PSMC 003 CR.062





Auckland Harbour Bridge Contract PSMC003

Resource Consents for Discharge of Abrasive Blast Products Annual Report - October 05

Total Bridge Services 11 Princes Street Northcote Auckland, New Zealand Telephone :+64 9 481 0078 Facsimile :+64 9 481 0079 Date 21 October 2005



Prepared by:

Ryan Brooks Assistant Engineer





CONTENTS

1	INTRODUCTION	2
2	DISCHARGE TO LAND AND WATER	3
2.1	Location and Extent of Blasting	3
2.2	Abrasive Blasting Products	4
2.3	Contamination Recovery	6
2.4	Surfaces Coated with Lead	6
2.5	Measures undertaken to avoid, remedy, or mitigate any adverse Environmental Effects	7
3	DISCHARGE TO AIR	9
3.1	Details of blasting	9
3.2	Surfaces Coated with Lead	9

Appendix A – Abrasive Blasting Data 2004/2005

Appendix B – Local Resident Survey and Feedback





1 INTRODUCTION

This report has been prepared for the Auckland Regional Council in accordance with the special conditions of consent as set out in the Resource Consent for the Auckland Harbour Bridge (AHB). This report covers the period from 1 October 2004 to 30 September 2005.

The Resource Consents have been granted to Transit New Zealand for the discharge of abrasive blasting products from abrasive blasting of the Auckland Harbour Bridge under the following Discharge Permits:

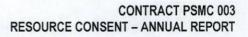
- Discharge Permit No. 23956 for discharge to air
- Discharge Permit No. 23954 for discharge to ground
- Discharge Permit No. 23955 for discharge to water

All conditions of these discharges permits are being complied with. In accordance with the special conditions of consent the following details are discussed:

- The location and extent of blasting, along with details of conditions
- The estimated quantity (in kg) of abrasive blasting products used
- Confirmation of the quantity of contaminants recovered, stored and disposed
- Confirmation that no more than 10m² of blasting has been carried out in those areas where lead paint is known to be present
- Conformation that no abrasive blasting has been undertaken on surfaces coated with lead with concentrations greater than 5000 parts per million by weight in the dry film or containing other hazardous air pollutants
- Details of measures undertaken to avoid, remedy, or mitigate any adverse environmental effect
- Details of screens used and the areas where they are deployed
- Details of any complaints received, and their nature

The physical works contractor responsible for the painting of the AHB changed on 1 December 1998 from Serco to Total Bridge Services. The Total Bridge Services contract has a contract period of 10years expiring on 30 November 2008. Total Bridge Services is a joint venture between TBS Farnsworth Limited, Fulton Hogan Limited and Opus International Consultants Limited.





2 DISCHARGE TO LAND AND WATER

2.1 Location and Extent of Blasting

Over the past twelve months the majority of the abrasive blasting, high pressure water blasting and maintenance painting was carried out on the original truss bridge in Spans 5, and 6 below the walkways, span 3 above the main walkways, on the East Extension, on the overarch and on the Auckland Regional Council's Water Main Pipes. No blasting was carried out above sealed public areas where discharge into the storm water system was possible.

The areas painted include;

medles a selle

- Truss Bridge, Span 5, Below Walkway, Panel Points 0 1;
- Truss Bridge, Span 6, Below Walkway, Panel Points 4 6;
- Truss Bridge, Span 3, Above Walkways, Panel Points 4 13 and 14 15, with Panel Points 13 14 (above the bungy jump pod) 90% complete;
- East Extension External, Boxes 37 78;
- Overarch;
 - Laterals, Span 2, Panel Points 0 4, with 4 6 95% complete and 6/7 60% complete.
 - East 6m+ (above road deck), Panel Points 0 4 95% complete with the inner face to be completed; 4 8 is 60% complete.
 - West 6m+ (above road deck), Panel Points 0 4, with 4/5 and 6/7 90% complete and 5/6 and 7/8 50% complete;
- Auckland Regional Council Water Main Pipes.

The total quantity of blasting media used over the past 12 months was 34,700kg. This is a decrease compared to last two years usage (44,400 and 43,050kg respectively); however this figure is still larger than the 2001-2002 years usage (31,845kg).

The maintenance work of the original truss bridge under the walkway in span 5 included the coating of all external steel work from panel points 0-1. The total area coated in Span 5 of the original truss bridge was 589m². This area used a total of 100kg, which only made up around made up 0.5% of all media used in the past 12 months.

The maintenance work of the original truss bridge below the main walkway in span 6 included the coating of all external steel work within panel points 4-6. The total area coated in Span 6 of the original truss bridge was 1,140m². This area used a total of 700kg, which made up 2% of all media used in the past 12 months.





The maintenance work of the original truss bridge above the walkway in span 3 included the coating of all external steel work from panel points 7-8 to 14-15. The total area coated in Span 1 of the original truss bridge was 2,585m². This area used a total of 6,600kg, which made up 19% of all media used in the past 12 months.

The East Extension exterior maintenance works includes the recoating of the web and cantilever from box 37 to box 78. The total area of painting was 8,413m². It comprised of the outer web plate, outer cantilever, deck plate and longitudinal trough stiffeners. The total volume of blasting media used in this work package was 21,850kg, which made up 63% of all blasting media used in the last 12 months.

The Overarch maintenance works includes the recoating of the east overarch panel points 0-4 $(509m^2)$, west overarch panel points 0-5 $(630m^2)$ and the overarch laterals 0-6 $(730m^2)$ all in span 2. The total area of painting was 1,869m². The total volume of blasting media used in this work package was 5,050kg, which made up 15% of all blasting media used in the last 12 months.

The maintenance work on the Auckland Regional Council Water Main Pipe which runs the length of the Auckland Harbour Bridge included the coating of all external steel. The total area coated in. This area used a total of 400kg, which made up 1 % of all media used in the past 12 months.

2.2 Abrasive Blasting Products

Quantity of Abrasive Blasting Products Generated

Details of abrasive blasting carried out on the Auckland Harbour Bridge between 1st October 2004 and 30th September 2005 have been tabulated and included in Appendix A. For each day the location of the blasting, the work hours, wind speed, wind direction, amounts and type of abrasive, and controls have been recorded. Table 1 below gives the approximate amount of abrasive blasting used in each part of the Bridge over the past 12 months. The period of blasting and prevailing wind direction is also given.

