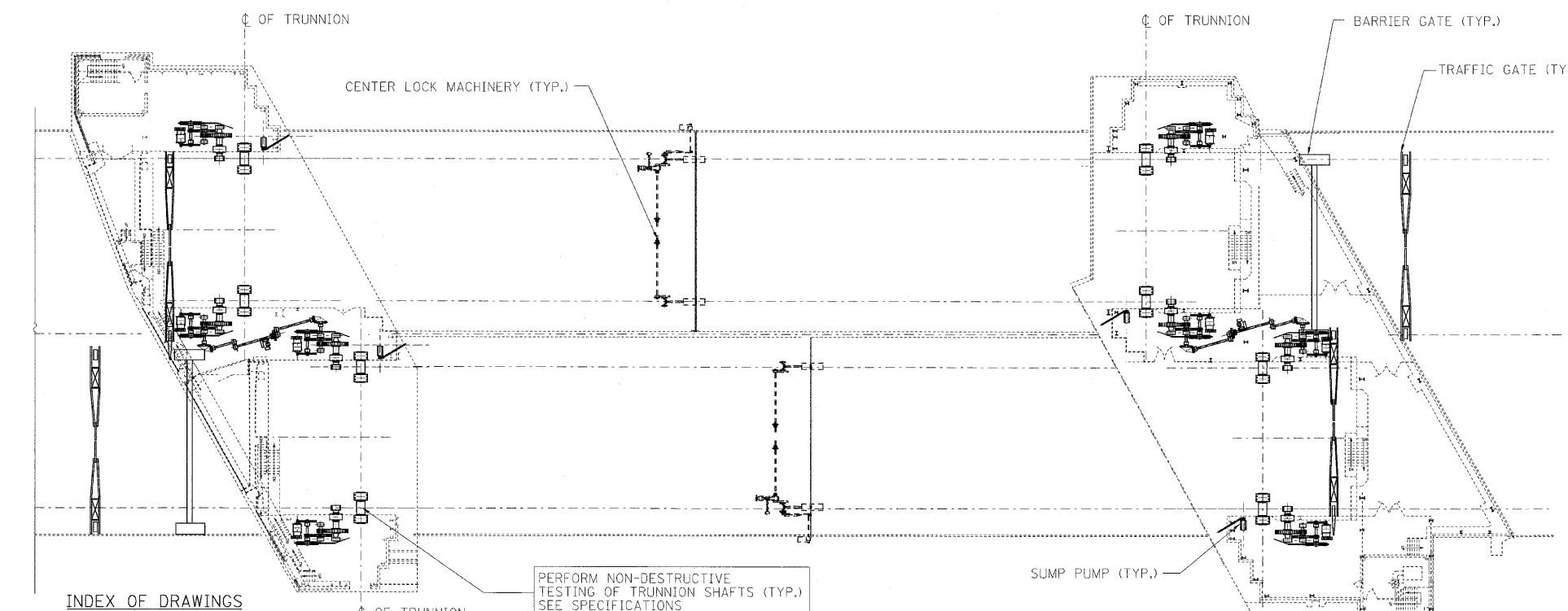


ELEVATION



DAVID O. NYARKO, P.E.
LICENSE NO. 062-061532
EXPIRES: November 30, 2009
DATE: 5/8/09

FOR ADDITIONAL OPERATING MACHINERY WORK (TYP.)
SEE SHEET M-02

GENERAL NOTES:

- ALL EXISTING DIMENSIONS ARE TAKEN FROM THE EXISTING BRIDGE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING DIMENSIONS AND SHALL NOTIFY THE ENGINEER OF ALL DEVIATIONS, IF ANY, BEFORE WORK BEGINS.
- DETAILS OF MACHINERY SHALL CONFORM TO THE 1988 STANDARD SPECIFICATIONS FOR MOVABLE HIGHWAY BRIDGES PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992 AND 1993 REVISION, AND IDOT DESIGN MANUAL FOR BRIDGES AND STRUCTURES (2008 REVISED EDITION), UNLESS OTHERWISE SHOWN ON PLANS, OR PROVIDED FOR IN SPECIFICATIONS. WELDING SHALL BE IN ACCORDANCE WITH AWS BRIDGE WELDING CODE AASHTO/AWS-D1.5M/D1.5: 2008.
- ALL DIMENSIONS FOR MACHINE FINISHED SURFACES SHALL BE HELD TO 0.10 INCH EXCEPT AS OTHERWISE REQUIRED, SHOWN ON THE PLANS, BY SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.
- MATERIALS: THE FOLLOWING ITEMS SHALL BE OF THE MATERIAL SPECIFIED AND CONFORM TO THE FOLLOWING ASTM CODE PROVISIONS UNLESS OTHERWISE NOTED: WELDMENT AND PLATES: ASTM A709 GRADE 50 STRUCTURAL STEEL SUPPORTS FOR MECHANICAL COMPONENTS: ASTM A709 GRADE 50.
- ALL MACHINERY SUPPORTS SHALL BE FLAT, LEVEL AND PARALLEL TO EACH OTHER AND THE MOUNTING BASE PLATE. THICKNESS OF MOUNTING PLATES GIVEN ARE FOR AFTER FINISHING.
- PROVIDE ASTM A490 FINISHED BODY H.S. (HIGH STRENGTH) BOLTS AS REQUIRED TO CONNECT MACHINERY TO STRUCTURAL STEEL. ALL ASTM A490 H.S. BOLTS FOR STRUCTURAL STEEL CONNECTIONS SHALL BE REAMED TO PROVIDE A CLEARANCE OF NOT MORE THAN 1/16 INCH BETWEEN THE BODY OF THE BOLT AND THE HOLE. CONNECTION BETWEEN STRUCTURAL STEEL AND MACHINERY SHALL BE TURNED BOLTS HAVING A CLASS LC6 FIT BETWEEN THE BODY OF THE BOLT AND THE HOLE.
- ALL H.S. FASTENERS SHALL HAVE NUTS CONFORMING TO ASTM A563. ALL NUTS SHALL BE SECURED BY EFFECTIVE LOCKS. IF DOUBLE NUTS ARE USED, BOTH NUTS SHALL BE OF STANDARD THICKNESS. ALL HIGH STRENGTH FASTENERS SHALL HAVE A HARDENED PLAIN WASHER UNDER THE HEAD AND THE NUT. ALL HARDENED STEEL PLAIN WASHERS SHALL CONFORM TO ASTM F436. NEW ASTM A490 BOLTS SHALL NOT BE TORQUED MORE THAN ONCE.
- PROVIDE STAINLESS STEEL SHIMS TYPE 304/316 FOR LEVELLING AND ALIGNING ALL MACHINERY COMPONENTS.
- ALL BOLT HOLES IN CASTINGS SHALL BE SPOT-FACED.
- MACHINERY DIMENSIONS SHOWN ON DRAWINGS ARE DIMENSIONS AFTER MACHINING.
- FITS AND FINISHES FOR MACHINERY SHALL BE AS FOLLOWS:

