



OPW

The Office of Public Works
Oifig na nOibreacha Poiblí

New Procedures making space for
nature

Environment Section OPW



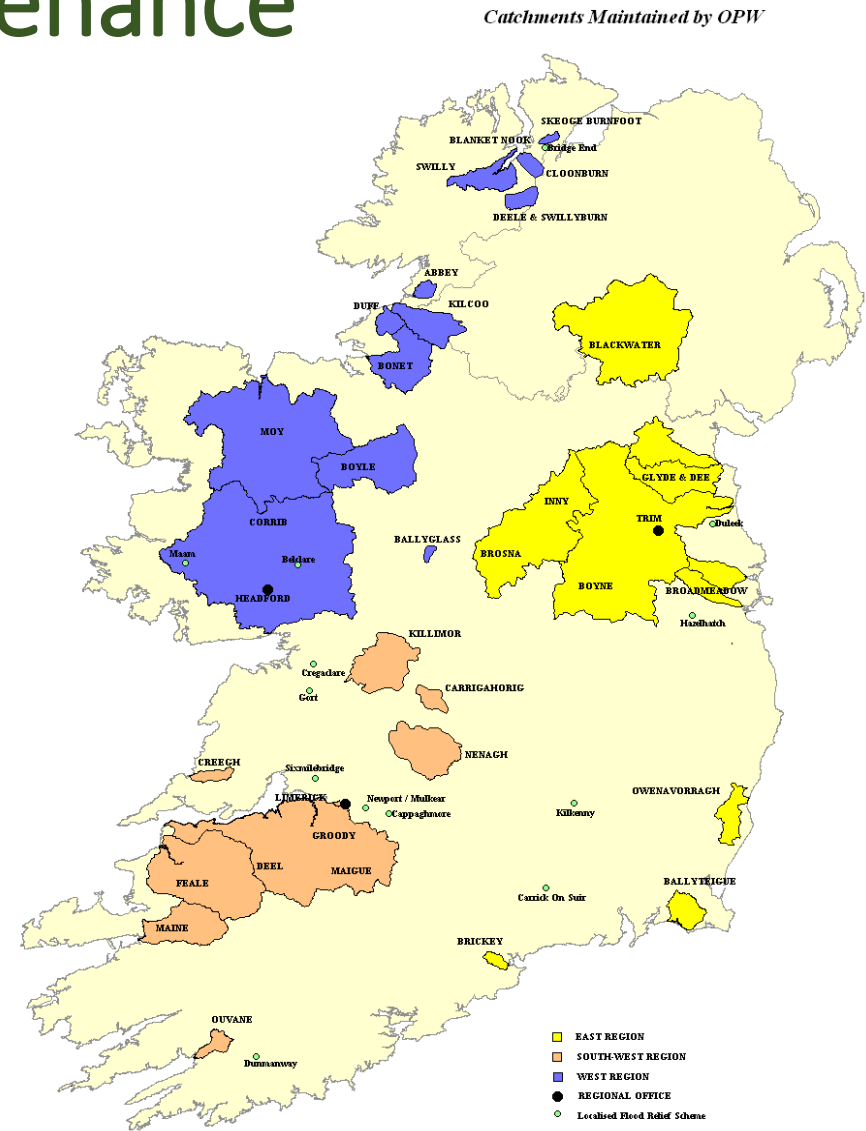
- **Environmental support for Arterial Drainage Maintenance**
- **Environmental support for Flood relief projects, 200 AFAs.**
- **Small section only 3 people**
- **My name is Tony Brew Chartered Engineer Environment Section**

