[redacted]

6. GUARANTOR'S DEFENCES

The Guarantor will be entitled in any proceedings brought by the Employer under this Deed to take advantage of any defences set-offs, counterclaims, estoppels and the like which would be available to the Contractor in any proceedings brought by the Employer under the Contract.

7. ASSIGNMENT

The Employer is entitled to assign the benefit of and its rights under this Deed (as a whole only and not in parts) at any time without the Guarantor's consent subject to the Employer giving prior written notice of such assignment to the Contractor and the Guarantor.

8. GOVERNING LAW AND JURISDICTION

This Deed will be governed by and construed in accordance with English law and the parties submit to the exclusive jurisdiction of the English courts.

9. THIRD PARTY RIGHTS

9.1 Save that any member of the TfL Group (as defined in the Contract) has the right to enforce the terms of this Deed, the parties to this Deed do not intend that any of its terms will be enforceable by virtue of the Contracts (Rights of Third Parties) Act 1999 by any person not a party to it.

9.2 Notwithstanding clause 9.1, the parties to this Deed are entitled to vary or rescind this Deed without the consent of any or all members of the TfL Group.

THIS DOCUMENT is executed as a deed and delivered on the date stated at the beginning of this Deed.

[ALL PARTIES TO EXECUTE AS A DEED]

ANNEX 2 – KEY PERFORMANCE INDICATORS

See attached sheets headed 'Proposed PPD Supplier Key Performance Indicators'.

Projects & Programmes Directorate - Supplier Performance Indicators

Supplier :	
Contract Ref and Title :	
Project Ref and Title:	
Period :	
Programme Manager :	
Date :	

PI No.	TfL Quarterly Report Key Element:	EXERCISE 2 a) PPD Core KPI / Relevant Phase of Project	PI Description	Performance Criteria (0 = Not Applicable)			Rating		EXERCISE 2b) Comments on KPI and RAG thresholds
				Green Criteria (4-5 score)	Amber Criteria (2.1-3.9)	Red Criteria (1-2 score)			Consider if these draft KPI may be applied to any projects - are there any gaps? Are the RAG threshold descriptions fit for purpose?
1	Value for Money		Contract Compliance & Cost Control	Supplier works efficiently to: - Comply with contract - Meet targets relating to correspondence, producing reports, managing EWNs & CENs, submitting timesheets, managing resources, planning work, change control, PMI's and fulfilling obligations to certify applications.	Supplier is not as efficient as they could be resulting in one or more of the following: - Some contractual obligations being missed - Some targets not met with regard to correspondence, producing reports, managing EWNs & CENs, submitting timesheets, managing resources, planning work, change control, PMI's and fulfilling obligations to certify applications	Supplier has been consistently inefficient resulting in any or all of the following: - A lot of contractual obligations being missed or late - A lot of targets missed with regard to correspondence, producing reports, managing EWNs & CENs, submitting timesheets, managing resources, planning work, change control, PMI's and fulfilling obligations to certify applications.	0	N/A	

2	Delivery		Programme	• Programme is clear, accessible, useful and updated regularly. • APT is embedded jointly with review of progress, look ahead and identification of disruption. • All project deadlines are met with any possible changes to the programme reported and managed. • All parties engage in planning and building design/construction programme	Programme is not clear some of the time, not always accessible, not updated as regularly as it should be all of which makes it not as useful as it should be. • APT is embedded more on our side than on TfL's/ the supplier's making review of progress, look ahead and identification of disruption more time consuming than it should be	• Programme is not clear, not accessible and not updated regularly making it difficult to be useful • APT is embedded more on our side than on TfL's/ the supplier's making review of progress, look ahead and identification of disruption more time consuming than it should be	0	N/A

3	Reliability / Quality		Quality	• Dialogue takes place to agree quality requirements. • Best practice quality systems & processes are in place. • Processes are consistently applied and staff follow agreed quality practices. • Individuals take responsibility for the quality of their own work • Correct technical resources is used on the project • Engagement with the project team is good and they are confident in the direction of the project • Technical quality is excellent	• Dialogue sometimes takes place to agree quality requirements, but not always • Best practice quality systems & processes are either in place in some areas but not all / are being worked towards currently but not yet in place • Processes are not always applied and staff have sometimes been found to bypass agreed quality practices. • There is sometimes a lack of ownership and responsibility perceived in TfL / Supplier individuals for the quality of their own work • There have been instances where the correct technical resource has not been used on the project • Engagement with the project team could be improved by being more regular / proactive / open [delete/add as applicable] to give them full confidence in the direction of the project • Technical quality is adequate but could be improved upon	• Dialogue does not usually take place to agree quality requirements • Best practice quality systems & processes are not yet in place • Processes are not consistently applied and staff have frequently been found to bypass agreed quality practices. • There is often a lack of ownership and responsibility perceived in TfL / Supplier individuals for the quality of their own work • There have been many instances where the correct technical resource has not been used on the project • Engagement with the project team is not strong and needs to be improved by being more regular / proactive / open / consistent / joined up [delete/add as applicable] to give them full confidence in the direction of the project • Technical quality is not adequate	0	N/A

4	Safety & Environmental		Health, Safety & Environment	HS&E procedures and CDM policies are fully embedded throughout the project. Risk assessments are undertaken and reviewed on a regular basis, hazard log is reviewed and updated on a regular basis, F10 reviewed and updated through project lifecycle and H&S report submitted per period	HS&E procedures and CDM policies are not yet fully embedded throughout the project. Risk assessments are undertaken and reviewed but need to be more regular, hazard log s reviewed but needs updating on a more regular basis, F10 is reviewed, but needs reviewing and updating more regularly throughout project lifecycle, H&S report submitted some but not all periods	HS&E procedures and CDM policies are not embedded throughout the project. Risk assessments are sporadic and hazard logs and F10 not reviewed or updated on a regular basis. H&S report not always submitted / completed.	0	N/A	
5	Reliability / Quality		Risk & Opportunities	• Risk and opportunities register is clear and regularly updated. • New risks are reported and managed effectively. • Mitigation measures are proactively identified and actions are clearly assigned and addressed in a timely manner.	• Risk and opportunities register is updated sporadically and is not always clear • New risks are mostly reported and managed, however sometimes they are missed • Mitigation measures are identified and actions assigned but are not always addressed in a timely manner	• Risk and opportunities register is not updated regularly and is not displaying a clear indication of the current project risk exposure • A lot of new risks are not reported and managed • Mitigation measures are not in place for many risks, actions are not assigned or clear and are not being addressed in a timely manner	0	N/A	

6	Delivery		People and Teamwork	• Stable staffing structures are in place and are working effectively• Robust project controls and processes are in evidence and consistently applied. • Teams are proactive and working collaboratively together to identify and provide solutions to issues. • Roles and responsibilities clearly defined • Staff development and satisfaction is promoted• Success is recognised, promoted, encouraged and celebrated.	• Stable staffing structures are in place, but are not working effectively or are not being applied properly• Project controls and processes are in evidence but are inconsistently applied, giving sub-optimal results• Teams are working together to provide solutions to issues but this is sometimes obstructed for various reasons• Roles and responsibilities are not as clearly defined as they could be• Staff development and satisfaction is sometimes overlooked• Success is sometimes recognised and promoted but not always	• Stable staffing structures are not in place / are not working effectively or are not being applied properly• Project controls and processes are not very evident and there is little demonstration of adherence or consistency• Teams struggle to work together due to conflicting agendas or obstacles and collaboration is not evident• Roles and responsibilities are not clearly defined or understood• Staff development and satisfaction is not evident • Success is frequently overlooked and not recognised	0	N/A
7	Delivery		Communication & Stakeholders	• Project team are fully informed on progress. • Communication between all parties is clear and concise. • All stakeholders are engaged and kept updated • Project team proactively raising and resolving issues affecting the project	• Project team are sporadically informed on progress / or have to constantly chase to be updated on progress • Communication between all parties is not always clear and can omit key information sometimes • Stakeholders are engaged inconsistently and/or updated sporadically • Project team reactively raising and resolving issues affecting the project	• Project team constantly chase to be updated on progress / are not kept updated • Communication between all parties is inconsistent and unclear causing confusion and mistrust • Stakeholders are not properly engaged or updated • Project team struggles to raise and resolve issues affecting the project effectively	0	N/A

