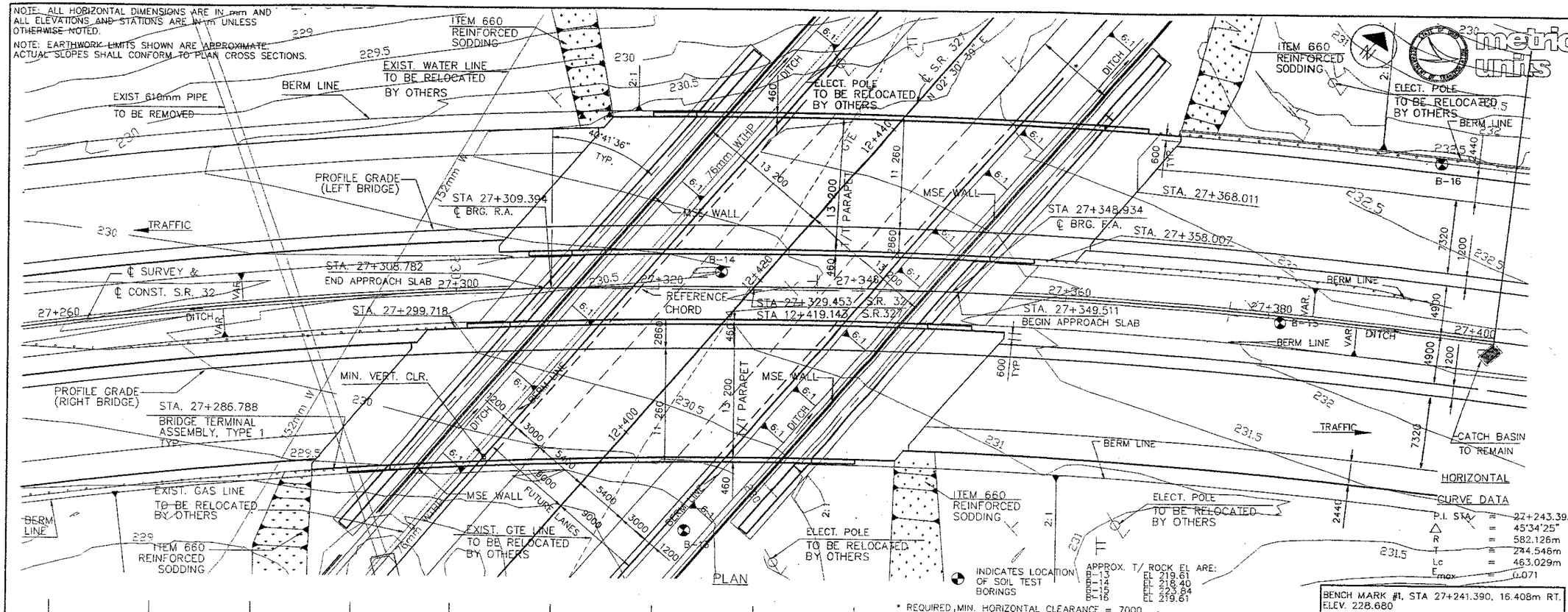
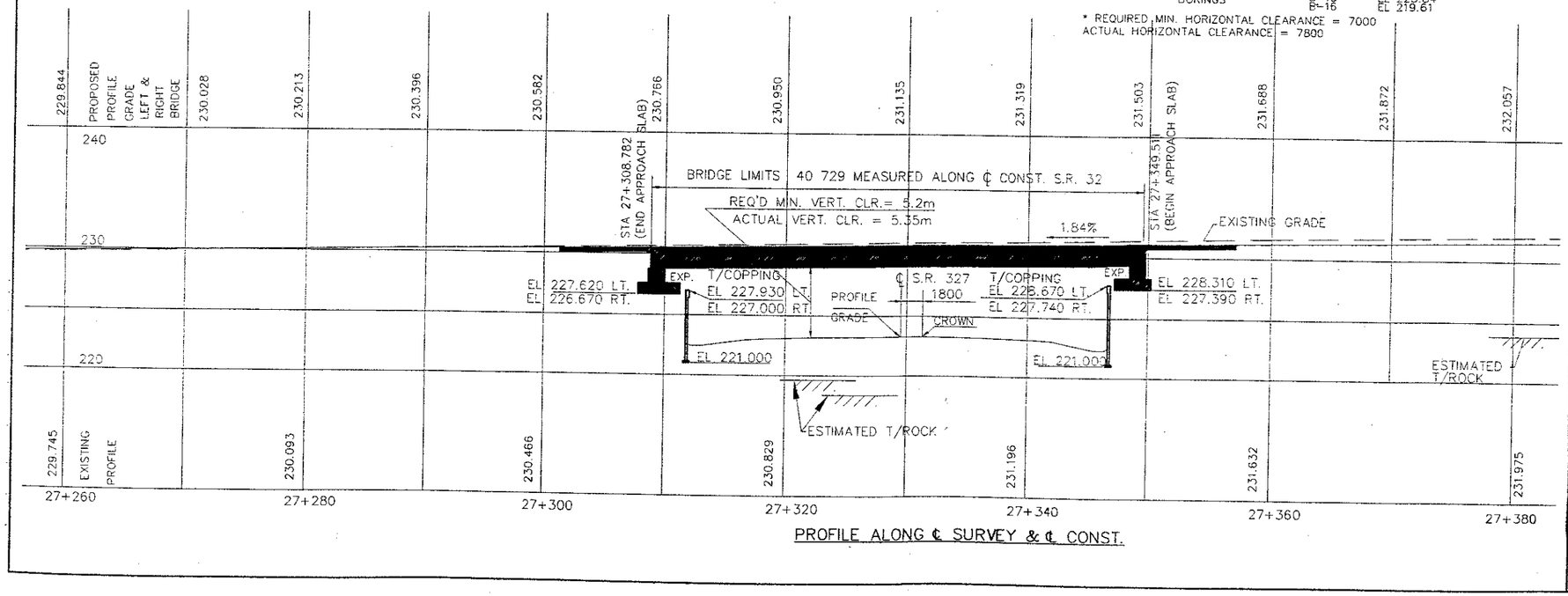
NOTE: ALL HORIZONTAL DIMENSIONS ARE IN mm AND ALL ELEVATIONS AND STATIONS ARE IN m UNLESS OTHERWISE NOTED.

