proposed changes in water management;</li> <li>• Considering the opportunities for the Drainage Boards to own or operate some key structures (currently owned by the Agency) which would enable the Boards to take on a fuller responsibility for achieving water management for favourable condition;</li> <li>• Making grants available to the Drainage Boards so they might carry out the scheme development and capital works required;</li> <li>• Sharing data on water levels and water management with the Drainage Boards.</li> </ul>
Natural England	<ul style="list-style-type: none"> <li>• Assessing the likelihood of the proposed options for water management helping to achieve favourable condition in the priority SSSIs;</li> <li>• Encouraging farmers to apply for Entry Level or Higher Level Stewardship agreements so that they might adapt their farming enterprises to accommodate the proposed changes;</li> <li>• Securing sufficient funds in the Environmental Stewardship scheme to support about 1130 ha of farming in wetter conditions.</li> </ul>
Other Competent Authorities e.g. County and District Authorities	<ul style="list-style-type: none"> <li>• Ensuring that their decisions or actions do not compromise the Boards ability to manage water in order to help achieve favourable condition.</li> </ul>

## 7. Proposed consultation with other parties

The Drainage Boards recognise the importance of working with others in order to change the management of water in the Brue Valley. As a result, the Boards propose to carry out an extensive programme of consultation and collaborative work in 2007 in order to explain the options for changing the management of water, as set out in Figure 10 below. This will enable the Boards to decide which options to develop into full improvement schemes in 2008.

In order to carry out the extensive programme of explanation required to secure the proposed changes in water management, the Drainage Boards propose to adopt the following programme for consultation over the next two years. This programme is estimated to have a cost of about £21,000 in 2007-08 and about £50,000 in 2008-09.

**Figure 10: Proposals for consultation with other parties in 2007 and 2008**

Timescale	Consultation and collaborative work
March 2007	<ul style="list-style-type: none"> <li>• The two Drainage Boards adopt the Draft Stage 2 Plan for the purpose of consultation other parties.</li> </ul>
April – June 2007	<ul style="list-style-type: none"> <li>• Collective meetings with the Environment Agency, Natural England and other Competent Authorities to secure their support and agreement in principle for the Draft Stage 2 Plan.</li> </ul>
July 2007 – March 2008	<ul style="list-style-type: none"> <li>• Collective meetings with rate-payers to explain the options for change being considered by the Drainage Boards;</li> <li>• Initial meetings held with each rate-payer that might be affected by the changes in water management, to explain the options being considered and to receive their comments on the options;</li> <li>• Collective meetings with the Competent Authorities to keep them informed on progress with negotiating the proposed changes in water management;</li> <li>• Collective meetings with Parish Councils to seek their views on the options being considered for improvements regarding the management of water.</li> </ul>
March 2008	<ul style="list-style-type: none"> <li>• Progress reported to the Drainage Boards on the responses to the proposed options;</li> <li>• Adoption of the Approved Stage 2 Plan by the Drainage Boards setting out in principle the proposed capital improvement schemes to be implemented;</li> <li>• Agreement on the work to be carried out in 2008-09 and the schemes to be developed or implemented.</li> </ul>
April 2008 – March 2009	<ul style="list-style-type: none"> <li>• Work with the farmers in each SSSI who want to apply for the EL and/or HL Stewardship scheme to support their farming enterprise when the option for changing water management is implemented by the Drainage Board.</li> <li>• Collective meetings with the Competent Authorities to keep them informed on progress with negotiating the proposed changes in water management</li> </ul>
March 2009	<ul style="list-style-type: none"> <li>• Progress reported to the Drainage Boards on the responses to the proposed schemes for change;</li> <li>• Agreement on the work to be carried out in 2009 - 2011 and the capital improvement schemes to be implemented.</li> </ul>

## 8. Proposed timetable

The implementation of the Stage 2 Plan will be a substantial piece of work for the Drainage Boards over the next five years. It will involve the Boards in:

- Further assessments of the options for changing the management of water, and developing the most appropriate options into capital improvement schemes which can then be implemented;
- Explaining the options being considered for changes in water management to those rate-payers who are likely to be affected, and securing the support of the rate-payers owning the majority of the land likely to be affected;
- Securing support for the options from the key Authorities and Agencies who are also helping to achieve the objective of favourable condition of the SSSIs, particularly the Environment Agency and Natural England;
- Securing additional project funds to implement the improvement schemes approved by the Drainage Boards;
- Implementing the capital improvement schemes and reporting on their success.

In order to make good progress towards these goals, the Drainage Boards propose to adopt the following timetables for its work over the next two years.

**Figure 11: Proposed timetable for 2007 – 2008**

Date	Actions
End March 2007	<ul style="list-style-type: none"> <li>• Approval by the two Drainage Boards of the options to change the management of water which should be investigated further, as set out in the Draft Stage 2 Plan.</li> </ul>
April – June 2007	<ul style="list-style-type: none"> <li>• Preparing a Costed Action Plan for the Brue Valley, and submitting this to the Environment Agency for inclusion within the Agency's Medium Term Programme so that project funding is made available to the Drainage Boards;</li> <li>• Gaining support and agreement in principle from the other Competent Authorities, particularly the Environment Agency and Natural England;</li> <li>• Reporting back to the Drainage Boards.</li> </ul>
July 2007 to March 2008	<ul style="list-style-type: none"> <li>• Explaining to rate payers the options to change the management of water, receiving their comments, reporting back to Drainage Boards;</li> <li>• Collaborative working with other Competent Authorities, particularly the Environment Agency and Natural England;</li> <li>• Informing Parish Councils of the options to change the management of water being considered by the Drainage Boards;</li> <li>• Investigating further the options to change the management of water and outline schemes of implementation and management drawn up;</li> <li>• Reporting back to the Drainage Boards.</li> </ul>
End of March 2008	<ul style="list-style-type: none"> <li>• Approval in principle by the two Drainage Boards of the capital improvement schemes to change water management which are to be implemented, via the adoption of an Approved Stage 2 Plan;</li> <li>• Some simple schemes to change the management of water may be approved by the Drainage Boards for implementation at this stage, particularly if these could help to progress the other schemes by demonstrating good practice or what may be happening when the management of water is changed in other areas or in other ways.</li> </ul>

**Figure 12: Proposed timetable for 2008 – 2009**

April 2008 to March 2009	<ul style="list-style-type: none"> <li>• Working with the farmers in each SSSI who want to apply for the EL and/or HL Stewardship scheme to support their farming enterprise when the schemes for changing the management of water is implemented by the Drainage Board;</li> <li>• Collaborative working with other Competent Authorities, particularly the Environment Agency and Natural England;</li> <li>• Developing capital improvement schemes in detail for changing the management of water, so that they can be approved for implementation;</li> <li>• Implementing the capital improvement schemes to change the management of water which were approved by the Drainage Boards in 2007;</li> <li>• Reporting back to the Drainage Boards.</li> </ul>
End of March 2009	<ul style="list-style-type: none"> <li>• The two Drainage Boards agree the detailed capital improvement schemes for changing the management of water that are to be implemented.</li> </ul>
April 2009 onwards	<ul style="list-style-type: none"> <li>• Phased implementation of the capital improvement schemes to change the management of water;</li> <li>• Monitoring and reporting on progress with implementing the schemes.</li> </ul>

The timetable for the remaining period of the Stage 2 Plan (i.e. from April 2009 until the end of 2011) will be determined by the nature of the improvement schemes approved for implementation by each of the Drainage Boards.

## **9. Summary of costs for major elements of the Draft Stage 2 Plan**

A wide range of the actions proposed in the Stage 2 Plan have cost implications for Drainage Boards. These include the extensive programme of consultation and collaborative work with rate-payers and others which will be crucial to the success of the Plan, further investigations to determine which options to consider and, in the longer term, the implementation of a significant number of capital improvement schemes.

Figure 13 draws together the estimated costs of the major elements of work proposed in the Draft Stage 2 Plan. They are intended to give a broad estimate of relative costs, and only reflect the additional external costs to the Drainage Boards of carrying out the proposed work. These estimates do not include the internal costs to the Boards (e.g. Officer time, office overheads and expenses etc), or the additional costs of managing and maintaining the new or changed structures in the long term.

The Boards will also need to estimate the annual management costs, and likely maintenance costs of the new regimes and water control structures, when they are considering which capital improvement schemes they would like to implement.

**Figure 13: Summary of estimated costs for the major elements of the Stage 2 Plan**

Year	Drainage Board	Item	Total estimated external costs
2007 -08	• Both	• Investigations into the operation of the South Drain and the North Drain with the Environment Agency (Phase 1, 50% of estimated costs).	£11,500
	• Both, but Lower Brue has the largest share of the work	• Consultation programme for the Draft Stage 2 Plan regarding Catcott, Edington & Chilton Moors SSSI and Tealham and Tadham Moors SSSI, and Westhay Moor SSSI to a lesser extent;	£21,000
	• Upper Brue	• Investigations into options for water management on Westhay Moor SSSI;	£12,500
2008-09	• Both	• Investigations into the operation of the South Drain and the North Drain with the Environment Agency (Phase 2, 50% of estimated costs).	£11,500
	• Both, but Lower Brue has the largest share of the work	• Consultation programme for the Draft Stage 2 Plan regarding Catcott, Edington & Chilton Moors SSSI and Tealham and Tadham Moors SSSI, and Westhay Moor SSSI to a lesser extent;	£50,400
	• Upper Brue	• Investigations into water management in other parts of the Upper Brue Valley	£6,000
2009 onwards	• Both	• Initial investigations into the possible implications of climate change on water management in the Brue Valley.	£12,000
	• Lower Brue	• Catcott, Edington and Chilton Moors – favourable condition work;	£828,000
		• Tealham and Tadham Moors – favourable condition work;	£426,000
• Upper Brue	• Catcott, Edington and Chilton Moors – favourable condition work;	£166,000	

**Brue Valley Water Level Management Plan 2006- 2011:Draft Stage 2 Plan**  
**Appendix 1: Options for change on Catcott, Edington & Chilton Moors SSSI**

