

# Chew Magna Property Level Flood Protection Scheme



## Summary

DEFRA Funding was awarded to provide property level flood protection for domestic properties within Chew Magna, Bath & North East Somerset. The funding was awarded in stages due to the success of the project and ultimately became the largest project of its type in the UK. The project was delivered on time and to budget. All flood protection was installed without the need for contributions from households.

### Project statistics:

Total Grant Awarded	£325,000
Number of properties where measures were installed.	69
Door Barriers fitted	216
Self Closing Airbricks fitted	374
Non-return valves fitted	199
Window barriers fitted	32
External Wall Treatments	66
(for further Project Statistics, see Annex A)	

# Contents

Summary.....	2
Project statistics: .....	2
Contents .....	3
Introduction.....	4
Project Initiation .....	4
Survey process.....	4
Procurement of Technical Support .....	4
Community engagement .....	5
Engagement with households .....	6
Procurement of Flood Protection Contractor .....	6
Householder feedback on the scheme:.....	8
Conclusions.....	10
ANNEX A .....	11
Project statistics: .....	11
Protection Measures: .....	11
Financial Statistics .....	11
ANNEX B .....	12
ANNEX C.....	13
ANNEX D .....	16
ANNEX E.....	21

## **Introduction**

Early in 2010 Chew Magna Parish Council in association with Bath & North East Somerset (B&NES) Council applied for a DEFRA Property Level Flood Protection Grant of £300,000 to protect 59 vulnerable properties on the Winford Brook; one of 2 water courses running through the village and Parish of Chew Magna, in the Chew Valley, some 5 miles south of Bristol.

In May 2010 the project team were informed that the application had been successful but due to the current financial environment the grant was being halved, so the amount awarded was £150,000.

The following report outlines stages through which the project was delivered, the main outcomes and lessons for future.

## **Project Initiation**

Prior to confirmation of funding a project plan (see Annex B) was drafted and a Project Board established to agree the outcomes and drive the project forward. The Project Board initially had representative from the Local Authority, Local Council and the Environment Agency. As the project progressed, representatives from the consultant and contractor, Capita Symonds and UK Flood Barriers, were asked to attend. The Project Board was Chaired by the Local Authority who would act as fund holder for the project.

The project plan was written to provide 3 months contingency to mitigate the risk of unforeseen delays in the process.

Once confirmation of funding was received the project plan had to be redrafted to include a risk assessment phase. Only half of the anticipated funding had been awarded and it was necessary to identify those properties most at risk that needed to be prioritised for flood protection equipment to be supplied/installed.

## **Survey process**

The decision was taken early in the process to use the expertise of an independent consultant to carry out risk assessments, individual property surveys and to provide technical advice and guidance for the scheme. This decision was made for two main reasons; 1) The technical expertise within the Council to carry out this task was fully committed elsewhere; 2) Risks associated with the selection of flood products and contractor to be used were managed through the use of an “independent” consultant and the project board decision making process.

## **Procurement of Technical Support**

We used the Council’s Project Management Framework Agreement to shortlist consultants. Two consultants were asked to submit bids, this included a schedule to

enable the financial cost of the appointment to be captured. The review of the two bids identified that Capita Symonds were the “best value” option.

As stated earlier, the £150,000 awarded by DEFRA was half of the sum anticipated and as a result the project needed to limit to properties to which flood protection could be provided. Capita Symonds carried out a Flood Risk Assessment of the Winford Brook catchment to identify the properties most at risk. 33 properties were identified.

## **Community engagement**

### **Initial Consultation**

A letter was written to the properties most at risk from flooding limited to those that we could afford to protect (initially 33 but this was raised to 69 through further funding). The letter clearly stated the terms and conditions of the scheme and provided a consent form for those who wished to proceed. See Annex C.

### **Flood Awareness Events**

We ran two flood awareness events, one in Chew Magna and another in Bath. These events provided residents with the opportunity to understand the flood risks and see the types of product we were intending to install. All the companies who had been short listed by Capita Symonds to provide flood protection were invited to present at the Bath event.

### **Personal Visits**

The letter and flood awareness events were run in conjunction with personal visits by Cllr Colin Timson from Chew Magna Parish Council, these personal visits significantly improved the acceptance of the scheme by households (of the 71 approached, 69 wished to be included).

No significant problems were encountered in engaging the community; however, this is largely due to the commitment and support of Chew Magna Parish Council and Cllr Timson who circumvented many of the issues that could have arisen. Cllr Timson represented the project within the community and fulfilled this vital role throughout the project.