Location of Blasting	Period	Approximate Amount of Abrasive Used (kg)	Prevailing Wind Direction			
Truss Bridge, Span 6, Below Walkway, Panel Points 4 – 5	6 October 2004 – 19 October 2004	250	NW			
Truss Bridge, Span 3, Above Walkway, Panel Points 3 – 5	12 October 2004 – 21 October 2004	2750	SW			

Table 1: Summary of Abrasive Blasting





East Extension Externals, Boxes 37-60	27 October 2004 – 21 February 2005	8250	SW				
Truss Bridge, Span 3 Above Walkways, Panel Points 5 - 7	22 February 2005 – 1 April 2005	950	SW				
Overarch	24 February 2005 – 19 April 2005	2450	SW				
East Extension Externals, Boxes 60-66	8 March 2005 – 10 June 2005	7150	SW				
Truss Bridge, Span 3 Above Walkways, Panel Points 7 - 12	22 April 2005 – 3 May 2005	1100	SW				
Overarch	5 April 2005 – 19 April 2005	1050	NE				
Overarch	15 June 2005	250	S				
East Extension Externals, Boxes 61-66	27 June 2005 – 07 July 2005	950	NW				
Truss Bridge, Span 3 Above Walkways, Panel Points 12 - 13	11 – 13 July 2005	500	NE				
East Extension Externals, Boxes 66-72	14 July 2005 – 16 August 2005	4100	SW				
ARC Water Main Pipes	17- 19 August 2005	400	SW				
Truss Bridge, Span 3 Above Walkways, Panel Points 12 - 13	22 August 2005 – 05 September 2005	2000	NE				
Overarch	26 August 2005	200	NE				
Truss Bridge, Span 3 Above Walkways, Panel Points 14- 15	6 – 9 September 2005	950	NE				
Overarch	12 – 14 September 2005	600	SW				
Truss Bridge, Span 3 Above	15-20 September 2005	300	SW				





Walkways, Panel Points 10- 12			
Overarch	21 – 30 September 2005	1500	SW
East Extension Externals, Boxes 73-78	28-29 September 2005	350	NW

2.3 Contamination Recovery

In accordance with the conditions of the resource consent it is necessary to minimise the discharge of blast media and paint debris as far as is practicable via capture and correct disposal where discharges are over seawater. Where discharges are over land, all debris is to be captured and removed to an appropriate treatment or disposal facility. During the past 12months no maintenance painting has been carried out over land, thus contaminant recovery has been limited to areas over the water where it has been deemed practicable. In addition to this contaminant recovery has been undertaken over the water where it has been deemed practicable. It has been found that by adopting a sensible, sympathetic approach to the maintenance operations discharge of contaminants has been kept to a minimum. The most effective method to date has been to restrict blasting to minimum practicable surface areas; i.e. spot blasting the corrosion rather than blasting the whole package, this has been successful in keeping the volume of debris from the old paint systems discharged to less than 0.05m³ per year. Assessments on the environment have shown that the effects from spillage of the coating products to be insignificant under normal working conditions. To date no excessive spills have occurred. Though on 20 duly 2 non confermence report was used to TBS from the

ARC, the non conformance have been rectified and all conditions, of the consent are being 2.4 Surfaces Coated with Lead Meet, see section 2.5 Birdetails

On the bridge there are only two locations where lead based paints are present, span 7 and inside the box extensions. Previously it has been estimated that only $0.051m^3$ of red lead paint per panel point remains on the bridge. No abrasive blasting or paint removal was undertaken in these areas over the past twelve months. It has been estimated in previous contracts that only a very small fraction of this paint (on average 5%, or $0.0026m^{3}$) is removed by the spot blasting involved in maintenance painting. The adopted philosophy regarding areas contaminated with lead is such that the corrosion will almost certainly reoccur in the same locations. This means that those areas have been blasted in the past thus removing all lead from the surfaces, any further blasting will only take off reapplied paint systems, which do not contain lead. If the area blasted is greater than has been previously cleaned then it has been found that the additional area is minimal.





2.5 Measures undertaken to avoid, remedy, or mitigate any adverse Environmental Effects

Total Bridge Services over the past twelve months have continued to as far as practicable avoid, remedy, and mitigate any adverse effects on the environment from the abrasive blasting on the Auckland Harbour Bridge. Methods used include:

- From January 2002 we have exclusively been using more garnet abrasive, this has been instrumental in the reduction of abrasive dust generated whilst blasting. Garnet is more efficient due to its hardness and angular profile and therefore a lesser quantity is used to prepare the steel surfaces compared to basalt and other trailed abrasives.
- High pressure water blasting has continued to be used over the past twelve months to remove as much loose paint, scale and corrosion products from the surfaces as possible before abrasive blasting. Water blasting generates paint flakes rather than generating the dust associated with abrasive blasting. Following the water blasting, sweep blasting is used to obtain a surface profile for anchorage of the paint film.
- Continued development of alternative methods of paint removal. UHP waterblasting (water jetting) up to 30,000 psi has been trialled for paint removal over large flat areas such as the extensions. The main advantage of this system as dust is minimised, as only a sweep blast is required prior to painting. The major negative impact of this machine is the noise it generates and hence working hours would be slightly reduced so the impact on our neighbours is minimised. The size of the lances used makes this method of preparation unsuitable on the original truss bridge. The option of using UHP as a permanent replacement to abrasive blasting where practicable is still currently under review.
- Surrounding businesses and residents are continually kept informed and updated on information relating to blasting and painting programmes at regular intervals. A survey was carried out of the local residents by Total Bridge Services to ensure that over the past twelve months that they were happy with the controls provided, included in the survey was the forward works programme for the remainder of 2005 and 2006. The results are contained in Appendix B.
- Signage was displayed advising motorists and the public of abrasive blasting and coating operations on the Auckland Harbour Bridge.
- The current blasting philosophy is based on spot blasting followed by a light sweep blast. This philosophy together with the high pressure water blasting and ultra high-pressure water blasting where possible minimises the volume of material that is generated. This philosophy has greatly reduced the volume of blasting media used when compared to historical records.





- Paint trials are currently being undertaken to ascertain whether there are potential benefits of switching to an alternative product. From an environmental viewpoint the products are being examined with regards to their ease of application, solvent fumes, and the durability of the coating. Three alternative Moisture Cured Urethanes are currently being trialled.
- Long-term solutions are being examined to look at the viability of moving from Moisture Cured Zinc primers to a Thermal Zinc Spray. This is being approached from two different aspects, firstly, in the short-medium term using the thermal zinc spray for spot repairs, and in the long term, complete thermal zinc spraying. Complete Thermal Zinc Spraying is a system that would require the removal of all the existing coating and complete replacement. It has the advantage of reducing the number of spot repairs required, hence the amount of blasting, to a minimum over the foreseeable future. Given the costs associated with this it is likely that complete removal will undertaken in various areas as part of the next contract mainly due to the excessive film thicknesses now present on the bridge.

o On the 20 July a compliance in spectron was undertaken & it was found that 3 condutions....







3 DISCHARGE TO AIR

3.1 Details of blasting

As mentioned above the majority of the work carried out between October 2004 and September 2005 occurred below the main walkways within Spans 5 and 6, above walkways in spans 3, on the outside of the eastern extension, on the overarch and on the Auckland Regional Council's Water Main Pipes. Details showing the date and time of commencement and duration of dry abrasive blasting and/or spray painting, areas of the bridge being blasted or painted, the type of abrasive used, wind speed and direction, and any control measures undertaken. These details have been tabulated and can be found in Appendix A.

3.2 Surfaces Coated with Lead

Over the past twelve months it has been ensured that no blasting has been undertaken on surfaces coated with lead with concentrations greater than 5000 parts per million by weight in the dry film or containing other hazardous air pollutants. As has been mentioned above, corrosion on the bridge occurs repeatedly in the same location meaning the lead paint has been removed in the past.