8	Innovation		New Ideas and Improved Efficiency	• Proactively coming up with new ideas for increased efficiency • Receptivity to new ideas • Willingness to examine the feasibility of implementing new ideas	• Can sometimes reactively come up with new ideas for increased efficiency if asked to do so • Demonstrates some receptivity to new ideas but can also demonstrate reluctance to change • Demonstrates ambiguity and/or reluctance about testing feasibility of new ideas without any valid reason for doing so	• Rarely comes up with new ideas for increased efficiency, even if asked to do so • Demonstrates very limited receptivity to new ideas • Demonstrates unwillingness to test feasibility of new ideas without any valid reason for doing so	0	N/A	
9	Reliability / Quality		Embedding Mutual Trust	Trust = Credibility and Reliability plus Mutual Interest • Credibility is demonstrated by proactive and timely delivery across all areas of the project, without the need for any chasing or reminding • Reliability is clearly evident in consistent accuracy in the undertaking and delivery of actions, technical/operational works and documents with little or no need for any corrections • Mutual Interest - there is clear willingness to work collaboratively together to achieve mutual benefits, recognise each other's interests and focus on ways of working and areas of delivery that enhance these where appropriate	Trust = Credibility and Reliability plus Mutual Interest • Credibility is sometimes evident by timely delivery across many areas of the project, however in some instances we have had to chase for some documents/updates/actions/deliveries • Reliability is inconsistent in the accuracy of undertaking and delivery of actions, technical/operational works and documents, as there is sometimes the need to make corrections or undertake additional work to amend • Mutual Interest - there is willingness to work collaboratively together to achieve mutual benefits, however this is not always evident in meetings or actions as areas of mutual benefit do not get progressed and/or conflicting agendas sometimes get in the way	Trust = Credibility and Reliability plus Mutual Interest • Credibility is not evident as delivery in frequently late across many areas of the project and we often have to chase for some documents/updates/actions/deliveries • Reliability is frequently lacking in the accuracy of undertaking and delivering actions, technical/operational works and documents and there is frequently the need to make corrections or undertake additional work to amend • Mutual Interest - there is a lack of willingness and progression to work collaboratively to achieve mutual benefits	0	N/A	

10	Delivery		Joint Business Management and Commitment	Demonstrated by: - Meeting actions being followed up and responded to within the agreed dates - Meeting attendances being prioritised and well managed, with appropriate notice given in the event of not being able to attend a meeting or needing to cancel - Joined-up approach being evident by good communication within each party's organisation with messages / actions being proactively passed on the relevant people / departments to ensure smooth delivery	Demonstrated by: - Meeting actions sometimes being followed up on and responded to within the agreed dates, but needing reminders and chasing on some occasions - Meeting attendances have been a little sporadic in some areas, with short notice given in the event of not being able to attend a meeting or needing to cancel on a few occasions - Joined-up approach needs to be improved as communication is sometimes unclear with differing or confusing messages / actions being passed on to stakeholders which can create disruption to smooth delivery	Demonstrated by: - Meeting actions frequently not being followed up on or responded to within the agreed dates, needing a lot of reminders and chasing on some occasions - Meeting attendances are not well managed with short notice given in the event of not being able to attend a meeting or needing to cancel on - Joined-up approach is not evident as communication is frequently unclear with differing or confusing messages / actions being passed on to stakeholders creating disruption to smooth delivery	0	N/A

POST TENDER CORRESPONDENCE

See Overleaf

PRE-TENDER CORRESPONDENCE

See overleaf

POST TENDER CLARIFICATION CORRESPONDENCE VIA THE E-PORTAL

Date	Clarification ID	Title	Question	Answer
24.06.15	3	LRS Westminster Pier Question set (Q.2-Q.15)	Please find **attached** a number of questions in relation to the above requirement. Please respond ASAP, but by the latest Noon on 25 June 2015.	Please see **attached** response with attachments.
24.06.15	5	LRS - Westminster Pier - TFL Clarification Points (Ref No.28)	TfL have the following clarification points in respect of your response to the Westminster Pier Requirement; 1) It has been noted in your response that you have mentioned pier closure during pilling in the construction information provided and in the programme. TfL Response: HK should refer to s2.1.1 and 3.4.2. of the Works Information pack volume 2. If this presents a significant risk in terms of time, resource, cost and safety this should be identified and addressed now. 2) Risk 1 on risk register - TfL response: HK has liability so far as described in the works information. Any further works deemed necessary will be instructed using a CE. 3) Risk 2 - Insurance schedule 2 – TfL Response: Under consideration. 4) Risk 3 – Design Professional indemnity – TfL Response: Under consideration. 5) Risk 6 - Lloyd's Certification – TFL Response: This will be required for Westminster and should be incorporated in the programme. Please acknowledge receipt of the clarifications above and confirm level of impact on your proposal, if any by Noon on Thursday 25th June 2015.	Pease see **attached** response to clarification.
END				

Herbosch Kiere

Q2. How do you propose Beckett Rankine will be appointed as Principal Designer under the proposed contract? We are not sure as to the meaning of your question. We have assumed BR are already nominated by yourselves as the Principal Designer for the project under CDM 2015. HK would be nominated as Principal Contractor and would manage the contractors design under our control.

Q3. How effective is the noise suppression for the piling? E.g., what is the expected level at the river wall with and without the suppressor? Please send your reasoning why you believe others will be significantly affected. Please find attached IHC data sheets and report of the noise suppression system. A safe noise level of 80dB(a) will be achieved 20 m from hammer when using the noise suppression system.

Q4. What do you propose to do if the temporary piles cannot be extracted? The temporary piles will only be installed to a depth capable of providing adequate lateral restraint for the piling temporary works, which will allow them to be extracted by vibro hammer. No difficulties with regards to extraction are anticipated based on the experience of HK in similar situations.

Q5. How will the fender guides be attached to the existing downstream pile? Following installation of the pile, HK proposes to use a welder's platform hanging from the head of a pile. Similar systems have been employed by HK on previous projects where butt-welding of piles are required. The proposed platform will most probably be used during the welding of the Bankside piles.

Q6. Does the programme allow for any restrictions associated with tidal works, e.g. restricted opportunities to move plant? Yes, HK has made allowance in the programme for tidal constraints. It is only envisaged that the operation will be severely effected during pile driving, as it is at that stage when the barge will be required to be positioned to limit the overall crane radius. During all other operations (welding, cutting, temporary works etc.) the barge/crane combination has the capacity to be offset to a suitable position to accommodate the tide.

Q.7. Has the contractor considered the possible effect of the piling works on the river wall and how it could be monitored? A condition survey will be carried out of the immediately adjacent river wall prior to the works with tell tales installed at any existing cracks located. On site vibration monitoring during the piling will also be utilised should the condition survey deem it necessary.

Q8. As the existing pier was Lloyd's certified the new pier should also be certified. What is the effect on the cost and programme? This will create difficulties in meeting the programme. We have spoken with the boat yard who advise that they should be able to mitigate Lloyds by progressing some works ie steel procurement and fabrication, during and in advance of certification. However we will need to allow for 2 additional weeks to the programme. HK offer not to increase preliminary/supervision charges for this potential period of delay, on the understanding that the client works with HK to mitigate where possible the effect any Lloyds certification delay and does not impose LADs. There is however an additional direct cost from the boat yard for Lloyds certification in the sum of £14481.

Q9. Will any works be undertaken outside of standard working hours? None planned

Q10. What is the additional cost if piling cannot be undertaken until January 2016 due to a planning condition? The provided [redacted] saving would need to be added back into our tender sum plus some time related preliminaries to suit an amended programme. Do you require us to rerun the programme and identify the overrun? We would suggest that the new pontoon be built as planned and ideally we would want to transport the pontoon during a period of fine weather, but in so doing will incur some additional storage costs for the completed pontoon at either Holland or Tilbury.

Q11. Mobilisation of piles – TfL was under the impression that this would be taken out due to Bankside project? Costs will still be incurred to mobilise marine kit etc for piling from Bankside to Westminster , but these costs are reduced by £[redacted] as consecutive piling can be carried out, thereby avoiding the more costly need of full re-mobilisation.

Q12. Installation and transportation cost of the piles seems high considering the piling works involved? We have checked our tender build up and whilst the split between these two items is not totally accurate, the overall costs are correct. The installation of the singular Westminster pile also incorporates additional temporary works, which were not proposed for the Bankside project. Given the awkward position of the Westminster pile, HK could not envisage an alternative to temporary pile installation for support of the permanent pile during installation.

Q.13. Transportation cost of the pontoon seems high? We have checked our tender allowance and would confirm that the Activity is correct to accommodate this larger pontoon being transported from Holland into Tilbury and later from Tilbury to site. Additionally, the overall transportation cost accounts for having to relocate the existing V-berth.

Q14. The electrical and water connection / commissioning costs seem high? We have made a suitable allowance for the works taken from a suppliers lump sum for the barge superstructure fit out.

