

London Borough of Enfield  
**Meridian Water Strategic  
Infrastructure Works -  
Compulsory Purchase Order 2020**  
Proof of Evidence - Joe Nunan  
Appendix B

Issue | 26 March 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 256240-xx

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## Appendix B

### CRT Code of Practice Extract

# **B1 Code of Practice for Works Affecting the Canal & River Trust: Part 1 - General Information**

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# **CODE OF PRACTICE FOR WORKS AFFECTING THE CANAL & RIVER TRUST**

## **PART 1 GENERAL INFORMATION**

**April 2020**

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## **Foreword to the 2020 Edition of the Code of Practice for Works Affecting the Canal & River Trust**

Thank you for agreeing to work with the Canal & River Trust on your project. The Trust is the guardian of 2,000 miles of historic waterways across England and Wales. We are among the largest charities in the UK, maintaining the nation's third largest collection of listed structures, as well as museums, archives, navigations and hundreds of important wildlife sites. Our canals and rivers are a national treasure and a local haven for people and wildlife. It is our job to care for this wonderful legacy – holding it in Trust for the nation in perpetuity and helping to improve the health and wellbeing of those who come into contact with the waterways.

Within Infrastructure Services, we have a professional team of works engineers, inspectors, technical administrators and specialists in a variety of disciplines ready to help you to deliver your project goals, while at the same time protecting the very special nature of our historic inland waterway network.

Our waterways are a vibrant, living network; they bring life to communities across England & Wales. Income earned by our teams is reinvested directly into the waterways so we can secure the best future possible.

We are working hard to ensure we offer the best possible service to our customers and I am delighted to confirm that our hourly charge out rates for our Works Engineers has remained unchanged since March 2012.

Peter Walker

Head of Technical Support

# 1 INTRODUCTION

The Code of Practice for Works Affecting the Canal & River Trust (The Code) gives guidance and details procedures for all those (The Third Party) whose work may or will affect the property of the Canal & River Trust (the Trust)

The purpose of the Code is to facilitate the undertaking of works by the Third Party while at the same time safeguard the interests of the Trust, and it forms the basis of the relationship between the Trust and the Third Party.

All works that 'affect' the Trust must comply with the Code. This includes but is not limited to construction works on the property of the Trust, works undertaken on neighbouring property, works requiring access across the property of the Trust and works that over sail the property of the Trust.

This document comprises three parts;

1. General Information
2. Detailed Information
3. Forms

Approval to carry out works is gained through an application process which is illustrated on the next page. The process is managed by on behalf of the Trust by Works Engineers.

The Third Party determines the speed of progression of the process by ensuring that the required forms and payments are received by the Trust. The Works Engineer will aim to agree methods of working in a timely manner. The Third Party must allow sufficient time for the process to be completed. Without completion of the process, the works cannot proceed.

The Third Party should provide a single point of contact for the Works Engineer to avoid confusion. The Third Party should disseminate the information from this process to their staff - project managers, site managers, accounts managers, designers, CDM duty holders, contractors, H&S officers and others as appropriate.

## **Access for All**

The Trust has a corporate priority to encourage the use of its network of canals and rivers by people with disabilities. The Trust also recognises its responsibilities under the Equality Act 2010 to take reasonable steps to improve access to its waterways and associated services (including works undertaken by third parties). Where works affect the Trust, the Third Party is required where possible to provide suitable access for all people. The Third Party is required to demonstrate to the Trust that the access needs of all people will be met during and after construction, where the project allows.

## **Community Consultation**

Consultation with various community groups is an important planning issue for any new scheme. With works affecting the Trust's network and infrastructure the Third Party may be required to consult with various groups to gain approval for the proposed scheme and to assure user groups that the development will not adversely affect the waterway environment and associated uses. Community consultation will also be integral to delivering a project that considers the needs of all people, e.g. consult with people with disabilities to ensure that local needs are taken into account.

## **Vandalism**

A significant social issue is potential damage to works, equipment and the environment due to vandalism. In particular, damage to plant and equipment or fuel storage tanks can be costly in both financial and environmental terms. The Third Party is responsible for all fuel, oil and chemicals that are present on the site and for their appropriate containment. The Third Party should be aware of its legal obligations in regard to a pollution incident. Measures should be implemented to reduce the risk of vandalism on-site including risks to the Trust's property and the waterway environment. Where such an incident occurs, the Trust may seek to reclaim any costs incurred in responding.

## **Economic**

The Trust encourages projects which promote local economic growth and employment. As a result, the Third Party is encouraged to utilise local labour and materials within the project that affects the Trust, where appropriate.

## **Environment**

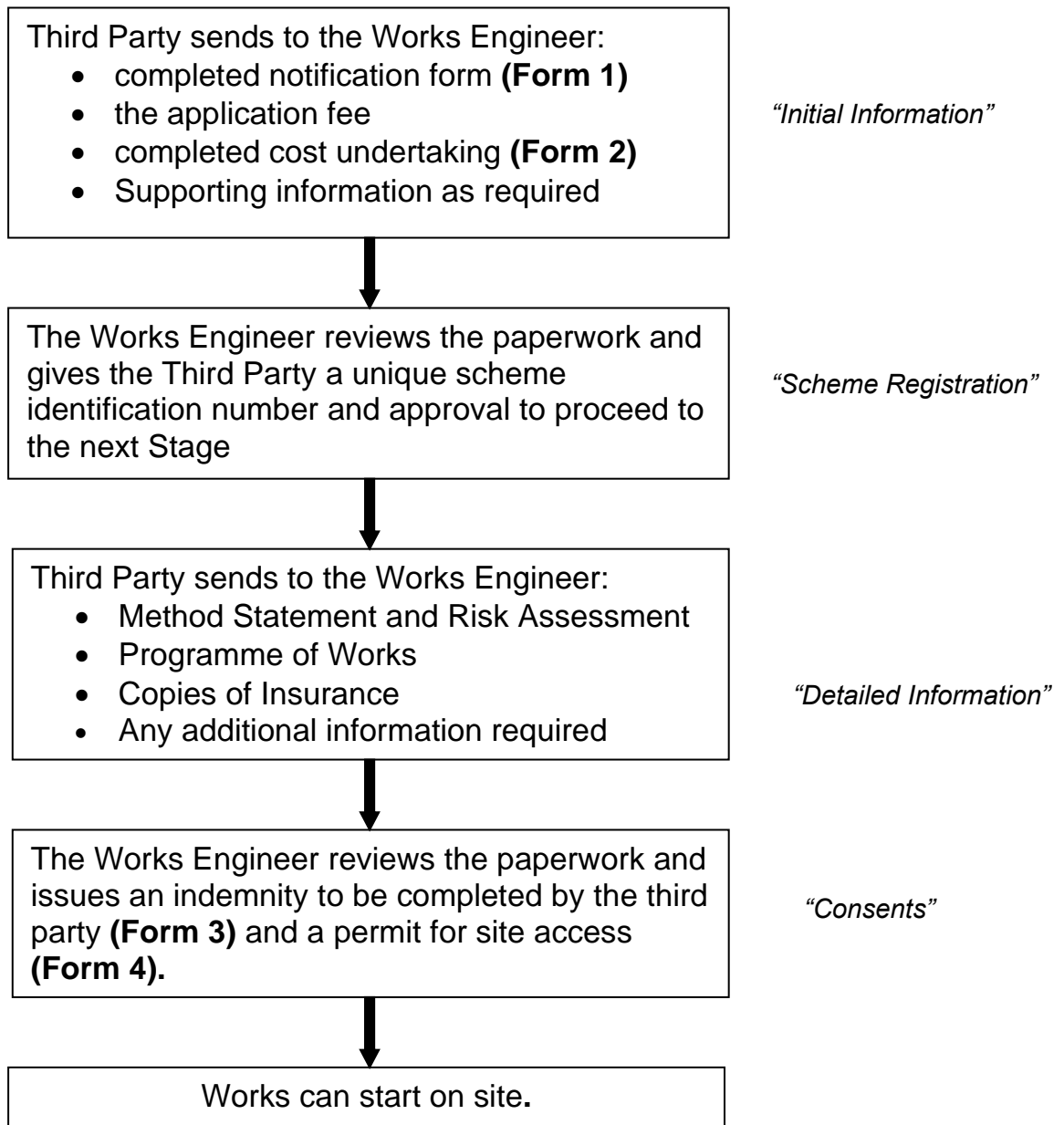
The Trust has a statutory duty to not only protect, but also to further the conservation of the natural environment. As such, all work within its boundaries is subject to agreement with the Works Engineer who may consult internal environmental experts. Third parties must also apply to the Trust for abstraction and/or discharge of water, effluent etc. in every instance as we are not a land drainage authority. This Code of Practice has been written to provide advice for applicants when designing their projects. This can be found in Part 2, section 14.

