GENERAL STRUCTURAL NOTES

GENERAL CONTRACTOR SHALL REVIEW AND STAMP ALL SHOP DRAWINGS BEFORE SUBMITTAL FOR APPROVAL.
VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECT'S PLANS PRIOR TO STARTING WORK.
CONTRACTOR SHALL DESIGN, PROVIDE, AND MAINTAIN TEMPORARY BRACING, SHORING, GUYING, ETC., AND OTHER METHODS AS REQUIRED TO PREVENT EXCESSIVE LOADING AND TO STABILIZE STRUCTURAL ELEMENTS DURING CONSTRUCTION. THESE METHODS SHALL REMAIN IN PLACE UNTIL ALL MEMBERS AND FINAL CONNECTIONS HAVE BEEN COMPLETED.
FABRICATOR SHALL HIGHLIGHT ANY CHANGES OR MODIFICATIONS MADE IN SHOP DRAWINGS WHICH DO NOT COMPLY WITH THE DESIGN DRAWINGS.

FOUNDATION/SOILS

FOUNDATIONS ARE DESIGNED FOR THE FOLLOWING NET ALLOWABLE BEARING PRESSURES AS RECOMMENDED IN THE SOILS INVESTIGATION PREPARED BY TERRACON, PROJECT NO. 01015146:
RETAINING WALLS AND MISC. STRUCTURES = 2000 PSF
FOUNDATIONS ARE DESIGNED FOR THE FOLLOWING LATERAL PRESSURES:
ACTIVE PRESSURES = 45 PCF (RETAINING WALLS)
AT-REST PRESSURES = 64 PCF
PASSIVE PRESSURES = 330 PCF
(0'-0") INDICATES TOP OF FOOTING ON THE FOUNDATION PLANS
ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOILS OR ENGINEERED FILL AT ELEVATIONS SHOWN OR NOTED ON DETAILS AND PLANS. ALL BEARING MATERIALS SHALL BE VERIFIED FOR THE ALLOWABLE BEARING PRESSURE STATED ABOVE.
ALL FOOTINGS BELOW GRADE MAY BE EARTH FORMED WITH NEAT EXCAVATIONS, FOUNDATION WALLS AND RETAINING WALLS SHALL BE FORMED.
ALL FOOTINGS SHALL BE CENTERED ON WALLS, COLUMNS, ETC, UNLESS NOTED OTHERWISE.
ALL ABANDONED FOOTINGS, UTILITIES, STRUCTURES, ETC., THAT INTERFERE WITH THE NEW CONSTRUCTION SHALL BE REMOVED. NEW FOOTINGS SHALL EXTEND INTO UNDISTURBED SOILS OR ENGINEERED FILL.
SEE THE SOILS REPORT AND SPECIFICATIONS FOR PREPARATION OF SOILS UNDER THE FOOTINGS AND STRUCTURES.

CAST-IN-PLACE CONCRETE

ALL CONCRETE SHALL HAVE 4000 PSI MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS WITH A MAXIMUM WATER/CEMENT RATIO OF 0.46.
A SLUMP OF 2" TO 4" SHALL BE PROVIDED IN THE CONCRETE UNLESS AN ACCEPTABLE HIGH RANGE WATER REDUCER IS USED.
PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE II.
ALL AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL MEET ASTM C33.
AGGREGATES SHALL BE PROPORTIONED SUCH THAT THE MIX DESIGN SHALL CONTAIN A MINIMUM OF 30% COARSE AGGREGATES BY GRADATION REQUIREMENTS SET FORTH IN ASTM C33. COARSE AGGREGATE SHALL MEET NO. 67 GRADING REQUIREMENTS.
CONCRETE SHALL HAVE FROM 5 TO 8% ENTRAINED AIR.
CONCRETE SHALL BE IN STRICT CONFORMANCE WITH THE CURRENT "ACI MANUAL OF CONCRETE PRACTICE".
THE CONCRETE MIX DESIGN MAY NEED TO BE MODIFIED AS APPROVED BY THE ENGINEER AFTER REVIEW OF THE SAMPLE CASTINGS WITH THE FORMLINER.
NO ALUMINUM SHALL BE PLACED IN CONCRETE.
CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED OTHERWISE.
NO ELECTRICAL CONDUIT SHALL BE CAST IN A STRUCTURAL CONCRETE SYSTEM WITHOUT ARCHITECT/ENGINEER APPROVAL.
EXPANSION JOINTS SHALL HAVE A JOINT FILLER OF CORK, NEOPRENE, RUBBER, OR FOAM CONFORMING TO ASTM D994, D1056, D1751, AND D1752. EXPANSION JOINTS SHALL BE SEALED ON THE RIVER SIDE USING SIKA SIKADUR COMBIFLEX JOINT SEALING SYSTEM OR APPROVED EQUAL.