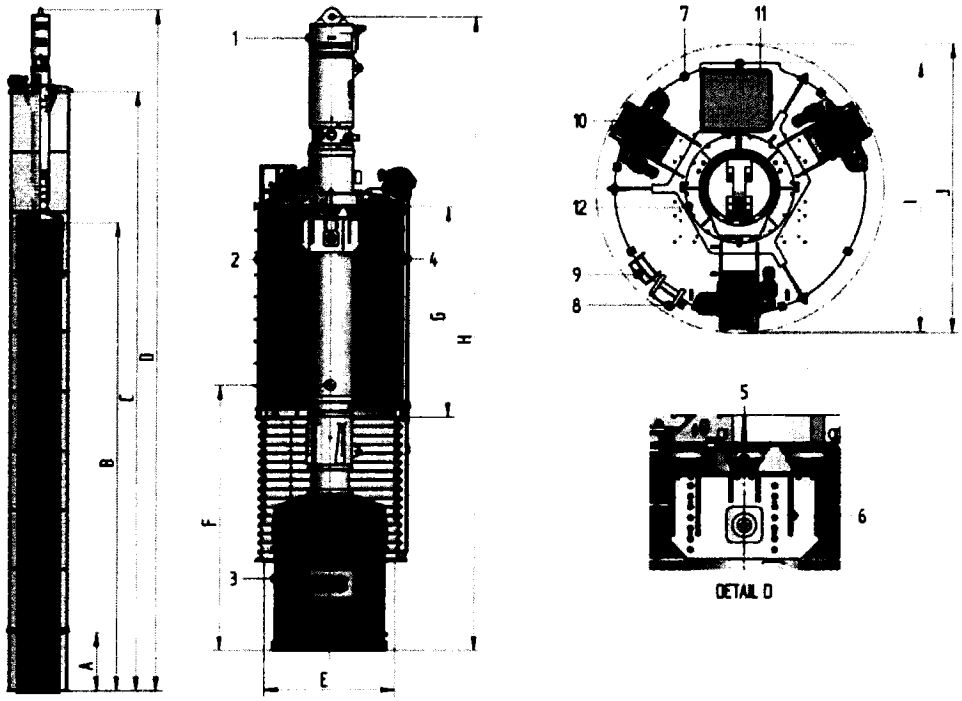
Q.15. Overall transportation costs have gone up – can HK please provide rationale to explain? The pontoon is much larger and heavier than Bankside requiring suitable tow etc and needs to be transported further up river. Also other items of cost without their own separate Activity have been included within such items.

IHC MERWEDE

Noise reduction system

Application:
Pile length of 20 mtr and maximum pile size 2500 mm

data sheet no.	4.12.0046
revision	2
date	January, 2014
page	1/2
code no.	86 01 43 00



Items

1 Hydrohammer*
2 Bellow set
3 Sleeve
4 Polyester sling
5 Shock absorbers
6 Hammer connection
7 Winch plate
8 Guiding hoses hammer
9 Connection hydraulic hoses winchplate
10 Winch
11 Control unit
12 Insulation cover

Main dimensions

Pos nr.	A	B	C	D	E	F	G	H	I	J
			28120	33790		4090		11140		
			29370			5260		11090		
	3020	20000	29040	34320	2740	5660	4430	12030	3370	3620
			30000	34390		6290		13260		

* optional, max. pile length 40 m on request

The technology innovator.

Noise reduction system

Technical Information

Ambient air temperature	Between -6°C and +45°C
Standard sleeve size (86107234)*	Ø 2200 mm
Minimum noise reduction	10 dB(A)
Hydrohammer® ranges possible	From S-120 up to S-280

* optional: Maximum sleeve size is 2500 mm and smaller sleeve sizes both on request

Hydraulic system

Hose connections:	
Oil supply 1" hose (P)	1½" quick connector
Oil return 1" hose (R)	1½" quick connector
Recommended oil flow	100 l/min
Operating pressure	80 bar
Maximum pressure	120 bar

Electrical connections

Wireless remote control
24V from hammer controle cable

Masses items in air [kg]

Bellow set	4600 kg (10 pieces)
Winch plate	1950 kg
Winch	380 kg/each
Shock absorber	105 kg (6 pieces)
Hammer connection	700 kg (S-120/S-150) & 725 kg (S-200/S280)
Insulation cover	140 kg (S-120/S-150) & 100 kg (S-200/S280)
Miscellaneous	280 kg
Total weight NRS	9465 kg

Masses

Description	Mass incl. Hammer/Sleeve/Nrs
	40
	41
	52,5
	58

IHC Hydrohammer B.V.
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2960 AA Kinderdijk
The Netherlands
Phone +31 78 691 03 02
info.hh@ihcmerwede.com
www.ihchydrohammer.com

Piling noise levels in air

Application:
Noise Reduction System

info sheet no.	0.1.2018
revision	0
date	June, 2015
page	1/2

Noise level during pile driving

The noise level of driving steel piles is 96 - 102 dB(A), measured at 10 meter from the pile. This applies to all hammer sizes driving piles up to Ø4 meter. The accompanying calculated sound power level (source sound) is 129 - 133 dB(A). Reducing the blow energy by half leads to a reduction of 3 dB(A), doubling the distance to the hammer leads to 6 dB(A) reduction.

During pile driving the piles will vibrate and act as a string. This vibration creates far more noise than the impact of the hammer. Therefore an effective reduction of piling noise can only be achieved by reducing the noise created by the pile.

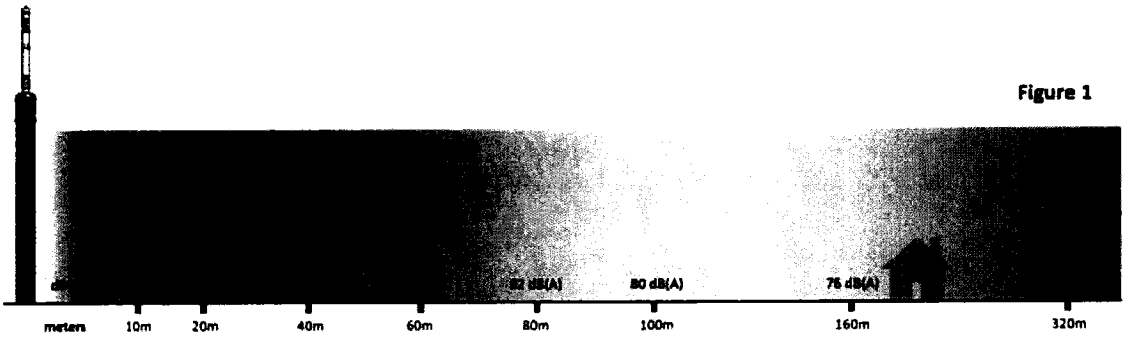


Figure 1

IHC Noise Reduction System

The IHC IQIP Noise Reduction System (NRS) covers both the impact area of the hammer as well as the total pile length. This creates a noise reduction from 10 dB(A) up to 18 dB(A). The effect of the NRS on the propagation of piling noise is made clear in Figure 2. A safe noise level of 80 dB(A) is reached at a distance of 20 meter from the hammer.
The same safe noise level of 80 dB(A) is reached at a distance of 100 meter from the hammer without NRS (Figure 1).

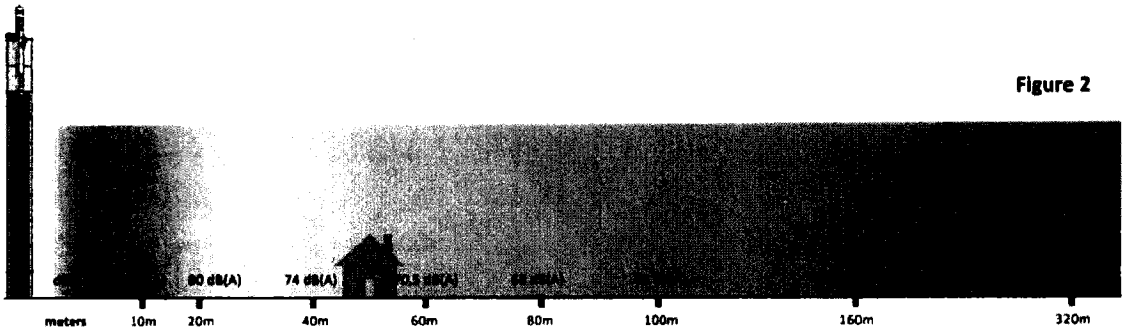


Figure 2

Using the NRS results in the following benefits:

- Enables pile driving in Urban areas
- Creates a safer working place
- No need for temporary noise barriers
- Prevents the use of time slots during pile driving