## **Heritage structures**

Many elements of the waterway fabric are over 200 years old. The heritage of the waterway is unique and even where no statutory protection is in force the Trust seeks to protect and enhance all structures, surfaces and features with heritage/historic value. Part 2, Section 15 provides detailed information.



## 2 APPLICATION PROCESS IN BRIEF



## 3 THE APPLICATION PROCESS

### Initial Information

Having familiarised themselves with the requirements of the parts of this document relevant to the work, the Third Party should complete and submit to the Trust a completed Notification Form, the Application Fee and a Cost Undertaking. (the 'Initial information')

As a guideline, notification of the proposed works should be made **3 months** in advance of commencement of the works, or by **1<sup>st</sup> March** if a closure of the navigation is required within the upcoming winter maintenance period.

As the Trust is subject to the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, we must provide any information requested of us that we hold, unless one of the exemptions applies. This includes information regarding proposed works by a Third Party. There may be some information (such as names and addresses of individuals) that will be automatically exempt under the General Data Protection Regulation (GDPR) and which we will not disclose. There may be other reasons, such as confidentiality or commercial sensitivity, why a Third Party may not wish for the Trust to disclose this information to the public. Whilst we may still have to disclose this information under the Act or the Regulations, we will take your reasons into account in assessing our duties to disclose or withhold the requested information.

### Scheme Registration

On receipt of the Initial Information, the Works Engineer will undertake initial project administration and will provide a receipt for the payment together with a unique scheme reference number which, should be used on all future correspondence. The Works Engineer will then undertake a preliminary appraisal to assess the impact of the works on the waterway.

### Detailed Information

If approval is given by the Works Engineer to proceed to the next stage, the Works Engineer will provide specific site information that affects the works to assist the Third Party in preparing Health and Safety Information. General safety information can be found in section 7 of this document.

The Works Engineer will require from the Third Party a method statement and risk assessment for the works. In addition, depending on the nature of the works, the Works Engineer may require:

- Party Wall notifications
- Condition surveys
- COSHH assessment
- Drawings / Plans / Maps
- Details of proposed diversion route for towpath users
- Copies of consents and approvals already obtained from Regulatory Bodies (e.g. Planning Consent / EA consent)

- Details on the assets of utility companies affected by the works.
- Works Programme
- Copies of Insurance
- EIA or other environmental assessment

The Works Engineer will then review and comment on the proposals. This may require taking advice from other departments within the Trust.

If the works include a request by the Third Party to use the land of the Trust for the works, either in a temporary or permanent fashion, the Works Engineer will arrange for the required licences to be drawn up.

The Third Party should then update documentation taking into account the comments by the Works Engineer; then resubmitting any as required.

Once the Works Engineer is in receipt of the correct documentation, they will return to the Third Party a signed Indemnity Form and a Permit for Site Access Form.

Receipt, countersigning and returning the signed Indemnity Form constitutes approval to gain access to or across the property of the Trust or adjacent land to undertake the works in accordance with the agreed methods of working. A copy of the Permit must be maintained on site to demonstrate to other agents of the Trust that permission is in place. If a valid Permit cannot be produced on demand the works may be stopped. A Trust representative may without notice present themselves at the works and should be granted access to inspect the works.

## 4 LICENCES

In addition to a permit / indemnity form, a licence to occupy property owned by the Trust may be required and if so should be in place before works can begin. A licence is entered into between the Trust and the Third Party and this forms a commercial arrangement.

Examples of when licences are needed include;

- The installing, maintaining and removing of structures on the Trust's property.
- Undertaking regular works on the Trust's property for maintenance, vegetation clearance, cleaning and other similar
- Temporary use of the Trust's property, including: scaffolding, hoarding, towpath closure, crane oversail, storage area and site compounds.
- Use of floating plant to extend a site
- Towpath closures
- Installation of utilities

All licence fees are payable ahead of receipt of the Licence. The Licence fee comprises two parts: the fee to raise the licence and the weekly occupation fee. A further fee is levied for extending the licence and is payable before the date of expiry of the original licence.

## 5 NAVIGATIONS AND TOWPATHS

### Navigation Closures

A major element of the work of the Trust concerns Navigations and Towpaths. The Trust aims to keep all navigations and towpaths open wherever possible. With this in mind, the Third Party is strongly advised to design their works to avoid such closure as permission will only be granted in exceptional circumstances.

The term “Stoppage” is used to define the period of time that a waterway is closed to allow works to be undertaken.

Where the works reduce the width of the canal but still allow for the passage of boats and / or create a delay for boaters not exceeding 30 minutes (once in any 3 hour period) – this is classed as a restriction.

To avoid closures, the Third Party is advised to consider utilising restrictions, such as;

- A day time restriction on a towpath could involve closing the towpath for a few minutes at a time using a banks man.
- A day time restriction on a navigation could involve closing the navigation for up to 30 minutes at a time within any 3 hour period (for small scale works this may be negotiable). Requires 1 months’ prior notification.
- A night time restriction on either a towpath or navigation could be for up to 7 hours, 2300 to 0600 hours, managing boat traffic on a stop/start basis. Requires 1 months’ prior notification.
- Width restrictions as long as one boat can pass.
- A night time closure 2300 to 0600 hours (applied for outside of the normal notification period for winter works), requires 3 months’ prior notification.