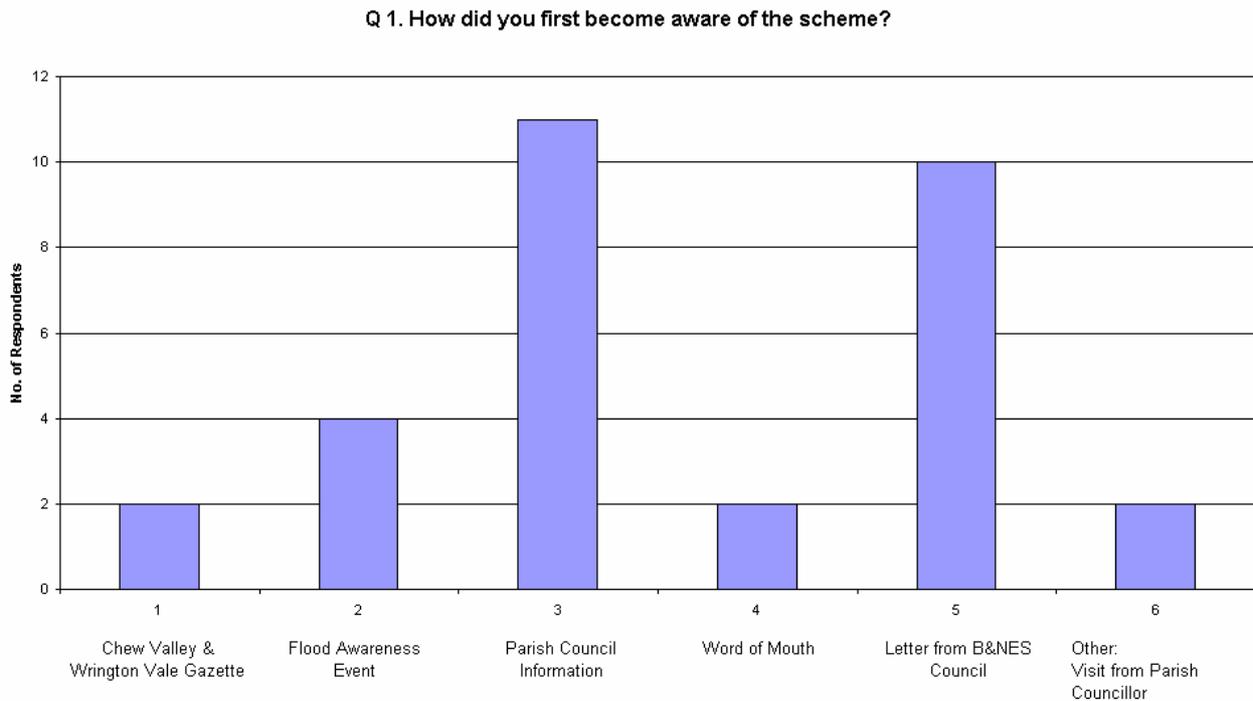
### **Project Closure Event**

Once all work was complete and had been signed off a closure event was delivered in the community that provided guidance on the flood risk and training for the flood protection.

## Engagement with households

Figure 1 below shows the main channels through which households became aware of the scheme. The two most effective channels would appear to be through the Parish Council and direct letter.

Figure 1. Chart of Responses to Question 1 of the Chew Magna Flood Protection Scheme Satisfaction Survey



Each property was surveyed by Capita Symonds and a full flood protection specification was produced for each property which became the basis for the subsequent tender process.

## Procurement of Flood Protection Contractor

Using their expert knowledge, Capita Symonds produced a short list of five companies to be invited to tender. The work carried out by Capita Symonds identified suitable flood protection equipment and related to this ensure that companies invited to tender were competent and were selected in an independent, fair and transparent manner. As the project had to be complete by the end of March 2011, time was of the essence, and companies were given until the end of June to respond to the invitation to tender. All the procurement activity was run through the Council's e-procurement portal that maintained a full audit trail of tenders, communications and decisions. A full tender evaluation was undertaken by B&NES Council and following Project Board consideration, UK Flood Barriers were awarded the contract early in July 2010 and invited to attend a Project Board meeting to discuss the way forward.

UK Flood Barrier's first action was to complete their own installation survey in order to verify the products specified and to produce specifications and measurements for barrier manufacture.

Once analysed these results were then discussed and agreed with Capita Symonds, and each properties requirement was costed and eventually approved.

All the properties required at least 1 barrier and some as many as 7. All those with ground floor toilets required non return valves to be fitted in their sewer, plus non return valves in any waste pipe that originated on the ground floor. All airbricks were replaced with automatic sealing units and properties with basements had automatic pumps fitted.

Based on tight timescales to complete work by the of the end of December 2010, installation of the sewer non-return valves commenced in September, whilst barriers were being manufactured. Installation of the remaining products, was carried out on a property by property basis as barriers were manufactured throughout October, and November, with barrier installation taking place in December 10.

By September 2010 it was clear that the project was proceeding smoothly especially compared to the progress of some similar projects. As a result the Parish Council and B&NES were approached by the Environment Agency to establish whether further funds could be used within the original timescales. The project plan had always accounted for a three month contingency and therefore, it was agreed that further funding could be used provided procurement rules didn't necessitate a further round of tendering. Legal advice was sought and it was confirmed that further grant money could be spent without the need to re-tender.

Following discussion with Capita Symonds and UK Flood Barriers, a further risk analysis was completed covering all 204 properties in the parish flood zones. Following this, a letter was received confirming a further £110,000 of funding.

Learning from the Phase 1 process, it was agreed through the Project Board that joint Capita Symonds and UK Flood Barrier surveys were carried out to speed up the survey process, reduce the inconvenience for households and also to reduce that time taken between the two companies agreeing each properties specification. For Phase 2, the surveys were carried out in October 2010, the specification was signed off mid November and installation on a property by property basis commenced in early January 2011.

In November 2010 the EA and offered a further grant of £65,000 (making a total of £325,000). The project already had efficient processes in place and therefore it was able to undertake the initial surveys within 2 weeks, so that the additional barriers could be manufactured, products sourced and installed. By the last week of March 2011 all 69 properties had a completion survey from Capita Symonds and a signature from the property owner confirming completion.

Throughout the project the 5 organisations, Chew Magna Parish Council, B&NES Council, The Environment Agency, Capita Symonds and UK Flood Barriers worked seamlessly together and any risks or issues were highlighted and overcome. Key to the project's success were; 1) tightly controlled initial property surveys carried out within a few days of the flood risk assessment being produced; 2) UK Flood Barriers proved to be a very effective contractor and ensured sufficient teams were based in the village enabling all

works were completed on time; 3) Effective community engagement through the Parish Council.

As a Project, the Property Level Flood Protection Scheme in Chew Magna was brought in on time and to budget. It ended up being the largest project of its type in the UK by that time.

## Householder feedback on the scheme:

On completion each household received a feedback form to be completed, see Annex D. Out of 69 properties 42 forms were returned (61%).

The results from the feedback were very positive with only one single case of negative feedback based around a home owner whose property was within the high risk area whose living quarters were on the second floor. The guidance for the flood protection scheme stated that:

*“None of the money is to be spent on the protection or resilience of conservatories, garages or outhouses, unless such measures are necessary for the protection of other structures that are included in the scheme.”*

Therefore, under the rules of the scheme, this property could not be protected.

