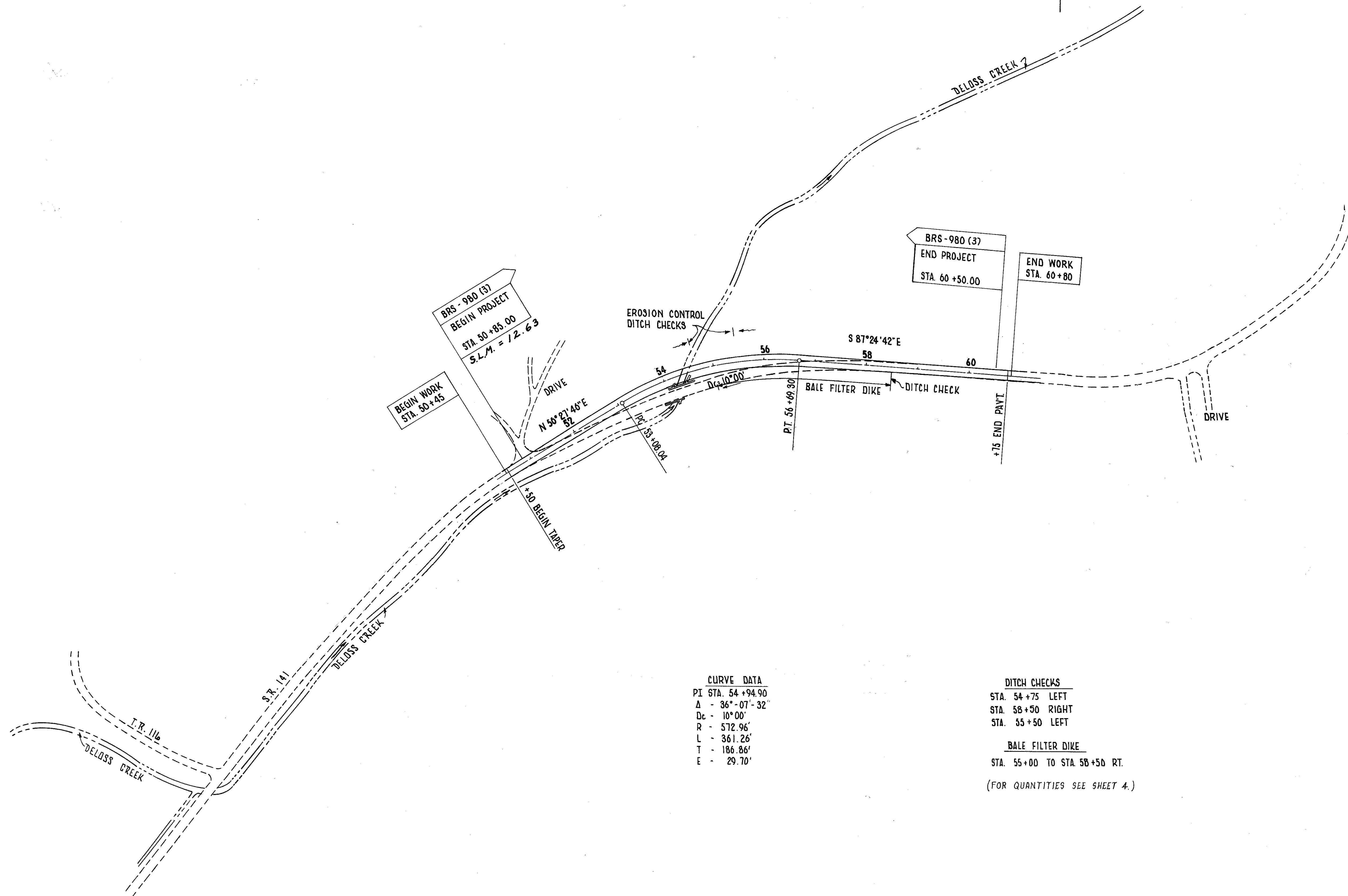


SCHEMATIC PLAN

1

1

**FEDERAL
PROJECT**

(FOR QUANTITIES SEE SHEET 4.)

TYPICAL SECTIONS

TYPE 404

ON
304

LAWRENCE COUNTY
LAW - 141 - 12.63

OHIO

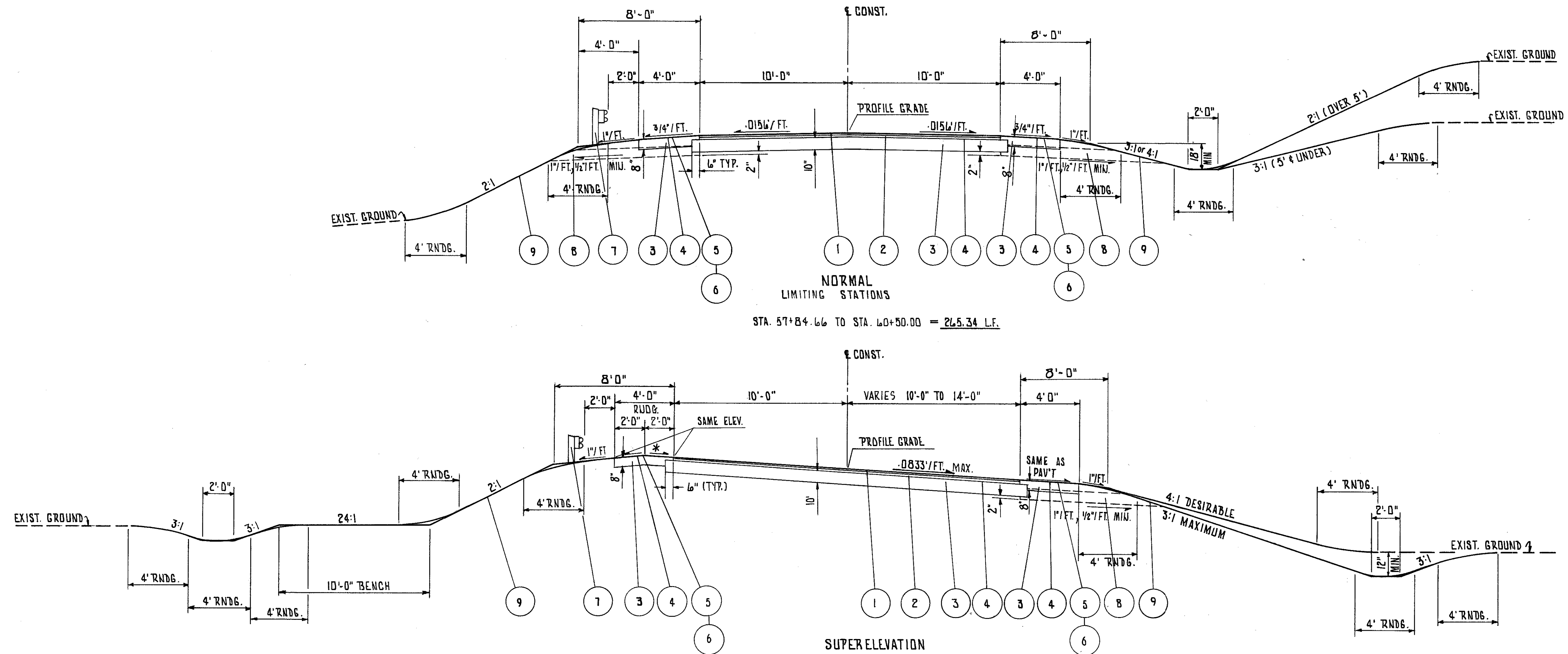
FHWA
REGION 5

3

31

BR5 - 980 (3)

FEDERAL
PROJECT



LEGEND

- | | |
|---|---|
| 1 | ITEM 404 1 1/4" ASPHALT CONCRETE, AC-20 |
| 2 | ITEM 402 1 3/4" ASPHALT CONCRETE, AC-20 |
| 3 | ITEM 304 AGGREGATE BASE (THICKNESS AS SHOWN) |
| 4 | ITEM 408 BITUMINOUS PRIME COAT AT 0.40 GAL. PER SQ. YD. |
| 5 | ITEM 409 SEAL COAT BITUMINOUS MATERIAL AT 0.30 GAL. PER SQ. YD. |
| 6 | ITEM 409 SEAL COAT COVER AGGREGATE No. 8 AT 0.008 CU. YD. PER SQ. YD. |
| 7 | ITEM 606 GUARDRAIL, TYPE 5 |
| 8 | ITEM 605 AGGREGATE DRAINS |
| 9 | ITEM 659 SEEDING AND MULCHING (SEE GENERAL NOTES) |

* SHOULDER SLOPE VARIES: 3/4" TO 1/8" PER FT. FOR SUPER RATE
NOT MORE THAN .059 FT./FT.

FHWA REGION	STATE	PROJECT	
5	OHIO	BR3-980 (3)	

LAWRENCE COUNTY
LAW-141-12.63



GENERAL NOTES

GENERAL NOTES

FIELD OFFICE: THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF **150** SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS: THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

UNDERGROUND UTILITIES: THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

UTILITY OWNERSHIP: THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT.

OHIO BELL TELEPHONE COMPANY
60 LOCUST STREET
P. O. BOX 735
GALLIPOLIS, OHIO 45631
PHONE: 1-614-446-9927
P. D. PELFRY, ENGR.

BUCKEYE RURAL ELECTRIC COOP. INC.
P. O. BOX 279
GALLIPOLIS, OHIO 45631
PHONE: 1-614-446-1532
PHIL SAUNDERS, R/W AGENT

HECLA WATER ASSOCIATION
ROUTE 3 BOX 1A
IRONTON, OHIO 45638
PHONE: 1-614-533-0526
RAY HOWARD

CONTINGENCY QUANTITIES: THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

REMOVAL OF TREES OR STUMPS: ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	5	-	5
30"	-	-	-
48"	-	-	-
60"	-	-	-

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

MONUMENTS: MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN ON STANDARD CONSTRUCTION DRAWING MC-1. FOR LOCATIONS, SEE SHEET NO. 27.

LOCATION OF GUARDRAIL: THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

SEEDING: QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN TEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS-SECTIONS, OR TO THE RIGHT-OF-WAY LINE, IF SUCH LINE IS LESS THEN TEN (10) FEET FROM THE WORK LIMITS.

WATERING PERMANENT SEEDED AREAS: THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENTLY SEEDED AREAS, AS PER 659.09.

ITEM 659 WATER 7 M. GAL.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL: THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

207 TEMPORARY SEEDING & MULCHING	1300 S.Y.	601 ROCK C.P. TYPE 'C' W/O FILTER	2 CY
207 STRAW OR HAY BALES (FOR DITCH CHECKS & BALE FILTER DIKE)	130 EA.	659 MOWING	15 M-SF.
207 TEMPORARY SLOPE DRAINS	50 LF.	659 COMMERCIAL FERTILIZER	0.06 TON
207 TEMPORARY BENCHES DIKES DAMS AND SEDIMENT BASINS	250 CY.	659 REPAIR SEEDING & MULCHING	325 SY
207 FILTER FABRIC FENCE	30 LF.	659 WATER	3 M-GAL.

TEMPORARY STREAM CROSSING FORDS: WHERE STREAM CROSSING FORDS ARE REQUIRED FOR EQUIPMENT CROSSINGS, THE FOLLOWING SHALL APPLY TO THE CONTRACTOR'S OPERATIONS:
THE CROSSING SHALL CONSIST OF CLEAN NON-TOXIC GRANULAR OR ROCK MATERIAL, PROPERLY MAINTAINED TO PREVENT EROSION WITH PROVISIONS FOR CONVEYANCE OF ANTICIPATED HIGH FLOWS.
FURTHERMORE, IT SHALL FOLLOW PART 330.5 SPECIFIC CATEGORIES OF DISCHARGES-NATIONALLY PERMITTED, PARAGRAPH (A)(14) MINOR ROAD CROSSING FILLS - OF THE FEDERAL REGISTER - CORPS OF ENGINEERS FINAL REGULATIONS PUBLISHED JULY 22, 1982.

DUST CONTROL: THE FOLLOWING QUANTITIES ARE ADDED FOR DUST CONTROL TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 616 CALCIUM CHLORIDE	3 TONS
ITEM 616 WATER	30 M. GAL.

ITEM 605 AGGREGATE DRAINS: AGGREGATE DRAINS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS AND AT TWENTY-FIVE (25) FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS.
AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

EROSION CONTROL: ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE THIS ITEM. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

PAVEMENT MARKINGS: ALL PAVEMENT MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH ITEM 621 OF THE "STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS". THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE MENTIONED WORK.

ITEM 621 4" EDGE LINE	0.39 MI.
ITEM 621 4" CENTERLINE, DOUBLE, SOLID	0.19 MI.

THE CENTERLINE AND EDGE LINES SHALL BEGIN AT STA. 50 + 50.00 AND END AT STATION 60 + 75.00.

FARM DRAINS: ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE CONSTRUCTION LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL TILE FIELDS WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING. THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION, AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603 6" CONDUIT B	50 LIN. FT.
ITEM 603 6" CONDUIT E	100 LIN. FT.
ITEM 603 6" CONDUIT F	50 LIN. FT.
ITEM 601, ROCK CHANNEL PROTECTION TYPE C WITH FILTER	10 CU. YDS.

NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM. NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

MAINTENANCE OF TRAFFIC: THE MAINTENANCE OF TRAFFIC SHALL BE GOVERNED BY THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" FOR STREETS AND HIGHWAYS, HEREINAFTER CALLED THE MANUAL, AND AS SUPPLEMENTED BY PERTINENT ITEMS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE FOLLOWING REQUIREMENTS:
THE CONTRACTOR WILL BE REQUIRED TO PROVIDE, ERECT, MAINTAIN (IN PROPER POSITION, CLEAN, LEGIBLE, AND IN GOOD WORKING CONDITION) AND REMOVE ALL SIGNS, SIGN SUPPORTS, BARRICADES, DRUMS, AND ALL OTHER TRAFFIC CONTROL DEVICES NECESSARY FOR THE MAINTENANCE OF TRAFFIC.
THE COST OF PROVIDING, INSTALLING, MAINTAINING AND REMOVING ALL TRAFFIC CONTROL DEVICES REQUIRED TO MAINTAIN TRAFFIC DURING CONSTRUCTION INCLUDING SIGNS, SIGN SUPPORTS, DRUMS AND BARRICADES SHALL BE INCLUDED IN THE LUMP SUM PRICE PER ITEM 614, "MAINTAINING TRAFFIC".

ITEM 614 MAINTAINING TRAFFIC: THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF SPEC. 614. TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON SR 141 BY USE OF THE EXISTING PAVEMENT AND SHOULDERS, THE COMPLETED PAVEMENT AND SHOULDERS, PROPOSED

STRUCTURE, AND TEMPORARY ROADWAYS SURFACED WITH 410 AGGREGATE AND STABILIZED WITH ITEM 616 CALCIUM CHLORIDE LOCATED AT THE TIE-IN BETWEEN PROPOSED SR 141 AND EXISTING SR 141. THE LIMITS AND DURATION OF USE OF TEMPORARY ROADWAYS SHALL BE HELD TO AN ABSOLUTE MINIMUM, AND IN ALL CASES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 404 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	50 C.Y.
ITEM 410 TRAFFIC COMPACTED SURFACE TYPE A & B	50 C.Y.
ITEM 616 CALCIUM CHLORIDE	2 TONS
ITEM 616 WATER	20 M. GALS.

SEPARATE PAYMENT SHALL BE MADE FOR ITEMS 404, 410 AND 616 NOTED ABOVE. ALL OTHER WORK REQUIRED FOR TRAFFIC MAINTENANCE, EXCEPT TEMPORARY REPLACEMENT DRUMS AND SIGNS AND TEMPORARY PAVEMENT MARKINGS, SHALL BE INCLUDED WITH PAYMENT FOR ITEM 614 MAINTAINING TRAFFIC.

SEQUENCE OF OPERATIONS:

PHASE I - TWO-WAY TRAFFIC SHALL BE MAINTAINED ON EXISTING SR 141 WHILE CONSTRUCTION IS COMPLETED ON THE PROPOSED RELOCATED WESTBOUND LANE FOR SR 141.

PHASE II - ONCE THE PROPOSED WESTBOUND LANE HAS BEEN COMPLETE, THE WESTBOUND TRAFFIC SHALL BE SHIFTED TO THIS LANE WHILE EASTBOUND TRAFFIC IS STILL MAINTAINED ON THE EXISTING PAVEMENT. AT THIS TIME THE PROPOSED EASTBOUND LANE SHALL BE COMPLETED IN THE AREA OF THE PROPOSED STRUCTURE.

PHASE III - TWO-WAY ONE LANE TRAFFIC SHALL BE MAINTAINED **BY USE OF FLAGGERS ON RELOCATED** SR 141, THE EXISTING PAVEMENT, EXISTING SHOULDER AND TEMPORARY ROADS, WHILE **CONSTRUCTION OPERATIONS** ON PROPOSED RELOCATED SR 141 AND EXISTING SR 141 ARE COMPLETED AT EACH END OF THE PROJECT.

TRENCH FOR WIDENING: TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND THE EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING: THE BASE WIDENING ON THIS PROJECT WILL BE COMPLETED TO A DEPTH 3 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF THE WORK DAY. EXCEPT FOR A SHORT LENGTH OF A WORK SECTION (25 FEET OR LESS) AT THE END OF THE TRENCH, NO TRENCH WILL BE LEFT OPEN OVERNIGHT. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING WILL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

REPLACEMENT SIGNS: FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS, AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE BID PRICE PER SQUARE FOOT FOR ITEM SPECIAL, REPLACEMENT SIGNS AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED SIGNS, HARDWARE AND SUPPORTS; AND PROVIDING NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC. REPLACEMENT SIGNS SHALL BE NEW BUT OTHER MATERIALS MAY BE USED SUBJECT TO APPROVAL BY THE ENGINEER.
THE FOLLOWING ESTIMATED QUANTITY OF ITEM SPECIAL, REPLACEMENT SIGNS HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL REPLACEMENT SIGNS	50 S.F.
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REPLACEMENT DRUMS: DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER AND PAID FOR UNDER ITEM SPECIAL REPLACEMENT DRUMS. PAYMENT FOR EACH DRUM SHALL INCLUDE (1) THE COST OF THE REMOVING AND DISPOSING OF THE DAMAGED DRUMS, AND (2) PROVIDING, MAINTAINING AND REMOVING NEW DRUMS IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUMS.
THE FOLLOWING ESTIMATED QUANTITY OF ITEM SPECIAL REPLACEMENT DRUMS HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL REPLACEMENT DRUMS	50 EACH
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EARTHWORK ALONG CURVED ALIGNMENT: THE CENTROIDS OF AREAS ON THE CROSS SECTIONS SHEETS ARE INDICATED BY A VERTICAL LINE. THE LENGTH OF VOLUME ALONG THE CURVE IS COMPUTED BASED ON THE AVERAGE OF THE ADJACENT CENTROIDS. INDIVIDUAL VOLUMES ALONG THE CURVED ALIGNMENT ARE COMPUTED BY AN ELECTRONIC COMPUTOR, AND THEN TOTALED. THE TOTAL VOLUME OF EACH SECTION IS SHOWN ON THE CROSS SECTION SHEETS.

ITEM 207 FILTER FABRIC FENCE (SEE SHEET 7)

614 WORK ZONE PAVEMENT MARKINGS

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND WHEN NECESSARY, REMOVE WORK ZONE RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE EVALUATED BY THE ENGINEER IN ACCORDANCE WITH THE THREE PERFORMANCE PARAMETERS CONTAINED IN SUPPLEMENT 1047. THE MARKINGS SHALL BE REPAIRED OR REPLACED WHEN THE NUMERICAL RATING OF A PARAMETER IS (a) SIX OR LOWER FOR DURABILITY, (b) FOUR OR LOWER FOR VISUAL EFFECTIVENESS AND (c) FOUR OR LOWER FOR NIGHT VISIBILITY. THE CONTRACTOR SHALL REPAIR OR REPLACE UNSATISFACTORY MARKINGS IMMEDIATELY AND AT NO ADDITIONAL COST TO THE STATE.

THE CONTRACTOR SHALL, IN ADVANCE OF ANY SECTION OF ROADWAY LACKING OMUTCD FULL PATTERN STANDARD DIMENSION EDGE LINE OR CENTER LINE MARKINGS, ERECT A "NO EDGE LINES" (OW-167-36) SIGN OR "UNMARKED NO PASSING ZONES" (OW-168-36) SIGN OR BOTH AS MAY BE APPROPRIATE. THESE SIGNS SHALL BE IN PLACE PRIOR TO EXPOSING THE ROADWAY TO TRAFFIC. THESE SIGNS SHALL ALSO BE ERECTED ON EACH ENTRANCE RAMP, AT INTERSECTIONS OF THROUGH ROADS TO WARN ENTERING OR TURNING TRAFFIC OF THE CONDITION AND AT LEAST ONCE EVERY TWO MILES ALONG THE ROADWAY. THESE SIGNS SHALL BE REMOVED WHEN THEY NO LONGER APPLY.

TEMPORARY PAVEMENT MARKING MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE EITHER 621.02 PAINT OR 947.03 TYPE B OR C PREFORMED MATERIAL.

PAINT

PAINTED MARKINGS SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT (1) PARAGRAPH 621.14 SHALL NOT APPLY, (2) WHERE THE MARKINGS ARE NOT LIABLE TO BE TRACKED, EITHER CONVENTIONAL OR FAST DRY PAINT MAY BE USED FOR 621.02, AND (3) WHEN APPLIED TO NEW ASPHALT PAVEMENT SURFACES OR PLANED ASPHALT PAVEMENT SURFACES, THE SPECIFIED APPLICATION RATE SHALL BE AS FOLLOWS:

WIDTH OF LINE, IN.		GALLONS PER MILE OF LINE			
	4	6	8	12	24
SOLID LINE	24	36	48	72	144
DASHED LINE	6	9			
DOTTED LINE	8	12			

TYPE B AND TYPE C PREFORMED MATERIAL

PREFORMED MATERIAL SHALL COMPLY WITH 947.03 EXCEPT THAT NO PREFORMED MATERIAL CONTAINING METAL SHALL BE PLACED ON ANY SURFACE UNLESS IT WILL BE REMOVED LATER BY THE CONTRACTOR. TEMPORARY PAVEMENT MARKINGS OF 947.03 PREFORMED MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF 621 OR 847 SURFACE COURSE MARKINGS AT THAT LOCATION. PREFORMED MATERIAL SHALL BE APPLIED IN ACCORDANCE WITH 847 EXCEPT AS MODIFIED HEREIN.

PLACEMENT

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT, INCLUDING RAMPS, PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS CONFLICT WITH THE TRAFFIC PATTERN, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134.

LINE PLACEMENT TOLERANCE FOR FINAL SURFACES SHALL BE IN ACCORDANCE WITH 621.052. ON SURFACES OTHER THAN THE FINAL, THE TOLERANCE PERMITTED SHALL BE TWICE THAT IN 621.052.

LAYOUT AND PREMARKING SHALL BE IN ACCORDANCE WITH 621.051.

TEMPORARY MARKING CLASSES

CLASS I MARKINGS

CLASS I MARKINGS SHALL BE APPLIED TO THE FULL DIMENSIONS AS DEFINED IN 621 WITH THE FOLLOWING ADDITIONS OR EXCEPTIONS:

- 1) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
- 2) STOP LINES SHALL BE 12-INCHES IN WIDTH.
- 3) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

CLASS II MARKINGS

CLASS II MARKINGS (ABBREVIATED) SHALL BE DEFINED AS FOLLOWS:

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 2.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE AND 24 GALLONS PER MILE FOR GORE MARKINGS.