Arterial Drainage Maintenance

**34 Drainage Schemes
(11,500km)**

5 Embankment Schemes

30+ Flood Relief Schemes





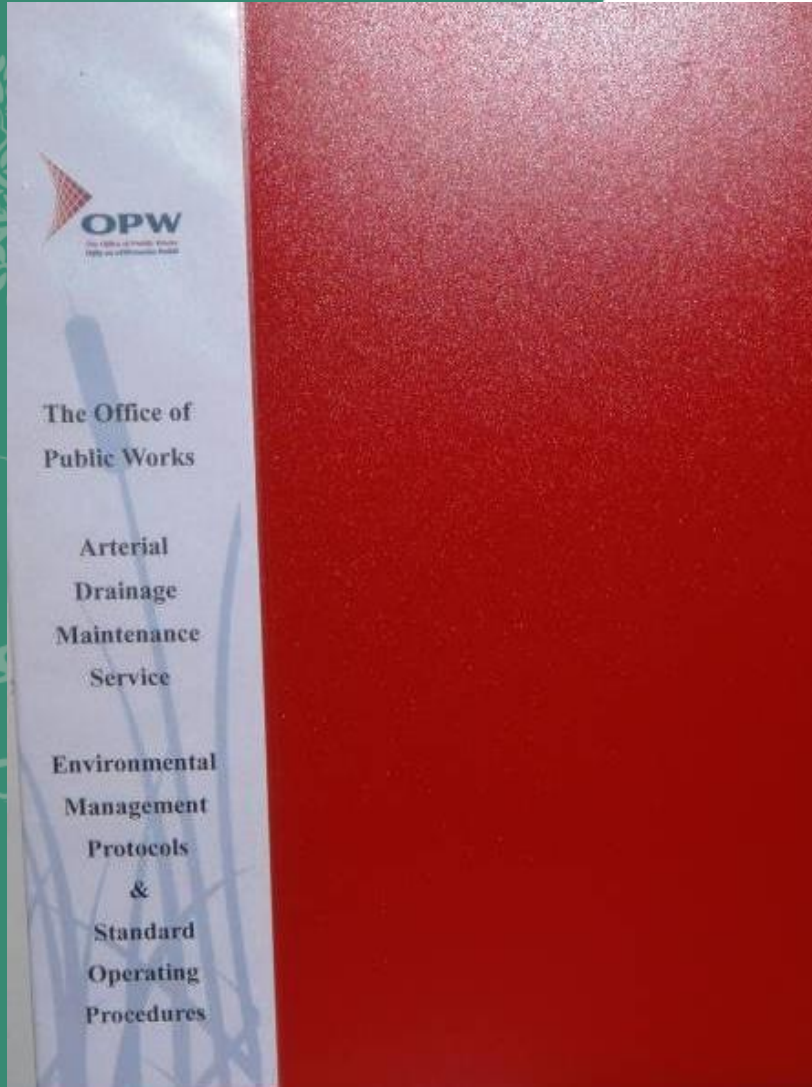
- **Channel maintenance**
- **Embankment strengthening**