The results are summarised as follows:

Question No.	Question	Responses	%
1	How did you first become aware of the scheme?	Chew Valley & Wrington Vale Gazette Flood Awareness Event Parish Council Information Word of Mouth Letter from B&NES Council Other	6 13 34 6 34 6
2	If you attended the 23 <sup>rd</sup> April 2010 Flood Awareness Event. How informative was the event?	Good or Excellent Average Below average or poor	90 10 0
3	How effective was the letter in communicating the purpose of the DEFRA grant and what you needed to do?	Good or Excellent Average Below average or poor	94 6 0
4a	To arrange the property survey you were contacted by your Parish Councillor or a representative of UK Flood Barriers. Who contacted you?	Parish Councillor UK Flood Barriers	53 47
4b	To arrange the property survey you were contacted by your Parish Councillor or a representative of UK Flood Barriers. How effective were they in providing information and arranging the survey appointment?	Good or Excellent Average Below average or poor	97 3 0

Question No.	Question	Responses	%
5	How courteous and professional was the surveyor(s) in completing the property survey?	Good or Excellent Average Below average or poor	97 3 0
6	Following the completion of the survey, how would you rate the information you received in relation to the type of products to be installed / supplied?	Good or Excellent Average Below average or poor	94 6 0
7	What was your overall impression of the installation team, taking into account time-keeping, politeness, care and consideration for your property and general professionalism?	Good or Excellent Average Below average or poor	81 16 3
8	How would you rate the service, knowledge, demonstration and deployment information you received from the UK Flood Barriers installation team?	Good or Excellent Average Below average or poor	82 15 3
9	How would you rate the information made available to you in respect of the Chew Magna Property Flood Protection Scheme?	Good or Excellent Average Below average or poor	91 6 3
10	From where did you obtain information about progress in completing the Chew Magna Flood Protection Scheme?	Chew Valley & Wrington Vale Gazette Parish Council Notice Board Parish Council Website Word of Mouth Other	 33  3 0 33 30

The plotted results of the feedback can be found at Annex E.

## Conclusions

The Chew Magna Flood Protection Scheme delivered flood protection to 69 properties at risk from flooding within Chew Magna. The project was delivered on time and to budget and was considered a success by the Environment Agency, Bath & North East Somerset Council and Chew Magna parish Council.

The success of the project was the result of four key factors:

- 1) Effective Project Management and Procurement by Bath & North East Somerset Council.
- 2) Effective community engagement through the Parish Council.
- 3) Full engagement by all project partners, all of who had to work for the benefit of the project in order to deliver on time and to budget.
- 4) Close working between UK Flood Barriers and Capita Symonds creating a quick and efficient survey and sign off procedure, assuring quality and customer satisfaction.

**ANNEX A  
TO PROJECT REPORT  
DATED 18 APR 11**

**Project statistics:**

Number of properties covered by Flood Risk Assessment	204
Total number of properties approached to take part in the scheme.	73
Number of properties that declined to be involved.	3
Number of properties surveyed.	70
Number of properties where no measures could be installed	1
Number of properties where measures were installed.	69

**Protection Measures:**

Single Door Flood Barriers	136
Double Door Flood Barriers	80
Window Flood Barriers	32
Self Closing Airbricks	374
Non-return Valves (in sewers)	42
Non-return Valves (other)	157
Toilet Bungs	64
Sump & Pump	2
External Wall Treatment (Waterstop)	69

**Financial Statistics**

Initial Grant Awarded	£150,000
Additional Grants Awarded	£175,000
Total Grant Awarded	£325,000
Grant per property protected	£4710.14
Cost per property of surveys.	£444.09
Cost per property of measures overall.	£3674.21
Estimated administrative cost to the local authority.	£45,910 of which £40837.30 was covered by the grant.

**ANNEX B  
TO PROJECT REPORT  
DATED 18 APR 11**

**Initial Chew Magna Project Plan**

Task	Sub Tasks	Responsibility	Key Dates	Time Estimate	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	No Time Limit
Identify Candidate Areas		Local Authority	30/11/09	Complete	█														
Submit Application		Local Authority	30/11/09	Complete	█														
Review Applications and Make Recommendations		Environment Agency		Complete	█														
Expression of Interest for Survey Contract		Local Authority	31/3/10	1 Month		█													
Select Successful Applications		DEFRA	31/3/10			█													
Inform Successful Applicants		Environment Agency	31/3/10			█													
<b>Implement Scheme</b>		Parish Council/ Local Authority		12 Months		█	█	█	█	█	█	█	█	█	█	█	█	█	
	<b>Engage the local community</b>	Parish Council/ Local Authority		3 Months		█	█	█											
	Letter to Home Owners	Parish Council/ Local Authority		1 Month		█													
	Visit to Home Owners	Parish Council		1 Month		█													
	Flood Awareness Day	Parish Council/ Local Authority/ Environment Agency		1 Month		█													
	PLFPG Notice Board	Parish Council/ Local Authority		Following meeting		█													
	Agree inclusion in scheme	Home Owners		1 Month			█												
	<b>Commission Surveys</b>	Local Authority		1 Month				█											
	<b>Carry out Surveys</b>	Surveyor		2 Months				█	█										
	Weekly Progress Reports	Surveyor/ Local Authority		Weekly				█	█										
	<b>Arrange for work to be carried and paid</b>	Local Authority		6 Months						█	█	█	█	█	█				
	Agree works to be carried out	Home Owners/ Local Authority		Concurrent					█	█	█								
	Commission Works	Local Authority/ Surveyor/ Contractor		1 Month							█								
	Source Supplies	Contractor		1 Month							█								
	Agree Time and Date for Works	Home Owners/ Contractor		1 Month								█							
	Carry out works	Contractor		3 Months								█	█	█					
	Weekly Progress Reports	Contractor/ Local Authority		Weekly								█	█	█					
	<b>Confirm work completed as required by the survey</b>	Surveyor/ Contractor/ Home Owner		Concurrent									█	█	█				
	<b>Provide reports and audit certificated</b>	Contractor & Surveyor		1 Month													█		
Claim Grant from Environment Agency		Local Authority	31/3/11	1 Month														█	
Pay Grant for Successfully Completed Schemes		Environment Agency																	█
Review the Scheme		DEFRA & Environment Agency																	█

**ANNEX C  
TO PROJECT REPORT  
DATED 18 APR 11**

See below.

#### **Bath & North East Somerset Council agrees to do the following:**

To provide, at no cost to the Property Owner, demountable flood protection boards and air-brick covers. These will remain the property of Chew Magna Parish Council, but will need to be stored by the Property Owner at the Property, or at some other location, near to the Property, as the Local Council shall indicate.

To arrange for the installation of permanent fittings to the Property to enable the Owner or the tenant to deploy the flood protection in the event of a severe rainfall forecast or a flood warning.

To ensure that the company installing any fittings to the Property carry adequate insurance to recompense the Property Owner or the tenant in the event of any damage or accident during the installation phase of the work.

To provide the Property Owner or the tenant with training in the use and deployment of the flood protection boards and air brick covers.

#### **The Property Owner agrees to do the following**

To store the flood protection boards and air-brick covers securely and protect them from damage.

To participate in any community wide implementation plan for the deployment of the flood boards, so far as they are reasonably able to do so.

To carry out any ancillary work, which the Council identifies as a necessary component of the flood protection installation, such as fitting non-return valves etc.