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



BENCH MARK #1, STA 27+241.390, 16.408m RT. ELEV. 228.680

BENCH MARK #2, STA 27+446.923, .07m LT. ELEV. 232.393



PROFILE ALONG ℄ SURVEY & ℄ CONST.

DESIGN DESIGNATION

CURRENT ADT (2000)	13 970
DESIGN ADT (2020)	18 160
DESIGN ADTT (2020)	4358
DHV (DESIGN HOURLY VOLUME (2020))	1816
D (DIRECTIONAL DISTRIBUTION)	.54
V (DESIGN SPEED)	62 mph (100 km/h)

PROPOSED STRUCTURE

TYPE: SINGLE SPAN PRE & POST-TENSION CONCRETE BULB T GIRDER WITH SEMI-INTEGRAL ABUTMENTS AND MSE WALL.

SPAN: 39 533 C/C BRG ALONG REFERENCE CHORD

LOADING: MS22.5 AND THE ALTERNATE MILITARY LOADING, CASE II

SKEW: 40°41'36" L.F. TO REFERENCE CHORD

ROADWAY: 13 200 T/T PARAPET

WEARING SURFACE: 25 MONOLITHIC CONCRETE

SUPER ELEVATION: .071

APPROACH SLAB: AS-1-81M 7600 LONG (380 THICK)

ALIGNMENT: CURVE

LATITUDE: N82°32'20"

LONGITUDE: W39°05'00"

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE

CIVILTECH CONSULTING ENGINEERS, INC.

DATE 04-02-02

REVISED E.P.C.

ENGINEER JOB NUMBER 4002245_1

DRAWN S.F.W.

DESIGNED G.C.N.

CHECKED A.T.M.H.

