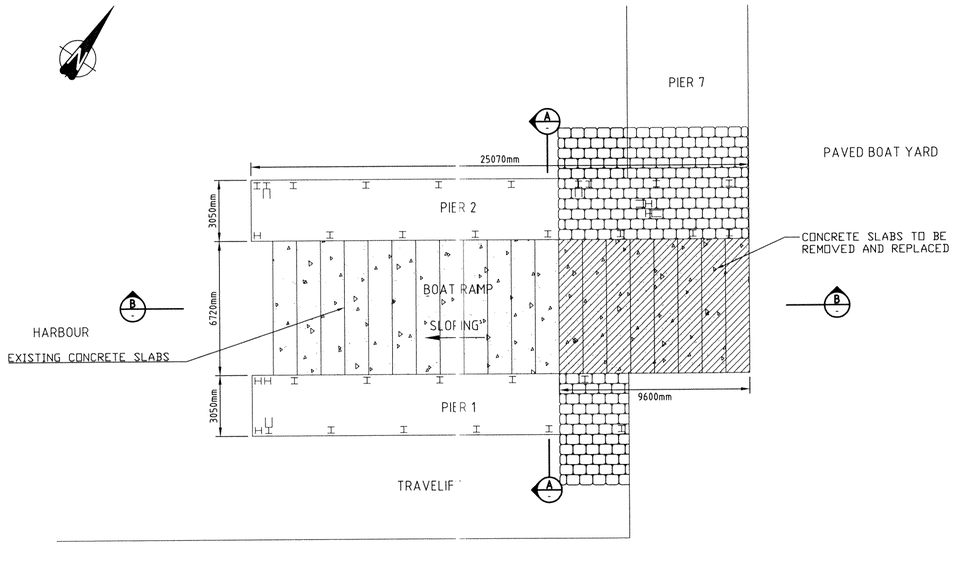
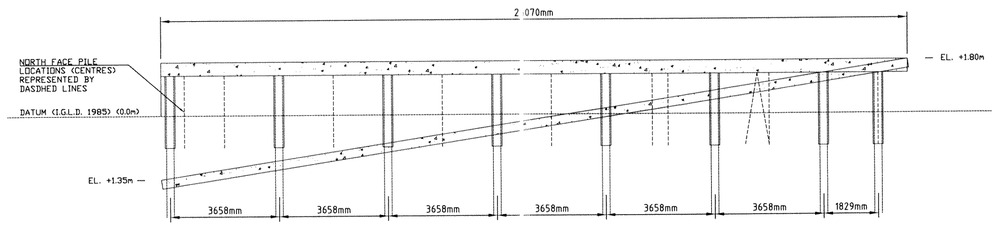
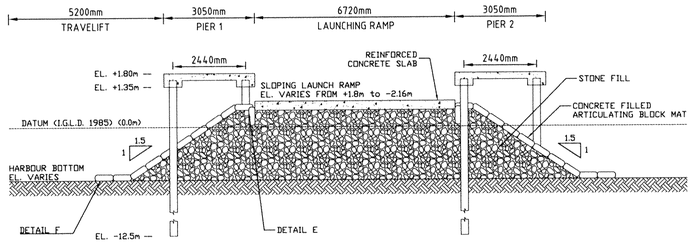


PLAN VIEW - BOAT LAUNCH RAMP FACILITY
1:150



SECTION B
1:100



SECTION A
1:100

DESIGN INTENT:

1. THE INTENT OF THIS DRAWING IS TO REPAIR THE BOAT LAUNCH RAMP TO RETURN IT TO SERVICEABLE CONDITION.

DESIGN CRITERIA:

1. GENERAL

1.1. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE OWNER. NO DISRUPTION TO THE FACILITY OPERATIONS IS PERMITTED WITHOUT WRITTEN AUTHORIZATION FROM ENVIRONMENT CANADA.
1.2. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AND SECURING SAFE ACCESS TO THE LAUNCH RAMP FOR ALL CONSTRUCTION ACTIVITIES.
1.3. CONTRACTOR IS RESPONSIBLE FOR DESINGING & MAINTAINING TEMPORARY WORKS TO SUIT ALL CONSTRUCTION ACTIVITY.