APPENDIX A

Abrasive Blasting Data 2004/2005





APPENDIX B

Local Residents Survey and Feedback





Summary Weather Information

	General		We	eather Co.	nditions				Coati	ng Condition	15			Abrasiv	e	
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type		Amount Recovered	Screens Used
1/10/2004	08:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0 0	No
4/10/2004	08:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0 0	No
5/10/2004	08:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	N/A	Garnet C	0	0 0	No
6/10/2004	08:10:00	B645	Overcast	Nil	NW	0	13	11	80%	13	7.5	ок	Garnet C	0.25	6 O	No
7/10/2004	08:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0 0	No
8/10/2004	08:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0 0	No
11/10/2004	08:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0 0	No
12/10/2004	08:45:00	A334	Overcast	Nil	sw	4	14.5	11	65%	14	8	ок	Garnet C	0.25	6 O	No
13/10/2004	16:00:00	er ja i	Overcast	Shower	SW	4	15	14	95%	15	13.5	ок	Garnet C	0	0	No
14/10/2004	00:00:00	A345	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0.5	; O	No
15/10/2004	08:00:00	A356	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0.5	i 0	No
18/10/2004	08:00:00	A356	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0.5	; О	No
19/10/2004	08:45:00	B645	Clear	Nil	sw	2	15	11	62%	15	7,5	ок	Garnet C	0	0	No
20/10/2004	08:40:00	A345	Overcast	Nil	sw	6	17	15.5	83%	17	14.5	ок	Garnet C	0.5	i 0	No
21/10/2004	08:45:00	A345	Clear	Nil	sw	2	15.5	12	70%	15.5	9.5	ок	Garnet C	0.5	0	No
22/10/2004	08:00:00	NIGHTS	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0 0	No
													1			

Friday, 21 October 2005



Controls

comio	1.5	
Signage Used	Sweeping Complete	Inspected By:
No	No	Errol Hansen

Page 1 of 14

	General		We	eather Con	nditions				Coatin	ng Condition	15			Abrasiv	e	
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used
25/10/2004	08:00:00	HOLIDAY	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No
26/10/2004	08:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No
27/10/2004	16:00:00	EX07	Clear	Nil	SW	1	17	14	70%	17	12	ок	Garnet C	0.25	0	No
28/10/2004	08:05:00	EXI6	Clear	Nil	SW	0	13	11	78%	13	9	ок	Garnet C	0.5	0	No
29/10/2004	16:15:00	EX06	Clear	Nil	NW	0	20	19	95%	20	18.5	ок	Garnet C	0.25	0	No
1/11/2004	08:15:00	EXI6	Clear	Nil	NE	0	15	12	72%	15	10	ок	Garnet C	0.25	0	No
2/11/2004	08:00:00	NO READIN	Clear	Nil	NW	0	0	0	0	0	0	N/A	Garnet C	0.25	0	No
3/11/2004	08:45:00	EXO6	Clear	Nil	NW	2	16	14	80%	16	12.5	ок	Garnet C	0.25	0	No
4/11/2004	09:00:00	EX06	Clear	Nil	NW	2	17	13.5	78%	17	11	ок	Garnet C	0.2	0	No
5/11/2004	11:00:00	EXI6	Clear	Nil	NE	2	18	15	72%	18	13	ок	Garnet C	0.2	0	No
8/11/2004	15:40:00	EX06	Clear	Nil	SW	2	22	17	61%	22	14	ок	Garnet C	0.2	0	No
9/11/2004	08:30:00	EXI6	Overcast	Nil	SW	1	18	15	72%	18	13	ок	Garnet C	0	0	No
10/11/2004	08:45:00	B656	Clear	Nil	NW	0	19	16	72%	19	14	ок	Garnet C	0.2	0	No
11/11/2004	08:50:00	EX07	Clear	Nil	SW	0	19	17	82%	19	16	ОК	Garnet C	0.25	0	No
12/11/2004	08:45:00	EX07	Clear	Nil	NE	1	19.5	17	77%	19	15.5	ок	Garnet C	0	0	No
15/11/2004	08:55:00	EXO7	Overcast	Shower	NW	2	17	14	73%	17	12	ок	Garnet C	0	0	No
16/11/2004	13:00:00	EX07	Overcast	Nil	NW	4	20	17	77%	20	15.5	ок	Garnet C	0.2	0	No
17/11/2004	08:35:00	EX07	Clear	Nil	S	2	19	15	65%	19	12.5	ок	Garnet C	0.25	0	No

Controls

Signage Used	Sweeping Complete	Inspected By:
No	No	Errol Hansen

Page 2 of 14

	General		We	eather Co	nditions		Coating Conditions						Abrasive				Contro		
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used		Sweeping Complete	Inspected By:
18/11/2004	08:45:00	EX07	Clear	Nil	SW	2	19	14	53%	19	10.5	ОК	Garnet C	0	0	No	No	No	Errol Hansen
19/11/2004	12:00:00	B656	Clear	Nil	S	1	18.5	14	60%	18	11	ок	Garnet C	0.25	0	No	No	No	Errol Hansen
22/11/2004	09:15:00	EXO7	Clear	Nil	NE	2	18	13	60%	18'	10	ок	Garnet C	• 0	0	No	No	No	Errol Hansen
23/11/2004	14:15:00	EX07	Overcast	Nil	NE	4	18	15.5	78%	18	14	ок	Garnet C	0	0	No	No	No	Errol Hansen
24/11/2004	08:30:00	EXO7	Clear	Nil	SW	2	17	14	72%	17	12	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
25/11/2004	14:30:00	EX08	Overcast	Shower	SW	1	16	14	84%	16	12.5	ок	Garnet C	0.25	0	No	No	No	Errol Hansen
26/11/2004	00:00:00	NO READIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
29/11/2004	00:00:00	EX08	Clear	Nil	NW	0	0	0	00	0	0	N/A	Garnet C	0.25	0	No	No	No	Errol Hansen
30/11/2004	08:00:00	EXI8	Overcast	Heavy	SW	4	17	14	72%	17	12	ок	Garnet C	0	0	No	No	No	EXI8
1/12/2004	17:00:00	EX08	Overcast	Nil	SW	4	21	18	76	21	16.5	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
2/12/2004	10:00:00	EXO8	Overcast	Light	NE	0	20	19	95%	20	18.5	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
3/12/2004	00:00:00	SAFETY TR	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
6/12/2004	08:45:00	EX08	Overcast	Shower	NW	2	15	13	80%	15	11.5	ок	Garnet C	0.1	0	No	No	No	Errol Hansen
7/12/2004	16:10:00	EXI8	Overcast	Nil	SW	3	19	16	65%	19	12.5	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
8/12/2004	08:35:00	EXI8	Clear	Nil	SW	• 1	17	12	56%	17	8	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
9/12/2004	15:00:00	EXO8	Overcast	Nil	SW	5	16	12	65%	16	9	ок	Garnet C	0	0	No	No	No	Errol Hansen
10/12/2004	08:30:00	EX09	Overcast	Shower	SW	5	16	12	65%	16	9	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
13/12/2004	16:30:00	EX08	Clear	Nil	SW	1	20	15	59%	20	11.5	ок	Garnet C	0	0	No	No	No	Errol Hansen
						The second second													Contraction of the