Our Works Engineers can advise further.

If a restriction is not practical, full closures (or ‘stoppages’) may be requested by the Third Party but these requests are often rejected as they impact upon one of our primary roles i.e. to make the waterways available to all. Stoppages are subject to consultation by users and this consultation can take several months to complete.

Any request for stoppages of less than 6 weeks (preferably no more than 4 weeks) should consider that permission, where granted, is more likely if (a) the request is for a closure in the periods 1 November to 20 December and 15 January to 29 February and (b) is received by 1st March for a closure of the navigation within the upcoming winter maintenance period, Nov - Dec 2020 and Jan – Feb 2021. However, in line with the Trust’s objectives of keeping the network operational some canals are considered for closure pre-Christmas whilst others may not be until after Christmas.

Stoppages may only be available if they coincide with the Trust’s pre-planned proposed winter maintenance dates (see table below for these dates).

Freight and commercial waterways and river closures should be discussed with the Works Engineer at an early stage. These waterways may fall outside the general protocol and will

have to be considered on an individual basis. Extra costs may be applied especially in tidal waterways.

A late booking fee will apply for stoppages requested without the required notification period.

Requests for stoppages between March 1<sup>st</sup> and October 31<sup>st</sup> are seldom granted. There is also a 2 week window over Christmas where the navigation must remain open.

If granted, a stoppage begins at 08:30 on the first day and ends at 17:00 on the last day unless otherwise specified.

The fees for stoppages are listed in Section 8.

The Third Party may be required to install signs on site to advertise the stoppage.

All stoppages must be of minimised duration. Where feasible the waterway should be re-opened to navigation at weekends during the stoppage.

Transfer of boats around the works by road may be required at the Third Party's expense.

Some boating businesses have agreements with the Trust entitling them to compensation for loss of income due to disruption and these charges will be passed on to the third party.

### Proposed winter maintenance dates

	Pre-Christmas		Post-Christmas	
	From	To	From	To
<b>2019/20</b>	04/11/2019	13/12/2019	02/01/2020	13/03/2020
<b>2020/21</b>	02/11/2020	11/12/2020	04/01/2021	19/03/2021
<b>2021/22</b>	08/11/2021	17/12/2021	04/01/2022	18/03/2022
<b>2022/23</b>	07/11/2022	16/12/2022	03/01/2023	17/03/2023
<b>2023/24</b>	06/11/2023	15/12/2023	02/01/2024	15/03/2024
<b>2024/25</b>	04/11/2024	13/12/2024	02/01/2025	14/03/2025
<b>2025/26</b>	03/11/2025	12/12/2025	02/01/2026	13/03/2026
<b>2026/27</b>	02/11/2026	11/12/2026	04/01/2027	19/03/2027
<b>2027/28</b>	08/11/2027	17/12/2027	04/01/2028	17/03/2028

## Towpath closures

The Trust require 4 weeks notice for a towpath closure; in addition to any statutory obligations relating to public rights of way (which remain the responsibility of the Third Party). Notices of a suitable size and type in general accordance with the Traffic Signs Manual Chapter 8 are required to be displayed for towpath closures.

Two weeks before the closure, the Third Party should display a notice at both ends of the closure, to advise users with an “**ADVANCE NOTICE OF TEMPORARY TOWPATH CLOSURE**” notice.

On the first day of the closure, each of these should be replaced with a “**TEMPORARY TOWPATH CLOSURE**” notice displayed with a plan of the diversion route.

On completion of the works all notices and diversion route maps should be removed.

Where a towpath is a Public Right of Way (PRoW), the Third party is responsible for obtaining consent for closure from the Local Authority.

The towpath should be closed over its entire width in a manner that prevents people moving past or climbing over the barrier. The barrier should be self-supporting and as required lit at night to make it discernible to towpath users that there is a barrier across the towpath.

The Trust will not permit towpath closures to overrun beyond the agreed period. Should your project overrun beyond the agreed period the Trust will impose a number of sanctions in order to ensure the towpath is reopened as soon as possible. In signing the Code of Practice, you are agreeing to pay the reasonable financial penalty imposed together with reasonable compensation to affected Trust customers and waterway business.

The sanctions include (but are not limited to):-

- Daily Penalty fees to for each day that the closure overruns (these fees will be advised by your Works Engineer before your works commence on site)
- Reasonable compensation payment to identified Trust customers and waterway businesses who have suffered loss as a result of the additional closure
- The Trust requires the site to be returned free from any plant, equipment, debris used in the course of the works to which the closure applies
- Recovery of costs (including legal fees and interest) incurred by the Trust in clearance of machinery and/or debris left on the land following completion of the works.

### Key facts:

- **Apply for the stoppage before 1 March 2020 for a closure Nov 2020 to Feb 2021**
- **Payment is required in full on application**
- **Some canals are programmed for a stoppage pre-Christmas, others post-Christmas.**
- **A decision on a stoppage is unlikely to be made before August 2020**

## **Loading on Towpaths**

Wherever possible the Third Party should design the works to avoid plant and equipment on towpaths. In the event that plant or equipment is required to be on the towpath, the edge of plant tracks must be located outside of the 45° load line projected from the bottom of the canal wall. The plan distance between the tracks and canal edge is an exclusion zone which must be physically marked on the towpath. In any case permission for it being on the towpath must be given by the Works Engineer. (See Part 2 / Section 12 for more details)

In all cases, the suitability of the towpath for load bearing must be agreed with the Works Engineer in advance. It is worth noting that nearly 50% of our towpaths are classed as unsuitable for vehicles.

## **Works adjacent to the Waterway**

In the case of works adjacent to the Trust's property, the principles are that no support is offered and no loads are to be imposed on the property. The Party Wall ...etc Act 1996 is usually applicable and you may wish to apply in accordance with that Act.

The Trust enjoys a right of support under Common Law. It is important that support is not removed by excavation, dewatering undermining etc. In areas of mining subsidence canals can be of great depth due to bank raising - 10m is not unknown. Factors of safety are often not great and ill-considered actions can be disastrous.

A less obvious consequence of excavating near to canals is that of increasing hydraulic gradients. Not all canals are lined and so seepage rates can be increased. Permanent leakage or piping failure can result.

The Trust offers no support to new works. Loads should not be placed near to cuttings, over tunnels etc. without being independently supported. Should a Trust structure withdraw support from later development, the Trust would accept no liability. When building over tunnels, for example, not only should the new structure span independently but the effect of a collapse of the tunnel should be considered.

