

## **APPENDIX B**

### Consultation with Internal Drainage Boards

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East Riding of Yorkshire Council

**Consultation with Internal Drainage Boards**

February - March 2006

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**Please note these interviews were conducted early in the SFRA process and do not necessarily provide a full account of all past flooding incidents in the East Riding. A large-scale data collection exercise was conducted following the June 2007 flooding events (see Section 4.3 and Appendix D) and the Council will continue to update its records of known flooding incidents, including through future reviews of the SFRA, preparation of Surface Water Management Plans, and consultations on various stages of the Local Development Framework.**

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## **1 Beverley & North Holderness Internal Drainage Board**

Meeting with Ken Russell, Engineer to the Beverley & N Holderness IDB at MCA offices on 1 March 2006

### **General**

The River Hull is a high level watercourse, which takes little flow from lowlands.

In general terms the Beverley & North Holderness IDB is responsible for land drainage of lowland rural areas essentially below the 5m AOD level in this area.

90% of the IDB's watercourses drain into the Environment Agency's main rivers – there are some exceptions such as those in the Fraisthorpe area or at Hornsea, which drain directly into the North Sea.

The IDB are dependent on the efficiency of the EA to adequately maintain their main rivers and associated pumping stations.

The EA have a number of pumping stations under their control and any problems have a domino affect on the IDB's ability to maintain their watercourse.

Great Culvert Pumping Station on Holderness Drain at Bransholme, Hull is a prime example.

Also, Holderness Drain passes through East Hull PS, when the tide in the Humber Estuary prevents a gravity discharge - EHPS is owned and maintained by Yorkshire Water. Since the construction of the new Hull waste Water Treatment Works at Saltend, the whole of EHPS is now able to pump flows from Holderness Drain.

Before this the capacity of the 1949 element of EHPS lacked capacity to pump flows from this main river on occasions.

Heavy weed growth in main rivers is also a major problem in restricting flow during the summer months of rainfall – e.g. to prevent a repeat of the flooding of land which occurred in August 2004.

The EA do not generally weed cut until late in the year (September – December) – i.e. outside the growing season. The IDB have however tried to encourage the EA to cut weed twice a year – i.e. additionally in say June.

IDB have chemically sprayed the channels to their watercourses to prevent weed growth but the EA seem to be more reluctant to do this on their main rivers, particularly on the main arteries of Beverley & Barmston Drain and Holderness Drain

The EA are to take the maintenance of Critical Ordinary Watercourses (COWs) – these are generally important riparian watercourses, which drain urban areas.

Generally urban settlements in the East Riding are on higher land and as such do not suffer flooding as a result of flooding of IDB maintained watercourses.

Beverley, Driffild etc for example are quite elevated and the IDB boundary tends to circumvent these urban areas as a consequence.

The B & NH IDB does not own any land through which their watercourses pass.

Like the EA the IDB has permissive powers to carry out maintenance on watercourses outside their control – i.e. where flooding is an issue and the riparian owner takes no action.

The EA are not a land drainage authority (Local councils and IDBs are) and the EA seems to be concentrating its effort these days on flood risk management

### **Specific flooded areas**

Monk Dyke - a main river – the culvert under Leven Canal serves IDB watercourses such as Leven South Carr Drain (No 167) draining adjacent rural and at Leven Carrs.

Monk Dyke drains into Foredyke Stream, which in turn connects into Holderness Drain at Great Culvert Pumping Station at Bransholme, Hull.

Sutton Cross Drain in Hull still suffers flooding problems due to the flap to Holderness Drain not sealing properly close to the private Golf Driving Range off East Carr Road. There has been subsequent flooding of the Clubhouse to this facility on the Hull side of Holderness Drain and land draining to Swine Church Drains (Nos 188 & 109) on the East Riding side at Swine.

Frodingham Church Drain (No 23) - and Brigham Carrs area have suffered localised flooding albeit Carrs land are historically functional flood plains - DEFRA are keen to see these areas of land revert back to Carrs. North Frodingham is however outside the IDB area being on higher ground.