Page 3 of 14

(General		We	eather Co.	nditions	and the second			Coatin	ng Condition	IS			Abrasive	2		
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used	
14/12/2004	13:30:00	NO READIN	Overcast	Nil	sw	5	18.5	15	66%	18.5	12.5	ок	Garnet C	0	0	No	
15/12/2004	14:10:00) EX08	Overcast	Light	NW	2	17	16	90%	17	15.5	ок	Garnet C	0	0	No	
16/12/2004	00:00:00	NO PAINTIN	Clear	Nil	NW	0	0	0	0	0	0	N/A	Garnet C	0	0	No	
17/12/2004	00:00:00	NO PAINTIN	Clear	Nil	NW	8	0	0	0	0	0	N/A	Garnet C	0.2	0	No	
20/12/2004	08:45:00) EXI8	Clear	Nil	SW	2	17	13	63%	17	10	ок	Garnet C	0.25	0	No	
21/12/2004	08:00:00) EX08	Overcast	Shower	NW	4	16	14	80%	16	12.5	ок	Garnet C	0	0	No	
22/12/2004	00:00:00	XMAS TIDY	Clear	Nil	NW	0	0	0	0	0	0	N/A	Garnet C	0	0	No	
23/12/2004	00:00:00	FISHING	Clear	Nil	NW	0	0	0	0	0	0	N/A	Garnet C	0	0	No	
24/12/2004	00:00:00	HOLIDAY X	Clear	Nil	NW	0						N/A	Garnet C	0	0	No	
5/01/2005	00:00:00) alternative w	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	
6/01/2005	00:00:00) TIDY UP	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	
7/01/2005	00:00:00) DAY IN LIE	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	
10/01/2005	00:00:00) SET UP GE	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	
11/01/2005	00:00:00) SET UP GE	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	
12/01/2005	08:55:00) EXI9	Clear	Nil	NW	0	19	16	70%	19	14.5	ок	Garnet C	0.25	0	No	
13/01/2005	08:30:00) EXI9	Clear	Nil	NW	0	20	17	75%	20	15,5	ок	Garnet C	0	0	No	
14/01/2005	00:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	N/A	Garnet C	0	0	No	
17/01/2005	16:00:00) EX09	Overcast	Nil	NE	0	22	17	60%	22	17	ок	Garnet C	0.25	0	No	

Controls

Signage Used	Sweeping Complete	Inspected By:
No	No	Errol Hansen

Page 4 of 14

(General		We	eather Co	nditions				Coati	ng Condition	IS			Abrasiv	e	
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used
18/01/2005	00:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	N/A	Garnet C	0	0	No
19/01/2005	12:00:00	EXI9	Overcast	Nil	SW	4	20	15	57%	20	11.5	ок	Garnet C	0.1	0	No
20/01/2005	08:40:00	EX09	Overcast	Nil	sw	0	17	15	80%	17	13.5	ок	Garnet C	0.25	0	No
21/01/2005	08:05:00	EXI9	Clear	Nil	NW	0	20	17	78%	20	15.5	ок	Garnet C	0.25	0	No
24/01/2005	09:45:00	SPAN 5 PP	Clear	Nil	E	0	22	18	66%	22	15.5	ок	Garnet C	0.1	0	No
25/01/2005	08:55:00	EX09	Clear	Nil	sw	0	22	19	76%	22	17.5	ок	Garnet C	0	0	No
26/01/2005	10:00:00	EXI9	Clear	Nil	E	2	23	19	70%	23	17	ок	Garnet C	0	0	No
27/01/2005	08:15:00	SPAN 5 PP0	Clear	Nil	NE	3	22	18	65%	22	15.5	ок	Garnet C	0	0	No
28/01/2005	12:00:00	EX09	Overcast	Nil	NE	3	21	16.5	65%	21	14	ок	Garnet C	0	0	No
31/01/2005	08:35:00	SPAN 5 PP	Clear	Nil	NW	2	24	19	67%	24	17.5	ок	Garnet C	0	0	No
2/02/2005	00:00:00	EX09	Clear	Nil	NW	5	0	0	0	0	0	ок	Garnet C	0	0	No
3/02/2005	14:00:00	EXI9	Clear	Nil	NW	2	23	21	84%	23	20	ок	Garnet C	0	0	No
4/02/2005	16:00:00	SPAN 3 PP	Overcast	Shower	SW	0	19	22	78%	19	17.5	ок	Garnet C	0.25	0	No
7/02/2005	09:15:00	SPAN 5 PP0	Clear	Nil	NE	2	23	21	83%	23	20	ok	Garnet C	0	0	No
8/02/2005	09:20:00	EX09	Clear	Nil	NE	2	24	19	62%	24	16.5	ок	Garnet C	0	0	No
9/02/2005	11:30:00	EXI9	Clear	Nil	SW	2	25	21	70%	25	19	ок	Garnet C	0	0	No
10/02/2005	10:10:00	EX09	Clear	Nil	SW	1	25	20.5	65%	25	18	ок	Garnet C	0	0	No
11/02/2005	00:00:00	EXI9	Clear	Nil	NE	3	23	18	60%	23	15	ок	Garnet C	0	0	No

Controls

Signage Used	Sweeping Complete	Inspected By:
No	No	Errol Hansen
		1

Page 5 of 14

(General		We	eather Con	nditions	San Star			Coati	ng Condition	IS			Abrasiv	e		
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used	
14/02/2005	00:00:00	EX09	Clear	Nil	N	0	0	0	0	0	0	N/A	Garnet C	0.1	0	No	
15/02/2005	09:45:00	EX10	Clear	Nil	sw	1	22.5	18	65%	22.5	15.5	ОК	Garnet C	0.1	0	No	
16/02/2005	16:00:00	EX10	Clear	Nil	sw	1	24	19	63%	24	16.5	ок	Garnet C	0.25	0	No	
17/02/2005	10:50:00	EX10	Clear	Nil	NE	2	23	20	63%	23	16	ок	Garnet C	0.25	0	No	
18/02/2005	00:00:00	EX10	Clear	Nil	sw	3	22	17	60%	22	14	ок	Garnet C	0.1	0	No	
21/02/2005	00:00:00	EX10	Clear	Nil	NE	4	22	19	76%	22	17.5	ок	Garnet C	0.25	0	No	
22/02/2005	15:00:00	SPAN 3 PP	Clear	Nil	NE	3	24	19	63%	24	16.5	ок	Garnet C	0.1	0	No	
23/02/2005	09:40:00	SPAN 3 SE	Overcast	Nil	S	0	22	20	70%	22	16	ок	Garnet C	0.1	0	No	
24/02/2005	15:50:00	O/ARCH	Clear	Nil	SW	0	24	18	56%	24	15	ок	Garnet C	0.25	0	No	
25/02/2005	17:00:00	O/ARCH	Clear	Nil	SW	0	24	18	56%	24	15	ок	Garnet C	0.1	0	No	
28/02/2005	11:30:00	SPAN 3	Overcast	Nil	SW	2	22	18	75%	22	17	ок	Garnet C	0	0	No	
1/03/2005	14:00:00	SPAN 3	Clear	Nil	SE	0	22	16	55%	22	12	ок	Garnet C	0.1	0	No	
2/03/2005	16:30:00	O/ARCH	Clear	Nil	SW	0	23	18	62%	23	15.5	ок	Garnet C	0.25	0	No	
3/03/2005	16:00:00	O/ARCH	Clear	Nil	SW	3	23	18	62%	23	15.5	ок	Garnet C	0.1	0	No	
4/03/2005	16:00:00	O/ARCH	Overcast	Shower	NE	0	19	22	78%	22	17.5	ок	Garnet C	0.25	0	No	
7/03/2005	14:05:00	SPAN 3	Overcast	Light	N	0	22	18	70%	22	16	ок	Garnet C	0.1	0	No	
8/03/2005	15:00:00	EX10	Clear	Nil	w	0	23	18	65%	23	15.5	ок	Garnet C	0	0	No	
9/03/2005	15:00:00	SPAN 3	Clear	Nil	NW	2	21	18	72%	21	16	ок	Garnet C	0	0	No	
													L				