CONFLICTING EXISTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL CONFLICTING EXISTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SPECIFICALLY ITEMIZED.

THE CONTRACTOR SHALL ALSO REMOVE THE PRISMATIC RETRO-REFLECTOR WITHIN ANY RAISED PAVEMENT MARKER (RPM) WHICH IS IN CONFLICT WITH THE TEMPORARY PAVEMENT MARKINGS. WHEN THE TEMPORARY PAVEMENT MARKINGS ARE REMOVED AND THE RPM IS NO LONGER IN CONFLICT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE RECESSED REFLECTOR ATTACHMENT AREA OF THE CASTING AND INSTALL A NEW PRISMATIC RETRO-REFLECTOR OF THE SAME KIND AND COLOR. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

INTERIM MARKINGS

WITHIN 21 CALENDAR DAYS AFTER OPENING ANY LENGTH OF PAVEMENT TO TRAFFIC, THE 621 OR 847 PAVEMENT MARKINGS CALLED FOR IN THE PLANS SHALL BE APPLIED. EQUIVALENT 614 CLASS I, PAINT MARKINGS MAY BE USED IN LIEU OF FINAL MARKINGS. IN THIS EVENT, THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I PAINT MARKINGS AS PART OF THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC

FOR EACH CALENDAR DAY BEYOND 21 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE SUM OF \$200 PER CALENDAR DAY WILL BE DEDUCTED FROM ANY MONEY DUE THE CONTRACTOR, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

CALC:	PCB	6-86
CHK:	ROB	6-86

FHWA REGION	STATE	PROJECT
5	OHIO	BRS 980 (3)

5
31

LAWRENCE COUNTY
LAW-141-12.63

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION
614	MILES	TEMPORARY LANE LINES, CLASS _____, * _____
614	0.19 MILES	TEMPORARY CENTER LINES, CLASS I, _____, * _____
614	LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS I, _____, * _____
614	0.78 MILES	TEMPORARY EDGE LINES, CLASS I, _____, * _____
614	LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II, _____, * _____
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, _____, * _____
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, _____, * _____
614	EACH	TEMPORARY LANE ARROWS, CLASS I, _____, * _____
614	EACH	TEMPORARY RAILROAD SYMBOL MARKINGS, CLASS I, _____, * _____
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, _____, * _____
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, _____, * _____
614	LIN. FT.	TEMPORARY DOTTED LINES, CLASS I, _____, * _____

*TYPE MATERIAL (621 PAINT, 947.03 TYPE B OR 947.03 TYPE C OR LEFT BLANK TO PERMIT ANY OF THE THREE)

fh4

621 EDGE LINES ON NEW ASPHALT PAVEMENTS

EDGE LINES SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT (1) ON EVERY ROADWAY AND RAMP, EDGE LINES SHALL BE IN PLACE PRIOR TO EXPOSING IT TO TRAFFIC, (2) WHERE THE EDGE LINES ARE NOT LIABLE TO BE TRACKED, EITHER CONVENTIONAL OR FAST DRY PAINT MAY BE USED FOR 621.02, AND (3) WHEN APPLIED TO NEW ASPHALT PAVEMENT THE SPECIFIED APPLICATION RATE SHALL BE 24 GALLONS PER MILE.

614 WORK ZONE MARKING SIGNS

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE WORK ZONE MARKING SIGNS (OW-167 AND OW-168) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT DEPARTMENT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19. WORK ZONE MARKING SIGNS SHALL BE PROVIDED WITH SUITABLE YIELDING SUPPORTS OF SUFFICIENT STRENGTH AND STABILITY.

WORK ZONE MARKING SIGNS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. ALL OTHER WORK ZONE SIGNS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

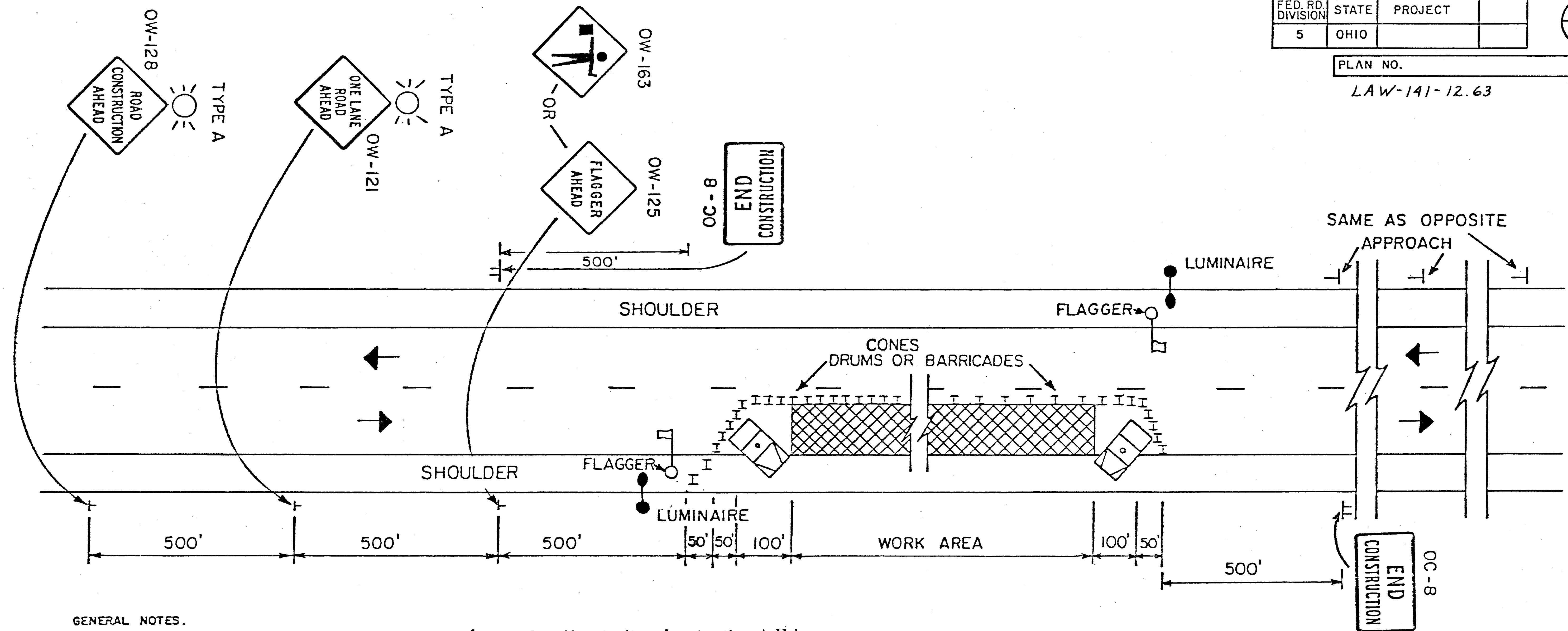
PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND REMOVAL OF THE SIGNS.

ITEM	UNIT	DESCRIPTION
614	EACH	WORK ZONE MARKING SIGNS

A QUANTITY OF _____ EACH WORK ZONE MARKING SIGNS (_____ EACH "NO EDGE LINES" OW-167 AND _____ EACH "UNMARKED NO PASSING ZONES" OW-168) ARE CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

PLAN NO.
LAW-141-12.63



GENERAL NOTES.

1. The location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment. The distances shown are minimums.
2. Flaggers shall be used to control traffic continuously for as long as a one lane operation is in effect. The flaggers shall communicate with each other at all times as described in the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) in Section 7H: Control of Traffic Through Work Areas.
3. Drums or barricades shall be spaced at approximately 50' to 60' center to center for the first 1000 feet of the work area and at a maximum of 100' to 120' center to center for the balance of the work area. Drums or barricades on the advance and return tapers shall be spaced at 10' center to center. Cones may be substituted for barricades or drums for short term lane closures during daylight hours only.
4. Several small work sites close together shall be combined into one work area to make a closure not more than 2000 feet long including tapers. Closures of more than 2000 feet may be approved by the Engineer. The minimum length between closures shall be 2000 feet. Only one side of the road shall be closed in any one work area.
5. The work vehicles shown at the beginning and end of the work area shall be in place and unoccupied whenever workers are in the work area. These work vehicles shall be removed from the pavement whenever workers are not in the work area. Other protective devices may be used in lieu of the work vehicles shown when approved by the Engineer. The vehicles shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of a 1/4 mile.
6. The Type A flashing barricade warning lights shown on the "Road Construction Ahead" and the "One Lane Road Ahead" signs are required whenever a night lane closure is necessary.
7. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 3.
8. Adequate area illumination to clearly identify the flagger station at night for long term operations shall be provided by using 150 watt minimum high pressure sodium luminaires or 250 watt minimum mercury luminaires. Luminaires shall be located adjacent to one flagger station for each direction of traffic as shown above. The mounting height for temporary luminaires shall be a minimum of 27 feet above the pavement and the overhead conductor clearance shall be 20 feet above the pavement.

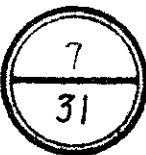
OHIO DEPARTMENT OF TRANSPORTATION
FLAGGERS CLOSING
1 LANE OF A 2 LANE
HIGHWAY
DATE
12/82

CALCULATIONS

CALC Feb 24
CHN FEB 24

FAWA REGION	STATE	PROJECT	
5	OHIO		

LAWRENCE COUNTY
LAY-141-12.63



PAVEMENT CALCULATIONS

PAVEMENT AREA - STA. 50 + 50 TO STA. 60 + 75		
A= 1/2(18.6 + 20)35 + 1/2(19 + 20)25 + (155 + 320)20 + 1/2(20 + 24)200 X 2 + (90 - 97.89)24	=	19,273.64 S.F.
ITEM 404 1 1/4" ASPHALT CONCRETE		
V= 19,273.64 X 0.1042 ÷ 27	=	74.38 C.Y.
TOTAL ITEM 404 TO GENERAL SUMMARY	=	75 C.Y.
ITEM 402 1 3/4" ASPHALT CONCRETE		
V= 19,273.64 X 0.1458 ÷ 27	=	104.08 C.Y.
TOTAL ITEM 402 TO GENERAL SUMMARY	=	104 C.Y.
ITEM 304 AGGREGATE BASE (UNDER APPROACH SLABS)		
V= 8[(19,273.64 + (1025 - 97.89)1,010.833 + (15 X 36)2 X 0.5 + [(1025 - 97.89)4 X 2 - 1/2 (42 + 66)4 - (1/2(1 + 4)19.8 + (4 X 35.8) + 1/2(1 + 4)14.4)] 10.667 - (1025 - 97.89-70-66) X (0.5 X 0.4167)8 ÷ 27	=	809.51 C.Y.
TOTAL ITEM 304 TO GENERAL SUMMARY	=	810 C.Y.
ITEM 408 BITUMINOUS PRIME COAT		
V= [(19,273.64 + (1025 - 97.89) 4 X 2) - (1/2(42 + 66)4 - (1/2(1 + 4)× 19.8 + (4 X 35.8) + 1/2(1 + 4)14.4)] 0.4 ÷ 9	=	1,182.41 GAL.
TOTAL ITEM 408 TO GENERAL SUMMARY	=	1,182 GAL.
ITEM 409 SEAL COAT BITUMINOUS MATERIAL		
V= [(1025 - 97.89)4 X 2 - 1/2(42 + 66)4 - (1/2(1 + 4)19.8 + (4 X 35.8) + 1/2(1 + 4)14.4)] 0.3 ÷ 9	=	244.35 GAL.
TOTAL ITEM 409 TO GENERAL SUMMARY	=	244 GAL.
ITEM 409 SEAL COAT COVER AGGREGATE		
V= [(1025 - 97.89)4 X 2 - 1/2(42 + 66)4 - (1/2(1 + 4)19.8 + (4 X 35.8) + 1/2(1 + 4)14.4)]0.008 ÷ 9	=	6.20 C.Y.
TOTAL ITEM 409 TO GENERAL SUMMARY	=	7 C.Y.
ITEM 605 AGGREGATE DRAINS		
L= (8 + 21 + 12)9	=	369 L.F.
TOTAL ITEM 605 TO GENERAL SUMMARY	=	369 L.F.
ITEM 203 SUBGRADE COMPACTION		
A= 19,273.64 ÷ 9	=	2,141.5 S.Y.
TOTAL ITEM 203 TO GENERAL SUMMARY	=	2,142 S.Y.
ITEM 611 REINFORCED CONCRETE APPROACH SLABS		
A= (36 X 15) 2 ÷ 9	=	120.0 S.Y.
TOTAL ITEM 611 TO GENERAL SUMMARY	=	120 S.Y.
ITEM 659 SEEDING & MULCHING		
A= 1816 + 2894 + 2146	=	6,856.0 S.Y.
DEDUCT ROCK C.P. -(402.5 + 2152.5) ÷ 9	=	- 283.9 S.Y.
TOTAL ITEM 659 TO GENERAL SUMMARY	=	6,572.1 S.Y.
TOTAL ITEM 659 TO GENERAL SUMMARY	=	6,572 S.Y.
ITEM 659 AGRICULTURAL LIMING		
V= (6572 X 9 X 100 ÷ (1000 X 2000)	=	2.96 TON
TOTAL ITEM 659 TO GENERAL SUMMARY	=	2.96 TON
ITEM 659 COMMERCIAL FERTILIZER		
V = 6572 X (9 X 20) ÷ (1000 X 2000)	=	0.59 TON
TOTAL ITEM 659 TO GENERAL SUMMARY	=	0.59 TON

ITEM 207 FILTER FABRIC FENCE

MATERIALS: FILTER FABRIC SHALL MEET THE REQUIREMENT OF ITEM 207.02.
CONSTRUCTION: THE BOTTOM OF THE FENCE SHALL BE BURIED 6" BELOW THE GROUND. THE FENCE SHALL BE HIGH ENOUGH TO RETAIN SEDIMENT-LADEN WATER AND ADEQUATELY SUPPORTED TO PREVENT COLLAPSE OR BURSTING.
MAINTENANCE: THE FILTER FABRIC FENCE SHALL, AT THE DIRECTION OF THE ENGINEER, BE MAINTAINED TO BE FUNCTIONAL. THIS SHALL INCLUDE REMOVAL OF TRAPPED SEDIMENT AND REQUIRED CLEANING, REPAIR, AND/OR REPLACEMENT OF THE FILTER FABRIC.
PAYMENT: THE COST OF ALL MATERIAL, CONSTRUCTION, MAINTENANCE, AND REMOVAL REQUIRED SHALL BE PAID FOR UNDER ITEM 207, LIN. FT., FILTER FABRIC FENCE.

GENERAL SUMMARY

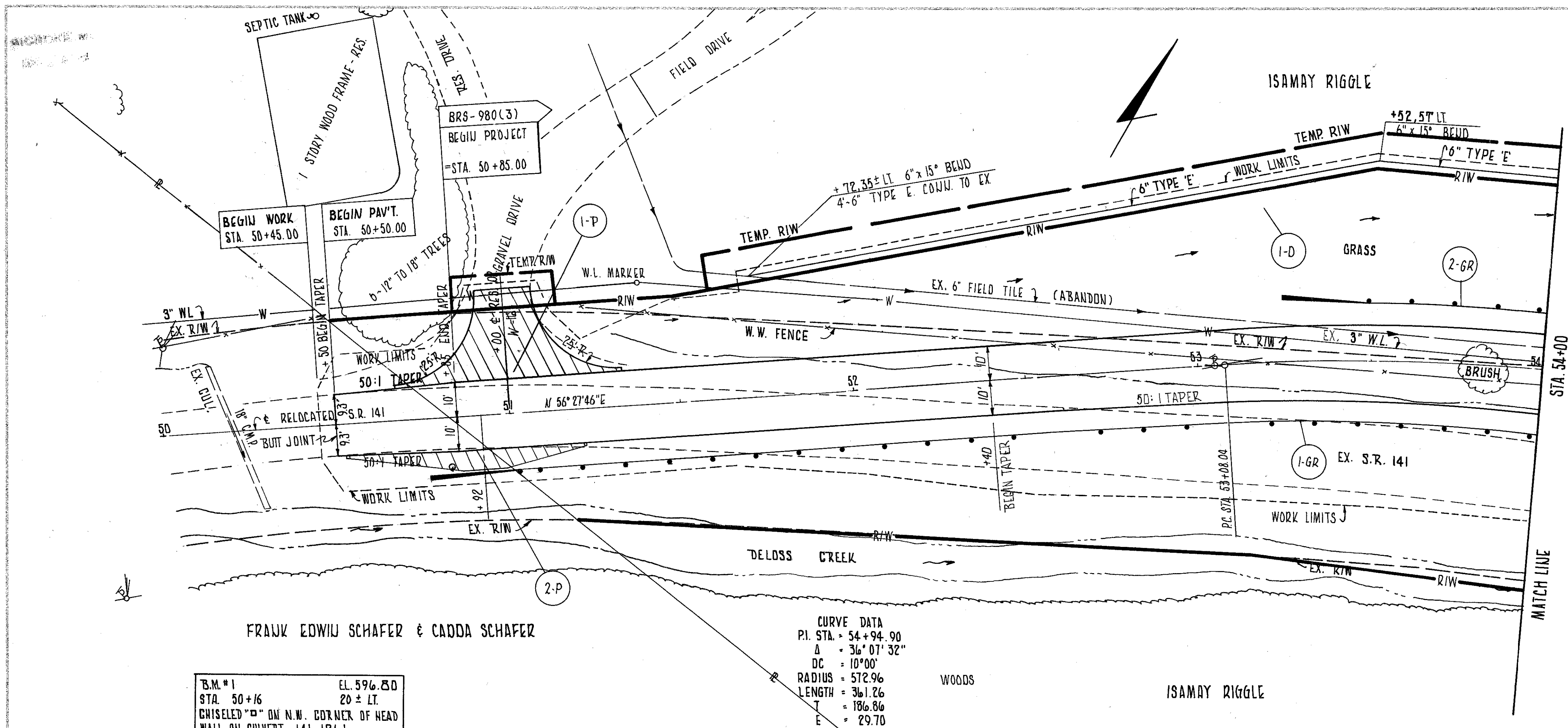
CALC: FILE 8-22

CHK: RS 8-22

FHA REGION	STATE	PROJECT
5	OHIO	878-980 (3)

LAWRENCE COUNTY
LAN - 141-12.63

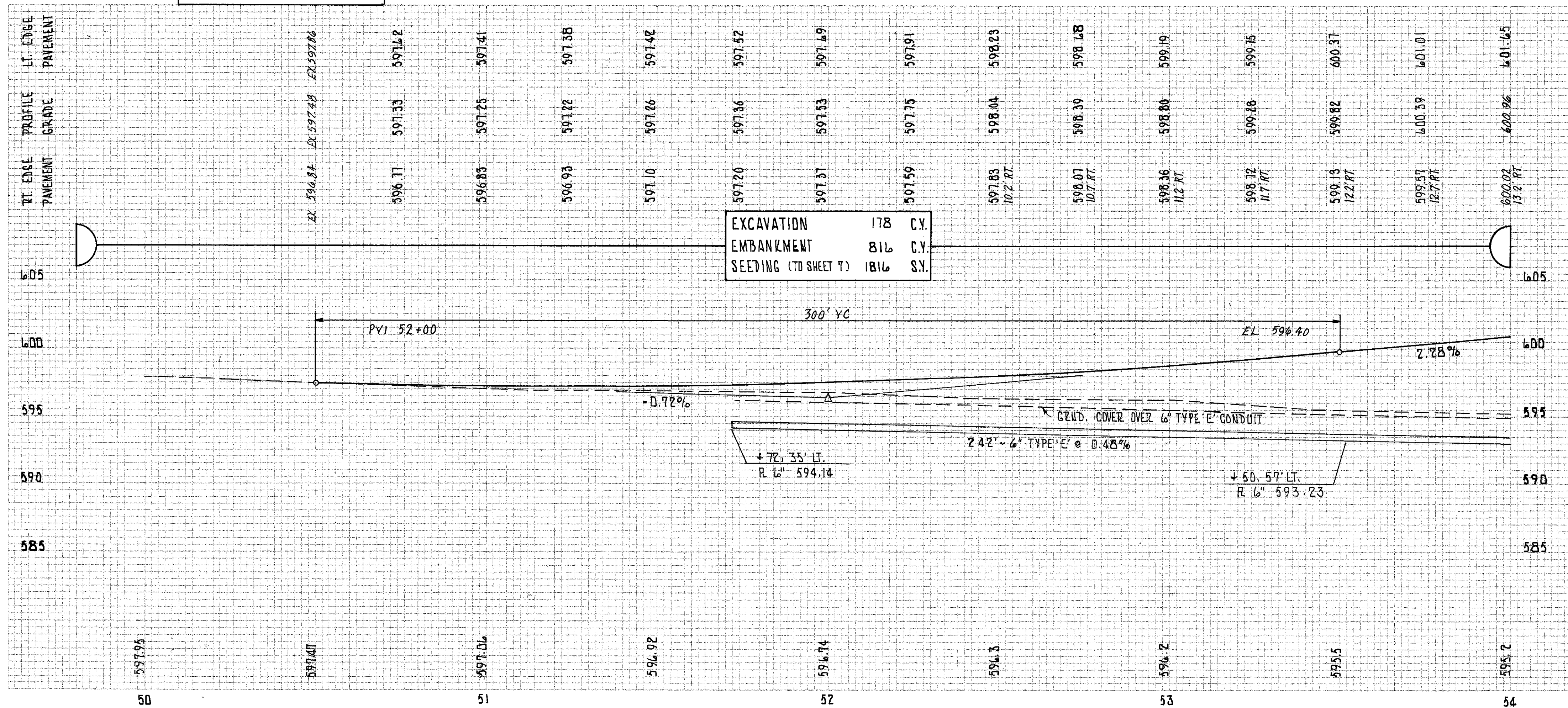
ITEM		4	5	7	9	10	11	R/W	SHEET NUMBER																				ITEM	TOTAL	UNIT	DESCRIPTION
																																ROADWAY
201	LUMP																												201	LUMP		CLEARING AND GRUBBING
202						LUMP																							202	LUMP		STRUCTURE REMOVED
203					178	120	857																						203	1155	CY.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
203					816	4057	505																						203	5378	CY.	EMBANKMENT
203				2142																									203	2142	SY.	SUBGRADE COMPACTION
404	50																												404	50	CY.	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC
410	50																												410	50	CY.	TRAFFIC COMPACTED SURFACE, TYPE 'A' OR 'B'
604								8																					604	8	EA.	REFERENCE MONUMENT, STANDARD
606					350.30	474.78	237.42																						606	1062.5	LIN. FT.	GUARDRAIL, TYPE 5
606					2	1	1																						606	4	EA.	ANCHOR ASSEMBLY, STANDARD TYPE 'A'
606						4																							606	4	EA.	BRIDGE TERMINAL ASSEMBLY, STANDARD TYPE 'B'
616	50																												616	50	M.GAL.	WATER
616	5																												616	5	TON	CALCIUM CHLORIDE
																																TRAFFIC CONTROL
614			0.19																										614	0.19	MI.	TEMPORARY CENTER LINE CLASS I
614			0.78																										614	0.78	MI.	TEMPORARY EDGE LINE, CLASS I
SPECIAL	50																												SPECIAL	50	SF.	REPLACEMENT SIGNS
SPECIAL	50																												SPECIAL	50	EA.	REPLACEMENT DRUMS (TRAFFIC CONTROL CONT. BELOW)
																																EROSION CONTROL
207	1300																												207	1300	SY.	TEMPORARY SEEDING AND MULCHING
207	50																												207	50	LF.	TEMPORARY SLOPE DRAINS
207	250																												207	250	CY.	TEMPORARY BENCHES, DIKES, DAMS AND SEDIMENT BASINS
207	30																												207	30	LF.	FILTER FABRIC FENCE
207	130																												207	130	EA.	STRAW OR HAY BALES
601	10					119.6	22.4																						601	152	CY.	ROCK CHANNEL PROTECTION, TYPE 'C' WITH FILTER FABRIC
601	2																												601	2	CY.	ROCK CHANNEL PROTECTION TYPE 'C' WITHOUT FILTER
601						414																							601	414	CY.	ROCK CHANNEL PROTECTION TYPE 'B' WITHOUT FILTER
659					6572																								659	6572	SY.	SEEDING AND MULCHING
659					2.96																								659	2.96	TON	AGRICULTURAL LIMING
659	0.06				0.59																								659	0.65	TON	COMMERICAL FERTILIZER
659	15																												659	15	M-SF.	MOWING
659	325																												659	325	SY.	REPAIR SEEDING AND MULCHING
659	10																												659	10	M-GAL.	WATER
																																DRAINAGE
603	50																												603	50	LF.	6" CONDUIT TYPE 'B'
603	100				242	156																							603	498	LF.	6" CONDUIT TYPE 'E'
603	50					10																							603	60	LF.	6" CONDUIT TYPE 'F'
605					369																								605	369	LF.	AGGREGATE DRAINS
																																PAVEMENT
304					810	19																							304	829	CY.	AGGREGATE BASE
402					104																								402	104	CY.	ASPHALT CONCRETE, AC-20
404					75																								404	75	CY.	ASPHALT CONCRETE, AC-20
404					7																								404	7	CY.	ASPHALT CONCRETE, AC-20 (DRIVEWAYS)
408					1182	45																							408	1227	GAL.	BITUMINOUS PRIME COAT
409					244																								409	244	GAL.	SEAL COAT BITUMINOUS MATERIAL
409					7																								409	7	CY.	SEAL COAT COVER AGGREGATE NO. 8
611					120																								611	120	SY.	REINFORCED CONCRETE APPROACH SLAB (T=12")
																																TRAFFIC CONTROL (CONT. FROM ABOVE)
621	0.19																												621	0.19	MI.	CENTER LINES
621	0.39																												621	0.39	MI.	EDGE LINES
630						4																							630	4	Each	Removal of Ground Mounted Sign and Storage
630						4																							630	4	Each	Removal of Ground Mounted Post Support
																																FOR STRUCTURE QUANTITIES OVER 20-FT SPAN SEE SHEET 21
614	LUMP																												614	LUMP		MAINTAINING TRAFFIC
619	LUMP																												619	LUMP		FIELD OFFICE
623																													623	LUMP		CONSTRUCTION LAYOUT STAKES
624																													624	LUMP		MOBILIZATION