Bryan Mills Beck (No 35) is a main river near Lockington. There has been highway flooding of the main street of Lockington village as a direct result.

Earles Dyke & Fleet Drain on the eastern Hull city boundary – these are in Preston IDB area – gravity outfall to Humber at Saltend – There has been associated flooding of Bradford Avenue area of Greatfield Estate in Hull due to overtopping of the banks in these locations. The EA are to take control of these watercourses.

Acre Head Drain is a min river but the culverted section is the responsibility of ERYC – there has been some flooding of bungalows off Boothferry Road, Hessle.

Setting Dyke – main river but culverted section the responsibility of Hull CC – there has been flooding of gardens to properties on Coronation Road & Chester Road areas of Hull.

Hornsea – Stream Dyke is the outfall from Hornsea Mere, which is an ERYC responsibility, albeit the sluice from the Mere is controlled by Yorkshire Water. The flap valved outfall to the North Sea has failed at times and given rise to flooding in this area.

Flooding of farmland associated with Lamwath Stream.

There is no perceived flooding in Beverley. Beverley town is not in the IDB area being on higher ground.

Driffield is again on relatively high ground and the town is outside the IDB area.

Bilton Drain (No 186) on the eastern outskirts of Hull is culverted at its downstream end under the Asda Store – it discharges via a lagoon into the public sewer in Fleet Estate. The open section of this watercourse passes through Bilton playing fields and this area has suffered some localised flooding.

Hull Bridge area on the River Hull – an EA main river – has suffered from flooding due to leakage of the concrete floodwall affecting adjacent property such as the Hope & Anchor PH.

## **2 Goole & Airmyn Internal Drainage Board**

Meeting with Ken Barclay, Engineer to the Goole & Airmyn IDB at the offices of Heptonstall's Solicitors 11-13 Gladstone Terrace, Goole on 15 March 2006.

The Goole & Airmyn IDB area includes the town of Goole and the village of Airmyn. The IDB area is also bounded by the River Ouse to the north and east and Dutch River (River Don) to the south.

The IDB maintains 5 No pumping stations (Hook Clough, Southfield Lane, Downes Ground, New Potter Grange and Orchard Cottage) within their area.

The Rawcliffe Road area of Goole drains south and flows are pumped into Dutch River by means of the New Grange and Orchard Cottage Pumping Stations.

The north east side of Goole together with the village of Hook drains down to Hook Clough Pumping Station on Hook Lane (close to Ouse Bridge) with flows being pumped into the adjacent River Ouse.

There has been some highway flooding at the southern end of Hook Road – it would appear that ERYC Highways have constructed a pumping station in this location to alleviate this problem (part of recent Goole Re-Sewerage Scheme?)

There has also been some flooding of land to houses built by Pullen Homes in Thorntree Lane and by Wimpey Homes in Coniston Way – these are located in the north east part of the town

The White City houses on the main A614 Rawcliffe Road to the west of J36 M62 have also suffered from flooding of front gardens since levels of the A614 were raised by the highway authority.

Airmyn has experienced some flooding near the School on Percy Drive – work was carried out by the IDB to alleviate this flooding on a watercourse south of The Paddock in this area.

Certain lengths of the banks on the south side of the River Ouse have failed in recent times due to a washing in of these soft defences.

The town of Goole is defended to the required 1 in 200 year tidal standard. There may however be fluvial flooding in the event of a breach of soft defences to the River Ouse and Don. As a result the Environment Agency are carrying out a lot of hard defence work in the form of sheet piled walls on the Ouse in particular.

MCA/MF/J2750/Goole&AirmynIDB  
16/03/06

### **3 Lower Ouse Internal Drainage Board**

Meeting with Eddie Allan, Engineer to the Lower Ouse IDB at their offices at 91, Bridgegate, Howden, East Yorkshire on 1 March 2006.

In general terms the Lower Ouse IDB is responsible for land drainage of lowland rural areas essentially below a level of 5m AOD.

The Lower Ouse IDB maintain 8 No pumping stations, 23 No clough chambers (at outfall to main rivers) and a length of 181km watercourses – these assets drain an area of 35000 acres with a main river frontage of 47km.

