

BUILDING CODE OF AUSTRALIA CONSULTANTS

(A Division of Australian Loss Prevention Pty Ltd) ABN 91 073 302 280

TOWN PLANNING, BUILDING SURVEYING & FIRE TECHNOLOGY

Email: bca@buildingcodeaust.com.au



Suite 6, Level 1
2a Redman Road
Dee Why NSW 2099
Tel: (02) 9982 1199
Fax: (02) 9971 1388
Mobile: (0412) 09 29 29

Our ref: 03086-2/dos

17th October 2003

The General Manager
Pittwater Council
P O Box 882
MONA VALE NSW 1660

RMIC
rec-127372.

Dear Sir

**Re: ROYAL MOTOR YACHT CLUB – 46 PRINCE ALFRED PDE, NEWPORT
REPLACEMENT OF MARINA AND 14 NEW BIRTHS
CONSTRUCTION CERTIFICATE DETERMINATION No 03086-cc
DA - 133-3-2003-1 (Department of Infrastructure, Planning and Natural Resources)**

Please find attached my determination of the Construction Certificate together with a cheque for \$30.00 being the lodgement fee for the above mentioned premises including all relevant details for your records.

A copy of the documents has been forwarded to DIPNR as the Consent Authority.

If you require any further information or explanation, please do not hesitate to contact me.

Yours faithfully

Damian O'Shannassy
Accredited Certifier

N0254/03
31 OCT 2003

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Form 11

Construction Certificate Determination

Determination

Approved

date of determination

17th October, 2003

Subject land

Address

46 Prince Alfred Parade, Newport NSW 2107
(Royal Motor Yacht Club)

lot no., DP/MPS, etc. volume/folio

See CC application form attached

Attachments

- Copy of receipt for payment of long service levy of \$10,000
- Letter from Royal Motor Yacht Club dated 7.10.03 re compliance with DA conditions,
- Letter from Royal Motor Yacht Club dated 3.9.03 to DIPNR re DA condition No 9 and received by DIPNR on 16.10.03,
- Letter from NSW EPA, dated 16.10.03, re Variation to EPA Licence No 10820,
- Letter from Royal Motor Yacht Club to neighbours dated 13.10.03,
- CC application form & Schedule of fire safety measures
- Copy of front page of Construction Management plan,
- Copy of front page of Construction Noise & Vibration Management plan from Planning Engenuity dated 8/03,
- Construction Noise & Monitoring report from Renzo Tonin & Associates Pty Ltd dated 2.10.03.

Plans and specifications approved

list plan no.(s) and specifications reference

Structural Engineering Design Documentation as prepared by International Marine Consultants, Drawing No. 2187-103 to 114, dated 19.8.03 & Marina, Pile & Services Layouts, drawing Nos. 2187-100/H, 101/F & 102/E, dated 19.8.03.

Applicant

Name
Address
Contact no. (telephone/fax)

Graham Chatfield - General Manager
Royal Motor Yacht Club
46 Prince Alfred Parade, Newport NSW 2107
Ph: (02) 9997 5511 Fax: (02) 9997 4318 or 0418 423895

Owner

Name
Address
Contact no. (telephone/fax)


Department of Lands
Land NSW - Sydney Metropolitan Office, Parramatta
Ph: (02) 9895 6244

Certificate

Certificate

I certify that the work, if completed in accordance with these plans and specifications, will comply with the requirements of Section 81A (5) of the *Environmental Planning and Assessment Act, 1979* & Clause 147(1)(e) of the *Environmental planning and Assessment Regulation 2000*.

Signature
date of endorsement
Certificate no.


17th October 2003
03086-CC

Certifying authority

Name of certifying authority
if accredited certifier:
Accreditation no.
Contact no.
address

Damian O'Shannassy
Accreditation Number 6175 'Planning NSW'
Ph: (02) 9400 2335 Fax: (02) 9400 2335 or 0402 029963.
Suite 4, 470 Sydney Road
Balgowlah NSW 2093

Development consent

Number and date of determination

Development Application Number DA-133-3-2003-1 (DIPNR)
Date of Determination 16th September 2003

BCA Classification

10b (Marina Structures)

**SCHEDULE OF CURRENT ESSENTIAL FIRE SAFETY MEASURES
(for the whole building and the land on which it is situated)**

PROPERTY ADDRESS: ROYAL MOTOR YACHT CLUB – 46 PRICE ALFRED PDE, NEWPORT

See attachment to CC application form

**SCHEDULE OF PROPOSED ESSENTIAL FIRE SAFETY MEASURES
(for the whole building and the land on which it is situated)**

PROPERTY ADDRESS: MOTOR YACHT CLUB – 46 PRICE ALFRED PDE, NEWPORT

ITEM NO.	PROPOSED ESSENTIAL FIRE SAFETY MEASURE	The minimum standard of performance, i.e. BCA clause and/or Australian Standard number/year
1.	Fire hose reel system	BCA Clause E1.4, AS2441-1988
2.	Portable fire extinguishers	BCA Clause E1.6, AS2444-2001

Building & Construction Industry



LONG
SERVICE
PAYMENTS
CORPORATION

ABN 93 646 090 808

29 September 2003

ROYAL MOTOR YACHT CLUB BROKEN BAY NSW
PO BOX 78
NEWPORT NSW 2107

Levy Receipt

Receipt No
00025124

Received from: (Name of person or organisation paying for levy)

ROYAL MOTOR YACHT CLUB BROKEN BAY NSW

the amount of

\$10,000.00

Payment details:

Cheque 030336 \$10,000.00 ROYAL MOTOR YACHT CLUB BROKEN BAY NSW

being payment for Long Service Levy as detailed below

Levy Payment Form number	0264923
Council/Department/Authority	PITTWATER COUNCIL
D.A. number	133-3-2003-1
Work address	46 PRINCE ALFRED DRIVE NEWPORT NSW 2107
Estimated value of work	\$5,000,000.00
Levy payable (No exemption)	\$10,000.00
Total levy paid	\$10,000.00

Signed: (Signature of authorised person)

Date

29 SEP 2003



ROYAL MOTOR YACHT CLUB

BROKEN BAY
New South Wales

P.O. BOX 78, NEWPORT BEACH 2106
46 PRINCE ALFRED PARADE, NEWPORT NSW 2106 PH: (02) 9997 5511 FAX: (02) 9997 4318
WEBSITE: <http://www.royalmotor.com.au> EMAIL: info@royalmotor.com.au
A.C.N. 001 040 811 A.B.N. 70 001 040 811

7th October 2003

Mr Bob Killorn
Building Code of Australia Consultants
2a Redman Rd
DEE WHY 2099

Dear Bob,

Re: Royal Motor Yacht Club Marina Newport

We confirm that last Thursday we handed you the Application for Construction Certificate form completed by the land owner, the Department of Lands, for our project to replace the existing marina at our Club.

We have previously supplied you with:

1. The original of the DA consent signed by the Minister
2. Copies of the SEE and Planning Ingenuity Pty Ltd letters dated 30th May 2003 and 9th July 2003.
3. Four sets of the Marina, Services and Piling Layouts
4. The receipt for the payment of the Long Service Leave levy
5. A cheque for your fees

You have asked for specific comments on the Draft DA conditions specified in your letter of 22nd August 2003 and these are listed below:

- | | | |
|------|-----|--|
| Item | 5 | We will comply with all requirements of the Director General |
| | 6 | As soon as the Construction Certificate is issued we will comply with a, b c (d) and (e) will be complied with on Occupation. |
| | 7. | Enclosed is a copy of AS 3962-2001. I presume you have a copy of the BCA. |
| | 8. | Agreed. |
| | 9. | This Licence is expected by the end of this week and will be submitted to the Director General and your self. We will notify you as soon as it is delivered to the Director General. |
| | 10. | Agreed. |
| | 11. | This consultation is currently under way. |
| | 12. | An application has been made to the EPA to vary these hours and if successful will be noted in our amended Licence mentioned in 9 above. |
| | 16. | Agreed. |
| | 17. | A copy of the Accoustical Report and Noise Mitigation Plan Prepared by Renzo Tonin and Associates is attached. |
| | 18. | This has been done. |
| | 19. | This letter has been drafted and will be sent to residents when the hours of work are known |
| | 20. | This will be done when house are known |
| | 21. | See 17 above. |
| | 22. | A copy of the Traffic and Parking report is attached |

23. Agreed
24. Agreed
25. Agreed
26. Agreed
27. Agreed
28. Agreed
29. Agreed
30. Agreed
31. Agreed
32. Agreed
33. Agreed
34. See Construction Management Plan
35. Agreed
36. See Construction Management Plan
40. Agreed
42. Agreed
43. Agreed
44. A copy of the Construction Management Plan is attached
45. We should have this approval this week and will advise you as soon as it is received.
46. This plan will be prepared and submitted to the Director General within a month of the completion of the works as per clause 47.

Also attached are the completed essential fire safety forms.

Please let me know if there is any further information you require.

Yours sincerely,



Graham Chatfield
General Manager

POSTAL ADDRESS: P.O. BOX 78, NEWPORT BEACH 2106
CLUB HOUSE: 46 PRINCE ALFRED PDE., NEWPORT 2106, TELEPHONE: 9997 5511 FAX: 9997 4318
EMAIL: info@royalmotor.com.au WEBSITE: <http://www.royalmotor.com.au>

INCORPORATING:
CRUISER COMPETITION DIVISION • POWER CRUISING DIVISION • SAILING DIVISION • GAME FISHING DIVISION • FISHING DIVISION
• SAIL CRUISING DIVISION • MULTI HULL DIVISION • GOLF DIVISION • JUNIOR SAILING DIVISION • TIMBER BOAT DIVISION



Royal Motor Yacht Club

Broken Bay
New South Wales
ABN: 70 001 040 811

3rd September 2003

The Director General
Department of Infrastructure, Planning and Natural Resources
20 Lee Street
SYDNEY 2000

Attention Michael Young

Re: Royal Motor Yacht Club Newport

Dear Mr Young,

Condition 9 of your Terms of Approval for the redevelopment of our Marina requires us to submit to you a copy of the amended License issued by the N.S.W. Environmental Protection Authority.

Attached is a copy of their letter, enclosing the amended License as required.

Yours sincerely,

Graham Chatfield
General Manager

Received

Michael Young

Date: 16/10/03

POSTAL ADDRESS: P.O. Box 78, NEWPORT BEACH 2106
CLUB HOUSE: 46 PRINCE ALFRED PDE., NEWPORT 2106, TELEPHONE: 9997 5511 FAX: 9997 4318
EMAIL: info@royalmotor.com.au WEBSITE: <http://royalmotor.com.au>

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Our reference : 300433A3
 Contact : Lara Gallagher, 9995 6809

Mr Graham Chatfield
 General Manager
 Royal Motor Yacht Club
 PO Box 78
 Newport Beach NSW 2106



Dear Mr Chatfield

Royal Motor Yacht Club, Newport - Variation of Licence No. 10820

I refer to your letters to Environment Protection Authority (EPA) regarding the new marina design (dated 18 August 2003) and requests for variation of construction hours (faxed 29 August 2003 and letter dated 9 October 2003). I refer also to a meeting between yourself, Rear Commodore John Hagley, your contractor and our Messrs Marr and Schulten at the Club on 8 October 2003.

On 25 September 2003 the EPA was incorporated into the new Department of Environment and Conservation (DEC). As you may be aware the DEC received notification of the notice of determination of a development application (your consent) for the refurbishment of the above premises (DA-133-3-2003-1). This determination includes conditions stipulated by the former EPA in its General Terms of Approval dated 28 July 2003.

I understand that during your meeting with Mr Marr and Mr Schulten, discussion centred around the acoustic assessment and your request for a variation of construction hours to conduct screw piling activities prior to 9:00am and after 3:00pm on certain days. As you are aware, your consent only permits construction activities between certain times. It does however, also provide for possible variation of construction times providing the DEC is satisfied that your neighbours will not be subjected to undue noise nuisance. Therefore, due to the review of the acoustic assessment and the assurances of your contractor regarding likely noise emissions from screw piling activities, the DEC has considered your request and agrees to a trial variation of the hours of operation to those in the consent. The trial variation will be as follows:

- hours of operation for screw piling, can be conducted between 8:00 and 5:00 pm, Mondays to Friday and between 8:00 am and 1:00 pm on Saturdays and at no time on Sundays or Public Holidays; and
- hours of operation for impact piling can be conducted between 9:00 am and 4:00 pm Monday to Friday and at no time on Saturdays, Sundays or Public Holidays.

Note that these hours of operation will be for a trial period of two weeks from the commencement of works, and will be subject to review by the DEC.

N:\Sydney Catchments\Marina & Water Protection Licensing\Marinas\Licensed Marinas\RMYC Newport\tr to RMYC re Lic Variation - Oct 03.doc

Page 2

During the trial, the DEC will assess the impact on the acoustic amenity of residents in the locality and if satisfactory, the trial may be extended under Condition 13 of your consent.

Please find attached a Variation for the above Licence which reflects these changes. I draw your attention to Special Conditions E1 in particular. Please note that these Conditions are consistent with the General Terms of Approval issued by the former EPA on 28 July 2003.

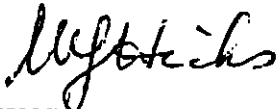
As discussed during the meeting on 8 October 2003, our assessment of your report titled 'Royal Motor Yacht Club, Newport – Refurbishment and Additions – Construction Noise and Vibration Management Plan – August 2003 – Renzo Tonin and Assoc. Pty. Ltd' which was submitted on 2 September 2003 raised concerns regarding the accuracy of the background noise levels. As such, I reiterate that we will be closely monitoring construction activities and should any serious noise impacts occur then we may need to review the attached Licence.

Please confirm when operations commence by telephoning Lara Gallagher on 9995 6809 or Tim Gilbert on 9995 6860.

All future correspondence should be directed to Tim Gilbert, Manager Sydney Catchments, Department of Environment and Conservation PO Box 668 Parramatta 2124.

Please contact Lara Gallagher on 9995 6809 should you require any further information.

Yours sincerely



WARREN HICKS
A/Executive Director Sydney Region
Environment Protection and Regulation Division
Department of Environment and Conservation

Enclosure

The DEC is a new State Government department which was created on 24 September 2003. It brings together the Environment Protection Authority, the National Parks and Wildlife Service, Resource NSW and the Royal Botanic Gardens and Domain Trust, and also links with the work of the Sydney Catchment Authority.

Environment Protection Licence - Protection of the Environment Operations Act 1997

Licence Variation

Section 58(5) Protection of the Environment Operations Act 1997



ROYAL MOTOR YACHT CLUB BROKEN BAY NEW SOUTH WALES,
Trading as ROYAL MOTOR YACHT CLUB,
ABN 70 001 040 811,
PO BOX 78,
NEWPORT NSW 2106
STANDARD POST

Attention: Mr. GRAHAM CHATFIELD

Notice Number 1031688

File Number 300433

Date 16-Oct-2003

NOTICE OF VARIATION OF LICENCE 10820

BACKGROUND

- A. ROYAL MOTOR YACHT CLUB BROKEN BAY NEW SOUTH WALES /as ROYAL MOTOR YACHT CLUB ("the licensee") is the holder of environment protection licence 10820 for Scheduled Activity - Premises Based ("the licence") under the Protection of the Environment Operations Act 1997 ("the POEO Act").
- B. On 09-Oct-2003 the EPA received an application for the variation of the licence.
- C. The EPA considered this request and has varied the licence accordingly

VARIATION OF LICENCE 10820

1. By this notice the EPA varies licence 10820 as set out in the Appendix. *(for licenses with a lot of changes and where the whole licence document will be in the appendix: The Appendix is a copy of the licence marked with the variations that are made to it by this notice. (for licences with a small number of changes where only the conditions will be printed: The Appendix is a copy of the provisions of the licence which are varied by this notice, marked with the variations that are made to them.*

Environment Protection Licence - Protection of the Environment Operations Act 1997

Licence Variation**Section 58(5) Protection of the Environment Operations Act 1997**

2. The variations to the licence are indicated in the following way:
 - if a strike through mark appears through any word or other text (eg. ~~XXXXXX~~) this indicates that the word or other text is deleted from the licence by this notice; and
 - if a double underline appears under any word or other text (eg. XXXXXX) this indicates that the word or other text is added to the licence by this notice.
3. Except, as provided by s84(2) of the POEO Act, the variations to the licence by this notice begin to operate at the expiry of the period of 21 days from when you get notice of the variations, unless another date is specified in this notice.
4. Note: Section 84(2) provides that a variation to a licence does not operate until
 - the expiry of the period of 21 days after notice of the decision to vary the licence is given to the licensee, or
 - if an appeal against the decision is lodged, until the Land and Environment Court determines the appeal, or
 - the licensee notifies the EPA in writing that no appeal is to be made against the decision to vary the licence,whichever first occurs.
5. This notice is issued under section 58(5) of the Protection of the Environment Operations Act 1997.

A handwritten signature in black ink, appearing to read 'Warren Hicks', written over a dotted line.

Mr Warren Hicks
Manager Sydney Catchments
Sydney Catchments
(by Delegation)

INFORMATION ABOUT THIS NOTICE

- Section 287 of the Act enables appeals to be made in connection with decisions about a licence application within 21 days after notice of the decision is given to the applicant.
- Details provided in this notice will be available on the EPA's Public Register in accordance with section 308 of the Protection of the Environment Operations Act 1997.



Royal Motor Yacht Club

13th October 2003

Broken Bay
New South Wales
ABN: 70 001 040 811

Dear Neighbour,

As you are aware, the Royal Motor Yacht Club Broken Bay is replacing the oldest section of our Marina with a modern floating structure, which I am sure will greatly enhance the appearance of the Club from the surrounding homes.

I am confident you will be pleased with the finished product.

The Minister for Infrastructure, Planning and Natural Resources has now approved the Development Application and we plan to start work on the 20th October 2003. During the construction, it will be necessary to carry out piling works which may subject you to some noise nuisance.

In accordance with our consent to carry out these works, approval has been given to operate piling work only between the hours of 8am to 5pm Monday to Friday and 8am to 1pm on Saturdays. However, impact piling, which is the activity which has the potential to cause elevated noise, will not occur until after 9am. No work will be carried out on Sundays or Public Holidays.

We have carried out similar piling work when replacing worn piles over the years and the upcoming work will be no louder than previous maintenance work.

The Club is mindful of parking problems that may occur due to disruption to the lower car park throughout the Project and therefore will be relocating staff cars on weekends by utilising a second Shuttle Bus, which will also transport Members attending the Club.

Should you have any concerns during the construction period, please contact Horseshoe Cove Committee Chairman Greg Ross (9979 5371), Marine Manager Larry Scott (0419 404 022) or General Manager Graham Chatfield (0418 423 895).

Yours sincerely,

Graham Chatfield
General Manager

POSTAL ADDRESS: P.O. Box 78, NEWPORT BEACH 2106

CLUB HOUSE: 46 PRINCE ALFRED PDE., NEWPORT 2106, TELEPHONE: 9997 5511 FAX: 9997 4318

EMAIL: info@royalmotor.com.au WEBSITE: <http://royalmotor.com.au>

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Application for a construction certificate

Date received: ___/___/___ DA no: _____

If you want to carry out some building work or subdivision work (such as building roads or a stormwater drainage system), you need a construction certificate before you can start work. You can use this form to apply for a construction certificate. To complete the form, please place a cross in the boxes and fill out the white sections as appropriate. To minimise delay in receiving a decision about your application, please ensure you submit all relevant information. You need to apply to a certifying authority (either your council or a private certifier).

1. Details of the applicant

Mr Ms Mrs Dr Other

First name: **GRAHAM** Family name: **CHATFIELD** *GENERAL MANAGER R.M./C NEWPORT*

Flat/street no.: **46** Street name: **PRINCE ALFRED PARADE**

Suburb or town: **NEWPORT** State: **N.S.W** Postcode: **2107**

Daytime telephone: **02/99975511** Fax: **02/99974318** Mobile: **0418423895**

Email: *Graham & Royalton.com.au*

2. Identify the land

Flat/street no.: **46** Street name: **PRINCE ALFRED PARADE**

Suburb or town: **NEWPORT** Postcode: **2107**

Lot no.: **329 & 330** Section: **DP 824292 LOT 2 & 3 DP 225339 LOTS 5 & 7**

DP/MPS no.: **DP 4689 - LOT 6/110670 and** Volume/folio: **LOT 262 DP 752046** *46A PRINCE ALFRED PARADE NEWPORT*

You can find the lot no., section, DP/MPS no. and volume/folio details on a map of the land or on the title documents for the land. If you need additional room, please attach a schedule and/or a map with these details.

3. Estimated cost of the development

\$ **5,000,000** including GST

4. Describe the development

What type of work do you propose to carry out?

Building work

Subdivision work

Describe the work

Replacing the existing marina and adding
14 new berths to the existing

For building work, what is the class of the building under the Building Code of Australia?

This can be found on the development consent

Has development consent been granted for the development?

No

Yes

What is the development application no.?

133-3-2003-1

What date was development consent granted?

16.9.2003

5. Information to be attached to the application

You need to provide material with your application that is relevant to the type of work you propose to do. Please indicate the material you have attached by placing a cross in the appropriate boxes .

1. If you are going to carry out **building work**:

a copy of any compliance certificates on which you rely

detailed plans of the building (4 copies)

The plans must be drawn to a suitable scale and consist of a general plan and a block plan. The general plan of the building is to:

- show a plan of each floor section
- show each elevation of the building
- show the level of the lowest floor, the level of any yard or unbuilt area on that floor and the level of the ground
- indicate the fire safety and fire resistance measures (if any), and their height, design and construction

Where you propose to alter, add to or rebuild a building that is already on the land, or modify plans that have already been approved, please mark the general plan (by colour or otherwise) to show the change you propose to make.

detailed specifications of the building (4 copies)

The specifications are to:

- describe the construction (including the standards that will be met), the materials which will be used to construct the building and the methods of drainage, sewerage and water supply
- state whether the materials proposed to be used are new or second hand and give details of any second-hand materials to be used.

Where you propose to modify specifications that have already been approved, please mark the approved specifications (by colour or otherwise) to show the modification.

a plan of the existing building, drawn to scale, where the application involves building work to alter, enlarge or extend that building

This plan will assist the certifying authority to assess whether the work will reduce the fire protection capacity of the building.

5. continued

3. If you are going to change the use of a building or the classification of a building under the Building Code of Australia and you are doing building work (unless the building will now be used as a single dwelling or a non-habitable building or structure (such as a private garage, carport, shed, fence, antenna, wall or swimming pool)):

- a list of any fire safety measures you propose to include in the building or on the land
- if you propose to alter, add to or rebuild a building that is already on the land, a list of the fire safety measures that are currently used in the building or on the land
- details as to how the building will comply with the Category One fire safety provisions of the Building Code of Australia

The lists of fire safety measures must describe the extent, capability and the basis of design of each measure.

6. Signatures

The owner(s) of the land must sign this application if:

- at the time the owner signed the development application, the owner did not give consent to the applicant to lodge a construction certificate, or
- the owner of the land has changed since the owner signed the development application.

As the owner(s) of the above property, I/we consent to this application:

Signature


MANAGER, BUSINESS SERVICES
SYDNEY METROPOLITAN, SYDNEY HUNTER REGION
Delegate of the Minister Administering the Crown Lands Acts

Name

GREG FOSTER

Date

1/10/03

Signature

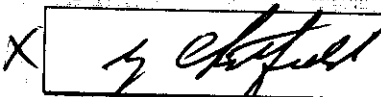
Greg Foster
SYDNEY HUNTER REGION

Name

Date

The applicant, or the applicant's agent, must sign the application.

Signature

X 

Name, if you are not the applicant

Date

25/9/03

In what capacity are you signing if you are not the applicant?

GENERAL MANAGER

7. Privacy policy

The information you provide in this application will enable your application to be assessed by the certifying authority. If the information is not provided, your application may not be accepted. Please contact the council if the information you have provided in your application is incorrect or changes.