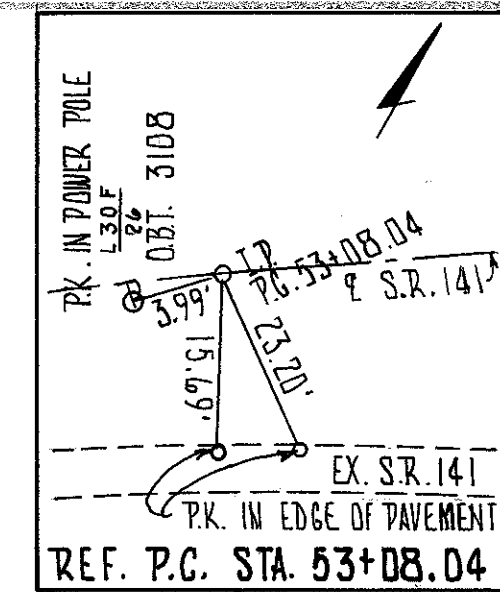
FRANK EDWIN SCHAFER & CARRA SCHAFER

B.M. #1
STA. 50+16
CHISELED "D" ON N.W. CORNER OF HEAD
WALL ON CULVERT 141-1261

CURVE DATA
PI STA. 54+94.90
Δ = 36° 07' 32"
DC = 10° 00'
RADIUS = 572.96
LENGTH = 361.26
T = 186.86
E = 29.70



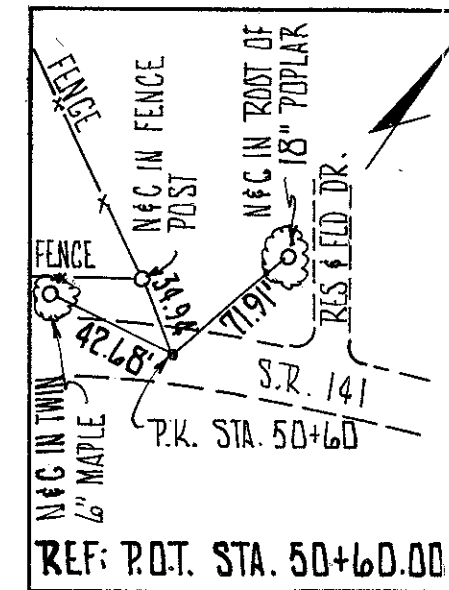
EXCAVATION 178 C.Y.
EMBANKMENT 816 C.Y.
SEEDING (TO SHEET T) 1816 S.Y.



FED. ROAD DIST.	STATE	PROJECT
5	OHIO	BR-980(3)

LAWRENCE COUNTY
LAW - 141 - 1263

CALC: PCB 6-86
CHK: ROB 7-86



DRIVE LEGEND

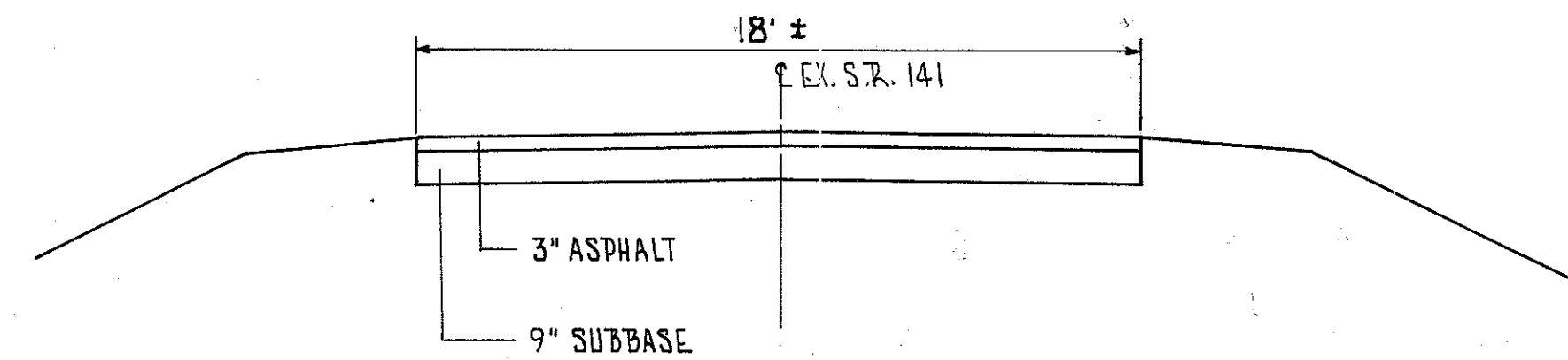
2" ITEM 404 OR 6" ITEM 304 WITH ITEM 408

NOTE:

- CONTRACTOR SHALL FIELD LOCATE EXISTING 6" FIELD TILE BEFORE PROPOSED 6" TYPE 'E' IS CONSTRUCTED. THE CONTRACTOR SHALL NOT PERFORM ALL OR PART OF ITEM 1-D IF NOT REQUIRED AS DETERMINED BY THE ENGINEER.
- THE CONTRACTOR SHALL TIE ANY LATERALS ENCOUNTERED DURING TRENCHING OPERATIONS INTO 6" TYPE 'E' CONDUIT. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603 TYPE 'E'.

CALCULATIONS

1-P ITEM 404 $[(25 \times 16) + (66 \times 1) + ((25 \times 25) - \pi(25)^2/4)] \div 27 = 4.53 \text{ C.Y.}$
 1-P ITEM 304 $[(25 \times 16) + (66 \times 1) + ((25 \times 25) - \pi(25)^2/4)] \div 27 = 13.60 \text{ C.Y.}$
 1-P ITEM 408 $[(25 \times 16) + (66 \times 1) + ((25 \times 25) - \pi(25)^2/4)] \div 27 = 0.4 \div 9 = 32.6 \text{ GAL.}$
 2-P ITEM 304 $[(1/2)(16) \div 33 + (6 \times 13) + 1/2(16) \div 24] \div 0.5 \div 27 = 5.14 \text{ C.Y.}$
 2-P ITEM 404 $[(1/2)(16) \div 33 + (6 \times 13) + 1/2(16) \div 24] \div 0.167 \div 27 = 1.71 \text{ C.Y.}$
 2-P ITEM 408 $[(1/2)(16) \div 33 + (6 \times 13) + 1/2(16) \div 24] \div 0.4 \div 9 = 12.33 \text{ GAL.}$

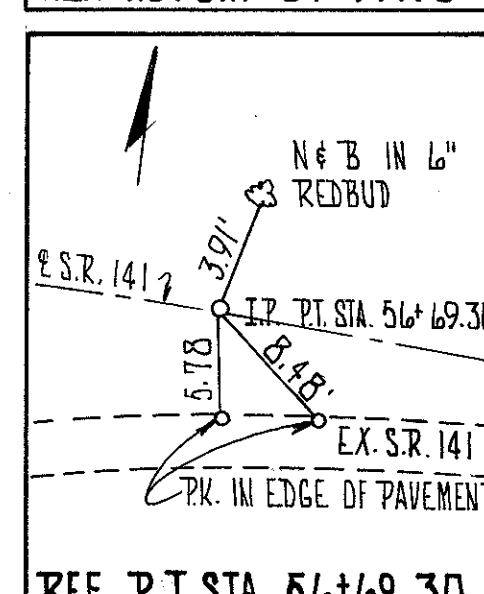
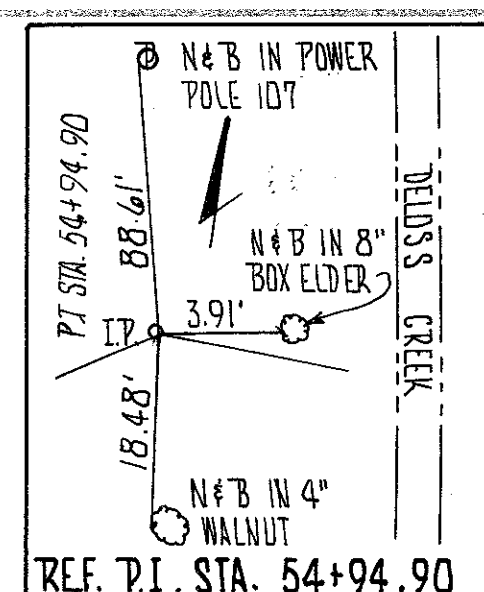
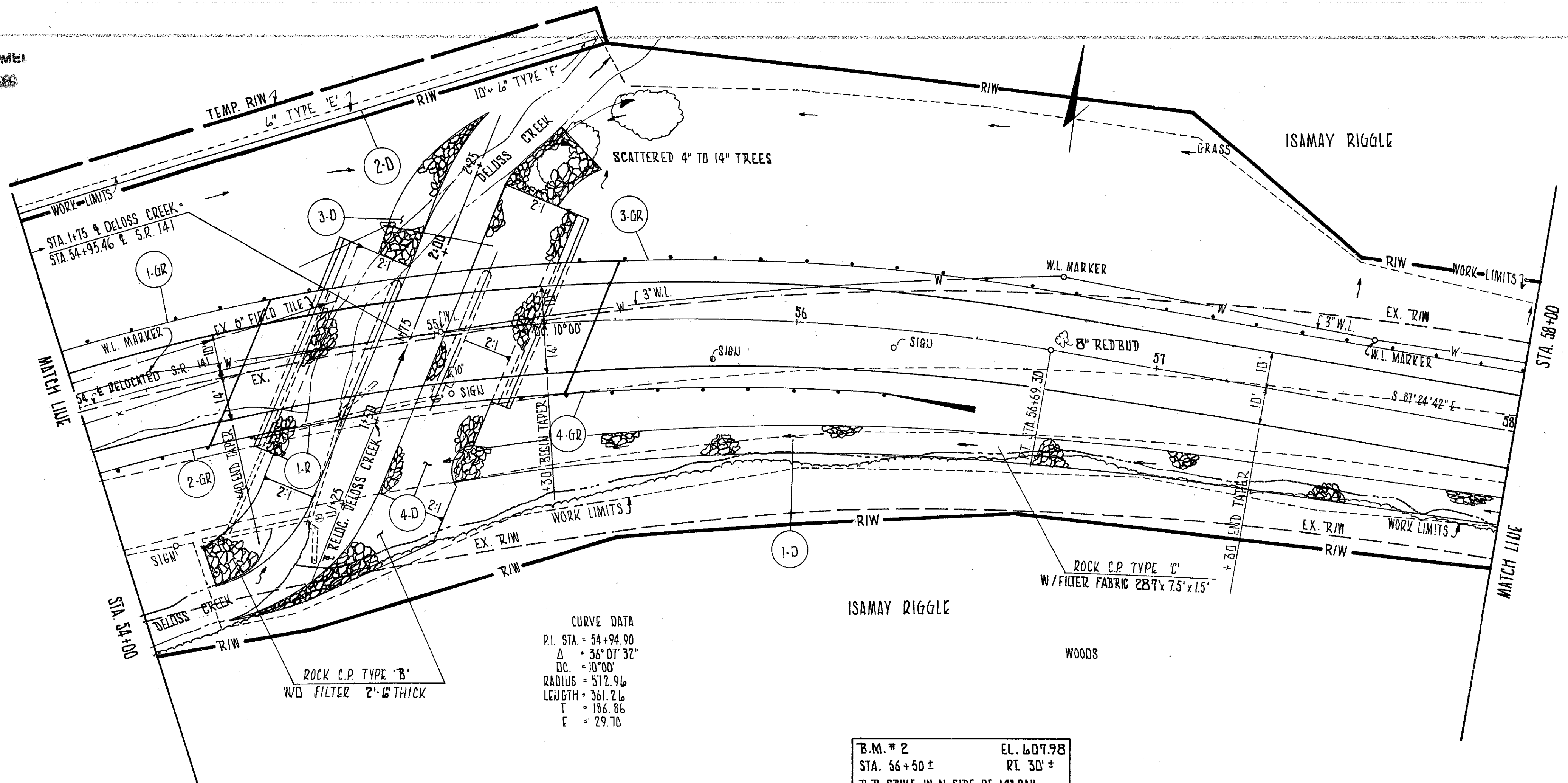


EXISTING TYPICAL

REF.	STATION TO STATION	SIDE	304 AGGREGATE BASE	404 ASPHALT CONCRETE (DRIVEWAY)	603 6" TYPE 'E'	604 BENDS & BRANCHES	606 GUARDRAIL TYPE 5	608 ANCHOR ASSEMBLY TYPE 'A'	408 BITUMINOUS PRIME COAT
1-GR	50+76.88 TO 54+00.00	RT.	C.Y.	C.Y.	L.F.	EA.	L.F.	EA.	GAL.
2-GR	53+22.25 TO 54+00.00	LT.					295.38	1	
							54.92	1	
1-D	51+92 TO 54+00	LT.				242	2		
1-P	51+00	LT.	13.6	4.5					32.6
2-P	50+92	RT.	5.1	1.7					12.3
TOTALS			19	7	242		350.30	2	45

S.P. 141 STA. 50+50 TO STA. 54+00

MICROFILMED
MAR 24 1980



FED. AID	STATE	PROJECT	ID
5	OHIO	BRS 980 (3)	31

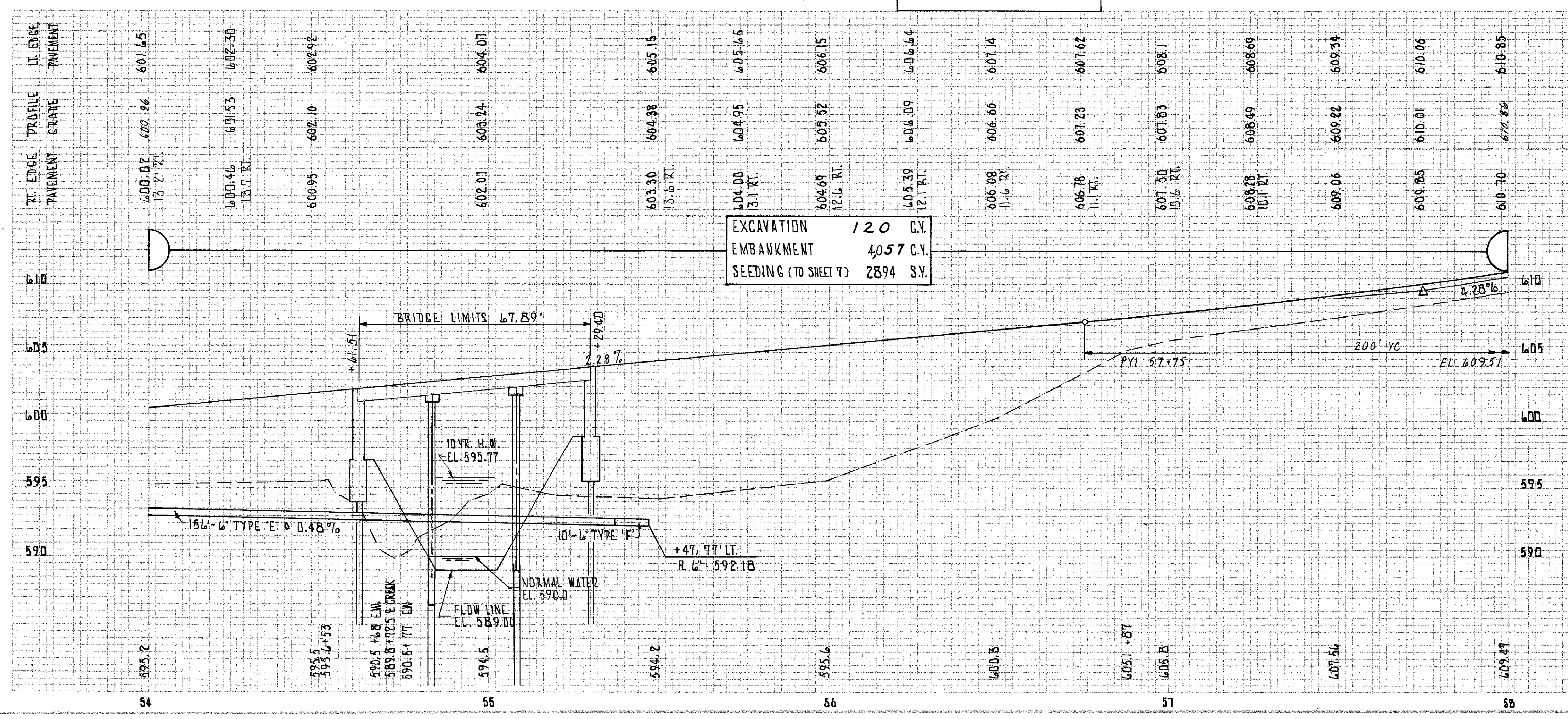
LAWRENCE COUNTY
LAW - 141-12.63

CALC: PCB 6-86
CHK: ROB 7-86

CALCULATIONS

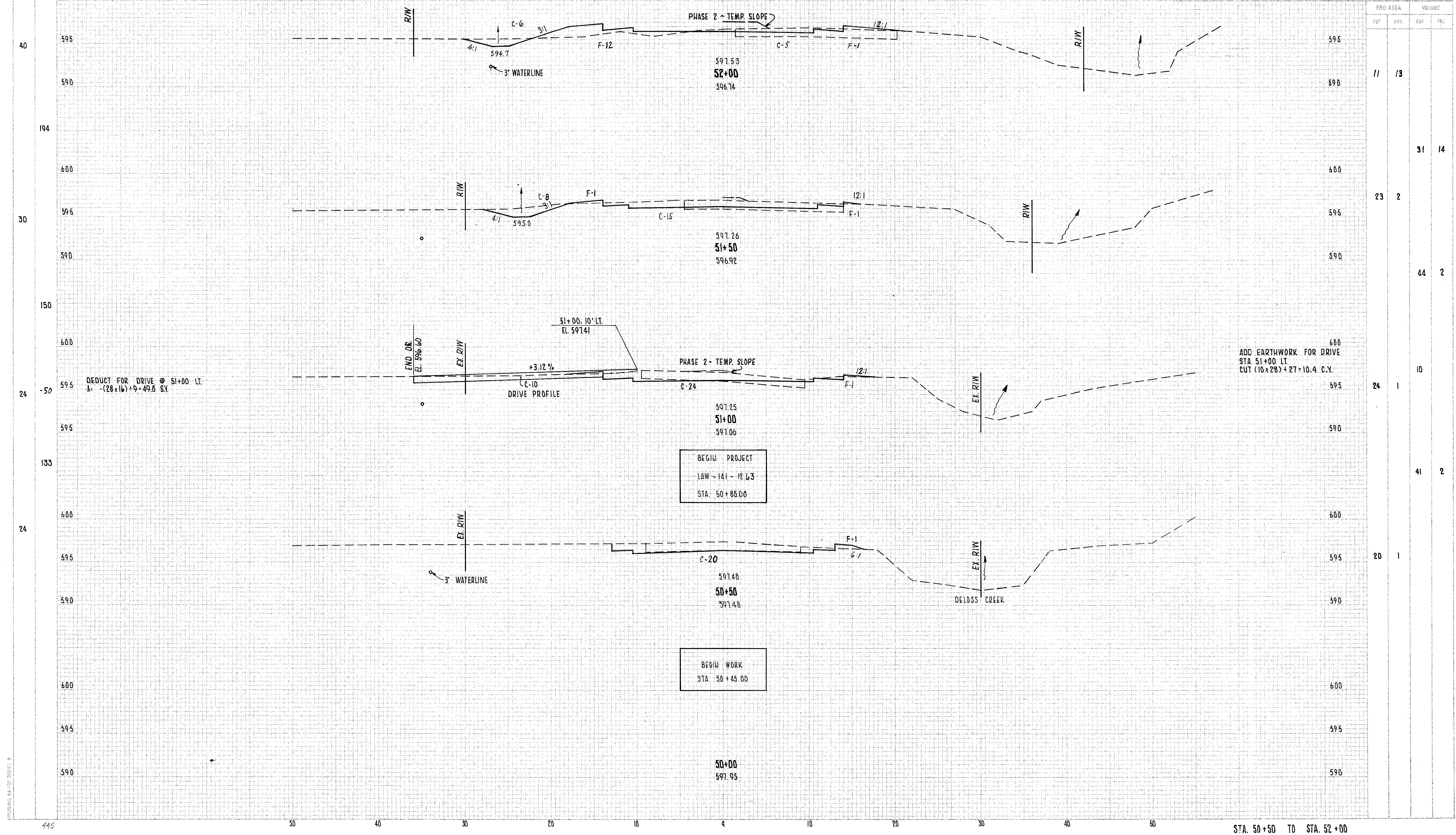
1-D ITEM 601 (287 x 7.5 x 1.5) ÷ 27 = 119.6 C.Y.
3-D ITEM 601 [(62 x 17) + 1/2 (11 x 14.5) 38 + (20 x 9.5) + 1/2 (9.5 x 28) 72.5 ÷ 27 = 172.4 C.Y.
4-D ITEM 601 [(56 x 21) + (19 x 16) + (40 x 19) + 1/2 (41 x 15.5) + 1/2 (24 x 4) 72.5 ÷ 27 = 241.3 C.Y.