Controls

Signage Used	Sweeping Complete	Inspected By:
No	No	Errol Hansen

Page 6 of 14

(General		We	ather Con	nditions				Coati	ng Condition	IS		1	Abrasivo	2	
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity		Dew	Chloride Levels	Abrasive Type	Amount		Screens Used
10/03/2005	17:15:00	SPAN 3	Clear	Nil	SW	2	22	18	66%	22	15.5	ок	Garnet C	0.1	0	No
11/03/2005	00:00:00	EX10	Clear	Nil	sw	3	22	18	70%	22	15.5	ок	Garnet C	0.1	0	No
14/03/2005	10:45:00	SPAN 3	Overcast	Nil	SE	2	19.5	17	76%	19.5	15.5	ок	Garnet C	0.1	0	No
15/03/2005	09:20:00	EX10	Clear	Nil	w	0	19	15	68%	19	12	ок	Garnet C	0.25	0	No
16/03/2005	15:15:00	SPAN 3	Clear	Nil	sw	0	20	16	65%	20	13.5	ок	Garnet C	0.1	0	No
17/03/2005	10:00:00	SPAN 2	Clear	Nil	SW	1	21	18	75%	21	16.5	ок	Garnet C	0.25	0	No
18/03/2005	09:45:00	SPAN 3	Overcast	Nil	w	2	21	19	80%	21	17.5	ок	Garnet C	0.25	0	No
21/03/2005	14:50:00	EX10	Clear	Nil	sw	1	24	18	55%	24	14.5	ок	Garnet C	0.1	0	No
22/03/2005	09:50:00	SPAN 2	Clear	Nil	sw	0	22	19	75%	22	17.5	ок	Garnet C	0.25	0	No
23/03/2005	09:00:00	EX09/10	Clear	Nil	NW	0	22	19	75%	22	17.5	ОК	Garnet C	0.1	0	No
24/03/2005	15:20:00	EXI9	Overcast	Shower	NE	4	23	21	85%	23	20	ок	Garnet C	0	0	No
27/03/2005	12:30:00	EX10	Clear	Nil	SW	3	18	14	68	18	12	ок	Garnet C	1	0	No
30/03/2005	16:00:00	EX10	Clear	Nil	SW	2	21	17	66%	21	14.5	ОК	Garnet C	0	0	No
31/03/2005	15:15:00	9 SPAN 2/3	Clear	Nil	SW	2	20	16.5	70%	20	14.5	ОК	Garnet C	0	0	No
1/04/2005	08:50:00	SPAN 3	Clear	Nil	NE	0	20	17	75%	20	15.5	ОК	Garnet C	0	0	No
4/04/2005	09:55:00	EX10	Clear	Nil	NW	0	22	18	70%	22	16	ок	Garnet C	0.1	0	No
5/04/2005	10:00:00	SPAN 2	Overcast	Nil	SW	0	21	17	70%	21	15	ок	Garnet C	0.25	0	No
6/04/2005	09:50:00		Clear	Light	SW	2	19	16	73%	19	14	ок	Garnet C	0		No
					N.											

Controls

Signage Used	Sweeping Complete	Inspected By:
No	No	Errol Hansen

Page 7 of 14

(General		We	eather Co	nditions				Coatin	ng Condition	IS			Abrasive	2		Contro	ls	
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used	Signage Used	Sweeping Complete	Inspected By:
7/04/2005	17:00:00	SPAN 2	Clear	Light	NE	0	21	18	74%	21	16	ОК	Garnet C	0.25	0	No	No	No	Errol Hansen
8/04/2005	09:00:00	EX10	Clear	Nil	SW	2	19.5	16	70%	19.5	14	ОК	Garnet C	0	0	No	No	No	Errol Hansen
11/04/2005	10:50:00	SPAN 2	Clear	Nil	NE	1	21	17	70%	21	15	ОК	Garnet C	0.1	0	No	No	No	Errol Hansen
12/04/2005	10:10:00	SPAN 2	Overcast	Nil	NE	3	21	18	75%	21	16.5	ОК	Garnet C	0.1	0	No	No	No	Errol Hansen
13/04/2005	16:00:00	EX10	Clear	Nil	SW	2	22	18	65%	22	15.5	ОК	Garnet C	0	0	No	No	No	Errol Hansen
14/04/2005	16:50:00	SPAN 2	Clear	Nil	NE	1	21	18	75%	21	16.5	ОК	Garnet C	0.1	0	No	No	No	Errol Hansen
15/04/2005	15:00:00	EX11	Clear	Nil	NE	0	20	16	66%	20	13.5	ОК	Garnet C	0.1	0	No	No	No	Errol Hansen
18/04/2005	08:25:00	SPAN 2	Clear	Nil	SW	0	20	18	82%	20	17	ок	Garnet C	0	0	No	No	No	Errol Hansen
19/04/2005	16:10:00	SPAN 2	Clear	Nil	NE	1	19	16	72%	19	14	ок	Garnet C	0.25	0	No	No	No	Errol Hansen
20/04/2005	09:05:00	EX11	Overcast	Nil	NE	0	17	15	80%	17	13.5	ок	Garnet C	0.1	0	No	No	No	Errol Hansen
21/04/2005	00:00:00	EX11	Overcast	Shower	NE	0	0	0	0	0	0.	N/A	Garnet C	0.1	0	No	No	No	Errol Hansen
22/04/2005	16:00:00	SPAN 3	Clear	Nil	SW	3	19	16	73%	19	14	ок	Garnet C	0.1	0	No	No	No	Errol Hansen
25/04/2005	11:15:00	EX11	Clear	Nil	SW	1	17	14	70%	17	12	ОК	Garnet C	0.1	0	No	No	No	Errol Hansen
28/04/2005	00:00:00)	Clear	Nil	NW	0	0	0	0	0	0	ОК	Garnet C	1.25	28	No	No	No	Errol Hansen
29/04/2005	09:05:00	EX10	Clear	Nil	SE	0	15.5	13	80%	15.5	12	ОК	Garnet C	1	0	No	No	No	Errol Hansen
2/05/2005	16:20:00	EX10	Overcast	Shower	NW	3	19	17	82%	19	16	ОК	Garnet C	1	0	No	No	No	Errol Hansen
3/05/2005	16:30:00	SPAN 3	Overcast	Shower	SW	2	17	15	80%	17	13.5	ОК	Garnet C	1	0	No	No	No	Errol Hansen
20/05/2005	11:00:00)	Clear	Nil	NW	0						N/A	Garnet C	0	0	No	No	No	Errol Hansen