200 AFAs from CFRAM, Flood Relief Functions

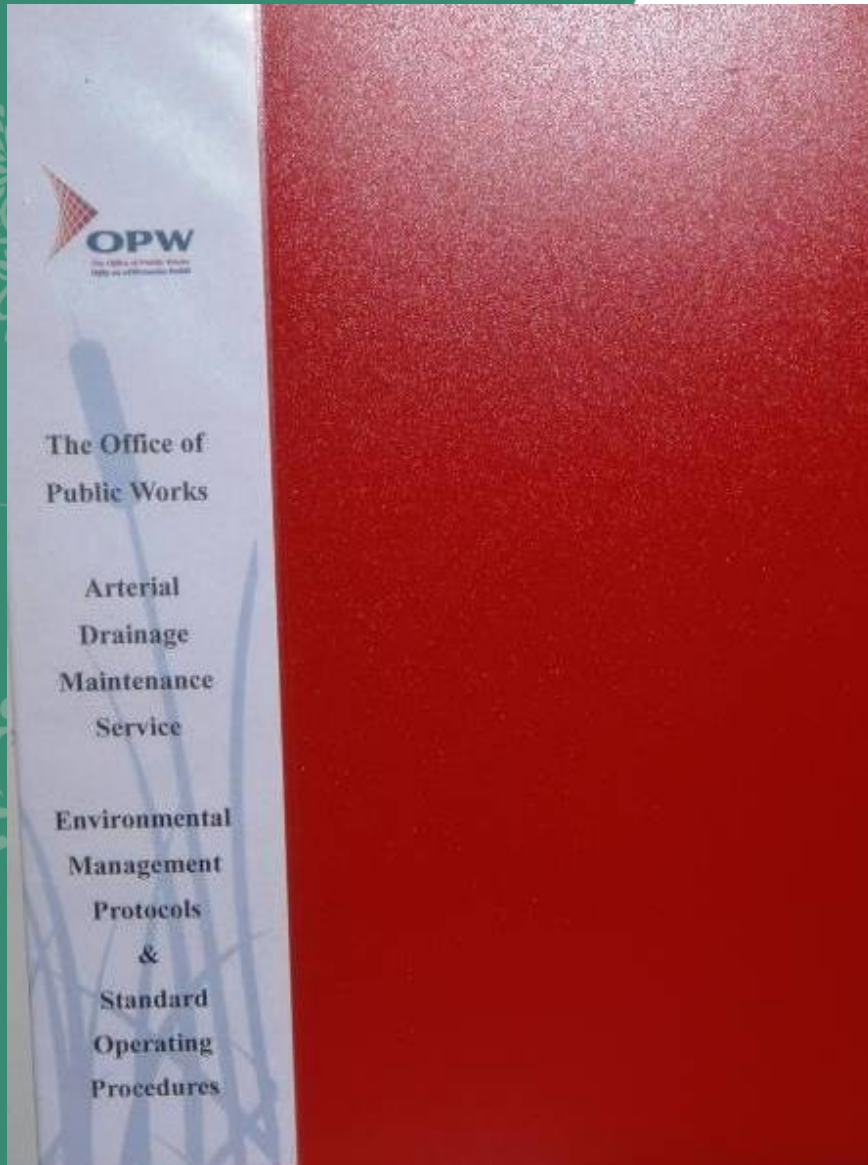


Environmental Management Protocols the old “Red Book”



- **Forward Planning**
- **Underpins AA process**
- **Stakeholder Consultation**
- **Timing of works**
 - **Spawning**
 - **Nesting**

Standard Operating Procedures



- EDM
- Lamprey
- Crayfish
- Otter
- Mussels
- Invasives



Overview of new Manual

- **New Procedures**
- **Developed with ISO 14001 in mind**
- **Practical handbook, conduit for learning.**
- **Primarily for drainage maintenance but incorporates some flood relief aspects.**
- **Entering into a new era of Flood Relief**



Overview of new Manual

- **Maintaining healthy catchments that benefit many parties.**
- **Instructions that help achieve a balanced approach to drainage works.**
- **To ensure through training knowledge and skills machine drivers have the competence to carry out their duties in support of good environmental management**



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Environmental Drainage Maintenance Manual