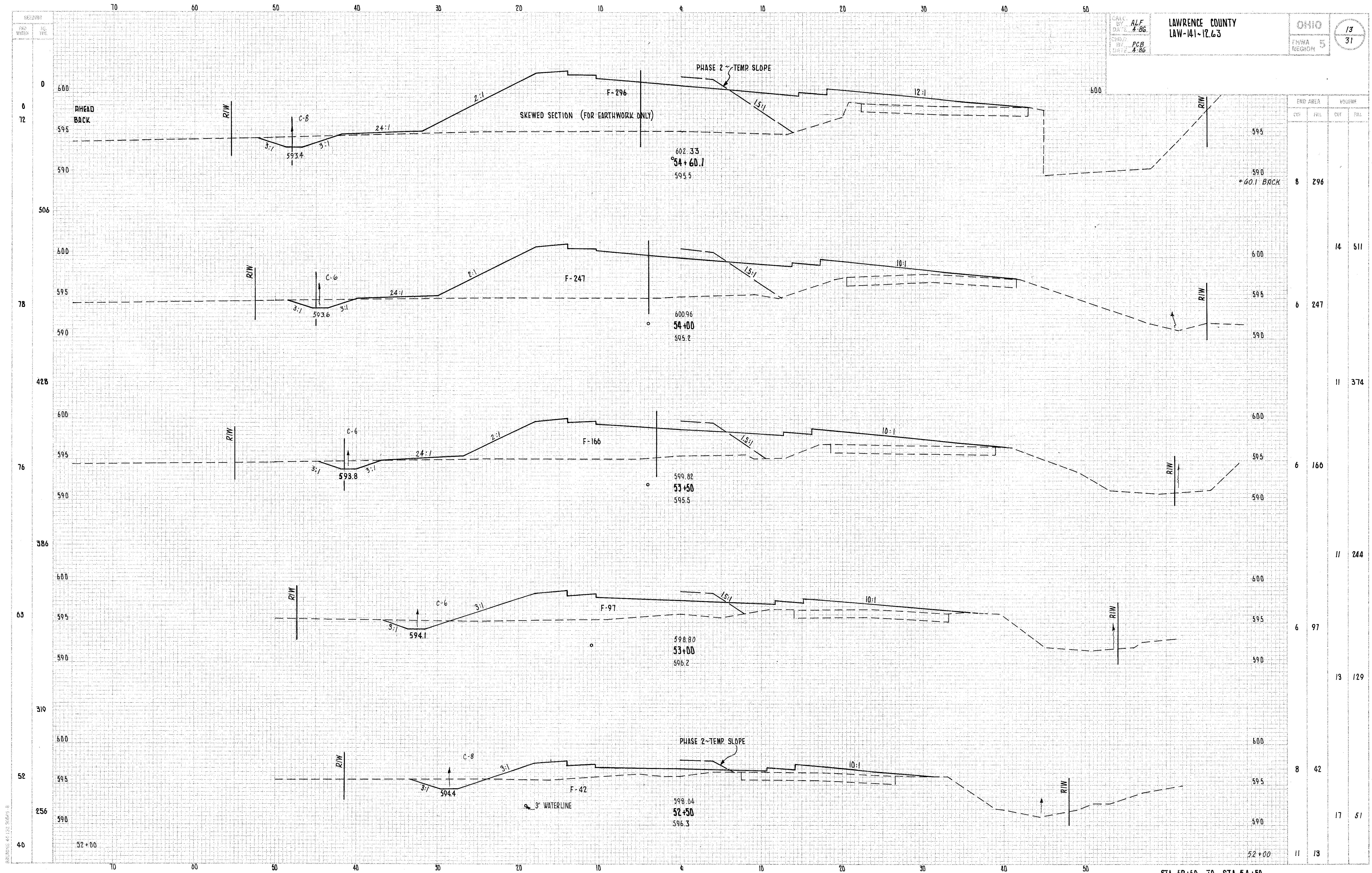
NOTE:
1. FOR STRUCTURE DETAILS SEE SHEET 19
2. FOR CROSS SECTIONS ON RELOCATED DELLOSS CREEK SEE SHEET NO. 18

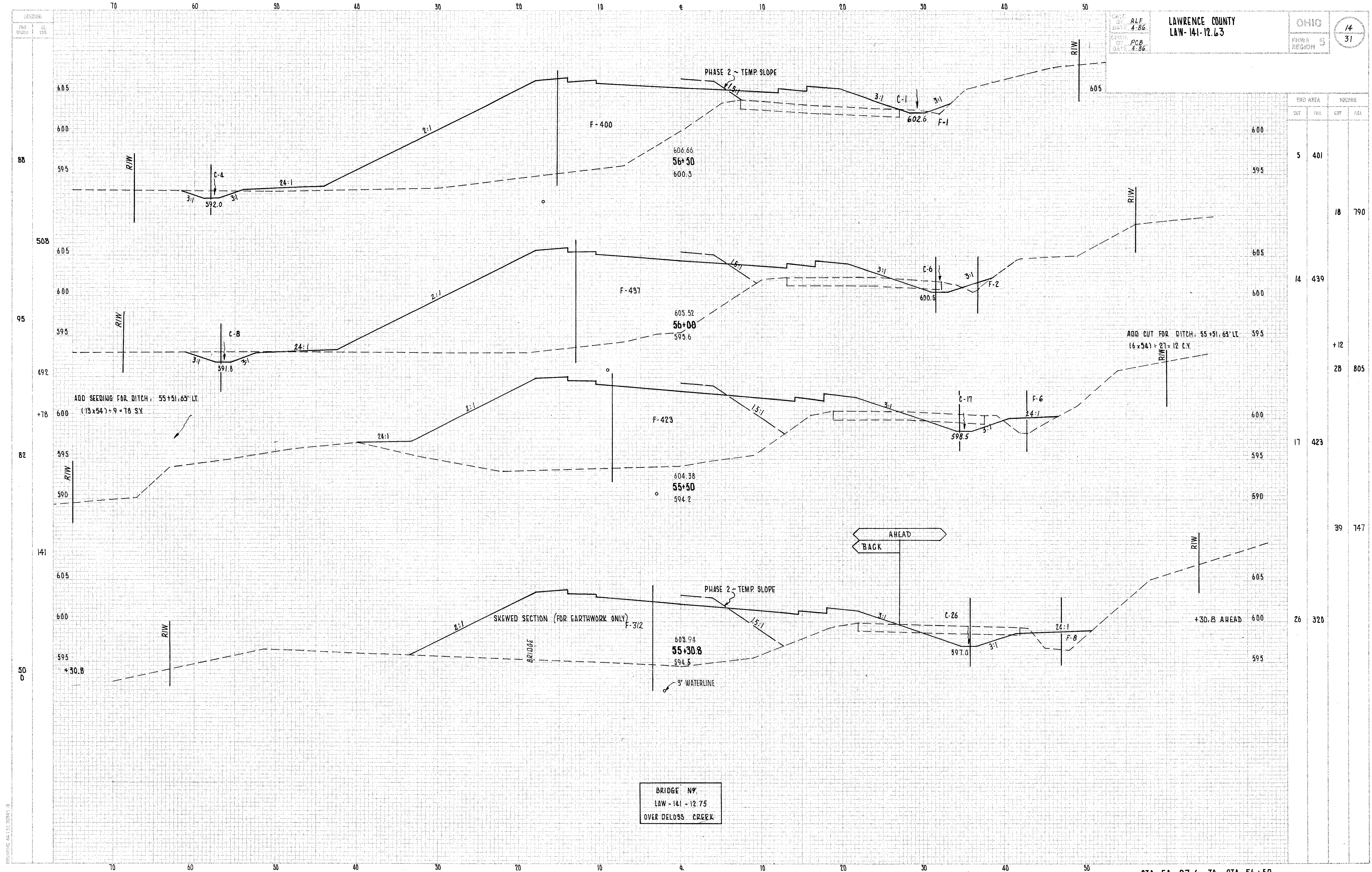


EXISTING STRUCTURE				PROPOSED STRUCTURE								
TYPE: SINGLE SPAN ROLLED BEAM WITH CONCRETE DECK.				TYPE: CONTINUOUS REINFORCED CONCRETE SLAB								
SPAN: 20'-0"				SPAN: 20'-0" x 25'-0" x 20'-0" ALONG & SURVEY								
ROADWAY: 24'-0" F/F GUARDRAIL				ROADWAY: 36'-0" F/F GUARDRAILS								
SKEW: 26° 45'				LOADING: HS 20-44 & ALT. MILITARY LOAD								
POSTED:				SKEW: 30° LT. FWD. (W/REF. CHORD)								
WEARING SURFACE: ASPHALT				WEARING SURFACE: MONOLITHIC CONCRETE								
STRUCTURAL FILE NO. 4402464				APP. SLAB: AS-1-81 (15'-0" LONG)								
				ALIGNMENT: 10° CURVE								
				SUPERELEVATION: D-D833 FT./FT.								
				ADT = 950 (1985) 1160 (2007)								
REF.	STATION TO STATION	SIDE	202	601	603	630	606	606	606			
			STRUCTURE REMOVED	ROCK C.P TYPE 'B' W/D FILTER	ROCK C.P TYPE 'C' W/FILTER FABRIC	E' TYPE F' TYPE	REMOVAL OF GR. MTD. SUPPORT SIGN FRAME	GUARDRAIL TYPE 5	ANCHOR ASSEMBLY TYPE 'A'	BRIDGE TERMINAL ASSEMBLY TYPE 'B'		
			LUMP	CY.	CY.	LF	LF		LF	EA	EA	
1-GR	54+00 TO 54+68.18	LT.							70.08		1	
2-GR	54+00 TO 54+43.61	RT.							42.12		1	
3-GR	55+41.00 TO 58+00.00	LT.							242.58		1	
4-GR	55+21.49 TO 56+50.82	RT.							100.00	1	1	
1-D	54+20.00 TO 55+01.00	RT.	LUMP									
1-D	55+03.00 TO 58+00.00	RT.			119.6							
2-D	54+00.00 TO 55+47.00	LT.				156	10					
3-D	54+23.00 TO 55+20.00	LT.		172.4								
4-D	54+25.00 TO 55+48.00	LT.		241.3								
	54+15	RT.						1	1			
	55+00	RT.						1	1			
	55+78	RT.						1	1			
	56+27	RT.						1	1			
TOTALS			LUMP	413.7	119.6	156	10	4	4	474.78	1	4

S.R. 141 STA. 54+00 TO STA. 58+00



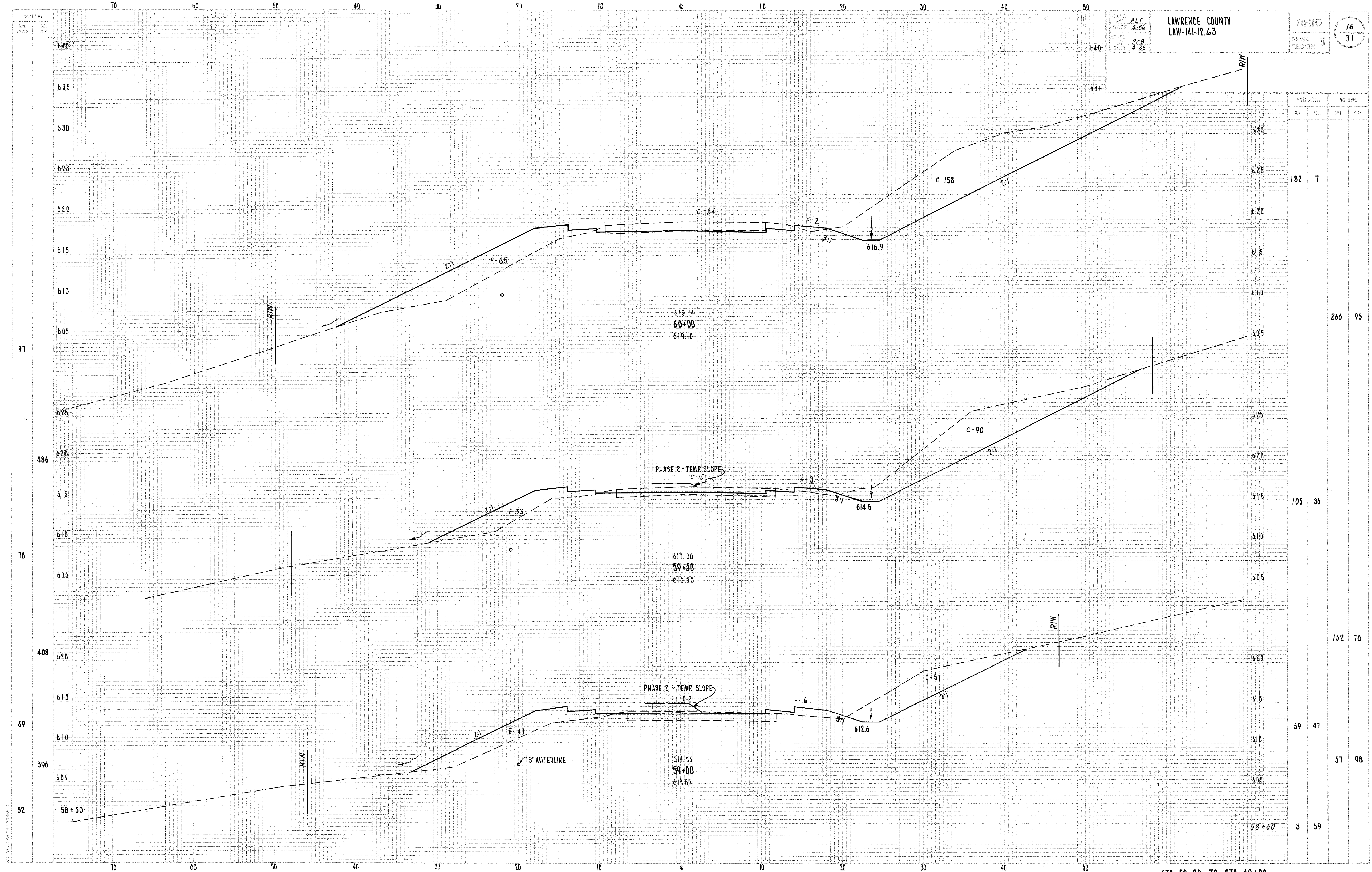


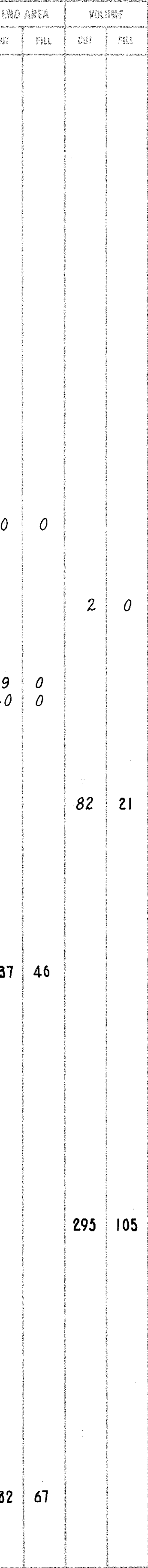


END AREA		VOLUME	
CUT	FILL	CUT	FILL
5	401		
		18	790
14	439		
		+12	
		28	805
		39	147
26	320		

STA. 54+97.6 TO STA. 56+50

BRIDGE NO.
LAW-141-12.75
OVER DELOSS CREEK





MICROFILMED
MAR 24 1986

BENCH MARK
B.M. #2 EL. 601.98
STA. 56+50 ± RT. 30' ±
R.R. SPIKE IN N. SIDE OF 14' DRK.

HYDRAULIC DATA
DRAINAGE AREA = 1.82 SQ. MI.
 $Q_{25} = 1702 \text{ CFS } V_{25} = 7.0 \text{ FPS}$
 $Q_{100} = 2075 \text{ CFS } V_{100} = 8.0 \text{ FPS}$

HORIZONTAL CURVE DATA
P.I. STA. 54+34.90
 $\Delta = 36^\circ 07' 32''$
 $D_c = 10^\circ 00' 00''$
 $R = 572.96'$
 $L_c = 361.75'$
 $T = 186.86'$
 $E = 29.70'$

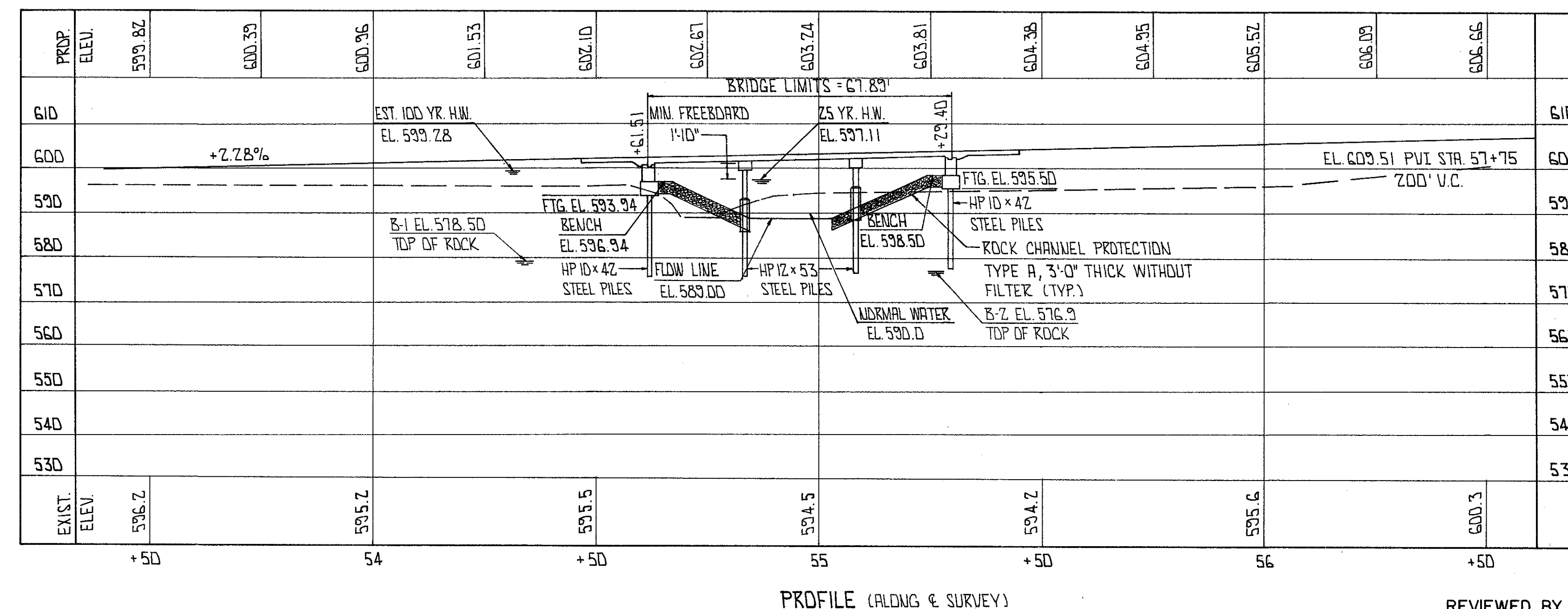
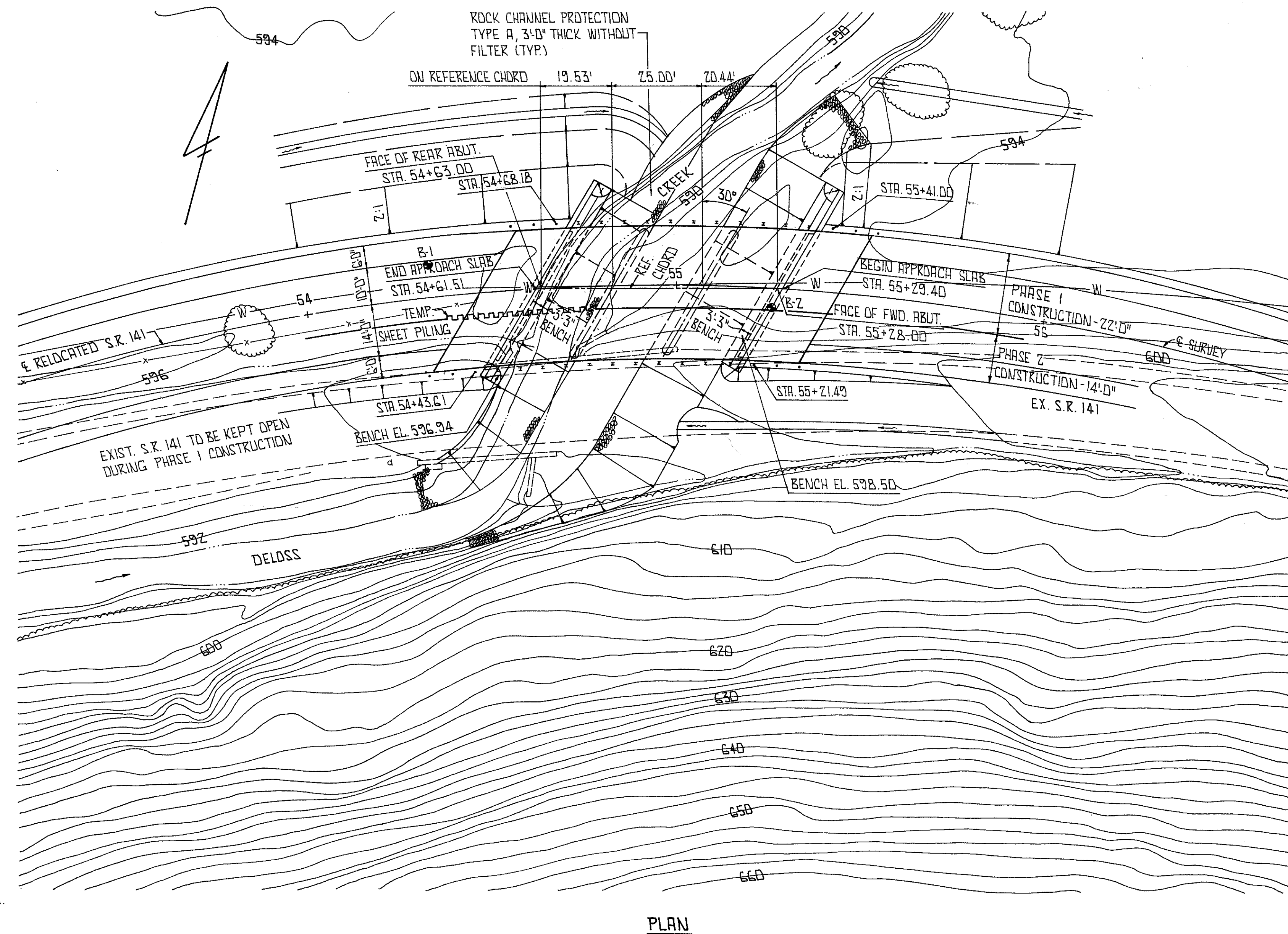
ABUTMENT PILES: ESTIMATED AVERAGE PILE LENGTH 20 FT.
PIER PILES: ESTIMATED AVERAGE PILE LENGTH 25 FT.

