DESIGN CRITERIA

1. DESIGN CODES AND STANDARDS OF REFERENCE

- BCBC 2018 BRITISH COLUMBIA BUILDING CODE
- CSA 086 ENGINEERING DESIGN IN WOOD
- CSA S16 DESIGN OF STEEL STRUCTURES • ASCE PLANNING AND DESIGN GUIDELINES FOR SMALL CRAFT HARBOURS (MOP) 50 - ASCE 50

2. DESIGN LIFE

- 1. THE DESIGN SERVICE LIFE IS BETWEEN 3 AND 6 YEARS (CONSIDERED TEMPORARY). THE REPAIRS ARE INTENDED TO REHABILITATE DAMAGED ELEMENTS/COMPONENTS TO ENABLE THE DOCKS TO REMAIN IN SERVICE PROVIDED THE FOLLOWING INSPECTION AND MAINTENANCE REGIME IS IMPLEMENTED:
 - ROUTINE INSPECTIONS FOR DETERIORATION AND DAMAGE ARE PERFORMED AT LEAST EVERY 6 MONTHS, WITH ADDITIONAL INSPECTIONS PERFORMED FOLLOWING SPECIAL CIRCUMSTANCES (I.E., VESSEL IMPACTS), AND
 - DETERIORATED AND/OR DAMAGED AREAS ARE REPAIRED.
- 3. SCOPE OF REPAIRS
- REPAIRS TO FLOATING DOCKS ARE IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN MCELHANNEY'S TECHNICAL MEMORANDUM: "FLOATING DOCK REPLACEMENT – PHASE 1 – TEMPORARY REPAIRS", DATED OCTOBER 7, 2022
- 2. REPAIRS ARE CONSIDERED 'LIKE FOR LIKE' REPAIRS WHICH ADDRESS DEFICIENCIES NOTED WITH THE OBSERVED CONDITION OF THE STRUCTURES ONLY. THE REPAIR SCOPE HAS NOT INCLUDED ANY REVIEW OF CODE COMPLIANCE, ORIGINAL DESIGN OR FITNESS FOR PURPOSE FOR INTENDED OPERATIONS/USE. THE STRUCTURES ARE, FOLLOWING REPAIR, CONSIDERED TO COMPLY WITH THE BUILDING CODE AND SATISFY THEIR ORIGINAL DESIGN PURPOSE TO THE SAME EXTENT AS THEY DO BEFORE REPAIR.
- 3. THE ORIGINAL DESIGN OPERATIONAL CRITERIA (VESSEL CHARACTERISTICS, WIND/WAVE/CURRENT CONDITIONS ARE NOT KNOWN. DUE TO THE SITE BEING UNATTENUATED, THE FOLLOWING OPERATIONAL CONSTRAINTS APPLY TO THE SCOPE OF REPAIRS:
- MOORAGE AT THE DOCKS SHALL BE LIMITED TO VESSELS WITH OVERALL LENGTH (LOA) NOT GREATER THAN 15.25m (50') DURING THE SUMMER MONTHS (JUNE TO AUGUST)
- MOORAGE AT THE DOCKS DURING ALL OTHER TIMES SHALL BE LIMITED TO VESSELS WITH OVERALL LENGTH (LOA) NOT GREATER THAN 7.625m (25')

4. GRATING LIVE LOADS

- LIVE LOAD REQUIREMENTS FOR FRP GRATING ARE IN ACCORDANCE WITH ASCE PLANNING AND DESIGN GUIDELINES FOR SMALL CRAFT HARBOURS (MOP) 50-2020.
- 2. FRP GRATING SHALL MEET THE REQUIREMENTS OF THE FOLLOWING LOADS:
 - SLS: 2.4 kPa UNIFORMLY DISTRIBUTED, 1.8 kN CONCENTRATED LOAD ANYWHERE ON GRATING ULS: 3.6 kPa UNIFORMLY DISTRIBUTED, 2.7 kN CONCENTRATED LOAD ANYWHERE ON GRATING