Piling noise levels in air

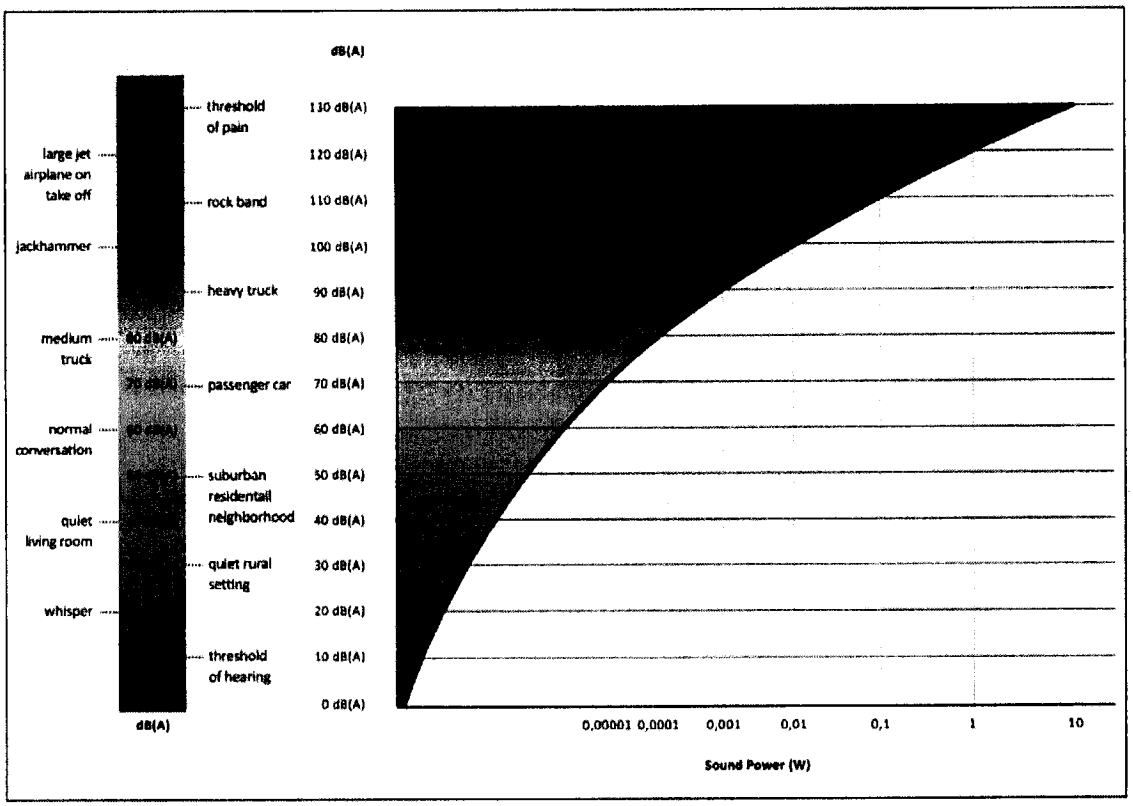
Noise measurement quantities

The most common physical quantity of sound is the dB(A). This is a more practicable quantity compared to the quantities sound pressure [Pa] and sound power [Watt]. When a sound reduction of 50% is claimed, a reduction of 3 dB(A) is achieved. This is just audible. When piling noise is reduced by 10 dB(A), in fact 90% of the sound is reduced. The human ear experiences this as half as much sound (These figures are explained in Table 1 and Figure 3).

Table 1

Reduction in dB(A)	Reduction in sound power	Reduction experience by human ear
1,25	25%	Not audible
3	50%	Just audible
10	90%	Half as much sound compared to the original sound
15	97%	Even less than half the sound compared to the original sound

Figure 3



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Tel : 01753 698800 Fax : 01753 567988
Email : consult@invc.co.uk
Web : www.invc.co.uk

report

Email to : [redacted]
BPH Equipment Ltd

Email address : [redacted]@bphequipment.co.uk

From : [redacted]

Date : 28 March 2013

Subject : Noise measurements of IHC Hydrohammer BV

Report No : 7266

Introduction

The **Industrial Noise & Vibration Centre Limited (INVC)** was requested by Philip Chippindale of BPH Equipment Ltd to undertake noise measurements of a IHC Hydrohammer BV during normal operation to determine the effectiveness of a bellow system that can be fitted to the hammer to reduce noise levels.

This report details the results of the noise measurements made on 14 March 2013 at Southampton Docks, berth 201.

Noise survey

The noise measurements were taken in free field conditions using calibrated instrumentation conforming to the Type 1 specification of BS 61672 - 1 - 2003. During the measurements the weather conditions were good, with wind speeds of less than 2m/sec and dry.

Figure 1 shows the data sheet for the hammer that was measured.

report

IHC MERWEDE

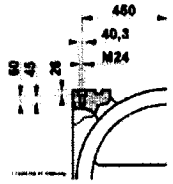
Data sheet
Hydrohammer® S-280

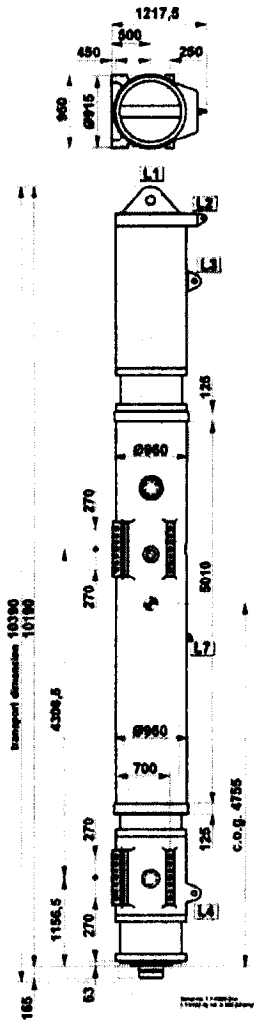
IHC Hydrohammer B.V.

sheet no	1.1.0103
revision	2
date	June 2011
page	1/1

APPLICATION: **Hydrohammer® for steel piles**
Piling free on the pile
In air and underwater

Code no. 85 22 00 03





Main dimensions

Operating data

Max. net energy/blow	280	kNm
Min. net energy/blow	33	kNm
Blow rate (max energy)	45	Blows/min

Weight

Ram	13,5	tons
Hammer (incl. ram, in air)	30,6	tons
Hammer (incl. ram, in salt water) (Only if fully submerged)	23,9	tons

Hydraulic data

Operating pressure	310	bar
Max. pressure	350	bar
Max. oil flow	800	l/min

Gas filling pressure

Vertical pile driving only! Values will vary for
- pile driving under different angles with the vertical
- pile driving underwater depending on water depth

Supply accumulator *(Nitrogen)*	140 -170	bar
Return accumulator *(Nitrogen)*	4 - 6	bar
Cap *(Nitrogen or Air)*	20 - 25	bar

Safety setting

Cap	60	bar

Hose connections

Oil supply 2" hose	(P)	M68x2	male
Oil return 2" hose	(R)	M68x2	male
Nitrogen to cap	(CA)	M42x2	male

Lifting eyes	WLL Working Load Limit	hole diam.	thick ness
L1	150 tons	Ø115mm	150mm
	Shackle for L1 supplied with the hammer		
L2	9,5 tons	Ø 34mm	40mm
L3 / L4	35 tons	Ø 60mm	70mm
H	Not for lifting purposes! *Connection for load carrying cable only!*		

Figure 1

*IHC Hydrohammer B.V. P.O. Box 26, 2960 AA Kinderdijk, The Netherlands Phone +31 78 6910302 Fax +31 78 6910304
Subject to modifications
e-mail info.bph@ihcmerwede.com Web www.ihchp.com

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Figures 2, 3 and 4 show the graphical L_{Aeq} levels at 10, 20 and 40m during normal operation of the hammer, with a noise reducing bellows system fitted.