EARTHWORK LIMITS SHOWN ARE APPROXIMATE.
ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.

EXISTING UPSTREAM WATERWAY OPENING
SCALE: 1"=10' AREA = 111.84 S.F.

EXISTING DOWNSTREAM WATERWAY OPENING
SCALE: 1"=10' AREA = 92.63 S.F.

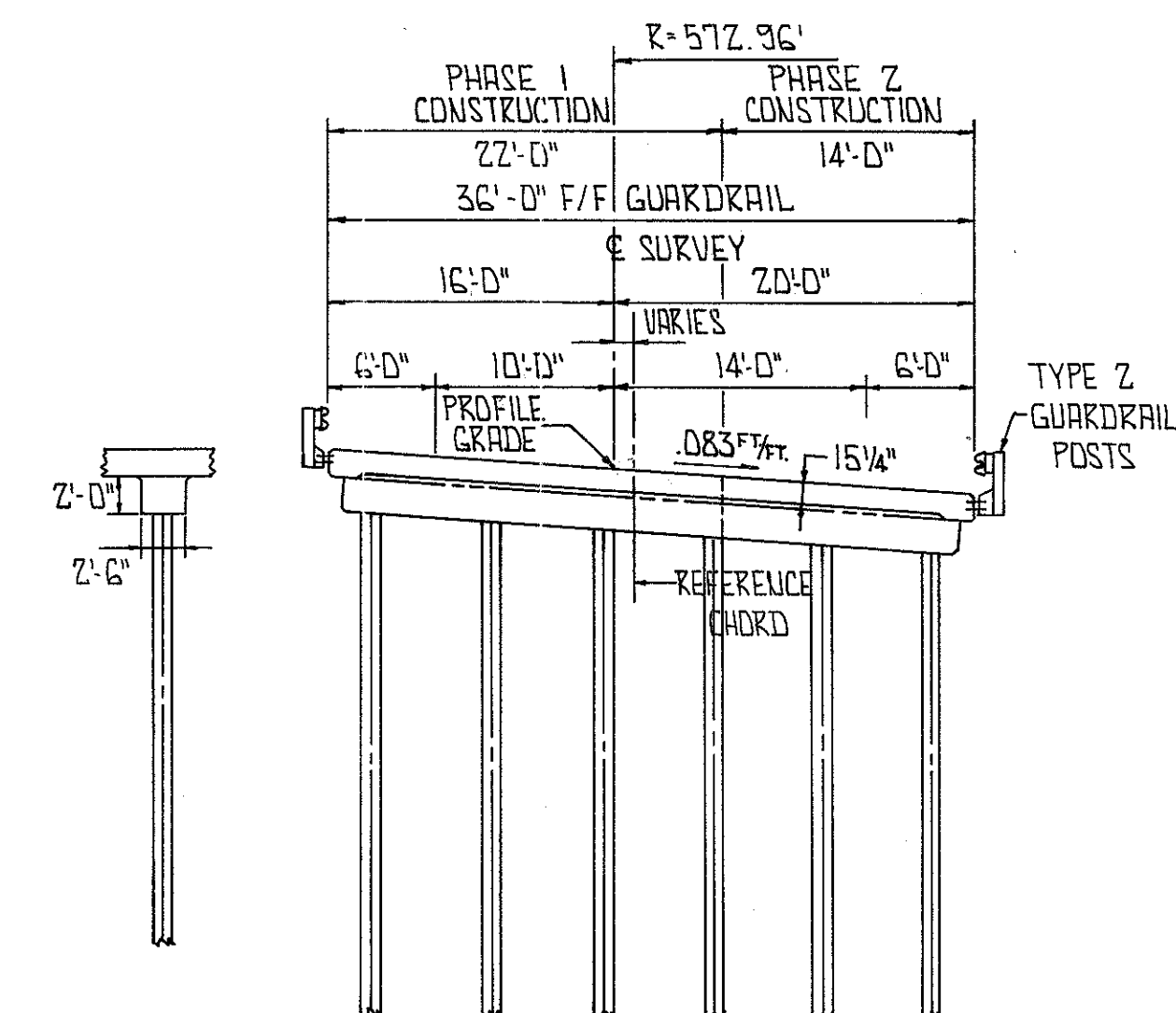
PROPOSED BRIDGE WATERWAY OPENING 185.32 S.F.
UNDER ELEVATION OF LOW STEEL ON EXISTING
BRIDGE - EL. 595.67.



FHWA REGION	STATE	PROJECT
5	OHIO	

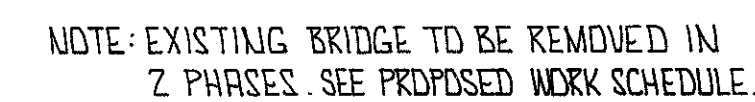
LAWRENCE COUNTY
LAW-141-12.63

19
31



EXISTING STRUCTURE	
TYPE: SINGLE SPAN ROLLED BEAM WITH CONCRETE DECK.	
SPAN: VARIES 22'-3" RT. TO 17'-2" LT.	
ROADWAY: 24'-7" F/F GUARDRAIL	
SKEW: 30°	
POSTED:	
WEARING SURFACE: ASPHALT	
STRUCTURE FILE NO. 4402464	
PROPOSED STRUCTURE	
TYPE: CONTINUOUS REINFORCED CONCRETE SLAB	
SPANS: 20'-0"; 25'-0"; 20'-0" ALONG E. SUR.	
ROADWAY: 36'-0" F/F GUARDRAILS	
LOADING: HS 20-44 & ALT. MIL. LOAD.	
SKEW: 30° LT. FWD. (W/REF. CHORD)	
WEARING SURFACE: MONO. CONCRETE	
APPROACH SLAB: AS-1-81 (15'-0" LONG)	
ALIGNMENT: 10° CURVE	
SUPERELEVATION: 0.0833 FT./FT.	
ADT: 950 (1985) 1160 (2007)	
FRANKLIN CONSULTANTS INC. 1/8	
Consulting Engineers COLUMBUS, OHIO	
SITE PLAN	
BRIDGE NO. LAW-141-1270	
S.R. 141 OVER DELOSS CREEK	
LAWRENCE CO. STA. 54+61.51 TO STA. 55+29.40	
DESIGNED	DRAWN
TRACED	CHECKED
REVIEWED	DATE
REVIS	

REVIEWED BY BURGESS & NIPLE, LTD.
MPB 11/25/86



STRENGTHENED TEMPORARY CONCRETE BARRIERS

FRANKLIN CONSULTANTS INC.					2 / 8	
Consulting Engineers					OHIO	
COLUMBUS						
GENERAL PLAN & ELEVATION						
BRIDGE NO. LAW-141-1270						
S.R. 141 OVER DELOSS CREEK						
LAWRENCE CO.						S.R. 141
DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
CB	CB	NK	RMP	JF 10/20-86		

ESTIMATED QUANTITIES	
DESIGNED-DATE	CHECKED-DATE

FHWA REGION	STATE	PROJECT	
5	OHIO		

LAWRENCE COUNTY
LAW-141-12.63

GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81 _____ DATED 11-27-81
CPA-2-73 _____ DATED 4-10-73
CPP-2-73 _____ DATED 4-10-73
CS-2-73 _____ DATED 4-10-73
DBR-2-73 _____ DATED 4-10-73
MC-9A _____ DATED 1-11-85

AND TO SUPPLEMENTAL SPECIFICATIONS:

824 _____ DATED 10-08-82
836 _____ DATED 11-12-85

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1983 INCLUDING THE 1984 AND 1985 INTERIM SPECIFICATIONS AND THE "OHIO SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING - HS20-44 AND THE ALTERNATE MILITARY LOADING.

DESIGN STRESSES - CONCRETE CLASS S - UNIT STRESS 1500 P.S.I. (SUPERSTRUCTURE)

CONCRETE CLASS C - UNIT STRESS 1333 P.S.I. (SUBSTRUCTURE)

REINFORCING STEEL ASTM A615, A616 OR A617 GRADE 60 - UNIT STRESS 24,000 P.S.I.

ABUTMENT PILING- ABUTMENT PILING BENDING STRESS MAY APPROACH, REACH OR EXCEED YIELD STRESS.

DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL, TOP AND BOTTOM MATS AND SEALING OF CONCRETE SURFACES.

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

PROPOSED WORK SCHEDULE:

1. MAINTAIN TRAFFIC (2-WAY) ON THE EXISTING STRUCTURE.
2. CONSTRUCT PHASE 1.
3. PLACE TEMPORARY SHEETING TO PERMIT REMOVALS AND CONSTRUCTION.
4. INSTALL TEMPORARY RAILING ON NEW STRUCTURE. ROUTE ONE LANE OF TRAFFIC ON PHASE 1.
INSTALL TEMPORARY RAILING AND MAINTAIN ONE LANE OF TRAFFIC ON THE EXISTING STRUCTURE.
5. REMOVE THE FIRST PORTION OF THE EXISTING STRUCTURE.
6. CONSTRUCT PHASE 2.
7. REMOVE TEMPORARY RAILING AND MAINTAIN TWO LANE TRAFFIC ON THE NEW SUPERSTRUCTURE.
8. REMOVE TEMPORARY RAILING AND THE REMAINDER OF EXISTING STRUCTURE.

EMBANKMENT CONSTRUCTION: THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENTS. EXCAVATION MAY THEN BE MADE FOR THE ABUTMENTS AND THE PILES DRIVEN.

REMOVAL OF EXISTING STRUCTURE: WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED. THE SLOPES SHALL BE RESTORED TO A NATURAL CHANNEL CONDITION. (QUANTITY CARRIED TO ROADWAY SUMMARY)

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS ATTAINED BY PENETRATING SOFT BEDROCK WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR REFUSAL SHALL BE CONSIDERED AS ATTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

PILE ENCASEMENT: EXPOSED STEEL PILES AND PILE CASINGS IN CAPPED PILE PIERS SHALL HAVE PILE ENCASEMENT SIMILAR TO THAT SHOWN ON STANDARD DRAWING CPP-2-73. THE ENCASEMENT SHALL CONSIST OF CLASS C CONCRETE PLACED WITHIN A SHELL OF EXTRA-STRENGTH VITRIFIED CLAY PIPE, GALVANIZED CORRUGATED STEEL PIPE, OR PLAIN OR CORRUGATED PLASTIC PIPE ALL HAVING THE MINIMUM INSIDE DIAMETER OF APPROXIMATELY 18 INCHES FOR HP 12 X 53 STEEL PILES. ENCASEMENT SHALL EXTEND APPROXIMATELY 4 FEET BELOW AND 4 FEET ABOVE THE FLOWLINE OR GROUND LINE.

COST OF ENCASEMENT SHALL BE INCLUDED WITH THE PILES FOR PAYMENT.

ABUTMENT PILES: AT THE CONTRACTORS OPTION AND EXPENSE HP 12 X 53 PILES MAY BE USED.

PILE DESIGN LOADS: THE DESIGN LOAD FOR THE ABUTMENT PILES IS 25 TONS PER PILE AND 31 TONS PER PILE FOR PIER PILES.

* Temporary railing means Temporary Concrete Barrier

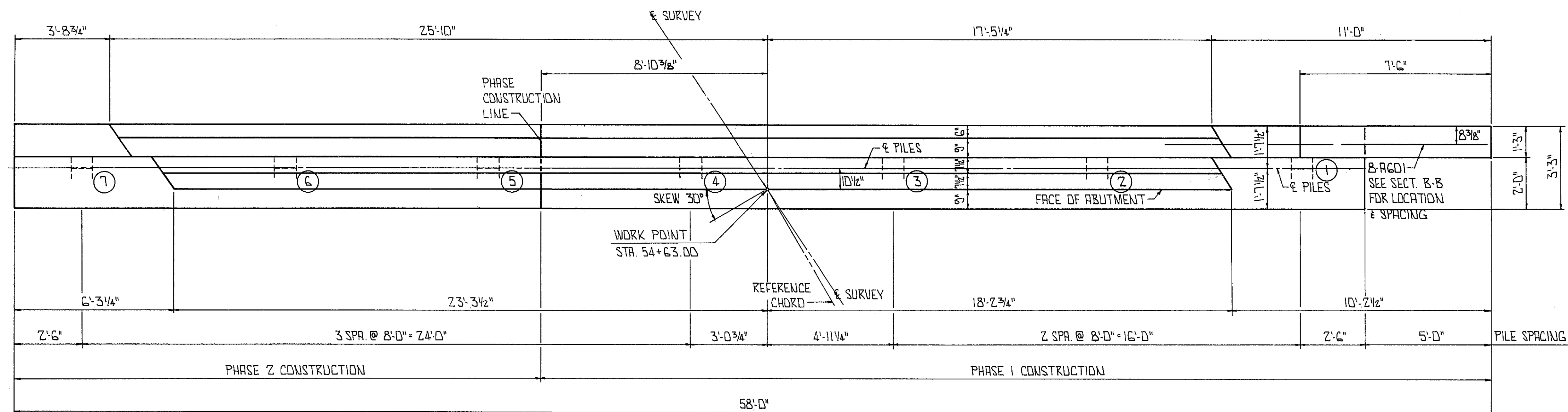
ESTIMATED QUANTITIES									
ITEM	TOTAL	UNIT	DESCRIPTIONS	SUPER.	ABUT.	PIERS	GEN'L.		
503	116	C.Y.	UNCLASSIFIED EXCAVATION		116				
503	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP		
505	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP		
507	260	L.F.	STEEL PILES, HP 10 X 42		260				
507	300	L.F.	STEEL PILES, HP 12 X 53			300			
509	9617	LB.	REINFORCING STEEL, GRADE 60		7321	2296			
511	65	C.Y.	CLASS C CONCRETE, ABUTMENTS (SEE PROPOSAL NOTE)		65				
511	14	C.Y.	CLASS C CONCRETE, PIERS (SEE PROPOSAL NOTE)			14			
511	119	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE (SEE PROPOSAL NOTE)	119					
517	150	L.F.	RAILING (DEEP BEAM RAIL WITH TUBULAR STEEL BACKUP, STEEL TYPE 2 POSTS AND BOLTS)	150					
518	26	C.Y.	POROUS BACKFILL		26				
824	28,484	LB.	EPOXY COATED REINFORCING STEEL, GRADE 60	26843		1641			
SPECIAL	44	S.Y.	SEALING OF CONCRETE SURFACES, (SEE PROPOSAL NOTE)	44					

UTILITY LINES: ALL EXPENSE INVOLVED IN RELOCATING OR INSTALLING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER. THE CONTRACTOR AND OWNER ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

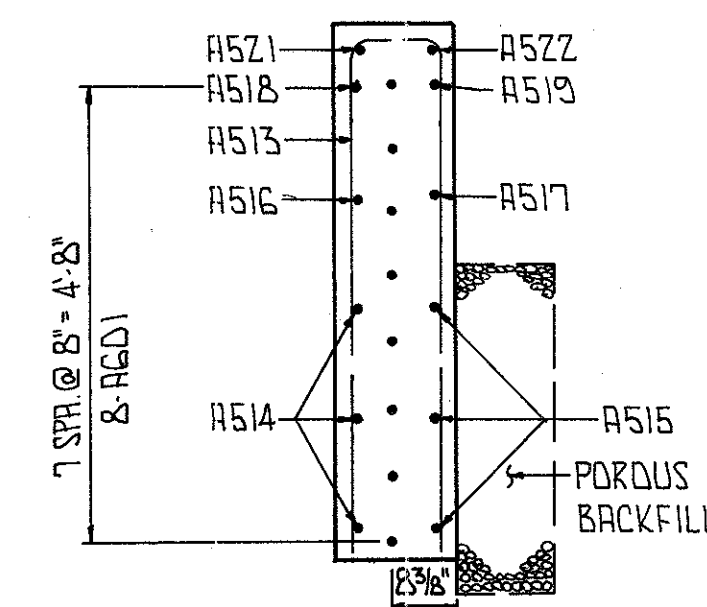
STREAM PROTECTION: TEMPORARY STREAM CROSSING SHALL NOT IMPEDE THE UPSTREAM OR DOWN-STREAM MOVEMENT OF FISH AND OTHER AQUATIC ORGANISMS. TEMPORARY STREAM CROSSING AND COFFERDAMS SHALL BE CONSTRUCTED OF CLEAN NON-ERODABLE MATERIAL AND SHALL BE REMOVED AFTER CONSTRUCTION IS COMPLETE. SPECIAL CARE SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING INTO THE CREEK.

ITEM SPECIAL: SEALING OF CONCRETE SURFACES: A CONCRETE SEALER SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES, SEE SHEET 7/8. SEE THE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS, AND APPLICATION PROCEDURES.

FRANKLIN CONSULTANTS INC.					3 / 8		
Consulting Engineers							
COLUMBUS,		OHIO					
GENERAL NOTES & ESTIMATED QUANTITIES							
BRIDGE NO. LAW-141-1270							
S.R. 141 OVER DELOSS CREEK							
LAWRENCE CO.					S.R. 141		
DESIGNED CB	DRAWN Ry	TRACED Ry	CHECKED RMP	REVIEWED JF	DATE 10/20/88		
					REVISED		

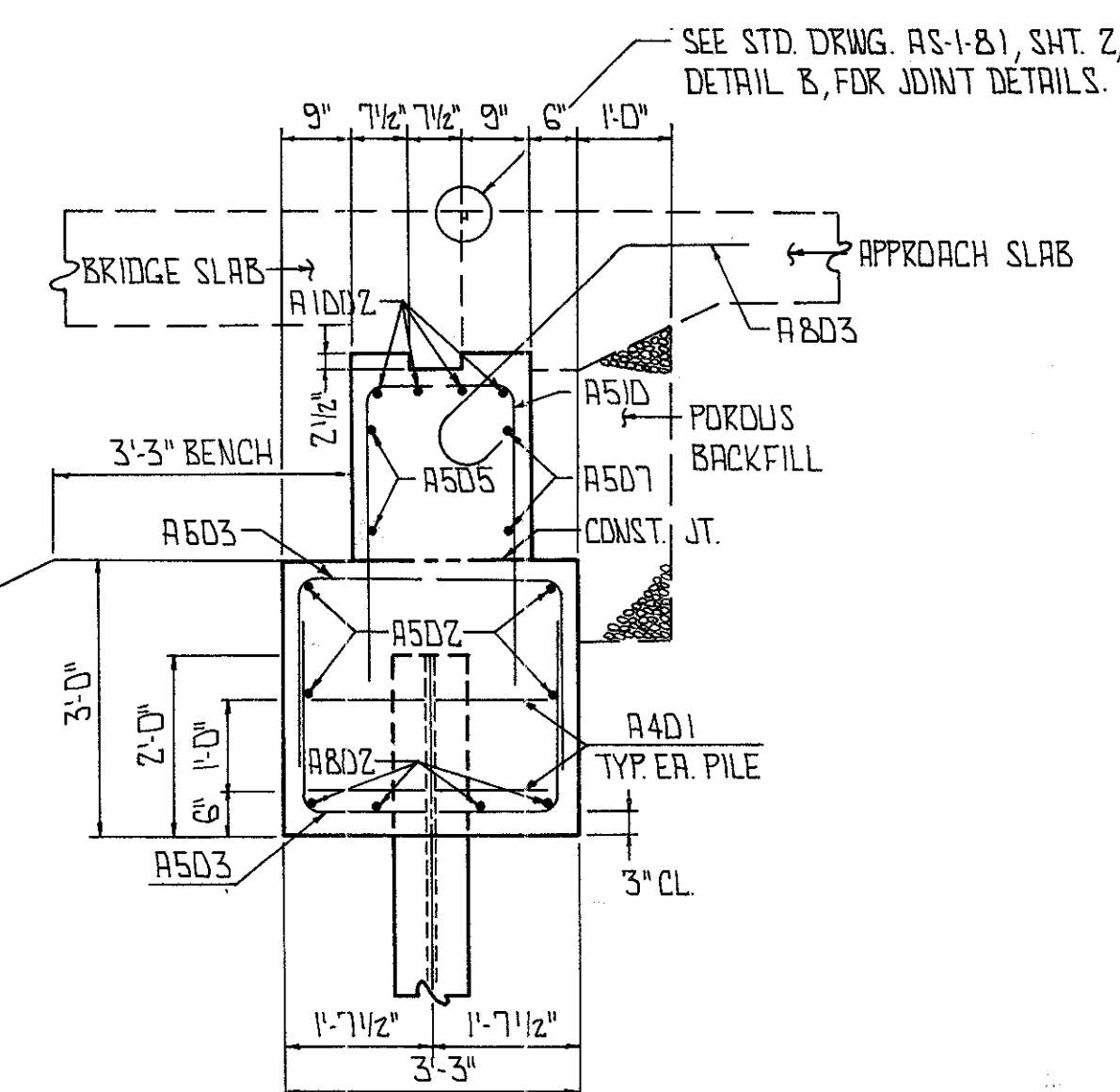
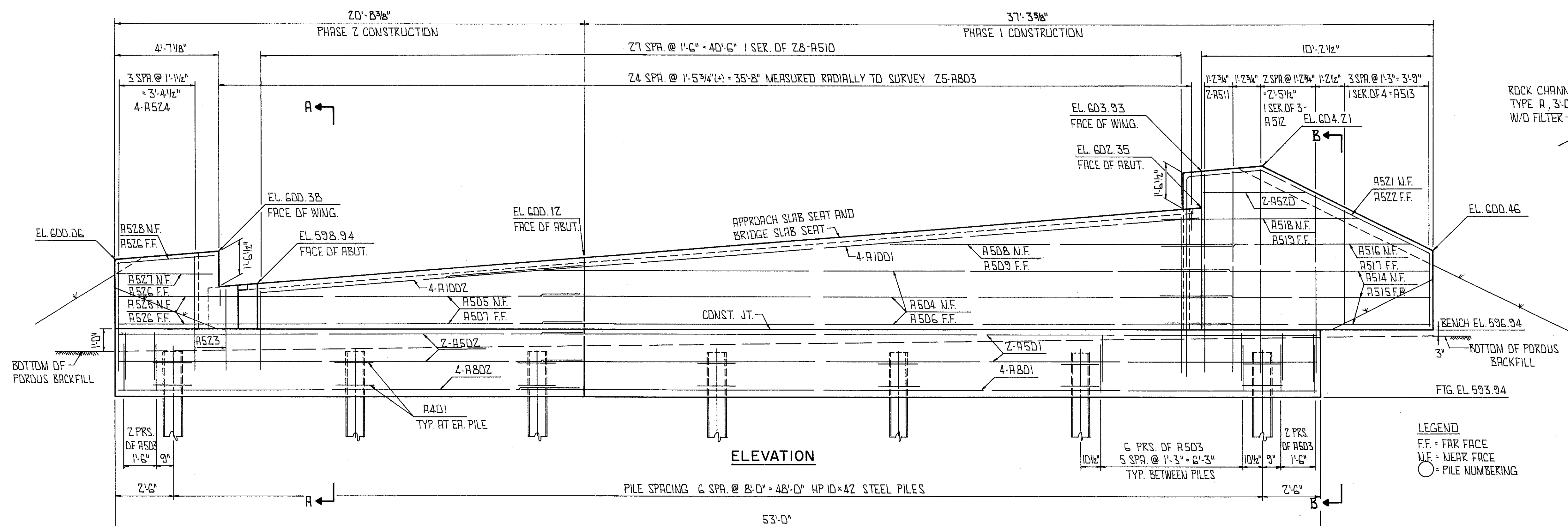


PLAN



SECTION B-B

POROUS BACKFILL SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE, AND Laterally TO THE SURFACE OF THE EMBANKMENT SLOPES.



