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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-3-82 DATED/REVISED 1/18/13

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

848 DATED 12/31/12

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION, INCLUDING THE 2002 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

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 FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

PROPOSED WORK

- SUM-82-0.00
- REMOVE EXISTING CONCRETE WEARING SURFACE AND REPLACE WITH A CONCRETE OVERLAY ON THE DECK AND APPROACH SLABS
 - REMOVE AND REPLACE EXISTING ELASTOMERIC COMPRESSION SEALS AT THE ABUTMENTS AND INTERMEDIATE EXPANSION JOINTS
 - PATCH AREAS OF CONCRETE SUBSTRUCTURE LISTED IN THE PLANS
 - NEW STRUCTURE IDENTIFICATION SIGNS AND OBJECT MARKERS

ITEM 516 - ELASTOMERIC COMPRESSION SEAL, AS PER PLAN

THIS ITEM WILL INCLUDE THE REMOVAL AND REPLACEMENT OF THE EXISTING ELASTOMERIC COMPRESSION SEALS FROM EDGE TO EDGE OF STRUCTURE SUM-82-0000 DECK. UPON REMOVAL OF THE SEAL, THE CONTRACTOR WILL ATTEMPT TO MATCH THE REPLACEMENT SEAL AS CLOSELY AS POSSIBLE WITH THE EXISTING SEAL SO AS TO PROVIDE A SNUG, WATERTIGHT SEAL. THE EXISTING ELASTOMERIC COMPRESSION SEAL WILL BE FIELD MEASURE PRIOR TO ORDERING MATERIAL. JOINT OPENING (DIM. "A") IS 2¼" @ 60° (FROM EXISTING PLANS). THE ELASTOMERIC COMPRESSION SEAL AND INSTALLATION WILL MEET THE REQUIREMENTS OF STANDARD DRAWING EXJ-3-82.

THIS WORK WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 516, ELASTOMERIC COMPRESSION SEAL, AS PER PLAN. THIS PRICE WILL INCLUDE THE REMOVAL OF THE EXISTING ELASTOMERIC COMPRESSION SEALS, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS REQUIRED TO REPLACE THE ABUTMENT AND INTERMEDIATE EXPANSION JOINT SEALS.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

OBJECT MARKERS AND STRUCTURE IDENTIFICATION SIGNS

OBJECT MARKERS WILL BE PLACED ON EACH APPROACH OFF THE LEFT AND RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. ONE OM-3L AND ONE OM-3R WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND SHALL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 10.5 FT IN LENGTH.

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE INSTALLED ON THE SAME POST AND DIRECTLY BELOW THE OBJECT MARKER OFF THE RIGHT SHOULDER ON EACH APPROACH. A QUANTITY OF ONE SIGN WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
SUM-82-0.00 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - SIGN, FLAT SHEET, 6 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 21 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 3 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 2 EACH

ITEM 848 - MICRO-SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN

ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN

ITEM 848 - MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN

THESE ITEMS SHALL BE PERFORMED PER SUPPLEMENTAL SPECIFICATION "BRIDGE DECK REPAIR AND OVERLAY WITH CONCRETE USING HYDRO DEMOLITION" WITH THE FOLLOWING REVISIONS:

THE THICKNESS OF THE CONCRETE OVERLAY REMOVED, ASPHALT WEARING COURSE REMOVED, PROPOSED OVERLAY, AND THE DEPTH OF HYDRODEMOLITION SHALL BE AS SPECIFIED IN THE PLANS.

CONSTRUCTION JOINTS WILL NOT BE PERMITTED IN THE WHEEL LINE.

(SEE 848.12) THE COMPONENTS OF THE MICRO-SILICA MODIFIED CONCRETE SHALL BE PROPORTIONED AS FOLLOWS.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

| AGG TYPE | FINE AGG (LB) | #8 COARSE AGG (LB) * | AGG TOTAL (LB) * | CEMENT CONTENT (LB) | MICRO SILICA (LB) | WATER TO CEMENT-ITIOUS RATIO | AIR CONTENT +/- 2% | FIBER (1 1/4" POLYPROPYLENE) (LB) ** |
|------------|---------------|----------------------|------------------|---------------------|-------------------|------------------------------|--------------------|--------------------------------------|
| GRAVEL | 1410 | 1430 | 2840 | 800 | 50 | 0.4 | 8 | 1 |
| LIME-STONE | 1410 | 1450 | 2860 | 800 | 50 | 0.4 | 8 | 1 |
| SLAG | 1300 | 1350 | 2650 | 800 | 50 | 0.4 | 8 | 1 |

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127

** FIBER MESH SHALL BE 100% VIRGIN POLYPROPYLENE IN A FIBRILLATED-NETWORK FORM AND SHALL BE 1 ¼" IN LENGTH.

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, MICRO-SILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED. FIBER MESH WEIGHTS NOT INCLUDED IN MIX DESIGN.

ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED BY ASTM C127

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

(SEE 848.21) THE FINAL DECK SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY.

(SEE 848.23) FULL DEPTH REPAIR IS NOT REQUIRED IF LESS THAN ONE HALF OF THE DECK ORIGINAL CONCRETE THICKNESS IS SOUND.

(SEE 848.29) THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS OR UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL OF 705.07, TYPE I OR 1D, AS PER CMS 511.14 METHOD (B) MEMBRANE CURING. IF THE CURING COMPOUND CAN NOT BE PLACED WITHIN THE SAME SHORT

TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL, AT THE NEXT AVAILABLE SHORT TERM CLOSURE PERIOD, APPLY THE MEMBRANE CURING COMPOUND.

(SEE 848.29) TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER THE COMPLETION OF THE 24 HOUR WET CURE, AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 600 PST (4.2 Mpa).

(SEE 848.30) THE OVERLAY SURFACE EVAPORATION RATE REQUIREMENTS ARE IN EFFECT FROM 9:30 AM TO 11:00 PM. THEY ARE NOT IN EFFECT FROM 11:00 PM TO 11:00 AM.

(SEE 848.31) FOR EACH PHASE, THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS EACH AT 12 HOURS, 24 HOURS, 36 HOURS, AND 48 HOURS. THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TESTS, AND THE MODULUS OF RUPTURE FOR EACH BEAM UNTIL THE MODULUS OF RUPTURE OF THE TWO TESTS IS NOT LESS THAN 650 PSI (4.5 Mpa). TRAFFIC IS ALLOWED ON THE OVERLAY AT 600 PSI (4.5 Mpa).

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

ITEM 411, STABILIZED CRUSHED AGGREGATE, AS PER PLAN

LIMESTONE THAT IS CLEAN, HARD, DURABLE PARTICLES OR FRAGMENTS OF LIMESTONE, AND FILLER SAND OR OTHER FINELY DIVIDED MINERAL MATERIAL WILL BE USED FOR RESTORATION OF THE TOWPATH TRAIL.

GRADATION (SIEVE / PERCENT PASSING):
¾" / 100
⅜" / 50-80
No. 4 / 35-65
No. 10 / 25-60
No. 40 / 15-30
No. 200 / 5-15

ITEM 659, SEEDING AND MULCHING, AS PER PLAN

WILD-LAND SEEDS WILL BE USED FOR RESTORATION OF AREAS OFF THE TOWPATH TRAILS.

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STRUCTURE GENERAL NOTES
BRIDGE NO.: SUM-82-0000
SR82 OVER CUYAHOGA RIVER, CUYAHOGA VALLEY SCENIC RR, & BIKE PATH

