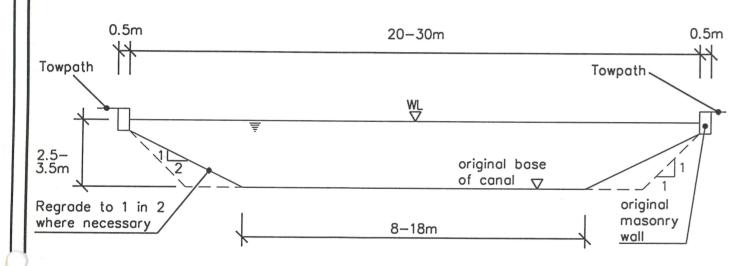
DESCRIPTION — Spike Island marina. Used by river craft and is an attraction in itself.

Spike Island marina is a working marina and will remain an asset regardless of the canal restoration. Therefore restoration to provide mooring on both banks is proposed and use of the original canal construction materials to retain its appeal.

RESTORED SECTION -



RESTORATION — Remove silt as necessary to give at least 2m navigable depth.

Remove 'Ruth Bate' for restoration in dry dock.

Water to be lowered in sections to allow wall repairs.

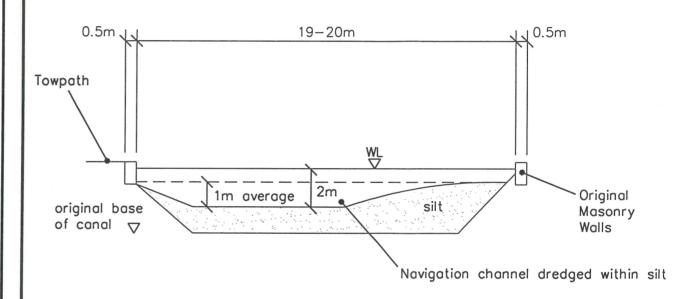
Dismantle and rebuild masonry wall.

## SECTION No. 2

SPIKE ISLAND BRIDGE TO CUERDLEY MARSH CUERDLEY MARSH TO FIDDLER'S FERRY YACHT HAVEN PENKETH BRIDGE TO MEYERS SWING BRIDGE (CH 600-3,180m) (CH 3,570-5,440m) (CH 6,355-7,755m)

DESCRIPTION — 'In—Water' sections which are heavily silted and require a navigable depth of 2m.

RESTORED SECTION -



RESTORATION — Canal to remain in water during work.

Dredge canal silt to create a navigable channel.

Excess silt removed from site for disposal.

(C)

Notes

WSAtkins - North West

Description

a division of WS Atkins Consultants Limited WS Atkins House Birchwood Boulevard

Purpose of issue

WS Atkins House
Birchwood Boulevard
Birchwood, Warrington WA3 7WA
Tel. (01925) 828987
Fax. (01925) 828153

Date Rev

Chk'd Auth

Date

ST. HELENS CANAL RESTORATION

CROSS SECTIONS

icale Drawn Checked Autho

A3

lob

t Sub

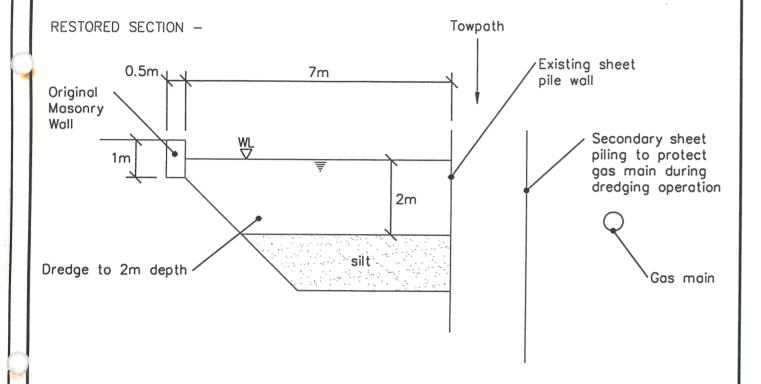
Unique No.

outoCAD File Ref. E: \Y2311\030\051.DWG

CUERDLEY MARSH

(CH 3,180-3,570m)

DESCRIPTION - Canal has been partly infilled to protect a gas main in the towpath, which is subject to movement. Channel itself is heavily silted.



