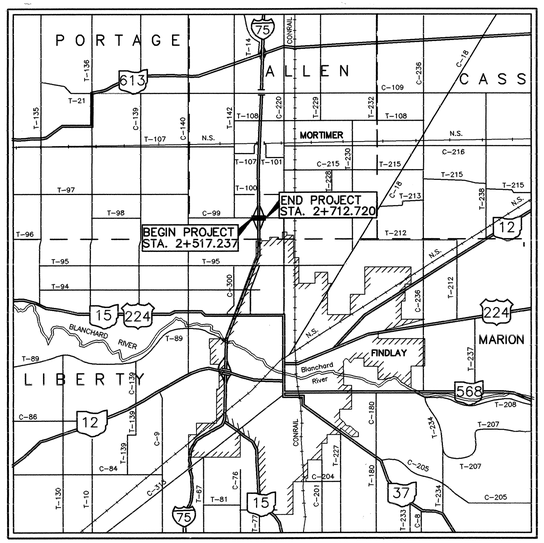
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

HAN-75-31.580 (19.62)

ALLEN TOWNSHIP
HANCOCK COUNTY



LOCATION MAP

LATITUDE: N 41°05'16" LONGITUDE: W 83°39'35"

SCALE 1:100 000
0 1 2 3 4 5 km

PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES
OTHER ROADS
RAILROAD
RIVERS
TOWNSHIP BOUNDARY
CORPORATION BOUNDARY

DESIGN DESIGNATION (C.R.99)

CURRENT ADT (1997)	5,050
DESIGN YEAR ADT (2017)	7,580
DESIGN HOURLY VOLUME	758
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	5%
DESIGN SPEED	70 km/hr
LEGAL SPEED	45 mph

DESIGN FUNCTIONAL CLASSIFICATION: RURAL MINOR COLLECTOR
DESIGN FUNCTIONAL CLASSIFICATION: RURAL INTERSTATE (MAINLINE BELOW)

DESIGN EXCEPTION
— NONE —

INDEX OF SHEETS

PROJECT DESCRIPTION

Replacement of existing bridge over I.R.75 including approach reconstruction

1997 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 require the closing to traffic of the highway and that detours will be provided as indicated on Sheet 6.

Approved _____
Date 5-29-98 District Deputy Director of Transportation

Approved _____
Date 6-18-98 Director, Department of Transportation

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
Call--1-800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

STATE OF OHIO EVA D. VARGAS E-51032 REGISTERED PROFESSIONAL ENGINEER
Eva Vargas

Plans Prepared By:
POLYTECH INC.
1744 PAYNE AVENUE
CLEVELAND, OHIO 44114
ENGINEERS • ARCHITECTS

STATE OF OHIO Youssef Sobhy Seif E-59487 REGISTERED PROFESSIONAL ENGINEER

STANDARD CONSTRUCTION DRAWINGS

DRWG.	DATE	DRWG.	DATE	DRWG.	DATE	DRWG.	DATE
BP-1.1M	10-28-94	GR-3.1M	10-21-97	MT-99.10M	1-30-95	TC-41.20M	7-1-99
BP-2.1M	4-8-97	GR-4.1M	11-30-94	MT-101.60M	4-25-94	TC-52.10M	7-29-94
BP-2.2M	10-21-97	GR-4.2M	10-21-97	MT-105.10M	4-25-94	TC-52.20M	7-29-94
BP-2.3M	10-28-94	HW-2.1M	7-12-95	MT-105.11M	4-25-94	TC-41.50M	7-1-94
BP-2.5M	4-8-97	HW-2.2M	7-12-95	MT-95.30M	4-25-94	TC-41.10M	3-31-94
BP-3.1M	10-28-94	MH-1.2M	9-6-95	MT-98.14M	6-24-93	TC-42.10M	3-31-94
BP-5.1M	10-28-94			MT-98.15M	6-24-93	AS-1-91M	10-25-94
		DM-1.1M	10-21-97	MT-98.19M	3-1-96	BR-1M	12-15-94
GR-1.1M	10-21-97			MT-35.10M	1-30-95	EXT-4-87M	2-18-97
GR-1.2M	1-3-96	DM-4.1M	6-30-95	MT-35.11M	1-30-95	TC-42.20M	3-31-94
GR-2.1M	9-19-98	DM-4.3M	6-30-95			TC-51.11M	9-30-94
		DM-4.4M	6-30-95			TC-51.12M	3-31-94

SPECIAL PROVISIONS

CALENDAR DAYS OF CONTRACT TIME FOR UNRESTRICTED TRAFFIC (A+B)	

SUPPLEMENTAL SPECIFICATIONS

NUMBER	DATE
816	4-21-97
863	9-9-97
910	4-21-97
806	9-9-97
904	5-5-98
906	5-5-98

FEDERAL PROJECT NO. IM-75-5 (70)
PID NO. 12751
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
HAN-75-31.580
1 / 36

HAN-75-31.50
980621
36PGS
09-23-98
DIST. 01
PID# 12751
DRAWING = TITLE DATE = SEPTEMBER 22, 1997

ALLEN TOWNSHIP

metric units

STA. 31+699.200
I.P. MON FD & USED

30.480m

℄ I.R.75
N 01°00'15" E

1/2 SECTION LINE SECTION 36

℄ T.R. 142

℄ C.R. 220

℄ RAMP C
N 14°35'29" E

℄ RAMP D
N 16°35'36" W

℄ RAMP A
N 16°40'42" W

℄ RAMP B
N 14°37'45" E

EX. L/A

EX. R/W

BEGIN WORK
STA. 2+480.000

BEGIN PROJECT
STA. 2+517.237

IM–75 (5)

END WORK
STA. 1+035.000

END WORK
STA. 1+035.000

END PROJECT
STA. 2+710.00

END WORK
STA. 2+720.00

IM–75 (5)

BEGIN WORK
STA. 0+965.000

BEGIN WORK
STA. 0+965.000

1+100
1+050
0+950
0+900

31+700
31+650
31+600
31+550
31+500
31+400

89°55'1"

103°22'45"

89°54'58"

107°32'41"

89°49'57"

72°46'20"

179°56'12"

76°16'59"

90°01'14"

90°20'48"

2+618.601 T.R. 99
31+579.745 I.R.75

P.I. STA.
2+649.081

NW CORNER SW 1/4
SECTION 36

STA. 1+848.56
R.R SPIKE FD & USED

2+500
2+550
2+600
2+650

℄ C.R. 99
S 89°04'47" E

℄ C.R. 99
S 89°00'59" E

STA. 2+543.591± C.R. 99
STA. 1+000.00 RAMPS A,C

STA. 2+693.753 C.R. 99
STA. 1+000.00 RAMPS B,D

STA. 3+457.934
P.K. NAIL FD
& USED

STRUCTURE NO.
HAN–75–2593

STA. 31+394.400
I.P. MON FD & USED

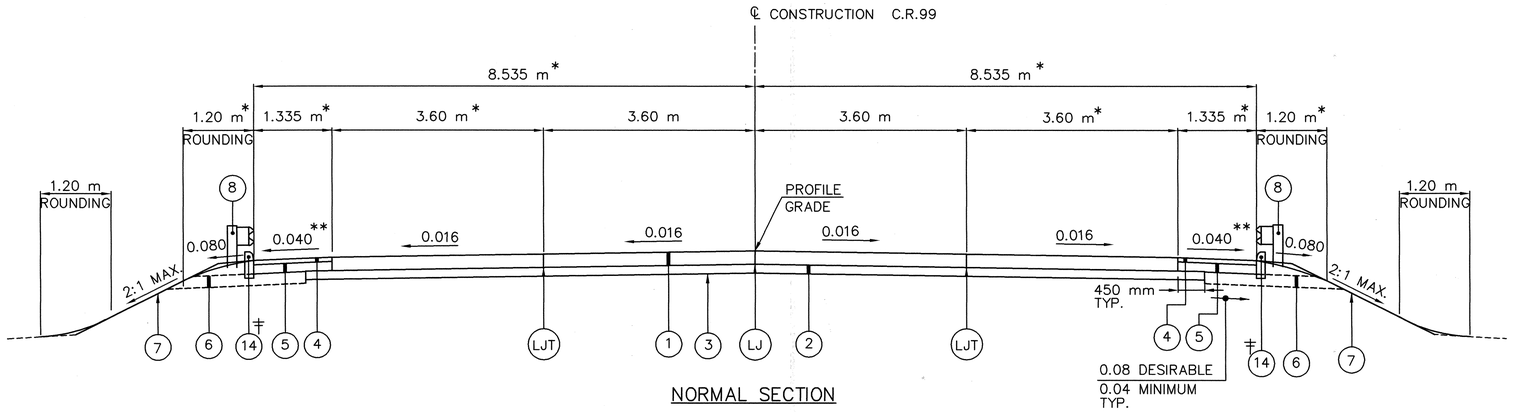
1:500

SCHEMATIC PLAN

HAN–75–31.580

2
36

DRAWING = R-SCHEM DATE = SEPTEMBER 20, 1997



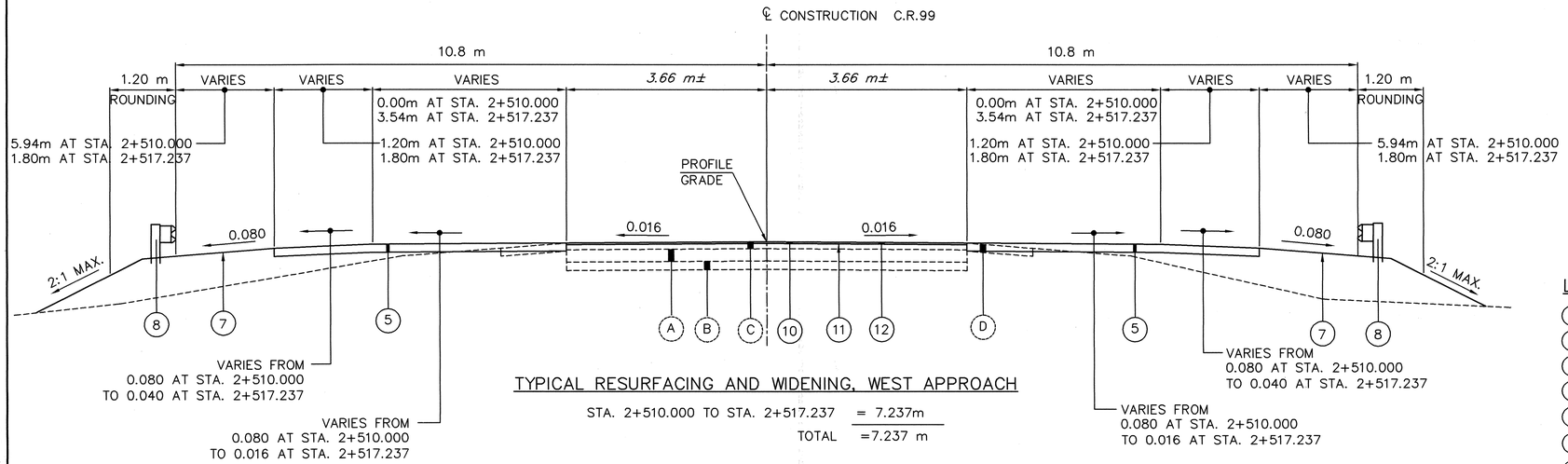
NORMAL SECTION

STA. 2+517.237 TO STA. 2+585.811 = 68.574 m
STA. 2+651.391 TO STA. 2+693.753 = 42.362 m
TOTAL = 110.936 m

* DOES NOT APPLY FROM STA. 2+517.237 TO STA. 2+557.870, STA. 2+679.432 TO STA. 2+693.753 SEE RAMP INTERSECTION DETAILS, SHEET 20 GUARD RAIL ENDS AT STA. 2+579.701 AND BEGINS AT STA. 2+657.501, SEE PLAN SHEET

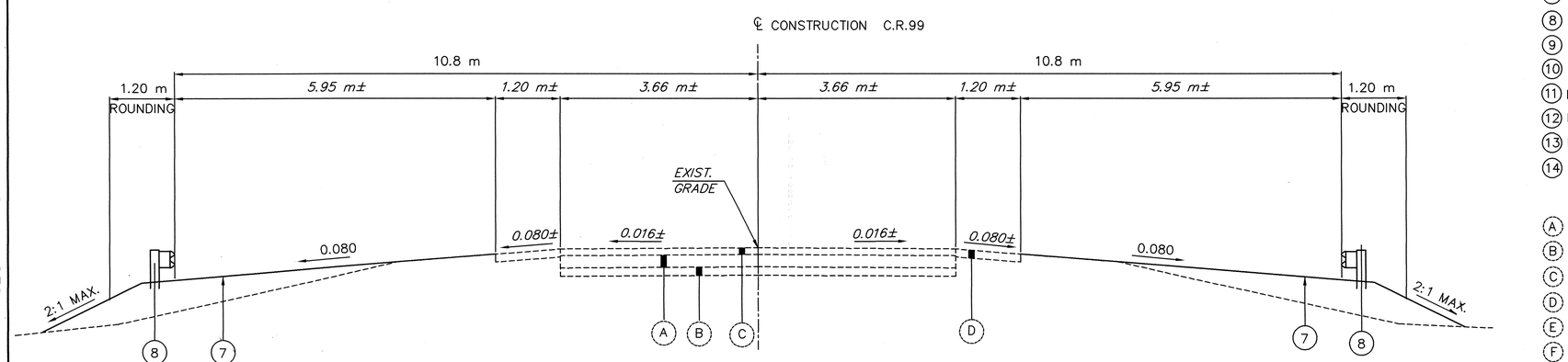
** SLOPE TRANSITION FROM 0.040 AT STA. 2+575.811 TO 0.016 AT STA. 2+585.811
SLOPE TRANSITION FROM 0.016 AT STA. 2+651.391 TO 0.040 AT STA. 2+661.391

‡ PROVIDE TYPE 6 CURB:
WEST APPROACH: STA. 2+571.701 TO STA. 2+579.701
EAST APPROACH: STA. 2+657.501 TO STA. 2+665.501



TYPICAL RESURFACING AND WIDENING, WEST APPROACH

STA. 2+510.000 TO STA. 2+517.237 = 7.237m
TOTAL =7.237 m



TYPICAL BERM WIDENING, WEST APPROACH

STA. 2+480.000 TO STA. 2+510.000 = 30.000 m

LEGEND:

(1) ITEM 451 230 mm REINFORCED CONCRETE PAVEMENT
(2) ITEM 304 150 mm AGGREGATE BASE (SEE PROPOSAL NOTE)
(3) ITEM 203 SUBGRADE COMPACTION
(4) ITEM 301 75 mm BITUMINOUS AGGREGATE BASE, PG64-22
(5) ITEM 304 150 mm AGGREGATE BASE
(6) ITEM 605 AGGREGATE DRAINS
(7) ITEM 659 SEEDING AND MULCHING (SEE GENERAL NOTE)
(8) ITEM 606 GUARDRAIL, TYPE 5
(9) ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=380mm)
(10) ITEM 254 PAVEMENT PLANING, BITUMINOUS
(11) ITEM 407 TACK COAT (SEE GENERAL NOTE)
(12) ITEM 448 ASPHALT CONCRETE, SURFACE COURSE, PG64-22 (32 mm MIN.)
(13) ITEM 609 CURB, TYPE 2-A
(14) ITEM 609 CURB, TYPE 6‡

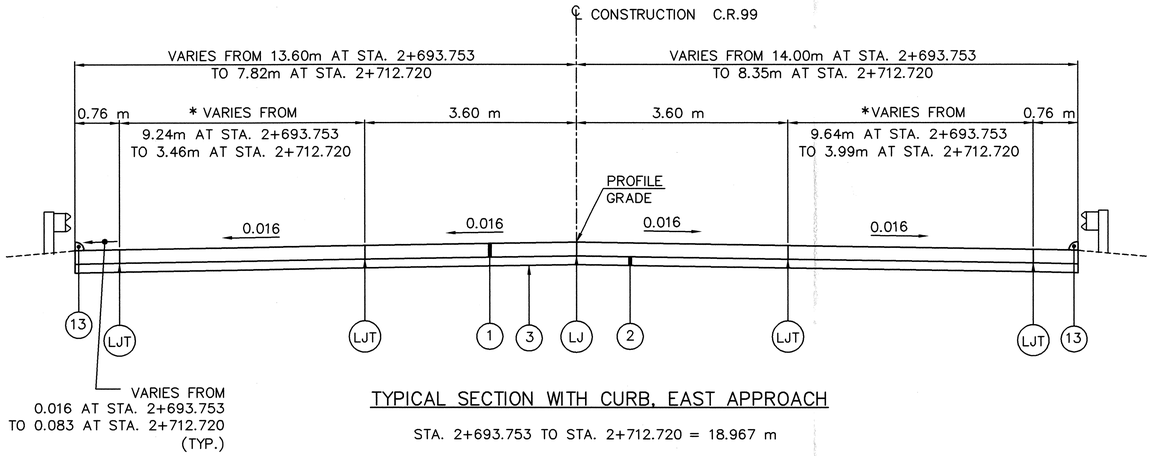
(A) 230mm± REINFORCED CONCRETE PAVEMENT
(B) 150mm± AGGREGATE BASE
(C) ASPHALT CONCRETE, THICKNESS UNKNOWN
(D) STABILIZED AGGREGATE
(E) COMBINATION CURB AND GUTTER, TYPE 2
(F) GUARD RAIL
(G) 44mm± ASPHALT CONCRETE
(H) 200mm± BITUMINOUS AGGREGATE BASE
(I) 250mm± AGGREGATE BASE

metric units

TYPICAL SECTIONS

HAN-75-31.580

DRAWING = R-TYPSEC1 DATE = SEPTEMBER 22, 1997

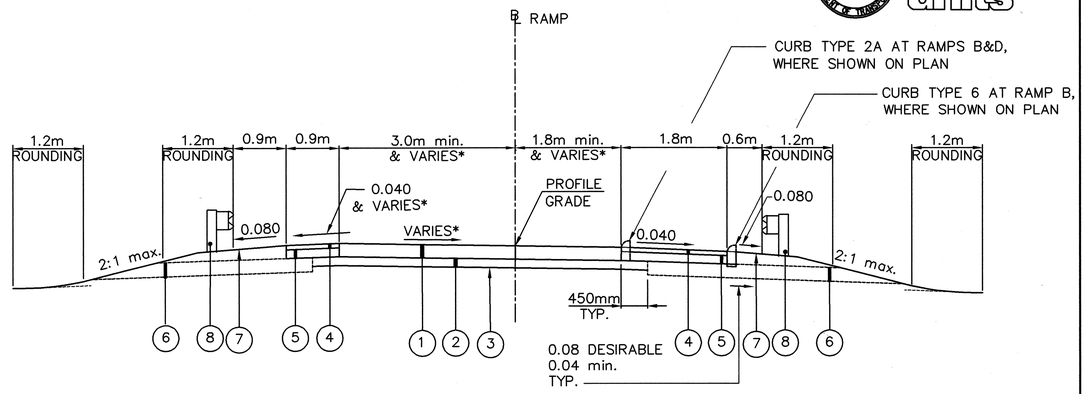


TYPICAL SECTION WITH CURB, EAST APPROACH

STA. 2+693.753 TO STA. 2+712.720 = 18.967 m

* SEE RAMP INTERSECTION DETAILS, SHEET 20

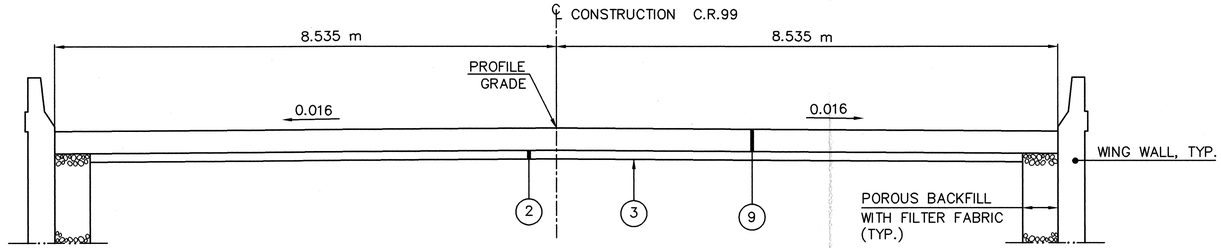
* SEE RAMP INTERSECTION DETAILS, SHEET 20



RAMP TYPICAL SECTION

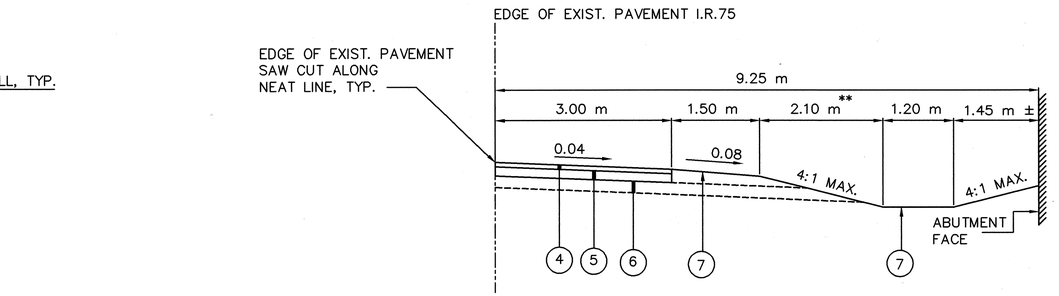
RAMP A STA. 0+970.000 TO STA. 0+990.000	= 20.000 m	OPPOSITE HAND
RAMP C STA. 1+010.000 TO STA. 1+030.000	= 20.000 m	OPPOSITE HAND
RAMP B STA. 0+970.000 TO STA. 0+990.000	= 20.000 m	
RAMP D STA. 1+010.000 TO STA. 1+030.000	= 20.000 m	
TOTAL	= 80.000 m	

** VARIES FROM 2.1 m TO 5.2 m ON THE NORTH BOUND
AND FROM 2.1 m TO 5.0 m ON THE SOUTH BOUND
SEE PLAN FOR DITCH LOCATION



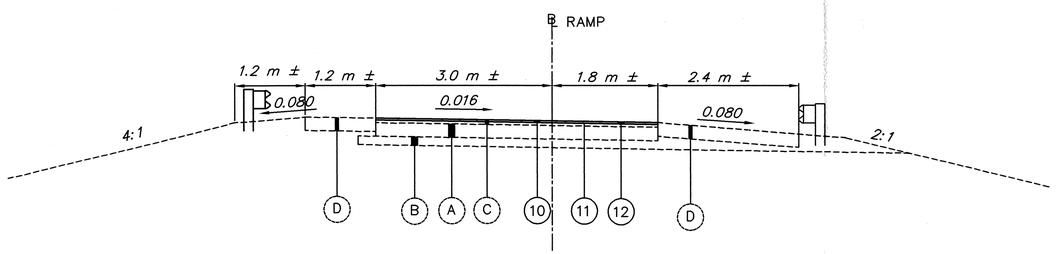
APPROACH SLAB SECTION

STA. 2+585.811 TO STA. 2+593.411	= 7.60 m
STA. 2+643.791 TO STA. 2+651.391	= 7.60 m
TOTAL	=15.20 m



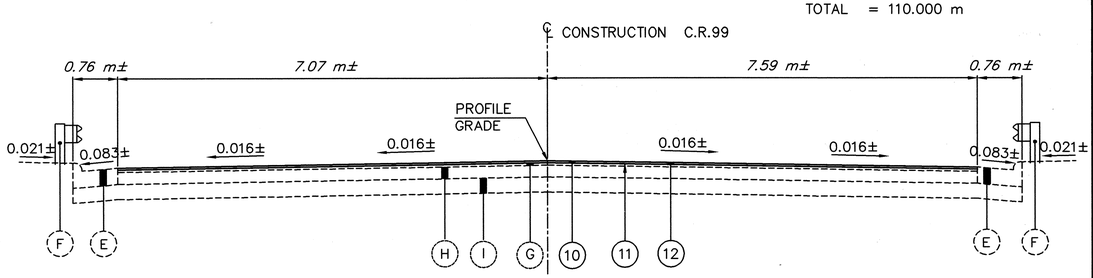
IR-75 SHOULDER REPAIR

SOUTH BOUND STA. 31+560.000 TO STA. 31+610.000 = 50.000 m OPPOSITE HAND
NORTH BOUND STA. 31+560.000 TO STA. 31+620.000 = 60.000 m
TOTAL = 110.000 m



RAMP TYPICAL SECTION – RESURFACING

RAMP A STA. 0+965.000 TO STA. 0+970.000	= 5.000 m	OPPOSITE HAND
RAMP C STA. 1+030.000 TO STA. 1+035.000	= 5.000 m	OPPOSITE HAND
RAMP B STA. 0+965.000 TO STA. 0+970.000	= 5.000 m	
RAMP D STA. 1+030.000 TO STA. 1+035.000	= 5.000 m	
TOTAL	= 20.000 m	



EXISTING TYPICAL SECTION, EAST APPROACH

STA. 2+712.720 TO STA. 2+720.000 = 7.280 m

NOTE

FOR LEGEND, SEE SHEET 3.

TYPICAL SECTIONS

HAN-75-31.580

4
36

DRAWING = gsR-TYPSEC2 DATE = SEPTEMBER 20, 1997

metric units

CALCULATED NK | CHECKED EDV

GENERAL

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AMERICAN ELECTRIC POWER (OHIO POWER) (POWER)
P.O. BOX 389
FINDLAY, OH 45839-0389
(419) 420-3024

HANCOCK COUNTY ENGINEER (WATER)
1900 LIMA AVENUE
P.O. BOX 828
FINDLAY, OH 45839-0828
(419) 422-7433

AMERITECH (TELEPHONE)
130 NORTH ERIE STREET, ROOM 206
TOLEDO, OH 43624
(419) 245-5420

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK 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 FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ROADWAY

REMOVAL OF TREES OR STUMPS

ALTHOUGH THERE ARE NO TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN SPECIFICATION 201 SHALL BE FOLLOWED AND ALL COSTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON THE STANDARD CONSTRUCTION DRAWING GR-1.1M. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 203, EMBANKMENT, AS PER PLAN

ALL FILL MATERIAL FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT PLACED BETWEEN THE FOLLOWING STATIONS, AND FOR FILLING THE EXCAVATION VOID CREATED BY REMOVAL OF THE EXISTING WINGWALLS AND ABUTMENTS, SHALL BE GRANULAR MATERIAL AS DEFINED IN 203.02 AND SHALL BE PLACED IN 150 mm LIFTS AND COMPACTED IN ACCORDANCE WITH 304.04:

WEST APPROACH: STA. 2+560 TO STA. 2+593.411
EAST APPROACH: STA. 2+643.791 TO STA. 2+651.391

THIS ITEM SHALL ALSO BE USED FOR REPLACING SILT AND/OR ORGANIC SOILS AFTER UNDERCUTTING TO 0.9 m BELOW THE BOTTOM OF THE SUBGRADE AND 1.335 m BEYOND THE EDGE OF PAVEMENT AT THE LOCATIONS SHOWN ON THE CROSS SECTIONS. SHOULD PUMPING, HEAVING OR EXCESSIVE DEFLECTION UNDER THE WEIGHT OF CONSTRUCTION EQUIPMENT OCCUR, NORMAL COMPACTION REQUIREMENTS MAY BE WAIVED FOR THE INITIAL TWO LIFTS, AS DIRECTED BY THE ENGINEER.

ROADWAY (CONTINUED)

THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF UNDERCUTTING WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO PERFORM ADDITIONAL UNDERCUTTING WHEN APPROVED BY THE ENGINEER:

203	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	15 CU METER
203	EMBANKMENT, AS PER PLAN	15 CU METER

EROSION CONTROL

ITEM 659, SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE 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 PERMANENT SEEDED AREAS PER 659.09:

659, WATER	33 CUBIC METER

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 AND MULCHING	670 SQ METER
207, STRAW OR HAY BALES	50 EACH
207, FILTER FABRIC FENCE	400 METER
659, COMMERCIAL FERTILIZER	34 KILOGRAM
659, WATER	7 CUBIC METER

EROSION CONTROL

ITEMS 601 AND 660 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ITEM 660. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THIS ITEM SHALL MEET THE REQUIREMENT OF 108.04.

DRAINAGE

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT,OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

PAVEMENT

ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.4 LITERS PER SQUARE METER OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, CONTRACTION JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE SO AS TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING CONCRETE.

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2M. IF NECESSARY, ADDITIONAL JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM SPACING.

MAINTENANCE OF TRAFFIC

ITEM 614 MAINTAINING TRAFFIC

CR 99

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 120 CONSECUTIVE CALENDAR DAYS. THE DETOUR SHALL BE ESTABLISHED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE STATE OF OHIO.

THE FIRST DAY THAT THE DETOUR IS IN EFFECT SHALL BE CONSIDERED THE STARTING DATE OF THE 120 DAY DETOUR LIMITATION. THE 120TH DAY OF THE 120 DAY DETOUR LIMITATION SHALL BE CONSIDERED THE INTERIM COMPLETION DATE. ON OR BEFORE THE 120TH DAY, THE ROADWAY SHALL BE OPENED TO THE SAFE AND CONVENIENT USE OF THE TRAVELING PUBLIC. IF THE ROADWAY IS NOT OPENED BY THIS INTERIM COMPLETION DATE, LIQUIDATED DAMAGES SHALL BE ASSESSED AS PER SECTION 108.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE CONTRACTOR SHALL NOTIFY IN WRITING THE DISTRICT ONE HIGHWAY MANAGEMENT ADMINISTRATOR, THE HANCOCK COUNTY ENGINEER AND THE CITY OF FINDLAY ENGINEER, A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE OF THE PLANNED DATE OF CLOSURE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES AT THE APPROXIMATE WORK LIMITS OF THE PROJECT, AND THE ADVANCE WARNING SIGNS, AS SHOWN ON STANDARD DRAWING MT-101.60M.

NOTICE OF CLOSURE SIGNS: THESE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST TWO WEEKS IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE LOCATED WITHIN THE PUBLIC RIGHT OF WAY SO AS NOT TO INTERFERE WITH ANY PERMANENT SIGNS. ON THIS PROJECT THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS INCLUDING SUPPORTS.

OC-60B
1500x900

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

GENERAL NOTES

HAN-75-31.580

DRAWING = R-GNOTE1 DATE = SEPTEMBER 22, 1997

MAINTENANCE OF TRAFFIC (CONTINUED)

DETOUR OF LOCAL TRAFFIC ON C.R. 99 (NOT USING THE RAMPS)

LOCAL TRAFFIC ON C.R. 99 NOT USING THE RAMPS SHALL BE DETOURED AS SHOWN ON THIS SHEET, "DETOUR FOR C.R. 99 TRAFFIC CONTINUING ON C.R. 99 DURING THE BRIDGE CLOSURE".

DETOUR OF RAMP TRAFFIC

RAMP TRAFFIC SHALL BE DETOURED AS SHOWN ON THIS SHEET, "DETOUR FOR RAMP TRAFFIC DURING THE CLOSURE OF THE RAMPS." RAMPS MAY BE CLOSED FOR A MAXIMUM OF 45 CALENDAR DAYS BETWEEN JUNE 1 AND AUGUST 15. IF THE RAMPS ARE NOT OPENED BY THE END OF THE 45 CONSECUTIVE CALENDAR DAYS, LIQUIDATED DAMAGES IN THE SUM OF $1,000.00 PER DAY WILL BE ASSESSED. THE RAMP CLOSURES SHALL RUN CONCURRENTLY WITHIN THE 120 DAY CLOSURE LIMITATION ESTABLISHED FOR CR 99.

MAINTENANCE OF TRAFFIC ON IR-75

DURING STRUCTURE DEMOLITION, BERM REGRADING, AND AT ANY OTHER TIME THERE IS POSSIBILITY OF INTERFERENCE WITH TRAFFIC ON IR-75, ONE LANE OF TRAFFIC SHALL BE CLOSED AS PER STANDARD DRAWING MT-95.30M. THE SCHEDULING AND PROCEDURES FOR SHORT TERM LANE CLOSURES ON IR-75 MUST BE APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT THE PLANS FOR THE MAINTENANCE OF TRAFFIC IN WRITING TO THE ENGINEER. THE CONTRACTOR SHALL NOT IMPLEMENT ANY LANE CLOSURES UNTIL WRITTEN APPROVAL IS RECEIVED FROM THE ENGINEER. THE ENGINEER MAY AT ANY TIME DISALLOW LANE CLOSURES FOR THE CONVENIENCE OF THE TRAVELING PUBLIC.