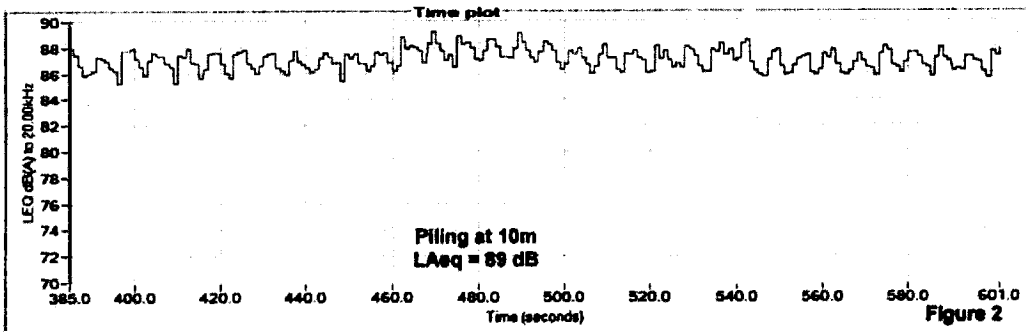


Figure 2

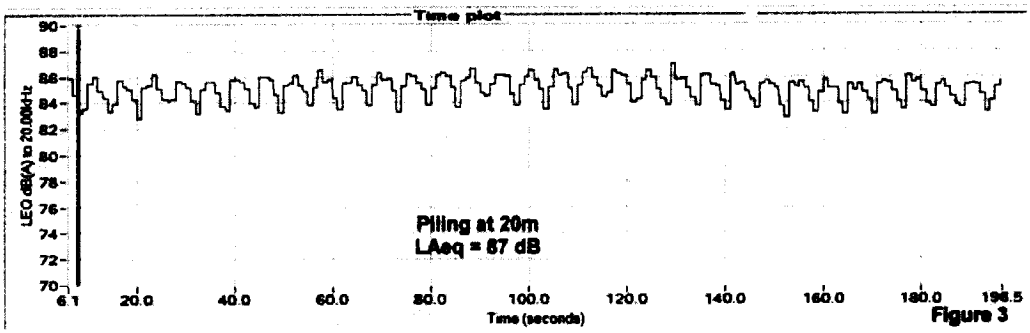


Figure 3

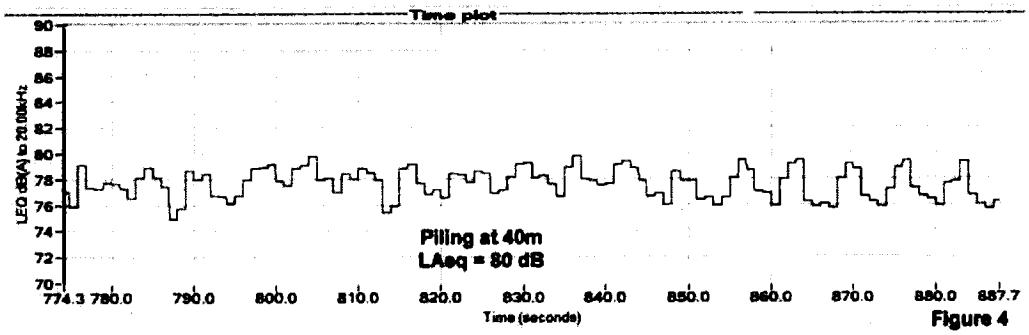


Figure 4

Figures 5 and 6 show the noise measurement positions at 10m and 40m respectively.

report

Results of noise measurements

TABLE 1

Distance (metres)	L_{Aeq} dB	Equivalent sound power level dB (20 log r + 8)
10	89	117
20	87	121
40	80	120

r = distance from measurement position to hammer

From the above results it can be seen that the sound power level of the hammer with a bellows fitted ranges between 117 and 121 dB SWL and it is understood the hammer was using "full energy" during the measurement period.

Given the very close correlation between the measurements taken at 20m and 40m, it is considered more accurate to use these values, which give a predicted sound power level of between 120 and 121 dB SWL.

Discussion of results

It is understood that without the noise reduction afforded by the bellows system, the sound power level is 135 dB(A). That means that the system reduces noise levels by up to 15 dB(A) which can be considered significant. In percentage terms, this equates to a noise reduction in excess of 97% and is more than half the perceived noise level when the system is used without the bellows. It should be noted that a 10 dB(A) reduction is **perceived** as half as loud and that a 6 dB(A) reduction or increase is actually a halving or doubling of the sound pressure level.

Conclusions

Fitting the bellows to the IHC S-280 Hydrohammer BV the noise reduces the noise by 15 dB(A) which can be considered significant and will be perceived as more than half the noise level compared to when the hammer is used without the bellows system.

Author [redacted]

TfL have the following clarification points in respect of your response to the Westminster Pier Requirement;

1) It has been noted in your response that you have mentioned pier closure during pilling in the construction information provided and in the programme.

TfL Response: HK should refer to s2.1.1 and 3.4.2. of the Works Information pack volume 2. If this presents a significant risk in terms of time, resource, cost and safety this should be identified and addressed now.

HK would confirm that rather than a full closure of the pier, we will be able to accommodate a partial closure/access constraint during disconnecting and installation of the V-berth and new pontoon respectively. Temporary access constraints will also be required during the refurbishment of the V-berth.

An workable exclusion zone around the 1no piling installation will be adopted and coordinated with yourselves and the boat operators in order to prevent any potential collisions etc.

2) Risk 1 on risk register - TfL response: HK has liability so far as described in the works information. Any further works deemed necessary will be instructed using a CE.

Agreed

3) Risk 2 - Insurance schedule 2 – TfL Response: Under consideration.

4) Risk 3 – Design Professional indemnity – TfL Response: Under consideration.

5) Risk 6 - Lloyd's Certification – TFL Response: This will be required for Westminster and should be incorporated in the programme.

Please refer to EC1 response item 8 previously submitted

Please acknowledge receipt of the clarifications above and confirm level of impact on your proposal, if any by Noon on Thursday 25th June 2015.

VOLUME 1 - PRE TENDER CLARIFICATION CORRESPONDENCE VIA THE E-PORTAL

Date	Clarification ID	Title	Question	Answer
21.05.15	4	Westminster Tender Documents	We would like to confirm receipt for the Tender documents, although we are unable to access the As Built Drawings in volume 4 (please see attached). Would you be able to reissue this section?	The documents comprising the As Built drawings are listed below. Due to the e portal functionality, each zip or pdf (8no in total) will have to be issued separately on the e portal. Prefix. Vol 4 As Built Drawings 1. Fenders Fentek Mid Res.pdf 2. Appledore Shipbuilders.zip 3. Cathodic Protection.pdf 4. Glazing T and W Ide Contracting.zip 5. M and E Services.zip 6. Manser Architects.zip 7. Mouchel.zip 8. Watertight Doors Westmoor Engineering.pdf
21.05.15	1	Vol 4 As Built Drawings Fenders Fentek		As enclosed CD in Volume 4 Site Information
21.05.15	2	Vol 4 As Built Drawings Appledore Shipbuilders		As enclosed CD in Volume 4 Site Information
21.05.15	3	Vol 4 As Built Drawings Cathodic Protection		As enclosed CD in Volume 4 Site Information
21.05.15	5	Vol 4 As Built Drawings Glazing T and W Ide Contracting		As enclosed CD in Volume 4 Site Information
21.05.15	6	Vol 4 As Built Drawings M and E Services		As enclosed CD in Volume 4 Site Information
21.05.15	7	Vol 4 As Built Drawings Manser Architects		As enclosed CD in Volume 4 Site Information
21.05.15	8	Vol 4 As Built Drawings Mouchel		As enclosed CD in Volume 4 Site Information
21.05.15	9	Vol 4 As Built Drawings Watertight Doors Westmoor Eng		As enclosed CD in Volume 4 Site Information
26.05.15	19	Crown Estates Moorings	With reference to DWG: 3101 and 3102, notes have been made regarding the relocation of the existing Crown Estates Moorings. No further indication has been given as to where the moorings are required to be relocated, by whom and using/re-using the existing materials.	The client, TfL, will take responsibility for negotiating the relocated moorings. Any associated works completed by the contractor will be accounted for in the contract via issuing a Compensation Event.

			Clarification is required with regards to how Contractors must proceed with pricing the relocation of the Crown Estates Moorings.	
26.05.15	18	Fender Detail	Drawing 3124 indicates a fender to be used within the pile guide. No detail of the fender type is detailed within the drawings, as-builts or specifications. Must the Contractor make an assumption based on advice from a supplier with regards to suitable best-fit dimensions?	The new fender on the pile guide is expected to match the fenders on the existing pile guides, i.e. a Trelleborg UE400 Grade 1.2 'Leg Fender - Unit Element'. Suitable alternatives may be considered.
27.05.15	15	Annex F and Annex E	Both the Annex F - HS Questionnaire and Annex E - Environmental Questionnaire have not been included in the tender document pack. Please distribute at your earliest convenience.	Annex E Environmental Questionnaire **attached**. Annex F HS Questionnaire to follow separately. Apologies for this oversight.
28.05.15	16	Vol 0, Annex F, Health and Safety Questionnaire		Please find **attached** Vol 0, Annex F, Health and Safety Questionnaire which (like Annex E Environmental Questionnaire, emailed separately) was omitted in error from the tender documents. .
02.06.15	23	Westminster Pontoon Extension - Scope of M and E works.	Westminster Pontoon Extension – Scope of M and E works. Could you please clearly define the scope of the M and E works that you want tenderers to price in the following Activity Schedule items: 1) New pontoon - Electrical and Water connection and commissioning 2) Works on existing V-berth pontoon - Electrical and Water connection and commissioning We are unsure whether you require us to include for all the lighting indicated in the following documents: Vol 2 Appendix 1 Lighting Spec - C2013_0403D_BO_P_1401 Vol 2 Appendix 1 Lighting Spec - 88601 Westminster Thames Ferry Pier Output.	The information details the current upgrade of the lighting on the existing pier which is not included within this package of works. The lighting on the new pontoon and refurbished end/V-berth pontoon is to match.
03.06.15	22	Additional As-builts drawings	Would it be possible for you to issue the Manser As-built drawings 48271-100, 102, 128 and 129. They are referenced on drawing 42871-110.	Unfortunately only drawing 48271-128 is included within the as-built information available to us (see **attached**).
04.06.15	21	Lighting on new Pier	Please can you provide a drawing showing the lighting positions for the new pontoon.	The **attached** drawing 48271-501 shows the existing lighting layout. The layout on the new pontoon is expected to match, or be similar to, the lighting layout on pontoon number 4 (as labelled on the drawing).
04.06.15	20	Lockers / storage shelves specification	Please can you provide details of your requirements for the lockers and storage shelves within the waiting room on the new Pontoon. There are now details within the LRS	Please omit the requirements for lockers and storage shelves. The lockers/storage shelves were added to the V-Berth Waiting Room to indicate how the RIB-tours may want

