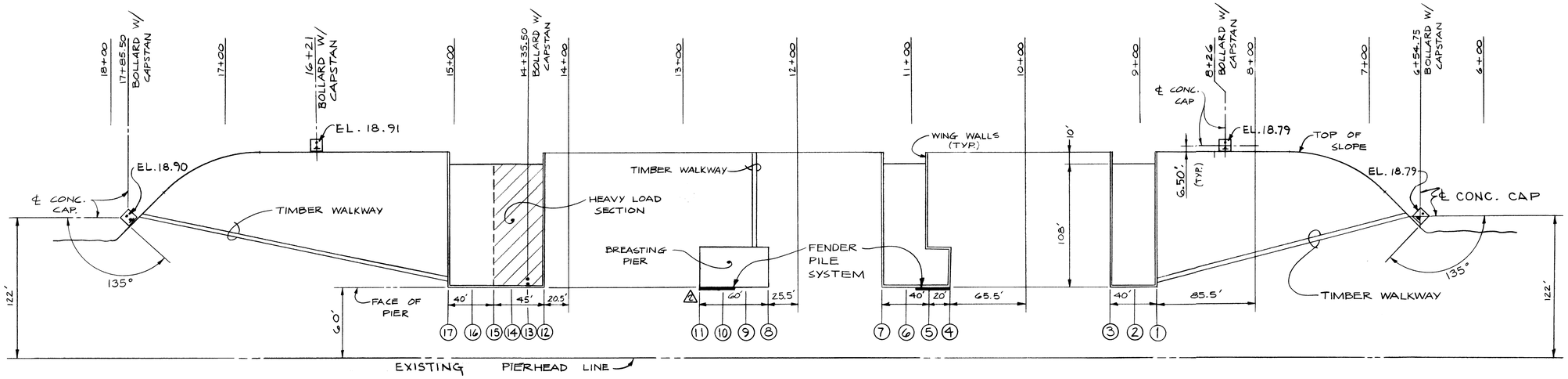
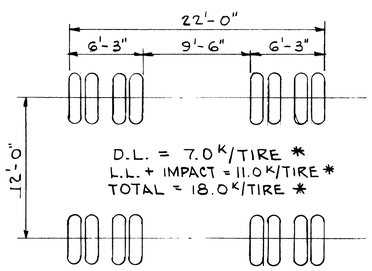


PIER LAYOUT
1" = 50'

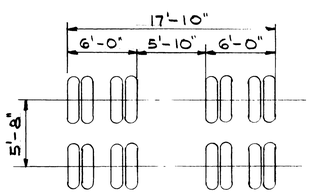
DESIGN CRITERIA

1. UNIFORM LIVE LOAD:
   A) ON ALL AREAS OTHER THAN THE HEAVY LOADED SECTION: 1000 PSF ON ALL SPANS OR ANY COMBINATIONS OF SPANS.
   B) ON HEAVY LOADED SECTION: 2000 PSF ON ALL SPANS OR ANY COMBINATIONS OF SPANS.
   C) ON WALKWAYS: 100 PSF
2. TOTE RAMP LOADINGS:



LONG RAMP LOADING

* DEAD & LIVE LOADS NOTED ARE TAKEN FROM McKAY INTERNATIONAL ENGINEERS, INC. DWG. NO. 7503-1P- REV. 2 DATED 5/27/75

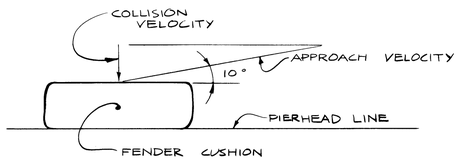


SHORT RAMP LOADING

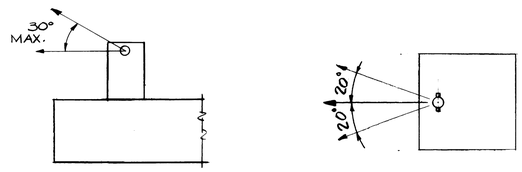
3. SEISMIC LOADING:
   13 PERCENT OF TOTAL DEAD LOAD APPLIED IN ANY HORIZONTAL DIRECTION.