NO PERMANENT LANE CLOSURES WILL BE ALLOWED ON IR-75.

WORK REQUIRING A LANE CLOSURE SHALL COMMENCE WITHIN THIRTY (30) MINUTES OF THE IMPLEMENTATION OF THE CLOSURE. ALL CLOSURES SHALL BE REMOVED WITHIN THIRTY(30) MINUTES AFTER THE STOPPAGE OF WORK REQUIRING THE LANE CLOSURE.

TRENCH FOR SHOULDER REPAIR ALONG IR-75

THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF 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. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (7.5 METERS OR LESS) OF A WORK SECTION AT THE END OF A TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED SHOULDER REPAIR SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

PROVISIONS FOR STOPPING TRAFFIC ON IR-75

WHEN BEAMS ARE TO REMOVED OR ERECTED, ALL LANES OF TRAFFIC ON IR-75 MAY ONLY BE STAOPPED WHEN APPROVED IN WRITING BY THE ENGINEER. COMPLETE STOPPAGE ON ALL LANES OF ANY DIRECTIONAL ROADWAY SHALL BE NO LONGER THAN TEN (10) MINUTES. ALL STOPPED TRAFFIC MUST BE COMPLETELY CLEARED FROM THE WORK AREA BEFORE ANOTHER TRAFFIC STOPPAGE IS IMPLEMENTED. WORK REQUIRING COMPLETE STOPPAGE OF TRAFFIC SHALL BE PERFORMED AFTER 7:00 P.M. (IN THE EVENING) AND 10:00 A.M. (IN THE MORNING). ADDITIONALLY, NO WORK REQUIRING COMPLETE STOPPAGE OF TRAFFIC SHALL BE PERFORMED AFTER 10:00 P.M. ON FRIDAY OR SUNDAY.

PRIOR TO STOPPING TRAFFIC ON THE MAINLINE, THE CONTRACTOR SHALL CLOSE ONE LANE OF TRAFFIC AS PER STANDARD DRAWING MT-95.30M TO ESTABLISH A STAGING AREA. ONCE THE STAGING AREA IS ESTABLISHED, MOTORISTS SHALL BE PACED TO A STOP USING METHODS APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL ERECT, MAINTAIN AND REMOVE "ROAD WORK AHEAD", "PREPARE TO STOP" AND "STOP AHEAD" SIGNS WITH FLASHING SIGNAL HEADS IN ACCORDANCE WITH SECTION 632.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THESE SIGNS SHALL BE ILLUMINATED DURING NIGHT-TIME OPERATIONS.

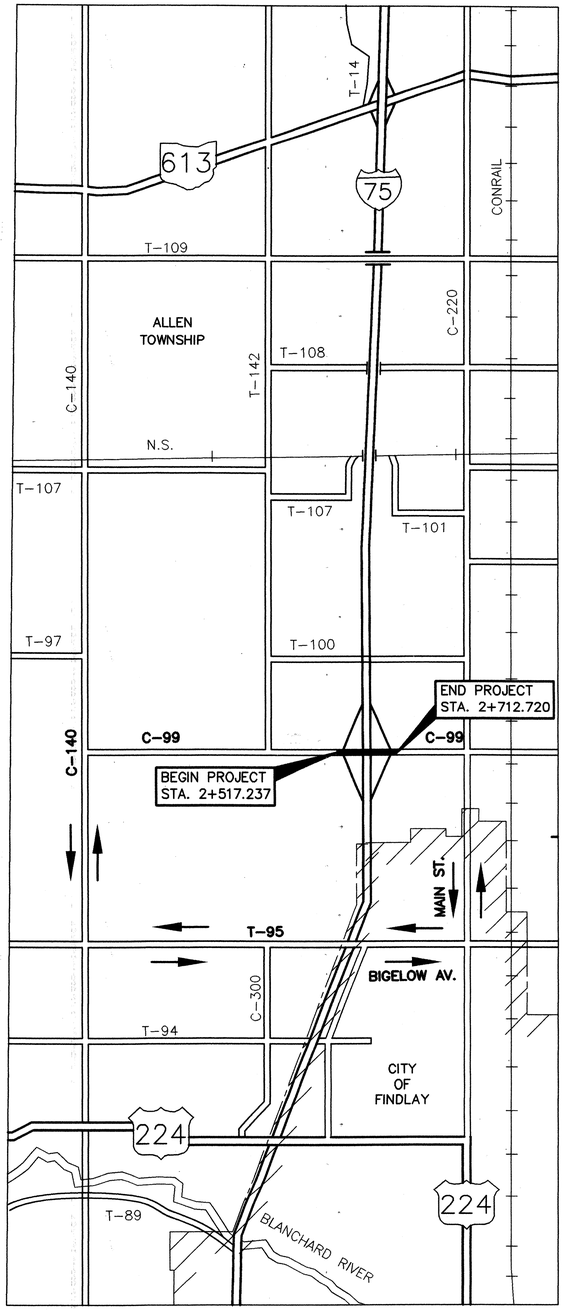
PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS INCLUDING SUPPORTS.

TEMPORARY WORK ZONE MARKINGS

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE PAVEMENT MARKINGS PER THE REQUIREMENTS OF STANDARD CONSTRUCTION DRAWING MT-99.10M:

614	TEMPORARY CENTER LINE, CLASS II	0.21 KILOMETER

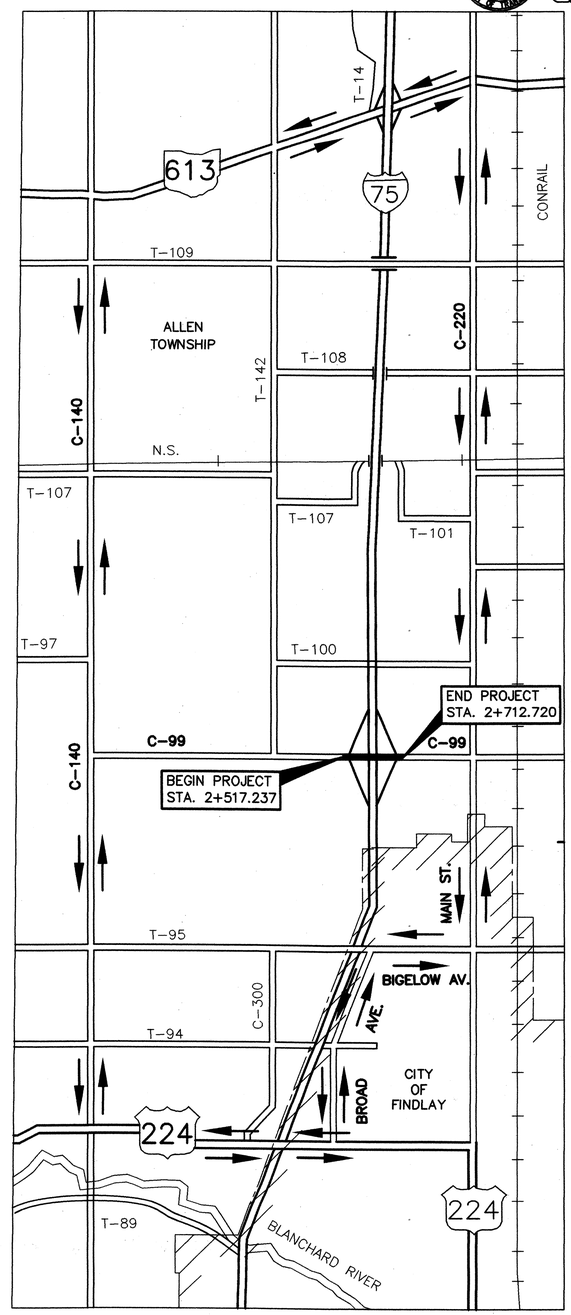
THIS ITEM MAY BE NON-PERFORMED IF THE ITEM 642 PAVEMENT MARKINGS, ARE IN PLACE PRIOR TO OPENING THE ROAD TO TRAFFIC.



DETOUR FOR C.R.99 TRAFFIC CONTINUING ON C.R.99
DURING THE BRIDGE CLOSURE

SCALE 1:25 000

0 1 2 3 4 5 km



DETOUR FOR RAMP TRAFFIC
DURING THE CLOSURE OF THE RAMPS

Portion to be improved
County, State, U.S. & Federal Routes
Detour Route

metric units

CALCULATED YSS CHECKED EDV

GENERAL NOTES

HAN-75-31.580

6
36

DRAWING = R-GNOTE2 DATE = SEPTEMBER 22, 1997

ITEM	SHEET NUMBER 5	6	8	10	11	12	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
											ROADWAY	
	LUMP						201	11000	LUMP		CLEARING AND GRUBBING	5
			2165				202	23000	2165	SQ. METER	PAVEMENT REMOVED	
						31	202	30700	31	METER	CONCRETE BARRIER REMOVED	
				98			202	35200	98	METER	PIPE REMOVED, OVER 600 mm	
					194	160	202	38000	354	METER	GUARDRAIL REMOVED	
				70			202	98500	70	CU. METER	REMOVAL MISC.: RIPRAP REMOVED	
	15				653		203	12000	668	CU. METER	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
					1854		203	20000	1854	CU. METER	EMBANKMENT	
	15				1384		203	20001	1399	CU. METER	EMBANKMENT, AS PER PLAN	5
			3772				203	50000	3772	SQ. METER	SUBGRADE COMPACTION	
					228.60	60.96	606	13000	289.56	METER	GUARDRAIL, TYPE 5	
						80	606	16000	80	METER	GUARDRAIL REBUILT	
					3		606	25000	3	EACH	ANCHOR ASSEMBLY, TYPE A	
					3		606	26500	3	EACH	ANCHOR ASSEMBLY, TYPE T	
					4		606	35000	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
											EROSION CONTROL	
	670						207	10000	670	SQ. METER	TEMPORARY SEEDING AND MULCHING	
	400						207	30000	400	METER	FILTER FABRIC FENCE	
	50						207	70000	50	EACH	STRAW OR HAY BALES	
				5			601	11000	5	CU. METER	RIPRAP USING 150 mm REINFORCED CONCRETE SLAB	
				65			601	32204	65	CU. METER	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	5
			3350				659	10000	3350	SQ. METER	SEEDING AND MULCHING	
	34		335				659	20000	369	KILOGRAM	COMMERCIAL FERTILIZER	
	33 + 7						659	35000	40	CU. METER	WATER	
				94			660	20000	94	SQ. METER	REINFORCED SODDING	
											DRAINAGE	
				1.8			602	20000	1.8	CU. METER	CONCRETE MASONRY	
				1			603	07400	1	METER	450 mm CONDUIT, TYPE B	
				101			603	19400	101	METER	1050 mm CONDUIT, TYPE B	
				1			604	09500	1	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	
				3			604	31500	3	EACH	MANHOLE, NO. 3	
				1			604	36600	1	EACH	PRECAST REINFORCED CONCRETE OUTLET	
				106		66	605	31100	172	METER	AGGREGATE DRAIN	
											PAVEMENT	
			265				254	01000	265	SQ. METER	PAVEMENT PLANING, BITUMINOUS	
			57				301	46000	57	CU. METER	BITUMINOUS AGGREGATE BASE, PG64-22	
			597				304	20000	597	CU. METER	AGGREGATE BASE	
			106				407	10000	106	LITER	TACK COAT	5
			9				448	47020	9	CU. METER	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
			2755				451	14000	2755	SQ. METER	230 mm REINFORCED CONCRETE PAVEMENT	
				35			SPECIAL	451 30000	35	METER	PRESSURE RELIEF JOINT, TYPE A	
			61				609	14000	61	METER	CURB, TYPE 2-A	
			40				609	26000	40	METER	CURB, TYPE 6	
			260				611	25000	260	SQ. METER	REINFORCED CONCRETE APPROACH SLAB (T=380 MM)	
											TRAFFIC CONTROL	
					14		626	00300	14	EACH	BARRIER REFLECTOR, TYPE A2	
					6		626	00400	6	EACH	BARRIER REFLECTOR, TYPE B2	
			0.06				642	00102	0.06	KILOMETER	EDGE LINE, TYPE 2	
			0.05				642	00202	0.05	KILOMETER	LANE LINE, TYPE 2	
			0.21				642	00302	0.21	KILOMETER	CENTER LINE, TYPE 2	
			0.11				645	00102	0.11	KILOMETER	EDGE LINE, TYPE A2	
			240				645	00402	240	METER	CHANNELIZING LINE, TYPE A2	
			460				645	00710	460	METER	TRANSVERSE LINE, TYPE A3	
											TRAFFIC CONTROL CONTINUED ON SHEET 21A	
											STRUCTURE NO. HAN-75-31.580	
											FOR ESTIMATED QUANTITIES, SEE SHEET 25	
											MAINTENANCE OF TRAFFIC	
	0.21						614	21400	0.21	KILOMETER	TEMPORARY CENTER LINE, CLASS II	
							614	11000	LUMP		MAINTAINING TRAFFIC	
							806	16010	6	MONTH	FIELD OFFICE, TYPE B	
							806	26000	6	MONTH	COMPUTER EQUIPMENT FOR FIELD OFFICE	
							623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
							624	10000	LUMP		MOBILIZATION	

CALCULATED NK
CHECKED EDV

GENERAL SUMMARY

HAN-75-31.580

DRAWING = R-SUMM DATE = SEPTEMBER 22, 1997

metric units

CALCULATED NK | CHECKED EDV

BACKUP CALCULATIONS

LENGTH OF APPROACH SLABS

STA. 2+585.811 TO STA. 2+593.411	=	7.60 METER
STA. 2+643.791 TO STA. 2+651.391	=	7.60 METER
TOTAL		15.20 METER

RESURFACING AREA

WEST APPROACH:	STA. 2+510.000 TO STA. 2+517.237	=	53 SQ. METER
EAST APPROACH:	STA. 2+712.720 TO STA. 2+720.000	=	116 SQ. METER
RAMP A:	STA. 0+965.000 TO STA. 0+970.000	=	24 SQ. METER
RAMP C:	STA. 1+030.000 TO STA. 1+035.000	=	24 SQ. METER
RAMP B:	STA. 0+965.000 TO STA. 0+970.000	=	24 SQ. METER
RAMP D:	STA. 1+030.000 TO STA. 1+035.000	=	24 SQ. METER
	TOTAL		265 SQ. METER

AREA OF NEW PAVEMENT (INCLUDING RAMPS)

WEST APPROACH:	STA. 2+517.237 TO STA. 2+585.811	=	1436 SQ. METER
EAST APPROACH:	STA. 2+651.391 TO STA. 2+712.720	=	1319 SQ. METER
	TOTAL		2755 SQ. METER

AREA OF NEW SHOULDERS (INCLUDING RAMPS)

WEST APPROACH:		
STA. 2+517.237 TO STA. 2+543.591, LT.	=	79 SQ. METER
STA. 2+517.237 TO STA. 2+543.591, RT.	=	82 SQ. METER
STA. 2+543.591 TO STA. 2+585.811, LT.	=	57 SQ. METER
STA. 2+543.591 TO STA. 2+585.811, RT.	=	57 SQ. METER
EAST APPROACH:		
STA. 2+651.391 TO STA. 2+693.753, LT.	=	57 SQ. METER
STA. 2+651.391 TO STA. 2+693.753, RT.	=	58 SQ. METER
STA. 2+693.753 TO STA. 2+712.720, RT.	=	12 SQ. METER
STA. 2+693.753 TO STA. 2+712.720, LT.	=	25 SQ. METER
I.R. 75:		
SOUTHBOUND: STA. 31+560 TO STA. 31+610	=	150 SQ. METER
NORTHBOUND: STA. 31+560 TO STA. 31+620	=	180 SQ. METER
TOTAL		757 SQ. METER

ROADWAY

ITEM 202 PAVEMENT (INCLUDING APPROACH SLAB & RAMPS) REMOVED

WEST APPROACH: STA. 2+517.237 TO STA. 2+585.811	=	1008 SQ. METER
EAST APPROACH: STA. 2+651.391 TO STA. 2+712.720	=	1157 SQ. METER
TOTAL		2165 SQ. METER

ITEM 203 SUBGRADE COMPACTION

AREA OF NEW PAVEMENT	=	2755 SQ. METER
AREA OF NEW SHOULDERS	=	757 SQ. METER
AT APPROACH SLABS: 15.20 X 17.07	=	260 SQ. METER
TOTAL		3772 SQ. METER

EROSION CONTROL

ITEM 659 SEEDING AND MULCHING

SHEET NO.	QUANTITY
13	701 SQ. METER
14	690 SQ. METER
15	173 SQ. METER
16	146 SQ. METER
17	452 SQ. METER
18	413 SQ. METER
19	775 SQ. METER

TOTAL FROM CROSS SECTIONS = 3350 SQ. METER

ITEM 659 COMMERCIAL FERTILIZER

3350 SQ. METER X 0.1 kg/m^2 = 335 KILOGRAM

ITEM 659 WATER

3350 SQ. METER X 9.8/1000 m^3/m^2 = 33 CU. METER

(Quantity Carried to Sht. 5)

TRAFFIC CONTROL

ITEM 642 LANE LINE (WHITE)

STA. 2+693.753 TO STA. 2+720.000, L&R = 0.05 KILOMETER

ITEM 642 CENTER LINE: SOLID, DOUBLE

STA. 2+510.000 TO STA. 2+720.000 = 0.21 KILOMETER

ITEM 642 EDGE LINE (YELLOW)

STA. 2+543.591 TO STA. 2+693.753, ALONG RAMPS, L&R = 0.06 KILOMETER

ITEM 645 EDGE LINE (WHITE)

STA. 2+510.000 TO STA. 2+543.591, ALONG RAMPS, L&R = 0.11 KILOMETER

ITEM 645 CHANNELIZING LINE (WHITE)

STA. 2+557.870 TO STA. 2+679.432, L&R = 240 METER

ITEM 645 TRANSVERSE LINE (WHITE)

STA. 2+557.870 TO STA. 2+679.432, L&R = 460 METER

PAVEMENT

ITEM 254 PAVEMENT PLANING, BITUMINOUS

AT RESURFACING: = 265 SQ. METER

ITEM 301 BITUMINOUS AGGREGATE BASE, PG64-22

AT NEW SHOULDERS: 757 SQ. METER X 0.075 = 57 CU. METER

ITEM 304 AGGREGATE BASE

AT WIDENING:	STA. 2+510.000 TO 2+517.237, L&R 2 X 3.270 m AVGE. X 7.237 m X 0.15	=	7 CU. METER
AT NEW SHOULDERS:	757 SQ. METER X 0.15	=	114 CU. METER
AT NEW PAVEMENT:	2755 SQ. METER X 0.15	=	413 CU. METER
BEYOND EDGE OF PAVEMENT:	161 SQ. METER X 0.15	=	24 CU. METER
AT APPROACH SLABS:	260 SQ. METER X 0.15	=	39 CU. METER
	TOTAL		597 CU. METER

ITEM 407 TACK COAT

AT RESURFACING: 265 SQ. METER X 0.4 L/m^2 = 106 LITER

ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22

AT RESURFACING: 265 SQ. METER X 0.032 = 9 CU. METER

ITEM 451 230 mm REINFORCED CONCRETE PAVEMENT

AT NEW PAVEMENT: = 2755 SQ. METER

ITEM 609 CURB, TYPE 2-A

STA. 2+693.753 TO STA. 2+712.720, LT.	=	26.0 METER
STA. 2+693.753 TO STA. 2+712.720, RT.	=	34.7 METER
TOTAL		61 METER

ITEM 609 CURB, TYPE 6

WEST APPROACH: STA. 2+571.701 TO 2+579.701	=	16 METER
EAST APPROACH: STA. 2+657.501 TO 2+665.501	=	16 METER
RAMP B: STA. 0+972.800 TO 0+980.000	=	8 METER
TOTAL		40 METER

ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=380mm)

15.20 m X 17.07 m = 260 SQ. METER

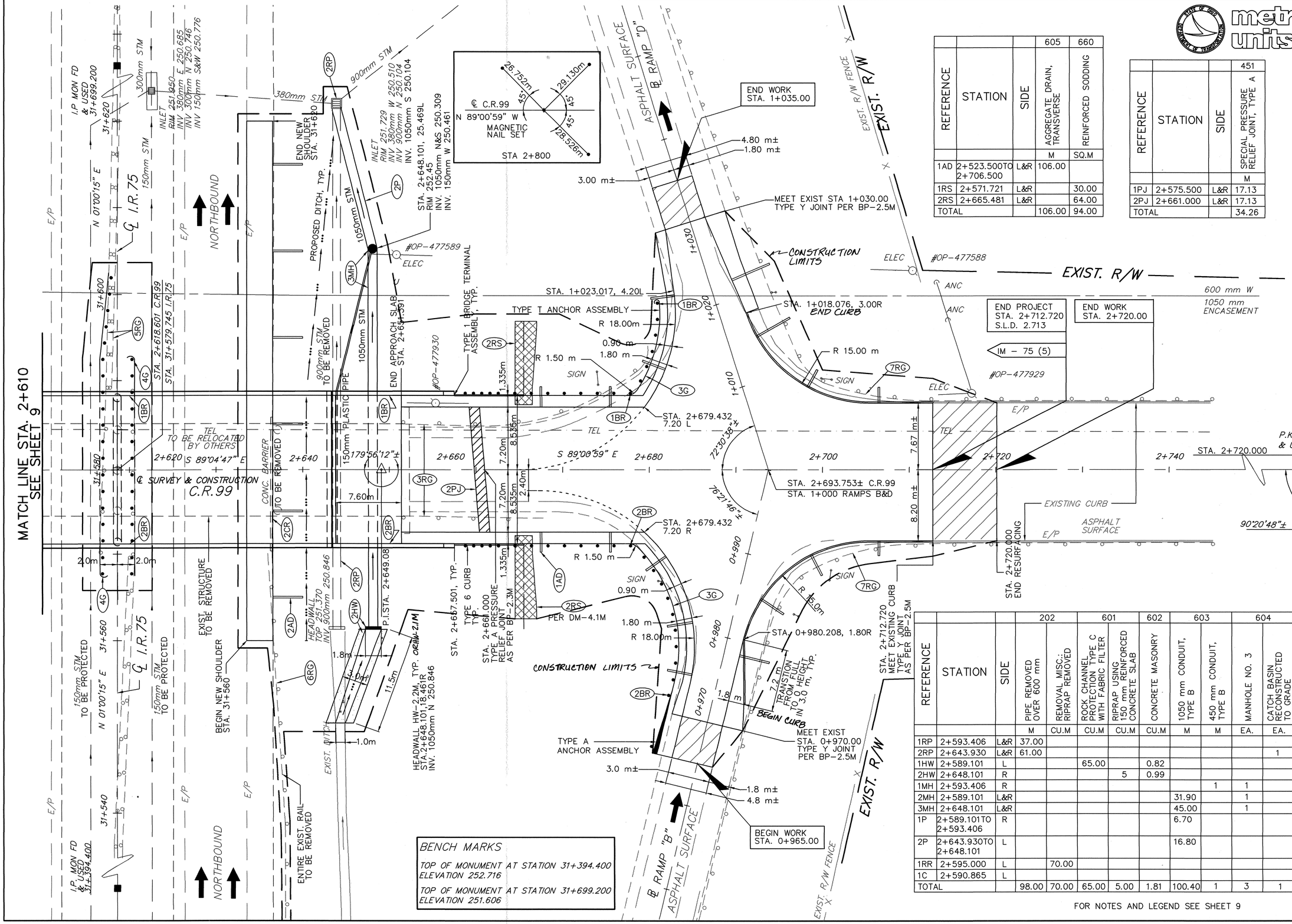
ALL QUANTITIES CARRIED TO SHEET 7, EXCEPT AS NOTED.

QUANTITY CALCULATIONS

HAN-75-31.580

DRAWING = R-CALC DATE = SEPTEMBER 22, 1997

PROPOSED STRUCTURE
TYPE: REINF. CONCRETE DECK WITH TWO SPAN CONTINUOUS COMPOSITE A572M STEEL BEAMS ON WALL ABUTMENTS AND CAP & COLUMN PIER
SPANS: 24 500 mm, 24 500 mm C/C BRGS.
ROADWAY WIDTH: 17 070 mm TOE/TOE PARAPET
DESIGN LOADING: MS18 (CASE II) AND ALTERNATE MILITARY LOADING
SKEW: NONE
ALIGNMENT: TANGENT
APPROACH SLABS: 7600 mm (AS-1-81M)
WEARING SURFACE: MONOLITHIC CONCRETE
CROWN 0.016
LATITUDE: N 41° 05' 16"
LONGITUDE: W 83° 39' 35"
EXISTING STRUCTURE
TYPE: REINFORCED CONCRETE DECK WITH FOUR SPAN CONTINUOUS NON COMPOSITE STEEL BEAMS ON REINFORCED CONCRETE SUBSTRUCTURE
SPANS: 14 630mm±, 18 288mm±, 18 288 mm± & 14 630mm±
ROADWAY WIDTH: 8535 mm± F/F SAFETY CURB
SKEW: NONE
ALIGNMENT: TANGENT
APPROACH SLABS: 4572 mm± (AS-1-54)
WEARING SURFACE: MONOLITHIC CONCRETE
YEAR BUILT: 1955±
CONDITION: POOR
STRUCTURE FILE NO.: 3203123
3/4" IRON PIN SET & CAPPED
MAGNETIC NAIL SET
℄ C.R.99
S 89°04'47" E
STA 2+400
STA 2+300
NOTES:
1. FOR GUARDRAIL QUANTITIES, SEE SHEETS 11 AND 12.
2. FOR INTERSECTION DETAILS, SEE SHEET 20.
3. FOR RAMP PROFILES, SEE SHEET 21.
LEGEND
RESURFACING 32 mm MAX. WEARING COURSE REMOVAL
REINFORCED SODDING PER DM-4.1M
RIPRAP USING 150 mm REINFORCE CONCRETE SLAB
BEGIN WORK STA. 2+480.00
BEGIN PROJECT STA. 2+517.237 S.L.D. 2.517
IM - 75 (5)
END WORK STA. 1+035.00
MEET EXIST STA. 1+030 TYPE Y JOINT PER BP-2.5M
BEGIN WORK STA. 0+965.00
MEET EXIST STA. 0+970.00 TYPE Y JOINT PER BP-2.5M
STA. 2+543.591± C.R.99
STA. 1+000 RAMPS A&C
EXIST. R/W
CONSTRUCTION LIMITS
℄ RAMP "C" ASPHALT SURFACE
ASPHALT SURFACE ℄ RAMP "A"
EDGE OF SHOULDER, TYP.
EDGE OF PAVEMENT, TYP.
TYPE A ANCHOR ASSEMBLY
CONNECT TO EX. RAIL
MATCH LINE STA. 2+610 SEE SHEET 10
SOUTHBOUND
9.25m ± HORIZONTAL CLEARANCE
POINT OF MIN. VERTICAL CLEARANCE
BEGIN NEW SHOULDER STA. 31+560
END NEW SHOULDER STA. 31+610
ENTIRE EXIST. RAIL TO BE REMOVED
SEE STRUCTURE PLANS FOR DETAILS & PAYMENT
℄ T.R.142
R.R. SPIKE FD
DRAWING = R-PANDP DATE = SEPTEMBER 18, 1997
metric units
HORIZ. SCALE IN METERS 1:200
CALCULATED YSS CHECKED EDV
PLAN - C.R. 99 STA. 2+510 TO STA. 2+610
HAN-75-31.580
9/36



REFERENCE	STATION	SIDE	605 AGGREGATE DRAIN, TRANSVERSE	660 REINFORCED SODDING
			M	SQ.M
1AD	2+523.500TO 2+706.500	L&R	106.00	
1RS	2+571.721	L&R		30.00
2RS	2+665.481	L&R		64.00
TOTAL			106.00	94.00

REFERENCE	STATION	SIDE	451 SPECIAL PRESSURE RELIEF JOINT, TYPE A
			M
1PJ	2+575.500	L&R	17.13
2PJ	2+661.000	L&R	17.13
TOTAL			34.26

REFERENCE	STATION	SIDE	202 PIPE REMOVED OVER 600 mm	202 REMOVAL MISC.: RIPRAP REMOVED	601 ROCK CHANNEL PROTECTION TYPE C WITH FABRIC FILTER	601 RIPRAP USING 150 mm REINFORCED CONCRETE SLAB	602 CONCRETE MASONRY	603 1050 mm CONDUIT, TYPE B	603 450 mm CONDUIT, TYPE B	604 MANHOLE NO. 3	604 CATCH BASIN RECONSTRUCTED TO GRADE	SPEC. PRECAST REINFORCED CONCRETE OUTLET
			M	CU.M	CU.M	CU.M	CU.M	M	M	EA.	EA.	EA.
1RP	2+593.406	L&R	37.00									
2RP	2+643.930	L&R	61.00								1	
1HW	2+589.101	L			65.00		0.82					
2HW	2+648.101	R				5	0.99					
1MH	2+593.406	R							1	1		
2MH	2+589.101	L&R						31.90		1		
3MH	2+648.101	L&R						45.00		1		
1P	2+589.101TO 2+593.406	R						6.70				
2P	2+643.930TO 2+648.101	L						16.80				
1RR	2+595.000	L		70.00								
1C	2+590.865	L										1
TOTAL			98.00	70.00	65.00	5.00	1.81	100.40	1	3	1	1

BENCH MARKS

TOP OF MONUMENT AT STATION 31+394.400
ELEVATION 252.716

TOP OF MONUMENT AT STATION 31+699.200
ELEVATION 251.606

FOR NOTES AND LEGEND SEE SHEET 9

metric units

HORIZ. SCALE IN METERS 1:200

CALCULATED YSS
CHECKED EDV

PLAN — C.R. 99 STA. 2+610 TO STA. 2+720

HAN-75-31.580

10
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DRAWING = R-PANDP DATE = SEPTEMBER 18, 1997

REFERENCE	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE A	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1	626 BARRIER REFLECTOR, TYPE A	626 BARRIER REFLECTOR, TYPE B
				M	M	EA.	EA.	EA.	EA.	EA.
1RG	2+500.000	2+543.000	L&R	95.25						
2RG	2+555.000	2+586.000	L&R	49.53						
3RG	2+651.000	2+680.000	L&R	49.53						
1G	2+500.000	2+543.000	L&R		91.44	1	1			
2G	2+555.000	2+580.341	L&R		68.58	1	1	2		
3G	2+650.751	2+682.000	L&R		68.58	1	1	2		
1BR	2+500.000	2+682.000	L						7	3
2BR	2+500.000	2+682.000	R						7	3
TOTAL				194.29	228.60	3	3	4	14	6

PROFILE GRADE

266 265 264 263 262 261 260 259 258 257 256 255 254 253 252 251 250 249

BEGIN WORK
STA. 2+480.00

BEGIN PROJECT
STA. 2+517.237
S.L.D 2.517

IM – 75 (5)

BEING RESURFACING
STA. 2+510.000

RESURFACING

BEGIN NEW PAVEMENT
STA. 2+517.237
ELEV. 257.002 ±

MEET EXIST. GRADE STA. 2+530.000
ELEV 257.450 ±

257.450

PVC STA 2+536.348
PVC ELEV 257.666

257.787

℄ RAMP STA 2+543.591
ELEV 257.901

258.091

258.354

258.575

258.755

258.893

258.990

170.00 m V.C.
PVI STA = 2+621.348
PVI ELEV = 260.556
S.S.D. = 99.0 m
ACTUAL DESIGN SPEED 75 KPH

BRIDGE LIMITS = 50.380m

END APPROACH SLAB
STA. 2+593.411
ELEV. 258.931

+3.40% ±

3.400%

3.400%

EXIST TELEPHONE CONDUITS TO BE RELOCATED BY OTHERS

EXCAVATION	653	CU. METER
EMBANKMENT	1864	CU. METER
EMBANKMENT, AS PER PLAN	1384	CU. METER

1MH
STA 2+593.406,20.116R
RIM 252.66
INV. 1050mm W 251.471
INV 450mm E 251.471

9.25m ± TYP.