SECTION A-A

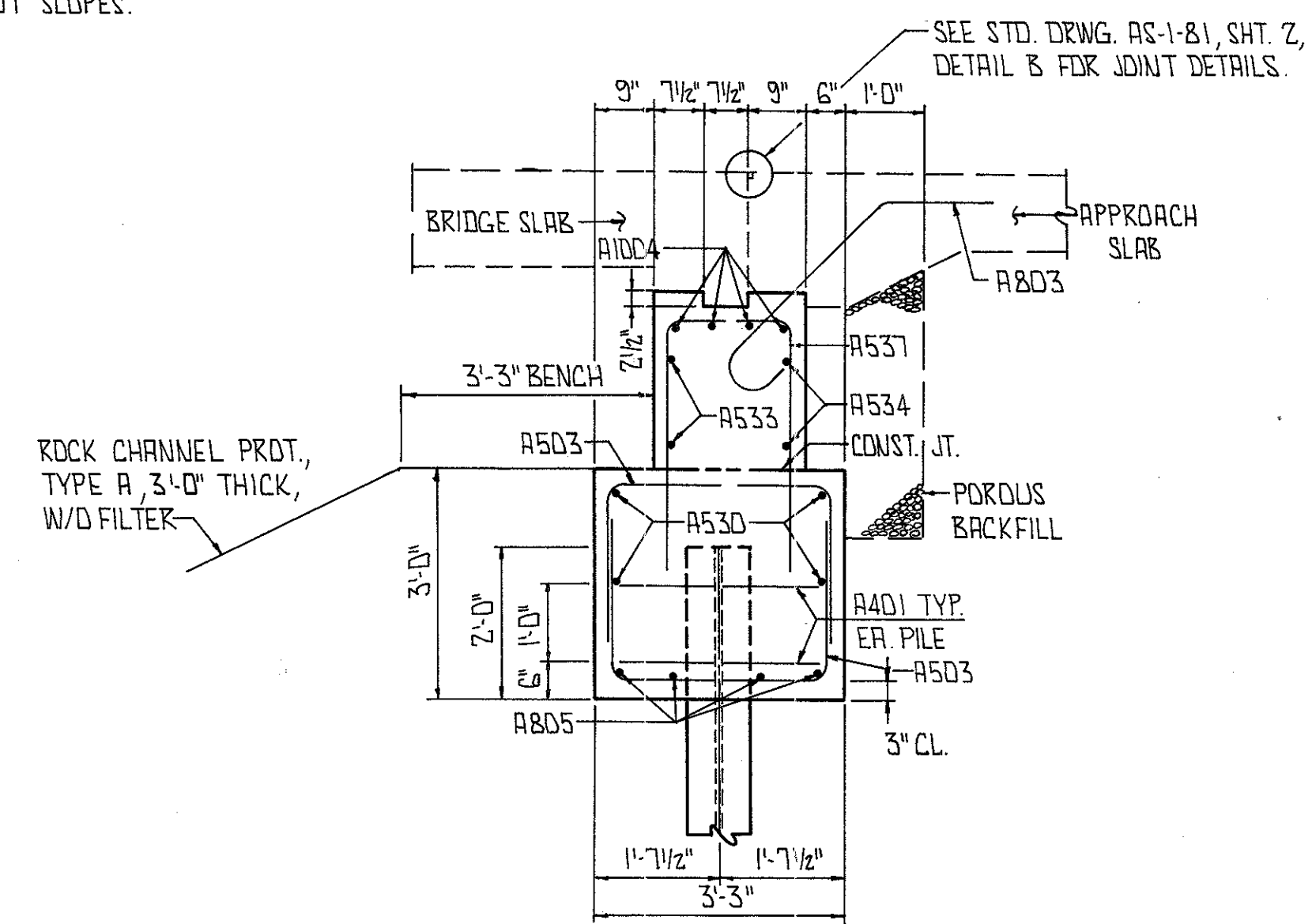
LEGEND
F.F. = FAR FACE
N.F. = NEAR FACE
○ = PILE NUMBERING

MIN. BAR LAP
#5 = 1'-10"
#8 = 2'-7"
#10 = 5'-10"

Technical drawing of a cross-section of a wall and roof assembly. The wall is 8'6 1/2" high and 8" thick. The roof is 8" thick. The wall assembly consists of a concrete wall (A541) with a steel reinforcement bar (A543) and a steel plate (A545). The roof assembly consists of a concrete roof (A542) with a steel reinforcement bar (A544) and a steel plate (A546). The roof is supported by a steel beam (A547). The wall is supported by a steel beam (A548). The roof is labeled "ROOF" and the wall is labeled "WALL".

[illegible][illegible]

SEE STD. DRWG. AS-1-81, SHT. 2,
DETAIL B FOR JOINT DETAILS.



LEGEND
F.F. = FAR FACE
N.F. = NEAR FACE
○ = PILE NUMBERING

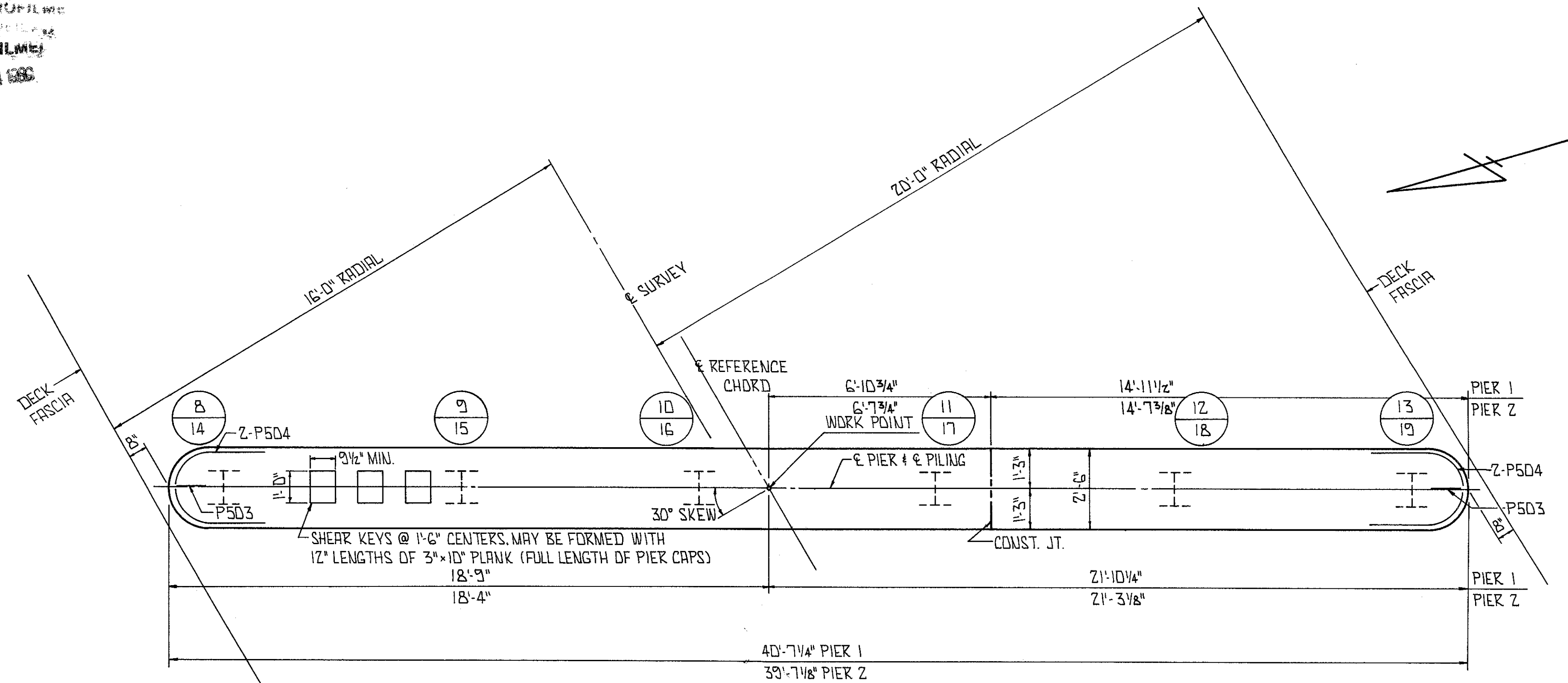
MIN. BAR LAP
#5 = 1'-10"
#8 = 2'-7"
#10 = 5'-10"

FRANKLIN CONSULTANTS INC.	5 / 8
Consulting Engineers	
MBUS,	OHIO

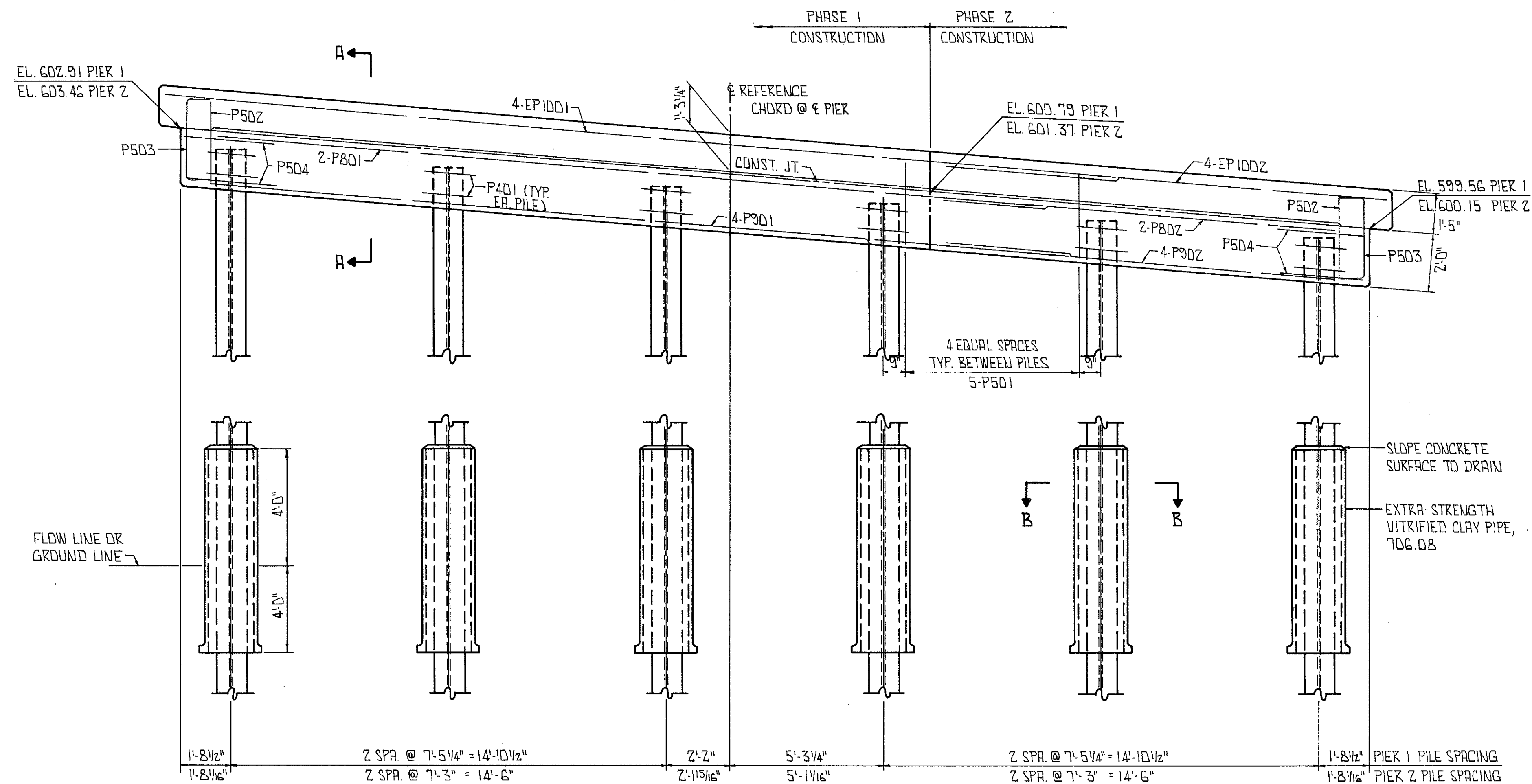
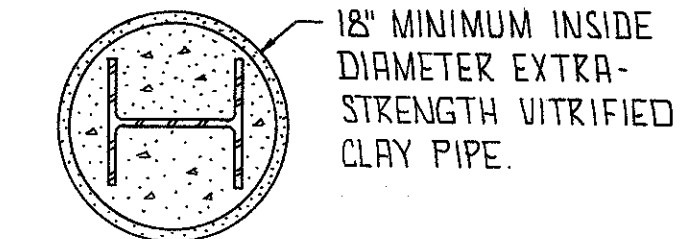
BRIDGE NO. LAW-141-1270
SR. 141 OVER DELOSS CREEK

LAWRENCE CO.						S.R. 141	
DESIGNED CB	DRAWN CB	TRACED NK	CHECKED RMP	REVIEWED JF	DATE 10/20/86	REVISIONS	

LAWRENCE COUNTY
LAW-141-12.63

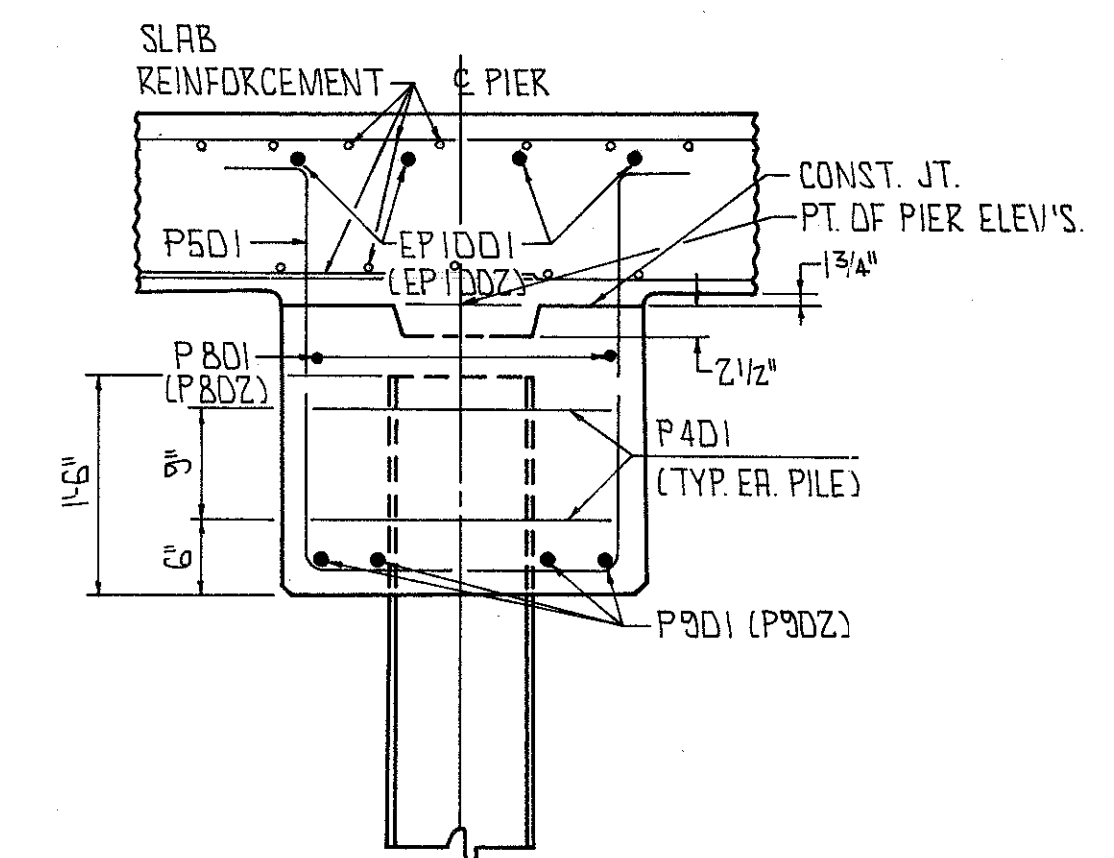


PLAN OF PIER
SEE GEN. PLAN FOR
PIER LAYOUT.

ELEVATION

SECTION B-B
SHOWING STEEL PILE, HP 12 X 53

AFTER DRIVING THE PILE, PLACE THE PIPE INTO POSITION, AND FILL WITH CONCRETE. THE CONCRETE ENCASEMENT MAY BE PLACED IN WATER AS PER 511, CARE BEING TAKEN TO REMOVE ALL DIRT BETWEEN THE PILE AND THE PIPE. THE CONCRETE AND CLAY PIPE SHALL BE INCLUDED WITH PILES FOR PAYMENT. SEE PILE ENCASEMENT NOTE IN GENERAL NOTES.



SECTION A-A
SHOWING STEEL PILE, HP 12 X 53



MIN. BAR LAPS

#5 = 1'-10"

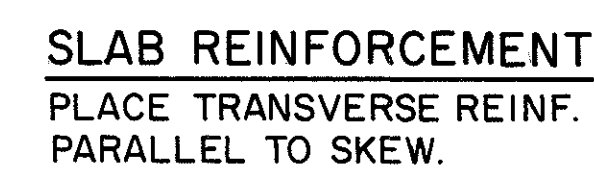
#8 = 3'-5"

#9 = 4'-3"

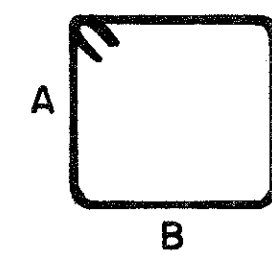
#10 = 5'-10"

FRANKLIN CONSULTANTS INC.						6 / 8	
Consulting Engineers						OHIO	
COLUMBUS,							
PIER DETAILS BRIDGE NO. LAW-141-1270 S.R.141 OVER DELOSS CREEK							
LAWRENCE CO.						S.R. 141	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
RMP	RMP	NK	CB	JF	1/20/86		

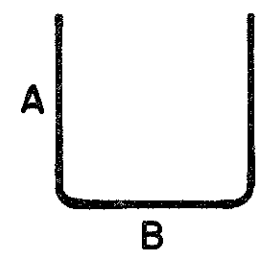
FRANKLIN CONSULTANTS INC.					7 / 8
Consulting Engineers					OHIO
COLUMBUS,					
SUPERSTRUCTURE DETAILS					
BRIDGE NO. LAW-141-1270					
S.R. 141 OVER DELOSS CREEK					
LAWRENCE CO.					S.R. 141
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
RMP	RMP	NK	CB	Jg	10/20-86
					REVIS



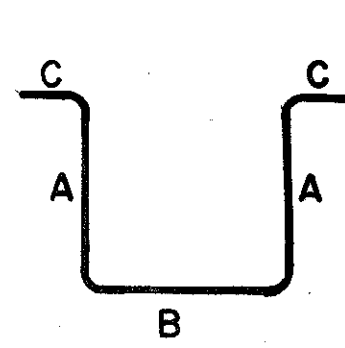
TRAINING 44-132 30845.1



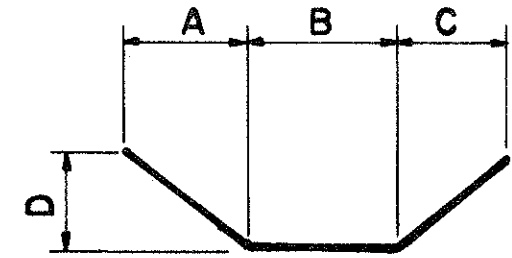
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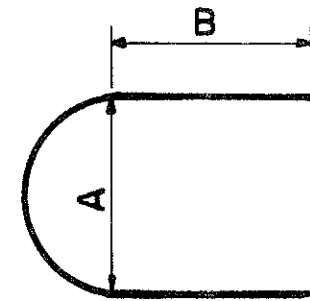
TYPE 2



