DESIGN NOTES

DESIGN SPECIFICATIONS

STRUCTURE DESIGNED IN ACCORDANCE WITH "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS" 4th EDITION, WITH THE 2008 INTERIMS.

DESIGN PROCEDURES

RAILING CONFORMS TO TL-x. DESIGN SPEED IS mph.
THE FOLLOWING PROPRIETARY COMPUTER SOFTWARE PROGRAMS WERE USED TO FACILITATE THE STRUCTURAL ANALYSIS:

NAME	VERSION	RELEASE DATE	NAME	VERSION	RELEASE DATE

DESIGN LOADS

PERMANENT LOADS

DC	UNIT WEIGHT OF REINFORCED CONCRETE	0.150 kcf
DW	FUTURE SURFACING	x.xx ksf
EV	UNIT WEIGHT OF SOIL	xxx kcf
	FILL DEPTH	x.xx ft
EH	ACTIVE PRESSURE	xxx kcf
	AT REST PRESSURE	xxx kcf
	SOIL-STRUCTURE INTERACTION FACTOR (F_e OR F_f)	x.xx
ES	EARTH LOAD SURCHARGE	x.xx ft

TRANSIENT LOADS

LL	HL-93	
IM	DYNAMIC ALLOWANCE APPLIED TO TRUCK & TANDEM	
LS	LIVE LOAD SURCHARGE AT ABUTMENT	x.xx feet
	LIVE LOAD SURCHARGE AT WING WALL	x.xx feet

FOOTING DESIGN LOADS

STRENGTH LIMIT STATE
NOMINAL BEARING RESISTANCE q_n = X ksf
EFFECTIVE FOOTING WIDTH B' = xx ft
EFFECTIVE FOOTING LENGTH L' = xx ft
RESISTANCE FACTOR ϕ_b = X
FACTORED BEARING RESISTANCE $q_R = q_n\phi_b$ = xx ksf
FACTORED APPLIED LOAD $\gamma Q/(B'L')$ = xx ksf
SLIDING
NOMINAL SLIDING RESISTANCE R_n = X kips
RESISTANCE FACTOR ϕ = xx
FACTORED SLIDING RESISTANCE $R_R = R_n\phi$ = xx kips
FACTORED APPLIED LOAD γV = xx kips

SERVICE LIMIT STATE
PRESUMPTIVE BEARING CAPACITY q_p = X ksf
BASED UPON FOOTING SETTLEMENT = X inches OR LESS
EFFECTIVE FOOTING WIDTH B' = xx ft
EFFECTIVE FOOTING LENGTH L' = xx ft
RESISTANCE FACTOR ϕ = 1.0
FACTORED PRESUMPTIVE BEARING RESISTANCE ϕq_p = xx ksf
FACTORED APPLIED LOAD $\gamma Q/(B'L')$ = xx ksf

EXTREME LIMIT STATE
NOMINAL BEARING RESISTANCE q_n = X ksf
EFFECTIVE FOOTING WIDTH B' = xx ft
EFFECTIVE FOOTING LENGTH L' = xx ft
RESISTANCE FACTOR ϕ = 1.0
FACTORED BEARING RESISTANCE ϕq_n = xx ksf
FACTORED APPLIED LOAD $\gamma Q/(B'L')$ = xx ksf
SLIDING
NOMINAL SLIDING RESISTANCE R_n = X kips
RESISTANCE FACTOR ϕ = 1.0
FACTORED SLIDING RESISTANCE ϕR_n = xx kips
FACTORED APPLIED LOAD γV = xx kips

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

MATERIALS, CONSTRUCTION AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE STATE OF IDAHO TRANSPORTATION DEPARTMENT, "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", 2004 EDITION, THE PROJECT PLANS AND SPECIFICATIONS.
THE ENGLISH UNITS SYSTEM OF MEASUREMENT SHALL BE USED AS STANDARD.

MATERIAL

CONCRETE : DECK SLAB AND EDGE BEAM - CLASS 40A ---------- f'c = 4.00 ksi
BARREL WALLS, FOOTINGS AND WINGS - CLASS 40B ---------- f'c = 4.00 ksi
METAL REINFORCEMENT : AASHTO M31, GRADE 60 ---------- fy = 60.00 ksi

PLAN DIMENSIONS AND ELEVATIONS

ALL EXPOSED EDGES OF CONCRETE SHALL BE BEVELED ¾" UNLESS NOTED OTHERWISE.
ALL DIMENSIONS TO REINFORCING STEEL ARE TO CENTERLINE OF BAR UNLESS NOTED OTHERWISE.
CONCRETE COVER MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING BAR SHALL BE 2", UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
REINFORCING STEEL SPLICE LENGTHS SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS.

CONSTRUCTION

CONSTRUCTION JOINTS WILL BE PERMITTED ONLY AT THE LOCATIONS SHOWN ON THE PLANS OR AS APPROVED BY THE ENGINEER.
CONCRETE WATERPROOF SYSTEM TYPE A OR D SHALL BE APPLIED TO THE TOP SLAB.
THE DIFFERENCE IN ELEVATION OF THE BACKFILL MATERIAL ON BOTH SIDES OF THE STRUCTURE SHALL NOT EXCEED 2 FEET DURING BACKFILL OPERATIONS.

INCIDENTAL ITEMS

ALL ITEMS SHOWN OR NOTED ON PLANS WHICH ARE NOT SPECIFICALLY BID ITEMS ARE CONSIDERED INCIDENTAL ITEMS. THE COST OF FURNISHING AND INSTALLING ALL INCIDENTAL ITEMS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS, UNLESS NOTED OTHERWISE.

REVISIONS			
NO.	DATE	BY	DESCRIPTION
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△			
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DESIGNED
DESIGN CHECKED
DETAILED
DWG. CHECKED
CORRECTIONS

SCALES SHOWN ARE FOR 34" X 22" PRINTS ONLY
CADD FILE NO. \prj00000\bridge\ b17_2c.dgn
DRAWING DATE: APR 2008

ORIGINAL SIGNED BY:
DATE SIGNED: DATE
ORIGINAL STORED AT ITD BRIDGE SECTION

IDAHO TRANSPORTATION DEPARTMENT

English
PROJECT NO.

DESIGN AND GENERAL NOTES
BOX CULVERT/STIFFLEG BRIDGE

BRIDGE PLANS
BRIDGE LRFD MANUAL, PAGE B17.2C
COUNTY | KEY NO.
BRIDGE DRAWING NO. | SHEET OF