GENERAL NOTES

LAK-2-14.38

STRUCTURE NOTES

SCOPE OF PROPOSED MAJOR WORK ITEMS

1) CONCRETE OVERLAY OF ALL ROADWAY STRUCTURES WHICH HAVE NOT HAD PREVIOUS OVERLAYS.
2) REPAIR OF UNSOUND AREAS OF EXISTING OVERLAYS AND TOTAL SURFACE TREATMENT WITH HIGH MOLECULAR WEIGHT METHACRYLATE.
3) MODIFICATION OF MAINLINE PARAPETS TO SAFETY SHAPE STYLE.
4) DECK BOTTOM SOUNDING OF ROADWAY BEAM BRIDGES AND EPOXY INJECTION REPAIR AS NECESSARY.
5) SOUNDING OF ALL CONCRETE BRIDGE COMPONENTS, PATCHING AS NECESSARY AND SEALING.
6) PEDESTRIAN FENCING OF ALL STRUCTURES OVER S.R. 2.

FOR EXACT WORK ITEMS ON EACH STRUCTURE SEE THE GENERAL PLAN SHEETS.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.5 AND 105.2.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

PLANS OF EXISTING STRUCTURES ARE AVAILABLE FOR EXAMINATION AT THE OHIO DEPARTMENT OF TRANSPORTATION; DISTRICT 12 OFFICE;5500 TRANSPORTATION BLVD. (E. 98TH ST.) GARFIELD HEIGHTS, OHIO 44105

COOPERATION WITH RAILROADS

THE CONTRACTOR SHALL COOPERATE AT ALL TIMES WITH LOCAL OFFICIALS OF THE RAILROAD COMPANY. HE SHALL USE ALL REASONABLE CARE AND DILIGENCE IN THE WORK IN ORDER TO AVOID ACCIDENTS, DAMAGE OR INTERFERENCE WITH THE TRAINS OR OTHER PROPERTY OF THE RAILROAD. THE CONTRACTOR SHALL NOTIFY THE LOCAL OFFICIALS OF THE RAILROAD PRIOR TO STARTING WORK THAT MAY AFFECT RAILROAD PROPERTY AND FACILITIES AND SHALL PAY THE RAILROAD COMPANY THE COST OF FLAGMEN FURNISHED BY THE RAILROAD COMPANY AND MADE NECESSARY BECAUSE OF ANY OF THE CONTRACTOR'S OPERATIONS OVER OR ADJACENT TO THE TRACKS.

FAILIURE TO NOTIFY THE RAILROAD COMPANY, AS NOTED ABOVE, SHALL BE CAUSE FOR STOPPING WORK UNTIL ALL THE PROVISIONS FOR PROTECTING RAILROAD PROPERTY HAVE BEEN PROVIDED.

ITEM 202- PORTIONS OF STRUCTURES REMOVED

WORK TO BE PAID FOR UNDER THIS ITEM SHALL INCLUDE THE REMOVAL OF STRUCTURAL COMPONENTS AS DETAIED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THESE REMOVALS ARE INCLUDED BUT NOT NECESSARILY LIMITED TO THE FOLLOWING LIST:

1) PORTIONS OF REINFORCED CONCRETE CURBS ON STRUCTURES LAK-2-1428 AND LAK-2-1597.

ONLY PNEUMATIC OR HAND TOOLS THAT WILL GIVE RESULTS SATISFACTORY TO THE ENGINEER SHALL BE USED IN THE REMOVAL OF THE DISINTEGRATED CONCRETE. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGING THE EXISTING REINFORCING STEEL WHICH ARE TO REMAIN IN PLACE. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 60 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT HAMMERS NOT TO EXCEED 90 POUNDS MAY BE USED WITH THE APPROVAL OF THE ENGINEER. NO HOE RAMS SHALL BE USED. ANY STEEL WHICH IS MADE USEABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT HIS COST.

ITEM 509- REINFORCING STEEL, AS PER PLAN

THIS ITEM SHALL BE USED TO REPLACE REINFORCING STEEL WHICH IS BENT, ELONGATED, MISSING OR EXTREMELY CORRODED. BAR SHALL BE THE SAME SIZE AS ORIGINAL BARS AND SHALL BE PLACED AS NEAR AS POSSIBLE TO THEIR ORIGINAL LOCATION. BARS SHALL BE LAPPED ACCORDING TO SECTION 509.08. PAYMENT FOR THIS ITEM SHALL INCLUDE THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE ABOVE WORK, INCLUDING REMOVAL OF EXISTING STEEL. ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSEABLE BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT HIS COST.