REINFORCING STEEL

ALL MESH SHALL MEET ASTM A 185 AND BE FURNISHED IN FLAT SHEETS. LAP A MINIMUM OF 6" OR ONE FULL MESH, WHICHEVER IS GREATER. ALL MESH SHALL BE PLACED ON SBP'S AT 48" O.C., MAX.
ALL REINFORCING SHALL MEET ASTM A615-60,000 PSI.
EPOXY-COAT REINFORCING BARS WHERE NOTED ON THE DRAWINGS PER ASTM A 775. (BULKHEAD EDGE)
REINFORCING SHALL BE CONTINUOUS AND LAPPED A MINIMUM OF 24" OR 40 BAR DIAMETERS, WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED.
REINFORCING SHALL BE DETAILED ACCORDING TO THE ACI DETAILING MANUAL.
FOOTING AND WALL HORIZONTAL BARS FOR CONTINUOUS RETAINING WALLS MAY BE FURNISHED IN SHOP LENGTHS AND FIELD CUT, WITH THE ENGINEER'S APPROVAL. ALL LAP REQUIREMENTS SHALL BE SHOWN ON THE SHOP DRAWINGS.
REINFORCING SHALL BE FABRICATED AND PLACED PER ACI AND CRSI ACCEPTED METHODS, INCLUDING CONCRETE COVER AND BAR SUPPORTS.
PROVIDE CORNER LAP BARS TO MATCH IN SIZE AND SPACING OF ALL HORIZONTAL BARS IN ALL CONCRETE EXCEPT AT CONTINUOUS SPREAD FOOTINGS.

EPOXY COATING FOR REINFORCING STEEL

EPOXY-COATED REINFORCING BARS SHALL MEET REQUIREMENTS OF ASTM A775.
REINFORCING SHALL BE LAPPED A MINIMUM OF 20% GREATER THAN THE LAP NOTED OR SHOWN ON THE DRAWINGS. IF THE COVER ON THE BAR IS LESS THAN 3 BAR DIAMETERS OR THE CLEAR SPACING IS LESS THAN 6 BAR DIAMETERS, THE REINFORCING SHALL BE LAPPED A MINIMUM OF 50% GREATER THAN THE LAP NOTED OR SHOWN ON THE DRAWINGS.
INCREASED LAP LENGTHS SHALL BE PROVIDED ON ALL HORIZONTAL BARS, VERTICAL BARS, FOOTING DOWELS, ETC. NEW BAR LENGTHS AND DETAILS SHALL BE HIGHLIGHTED ON THE SHOP DRAWINGS FOR THE ENGINEER TO REVIEW.
ALL TIES, SUPPORTS, ETC. SHALL BE EPOXY COATED.
FIELD BENDING THE BARS THAT WILL DAMAGE THE COATING SYSTEM WILL NOT BE ALLOWED.
ANY DAMAGED EPOXY COATING ON THE REINFORCING SHALL BE REPAIRED OR RECOATED PER THE SPECIFICATIONS.