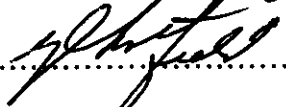
SCHEDULE OF PROPOSED ESSENTIAL FIRE SAFETY MEASURES
(for the whole building and the land on which it is situated)

PROPERTY ADDRESS: Royal Motor Yacht Club Newport

ITEM NO.	PROPOSED ESSENTIAL FIRE OR OTHER SAFETY MEASURE	Measure to be installed in the building? Yes/No	If yes, enter the minimum standard of performance, the BCA clause and/or Australian Standard number/year
1.	Access panels, doors and hoppers to fire resisting shafts	No	BCA Clause C3.13 (amend 12)
2.	Automatic fail safe devices	No	Manufacturer's Specification
3.	Automatic fire detection and alarm system	No	BCA Clause E2.2a (amend 12), AS1670.1-1995, AS3786-1993
4.	Automatic fire suppression system (sprinkler system)	No	BCA Clause E1.5 (amend 12), AS2118.1-1999
5.	Emergency lighting	No	BCA Clauses E4.2 & E4.4 (amend 12), AS/NZS2293.1-1998
6.	Emergency lifts	No	BCA Clause E3.4 (amend 12), AS1735.2-1997
7.	Emergency warning and intercommunication system	No	BCA Clause E4.9, (amend 12), AS2220 Parts 1 and 2 - 1989
8.	Exit signs	No	BCA Clauses E4.5, E4.6 & E4.8 (amend 12, AS/NZS2293.1-1998
9.	Fire control centres and rooms	No	BCA Clause E1.8 (amend 12),
10.	Fire dampers	No	AS/NZS1668.1-1998
11.	Fire doors	No	BCA Spec C3.4 (amend 12), AS/NZS1905.1-1997
12.	Fire hydrant system	No	BCA Clause E1.3 (amend 12), AS2419.1-1994
13.	Fire seals protecting openings in fire resisting components of the building	No	BCA Clause C3.15 (amend 12), Manufacturer's Specification
14.	Fire shutters	No	BCA Spec C3.4 (amend 12), AS1905.2-1989
15.	Fire windows	No	BCA Spec C3.4, (amend 12),
16.	Fire hose reel system	YES	BCA Clause E1.4 (amend 12), AS2441-1988
17.	Lightweight construction	No	Manufacturer's Specification
18.	Mechanical air handling systems	No	AS/NZS1668.1-1998
19.	Paths of travel, stairways, passageways or ramps	No	BCA Section D, (Amend 12)
20.	Perimeter vehicle access for emergency vehicles	No	BCA Clause C2.4, (amend 12)
21.	Portable fire extinguishers	YES.	BCA Clause E1.6 (amend 12), AS2444-2001
22.	Pressurisation system	No	AS/NZS1668.1-1998
23.	Required (automatic) exit doors	No	BCA Clause D2.19 (amend 12), AS1670.1-1995
24.	Safety curtains in proscenium openings	No	BCA NSW Clause H101.10, (amend 12),
25.	Sliding fire doors	No	BCA Clause C3.6, (amend 12),
26.	Smoke and heat vents	No	BCA Spec E2.2c 9Amend 11, AS2665-2001
27.	Smoke control system	No	BCA Spec E2.2a & Spec E2.2b (amend 12) AS/NZS1668.1-1998
28.	Smoke dampers	No	AS/NZS1668.1-1998
29.	Smoke detectors and heat detectors	No	BCA Clause E2.2a, (amend 12),

ITEM NO.	PROPOSED ESSENTIAL FIRE OR OTHER SAFETY MEASURE	Measure to be installed in the building? Yes/No	If yes, enter the minimum standard of performance, i.e. BCA clause no./or Australian Standard number/year.
30.	Smoke doors	NO	BCA Spec C3.4, (amend 12),
31.	Solid core doors	NO	BCA Clause C3.11, (amend 12),
32.	Standby power system	NO	BCA Spec G3.8 - Clause 6, (amend 12),
33.	Wall wetting sprinkler and drencher system	NO	AS2118.1-1999
34.	Warning and operational signs	NO	BCA Clause D2.23 (amend 12), EP&A Reg. 2000 Clause 182
35.	OTHERS (specify)		

This is an accurate statement of all essential fire and other safety measures proposed to be implemented in the whole building and the land on which it is situated.

SIGNED.....  Name .. GRAHAM CLARK

(OWNER/AGENT) Date 3/10/03

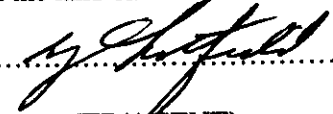
SCHEDULE OF CURRENT ESSENTIAL FIRE SAFETY MEASURES

(for the whole building and the land on which it is situated)

PROPERTY ADDRESS: Royal Motor Yacht Club Newport

ID/REF NO	CURRENT ESSENTIAL FIRE OR OTHER SAFETY MEASURE	Is this measure installed in the building? YES/NO	If yes, enter the minimum standard of performance as specified in Standard number 4796
1.	Access panels, doors and hoppers to fire resisting shafts	No	
2.	Automatic fail safe devices	No	
3.	Automatic fire detection and alarm system	No	
4.	Automatic fire suppression system (sprinkler system)	NO	
5.	Emergency lighting	NO	
6.	Emergency lifts	NO	
7.	Emergency warning and intercommunication system	NO	
8.	Exit signs	NO	
9.	Fire control centres and rooms	NO	
10.	Fire dampers	NO	
11.	Fire doors	NO	
12.	Fire hydrant system	NO	
13.	Fire seals protecting openings in fire resisting components of the building	NO	
14.	Fire shutters	NO	
15.	Fire windows	NO	
16.	Fire hose reel system	YES	BCA Clause E1.4 (amend 12) AS 2444-1988
17.	Lightweight construction	NO	
18.	Mechanical air handling systems	NO	
19.	Paths of travel, stairways, passageways or ramps	NO	
20.	Perimeter vehicle access for emergency vehicles	NO	
21.	Portable fire extinguishers	YES	BCA Clause E1.5 (amend 12) AS 2444-2001
22.	Pressurisation system	NO	
23.	Required (automatic) exit doors	NO	
24.	Safety curtains in proscenium openings	NO	
25.	Sliding fire doors	NO	
26.	Smoke and heat vents	NO	
27.	Smoke control system	NO	
28.	Smoke dampers	NO	
29.	Smoke detectors and heat detectors	NO	
30.	Smoke doors	NO	
31.	Solid core doors	NO	
32.	Standby power system	NO	
33.	Wall wetting sprinkler and drencher system	NO	
34.	Warning and operational signs	NO	
35.	OTHERS (specify)		

This is an accurate statement of all essential fire and other safety measures implemented in the whole building and the land on which it is situated.

SIGNED.....
(OWNER/AGENT)

NameGRAHAM C. MATFIELD

Date3/10/03.....

Your Ref :
Our Ref : MN94H161
Contact Officer : B Ede
Telephone : 9895 6244

G Chatfield
Royal Motor Yacht Club
PO Box 78
NEWPORT BEACH 2106

Dear Sir,

LEASE 200044
ROYAL MOTOR YACHT CLUB

I refer to your letter of 29th September, 2003 regarding the previously approved Consent of Owner for Lodgement of a Development Application (copy attached).

Herewith is the approved Construction Certificate, which gives the Departments authorisation to the commencement of the proposed work.

Yours sincerely



B. Ede
for DISTRICT MANAGER
2nd October 2003

YOUR REF:
OUR REF: MN94H161
CONTACT OFFICER: B Ede
TELEPHONE: 9895 6244

G Chatfield
General Manager
Royal Motor Yacht Club
PO Box 78
NEWPORT BEACH 2106

**PROPOSAL CONCERNING CROWN LAND
CONSENT OF OWNER FOR LODGEMENT OF DEVELOPMENT APPLICATION**

Property Details: Crown land being lots 329 and 330 DP 824292, known as the Royal Motor Yacht Club and held under Lease 200044.

Description of Proposed Development: Marina redevelopment that would replace the existing structures and increase the number of wet berths by 14, as shown on Plan Drawing No. 01001/L10 prepared by Docker Smith P/L, and as described in the Environmental Impact Statement prepared by Planningenuity (copy attached). Also site plans identified as File Number 52643 Sheets 1, 2 and 3 prepared by Lean Lackenby & Hayward Pty Ltd.

Upon investigation of your application, there are no objections to the lodgement of a Development Application with Planning NSW.

The consent to lodge the development application is given on the understanding that:

1. It does not imply or presume the Minister's approval or support of the proposal and is granted in accordance with Clause 49 (3) of the Environmental Planning and Assessment Act, Regulation 2000.
2. Any approval by the Minister may be subject to additional conditions in accordance with the Crown Lands Act 1989.
3. **Irrespective of approval by any other Authority of eventual Development Consent by Council the applicant shall not commence any works on Crown land without** the prior written approval of the Department of Land and Water Conservation (Sydney Metropolitan Office).
4. The applicant undertakes to lodge the development application with six (6) months of the giving of this owner's consent.



B Ede
for DISTRICT MANAGER
LAND NSW
SYDNEY METROPOLITAN OFFICE
PARRAMATTA
21st March 2003

ROYAL MOTOR YACHT CLUB – BROKEN BAY

UPGRADING OF EXISTING MARINA
WITH FLOATING CONCRETE MARINA and
FLOATING WAVE ATTENUATOR

Client : RMYC – Broken Bay
46 Prince Alfred Parade

Contract No. 01001/040



CONSTRUCTION
MANAGEMENT PLAN

Bellingham
M A R I N E

*Innovative harbour
and waterfront solutions*

2/29A Innes Road
Greenwich 2065
Ph. (02) 9439 9066
Fax. (02) 9439 9170
August 15, 2003



RENZO TONIN & ASSOCIATES PTY LTD

ABN 65 002 225 078

Consultants in Acoustics, Vibration and Structural Dynamics

Level 1, 418A Elizabeth Street
Surry Hills NSW 2010 AUSTRALIA
Ph: (02) 8218 0500 Fax: (02) 8218 0501
Email: acoustics@rtagroup.com.au
Website: www.rtagroup.com.au

ROYAL MOTOR YACHT CLUB, NEWPORT REFURBISHMENT & ADDITIONS

CONSTRUCTION NOISE & VIBRATION MANAGEMENT PLAN

TB275-01F02 (REV3) CN&VMP

August 2003

Prepared for:

Planning Enginuity
PO Box 715
MIRANDA NSW 1490

This report has been prepared on behalf of our client and in accordance with relevant standards. It takes into account our client's particular requirements. It is not intended for and should not be relied upon by a third party and no responsibility is undertaken to any third party.



Member of the Association of Australian Acoustical Consultants

technical report

20
YEARS

1982-2002
ACOUSTIC
ENGINEERING
EXCELLENCE

RENZO TONIN & ASSOCIATES PTY LTD

ABN 65 002 225 078

Consultants in Acoustics, Vibration and Structural Dynamics

Email: acoustics@rtagroup.com.au Website: www.rtagroup.com.au

Reference: TB275-01F03 (REV1) TECH MEMO

Date: 2nd October 2003

To: Royal Motor Yacht Club

FAX: 9997 4318

PAGES: 9

ATTN: MR GRAHAM CHATFIELD

CC: MR JOHN HAGGLEY

FAX: 9869 1602

FROM: Tracy Gowen

DIRECT LINE: 8218 0505

**RE: ROYAL MOTOR YACHT CLUB BROKEN BAY MARINA –
CONSTRUCTION NOISE MONITORING DURING MARINA
UPGRADE WORK**

This technical memo provides additional information to our Construction Noise Management Plan [ref: TB275-01F02 (rev3)], as requested by the NSW Environment Protection Authority. This document describes the current acoustic environment surrounding the Royal Motor Yacht Club Broken Bay Marina, from which the noise criteria for the proposed works were set.

EXISTING ACOUSTIC ENVIRONMENT

Background noise varies over the course of any 24 hour period, typically from a minimum at 3am in the morning to a maximum during morning and afternoon traffic peak hours. Therefore, the NSW EPA's 'Industrial Noise Policy' (INP) requires that the level of background and ambient noise be assessed separately for the daytime, evening and night-time periods. The INP defines these periods as follows:

- **Day** is defined as 7:00am to 6:00pm, Monday to Saturday and 8:00am to 6:00pm Sundays & Public Holidays.
- **Evening** is defined as 6:00pm to 10:00pm, Monday to Sunday & Public Holidays.
- **Night** is defined as 10:00pm to 7:00am, Monday to Saturday and 10:00pm to 8:00am Sundays & Public Holidays.

The following noise monitoring location was selected for the purpose of this assessment.

- **Location M1 Royal Motor Yacht Club Broken Bay Marina**
Main balcony facing southern marina, within 3.5m of the building facade and approximately 200m from residential houses. Noise data represents the ambient and background noise for residences located northwest from the measuring point. Noise measurements have been corrected for facade reflection.

To quantify the existing ambient noise environment, long-term (unattended) noise monitoring was conducted between Wednesday 6th and Saturday 9th August 2003.



Member of the Association of Australian Acoustical Consultants

Sydney (Head Office)

Level 1, 418A Elizabeth St
Surry Hills NSW 2010 Australia
PO Box 877 Strawberry Hills NSW 2012
Ph: (02) 8218 0500 Fax: (02) 8218 0501

Melbourne

1/66 Curzon St
North Melbourne VIC 3051 Australia
Ph: (03) 9329 5414
Fax: (03) 9329 5827

technical memo

The results of noise monitoring, determined in accordance with Chapter 3 of the INP, are presented below. These levels are considered representative of the background and ambient noise levels for the area and hence suitable for use in this noise impact assessment.

Table 1 – Results of Background Noise Monitoring, dB(A)

Location	Background Noise			Ambient Noise		
	Day	Evening	Night	Day	Evening	Night
Location M1 – Main balcony	49	41	38	59	51	44

Appendix A details the noise monitoring methodology and the graphical recorded output from long term noise monitoring is included in **Appendix B**. The graphs in **Appendix B** were analysed to determine a single assessment background level (ABL) for each day, evening and night period, in accordance with the NSW EPA's 'Industrial Noise Policy'.

The representative L_{90} background noise level for the area is determined at **49 dB(A)** during the proposed hours of construction. This level is considered representative of the background noise for the area and hence suitable for use in this noise management plan.

APPENDIX A - NOISE MONITORING METHODOLOGY

Noise Monitoring Equipment

All long term noise monitoring was conducted using RTA Technology noise loggers. The noise monitoring equipment used here complies with Australian Standard 1259.2-1990 "Acoustics - Sound Level Meters" and is designated as a Type 2 instrument suitable for field use.

A noise monitor consists of a sound level meter and a computer housed in a weather resistant enclosure. Ambient noise levels were recorded at a rate of 10 samples per second. Every 15 minutes, the data is processed statistically and stored in memory. The equipment was calibrated prior and subsequent to the measurement period using a Bruel & Kjaer Type 4230 calibrator. No significant drift in calibration was observed.

Meteorology during Monitoring

Measurements affected by extraneous noise, wind (greater than 5m/s) or rain were excluded from the recorded data in accordance with the INP. The Bureau of Meteorology provided meteorological data, which is considered representative of the site, for the duration of the noise monitoring period.

Noise vs Time Graphs

Noise almost always varies with time. Noise environments can be described using various descriptors to show how a noise ranges about a level. In this report, noise values measured or referred to include the L_{10} , L_{90} , and L_{eq} levels. The statistical descriptors L_{10} and L_{90} measure the noise level exceeded for 10% and 90% of the sample measurement time. The L_{eq} level is the equivalent continuous noise level or the level averaged on an equal energy basis. Measurement sample periods are usually ten to fifteen minutes. The Noise -vs- Time graphs representing measured noise levels at the two noise monitoring locations in Appendix C illustrate these concepts.

Noise levels are commonly measured in units of A-weighted decibels or dB(A). The "A-weighting" refers to a standardised amplitude versus frequency curve used to "weight" sound measurements to represent the response of the human ear. The human ear is less sensitive to low pitch sound than it is to high pitch sound. Overall A-weighted measurements quantify sound with a single number to represent how people subjectively hear different frequencies at different levels.

Background noise is the term used to describe the noise measured in the absence of the noise under investigation. It is described as the average of the minimum noise levels measured on a sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety percent of a sample time period. This is represented as the L_{90} noise level.

APPENDIX B – LOGGER DATA AND GRAPHS

REFERENCE: TB275-01F03 (REV1) TECH MEMO

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Page 2 of page 2

Environmental Acoustics Team

PAGE: 004/009

TO: 61 2 99974318

02-OCT-03 14:50 FROM:

Royal Motor Yatch Club



Day	L90 Background Noise Levels ⁵			Leq Ambient Noise Levels		
	Day	Evening	Night	Day	Evening	Night
Wednesday-06-August-2003	53.1	41.2	40.0	57.8	50.4	46.7
Thursday-07-August-2003	48.5	38.9	38.1	59.4	49.8	41.6
Friday-08-August-2003	48.8	53.2	36.4	56.8	52.9	42.6
Saturday-09-August-2003	46.2	-	-	60.4	-	-
Sunday-10-August-2003	-	-	-	-	-	-
Monday-11-August-2003	-	-	-	-	-	-
Tuesday-12-August-2003	-	-	-	-	-	-
Wednesday-13-August-2003	-	-	-	-	-	-
Thursday-14-August-2003	-	-	-	-	-	-
Friday-15-August-2003	-	-	-	-	-	-
Saturday-16-August-2003	-	-	-	-	-	-
Sunday-17-August-2003	-	-	-	-	-	-
Monday-18-August-2003	-	-	-	-	-	-
Tuesday-19-August-2003	-	-	-	-	-	-
Wednesday-20-August-2003	-	-	-	-	-	-
Thursday-21-August-2003	-	-	-	-	-	-
Representative Level	49	41	38	59	51	44

Notes:

1. Day is taken to be 7:00am to 6:00pm
2. Evening is taken to be 6:00pm to 10:00pm.
3. Night is taken to be the remaining periods.
4. Partial day's monitoring.
5. Assessment Background Level (ABL)
6. Rating Background Level (RBL) for L90 and logarithmic average for Leq



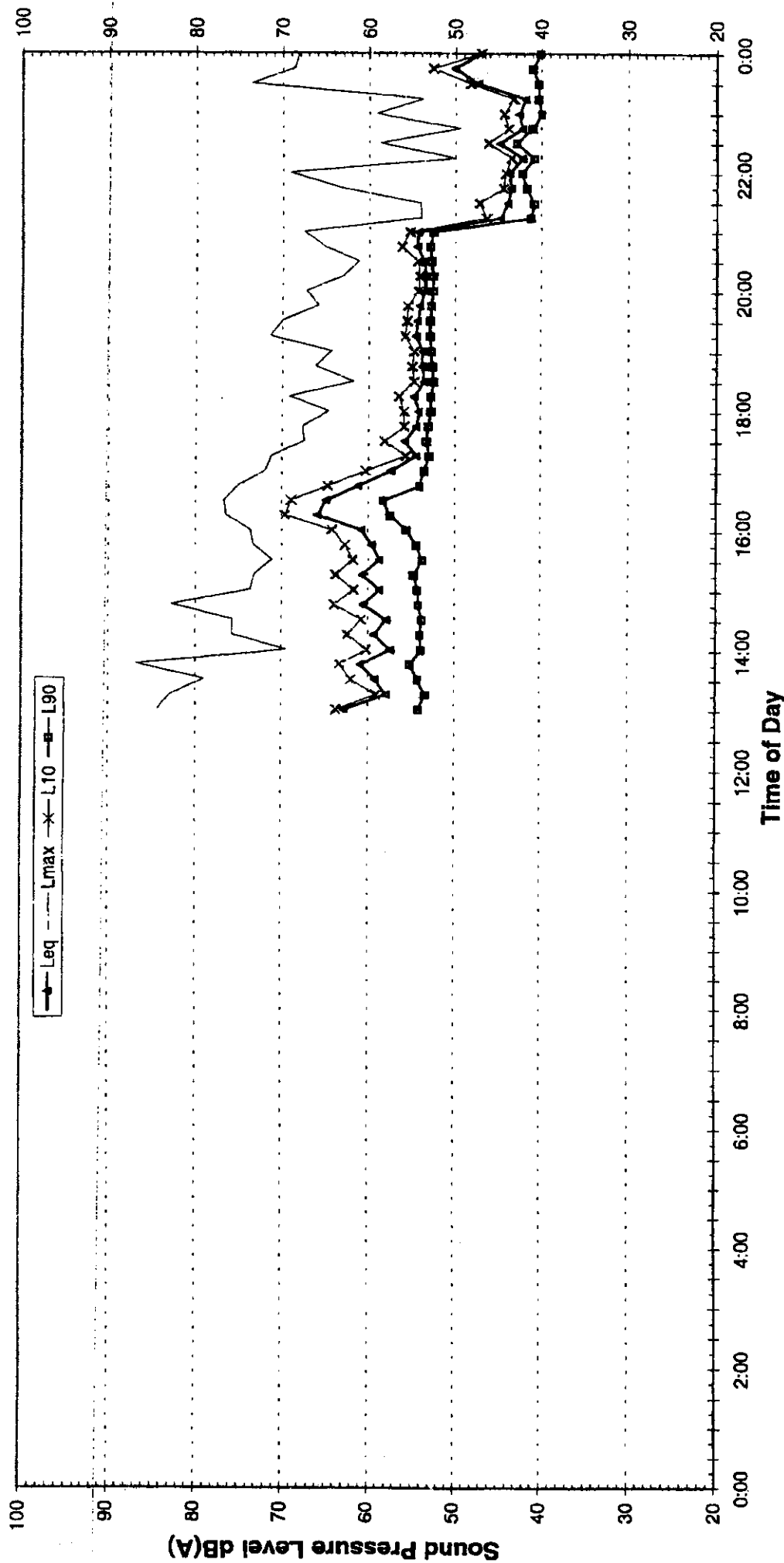
Day	Leq Noise Levels		Leq 1hr Noise Levels			
	Day	Night	Day - Up	Day - Low	Night - Up	Night - Low
Wednesday-06-August-2003	58.4	49.2	63.4	44.0	52.3	43.1
Thursday-07-August-2003	60.7	44.1	68.1	50.2	50.1	39.5
Friday-08-August-2003	58.5	45.1	61.4	53.3	51.4	39.0
Saturday-09-August-2003	62.9	-	64.6	56.8	-	-
Sunday-10-August-2003	-	-	-	-	-	-
Monday-11-August-2003	-	-	-	-	-	-
Tuesday-12-August-2003	-	-	-	-	-	-
Wednesday-13-August-2003	-	-	-	-	-	-
Thursday-14-August-2003	-	-	-	-	-	-
Friday-15-August-2003	-	-	-	-	-	-
Saturday-16-August-2003	-	-	-	-	-	-
Sunday-17-August-2003	-	-	-	-	-	-
Monday-18-August-2003	-	-	0.0	-	-	-
Tuesday-19-August-2003	-	-	-	-	-	-
Wednesday-20-August-2003	-	-	-	-	-	-
Thursday-21-August-2003	-	-	-	-	-	-
Representative Weekday	59.3	46.7	65.2	50.6	51.3	40.9
Representative Weekend	62.9	-	64.6	56.8	-	-



EXISTING AMBIENT NOISE LEVELS

Royal Motor Yatch Club

Wednesday, 6 August 2003



EPA Industrial Noise Policy (Free Field)				
Descriptor	Day	Evening	Night	
	7am-6pm	6pm-10pm	10pm-7am	
L90	53.1	41.2	40.0	
Leq (see note 3)	57.8	50.4	46.7	

EPA Traffic Noise Policy (1m from facade)				
Descriptor	Day	Night		
	7am-10pm	10pm-7am		
Leq 15 hr and Leq 9 hr	58.4	49.2		
Leq 1hr upper 10 percentile	63.4	52.3		
Leq 1hr lower 10 percentile	44.0	43.1		

EPA Traffic Noise Policy (1m from facade)				
Descriptor	Day	Night		
	7am-10pm	10pm-7am		
Leq 15 hr and Leq 9 hr	58.4	49.2		
Leq 1hr upper 10 percentile	63.4	52.3		
Leq 1hr lower 10 percentile	44.0	43.1		