SURFACE	FIT	FINISH (MICROINCHES)
MACHINERY BASE ON STEEL	-	250
MACHINERY BASE ON MASONRY	-	500
SHAFT JOURNALS	RC6	8
JOURNAL BUSHING	RC6	16
SPLIT BUSHING IN BASE	LC1	125
SOLID BUSHING IN BASE (TO 1/4 IN. WALL)	FN1	63
SOLID BUSHING IN BASE (OVER 1/4 IN. WALL)	FN2	63
HUBS ON SHAFT (TO 2 IN. BORE)	FN2	32
HUBS ON SHAFT (OVER 2 IN. BORE)	FN2	63
HUBS ON MAIN TRUNNION	FN3	63
TURNED BOLTS IN FINISHED HOLES	LC6	63
SLIDING BEARINGS	RC6	32
CENTER DISC	-	32
KEYS AND KEYWAYS (TOP AND BOTTOM)	LC4	63
KEYS AND KEYWAYS (SIDES)	FN2	63
KEYS AND KEYWAYS (MACHINERY PARTS IN FIXED CONTACT)	-	125
TEETH OF OPEN SPUR GEARS (OVER 3 DIAMETRAL PITCH)	-	32
TEETH OF OPEN SPUR GEARS (3 TO 1.75 DIAMETRAL PITCH)	-	63
TEETH OF OPEN SPUR GEARS (UNDER 1.75 DIAMETRAL PITCH)	-	125
- THE ABOVE FITS FOR CYLINDRICAL PARTS SHALL ALSO APPLY TO THE DIMENSIONS OF NON CYLINDRICAL PARTS.
- REPLACEMENT OF TURNED BOLTS SHALL BE OF THE SAME NOMINAL SIZE AS EXISTING, EXCEPT AS SHOWN. BOLT AREA AND BOLT HOLES SHALL BE CLEANED BY A WIRE BRUSH BEFORE NEW BOLT INSTALLATION.
- ANY REFERENCE TO THE "SPECIFICATIONS" INCLUDES REFERENCE TO ALL SUPPLEMENTAL SPECIFICATIONS, SPECIAL PROVISIONS AND SPECIFICATIONS REFERENCED HEREIN.
- THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SUCH THAT ANY MATERIALS THAT ARE TO REMAIN IN PLACE, THAT ARE TO BE RE-USED, OR THAT ARE TO REMAIN THE PROPERTY OF THE STATE OF ILLINOIS WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY SUCH MATERIALS, THE MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER, AT NO ADDITIONAL COST TO THE STATE OF ILLINOIS.
- ALL MAIN LOAD BEARING STRUCTURAL OR MACHINERY ELEMENTS, SUCH AS CASTING, BEARINGS ETC. SHALL HAVE A MINIMUM AVERAGE CVN IMPACT TOUGHNESS (AS DEFINED BY ASTM A370, SECTIONS 19-28) OF 25 FT-LBS AT 40 DEG. F, BASED ON A 0.394 INCH X 0.394 INCH BAR WITH A 0.079 INCH NOTCH. REQUIRED TOUGHNESS OF ALL SUB-SIZE ELEMENTS SHALL BE SCALED DOWN IN PROPORTION TO THE STANDARD BAR PER ASTM E23.
- MACHINERY SHALL BE ERECTED BY MILLWRIGHTS WITH DEMONSTRATED COMPETENCE IN MACHINERY ERECTION WORK.
- ALL SHOP DRAWINGS SHALL BE SUBMITTED WITH FIELD MEASUREMENTS.

PB Americas, Inc.
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CHICAGO, IL. 60606

USER NAME = sherna	DESIGNED - J. BONSU	REVISED -
FILE NAME = D160d61-sht-mec-01.dgn	DRAWN - V. LEVIT	REVISED -
PLOT SCALE = NONE	CHECKED - D. NYARKO	REVISED -
PLOT DATE = 5/7/2009	DATE - MAY 8, 2009	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN, ELEVATION AND NOTES
SCALE: AS SHOWN SHEET NO. M-01 OF M-27 SHEETS STA. 379+06.09 TO STA. 382+45.28

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
389	2424-2B-R	COOK	398	245
CONTRACT NO. 60D61				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				