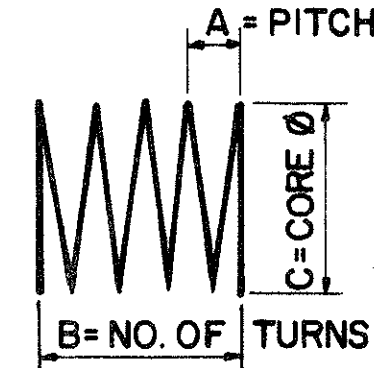
TYPE 3



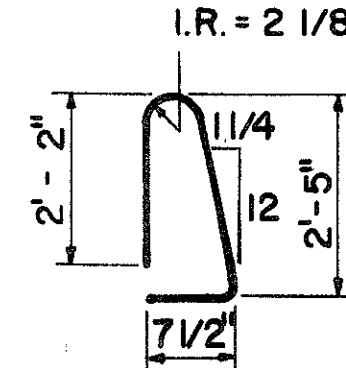
TYPE 4



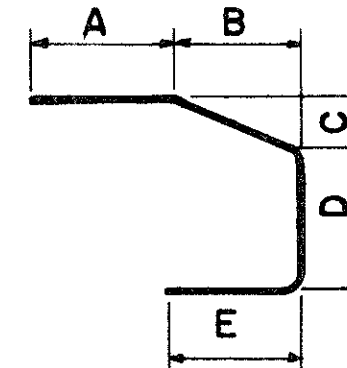
TYPE 5



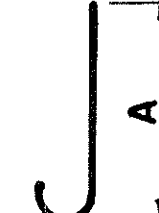
TYPE 6



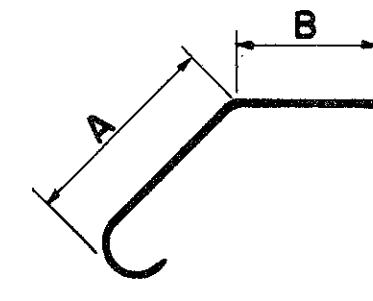
TYPE 7



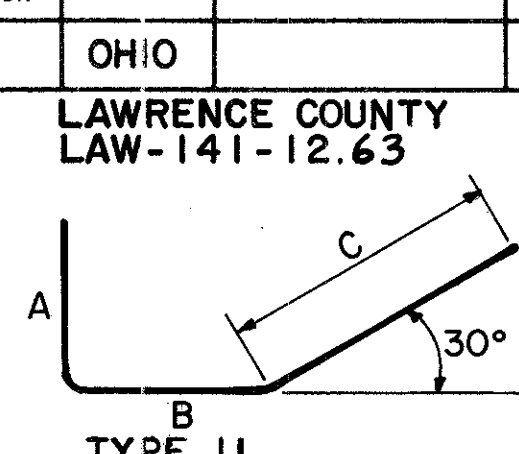
TYPE 8



TYPE 9



TYPE 10



TYPE 11

FHWA REGION	STATE	PROJECT
5	OHIO	

LAWRENCE COUNTY
LAW-141-12.6326
31

ABUTMENTS										ABUTMENTS (CONT.)										SUPERSTRUCTURE									
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E
A401	26	9'-2"	159	1	2'-7"	1'-9"				A801	4	35'-0"	374	STR.						ES401	69	29'-2"	1344	STR.					
										A802	4	20'-4"	217	STR.						ES402	69	15'-6"	714	STR.					
A501	4	34'-3"	143	STR.						A803	50	5'-3"	701	10	3'-0"	1'-6"				ES403	120	4'-0"	321	11	1'-0 1/2"	1'-1"	2'-0"		
A502	4	20'-4"	85	STR.						A804	4	31'-5"	336	STR.															
A503	150	6'-10"	1069	2	2'-1"	2'-11"				A805	4	17'-4"	185	STR.															
A504	3	29'-0"	91	STR.																ES501	38	7'-10"	310	STR.*					* BEND IN FIELD
A505	2	14'-0"	29																	ES502	76	12'-11"	1024	STR.*					* BEND IN FIELD
A506	3	30'-5"	95							A1001	4	33'-1"	569	STR.															
A507	2	18'-0"	38							A1002	4	14'-2"	244																
A508	1	13'-6"	14							A1003	4	31'-0"	534							ES601	60	30'-2"	2719	STR.					
A509	1	15'-3"	16	STR.						A1004	4	14'-0"	241	STR.						ES602	60	15'-6"	1397	STR.					
A510	1 SER. OF 28	15'-2" TO 8'-5"	344	2	6'-10 1/2"	1'-8"																							
A511	2	18'-4"	38	2	8'-10"	0'-11"			* 1 1/2" INCR.	A601	8	12'-9"	153							ES801	108	26'-0"	7497	STR.*					* BEND IN FIELD
A512	1 SER. OF 3	18'-8" TO 16'-2"	54	2	9'-0" TO 7'-9" *	0'-11"			* 7 1/2" INCR.	A602	8	14'-0"	168							ES802	30	19'-8"	1575	9	18'-9" *				* BEND IN FIELD
A513	1 SER. OF 4	10'-9" TO 7'-0"	37	2	5'-0 1/2" TO 3'-2" *	0'-11"			* 7 1/2" INCR.			TOTAL	7321	LBS.	UNCOATED					ES803	15	16'-0"	641	STR.*					* BEND IN FIELD
A514	3	11'-11"	37	STR.																ES804	32	18'-2"	1552	9	17'-3" *				* BEND IN FIELD
A515	3	10'-7"	33																	ES805	16	13'-6"	577	STR.*					* BEND IN FIELD
A516	1	11'-1"	12																	ES806	76	22'-3"	4515	STR.*					* BEND IN FIELD
A517	1	9'-9"	10																	ES807	36	13'-0"	1250	STR.*					* BEND IN FIELD
A518	1	8'-10"	9																	ES808	34	15'-6"	1407	STR.*					* BEND IN FIELD
A519	1	7'-6"	8																										
A520	2	4'-6"	9	STR.																									
A521	1	10'-8"	11	11	0'-0"	2'-6"	8'-3"			P401	24	8'-0"	128	1	2'-0"	1'-9"													
A522	1	20'-1"	21	11	8'-10"	3'-3"	8'-3"																						
A523	1	7'-6"	8	2	3'-8"	0'-5"				P501	50	8'-10"	461	3	2'-9"	2'-2"	0'-10"												
A524	4	10'-8"	45	2	5'-0"	0'-11"				P502	4	8'-8"	36	3	2'-9"	2'-0"	0'-10"												
A525	2	6'-3"	13	STR.						P503	4	4'-2"	17	2	0'-10"	2'-9"													
A526	4	3'-4"	14	STR.						P504	8	7'-1"	59	5	2'-2"	1'-10"													
A527	1	4'-3"	4	STR.																									
A528	1	9'-1"	9	11	4'-3"	5'-0"	0'-0"																						
A529	4	30'-8"	128	STR.																									
A530	4	17'-4"	72																										
A531	3	26'-0"	81																										
A532	3	29'-9"	93																										
A533	2	14'-5"	30																										
A534	2	16'-1"	34																										
A535	1	13'-0"	14																										
A536	1	16'-4"	17	STR.																									
A537	1 SER. OF 26	8'-5" TO 14'-8"	313	2	3'-6" TO 6'-7 1/2" *	1'-8"			* 1 1/2" INCR.																				
A538	1	13'-10"	14	2	6'-10"	0'-5"																							
A539	3	18'-4"	57	2	8'-10"	0'-11"																							
A540	1 SER. OF 6	13'-8" TO 7'-0"	65	2	6'-6" TO 3'-2" *	0'-11"			* 8" INCR.																				
A541	3	13'-1"	41	STR.																									
A542	3	10'-5"	33																										
A543	1	12'-4"	13																										
A544	1	9'-8"	10																										
A545	1	9'-11"	10																										
A546	1	7'-3"	8																										
A547	1	5'-6"	6																										
A548	1	5'-0"	5	STR.																									
A549	1	20'-0"	21	11	8'-6"	3'-6"	8'-3"																						
A550	1	11'-2"	12	11	0'-0"	3'-0"	8'-3"																						
A551	1	11'-0"	11	2	5'-2"	0'-11"																							
A552	2	11'-0"	23	2	5'-2"	0'-11"																							
A553	2	4'-6"	9	STR.																									
A554	3	3'-2"	10	STR.																									
A555	2	2'-6"	5	STR.																									
A556	1	8'-4"	9	11	5'-3"	3'-4"	0'-0"																						

REINFORCING STEEL SAMPLES: Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by additional steel, spliced in accordance with 509.08.

EPOXY COATED bars begin with the prefix "E".

FRANKLIN CONSULTANTS INC.		8 / 8
Consulting Engineers		
COLUMBUS,		OHIO
REINFORCING STEEL		
BRIDGE NO. LAW-141-1270		
S.R. 141 OVER DELOSS CREEK		
LAWRENCE CO. S.R. 141		
DESIGNED	DRAWN	TRACED
RMF	Ry	Ry
CHECKED	REVIEWED	DATE
CB	JF	10/20/86

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
LAW-141-12.63
LAWRENCE TOWNSHIP
LAWRENCE COUNTY

LAWRENCE COUNTY LAW -141-12.63	OHIO FHWA REGION 5
BRS 980 ()	FEDERAL PROJECT
Right-of-way only	

DESIGN DESIGNATION

Current ADT (1986)	950
Design Year ADT (2006)	1160
DHV	116
D	55%
T	3%
V - DESIGN	55 MPH

CONVENTIONAL SIGNS

County Line	-----	Limited Access (only)	-----	LA
Township Line	-----	Right of Way (only)	-----	RW
Section Line	-----	Limited Access & Right of Way	-----	LA & RW
Corporation Line	----- or -----	Existing Right of Way	-----	
Fence Line (existing)	-x-x- (proposed) -x-x-	Property Line	----- (in existing fence) -x-x-	
Center Line	352 353	Railroad	----- or -----	
Trees, Stumps, (to be removed)	⊗, ⊗, ⊗	Guardrail (existing)	----- (proposed) -----	
Utility Poles: Telephone, Power, Light	⊕, ⊕, ⊕			

INDEX OF SHEETS

Title Sheet	1
Centerline Survey Plat	2
Property Map	3
R/W Summary	4
R/W Plan Sheets	5

LINE DATA

Project Length
Sta. 50+85.00 To Sta. 60+50.00 = 965.00 L.F. = 0.183 Mi.

Work Length
Sta. 50+45.00 To Sta. 60+80.00 = 1035.00 L.F. = 0.196 Mi.

UNDERGROUND UTILITIES

2 WORKING DAYS
BEFORE YOU DIG
Call---800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS
MUST BE CALLED DIRECTLY

Portion to be improved
State & Federal Routes
Other Roads

SCALES

Plan
Profile: Horizontal Vertical
Cross Section: Horizontal Vertical

SUPPLEMENTAL SPECIFICATIONS	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS				
BP-1	6-1-65			
BP-5	1-11-85			
BP-6	6-1-65			
GR-1	1-11-85			
GR-2B	2-5-85			
GR-3	1-21-85			
GR-4	2-5-82			
GR-5	2-5-82			
GR-6	2-5-82			
MC-1	6-13-69			
MC-4	7-26-46			
MC-11	8-1-78			

Plan Prepared By:
Franklin Consultants Inc.
2999 E. Granville Road, Suite 300
Columbus, Ohio 43229

Project:
Date of Letting 19__, Contract No. _____
LD0300 Rev. 1-1-81

SEAL

1985 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved _____
Date _____ Assistant Deputy Director For Real Estate

Approved _____
Date _____ District Deputy Director of Transportation

Approved _____
Date _____ Engineer, Bureau of Bridges and Structural Design

Approved _____
Date _____ Chief Engineer,

Approved _____
Date _____ Director, Department of Transportation

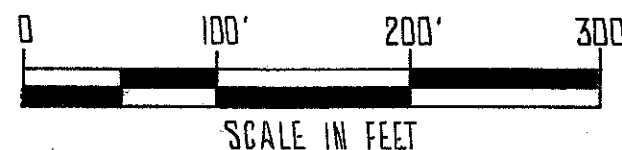
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

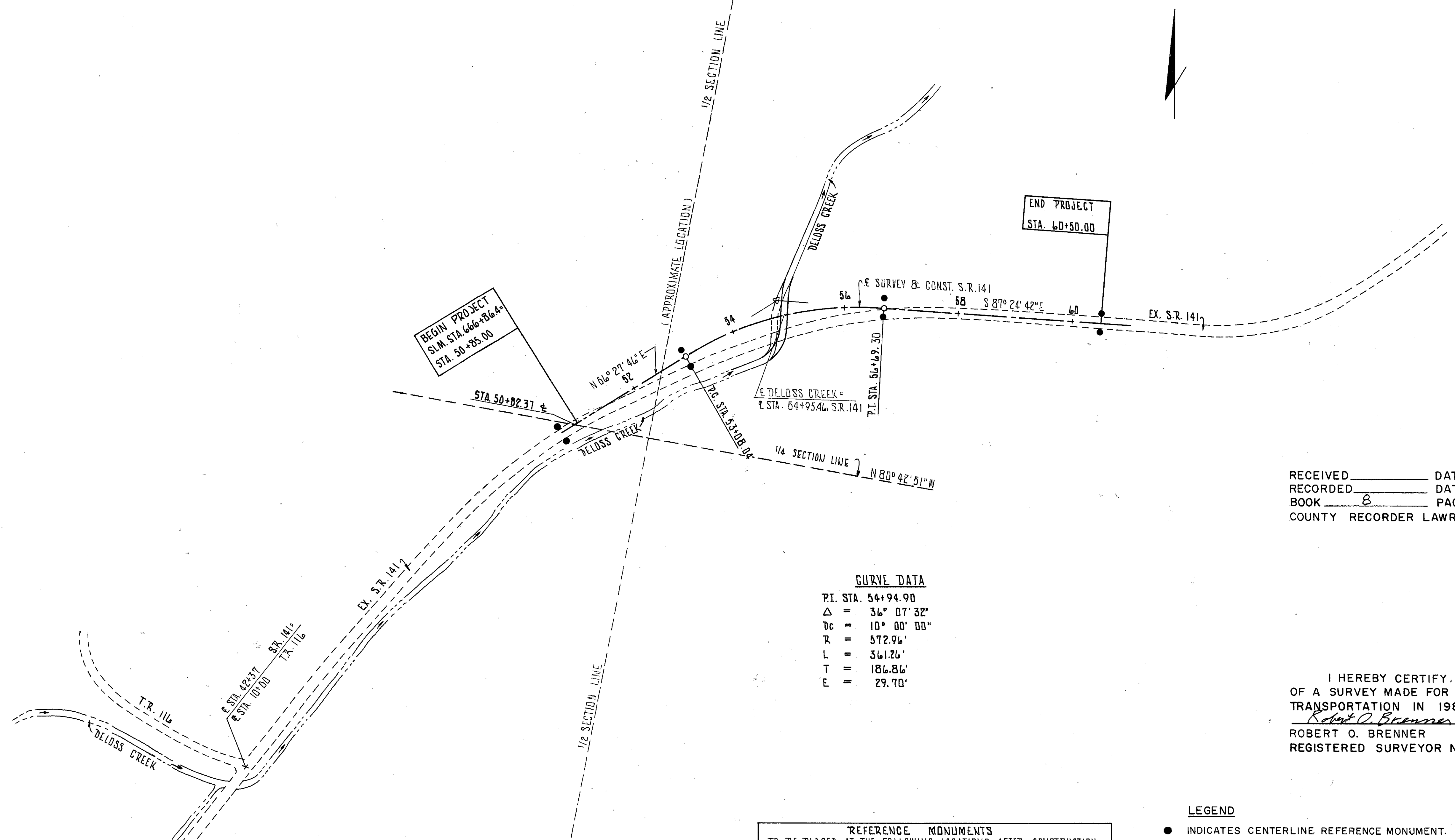
DIVISION ADMINISTRATOR DATE

CENTERLINE SURVEY PLAT

LAW-141-12.63
LAWRENCE COUNTY
SEC. 2, T.3N, R.17 W
LAWRENCE TOWNSHIP



LAWRENCE COUNTY LAW-141-12.63	OHIO FHWA REGION 5 FEDERAL PROJECT	27 31 1 5
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RECEIVED _____ DATE _____
RECORDED _____ DATE 12-10-86
BOOK 8 PAGE 67
COUNTY RECORDER LAWRENCE COUNTY

CURVE DATA

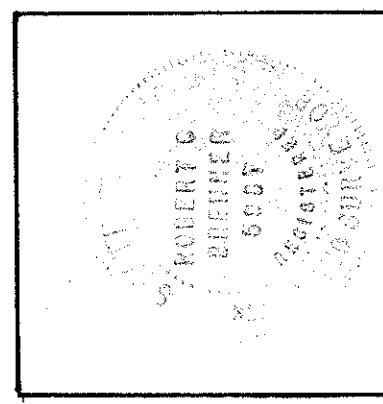
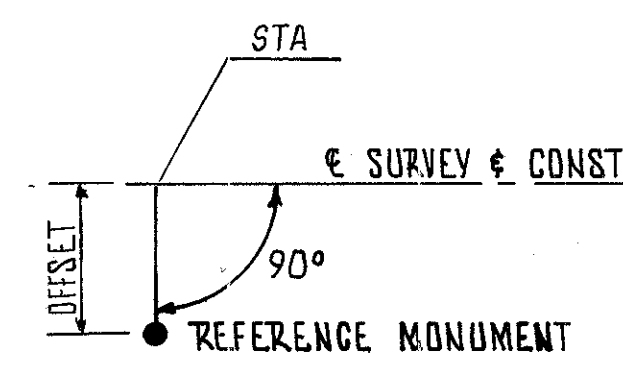
P.I. STA.	54+94.90
Δ	36° 07' 32"
Δc	10° 00' 00"
R	572.96'
L	361.26'
T	186.86'
E	29.70'

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION
OF A SURVEY MADE FOR THE STATE OF OHIO DEPARTMENT OF
TRANSPORTATION IN 1986 BY
Robert O. Brenner DATE April 17, 1986
ROBERT O. BRENNER
REGISTERED SURVEYOR NO. 5987

REFERENCE MONUMENTS TO BE PLACED AT THE FOLLOWING LOCATIONS AFTER CONSTRUCTION.	
STA. 50+50.00, 15' LT. & 15' RT.	
STA. 53+08.04, 16' LT. & 19' RT.	
STA. 56+69.30, 18' LT. & 17' RT.	
STA. 60+50.00, 18' LT. & 16' RT.	

LEGEND

- INDICATES CENTERLINE REFERENCE MONUMENT.
- GROUND LINE
- 6" 1/2" STEEL ROD
- CLASS 'C' CONCRETE
- THE UPPER 6" SHALL BE FORMED.
- 8" DIA.
- STANDARD DRAWING MC-1 DATE 6-13-69



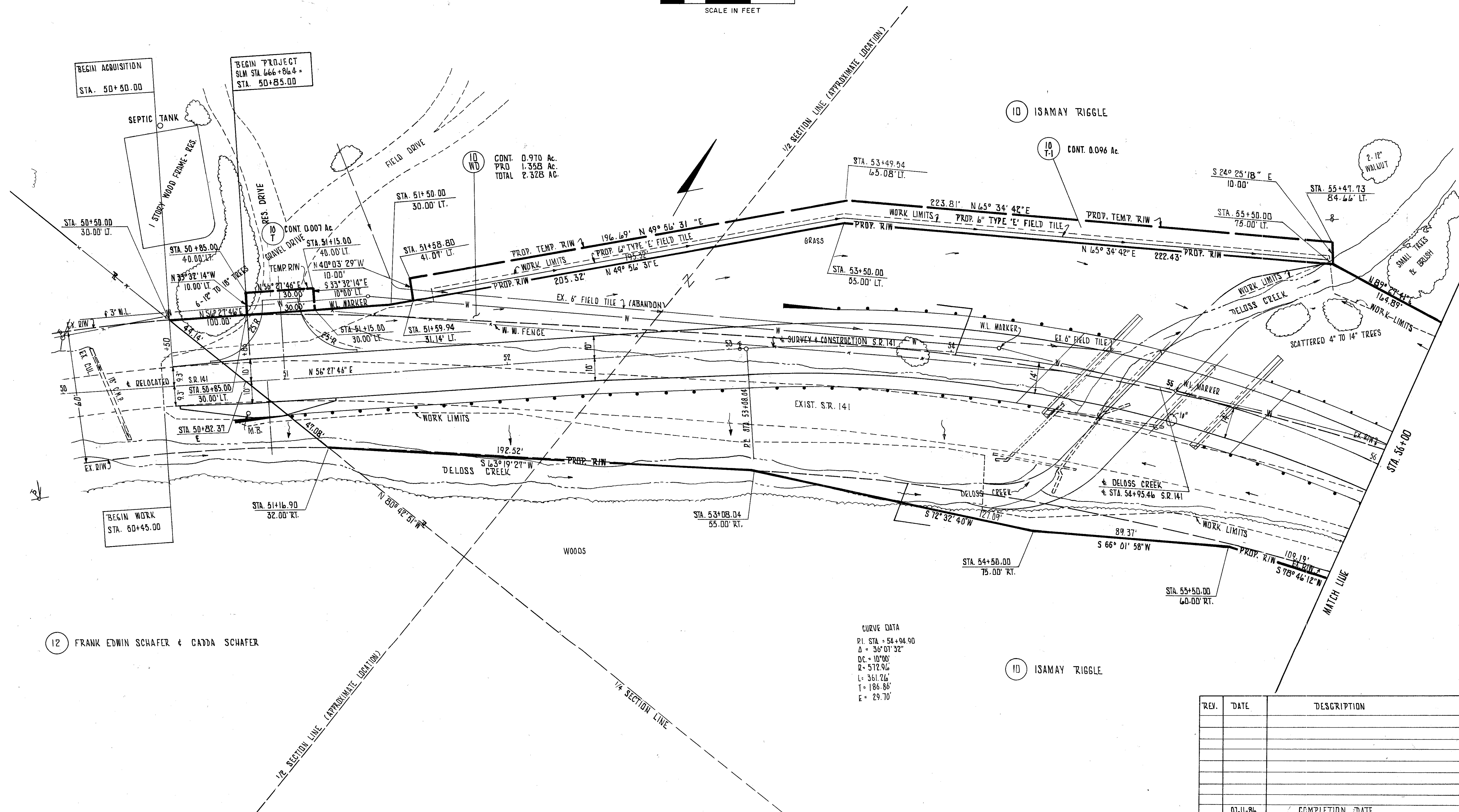
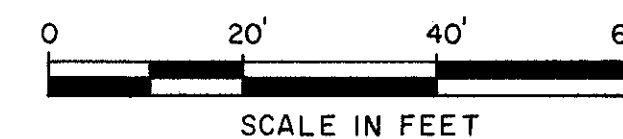
1 OWNERSHIPS
0 TOTAL TAKES
0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 OWNERSHIPS WITH "P" ITEMS

* CALCULATED

29
31
3
5

BRUNING 44-560 29600

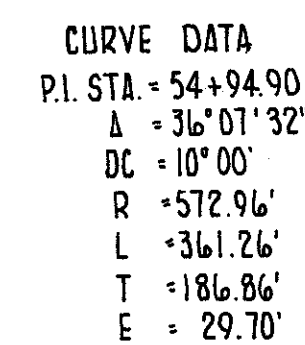
LAWRENCE COUNTY
LAWRENCE TOWNSHIP
SEC.2,T.3N,R.17W

[illegible]

STA. 50+00	TO	STA. 56+00	R/W
------------	----	------------	-----

0 20' 40' 60'

SCALE IN FEET



10. ISAMAY TRIGGLE

(11) GARFIELD HEID & MARCELLA HEID

STA. 56+00 TO STA. 61+00

RIW

MICROFILMED

MAR 24 1986

GENERAL INFORMATION

INTRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION OF 0.23 MILE OF PROPOSED SR 141, LOCATED APPROXIMATELY 3.5 MILES NORTHEAST OF SR 141 - SR 217 INTERSECTION, AT DELOSS CREEK.
PROPOSED GRADE INDICATES A MAXIMUM 10 FOOT FILL EMBANKMENT.

GEOLOGY OF THE PROJECT

THE PROJECT IS LOCATED ON THE DISSECTED ALLEGHENY PLATEAU, WITH THE ALIGNMENT TRAVERSING THE FLOODPLAIN OF DELOSS CREEK, IN AN AREA WHERE THIN ALLUVIAL AND OUTWASH MATERIALS OVERLIE SHALE, SANDSTONE, COAL AND LIMESTONE BEDROCK OF PENNSYLVANIAN AGE.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF A ROTARY TYPE DRILL RIG ON AUGUST 11 AND 12, 1986.
INCLUDED IN THIS REPORT ARE LOGS OF BORINGS MADE FOR THE STRUCTURE FOUNDATION INVESTIGATION.

INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT WERE PREDOMINANTLY COMPRISED OF SANDY SILTS (A-4A) WITH SOME SANDS (A-3A) AND SILT CLAYS (A-6A), GENERALLY HAVING LOW MOISTURE CONTENTS AND MOISTURE CONTENTS IN THE LOW PORTIONS OF THE PLASTIC RANGE.