Rev 9 Data File 092-1108.dat

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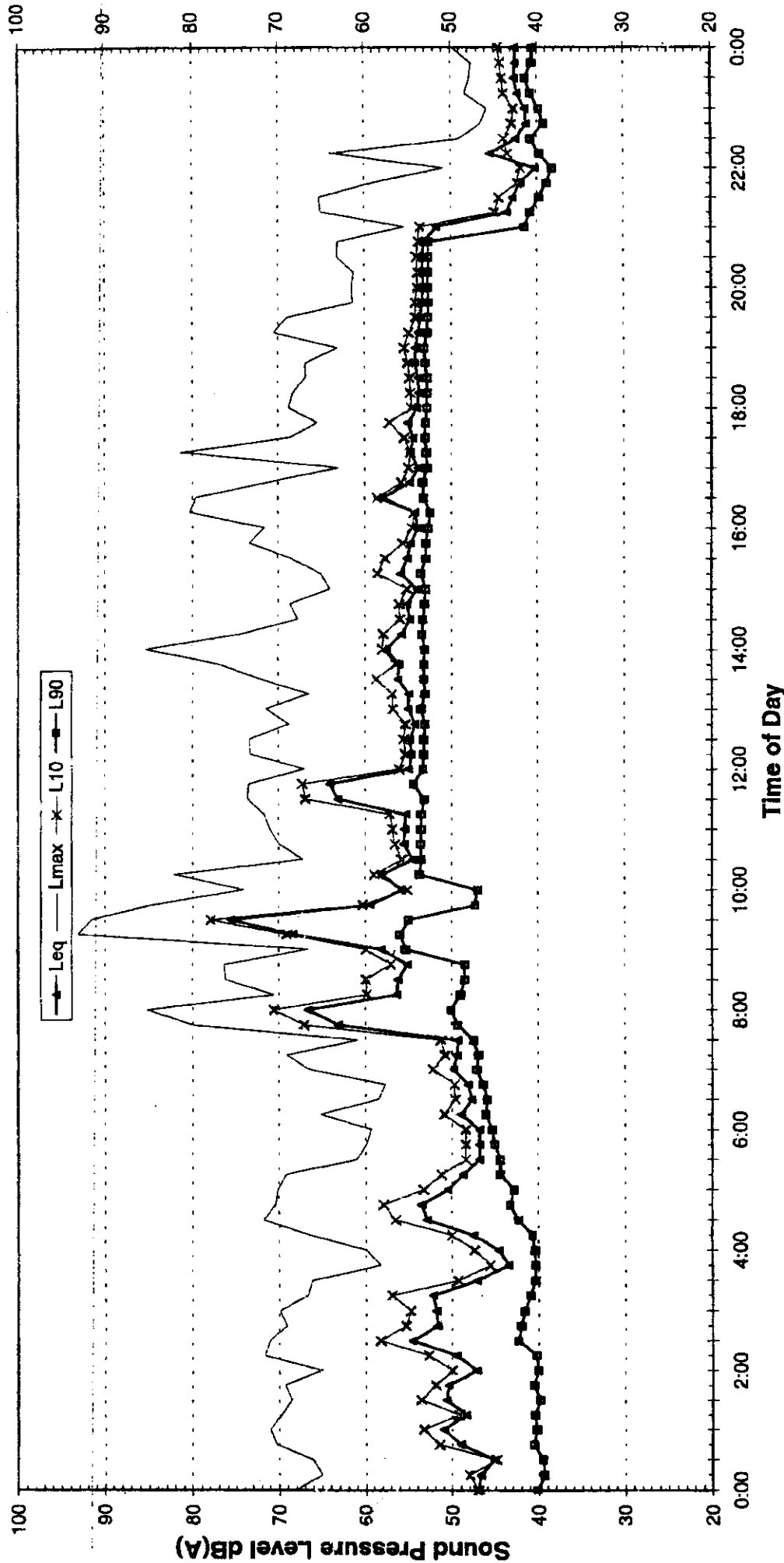
TB275-01S01(rev 0) Logger Graphs.xls

NOTES:
 1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
 2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
 3. Graphed data measured 1m from facade; tabulated results free-field corrected

EXISTING AMBIENT NOISE LEVELS

Royal Motor Yatch Club

Thursday, 7 August 2003



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night
L90	7am-6pm	6pm-10pm	10pm-7am
Leq (see note 3)	48.5	38.9	38.1
	59.4	49.8	41.6

EPA Traffic Noise Policy (1m from facade)			
Descriptor	Day	Night	
Leq 15 hr and Leq 9 hr	7am-10pm	10pm-7am	
Leq 1hr upper 10 percentile	60.7	44.1	
Leq 1hr lower 10 percentile	68.1	50.1	
	50.2	39.5	

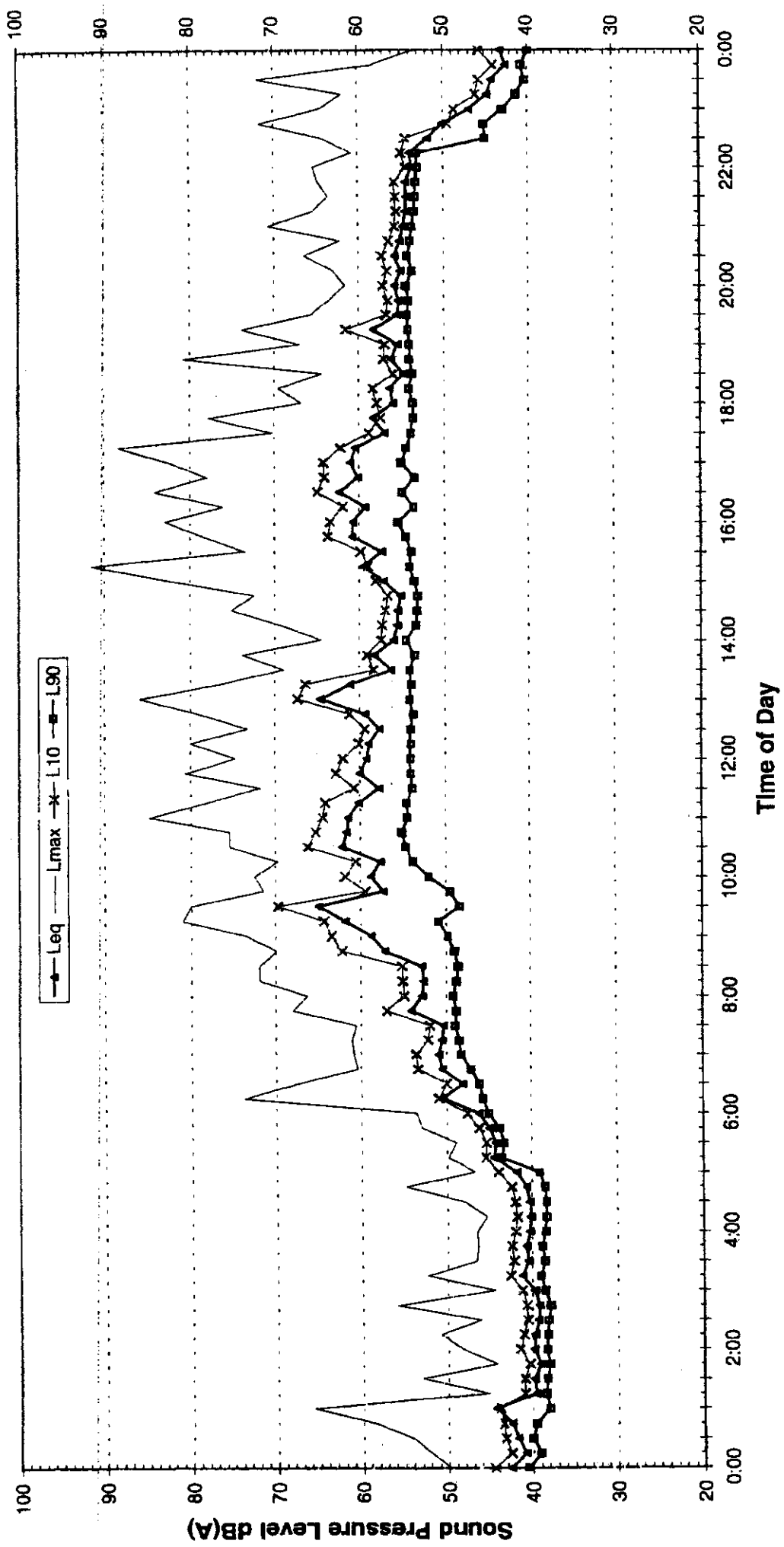
NOTES:

1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected.

EXISTING AMBIENT NOISE LEVELS

Royal Motor Yatch Club

Friday, 8 August 2003



EPA Industrial Noise Policy (Free Field)				
Descriptor	Day	Evening	Night ²	
L90	7am-6pm	6pm-10pm	10pm-7am	
Leq (see note 3)	48.8	53.2	36.4	
	56.8	52.9	42.6	

EPA Traffic Noise Policy (1m from facade)				
Descriptor	Day	Night ²		
Leq 15 hr and Leq 9 hr	7am-10pm	10pm-7am		
Leq 1hr upper 10 percentile	58.5	45.1		
Leq 1hr lower 10 percentile	61.4	51.4		
	53.3	39.0		

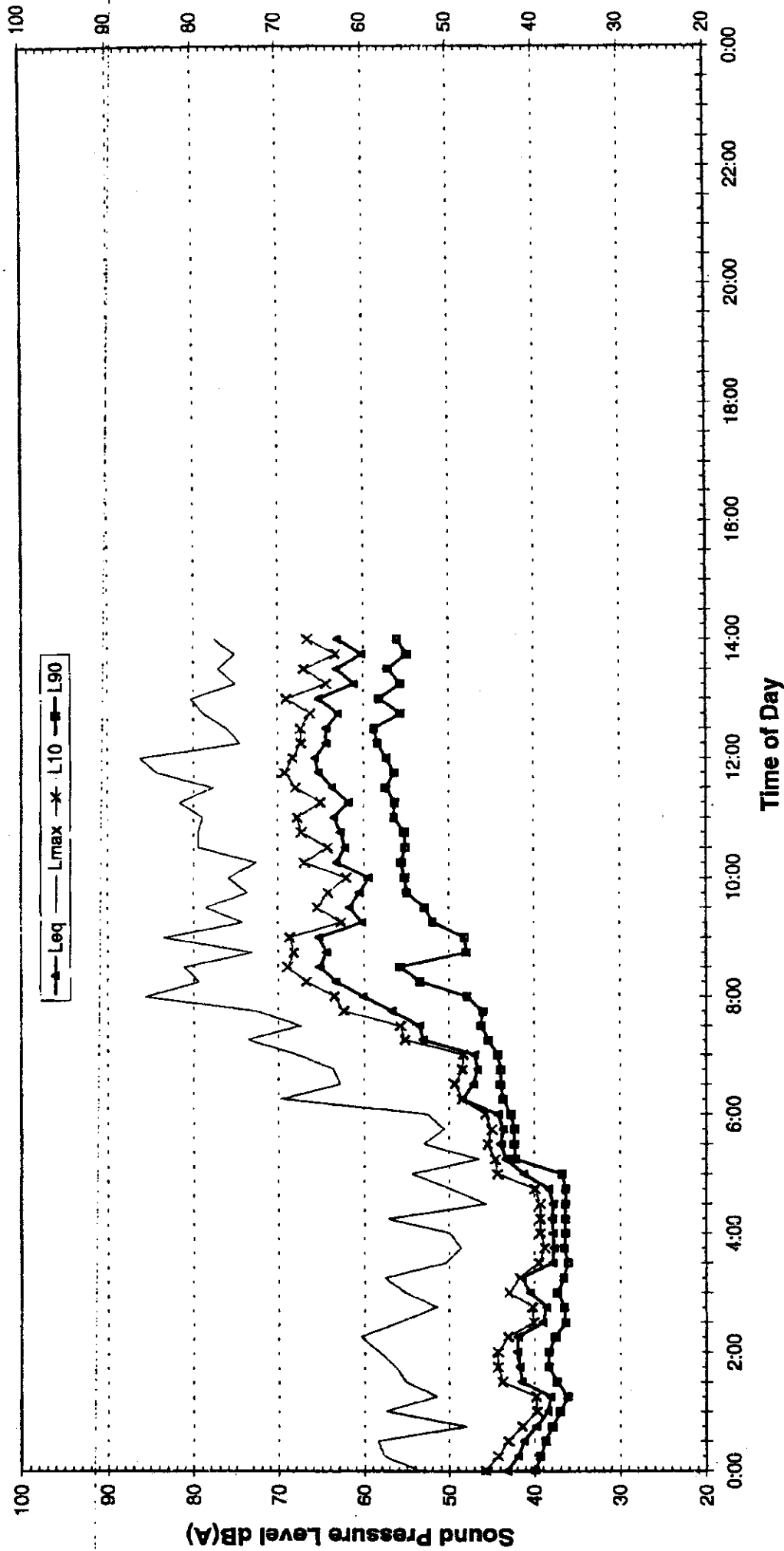
NOTES:

1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
3. Graphed data measured 1m from facade; tabulated results free-field corrected

EXISTING AMBIENT NOISE LEVELS

Royal Motor Yatch Club

Saturday, 9 August 2003



EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night
L90	7am-9pm	6pm-10pm	10pm-7am
Leq (see note 3)	46.2	-	-
	60.4	-	-

EPA Traffic Noise Policy (1m from facade)			
Descriptor	Day	Night	
Leq 15 hr and Leq 9 hr	7am-10pm	10pm-7am	
Leq 1hr upper 10 percentile	62.9	-	-
Leq 1hr lower 10 percentile	64.6	-	-
	56.8	-	-

EPA Industrial Noise Policy (Free Field)			
Descriptor	Day	Evening	Night
L90	7am-9pm	6pm-10pm	10pm-7am
Leq (see note 3)	46.2	-	-
	60.4	-	-

Rev 9 Data File 092-1108.dat

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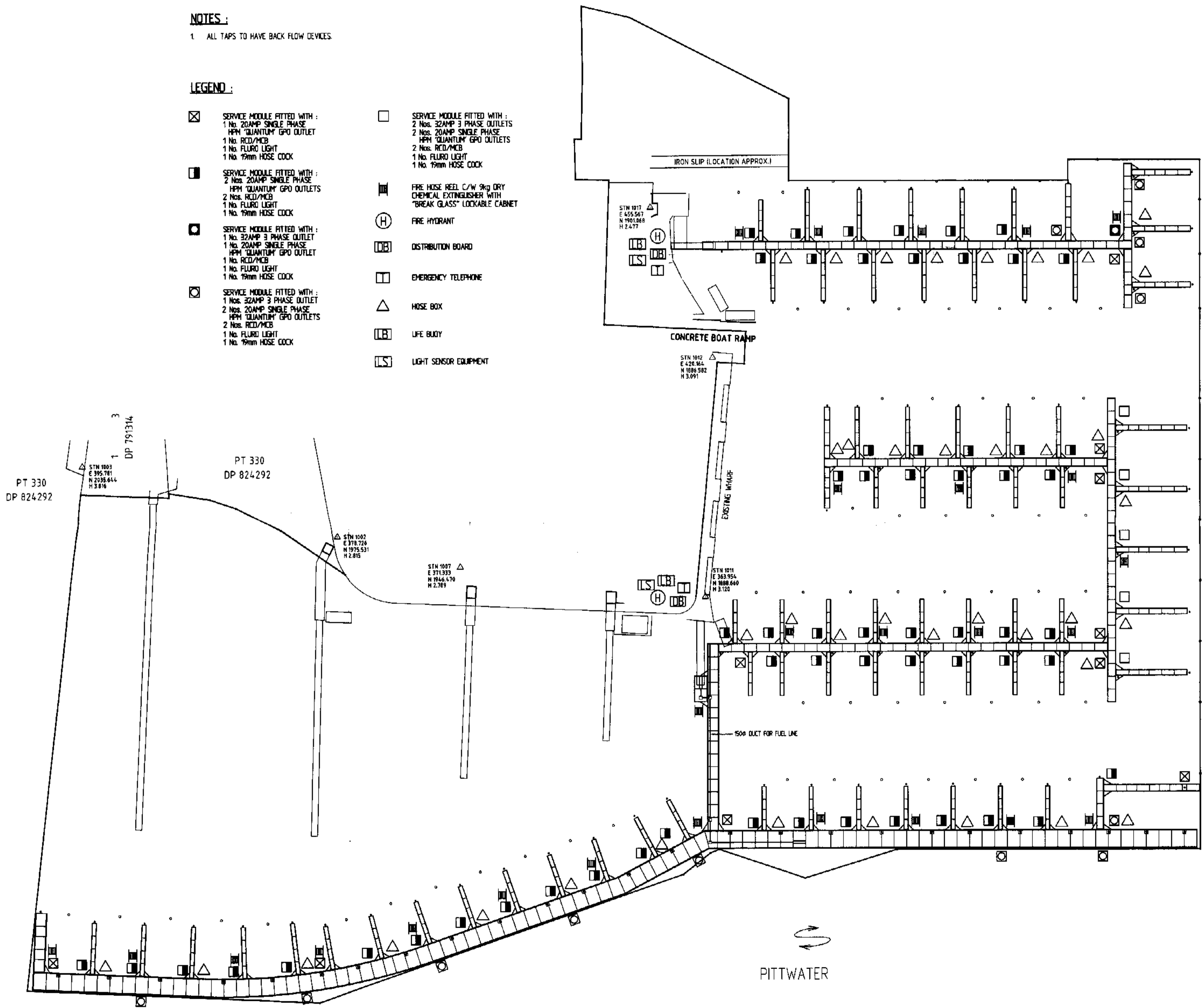
NOTES:
 1. Bars denote periods adversely affected by rain, wind or extraneous noise - data in these periods excluded from calculations.
 2. "Night" relates to period from 10pm on this graph to 7am on the following graph.
 3. Graphed data measured 1m from facade; tabulated results free-field corrected

NOTES :

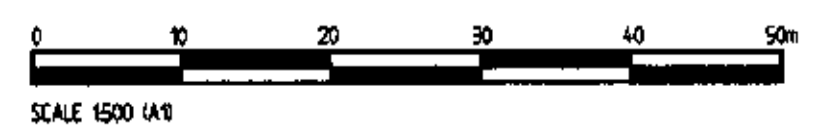
- 1 ALL TAPS TO HAVE BACK FLOW DEVICES

LEGEND :

- ☒ SERVICE MODULE FITTED WITH :
1 No. 20AMP SINGLE PHASE
HPM "QUANTUM" GPO OUTLET
1 No. RCD/MCB
1 No. FLURO LIGHT
1 No. 19mm HOSE COCK
- SERVICE MODULE FITTED WITH :
2 Nos. 20AMP SINGLE PHASE
HPM "QUANTUM" GPO OUTLETS
2 Nos. RCD/MCB
1 No. FLURO LIGHT
1 No. 19mm HOSE COCK
- ◻ SERVICE MODULE FITTED WITH :
1 No. 32AMP 3 PHASE OUTLET
1 No. 20AMP SINGLE PHASE
HPM "QUANTUM" GPO OUTLET
1 No. RCD/MCB
1 No. FLURO LIGHT
1 No. 19mm HOSE COCK
- ◻ SERVICE MODULE FITTED WITH :
1 No. 32AMP 3 PHASE OUTLET
2 Nos. 20AMP SINGLE PHASE
HPM "QUANTUM" GPO OUTLETS
2 Nos. RCD/MCB
1 No. FLURO LIGHT
1 No. 19mm HOSE COCK
- SERVICE MODULE FITTED WITH :
2 Nos. 32AMP 3 PHASE OUTLETS
2 Nos. 20AMP SINGLE PHASE
HPM "QUANTUM" GPO OUTLETS
2 Nos. RCD/MCB
1 No. FLURO LIGHT
1 No. 19mm HOSE COCK
- ☒ FIRE HOSE REEL C/W 9kg DRY
CHEMICAL EXTINGUISHER WITH
"BREAK GLASS" LOCKABLE CABINET
- ⊙ FIRE HYDRANT
- ⊞ DISTRIBUTION BOARD
- ☐ EMERGENCY TELEPHONE
- △ HOSE BOX
- ⊞ LIFE BUOY
- ⊞ LIGHT SENSOR EQUIPMENT



FILE NAME : 2187-102
 PLOT SCALE : 1500
 PLOT DATE : 22/04/2009
 PATH : G:\PROJECTS\2187\DRAWINGS\



FOR APPROVAL

PLAN OR DOCUMENT CERTIFICATION
 I am a qualified Engineer.
 I hold the following qualifications or licence No.
BSc (Eng), ACGL, MICE, PE Aust, NFER 154325
 Further I am appropriately qualified to certify the content of the project
 I hereby state that these plans or details comply with the conditions of
 development consent the provisions of the Building Code of Australia
 and/or relevant Australian Industry Standards.
C.H. ABRAHAM I.P.P. 02
 Name Date Signature

Bellingham Bellingham Marine Australia Pty. Ltd. A.C.N. 074 864 887
 Innovative harbour and waterfront solutions
 22 Sherrin Road, Seventeen Mile Rocks Qld 4478 Australia
 Phone (07) 3376 6955 Fax (07) 3376 7925 International (617) 8100 0000 Email: sales@bellingham-marine.com.au

UNIFLOAT.
 Precision engineering flotation systems

BUILDING CODE OF AUSTRALIA CONSULTANTS
CONSTRUCTION CERTIFICATE APPROVAL
 No. 03286-06 Date: 17.10.09
 Signed: [Signature]
 Accredited Certifier - Damian O'Shaughnessy
 Accreditation No 6175 JBSAP

No.	Date	Description	BY	CHK
E	19/08/09	ATTENUATOR LAYOUT & SERVICES REVISED	JL	JML
D	22/07/08	ATTENUATOR LAYOUT & SERVICES REVISED	JC	JML
C	04/07/08	CHANGES AS PER BMA MARK UP	WL	JML
B	17/06/08	SURVEY GRANNIES AUSTRALIA MARINA LAYOUT	WL	JML
A	01/05/09	MOORING PILES ADDED TO ARM A	WL	KC

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International Marina Consultants
 Consultants to the Marina Industry.
 International Marina Consultants Pty. Ltd.
 A.C.N. 079 905 481
 A.B.N. 85 079 905 481
 473 Annerley Road
 ANNERLEY QLD 4109
 AUSTRALIA
 Phone (07) 3892 5711 Fax (07) 3892 5611
 Email: admin@imc-marinas.com

Client
BELLINGHAM MARINE AUSTRALIA PTY. LTD.
 PROJECT
ROYAL MOTOR YACHT CLUB - BROKEN BAY

Title
SERVICES LAYOUT
 Drawn By: [Blank] Designed By: [Blank]
 Drawing Check: [Blank] Engineering Check: [Blank]
 Approved: [Blank] Scale: 1500
 Drawing No. **2187-102** Ancl **E**

No.	Date	Description	BY	CHK
Revisions				
H	19/06/03	ATTENUATOR LAYOUT REVISED	JC	JML
G	23/07/03	ATTENUATOR LAYOUT REVISED	JC	JML
F	22/07/03	ATTENUATOR LAYOUT REVISED	WL	JML
E	04/07/03	CHANGES AS PER BMA MARK UP	WL	JML
D	17/06/03	ARM C WALKWAY CURVE REVISED	WL	JML
C	15/05/03	SURVEY DRAWINGS ADDED FILE AT ARM C & ARM A REVISED	JC	KC
B	04/05/03	ADJUSTMENTS MADE TO ARM A	WL	KC
A	22/4/03	FILES ADDED	WL	KC

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 Consultants to the Marina Industry.
 International Marina Consultants Pty. Ltd.
 A.C.N. 079 905 481
 A.B.N. 85 079 905 481
 473 Annerley Road
 ANNERLEY QLD 4103
 AUSTRALIA
 Phone (07) 3892 5711 Fax (07) 3892 5611
 Email: admin@imc-marinas.com

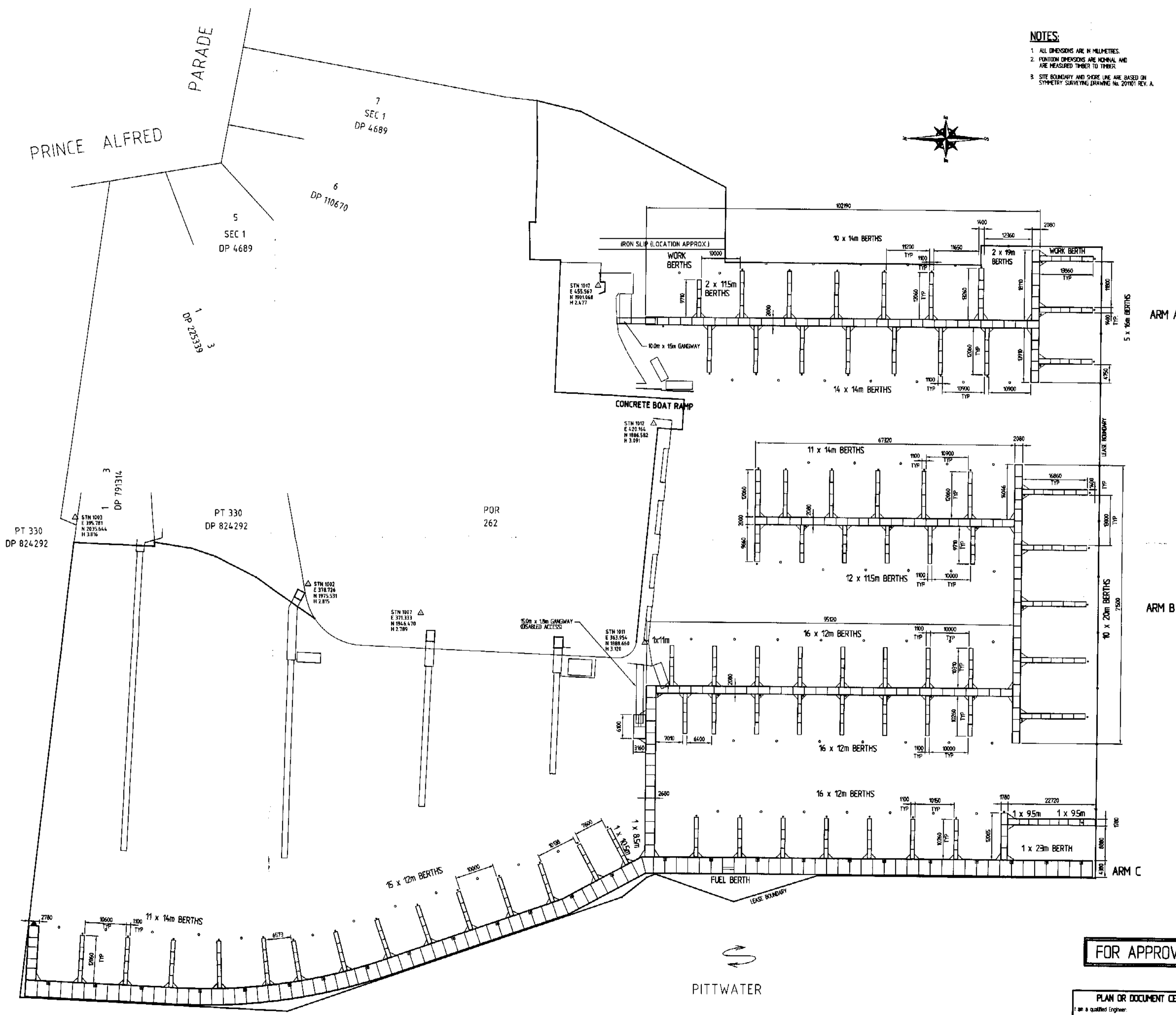
Client
BELLINGHAM MARINE AUSTRALIA PTY. LTD.

PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

Title:
MARINA LAYOUT

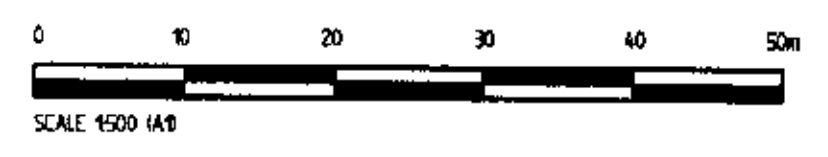
Drawn By:	Designed By:
Drawing Check:	Engineering Check:
Approved:	Scale: 1:500
Drawing No. 2187-100	Att'd H

NOTES:
 1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. POSITION DIMENSIONS ARE NOMINAL AND ARE MEASURED TO THE FACE.
 3. SITE BOUNDARY AND SHORE LINE ARE BASED ON SYMMETRY SURVEYING DRAWING NO. 20101 REV. A.

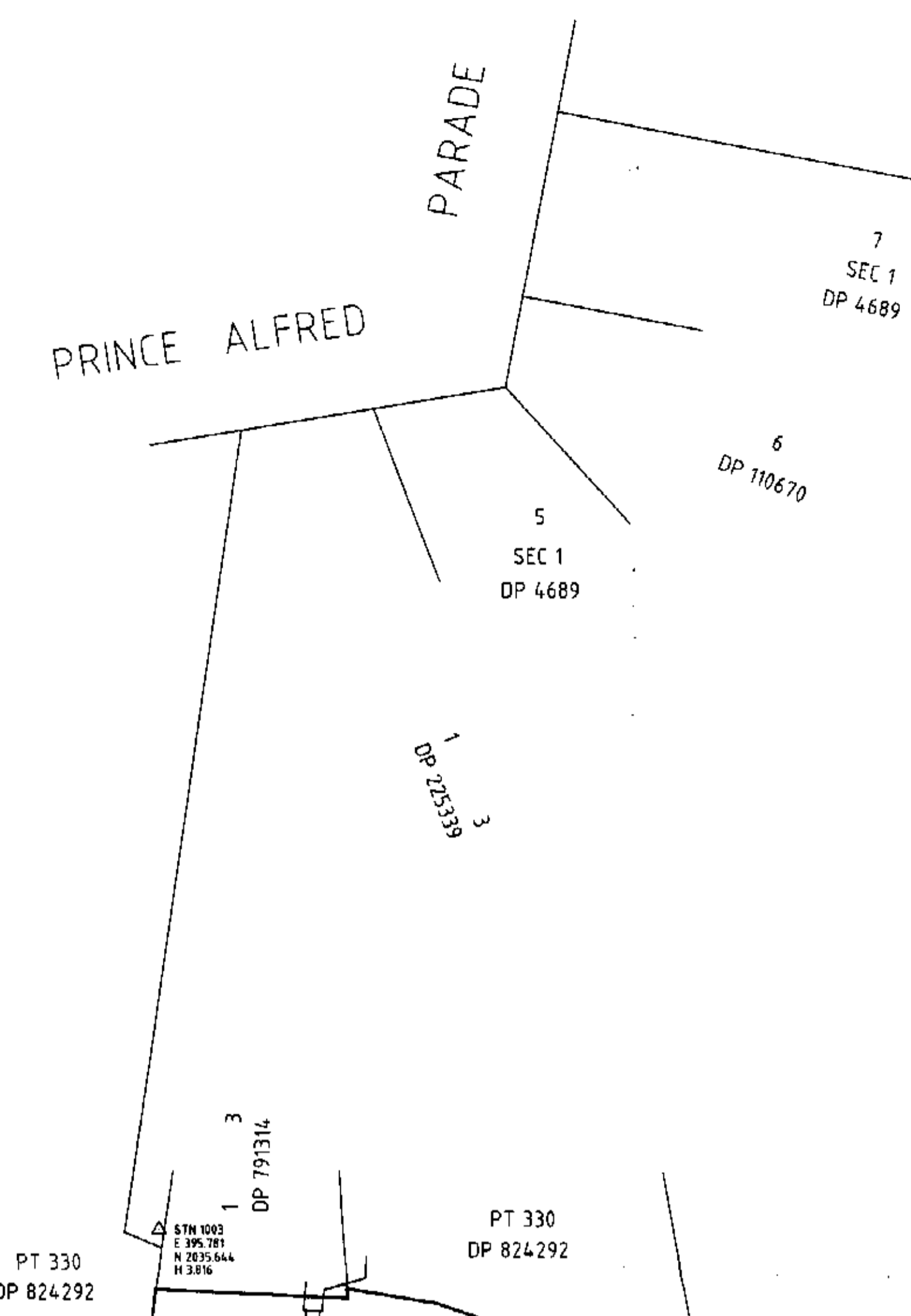


FOR APPROVAL

PLAN OR DOCUMENT CERTIFICATION
 I am a qualified Engineer.
 I hold the following qualifications or licence No. BSc (Eng), ACQI, MICE, FE Aust, NFER 154325.
 Further I am appropriately qualified to certify this component of the project.
 I hereby state that these plans or details comply with the conditions of development consent, the provisions of the Building Code of Australia and/or relevant Australian Industry Standards.
 CH ABRAHAM 19.03.03 [Signature]
 Date Signature



FILE NAME : 2187-100
 PLOT SCALE : 1:500
 PLOT DATE : 17/04/2003
 PATH : G:\PROJECTS\2187\DRAWINGS\



POR 262

PITTWATER

GENERAL NOTES :

- 1.0 ALL DIMENSIONS AND LEVELS ARE TO BE VERIFIED ON SITE.
- 2.0 WHEN IN DOUBT 'ASK' DO NOT SCALE.
- 3.0 ALL DIMENSIONS ARE SHOWN IN MILLIMETRES.
- 4.0 ALL LEVELS ARE SHOWN IN METRES AND ARE REDUCED TO L.A.T.
- 5.0 PILES
 - TOLERANCE FOR DRIVING IN PLAN +/- 50 mm.
 - MEASURED AS THE WORST COMBINATION OF PLAN DEVIATION AND OUT OF PLUMB OVER FULL TIDAL RANGE.
 - VERTICAL = 1 IN 200 MAX OUT OF PLUMB
 - CONTRACTOR TO ADVISE ENGINEER IF BED AND ROCK LEVELS DIFFER FROM THE DESIGNED LEVELS BY MORE THAN 300mm.
- 6.0 PONTOON DIMENSIONS ARE NOMINAL
- 7.0 PONTOONS ARE TO BE CONNECTED TOGETHER WITH TIMBER WALKERS.
- 8.0 ALL THRU-RODS ARE TO BE M20 ROLL THREADED RODS GRADE 300 PLUS STEEL, SPACING TO VARY WITH LOCATION.
- 9.0 MARINA KNEE BRACKETS TO BE STAINLESS STEEL 1200mm x 1200mm UNO.
- 10.0 ALL TIMBER DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH AS 1720.1 - 1997.

TIMBER WALKER REQUIREMENTS

LOCATION	TIMBER WALKER
ARMS A & B FINGERS	2/50 x 200 GRADE F77 HW EACH SIDE
ARMS A & B WALKWAYS	2/50 x 200 GRADE F77 HW EACH SIDE + 40 x 200 GRADE F8 COVERBOARD
ARM C 0.9m FINGERS	2/50 x 200 GRADE F77 HW EACH SIDE
ARM C 1.5m FINGERS & WALKWAY	2/50 x 200 GRADE F77 HW EACH SIDE + 40 x 200 GRADE F8 COVERBOARD
ARM C WAVE ATTENUATOR	2/75 x 300 GRADE F27 HW EACH SIDE + 40 x 300 GRADE F8 COVERBOARD
ARM C L-HEAD	2/75 x 300 GRADE F27 HW EACH SIDE + 40 x 300 GRADE F8 COVERBOARD
LINK WALKWAY	2/50 x 200 GRADE F77 HW EACH SIDE + 40 x 200 GRADE F8 COVERBOARD

- ALL TIMBER WALKERS TO BE GRADE F77 OR F27 HARDWOOD, JOINT GROUP J01 UNO.
- ALL COVERBOARDS TO BE TREATED SOFTWOOD.
- ALL TIMBER TO BE SEASONED AND TREATED IN ACCORDANCE WITH AS 1604.
- STRUCTURAL TIMBER MUST NOT BE CUT OR DRILLED FOR ANY REASON OTHER THAN SHOWN ON THESE DRAWINGS.
- 110 ALL WELDS TO BE COMPLETE PENETRATION BUTT WELD OR 6mm FILLET WELD AS REQUIRED UNO.
- 120 ALL ALUMINIUM WORK TO BE IN ACCORDANCE WITH AS 1664.
 - ALL EXTRUSIONS TO BE TYPE 6061 T6 OR 6082 T5 UNO.
 - PLATES TO BE TYPE 5083 UNO.
 - ALL WELDS SHALL BE INERT GAS WELD USING MIG OR TIG FUSION WELDING PROCESS.
- 130 ALL STAINLESS STEEL SHALL BE GRADE 316.
- 140 ALL STEEL AND ALUMINIUM WORK SHALL BE NEATLY FINISHED WITH ALL SHARP EDGES GROUND SMOOTH.
- 150 PILE GUIDE BLOCKS AND OR ROLLERS ARE TO BE ADJUSTED AS REQUIRED TO SUIT PILE SIZE AND POSITION ON SITE. CLEARANCE MUST BE PROVIDED BETWEEN PILE AND GUIDE TO PREVENT "HANGING" OF PONTOON UNDER FULL TIDAL RANGE.

- 16.0 CONCRETE
 - ALL CONCRETE WORKS SHALL COMPLY WITH AS 3600
 - MINIMUM CONCRETE STRENGTH $f_c = 40MPa$
 - ALL REINFORCEMENT TO BE HOT DIP GALVANIZED
- 17.0 KNEE BRACKET INFILL PANELS TO BE FIXED IN COMPLIANCE WITH MANUFACTURERS SPECIFICATIONS.
- 18.0 INSULATION

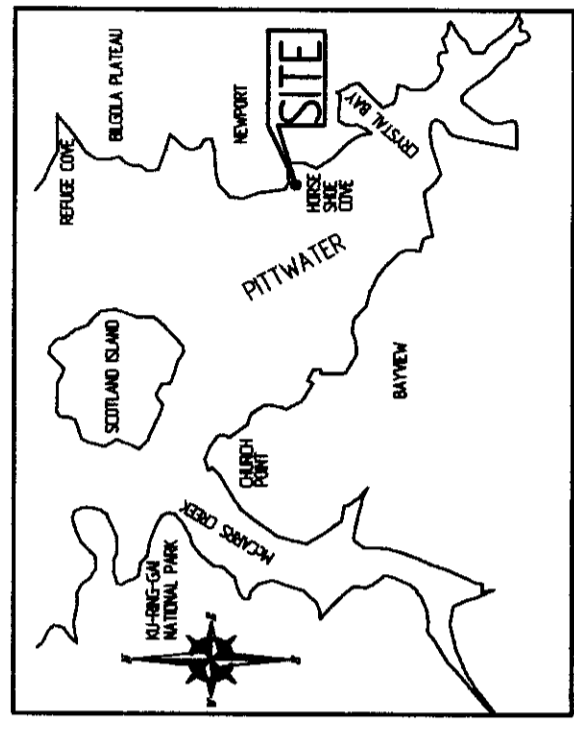
BOLTED MATERIAL	INSULATING MATERIAL
ALUMINIUM / GALV. STEEL	BARIUM CHROMATE JOINING COMPOUND OR EQUIVALENT
ALUMINIUM / CONCRETE	3mm NEOPRENE
STEEL / CONCRETE	3mm NEOPRENE
- 19.0 DESIGN PARAMETERS
 - WIND
 - BASIC WIND SPEED $V_b = 50 m/s$
 - TERRAIN CATEGORY TC2
 - WAVE CLIMATES
 - WIND GENERATED WAVE (1 in 50 YEAR RETURN)

DIRECTION	H_s (m)	T_p (sec)
N to NW	0.85	2.8
WNW	0.70	2.3
W	0.45	1.6
S to SW	0.50	1.7

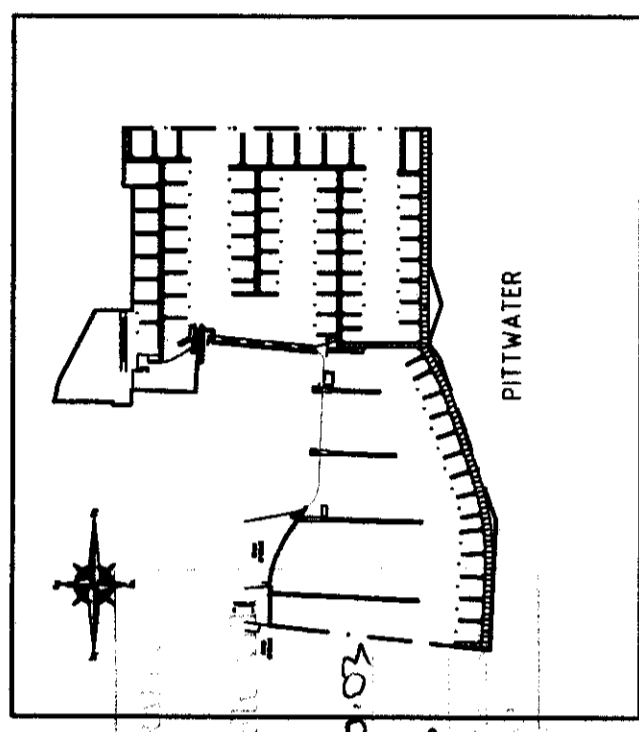
- BOAT WAKE $H_b = 0.4m$ $T = 2$ TO 3 SEC
- POINTON LIVE LOAD
 - MAXIMUM UNIFORM LL = 3kPa
 - CONCENTRATED LIVE LOAD 4.5kN
- LIVE LOAD ON GANGWAYS
 - UNIFORMLY DISTRIBUTED ROAD 4kPa
 - CONCENTRATED LOAD 4.5kN
 - HANDRAIL 0.75kN/m
- FREEBOARD
 - FREEBOARD UNDER DEAD LOAD
 - ARM C (ATTENUATOR) AND LINK WALKWAY 600 +25mm
 - OTHER AREAS 400 +25mm
- DEPTH OF THE PONTOON UNDER THE GANGWAY SHALL BE SUITABLY INCREASED TO COUNTER-BALANCE THE IMPOSED DEAD LOAD OF THE GANGWAY.

VESSEL SPECIFICATIONS

VESSEL LENGTH (m)	WIND PROFILE AREA (m ²)		DISPLACEMENT (t)
	BEAM	HEAD	
8.5	17.5	5.5	4.7
9.5	20.5	6.5	5.7
10	22.0	7.0	6.0
11.5	27.3	10.0	8.0
12	29.0	11.0	8.6
14	40.0	16.0	12.0
16	51.0	19.0	16.5
19	70.0	23.0	21.7
23	87.0	28.0	37.5



LOCALITY MAP
SCALE N.T.S.



SITE PLAN
SCALE 1 : 4000

PLAN OR DOCUMENT CERTIFICATION

I am a qualified Engineer.
I hold the following qualifications or licence No. **BSC (Eng), ACC, MICE, FE, AUST, NPER 154325**

Further I am appropriately qualified to certify this component of the project I hereby state that these plans or details comply with the conditions of development consent the provisions of the Building Code of Australia and/or relevant Australian/industry Standards.

C.H. ABRAHAM 19.8.03 Date
Signature

FOR APPROVAL

Bellingham
Marine
Australia Pty Ltd
ALCN 074 864 887

22 Stream Road
Seven Hills NSW 2147
Australia
Phone (07) 376 6955
Fax (07) 376 7955
Email: sales@bellingham-marine.com.au

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Precision engineering flotation systems

Revisions

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Consultants to the Marina Industry.

International Marina Consultants Pty. Ltd.
A.C.N. 079 905 481
473 Armerley Road
AMERLEY QLD 4103
AUSTRALIA
Phone (07)3892 5711 Fax (07)3892 5611
Email: imc@imc-marinas.com

CLIENT:
BELLINGHAM MARINE AUSTRALIA PTY. LTD.

PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
GENERAL NOTES AND LOCALITY PLAN

Date: 19/08/2003
Drawing No.: 2187-103
Scale: NIL
Drawn By: W.L.
Designed By:
Approved By:

03086-CC 17.10.03

Revisions

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 International Marina Consultants Pty. Ltd.
 A.C.N. 079 905 481
 473 Ararat Road
 Ararat QLD 4403
 Australia
 Phone (07)3892 5711 Fax (07)3892 5611
 Email: inc@imc-marinas.com

CLIENT:
BELLINGHAM MARINE AUSTRALIA PTY. LTD.

PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
ALUMINIUM GANGWAY 15m WIDE X 9.0m TO 11.9m LONG