2. DESIGN STANDARDS

2.1. DESIGN IS IN ACCORDANCE WITH THE RELEVANT COMPONENTS OF THE FOLLOWING CODES, STANDARDS, AND MANUALS:
- CAN/CSA-A23.3-04 - DESIGN OF CONCRETE STRUCTURES
- CAN/CSA-S06-06 - CANADIAN HIGHWAY BRIDGE DESIGN CODE
- OPSS - ONTARIO PROVINCIAL STANDARD SPECIFICATION

3. PROJECT DATUM

3.1. DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.

4. AUTHORITY PERMITS

4.1. ALL NECESSARY BUILDING, ENVIRONMENTAL AND AUTHORITY PERMITS SHALL BE HANDLED AND OBTAINED BY CONTRACTOR.

5. DESIGN LOAD
5.1 DESIGN LOAD ON THE NEW CONCRETE SLABS IS 50 TONNES.

GENERAL NOTES:

1. GENERAL

1.1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DOCUMENTS.
1.2. THE OWNER IS ENVIRONMENT CANADA (EC).
1.3. DETAILED REQUIREMENTS FOR MATERIALS, FABRICATION AND INSTALLATION PROCEDURES ARE DEFINED IN THE SPECIFICATIONS. FOR CONVENIENCE, CERTAIN EXTRACTS ARE REPRODUCED BELOW. IN THE EVEN OF CONFLICT, THE CONFLICT SHALL BE BROUGHT TO THE ATTENTION OF ENVIRONMENT CANADA, WHO SHALL DETERMINED BASED ON THE MOST CONSERVATIVE SPECIFICATION.
1.4. ALL EFFORTS HAVE BEEN MADE TO ACCURATELY REPRESENT THE EXTENT OF REPAIRS REQUIRED AS EVIDENT FROM VISUAL ABOVE WATER INSPECTION OF THE SITE. HOWEVER, COMMENCEMENT OF WORK MAY REVEAL FURTHER DAMAGE THAT WOULD REQUIRE REPAIR SUBJECT TO AGREEMENT WITH ENVIRONMENT CANADA.
1.5. THE DIMENSIONS OF EXISTING STRUCTURES ARE REFERENCED FROM ENVIRONMENT CANADA REFERENCE DRAWINGS AND REPORTS. THESE DIMENSIONS ARE THEREFORE SUBJECT TO CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO PROCURING MATERIALS.
1.6. THE STRUCTURES DEPICTED IN THESE DRAWINGS ARE BASED ON THE ENVIRONMENT CANADA REFERENCE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE IF ANY MODIFICATIONS THAT HAVE BEEN MADE TO THE ORIGINAL STRUCTURE WILL MAKE INSTALLATION OF THE WORK MORE DIFFICULT THAN SHOWN.
1.7. ANY DAMAGE INCURRED IN THE EXECUTION OF THIS CONTRACT TO THE PROPERTY OR STRUCTURES NOT SPECIFICALLY DESIGNED FOR DEMOLITION OR REPAIR SHALL BE REPAIRED, REPLACE AND/OR RECONSTRUCTED BY THE CONTRACTOR AT THEIR EXPENSE TO THE ORIGINAL CONDITION.
1.8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN HEALTH AND SAFETY COORDINATION AND SPECIAL CARE TO WORK NEAR WATER AND NEAR LIVE VEHICLE TRAFFIC.

2. SURVEYS

2.1. THE CONTRACTOR SHALL SUBMIT AS BUILT RECORDS AND SUBMIT TO ENVIRONMENT CANADA UPON COMPLETION OF WORKS AT CONTRACTORS EXPENSE.
2.2. CONTRACTOR TO REMOVE ANY CONSTRUCTION MATERIAL PLACED OUTSIDE OF THE SITE BOUNDARIES.

3. CONCRETE REINFORCEMENT

3.1. REINFORCEMENT STEEL SHALL BE HOT ROLLED DEFORMED BILLET BARS TO CAN/CSA-G30.18M, GRADE 400W
3.2. BARS SHALL BE SUPPLIED FULL LENGTH, SPLICING OF REINFORCEMENT IS NOT PERMITTED UNLESS NOTED OTHERWISE OR APPROVED BY ENVIRONMENT CANADA.
3.3. APPROPRIATE REINFORCEMENT CHAIRS OF OTHER APPLICABLE SPACERS SHALL BE USED TO ACHIEVE THE REQUIRED REINFORCEMENT POSITIONING IN THE CONCRETE SLABS.