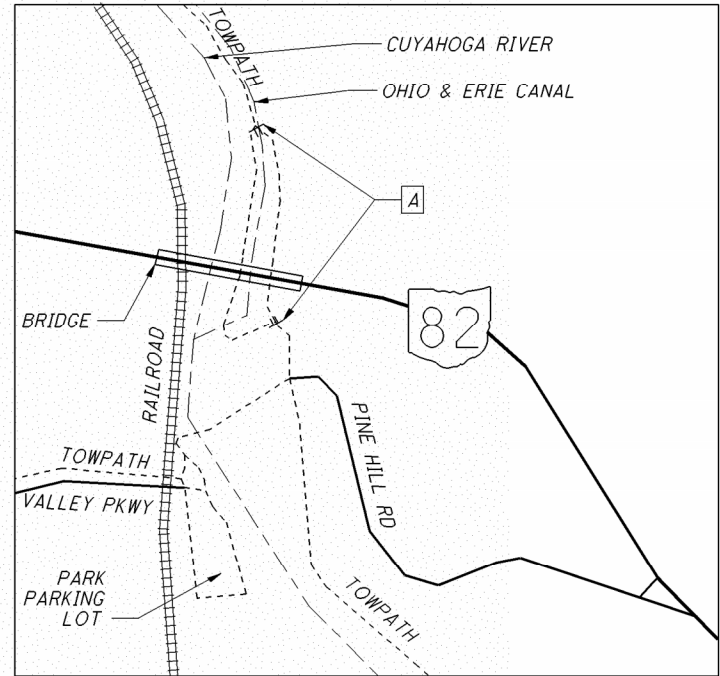
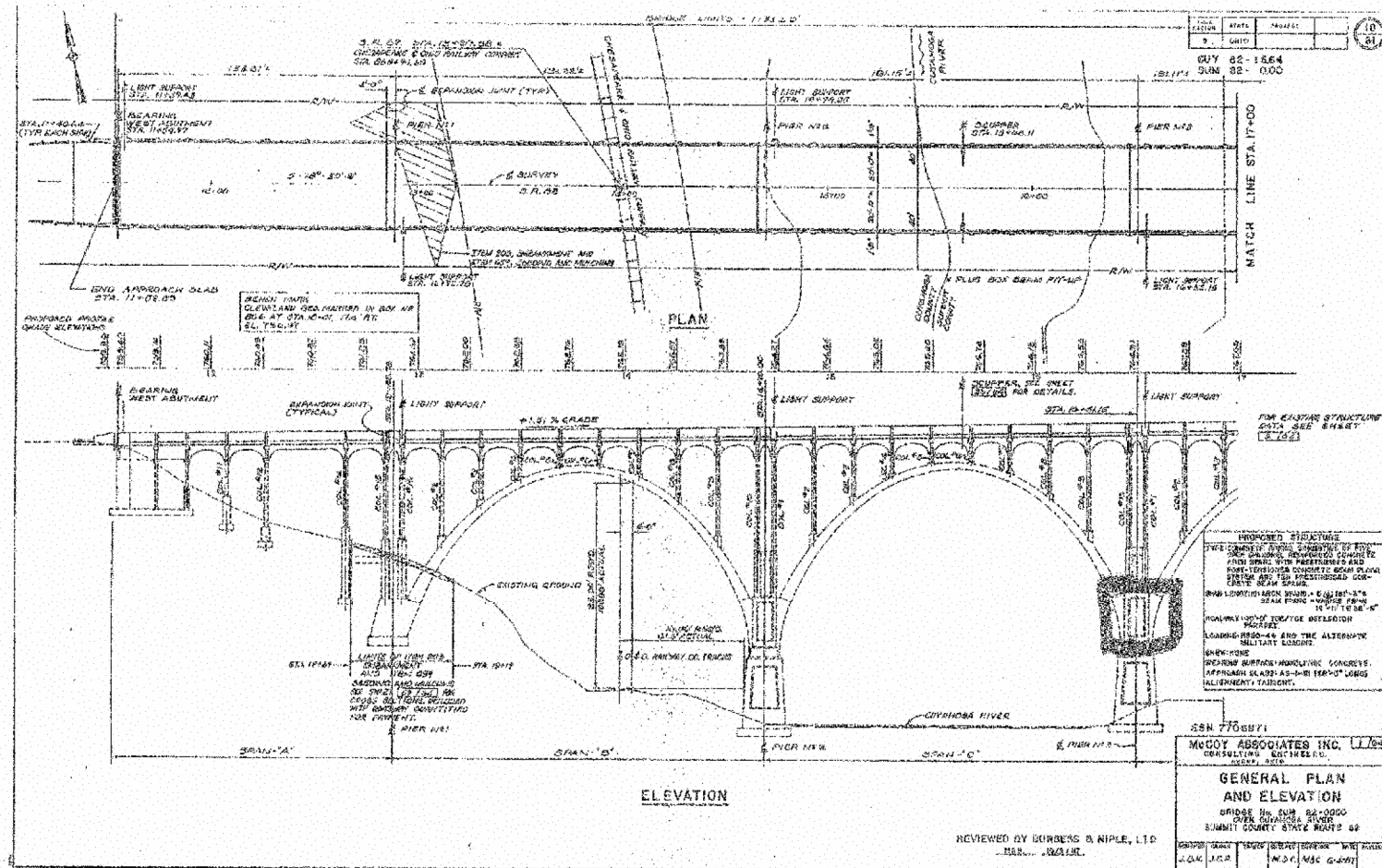
DESIGNED
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DRAWN
LMP
REVISED