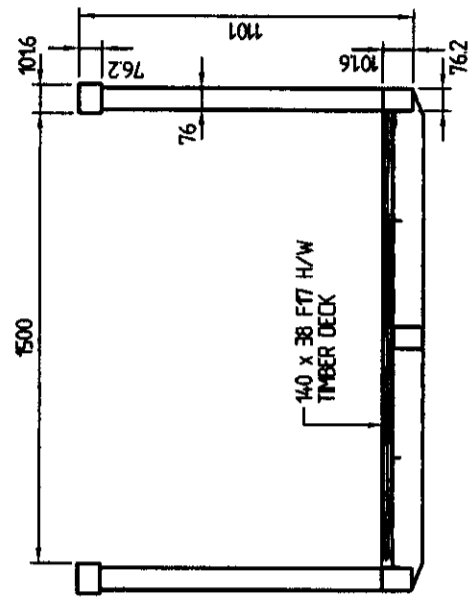
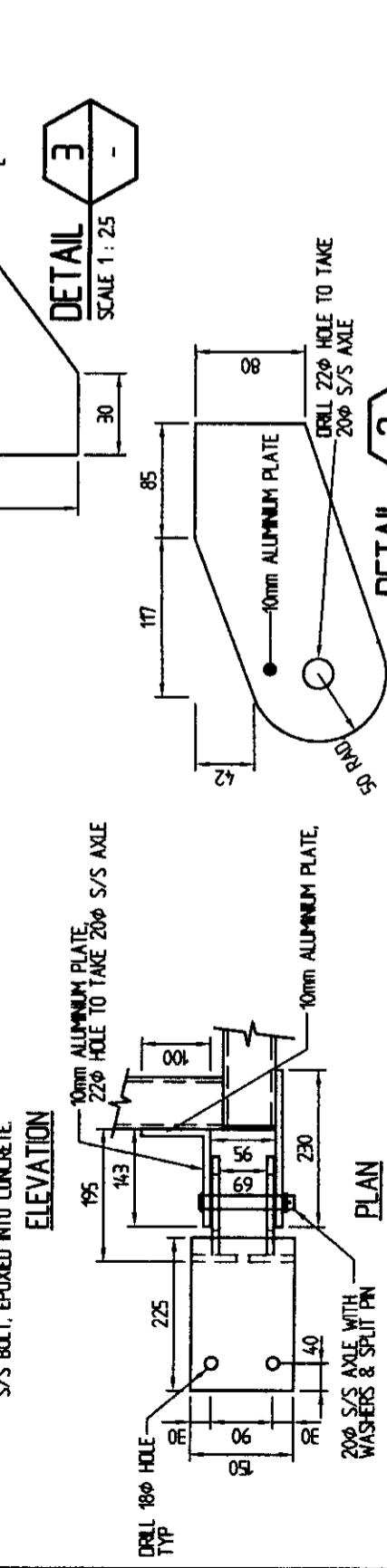
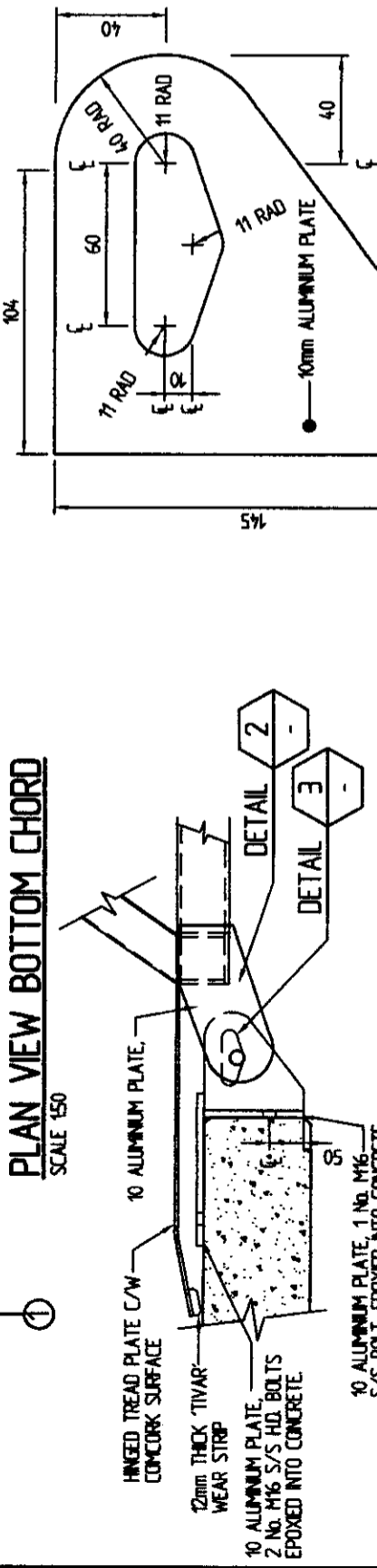
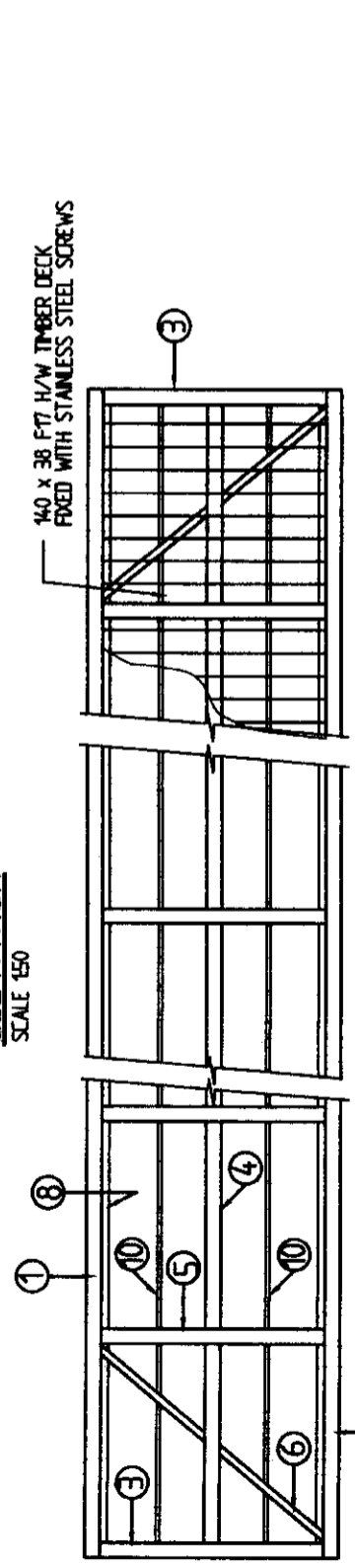
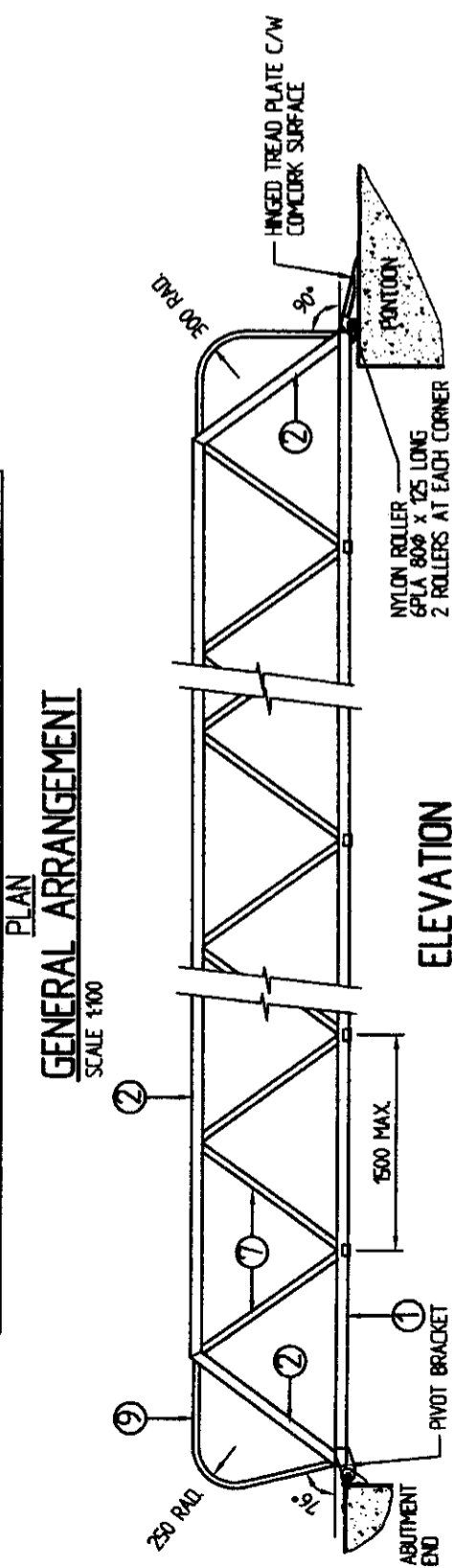
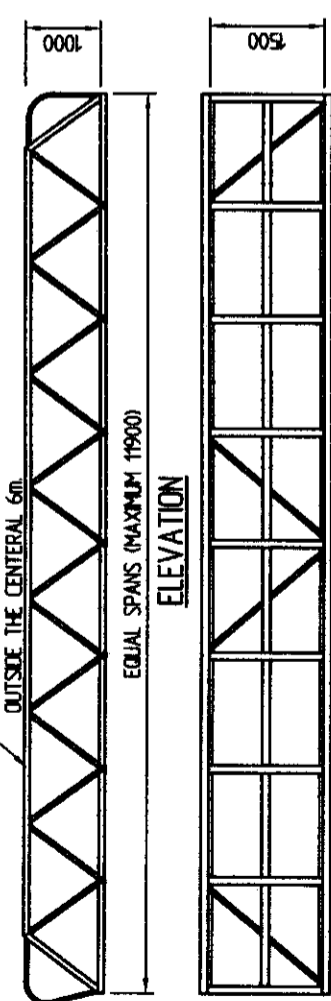
Date: 19/08/2003
Drawing No.: 2187-104
Scale: AS SHOWN
Drawn By: W.L.
Designed By:
Approved By:

- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETRES.
 - ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS1664 ALUMINIUM STRUCTURES, AS1665 WELDING OF ALUMINIUM STRUCTURES
 - ALL ALUMINIUM SHALL BE 6061-T6 OR 6082-T5 UND.
 - ALL WELDS SHALL BE INERT GAS WELD USING TIG FUSION WELDING PROCESS.
 - ALL WORK SHALL BE NEATLY FINISHED WITH ALL SHARP EDGES GROUND SMOOTH.
 - ALL WELDS TO BE COMPLETE PENETRATION BUTT WELD OR 5mm FILLET WELD.
 - DESIGN LIVE LOADS
 LOD 4.0kPa
 CONCENTRATED LOAD 4.5kN
 HANDRAIL 0.75kN/m
 - TIMBER PANELS TO BE TIED TOGETHER WITH TWO EQUALLY SPACED 25 X 25 X 3 ANGLE
 - SPLICE JOINT IN TOP CHORD TO BE LOCATED OUTSIDE THE CENTRAL 6m.

DIMENSION SCHEDULE

L (m)	l (m)
9m	1.125
10m	1.250
11m	1.350
11.9m	1.487

ITEM	DESCRIPTION	REMARKS
10	ANGLE 25 X 25 X 3	6060-T5
9	CHS 40 x 3	6060-T5
8	ANGLE 50 X 25 X 3	6060-T5
7	SHS 76 X 76 X 3	6082-T5
6	SHS 50.8 X 50.8 X 2	6082-T5
5	RHS 1016 X 76.2 X 2.35	6082-T5
4	RHS 1016 X 76.2 X 2.35	6082-T5
3	RHS 1016 X 76.2 X 2.35	6082-T5
2	RHS 1016 X 76.2 X 2.35	6082-T5
1	RHS 1016 X 76.2 X 2.35	6082-T5



PLAN OR DOCUMENT CERTIFICATION

I am a qualified Engineer.
 I hold the following qualifications or licence No.
BSC (ENG), ACG, MICE, FE Aust, NFER 164325

Further, I am appropriately qualified to certify this component of the project. I hereby state that these plans or details comply with the conditions of development consent, the provisions of the Building Code of Australia and/or relevant Australian/Industry Standards.

CH. ABRAHAM 19.8.03
 Name Date
 Signature


FOR APPROVAL

DETAIL 2
 SCALE 1:1.5

DETAIL 3
 SCALE 1:1.25

TYPICAL VERTICAL HINGE BRACKET
 SCALE 1:10

03086-CC 17.10.03



Revisions

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A.C.N. 079 905 481

473 Annerley Road
Annerley QLD 4103
Australia
Phone (07)3892 5711 Fax (07)3892 5611
Email: inc@imc-marinas.com

CLIENT:
BELLINGHAM MARINE AUSTRALIA PTY. LTD.

PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
**ALUMINIUM GANGWAY
1.8m WIDE X
15.0m TO 17.9m LONG**

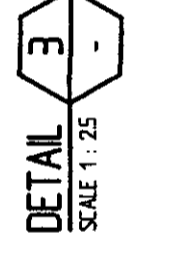
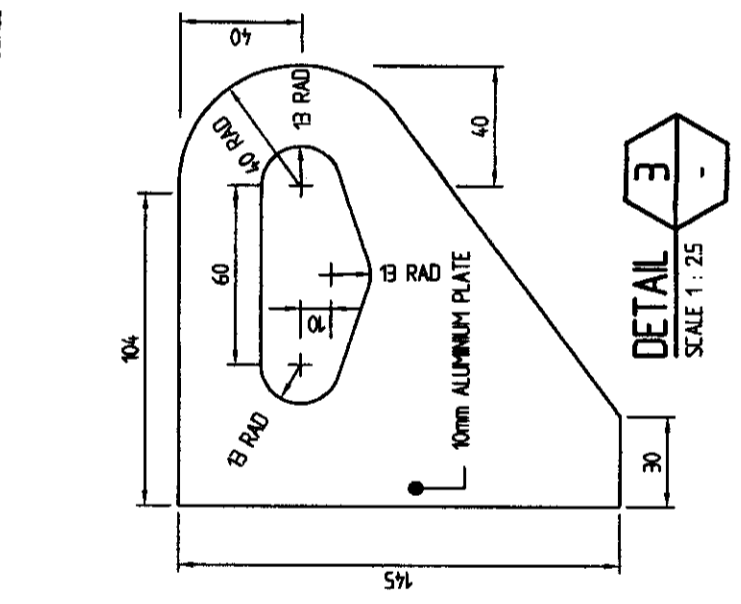
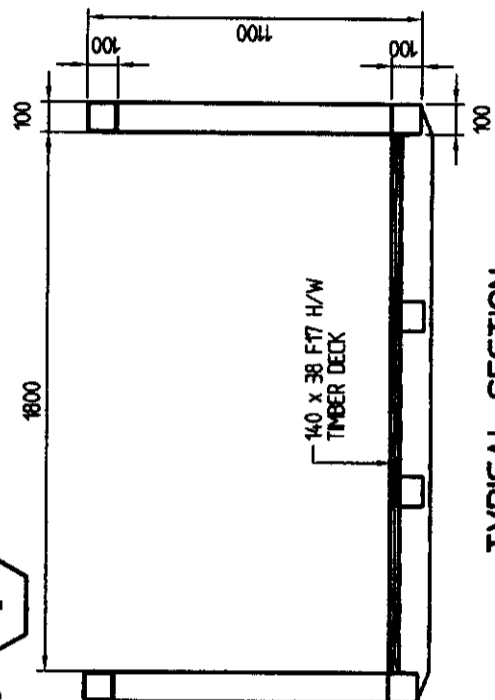
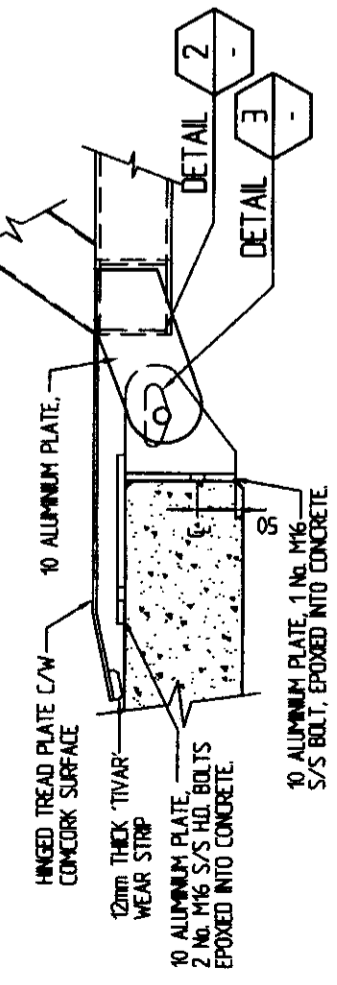
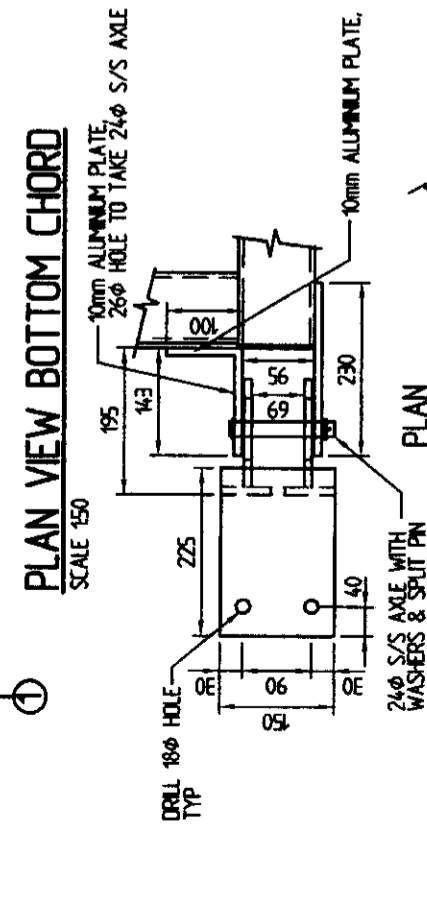
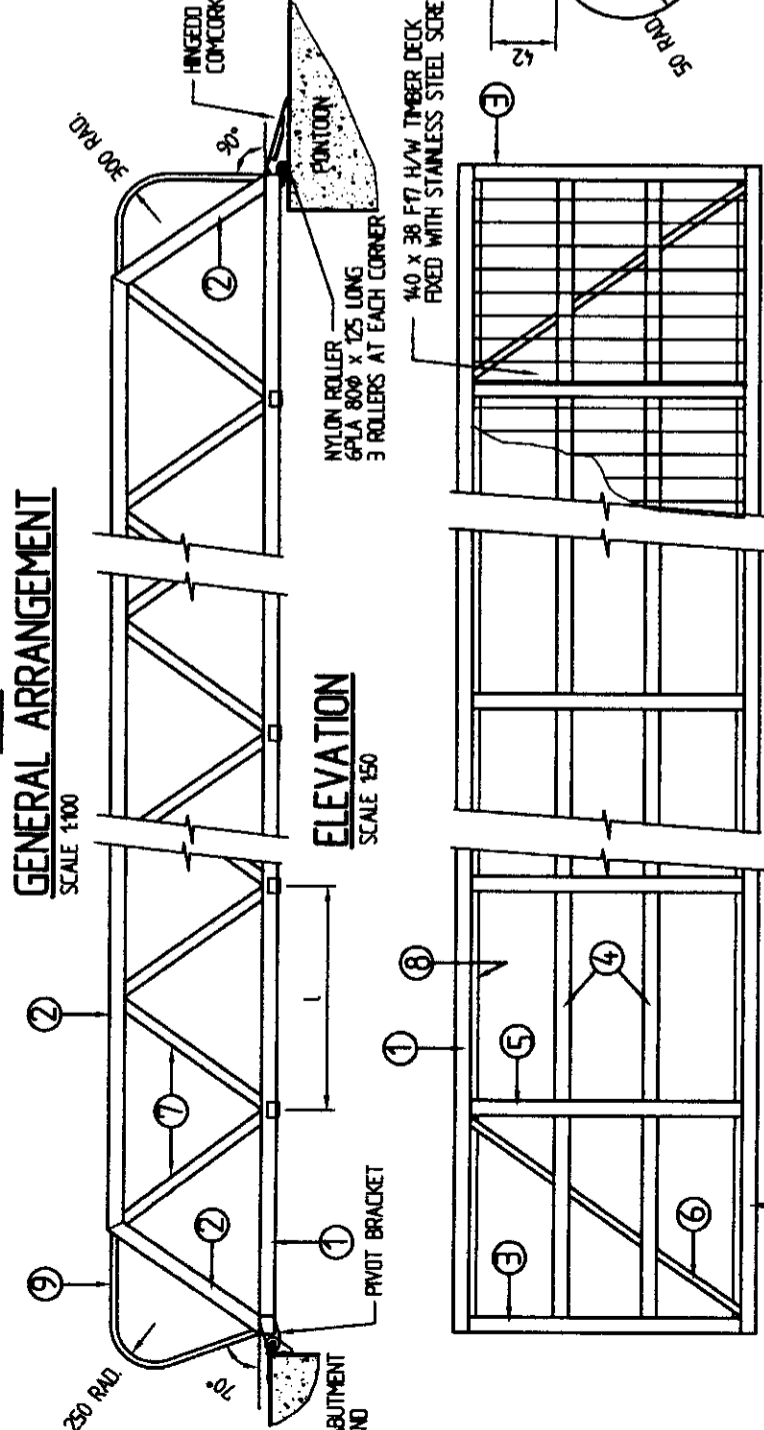
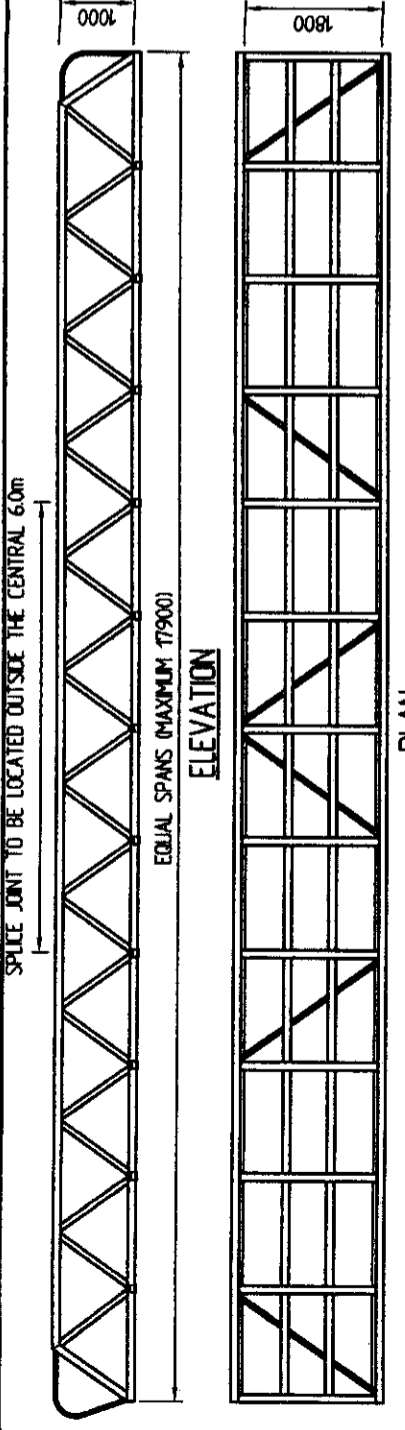
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Drawing No.: 2187-105
Scale: AS SHOWN
Drawn By: W.L.
Designed By:

- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETRES.
 - ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS1664 ALUMINIUM STRUCTURES, AS1665 WELDING OF ALUMINIUM STRUCTURES
 - ALL ALUMINIUM SHALL BE 6061-T6 OR 6082-T5 UNO.
 - ALL WELDS SHALL BE NERT GAS WELD USING TIG FUSION WELDING PROCESS.
 - ALL WORK SHALL BE NEATLY FINISHED WITH ALL SHARP EDGES GROUND SMOOTH.
 - ALL WELDS TO BE COMPLETE PENETRATION BUTT WELD OR 5mm FILLET WELD.
 - DESIGN LIVE LOADS
UN
4.0kPa
CONCENTRATED LOAD
4.5kN
HORIZONTAL
0.75kN/m
 - SPLICE JOINT IN TOP CHORD TO BE LOCATED OUTSIDE THE CENTRAL 6m.

ITEM	DESCRIPTION	REMARKS
9	CHS 40 x 3	6060-T5
8	ANGLE 50 x 25 x 3	6060-T5
7	SHS 100 X 100 X 3	6082-T5
6	SHS 50.8 x 50.8 x 2	6082-T5
5	SHS 100 X 100 X 3	6082-T5
4	RHS 1016 x 76.2 x 2.35	6082-T5
3	SHS 100 x 100 x 6	6082-T5
2	SHS 100 x 100 x 6	6082-T5
1	SHS 100 x 100 x 6	6082-T5

DIMENSION SCHEDULE

GANGWAY LENGTH	L (m)
15.0	1.25
16.0	1.333
17.0	1.416
17.9	1.491



PLAN OR DOCUMENT CERTIFICATION

I am a qualified Engineer.
I hold the following qualifications or licence No.

BSC (ENGR), ACO, MCE, FE AUSTRALIA, NPER 64325

Further I am appropriately qualified to certify this component of the project I hereby state that these plans or details comply with the conditions of development consent the provisions of the Building Code of Australia and/or relevant Australian/Industry Standards.

CH ABRAHAM 19.8.03 *Ch Abraham*
Name Date
Signature

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Revisions

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 Consultants to the Marina Industry.
 International Marina Consultants Pty. Ltd.
 A.C.N. 079 905 481
 473 Armerley Road
 ARMERLEY QLD 4103
 AUSTRALIA
 Phone (07)3892 5711 Fax (07)3892 5611
 Email: imc@imc-marinas.com

CLIENT:
BELLINGHAM MARINE AUSTRALIA PTY. LTD.

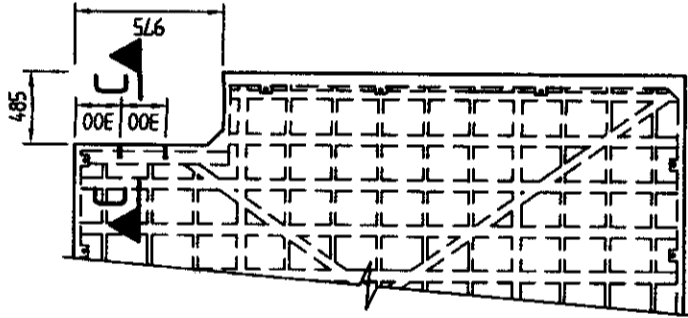
PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
TYPICAL WAVE ATTENUATOR FLOAT DETAILS

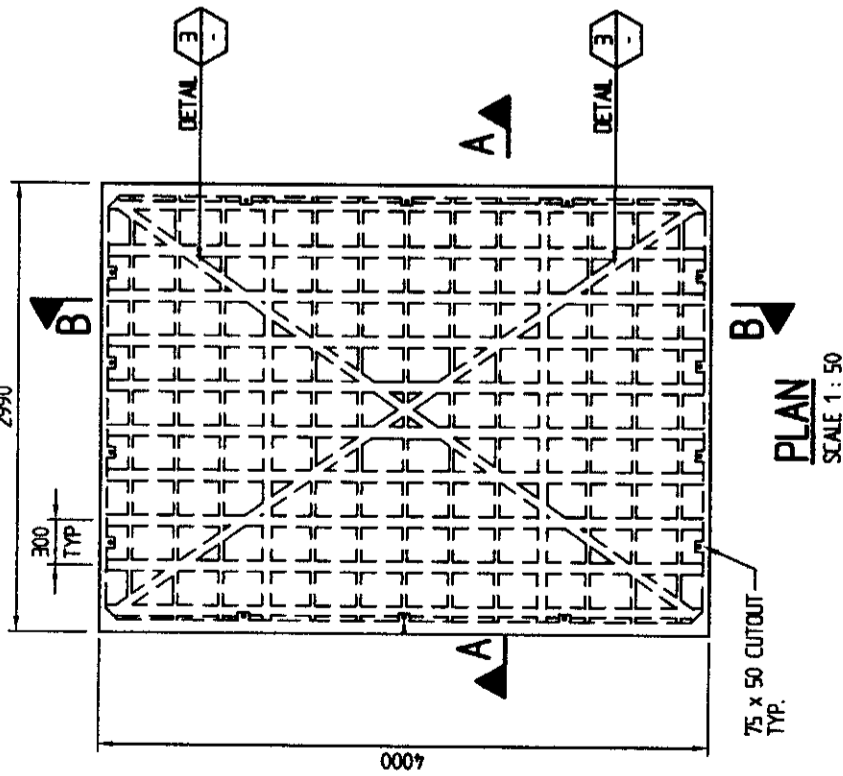
Date: 19/08/2003
Drawing No.: 2187-106
Scale: AS SHOWN
Drawn By: J.C.
Designed By:
Approved By:

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. CONCRETE STRENGTH $f_c = 40MPa$.
 3. ALL REINFORCEMENT TO BE HOT DIP GALVANIZED.
 4. MATERIAL SIZES MAY BE VARIED BY THE MANUFACTURER WITHOUT NOTICE TO COMPLY WITH SPECIFIC APPLICATIONS.
 5. DIMENSION 'D' VARIES TO SUIT FREEBOARD REQUIREMENTS.
 6. ALL GALV. WIRE MESH TO BE 50 x 50 x 2.0mm UNDO.