Page 8 of 14

(General		We	eather Co	nditions				Coati	ng Condition	15			Abrasivo	e		Contro	ls	
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount		Screens Used		Sweeping Complete	Inspected By:
23/05/2005	10:00:0	0 EXO11	Clear	Nil	SW	2	18	16	80%	18	14.5	ОК	Garnet C	0.25	0	No	No	No	Errol Hansen
24/05/2005	09:00:0	0 EXI11	Clear	Nil	SW	1	16.5	14	78%	16.5	12.5	ОК	Garnet C	0.25	0	No	No	No	Errol Hansen
25/05/2005	15:00:0	0 EXI11	Clear	Nil	SW	2	18	14	64	18	11	ок	Garnet C	0.25	0	No	No	No	Errol Hansen
26/05/2005	15:30:0	0 EXO11	Clear	Nil	NE	2	18	13	55%	18	9	ОК	Garnet C	0.25	0	No	No	No	Errol Hansen
27/05/2005	00:00:0	0 NO READIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
30/05/2005	00:00:0	0 NO READIN	Clear	Nil	NW	0	0	0	0	0	0	N/A	Garnet C	0	0	No	No	No	Errol Hansen
31/05/2005	08:50:0	0 EXO11	Overcast	Shower	NW	30	11.5	11	90%	11.5	10	ОК	Garnet C	0.1	0	No	No	No	Errol Hansen
1/06/2005	10:05:0	0 EXO11	Overcast	Shower	SW	6	16	14.5	90%	16	13.5ok	ОК	Garnet C	0.1	0	No	No	No	Errol Hansen
2/06/2005	10:05:0	0 EXI11	Overcast	Nil	NW	50	14	12	80%	14	10.5	ОК	Garnet C	0.1	0	No	No	No	Errol Hansen
3/06/2005	14:20:0	0 EXO11	Overcast	Shower	NW	6	13	10.5	77%	13	8.5	ОК	Garnet C	0	0	No	No	No	Errol Hansen
6/06/2005	00:00:0	0 STAT HOLI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
7/06/2005	00:00:0	0 NO READIN	Clear	Nil	NW	0	0	0	0	0	0	N/A	Garnet C	0	0	No	No	No	Errol Hansen
8/06/2005	10:45:0	0 EXO11	Clear	Nil	SW	4	14	11	70%	14	11	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
9/06/2005	11:00:0	0 EXI11	Clear	Nil	NW	0	14	13	90%	14	12	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
10/06/2005	14:05:0	0 EXO11	Clear	Nil	NW	0	14	12	80%	14	10.5	ОК	Garnet C	0	0	No	No	No	Errol Hansen
13/06/2005	00:00:0	0 alternative w	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
14/06/2005	00:00:0	0 ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
15/06/2005	16:40:0	0 O/ARCH	Clear	Nil	S	3	15	11	60%	15	7.5	ок	Garnet C	0.25	0	No	No	No	Errol Hansen

Page 9 of 14

	General		We	ather Co	nditions				Coati	ng Condition	IS			Abrasivo	2		Contro	ls	
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used	Signage Used	Sweeping Complete	Inspected By:
16/06/2005	00:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
17/06/2005	00:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
20/06/2005	00:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
21/06/2005	00:00:00	NO PAINTIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
22/06/2005	00:00:00	NO PAINTIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
23/06/2005	00:00:00	ALTERNATI	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
24/06/2005	00:00:00	NO PAINTIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
27/06/2005	09:30:00	EX011	Overcast	Nil	NW	10	9	7.5	82	9	6	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
28/06/2005	08:00:00	EXI11	Clear	Nil	NW	4	16	13	73%	16	11	ок	Garnet C	0.1	0	No	No	No	Errol Hansen
29/06/2005	11:00:00	EXO11	Overcast	Shower	SW	5	15	13	81%	15	11.5	ок	Garnet C	0.25	0	No	No	No	Errol Hansen
30/06/2005	10:30:00	EXO11	Overcast	Shower	NE	5	15	10.5	60.%	15	7	ок	Garnet C	0	0	No	No	No	Errol Hansen
1/07/2005	15:30:00	EXI11	Overcast	Shower	NW	3	15	13	79%	15	11	ок	Garnet C	0	0	No	No	No	Errol Hansen
4/07/2005	09:00:00) EX011	Overcast	Shower	NW	0	14.5	13	86%	14.5	12	ok	Garnet C	0	0	No	No	No	Errol Hansen
5/07/2005	09:00:00	EXI11	Overcast	Shower	NE	6	15	13.5	82%	15	12	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
6/07/2005	14:20:00) EXI11	Overcast	Shower	NE	6	15	14	%95	15	13,5	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
7/07/2005	00:00:00) NO PAINTIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
8/07/2005	15:40:00) EXI11	Fog	Modera	NE	3	16	15	90%	16	14	ок	Garnet C	0	0	No	No	No	Errol Hansen
11/07/2005) A31213	Overcast	Shower		5	14	13	89%	14	12	ок	Garnet C	0.1		No	No	No	Errol Hansen
						-									Ĵ				

Page 10 of 14

•	General		We	eather Co	nditions				Coati	ng Condition	IS			Abrasive	2		Contro	ls	
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used	Signage Used	Sweeping Complete	Inspected By:
12/07/2005	15:10:00) A31213	Overcast	Shower	NE	6	15	11	60%	15	7.5	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
13/07/2005	16:00:00) A31213	Clear	Nil	SW	2	15	12	73%	15	10	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
14/07/2005	15:05:00) EXO11	Clear	Nil	NW	0	15.5	12	65%	15.5	9	ОК	Garnet C	0	0	No	No	No	Errol Hansen
15/07/2005	10:00:00) EXO11	Overcast	Shower	SW	5	17	15	80%	17	13.5	ОК	Garnet C	0	0	No	No	No	Errol Hansen
18/07/2005	00:00:00) NO PAINTIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
19/07/2005	00:00:00) NO PAINTIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
20/07/2005	00:00:00	NO READIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
21/07/2005	00:00:00) NO READIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
22/07/2005	00:00:00) NO READIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
25/07/2005	14:30:00	EXI12	Overcast	Shower	SW	0	14.5	13	12.5	14.5	12.5	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
26/07/2005	08:45:00	EXO12	Clear	Nil	SW	0	13	11.5	81%	13	10	ОК	Garnet C	0.4	0	No	No	No	Errol Hansen
27/07/2005	08:45:00	EXI12	Clear	Nil	SW	0	14	13	90%	14	12.5	ОК	Garnet C	0.4	0	No	No	No	Errol Hansen
28/07/2005	14:30:00	D EXI12	Clear	Nil	SW	0	20	17	75%	20	15,5	ОК	Garnet C	0.4	0	No	No	No	Errol Hansen
29/07/2005	10:30:00	EXO12	Clear	Nil	SW	4	15	12	72%	15	10	ОК	Garnet C	0	0	No	No	No	Errol Hansen
1/08/2005	09:35:00	EXO12	Clear	Nil	N	2	16	14	80%	16	12.5	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
2/08/2005	09:00:00	D EXI12	Clear	Nil	SW	1	11	10	88%	11	9	ОК	Garnet C	0.4	0	No	No	No	Errol Hansen
3/08/2005	16:00:00	EXO12	Clear	Nil	SW	1	14	10	60%	14	10	ОК	Garnet C	0.5	0	No	No	No	Errol Hansen
4/08/2005	10:55:0	D EXI12	Clear	Nil	SW	0	13	10	75%	13	7.5	ок	Garnet C	0.4	0	No	No	No	Errol Hansen