**Area – Catcott Grounds and Burtle Whites**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	<p>Approx. 130 ha of winter splash and 25 ha of shallow water conditions in winter achieved by:</p> <ul style="list-style-type: none"> <li>• Installing new tilting weirs to enable water levels to be managed more effectively;</li> <li>• Allowing water levels in Manor Rhyne and Burtle Wall Rhyne to rise on occasions during the winter so that the fields become splashy before returning to lower levels;</li> <li>• Possibly supplying water to the area in winter from the River Brue to the north;</li> <li>• Holding winter rainfall;</li> <li>• Improved rhyne connections within the area.</li> </ul>	<p>Some winter splash will remain on the fields into the spring, and the area is a suitable target for breeding waders in the spring although the whole area may not have a guaranteed water supply at a suitable level.</p>	<p>No change</p>
<b>Target water levels</b>	<p>Current: not penned so at South Drain winter level of 1.52 m AOD</p> <p>Normal winter water levels in Manor Rhyne would be about 1.70 m AOD to allow Burtle Moor Rhyne to remain low, but would be raised to 2.00 m AOD for short periods each winter so as to create splash conditions on Catcott Grounds and on Burtle Whites.</p>	<p>Current summer pen level: 1.68 m AOD</p> <p>Proposed spring water level: 1.80 - 1.90 m AOD</p>	<p>Current summer pen level: 1.68 m AOD</p> <p>Proposed summer water level: 1.68 m AOD</p>
<b>Water supply</b>	<p>The area could be supplied by high levels in the River Brue to the north.</p>	<p>From the Black Ditch</p>	<p>From the Black Ditch.</p>

**Area – Catcott Grounds and Burtle Whites (continued)**

<b>Evacuation of water</b>	Surplus water drains through Manor Rhyne into the Black Ditch via a new tilting weir.	Surplus water drains through Manor Rhyne into the Black Ditch via a new tilting weir.	Surplus water drains through Manor Rhyne into the Black Ditch via a new tilting weir.
<b>Works required</b>	<ul style="list-style-type: none"> <li>• Install new tilting weir in the eastern end of Manor Rhyne where it joins the Black Ditch;</li> <li>• Install new tilting weir in the eastern end of Burtle Moor Rhyne where it joins the Manor Rhyne;</li> <li>• Consider installing a new inlet with a suitable control structure to supply water to the area from the River Brue in winter and spring;</li> <li>• Install bays with one-way flap valves in southern ends of Burtle Moor Rhyne and Manor Rhyne (if ground levels require)</li> <li>• Identify and block field ditches connected directly to IDB rhyne that might be held at lower levels during the winter and spring.</li> </ul>		
<b>Related works</b>	None identified as yet		
<b>No. of ratepayers likely to be affected</b>	11		

**Catcott, Edington & Chilton Moors SSSI  
Area – Burtle Moor South**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	<p>Approx. 95 ha of splash conditions in winter achieved by:</p> <ul style="list-style-type: none"> <li>• Changing the drainage pattern of the area from west to east so that it is supplied from/drains to the Black Ditch</li> <li>• Linking area to the Black Ditch by two new tilting weirs;</li> <li>• Holding winter rainfall;</li> <li>• Improved rhyne connections within the area.</li> </ul>	<p>Some winter splash will remain on the fields into the spring but area is not a specific target for water levels for breeding waders.</p>	<p>No change</p>
<b>Target water levels</b>	<p>Current: not penned so at South Drain winter level of 1.52 m AOD</p> <p>Proposed winter water level: 1.70 – 1.80 m AOD</p>	<p>Current summer pen level: 1.68 m AOD</p> <p>Proposed spring water level: 1.68 m AOD</p>	<p>Current summer pen level: 1.68 m AOD</p> <p>Proposed summer water level: 1.68 m AOD</p>
<b>Water supply</b>	<p>No obvious supply of water in winter, but could be supplied by high levels in the Black Ditch.</p>	<p>From the Black Ditch</p>	<p>From the Black Ditch.</p>
<b>Evacuation of water</b>	<p>Surplus water drains via new tilting weirs into the Black Ditch.</p>	<p>Surplus water drains via new tilting weirs into the Black Ditch.</p>	<p>Surplus water drains via new tilting weirs into the Black Ditch.</p>
<b>Works required</b>	<ul style="list-style-type: none"> <li>• Extend Huntspill Drove Rhyne to link with the Black Ditch and install a new tilting weir at the eastern end where it joins the Back Ditch;</li> <li>• Extend Middle Rhyne eastwards to link with the Black Ditch and install a new tilting weir at the eastern end where it joins the Back Ditch;</li> <li>• Block western ends of Huntspill Drove Rhyne and Middle Rhyne about 200 m to the east of Catcott Broad Drove;</li> <li>• Identify and block field ditches connected directly IDB rhyne that might be held at lower levels during the winter and spring.</li> </ul>		
<b>Related works</b>	<ul style="list-style-type: none"> <li>• Install new tilting weir mechanism in existing outfall (with an old tilting weir mechanism) at Catcott Burtle to the north west of Catcott Bridge</li> </ul>		
<b>No. of ratepayers likely to be affected</b>	13		

**Catcott, Edington & Chilton Moors SSSI  
Area – Catcott Lows**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	<p>Approx. 100 ha of winter splash and 60 ha of shallow water conditions in winter achieved by:</p> <ul style="list-style-type: none"> <li>• Installing new tilting weirs to enable water levels to be managed more effectively;</li> <li>• Using winter supply from the Nidon Rhyne to achieve higher water levels when appropriate;</li> <li>• Holding winter rainfall;</li> <li>• Improved rhyne connections within the area.</li> </ul>	<p>Some winter splash will remain on the fields into the spring, and the central parts of Catcott Lows and the fields adjacent to the Black Ditch should be suitable as a target area for breeding waders (approx 35 ha.).</p>	<p>No change</p>
<b>Target water levels</b>	<p>Current: not penned so at South Drain winter level of 1.52 m AOD</p> <p>Proposed winter water level: 1.70 – 1.80 m AOD</p>	<p>Current summer pen level: 1.68 m AOD</p> <p>Proposed spring water level: 1.68 m AOD, but a higher spring level for the Lows and Catcott Heath may be obtained via a supply from the Nidon Rhyne</p>	<p>Current summer pen level: 1.68 m AOD</p> <p>Proposed summer water level: 1.68 m AOD</p>
<b>Water supply</b>	<p>From the Nidon Rhyne</p>	<p>From the South Drain and the Nidon Rhyne</p>	<p>From the South Drain and the Nidon Rhyne</p>
<b>Evacuation of water</b>	<p>Surplus water drains via:</p> <ul style="list-style-type: none"> <li>• New tilting weir into South Drain at Catcott Bridge;</li> <li>• New tilting weir into Catcott Wall Rhyne which has a new outfall to the South Drain</li> <li>• New outfall from the Lows into the Black Ditch (if required).</li> </ul>	<p>Surplus water drains via:</p> <ul style="list-style-type: none"> <li>• New tilting weir into South Drain at Catcott Bridge;</li> <li>• New tilting weir into Catcott Wall Rhyne which has a new outfall to the South Drain</li> </ul> <p>New outfall from the Lows into the Black Ditch (if required).</p>	<p>Surplus water drains via:</p> <ul style="list-style-type: none"> <li>• New tilting weir into South Drain at Catcott Bridge;</li> <li>• New tilting weir into Catcott Wall Rhyne which has a new outfall to the South Drain</li> </ul>

### Area – Catcott Lows (continued)

<b>Works required</b>	<ul style="list-style-type: none"> <li>• Install new tilting weir mechanism in existing outfall from the Back Ditch to South Drain to the southeast of Catcott Bridge</li> <li>• Install new tilting weir in West Drove Rhyne at junction with Catcott Wall Rhyne;</li> <li>• Install new tilting weir at southern end of Lady’s Drove Rhyne;</li> <li>• Install new tilting weir in a new IDB rhyne towards the eastern end of Higher Ropes Drove;</li> <li>• Install new tilting weir in the Black Ditch, just downstream of its junction with the Nidon Rhyne;</li> <li>• Install new tilting weir in the Nidon Rhyne just west of its junction with the Black Ditch</li> <li>• Install new IDB rhyne, water supply and tilting weir off the Nidon Rhyne approx 270 metres west of junction with the Black Ditch;</li> <li>• Extend and improve IDB rhyne connections to Catcott Wall Rhyne from around West, Middle and East Drowes;</li> <li>• Identify and block field ditches connected directly IDB rhyne that might be held at lower levels during the winter and spring.</li> </ul>
<b>Related works</b>	<ul style="list-style-type: none"> <li>• Install new outfall and tilting weir linking Catcott Wall Rhyne and the Back Ditch to South Drain to the southwest of Catcott Bridge.</li> </ul>
<b>No. of ratepayers likely to be affected</b>	15

**Catcott, Edington & Chilton Moors SSSI  
Area – Chilton Moor South**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	Approx. 30 ha of winter splash and 20 ha of shallow water conditions in winter achieved by: <ul style="list-style-type: none"> <li>Controlling water levels in the Back Ditch by means of a new tilting weir;</li> <li>Linking the area to the Nidon Rhyne by a new tilting weir;</li> <li>Holding winter rainfall;</li> <li>Improved rhyne connections within the area.</li> </ul>	Some winter splash will remain on the fields into the spring, and the lower lying fields to the west of the disused railway should be suitable as a target area for breeding waders (approx 20 - 30 ha.).	No change
<b>Target water levels</b>	Current: not penned so at South Drain winter level of 1.52 m AOD  Proposed winter water level: 1.80-1.90 m AOD	Current summer pen level: 1.68 m AOD  Proposed spring water level: 1.70 – 1.80 m AOD	Current summer pen level: 1.68 m AOD  Proposed summer water level: 1.68 m AOD
<b>Water supply</b>	From the Nidon Rhyne	From the South Drain and the Nidon Rhyne	From the South Drain and the Nidon Rhyne (if required)
<b>Evacuation of water</b>	Surplus water drains via a new tilting weir into the South Drain.	Surplus water drains via a new tilting weir into the South Drain.	Surplus water drains via a new tilting weir into the South Drain.
<b>Works required</b>	<ul style="list-style-type: none"> <li>Install a new tilting weir mechanism in existing outfall from the Back Ditch to South Drain to the southwest of Chilton Moor Bridge;</li> <li>Create a new IDB rhyne from the Nidon Rhyne to the Back Ditch and install a new tilting weir at the southern end to improve the water supply to the area from the Nidon;</li> <li>Block the western end of the Back Ditch at West Drove;</li> <li>Identify and block field ditches connected directly IDB rhynes that might be held at lower levels during the winter and spring.</li> </ul>		
<b>Related works</b>	<ul style="list-style-type: none"> <li>Install new tilting weir mechanism in the existing outfall from the Manor Rhyne to the South Drain to the southwest of West Bridge.</li> </ul>		
<b>No. of ratepayers likely to be affected</b>	8		