## **River Navigations**

River navigations are affected by currents, floods and in some cases tides. There will be a deep navigation channel, not necessarily in the centre of the river. Elsewhere there may be insufficient depth to navigate. It is less easy to control vessels travelling in the same direction as the flow than those travelling against it. The former can move at considerable speed and need sufficient visibility and space to manoeuvre. Temporary and permanent works in the river can produce turbulence affecting navigation. The effects will vary in different river conditions.

## **Stability of Structures**

Many existing structures were built before slope stability, foundation design etc were understood. Materials and methods now taken for granted were not available. Compaction of embankment fill was not possible. It was not practice to prepare engineering drawings until the 1820's. Calculations were not undertaken until later in the 19<sup>th</sup> Century.

Old structures often have factors of safety close to unity. Factors of safety for embankments and cuttings reduce with time. Old structures are therefore particularly vulnerable to nearby works. Ill-considered excavations at the toe of an embankment, for instance, can have disastrous consequences.



No discernible vibration will be acceptable to Trust property unless the level of vibration has been prescribed in advance by the Works Engineer. Vibration is a particularly significant issue close to embankments of a granular composition.

All work near old structures must be carried out with great care and forethought. It is the Third Party's responsibility to demonstrate that there will be no detrimental impact on existing structures.

## 6 CONDITIONS

- 6.1 All operations affecting the Trust's property shall be carried out in such a manner so as not to endanger or damage the Trust's property and/or any persons entitled to be present thereon and to avoid (except to the extent agreed in writing) any interference to the free movement of any persons, pedestrians and/or road and waterborne traffic.
- 6.2 Generally the Trust must be consulted for any works proposed within 15m of the Trusts land boundary, with the exception of more far reaching works such as scaffolding, demolition, piling or vibration impacts, etc. which may present a hazard beyond a 15m separation distance. The Third Party shall not commence any Works, particularly excavation piling or dredging work, until adequate provisions to the satisfaction of the Works Engineer been taken to ensure the stability and security of any Waterway or associated supporting structures whether in the ownership of the Trust or not and to prevent the escape of water there from.
- 6.3 The Third Party shall if required by the Works Engineer provide temporary fencing to the satisfaction of the Works Engineer to provide safety and to prevent trespass or the straying of animal or poultry stock.
- 6.4 The Works Engineer and other agents of the Trust shall at all times have reasonable access to the Trusts property on the site.
- 6.5 Unless otherwise agreed uninterrupted passage for craft on the Waterway is to be maintained at all times. All lights provided by the Third Party shall be so placed or screened so as not to interfere with any signal lights, navigation lights and/or beacons of the Trust. Any Temporary Works which obscure signs signals or beacons shall not be erected without the written permission of the Works Engineer.
- 6.6 In addition to any special marking or lighting requirements of the Works Engineer, warning notices/signs/lights must be displayed throughout the duration of the Works as follows:

- For works taking place on Trust land for less than 1 month duration, boards with the words CAUTION - WORKS IN PROGRESS in red letters 150mm high on a white background shall be erected on both banks of the navigation at a distance of 100 and 200 metres upstream of the works. In addition, one A2 sized board (420 x 594 mm) shall be erected on both banks displaying the Canal & River Trust logo, examples of the template are below. Contact your Trust engineer for a copy of the template.



Your logo here



Insert your logo here

**CAUTION  
WORKS IN  
PROGRESS**

[Insert company name] is working here [from xx/xx/xx] to [xx/xx/xx]  
They are helping make life better by water by [laying pipe/building bridge across the Grand Union Canal etc.]  
If you've got any questions or concerns about this work, please contact [add company name again and company contact telephone/email].



- For works taking place on Trust land for 1-3 month duration, requiring the use of fencing or hoarding a sign/board at least A1(594 x 841mm) sized shall be erected on said fencing/hoarding displaying the Trusts logo; see template in appendix y. If there is no fencing or hoarding in use then an A2 sized sign shall be erected on both banks, contact Trust engineer for a copy of the template.
- For works taking place on Trust land for 3 - 6 months duration requiring the use of fencing or hoarding a sign/board at least A0(841 x 1189mm) sized shall be erected on said fencing/hoarding displaying the Trusts logo; contact Trust engineer for a copy of the template.
- For works taking place on Trust land for more than 6 months, please speak to the works engineer regarding the inclusion of joint branding on the works hoardings.
- by night, lights shall be displayed to define the navigation opening upstream and downstream of the Works. Two red lights side by side, 300 mm apart should be fixed at each position and in addition an amber light should be displayed upstream and downstream of the Works to mark the centre of the navigation opening.
- Where the completion of the Works involves projections of any kind into the navigable channel and/or anywhere vertically above the line of its edge the Contractor shall conform to the Board's Bye-Laws in respect of signing, marking, lighting and fendering.
- Where work is on a River or Freight Waterway the Third Party should discuss the lighting requirements with the Works Engineer as IALA lighting requirements must be followed.

6.7 No construction equipment for the Works shall be allowed on the Trust's property and, in particular, adjacent to the canal without the acceptance of the Works Engineer which may be subject to the prior submission of stability calculations.

6.8 The Contractor shall NOT without the specific written permission of the Works Engineer (and then ONLY under such conditions and restrictions as the Works Engineer may require) do any of the following:

- Use or place plant and/or heavy vehicles which may cause damage to the Waterway and which shall particularly include but not be limited to damage to Waterway walls.
- 'Crane' or otherwise similarly move plant materials and/or vehicles over any Waterway.
- Use floating plant barges and/or pontoons and the like in any Waterway.
- Excavate, tunnel or carry such other underground operations beneath any waterway.
- Display any advertisement or other material, except as specifically required by this condition, on or above the Trust's property.
- Discharge trade or sewage effluent, or arising's, surface water of any kind in any way into or onto the Trusts property including the waterways.
- Abstract extract and/or draw water from the Trusts property including the waterways.
- Damage or remove flora, fauna, waterway relics, architectural heritage, industrial heritage, landscaping, towing paths or waterway walls.
- Drill into any Trust Asset, including Coping Stones on the bank
- Store fuel or oil re-fuel service vehicles or plant on or in proximity to the waterway where there is a risk of pollutants entering the waterway.
- Access the Trust's property by any unauthorised route.

6.9 The Third Party shall take all necessary measures to prevent:

- Siltation of any Waterways.
- Damage to the Trust's property.
- Construction debris, materials or arising's of any sort which shall include but not be limited to bricks, timber, containers of any kind, reinforcing bars, polythene or plastic sheeting entering any waterway.
- Contamination of any waterway with any toxic, or other polluting matter or liquid of any sort which shall include but not be limited to grout, concrete or silane.
- The creation of any hazard to the visitors to the Trusts property which shall include but not be limited to oxy-acetylene burning, welding, grit blasting, water jetting or cleansing, spraying or pointing. Alternatively, all such works shall cease until the craft or persons are past and clear.
- The spread of any invasive species

In the event of any of the above occurring the Third Party shall immediately inform the Works Engineer and then follow their instructions to abate and remedy the situation.