EXIST. EDGE OF PAVEMENT

PROP. VERT. CLEARANCE = 5.08 m ±
EXIST. VERT. CLEARANCE = 5.03 m ±
(FROM RECORD)

2MH
STA 2+589.101,15.377R
RIM 253.55
INV. 1050mm N&W 251.418
EXIST 900mm STM
TO BE REMOVED

150mm PLASTIC PIPE
INLET INV. EL. 251.692
OUTLET INV. EL. 251.614

600 mm WATER LINE
1050 mm ENCASEMENT

1050mm STM
INLET INV. EL. 251.418
OUTLET INV. EL. 251.250

INLET
RIM 252.399
INV 450mm W 251.471
TO REMAIN

1050mm STM
INLET INV. EL. 251.418
OUTLET INV. EL. 251.471

EXIST. EL.: 254.84 | 255.30 | 255.79 | 256.23 | 256.72 | 257.11 | 257.45 | 257.75 | 257.97 | 258.15 | 258.35 | 258.52 | 258.67 | 258.75 | 258.80

2+480 2+500 2+510 2+520 2+530 2+540 2+550 2+560 2+570 2+580 2+590 2+600

MATCH LINE STA. 2+610
SEE SHEET 12

DRAWING = R-PANDP DATE = SEPTEMBER 18, 1997

metric units

N

HORIZ. SCALE IN METERS 0 5 10 1:200

CALCULATED YSS CHECKED EDV

PROFILE – C.R. 99
STA. 2+510 TO STA. 2+610

HAN–75–31.580

11
36

metric units

REFERENCE	STATION FROM	STATION TO	SIDE	202 CONCRETE BARRIER, REMOVED	202 GUARDRAIL REMOVED	605 AGGREGATE DRAIN, TRANSVERSE	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, REBUILT, TYPE 5
				M	M	M	M	M
1CR	31+573.670	31+588.800	L	15.13				
2CR	31+570.370	31+585.790	R	15.42				
4RG	31+588.800	31+642.140	L		53.34			
5RG	31+568.000	31+603.000	L&R		53.34			
6RG	31+517.030	31+570.370	R		53.34			
7RG	2+690.000	2+720.000	L&R					160
4G	31+568.000	31+603.000	L&R				60.96	
2AD	31+560.000	31+620.000	L&R			66		
TOTAL				30.55	320.02	66	60.96	160

259.045 PROFILE GRADE 259.059 259.031 258.962 258.852 258.700 258.506 258.271 257.995 257.677 257.320

170.00 m V.C.
PVI STA = 2+621.348
PVI ELEV = 260.556
S.S.D. = 99.0 m
ACTUAL DESIGN SPEED 75 KPH

BRIDGE LIMITS = 50.380m

MATCH LINE STA. 2+610
SEE SHEET 11

-3.650%

BEGIN APPROACH SLAB
STA. 2+643.791
ELEV. 258.925

℄ RAMP STA. 2+693.753
ELEV 257.880

PVT STA 2+706.348
PVT ELEV 257.453

MEET EXIST. 2+710.000 ±
PVI ELEV. 257.320 ±

END PROJECT
STA. 2+712.720
S.L.D. 2.713

END WORK
STA. 2+720.000

IM – 75 (5)

-3.650%

-4.20% ±

RESURFACING

END RESURFACING
STA. 2+720.000

EXIST TELEPHONE CONDUITS TO BE RELOCATED BY OTHERS

4.5 m 4.75 m ±

EXIST. EDGE OF PAVEMENT

INLET
RIM 251.729
INV 380mm W 250.510
INV 900mm N 250.104
INV. 1050mm S 250.104

3MH
STA 2+648.101, 25.469L
RIM 252.47
INV. 1050mm N&S 250.309
INV. 150mm W 250.461

EXIST 300mm STM TO REMAIN

EXIST 900mm STM TO BE REMOVED

1050mm STM
INLET INV. EL. 250.846
OUTLET INV. EL. 250.309

150mm PLASTIC PIPE
INLET INV. EL. 251.136
OUTLET INV. EL. 250.461

INLET
RIM 251.950
INV 380mm E 250.685
INV 300mm N 250.746
INV 150mm S&W 250.776
TO REMAIN

EXIST 150mm STM TO REMAIN

380mm STM TO REMAIN

600mm WATER LINE
1050mm ENCASEMENT

1050mm STM
INLET INV. EL. 250.309
OUTLET INV. EL. 250.104

EXIST. EL. 258.83 258.82 258.76 258.65 258.50 258.32 258.14 257.92 257.65 257.32 256.90 256.52 256.12

2+620 2+630 2+640 2+650 2+660 2+670 2+680 2+690 2+700 2+710 2+720 2+740

266 265 264 263 262 261 260 259 258 257 256 255 254 253 252 251 250 249 248

N

0 5 10 HORIZ. SCALE IN METERS 1:200

CALCULATED YSS
CHECKED EDV

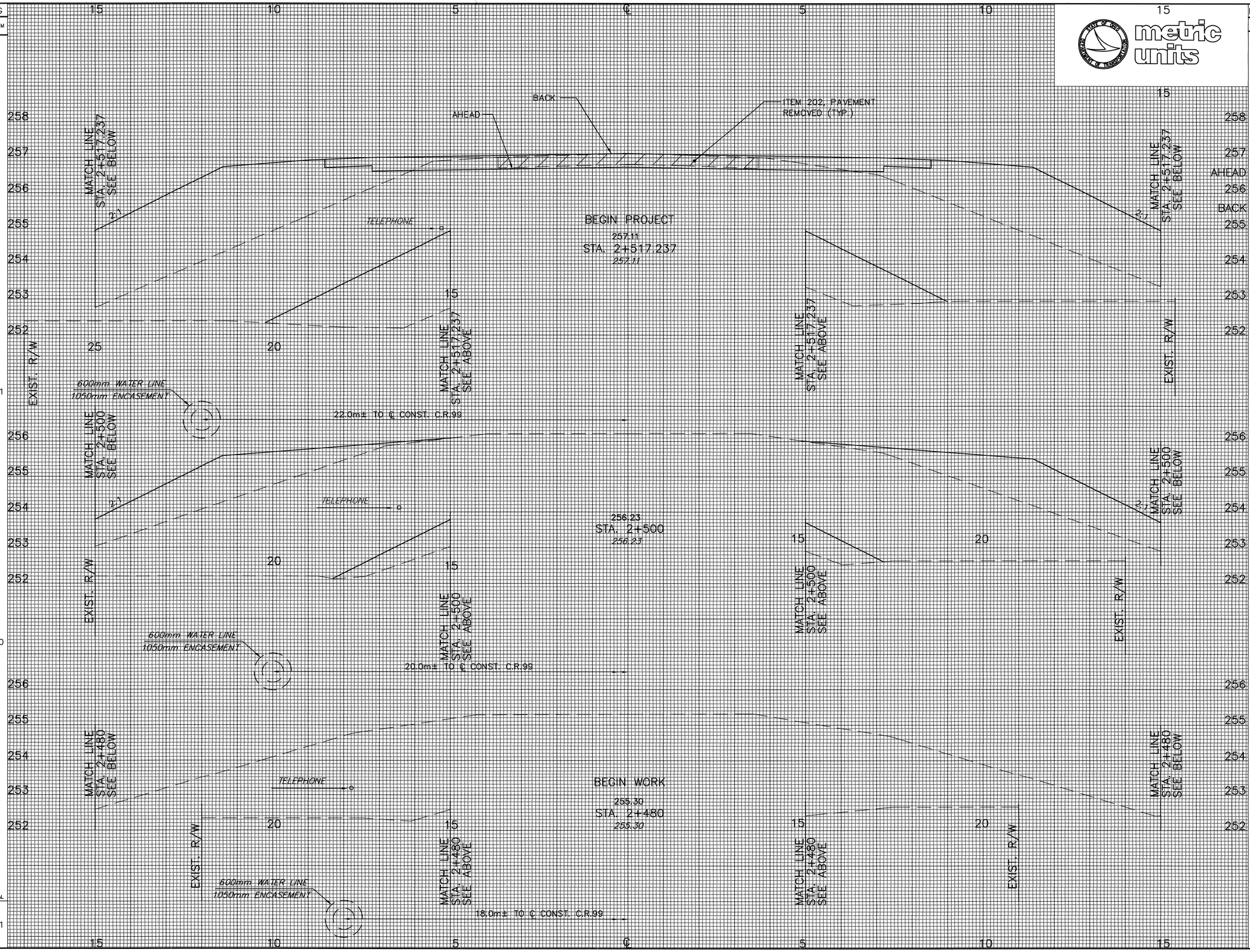
PROFILE – C.R. 99
STA. 2+610 TO STA. 2+720

HAN–75–31.580

12
36

DRAWING = R–PANDP DATE = SEPTEMBER 18, 1997

SEEDING	
END WIDTH	SQ. M
	23
	431
	27
	270
	0
TOTAL	701



END AREA		VOLUME	
CUT	FILL	CUT	FILL
AHEAD	2	40	
BACK	0	40	
		0	491
	0	17	
	0	170	
	0	0	
TOTAL			661

metric units

CALCULATED NK

CHECKED EDV

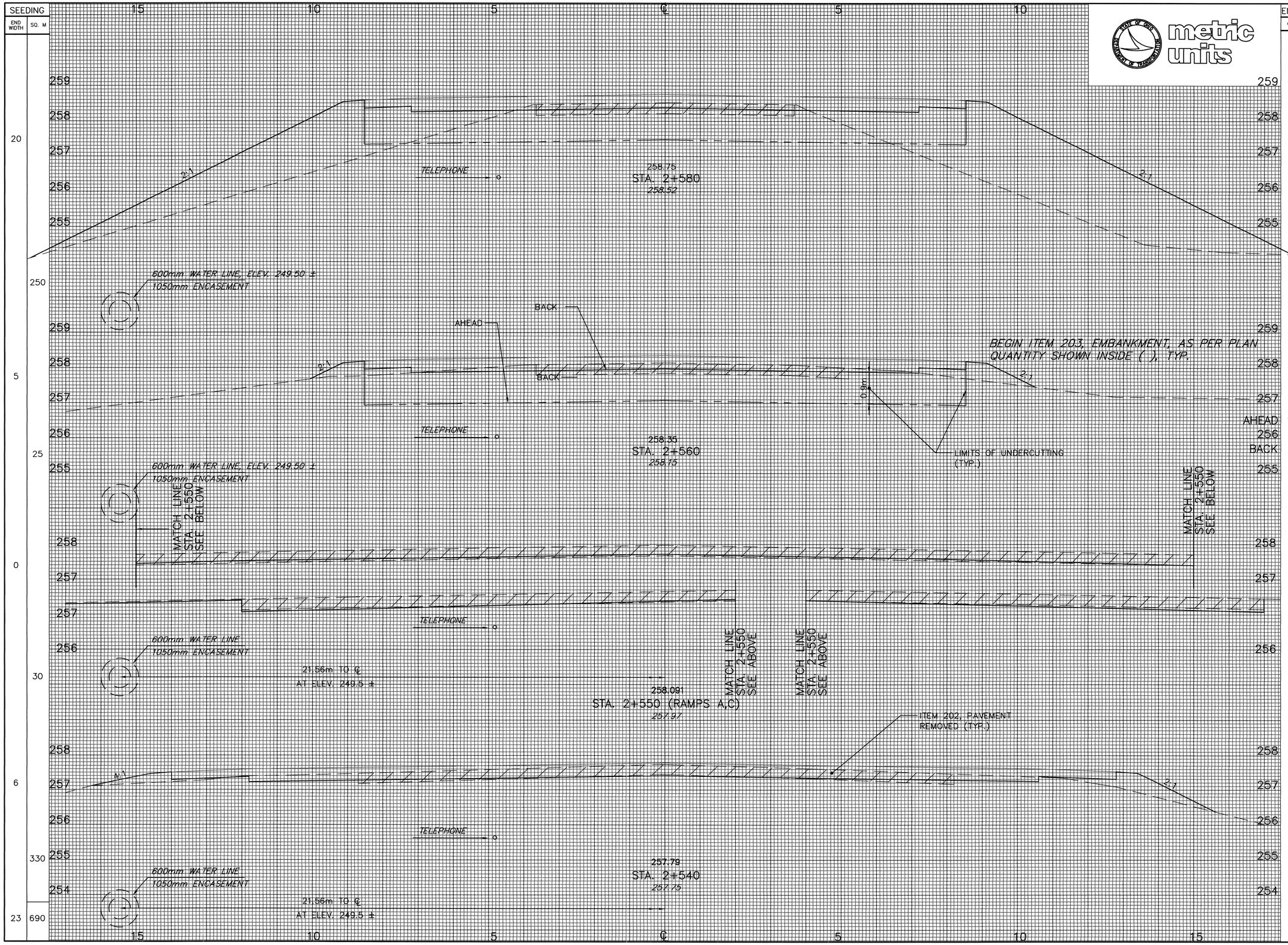
CROSS SECTIONS – C.R.99
STA. 2+480 TO STA. 2+517.237

HAN–75–31.580

13
36

DRAWING = R-XSEC2 DATE = SEPT 20, 1996

SEEDING	
END WIDTH	SQ. M
20	
5	250
0	330
23	690



END AREA		VOLUME	
CUT	FILL	CUT	FILL
	(16)		
9	24		
			(320)
		240	250
	(16)		
AHEAD 15	1		
BACK 1	3		
5	15		
5	10		
0	0		
1	2		
34	478		
TOTAL 284	753		
2	40		(320)

CALCULATED NK

CHECKED EDV

CROSS SECTIONS – C.R.99
STA. 2+540 TO STA. 2+580

HAN–75–31.580

14
36

DRAWING = R–XSEC3 DATE = SEPT 20, 1996

DRAWING = R-XSEC4 DATE = SEPT 20, 1996

SEEDING	
END WIDTH	SQ. M
	0
	65
	17
	108
	20
TOTAL	173

STA. 2+593.411 AHEAD & STA. 2+643.791 BACK = STRUCTURE NO. HAN-75-31580

15 10 5 ℄ 5 10 15

259 258 257 256 255 254 253 252

ITEM 203, EMBANKMENT, AS PER PLAN
BEHIND ABUTMENT, BETWEEN WINGWALLS
QUANTITY SHOWN INSIDE ( ), TYP.

EXIST. TELEPHONE
TO BE RELOCATED
OFF THE BRIDGE
BY OTHERS

900 mm STM
TO BE REMOVED

RIPRAP TO BE
REMOVED
UNDER ITEM 202

600mm WATER LINE, ELEV. 249.50 ±
1050mm ENCASEMENT
20.79m TO ℄

END APPROACH SLAB
258.89
STA. 2+593.411
255.17

MANHOLE
MANHOLE
INLET
MATCH LINE
SEE BELOW
1050mm STM
450mm STM
900mm STM

SEE CROSS SECTIONS, IR-75
FOR DITCH WORK

ABUTMENT WINGWALL
(TYP.)

ITEM 203, EMBANKMENT, AS PER PLAN
BEHIND ABUTMENT, BETWEEN WINGWALLS
QUANTITY SHOWN INSIDE ( ), TYP.

2.5:1

EXIST. TELEPHONE
TO BE RELOCATED
OFF THE BRIDGE
BY OTHERS

2.5:1

258.84
STA. 2+585.811
256.82
BEGIN APPROACH SLAB

HEADWALL
150mm
PLASTIC PIPE
END CAP
1050mm STM
MATCH LINE
SEE ABOVE
HEADWALL
600mm WATER LINE, ELEV. 249.50 ±
NOT SHOWN
ROCK PROTECTION

15 10 5 ℄ 5 10 15

END AREA		VOLUME	
CUT	FILL	CUT	FILL
	(54)		
0	0		
			(319)
		0	38
	(30)		
0	10		
			(134)
		26	99
	(16)		
9	24		
TOTAL		TOTAL	
		26	137
			(453)

CALCULATED NK
CHECKED EDV

metric units

CROSS SECTIONS – C.R.99
STA. 2+585.811 TO STA. 2+593.411

HAN-75-31.580

15
36

SEEDING	
END WIDTH	SQ. M
17	
	112
9	
	34
0	
0	
TOTAL	
	146

15 10 5 ℄ 5 10 15

259 258 257 256 255 254 253 252

2:1

EXIST. TELEPHONE TO BE RELOCATED OFF THE BRIDGE BY OTHERS

258.70
STA. 2+660
258.50

600mm WATER LINE, ELEV. 249.50 ±
1050mm ENCASEMENT
20.79m TO ℄

END ITEM 203, EMBANKMENT, AS PER PLAN BEHIND ABUTMENT, BETWEEN WINGWALLS QUANTITY SHOWN INSIDE ( ), TYP.

3:1

EXIST. TELEPHONE TO BE RELOCATED OFF THE BRIDGE BY OTHERS

END APPROACH SLAB
258.83
STA. 2+651.391
256.80

2:3:1

600mm WATER LINE, ELEV. 249.50 ±
1050mm ENCASEMENT
20.79m TO ℄

ITEM 203, EMBANKMENT, AS PER PLAN BEHIND ABUTMENT, BETWEEN WINGWALLS QUANTITY SHOWN INSIDE ( ), TYP.

EXIST. TELEPHONE TO BE RELOCATED OFF THE BRIDGE BY OTHERS

600mm WATER LINE, ELEV. 249.50 ±
NOT SHOWN

EXIST. 900 mm STORM TO BE REMOVED

150mm PLASTIC PIPE

END CAP

MATCH LINE SEE BELOW

1050mm STM

MANHOLE (Typ.)

EXIST. 900 mm STORM TO BE REMOVED

150mm PLASTIC PIPE

(TO EXIST. 1050mm STM INLET)

1050mm STM

MATCH LINE SEE ABOVE

BEGIN APPROACH SLAB
258.96
STA. 2+643.791
252.35

NEW HEADWALL

EXIST. HEADWALL TO BE REMOVED

MATCH LINE SEE ABOVE

EXIST. 900 mm STORM TO BE REMOVED

RIPRAP

15 10 5 ℄ 5 10 15

END AREA		VOLUME	
CUT	FILL	CUT	FILL
	(0)		
0	20		
			(121)
		9	90
	(28)		
0	1		
			(490)
		0	4
	(101)		
0	0		
0	0		
0	0		
		TOTAL	
		9	94
			(611)

CALCULATED NK
CHECKED EDV

metric units

CROSS SECTIONS – C.R.99
STA. 2+643.791 TO STA. 2+660

HAN–75–31.580

16
36

DRAWING = R–XSEC5 DATE = SEPT 20, 1996

SEEDING	
END WIDTH	SQ. M
0	
	15
4	
	57
5	
	25
0	
	40
8	
	125
17	
TOTAL	262

15 10 5 ℄ 5 10 15

257 256 255 254 253 257 256 255 254 257 256 255 254 257 256 259 258 257 259 258 257 256

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

metric units

END WORK
256.90
STA. 2+720
256.90

TELEPHONE

AHEAD

BACK

600mm WATER LINE, ELEV. 249.50 ±
1050mm ENCASEMENT
20.79m± TO ℄ CONSTRUCTION C.R.99

2:1

END PROJECT
257.32
STA. 2+712.720
257.32

TELEPHONE

600mm WATER LINE, ELEV. 249.50 ±
1050mm ENCASEMENT
20.79m± TO ℄ CONSTRUCTION C.R.99

4:1

3:1

TELEPHONE

257.68
STA. 2+700
257.65

600mm WATER LINE, ELEV. 249.50 ±
1050mm ENCASEMENT
20.79m± TO ℄ CONSTRUCTION C.R.99

MATCH LINE SEE BELOW

ITEM 202, PAVEMENT REMOVED (TYP.)

MATCH LINE SEE BELOW

257.995
STA. 2+690 (RAMPS B,D)
257.92

MATCH LINE SEE ABOVE

MATCH LINE SEE ABOVE

600mm WATER LINE, ELEV. 249.50 ±
1050mm ENCASEMENT
20.79m± TO ℄ CONSTRUCTION C.R.99

5:1

4.5:1

TELEPHONE

258.27
STA. 2+680
258.14

600mm WATER LINE, ELEV. 249.50 ±
1050mm ENCASEMENT
20.79m± TO ℄ CONSTRUCTION C.R.99

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		0	0
AHEAD 0	0		
BACK 2	0		
		19	6
1	1		
0	0	5	5
0	4	0	20
0	20	0	120
		TOTAL 24	151

CALCULATED NK
CHECKED EDV

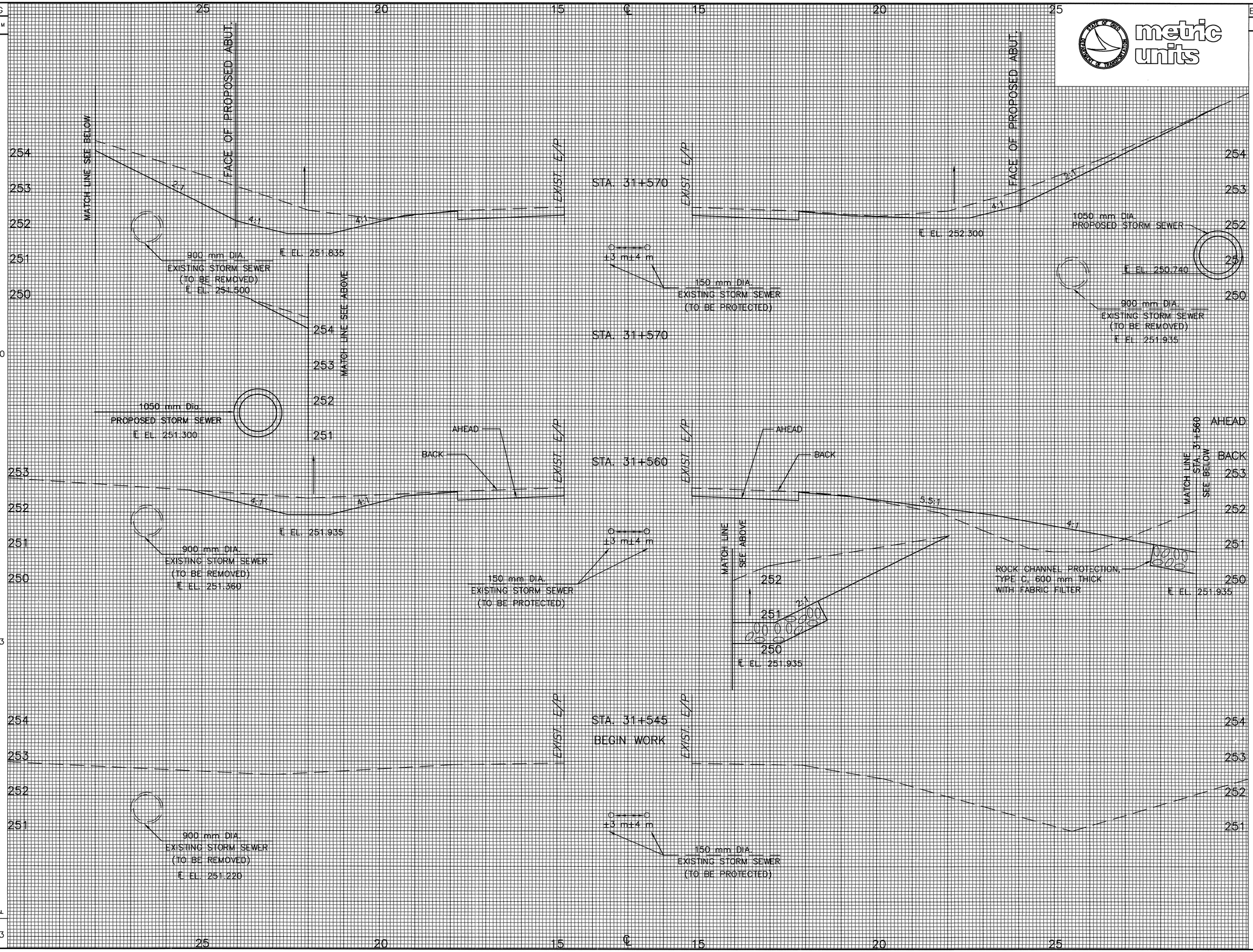
CROSS SECTIONS – C.R.99
STA. 2+680 TO STA. 2+720

HAN–75–31.580

17
36

DRAWING = R-XSEC6 DATE = SEPT 20, 1996

SEEDING	
END WIDTH	SQ. M
25	240
23	173
0	0
TOTAL	TOTAL
48	413



END AREA		VOLUME	
CUT	FILL	CUT	FILL
9	0		
		95	15
10	3		
8	3		
		60	23
0	0		
TOTAL	TOTAL	TOTAL	TOTAL
		155	38

metric units

CALCULATED NK

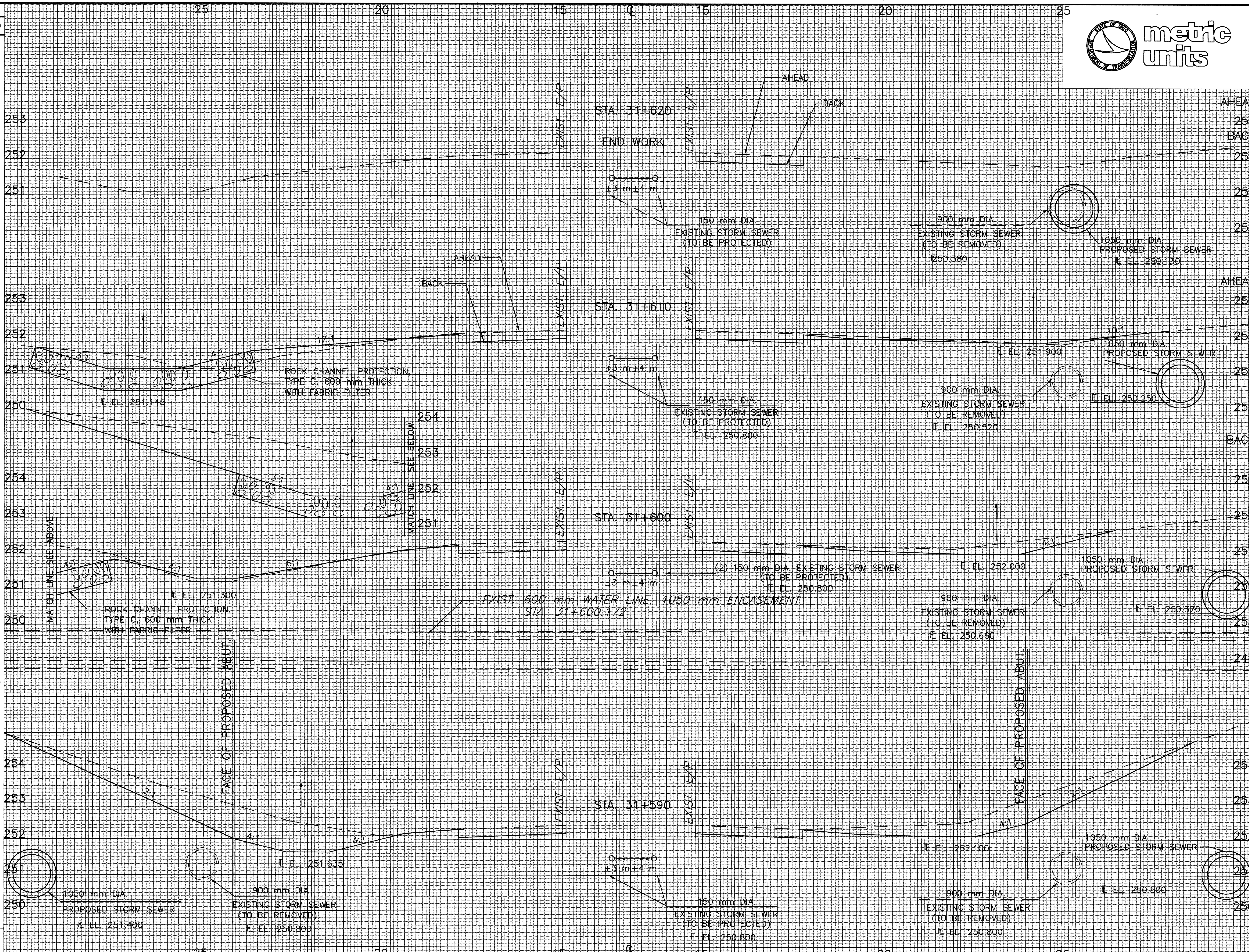
CHECKED EDV

CROSS SECTIONS – I.R.75
STA. 31+545 TO STA. 31+570

HAN–75–31.580

18
36

DRAWING = R–XSEC1 DATE = SEPTEMBER 20, 1997



SEEDING

STATION	END WIDTH	SQ. M
31+620	0	
		85
31+610	17	
		185
31+600	20	
		225
31+590	25	
		280
TOTAL	62	775

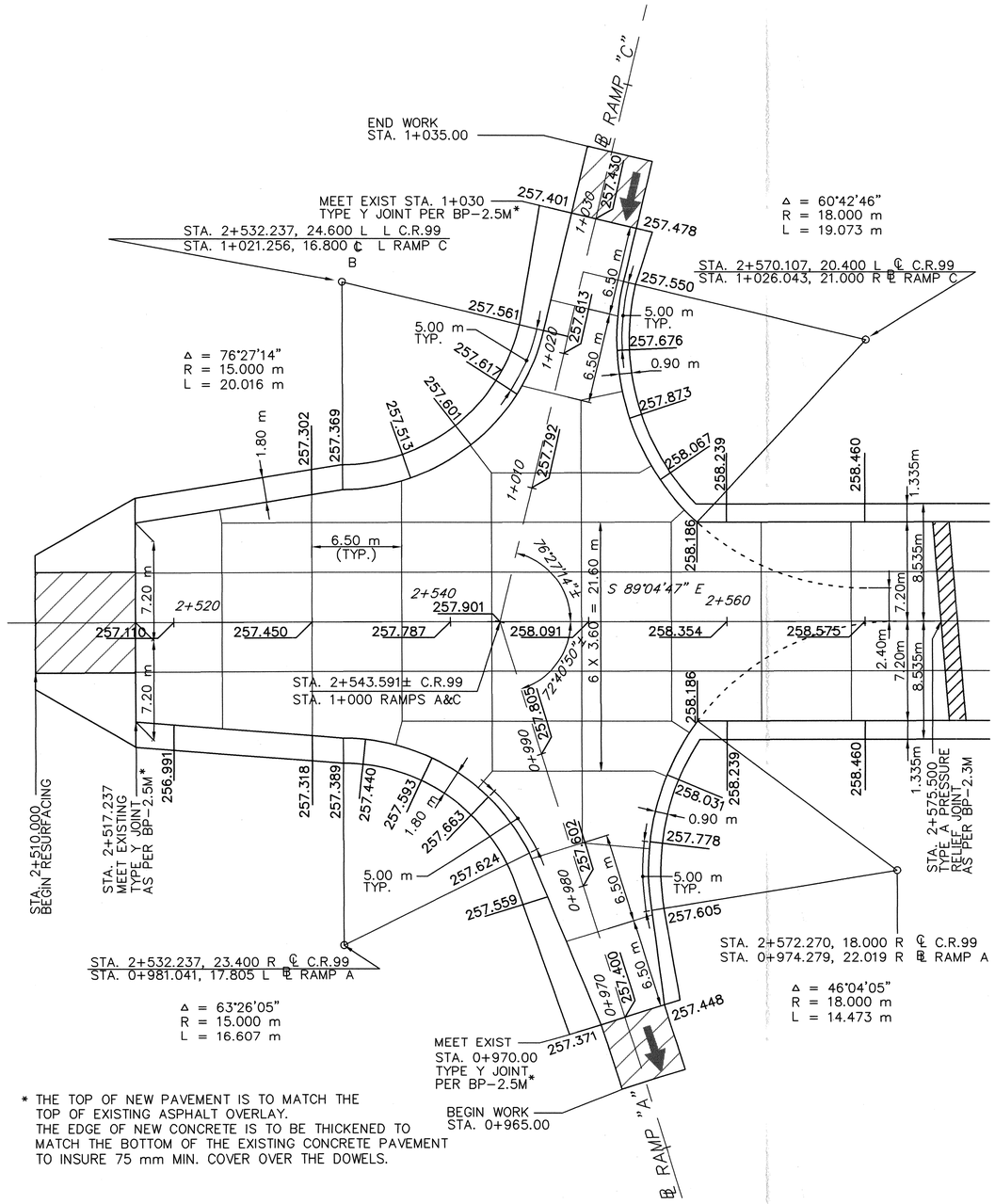
STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
31+620 AHEAD	0	0		
31+620 BACK	1	0		
			15	10
31+610 AHEAD	2	2		
31+610 BACK	3	2		
			50	10
31+600	7	0		
			90	0
31+590	11	0		
			110	0
TOTAL			155	20