**Catcott, Edington & Chilton Moors SSSI  
Area – West Edington Heath**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	Approx. 85 ha of winter splash and 30 ha of shallow water conditions in winter achieved by: <ul style="list-style-type: none"> <li>Controlling water levels in the Back Ditch by means of a new tilting weir;</li> <li>Linking the area to the Nidon Rhyne by two new tilting weirs;</li> <li>Retaining effective drainage for the properties along the Edington Road;</li> <li>Holding winter rainfall;</li> <li>Improved rhyne connections within the area.</li> </ul>	Some winter splash will remain on the fields into the spring, and the lower lying fields to the west of Back Drove should be suitable as a target area for breeding waders (approx 20 ha).	No change
<b>Target water levels</b>	Current: not penned so at South Drain winter level of 1.52 m AOD  Proposed winter water level: 1.70-1.80 m AOD	Current summer pen level: 1.68 m AOD  Proposed spring water level: 1.68 m AOD	Current summer pen level: 1.68 m AOD  Proposed summer water level: 1.68 m AOD
<b>Water supply</b>	From the Nidon Rhyne	From the South Drain and the Nidon Rhyne	From the South Drain and the Nidon Rhyne (if required)
<b>Evacuation of water</b>	Surplus water drains via a new tilting weir into the South Drain.	Surplus water drains via a new tilting weir into the South Drain.	Surplus water drains via a new tilting weir into the South Drain.
<b>Works required</b>	<ul style="list-style-type: none"> <li>Install a new tilting weir mechanism in existing outfall (with an old tilting weir mechanism) from the Back Ditch to South Drain to the southeast of Chilton Moor Bridge;</li> <li>Create a new IDB rhyne from the Nidon Rhyne to the Whitebor Rhyne and install a new tilting weir at the southern end to improve the water supply to the area from the Nidon;</li> <li>Install a new tilting weir at the southern end of Chilton Landshire Rhyne where it joins the Nidon Rhyne;</li> <li>Ensure the drainage around the properties along Edington Road goes into IDB rhyne that will have suitably low winter water levels;</li> <li>Block the eastern end of the Back Ditch at Back Drove;</li> <li>Identify and block field ditches connected directly IDB rhyne that might be held at lower levels during the winter and spring.</li> </ul>		

**Area – West Edington Heath (continued)**

<b>Related works</b>	<ul style="list-style-type: none"><li>• Install new outfall and tilting weir linking Catcott Wall Rhyne and the Back Ditch to South Drain to the southwest of Catcott Bridge.</li></ul>
<b>No. of ratepayers likely to be affected</b>	17

**Catcott, Edington & Chilton Moors SSSI  
Area – East Edington Heath**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	Approx. 60ha of winter splash and <5 ha of shallow water conditions in winter achieved by: <ul style="list-style-type: none"> <li>Controlling water levels in the New Edington Road East Side Rhyne by means of a new tilting weir;</li> <li>Retaining effective drainage for the properties along the Edington road;</li> <li>Holding winter rainfall.</li> </ul>	Some winter splash will remain on the fields into the spring but area is not a specific target for water levels for breeding waders.	No change
<b>Target water levels</b>	Current: not penned so at South Drain winter level of 1.52 m AOD  Proposed winter water level: 1.70-1.80 m AOD	Current summer pen level: 1.68 m AOD  Proposed spring water level: 1.68 m AOD	Current summer pen level: 1.68 m AOD  Proposed summer water level: 1.68 m AOD
<b>Water supply</b>	There is no obvious high level winter water supply to the area other than rainfall.	From the South Drain.	From the South Drain.
<b>Evacuation of water</b>	Surplus water drains via a new tilting weir in the Back Ditch into the South Drain.	Surplus water drains via a new tilting weir in the Back Ditch into the South Drain.	Surplus water drains via a new tilting weir in the Back Ditch into the South Drain.
<b>Works required</b>	<ul style="list-style-type: none"> <li>Install new outfall and tilting weir linking Catcott Wall Rhyne and the Back Ditch to South Drain to the southwest of Catcott Bridge.</li> <li>Install a new tilting weir in New Edington Heath East Side Rhyne just south of East Heath Drove;</li> <li>Ensure the drainage around the properties along Edington Road goes into IDB rhynes that will have suitably low winter water levels;</li> <li>Replace existing crossing over Catcott Wall Ditch;</li> <li>Block the eastern end of the Back Ditch at Back Drove;</li> <li>Identify and block field ditches connected directly IDB rhynes that might be held at lower levels during the winter and spring.</li> </ul>		
<b>Related works</b>	None identified as yet		
<b>No. of ratepayers likely to be affected</b>	12		

**Catcott, Edington & Chilton Moors SSSI  
Area – Manor Rhyne**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	Approx. 30ha of winter splash conditions achieved by: <ul style="list-style-type: none"> <li>Controlling water levels in Manor Rhyne by means of a new tilting weir;</li> <li>Holding winter rainfall.</li> </ul>	Some winter splash will remain on the fields into the spring but area is not a specific target for water levels for breeding waders.	No change
<b>Target water levels</b>	Current: not penned so at South Drain winter level of 1.52 m AOD  Proposed winter water level: 1.80 m AOD	Current summer pen level: 1.68 m AOD  Proposed spring water level: 1.68 m AOD	Current summer pen level: 1.68 m AOD  Proposed summer water level: 1.68 m AOD
<b>Water supply</b>	From the Nidon Rhyne	From the South Drain and the Nidon Rhyne (if required).	From the South Drain and the Nidon Rhyne (if required).
<b>Evacuation of water</b>	Surplus water drains via a new tilting weir in the Back Ditch into the South Drain.	Surplus water drains via a new tilting weir in the Back Ditch into the South Drain.	Surplus water drains via a new tilting weir in the Back Ditch into the South Drain.
<b>Works required</b>	<ul style="list-style-type: none"> <li>Install a new tilting weir mechanism in existing outfall from Manor Rhyne and the Back Ditch to South Drain to the southwest of West Bridge.</li> <li>Block the eastern end of the Back Ditch at West Drove;</li> <li>Identify and block field ditches connected directly IDB rhynes that might be held at lower levels during the winter and spring.</li> </ul>		
<b>Related works</b>	None identified as yet		
<b>No. of ratepayers likely to be affected</b>	4		

**Catcott, Edington & Chilton Moors SSSI  
Area – Chilton Moor North**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	Approx. 90 ha of winter splash conditions achieved by: <ul style="list-style-type: none"> <li>• Installing two new tilting weirs to enable water levels to be managed more effectively;</li> <li>• Holding winter rainfall;</li> <li>• Improving rhyne connections within the area.</li> </ul>	Some winter splash will remain on the fields into the spring but area is not a specific target for water levels for breeding waders.	No change
<b>Target water levels</b>	Current: not penned so at South Drain winter level of 1.52 m AOD  Proposed winter water level: 1.70 – 1.80 m AOD	Current summer pen level: 1.68 m AOD  Proposed spring water level: 1.68 m AOD	Current summer pen level: 1.68 m AOD  Proposed summer water level: 1.68 m AOD
<b>Water supply</b>	No obvious supply of water in winter except by rainfall.	From the South Drain and West Burtle Rhyne	From the South Drain and West Burtle Rhyne
<b>Evacuation of water</b>	Surplus water drains via new tilting weirs into South Drain and West Burtle Rhyne	Surplus water drains via new tilting weirs into South Drain and West Burtle Rhyne	Surplus water drains via new tilting weirs into South Drain and West Burtle Rhyne
<b>Works required</b>	<ul style="list-style-type: none"> <li>• Install new tilting weir mechanism in existing outfall from the Back Ditch to South Drain at Chilton Moor Bridge;</li> <li>• Install new tilting weir in Middle Furlong Rhyne near junction of West Drove and Middle Furlong Drove;</li> <li>• Extend and improve IDB rhyne connections to north of Plain Heath Drove;</li> <li>• Block the Back Ditch by West Bridge;</li> <li>• Identify and block field ditches connected directly IDB rhyne that might be held at lower levels during the winter and spring.</li> </ul>		
<b>Related works</b>	<ul style="list-style-type: none"> <li>• Install new tilting weir mechanism in existing outfall from West Burtle Rhyne and the Back Ditch to South Drain to the northwest of West Bridge.</li> </ul>		
<b>No. of ratepayers likely to be affected</b>	7		