4. CAST IN PLACE CONCRETE / PRECAST CONCRETE

4.1. CONCRETE MATERIALS AND METHODS SHALL CONFORM TO CSA A23.1
4.2. CONCRETE SHALL BE EXPOSURE CLASS C1 AND HAVE MINIMUM COMPRESSIVE STRENGTH OF 35 MPa AT 28 DAYS, UNLESS OTHERWISE NOTED.
4.3. CLEAR CONCRETE TO ANY STEEL SHALL BE 100mm, UNLESS OTHERWISE NOTED.
4.4. DIMENSIONS OF PROPOSED CONCRETE SLABS SHALL BE EXACTLY AS PER EXISTING CONCRETE SLABS AND CONTRACTOR TO CHECK ALL DIMENSIONS ON SITE.
4.5. CONCRETE SHALL BE CAST-FORMED FINISH. TOP EXPOSED FACE SHALL BE HAND TROWELED SMOOTH WITH 1" DEEP V-GROOVES ANGLED AT 60 DEGREES FROM THE LONGITUDINAL AXIS OF THE RAMP, ORIENTED DOWNSTREAM.
4.6. CONCRETE SLABS CAN BE CAST IN SITU OR PRECAST AND DELIVERED TO SITE.
4.7. IF PRECAST THE CONCRETE DESIGN AND REINFORCEMENT LAYOUT SHALL BE CHECKED BY THE CONTRACTOR THAT IT HAS SUFFICIENT STRENGTH TO ENABLE LIFTING AND PLACING OF SLAB INTO FINAL POSITION.

5. EROSION PROTECTION

5.1. THE SLOPE PROTECTION SYSTEM IS CONSIDERING A GROUT FILLED ARTICULATING BLOCK MAT SYSTEM THAT IS FACTORY MADE. IF THE CONTRACTOR SUBSTITUTES THE FACTORY MADE ARTICULATING BLOCK MATS, IT MUST BE EQUIVALENT IN BEHAVIOUR AND CHARACTERISTICS.
5.2. ALL ARTICULATING BLOCK MATS MUST BE JOINED AT ALL ENDS BY MEANS OF INDUSTRIAL ZIPPERS.
5.3. DURING FABRICATION AND INSTALLATION OF THE ARTICULATING BLOCK MATS, THEIR DIMENSIONS MUST BE CONTINUOUSLY CHECKED SO AS TO ASSURE PROPER FITTING AMONG THEMSELVES AND THE PILES.
5.4. ONCE THE SLOPE IS AT PROJECT LEVELS, THE FABRIC FORMS SHOULD BE PLACED STARTING AT THE TOP OF THE SLOPE UP TO THE WATER LEVEL THEN WITH THE HELP OF QUALIFIED DIVERS IN THE UNDER WATER AREA. TAKING THE NECESSARY PRECAUTIONS SO AS TO PERMIT FOR SHRINKING DURING FILLING OF THE GROUT.
5.5. NOMINAL BLOCK DIMENSIONS OF MASS PER UNIT AREA MUST BE 440 kg/m2.

6. SLOPE FILL

6.1. SLOPE FILL SHALL BE GRADED CRUSHED STONE WITH A NOMINAL STONE SIZE VARYING BETWEEEN 30MM TO 300MM, OR SIMILAR APPROVED CLEAN FILL CONTAINING NO FINES OR PARTICLES SMALLER THAN 30MM IN SIZE.

REV	DATE (DD-MMM-YY)	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
2	26-MAR-14	ISSUED FOR TENDER	A.N.	H.J.	A.N.	A.C.	H.J.			
1	03-FEB-14	ISSUED FOR CONSTRUCTION	A.N.	H.J.	A.N.	A.C.	H.J.			
0	04-JAN-14	ISSUED FOR CONSTRUCTION	A.N.	H.J.	A.N.	A.C.	H.J.			

WPC-D VERSION:2009-1

D SHEET | SCALE | SHOWN

OneWay to zero harm

WORLEYPARSONS PROJECT No
307081-00089

ENGINEERING AND PERMIT STAMPS (As Required)

LICENSED PROFESSIONAL ENGINEER
26/03/2014
A. CEREZO MERCHAN
100175593
PROVINCE OF ONTARIO

CUSTOMER

Environment Canada

"This drawing is prepared for the use of the contractual customer of WorleyParsons Canada Services Ltd. and WorleyParsons Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing."

WorleyParsons
resources & energy

ENVIRONMENT CANADA
BOAT LAUNCH REHABILITATION
BURLINGTON, ONTARIO
CONSTRUCTION DETAILS

DRG No: CIVIL C1
REV: 2

LOCATION: U:\NET\307081-00089 - EC BOAT LAUNCH REPAIR\7 0_DESIGN_&_ENGINEERING\7 1_CIVIL_&_STRUCTURAL\7 1 3_DRAWINGS\SAVED AS 2012\307081-00089-DSK-1000_AR.DWG
USER NAME: iwona.truszkowska
PLOT DATE & TIME: 26/3/2014 1:22:50 PM
SAVE DATE & TIME: 26/3/2014 1:21:54 PM