JACKSON COUNTY
STA. 27+308.782
STA 27+349.511

SITE PLAN
BRIDGE NO. JAC-32-1712 L&R
S.R. 32 OVER S.R. 327

JAC-32-27.631

1/34

235

COMPUTED BY : G.G.N DATE : 7-27-02
CHECKED BY : S.F.W. DATE : 7-27-02

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	LEFT ABUTS.	RIGHT ABUTS.	LEFT SUPER	RIGHT SUPER	GEN	AS PER PLAN SHEET NO.
503	11100	LUMP	LUMP	COFFERDAMS, CRIBS AND SHEETING					LUMP	
503	21301	LUMP	LUMP	UNCLASSIFIED EXCAVATION, AS PER PLAN					LUMP	3/34
512	33000	324	SQ. METER	TYPE 2 WATERPROOFING	158	166				
516	13600	17	SQ. METER	25mm PREFORMED EXPANSION JOINT FILLER	8	9				
516	13900	16	SQ. METER	50mm PREFORMED EXPANSION JOINT FILLER	8	8				
516	44100	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (310x610x52 WITH 340x 640x 50 MIN. LOAD PLATE)	12	12				
518	21230	LUMP	LUMP	POROUS BACKFILL WITH FILTER FABRIC	LUMP	LUMP				
518	40000	121	METER	150 mm PERFORATED CORRUGATED PLASTIC PIPE, 707.33	60	61				
530	00200	LUMP	LUMP	SPECIAL - STRUCTURE, MISC: POST TENSIONING SYSTEM & OPERATION					LUMP	
601	20000	180	SQ. METER	CRUSH AGGREGATE SLOPE PROTECTION	90	90				3/34
604	36600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	2	2				
613	41250	339	CU. METER	LOW STRENGTH MORTAR (TYPE 1)	157	182				
844	48020	65	CU. METER	HIGH PERFORMANCE CONCRETE SUPERSTUCTURE (PARAPET)			32	33		
844	48020	109	CU. METER	HIGH PERFORMANCE CONCRETE SUPERSTUCTURE (DIAPHRAGM)			54	55		
844	48040	392	CU. METER	HIGH PERFORMANCE CONCRETE SUBSTRUCTURE	196	196				
844	49000	LUMP	LUMP	HIGH PERFORMANCE CONCRETE TRIAL MIX	LUMP	LUMP				
844	49010	LUMP	LUMP	HIGH PERFORMANCE CONCRETE TESTING	LUMP	LUMP				
864	10100	1544	SQ. METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)*	218	214	549	563		
865	16000	12	EACH	PRESTRESSED CONCRETE I BEAM MEMBERS, MISC: BULB T			6	6		
894	10000	254	CU. METER	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY			125	129		
SPECIAL	61013600	LUMP	LUMP	REINFORCED EARTH WALL	LUMP	LUMP				

* SEE PROPOSAL NOTE

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGN AGENCY
CIVILTECH CONSULTING ENGINEERS, INC.
8041 HEATHER BLUFF DRIVE

CIVILTECH CONSULTING ENGINEERS INC

DESIGNED G.G.N
DRAWN C.R.M.
REVIEWED A.Y.Z.
DATE 7-25-02
CHECKED
REVISED
STRUCTURE FILE NO.

ESTIMATED QUANTITIES
BRIDGE NO. JAC-32-1712 L & R
S.R.32 OVFR S.R.327

JAC-32-27.831

2 /34

GENERAL NOTES

metric units

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81M	DATED 10-25-94
BR-1M	REVISED 01-06-99
PSID-1-99M	DATED 10-20-00
ICD-1-82M	DATED 03-20-95
DM-1.1M	DATED 10-21-97
GR-3.1M	DATED 10-21-97

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

842	DATED 01-06-99	894	DATED 10-12-99
844	DATED 05-05-98	899	DATED 10-21-98
864	DATED 07-11-00	911	DATED 07-10-97
865	DATED 02-22-00	954	DATED 09-09-97
877	DATED 04-19-99		

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1999 INCLUDING THE INTERIM 2000 SPECIFICATIONS AND THE O.D.O.T BRIDGE DESIGN

DESIGN LOADING:
MS22.5 AND THE ALTERNATE MILITARY LOADING.

DESIGN STRESSES:

HIGH PERFORMANCE CONCRETE HPC SS 844-COMPRESSIVE STRENGTH 31.0 MPa (SUPERSTRUCTURE)
HIGH PERFORMANCE CONCRETE HPC SS 844-COMPRESSIVE STRENGTH 27.5 MPa (SUBSTRUCTURE)

CONCRETE FOR PRESTRESSED I-BEAMS:
COMPRESSIVE STRENGTH-55.2 MPa (28 DAYS).
COMPRESSIVE STRENGTH-34.5 MPa (RELEASE)
UNIT STRESS : 22 MPa COMPRESSION
3.0 MPa TENSION

STRUCTURAL STEEL - ASTM A572M/A709 GRADE 50- YIELD STRENGTH 350MPa.