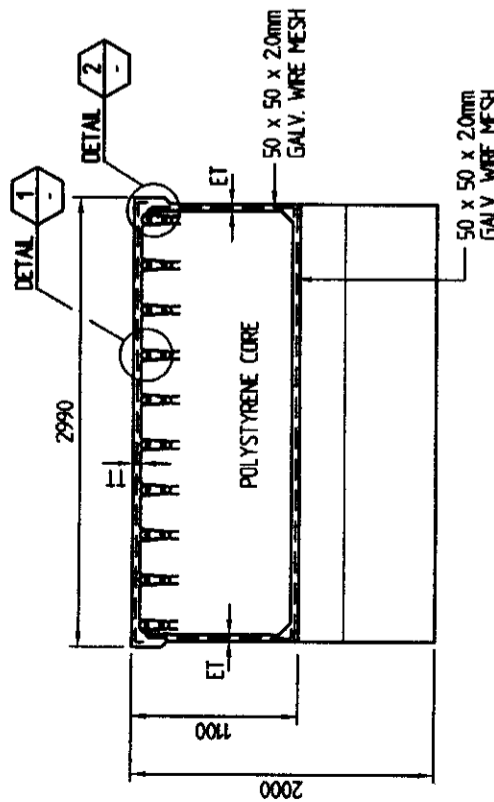
D3086-CC 17.10.03



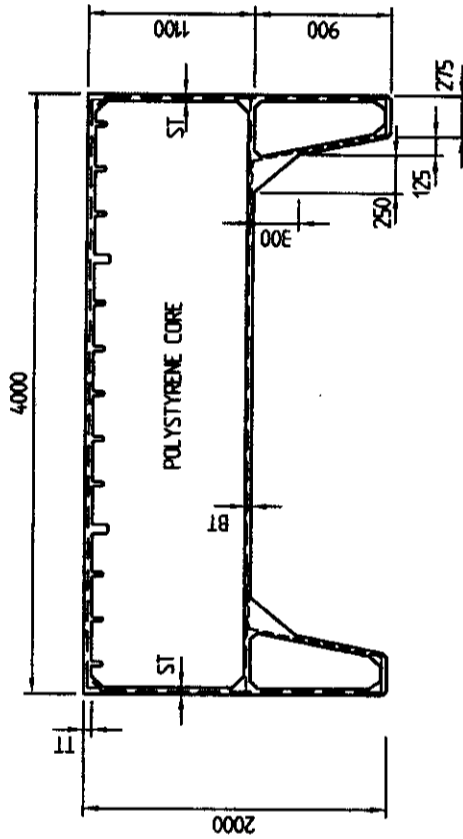
PART PLAN SHOWING NOTCH AT ONE END
 SCALE 1 : 50



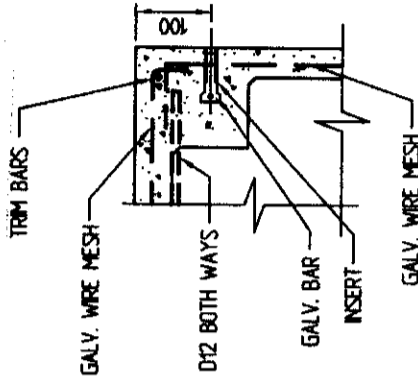
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 SCALE 1 : 50



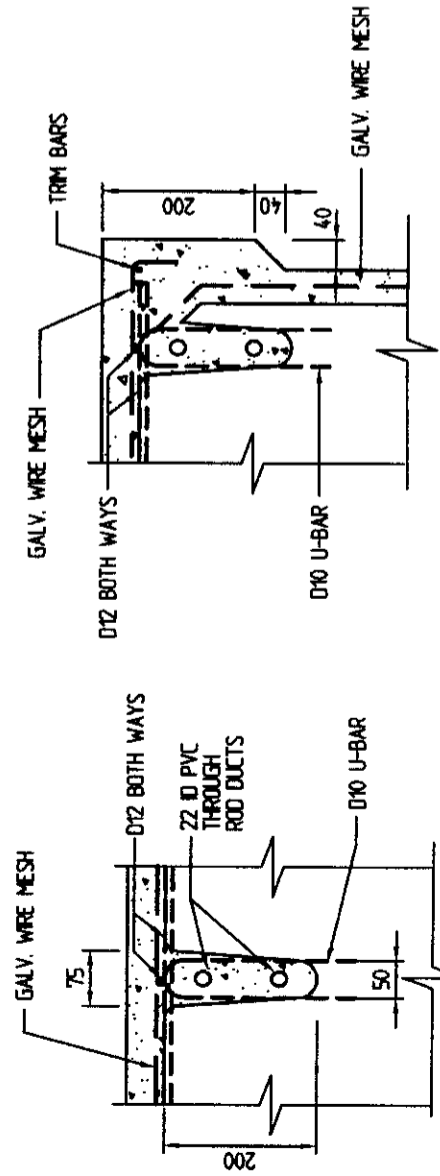
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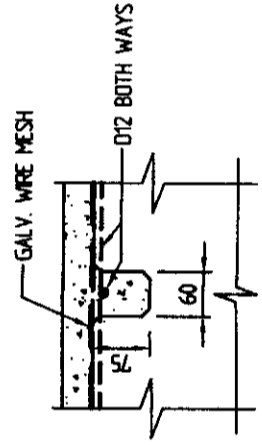
SECTION B - B
 SCALE 1 : 50



SECTION C - C
 SCALE 1 : 10



DETAIL 1
 SCALE 1 : 10



DETAIL 2
 SCALE 1 : 10

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 I hold the following qualifications or licence No. **BSC (Eng), ACCI, MCE, FE AUSTRALIA, NPER 154325**

Further I am appropriately qualified to certify this component of the project I hereby state that these plans or details comply with the conditions of development consent the provisions of the Building Code of Australia and/or relevant Australian Industry Standards.

CH. ABRAHAM P.R. 03 *Ch. Abraham*
 Name Date Signature

DETAIL 3
 SCALE 1 : 10

FOR APPROVAL

Bellingham
Marine
Australia Pty. Ltd.
ALN. 074 864 887

Phone 079 3796 695
Fax 079 3796 695
Email: sales@bellingham-marine.com.au

UNIFLOAT.
Precision engineering flotation systems

Revisions

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Consultants to the Marina Industry.
International Marina Consultants Pty. Ltd.
A.C.N. 079 905 481
473 Armentley Road
ARMERLEY QLD 4103
AUSTRALIA
Phone (07)3892 5711 Fax (07)3892 5611
Email: imc@imc-marinas.com

CLIENT:
BELLINGHAM MARINE AUSTRALIA PTY. LTD.

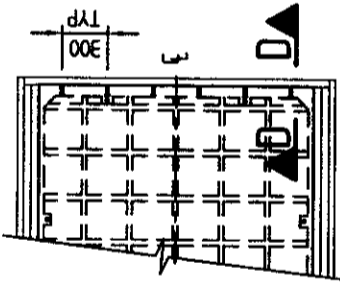
PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
STANDARD FLOAT DRAWING

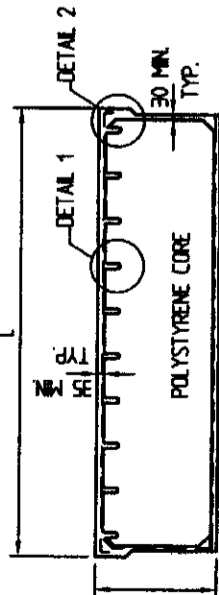
Date: 19/08/2003
Drawing No.: 2187-107
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Drawn By: W.L.
Designed By:

NOTES:

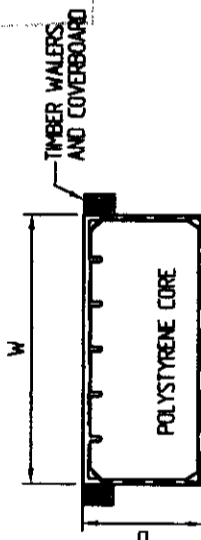
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. PROVIDE STAINLESS STEEL INSERTS AS REQUIRED TO END OF LAST PONTOON ONLY TO WALKWAYS AND FINGERS.
3. CONCRETE STRENGTH $f_c' = 40\text{MPa}$.
4. ALL REINFORCEMENT TO BE HOT DIP GALVANIZED.
5. MATERIAL SIZES MAY BE VARIED BY THE MANUFACTURER WITHOUT NOTICE TO COMPLY WITH SPECIFIC APPLICATIONS.
6. DIMENSION 'D' VARIES TO SUIT FREEBOARD REQUIREMENTS.



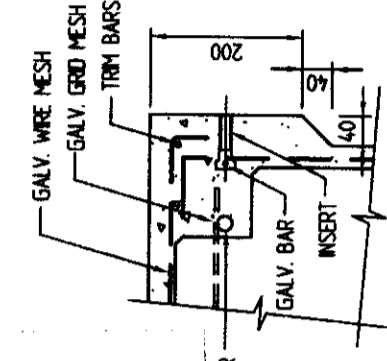
PLAN - TYPICAL WALKWAY PONTOON (1800 WIDE SHOWN)
SCALE 1 : 50



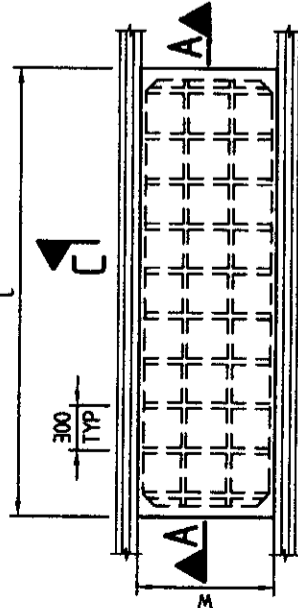
SECTION A - A
SCALE 1 : 50



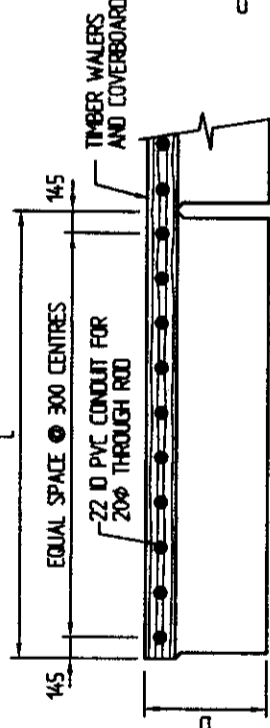
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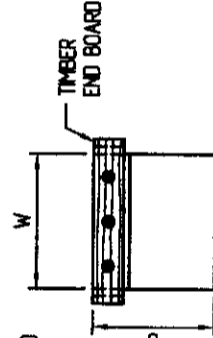
SECTION C - C
SCALE 1 : 50



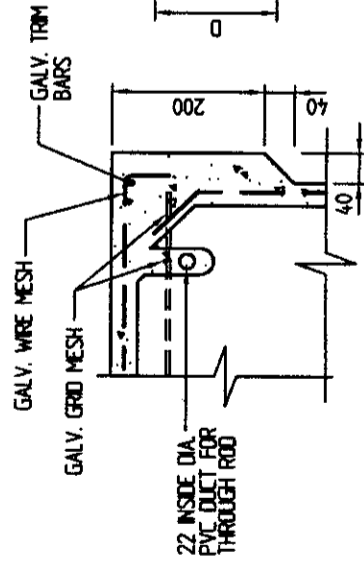
PLAN - TYPICAL FINGER PONTOON (900 WIDE SHOWN)
SCALE 1 : 50



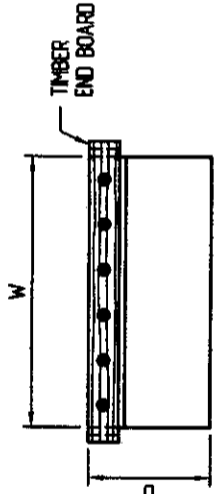
SECTION D - D
SCALE 1 : 10



ELEVATION
SCALE 1 : 50



DETAIL 1
SCALE 1 : 10



DETAIL 2
SCALE 1 : 10

DIMENSION SCHEDULE			
TYPE	L	W	
0.9/30	2990	900	
0.9/24	2390	900	
15/30	2990	1500	
15/24	2390	1500	
18/30	2990	1800	
18/24	2390	1800	
24/30	2990	2400	
24/24	2390	2400	

PLAN OR DOCUMENT CERTIFICATION

I am a qualified Engineer.
I hold the following qualifications or licence No.
BSC (ENG), ACCI, MCE, FE AUSTR, NPER 154325
Further I am appropriately qualified to certify this component of the project
I hereby state that these plans or details comply with the conditions of development consent the provisions of the Building Code of Australia and/or relevant Australian/Industry Standards.

C.H. ABRAHAM 19.8.03
Date
Signature

FOR APPROVAL

END ELEVATION
SCALE 1 : 50

Bellingham
Marine
Australia Pty. Ltd.
ACN 074 864 887

Phone 079 3974 6955
Fax 079 3974 9925
International 65 771
Email: sales@bellingham-marine.com.au

22 Shearman Road
Swanston Mts Bayside Qld 4079
Australia

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A.C.N. 079 905 481

473 Annerley Road
ANNERLEY QLD 4103
Australia
Phone (07)3892 5711 Fax (07)3892 4611
Email: inc@imc-marinas.com

CLIENT:
BELLINGHAM MARINE AUSTRALIA PTY. LTD.

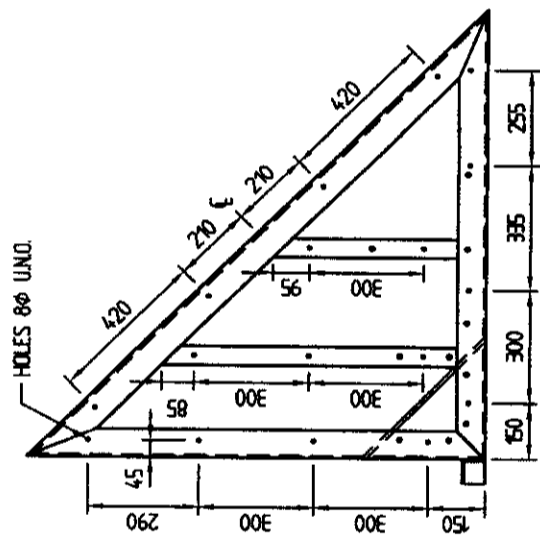
PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
1200 x 1200 STAINLESS STEEL KNEE BRACKET

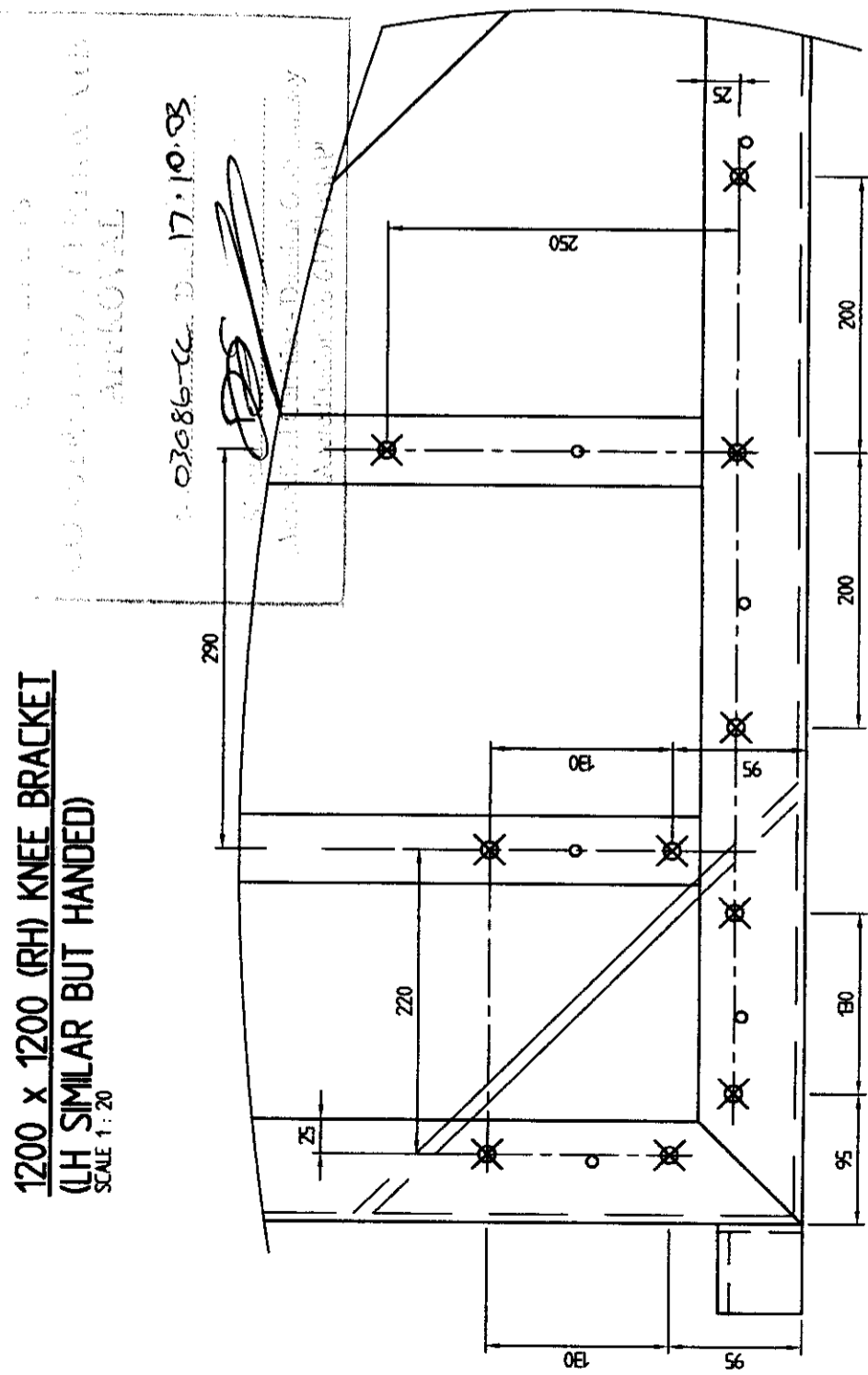
Date: 19/08/2003
Drawing No.: 2187-108
Scale: DEFINED
Drawn By: L.A.R.
Designed By: Approved By:

- NOTES :**
- ALL MATERIALS TO BE STAINLESS STEEL GRADE 316
 - ALL WELDS TO BE FULL PENETRATION BUTT WELDS OR 6mm FILLET WELD AS REQUIRED.
 - ALL WORK SHALL BE NEATLY FINISHED WITH ALL SHARP EDGES GROUNDED SMOOTH.

- LEGEND :**
- 65 x 65 x 6 STAINLESS STEEL ANGLE
 - 75 x 75 x 6 STAINLESS STEEL ANGLE
 - 50 x 6 STAINLESS STEEL FLAT
 - 50 x 10 STAINLESS STEEL FLAT
 - 8φ HOLE
 - 12φ HOLE

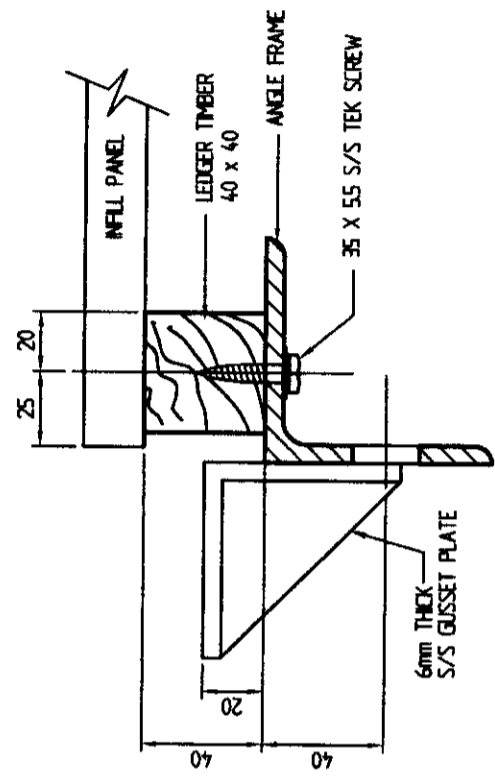


1200 x 1200 (RH) KNEE BRACKET
GENERAL ARRANGEMENT
(LH SIMILAR BUT HANDED)
SCALE 1 : 20



1200 x 1200 (RH) KNEE BRACKET
(LH SIMILAR BUT HANDED)
SCALE 1 : 20

PEDESTAL MOUNTING PROVISIONS
SCALE 1 : 5



TYPICAL SECTION
SCALE 1 : 25

PLAN OR DOCUMENT CERTIFICATION

I am a qualified Engineer.
I hold the following qualifications or licence No.
BSC (ENG), ACG, MICE, FE AUST, NPER 154325
Further I am appropriately qualified to certify this component of the project I hereby state that these plans or details comply with the conditions of development consent the provisions of the Building Code of Australia and/or relevant Australian Industry Standards.

Name: **CH. ABRAHAM**
Date: **19.08.03**
Signature: *[Signature]*

FOR APPROVAL

Bellingham
Marine
Australia Pty. Ltd.
ACN 074 864 887

22 Stream Road
Sorrento Hills Road 4073
Australia

Phone 07 376 6995
Fax 07 376 9925
Internet: 07 376 6995
Email: sales@bellingham-marine.com.au

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A.C.N. 079 905 481

473 Annerley Road
ANNERLEY QLD 4103
Australia
Phone (07)3892 5711 Fax (07)3892 4611
Email: inc@imc-marinas.com

CLIENT:
BELLINGHAM MARINE AUSTRALIA PTY. LTD.