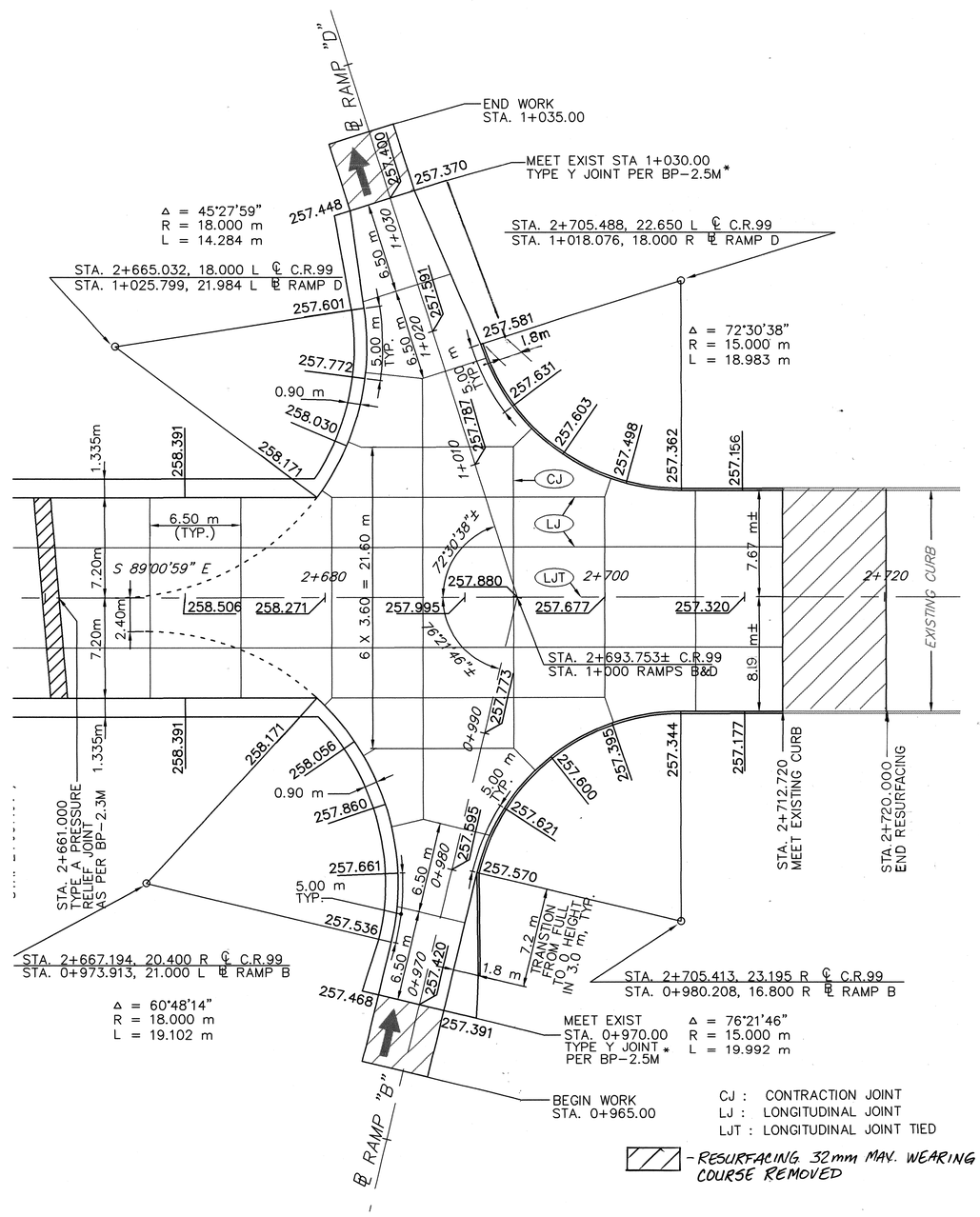
CALCULATED NK
CHECKED EDV

CROSS SECTIONS - I.R.75
STA. 31+590 TO STA. 31+620

HAN-75-31.580

DRAWING = R-XSEC1A DATE = SEPTEMBER 20, 1997





DRAWING = R-INTD DATE = SEPTEMBER 18, 1997

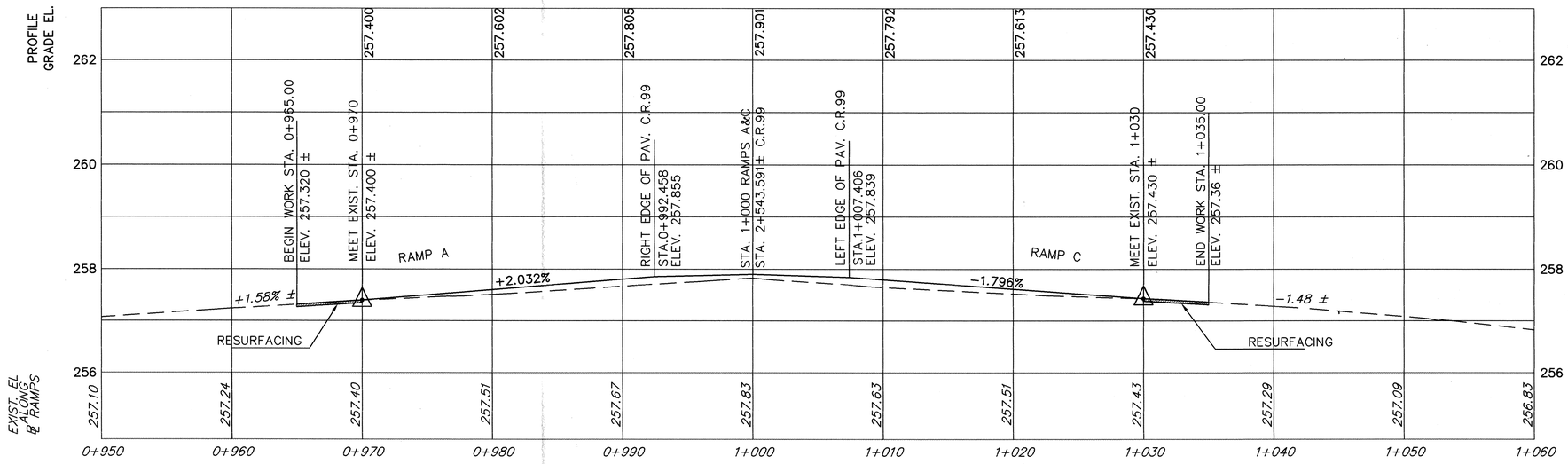
0 5 10 HORIZ. SCALE IN METERS 1:200

CALCULATED YSS CHECKED EDV

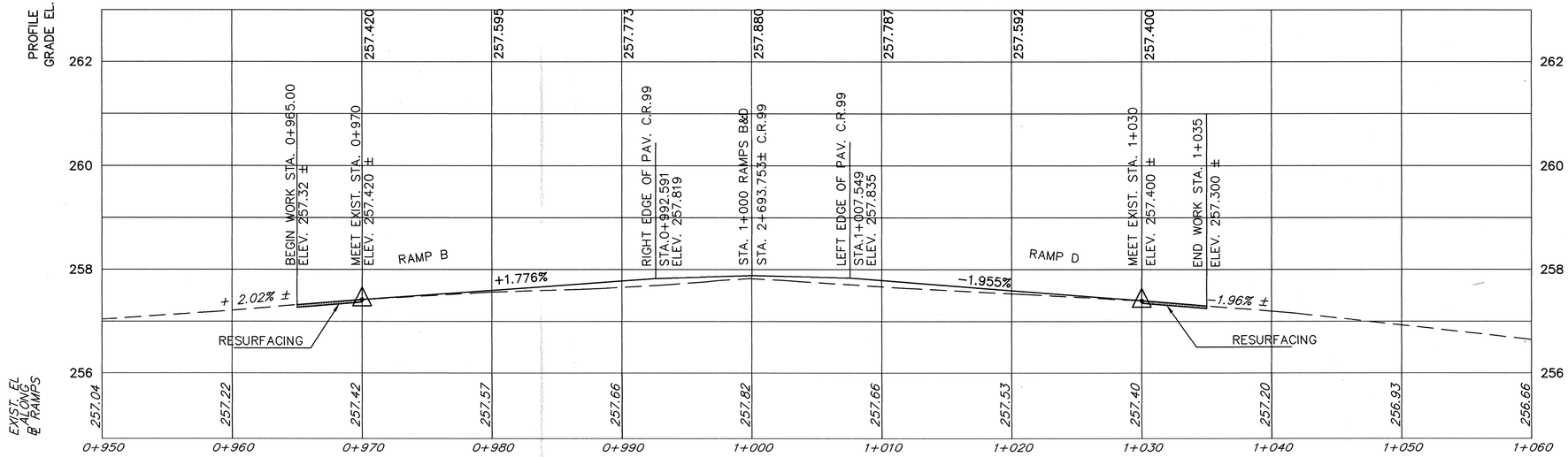
INTERSECTION DETAILS
STA. 2+510.00 TO STA. 2+575.50
STA. 2+661.00 TO STA. 2+720.00

HAN-75-31.580

20
36



PROFILE RAMPS A,C



PROFILE RAMPS B,D

DRAWING = R-RAMP DATE = SEPTEMBER 22, 1997

metric units

N

0 5 10 HORIZ. SCALE IN METERS 1:200

CALCULATED YSS CHECKED EDV

PROFILE
RAMPS A, B, C, AND D

HAN-75-31.580

21
36

TRAFFIC CONTROL QUANTITIES

GROUND MOUNTED SIGNS

630

REF. NO.	STATION	SIDE	CODE	SIZE		SIGNS: FLAT SHEET TYPE "G"		GROUND MOUNTED SIGN SUPPORTS: NO. 3 POST	NO. 4 POST		ONE WAY SUPPORT, NO. 4 POST		S100x11.5 (S4x7.7)		W150x13.5 (W6x9)		GROUND MOUNTED BEAM SUPPORT FOUNDATION		REMOVAL OF GRD. MTD. SIGN AND DISPOSAL	REMOVAL OF GRD. MTD. SIGN AND REERECTION	REMOVAL OF GRD. MTD. MAJOR SIGN AND REERECTION		REMOVAL OF GRD. MTD. POST SUPPORT AND DISPOSAL	REMOVAL OF GRD. MTD. BEAM SUPPORT AND DISPOSAL
						SQ. M.		METER	METER		METER		METER		METER		EACH		EACH	EACH	EACH		EACH	EACH
1	2+532.586	LT.							4.50											3			1	
2	2+536.116	LT.													7.17/7.44		2			4	1			2
3	2+540.255	LT.									4.42/5.02												2	
4	2+257.556	LT.									4.42/5.02									3			2	
5	2+559.874	RT.											5.55/5.65				2				1			2
6	2+544.172	RT.						4.27/4.11												1			2	
7	2+541.774	RT.							4.50											3			1	
8	2+540.564	RT.						4.11												1			1	
9	2+491.940	RT.	W-68-36	900x900		.81		4.27/4.11											1				2	
10	2+654.253	LT.							4.50											3			1	
11	2+674.019	LT.											6.15/6.70				2				1			2
12	2+694.330	LT.																					2	
13	2+698.355	LT.																						
14	2+701.044	LT.																						
15	2+700.867	RT.																						
16	2+696.420	RT.																						
17	2+679.633	RT.									4.42/5.02									3			2	
TOTALS						.81		20.87	13.50		28.32		24.05		14.61		6		1	21	3		16	6

SIGNING GENERAL SUMMARY

ITEM	SHEET NUMBER			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
		21B	21C					
								TRAFFIC CONTROL
630		20.87		630	03100	20.87	METER	GROUND MOUNTED SUPPORT, NO. 3 POST
630		9.00	4.50	630	04100	13.5	METER	GROUND MOUNTED SUPPORT, NO. 4 POST
630		11.70	12.85	630	06400	24.05	METER	GROUND MOUNTED SUPPORT, S100x11.5 BEAM
630		14.61		630	06500	14.61	METER	GROUND MOUNTED SUPPORT, W150x13.5 BEAM
630		18.88	9.44	630	08100	28.32	METER	ONE WAY SUPPORT, NO. 4 POST
630		.81		630	80102	.81	SQ METER	SIGN, FLAT SHEET, TYPE G
630		4	2	630	84500	6	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION
630		1		630	84900	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
630		15	6	630	85100	21	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
630		2	1	630	85600	3	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION
630		11	5	630	86002	16	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
630		4	2	630	86102	6	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL

STATE OF OHIO
Lori A. Brinkman
E-36256
REGISTERED
PROFESSIONAL ENGINEER

Lori A Brinkman

CALCULATED TAB
CHECKED REH

GROUND MOUNTED SIGN QUANTITIES

HAN-75-31.580 (19.62)

21A
36

DESIGN FILE : i:\users\tbolenba\han75\h7599s.dgn
USERNAME : tbolenba

DATE : 11-JUN-1998
TIME : 16:38

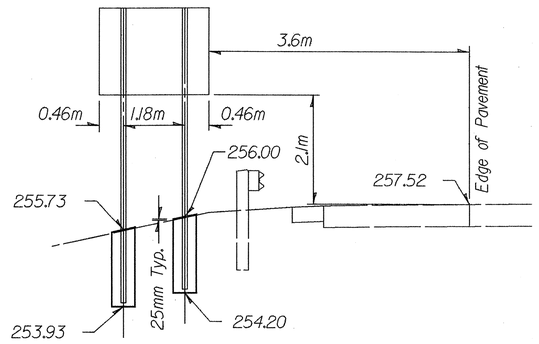
DESIGN FILE : i:\users\tbolenba\han75\h75ls.dgn
USERNAME : r'hermon

DATE : 11-JUN-1998
TIME : 16:06

SIGN *2

STA. 2+536, 14.544m LT. C.R. 99
SIGN AREA - 2.100m x1.676m = 3.520 SQ.METER

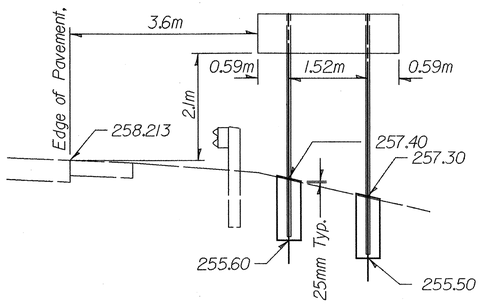
Beam Support
2-W150x13.5
(W6x9)

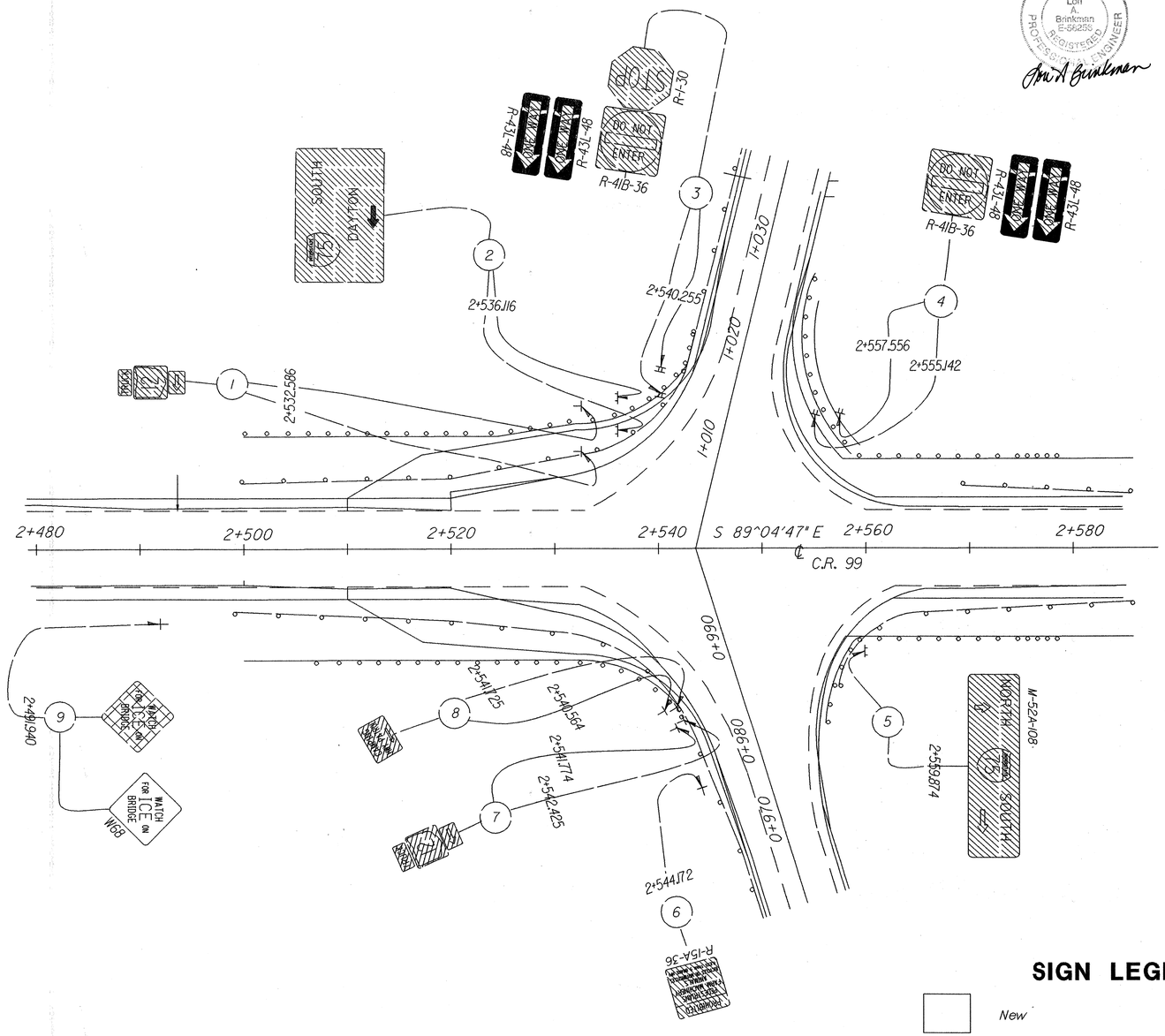


SIGN *5

STA. 2+560, 10.000m RT. C.R. 99
SIGN AREA - 2.700m x 0.762m = 2.057 SQ.METER

Beam Support
2-S100x11.5
(S4x7.7)





SIGN LEGEND

- New
- Existing, to Remain
- Existing, to be Removed and Reerected
- Existing, to be Removed

STATE OF OHIO
Lori A. Brinkman
E-56255
REGISTERED
PROFESSIONAL ENGINEER

Scale in Meters
0 10 20
1:500 Ratio

CALCULATED TAB
CHECKED REH

SIGNING SHEET - U.S.R. 75
Sta. 2+510 to Sta. 2+610

HAN-75-31.580 (19.62)

DESIGN FILE : i:\users\tbolenba\han75\h75lsl.dgn
USERNAME : rhermon

DATE : 11-JUN-1998
TIME : 16:06

SIGN #11

STA. 2+680, 10.337m LT. C.R. 99
SIGN AREA - 2.700m x 0.762m = 2.057 SQ.METER

Beam Support
2-S100x11.5
(S4x7.7)

SIGN LEGEND

- New
- Existing, to Remain
- Existing, to be Removed and Reerected
- Existing, to be Removed

STATE OF OHIO
Lori A. Brinkman
E-58256
REGISTERED
PROFESSIONAL ENGINEER

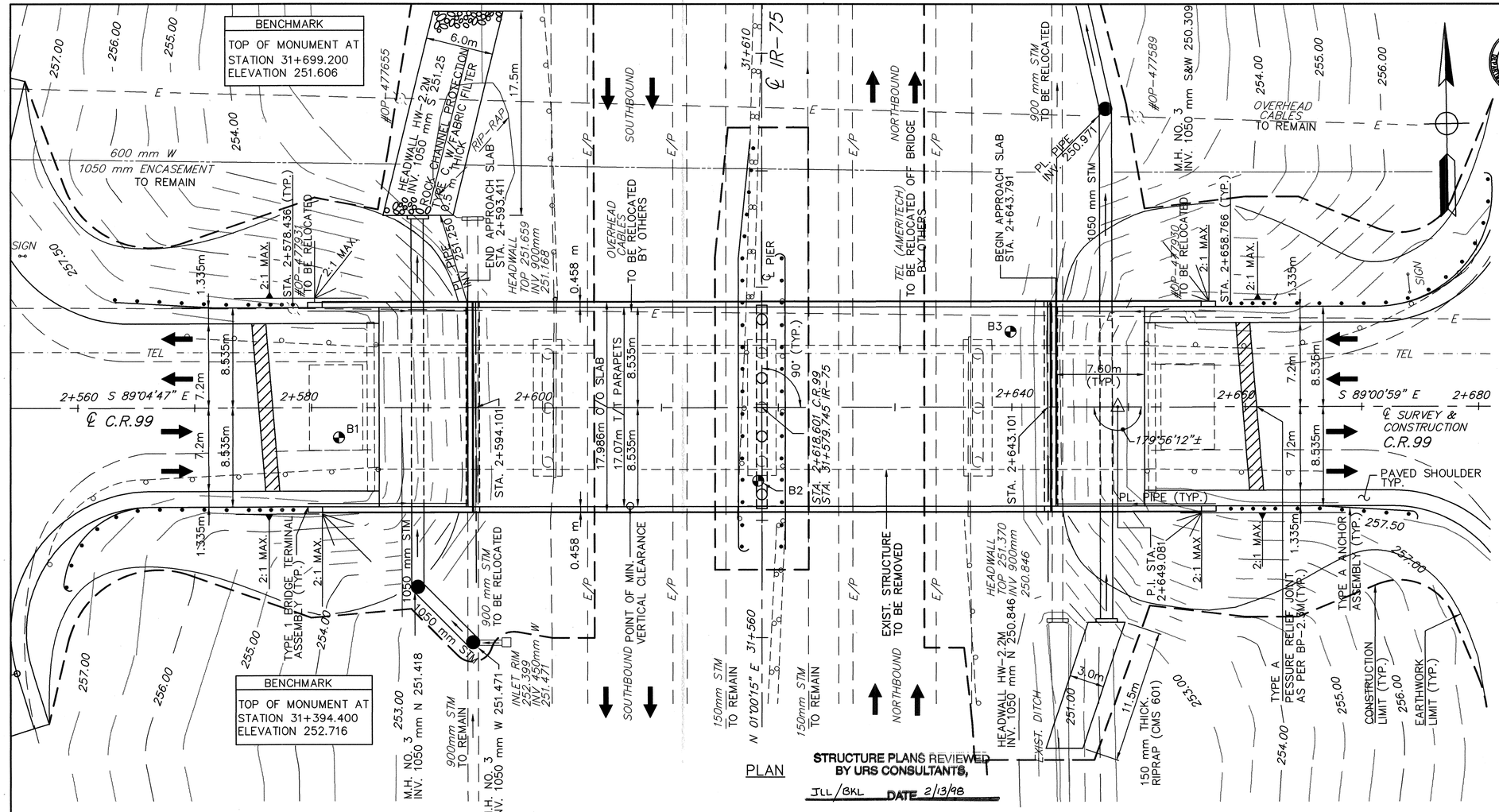
Scale in Meters
0 10 20
1:500 Ratio

CALCULATED TAB
CHECKED REH

SIGNING SHEET - U.S.R. 75
Sta. 2+510 to Sta. 2+610

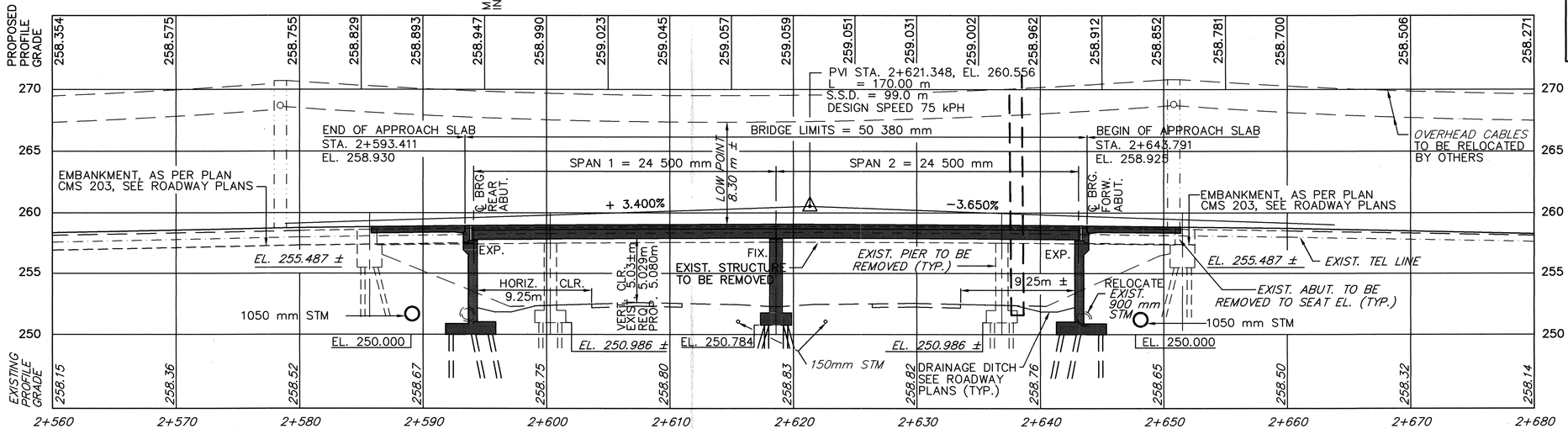
HAN-75-31.580 (19.62)

21C
36



PLAN

STRUCTURE PLANS REVIEWED BY URS CONSULTANTS,
JLL/BKL DATE 2/13/98



PROFILE ON ℄ C.R. 99

EXISTING STRUCTURE

TYPE:	REINFORCED CONCRETE DECK WITH FOUR SPAN CONTINUOUS NON COMPOSITE STEEL BEAMS ON REINFORCED CONCRETE SUBSTRUCTURE
SPANS:	14 630 mm±, 18 288 mm±, 18 288 mm± & 14 630 mm± C/C BRGS.
ROADWAY WIDTH:	8535 mm± F/F SAFETY CURB
SKEW:	NONE
ALIGNMENT:	TANGENT
APPROACH SLABS:	4572 mm± (AS-1-54)
WEARING SURFACE:	MONOLITHIC CONCRETE
YEAR BUILT:	1955
CONDITION:	POOR
STRUCTURE FILE NO.:	3203123

PROPOSED STRUCTURE

TYPE:	REINFORCED CONCRETE DECK WITH TWO SPAN CONTINUOUS COMPOSITE A572M STEEL BEAMS ON FULL HEIGHT ABUTMENTS AND CAP & COLUMN PIER
SPANS:	24 500 mm, 24 500 mm C/C BRGS.
ROADWAY WIDTH:	17 070 mm TOE/TOE PARAPET
DESIGN LOADING:	MS18 (CASE II) AND ALTERNATE MILITARY LOADING
SKEW:	NONE
ALIGNMENT:	TANGENT
APPROACH SLABS:	7600 mm (AS-1-81M)
WEARING SURFACE:	MONOLITHIC CONCRETE
CROWN:	0.016
LATITUDE:	N 41°05'16"
LONGITUDE:	W 83°39'35"

TRAFFIC DATA

CURRENT ADT (1997)	= 5050
DESIGN YEAR ADT (2017)	= 7580
DESIGN YEAR ADTT (2017)	= 379

NOTES:

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

◓ DENOTES SOIL BORING LOCATION.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED. STATIONS AND ELEVATIONS ARE IN METERS.

EXISTING ABUTMENTS ARE TO BE REMOVED TO SEAT ELEVATION. EXISTING PIERS ARE TO BE REMOVED TO TOP OF FOOTING ELEVATION EXCEPT THE MID PIER TO BE REMOVED TO BOTTOM OF FOOTING ELEVATION. EXISTING MID PIER PILES ARE TO BE INCORPORATED INTO THE NEW CONSTRUCTION.