On completion of the Works all surplus material attributable to the Works, including any temporary works, on the Trust's property (including the waterway) shall be removed from it and the property shall be made good to the satisfaction of the Works Engineer.

6.10 Where for the purpose of completing the Works any Temporary Works are required above the waterway the Third Party shall provide and maintain a minimum height clearance above the water surface as specified by the Works Engineer.

6.11 The Third Party should particularly note when planning any work in relation to the waterway that the Trust cannot guarantee any particular water level or depth, nor prevent any fluctuations to such water level depth or speed of flow in any Waterway.

If completion of the Works necessitates the closure and/or the reduction in width of the Waterway or towpath the Third Party shall strictly comply and work within the arrangements and limits defined by the Works Engineer for the closure and/or reduction in width of the Waterway or towpath.

- 6.12 Any vessel or craft on the waterway for which the Third Party has obtained the permission of the Works Engineer for use in completing the works shall be licensed, used and moored in accordance with the Trusts Bye-Laws.
- 6.13 If any plant, vessel or craft falls or sinks or is cast adrift the Third Party shall immediately inform the Works Engineer and take immediate steps to make the hazard known to users of the Waterway. The Third Party shall immediately arrange the salvage/re-securing of the plant, vessel or craft from the Waterway and until such salvage/re-securing has been completed the Third Party shall provide buoys and/or markers and erect warning notices indicating the navigation hazard to Waterway users to the satisfaction of the Works Engineer. In the event of resulting oil or fuel spills affecting the water or land, the Trust may seek to recharge any costs incurred through containing and treating the spills.
- 6.14 The Third Party shall keep the Trusts property free from rubbish. The Third Party shall not leave rubbish or project waste on or in the property of the Trust
- 6.15 All damage to the Trust's property shall be made good by the Third Party to the satisfaction of the Works Engineer.
- 6.16 The following actions shall be taken by the Contractor in the event of any damage in the Waterway its containment and/or supporting structure or banking:
- IMMEDIATELY inform the Works Engineer and (if required) the Emergency services.
  - Secure the area from the approach of traffic and/or the general public.
  - Render every assistance to the Emergency Services and/or the Trust as shall be requested for the purposes of mitigating water loss and/or damage arising from the incident and/or for the purpose of securing public safety and the stability of other property.
- 6.17 The Third Party will be liable for any damage arising from the activities of his or her Agents, such as Consulting Engineers, Contractors and Sub-Contractors. In the event of a claim, the first course of action by the Trust would be directed towards the Third Party, though others may be joined in. It is in the Third Party's interest to ensure that their agents have adequate insurance to protect him or her from action. However, it is the Third Party's responsibility to ensure the appropriate level of cover is taken. If a Third Party or his or her agents, causes damage to the Trust's property then it will seek reinstatement of such damage, plus any inconvenience costs, loss of profits etc., which the Trust might incur, in full and without monetary limit. Levels of insurance will be specific to the risks attached to the proposal. The design and construction of the Works should minimise risk to a reasonable level such that insurance for **£5,000,000** should suffice. If the potential consequences require it, higher insurance levels may be necessary. The Trust reserves the right to inspect copies of insurance documents to ensure adequate levels of cover.
- 6.18 Press and publicity activities regarding the intended works must have the approval and prior knowledge of the Trust.
- 6.19 Site signs of agreed format should be erected indicating the organisation responsible for the Works including a description of the Works and telephone numbers for twenty four hour emergency contact and provide an apology for disruption caused to the Trust's customers.

- 6.20 All contract work and reinstatements shall have a maintenance and defects correction period, normally for one year.
- 6.21 If the Works Engineer considers the Waterway, Waterway users, or environmental or heritage features are at risk until his or her reasonable requirements or conditions have been met, the Works Engineer reserves the right to order operations to be suspended and issue a cessation of works notice (Form 5). It should be noted that the Trust cannot accept any liability for any costs or claims which may be incurred by the Third Party as a result.
- 6.22 The Works Engineer shall be given twenty-eight days' notice of the end of the maintenance Defects Correction Period of the Works Contract and/or seven days' notice of any meeting in connection therewith, to enable an inspection to be made to ensure all outstanding works have been completed.
- 6.23 No works of maintenance, alteration or demolition may be carried out unless further submissions have been agreed.
- 6.24 In order to demonstrate the public value of the canals and rivers, the Trust is required to capture the value of investments in its canals and rivers, therefore we require the third party to supply financial information in respect of the costs of works which constitute improvements to the waterway as set out in Part 2 / Section 16. Such works may include, improved towpaths, access points, waterway walls, signage and other physical improvements to improve public access to waterways. The final information required by the Trust is a copy of the final certificate from the contractor or the final invoice, both of which need to demonstrate the cumulative value of the works. If the works are completed "in house" then a screen shot/report from the internal financial system demonstrating the value of works carried out on the Trust's infrastructure. This information will be for internal use only and will not be published externally and treated with the strictest confidence.

## 7 HEALTH AND SAFETY CONSIDERATIONS

### General

This section highlights some types of hazard that might be encountered in the canal and waterway environment. Whilst the examples outlined are believed to be comprehensive, they cannot be seen as exhaustive as with 3000km of canals and waterways there can be specific hazards and conditions which maybe unique at a location. You are advised to seek more detailed information. You should present this information to your designer in addition to any site specific information provided by the Works Engineer.

The Trust's canals and rivers in general are not hazardous environments but there are some elements that need to be considered when working, or seeking access along, our property.

The canal and river system does not have an easy reference system for locating yourself when compared to most works where an address is often enough for suppliers and emergency services to locate your works. Site staff and suppliers need to be given accurate information to allow them to locate you from the adjacent road system. This may be a problem in both rural and urban areas. All bridges and locks are numbered to assist with this.

Some areas of the canal network have poor reception for mobile phones and you should test coverage at an early point in the project feasibility stage. Be aware that different networks have different coverage so there may not be universal coverage. Towpath conditions can vary throughout the year with some surfaces becoming wet and slippery particularly during the winter months. Some lengths of canal can be very exposed and changing weather conditions can present new hazards.

The Trust invites the general public onto its property to enjoy both boating as well as towpath access for walking, cycling and fishing, etc. It must be assumed that these people are unfamiliar with the risks associated with your activity and you may need to take additional precautions to protect them. The towpath, the path adjacent to the waterway, is not usually suitable for vehicular traffic. You may have been given specific permission to use the towpath if it is suitable, otherwise you must gain access by alternative routes.

Where permission has been given then the requirements of the approved method of access must be strictly adhered to. Driving too close to water's edge or with larger plant than specified, can lead to the failure of the towpath edge and vehicles capsizing into the canal. In such instances, there is the risk of occupants being trapped in their vehicle. Particular attention needs to be paid to ensuring that vehicles and plant can be safely turned around. Reversing vehicles down the towpath is not acceptable without a banks man and safe turning areas need to be identified as part of any method statement. In public access areas such as car parks, etc all reversing manoeuvres must be supervised and banks men used where necessary.