**Catcott, Edington and Chilton Moors SSSI**  
**Area: Black Ditch – north and south (Upper Brue Drainage Board)**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	Enable more effective management of water by controlling water levels in the Black Ditch (north & south) by providing an opportunity to keep them at different water levels to the South Drain.	No change.	No change
<b>Target water levels</b>	Current: not penned so at South Drain winter level of 1.52 m AOD  Proposed winter water level: not defined as yet but could range between winter and summer pen levels.	Current summer pen level: 1.68 m AOD  Proposed spring water level: up to 1.68 m AOD	Current summer pen level: 1.68 m AOD  Proposed summer water level: 1.68 m AOD
<b>Water supply</b>	From the South Drain during flows at high levels.	From the South Drain.	From the South Drain.
<b>Evacuation of water</b>	Surplus water drains via new tilting weirs into the South Drain.	Surplus water drains via new tilting weirs into the South Drain.	Surplus water drains via new tilting weirs into the South Drain.
<b>Works required</b>	<ul style="list-style-type: none"> <li>• Install a new tilting weir in the northern end of the Black Ditch (south) where it joins the South Drain;</li> <li>• Install a new tilting weir in the southern end of the Black Ditch (north) where it joins the South Drain.</li> </ul>		
<b>Related works</b>	None identified as yet		
<b>No. of ratepayers likely to be affected</b>			

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Appendix 2: Options for change on Tealham and Tadham Moors SSSI**

**Area: Tealham Moor North – to the north of the North Drain and west of Sand Drove**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	Approx. 70 ha of winter splash and 30 ha of shallow water conditions in winter achieved by: <ul style="list-style-type: none"> <li>Controlling water levels in the IDB rhyne to the north of the North Drain by means of new tilting weirs;</li> <li>Possibly linking the area to the Shipham Rhyne to the west by a new tilting weir to supply water at a higher level in winter and spring;</li> <li>Holding winter rainfall;</li> <li>Improved rhyne connections within area.</li> </ul>	Some winter splash will remain on the fields into the spring, and the area is a suitable target for breeding waders in the spring, particularly if it can be supplied with a higher level of water in the spring from the Shipham Rhyne.	No change
<b>Target water levels</b>	Current: not penned so at North Drain winter level of 1.68 m AOD  Proposed winter water level: 2.00 – 2.10 m AOD	Current summer pen level: 1.86 m AOD  Proposed spring water level: 1.90 – 2.00 m AOD	Current summer pen level: 1.86 m AOD  Proposed summer water level: 1.90 m AOD
<b>Water supply</b>	From the North Drain during flows at high levels, and possibly from the Shipham Rhyne to the west.	From the North Drain during flows at high levels, and possibly from the Shipham Rhyne to the west.	From the North Drain.
<b>Evacuation of water</b>	Surplus water drains via two new tilting weirs into the North Drain.	Surplus water drains via two new tilting weirs into the North Drain.	Surplus water drains via two new tilting weirs into the North Drain.
<b>Works required</b>	<ul style="list-style-type: none"> <li>Install a new tilting weir in the southern end of Panborough Rhyne where it joins the North Drain;</li> <li>Install a new tilting weir in the Panborough Rhyne about 400 metres west of Sand Drove;</li> <li>Install a new tilting weir in the southern end of Jack's Drove Rhyne (east) where it joins the North Drain;</li> <li>Consider linking the area to the Shipham Rhyne to the west if this could supply water at a higher level in winter and spring;</li> <li>Block the southern end of Jack's Drove Rhyne (west) at Jack's Drove Bridge;</li> <li>Block the southern end of Tealham Moor and Kid Gate Rhyne where it joins the North Drain to the north of Rattling Bow;</li> <li>Identify and block field ditches connected directly to the North Drain</li> </ul>		

**Area: Tealham Moor North – to the north of the North Drain and west of Sand Drove (continued)**

<b>Related works</b>	None identified as yet
<b>No. of ratepayers likely to be affected</b>	12

## Tealham and Tadham Moors SSSI

### Area: Tealham Southwest – to the south of the North Drain and west of Jack’s Drove

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	<p>Approx. 70 ha of winter splash conditions achieved by:</p> <ul style="list-style-type: none"> <li>Controlling water levels in the IDB rhynes to the south of the North Drain by means of two new tilting weirs;</li> <li>Possibly supplying water to the area at a higher level in winter and in spring from the River Brue to the south;</li> <li>Holding winter rainfall;</li> <li>Improved rhyne connections within area.</li> </ul>	<p>Some winter splash will remain on the fields into the spring, and the area is a suitable target for breeding waders in the spring although it does not have a guaranteed water supply.</p>	<p>No change</p>
<b>Target water levels</b>	<p>Current: not panned so at North Drain winter level of 1.68 m AOD</p> <p>Proposed winter water level: 2.00 – 2.10 m AOD</p>	<p>Current summer pen level: 1.86 m AOD</p> <p>Proposed spring water level: 1.90 – 2.00 m AOD</p>	<p>Current summer pen level: 1.86 m AOD</p> <p>Proposed summer water level: 1.90 m AOD</p>
<b>Water supply</b>	<p>From the North Drain during flows at high levels, and possibly from the River Brue to the south.</p>	<p>From the North Drain during flows at high levels, and possibly from the River Brue to the south.</p>	<p>From the North Drain.</p>
<b>Evacuation of water</b>	<p>Surplus water drains via new tilting weirs into the North Drain.</p>	<p>Surplus water drains via new tilting weirs into the North Drain.</p>	<p>Surplus water drains via new tilting weirs into the North Drain.</p>
<b>Works required</b>	<ul style="list-style-type: none"> <li>Install a new tilting weir in the northern end of Jack’s Drove Rhyne (west) where it joins the North Drain;</li> <li>Install a new tilting weir in the northern end of Bounds Rhyne where it joins the North Drain;</li> <li>Consider supplying water to the area in winter and in spring from the River Brue to the south during high level flows (not priced);</li> <li>Consider installing a new control structure in Bounds Rhyne by Totney Drove so that the water levels on either side of Totney Drove can be managed separately (not priced);</li> <li>Block the western ends of Totney Drove Rhyne (north and south) at their junction with the North Drain</li> <li>Block the eastern end of Totney Drove Rhyne (south) at Jack’s Drove;</li> <li>Block the eastern end of Totney Drove (north) just to the west of Nut Tree Farm.</li> <li>Identify and block field ditches connected directly to the North Drain</li> </ul>		
<b>Related works</b>	<p>None identified as yet</p>		
<b>No. of ratepayers likely to be affected</b>	<p>8</p>		

## Tealham and Tadham Moors SSSI

### Area: Tealham Southeast – to the south of the North Drain and east of Jack’s Drove

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	Approx. 80 ha of winter splash conditions achieved by: <ul style="list-style-type: none"> <li>Controlling water levels in the IDB rhynes to the south of the North Drain by means of a new tilting weir;</li> <li>Holding winter rainfall;</li> <li>Improved rhyne connections within area.</li> </ul>	Some winter splash will remain on the fields into the spring, and the area is a suitable target for breeding waders in the spring although it does not have a guaranteed water supply at a suitable level.	No change
<b>Target water levels</b>	Current: not penned so at North Drain winter level of 1.68 m AOD  Proposed winter water level: 2.00 – 2.10 m AOD	Current summer pen level: 1.86 m AOD  Proposed spring water level: 1.85 - 1.90 m AOD	Current summer pen level: 1.86 m AOD  Proposed summer water level: 1.90 m AOD
<b>Water supply</b>	From the North Drain during flows at high levels.	From the North Drain during flows at high levels.	From the North Drain.
<b>Evacuation of water</b>	Surplus water drains via a new tilting weir into the North Drain.	Surplus water drains via a new tilting weir into the North Drain.	Surplus water drains via a new tilting weir into the North Drain.
<b>Works required</b>	<ul style="list-style-type: none"> <li>Install a new tilting weir in the northern end of Jack’s Drove Rhyne (east) where it joins the North Drain;</li> <li>Consider installing a new control structure in Jack’s Drove Rhyne (east) by Totney Drove so that the water levels on either side of Totney Drove can be managed separately (not priced);</li> <li>Block the western ends of Burnt Drove Rhyne (north and south) at their junction with Sand Drove Rhyne (east);</li> <li>Block the eastern end of Totney Drove Rhyne (south) at Sand Drove;</li> <li>Enable drainage from around Nut Tree Farm to reach Sand Drove Rhyne (west) which remains connected to the North Drain;</li> <li>Improve access e.g. along Burnt Drove;</li> <li>Identify and block field ditches connected directly to the North Drain</li> </ul>		
<b>Related works</b>	None identified as yet		
<b>No. of ratepayers likely to be affected</b>	9		

**Tealham and Tadham Moors SSSI  
Area: Aller Moor**

	<b>Winter</b> December – February	<b>Spring</b> March – Early June	<b>Summer</b> June - November
<b>Outline proposal for water management</b>	Approx. 85 ha of winter splash and 30 ha of shallow water conditions in winter achieved by: <ul style="list-style-type: none"> <li>Controlling water levels in the IDB rhynes to the north and to the south of the North Drain by means of new tilting weirs;</li> <li>Possibly using a new supply of water at a higher level in winter and spring from the Panborough Rhyne to the north;</li> <li>Holding winter rainfall;</li> <li>Improved rhyne connections within area.</li> </ul>	Some winter splash will remain on the fields into the spring, and the area is a suitable target for breeding waders in the spring although the whole area may not have a guaranteed water supply at a suitable level.	No change
<b>Target water levels</b>	Current: not penned so at North Drain winter level of 1.68 m AOD  Proposed winter water level: 2.00 – 2.10 m AOD	Current summer pen level: 1.86 m AOD  Proposed spring water level: 1.90 - 2.00 m AOD	Current summer pen level: 1.86 m AOD  Proposed summer water level: 1.90 m AOD
<b>Water supply</b>	From the North Drain during flows at high levels, and possibly from the Panborough Rhyne to the north (for the area north of the North Drain).	From the North Drain during flows at high levels, and possibly from the Panborough Rhyne to the north (for the area north of the North Drain).	From the North Drain.
<b>Evacuation of water</b>	Surplus water drains via new tilting weirs into Sand Drove Rhyne (east).	Surplus water drains via new tilting weirs into Sand Drove Rhyne (east).	Surplus water drains via new tilting weirs into Sand Drove Rhyne (east).