			Guidelines or on the drawings.	to use the space. It will be part of their fit out and as stated will be part of this package of works.
08.06.15	28	Guide strips to piles	See enclosed drawing "Piles" **attached**. The existing pile most to the right of the V-Berth Pontoon. Has the existing pile already the guide strips to receive guide frames from both sides (blue highlighted)? Does the new pile require guide strips for one (1) side or from both sides?	To accommodate the relocated end pontoon new fender guides/bearing saddles (matching the existing) must be installed to the current end pile and the new pile. Details of the existing bearing saddles can be found on Mouchel as built drawing 48271-171.
08.06.15	26	Floor covering to existing V Berth	Please can you confirm your requirements for the floor covering on the existing v-berth. The existing floor is an anti skid type material. Are you expecting this flooring to be removed within the new waiting room and a similar floor to that in the other waiting rooms to be installed in its place? Also there are a number of areas where the existing anti skid flooring has been worn away in particular around seating. Are you expecting this to be repaired and if so what extent do you want it to be repaired i.e locally or for the entire area of the V berth?	The floor within the new enclosed waiting rooms should match the rooms on the existing pontoons. We also recommend replacing all of the anti-skid flooring outside of the waiting rooms rather than repairing small patches.
08.06.15	27	Works to existing pile	Following site visit, we note that the existing piles have fender guides to all sides (as drg 3123) but not as shown on any of the other WI plan drawings (e.g. 3121). Also, the pile at the East end only has such guides to one side (to suit the pile guide on the existing v-berth pontoon). To enable the existing v-berth pontoon to be relocated to the east of that pile, it would appear that the pile will need additional fender guides installed to match other piles. As this is not included in the WI scope, please could you clarify your requirements. If there are any requirements for work to the existing pile please also advise the associated coatings requirements.	To accommodate the relocated end pontoon new fender guides/bearing saddles (matching the existing) must be installed to the current end pile and the new pile. Details of the existing bearing saddles can be found on Mouchel as built drawing 48271-171.
10.06.15	31	New pontoon - Wall construction.	Please confirm required construction of new walls to the storage area and waiting areas on the new pontoon including required fire rating consistent with the facility fire strategy	We understand the current detail on the existing office room walls (from Manser architects drawings) includes: - One layer of 12.5mm foil backed gypsum plasterboard (internal facing) - 75mm Rockwool (insulation) - 12mm WBP Plywood (external facing) Due to the thickness of the plasterboard it is implied that this arrangement will allow for 30 minutes of fire resistance. If there is a requirement to increase the fire resistance time this can be achieved by adding an additional layer of 12.5mm gypsum plasterboard on the internal face. Further information

				should be sought from manufacturer's guidance. Dependent on the fire resistance chosen (30 or 60 minutes or more) each element in the design (doors, glazing, vents) should satisfy this requirement. The fire resistance requirement will be mainly based on the time it takes for people to get to a safe place. In Westminster Pier's case, if people are on the end of the V-berth they will need to get to the shore end of the brows. This may be stated in the pedestrian plan and if that states everyone can be evacuated from the pier in 30 minutes then that will be the fire resistance requirement. In terms of the new pontoon, as this is next to the V-Berth, 30 minutes should be sufficient. However, as the new pontoon extends the distance from the end of the V-berth to a safe place, there may be a requirement to upgrade the offices on the pontoons closest to the brows.
END				

Volume 0, Annex E, Environmental Questionnaire

ITT Environmental Evaluation Criteria

Introduction

The following are TfL Environmental Objectives:

- Reduce Greenhouse gas emissions (CO_2)
- Reduce pollutant emissions to air (NO_X and PM_{10})
- Reduce transport related noise and vibration
- Maintain and, where possible, enhance the quality of London's built environment
- Maintain and where possible enhance the quality of London's natural environment
- Reduce resource consumption and improve green procurement
- Reduce the waste generated by applying the principles of reduce, reuse and recycle
- Reduce water consumption

Explain how you will meet each TfL Environmental Objective by:

a. identifying possible sources of pollution and negative environmental impacts which may result from your contract activities, and
b. providing detail on how you will prevent environmental pollution and reduce negative environmental impacts from these activities.

Please provide your answers in the tables below. The entire submission should not be longer then 5 pages

Pass and Fail Criteria

Pass – comprehensive detail on how TfL Environmental Objectives are going to be met by demonstrating a clear understanding of all relevant environmental pollution sources and environmental impacts and by providing clear detail on how these are going to be reduced and controlled.

Fail – insufficient detail is provided. For example no explanation is given on how TfL Environmental Objectives are going to be met, fail to identify relevant environmental pollution sources and environmental impacts and provides little detail on how to prevent environmental pollution and reduce negative environmental impacts.

Answer Tables

	Reduce Greenhouse Gas emissions (CO_2)
What are the sources of greenhouse gas emissions from site activities?	
How will you reduce greenhouse gas emissions on site?	
Contractors are encouraged to include zero or ultra low carbon vehicles in their fleet such as electric, plug-in hybrid or biomethane vehicles where possible. Provide details of what type of vehicles you will use throughout the duration of the contract to meet or exceed the relevant CO2 limits.	

	Reduce pollutant emissions to air (NO_X and PM_{10})
What are the sources of air pollution from your site activities?	
How will you reduce pollutant emissions to air from your site activities?	
Provide detail of how your road and non-road vehicles will meet the relevant emission standards (Euro standards) throughout the duration of the contract	

	Reduce transport related noise and vibration
What are the sources of noise and vibration from your site activities?	
How will you reduce noise and vibration on from your site activities?	

	Maintain and, where possible, enhance the quality of London's built* environment
What are impacts on the quality of London's built environment from your site activities?	
How will you maintain and, where possible, enhance the quality of London's built environment?	
*Consider both the impact of your activities on townscape and existing heritage assets. You should demonstrate an understanding of the Mayor of London Better Streets initiative by considering the aesthetics of the equipment casing, particularly casing colours that match interfacing and surrounding street furniture and casing size which should be adequate to the equipment held within so to minimise internal empty space.	

	Maintain and where possible enhance the quality of London's natural* environment
What are impacts on the quality of London's natural environment from your site activities ?	
How will you maintain and, where possible, enhance the quality of London's natural environment?	
*Consider protected species, habitats, trees, planted and grass areas, soil and water in your answer	

	Reduce resource consumption and improve green procurement
How will you reduce resource consumption and improve green procurement ?	

	Reduce the waste generated by applying the principles of reduce, reuse and recycle
How will you reduce the waste generated by applying the principles of reduce, reuse and recycle on site?	

	Reduce water* consumption
How will you reduce water consumption on site?	
*Water pollution should be dealt with in the natural environment table	

ANNEX F – QUESTIONNAIRE ON HEALTH AND SAFETY FOR THE PURPOSES OF CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2007 & 2015

APPOINTMENT OF PRINCIPAL CONTRACTOR

PART I: PROJECT SPECIFIC

Written statements are required on the following:

(a) What is your proposed management structure for this particular contract? Provide details of the qualifications, experience and health and safety training of the individuals nominated for this contract.

(b) What is your technical and managerial approach for dealing with the significant and unusual hazards and risks identified in the pre-tender health and safety plan issued with the tender documents?

(c) What will be your technical and managerial approach for dealing with the transition from the Construction (Design and Management) Regulations 2007 to the Construction (Design and Management) Regulations 2015?

(d) Confirm that appropriate provision has been made in your letter for all the items listed in Part III of this Questionnaire.

PART II: NON-PROJECT SPECIFIC

Responses are required to the following questions in respect of your company's organisation and management (unless you have already provided this information within the last 12 months – give reference details)

(a) Provide information about your accident record in the format shown in Appendix A attached.

(b) Provide evidence of the company's commitment to, and policy on health and safety.

(c) What arrangements are there for keeping that policy under regular review?

(d) Which senior director is named as responsible, has the company's policy statement been signed by him?