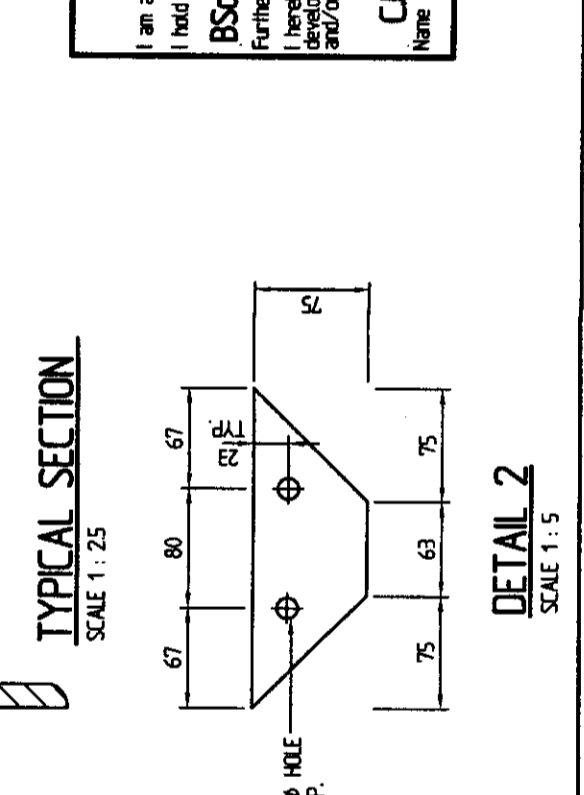
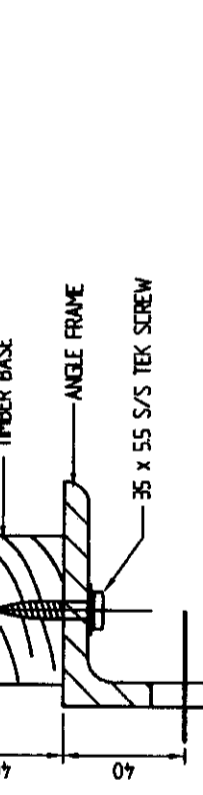
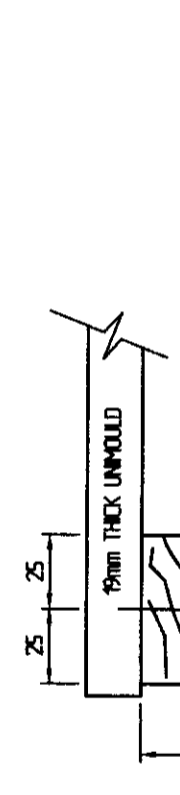
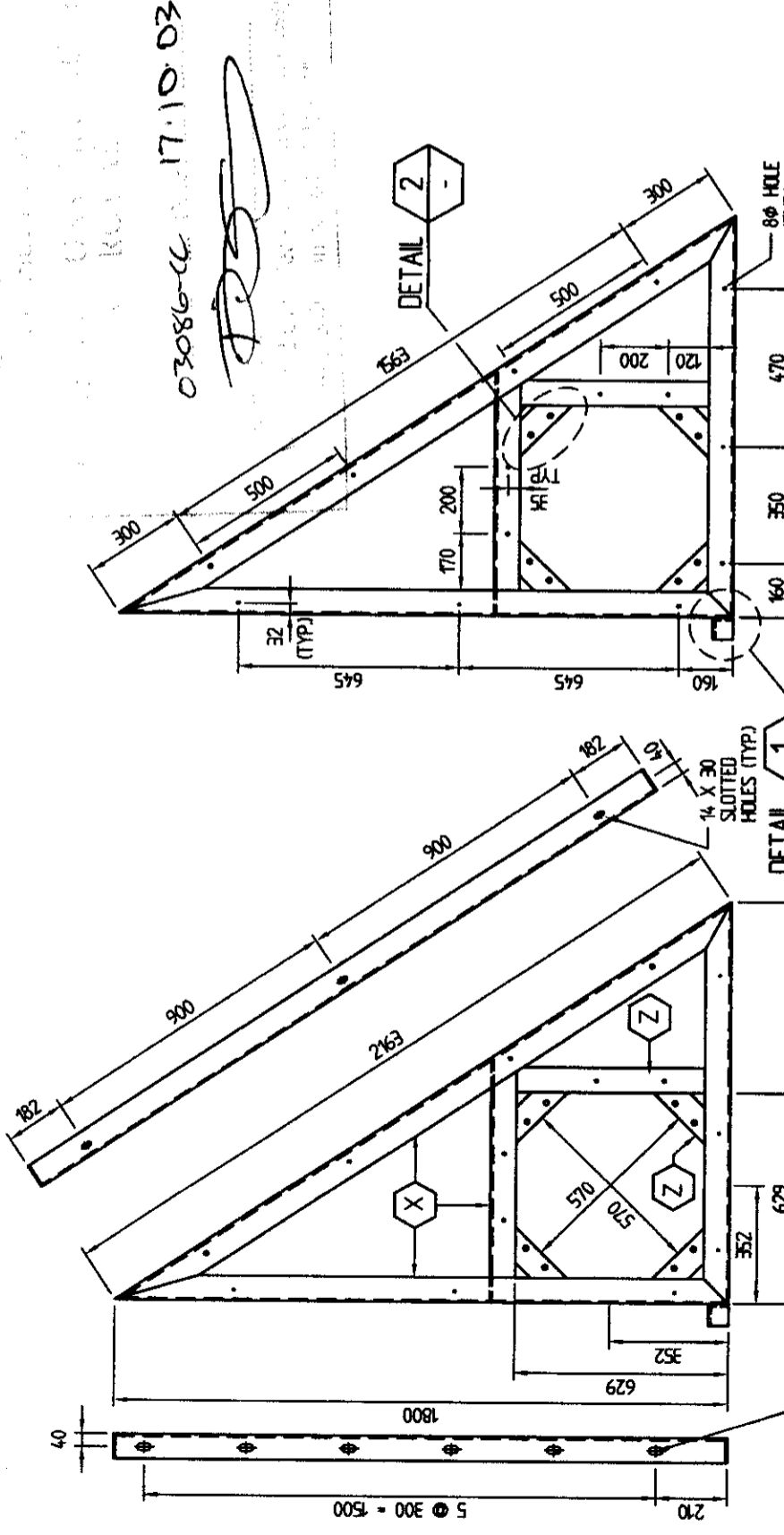
PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
1800 x 1200 STAINLESS STEEL KNEE BRACKET PILE GUIDE 450 DIA. PILE

Date: 19/08/2003
Drawing No.: 2187-109
Scale: DEFINED
Drawn By: L.A.R.
Designed By:

- NOTES:**
- ALL MATERIALS TO BE STAINLESS STEEL GRADE 316
 - ALL WELDS TO BE FULL PENETRATION BUTT WELDS OR 6mm FILLET WELD AS REQUIRED.
 - ALL WORK SHALL BE NEATLY FINISHED WITH ALL SHARP EDGES GROUND SMOOTH.

- LEGEND:**
- ⊗ 75 x 75 x 10 STAINLESS STEEL ANGLE
 - ⊕ 65 x 65 x 6 STAINLESS STEEL ANGLE
 - ⊚ 75 x 10 STAINLESS STEEL FLAT



PLAN OR DOCUMENT CERTIFICATION

I am a qualified Engineer.
I hold the following qualifications or licence No.
BSC (Eng), ACG, MCE, FE AUST, NPER 154325

Further I am appropriately qualified to certify this component of the project I hereby state that these plans or details comply with the conditions of development consent the provisions of the Building Code of Australia and/or relevant Australian/Industry Standards.

CH. ABRAHAM 19.8.03
Name Date
Ch. Abraham
Signature

FOR APPROVAL

Bellingham
Marine
Australia Pty. Ltd.
ACN 074 864 887

22 Sharnon Road
Sundermeil Road
Adelaide
Phone 07 376 6955
Fax 07 376 7925
Email: sales@bellingham-marine.com.au

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A.C.N. 079 905 481

473 Annerley Road
ANNERLEY QLD 4103
Australia
Phone (07)3892 5711 Fax (07)3892 4611
Email: inc@imc-marinas.com

CLIENT:
BELLINGHAM MARINE AUSTRALIA PTY. LTD.

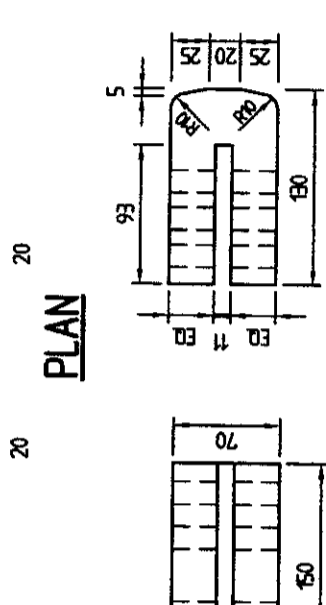
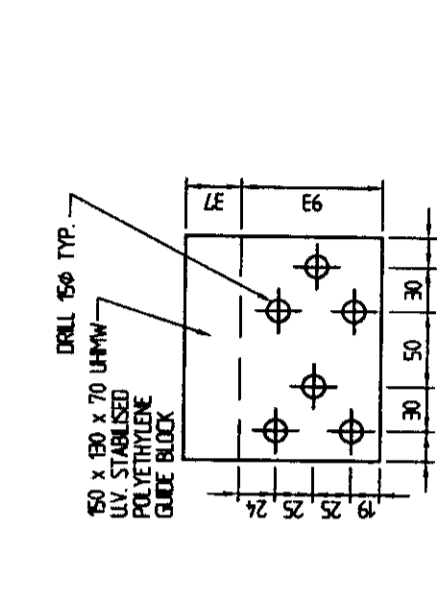
PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
1200 FINGER END ALUMINIUM PILE GUIDE 450 DIA. PILE

Date: 20/11/2002
Drawing No.: 2187-110
Scale: AS SHOWN
Drawn By: J.C.
Designed By:

- NOTES**
1. ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS1664.
 2. ALUMINIUM EXTRUSIONS SHALL BE 6061-T6 OR 6082-T5 UNO.
 3. ALUMINIUM PLATES SHALL BE TYPE 5083 TEMPER H21
 4. ALL WELDS SHALL BE INERT GAS WELD USING PULSE MIG. OR TIG. FUSION WELDING PROCESS.
 5. ALL WORK SHALL BE NEATLY FINISHED WITH ALL SHARP EDGES GROUND SMOOTH.
 6. ALL WELDS TO BE COMPLETE PENETRATION BUTT WELD OR 6mm FULET WELD UNO.

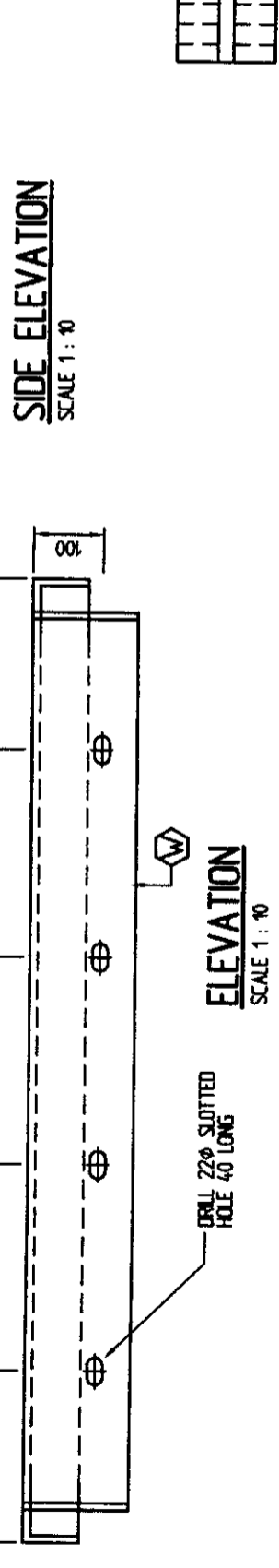
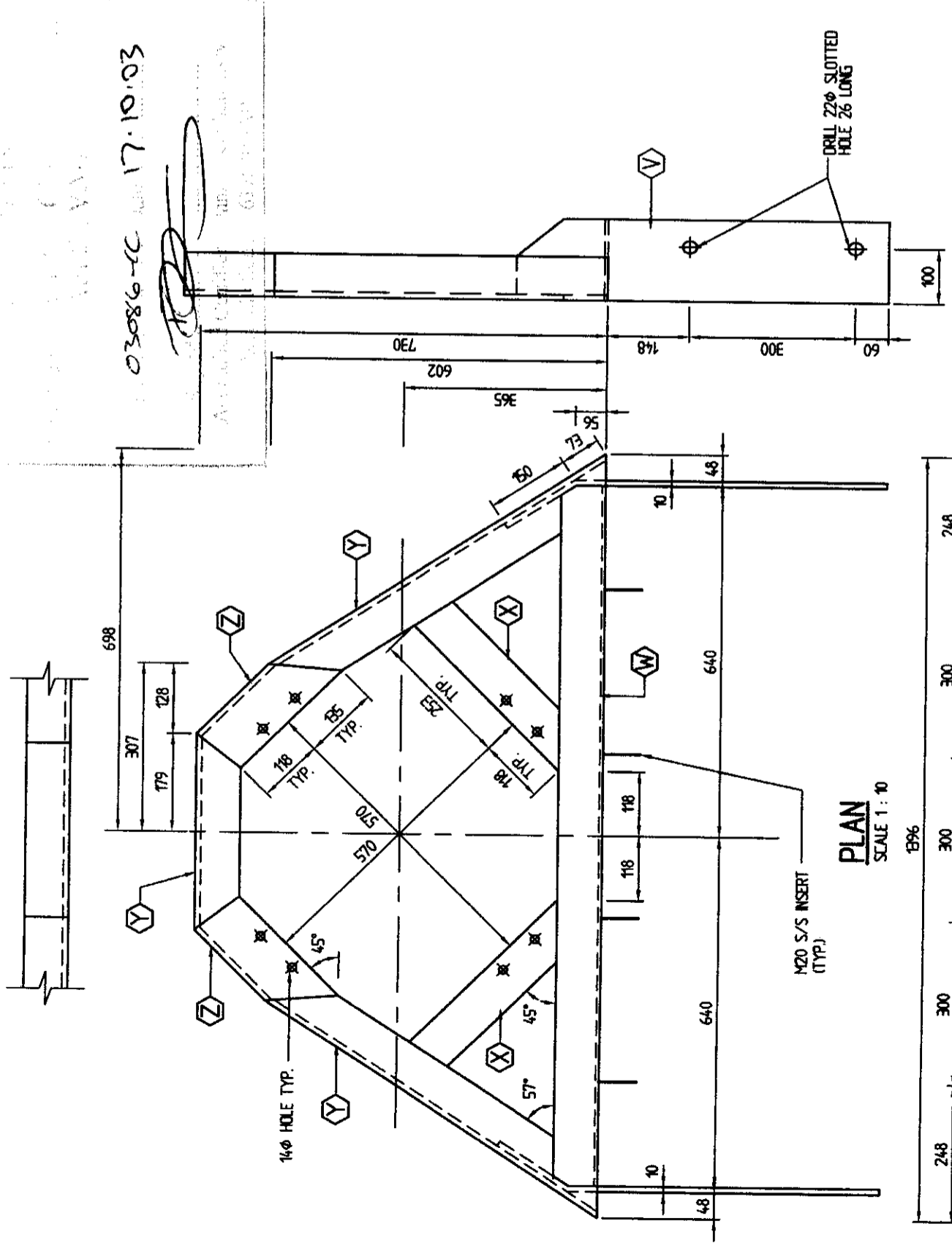
- LEGEND:**
- (V) 150 x 10 ALUMINIUM FLAT
 - (W) 150 x 80 x 10 ALUMINIUM ANGLE
 - (X) 80 x 10 ALUMINIUM FLAT
 - (Y) 80 x 80 x 10 ALUMINIUM ANGLE
 - (Z) 100 x 80 x 10 ALUMINIUM ANGLE



PILE GUIDE BLOCK
SCALE 1:5

NOTES: FIX PILE GUIDE WITH 2 NUMBER M12 S/S BOLTS.

FOR APPROVAL



PLAN OR DOCUMENT CERTIFICATION

I am a qualified Engineer.
I hold the following qualifications or licence No.

BSC (ENG), ACCI, MCE, FE, AUST, NPER 64325

Further I am appropriately qualified to certify this component of the project I hereby state that these plans or details comply with the conditions of development consent the provisions of the Building Code of Australia and/or relevant Australian/Industry Standards.

C.H. ABRAHAM 17.8.03
Name Date

[Signature]
Signature

TYPICAL HOLE SET-OUT FOR PILE GUIDE
SCALE 1:5



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International Marina Consultants Pty. Ltd.
A.C.N. 079 905 481
473 Annerley Road, Annerley, QLD.
Australia
Phone (07)3892 5711 Fax (07)3892 5611
International Access (+67)
Email: inc@imc-marinas.com

CLIENT:
BELLINGHAM MARINE AUSTRALIA PTY. LTD

PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
1200 x 1200 HINGED KNEE BRACKET

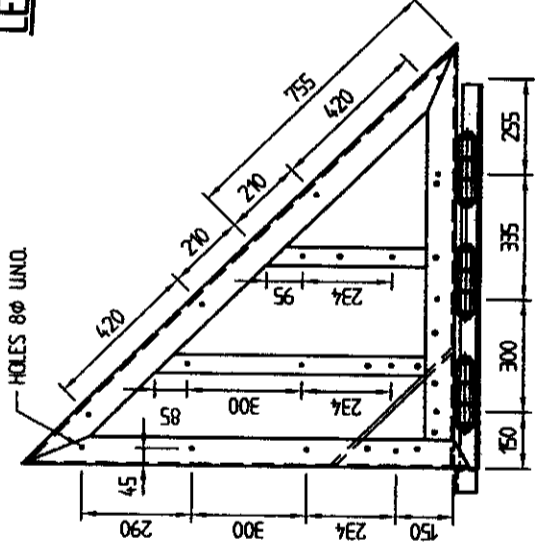
Date: 14/08/03
Drawing No.: 2187-111
Scale: DEFINED
Drawn By: L.A.R. Designed By:
Approved By:

NOTES

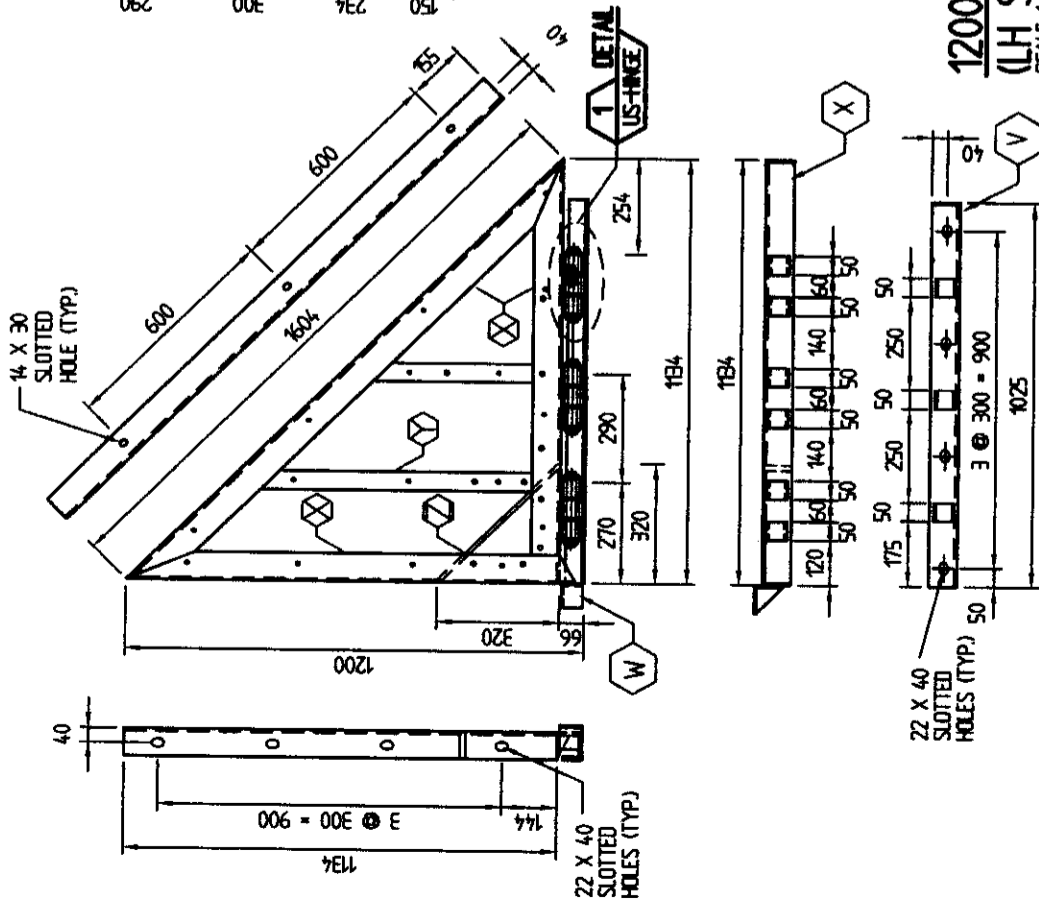
- 1. ALL MATERIALS TO BE HOT DP GALVANIZED IN ACCORDANCE WITH AS 4680.
2. PROTECTIVE COATINGS TO STEEL COMPONENTS:
a. ABRASIVE BLAST CLEAN TO CLASS 2 1/2 - AS 1627.4
b. HOT DP GALVANIZE - AVERAGE COATING THICKNESS 6000/m2 - EQUIVALENT THICKNESS 85 MICRONS.
3. ALL WELDS TO BE FULL PENETRATION BUTT WELDS OR 6mm FILLET WELD AS REQUIRED.
4. ALL WORK SHALL BE NEATLY FINISHED WITH ALL SHARP EDGES GROUND SMOOTH.

LEGEND

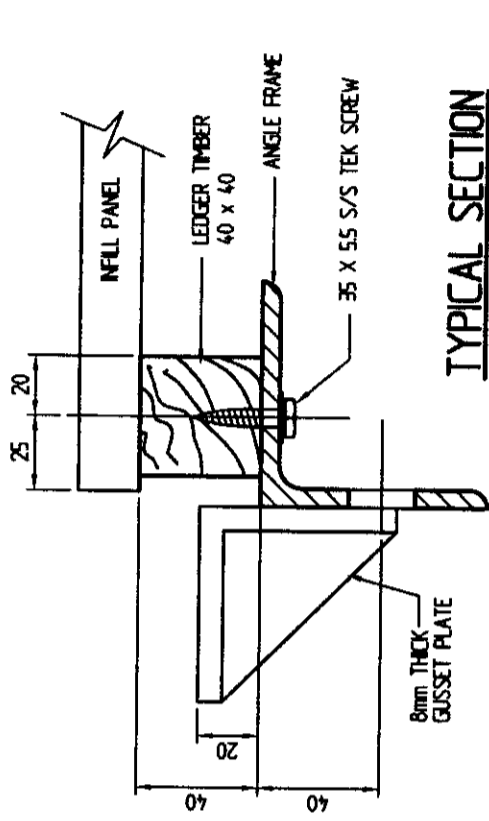
- 75 x 50 x 8 STEEL ANGLE
65 x 65 x 8 STEEL ANGLE
75 x 75 x 8 STEEL ANGLE
50 x 8 STEEL FLAT
50 x 10 STEEL FLAT
8mm HOLE
12mm HOLE



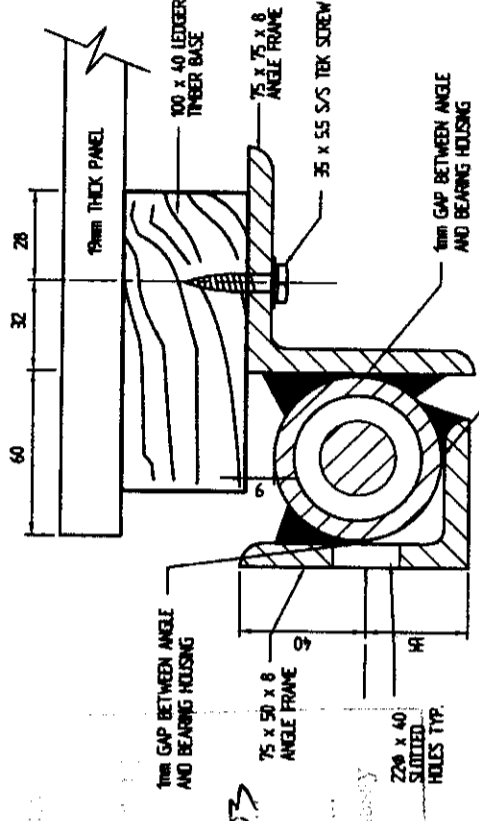
1200 x 1200 (RH) KNEE BRACKET
GENERAL ARRANGEMENT
(LH SIMILAR BUT HANDED)
SCALE 1:20



PEDESTAL MOUNTING PROVISIONS
SCALE 1:5



TYPICAL SECTION
SCALE 1:25



TYPICAL PANEL TO BRACKET
FIXING DETAILS ON W/WAY SIDE
SCALE 1:2

PLAN OR DOCUMENT CERTIFICATION

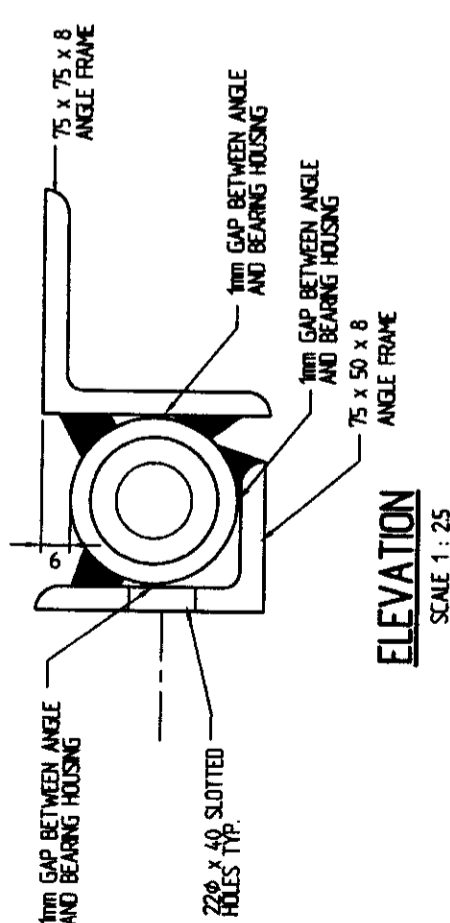
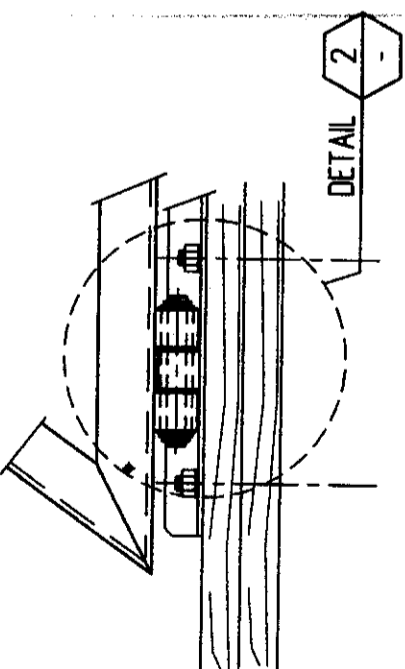
I am a qualified Engineer.
I hold the following qualifications or license No.