ENVIRONMENTAL SECTION
OFFICE OF PUBLIC WORKS



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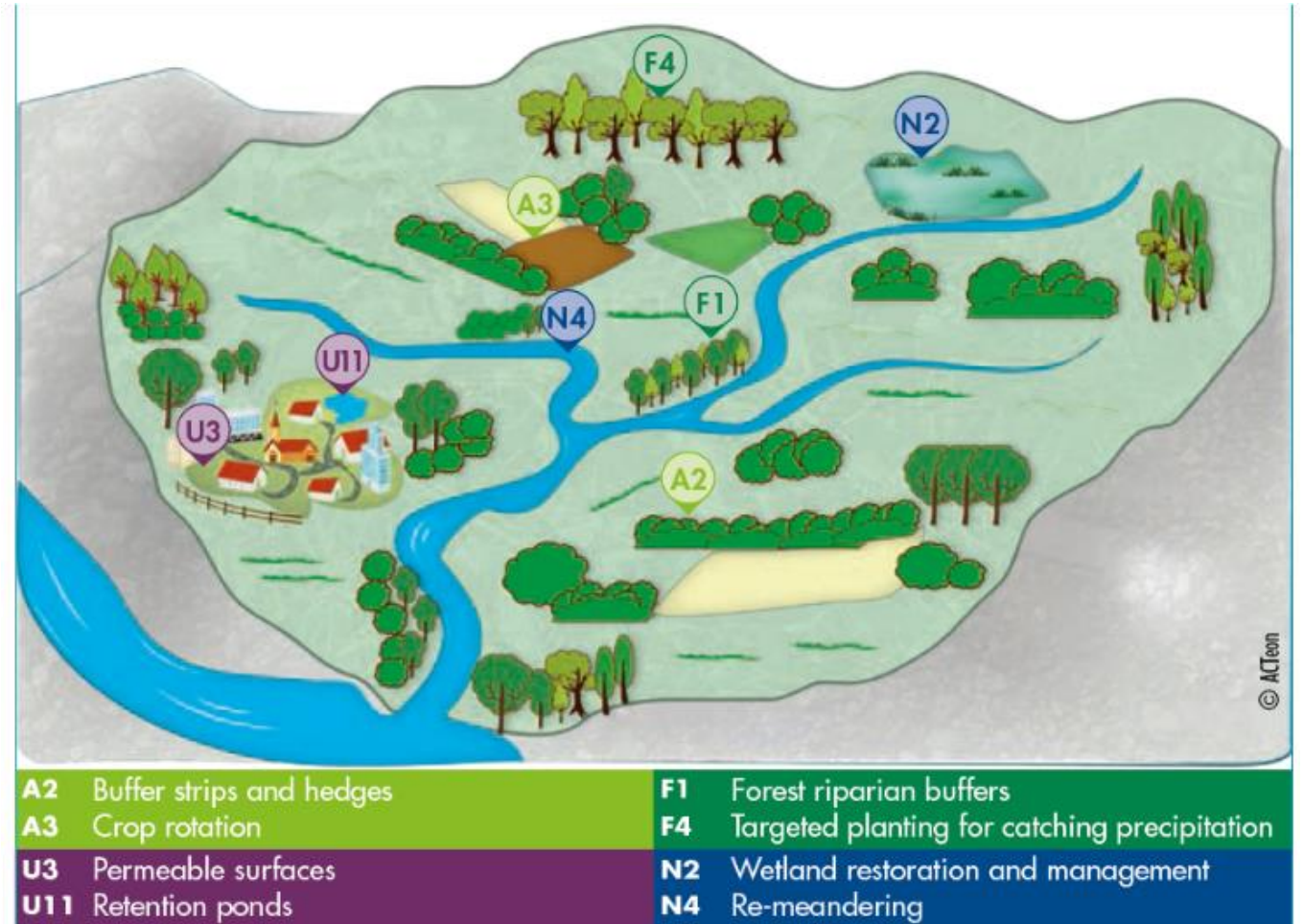
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- Lack of research in Ireland
- Drawing on UK experience would suggest not relevant for 1 in 100yr events
- Could form part of a multi benefit approach in line with Integrated Catchment Management principles
- Pilot studies are in progress
- Could form a future procedure

Natural Flood Management



Procedure



Scope

What the procedure applies to

Purpose

Why the procedure is required

Responsibilities

Who the procedure applies to

Related Documentation

Further information

Procedure

Step by step instructions on how to carry out the procedure

New Systems

Tree cutting programmed for winter, when birds are not nesting

Working in a main channel, programme for summer, out of the spawning season

Tree cutting programmed to facilitate main channel bank protection and fisheries enhancement

Mulching embankments programmed for the winter due to nesting birds. Lighter embankment maintenance can occur in the summer

Minor channel of lesser fisheries importance is appropriate for winter silt and veg management

ID	CHANNEL	Section From To	A	B	C	D	E	F	Timing of works	SAC	NIA	SPR	Remarks	Last Mice
1130	C1	0 19300	✓	✓	✓	✓	✓	✓	S	2165	435	4077	Channel maintenance 0-900 incl Fisheries Enh	15/06/08
1130	C1	0 19300	✓	✓	✓	✓	✓	✓	W	2165	435	4077	Tree cutting 0-900	15/06/08
11315	C1W2	0 2000	✓	✓	✓	✓	✓	✓	ANY				Channel maintenance	17/05/14
11317	E1	0 5300	✓	✓	✓	✓	✓	✓	W				Mulching embankment	30/08/14

Drainage Maintenance Subcategories	
A	Silt and vegetation management
B	Aquatic vegetation cutting
C	Bank Protection
D	Brush cutting / branch trimming
E	Tree cutting
F	Mulching embankment
F	Mowing embankment
F	Gate installation
F	Sluice maintenance
F	Bridge maintenance
F	Other

Drainage Maintenance Subcategories		
Channel Maintenance	Silt and vegetation management	A
	Aquatic vegetation cutting	B
	Bank Protection	C
	Brush cutting / branch trimming	D
	Tree cutting	E
Embankment Maintenance	Other	F
	Brush cutting / branch trimming	D
	Tree cutting	E
	Mulching	F
	Mowing	F
Structural Maintenance	Gate installation	F
	Sluice maintenance	F
	Bridge maintenance	F
	Bank Protection	C
	Brush cutting / branch trimming	D
	Tree cutting	E

Unnecessary motion is wasteful and should be avoided. Do not move machinery within the works area unless there is a requirement to do so. Do not slew or track machinery unnecessarily. Whilst motion should never be limited in a way that would reduce work output, you should not use machinery in an unproductive manner. This will conserve resources, limit disruption and will reduce environmental impact. Reduce sloshing of river water from the machine bucket onto the works area, this will reduce the risk of water borne invasives contamination. Do not unnecessarily track machinery on sites where invasive plants are present.