4. SHIP'S IMPACT AT FACE OF PIER:

SHIP LONG TONS	APPROACH VELOCITY KNOTS	COLLISION VELOCITY FEET PER SEC.
52,000	1.12	0.33

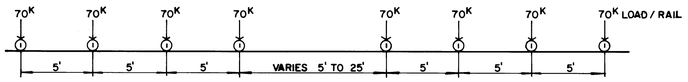


5. LOAD ON LAND BASED BOLLARDS
   180K

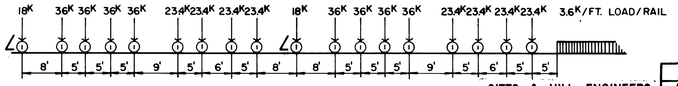


6. WIND LOAD: BASED ON 65 M.P.H. WIND ON VERTICAL PROJECTION OF SHIP.

⚠ 7. CRANE WHEEL LOAD:



⚠ 8. RAILROAD: COOPER E72 LOADING



GENERAL NOTES

1. ALL METHODS AND MATERIALS SHALL CONFORM TO THE UNIFORM BUILDING CODE 1979 EDITION AS AMENDED BY THE CITY OF TACOMA.
2. ALL DIMENSIONS AND DETAILS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION OR CONSTRUCTION. SHOP DRAWINGS SHALL BE SUBMITTED TO THE PORT FOR APPROVAL PRIOR TO FABRICATION AND CONSTRUCTION.
3. CONCRETE PILES:
   DESIGN LOAD: 100 TON COMPRESSION; 40 TON TENSION
4. TIMBER PILES:
   DESIGN LOAD: 30 TON AT BOLLARDS, 12 TON AT WALKWAYS
   PILES SHALL BE DOUGLAS FIR, PRESSURE TREATED.
5. STEEL PILES:
   FENDER PILES SHALL BE DRIVEN TO A MINIMUM TIP ELEVATION OF -70.00.
6. CONCRETE
   28 DAY COMPRESSIVE STRENGTH

PRESTRESSED CONCRETE PILES	7,000	PSI
PRECAST DECK PANELS	6,000	PSI
CAST IN PLACE CONCRETE	4,000	PSI

7. REINFORCING STEEL
   A.S.T.M. A 615 GRADE 60 THROUGHOUT
8. PRESTRESSING STEEL
   A.S.T.M. 416 GRADE 270
9. LUMBER AND TIMBER
   PILE CAPS, FENDER PILE CAPS AND BULLRAIL, DOUGLAS FIR-LARCH DENSE NO I OR BETTER. ALL OTHER SAWN MATERIAL DOUGLAS FIR-LARCH NO I OR BETTER.
10. STEEL
    PLATES AND SHAPES: A.S.T.M. A36
    BOLTS AND NUTS: A.S.T.M. A307
    ALL STEEL AND HARDWARE SHALL BE GALVANIZED EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.

⚠ FUTURE CONSTRUCTION WHICH TIES THESE INDIVIDUAL PIERS INTO A SINGLE CONTINUOUS STRUCTURE MAKES PROVISION FOR THE CRANE AND RAILROAD LOADINGS SHOWN WITH CRANE RAIL GAGE OF 32'-0" OR 64'-0" AND RAILROAD RAIL OF STANDARD GAGE.

AS BUILT SEPT. 84

S1

HENRY L. COOK — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

DRAWN D.A. D.T. DATE APRIL 1983	PORT OF TACOMA
CHECKED W.S. DATE APRIL 1983	PIER LAYOUT, DESIGN CRITERIA AND GENERAL NOTES
CHECKED H.L.C. DATE MAY 1983	TOTE PIER FACILITY BLAIR WATERWAY, 1983
CONT. NO.	
FIELD BOOK (S)	SCALE NOTED
APPROVED R.L. MacLeod CHIEF ENGINEER	5/20/83 DATE
	DRAWING NO. EP 3823-12
	SHEET 10 OF 25

SITTS & HILL ENGINEERS
CIVIL, STRUCTURAL & SURVEYING
2901 SO. 40th TACOMA WA 98409

MARK	REVISION	BY	APP.	DATE
2	RELOCATE FDR. ON BREAST. PIER	HLC		9-7-83
1	ADD. CRANE AND R/R LOADING	D.A.T.		8-4-83

4684