BSC (Eng), ACG, MCE, FE Aust, NFER 154325

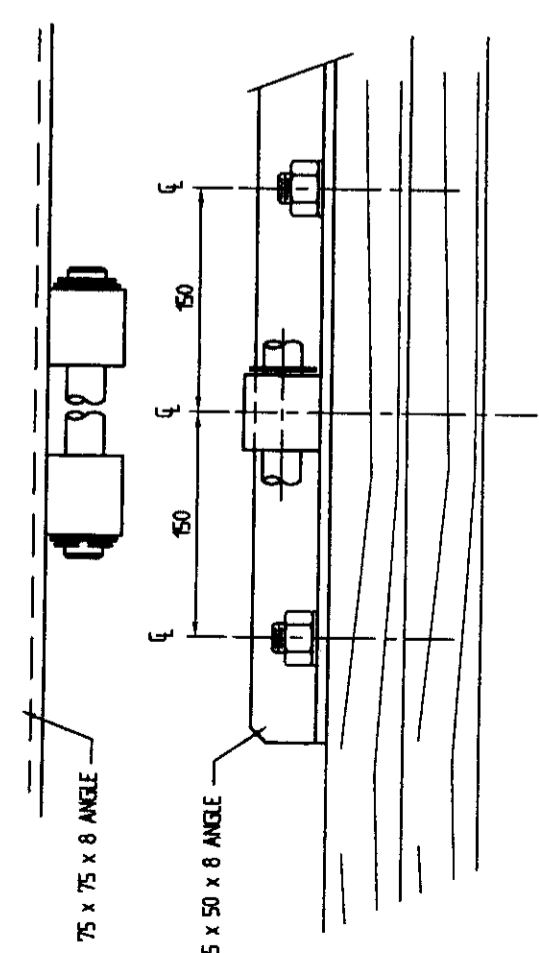
I hereby state that these plans or details comply with the conditions of development consent, the provisions of the Building Code of Australia and/or relevant Australian Industry Standards.

CH ABRAHAM 14.8.03 Date
Signature

FOR APPROVAL

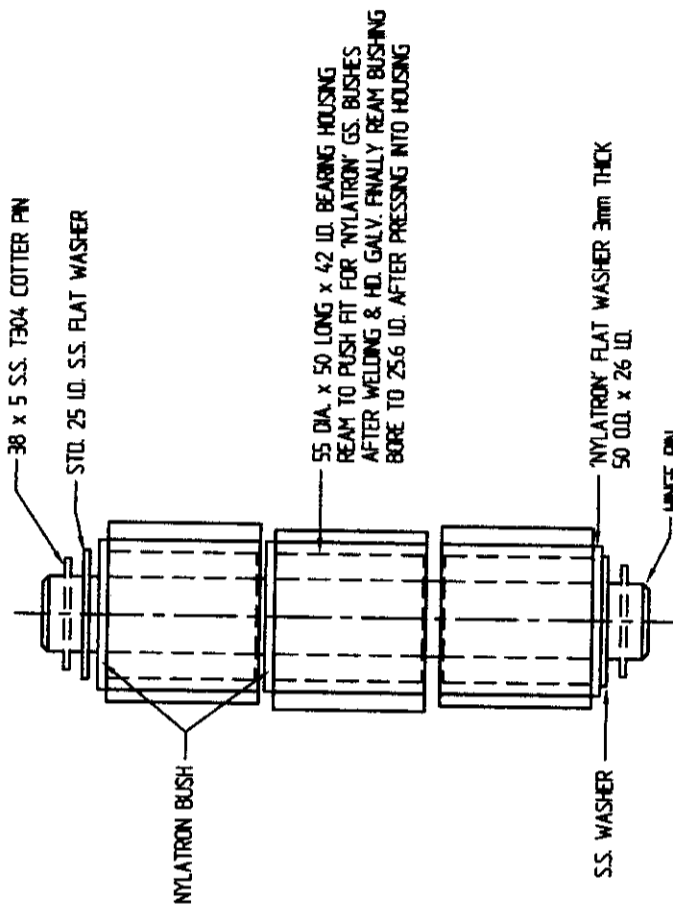


DETAIL 1

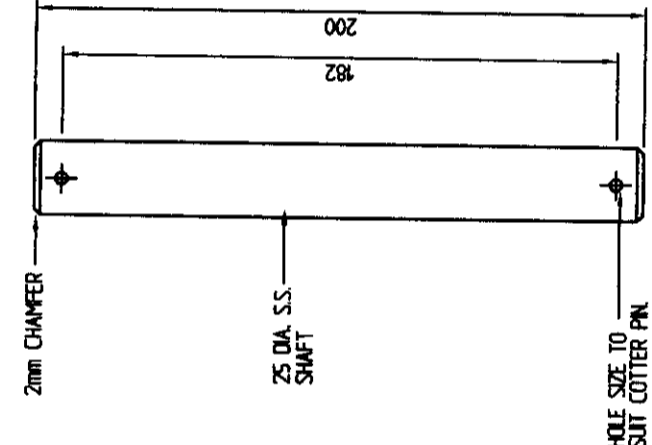


NOTES:

- ALL MATERIALS TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH AS/NZS 4680.
- PROTECTIVE COATINGS TO STEEL COMPONENTS:
 - ABRASIVE BLAST CLEAN TO CLASS 2 1/2 - AS 1627.4
 - HOT DIP GALVANIZE
 - AVERAGE COATING 600g/m²
 - EQUIVALENT THICKNESS 85 MICRONS.
 - APPLY DULUX AVERLOCK OR APPROVED EQUIVALENT TO ACHIEVE A DFT OF 250 MICRONS.
- ALL WELDS TO BE FULL PENETRATION BUTT WELDS OR 8mm FILLET WELD AS REQUIRED.
- ALL WORK SHALL BE NEATLY FINISHED WITH ALL SHARP EDGES GROUND SMOOTH.



HINGE DETAIL
SCALE 1:25



FOR APPROVAL

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I am a qualified Engineer.
I hold the following qualifications or licence No.
BSC (Eng), ACB, MCE, FE Aust, NPER 64325
Further I am appropriately qualified to certify this component of the project
I hereby state that these plans or details comply with the conditions of design and construction of the Building Code of Australia and/or relevant Australian/Industry Standards.

CH. ABRAHAM 19, 8.03
Name Date Signature

Bellingham
Marine
Australia Pty. Ltd.
ACN. 074 864 887

22 Stream Road
Seymour VIC 3045
Australia
Phone 07 376 6955
Fax 07 376 7925
Internet 07 376 6970
Email: info@bellingham-marine.com.au

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Revisions

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473 Annemley Road, Annemley, QLD.
Australia
Phone (07)3892 5711 Fax (07)3892 5611
International Access (+617)
Email: inc@imc-marinas.com

CLIENT:
BELLINGHAM MARINE AUSTRALIA PTY. LTD

PROJECT:
ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
HINGE DETAILS

Date: 14/08/03
Drawing No.: 2187-112
Scale: 1:10
Drawn By: LAR
Designed By:

Bellingham
 Marine
 Australia Pty. Ltd.
 ACK 074 864 887

Phone 07 376 6955
 Fax 07 376 7925
 International 677
 Email: sales@bellingham-marine.com.au

72 Sherrin Road
 Southern Hills Rd 4073
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 Phone (07)3892 5711 Fax (07)3892 5611
 International Access (+677)
 Email: inc@imc-marinas.com

CLIENT:
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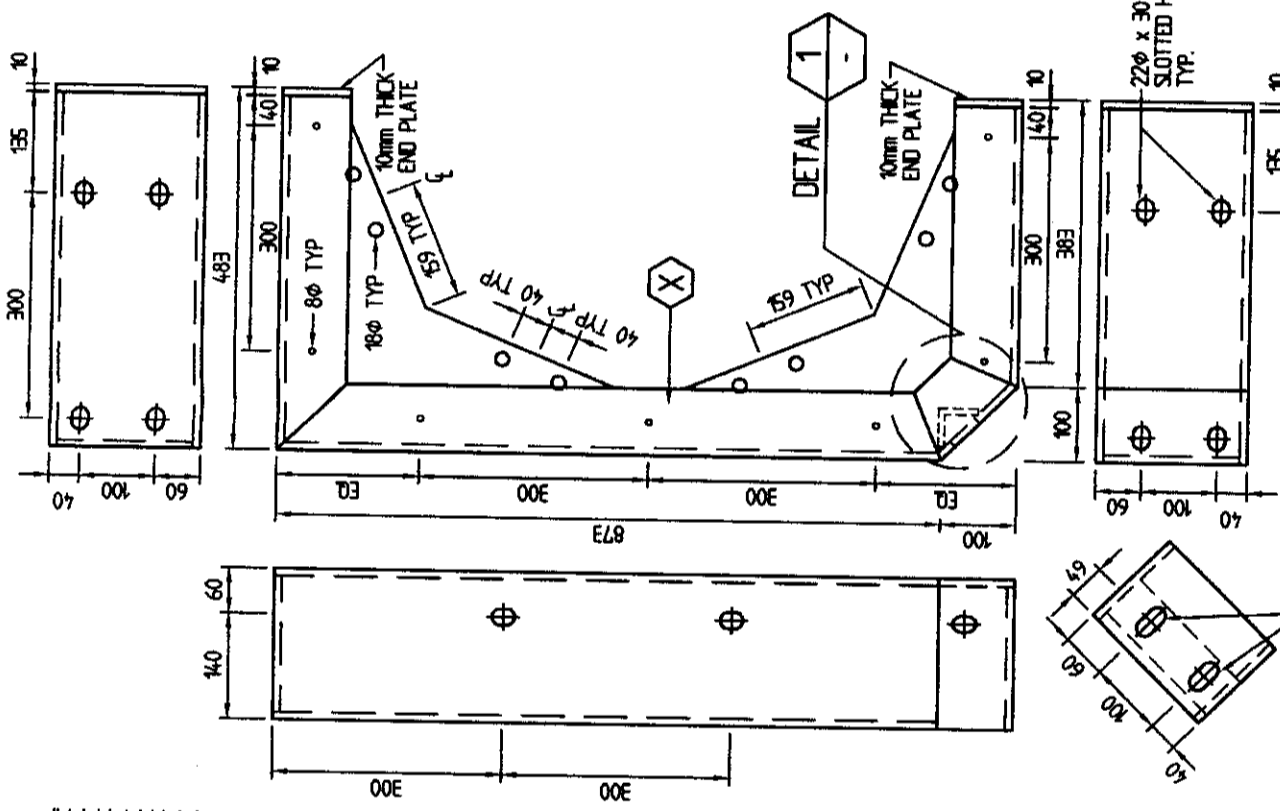
PROJECT:
 ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
 WAVE ATTENUATOR PILE GUIDE DETAILS 650 O.D. PILE

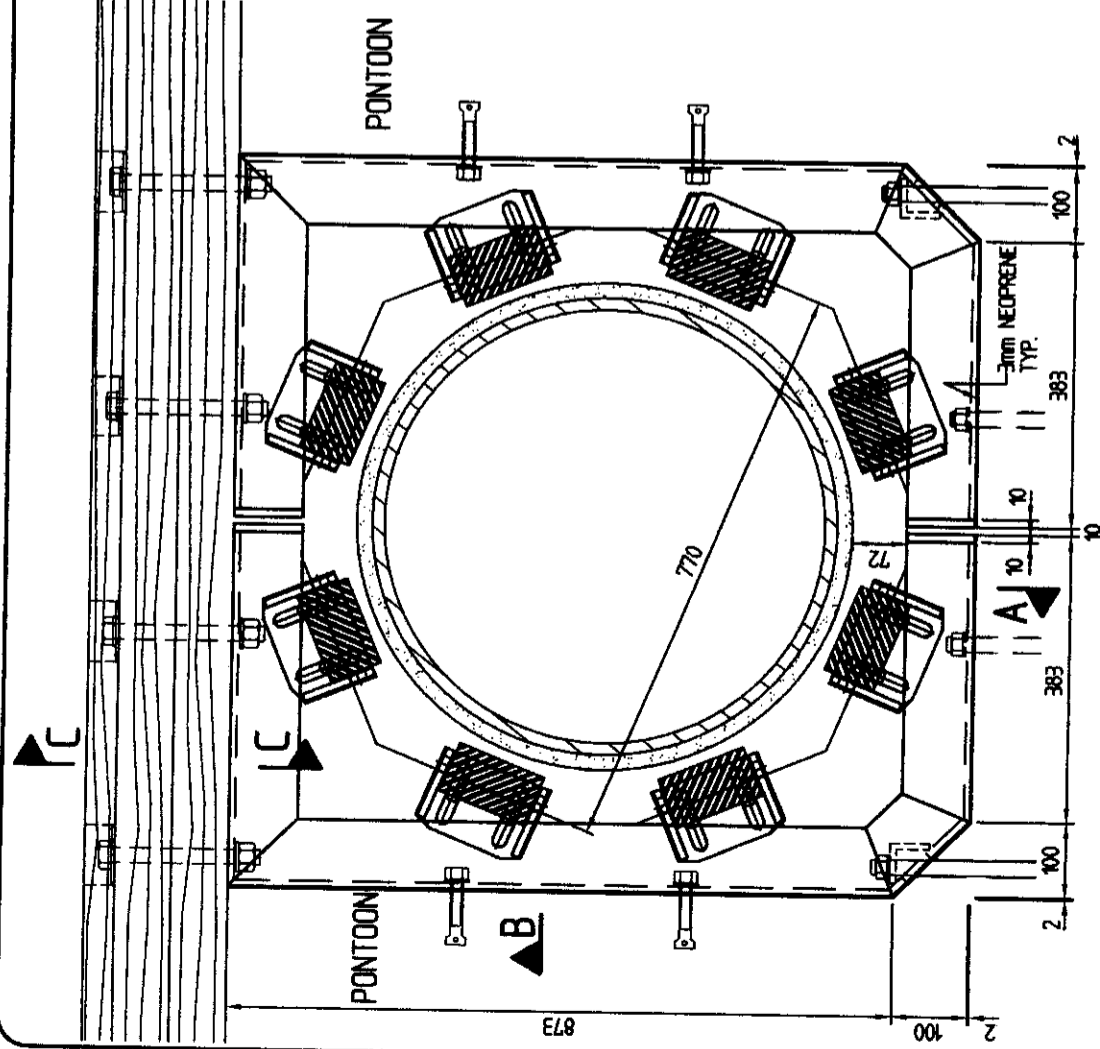
Date:	19/08/03
Drawing No.:	2187-1B
Scale:	DEFINED
Drawn By:	L.A.R.
Designed By:	
Approved By:	

- NOTES:**
- ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS1664 ALUMINIUM STRUCTURES, AS1665 WELDING OF ALUMINIUM STRUCTURES
 - ALL ALUMINIUM SECTIONS SHALL BE 6061-T6 OR 6082-T5 UNO.
 - ALUMINIUM PLATE SHALL BE TYPE 5083 TEMPER H21
 - ALL WELDS SHALL BE INERT GAS WELD USING TIG FUSION WELDING PROCESS.
 - ALL WORK SHALL BE NEATLY FINISHED WITH ALL SHARP EDGES GROUND SMOOTH.
 - ALL WELDS TO BE COMPLETE PENETRATION BUTT WELD.

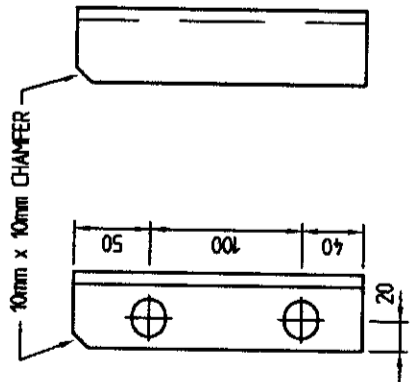
- LEGEND**
- (W) 50 x 50 x 8 ALUMINIUM ANGLE
 - (X) 200 x 90 x 8 x 10 ALUMINIUM CHANNEL
 - (Y) 10mm THICK ALUMINIUM PLATE



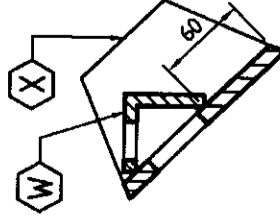
LEFT HAND BRACKET DETAILS
 (RIGHT HAND SIMILAR BUT HANDED)
 SCALE 1:10



PLAN
 SCALE 1:10



ELEVATION



PLAN

DETAIL 1 (SECTIONAL VIEW)
 SCALE 1:5

03086-CC Rev 17.10.03

[Handwritten signature]

PLAN OR DOCUMENT CERTIFICATION

I am a qualified Engineer,
 I hold the following qualifications or licence No.
BSC (Eng), ACG, MCE, FE Aust, NPER 64325

I hereby state that these plans or details comply with the conditions of development consent, the provisions of the Building Code of Australia and/or relevant Australian/Industry Standards.

C.H. ABRAHAM 19.8.03 Date
[Signature] Signature

FOR APPROVAL

Bellingham Marine Australia Pty. Ltd.
 22 Stream Road, Sweeten Mile Rocks Qld 4073 Australia
 Phone 07 376 6955 Fax 07 376 7955
 Email: info@bellingham-marine.com.au

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 473 Amnerley Road, Amnerley, QLD, Australia
 Phone (07)3892 5711 Fax (07)3892 5611
 International Address (+617)
 Email: imc@imc-marinas.com

CLIENT:
 BELLINGHAM MARINE AUSTRALIA PTY. LTD

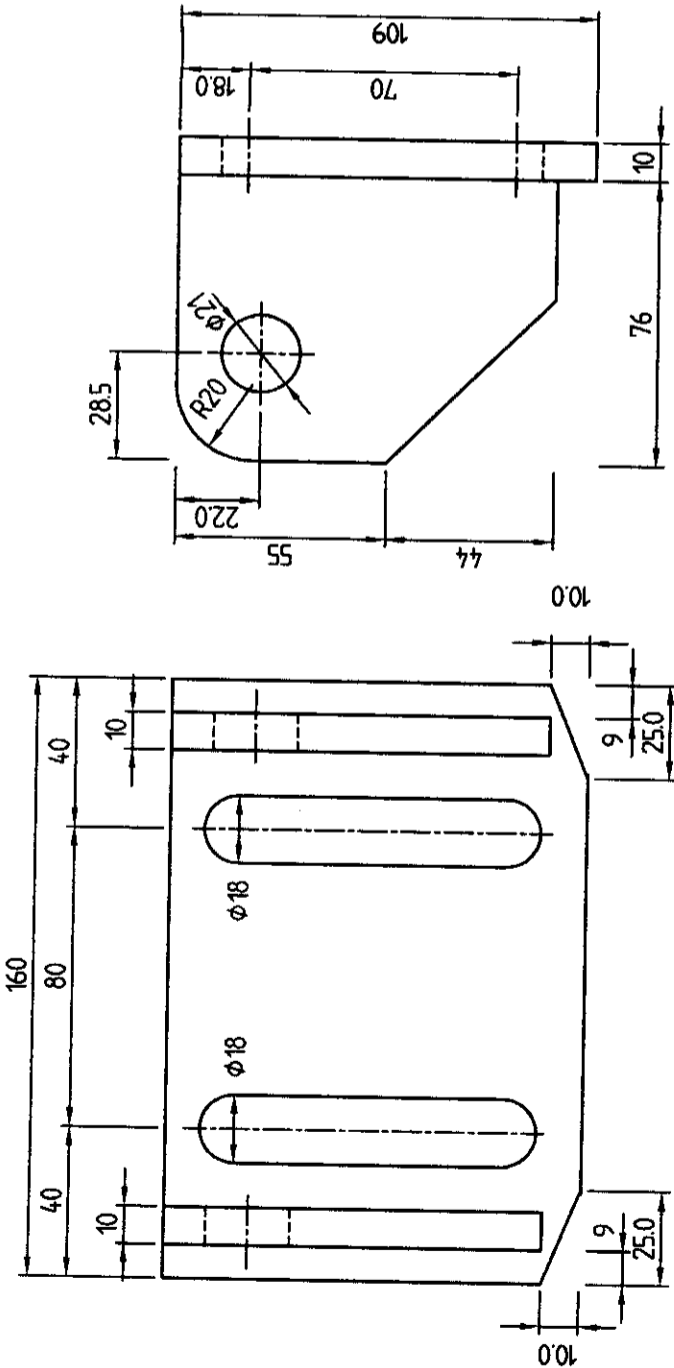
PROJECT:
 ROYAL MOTOR YACHT CLUB - BROKEN BAY

TITLE:
 TYPE 1 ALUMINIUM ROLLER BRACKET FITS 120x70φ UV STABILIZED HDPE ROLLER 20φ AXLE

Date: 19/08/03
 Drawing No.: 2187-114
 Scale: DEFINED
 Drawn By: LAR
 Designed By: Approved By:

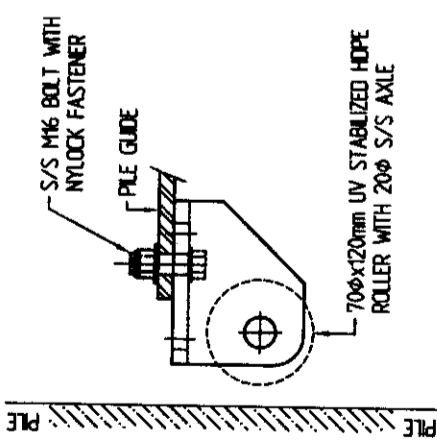
NOTES:

1. ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS1664 ALUMINIUM STRUCTURES, AS1665 WELDING OF ALUMINIUM STRUCTURES
2. ALL ALUMINIUM SECTIONS SHALL BE 6061-T6 OR 6082-T5 UNO.
3. ALUMINIUM PLATE SHALL BE TYPE 5083 TEMPER H321
4. ALL WELDS SHALL BE INERT GAS WELD USING PULSE MIG OR TIG FUSION WELDING PROCESS.
5. ALL WORK SHALL BE NEATLY FINISHED WITH ALL SHARP EDGES GROUND SMOOTH.
6. ALL WELDS TO BE COMPLETE PENETRATION BUTT WELD. 6mm FILLET WELD ON GUSSET PLATES ONLY.



SIDE VIEW
 SCALE 1 : 2

PLAN
 SCALE 1 : 2



TYPICAL MOUNTING DETAIL
 SCALE 1 : 5

REGISTERED ENGINEER
 CONSTRUCTION (CIVIL) AND
 MECHANICAL
 N.03086-CC-1710-03
 Signature
 Name: C.H. ABRAHAM
 Date: 19.08.03

PLAN OR DOCUMENT CERTIFICATION
 I am a qualified Engineer.
 I hold the following qualifications or licence No. **BSC (Eng), ACQI, MICE, FE Aust, NPER 154325**
 Further I am appropriately qualified to certify this component of the project I hereby state that these plans or details comply with the conditions of development consent the provisions of the Building Code of Australia and/or relevant Australian/Industry Standards.

C.H. ABRAHAM 19.08.03
 Name Date
 Signature

FOR APPROVAL

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