MOLE QUAYWALL STRUCTURAL GENERAL NOTES

GENERAL

1. THESE NOTES APPLY TO THE MOLE QUAYWALL STRUCTURE AND CRANE RAIL SUPPORT STRUCTURE AT THE MOLE FILL AND WEST MOLE. REFER TO SHEET S100 FOR ADDITIONAL GENERAL NOTES.
2. ALL DIMENSIONS AND DETAILS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION AND CONSTRUCTION.
3. ALL SHOP DRAWINGS FOR PRECAST CONCRETE ELEMENTS, REINFORCING STEEL, AND MISCELLANEOUS STEEL SHALL BE SUBMITTED TO AND REVIEWED BY THE ENGINEER PRIOR TO FABRICATION.
4. ALL EXISTING STRUCTURE AT THE WEST MOLE SHALL BE TEMPORARILY BRACED DURING CONSTRUCTION TO PRESERVE INTEGRITY AND STABILITY OF THE WEST MOLE STRUCTURE UNTIL THE MOLE QUAYWALL IS CONSTRUCTED AND MOLE FILL IS IN PLACE.
5. ALL EXISTING SUBSTRUCTURE ELEMENTS AT THE WEST MOLE SHALL BE FIELD VERIFIED. THIS INCLUDES, BUT IS NOT LIMITED TO, EXISTING DEADMEN ANCHORS AND TIE RODS SUPPORTING THE WEST MOLE SHEET PILE WALL AND EXISITING RING CRANE FOUNDATION. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND NEW CONSTRUCTION BEFORE BEGINNING RELATED WORK.

CODES AND STANDARDS

1. REFER TO SHEET S100 FOR APPLICABLE CODES AND STANDARDS NOTES.

PILING

1. PRESTRESSED CONCRETE PILES AT MOLE QUAYWALL

   CONCRETE MIN 28-DAY COMPRESSIVE STRENGTH: REFER TO SHEET S100

   PRESTRESSING STEEL: ASTM A 416, GRADE 270, UNCOATED LOW-RELAXATION SEVEN WIRE STRAND

   REINFORCING STEEL: REFER TO SHEET S100

   SPIRAL REINFORCEMENT: REFER TO SHEET S100

2. SHEET PILES AT THE MOLE QUAYWALL: ASTM A 572 GRADE 60, COATED. SHEET PILES INCLUDE A MINIMUM 1/8-INCH CORROSION ALLOWANCE. MINIMUM SECTION PROPERTIES PER LINEAR FOOT OF WALL ARE AS FOLLOWS:

AREA	14.48	IN2
SECTION MODULUS	89.3	IN3
MOMENT OF INERTIA	847.1	IN4

3. H-PILES AT MOLE FILL: ASTM A 572 GRADE 50, COATED. H-PILES INCLUDE A MINIMUM 1/8-INCH CORROSION ALLOWANCES ON FLANGES AND WEB.
4. AUGERCAST CONCRETE PILES AT WEST MOLE:

   CONCRETE MIN 28-DAY COMPRESSIVE STRENGTH: REFER TO SHEET S100

   REINFORCING STEEL: REFER TO SHEET S100

   SPIRAL REINFORCEMENT: REFER TO SHEET S100

5. DRILL WEEP HOLES IN SHEET PILE WEBS PRIOR TO COATING.
6. FOR ADDITIONAL NOTES ON PILES REFER TO GENERAL NOTES SHEET S100.

REINFORCED CONCRETE

1. REFER TO GENERAL NOTES SHEET S100 FOR REINFORCED CONCRETE NOTES.

MISCELLANEOUS STEEL

1. REFER TO S100 FOR MISCELLANEOUS STEEL NOTES.

WELDING

1. REFER TO S100 FOR WELDING NOTES.

DESIGN CRITERIA

DESIGN LOADS

1. UNIFORM LIVE LOADS:

   MOLE QUAYWALL 800 PSF, TYP
   80 PSF FOR LOAD COMBINATIONS WITH SEISMIC LOADS

2. CONCENTRATED LIVE LOADS:
   A. SEE LIVE LOAD DIAGRAMS THIS SHEET FOR THE FOLLOWING VEHICLE LIVE LOADS:

      FORKLIFT LOAD IN ACCORDANCE WITH UFC 4-152-01
      TRUCK LOAD: AASHTO HL-93
      MOBILE CRANE: 90-TON IN ACCORDANCE WITH UFC 4-152-01, EAST OF GRID MA
      140-TON IN ACCORDANCE WITH UFC 4-152-01, WEST OF GRID MA