PRESTRESSING AND POST-TENSIONING STEEL:

STRAND:
GRADE 270 (F's - 1860 MPa) FOR LOW RELAXATION, WELDLESS STRANDS. ALL STRANDS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A416M PRESTRESSING
PARAMETERS:
APPARENT MODULUS OF ELASTICITY = 196,000 MPa
MAXIMUM JACKING STRESS AT ANCHORAGE = 0.8 F's = 1488 MPa
MAXIMUM ANCHORING STRESS IMMEDIATELY AFTER TENDON ANCHORAGE = 0.7 f's = 1302 MPa
AT INTERNAL TENDON LOCATIONS IMMEDIATELY AFTER PRESTRESS TRANSFER = 0.74 f's = 1376 MPa
ANCHOR SET = 9.5 MM
FRICTION COEFFICIENT = 0.25
WOBBLE COEFFICIENT = 0.0002 / FT.
STRAND SIZE = 12.7MM DIAMETER, AREA=108 MM^2 (PRESTRESS)
15.2MM DIAMETER, AREA=140MM^2 (POST TENSION)

REINFORCING STEEL - ASTM A615M, A616M OR A617M
GRADE 420 MINIMUM YIELD STRENGTH 420 MPa

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
65 mm CONCRETE COVER
SEALING OF CONCRETE SURFACES
HIGH PERFORMANCE CONCRETE.

MONOLITHIC WEARING SURFACE:

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

UTILITY LINES:

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

CONCRETE PARAPETS:

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 32 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 MAXIMUM OF 3 METER CENTERS OR AS SHOWN ON THE DETAIL PLANS. 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 NORMAL WIDTH OF 6 mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 25 MM. THE BOTTOM 13MM OF THE INSIDE AND OUTSIDE FACE SHOULD BE LEFT UNSEALED TO ALLOW WATER TO ESCAPE.

FOUNDATION BEARING PRESSURE:

ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 0.21 MPa. THE ALLOWABLE BEARING PRESSURE IS 0.24 MPa.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THE BACKFILL MATERIAL BEHIND PROPOSED ABUTMENTS SHALL BE ITEM 613 LOW STRENGTH MORTAR BACKFILL, TYPE 1 (LSM BACKFILL) WITHIN THE LIMITS OF THE APPROACH SLABS. THE CONTRACTOR ALSO MAY USE THE LSM BACKFILL TO CONSTRUCT THE SLOPES IN THE SAME AREA AS LONG AS IT IS COVERED WITH ONE FOOT OF SOIL TO MEET THE FINISHED GRADE. THE AREA FOR THE POROUS BACKFILL WITH FILTER FABRIC SHALL BE FORMED UP PRIOR TO THE PLACEMENT OF THE LSM BACKFILL, AND THE FILTER FABRIC AND THE POROUS BACKFILL SHALL BE PLACED AFTER THE LSM BACKFILL HAS BEEN CURED AND THE FORMS HAVE BEEN REMOVED.
THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE AS DIRECTED BY THE ENGINEER.

ITEM	DESCRIPTION	QUANITY
613	LOW STRENGTH MORTAR BACKFILL (TYPE 1)	CU. METER

THE COST OF ALL LABOR, EQUIPMENT, AND MATERIAL SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

ITEM 844, HIGH PERFORMANCE CONCRETE SUBSTRUCTURE, AS PER PLAN:

INSTALL A 1 METER WIDE STRIP, 2.5 mm THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE THE 1 METER WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 32 X 3 mm (LENGTH X SHANK DIA.) GALVANIZED BUTTON HEAD SPIKE THROUGH A 25 mm OUTSIDE DIAMETER, 3 mm GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 225 mm. OTHER SIMILAR GALVANIZED DEVICES WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 150 mm (+/-) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS,STARTING AT 150 mm (+/-) FORM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS, AT 150 mm CENTER-TO-CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS WHERE THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHOULD COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAPS IN THE LENGTH OF THE HORIZONTAL STRIPS DUE TO MATERIAL MANUFACTURING SHALL BE AT LEAST 300 mm IN LENGTH, IF NOT VULCANIZED OR ADHESIVE BONDED, OR 150 mm IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 2.5 mm THICK GENERAL PURPOSE,HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, mm	D 751	2.5 +/-.25
BREAKING STRENGTH, GRAB WXF, N, MINIMUM	D 751	3130 X 3130
ADHESIVE 25mm STRIP, 50mm MINIMUM, N, MINIMUM	D 751	27
BURST STRENGTH (MULLEN) MPa, MINIMUM	D 751	9.65
HEAT AGING 70 HOURS T 100° C, 180 BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40° C, BEND AROUND 6 mm MANDREL	D 2136	NO CRACKING OF COATING