To be included on the Environment Agency's Flood Warning Scheme and Chew Magna Flood Warden Scheme.

To deploy the flood protection boards and air-brick covers, in accordance with the manufacturer's instructions.

To notify Chew Magna Parish Council in writing if they dispose of the property and to surrender the flood protection boards and air-brick covers back to Local Council for possible transfer to the new owner.

To allow access to the property at all reasonable times for the purposes of installation and inspection of the permanent fittings and any subsequent remedial work, if required.

If the Property is currently rented, or becomes rented, to encourage the tenant to undertake actions 1 to 7 above and be aware of the limitations of the Council's liabilities as stated below.

## **What is not covered by the agreement?**

The Council shall not be held liable to the Property Owner or tenant for any actions, claims demands, costs and/or expenses incurred in respect of any loss or damage, including negligence, breach of contract, consequential and indirect loss, or personal injury (including death) which arises out of or in connection with the scheme, or use of the flood protection.

The Council shall not be responsible for providing flood warnings or for ensuring that any other party does so.

The Council shall not be responsible for removing any fixtures associated with the flood protection products, if or when the home-owner no longer requires them.

The Council shall not repair or replace damaged or lost flood protection boards or air brick covers.

The flood protection boards and air brick covers will be covered by a 12 months warranty against inherent defects. However, the Council can not accept responsibility for the normal wear and tear of the flood protection measures, or for their use in any specific manner whether or not this is made known to the Council. Property Owners are encouraged to consider entering into a maintenance agreement with the flood protection product supplier.

The Council shall not undertake any remedial or aesthetic works such as redecorating or re-plastering.

*Installation* refers to the fixing of any permanent brackets, fittings, etc to the house itself, including any necessary building work.

*Deployment* means the repeated task of fitting and removing the flood boards and air brick covers before and after a flood.

**ANNEX D  
TO PROJECT REPORT  
DATED 18 APR 11**

See below.



**Chew Magna Parish Council**

**CHEW MAGNA FLOOD PROTECTION SCHEME  
RESIDENT SATISFACTION SURVEY**

The Chew Magna Flood Protection Scheme commenced following the award of a grant from Department for the Environment, Food and Rural Affairs (DEFRA). Bath & North East Somerset Council has worked closely with Chew Magna Parish Council, Capita Symonds (Project Independent Consultant) and UK Flood Barriers (Contractor) in delivering the flood protection to those properties identified as most at risk to flooding.

We are interested in receiving your feedback in relation to the project management of this scheme and the flood products installed / supplied.

Our intention is to use the results of this survey in the report to be submitted to DEFRA following the completion of the scheme. The results will be shared with all those organisations involved in the scheme and used for their quality assurance purposes.

Please answer the following questions and provide your comment where appropriate.

<b>Name of Resident</b>	
<b>Address</b>	
	Chew Magna

**If following the completion of the survey you have any further comments to make please use the space below.**

**AWARENESS OF THE DEFRA FUNDED SCHEME**

**1. How did you first become aware of the scheme?**

- Chew Valley Gazette
- April 23<sup>rd</sup> 2010 Chew Magna Flood Awareness Event, Old School Building
- Parish Council Information
- Word of Mouth
- Receipt of letter from B&NES Council
- Other ..... (*please record*)

**2. If you attended the 23<sup>rd</sup> April 2010 Flood Awareness Event. How informative was the event?**

- Not Applicable
- Excellent
- Good
- Average
- Below Average
- Poor

Comments:.....  
.....  
.....

When your property was identified by the risk assessment to be included in the scheme you were sent a B&NES Council letter.

**3. How effective was the letter in communicating the purpose of the DEFRA grant and what you needed to do?**

- Excellent
- Good
- Average
- Below Average
- Poor

Comments:.....  
.....  
.....

**SURVEYS**

To arrange the property survey you were contacted by your Parish Councillor or a representative of UK Flood Barriers.

**4. a) Who contacted you?**

- Parish Councillor
- UK Flood Barriers

**4. b) How effective were they in providing information and arranging the survey appointment?**

- Excellent
- Good
- Average
- Below Average
- Poor

Comments:.....  
.....  
.....  
.....

**5. How courteous and professional was the surveyor(s) in completing the property survey?**

- Excellent
- Good
- Average
- Below Average
- Poor

Comments:.....  
.....  
.....  
.....

**6. Following the completion of the survey, how would you rate the information you received in relation to the type of products to be installed / supplied?**

- Excellent
- Good
- Average
- Below Average
- Poor

Comments:.....  
.....  
.....  
.....

**INSTALLATION**

**7. What was your overall impression of the installation team, taking into account time-keeping, politeness, care and consideration for your property and general professionalism?**

- Excellent
- Good
- Average
- Below Average
- Poor

Comments:.....  
.....  
.....

**8. How would you rate the service, knowledge, demonstration and deployment information you received from the UK Flood Barriers installation team?**

- Excellent
- Good
- Average
- Below Average
- Poor

Comments:.....  
.....  
.....

**COMMUNICATIONS**

**9. How would you rate the information made available to you in respect of the Chew Magna Property Flood Protection Scheme?**

- Excellent
- Good
- Average
- Below Average
- Poor

Comments:.....  
.....  
.....