There is no record of any flooding of adjacent land or property in the IDB area as a result of flow in any of the watercourses in the Lower Ouse IDB area.

Generally any backing up of watercourses in the area is due to blockage of screens and other maintenance related issues.

There was however flooding of adjacent land in Autumn 2000 due a failure of the flood bank of the River Derwent at Breighton.

The Rivers Ouse and Derwent are the main rivers, which pass through this IDB area and are both SSSI's along their full lengths in the Boards area.

Both the Rivers Ouse & Derwent have 1 in 100 year flood defences

There exists a main watercourse, which passes though the town of Howden – this is still classified as being merely riparian in terms of its ownership. As it passes through the town itself it is culverted – it is also known to be polluted with foul flows and the IDB suggest that it should be classified as a public sewer and the responsibility of Yorkshire Water.

The EA are to take over the maintenance of Critical Ordinary Watercourses (COWs) – these are generally important riparian watercourses, which drain urban areas.

A list of the Lower Ouse Internal Drainage Board's assets are attached.

The Lower Ouse IDB area includes the market town of Howden and the main villages of Bubwith, Gilberdyke and Eastrington.

MCA/MF/J2750/LowerOuseIDB  
03/03/06

## **4 Market Weighton Internal Drainage Board**

Meeting with Peter Clark, Engineer to the Market Weighton IDB at their offices at Burnby Hall, The Balk, Pocklington, East Yorkshire on 10 March 2006.

The Internal Drainage Board District was established by the Ministry according to its parameters based on the Medway principle and in general terms is land which has the potential to benefit from positive drainage.

Much of the land close to the Humber was marshland before defences were constructed to the Estuary.

The Market Weighton IDB is bounded by the Wolds on its east and northeast boundaries, the Humber Estuary to the south and the Lower Ouse IDB to the west – it is one of the largest IDB's in the North East Area.

The IDB is responsible for 9No pumping stations – some of these pump land drainage flows from IDB maintained watercourses into the Market Weighton Canal. The Canal forms the basis of the Internal Drainage Board. The Board also maintains approximately 190km of watercourses

The Canal itself fell short of the town of Market Weighton due to the high cost at the time of constructing the final length to the town, which is sited on much higher ground. The Canal also discharges by gravity at its outfall to the Humber.

The length of the Canal closed in 1900 above Sodhouses and has since been mostly filled in and is essentially now a drainage channel for the IDB catchment.

From a point downstream of Sodhouses Lock to the Humber Estuary the Canal was designated as a main river circa 1950.

Other main rivers in the IDB area include the River Foulness, which drains into the Market Weighton Canal to the north of Newport and serves much of the land to the west of the Canal.

Sands Drain to the southeast of the IDB area is also main river at its downstream end near Ellerker – the upstream section is a Critical Ordinary Watercourse, soon to be taken over by the Environment Agency.

Delfin Beck is also a Critical Ordinary Watercourse within the IDB area.

The main settlements in the Market Weighton IDB area include Holme on Spalding Moor, Newport, Broomfleet, Everingham & Seaton Ross – ironically the town of Market Weighton itself is outside the IDB area, being located on higher ground.

Holme on Spalding Moor is also located on higher ground, whilst the likes of Newport and Broomfleet are generally sited at a level of only 2m AOD.

The IDB area is extensively rural in nature.

A Critical Ordinary Watercourse also passes through the town of Market Weighton and joins the IDB system of drainage south of the town - this is to be taken over by the Environment Agency on 1 April 2006.

The ongoing expansion of the town has potential to flood the IDB area if surface water runoff from new developments around the town is not adequately controlled by some form (hard or soft) of sustainable drainage system (SuDS) – i.e. flow rates from developments must be attenuated to the equivalent of normal agricultural runoff being

that which would naturally runoff the undeveloped land. This is to protect all land where the rural drainage system is configured to handle natural flows.

Similarly the expansion of Holme on Spalding Moor needs to be controlled in terms of restricted runoff to adjacent watercourses on the lower ground.