REVIEWED
TJP
STRUCTURE FILE NUMBER
7706871

DATE
01/07/13

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING



DETOUR NOTIFICATION [CUY. VALLEY NATIONAL PARK]

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND NPS CUYAHOGA VALLEY NATIONAL PARK (440-546-5972) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

A # ROAD CLOSED

R11-2-48



M4-9A-30

ON TYPE III BARRICADE WITH TYPE B FLASHERS MOUNTED PER SCD MT-101.60

FOR REFERENCE ONLY

USE OF TOWPATH TRAIL LIMITATIONS

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE DAMAGE TO VEGETATION WHEN IT IS NECESSARY TO LEAVE THE TOWPATH TRAIL TO ACCESS THE BRIDGE PIERS FOR PATCHING OPERATIONS. USE OF FILL MATERIAL IS NOT ALLOWED. USE OF TEMPORARY MATTING OR SIMILAR MEASURES IS SUBJECT TO THE APPROVAL BY THE PROJECT ENGINEER.

THE CONTRACTOR WILL ONLY BE PERMITTED TO LEAVE THE TOWPATH TRAIL WITHIN STATE OF OHIO RIGHT-OF-WAY. STATE OF OHIO RIGHT-OF-WAY CONSISTS OF 40' EACH SIDE OF THE BRIDGE CENTERLINE.

TWO TOWPATH TRAILS ARE LOCATED UNDER THE BRIDGE. THE TOWPATH TRAILS ARE NOT TO BE CLOSED CONCURRENTLY. A TOTAL OF SIX (6) 8 HOUR CLOSURES WILL BE PERMITTED BETWEEN 7AM AND 5PM. PRIOR TO OPENING TO TRAFFIC THE TOWPATH TRAIL SHALL BE IN A SAFE, PASSABLE CONDITION. CLOSURE OF THE TRAILS SHALL BE SIGNED PER THE DETAIL ABOVE. PAYMENT FOR THE TOWPATH TRAIL CLOSURES AND ALL REQUIREMENTS FOR THE CLOSURES WILL BE INCIDENTAL TO ITEM 614, DETOUR SIGNING.

ACCESS TO THE TOWPATH TRAILS BY THE CONTRACTOR WILL BE FROM THE EAST USING PINE HILL ROAD. NO EQUIPEMENT SHALL BE STORED WITHIN 10' OF THE EDGE OF THE TOWPATH TRAILS AND SHALL BE STORED WITHIN STATE OF OHIO RIGHT-OF-WAY.