Page 11 of 14

(General		We	ather Co	nditions				Coati	ng Condition	15			Abrasivo	2		Contro	ols	
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity		Dew	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used	Signage Used	Sweeping Complete	Inspected By:
5/08/2005	15:05:00	EXO12	Clear	Nil	NW	0	14	11	70%	14	8.5	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
8/08/2005	16:50:00	EXO12	Clear	Nil	NE	2	15	12.5	78%	15	11	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
9/08/2005	10:00:00	EASTBOX P	Clear	Nil	NW	1	15	12	73%	15	10	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
12/08/2005	09:25:00	EAST BOX	Clear	Nil	NW	1	15	13	80%	15	11.5	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
15/08/2005	08:30:00	EAST BOX	Clear	Nil	SW	0	13	10.5	72%	13	8	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
16/08/2005	14:15:00	EAST BOX	Clear	Nil	SW	0	14,5	11.5	70%	14.5	9	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
17/08/2005	08:45:00		Clear	Nil	SW	0	12	10.5	83%	12	9	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
18/08/2005	09:00:00	ARC PIPE	Clear	Nil	SE	2	14	11	67%	14	8.5	ОК	Garnet C	0	0	No	No	No	Errol Hansen
19/08/2005	09:20:00	ARC PIPE	Clear	Nil	SW	3	14	12	80%	14	10.5	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
22/08/2005	16:45:00	EAST BOX	Clear	Nil	NE	2	15	13	80%	15	11.5	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
23/08/2005	16:30:00	EAST BOX	Clear	Nil	NE	3	16	14	80%	16	12.5	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
24/08/2005	16:15:00	EAST BOX	Overcast	Shower	NW	0	17	13	65%	17	10	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
25/08/2005	15:20:00	EAST BOX	Clear	Nil	NW	0	17	13	65%	17	10	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
26/08/2005	15:25:00	OA256L	Clear	Nil	NE	2	17	13	65%	17	10	ок	Garnet C	0.2	0	No	No	No	Errol Hansen
29/08/2005	09:30:00	EXI13	Clear	Nil	S	0	15.5	13	76%	15.5	11	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
30/08/2005	12:10:00	EXI13	Clear	Nil	NE	0	16	13	72%	16	11	ОК	Garnet C	0.2	0	No	No	No	Errol Hansen
31/08/2005	00:00:00	NO READIN	Clear	Nil	NE	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen
1/09/2005	00:00:00	NO READIN	Clear	Nil	NW	0	0	0	0	0	0	0	Garnet C	0	0	No	No	No	Errol Hansen

Page 12 of 14

	General		We	eather Co	nditions				Coatin	ng Condition	IS			Abrasive	2		
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used	
2/09/2005	14:00:00	EXI13	Clear	Nil	SW	0	17	12	55%	17	8	ОК	Garnet C	0.3	0	No	
5/09/2005	15:10:00	EXI13	Clear	Nil	NE	3	16	12	65%	16	9	ОК	Garnet C	0.3	0	No	
6/09/2005	14:20:00	A31415	Clear	Nil	NE	3	15	12	70%	15	9.5	ОК	Garnet C	0.2	0	No	
7/09/2005	12:00:00	A31415	Overcast	Nil	NE	3	15	12	72%	15	10	ок	Garnet C	0.25	0	No	
8/09/2005	17:00:00	A31415	Clear	Nil	NE	2	16	13	73%	16	11	ок	Garnet C	0.25	0	No	
9/09/2005	16:15:00	A31415	Overcast	Shower	NE	6	16	13	73%	16	11	ок	Garnet C	0.25	0	No	
12/09/2005	15:30:00	OA256L	Clear	Nil	NW	1	17	14	72\$	17	12	ок	Garnet C	0.2	0	No	
13/09/2005	15:15:00	OA256L	Clear	Nil	SW	0	21	17	70%	17	15	ок	Garnet C	0.2	0	No	
14/09/2005	16:20:00	OA256L	Overcast	Shower	NE	1	17	15	80%	17	13.5	ок	Garnet C	0.2	0	No	
15/09/2005	09:45:00	A31011	Clear	Nil	SW	4	18	15	72%	18	13	ок	Garnet C	0.1	0	No	
16/09/2005	00:00:00	NO READIN	Overcast	Shower	NW	7	0	0	0	0	0	0	Garnet C	0.2	0	No	
19/09/2005	00:00:00	NO READIN	Overcast	Nil	NE	15	0	0	0	0	0	0	Garnet C	0	0	No	
20/09/2005	09:10:00	A31112	Overcast	Shower	SW	5	12.5	9.5	70%	12.5	7	ок	Garnet C	0	0	No	
21/09/2005	09:10:00	OA267L	Overcast	Shower	NW	2	13	11	80%	13	9.5	ок	Garnet C	0.2	0	No	
22/09/2005	15:00:00	OA267L	Overcast	Nil	SW	3	14	11	70%	14	8.5	ок	Garnet C	0.2	0	No	
23/09/2005	08:30:00	OA267L	Overcast	Shower	SW	2	14	12	80%	14	10.5	ОК	Garnet C	0.3	0	No	
26/09/2005	14:30:00	OA267L	Clear	Nil	SW	2	18	14	65%	18	11.5	ОК	Garnet C	0.25	0	No	
27/09/2005	14:15:00	OA267L	Overcast	Nil	Ν	1	17	15	80%	17	13.5	ок	Garnet C	0.25	0	No	

Controls

Signage Used	Sweeping Complete	Inspected By:
No	No	Errol Hansen

Page 13 of 14

	General		We	eather Co	nditions				Coati	ng Condition	15			Abrasivo	2	
Date	Time	Work Package	Weather	Rain	Wind Directrion	Wind Speed (m/s)	Dry Bulb	Wet Bulb	Humidity	Steel Temperature	Dew Point	Chloride Levels	Abrasive Type	Amount Used (t)	Amount Recovered	Screens Used
28/09/2005	15:40:00	EXO13	Overcast	Shower	NW	3	16	14	80	16	12.5	ок	Garnet C	0.25	0	No
29/09/2005	16:10:00	EXO13	Clear	Nil	NE	1	16	14	80%	16	12.5	ОК	Garnet C	0.1	0	No
30/09/2005	15:45:00	OA267L	Clear	Nil	NE	5	17	14	70%	17	11.5	ОК	Garnet C	0.3	0	No

Controls

Signage Used	Sweeping Complete	Inspected By:
No	No	Errol Hansen
No	No	Errol Hansen
No	No	Errol Hansen