OPW Arterial Drainage

Environmental Risk Assessment

Reset

To be completed where the following conditions are met	
Works within an SAC or SPA	Yes
Works on a major channel (i.e. base width greater than 3m)	Yes
More than 10 years since maintenance on the Channel (>3m) or Embankment.	Yes

General Site Details	
Start Date:	Est Completion Date:
Site Location:	Scheme:
Channel No./Ref.:	Bridge No.:
GPS coordinates:	Road Number:
Nature of Works:	Programmed <input type="checkbox"/> Non-Programmed <input type="checkbox"/> Emergency <input type="checkbox"/>

If Yes is answered to any of the following questions, please forward to Environment Section		
Does the work entail heavy tree or vegetation removal on a channel, embankment or machine access corridor?	Yes	No
Does the works entail embankment refurbishment works not classified as general maintenance?	Yes	No
Does the works entail more than 40m of bank protection or other structural work on a channel?	Yes	No
Are the nature of the works or location of the works outside the scope of the associated arterial drainage maintenance five year Appropriate Assessments?	Yes	No
Additional Information		
From the GIS records, is this a Freshwater Pearl Mussel location?	Yes	No
Have particular sensitivities been flagged by other stakeholders such as IFI or NPWS?	Yes	No
Is there a requirement to carry out the works outside the appropriate environmental window?	Yes	No

Signed: _____ Date: _____

What does a 5yr Appropriate Assessment cover?

The 5 Year AA is in place to allow maintenance to progress in the overall scheme. It is relevant to all types of maintenance (activities A – F) and it considers the in-combination impacts of working within the entire catchment. It covers the majority of works; however, it does not cover all works and all impacts on all protected sites. Where the scale of works is significant and the location of the works is particularly sensitive, a site-specific assessment is required. This is why the ERA is in place to identify these sites.

New procedures for Invasives

Section 3 Invasive Species Procedures – Relevant to all staff

EP 17A Spread of Invasive Plant (Low Biosecurity) Procedure

EP 17B Spread of Water based Invasives (High Biosecurity) Procedure

EP 17C Procedure for cleaning Boats

EP 17D Invasive Plants Treatment Procedures

New Invasives Procedures

Invasive Plants Construction Management Plan

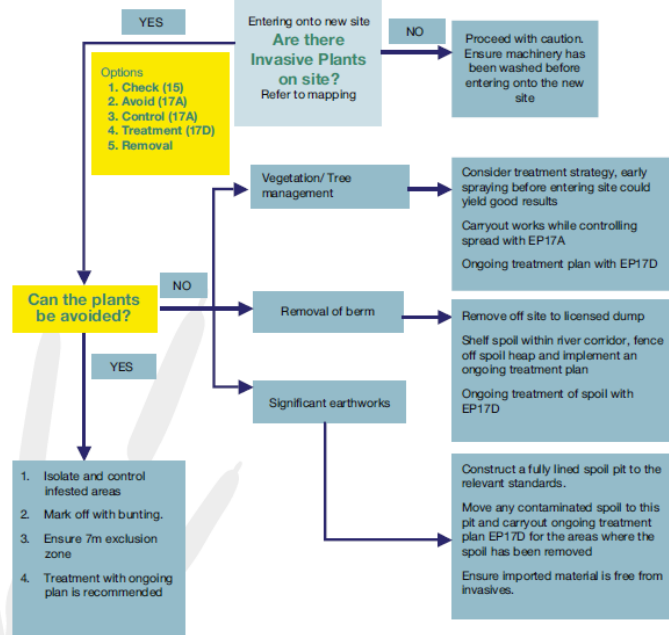


Fig.17a

17 A, shows high biosecurity refuelling at any stage the fuel bowser should not make contact with the fuel filling drum or machine fuel delivery hose.