### Water and its hazards

Canal and river water represents a number of hazards. The obvious risk of drowning is in fact less than that of the shock of falling into the water, particularly in cold conditions which can cause a heart spasm. Despite the majority of canals being relatively shallow, dragging oneself out of the water when cold and wet can be energy sapping particularly if you are some distance away from welfare facilities. The Trust strongly advises that suitable life jackets are used when working near water.



Water levels on rivers in particular can change rapidly as a result of river flows upstream or the operational need to transfer water. Particular areas to avoid are weirs and sluices where water speeds can be higher than expected.

The water and canal sediments can be potential sources of infection, in particular leptospirosis, which is a life threatening disease which most doctors are unfamiliar with. This can lead to delays in treating the disease and long periods of rehabilitation.

Other more obvious health problems are stomach bugs and the possibility of infections entering your body through cuts and abrasions.

In certain areas there is a hazard from discarded syringes and other antisocial activities. Accessing these areas unaccompanied, particularly at night, may not be advisable.

### **Services and other hidden hazards**

Buried within the towpath and also present overhead are large number of services all of which have the potential to cause injury to your staff or disruption to the local community if damaged. Risks from striking underground high voltage electricity cables and gas services are significant. Some of these services maybe unfamiliar to Third Parties as they include strategic oil pipelines, fibre optic cable networks and occasionally private services such as oxygen mains linking parts of adjacent factories together. Increasingly the Trust has its own apparatus within the towpath providing power to locks and other structures.

### **Structures**

Many of our structures are old and were never designed to accommodate the activities of the 21<sup>st</sup> century. Some modern plant and equipment can gain access to the waterways in a way that was never envisaged when the system was constructed. It is worth remembering that the original canal system was operated by men with horses. Some of the canal side buildings have fallen into disuse and entering them can present particular hazards ranging from weak floors through to abandoned materials which maybe unstable or harmful.

Preserving the heritage of the canal system sometimes means that trip hazards and some unguarded falls may not be safeguarded in the way you may expect. Some of our structures particularly those below ground, such as culverts, can harbour poor air conditions sometimes with fatally low oxygen levels.

Increasingly some of our structures are mechanised and this can lead to entrapment hazards with structures such as lock and bridges moving unexpectedly, giving the potential for people to be crushed between the moving and static elements of the structure. It is essential that agreed lock-off procedures are implemented when it is necessary to work within the confines of such structures. Sometimes the hazard can change as a result of the day-to-day operation, for instance a full lock does not represent such a hazard to falling from a height as does an empty lock.

The Health and Safety File for the works should include reference to this Code or a statement that the Trust's agreement must be obtained before any works of maintenance, alteration or demolition are undertaken.

**Please note the above information is general to the canal and river network. There may be site specific information that the works engineer can make available and you should request this information.**



## 8 FEES

In general, the Trust will normally recover all reasonable costs associated with the works.

The Application Fee, to be paid upon notification of the works, is **£380 + VAT**. This covers the initial administration associated with each project. The application fee will be valid for up to 12 months, a new application will be required if no works are undertaken within this period.

The fee and any further costs can be paid by Credit / Debit Card by telephone or in person at any Trust office; by BACS transfer (please contact the Works Engineer for details) or by Cheques made payable to Canal & River Trust.

A receipt will be issued upon receipt of each payment.

The Trust will issue invoices throughout the life of the project at a frequency of not less than 1 month and not greater than 3 months.

In the event of late payment, the Trust may charge a rate of 8% above the Bank of England base rate on overdue amounts. The Trust also reserves the right to claim debt recovery costs.

At the discretion of the Works Engineer, projects of a domestic nature or where there is no commercial benefit, a reduced application fee of £150 + VAT may be applied.

Reasonable costs include time (measured in hours) dedicated to the application of this process. This will include the time of the Works Engineer and other staff of the Trust or Consultants as may be required.

The current rates per hour for Trust staff are as follows (subject to annual increases);

Grade	Rate (£/hr)
Administration / Operational	60
Supervisory	75
Technical	90
Professional / Management	120
Senior Management/Principal	180

The Works Engineer is classed at professional / management unless otherwise indicated.

Consultants and Contractors procured by the Trust as part of the process will be re-charged to the third party.

The Third Party will be required to sign a cost undertaking to guarantee that the Trust will receive payment. The Works Engineer will not progress a project past the initial application unless the cost undertaking is in place

The Works Engineer will advise upon the amount to be included in the Cost Undertaking. This is usually £5,000. NB: The cost undertaking is for a sum exclusive of VAT

Disbursements - subsistence and other out-of-pocket expenses will be recharged at cost. Car mileage will be at 56p per mile.

Costs incurred for projects which are cancelled by the third party will still be invoiced.

The Works Engineer will be happy to provide an outline quotation in advance of the works. This will clearly be subject to change as the project progresses as the required inputs from the Trust's staff are established. As a guide, the following charges are typical in addition to the application fee, and are quoted ex of VAT:

### **Notices**

For issuing / amending a restriction / advice / stoppage notice - £500

### **Stoppages**

The term "Stoppage" is used to define the period of time that a waterway is closed to allow works to be undertaken.

The Canal & River Trust (the Trust) customers are very tolerant and understanding with regard to stoppage works. Often these works create a huge disruption to their plans as practical diversion routes are not always available. For Boaters these diversion routes can often take weeks to navigate. It is therefore in all our interests to ensure that the duration of stoppages is reduced as much as possible.

Stoppage works during the summer season (1<sup>st</sup> March – 31<sup>st</sup> October) will not be agreed by the Trust, save in exceptional circumstances. It is vital that the waterway network that is open and accessible to all users remains open and there is not a negative impact on the boating tourism industry.

### **Unauthorised Stoppage Overruns - Penalties**

The Trust will not normally permit stoppages to overrun beyond the agreed period. Should your project overrun without authorisation beyond the agreed period the Trust will impose a number of sanctions in order to ensure the waterway is reopened as soon as possible. In signing the Code of Practice, you are agreeing to pay the reasonable financial penalty imposed together with reasonable compensation to affected Trust customers and waterway business.

The sanctions include (but are not limited to):

- Penalty fees of £10,000 minimum for each day of the unauthorised stoppage overrun (these fees will be advised by your Works Engineer before your works commence on site)
- Reasonable compensation payment to identified Trust customers and waterway businesses who have suffered loss as a result of the additional stoppage
- The Trust requires the site to be returned free from any plant, equipment, debris used in the course of the works to which the stoppage applies
- Recovery of costs (including legal fees and interest) incurred by the Trust in clearance of machinery and/or debris left on the land following completion of the works

## Stoppage Overruns – Working together to prevent these

Should your works require a stoppage the Trust will require your co-operation in working together with its own Works Engineer to ensure that the works are completed without overrunning on the booked stoppage. Typically this will include

- Commenting on your proposed programme of works with respect to the closure of the canal
- Requiring you to confirm that the programmed stoppage period has been validated via some form of Early Contractor Involvement
- Requesting weekly progress reports including confirmation that the stoppage period will not be exceeded
- Weekly site visits by our Works Engineer and / or Works Inspector to check on progress of the works

## Winter Stoppages

The Winter period is generally when the Trust undertakes works that require the canals to be restricted or closed, and it is during this period that we will consider requests from outside organisations for closures and/or restrictions.