The rising levels in the tidal waters will restrict further the ability of the Market Weighton Canal to drain by gravity to the Humber Estuary.

This coupled with increasing fluvial flow as a result of climate change to the IDB's watercourses, which are either pumped or drain by gravity to the Canal, is likely to be a real problem facing the Market Weighton IDB in the future.

There was flooding of a very old property at Seaton Ross, which was set very low relative to its surrounds, due to rapid watershed from the adjacent highway during a flash storm.

There have been few incidents of flooding of property in the Market Weighton IDB area even during the high flood levels in Autumn 2000, which was deemed to be a 1 in 400 year event.

MCA/MF/J2750/Market WeightonIDB  
Rev A 20/03/06

## **5 Preston Internal Drainage Board**

Meeting with David Fullwood, Clerk to the Preston IDB at the offices of York Area Drainage Boards, Crockey Hill, York on 10 March 2006.

In general terms Internal Drainage Boards are responsible for land drainage of lowland rural areas below a contour of 8 feet above the highest recorded flood level in that area.

Preston IDB area is bounded by the Humber Estuary to the south and abuts the eastern boundary of the City of Hull.

Burstwick Drain is a main river which passes through the Preston IDB area and has a gravity clough outfall to the Humber at Hedon Haven.

There is potential for flooding of parts of Hedon, albeit the town is on higher ground and outside the IDB area. Water levels in Burstwick Drain have been close to overtopping of its banks and have affected property in the Ainslie Road & Cleeve Road part of the town.

Old Fleet Drain located along the eastern boundary of Hull is a Critical Ordinary Watercourse and is soon to be maintained by the Environment Agency.

There has been flooding of adjacent land associated with flood levels in Old Fleet Drain in the Bradford Avenue area of Greatfield Estate and Hopewell Road, Bilton Grange Estate in Hull.

At the upstream reaches of the Old Fleet Drain (Bilton Drain) there is a record of flooding of property fronting the south side of Main Road Bilton – east of Lime Tree Avenue.

This section of open watercourse has been culverted in recent years possibly as part of a requisitioned sewer scheme to serve a new housing development (St Peters View) in this part of Bilton.

MCA/MF/J2750/PrestonIDB  
13/03/06

## **6 Thorntrees & Dempster Internal Drainage Boards**

Meeting with Mike Townend, Clerk to the Thorntrees IDB at the offices of Neville Townend, Estate Agents, 4 Belgravia, Goole on 17 March 2006.

### **Thorntrees Internal Drainage Board**

The Thorntrees IDB area is bounded by Dutch River to the north, Dempster IDB to the east and Rawcliffe IDB to the west – it also extends just beyond the East Riding of Yorkshire Council's boundary to the south.

There is essentially no residential development within the Thorntrees IDB area and it is entirely rural in nature.

Thorn Moors is a site of SSI site and also a Special Area of Conservation (SAC)

A Water Level Management Study is currently being carried out on the catchment by jba consulting engineers.

The Board maintains 1 No pumping station sited close to Dutch River.

There has been some standing water close to the eastern boundary of the IDB area but this has only affected arable land.

There has been little or no new build in the Boards area in recent times.

### **Dempster Internal Drainage Board**

Meeting with Adrian Ingleton, Clerk to the Dempster IDB at the offices of Walthams Chartered Accountants, 64-66 Aire Street, Goole on 17 March 2006.

Dempster Internal Drainage Board is located between the neighbouring Thorntrees IDB to the west and Goole Fields IDB to the east.

Old Goole is the only real centre of population within the Dempster IDB area.

The IDB maintains a pumping station sited close to Dutch River with a clough outfall and flap valve to the River in this location – this facility is maintained by ABP to a poor standard. It is therefore prone to silting up resulting in backing up of flow in the pumping station.

There has been some localised flooding of highway.

There are proposals for new development on Rawcliffe Road, whilst the old Fison Works are the subject of a proposal to develop the site for a recycling plant.

The Environment Agency has raised the bank levels on the south side of the River Ouse in recent times – this may give rise to flooding of land on the north side of the Ouse.