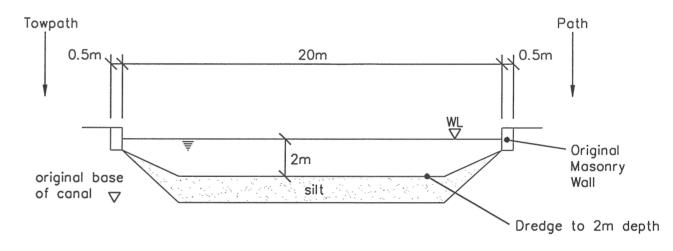
RESTORATION - Install secondary sheet piling to protect gas main prior to dredging of canal channel. Dredge silt and remove for disposal. Canal to remain 'In—water' during dredging.

## SECTION No. 4

FIDDLERS FERRY YACHT HAVEN TO PENKETH BRIDGE (CH 5,440-6,355m)MEYERS SWING BRIDGE TO WARRINGTON/WIDNES RAILWAY (CH 7,775-8,035m)

DESCRIPTION - Mooring areas requiring a 2m navigable depth, and mooring on two sides.

RESTORED SECTION -



RESTORATION — Dredge canal channel to 2m depth.

Canal to remain 'In—water' during work. Remove silt and dispose. Remedial work to canal masonry as necessary.

Notes

Ref. E: \Y2311\030\052.DWG

AutoCAD File

WSAtkins - North West

a division of WS Atkins Consultants Limited

Birchwood Boulevard Birchwood, Warrington WA3 7WA

WS Atkins House

Tel. (01925) 828987 Fox. (01925) 828153

ST. HELENS CANAL RESTORATION

**CROSS SECTIONS** 

AY2311 / 120 / 850 / 052 Purpose of issue Date Date Chk'd Auth Description

 Drown
 Checked
 Author

 DTH
 JMH

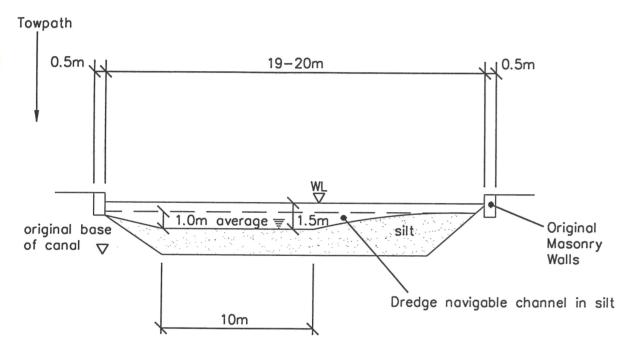
 Date
 2.96
 Date
 2.96
 Date

A3

WARRINGTON/WIDNES RAILWAY TO BEWSEY SWING BRIDGE (CH 8,035-10,280m) NEWTON BROOK TO BRADLEY LOCK (CH 14,635-16,375m)

DESCRIPTION - 'In-Water' section requiring a navigable depth of 1.5m.

RESTORED SECTION -



RESTORATION - Dredge 1.5m deep navigable channel in silt. Canal to remain 'In-water' during work. Remove excess silt and dispose. Possibility of planting berm on non-towpath side.

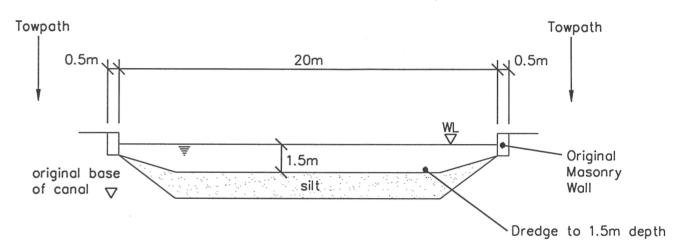
### SECTION No. 6

BEWSEY SWING BRIDGE TO BEWSEY LOCK

(CH 10,280-10,460m)

DESCRIPTION - Mooring areas requiring a 1.5m navigable depth, and mooring on two sides.