**10. From where did you obtain information about progress in completing the Chew Magna Flood Protection Scheme?**

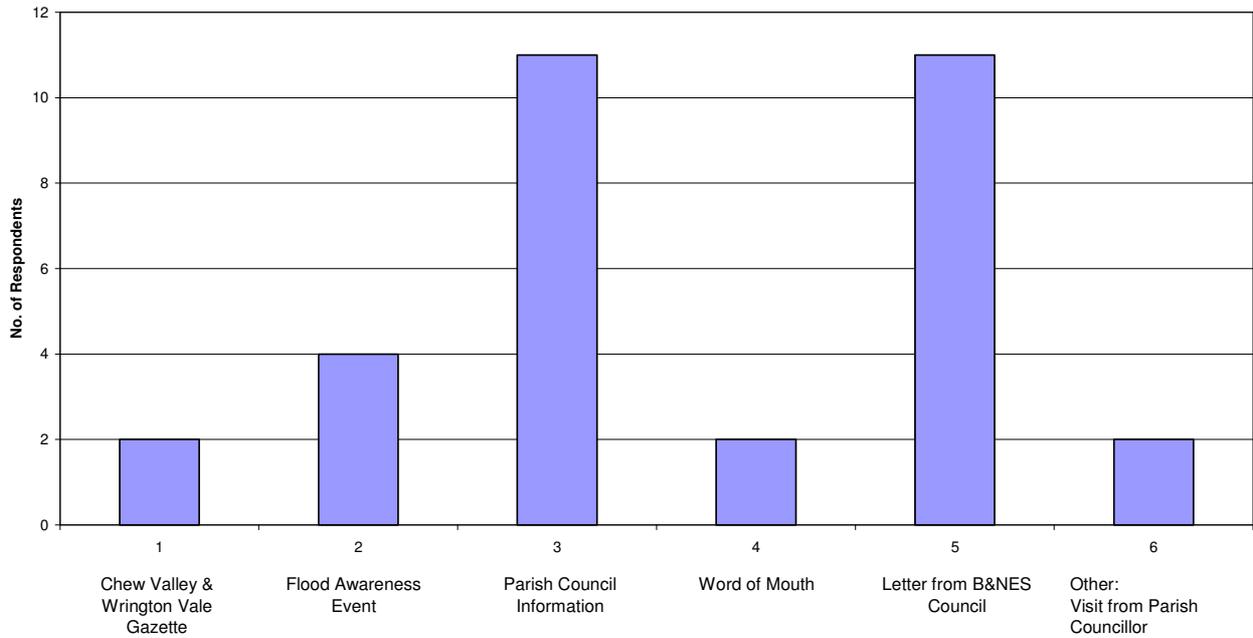
- Chew Valley Gazette
- Parish Council Notice Board
- Parish Council Website
- Word of Mouth
- Other ..... (*please record*)

**Thank you for participating in our survey.**

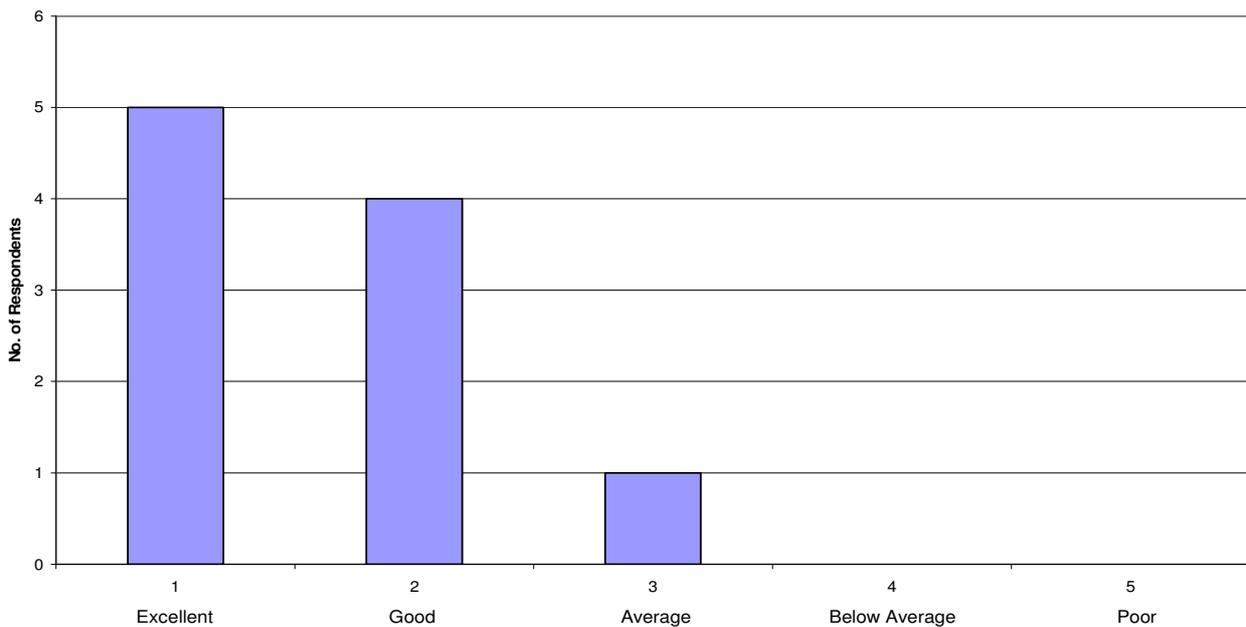
**ANNEX E  
TO PROJECT REPORT  
DATED 18 APR 11**

**PROEJCT SURVEY RESULTS**

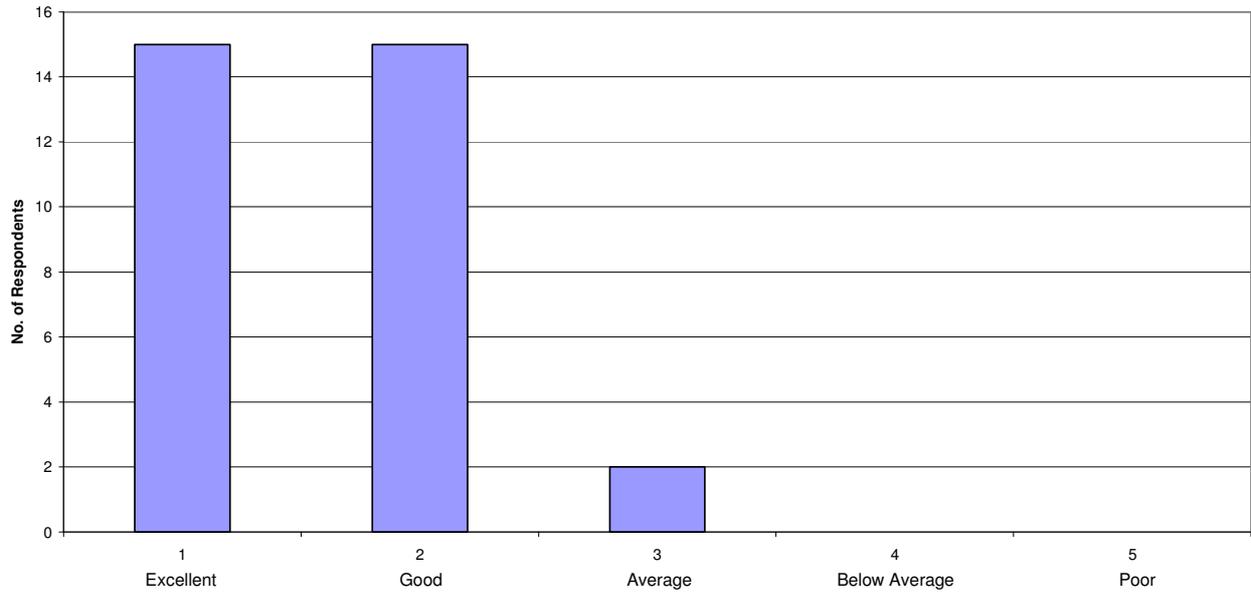
**Q 1. How did you first become aware of the scheme?**