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**Appendix 3: Estimated costs for capital works on Catcott, Edington and Chilton Moors**

**Catcott, Edington & Chilton Moors SSSI**  
**Provisional cost estimates of options for changes in water management**

<b>Area – Catcott Grounds and Burtle Whites (approx. 155 ha)</b>	
<b>Works required:</b>	<b>Estimated costs (k)</b>
Install new tilting weir in the eastern end of Manor Rhyne where it joins the Black Ditch;	22
Install new tilting weir in the eastern end of Burtle Moor Rhyne where it joins the Manor Rhyne;	22
Consider installing new inlet from the River Brue to supply water;	50
Install bays with one-way flap valves in southern ends of Burtle Moor Rhyne and Manor Rhyne (if ground levels require)	20
Improve access along droves for works	4
New pipes under droves (none)	0
New pipes under gateways (two, provisionally)	4
Ditching works, including ditch blocking (approx 8 days);	2
<b>Approx total costs</b>	<b>124</b>

<b>Area – Burtle Moor South (approx. 95 ha)</b>	
<b>Works required:</b>	<b>Estimated costs (k)</b>
Extend Huntspill Drove Rhyne to link with the Black Ditch, install a new tilting weir where it joins the Back Ditch;	22
Extend Middle Rhyne eastwards to link with the Black Ditch, install a new tilting weir where it joins the Back Ditch;	22
Install new tilting weir mechanism in existing outfall from Catcott Burtle Rhyne to South Drain, northwest of Catcott Bridge	18
Improve access along droves for works	8
New pipes under droves (two)	6
New pipes under gateways (two, provisionally)	4
Ditching works, including ditch blocking (approx 8 days);	2
<b>Approx total costs</b>	<b>82</b>

<b>Area – Catcott Lows (approx. 160 ha)</b>	
<b>Works required:</b>	<b>Estimated costs (k)</b>
Install new tilting weir mechanism in existing outfall from the Back Ditch to South Drain, southeast of Catcott Bridge	18
Install new tilting weir in West Drove Rhyne at junction with Catcott Wall Rhyne;	22
Install new tilting weir at southern end of Lady's Drove Rhyne;	22
Install new tilting weir in a new IDB rhyne towards the eastern end of Higher Ropes Drove;	22
Install new tilting weir in the Black Ditch, just downstream of its junction with the Nidon Rhyne;	50
Install new tilting weir in the Nidon Rhyne just west of its junction with the Black Ditch	22
Install new IDB rhyne, water supply and tilting weir off the Nidon Rhyne west of junction with the Black Ditch;	22
Install box culvert crossing over the Black Ditch	6
Improve access along droves for works	10
New pipes under road (two)	30
New pipes under droves (five)	15
New pipes under gateways (three, provisionally)	6
Ditching works, including ditch blocking (approx 16 days);	4
<b>Approx total costs</b>	<b>249</b>

<b>Area – Chilton Moor South (approx. 50 ha)</b>	
<b>Works required:</b>	<b>Estimated costs (k)</b>
Install a new tilting weir mechanism in existing outfall from the Back Ditch to South Drain, southwest of Chilton Moor Bridge;	18
Install a new tilting weir at the southern end to improve the water supply to the area from the Nidon;	22
Improve access along droves for works	5
New pipes under droves (two)	6
New pipes under gateways (three, provisionally)	6
Ditching works, including ditch blocking (approx 8 days);	2
<b>Approx total costs</b>	<b>59</b>

### Appendix 3: Estimated costs for capital works on Catcott, Edington and Chilton Moors (continued)

<b>Area – West Edington Heath (approx. 115 ha)</b>		<b>Estimated costs (k)</b>
<b>Works required:</b>		
Install a new tilting weir mechanism in existing outfall from the Back Ditch to South Drain, southeast of Chilton Moor Bridge;		18
Create a new IDB rhyne from the Nidon Rhyne to the Whitebor Rhyne and install a new tilting weir at southern end;		22
Install a new tilting weir at the southern end of Chilton Landshire Rhyne where it joins the Nidon Rhyne;		22
Ensure the drainage around the properties along Edington Road goes into IDB rhyne that have suitable winter water levels;		6
Improve access along droves for works		4
New pipe under road		15
New pipes under droves (three)		9
New pipes under gateways (three, provisionally)		6
Ditching works, including ditch blocking (approx 12 days);		3
<b>Approx total costs</b>		<b>105</b>

<b>Area – East Edington Heath (approx. 65 ha)</b>		<b>Estimated costs (k)</b>
<b>Works required:</b>		
Install new outfall and tilting weir linking Catcott Wall Rhyne and the Back Ditch to South Drain, southwest of Catcott Bridge.		80
Install a new tilting weir in New Edington Heath East Side Rhyne just south of East Heath Drove;		22
Ensure drainage around the properties along Edington Road goes into IDB rhyne that have suitable winter water levels;		6
New crossing over Catcott Wall Ditch		4
Improve access along droves for works		6
New pipes under droves (none)		0
New pipes under gateways (two, provisionally)		4
Ditching works, including ditch blocking (approx 8 days);		2
<b>Approx total costs</b>		<b>124</b>

<b>Area – Manor Rhyne (approx. 30 ha)</b>		<b>Estimated costs (k)</b>
<b>Works required:</b>		
Install a new tilting weir mechanism in existing outfall from Manor Rhyne to South Drain, southwest of West Bridge.		18
Improve access along droves for works		2
New pipes under droves (none)		0
New pipes under gateways (one, provisionally)		2
Ditching works, including ditch blocking (approx 8 days);		2
<b>Approx total costs</b>		<b>24</b>

<b>Area – Chilton Moor North (approx. 90 ha)</b>		<b>Estimated costs (k)</b>
<b>Works required:</b>		
Install new tilting weir mechanism in existing outfall from the Back Ditch to South Drain at Chilton Moor Bridge;		18
Install new tilting weir in Middle Furlong Rhyne near junction of West Drove and Middle Furlong Drove;		22
Improve access along droves for works		8
New pipes under droves (one)		3
New pipes under gateways (provisional)		8
Ditching works, including ditch blocking (approx 8 days);		2
<b>Approx total costs</b>		<b>61</b>

<b>Area: Black Ditch connections with South Drain</b>		<b>Estimated costs (k)</b>
<b>Works required:</b>		
Install a new tilting weir in the southern end of the Black Ditch (north) where it joins the South Drain;		80
Install a new tilting weir in the northern end of the Black Ditch (south) where it joins the South Drain;		80
Improve access along droves for works		6
<b>Approx total costs</b>		<b>166</b>

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**Appendix 4: Estimated costs for capital works on Tealham and Tadham Moors**

**Tealham and Tadham Moors SSSI**

**Provisional cost estimates of options for changes in water management**

<b>Area: Tealham Moor North – to the north of the North Drain and west of Sand Drove (approx. 100 ha)</b>	
<b>Works required:</b>	<b>Estimated costs (k)</b>
Install a new tilting weir in the southern end of Panborough Rhyne where it joins the North Drain;	22
Install a new tilting weir in the Panborough Rhyne about 400 metres west of Sand Drove;	22
Install a new tilting weir in the southern end of Jack's Drove Rhyne (east) where it joins the North Drain;	22
Consider linking the area to the Shipham Rhyne to the west, with new pipe under road;	55
Improve access along droves for works	5
New pipes under droves (none)	0
New pipes under gateways (four, provisionally)	8
Ditching works, including ditch blocking (approx 12 days);	3
<b>Approx total costs</b>	<b>137</b>

<b>Area: Tealham Southwest – to the south of the North Drain and west of Jack's Drove (approx. 70 ha)</b>	
<b>Works required:</b>	<b>Estimated costs (k)</b>
Install a new tilting weir in the northern end of Jack's Drove Rhyne (west) where it joins the North Drain;	22
Install a new tilting weir in the northern end of Bounds Rhyne where it joins the North Drain;	22
Consider supplying water to the area in winter and in spring from the River Brue (not priced);	0
Consider installing a new control structure in Bounds Rhyne by Totney Drove (not priced);	0
Improve access along droves for works	5
New pipes under droves (none)	0
New pipes under gateways (three, provisionally)	6
Ditching works, including ditch blocking (approx 8 days);	2
<b>Approx total costs</b>	<b>57</b>

<b>Area: Tealham Southeast – to the south of the North Drain and east of Jack's Drove (approx. 80 ha)</b>	
<b>Works required:</b>	<b>Estimated costs (k)</b>
Install a new tilting weir in the northern end of Jack's Drove Rhyne (east) where it joins the North Drain;	22
Consider installing a new control structure in Jack's Drove Rhyne (east) by Totney Drove (not priced);	0
Enable drainage from around Nut Tree Farm to reach Sand Drove Rhyne (west) & so connected to the North Drain;	6
Improve access along droves for works	8
New pipes under droves (one)	3
New pipes under gateways (four, provisionally)	8
Ditching works, including ditch blocking (approx 8 days);	2
<b>Approx total costs</b>	<b>49</b>

<b>Area: Aller Moor (approx. 115 ha)</b>	
<b>Works required:</b>	<b>Estimated costs (k)</b>
Install a new tilting weir in a new IDB rhyne west of Blakeway Farm where it would join the North Drain;	22
Install a new tilting weir in the western end of a new IDB rhyne to the south of Aller Moor Drove;	22
Install a new tilting weir in the western end of Burnt Drove Rhyne, where it joins Sand Drove Rhyne (east);	22
Install a new tilting weir in the Panborough Rhyne to the east of Allermoor Farm;	22
Enable drainage from around Fir Tree Farm and the Bungalow to reach Sand Drove Rhyne (east);	5
Improve access along droves for works	8
New pipes under droves (three)	9
New pipes under gateways (32, provisionally)	64
Ditching works, including ditch blocking (approx 24 days);	6
<b>Approx total costs</b>	<b>180</b>