RESTORED SECTION -



RESTORATION — Dredge canal channel to 1.5m depth.

Canal to remain 'In—water' during work. Remove silt and dispose.

Description

Notes

E: \Y2311\030\053.DWG

WSAtkins - North West a division of WS Atkins Consultants Limited WS Atkins House Birchwood, Warrington WA3 7WA

Was Alkins nouse
Tel. (01925) 828987
Fox. (01925) 828153

Auth

Date

ST. HELENS CANAL RESTORATION

**CROSS SECTIONS** 

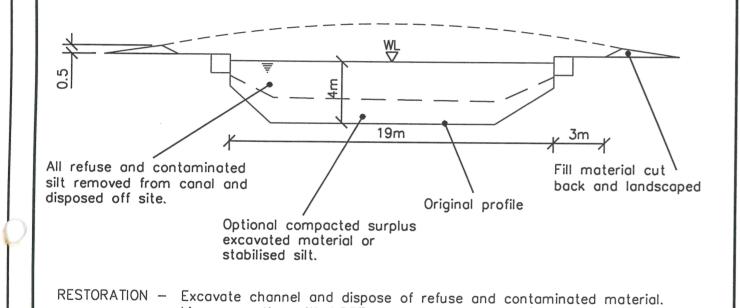
AY2311 / 120 / 850 / 053

By Date Chk'd Auth

A3

Purpose of issue

RESTORED SECTION -



Provide gabion wall to allow mooring.

Line excavation with HDPE and provide concrete/armater protection.

## SECTION No. 8

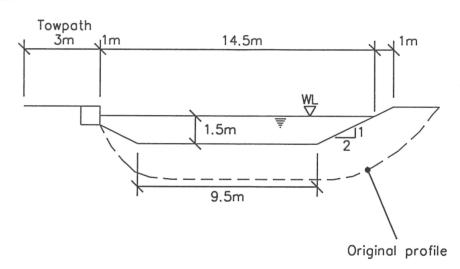
BRADLEY LOCK TO NEWTON COMMON LOCK NEWTON COMMON LOCK TO ENGINE LOCK

(CH 16,375-17,375m) (CH 17,375-19,795m)

DESCRIPTION - Sections infilled with inert material over contaminated silt.

RESTORED SECTION -

A3



RESTORATION — Excavate channel and dispose of fill.

Line excavation with HDPE and provide concrete/armater protection.

Provide gabion wall to allow mooring.

N.B. Between Bradley Lock and Newton Common Lock walls on both sides to be reinstated or gabion walls faced with stone to recreate original appearance.

Notes

E: \Y2311\030\054.DWG

Ref.

AutoCAD File

WS Atkins — North West

a division of WS Atkins Consultants Limited

WS Atkins House
Birchwood Boulevard
Birchwood, Warrington WA3 7WA

Tel. (01925) 828987
Fax. (01925) 828153

Scal
N.

Purpose of issue

Auth Date Rev

Description

By Date Chk'd Auth

JMH

Date 2.96 Date

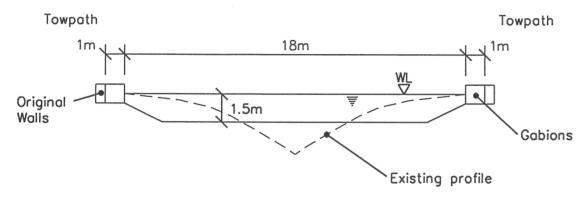
ST. HELENS CANAL RESTORATION

**CROSS SECTIONS** 

AY2311 / 120 / 850 / 054

DESCRIPTION — Black Brook flows within the original channel of the St. Helens Canal, and parallel to Clipsey Brook at this point. Canal is heavily silted and overgrown, but original canal masonry is visible on both banks, and its condition in places is poor. Utilize existing canal width but abandon walling as to expensive to restore/replace.(Unless undertaken by voluntary sector.)