Fig.17b

17 B, shows the high biosecurity refuelling and disinfection point, this should be set up at a point of easy access away from the river channel, 50m if possible, and no unnecessary vehicles or personnel should cross this line.

Floating river veg and Rare Plants Procedure

EP 26 Floating River Vegetation Habitat and Rare Plants Procedure

Scope

All channels with Floating River Vegetation (FRV) and with rare plants.

Purpose

To protect rare plants and floating river vegetation habitat and to comply with relevant legislation.

Responsibilities

The responsibility lies with the regional staff.

Related Documentation

Operations Layer, Red List Vascular Plants NPWS, Table 26.1

Procedure

For Floating River Vegetation Habitat

1. Confirm presence of protected floating vegetation from operations layer.
2. Implement a 10m buffer, if not feasible, target the areas of greatest need, and retain some sections untouched. Strictly comply with EP8 Section 4.5 "Retain 1/3 to 1/2 of instream floating type vegetation".
3. Prioritize the use of weed cutting bucket or boat and leave marginal habitat in place.
4. If within an SAC and identified by an ecologist or on operations layer, then do not touch FRV, contact Environment Section.
5. Some floating plants commonly referred, as "cress" does not require protection. It requires regular maintenance as thick mats can block structures after frost. Use a weed-cutting bucket or skim all the cress from surface waters using the machine bucket.



Fig 26.1 Cress, this grows in thick mats when you lift a clump you can see the white fibrous undergrowth.



Fig 26.2 Cress, note the long fibrous plant that does not grow from riverbed, head has 5 or 6 leaves together.



Fig 26.3 Rannunculus, this is not rare however it is used to identify protected FRV habitat.



Fig 26.4 Starwort, is used to identify protected FRV habitat.

For Rare Plants from the Red List

1. Known locations of Opposite Pondweed, Triangular Clubrush and other rare plants require an ecological survey. Apply for a Section 21 Licence under the Wildlife Act from NPWS, if you need to interfere with a rare plant. Implement a 10m buffer around any stands of protected plant wherever feasible.



Fig 26.5 Opposite Leaved Pondweed, Red Listed Section 21 Wildlife Act licence required.

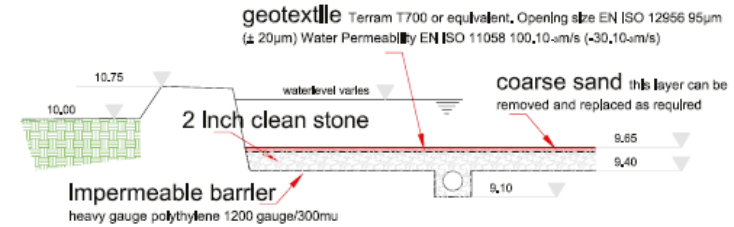


Fig 26.6 Triangular Clubrush, Red Listed Section 21 Wildlife Act licence required.

Silt mitigation procedures

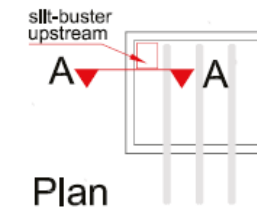


Fig 10.1, 10.2 and 10.3 shows siltation pond during construction and when working



Section A-A

siltation pond 250m³ per hectare of disturbed land



3 no. 225 pps will have a max. discharge capacity of 0.36 cumecs with 1m of head

225 mm perforated pipe outfalling to local watercourse with flap valve, last length should not be perforated and should be placed with a slight backfall

General Notes		
1.	Do not scale from this drawing	
2.	All dimensions are in mm	
3.	All levels are to local datum	
No.	Revised/Issue	Date

Project Name and Address

Project Name and Address
Silt Filtration and Settlement Pond

Project	C - 004	Sheet
Date	05-05-14	1/1
Scale	NTS	

Templemore FRS Silt Mitigation



Lamprey procedures building on older procedures



Summary

- **New manual will underpin ISO 14001, will be fully audited**
- **This will give greater confidence to approval process for Flood Relief**
- **Greater compliance with environmental legislation**
- **There will be an overarching approach to all Flood Relief Schemes**
- **Using systems to make space for nature**
- **New procedures for Natural Flood Management being considered.**