For a navigation stoppage in “Winter” (1<sup>st</sup> November to 29<sup>th</sup> February) a fixed weekly charge in the amount of £2,500 will be applied.

A stoppage application confirming the proposed works and canal closure dates must be received by the Trust no later than the 1<sup>st</sup> March for the upcoming Winter stoppage season (which will commence on the following 1<sup>st</sup> November). The application will form part of the Trusts annual public consultation on proposed stoppages. A decision on a stoppage is unlikely to be made before August 2020.

A late booking fee of **£5000** will be applied for stoppages requested after 1 March, as such applications will require a bespoke review and approval process.

Once the stoppage is applied for, the fees for that stoppage become due immediately. Please note no refunds will be made in the event of any subsequent cancellation by the Applicant or reduction in stoppage time. If a stoppage is not approved by the Trust, stoppage fees will be refunded to the applicant.

## Summer Stoppages

The Summer season is when the canals are at their busiest. Requests for stoppages during this period will only be granted in exceptional circumstances. Any works will therefore need to be carefully planned to avoid the summer season.

Summer stoppage applications will be considered on a case by case basis. Permission and fees may vary depending on location.

Please note that for both Winter and Summer stoppages there may be additional costs for the actual implementation of a stoppage or restriction on site depending on the technical details. Please also note that compensation for freight carriers and other businesses may also be required – the Works Engineer will be able to offer guidance on this.

## **Use of Waterspace**

Works that require the use of the waterspace may be subject to charges depending on the details. The Works Engineer will be able to advise.

## **Towpaths**

For a towpath closure - £600 per week

## **Miscellaneous**

Issuing a cessation of works notice - £500

Wharfage – this includes mooring operational craft, their lifting in and their lifting out – costs to be determined upon receipt of the details by the works engineer.

## **Site Permit fees**

One month £150.00

One to 6 months £200.00

Greater than 6 months – by negotiation only

## **Specific tasks**

Some typical costs are included below for specific tasks, you should note that these can vary dependent upon the complexity of your scheme and the amount of staff time required to consent your scheme:

Bridge or Structure Inspection -

- From Towpath - £450
- From Towpath (some of inspection team in the water) - £1070
- By boat or rope or under bridge unit/working platform - £1,370
- Plus pontoon charges at £10/sq. m/week
- By divers (with or without boat) - £2,150

In addition to the above guide costs you will still be responsible for the initial sign on fee.

## **Scaffolding / Safety fencing / Heras fencing / Boarding**

A charge is made based on the duration, length and width of these items. The minimum charge is £5 / linear m / sq. m/ week. The maximum charge is £25 / linear m / sq. m/ week. Charges are not prorated for shorter durations. The actual charge for your scheme will be determined by the Works Engineer.

Large scaffolds requiring an extensive use of land will be managed through a licence (see Section 4).

**NB:** Any vessel or craft on the waterway for which the Third Party has obtained the permission of the Works Engineer for use in completing the works shall be licensed, used and moored in accordance with the Trusts Bye-Laws.

## Summary of Costs

A summary table of our costs is presented below for information

Description	Rate/Value												
<b>Application/Registration Fee</b> Applicable to all projects/schemes	<b>£380</b>												
Staff Time (Works Engineer is Professional/Management)	<table> <thead> <tr> <th>Grade</th> <th>Rate (£/hr)</th> </tr> </thead> <tbody> <tr> <td>Administration / Operational</td> <td>60</td> </tr> <tr> <td>Supervisory</td> <td>75</td> </tr> <tr> <td>Technical</td> <td>90</td> </tr> <tr> <td>Professional / Management</td> <td>120</td> </tr> <tr> <td>Senior Management/Principal</td> <td>180</td> </tr> </tbody> </table>	Grade	Rate (£/hr)	Administration / Operational	60	Supervisory	75	Technical	90	Professional / Management	120	Senior Management/Principal	180
Grade	Rate (£/hr)												
Administration / Operational	60												
Supervisory	75												
Technical	90												
Professional / Management	120												
Senior Management/Principal	180												
Site Access Permit	Up to 4 weeks: £150 Up to 6 months: £200 Over 6 months: By negotiation/license only												
Notices: Issuing or amending an Advice/Restriction/stoppage notice	£500												
Cessation of Works Notice	£500												
Winter Stoppages in line with process (Payable on application)	£2,500 per week												
Unauthorised stoppage overrun fee	<b>£10,000 per day</b>												
Towpath Closure	£600 per week												
Scaffolding (rates vary by location/impact)	By negotiation												
Temporary fencing along our boundary e.g.: Herras, site hoarding etc.	£10 per linear metre per week												
Pontoon charges	£10 per square metre per week												
Wharfage	£650 per week												
Land Occupation (e.g. for site compound)	By negotiation.												
Inspection activities	From Towpath: £450 From Towpath (some of inspection team in the water): £1,070 By boat or rope or under bridge unit/working platform: £1,370 By divers (with or without boat): £2,150												

## **B2 Code of Practice for Works Affecting the Canal & River Trust: Part 2 – Detailed Information**

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### Section 3.0 Water Discharge

## 3.0 WATER DISCHARGE

This section is applicable to canals and navigable rivers where the Trust is riparian owner and those navigations identified in Statutory Instrument No 1195 *'The Inland Waterways of British Waterways Board Order 1965'* as amended. The requirements relating to navigation are applicable to other river navigations.

### 3.1 Introduction

The Trust is not a land drainage authority. Water levels in canals are maintained in dry spells using reservoirs, river abstractions, pumping from ground water sources and re-circulatory pumping at locks ('back pumping'). Water levels are controlled in wet periods using overflow weirs and manually controlled sluices. Without these, the canal would overtop and may breach its banks, causing damage to property and possible loss of life. When the canals were constructed, they were usually a closed system, isolated from the effects of storms. Therefore storm water discharges do not assist in dry periods and can cause severe difficulties in wet conditions. Where a new (or modified) discharge is proposed, it will be reviewed to determine if the benefits to the Trust outweigh the risks of acceptance and approval by Water Management and Environment Teams, the Waterway and the Utilities Team will be required. In the majority of situations, there is no obligation on the Trust to accept discharges.

### 3.2 Feasibility, Design, Operation & Maintenance – Flood Risk considerations

The only discharge which will normally be considered is uncontaminated surface water in small quantities at suitable locations. The Canal and River Trust undertakes a staged process to review the impact of all new or modified discharges to its network, in addition to any considerations that are made by the Environment Agency and/or the Local Planning Authority via the normal planning process.