RESTORED SECTION -



RESTORATION — Divert Black Brook into Clipsey Brook.
Infill canal to required depth to provide cover above new culvert to Clipsey Brook.
Line with HDPE and protect with concrete/armater.
Build gabions in front of masonry walls.

Option, use volunteer labour to rebuild original walls.

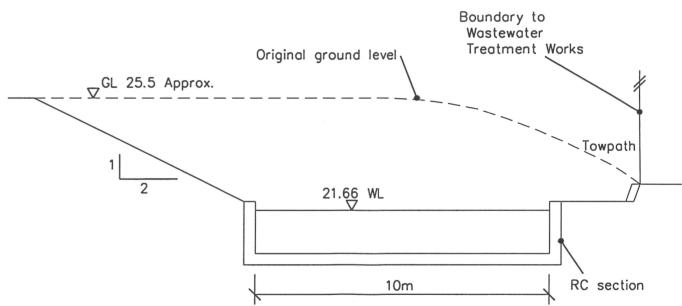
#### SECTION No. 10

OLD DOUBLE LOCK TO BOARDMANS LANE

(CH 20,695-21,090m)

DESCRIPTION — Provide channel on new alignment adjacent to St. Helens
Sewage Treatment Works. Channel will be reinforced concrete
lined. Informal footpath to be provided on non—towpath side.

RESTORED SECTION -



RESTORATION - Excavate channel in inert fill, and construct R.C. channel.

0

Description

Notes

E: \Y2311\030\055.DWG

AutoCAD File

WSAtkins — North West

a division of WS Atkins Consultants Limited

WS Atkins House
Birchwood Boulevard
Birchwood, Warrington WA3 7WA

Tel. (01925) 828987
Fox. (01925) 828153

Date

By Date Chk'd

Project
ST. HELENS CANAL RESTORATION

CROSS SECTIONS

Totale

Drawn

DTH

Dote 2.96

Date 2.96

Dote 2.96

Dote 2.96

Dote 2.96

Dote 2.96

Dote 2.96

AY2311 / 120 / 850 / 055

A3

Job

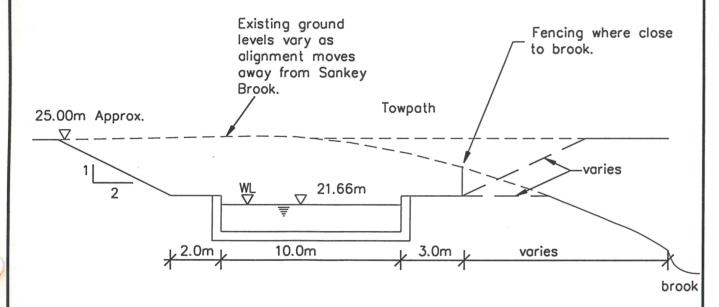
Ur

BOARDMANS LANE TO PARK ROAD LOCK

(CH 21,090-21,525m)

DESCRIPTION - New alignment mostly through filled ground adjacent to Sankey Brook

RESTORED SECTION -



RESTORATION — Excavate new channel through inert fill.

Construct reinforced concrete channel.

Channel width reduced to 5.5m in restricted corridor adjacent to Boardmans Lane.

### SECTION No. 12

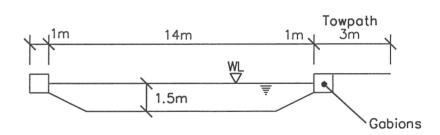
BUILDERS YARD TO PARR STREET BRIDGE

(CH 23,670-23,800m)

DESCRIPTION — Reinstatement of canal withn St. Helens. Provide mooring both sides to access local facilities and utilize minimum two way working width.