THE FOLLOWING ESTIMATED QUANTITY OF REINFORCING STEEL IS TO BE USED WHERE AND AS DIRECTED BY THE ENGINEER.

	I	II	
ITEM 509- REINFORCING STEEL, AS PER PLAN	100	100	POUND

ITEM 516- POURED POLYURETHANE JOINT SEAL, AS PER PLAN

1) THE MATERIAL FOR THIS ITEM IS A TWO-PART, COLD APPLIED, CHEMICALLY CURING, SELF LEVELING, ELASTOMERIC, POLYURETHANE JOINT SEALANT. IT SHALL BE "FX-551" AS MANUFACTURED BY FOX INDUSTRIES INCORPORATED, "UREXPAN NR-200" AS MANUFACTURED BY PECORA CORP. OR AN APPROVED EQUAL
2) IT SHALL BE USED AS A PRIMARY SEAL ON THE DECK SLAB/APPROACH SLAB JOINT, AS SHOWN ON SHEET 24/26.
3) THE INSTALLED AND CURED MATERIAL SHALL BE 3/4 INCH DEEP AND SHALL BE BONDED TO THE SIDES OF THE JOINT. ANY UNBONDED SECTION SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. SANDBLAST THE BONDING SURFACES PRIOR TO MATERIAL PLACEMENT.
4) DAMS AS REQUIRED TO CONTAIN THE POURED SEALER SHALL BE INCIDENTAL TO THIS ITEM OF WORK.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE UNIT COST PER LINEAL FOOT OF ITEM 516- POURED POLYURETHANE JOINT SEAL, AS PER PLAN.

ITEM 517 - RAILING FACED AS PER PLAN, TYPE A OR TYPE B

A. DESCRIPTION: THIS ITEM SHALL CONSIST OF FACING EXISTING CURB STYLE PARAPETS TO ATTAIN A DEFLECTOR PARAPET SHAPE USING CAST IN PLACE CONCRETE. (SEE DETAIL SHEET NO.S 20, 21 & 22/26)

B. REMOVAL: THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXISTING ALUMINUM RAILING AND POSTS. FOR ADDITIONAL DETAILS OF THE SALVAGE OPERATION, SEE THE NOTES ON SHEET 20/26 . (RAILING FACED DETAIL SHEET)

THE EXISTING CONCRETE CURB SHALL BE REMOVED TO PROVIDE CLEARANCE FOR PLACING CONCRETE AS DETAILED IN THE PLANS. THE WINGWALL PARAPET AND CURB SHALL BE REMOVED WITHIN THE 8 FOOT WINGWALL TRANSITION LENGTH AS DETAILED IN THE PLANS. ALL LOOSE OR UNSOUND PARAPET CONCRETE SHALL ALSO BE REMOVED. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE REINFORCING STEEL IN ANY WAY. CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAT THE NOMINAL 90-POUND CLASS. NO HOLE-RAMS SHALL BE PERMITTED.

C. DOWEL HOLES AND REINFORCING STEEL: 1 1/4" DOWEL HOLES SHALL BE DRILLED AT 12 INCH CENTER TO CENTER AS SHOWN ON THE PLANS. THE GROUT SHALL CONSIST OF CEMENT AND WATER USING TYPE I, TYPE III, OR SHRINKAGE COMPENSATING CEMENT. CLEAN HOLES SHALL BE SATURATED THOROUGHLY WITH WATER FOR A MINIMUM OF 5 MINUTES PRIOR TO PLACING GROUT. IMMEDIATELY PRIOR TO GROUTING, ALL FREE STANDING WATER SHALL BE REMOVED FROM HOLES. AFTER INITIAL MIXING, THINNING OR RETEMPERING OF GROUT WITH EXTRA WATER SHALL NOT BE ALLOWED. HARDENED OR SET GROUT WHICH HAS BECOME TOO STIFF OR DRY TO PROVIDE A GOOD BOND SHALL BE DISCARDED. DOWELS SHALL NOT BE INSTALLED IF THE MEAN AIR OR GROUT TEMPERATURES ARE LESS THAN 45°F. FURTHERMORE, AFTER PLACING, THE FRESH GROUT SHALL BE MAINTAINED AT A TEMPERATURE OF NOT LESS THAN 45°F FOR 72 HOURS, AND AT NOT LESS THAN 40°F FOR AN ADDITIONAL 4 DAYS. THE TEMPERATURE OF THE MIXED GROUT, IMMEDIATELY BEFORE PLACING, SHALL BE NOT LESS THAN 50°F NOR MORE THAN 90°F. THE CEMENT GROUT SHALL BE CURED CONTINUOUSLY WITH EITHER WET RAGS OR A SATISFACTORY CURING COMPOUND (WHICH MUST BE SUBSEQUENTLY REMOVED) FOR A MINIMUM PERIOD OF 3 DAYS WITHOUT DISTURBING THE DOWELS.