ALL PILES ARE 350 mm CAST-IN-PLACE REINFORCED CONCRETE WITH ESTIMATED VERTICAL LENGTH:

ABUTMENTS :	14.50 m
WINGWALLS:	14.50 m
PIER :	14.50 m

SEE ROADWAY PLANS FOR 900 mm STORM REPLACEMENT.

metric units

STATE OF OHIO Youssef Sobhy Self E-59487 REGISTERED PROFESSIONAL ENGINEER

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED	DRAWN	REVIEWED	DATE
NK	YSS	YSS	12/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PSS		3203131	

HANCOCK COUNTY
STA. 2+593.411
STA. 2+643.791

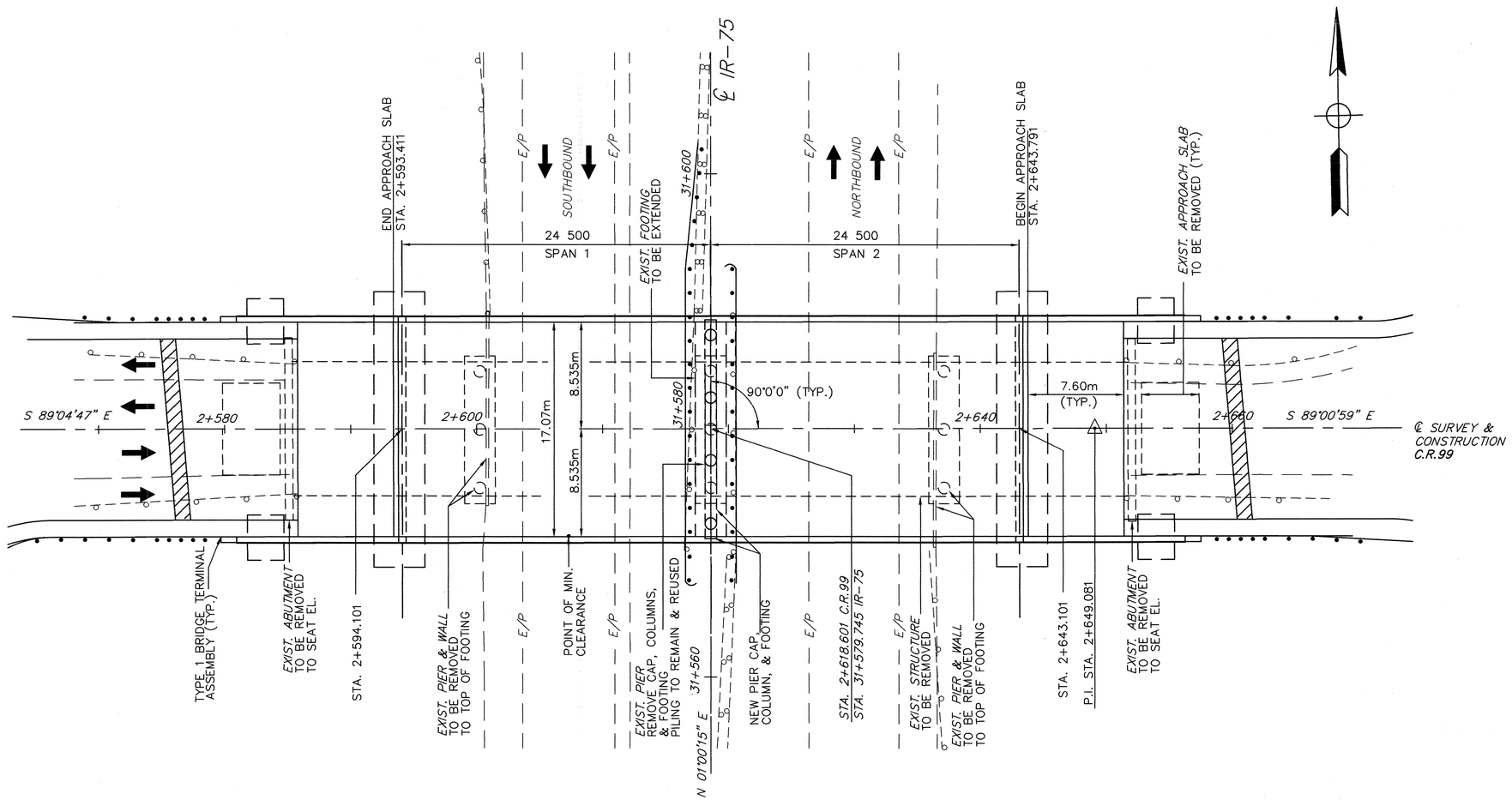
SITE PLAN
BRIDGE NO. HAN-75-31580
OVER IR-75

HAN-75-31.580

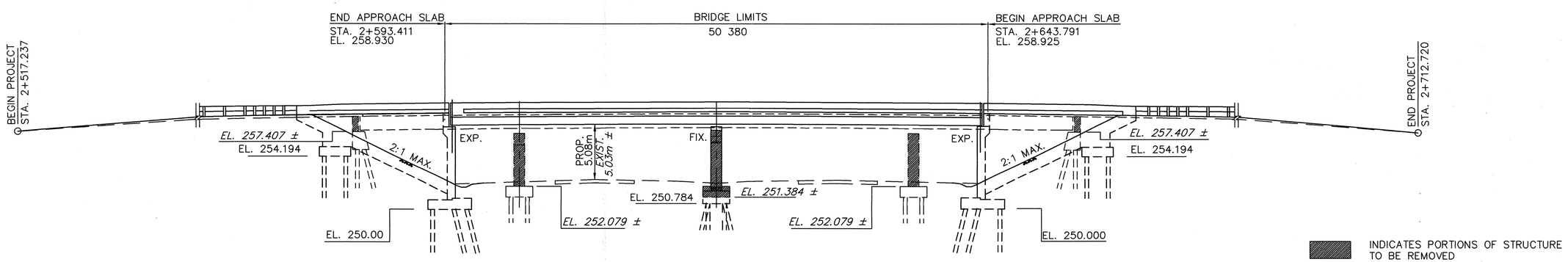
1/15

22/36

DRAWING = S-SITE DATE = DECEMBER 15, 1997



PLAN



ELEVATION

DRAWING = S-GPEL DATE = DECEMBER 16, 1997

metric units

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED	DRAWN	REVIEWED	DATE
NK	YSS	YSS	12/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PSS		3203131	

GENERAL PLAN, ELEVATION AND REMOVAL ELEVATIONS

BRIDGE NO. HAN-75-31580 OVER IR-75

HAN-75-31.580

2/15

23/36

STRUCTURE NOTES

metric units

1. REFERENCE DRAWINGS

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81M	DATED	10-25-94
BR-1M	DATED	12-15-94
EXJ-4-87M	DATED	2-18-97
GR-3.1M	DATED	11-30-94
BP-2.3M	DATED	10-28-94

AND TO SUPPLEMENTAL SPECIFICATION:

816	DATED	4-21-97
863	DATED	9-9-97
910	DATED	4-21-97

2. DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996 AND THE ODOT BRIDGE DESIGN MANUAL.

3. DESIGN DATA

DESIGN LOADING	– MS18, CASE II AND THE ALTERNATE MILITARY LOADING.
CONCRETE CLASS S	– COMPRESSIVE STRENGTH 31.0 MPa (SUPERSTRUCTURE)
CONCRETE CLASS C	– COMPRESSIVE STRENGTH 27.5 MPa (SUBSTRUCTURE)
REINFORCING STEEL	– ASTM A615M, A616M OR A617M, GRADE 400, MINIMUM YIELD STRENGTH 400 MPa
SPIRAL REINFORCEMENT	– MAY BE PLAIN BARS, ASTM A82M OR A615M
STRUCTURAL STEEL	– ASTM A572M, YIELD STRENGTH 350 MPa

4. DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
65 mm CONCRETE COVER

5. WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 25 mm THICK.

6. ITEM 202, STRUCTURE REMOVED, OVER 6 METER SPAN, AS PER PLAN

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER. THE ABUTMENTS ARE TO BE REMOVED TO SEAT ELEVATION. PIERS ARE TO BE REMOVED TO TOP OF FOOTING ELEVATION EXCEPT THE MID PIER TO BOTTOM OF FOOTING ELEVATION. THE EXISTING PILES UNDER THE MID PIER ARE TO BE REUSED. THE EMBEDMENT LENGTH OF THESE PILES SHALL BE REMOVED WITH THE FOOTING USING A SPECIAL CARE TO PROVIDE A NEAT CUT AT THE BOTTOM OF THE FOOTING. THE NEW FOOTING ELEVATION IS SET AT 600 mm BELOW THE CUT ELEVATION TO PROVIDE PROPER EMBEDMENT OF THE EXISTING PILES INTO THE NEW FOOTING.

THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT DAMAGE THE EXISTING PILES TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 41 KILOGRAM CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

7. PROTECTION OF TRAFFIC

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PAYMENT: THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

8. ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL BEHIND THE ABUTMENT SHALL BE 203 GRANULAR MATERIAL PLACED IN 150 mm LIFTS AND COMPACTED IN ACCORDANCE WITH 304.04

9. PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES AT THE ABUTMENTS, THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP AT A 1:1 SLOPE FROM THE BOTTOM OF THE HEEL OF THE FOOTING TO THE SUBGRADE ELEVATION. THE INSTALLATION OF THE ABUTMENT PILES SHALL NOT BEGIN UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED. AFTER THE FOOTING AND THE BREASTWALL HAVE BEEN CONSTRUCTED, THE EMBANKMENT IMMEDIATELY BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP TO THE BEAM SEAT ELEVATION AND ON A 1:1 SLOPE UP TO THE SUBGRADE ELEVATION PRIOR TO SETTING THE BEAMS ON THE ABUTMENTS.

10. PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

ALL PILES SHALL BE 350 mm DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES.

THE ULTIMATE BEARING VALUE IS 1088 kN PER PILE FOR ABUTMENT PILES.
THE ULTIMATE BEARING VALUE IS 623 kN PER PILE FOR WINGWALL PILES.
THE ULTIMATE BEARING VALUE IS 1008 kN PER PILE FOR PIER PILES.

ABUTMENT PILES:
76 PILES 14.5 m LONG, ESTIMATED LENGTH
76 PILES OF ORDER LENGTH 16.0 m LONG
38 SPLICES

WINGWALL PILES:
20 PILES 14.5 m LONG, ESTIMATED LENGTH
20 PILES OF ORDER LENGTH 16.0 m LONG
10 SPLICES

PIER PILES:
8 PILES 14.5 m LONG, ESTIMATED LENGTH
8 PILES OF ORDER LENGTH 16.0 m LONG
4 SPLICES

11. UTILITY LINES:

ALL EXPENSE INVOLVED IN RELOCATION(INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY(IES). THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

12. SHRINKAGE CRACK CONTROL JOINTS

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 25 mm DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT A MIN. OF 2000 mm AND MAX. OF 3000 mm CENTERS. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 6 mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 25 mm WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 25 mm.

13. BLASTING OF FACIA BEAMS:

THE OUTSIDE AND BOTTOM SURFACES OF FACIA BEAMS SHALL BE BLAST CLEANED TO GRADE Sa 2 IN THE FABRICATION SHOP. SEE S.S. 863 FOR FINAL CLEANING REQUIREMENTS. PAYMENT SHALL BE INCLUDED IN ITEM 863.

14. PAINTING OF STRUCTURAL STEEL:

PAINT OF STRUCTURAL STEEL A572M SHALL BE SYSTEM IZEU.

15. SIZE OF EXPANSION JOINTS:

EXPANSION JOINT STEEL MEMBERS SHALL HAVE THE SIZE SPECIFIED IN STANDARD DRAWING EXJ-4-87M. GLAND SIZE SHALL BE 100 mm.

16. TYPICAL REBAR LAP SPLICE LENGTH

THE LENGTHS REQUIRED FOR REBAR LAP SPLICE IN mm ARE:

BAR SIZE	LAP LENGTH*	LAP LENGTH
10M TOP	760	720
15M TOP	1070	1020
15M	950	720
20M	1150	880
25M	1830	1400
30M	2560	1960

* REBARS WITH COVER LESS THAN 3 X BAR DIAMETER OR CLEAR SPACING BETWEEN BARS LESS THAN 6 X BAR DIAMETER
TOP: REFERS TO ONLY TOP ROW OF REINFORCEMENT

17. REINFORCING STEEL

ALL REINFORCING STEEL INCLUDING APPROACH SLABS SHALL BE EPOXY COATED AND SHALL HAVE A CLEAR COVER OF 50 mm, UNLESS SHOWN OTHERWISE ON THE PLANS.

18. ABBREVIATIONS

&	–	AND	FIX.	–	FIXED
@	–	AT	I.R.	–	INSIDE RADIUS
BRG.	–	BEARING	L	–	ANGLE
C/C	–	CENTER TO CENTER	MAX.	–	MAXIMUM
C.I.P.	–	CAST IN PLACE	MIN.	–	MINIMUM
C.J.	–	CONSTRUCTION JOINT	N.F.	–	NEAR FACE
℄	–	CENTER LINE	O/O	–	OUT TO OUT
CLR.	–	CLEAR, CLEARANCE	P.E.J.F.	–	PREFORMED EXPANSION JOINT FILLER
DIA.	–	DIAMETER	PL.	–	PLASTIC
E.F.	–	EACH FACE	FORW.	–	FORWARD
E/P	–	EDGE OF PAVE	SER.	–	SERIES
EXIST.	–	EXISTING	SPA.	–	SPACING
EXP.	–	EXPANSION	STR.	–	STRAIGHT
F.F.	–	FAR FACE	T/T	–	TOE TO TOE
F.L.	–	FLOW LINE	TYP.	–	TYPICAL

DRAWING = S-NOTE DATE = DECEMBER 17, 1997

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED NK | DRAWN PSS | REVIEWED YSS | DATE 12/97
CHECKED PSS | REVISED | STRUCTURE FILE NUMBER 32031311

GENERAL STRUCTURE NOTES
BRIDGE NO. HAN-75-31580
OVER IR-75

HAN-75-31.580

3/15

24/36

ESTIMATED QUANTITIES

QUANTITIES CALCULATIONS	BY	DATE
CALC.	PSS	9/97
CHKD.	YSS	12/97

metric units

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER–STRUCTURE	GENERAL	A.P.P. REF. SHT.
202	11003	LUMP	LUMP	STRUCTURE REMOVED, OVER 6 METER SPAN, AS PER PLAN				LUMP	3
503	11100	LUMP	LUMP	COFFERDAMS, CRIBS AND SHEETING				LUMP	
503	21301	LUMP	LUMP	UNCLASSIFIED EXCAVATION, AS PER PLAN				LUMP	3
505	11100	LUMP	LUMP	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00600	1664	METER	350 mm CAST–IN–PLACE REINFORCED CONCRETE PILES, DRIVEN	1536	128			
507	00650	1664	METER	350 mm CAST–IN–PLACE REINFORCED CONCRETE PILES, FURNISHED	1536	128			
507	50500	52	EACH	STEEL PILES SPLICES	48	4			
511	31502	252.7	CU. METER	CLASS S CONCRETE, SUPERSTRUCTURE			252.7		
511	43000	82.1	CU. METER	CLASS C CONCRETE, PIER		82.1			
511	45500	574.6	CU. METER	CLASS C CONCRETE, ABUTMENT	574.6				
512	44400	32	SQ. METER	TYPE B WATERPROOFING	32				
SPECIAL	512 67502	1023	SQ. METER	SEALING OF CONCRETE SURFACES (EPOXY)*	494	102	427		
516	11210	36	METER	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL *	36				
516	13600	41	SQ. METER	25 mm PREFORMED EXPANSION JOINT FILLER	29		12		
516	44000	18	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (41.5 mm X 215 mm X 305 mm WITH 38 mm X 241 mm X 427 mm LOAD PLATE)*	18				
516	44100	9	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (50.5 mm X 280 mm X 485 mm WITH 60 mm X 306 mm X 635 mm LOAD PLATE)*		9			

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER–STRUCTURE	GENERAL	A.P.P. REF. SHT.
518	21230	LUMP	LUMP	POROUS BACKFILL WITH FILTER FABRIC				LUMP	
518	40000	92	METER	150 mm PERFORATED CORRUGATED PLASTIC PIPE	92				
518	40010	27	METER	150 mm NON–PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	27				
816	00600	LUMP	LUMP	FIELD PAINTING OF NEW STEEL▲ SYSTEM IZEU				LUMP	
863	10040	LUMP	LUMP	STRUCTURAL STEEL MEMBERS, LEVEL TWO (2) FABRICATION*				LUMP	
863	20000	3564	EACH	WELDED STUD SHEAR CONNECTORS			3564		

* SEE PROPOSAL NOTE

▲ INTERMEDIATE AND FINISH COAT

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DATE 12/97
REVIEWED PSS
STRUCTURE FILE NUMBER 32031131
DRAWN NK
REVISED
DESIGNED PSS
CHECKED YSS

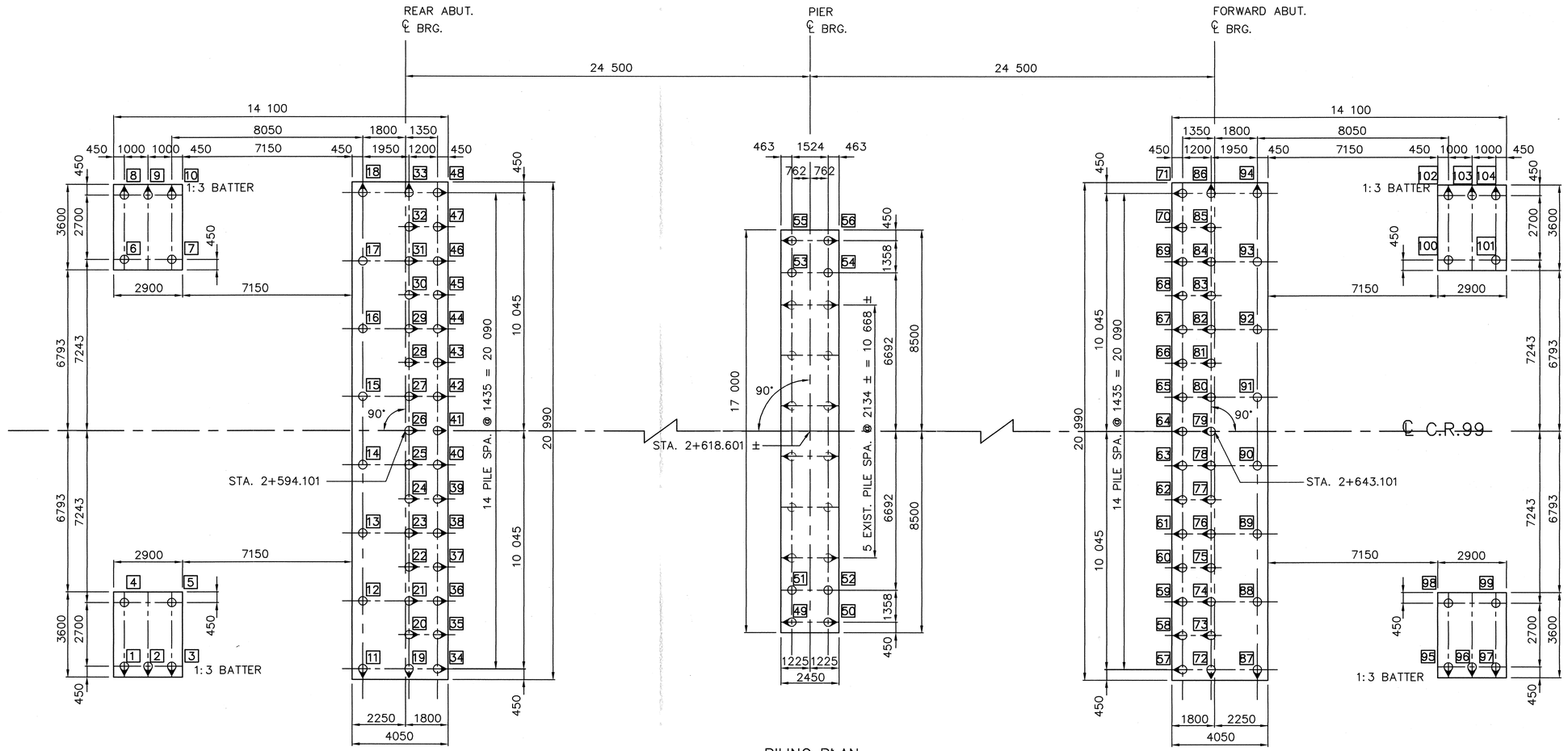
ESTIMATED QUANTITIES
BRIDGE NO. HAN–75–31580
OVER IR–75

HAN–75–31.580

4/15

25/36

DRAWING = S–QUAN DATE = DECEMBER 18, 1997



PILING PLAN

NOTES

1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS, UNLESS NOTED OTHERWISE. ALL STATIONS AND ELEVATIONS ARE GIVEN IN METERS.
2. ALL PILES SHALL BE 350 mm DIAMETER CAST-IN-PLACE REINFORCED CONCRETE.
3. PILES SHOWN AS ⚲ SHALL BE BATTERED 1:4 IN THE DIRECTION SHOWN, UNLESS INDICATED OTHERWISE.
4. THE DESIGN LOAD FOR ABUTMENT PILE IS 544 kN
   THE DESIGN LOAD FOR WINGWALL PILE IS 310 kN
   THE DESIGN LOAD FOR PIER PILE IS 504 kN
5. EXISTING PIER PILES ARE TO BE CUT-OFF AT ELEVATION 251.384, TO BE INCLUDED IN PAYMENT WITH ITEM 202.
6. NUMBER OF PILES, CUT OFF ELEVATION, ESTIMATED LENGTH, AND MINIMUM TIP ELEVATION ARE AS TABULATED:

LOCATION	PILE NO.	CUT OFF ELEVATION	ESTIMATED LENGTH(m)	MIN. TIP ELEVATION
REAR WALLS	1–10	254.794	14.5	240.294
REAR ABUTMENT	11–48	250.600	14.5	236.100
PIER	49–56	251.384	14.5	236.884
FORWARD ABUTMENT	57–94	250.600	14.5	236.100
FORWARD WALLS	95–104	254.794	14.5	240.294

DRAWING = S-PILE DATE = DECEMBER 18, 1997

metric units

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED	DRAWN	REVIEWED	DATE
NK	YSS	PSS	12/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
YSS		32031131	

FOUNDATION PLAN
BRIDGE NO. HAN-75-31580
OVER IR-75

HAN-75-31.580

5/15

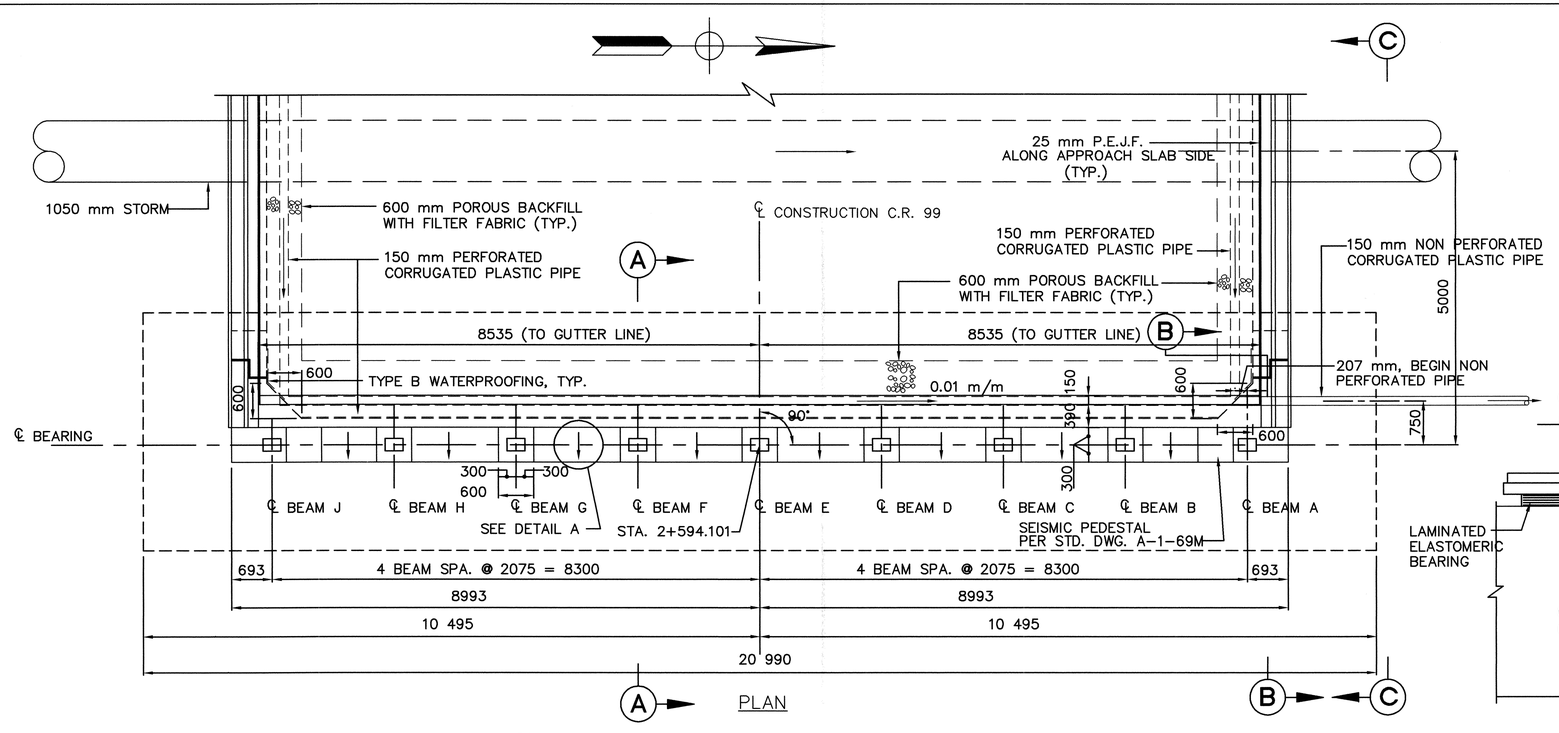
26/36

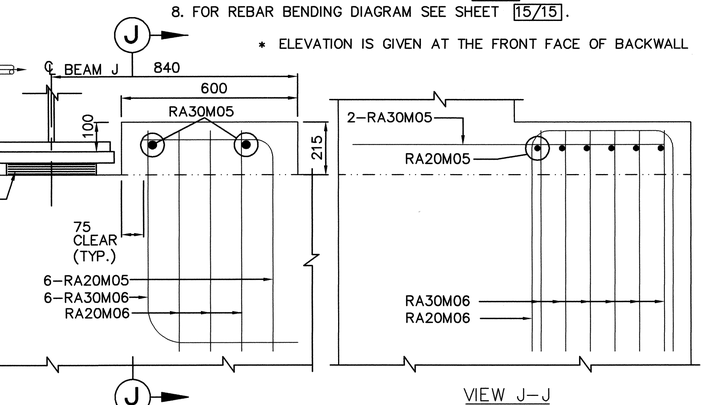
metric units

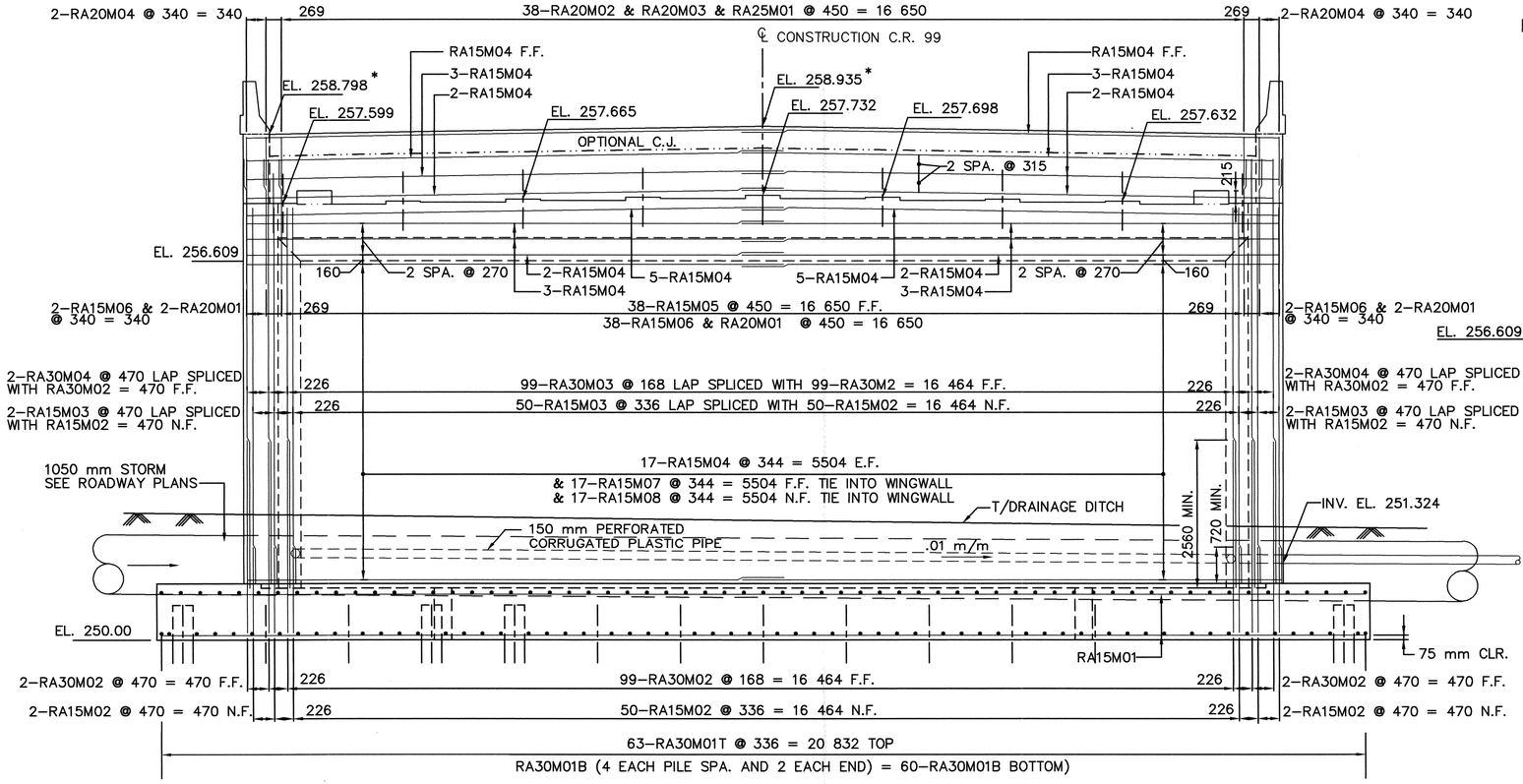
NOTES

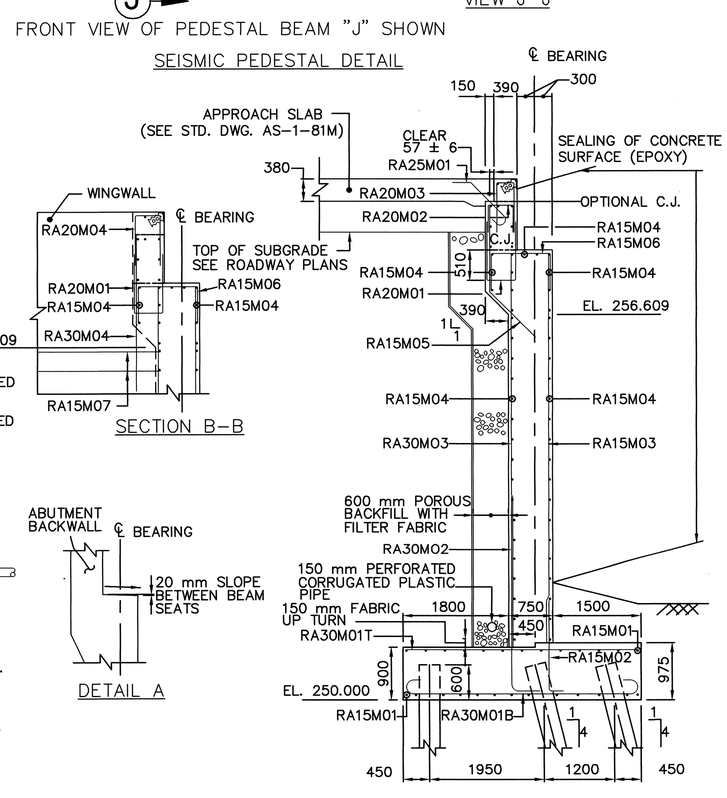
1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS, UNLESS NOTED OTHERWISE. ALL STATIONS AND ELEVATIONS ARE GIVEN IN METERS.
2. FOR LAMINATED ELASTOMERIC BEARING DETAILS, SEE SHEET 11/15.
3. FOR STRIP SEAL EXPANSION JOINT DETAILS, SEE STD. DWG. EXJ-4-87M.
4. FOR VIEW C-C AND WINGWALL DETAILS, SEE SHEET 8/15.
5. POROUS BACKFILL WITH FILTER FABRIC, 600 mm THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
6. IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
7. FOR PLASTIC PIPE OUTLET SEE SHEET 1/15 AND ROADWAY PLANS.
8. FOR REBAR BENDING DIAGRAM SEE SHEET 15/15.