GENERAL NOTES

1. GENERAL

- 1. WHERE CODES AND STANDARDS ARE REFERENCED, THE LATEST EDITION APPLIES.
- 2. CONSTRUCTION SHALL COMPLY WITH THE BC BUILDING CODE ALONG WITH ALL CODES AND STANDARDS LISTED ON THE DRAWINGS AS WELL AS ALL APPLICABLE FEDERAL, PROVINCIAL, AND MUNICIPAL **REGULATIONS AND BYLAWS.**
- 3. ALL WORK SHALL CONFORM TO INDUSTRIAL HEALTH AND SAFETY REGULATIONS OF WORKSAFE BC.
- 4. DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERS.
- 5. ONLY USE WRITTEN DIMENSIONS. DO NOT SCALE OFF THE DRAWINGS.
- THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS BEFORE COMMENCING ANY WORK. ANY 6. ERRORS OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
- 7. UPON COMPLETION OF THE WORK, REMOVE ALL DEBRIS AND SURPLUS MATERIALS FROM SITE AND DISPOSE OF IN ACCORDANCE WITH ALL APPROPRIATE FEDERAL, PROVINCIAL, AND MUNICIPAL REGULATIONS. LEAVE THE WORK AREA IN A CLEAN AND NEAT CONDITION TO THE SATISFACTION OF THE OWNERS REPRESENTATIVE.
- 8. MATERIALS AND TESTING HAVE BEEN SPECIFIED TO CONFORM TO THE CURRENT EDITIONS OF RELEVANT STANDARDS PUBLISHED BY THE FOLLOWING ORGANIZATIONS:
 - CANADIAN STANDARDS ASSOCIATION (CSA) AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- 9. ANY DAMAGE INCURRED IN THE EXECUTION OF THIS CONTRACT TO ANY PART OF THE PROPERTY OR ANY STRUCTURE NOT SPECIFICALLY DESIGNATED FOR WORKS SHALL BE REPAIRED, REPLACED, AND/OR RECONSTRUCTED BY THE CONTRACTOR AT THEIR EXPENSE TO ITS ORIGINAL CONDITION.

2. TIMBER

- ALL TIMBER WORK SHALL CONFORM TO CSA STANDARD 086.
- 2. ALL SAWN TIMBER SHALL BE COAST DOUGLAS FIR, NO.1/NO.2 STRUCTURAL GRADE OR BETTER, AND UNLESS SPECIFIED OTHERWISE, SHALL BE PROPERLY AIR-DRIED AND SEASONED, CONTAINING NOT MORE THAN 20% MOISTURE.
- 3. TIMBER SIZE AND DRESSINGS SHALL BE IDENTICAL TO EXISTING, UNLESS NOTED OTHERWISE. VERIFY ON SITE PRIOR TO PROCURING.
- 4. ALL TIMBER TREATMENTS SHALL CONFORM TO CSA O80. NEW TIMBER TO BE TREATED WITH ACZA CONCENTRATE TREATMENT FOR USE CATEGORY 5A.
- 5. PLATE WASHERS SHALL BE USED UNDER THE HEADS AND NUTS OF ALL BOLTS BEARING ON TIMBER. WASHER SIZE TO MATCH EXISTING. USE MINIMUM 50mm SQUARE WASHERS UNLESS NOTED OTHERWISE.

GENERAL NOTES (CONT.)

3. TIMBER DOCK COMPONENTS

- 1. TIMBER DECKING REMOVAL/REPLACEMENT
- REMOVE EXISTING DECKING WHICH EXHIBITS SEVERE CHECKING, CRACKING, CURLING, OR MECHANICAL DAMAGE. REPLACE WITH NEW DECK PLANKS, DIMENSIONED TO MATCH EXISTING.

REFER TABLE 1 ON SHEET S100.

- 2. TIMBER BULL RAILS REMOVAL/REPLACEMENT:
 - REMOVE EXISTING BULL RAILS WHICH EXHIBIT SEVERE CHECKING, CRACKING OR MECHANICAL DAMAGE AS INDICATED. REPLACE WITH NEW 140x90 MEMBERS TO MATCH EXISTING. PROVIDE NEW 140x90 RISERS, LOCATIONS TO MATCH EXISTING AND EACH END OF NEW BULL RAIL SECTION AS REQUIRED. INSTALL NEW 20mmØ BOLTS THROUGH BULL RAIL, RISERS AND STRINGERS TO MATCH EXISTING.
- 3. CONCEALED TIMBER ELEMENTS:
 - UPON EXPOSURE, THE CONTRACTOR SHALL SUBMIT PHOTOS OF ALL TIMBER DOCK ELEMENTS TO THE OWNER'S REPRESENTATIVE FOR REVIEW AND EVALUATION PRIOR TO UNDERTAKING REPAIR/REPLACEMENT WORKS. I.E., SUBMIT PHOTOS OF TIMBER STRINGERS TO OWNER'S REPRESENTATIVE PRIOR TO REPLACING TIMBER DECKING.
- 4. ACCESS TRESTLE HAND RAILS:
- 5. FASTENERS REMOVAL/REPLACEMENT:
 - AS REQUIRED.
- 4. STEEL WORK
- - ROLLED SECTIONS:
- PLATES:
- SOLID STEEL RODS: STRUCTURAL BOLTS, NUTS, WASHERS:
- PIPE: • THREADED ROD:
- GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123/A123M.
- CURRENT CAN/CSA W59.
- WELDS ALL AROUND. ALL WELDS SHALL BE SEAL WELDS.
- REPRESENTATIVE.
- WRITTEN INSTRUCTIONS
- COMPLETE.