SHEET PILE WALLS

STEEL SHEET PILE SHALL MEET ASTM A572, GRADE 50, WITH A MINIMUM THICKNESS OF 3/8" AND INTERLOCKING JOINTS.
SEE DRAWINGS FOR SHEET PILE SIZE AND CONFIGURATION, ALTERNATE SIZES AND CONFIGURATIONS WILL BE REVIEWED AT THE CONTRACTORS OPTION.
EXPANSION JOINTS IN THE CONCRETE CAP SHALL HAVE A JOINT FILLER OF CORK, NEOPRENE, RUBBER, OR FOAM CONFORMING TO ASTM D994, D1056, D1751, AND D1752.
ALL JOINTS SHALL BE SEALED USING A JOINT SEALANT RECOMMENDED BY THE MANUFACTURER FOR THE INTENDED USE AND BE SUBMITTED FOR APPROVAL.

COATING SHEET PILE WALLS (ADD ALTERNATE #4)

STEEL SHEET PILE COATING SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS.
SHEET PILE SHALL BE COATED FOR THE UPPER 8'-0", MINIMUM.

CONCRETE MASONRY

ALL CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO ASTM C90, LIGHTWEIGHT, HAVING A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI ON NET AREA AT 28 DAYS (F'M = 1500 PSI).
ALL MORTAR FOR USE IN CONCRETE MASONRY SHALL CONFORM TO ASTM C270, TYPE S.
VERTICAL MASONRY WALL REINFORCEMENT SHALL BE PLACED IN THE CENTER OF THE CMU CORE UNLESS SHOWN OR NOTED OTHERWISE. ALL VERTICAL REINFORCEMENT SHALL BE HELD IN PLACE USING A REBAR POSITIONER, SPACED AND INSTALLED PER THE MANUFACTURES RECOMMENDATION.
GROUT ALL BLOCK CORES WITH VERTICAL REINFORCEMENT WITH 2500 PSI GROUT CONFORMING TO ASTM C 476. GROUT SHALL USE COARSE SAND OR PEA GRAVEL (3/8" MAX.) AND OBTAIN A MAXIMUM SLUMP OF 8 TO 9 INCHES.
PROVIDE 2-#4'S CONTINUOUS FOR ALL BOND BEAMS UNLESS OTHERWISE INDICATED ON PLAN. FURNISH IN SHOP LENGTHS AND FIELD CUT.

REHABILITATED RIP-RAP

THE INTENT OF THE REHABILITATED RIP-RAP IS TO PROVIDE RESTORED PROTECTION TO THE RIVER BANK AND SHEET PILE, REMOVE HAZARDS FOR USERS, AND GENERALLY CLEAN UP THE APPEARANCE OF THE RIVER.
EXISTING CONCRETE PIECES WITH STEEL PROJECTIONS, BROKEN PIPES, ETC. SHALL SHALL BE COMPLETELY REMOVED.
ALL CONCRETE PIECES ABOVE STATIC WATER ELEVATION (1284.0) AND EXTENDING TO 2 FEET BELOW STATIC WATER ELEVATION (1282.0) SHALL BE REPOSITIONED ALONG THE BANK TO ALLOW FOR THE INSTALLATION OF NEW RIP-RAP PER THE DRAWINGS.
EXISTING LIMESTONE RIP-RAP MAY REMAIN.
THE FINISHED RESULT SHALL BE A 2 FOOT DEEP BED OF RIP-RAP, GENERALLY FOLLOWING THE EXTENTS INDICATED ON THE CIVIL ENGEINEERING SHEETS, FROM THE PROPOSED GRADE INDICATED. THERE SHALL BE NO EXPOSED CONCRETE PIECES, NOR ANY REBAR, BROKEN PIPE, OR SIMILIAR PHYSICAL HAZARDS IN THE FINISHED REHABILITATED RIP-RAP EDGE TREATMENT.

PRINTS ISSUED

DATE	PURPOSE	NO.
10.05.09	FIELD CHECK	
11.12.09	OFFICE CHECK	
02.01.10	FINAL PLANS	

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SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
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WILSON & COMPANY
ENGINEERS & ARCHITECTS