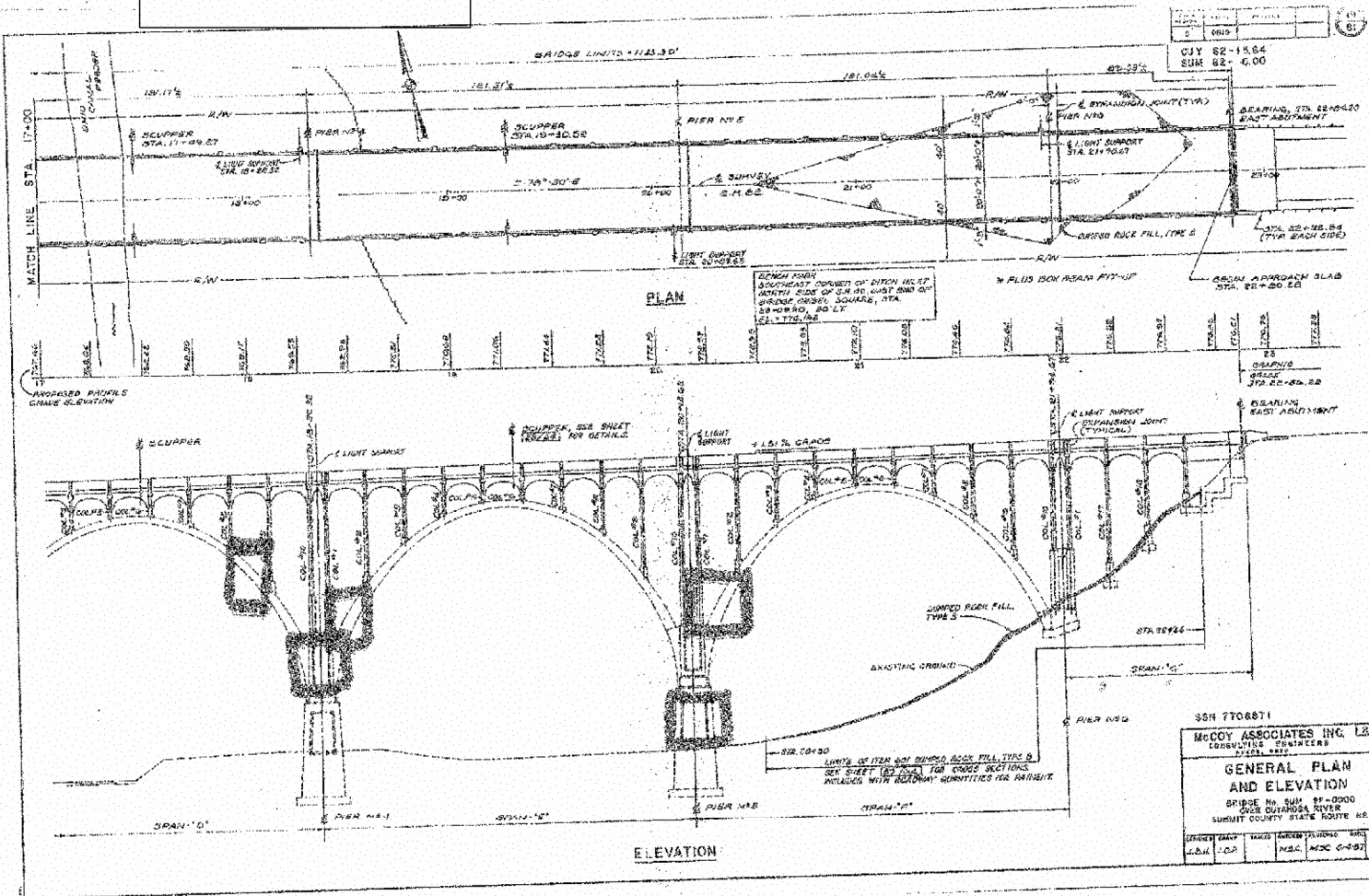
DAMAGE TO THE TOWPATH TRAILS, PINE HILL ROAD, AND AREAS OFF THE TRAILS WILL BE RESTORED TO IT'S ORIGINAL CONDITION PER CMS 104.04. ITEMS LISTED BELOW SHALL BE USED TO RESTORE THE TRAIL, ROAD, AND AREAS OFF THE TRAILS USED FOR PATCHING OPERATIONS AND ACCESS TO THE PATCHING LOCATIONS.

ITEM 411, STABILIZED CRUSHED AGGREGATE, AS PER PLAN 10 CU YD
ITEM 659, SEEDING AND MULCHING, AS PER PLAN 250 SQ YD
ITEM 659, TOPSOIL 30 CU YD

SUBSTRUCTURE PATCHING LOCATIONS

AREAS TO BE PATCHED WITH ITEM 519, PATCHING CONCRETE SURFACES, AS PER PLAN ARE:

| LOCATION | ESTIMATED AREA |
|---|----------------|
| PIER 3 - BOTTOM OF ARCH EAST SIDE | 25 SF |
| SPAN D - BETWEEN COLUMNS 8 & 9 - BOTTOM OF ARCH | 25 SF |
| PIER 4 - BOTTOM OF ARCH | 25 SF |
| PIER 4 - BOTTOM OF ARCH - EAST SIDE | 25 SF |
| PIER 5 - BOTTOM OF ARCH - EAST SIDE | 50 SF |
| PIER 5 - BOTTOM OF PIER | 50 SF |