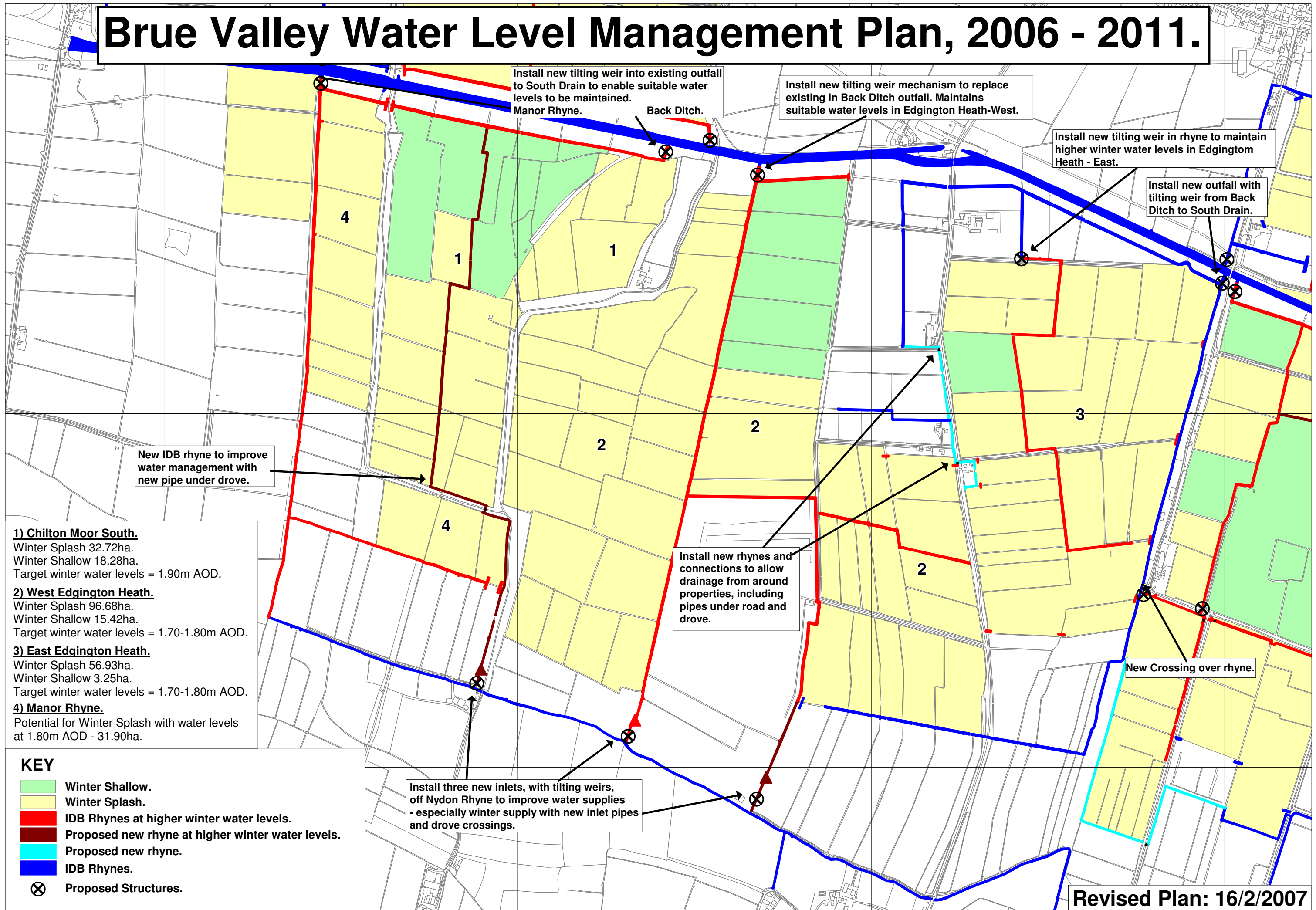
**Brue Valley Water Level Management Plan 2006- 2011: Draft Stage 2 Plan  
Appendix 5: Proposed programme for consultation with other parties in 2007- 2008**

Audience	Timetable and actions	Items for discussion
Drainage Boards	Upper Brue – 8 March 2007 Lower Brue – 16 March 2007	Approval of the Draft Stage 2 Water Level Management Plan for the purposes of consulting other parties.
Rate payers	<p>July 2007 to March 2008</p> <p>Collective meetings would be held with the rate payers likely to be affected by the options for improvements for each of the three SSSIs would be held in May 2007 and again in January 2008. Members of the Drainage Boards, the Environment Agency and Natural England would be invited to attend each of these six collective meetings. [10 days]</p> <p>Initial meetings would be held with each owner/occupier that might be affected by the options for improvement, to explain the options being considered and to receive their comments on the options. Initial meetings with approx. 80 - 100 farmers are expected at this stage. Identify those who would like help to enter the EL and HL Stewardship scheme if the options are implemented. [70 days]</p> <p>Comments from the rate payers would be reported to the Officers and Members of the respective Drainage Boards, so that the options may be developed further or reconsidered. [10 days]</p>	<ul style="list-style-type: none"> <li>• The need for change;</li> <li>• What the Draft Stage 2 Plan sets out to do;</li> <li>• Options being considered for improvements to water management in the SSSI;</li> <li>• Other options being considered regarding water management;</li> <li>• Overall programme for change;</li> <li>• Interest in HL Stewardship etc.</li> </ul>
Other Competent Authorities, including Environment Agency & Natural England	<p>April 2007- March 2008</p> <p>Three collective meetings with the Competent Authorities to seek their support and agreement in principle to the Draft Stage 2 Plan.[6 days]</p>	Agreement in principle on the Draft Stage 2 Plan.
Parish Councils	Three collective meetings with Parish Councils (one for each SSSI) would be held to seek their views on the options being considered for improvements regarding the management of water. [4 days]	Support in principle for the Draft Stage 2 Plan.

**Brue Valley Water Level Management Plan 2006- 2011: Draft Stage 2 Plan  
Appendix 5 (continued): Proposed programme for consultation with other parties in 2008- 2009**

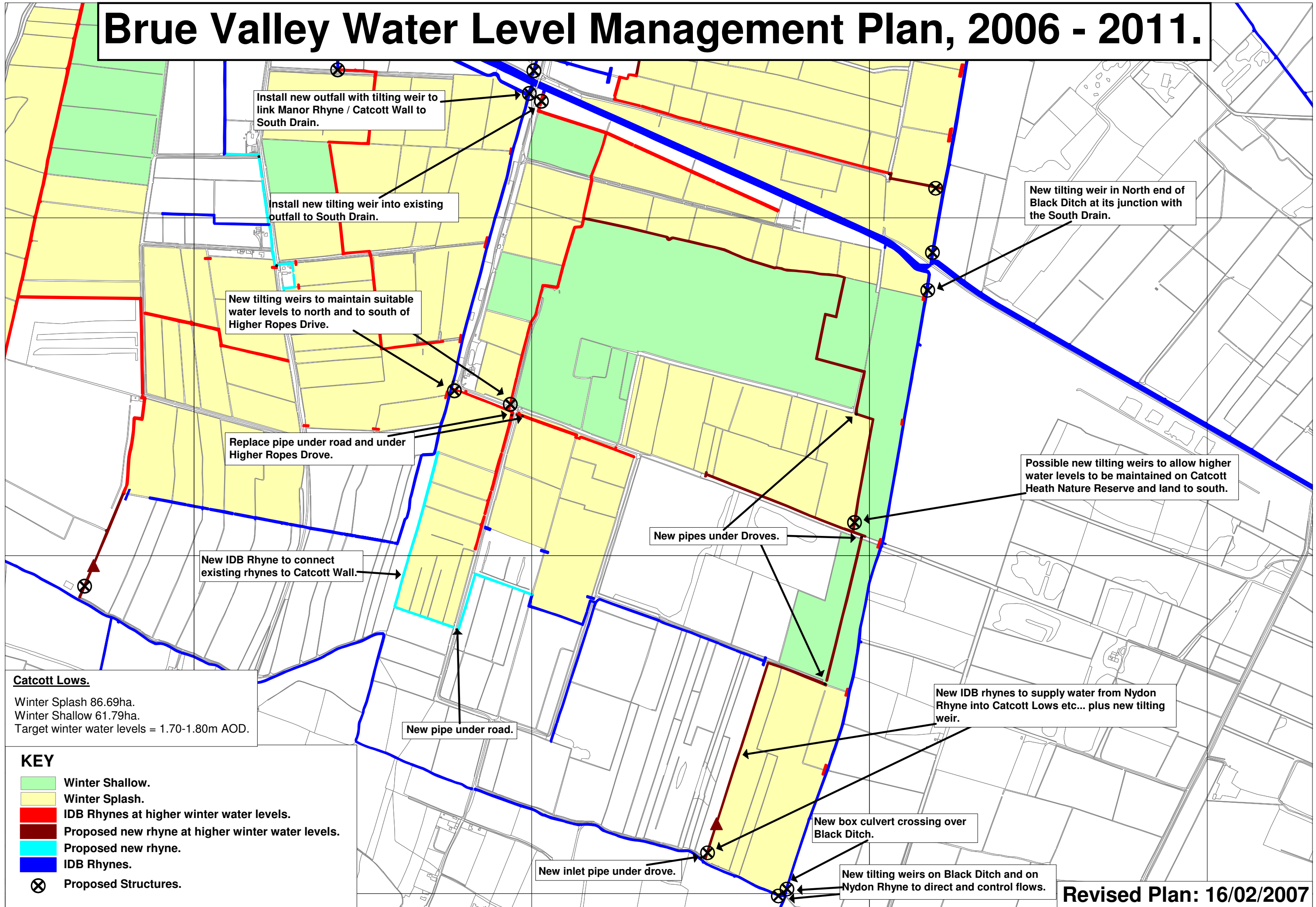
Audience	Timetable and actions	Items for discussion
Drainage Boards	Upper Brue – March 2008 Lower Brue – March 2008	Progress with consultations to date, and support for further work needed in 2008-09. Adoption of the Approved Stage 2 Plan.  Outline approval of schemes to be implemented.
Rate payers	April 2008 to March 2009  Work with the farmers in each SSSI who want to apply for the EL and/or HL Stewardship scheme to support their farming enterprise when the option for changing water management is implemented by the Drainage Board.  Approx. 70 - 75 ELS/HLS applications may be needed alongside the implementation of the proposed schemes. [3 days per application, 220 days approx.]  Comments from the rate payers would be reported to the Officers and Members of the respective Drainage Boards, so that the options may be developed further or reconsidered. [10 days]	ELS and HLS applications.
Other Competent Authorities, including Environment Agency & Natural England	April 2008 – March 2009  Four collective meetings with the Competent Authorities to maintain collaborative working and to keep them informed on progress with negotiating the proposed changes in water management.[10 days]	Collaborative work to implement the Adopted Stage 2 Plan.