MCA/MF/J2750/Thorntrees&DempsterIDBs  
20/03/06

## **7 Snaith & Cowick Internal Drainage Boards**

Meeting with Ken Barclay, Engineer to the Snaith IDB and Cowick IDB at the offices of Heptonstall's Solicitors 11-13 Gladstone Terrace, Goole on 15 March 2006.

### **Snaith Internal Drainage Board**

The town of Snaith is the only population centre of note within the boundaries of the Snaith IDB and is bounded by the River Aire to the north whilst abutting the Gowdall & Knottingley IDB to the west and the Cowick IDB to the south.

There was severe flooding of the village of Gowdall as a result of a breach of the River Aire's flood defences in Autumn 2000 – Gowdall is within the East Riding of Yorkshire albeit outside the Snaith IDB area.

Following this severe flooding incident the Environment Agency constructed a 1m square sluice gate to Pickhill Bank (located between Gowdall and Snaith) as a means of preventing a repeat of the flooding of Gowdall in the future.

The opening of the sluice gate in the event of another breach of the Aire will effectively save Gowdall from flooding and allow floodwaters to flood marshland to the north of Snaith – this floodwater can then be pumped into the western end of Marsh Drain which is then pumped into the River Aire at Lord Downes Clough at the eastern end of the IDB area.

There are also a number of earth baffles on land between Gowdall and Snaith to slow flow down in the event of a breach of the River Ouse defences at Gowdall.

The Environment Agency is currently sheet piling stretches of the River Ouse to provide new hard defences to the river.

Snaith is generally on slightly higher ground to the north of Snaith Marsh.

There has been new residential development of land in Snaith in recent times – surface water runoff from these development sites on the east and west side of the town is attenuated by means of on-site tank sewers prior to limiting discharge to IDB watercourse.

### **Cowick Internal Drainage Board**

The Cowick Internal Drainage Board is much larger in area than the adjacent Snaith IDB to the north and abuts the Aire & Calder Navigation Canal to the south.

The only centres of population in the Cowick IDB area are the villages of East & West Cowick.

The M62 motorway also cuts across this IDB area – watercourses to the north of the motorway essentially drain south and are culverted under the motorway.

There was some flooding in East Cowick in Autumn 2000.

There are 2 No pumping stations maintained by the IDB - one is located in the vicinity of the ERYC Depot immediately adjacent to the south side of the M62, the other is located at the elbow to the River Don at the eastern end of the IDB area.

The village of Pollington is within the East Riding of Yorkshire Council and within the Went Internal Drainage Board area.

MCA/MF/J2750/Snaith&CowickIDB, 16/03/06

## **8 Wilberfoss & Thornton Internal Drainage Board**

Meeting with David Fullwood, Clerk to the Wilberfoss & Thornton IDB at the offices at of York Area Drainage Boards, Crockey Hill, York on 10 March 2006.

In general terms Internal Drainage Boards are responsible for land drainage of lowland rural areas below a contour of 8 feet above the highest recorded flood level in that area and are based on the Medway principle.

Wilberfoss & Thornton IDB area is directly to the north of the Market Weighton IDB and only includes the small settlement of Wilberfoss.

There has been an incident of flooding of gardens of properties in Wilberfoss just to the north of the main A1079 Hull Road – this was due to high water levels in the adjacent Foss Beck and the inability of surface water drains from these properties to discharge to this watercourse.

The villages of Fangfoss and Bolton are sited on higher ground and are just outside the IDB area.

There has however been flooding of land at the western end of Bolton village.

The Steers PH on the south side of the A1079 is also pretty low lying and there is potential to flood this area.

At the southern end of the IDB area the villages of Thornton and Melbourne are again outside the IDB area – there is however no record of any flooding in these villages.

The area of land to the north of Melbourne is the site of a SSSI and this area is therefore undevelopable.

Within the IDB catchment Bielby Beck is main river, whilst Pocklington Canal (British Waterways) is also a SSSI

MCA/MF/J2750/Wilberfoss&ThorntonIDB  
13/03/06