STRUCTURE GENERAL NOTES

BRIDGE NO.: SUM-82-0000

SR82 OVER CUYAHOGA RIVER, CUYAHOGA VALLEY SCENIC RR, & BIKE PATH

SUM-82-0-00

PID No. 91051

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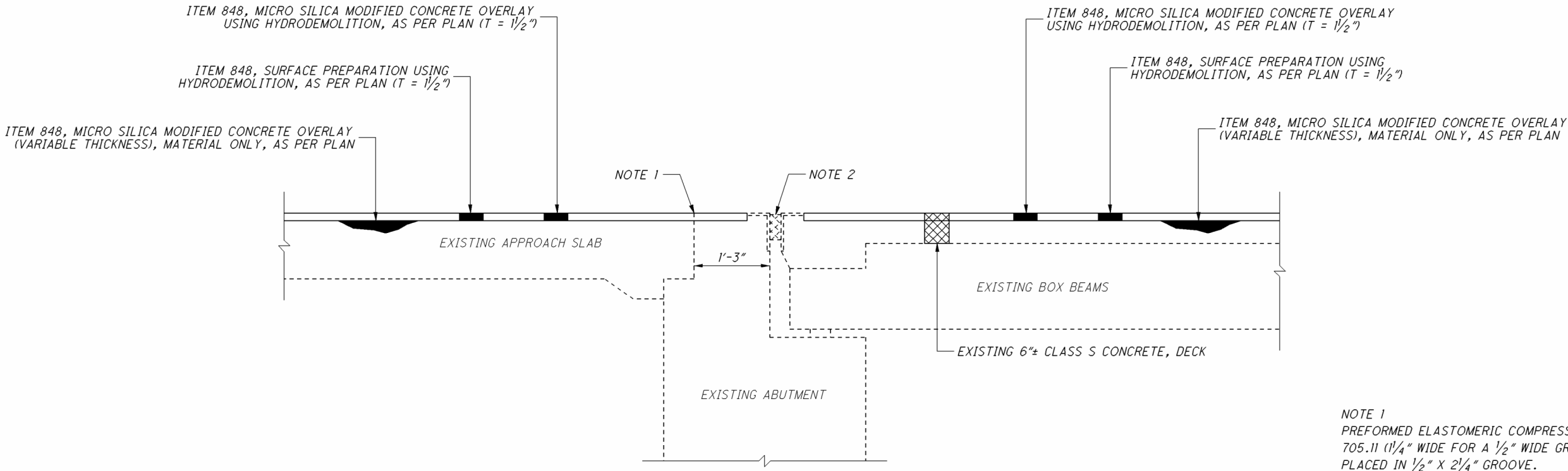
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| CALC: | LMP | DATE: | 12/13/2012 |
| CHECKED: | TJP | DATE: | 1/7/2013 |

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| BRIDGE NUMBER | BRIDGE DECK | | | | | | | | | | | | APPROACH SLABS | | | | | | | | | | | | | |
|------------------|------------------------|--------------|-----------|--|---|--|--|---------------|-----------|--|--|-------|----------------------------|------------------------|-----------------------|------------------------------|--|--|---|--|---------------|--|--|--|--|--|
| | LENGTH (BRIDGE LIMITS) | BRIDGE WIDTH | DECK AREA | 516 | 848 | 848 | 848 | 848 | 848 | | | | LENGTH (APPROACH SLABS) | APPROACH SLAB WIDTH | APPROACH SLAB AREA | APPROACH (FORWARD / REAR) | 516 | 848 | 848 | 848 | 848 | | | | | |
| | | | | ELASTOMERIC COMPRESSION SEAL, AS PER PLAN | MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1 1/2") | SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN (T = 1 1/2") | MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN | HAND CHIPPING | TEST SLAB | | | | | | | | PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, 705.11 | MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN | SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN | MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN | HAND CHIPPING | | | | | |
| FT | FT | SQ YD | FT | SQ YD | SQ YD | CU YD | SQ YD | LUMP | | | | FT | FT | SQ YD | | FT | SQ YD | SQ YD | CU YD | SQ YD | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUM-82-0000 | 1133.39 | 40.00 | 5037.29 | 320.00 | 5037.29 | 5037.29 | 125.93 | 151.12 | LUMP | | | 20.00 | 40.00 | 88.89 | FWD | 40.00 | 88.89 | 88.89 | 2.22 | 2.67 | | | | | | |
| | | | | | | | | | | | | 20.00 | 40.00 | 88.89 | REAR | 40.00 | 88.89 | 88.89 | 2.22 | 2.67 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
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SUM-82-0.00
PID No. 91051

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SUPERSTRUCTURE DETAILS
BRIDGE NO.: SUM-82-0000
SR82 OVER CUYAHOGA RIVER, CUYAHOGA VALLEY SCENIC RR, & BIKE PATH

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