AHB LOCAL RESIDENT FEEDBACK FORM

Date:	4 October 2005
Major Work Carried	Blasting and Painting the Extensions
Out this year:	Blasting and Painting the Original Bridge
	Blasting and Painting the Northern Viaduct
	Demag Joint refurbishment
	s9(2)(a)
Name:	
Address:	
	NONTH WHE PUINT
Phone No:	9(2)(a)
Do you have any complaints regarding	NO
work on the Bridge?	
	1.21
Do you feel you are being kept adequately	YES
nformed when work is	
undertaken that has	
in impact on you?	
Suggestions or	NONE
comments :	
Please Contact the follo	
lueries:	Tel: (09) 481 0078 Mob: 027 296 1033
Date: 5 / 10	, 05
tal Bridge Services sidents Feedback Form	
o	
uckland Harbour Bridge/PSMC 003/15/	

	OCAL RESIDENT FEEDBACK FORM	wardt:
Date:	4 October 2005	9
Major Work Carried Out this year:	Blasting and Painting the Extensions Blasting and Painting the Original Bridge Blasting and Painting the Northern Viaduct Demag Joint refurbishment	283
Name: Address:	STOKES POINT, NORTHEOTE 1309	
Phone No:	s9(2)(a)	
Do you have any complaints regarding work on the Bridge?		
Do you feel you are being kept adequately informed when work is undertaken that has an impact on you?	<u> </u>	
Suggestions or comments :	SAME AS TO THE COUNCIL - SEAL THE DIRT UNDER THE SO THAT WE CAN SEE OU WINDOWS	- PLEASE EBRIDEE FOUR
Please Contact the follo queries:	wing with any Jon Patman (Project Engine s9(2)(a)	eer) 033
Date: 6-10-05	_/	

C:/Auckland Harbour Bridge/PSMC 003/15/

TOTAL BRIDGE SERVICES

AHB LOCAL RESIDENT FEEDBACK FORM Date: 4 October 2005 **Major Work Carried** Blasting and Painting the Extensions Out this year: Blasting and Painting the Original Bridge Blasting and Painting the Northern Viaduct Demag Joint refurbishment s9(2)(a) Name: Address: NOFACOR Port. s9(2)(a) Phone No: Do you have any NO complaints regarding work on the Bridge? Do you feel you are being kept adequately haskerou ES informed when work is undertaken that has an impact on you? Suggestions or comments : Please Contact the following with any Jon Patman (Project Engineer) Tel: (09) 481 0078 Mob: 027 296 1033 queries: SINIOS Date: Total Bridge Services Residents Feedback Form



C:/Auckland Harbour Bridge/PSMC 003/15/

QP

1 - (2005 AHB LOCAL RESIDENT FEEDBACK FORM Date: 4 October 2005 **Major Work Carried** Blasting and Painting the Extensions Out this year: Blasting and Painting the Original Bridge Blasting and Painting the Northern Viaduct Demag Joint refurbishment s9(2)(a) Name: Address: NORDICOTE PT AUCKLAND s9(2)(a) Phone No: Do you have any Sand blasting TIME task AST complaints regarding PLACE nouse siche work on the Bridge? cover were Really Bad. in 60 1 Do you feel you are sympthon received les. being kept adequately oppress informed when work is undertaken that has an impact on you? Suggestions or comments : Please Contact the following with any Jon Patman (Project Engineer) queries: Tel: (09) 481 0078 Mob: 027 296 1033 10, OCT, OS Date: Total Bridge Services Residents Feedback Form QP

C:/Auckland Harbour Bridge/PSMC 003/15/

TOTAL BRIDGE Services

Date:	4 October 2005		8	
Major Work Carried Out this year:	Blasting and Pain Blasting and Pain Blasting and Pain Demag Joint refu	ting the Origin ting the North	al Bridge	
Name: Address:	s9(2)(a)			-
	NORTH CO NORTH SH	TE FOIN FORE	Τ.	
Phone No:	s9(2)(a)			
Do you have any complaints regarding work on the Bridge?	No.			
Do you feel you are being kept adequately informed when work is undertaken that has an impact on you?	YES.			
Suggestions or comments :				
Please Contact the follow	wing with any	Tel: (09)	an (Project Engineer) 481 0078 Mob: 027 290	5 1033
Date: // / /0	1 05	s9(2)(a) 	
Date: <u>// / /0</u>	03.			

C:/Auckland Harbour Bridge/PSMC 003/15/

TOTAL BRIDGE SERVICES

	AHB LOCAL RESIDENT FEEDBACK FORM
Date:	4 October 2005
Major Work Ca Out this year:	Blasting and Painting the Original Bridge
	Blasting and Painting the Northern Viaduct Demag Joint refurbishment
Name:	
Address:	
	s9(2)(a)
Phone No:	55(Z)(a)
Do you have ar	
complaints reg work on the Br	
Do you feel you being kept ade	quately
nformed when Indertaken tha	
an impact on yo	ou?
Suggestions or	. This is a different suggestion to above.
comments :	Why don't you install the noisy protection block screen of both side instead of the current inc
	fence dlong the princes area NOI to N
No	See below sketch.
lueries:	the following with anyJon Patman (Project Engineer)Tel: (09) 481 0078Mob: 027 296 1033
	110 105
Date: 05	110105
tal Bridge Services sidents Feedback Form	m TOTAL
uckland Harbour Bridge/PSMC	
T	Noisy protection block

Date:	4 October 2005	
Major Work Carried Out this year:	Blasting and Painting the Extensions Blasting and Painting the Original Bridge Blasting and Painting the Northern Viaduct Demag Joint refurbishment	
Name: Address:	S9(2)(a)	
Phone No:	s9(2)(a)	
Do you have any complaints regarding work on the Bridge?	<u>NO</u>	
Do you feel you are being kept adequately nformed when work is undertaken that has an impact on you?	YES	
Suggestions or () comments : () (3)	PLÉASE! NO AIRBRAKES - RESIDENTIAL AREA - FELL TREES AT # \$9(2)(a) PRINCES ST NERSE ABATEMENT BARMERS / OKTISISE AFFECTION	Nq
Please Contact the follo jueries:	wing with any Jon Patman (Project Engineer) Tel: (09) 481 0078 Mob: 027 296 1033	
Date: <u>4</u> / <u>/o</u>	105	

C:/Auckland Harbour Bridge/PSMC 003/15/

I

I

TOTAL BRIDGE SERVICES

	OCAL RESIDENT FEEDBACKFORM
Date:	4 October 2005
Major Work Carried Out this year:	Blasting and Painting the Extensions Blasting and Painting the Original Bridge Blasting and Painting the Northern Viaduct Demag Joint refurbishment
lame: ddress:	s9(2)(a) JESTHAVEN
Phone No:	s9(2)(a)
Do you have any complaints regarding work on the Bridge? Do you feel you are	1/05 - My CAR Las Lad rust spo, appearing on it from Gent/Blosting. This has previously, been polisled att betore, but this is dance No - not when blosting is lein's done on t
being kept adequately informed when work is indertaken that has in impact on you?	city end of Bridge - Grit all over ca.
Suggestions or omments :	
Please Contact the folloueries:	owing with any Jon Patman (Project Engineer) Tel: (09) 481 0078 Mob: 027 296 1033 \$9(2)(a)
Date: 12 / 10	1 OS.

C:/Auckland Harbour Bridge/PSMC 003/15/