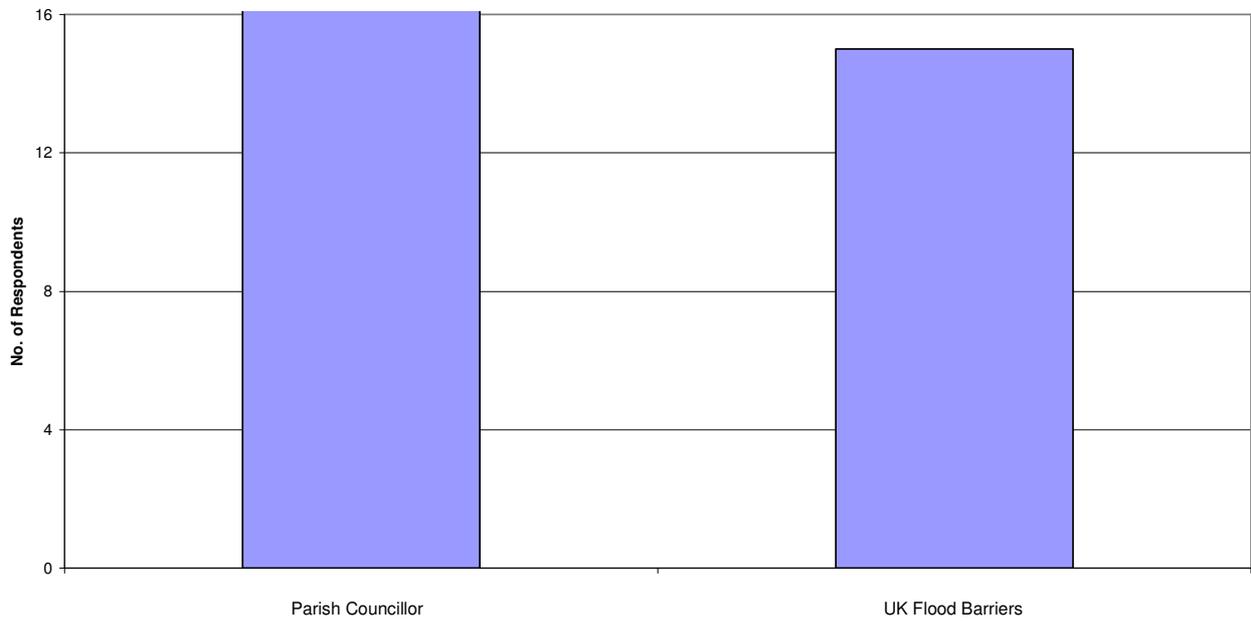
**Q 2. If you attended the 23rd April 10 Flood Awareness Event, how informative was it?**



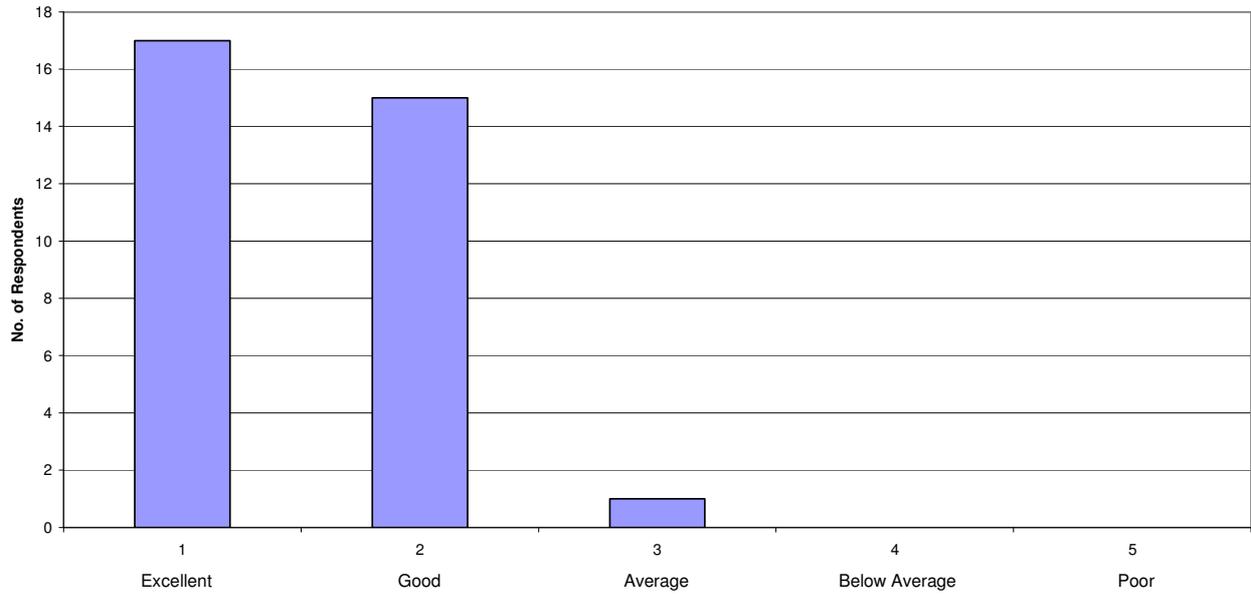
**Q 3. How effective was the Council's initial letter in communicating the purpose of the DEFRA grant and what you need to do?**