* ELEVATION IS GIVEN AT THE FRONT FACE OF BACKWALL









DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
YSS	NK	PSS	YSS	12/97

REVISED

STRUCTURE FILE NUMBER 3203131

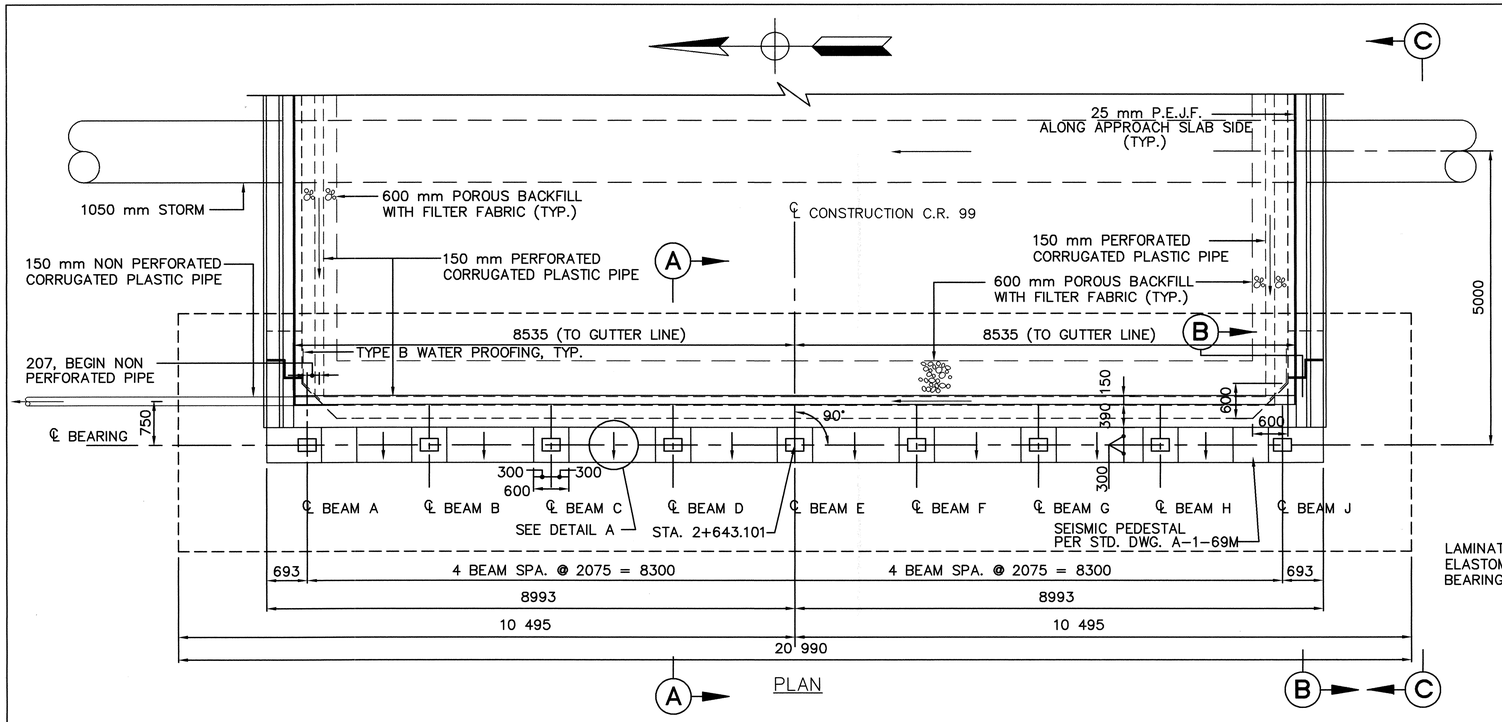
REAR ABUTMENT DETAILS
BRIDGE NO. HAN-75-31580 OVER IR-75

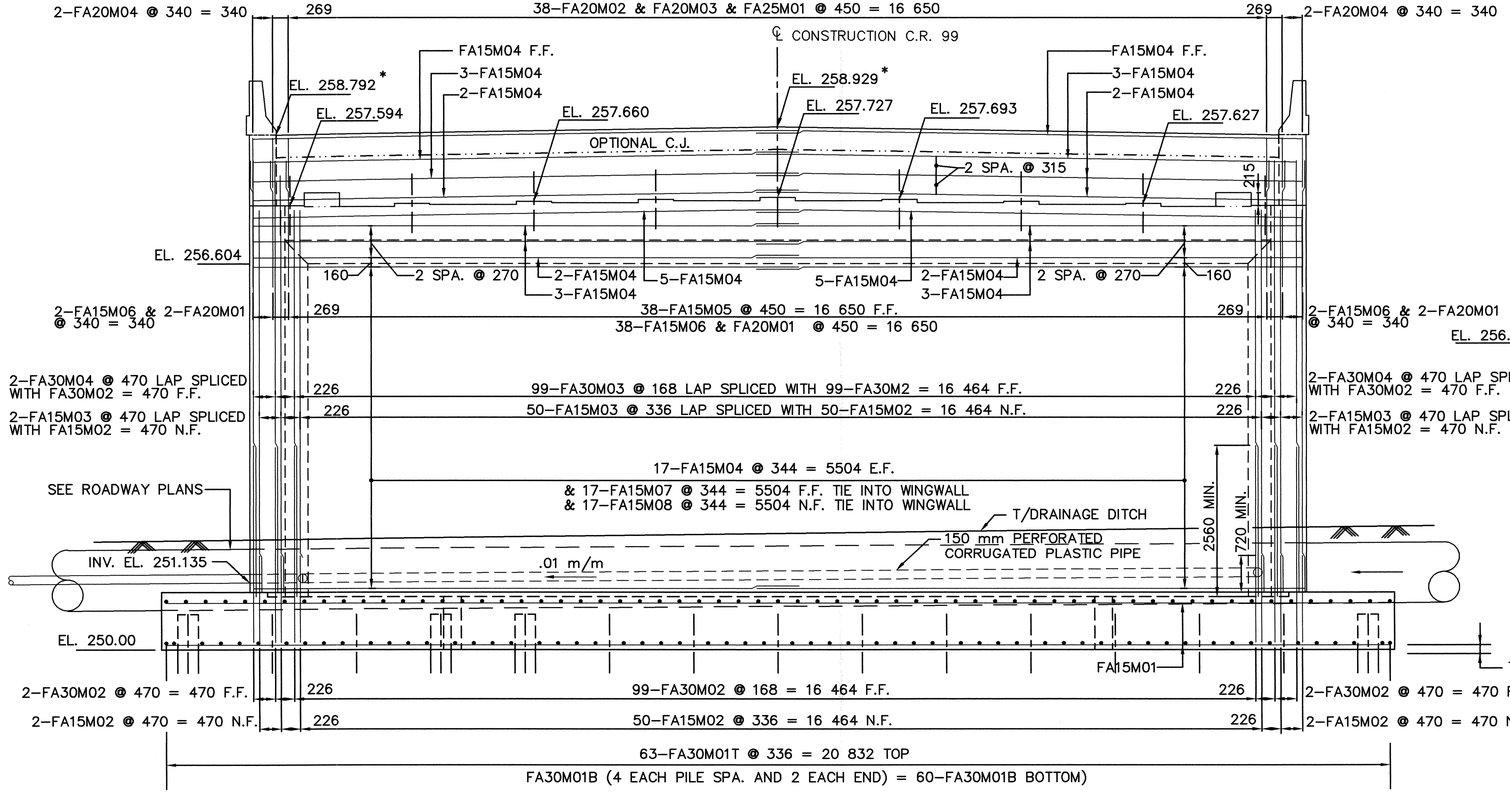
HAN-75-31.580

6/15

27/36

DRAWING = S-RABUT DATE = DECEMBER 22, 1997





ELEVATION

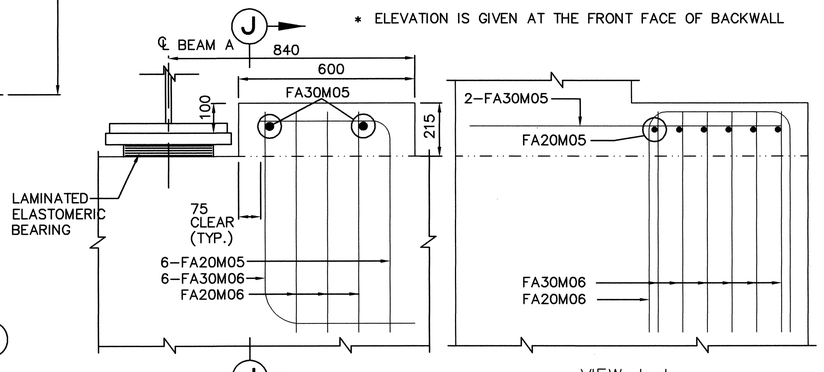
DRAWING = S-FABUT DATE = DECEMBER 22, 1997

metric units

NOTES

1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS, UNLESS NOTED OTHERWISE. ALL STATIONS AND ELEVATIONS ARE GIVEN IN METERS.
2. FOR LAMINATED ELASTOMERIC BEARING DETAILS, SEE SHEET 11/15.
3. FOR STRIP SEAL EXPANSION JOINT DETAILS, SEE STD. DWG. EXJ-4-87M.
4. FOR VIEW C-C AND WINGWALL DETAILS, SEE SHEET 8/15.
5. POROUS BACKFILL WITH FILTER FABRIC, 600 mm THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, AND LATERALLY TO THE ENDS OF THE WING WALLS.
6. IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
7. FOR PLASTIC PIPE OUTLET SEE SHEET 1/15 AND ROADWAY PLANS.
8. FOR REBAR BENDING DIAGRAM SEE SHEET 15/15.

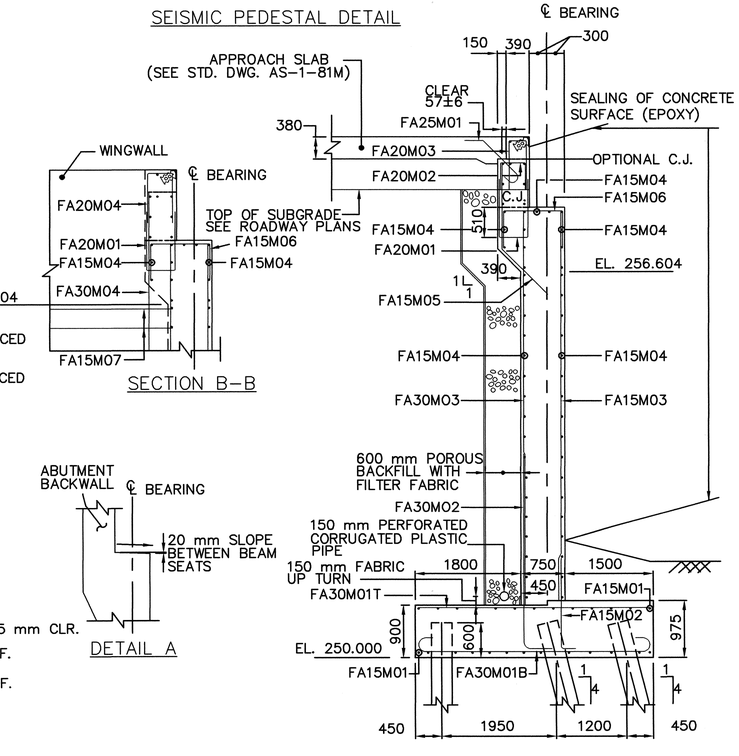
* ELEVATION IS GIVEN AT THE FRONT FACE OF BACKWALL



FRONT VIEW OF PEDESTAL (BEAM "A" SHOWN)

VIEW J-J

SEISMIC PEDESTAL DETAIL



SECTION A-A

SECTION B-B

DETAIL A

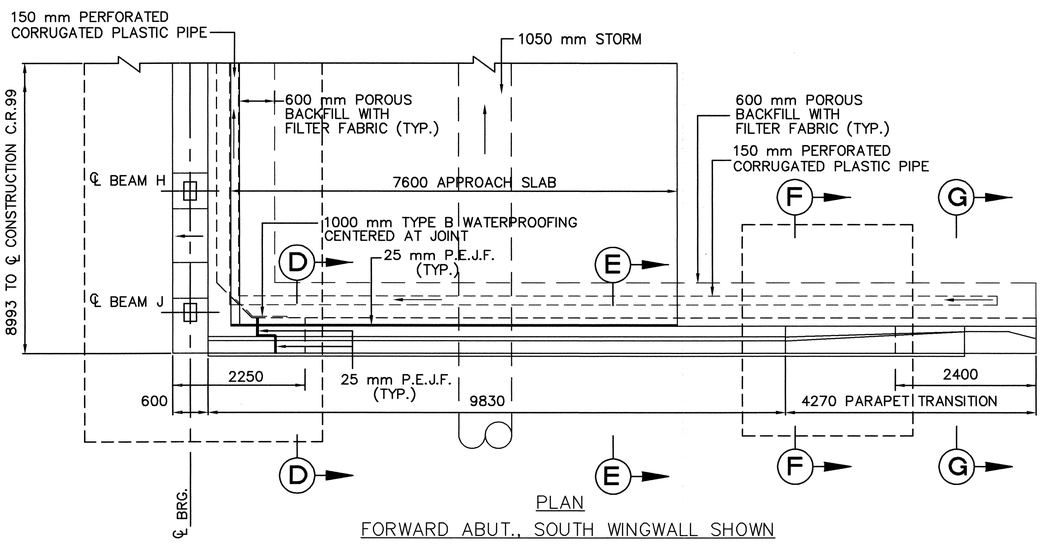
DESIGN AGENCY	DATE	STRUCTURE FILE NUMBER
POLYTECH, INC. 1744 PAYNE AVENUE CLEVELAND, OHIO 44114	12/97	3203131
DESIGNED YSS	DRAWN NK	REVISED
CHECKED PSS	REVIEWED YSS	

FORWARD ABUTMENT DETAILS
BRIDGE NO. HAN-75-31580 OVER IR-75

HAN-75-31.580

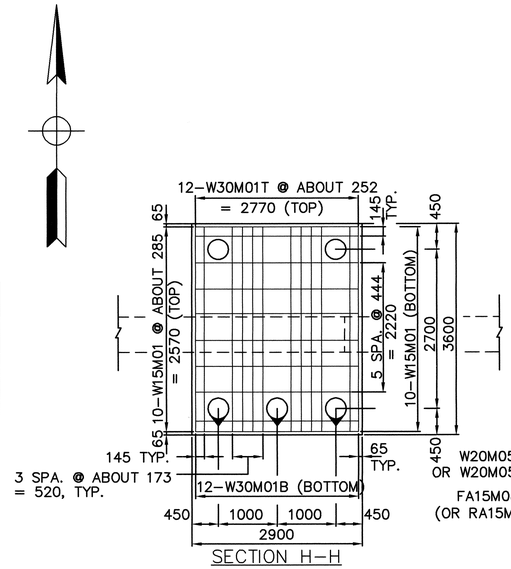
7/15

28/36

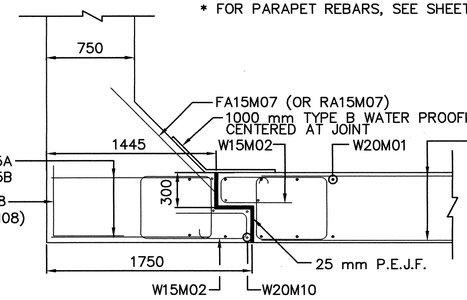


PLAN

FORWARD ABUT., SOUTH WINGWALL SHOWN



SECTION H–H

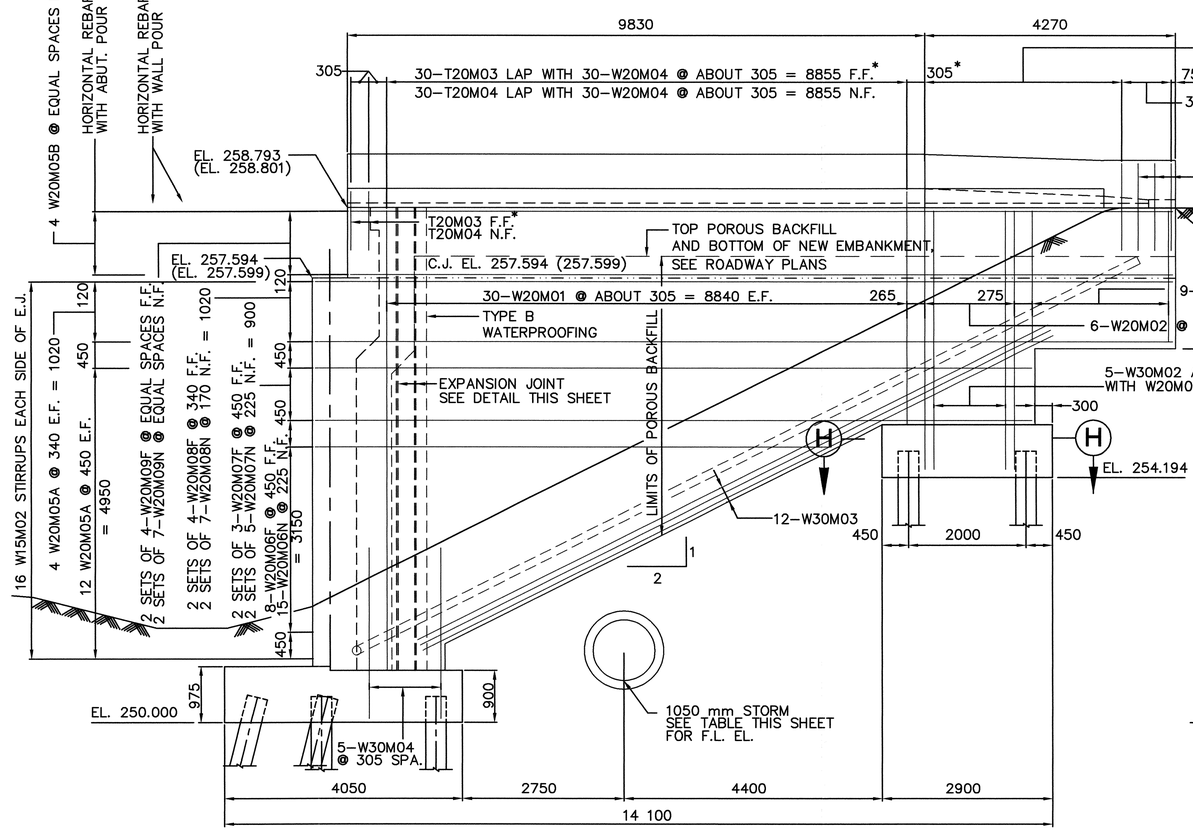


EXPANSION JOINT DETAIL

NOTES

1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS, ALL ELEVATIONS ARE GIVEN IN METERS, NOTED OTHERWISE.
2. FORWARD ABUTMENT, SOUTH WALL SHOWN, OTHER WALLS ARE SIMILAR AS NOTED.
3. ELEVATIONS WITHOUT ( ) ARE FOR FORWARD ABUTMENT WINGWALLS, SOUTH & NORTH.
   ELEVATIONS INSIDE ( ) ARE FOR REAR ABUTMENT WINGWALLS, SOUTH & NORTH.
4. FOR REBAR BENDING DIAGRAM SEE SHEET 15/15 .

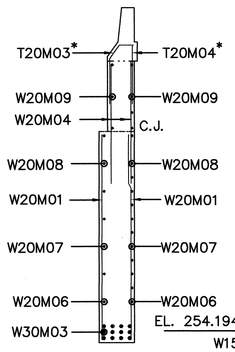
* FOR PARAPET REBARS, SEE SHEET 14/15 .



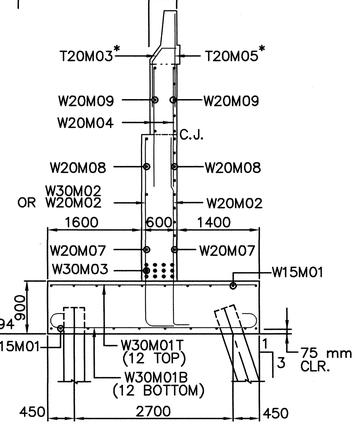
VIEW C–C

SECTION D–D**

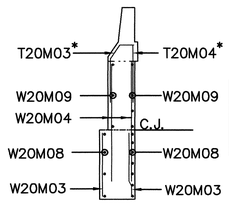
** POROUS BACKFILL AND DRAINAGE PIPE NOT SHOWN



SECTION E–E**



SECTION F–F**



SECTION G–G**

LOCATION	SOUTH WALL	NORTH WALL
REAR ABUT.	251.379	251.281
FORW. ABUT.	250.725	250.517

STORM F.L. EL. @ WINGWALLS

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED	DRAWN	REVIEWED	DATE
YSS	NK	YSS	12/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PSS		3203131	

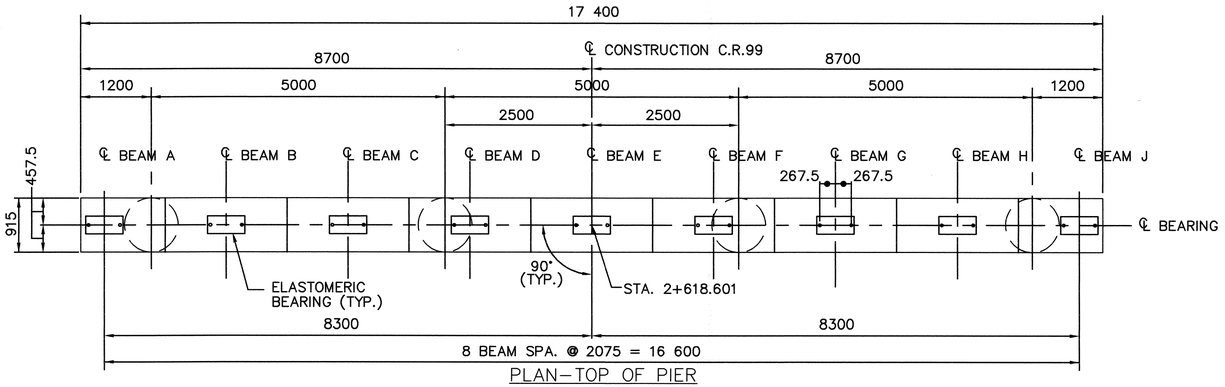
WINGWALL DETAILS
BRIDGE NO. HAN–75–31580
OVER IR–75

HAN–75–31.580

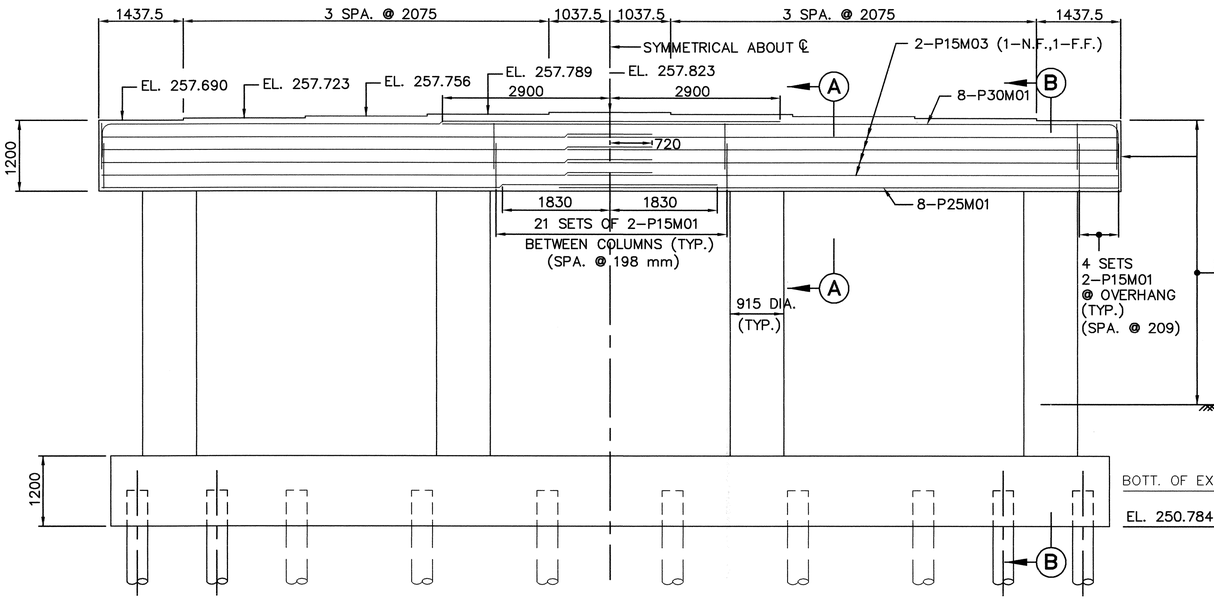
8/15

29/36

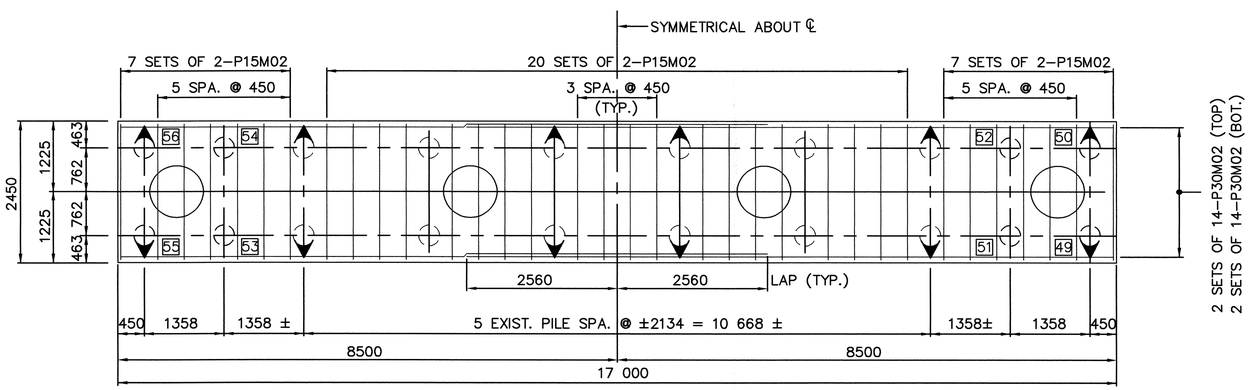
DRAWING = S–WALL DATE = DECEMBER 23, 1997



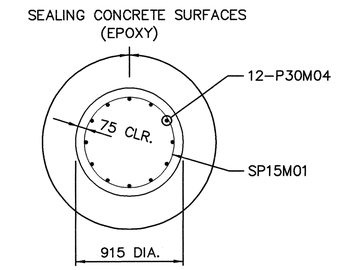
PLAN–TOP OF PIER



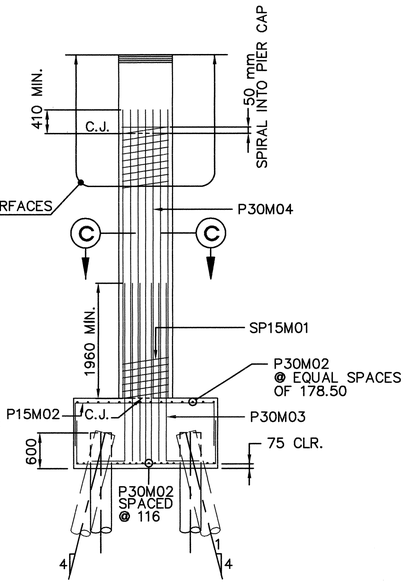
ELEVATION



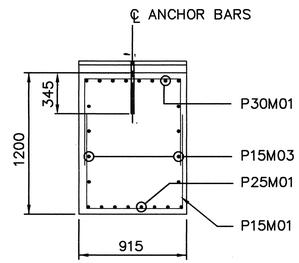
FOOTING PLAN



SECTION C–C



SECTION B–B



SECTION A–A

NOTES

1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS, UNLESS NOTED OTHERWISE. ALL STATIONS AND ELEVATIONS ARE GIVEN IN METERS.
2. DIMENSIONS WITH "±" ARE TAKEN FROM EXISTING PLANS AND CONVERTED TO METRIC UNITS.
3. EXISTING PIER TO BE REMOVED TO BOTTOM OF FOOTING, ELEVATION 251.384±. EXISTING PILES TO BE CUT OFF AT BOTTOM OF FOOTING ELEVATION 251.384±. ALL EXISTING PIER PILES TO BE REUSED.
4. ALL PILES SHALL BE 350 mm DIAMETER CAST–IN–PLACE (C.I.P.) REINFORCED CONCRETE.
5. ☐ DENOTES PILE NUMBER.
6. REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE–SETTING OF BEARING ANCHORS.
7. FOR LAMINATED ELASTOMERIC BEARING AT PIER (FIXED TYPE), SEE SHEET 11/15 .
8. FOR REBAR BENDING DIAGRAM SEE SHEET 15/15 .

metric units

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED	DRAWN	REVIEWED	DATE
PSS	NK	PSS	12/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
YSS		3203131	

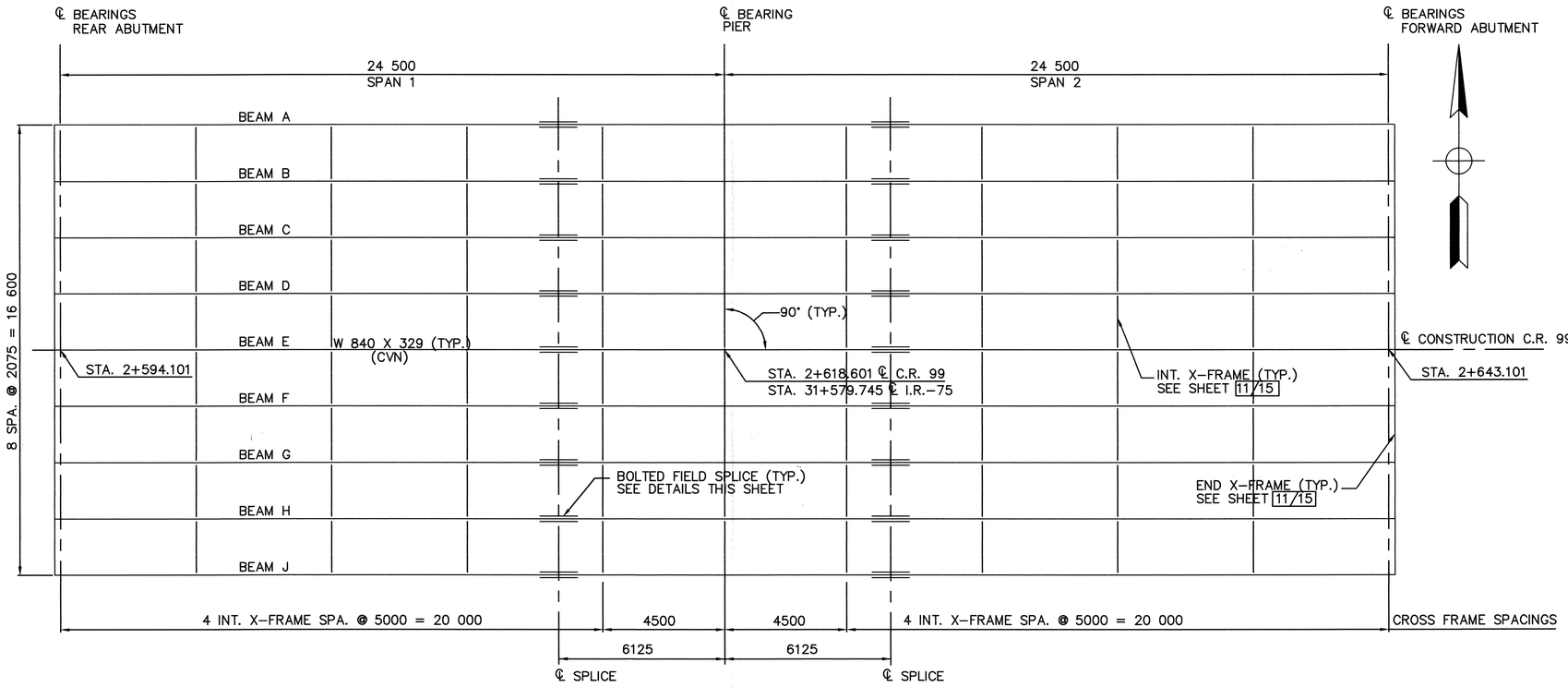
PIER DETAILS
BRIDGE NO. HAN–75–31580
OVER IR–75

HAN–75–31.580

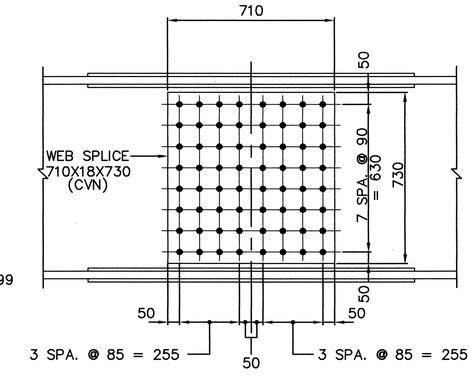
9/15

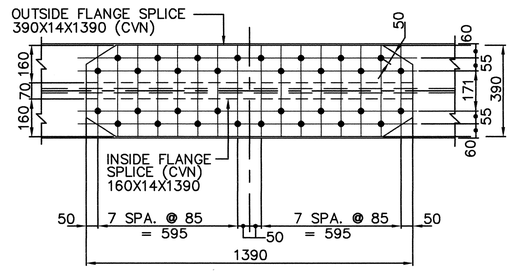
30/36

DRAWING = S–PIER DATE = DECEMBER 24, 1997

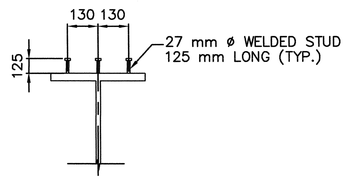


FRAMING PLAN

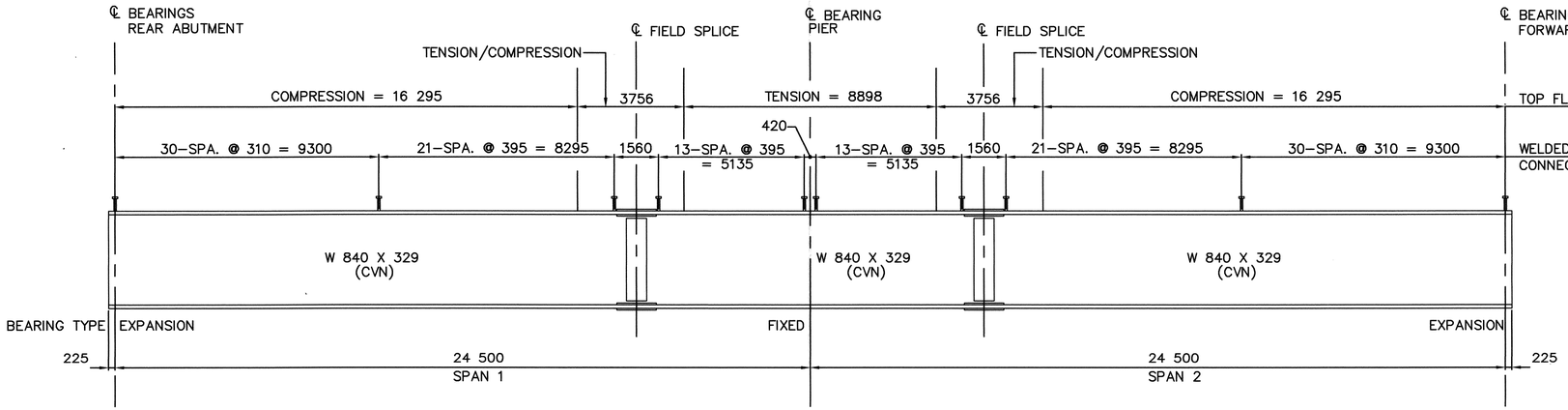




BEAM SPLICE DETAIL



SHEAR STUD
CONNECTOR DETAIL



BEAM ELEVATION
(NOT TO SCALE)