It is possible that this section could be paid for by a developer. If a sympathetic development is proposed more expensive materials may be used to make this a feature.

RESTORED SECTION -



RESTORATION — Excavate channel to 1.5m deep.

Line with HDPE and protect with concrete/armater.

Install gabions.

Notes

WS Atkins House
Birchwood Boulevard
Birchwood, Warrington WA3 7WA

Purpose of issue

Auth Date Rev

Project
ST. HELENS CANAL RESTORATION

Title

CROSS SECTIONS

Scale
N.T.S

Drawn
DTH
Date 2.96
Date

Drawing Number

AY2311/120/850/056

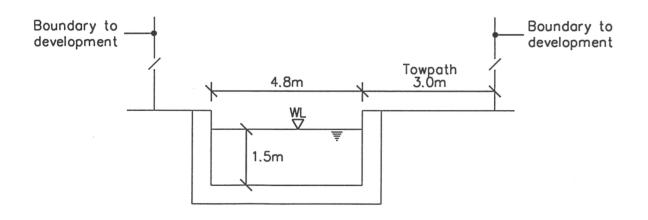
A3

CORPORATION STREET BRIDGE TO BUILDERS YARD

(CH 23,580-23,670m)

DESCRIPTION — Provide single way working channel in St. Helens. Restricted by development either side of the canal.

RESTORED SECTION -



RESTORATION - Excavate channel to required depth.

Construct in-situ reinforced concrete sections.

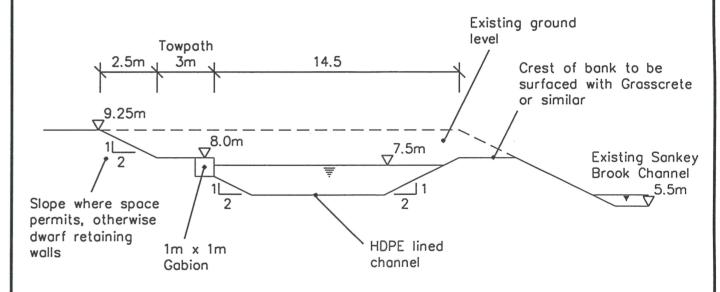
#### SECTION No. 14

SANKEY BROOK OVERFLOW TO NEW HULME LOCK

(CH 11,060-12,485m)

DESCRIPTION — Channel excavated parallel to Sankey Brook. This will create a dual channel for the Sankey Brook under flood conditions. This increased flow area will reduce water levels under storm conditions, but will prevent navigation on the canal.

RESTORED SECTION -



RESTORATION — Excavate channel in inert fill.

Line with HDPE and protect with armater/concrete.

Install Gabion.

Notes

WS Atkins — North West

a division of WS Atkins Consultants Limited

WS Atkins House
Birchwood Boulevard
Birchwood, Warrington WA3 7WA

Fax. (01925) 828987

Fax. (01925) 828153

Project
ST. HELENS

ST. HELENS CANAL RESTORATION

CROSS SECTIONS

Purpose of issue Auth Date Rev Description By Date Chk'd Auth

A3

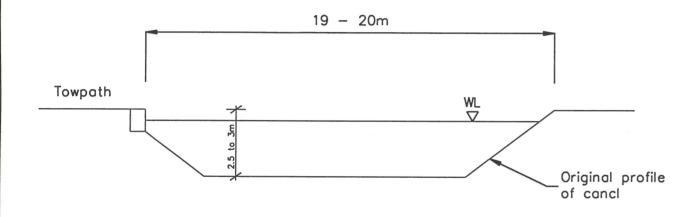
Dept Sub Unique No.

BEWSEY LOCK TO SANKEY BROOK OVERFLOW

(CH 10,460-11,060m)

DESCRIPTION - Former canal channel now dry.

RESTORED SECTION -



Remove vegetation and organic material from channel. Reform/regrade channel and banks as necessary. Line with HDPE and protect with concrete/armater.
Install gabion wall to form moorings on one side.