If the applicant, as part of their site drainage plan, wish to discharge surface water into an inland waterway owned or managed by the Trust then an application should be submitted to the Trust who will provide details of the application review process and associated fees. In order to deliver a successful outcome for all parties it is vital that the Trust is consulted as early in the process as possible, potentially even before the land is purchased.

The Trust supports the principles of Sustainable Drainage Systems (SUDS) which should be followed. Guidance is given in the CIRIA publication C523 'Sustainable Urban Drainage Systems – Best Practice Manual' – This refers to the CIRIA Sustainable Urban Drainage Design Manuals C522 for England and Wales. The Flood & Water Management Act 2010 introduces changes to the legislation relating to SUDS, and subsequent editions of this document will reflect those changes, once enacted/commenced.

The details of on-site flow attenuation measures (such as SUDS) giving details of design, information about storage or drainage of water in excess of attenuation should be provided as well as any details of maintenance and adoption agreements for SUDS. If the SUDS are not maintained in the long term, then they will fail to provide the design attenuation and the Trust will be exposed to the full un-attenuated additional flood risk. Any SUDS such as underground storage, ponds, soakaways, flow restrictors etc. must have a suitable maintenance regime in place to ensure their effective operation over the life expectancy of the development.

In addition to the above information, the details of the proposed connection with the canal should be provided together with an estimate of the peak velocity of the discharge orthogonal to boat movement.

Discharges are not usually permissible directly above and below locks, adjacent to moving bridges and at mooring sites. Navigational difficulties would ensue as a result of the transverse flows. In order to minimise navigational difficulties associated with transverse flows of water the discharge energy must be minimised in the discharge structure design or by storage. Discharge velocity generally must not exceed 0.3 m/s measured at 90° to the direction of the navigable channel.

Discharges into the Waterway may require consent from the Environment Agency (EA). The Promoter will be responsible for obtaining any necessary consent and providing proof to the Works Engineer that this has been done. It must not be presumed that EA consent confers the Trust consent.

New developments must be designed in accordance with the National Planning Policy Framework (NPPF), along with its associated Technical Guidance and Practice Guide. In addition the planning practice guidance 'Flood risk and coastal change' 2014 in England or "Technical Advice Note (TAN) 15" for Wales still applies. These documents set out how flood risk is to be managed during the design and planning process.

If mitigation measures are required, it must be agreed at an early stage whether the new or modified structures are to be procured by the Trust or the Promoter and which party will own and maintain them in the long term. It is usual that the structures are designed and built by the Promoter to an acceptable design and that the Trust assumes long term responsibility for the water control structures only, on its own land, on acceptance of an agreed commuted sum.

Discharges are not usually permissible in short canal pounds between locks. Difficulties could result from the capacity of by-wash weirs, surcharging the pounds and dewatering for the maintenance of locks.

### 3.3 Feasibility, Design, Operation & Maintenance – Pollution/Water Quality

The Trust will not generally accept sewage or trade effluent. Only in exceptional circumstances where there is adequate treatment, evidence of a treatment plant maintenance schedule and adequate dilution will applications be considered.

For **surface water drainage** applications, Form 6 will need to be completed. There is an expectation that pollution control measures such as traps, gullies, oil separators, silt traps, swales or detention ponds will be required where appropriate. All pollution control measures should conform to the relevant Environment Agency publications and Pollution Prevention Guidance (PPG) notes. It is unlikely that these will be permitted to be built on land owned by the Trust. Normal practice would be to construct them on the Promoters land with adequate access provided to allow them to be regularly maintained.

The Promoter must supply their long-term maintenance plan, with emergency contact numbers for all oil separators, silt traps, swales and other pollution control devices for approval by the Trust. Suitable isolating systems such as valves must be included at the design stage, to allow maintenance and provide protection to the receiving waterway from pollution incidents.

During operation, it may be necessary to require that water samples are taken at intervals and analysed. It may be necessary for the Trust or its agents to inspect from time to time the area drained to the Waterway to ensure that the pollution risks remain acceptable. Alternatively, it may be acceptable for the inspection to be carried out by the discharger using a standard self-assessment procedure.

Calculations and plans will be required for the drainage network. The plans should define the pipe runs and illustrate the uses to which the drained areas are to be put and any other factors that may affect the quality of the surface run-off.



Where **water is discharged at a higher temperature** to that of the normal canal water, consideration will have to be given to the environmental impact. This will involve modelling outputs, with consideration to: the size of the receiving waterway, flow, design of the discharge outlet, and hot water plume dispersal from the outfall. In some cases additional water may have to be passed along the waterway at the Promoters expense to give the required dilution of the discharge. Any additional water required for dilution will be treated as an abstraction, and also included in the discharge quantity for design of mitigation measures.

### 3.4 Feasibility, Design, Operation & Maintenance – Navigational Impact

The point of discharge is installed perpendicularly to the canal centre line in both axes. The point of discharge should not protrude past the surface of the canal wall such that it affects the mooring of a craft at the same location.

The pipe diameter for above water surface discharges is limited by the available distance between the normal water level and the underside of the coping stone. Several smaller pipes should be used where feasible.

The point of discharge must be installed such that water cannot flow from the canal or be abstracted using the point of discharge. For gravity discharges a stilling chamber / sand trap / oil interceptor is typically provided on the neighbouring land. For pumped discharges the discharge pipe is typically installed above normal canal water level to avoid siphoning.

At locations where craft will be manoeuvring at low speed the limit to the velocity of discharge will be reduced in proportion to the reduction in craft speed. The discharge velocity generally must not exceed 0.3 m/s measured at 90° to the direction of the navigable channel. The Works Engineer will specify the craft speed. A stilling basin is usually needed to comply with this requirement. In most cases physical or mathematical modelling will be necessary.

Scour protection may be needed.

Discharge structures should be designed to minimise the visual impact on the canal, to allow the quality of the discharge to be monitored and to prevent loss of water from the canal into the drainage system. The structure should be accessible in safety for maintenance and sampling. Where this is not possible, for instance on river navigations, a remote sampling point and a flap valve are needed. Outfall structures should normally be designed for the discharge to take place below the normal water surface, preferably via a stilling chamber arrangement, wherever practicable. Above surface outfalls are only accepted in exceptional circumstances, due to the visual impact and risk of navigational difficulties, although offside outfalls above surface are less likely to cause problems than towpath side.

Fenders and signing of structures may be necessary. In particular pumped discharges will need to be signed to advise waterway users of their intermittent operation.

Discharge structures should be capable of carrying the loads imposed by the use of the towing path maintenance vehicles.

Towpath levels should not be raised to accommodate pipework.

The discharge of water to canals can lead to the transfer of water in an open channel to waste weirs. In some instances the issues discussed under 'Water Transfer' within Section 11 (Water Abstraction) of this Code of Practice may be applicable.