NOTES :

1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS, UNLESS NOTED OTHERWISE.
2. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
3. HIGH STRENGTH BOLTS SHALL BE 27 mm DIAMETER A325M, GALVANIZED, UNLESS OTHERWISE NOTED. THE BOLT HEADS SHALL BE ON THE OUTSIDE FACE OF THE EXTERIOR BEAM AND ON THE BOTTOM OF ALL FLANGES.
4. THE OUTSIDE AND BOTTOM SURFACES OF FACIA BEAMS SHALL BE BLAST CLEANED TO GRADE Sa2 IN THE FABRICATION SHOP. SEE S.S. 863 FOR FINAL CLEANING REQUIREMENTS. PAYMENT SHALL BE INCLUDED IN ITEM 863.
5. PAINT OF STRUCTURAL STEEL A572M SHALL BE SYSTEM IZEU.
6. WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FASCIA STRINGER DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 25 mm FROM EDGE OF FLANGE, BE NOT MORE THAN 50 mm LONG, AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.
7. FOR LAMINATED ELASTOMERIC BEARING DETAILS SEE SHEET 11/15.

metric units

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED	DRAWN	REVIEWED	DATE
YSS	NK	YSS	12/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PSS		3203131	

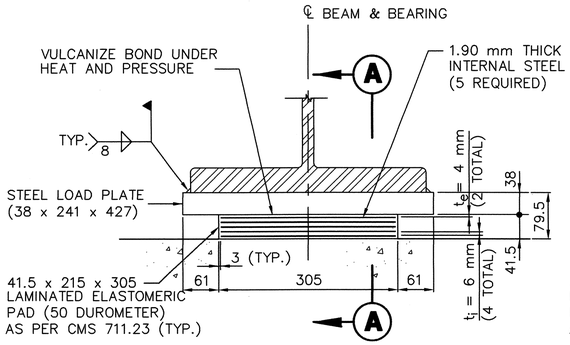
FRAMING PLAN
BRIDGE NO. HAN-75-31580
OVER IR-75

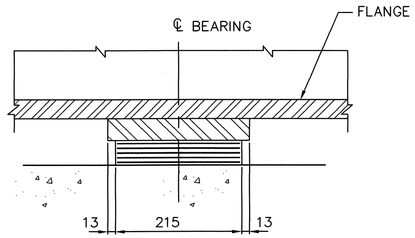
HAN-75-31.580

10/15

31/36

DRAWING = S-FRAME DATE = DECEMBER 24, 1997

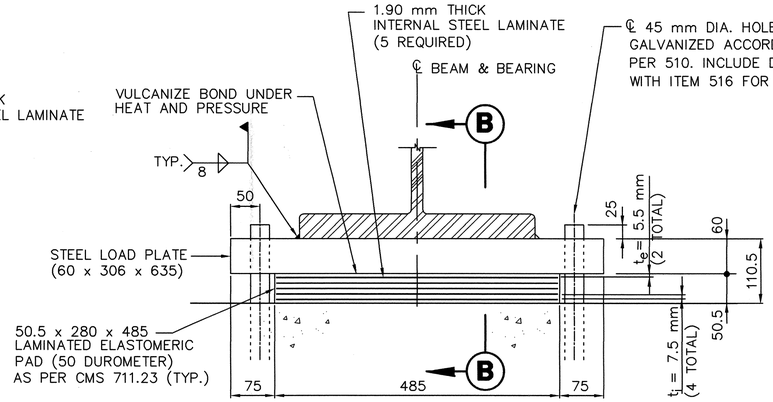


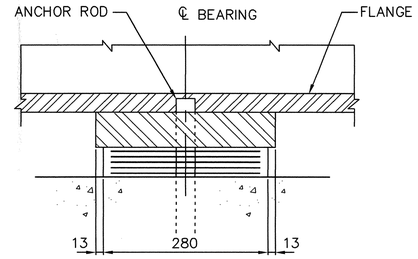


SECTION A–A

LAMINATED ELASTOMERIC
EXPANSION BEARING AT ABUTMENTS

BEARING LIVE LOAD REACTION	= 190.86 kN
BEARING DEAD LOAD REACTION	= 197.89 kN
MAXIMUM DESIGN LOAD	= 388.75 kN





SECTION B–B

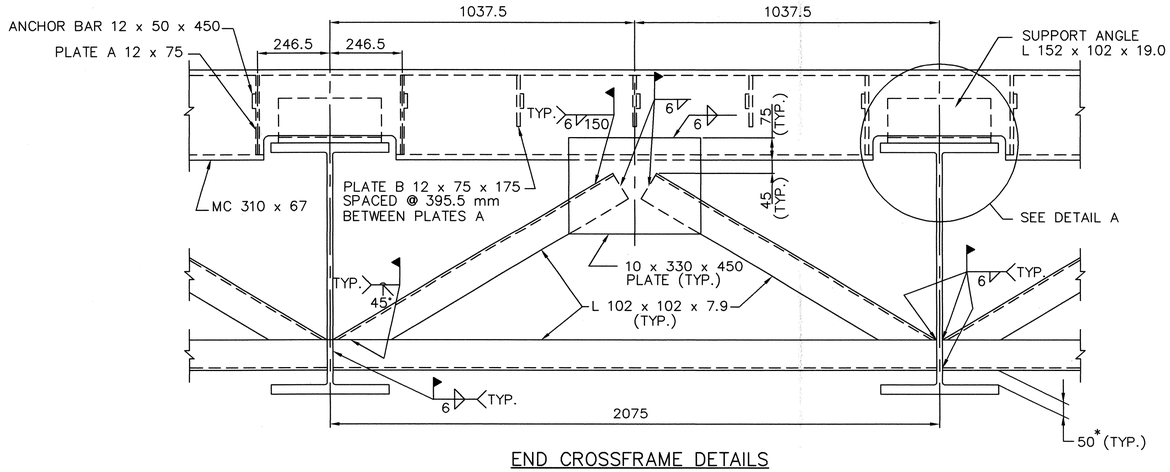
LAMINATED ELASTOMERIC
FIXED BEARING AT PIER

BEARING LIVE LOAD REACTION	= 248.78 kN
BEARING DEAD LOAD REACTION	= 659.62 kN
MAXIMUM DESIGN LOAD	= 908.40 kN

TEMPERATURE	0 °C	5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C
DIMENSION 'A', mm	61	60	58	57	55	54	53	51

'A' VALUES

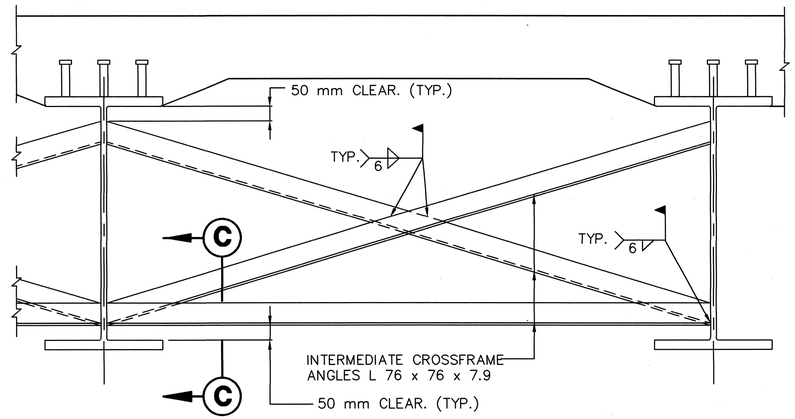
GLAZE SIZE = 100 mm (SEE STD. DWG. EXJ–4–87M)



END CROSSFRAME DETAILS

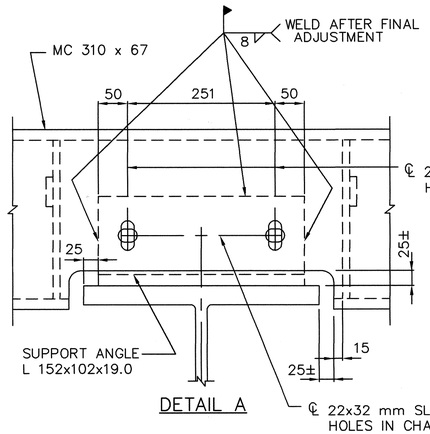
(STEEL RETAINERS ARE NOT SHOWN)

* USE 125 mm AT BEAMS A,B,H, AND J TO CLEAR SIESMIC PEDESTAL

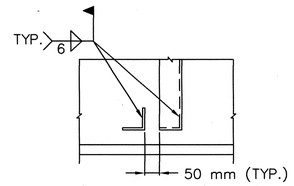


INTERMEDIATE CROSSFRAME DETAILS

(TYPICAL BETWEEN BEAMS)



DETAIL A



SECTION C–C

NOTES:

1. ELASTOMERIC BEARINGS SHALL COMPLY WITH 516 AND ARTICLES 18.2.5 THROUGH 18.2.8 OF SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION OF THE AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES. BEARINGS SHALL BE GRADE 3, 50–DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS CORRESPONDING TO DESIGN METHOD A. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.
2. THE STEEL LOAD PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND BE SIMILARLY CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR THE BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 150°C AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
3. FOR STRIP SEAL EXPANSION JOINT DETAILS, SEE STD. DWG. EXJ–4–87M.
4. INSTALLATION OF SEAL: DURING INSTALLATION OF THE SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE EXPANSION JOINT SEAL, THE SEATING OF BEAMS ON BEARINGS SHALL BE CAREFULLY OBSERVED TO ASSURE THAT POSITIVE BEARING IS MAINTAINED. PROPER VERTICAL FIT OF THE SUPPORT/ARMOR ON THE BEAMS SHALL BE ACHIEVED BY POSITIONING OF THE BEVEL FILL PLATES RATHER THAN BY CLAMPING FORCE.

metric units

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED	DRAWN	REVIEWED	DATE
YSS	NK	YSS	12/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PSS		3203131	

MISCELLANEOUS DETAILS

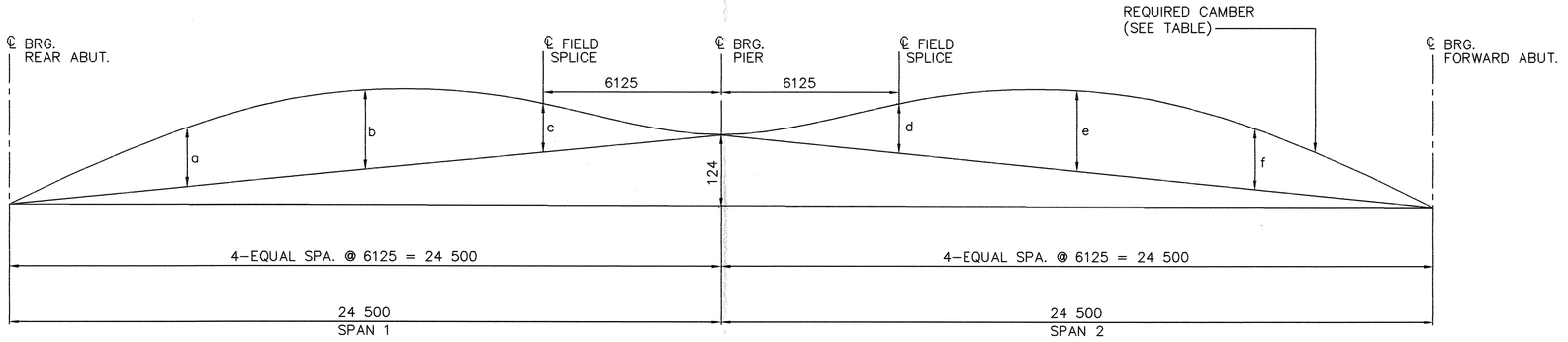
BRIDGE NO. HAN–75–31580
OVER IR–75

HAN–75–31.580

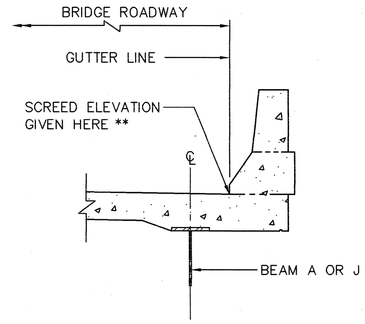
11/15

32/36

DRAWING = S–MISC DATE = DECEMBER 24, 1997

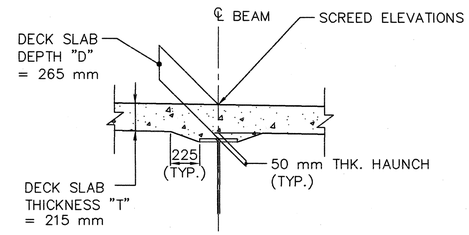


CAMBER DIAGRAM



DETAIL A

DEFLECTION AND CAMBER (mm)												
LOCATION	BEAMS A & J						BEAMS B TO H					
	SPAN 1			SPAN 2			SPAN 1			SPAN 2		
	a	b	c	d	e	f	a	b	c	d	e	f
DEFLECTION DUE TO WEIGHT OF STEEL	5	6	3	3	6	5	5	6	3	3	6	5
DEFLECTION DUE TO REMAINING DEAD LOAD	20	24	11	11	24	20	22	26	12	12	26	22
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	23	31	23	23	31	23	23	31	23	23	31	23
SUM OF DEFLECTIONS AND ADJUSTMENTS EQUALS REQUIRED SHOP CAMBER	48	61	37	37	61	48	50	63	38	38	63	50



DECK SLAB DEPTH OVER BEAMS

DECK SCREED ELEVATIONS (METER)									
LOCATION	SPAN 1					SPAN 2			
	℄ BRG. REAR ABUT.	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	℄ BRG. FORWARD ABUT.
LEFT GUTTER**	258.801	258.880	258.923	258.930	258.923	258.929	258.921	258.876	258.796
BEAM A	258.805	258.884	258.927	258.934	258.927	258.932	258.924	258.880	258.800
BEAM B	258.838	258.919	258.962	258.968	258.960	258.967	258.960	258.915	258.833
BEAM C	258.872	258.952	258.996	259.001	258.993	259.000	258.993	258.948	258.866
BEAM D	258.905	258.985	259.029	259.034	259.026	259.033	259.026	258.981	258.899
℄ CONSTRUCTION AND BEAM E	258.938	259.019	259.062	259.068	259.060	259.066	259.059	259.015	258.932
BEAM F	258.905	258.985	259.029	259.034	259.026	259.033	259.026	258.981	258.899
BEAM G	258.872	258.952	258.996	259.001	258.993	259.000	258.993	258.948	258.866
BEAM H	258.838	258.919	258.962	258.968	258.960	258.967	258.960	258.915	258.833
BEAM J	258.805	258.884	258.927	258.934	258.927	258.932	258.924	258.880	258.800
RIGHT GUTTER**	258.801	258.880	258.923	258.930	258.923	258.929	258.921	258.876	258.796

** SEE DETAIL A ON THIS SHEET AND DECK SLAB TYPICAL SECTION ON SHEET 13/15.

NOTES:

1. TOTAL REQUIRED CAMBER IS GIVEN TO THE NEAREST MILLIMETER.
2. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.
3. DECK SLAB DEPTH: THE DISTANCE SHOWN FROM THE TOP OF DECK SLAB TO THE TOP OF STEEL BEAM IS THE THEORETICAL DESIGN DIMENSION INCLUDING THE DESIGN HAUNCH THICKNESS OF 50 mm. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, MINUS THE DESIGN HAUNCH THICKNESS, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.
4. A HAUNCH WIDTH OF 225 mm SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 150 mm AND 300 mm.

metric units

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED	DRAWN	REVIEWED	DATE
YSS	NK	YSS	12/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PSS		3203131	

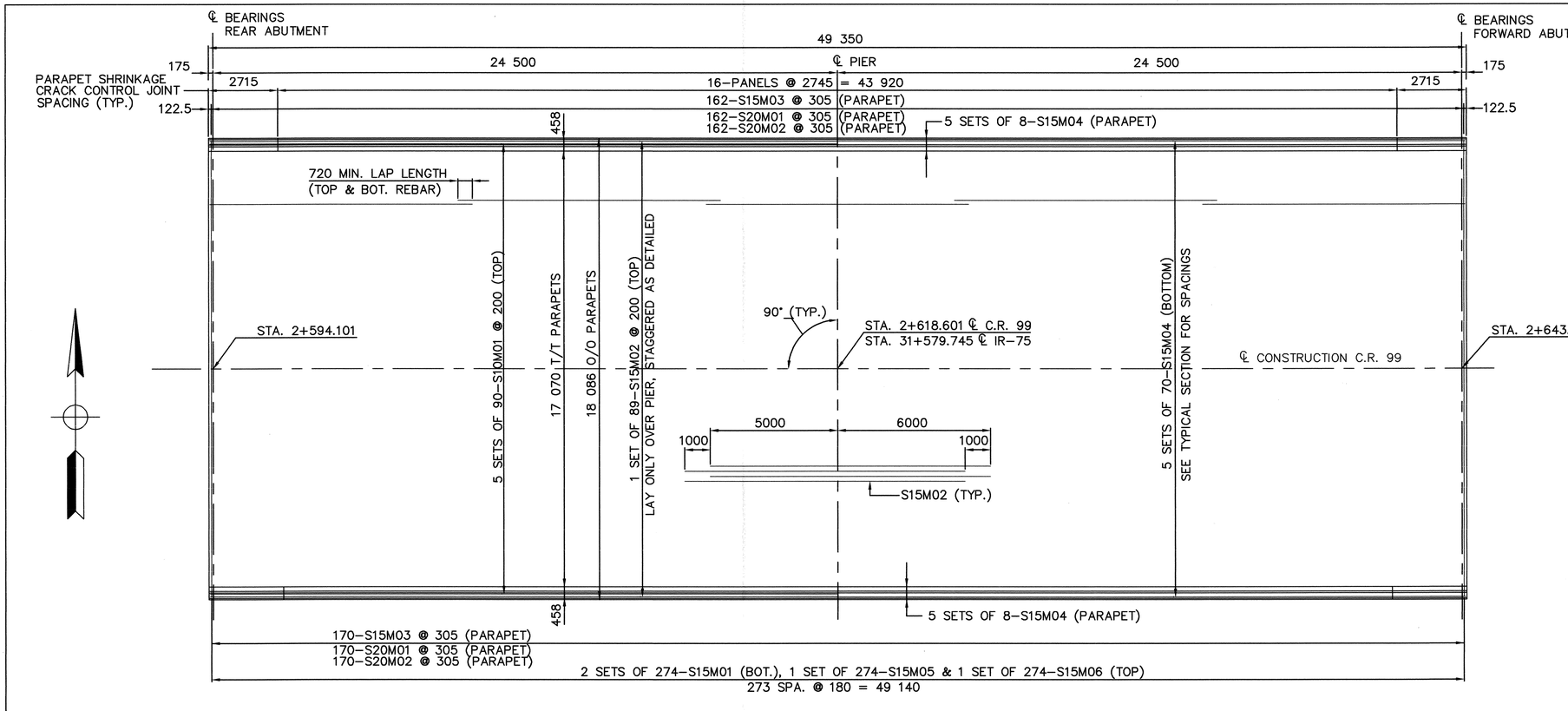
DECK SCREED ELEVATION AND CAMBER DETAILS
BRIDGE NO. HAN-75-31580 OVER IR-75

HAN-75-31.580

12/15

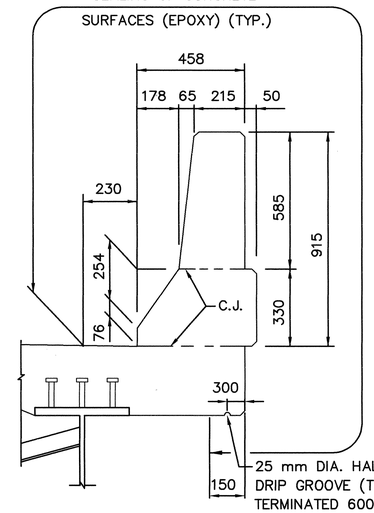
33/36

DRAWING = S-CAMBER DATE = DECEMBER 24, 1997

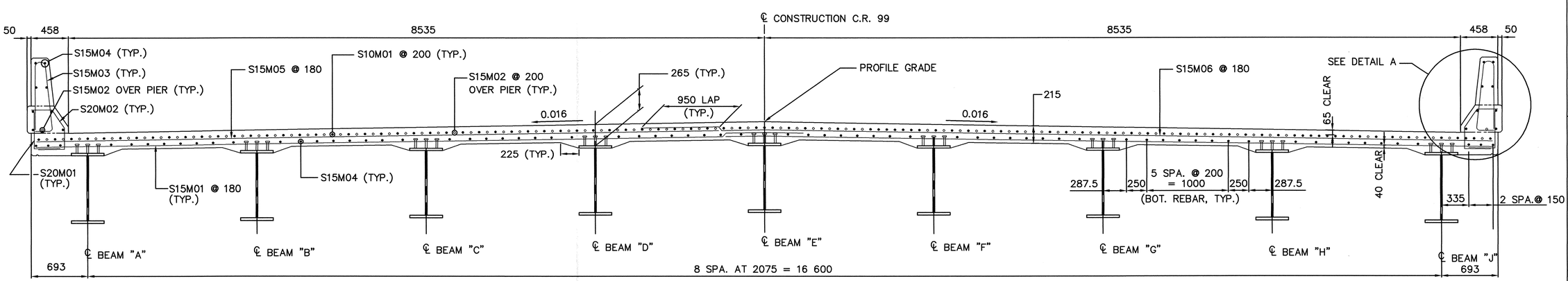


DECK PLAN

SECTION THROUGH SAWCUT



DETAIL A



TYPICAL SECTION
(CROSS FRAMES NOT SHOWN)

NOTES :

1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS, UNLESS NOTED OTHERWISE. ALL STATIONS ARE GIVEN IN METERS.
2. SEE STD. DWG. EXJ–4–87M FOR EXPANSION JOINT DETAILS.
3. SEE SHEET 14/15 FOR PARAPET TRANSITION DETAILS.
4. SEE SHEET 15/15 FOR REBAR SCHEDULE AND BENDING DIAGRAMS.
5. CRACK CONTROL JOINT SAWCUT AND CAULKING MATERIAL FOR PARAPET ARE INCLUDED WITH ITEM 511 FOR PAYMENT.

metric units

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED NK | DRAWN YSS | CHECKED YSS | REVISED | REVIEWED PSS | DATE 12/97 | STRUCTURE FILE NUMBER 32031131

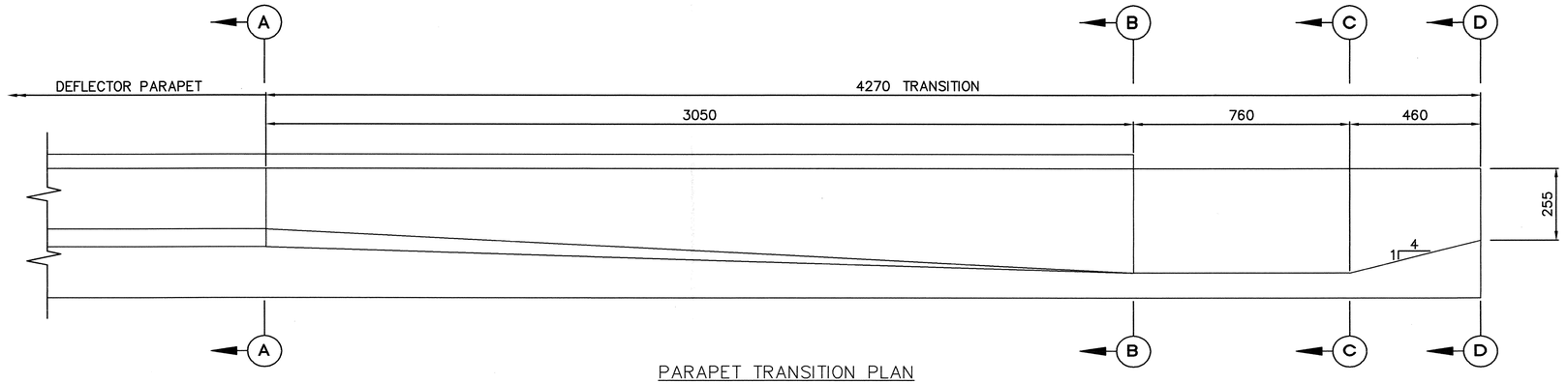
DECK PLAN AND TYPICAL SECTION
BRIDGE NO. HAN–75–31580 OVER IR–75

HAN–75–31.580

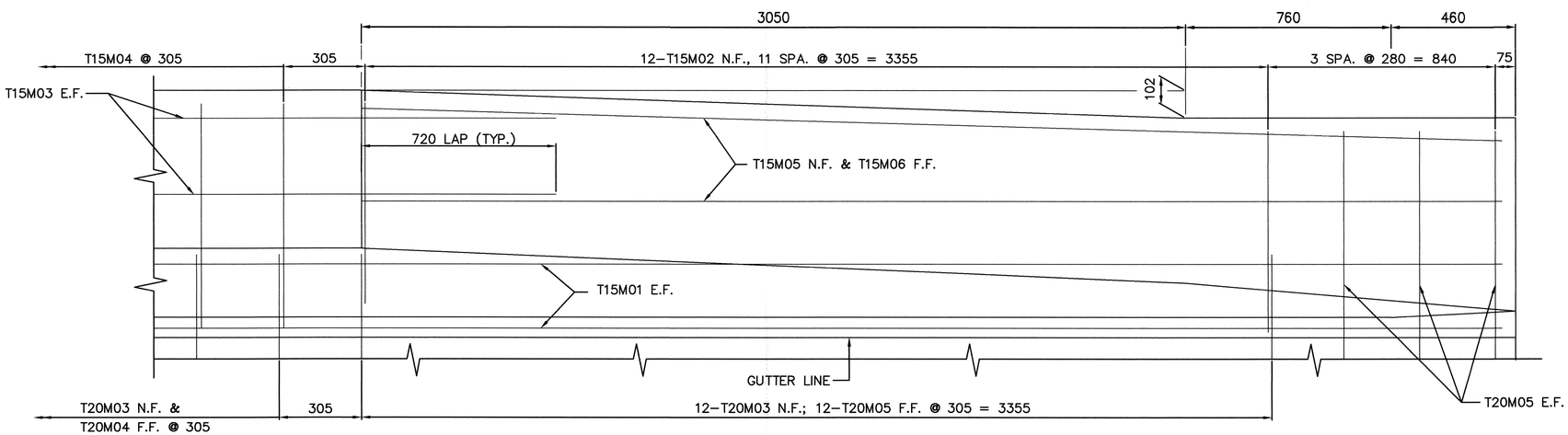
13/15

34/36

DRAWING = S–DECK DATE = DECEMBER 23, 1997



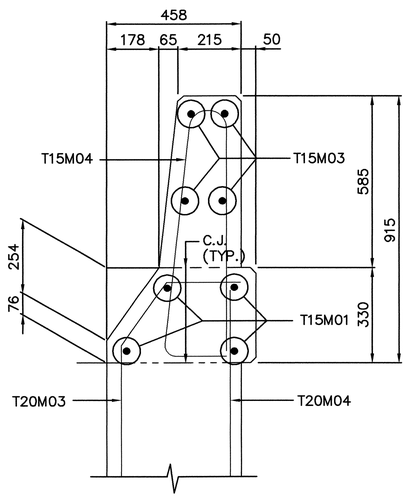
PARAPET TRANSITION PLAN



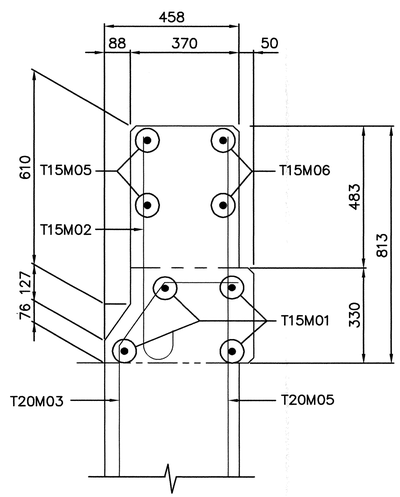
PARAPET TRANSITION ELEVATION

NOTES:

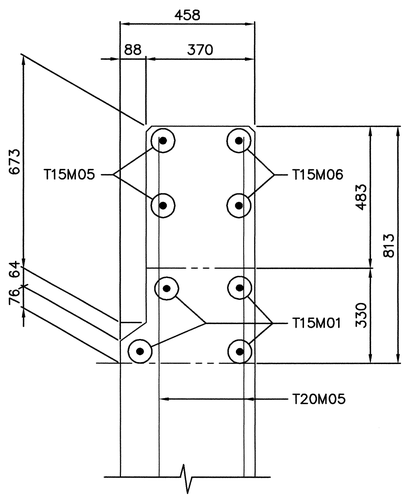
1. FOR BRIDGE TERMINAL ASSEMBLY DETAILS, SEE STD. DWG. GR–3.1M.
2. FOR REBAR BENDING DIAGRAM SEE SHEET 15/15 .
3. FOR OTHER DETAILS SEE STD. DWG. BR–1M.