GROUT ANCHORING USING EPOXY AS PER SS 853 AND 956 MAY BE USED IN LIEU OF THE ABOVE REQUIREMENTS WITH THE EXCEPTION THAT THE HOLE SIZE WILL REMAIN AT 1 1/4" DIAMETER. ALSO ANCHORING WITH POLYESTER/ VINYLESTER MAY BE DONE WITH THE SAME EXCEPTION.
ALL REINFORCING STEEL SHALL BE EPOXY COATED AS PER ITEM 509.02
ALL REINFORCING STEEL IS INCLUDED UNDER THIS ITEM OF WORK.

D. SURFACE PREPARATION: THE PARAPET SURFACE SHALL BE THOROUGHLY CLEANED BY SANDBLASTING FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL. THE SURFACE SHALL BE MADE FREE OF SPALLS, LAITANCE AND ALL TRACES OF FOREIGN MATERIAL. IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO ENSURE THE REMOVAL OF CONTAMINANTS THAT ARE DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

E. MATERIALS

REINFORCING STEEL	509; GRADE 60
CONCRETE	511, CLASS "S"

F. PARAPET DEFLECTION JOINTS(TYPE A ONLY)

DEFLECTION JOINTS SHALL BE PLACED IN THE NEW CONCRETE PARAPETS AT THE SAME LOCATION AS THE EXISTING.

DEFLECTION JOINTS SHALL BE MADE VERTICALLY OR AT RIGHT ANGLE TO THE DECK BY SAWING. THE SAWING SHALL BE DONE AFTER THE CONCRETE HAS TAKEN ITS INITIAL SET AND BEFORE ANY SHRINKAGE CRACKS CAN DEVELOP. THE USE OF AN EDGE GUIDE, FENCE OR JIG IS REQUIRED TO INSURE THAT THE CUT OF THE JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE NEED FOR A GUIDE ON THE BACK SIDE MAY BE ELIMINATED IF THE INITIAL CUT ON THE FRONT SIDE OF THE PARAPET EXTENDS AT LEAST TWO-THIRDS OF THE WAY THROUGH THE PARAPET. THE REAR CUT WOULD THEN BE GUIDED BY THE SLOT OF THE FIRST CUT AND BY THE EXISTING DEFLECTION JOINT SLOT. A SAW BLADE SUFFICIENTLY LARGE ENOUGH TO SAW THROUGH THE ENTIRE PARAPET IS ACCEPTABLE, BUT THE MINIMUM DEPTH OF THE SAW CUT SHALL BE TWO INCHES. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, NOT TO EXCEED ONE QUARTER INCH.

G. METHOD OF MEASUREMENT: THE QUANTITY SHALL BE THE ACTUAL LENGTH OF THE RAILING FACED, MEASURED FROM END OF WINGWALL TO END OF WINGWALL. THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL LABOR EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS WORK. ALL COSTS OF REMOVAL, DOWEL HOLES, REINFORCING STEEL, CONCRETE, INSTALLING DEFLECTION JOINTS AND CONSTRUCTION WINGWALL TRANSITIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
517	L.F.	RAILING FACED AS PER PLAN, TYPE A OR TYPE B

ITEM SPECIAL- SEALING OF CONCRETE SURFACES

A SEALER SHALL BE APPLIED TO THE EXPOSED CONCRETE SURFACES OF THE BRIDGES AS LISTED BELOW. SEE THE PROPOSAL FOR SEALER MATERIAL AND SURFACE PREPARATION REQUIREMENTS AND APPLICATION RATES AND PROCEDURES.

1) CURBS, SIDEWALKS AND PARAPETS (ALL FACES). (EPOXY)
2) DECK EDGES AND THE UNDERSIDE IN ANY BAY LOCATED BENEATH AN OPEN OR SEALED JOINT OR THE UNDERSIDE EXTENDING BEYOND THE EXTERIOR BEAMS. (EPOXY)
3) PIERS INCLUDING CAPS AND COLUMNS. (NON-EPOXY)
4) ABUTMENTS INCLUDING BACKWALLS AND WINGWALLS. (EPOXY)