5. GANGWAY FRP GRATING

WRITTEN INSTRUCTIONS.

6. RE-FLOATING AND LEVELLING OF DOCKS A AND C

- CRITERIA SHALL BE ACHIEVED:
- B, MEASURED AT THE TRANSITION OF THE DOCK AND DOCK B. NOT VARY BY MORE THAN 50mm.
- APPROVAL.

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4						UNAUTHORIZED USE OF THIS DRAWING AND DESIGN.	
						THIS DRAWING AND DESIGN HAS BEEN PREPARED FOR THE CLIENT IDENTIFIED, TO MEET THE STANDARDS AND	
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PA	2023-04-12	ISSUED FOR PRICING	JTH	ZT	MF	CONTRACTOR SHALL EXPOSE LOCATIONS OF ALL EXISTING FACILITIES BY HAND DIGGING OR HYDROVAC AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.	
Rev	Date	Description	Drawn	Design	App'd		ORIGINAL DWG SIZE: ANS

GENERAL NOTES (CONT.)

7. DOCK ACCESSORY COMPONENTS

1. LIFE RINGS SHALL BE PROVIDED AT THE LOCATIONS INDICATED ON THE DRAWINGS.

- 2. FIXED SAFETY LADDERS SHALL BE PROVIDED AT THE LOCATIONS INDICATED ON THE DRAWINGS. LADDERS SHALL EXTEND A MINIMUM OF 1.1m BELOW THE WATER SURFACE AND SHALL HAVE A HIGH VISIBILITY YELLOW PAINT FINISH. TERMINATE BULL RAILS EACH SIDE OF NEW LADDER. PROVIDE NEW BULL RAIL RISERS AND FASTENERS AS REQUIRED. LADDER POSITION TO BE MARKED ON CURB OR BULL RAIL W/ HIGH VISIBILITY PAINT.
- 3. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL ACCESSORY COMPONENTS PRIOR TO INSTALLATION.
- 4. LADDERS, LIFE RINGS AND FIXTURES SHALL BE AS FOLLOWS, OR SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE AS EQUIVALENT:
 - LIFE RING: DOCK EDGE 30" COMMERCIAL ORANGE LIFE RING BUOY, SOLAS C/W 100' THROW • MOUNTING PEDESTAL: ACCMAR EQUIPMENT COMBO FIRE SAFETY AND LIFE RING PEDESTAL • LADDER: DOCK EDGE ALUMINIUM FLIP UP - WIDE STEP LADDER
- 5. ALL ACCESSORY COMPONENTS SHALL BE FASTENED TO THE DOCKS IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

• INSTALL ADDITIONAL 140x38 HORIZONTAL RAIL BETWEEN BULL RAIL AND MIDDLE RAIL. BOLT TO EXISTING HANDRAIL POSTS, SIZE AND NUMBER OF BOLTS TO MATCH EXISTING HORIZONTAL RAILS.

• 100% OF EXISTING FASTENERS (DECKING, BULL RAILS, PILE WELLS, HANDRAIL, ETC.), WHICH ARE NOT SUBJECT TO REPLACEMENT BY NOTES 3.1 TO 3.4 SHALL BE INSPECTED BY THE CONTRACTOR. FASTENERS WHICH ARE FOUND TO BE CORRODED, DAMAGED, OR OTHERWISE INEFFECTIVE (I.E., LOOSE DECKING NAILS) SHALL BE REPLACED WITH NEW GALVANIZED FASTENERS, SIZE AND LOCATION TO MATCH EXISTING. ALL OTHER FASTENERS SHALL BE RE-TENSIONED AND/OR RE-FITTED

1. SUPPLY, FABRICATION, TRANSPORTATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO CAN/CSA G40.21. STEEL GRADES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

	CSA-G40.21 GRADE 300W
	CSA-G40.21 GRADE 300W
	CSA-G40.21 GRADE 300W
:	ASTM A307 GRADE A
	ASTM A53/A53M GRADE B

ASTM A307 GRADE A

2. UNLESS NOTED OTHERWISE, ALL STEEL WORK, CHAINS, SHACKLES AND FASTENERS SHALL BE HOT DIP

3. ALL WELDING SHALL BE UNDERTAKEN BY A COMPANY CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CAN/CSA W47.1 DIVISION 2 OR BETTER AND ALL WELDING SHALL CONFORM TO