   B. IMPACT FACTORS PER LOAD DIAGRAMS ARE NOT APPLICABLE TO PILES AND OTHER SUBSTRUCTURE ELEMENTS.

3. PORTAL CRANE LOAD
   A. PORTAL CRANE - 30 K/FT PER RAIL APPLIED SIMULTANEOUSLY WITH 80 PSF UNIFORM LIVE LOAD WITHIN 34'-0" WIDE ZONE CENTERED ON CENTER LINE OF RAILS AND 800 PSF ELSEWHERE (SEE DIAGRAM ON THIS SHEET)
   B. IMPACT FACTORS PER LOAD DIAGRAM ARE NOT APPLICABLE TO PILES AND OTHER SUBSTRUCTURE ELEMENTS.
   C. FOR SEISMIC LOAD CRITERIA, PORTAL CRANE IS CONSIDERED STOWED NORTH OF STATION 4+00. SEE PIER B GENERAL NOTES SHEET S101 FOR STOWED MASS OF PORTAL CRANE.

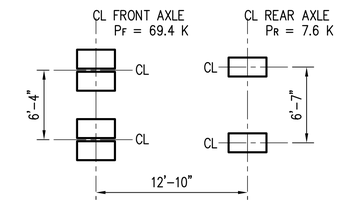
4. DEAD LOADS:

REINFORCED CONCRETE	150 PCF
PRECAST CONC TRENCH COVERS	165 PCF
PRECAST CONCRETE PILES	160 PCF
STEEL	490 PCF

SEISMIC CRITERIA

1. ELEMENTS RELATED TO THE PERFORMACE DESIGN DO NOT ALTER THE SEISMIC CRITERIA AND RESULTING SEISMIC LOADS SPECIFIED BY THE PRESCRIPTIVE DESIGN CRITERIA. REFER TO PRESCRIPTIVE STRUCTURAL GENERAL NOTES FOR SEISMIC CRITERIA RELATED TO THE MOLE QUAYWALL.
2. SOIL IN THE AREA EAST OF THE EXISTING WEST MOLE BULKHEAD IS NOT EXPECTED TO LIQUEFY DURING A SEISMIC EVENT.
3. LIQUEFACTION IS EXPECTED AT THE AREA WEST OF THE EXISTING WEST MOLE BULKHEAD TO A DEPTH OF ELEVATION 70 FEET DURING A SEISMIC EVENT.
4. FOR SEISMIC LOAD CRITERIA, PORTAL CRANE IS CONSIDERED STOWED NORTH OF STATION 4+00. ELEMENTS OF THE PERFORMANCE DESIGN RELATED TO PORTAL CRANE LOADS (CRANE CROSSOVER AT MOLE QUAYWALL, CRANE RAIL SUPPORT STRUCTURE AT MOLE FILL AND WEST MOLE) OCCUR SOUTH OF STATION 4+00. SEISMIC LOADS IMPARTED BY PORTAL CRANE MASS ARE NOT CONSIDERED FOR THE PERFORMANCE DESIGN.

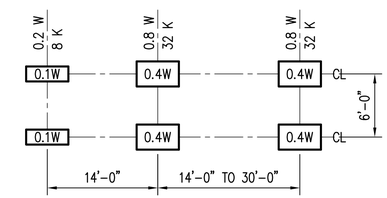
LOAD DIAGRAMS



TIRE PRESSURE = 120 PSI

FORKLIFT

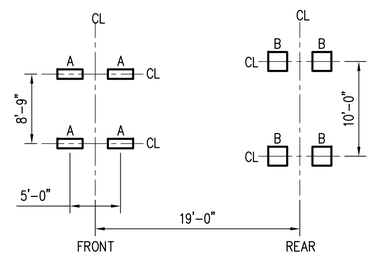
(ADD 15% IMPACT)



W = COMBINED WEIGHT ON THE FIRST TWO AXLES.