IN LIEW OF THE NEOPRENE SHEETING THE CONTRACTOR MAY CHOOSE TO SUPPLY TYPE 3 MEMBRANE, 711.29.

PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 844, HIGH PERFORMANCE CONCRETE SUBSTRUCTURE, AS PER PLAN.

ITEM 864, SEALING OF CONCRETE SURFACES, (EPOXY-URETHANE):

EPOXY-URETHANE SHALL THE LIGHT NEUTRAL COLOR MEETING FEDERAL COLOR STANDARD NO. 17778 AS PER THE DETAILS IN THE PLANS. SEE PROPOSAL NOTE.

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DESIGNED G.G.N
DRAWN C.R.M.
REVIEWED A.Y.Z.
DATE 7-25-02
CHECKED
REVISED
STRUCTURE FILE NO.

GENERAL NOTES
BRIDGE NO. JAC-32-1712 L & R

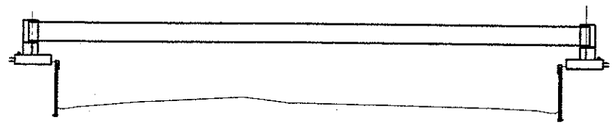
JAC-32-27.631

STAGE 1

1. CONSTRUCT MSE WALL
2. THE SELECTED GRANULAR EMBANKMENT MATERIAL BEHIND THE MSE WALL SHALL BE CONSTRUCTED UP TO THE BOTTOM OF THE ABUTMENT FOOTINGS.

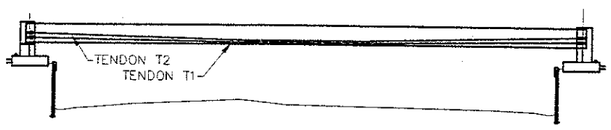
STAGE 2

1. CONSTRUCT THE ABUTMENTS.
2. FILL SELECTED GRANULAR EMBANKMENT TO THE TOP OF THE ABUTMENT FOOTING.



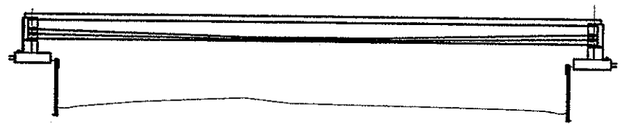
STAGE 3

1. PLACE BEARING PADS
2. AFTER THE ABUTMENTS HAVE REACHED A 28 DAY STRENGTH OF 4000 PSI AND A MINIMUM OF 7 DAYS OF CURING, ERECT GIRDERS.
3. ERECT THE GIRDERS IN VERTICAL POSITION, AND PROVIDE TRANSVERSE BRACING TO SECURE POSITION OF EACH BEAM AS EACH BEAM IS ERECTED.
4. INSTALL INTERMEDIATE X-FRAMES.
5. POUR END DIAPHRAGMS



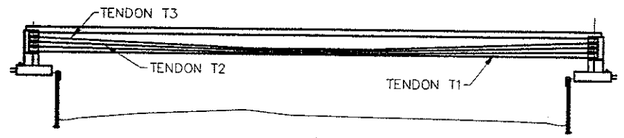
STAGE 4

1. AFTER END DIAPHRAGM HAS REACHED 28 DAY STRENGTH OF 4500 PSI AND A MINIMUM 7 DAYS OF CURING, THEN POST TENSION TENDONS "T1"
2. POST TENSION TENDONS "T2" AFTER ALL TENDIONS "T1" HAVE STRESSED.