WET MATERIALS WERE ENCOUNTERED AT STATIONS 52+25 AND 56+95.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS— 25 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
 COARSE AND FINE SAND	A-3A (0)	A-3A	13	22	32	16	17	24	4	14	3
 SANDY SILT	A-4A (3)	A-4A	8	9	35	23	25	24	7	15	15
 SILT AND CLAY	A-6A (7)	A-6A	11	7	17	27	38	33	13	18	5
 WEATHERED SHALE			VISUAL CLASSIFICATION								2
 SANDSTONE			VISUAL CLASSIFICATION								

 AUGER BORING—PLAN VIEW	● WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT
 DRIVE SAMPLE—CORE BORING—PLAN VIEW	—W FREE WATER
 AUGER BORING PLOTTED TO VERTICAL SCALE ONLY	▼ STATIC WATER LEVEL
 DRIVE SAMPLE—CORE BORING PLOTTED TO VERTICAL SCALE ONLY	 NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST. X = NUMBER OF BLOWS FOR FIRST 6 INCHES Y = NUMBER OF BLOWS FOR SECOND 6 INCHES Z = NUMBER OF BLOWS FOR THIRD 6 INCHES

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT. E.G. 25

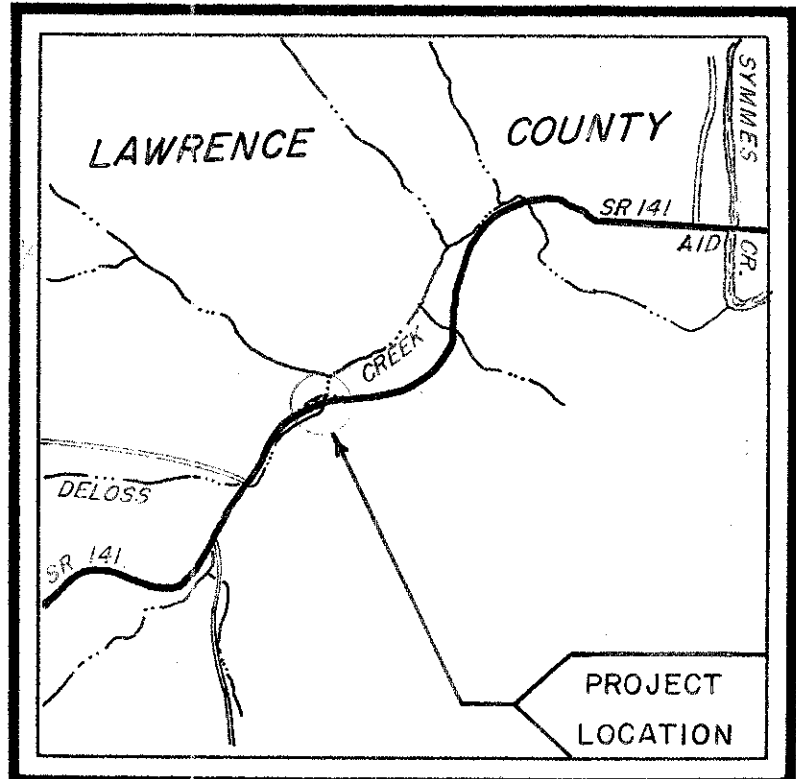
SOIL PROFILE
LAWRENCE COUNTY

LAW-141-12.63

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-TESTING LABORATORY
1600 WEST BROAD STREET COLUMBUS, OHIO 43223

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATION, SOIL TESTS AND BEDROCK BORINGS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.



LOCATION MAP

Recon—R.D.R.—

Drilling—H.E.P.—8/11 & 12/86

Drafting—R.A.W.—9/4/96

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON PLASTIC

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

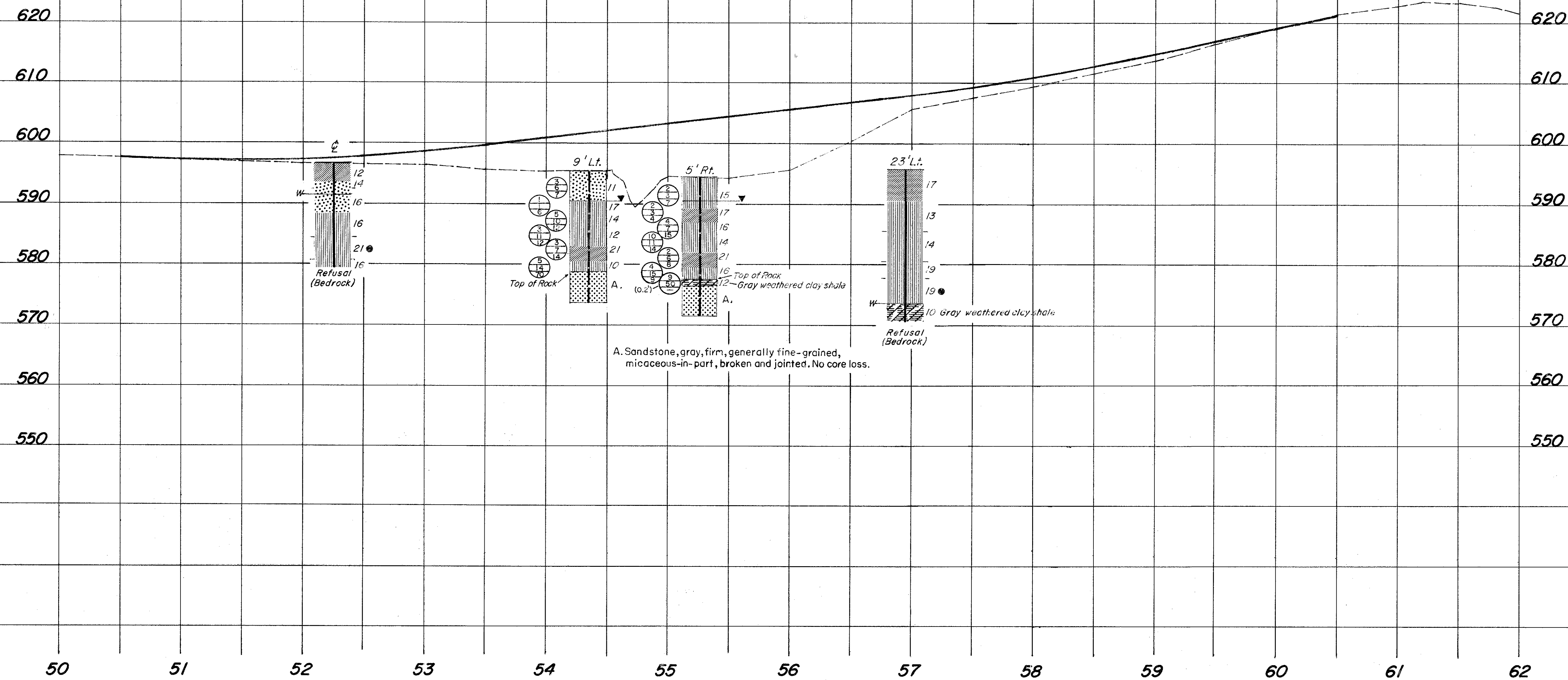
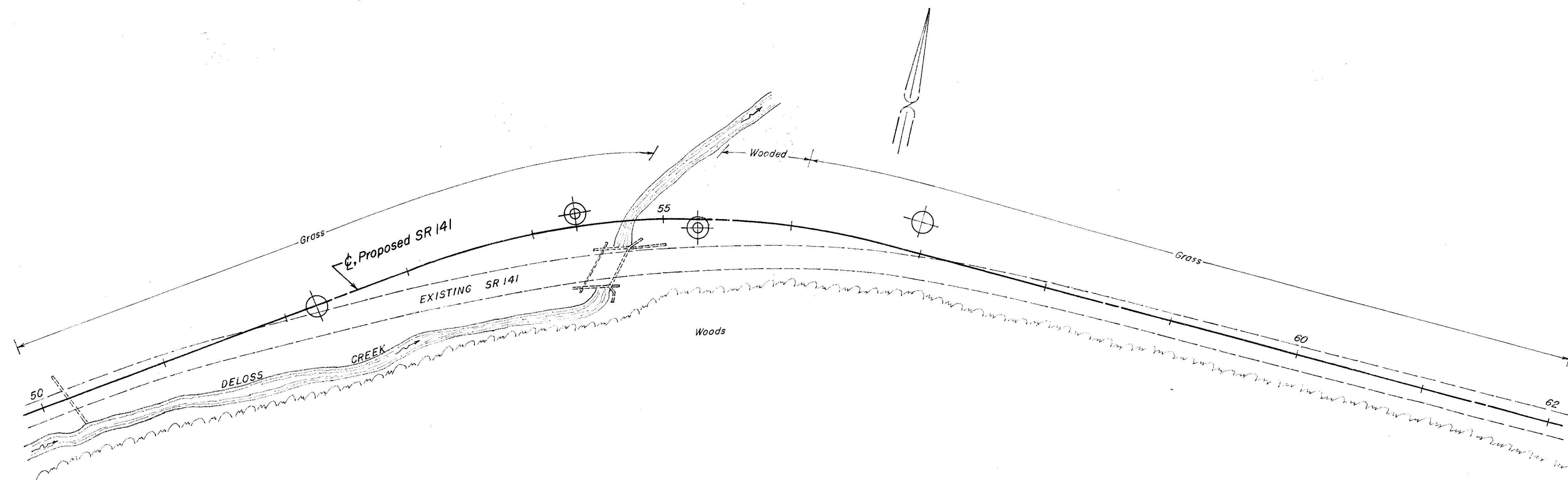
STATION & OFFSET	DEPTH FROM TO	% AGG. C.S. F.S. SILT CLAY					% L.L. P.I.		% W.C.	SHTL CLASS
		AGG	C.S.	F.S.	SILT	CLAY	L.L.	P.I.		
52+25.000 C	00.0-03.0	32	10	17	21	20	33	12	12	A-6A *
	03.0-04.0	8	24	33	16	19	24	6	14	A-3A
	04.0-08.0	11	20	34	18	17	24	5	16	A-3A
	08.0-12.0	2	10	40	20	28	23	8	16	A-4A
	12.0-16.0	4	12	38	19	27	24	9	21	A-4A
	16.0-17.0	19	9	24	24	24	25	8	16	A-4A
54+34.009 L	02.5-04.0	21	20	30	15	14	NP	NP	11	A-3A
	05.0-06.5	0	12	32	29	27	28	9	17	A-4A
	07.5-09.0	3	11	37	22	27	23	6	14	A-4A
	10.0-11.5	9	8	36	20	27	23	7	12	A-4A
	12.5-14.0	12	5	20	24	39	33	12	21	A-6A
	15.0-16.5	15	10	26	32	17	23	4	10	A-4A
55+26.005 R	02.0-04.0	15	5	23	27	30	26	8	15	A-4A
	05.0-06.5	0	9	20	31	40	27	12	17	A-6A
	07.5-09.0	0	6	28	32	34	24	9	16	A-4A
	10.0-11.5	9	4	44	27	16	NP	NP	14	A-4A
	12.5-14.0	1	6	7	31	53	38	15	21	A-6A
	15.0-16.5	39	6	19	18	18	24	6	16	A-4A
56+95.023 L	17.5-18.2	0	0	0	0	0	-	-	12	
		GRAY WEA CLAY SHALE					VISUAL			
	00.0-05.0	8	8	19	30	35	32	12	17	A-6A
	05.0-10.0	5	9	40	20	26	23	7	13	A-4A
	10.0-15.0	0	9	51	16	24	22	7	14	A-4A
	15.0-18.0	0	6	50	18	26	24	6	19	A-4A
	18.0-22.0	0	15	41	19	25	21	6	19	A-4A
	22.0-25.0	53	2	9	19	17	26	8	10	
		GRAY WEA CLAY SHALE					VISUAL			

MICROFILMED
MAR 24 1966

SOIL PROFILE
LAWRENCE COUNTY
LAW-141-12.63
OHIO STATE HIGHWAY TESTING
LABORATORY
1400 W. BROAD ST. COLUMBUS, OHIO 43222

2
4

2
2



MICROFILMED
MAR 24 1986

LAWRENCE COUNTY
LAW-141-12.63

3
4
1
2

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE HIGHLY DISSECTED UNGLACIATED PORTION OF THE ALLEGHENY PLATEAU REGION, ON THE NARROW FLOODPLAIN OF AND OVER DELOSS CREEK, IN AN AREA WHERE RELATIVELY THIN VALLEY AND ALLUVIAL DEPOSITS OVERLIE SANDSTONE BEDROCK, OF PENNSYLVANIAN AGE.

EXPLORATION

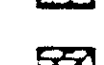
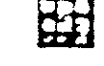
THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE-CORE BORINGS MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM ROTARY AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED ON AUGUST 11 AND 12, 1986.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

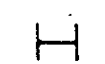
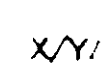
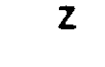
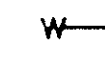
THE TEST BORINGS DISCLOSED THAT INTERVALS OF LOOSE TO MEDIUM-DENSE UNSTRATIFIED BASIC SILTS, CLAYS, SAND AND GRAVEL MODIFIED WITH VARYING PERCENTAGES OF EACH OTHER THAT GRADUALLY INCREASE (ERRATIC AT TIMES) IN DENSITY WITH INCREASE IN DEPTH OVERLIE GENTLY SLOPING BEDROCK SURFACE. TEST BORING NO. B-1 (MADE IN THE GENERAL VICINITY OF THE REAR ABUTMENT) ENCOUNTERED BEDROCK SURFACE AT 17.0-FOOT DEPTH, ELEVATION 578.5 FEET AND CONTINUED TO PENETRATE TO A DEPTH OF 22.0 FEET, ELEVATION 573.5 FEET WHERE THE TEST BORING WAS TERMINATED AFTER HAVING PENETRATED 5.0 FEET BELOW BEDROCK SURFACE. TEST BORING NO. B-2 (MADE IN THE GENERAL VICINITY OF THE FORWARD ABUTMENT) ENCOUNTERED BEDROCK SURFACE AT 17.5-FOOT DEPTH, ELEVATION 576.9 FEET AND CONTINUED TO PENETRATE TO A DEPTH OF 23.0 FEET, ELEVATION 571.4 FEET WHERE THE TEST BORING WAS TERMINATED AFTER HAVING PENETRATED 5.5 FEET BELOW BEDROCK SURFACE.

NO FREE WATER OBSERVATIONS WERE MADE IN EITHER OF THE TEST BORINGS PERFORMED DURING DRILLING OPERATIONS, HOWEVER A STATIC WATER LEVEL CONDITION DEVELOPED IN BOTH TEST BORINGS AT THE CONCLUSION OF DRILLING OPERATIONS. IN TEST BORING NO. B-1 THE WATER ROSE IN THE BORING TO 5.0-FOOT DEPTH, ELEVATION 590.5 FEET AND IN TEST BORING NO. B-2 THE WATER ROSE IN THE BORING TO 4.0-FOOT DEPTH, ELEVATION 590.4 FEET.

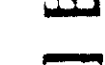
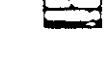
-  Auger Boring Location - Plan View.
-  Press and / or Drive Sample and / or Core Boring Location - Plan View.
-  Drive Rod Penetration Resistance Sounding Location - Plan View.
-  Capped Pile
-  Footing
-  Footing on Pile
-  Top of Rock

-  Coal
-  Weathered Mudstone or Claystone
-  Mudstone or Claystone
-  Weathered Shale
-  Shale
-  Weathered Siltstone
-  Siltstone

LEGEND

-  Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
-  Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
X = Number of Blows for First 6 inches.
Y = Number of Blows for Second 6 inches.
Z = Number of Blows for Third 6 inches.
-  Drive Rod Penetration Resistance Sounding Log - Profile
-  Casing
-  Resistance "R" < 10,000 lbs.
-  Resistance "R" > 10,000 lbs.
-  Indicates Final Measurement of Penetration, in Inches.
-  Indicates Free Water Elevation.
-  Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

-  Weathered Sandstone
-  Sandstone
-  Leached Dolomite
-  Dolomite
-  Leached Limestone
-  Limestone
-  Boulders or Cobbles

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

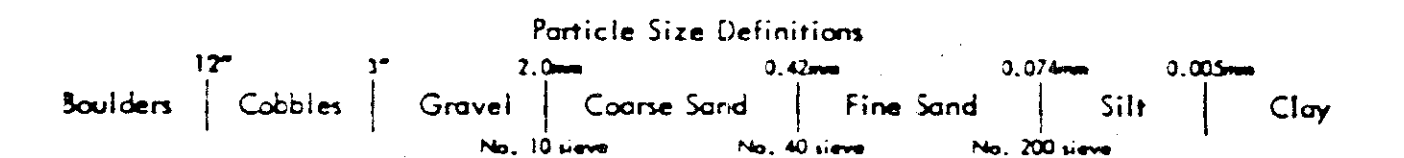
Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and / or 5-foot depth intervals, driven by means of a 140 - pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 18 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in three 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system-and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.



LOG OF BORING
Date Started 8/11/86 Date Completed 8/12/86
Sampler Type SS Dia 1 3/8" Casing Length Dia
Boring No. B-1 Station & Offset 54+34.9' LT. (REAR ABUTMENT) Surface Elev. 595.5' Static Water Elev. 590.5'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
595.5	0														
593.0	2														
590.5	4	3/6/7			BROWN SILTY GRAVELLY SAND	1	21	20	30	15	14	NP	NP	11	A-3a
588.0	6	1/1/6			BROWN SANDY SILT	2	0	12	32	29	27	28	9	17	A-4a
585.5	8	5/10/12			BROWN SANDY SILT	3	3	11	37	22	27	23	6	14	A-4a
583.0	10	3/11/12			BROWN SANDY SILT	4	9	8	36	20	27	23	7	12	A-4a
580.5	12	3/7/14			BROWN SANDY CLAY	5	12	5	20	24	39	33	12	21	A-6a
578.5	14	5/14/70			BROWN-GRAY GRAVELLY SANDY SILT	6	15	10	26	32	17	23	4	10	A-4a
	16				TOP OF ROCK										
	18														
	20		5.0'	0.0'	SANDSTONE, GRAY, FIRM, GENERALLY FINE-GRAINED, MICACEOUS-IN-PART, BROKEN AND JOINTED. NO CORE LOSS.										
573.5	22														

1/2 BOTTOM OF BORING

LOG OF BORING
Date Started 8/12/86 Date Completed 8/12/86
Sampler Type SS Dia 1 3/8" Casing Length Dia
Boring No. B-2 Station & Offset 55+26.5' RT. (FORWARD ABUTMENT) Surface Elev. 594.4' Static Water Elev. 590.4'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics										SHTL Class.
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
594.4	0																
591.9	2																
589.4	4	2/3/7			BROWN GRAVELLY SANDY SILT	7	15	5	23	27	30	26	8	15	A-4a		
586.9	6	2/3/4			BROWN SANDY CLAY	8	0	9	20	31	40	27	12	17	A-6a		
584.4	8	4/7/15			BROWN SANDY SILT	9	0	6	28	32	34	24	9	16	A-4a		
581.9	10	10/11/14			BROWN SANDY SILT	10	9	4	44	27	16	NP	NP	14	A-4a		
579.4	12	2/6/8			BROWN AND GRAY SILT AND CLAY	11	1	6	7	31	55	38	15	21	A-6a		
576.9	14	4/15/9			GREEN AND GRAY SILTY SANDY GRAVEL	12	39	6	19	18	18	24	6	16	A-4a		
	16	9/50(0.2)			GRAY WEATHERED CLAY SHALE	13	-	-	-	-	-	-	-	-	12	VISUAL	
	20		4.8	0.0													
571.4	22				SANDSTONE, GRAY, FIRM, GENERALLY FINE-GRAINED, MICACEOUS-IN-PART, BROKEN AND JOINTED. NO CORE LOSS.												

1/2 BOTTOM OF BORING

NOTE - ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE COMMENTARILY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - TESTING LABORATORY
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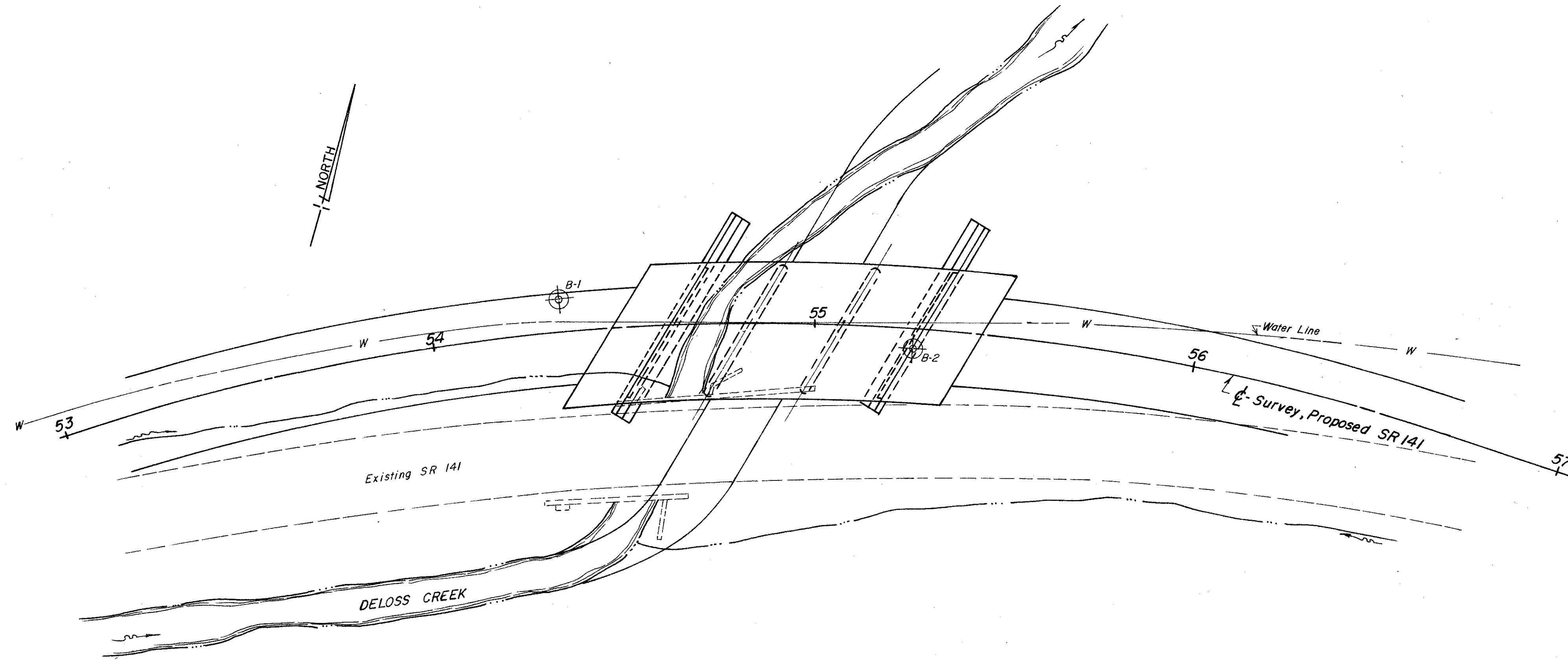
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LAW-141-1270
OVER DELOSS CREEK
SEC. LAW-141-12.63

CHECKED BY L. N. L. REVIEWED BY R. D. R. DATE 9/ 3 /86

MICROFILMED
MAR 24 1988

LAW-141-12.63

4
4
2
2



610

600

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580

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610

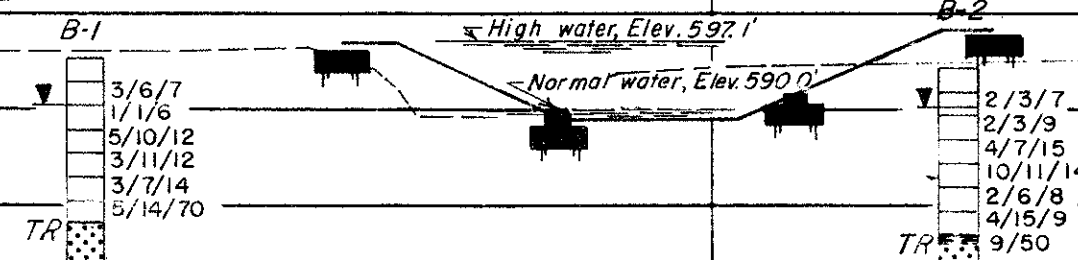
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1600 WEST BROAD STREET COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LAW-141-1270
OVER DELOSS CREEK
SEC. LAW-J41-12.63

PLAN AND PROFILE

DRAWN BY A. F.	CHECKED BY L. N. L.	REVIEWED BY R. D. R.	DATE 9/3/86
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SCALE: 1" = 20'