AASHTO HL-93 TRUCK

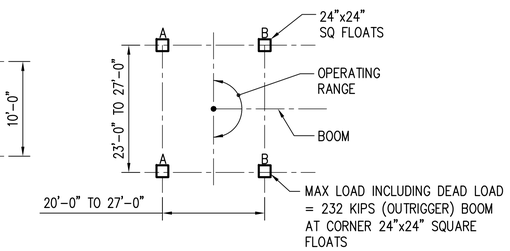
(ADD 15% IMPACT)



A = EACH SINGLE TIRE = 13.9 KIPS
B = EACH DUAL TIRE = 35.7 KIPS

90-TON CRANE TRAVELING

(ADD 15% IMPACT)

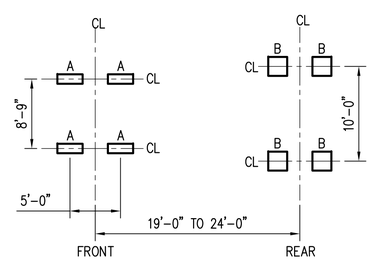


MAX LOAD FOR A = B = 144 KIPS (BOOM OVER SIDE)

90-TON CRANE LIFTING

(ADD 15% IMPACT)

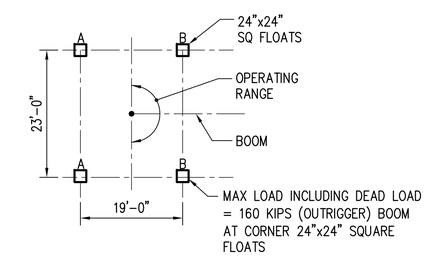
90-TON MOBILE TRUCK CRANE: EAST OF GRID MA



A = EACH SINGLE TIRE = 16 KIPS
B = EACH DUAL TIRE = 41 KIPS

140-TON CRANE TRAVELING

(ADD 15% IMPACT)

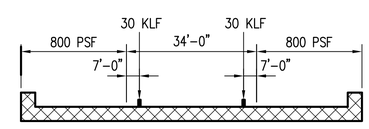


MAX LOAD FOR A = B = 200 KIPS (BOOM OVER SIDE)

140-TON CRANE LIFTING

(ADD 15% IMPACT)

140-TON MOBILE TRUCK CRANE: WEST OF GRID MA



PORTAL CRANE LOAD

(ADD 25% IMPACT)

NOVA Tutor-Saliba CORPORATION
Quality and Innovation in Construction
AS BUILT

IF SHEET IS NOT 34" x 22" SCALE ACCORDINGLY

REVISIONS

REV	DESCRIPTION	PREP. BY	DATE	APPROVED

WORK REQ NO. 26269
KEY DWG NO. 71413
DM DATE
SUPV DATE
SATISFACTORY TO
APPROVED FOR F&MO DATE
REV -

kpff Consulting Engineers
Seattle, Washington 98101
SUBMITTED BY J. BLACK DATE 12 NOV 2009
FRM MEMBER (TITLE) PRINCIPAL CHK: GLS
DSGN: BMR DR: DMH PWD DWG NO. 714426

DEPARTMENT OF THE NAVY
NAVY REGION NORTHWEST
NAVAL BASE KITSAP
BREMERTON, WASHINGTON
P-356 CVN PIER REPLACEMENT
GENERAL NOTES
SHEET 3 - MOLE QUAYWALL

CODE IDENT NO. 80091
CONSTR. CONTR. NO. N44255-08-C-6000
SPEC NO.
NAVFAC DWG. NO. 16005481
SHEET 14 OF 577
S102

CAD FILE NAME: S102.DWG 1:1

Name: jariani Date: Oct 08, 2012-03:09:00pm File: S:\ENGINEERING DEPARTMENT\Engineering\0803 Bremerton Pier\0803 AS BUILTS\Structural\AutoCAD\S102_AB.dwg