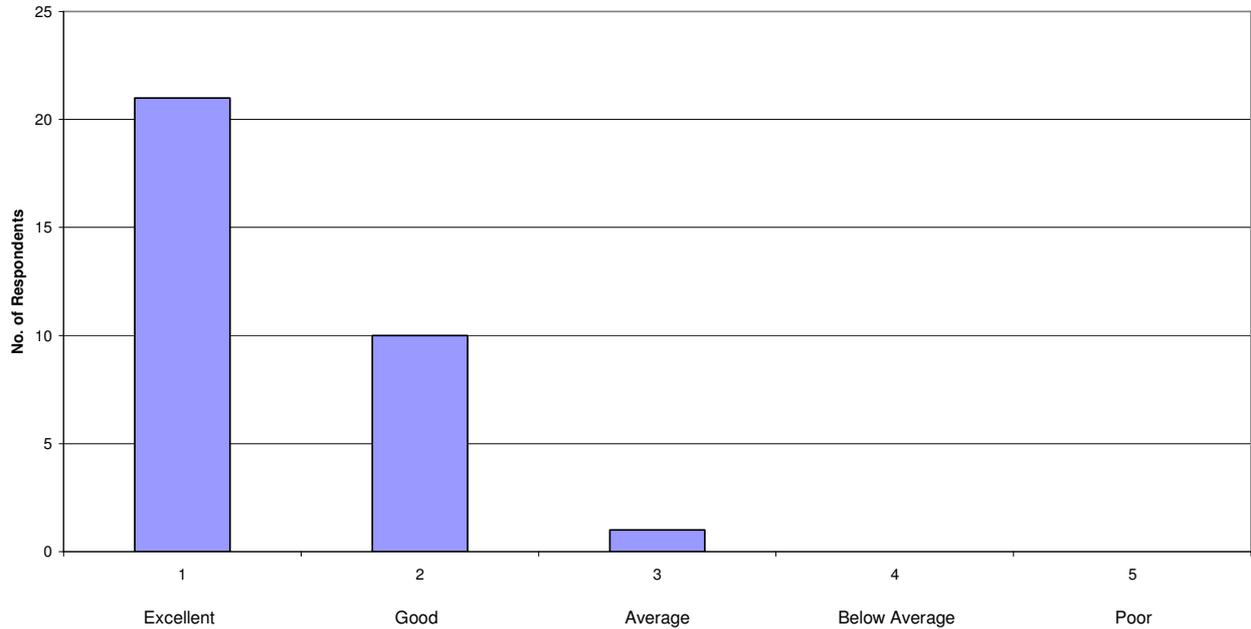
**Q 4a. Who contacted you to arrange for a Survey**



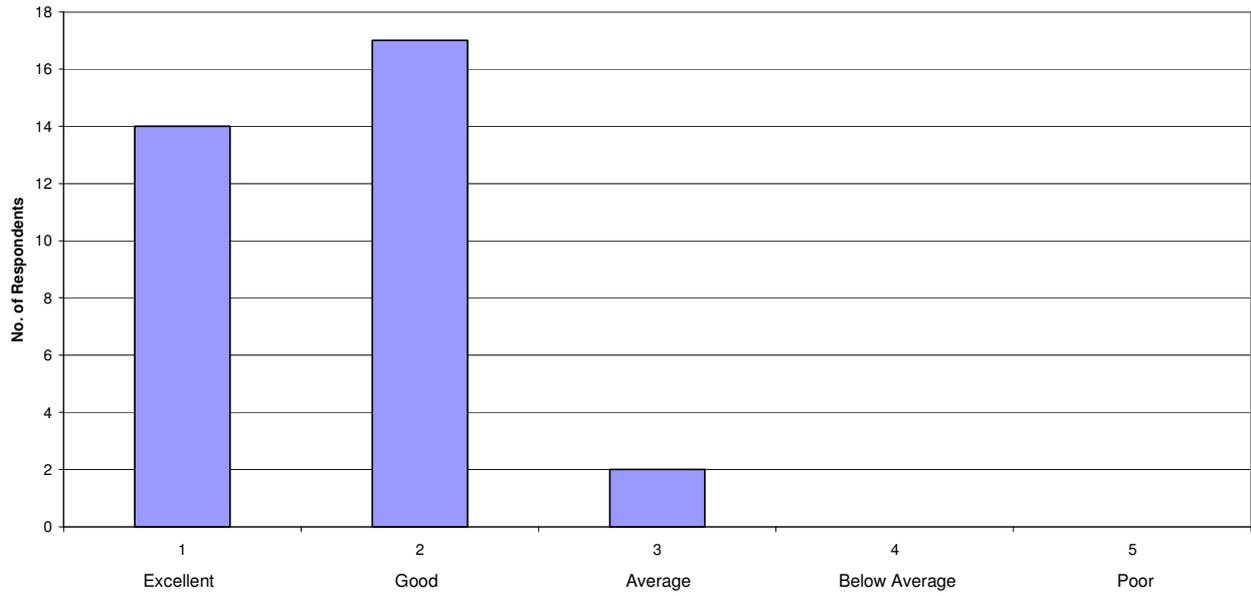
**Q 4b. How effective were the people who contacted you at providing information and arranging the survey appointment?**



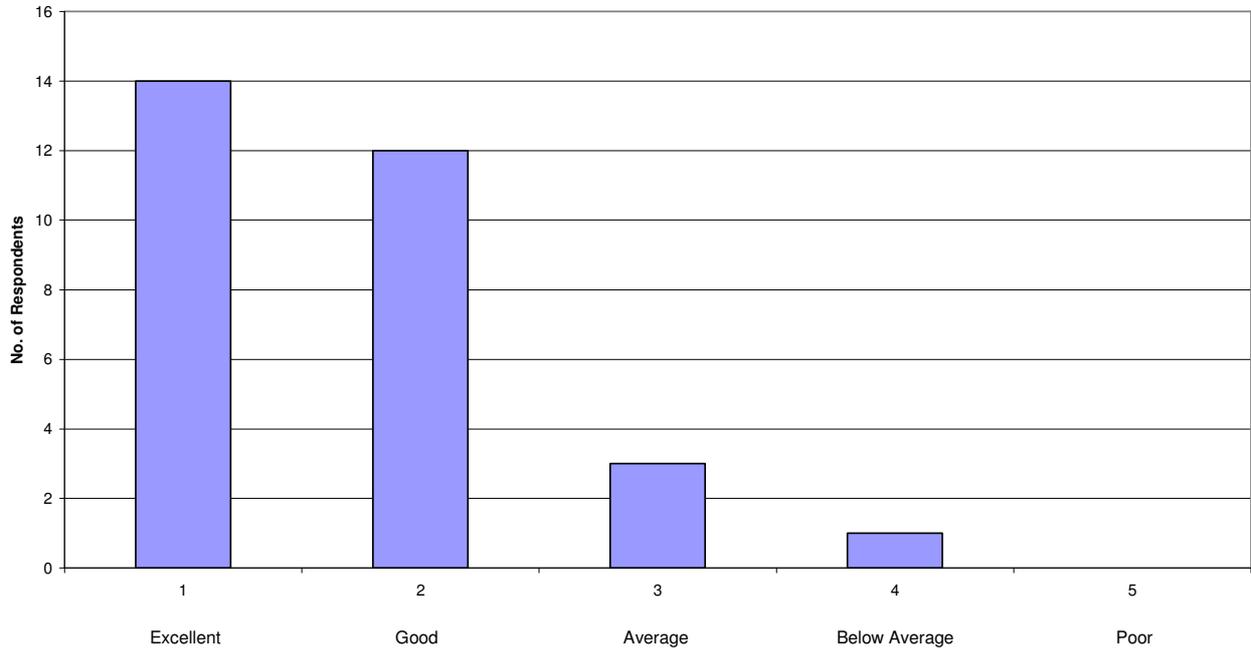
**Q 5. How courteous and professional were the surveyors in completing the property survey?**