4. UNLESS NOTED OTHERWISE, WELDS BETWEEN ADJACENT MEMBERS SHALL BE 5mm CONTINUOUS FILLET

5. FIELD WELDING IS NOT PERMITTED UNLESS SPECIFIED OR AUTHORIZED BY THE OWNER'S

6. DAMAGED GALVANIZING SHALL BE TOUCHED UP WITH TWO COATS OF LANCO GALVACON GC-243 COLD GALVANIZING COMPOUND OR APPROVED EQUIVALENT IN ACCORDANCE WITH THE MANUFACTURER'S

7. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STEELWORK AND RELATED ASSEMBLIES TO THE OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL INDICATE MATERIALS, METHODS OF CONSTRUCTION AND ATTACHMENT OR ANCHORAGE, ERECTION DIAGRAMS, CONNECTIONS, AND INCLUDE EXPLANATORY NOTES AND OTHER INFORMATION NECESSARY FOR COMPLETION OF THE WORK. WHERE ARTICLES OR EQUIPMENT ATTACH OR CONNECT TO OTHER ARTICLES OR EQUIPMENT, THE CONTRACTOR SHALL INDICATE THAT SUCH ITEMS HAVE BEEN COORDINATED. SHOP DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE SUFFICIENTLY IN ADVANCE SO AS TO NOT CAUSE DELAY IN THE WORK. WORK INCORPORATED IN SHOP DRAWING SUBMISSIONS SHALL NOT PROCEED UNTIL THE OWNER'S REPRESENTATIVE REVIEW IS

1. FRP GRATING SHALL BE FIBERGRATE SAFE-T-SPAN T3320 C/W INTEGRALLY APPLIED GRIT FINISH, OR APPROVED EQUIVALENT TYP. GRATING SHALL BE FASTENED TO NEW AND EXISTING STEEL WORK WITH MANUFACTURER SUPPLIED TYPE 'FC' OR TYPE 'M' CLIPS IN ACCORDANCE WITH MANUFACTURERS

1. INSTALL NEW DOCK FLOTATION BILLETS (AQUACAN OR APPROVED EQUIVALENT) BENEATH DOCKS A AND C AS INDICATED, TO INCREASE FREEBOARD AND LEVEL THE DOCKS. THE FOLLOWING PERFORMANCE

• FREEBOARD OF EACH DOCK TO BE INCREASED TO BE WITHIN +/- 25mm OF THE FREEBOARD OF DOCK • THE FREEBOARD OF EACH DOCK AFTER RE-FLOATING, MEASURED AROUND ITS PERIMETER SHALL

2. CONTRACTOR SHALL SUBMIT NUMBER OF PROPOSED DOCK FLOTATION BILLETS AND PROPOSED METHOD OF FASTENING NEW FLOTATION BILLETS TO THE DOCKS TO THE OWNER'S REPRESENTATIVE FOR



	VILLAGE OF GOLD RIVER	Drawing No.		
PRELIMINARY	499 MUCHALAT DRIVE, GOLD RIVER, BC, V0P 1G0			
NOT FOR CONSTRUCTION	DEEP SEA WHARF MARINA FACILITY TEMPORARY REPAIRS	S000)	
	DESIGN CRITERIA & GENERAL NOTES	Project Number	Rev.	
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TABLE 1 - REPAIR MATERIAL QUANTITIES

DOCK A		DOCK B		DOCK C		GANGWAY	
ITEM	QTY	ITEM	QTY	ITEM	QTY	ITEM	
NEW DECK PLANKS	15 m²	NEW DECK PLANKS	8 m²	NEW DECK PLANKS	8 m²	NEW FRP DECKING	
NEW DECKING FASTENERS	310	NEW DECKING FASTENERS	210	NEW DECKING FASTENERS	215	NEW KICK RAILS	
NEW BULL RAILS	26 Lin. m	NEW BULL RAILS	24 Lin. m	NEW BULL RAILS	17 Lin. m		
NEW FLOTATION BILLETS	5-8	NEW LADDERS	1	NEW FLOTATION BILLETS	2-3		
NEW LADDERS	2	NEW LIFE RING AND PEDESTAL	1	NEW LADDERS	1		
NEW LIFE RING AND PEDESTAL	1			NEW LIFE RING AND PEDESTAL	1		

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						INFORMATION ON EXISTING UNDERGROUND FACILITIES MAY NOT BE COMPLETE OR ACCURATE. McELHANNEY, ITS EMPLOYEES AND DIRECTORS ARE NOT RESPONSIBLE NOR LIABLE FOR THE LOCATION OF ANY UNDERGROUND CONDUITS, PIPES, CABLES OR OTHER FACILITIES WHETHER SHOWN OR OMITTED FROM THIS PLAN. PRIOR TO CONSTRUCTION	
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ISI D (22" x 34")