# Brue Valley Water Level Management Plan, 2006 - 2011.



Revised Plan: 16/2/2007

# Brue Valley Water Level Management Plan, 2006 - 2011.

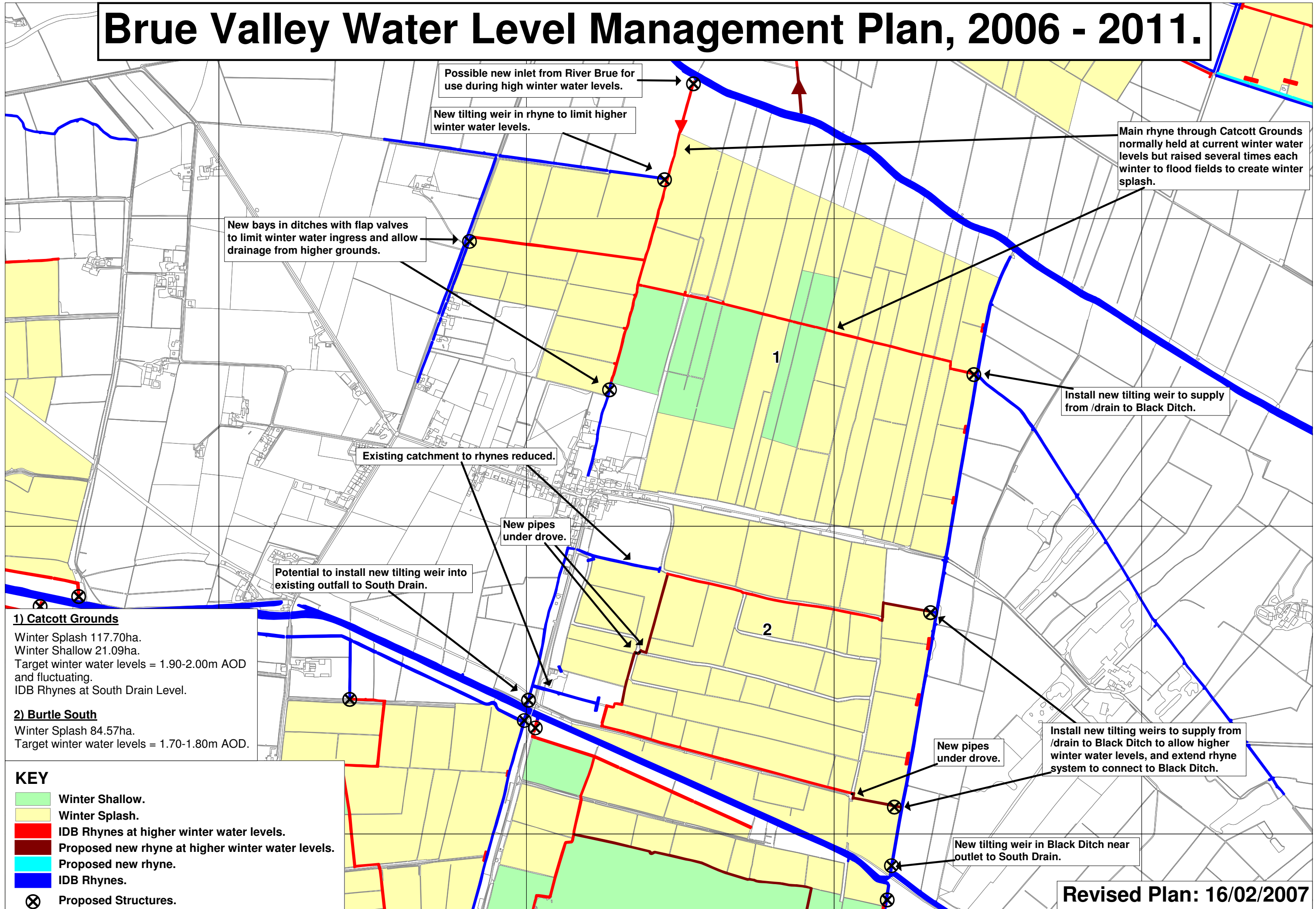


**Catcott Lows.**  
 Winter Splash 86.69ha.  
 Winter Shallow 61.79ha.  
 Target winter water levels = 1.70-1.80m AOD.

- KEY**
- Winter Shallow.
  - Winter Splash.
  - IDB Rhyne at higher winter water levels.
  - Proposed new rhyne at higher winter water levels.
  - Proposed new rhyne.
  - IDB Rhyne.
  - X Proposed Structures.

**Revised Plan: 16/02/2007**

# Brue Valley Water Level Management Plan, 2006 - 2011.



**1) Catcott Grounds**  
 Winter Splash 117.70ha.  
 Winter Shallow 21.09ha.  
 Target winter water levels = 1.90-2.00m AOD and fluctuating.  
 IDB Rhynes at South Drain Level.

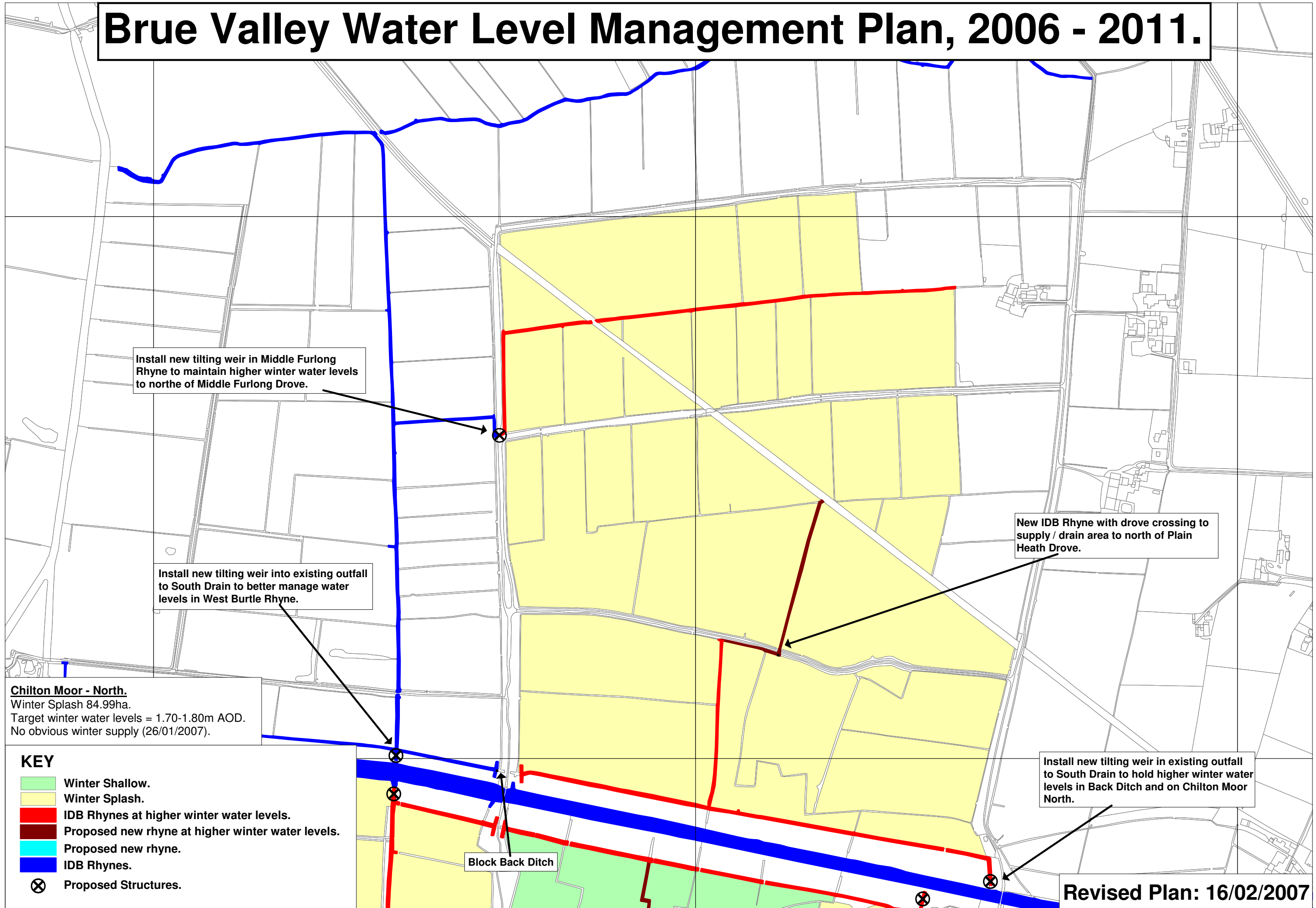
**2) Burtle South**  
 Winter Splash 84.57ha.  
 Target winter water levels = 1.70-1.80m AOD.

**KEY**

- Winter Shallow.
- Winter Splash.
- IDB Rhynes at higher winter water levels.
- Proposed new rhyne at higher winter water levels.
- Proposed new rhyne.
- IDB Rhynes.
- ⊗ Proposed Structures.

**Revised Plan: 16/02/2007**

# Brue Valley Water Level Management Plan, 2006 - 2011.



Install new tilting weir in Middle Furlong Rhyne to maintain higher winter water levels to northe of Middle Furlong Drove.

Install new tilting weir into existing outfall to South Drain to better manage water levels in West Burtle Rhyne.

New IDB Rhyne with drove crossing to supply / drain area to north of Plain Heath Drove.