SECTION A–A



SECTION B–B



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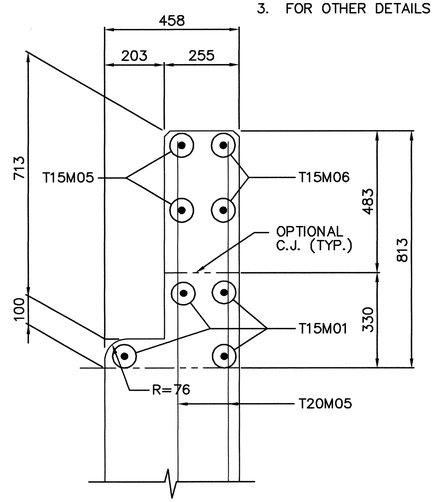


SECTION D–D

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DESIGNED	DRAWN	REVIEWED	DATE
PSS	NK	YSS	12/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PSS		3203131	

PARAPET TRANSITION

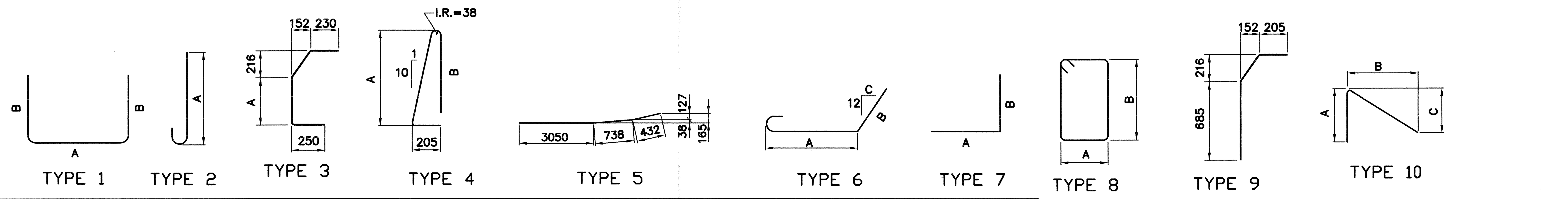
BRIDGE NO. HAN–75–31580
OVER IR–75

HAN–75–31.580

14/15

35/36

DRAWING = S–PARAPT DATE = DECEMBER 24, 1997



metric units

SUPERSTRUCTURE

MARK	NO.	LENGTH	TYPE	A	B	C	D	SERIES INCR.	TOTAL NO.
S10M01	450	10 425	STR.						450
S15M01	548	9425	STR.						548
S15M02	91	11 000	STR.						91
S15M03	324	1825	4	840					324
S15M04	430	10 425	STR.						430
S15M05	274	8860	STR.						274
S15M06	274	9990	STR.						274
S20M01	324	675	7	280	450				324
S20M02	324	825	3	275					324

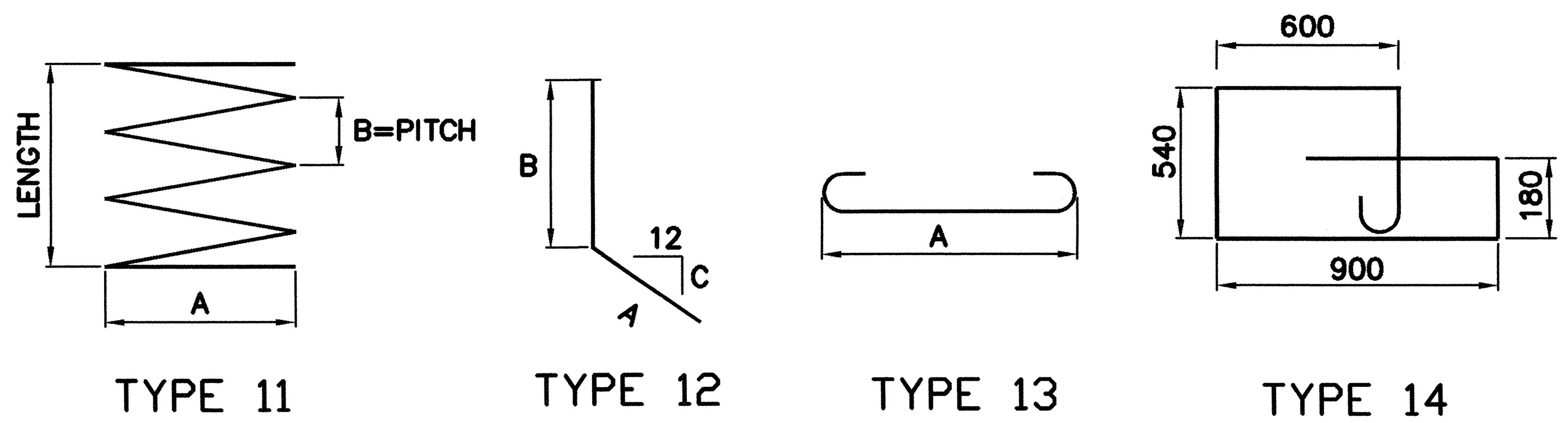
DEFLECTOR PARAPET OVER WINGWALLS (4 PARAPETS)

MARK	NO.	LENGTH	TYPE	A	B	C	D	SERIES INCR.	TOTAL NO.
T15M01	8	7375	STR.						32
T15M02	12	925	2	740					48
T15M03	4	10 500	STR.						16
T15M04	31	1825	4	840					124
T15M05	2	4225	5						8
T15M06	2	4225	STR.						8
T20M01 & T20M02 NOT USED									
T20M03	44	1125	9						176
T20M04	31	875	STR.						124
T20M05	19	1375	STR.						76

REAR ABUTMENT

MARK	NO.	LENGTH	TYPE	A	B	C	D	SERIES INCR.	TOTAL NO.
RA15M01	52	10 955	STR.						52
RA15M02	54	1795	7	260	1575				54
RA15M03	54	6670	STR.						54
RA15M04	110	9305	STR.						110
RA15M05	38	2530	12	1090	1450	12			38
RA15M06	42	2185	1	1024	620				42
RA15M07	34	1250	STR.						34
RA15M08	34	1160	7	600	600				34
RA20M01	42	2315	1	424	995				42
RA20M02	38	1245	1	424	460				38
RA20M03	38	1830	1	260	835				38
RA20M04	4	2010	1	410	850				4
RA20M05	12	1110	7	440	720				12
RA20M06	6	1880	1	480	750				6
RA25M01	38	1365	6	305	790	12			38
RA30M01T	63	3935	STR.						63
RA30M01B	60	4735	13	3935					60
RA30M02	103	3765	7	500	3355				103
RA30M03	99	6700	STR.						99
RA30M04	4	7500	STR.						4
RA30M05	4	1060	STR.						4
RA30M06	12	1140	7	510	720				12

NOTE T,B DENOTE REBARS ON TOP , BOTTOM SIDES RESPECTIVELY



NOTES:

1. ALL BAR DIMENSIONS ARE GIVEN OUT-TO-OUT.
2. ALL BARS OF A GIVEN SERIES VARY BY A CONSTANT INCREMENT.
3. ALL BARS SHALL BE EPOXY COATED.
4. SPIRAL REINFORCING BARS: THE "LENGTH" SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE LENGTH OF THE SPIRAL ALONG THE AXIS OF THE SPIRAL. ONE & ONE-HALF CLOSED-COIL TURNS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 1.19 kg/m OF SPACER, SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF THE COILS. THE NUMBER OF KILOGRAM OF THESE SPACERS, BASED ON 4.76 kg/m, WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITIES OF SPIRAL BARS.
5. ALL BAR DIMENSIONS ARE GIVEN IN MILLIMETERS, UNLESS NOTED OTHERWISE.
6. THE BAR MARK SIZE NUMBER IS SPECIFIED IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A 15M01 BAR IS A #15M BAR. UNLESS OTHERWISE NOTED, BENDS AT THE ENDS OF BARS ARE STANDARD BENDS.
7. ALL REINFORCING STEEL PAYMENT SHALL BE INCLUDED WITH ITEM 511.
8. FOR INCH-POUND UNIT BAR SUBSTITUTION FOR THE METRIC UNIT BAR SHOWN IN THE PLANS, SEE PROPOSAL NOTE.

PIER

MARK	NO.	LENGTH	TYPE	A	B	C	D	SERIES INCR.	TOTAL NO.
SP15M01	4	4560	11	765	115				4
P15M01	142	2335	1	815	800				142
P15M02	68	3750	1	2350	740				68
P15M03	16	9370	STR.						16
P25M01	16	10 465	STR.						16
P30M01	16	12 000	7	11 535	555				16
P30M02	56	11 800	STR.						56
P30M03	48	3505	7	560	3035				48
P30M04	48	5300	STR.						48

FORWARD ABUTMENT

MARK	NO.	LENGTH	TYPE	A	B	C	D	SERIES INCR.	TOTAL NO.
FA15M01	52	10 955	STR.						52
FA15M02	54	1795	7	260	1575				54
FA15M03	54	6670	STR.						54
FA15M04	110	9305	STR.						110
FA15M05	38	2530	12	1090	1450	12			38
FA15M06	42	2185	1	1024	620				42
FA15M07	34	1250	STR.						34
RA15M08	34	1160	7	600	600				34
FA20M01	42	2315	1	424	995				42
FA20M02	38	1245	1	424	460				38
FA20M03	38	1830	1	260	835				38
FA20M04	4	2010	1	410	850				4
FA20M05	12	1110	7	440	720				12
FA20M06	6	1880	1	480	750				6
FA25M01	38	1365	6	305	790	12			38
FA30M01T	63	3935	STR.						63
FA30M01B	60	4735	13	3935					60
FA30M02	103	3765	7	500	3355				103
FA30M03	99	6700	STR.						99
FA30M04	4	7500	STR.						4
FA30M05	4	1060	STR.						4
FA30M06	12	1140	7	510	720				12

NOTE T,B DENOTE REBARS ON TOP , BOTTOM SIDES RESPECTIVELY

WINGWALLS (4 WALLS)

MARK	NO.	LENGTH	TYPE	A	B	C	D	SERIES INCR.	TOTAL NO.
W15M01	20	2800	STR.						80
W15M02	32	3340	14						128
W20M01	2-SER. OF 30	2440 TO 6635	STR.					145	8-SER. OF 30
W20M02	12	3475	7	320	3205				48
W20M03	18	1090	STR.						72
W20M04	90	2030	STR.						360
W20M05A	32	1325	STR.						128
W20M05B	8	725	STR.						32
W20M06N	1-SER. OF 15	695 TO 6995	STR.					450	4-SER. OF 15
W20M06F	1-SER. OF 8	695 TO 6995	STR.					900	4-SER. OF 8
W20M07N	10	4790	STR.						40
W20M07F	6	4790	STR.						24
W20M08N	14	7515	STR.						56
W20M08F	8	7515	STR.						32
W20M09N	14	6290	STR.						56
W20M09F	8	6290	STR.						32
W20M10	6	6500	STR.						24
W30M01T	12	3500	STR.						48
W30M01B	12	4300	13	3500					48
W30M02	5	3615	7	500	3205				20
W30M03	12	12 000	STR.						48
W30M04	5	6160	1	470	2935				20

NOTE N,F DENOTE REBARS ON NEAR , FAR FACES RESPECTIVELY
T,B DENOTE REBARS ON TOP , BOTTOM SIDES RESPECTIVELY

DESIGN AGENCY
POLYTECH, INC.
1744 PAYNE AVENUE CLEVELAND, OHIO 44114

DATE 12/97 | REVIEWED PSS | STRUCTURE FILE NUMBER 3203131 | DRAWN NK | REVISED | DESIGNED NK | CHECKED YSS

REINFORCEMENT SCHEDULE

BRIDGE NO. HAN-75-31580
OVER IR-75

HAN-75-31.580

15/15

DRAWING = S-REBAR DATE = DECEMBER 24, 1997

GENERAL INFORMATION

INTRODUCTION

THIS REPORT SUMMARIZES THE RESULTS OF A SUBSURFACE EXPLORATION AND FOUNDATION ANALYSIS STUDY CONDUCTED IN CONNECTION WITH REPLACEMENT OF AN EXISTING HANCOCK COUNTY BRIDGE NO. HAN-75-31.580 (19.62) LOCATED ALONG COUNTY ROAD 99 OVER INTERSTATE ROUTE 75, IN THE CITY OF FINDLAY, HANCOCK COUNTY, OHIO.

SITE GEOLOGY

HANCOCK COUNTY LIES WITHIN TWO PHYSIOGRAPHIC SECTIONS. THE MAJOR PORTION OF THE COUNTY LIES WITHIN THE TILL PLAINS PHYSIOGRAPHIC SECTION. THE EXTREME NORTHERN PORTION OF THE COUNTY AND THE WEST-CENTRALPORTION LIES WITHIN THE LAKE PLAINS PHYSIOGRAPH SECTION.

EVIDENCE IN THE GEOLOGIC RECORD SUGGESTS THAT FOUR MAJOR ICE ADVANCES ARE KNOWN TO HAVE OCCURRED ON THE NORTH AMERICAN CONTINENT. THE MOST RECENT, THE WISCONSINAN ICE SHEET, DEPOSITED GROUND AND END MORRAINES IN THE VICINITY OF THE PROJECT AREA. THE SOILS FORMED IN THIS MATERIAL HAVE MODERATELY FINE TEXTURED OR FINE TEXTURED SUBSOIL. BEDROCK IN THE VICINITY OF THE SITE CONSIST PRIMARLY OF SILURIAN AGE SANDSTONE AND SHALE, WITH SOME LIMESTONE.

EXPLORATION

THE TEST BORINGS WERE ADVANCED THROUGH THE AREAS OVERBURDEN SOILS BY ROTARY DRIVE DRILLING PROCEDURES EMPLOYING 153mm O.D., 83mm I.D. HOLLOW STEM CONTINUOUS FLIGHT AUGERS. REPRESENTATIVE SAMPLES OF THE AREAS VARIOUS SUBSURFACE SOILS WERE OBTAINED UTILIZING SPLIT-SPOON SAMPLING PROCEDURES IN GENERAL ACCORDANCE WITH THE REQUIREMENTS OF THE ASTM STANDARD METHOD D-1586. THE SAMPLES OF THE MATERIALS OBTAINED AS A RESULT OF DRIVE SAMPLING OPERATIONS WERE VISUALLY CLASSIFIED IN THE FIELD AND REPLACED IN PROPERLY-IDENTIFIED SEALED GLASS SAMPLE JARS TO PREVENT MOISTURE LOSS. THE SUBSURFACE SOIL SAMPLES WERE TRANSPORTED TO THE SOIL MECHANICS LABORATORY OF PSI FOR TESTING AND EVALUATION.

DESCRIPTION OF FOUNDATION MATERIALS

AT BORING LOCATION B-1, THE SITE AREAS SUPPORT ASPHALT CONCRETE OF ABOUT 127mm IN THICKNESS. THE ASPHALT CONCRETE IS UNDERLAIN BY CONCRETE AND GRAVEL BASE HAVING THICKNESSES OF ABOUT 152mm AND 127mm, RESPECTIVELY. AT BORING LOCATION B-2, THE SITE AREAS SUPPORT TOPSOIL COVER OF ABOUT 152mm IN THICKNESS.

UNDERLYING THE TOPSOIL COVER AT BORING LOCATION B-2, A LAYER OF GRAVEL AND/OR STONE FRAGMENTS WAS FOUND TO BE PRESENT TO A DEPTH OF ABOUT 600mm BELOW THE SURFACE GRADE.

BENEATH THE OVERLYING GRAVEL AND/OR STONE FRAGMENTS AND/OR SURFACE GRADE, THE AREAS PREDOMINANT SUBSURFACE FORMATION CONSISTS OF SILT AND/OR SILT AND CLAY CONTAINING VARIABLE AMOUNTS OF SAND AND ROCK FRAGMENTS, AND WAS ENCOUNTERED TO THE TERMINAL DEPTHS OF THE BORINGS B-1 AND B-3 AND TO A DEPTH OF ABOUT 27.45 METERS BELOW THE SURFACE GRADE AT LOCATION B-2. AT BORING LOCATION B-2, THE BOTTOMMOST FORMATION CONSISTS OF FIRM/HARD, GRAY SANDSTONE.

THE SUBSURFACE COHESIVE SOILS EXHIBITED SOFT TO HARD CONSISTENCY STATES, WHICH THE GRANULAR MATERIALS EXHIBITED LOOSE RELATIVE DENSITY. THE MOISTURE CONTENTS OF THE SUBSURFACE MATERIALS WERE DETERMINED TO RANGE FROM MOIST TO SATURATED.

DURING THE COURSE OF THE FIELD DRILLING OPERATIONS, WATER WAS ENCOUNTERED AS A DEPTH OF ABOUT 19.2m BELOW THE SURFACE GRADES AT BORING LOCATION B-2. NO FREE WATER WAS ENCOUNTERED AT BORING LOCATIONS B-1 AND B-3. WE RECOMMENED THAT THE CONTRACTOR DETERMINE THE ACTUAL GROUNDWATER LEVELS AT THE SITE AT THE TIME OF THE CONSTRUCTION ACTIVITIES.

NOTE:

INFORMATION SHOWN ON THIS PROFILE SHEET 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 PLAN GOVERNING CONSTRUCTION OF THIS PROJECT.

LEGEND OF MATERIAL CLASSIFICATION AND AVERAGE TEST RESULTS

		H.R.B. CLASS	OHIO CLASS	% AGG.	% C.SAND	% F.SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
▨	Gravel and/or Stone Fragments	A-1-A(0)	A-1-a									
▨	Gravel and/or Stone Fragments with Sand	A-1-B	A-1-b									
▨	Fine Sand	A-3	A-3									
▨	Coarse and Fine Sand	A-3	A-3a									
▨	Gravel and/or Stone Fragments with Sand and Silt	A-2-4	A-2-4 A-2-5									
▨	Gravel and/or Stone Fragments with Sand, Silt and Clay	A-2-6	A-2-6 A-2-7									
▨	Sandy Silt	A-4	A-4a									
▨	Silt	A-4(8)	A-4b	4	4	12	73	7	25	9	17	8
▨	Elasitic Silt and Clay	A-5	A-5									
▨	Silt and Clay	A-6(9)	A-6a	3	3	9	67	18	26	11	17	3
▨	Silty Clay	A-6	A-6b									
▨	Elastic Clay	A-7-5	A-7-5									
▨	Clay	A-7-6	A-7-6									
▨	Shale						VISUAL CLASSIFICATION					
▨	Weathered Shale						VISUAL CLASSIFICATION					
▨	Sandstone						VISUAL CLASSIFICATION					
▨	Limestone						VISUAL CLASSIFICATION					
▨	Mudstone						VISUAL CLASSIFICATION					
▨	Random Fill						VISUAL CLASSIFICATION					
▨	Various Other Materials						VISUAL CLASSIFICATION					
▨	Dolomite						VISUAL CLASSIFICATION					
▨	Leached Limestone						VISUAL CLASSIFICATION					
▨	Leached Dolomite						VISUAL CLASSIFICATION					
▨	Silts Stone											

▭ Sod and/or Topsoil

▭ Berm Material

⊕ Press and/or Drive Sample and/or Core Boring-Plan View

¦ Press and/or Drive Sample and/or Core Boring Plotted to Vertical Scale Only

1 Water Content of Soil in Percent

● Water Content nearly Equal to or Greater Than Liquid Limit

-⊖- Indicates a Non-Plastic Material with a High Water Content

▼ Static Water Level (Encountered)

▽ Static Water Level (Completion)

X-Y-Z Number of Blows for "STANDARD PENETRATION" Test.

X=Number of Blows for First 153mm
Y=Number of Blows for Second 153mm
Z=Number of Blows for Third 153mm

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, COLUMBUS, OHIO.

PSI Environmental Geotechnical Construction
Consulting • Engineering • Testing
5555 Canal Road
Cleveland, Ohio 44125

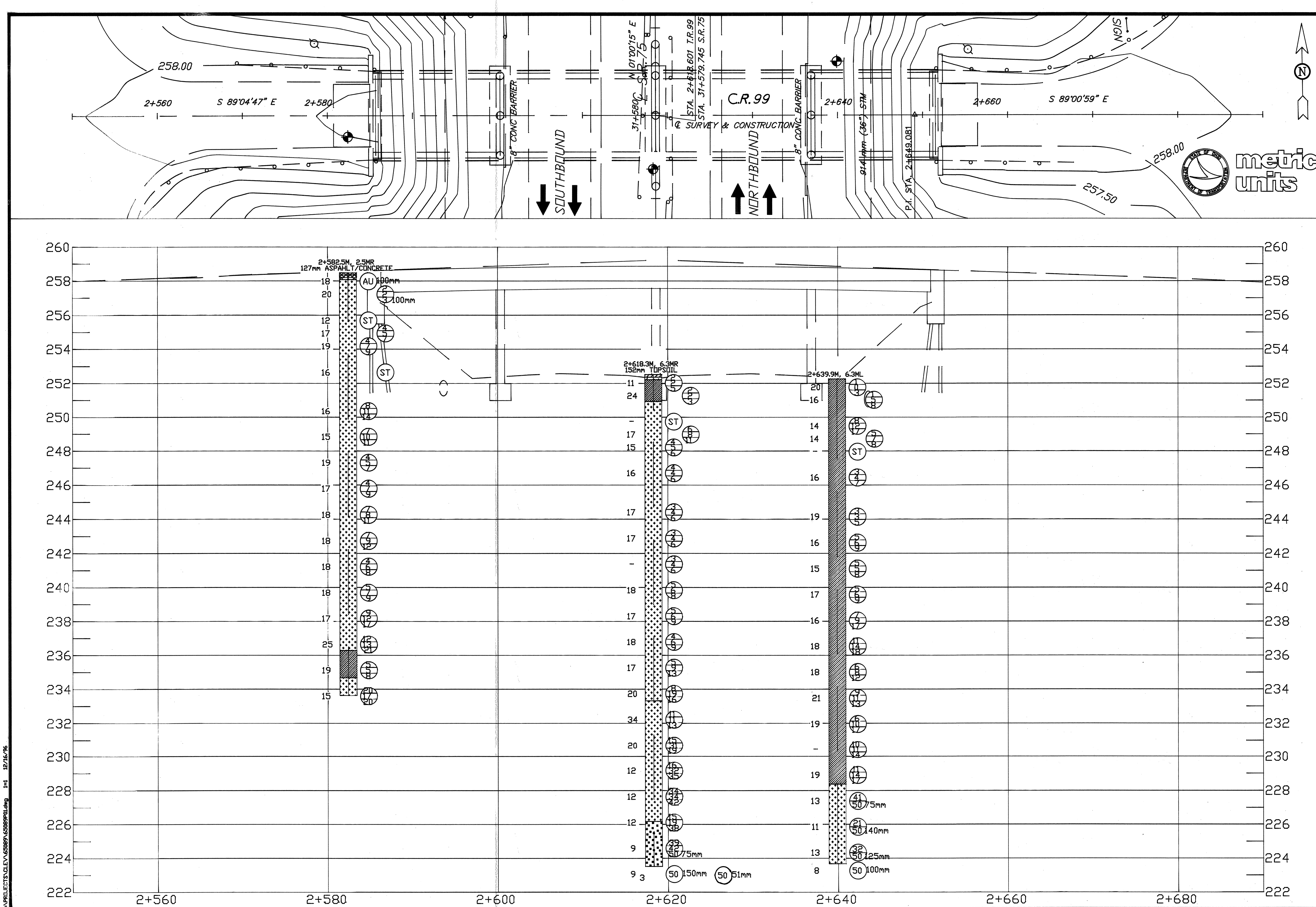
REVIEWED	
DATE	1/12/98
	142-65089
DRAWN	ADL
REVIEWED	AV
DESIGNED	ADL
CHECKED	AV

HANCOCK COUNTY

SUBSURFACE INVESTIGATION
HAN-75-19.59
C.R. 99 OVER I.R. 75

HAN-75-19.59

C:\PROJECTS\CLEV\65089\65089P04.dwg 1=1 1/12/98



DSI Environmental Geotechnical Construction
5555 Canal Road
Cleveland, Ohio 44125

DESIGNED	DRAWN HRJ	REVIEWED	DATE 12/16/96
CHECKED PSH	REVIEWED PSH	142-65089	

HANCOCK
2+560.000
2+680.000

SUBSURFACE INVESTIGATION
HAN-75-19.59
C.R. 99 over I.R. 75

HAN-75-19.59

2/4

Boring No. B-1 — Station & Offset 2+582.4M, 2.5M Rt. — Surface Elev. 258.477

Elev. (m)	Depth (m)	Std. Pen./ RQD	Rec. (m)	Loss (m)	Description	Sample Number	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
258.45		–	–	–	127mm ASPHALT/CONCRETE										–
258.20					152mm CONCRETE										
258.07					127mm GRAVEL (Base)										
					Firm, Very Stiff, Moist, Brown and Gray, SILT, Trace Rock Fragments, Little Sand	AU-1	–	–	–	–	–	–	–	–	–
	1	2-2-3	–	–		SS-2	–	–	–	–	–	–	–	20	–
	2	–	–	–		ST-3	–	–	–	–	–	–	–	12	–
		4-5-7	–	–		SS-4	–	–	–	–	–	–	–	17	–
	3														
	4	4-7-9	–	–		SS-5	2	3	17	75	3	–	–	19	A-4b
	5	–	–	–		ST-6	–	–	–	–	–	–	–	16	–
	6														
	7														
	8	8-11-14	–	–		SS-7	3	5	15	69	8	–	–	16	A-4b
	9														
		7-10-11	–	–		SS-8	–	–	–	–	–	–	–	15	–
	10														
	11	4-5-7	–	–		SS-9	–	–	–	–	–	–	–	19	–
	12														
		4-7-9	–	–		SS-10	–	–	–	–	–	–	–	17	–
	13														
	14	7-8-11	–	–		SS-11	–	–	–	–	–	–	–	18	–
	15														
		7-9-12	–	–		SS-12	3	5	11	60	21	26	9	18	A-4b
	16														
	17	4-6-8	–	–		SS-13	–	–	–	–	–	–	–	18	–
	18														

B-1 CONTINUED

Boring No. B-1 — Station & Offset 2+582.4M, 2.5M Rt. — Surface Elev. 258.477

Elev. (m)	Depth (m)	Std. Pen./ RQD	Rec. (m)	Loss (m)	Description	Sample Number	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
					Firm, Very Stiff, Moist, Brown and Gray, SILT, Trace Rock Fragments, Little Sand										
	19	5-7-9	–	–		SS-14	–	–	–	–	–	–	–	18	–
	20	9-12-17	–	–		SS-15	–	–	–	–	–	–	–	17	
	21														
	22	12-13-21	–	–		SS-16	–	–	–	–	–	–	–	25	–
236.33					Stiff, Moist, Gray, SILT and CLAY										
	23	5-5-8	–	–		SS-17	–	–	–	–	–	–	–	19	A-6a
	24														
234.63					Hard, Moist, Brown SILT										
234.09	25	20-17-20	–	–		SS-18	0	0	1	95	4	–	–	15	A-6b
					End of Boring – 24.84M										

Project: HAN-75-19.59
Job No.: 142-65089
Client: Polytech, Inc.

Boring No. B-2 — Station & Offset 2+618.3M, 6.3M Rt. — Surface Elev. 252.525

Elev. (m)	Depth (m)	Std. Pen./ RQD	Rec. (m)	Loss (m)	Description	Sample Number	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
252.37		2-2-5	–	–	152mm TOPSOIL										
251.98					Loose, Moist, Brown, GRAVEL	SS-1	60	22	15	3	0	–	–	11	A-1-a
					Firm, Stiff, Moist, Brown and Gray, SILT and CLAY										
	1	2-2-3	–	–		SS-2	–	–	–	–	–	–	–	24	–
250.93					Stiff, Very Stiff, Moist, Gray, SILT, Trace Rock Fragments, Little Sand										
	2	–	–	–		ST-3	–	–	–	–	–	–	–	–	–
		6-8-11	–	–		SS-4	4	8	14	71	3	–	–	17	A-4b
	3														
	4	4-5-6	–	–		SS-5	–	–	–	–	–	–	–	15	–
	5														
		4-4-6	–	–		SS-6	–	–	–	–	–	–	–	16	–
	6														
	7														
	8	3-4-6	–	–		SS-7	–	–	–	–	–	–	–	17	–

B-2 CONTINUED

B-1 CONTINUED

Boring No. B-2 — Station & Offset 2+618.3M, 6.3M Rt. — Surface Elev. 252.525

Elev. (m)	Depth (m)	Std. Pen./ RQD	Rec. (m)	Loss (m)	Description	Sample Number	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
					Stiff, Very Stiff, Moist, Gray, SILT, Trace Rock Fragments, Little Sand										
	9														
		3-4-6	–	–		SS-8	–	–	–	–	–	–	–	17	–
	10														
	11	3-4-6	–	–		SS-9	–	–	–	–	–	–	–	–	–
	12														
		5-6-8	–	–		SS-10	3	4	10	65	18	24	9	18	A-4b
	13														
	14	5-6-9	–	–		SS-11	–	–	–	–	–	–	–	17	–
	15														
		4-6-9	–	–		SS-12	–	–	–	–	–	–	–	18	–
	16														
	17	5-9-13	–	–		SS-13	–	–	–	–	–	–	–	17	–
	18														
		8-19-16	–	–		SS-14	–	–	–	–	–	–	–	20	–
	19														
233.33					Very Stiff, Hard, Moist/ Saturated, Brown SILT, Trace Sand										
	20	11-11-13	–	–		SS-15	–	–	–	–	–	–	–	34	
	21														
		15-31-19	–	–		SS-16	0	0	5	93	2	–	–	20	A-4b
	22														
	23	16-32-35	–	–		SS-17	–	–	–	–	–	–	–	12	–
	24														
		34-34-42	–	–		SS-18	–	–	–	–	–	–	–	12	–
	25														

B-2 CONTINUED

B-2 CONTINUED

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Cleveland, Ohio 44125

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2+560.000
2+680.000

SUBSURFACE INVESTIGATION
HAN-75-19.59
C.R. 99 OVER I.R. 75

HAN-75-19.59

3 / 4

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B-2 CONTINUED

Boring No. B-2 Station & Offset 2+618.3M, 6.3M Rt. Surface Elev. 252.525

Elev. (m)	Depth (m)	Std. Pen./ RQD	Rec. (m)	Loss (m)	Description	Sample Number	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
230.33					Very Stiff, Very Hard, Moist/ Saturated, Brown SILT, Trace Sand										
226.18	26	15-19-38	–	–		SS-19	–	–	–	–	–	–	–	12	–
	27				Firm, Hard, Gray SANDSTONE										
	28	39-42-50/75mm	–	–		SS-20	–	–	–	–	–	–	–	9	–
223.52	29	50/150mm	–	–		SS-21	–	–	–	–	–	–	–	9	–
		50/50mm	–	–	End of Boring – 29.01M	SS-22	–	–	–	–	–	–	–	3	–

Project: HAN-75-19.59
Job No.: 142-65089
Client: Polytech, Inc.

Boring No. B-3 Station & Offset 2+639.9M, 6.3M Lt. Surface Elev. 252.270

Elev. (m)	Depth (m)	Std. Pen./ RQD	Rec. (m)	Loss (m)	Description	Sample Number	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
		1-0-3	–	–	Soft, Very Stiff, Moist Brown and Gray, SILT and CLAY, Little Sand, Trace Rock Fragments	SS-1	–	–	–	–	–	–	–	20	–
	1	1-5-8	–	–		SS-2	–	–	–	–	–	–	–	16	–
	2	8-12-17	–	–		SS-3	4	6	12	64	14	29	11	14	A-6a
	3	5-7-8	–	–		SS-4	–	–	–	–	–	–	–	14	–
	4	–	–	–		ST-5	–	–	–	–	–	–	–	–	–
	5														
	6	3-4-7	–	–		SS-6	–	–	–	–	–	–	–	16	–
	7														
	8	3-3-5	–	–		SS-7	–	–	–	–	–	–	–	19	–
	9														
	10	5-6-9	–	–		SS-8	–	–	–	–	–	–	–	16	–
	11	5-5-8	–	–		SS-9	–	–	–	–	–	–	–	15	–
	12														

B-3 CONTINUED

B-3 CONTINUED

Boring No. B-3 Station & Offset 2+639.9M, 6.3M Lt. Surface Elev. 252.270

Elev. (m)	Depth (m)	Std. Pen./ RQD	Rec. (m)	Loss (m)	Description	Sample Number	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
		5-6-9	–	–	Soft, Very Stiff, Moist Brown and Gray, SILT and CLAY, Little Sand, Trace Rock Fragments	SS-10	–	–	–	–	–	–	–	17	–
	13														
	14	7-9-17	–	–		SS-11	–	–	–	–	–	–	–	16	–
	15	11-14-18	–	–		SS-12	–	–	–	–	–	–	–	18	–
	16														
	17	6-8-12	–	–		SS-13	5	3	15	56	21	26	11	18	A-6a
	18	9-11-13	–	–		SS-14	–	–	–	–	–	–	–	21	–
	19														
	20	6-10-17	–	–		SS-15	0	0	0	80	20	24	11	19	A-6a
	21	10-11-14	–	–		SS-16	–	–	–	–	–	–	–	–	–
	22														
	23	11-14-17	–	–		SS-17	–	–	–	–	–	–	–	19	–
228.37	24				Hard, Moist, Gray SILT, Little Sand, Trace Rock Fragments										
		41-50/76mm	–	–		SS-18	–	–	–	–	–	–	–	13	–
	25														
	26	21-50/140mm	–	–		SS-19	14	13	19	54	0	–	–	11	A-4b
	27														
	28	32-50/127mm	–	–		SS-20	–	–	–	–	–	–	–	13	–
223.87	29	50/102mm	–	–	End of Boring – 28.6M	SS-21	–	–	–	–	–	–	–	8	–
	30														

Project: HAN-75-19.59
Job No.: 142-65089
Client: Polytech, Inc.

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Cleveland, Ohio 44125

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SUBSURFACE INVESTIGATION
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C.R. 99 OVER I.R. 75

HAN-75-19.59

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