(e) What are the management arrangements for delegating responsibility to named individuals?

(f) Provide evidence that you have clear and detailed working methods for achieving the company's policy objectives?

(g) What is the system and responsibility for reporting health and safety matters within your company?

(h) What procedures are there for safety inspections and audits?

(i) What is the system for control of subcontractors?

PART III: NON-PROJECT SPECIFIC

Provide evidence of your company's procedures for the following (unless you have already provided this information within the last 12 months – give reference details):

(a) Induction training for new starters, tool-box talks and training for special risk situations, etc.

(b) Maintenance of safe systems of work, including whether there are written risk assessments and method statements.

(c) Personal protective equipment

(d) Control of substances hazardous to health, including correct identification, assessment, storage and handling in accordance with COSHH Regulations.

(e) Protection of the workforce and the public against vibration and noise.

(f) Manual handling, including assessing ergonomics of workplace layouts and work activities.

(g) First-aid, including provision of trained first aiders and the keeping of medical records.

(h) Reporting accidents and incidents in conformance with the requirements of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1989 (RIDDOR) and the keeping of proper records related thereto.

(i) Suitable and sufficient accident investigation procedures.

(j) Arrangements for visitors to the site.

(k) Complying with the Working Time Regulations 1998 with particular reference to any night working.

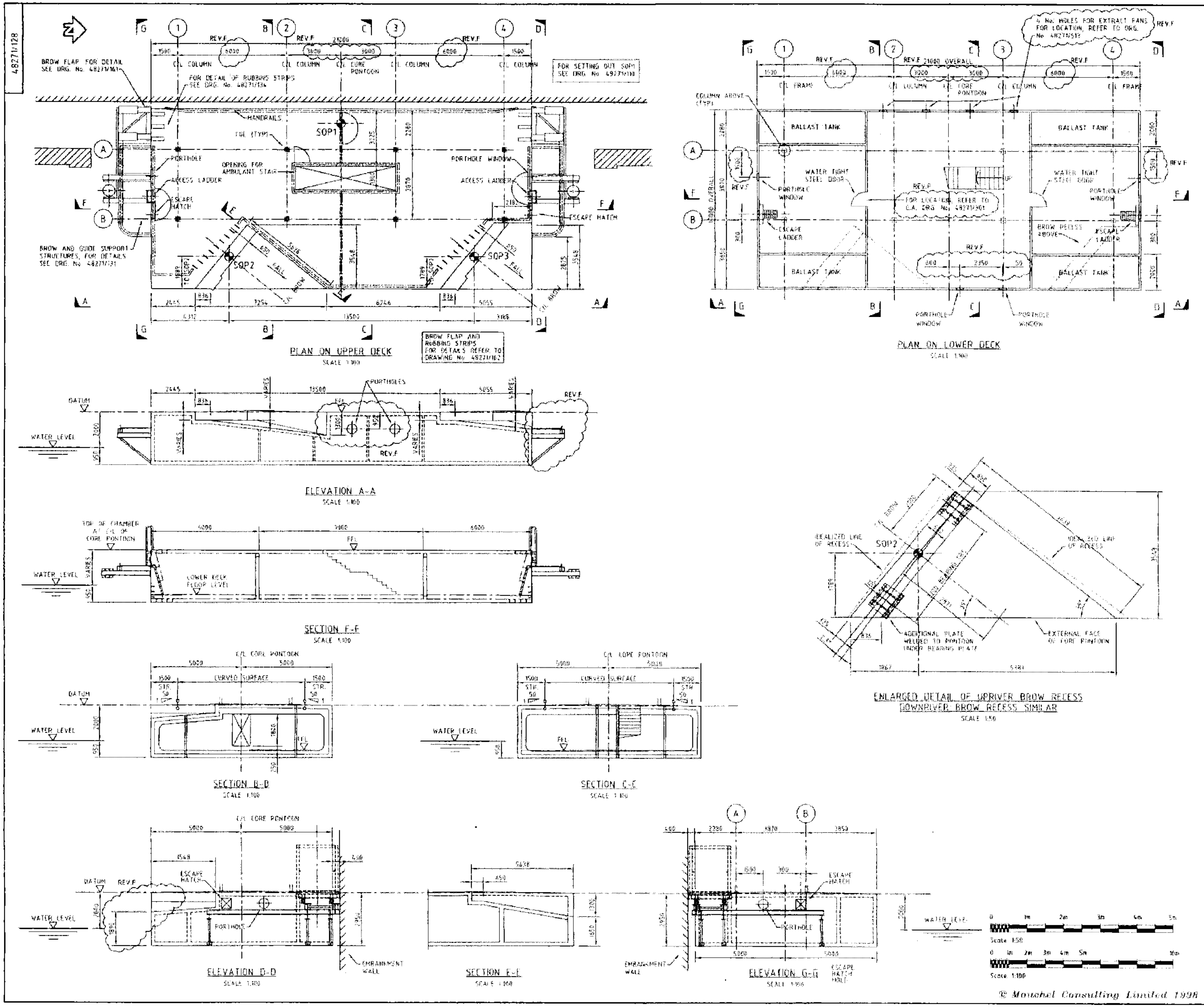
APPENDIX A: COMPANY ACCIDENT RECORD

Information Required	2007	2008	2009	2010	2011
Average workforce (including direct employees and subcontractors / self employed)					
Total hours worked in period					
Number of fatal injury accidents					
Number of Major Injury Incidents (RIDDOR)					
Number of 3/7-day Injury Incidents (RIDDOR)					
Incident Rate (see below)					
Frequency Rate (see below)					
Number of Dangerous Occurrence Incidents (RIDDOR)					
Number of Prosecutions by HSE or Environment Agency					
Number of Prohibition Notices by HSE or Environment Agency					
Number of Improvement Notices by HSE or Environment Agency					
Any restrictive clauses in relation to Company's Employer's Liability or Public Liability Insurance					

Calculation of Incident Rate and Frequency Rate (Method taken from H.S.(G)65 "Successful Health and Safety Management")

$$\text{Incident Rate} = \frac{\text{Number of reportable injuries in financial year}}{\text{Average number employed during year}} \times 100{,}000$$

$$\text{Frequency Rate} = \frac{\text{Number of reportable injuries in period}}{\text{Total hours worked during the period}} \times 100{,}000$$



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4827I/128

NOTES

1. THIS DRAWING IS NOT TO BE SCALED
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
3. ALL STEEL TO BE GRADE EN10025-S275 UNLESS NOTED OTHERWISE
4. ALL STEELWORK SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIFICATION

DRAWING REFERENCES
48271/110 - PLAN SETTING OUT CO-ORDINATES
48271/129 - GA OF CORE PONTOON ELEVATIONS & SECTIONS
48271/130 - GA OF CORE PONTOON SUPPORT FRAMES
48271/131 - EXISTING BROW & GUIDE SUPPORT STRUCTURES

THIS DRAWING IS ISSUED FOR INFORMATION ONLY

FOR AS BUILT DETAILS REFER TO FABRICATION DRAWING Nos S.101/1, AND S.101/2

Rev	Amendment	By	Checked	Date	Approved
G	ADDITIONAL INFORMATION FOR HEALTH AND SAFETY FILE				
F	COLUMNS ON GRIDS 2 & 3 REPOSITIONED SETTING OUT DIMS TO EXTRACT FANS, PORTHOLES & ESCAPE HATCH ADDED	GJE	RSO	[illegible]	PG
E	BROW RECESSES AMENDED ENLARGED BROW RECESS DETAIL ADDED MINOR AMENDMENTS	GJE	PG	[illegible]	PG
D	CANOPY COLUMNS RELOCATED, STAIRWELL ADDED, BROW BEARING AREAS AMENDED MINOR AMENDMENTS	GJE	PG	[illegible]	PG
C	VOID FOR STAIRS & RUBBING STRIPS AMENDED, COLUMNS REPOSITIONED RECESSES FOR BROW DEEPENED	GJE	RSO	[illegible]	PG
B	BROW SUPPORT AREA AMENDED, CANOPY COLUMNS REPOSITIONED	GJE	PG	[illegible]	PG
A	ISSUED FOR CONSTRUCTION	GJE	PG	[illegible]	PG
T	ISSUED FOR TENDER	GJE	RNT	[illegible]	PG
P2	SECTION D-D ADDED	GJE	RNT	[illegible]	PG
P1	ORIGINAL ISSUE	GJE	[illegible]	[illegible]	PG

Issued Only For Purpose Intended	Date	Approved
FOR HEALTH AND SAFETY FILE	[illegible]	[illegible]
FOR CONSTRUCTION	23.6.99	PG
FOR TENDER	29.1.99	PG
FOR COMMENT	10.11.98	PG