**Chilton Moor - North.**  
 Winter Splash 84.99ha.  
 Target winter water levels = 1.70-1.80m AOD.  
 No obvious winter supply (26/01/2007).

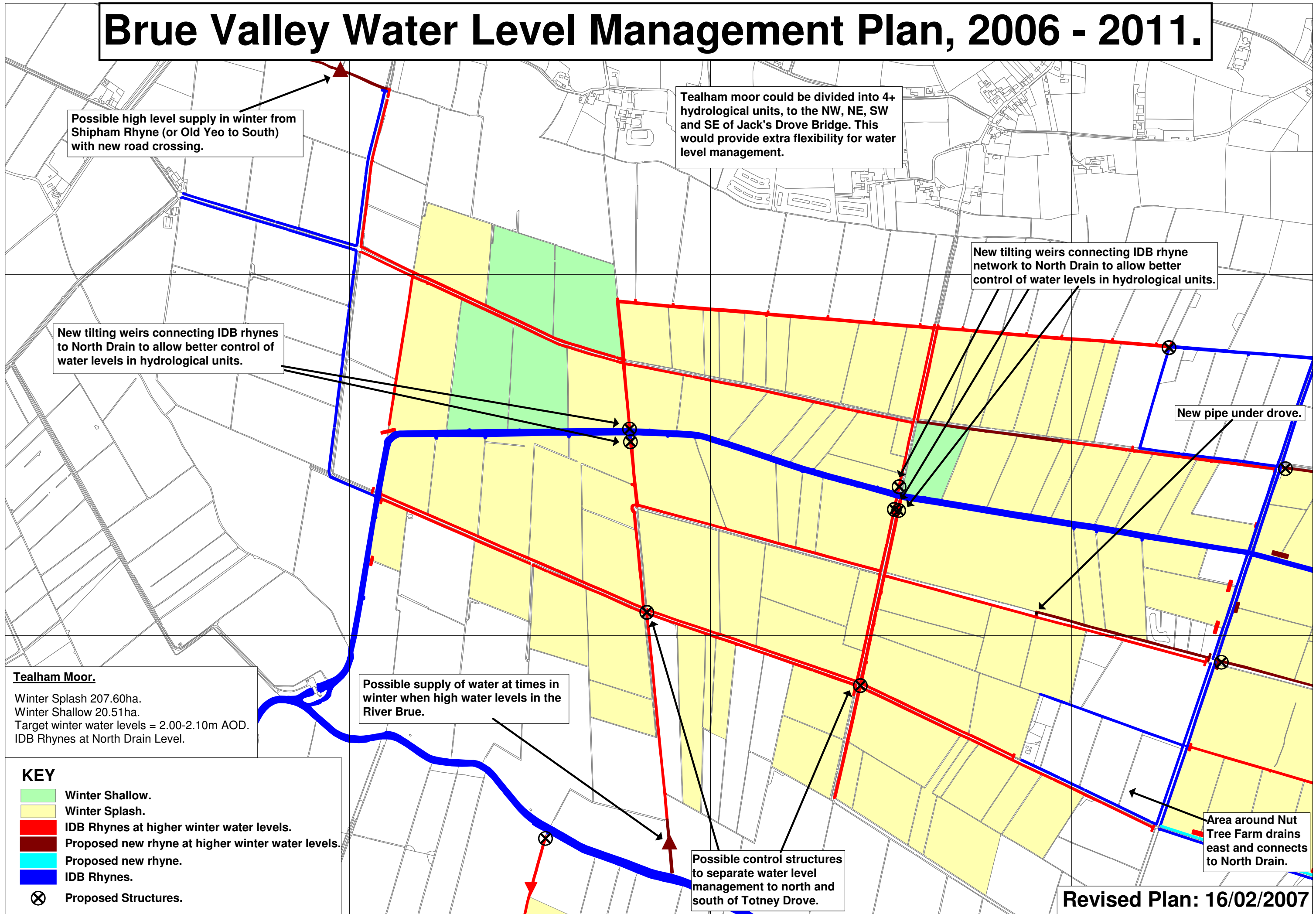
- KEY**
- Winter Shallow.
  - Winter Splash.
  - IDB Rhynes at higher winter water levels.
  - Proposed new rhyne at higher winter water levels.
  - Proposed new rhyne.
  - IDB Rhynes.
  - X Proposed Structures.

Install new tilting weir in existing outfall to South Drain to hold higher winter water levels in Back Ditch and on Chilton Moor North.

Block Back Ditch

Revised Plan: 16/02/2007

# Brue Valley Water Level Management Plan, 2006 - 2011.



Possible high level supply in winter from Shipham Rhyne (or Old Yeo to South) with new road crossing.

Tealham moor could be divided into 4+ hydrological units, to the NW, NE, SW and SE of Jack's Drove Bridge. This would provide extra flexibility for water level management.

New tilting weirs connecting IDB rhyne network to North Drain to allow better control of water levels in hydrological units.

New tilting weirs connecting IDB rhyne to North Drain to allow better control of water levels in hydrological units.

New pipe under drove.

**Tealham Moor.**  
 Winter Splash 207.60ha.  
 Winter Shallow 20.51ha.  
 Target winter water levels = 2.00-2.10m AOD.  
 IDB Rhyne at North Drain Level.

Possible supply of water at times in winter when high water levels in the River Brue.

**KEY**

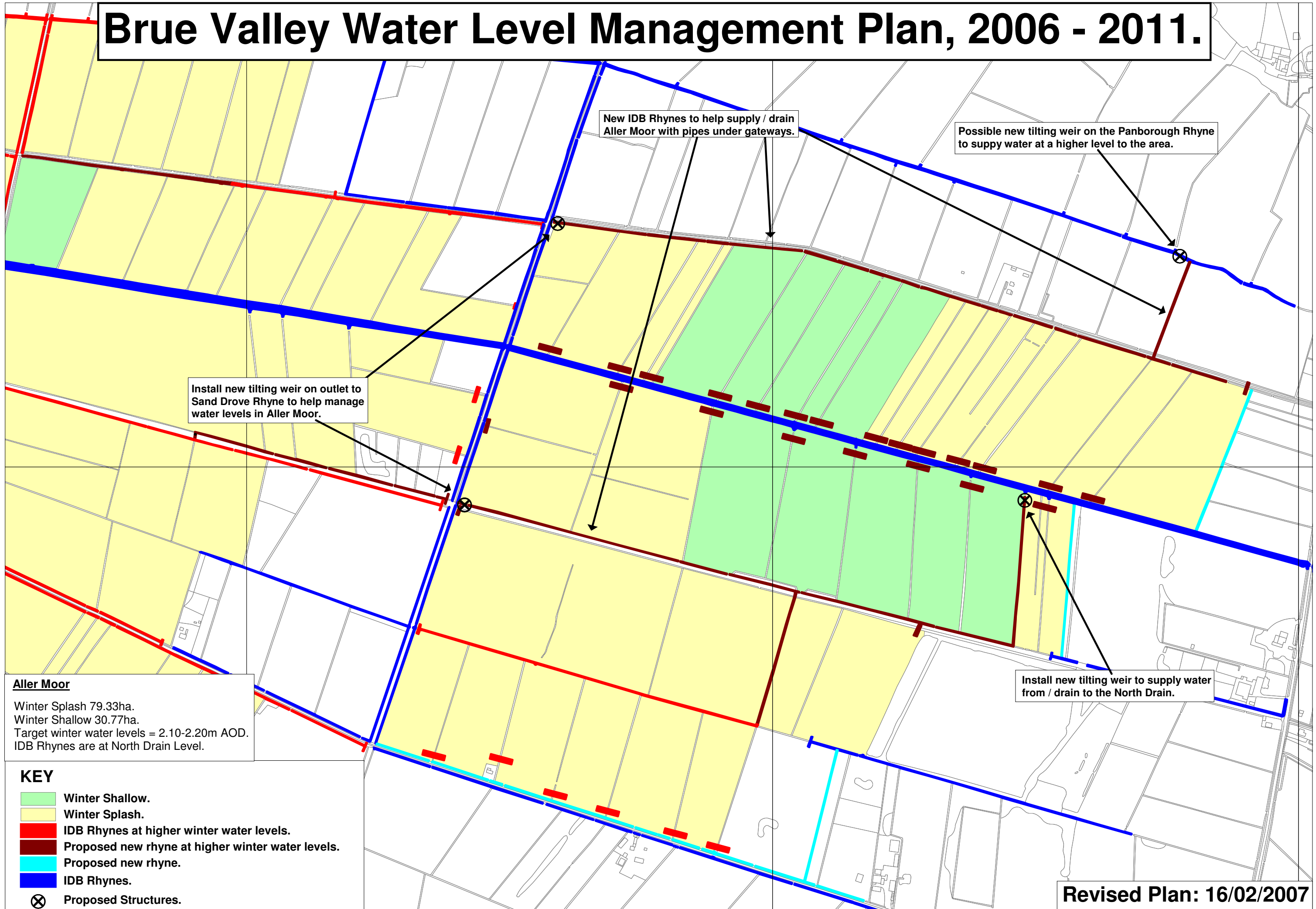
- Winter Shallow.
- Winter Splash.
- IDB Rhyne at higher winter water levels.
- Proposed new rhyne at higher winter water levels.
- Proposed new rhyne.
- IDB Rhyne.
- ⊗ Proposed Structures.

Possible control structures to separate water level management to north and south of Totney Drove.

Area around Nut Tree Farm drains east and connects to North Drain.

**Revised Plan: 16/02/2007**

# Brue Valley Water Level Management Plan, 2006 - 2011.



**Aller Moor**  
 Winter Splash 79.33ha.  
 Winter Shallow 30.77ha.  
 Target winter water levels = 2.10-2.20m AOD.  
 IDB Rhyne are at North Drain Level.

- KEY**
- Winter Shallow.
  - Winter Splash.
  - IDB Rhyne at higher winter water levels.
  - Proposed new rhyne at higher winter water levels.
  - Proposed new rhyne.
  - IDB Rhyne.
  - X Proposed Structures.

Revised Plan: 16/02/2007