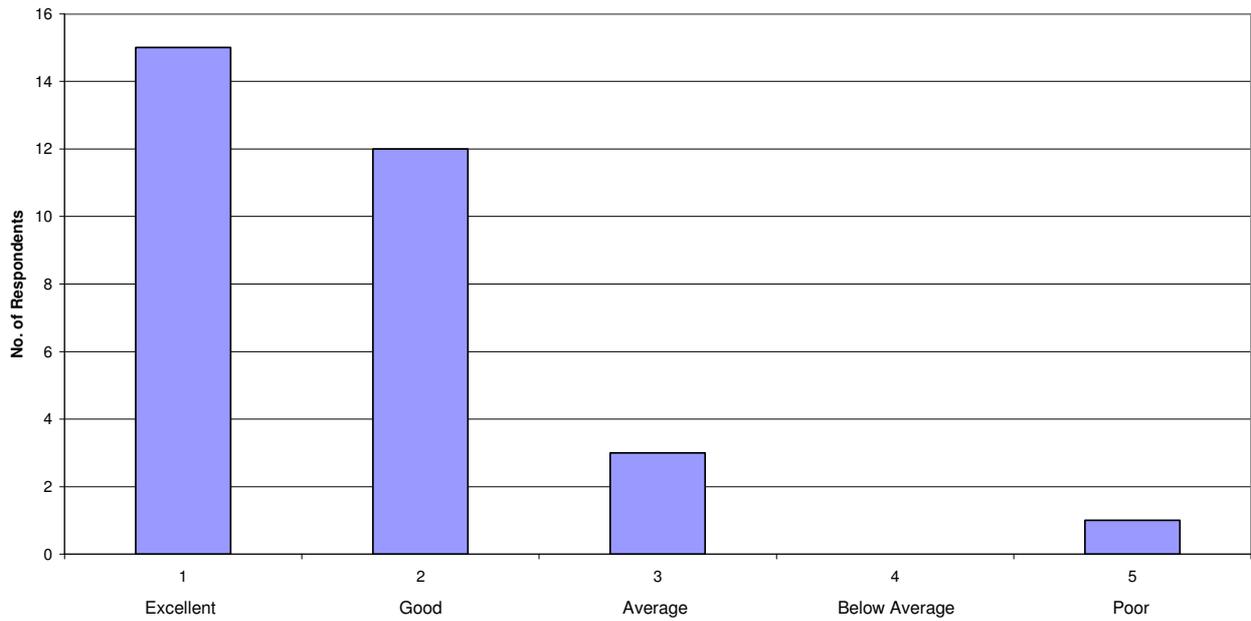
**Q 6. How would you rate the information you received in relation to the type of products to be installed/supplied?**



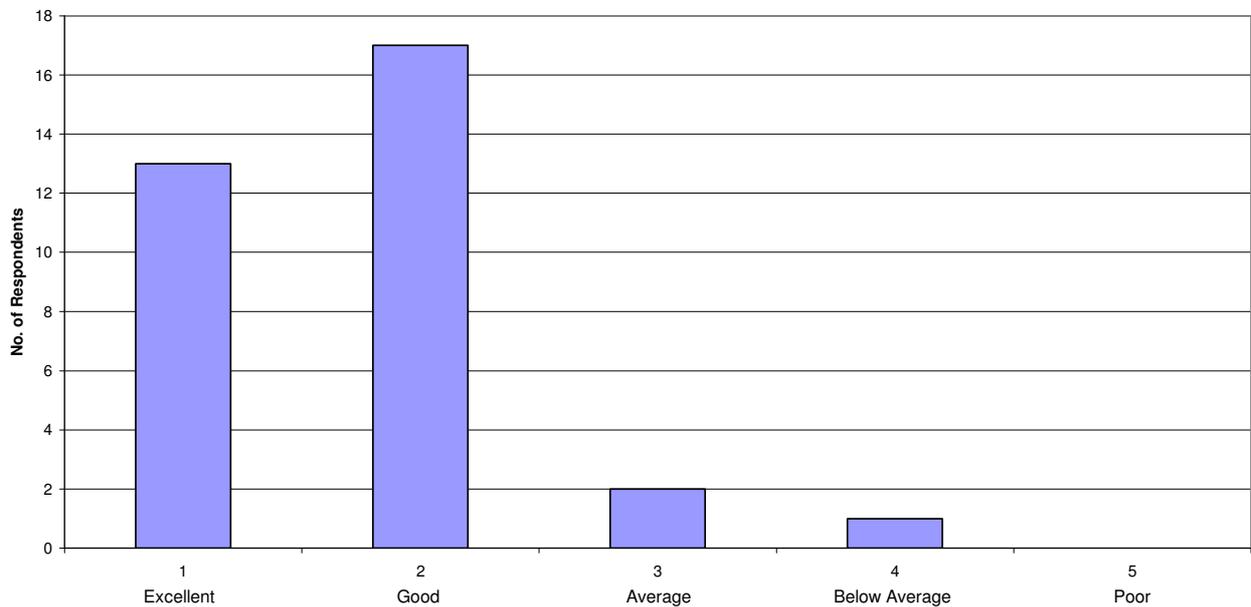
**Q 7. What was your overall impression of the installation team?**



**Q 8. How would you rate the service, knowledge, demonstration and deployment information you received from the UK Flood Barriers installation team?**



**Q 9. How would you rate the information made available to you in respect of the Chew Magna Flood Protection Scheme?**



**Q 10. From where did you receive information about progress in completing the Chew Magna Flood Protection Scheme**