Mouchel Ref. No

CAD Ref. No K:\F48271\const\128

London River Services Limited

WESTMINSTER PIER

Mouchel

MANSER ASSOCIATES

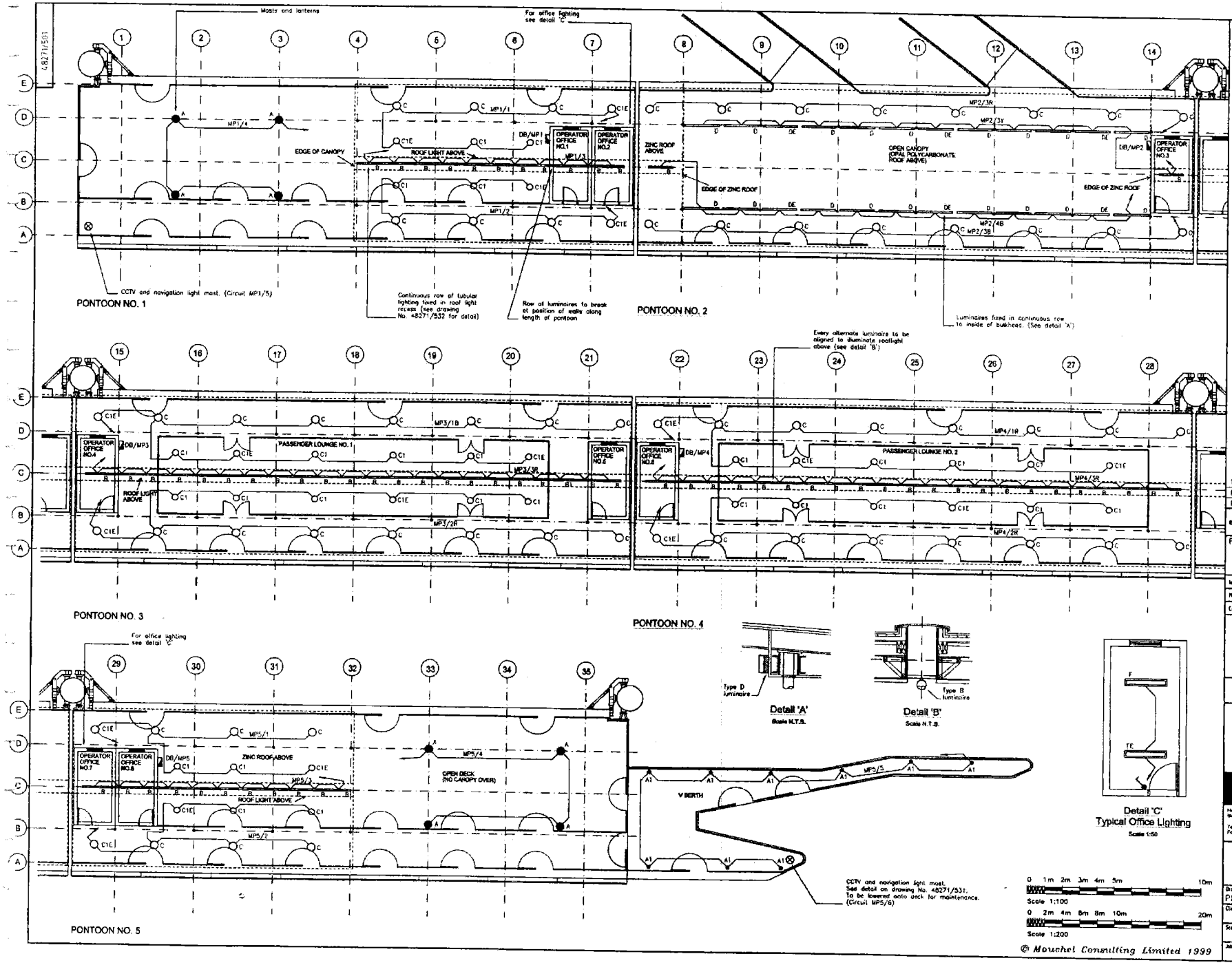
G.A. OF CORE PONTOON

Scale 1:50, 1:100

Job No 48271

LRS Drawing No 48271/128

Rev G



48271/501

NOTES

1. THIS DRAWING IS NOT TO BE SCALED
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
3. REFER TO STRUCTURAL ENGINEER'S AND ARCHITECT'S DRAWINGS FOR BUILDING DETAILS.
4. REFER TO SPECIFICATION FOR DESCRIPTION OF WORK.

Rev.	Amendment	By	Checked	Date	Approved
T	ISSUED FOR TENDER	PNS	JD	16.1.99	MJH
P2	DRAWING UPDATED	PNS	JD	7.1.99	MJH
P1	PRELIMINARY FOR COMMENTS	PNS	JD	21.12.98	MJH

FOR TENDER

Issued Only For Purpose Indicated — Date — Approved

Microfilm Ref. No.

CAD Ref. No.

London River Services Limited

PIER

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MANSER ASSOCIATES

MAIN PONTOON LIGHTING LAYOUT

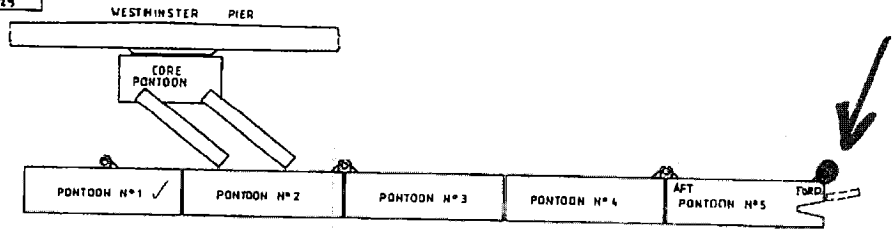
Drawn	Date	Checked	Date	Approved	Date
PNS	01/99	JD	16.1.99	MJH	21.1.99

Client Drawing No.

Scale	MEL Drawing No.	Rev.
1:100	48271/501	T

Job No. 48271

SHIP NO.	DRG NO.
AS.181	O.229



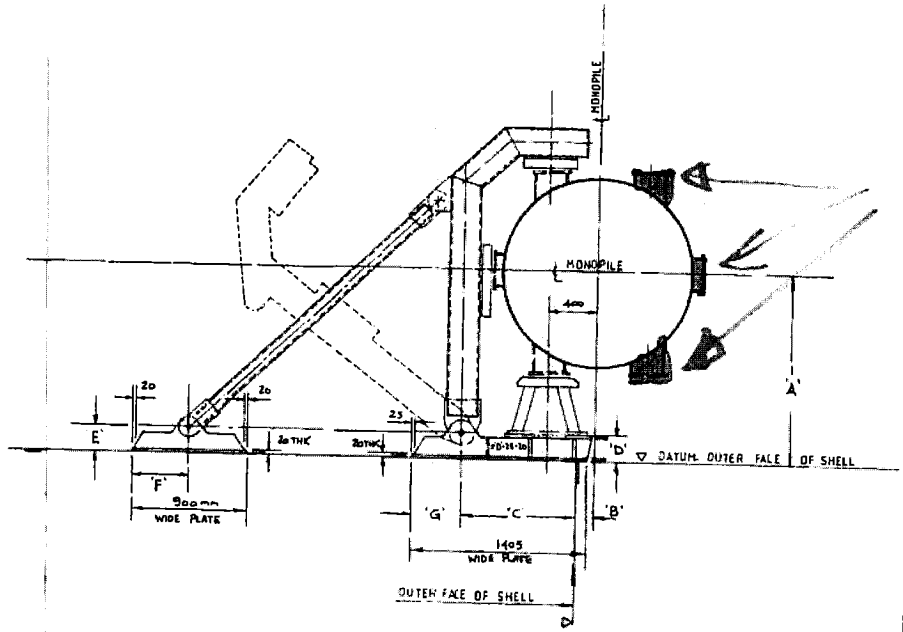
AS BUILT DIMENSIONS							
PONTOON No.	A	B	C	D	E	F	G
2	1560	87·5	992·5	220	290	450	317·5
3	1561	237·5	842·5	221	291	515	482·5
4	1554	173·5	906·5	214	284	451	418·5
5 AFT	1555	176·5	903·5	215	285	454	421·5
5 FORD.	1561	237·5	842·5	221	291	515	482·5

THESE DIMENSIONS INCORPORATE THE FOLLOWING CORRECTIONS:

AS DRIVEN MONOPILE POSITIONS (not final)

AS BUILT PONTOON DIMENSIONS

10mm PACKING FOR ALL THREE FACES



CHKD	REV	BY	REMARKS	DATE
			INITIAL ISSUE	

TITLE			SHIP NO.
MONOPILE ARM BOLTED ASSEMBLIES AS BUILT DIMENSIONS			AS 181
			DRG NO. O.229
DRAWN	DATE	SCALE	UNIT NO.
PJH	03·5·00	NTS	—

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