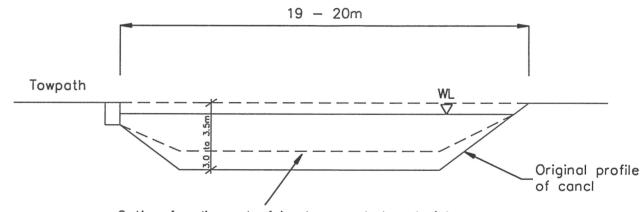
# SECTION No. 16

HULME LOCK (OLD) TO WINWICK QUAY M62 TO WINWICK LOCK

(CH 12,485-12,950m)

DESCRIPTION - Canal infilled with domestic refuse.

RESTORED SECTION -



Option for disposal of inert excavated material or stabilised silt by compaction within bed.

RESTORATION - All refuse and contaminated silt to be removed and disposed of at a licensed site. Line excavation with HDPE and protect with concrete/armater.

Install gabion wall to provide moorings on one side.

E: \Y2311\030\058.DWG

WSAtkins - North West

a division of WS Atkins Consultants Limited

Auth Date

WS Atkins House Birchwood Boulevard Birchwood, Warrington WA3 7WA

Purpose of issue

Tel. (01925) 828987 Fox. (01925) 828153

By Date Chk'd Auth

ST. HELENS CANAL RESTORATION

**CROSS SECTIONS** 

DTH JMH

Date 5.96 Date 2.96 Date

AY2311 / 120 / 850 / 058

A3

PARK ROAD LOCK TO MERTON BANK ROAD

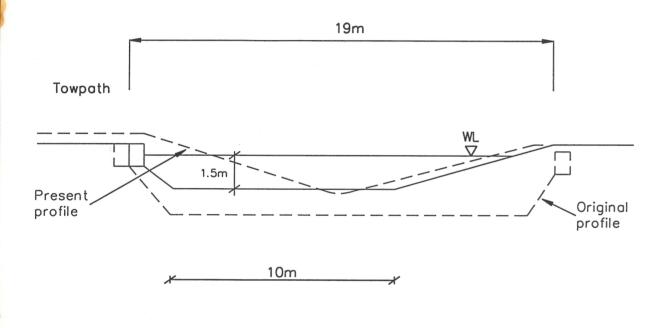
RESTORATION - Excavate to recreate navigable channel.

towpath edge. "Natural" edge to opposite bank.

(CH 21,525-22,425m)

DESCRIPTION - 'In-water section, channel reshaped to convey Rainford Brook.

RESTORED SECTION -



Condition of existing masonry walls unknown, place gabions to form

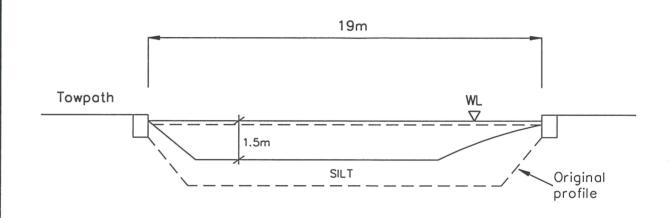
#### SECTION No. 18

MERTON BANK ROAD TO NEW DOUBLE LOCK GERARDS BRIDGE BRANCH

(CH 22,425-22,750m) (CH GB000-GB350m)

DESCRIPTION - "In-water" section, Heavily silted, conveying Rainford Brook.

RESTORED SECTION -



RESTORATION — Excavate to recreate navigable channel. Retain silt in front of existing masonry walls for benefit of marginal vegetation. Possibility of silt removal by dredging.

0

Description

Notes

WSAtkins - North West

a division of WS Atkins Consultants Limited

WS Atkins House Birchwood Boulevard

Tel. (01925) 828987 Fox. (01925) 828153 Birchwood, Warrington WA3 7WA

Date

By Date Chk'd Auth

ST. HELENS CANAL RESTORATION

**CROSS SECTIONS** 

N.T.S

AY2311 / 120 / 850 / 059

**A3**