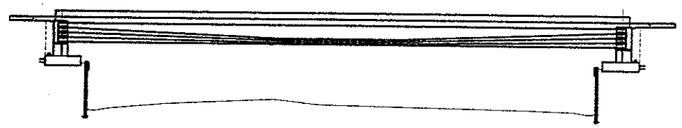
STAGE 5

1. POUR THE DECK



STAGE 6

1. AFTER THE DECK HAS REACHED A 28 DAY STRENGTH OF 4500 PSI AND A MINIMUM OF 7 DAYS OF CURING, THEN POST TENDONS "T3".
2. GROUT TENDONS T1, T2 & T3.
3. FILL THEN END DIAPHRAGMS OPENING AND TENDON RECESSES WITH NON-SHRINK MORTAR.



STAGE 7

1. FILL WITH GRANULAR MATERIAL PER THE REQUIREMENT OF ITEM 203 UP TO THE BOTTOM OF THE APPROACH SLAB.
2. CONSTRUCT THE PARAPETS AND APPROACH SLAB.
3. OPEN TO TRAFFIC.

metric units

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

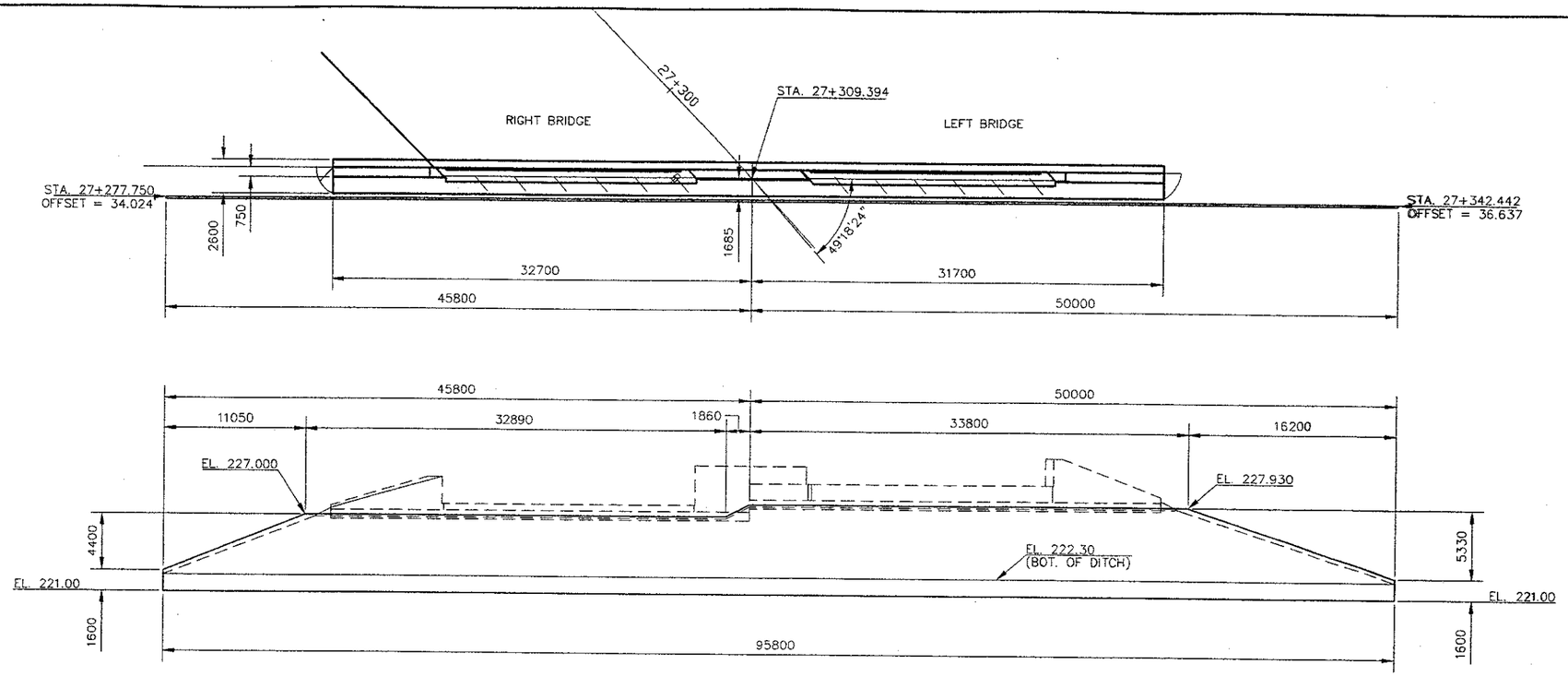
CIVILTECH CONSULTING ENGINEERS INC.

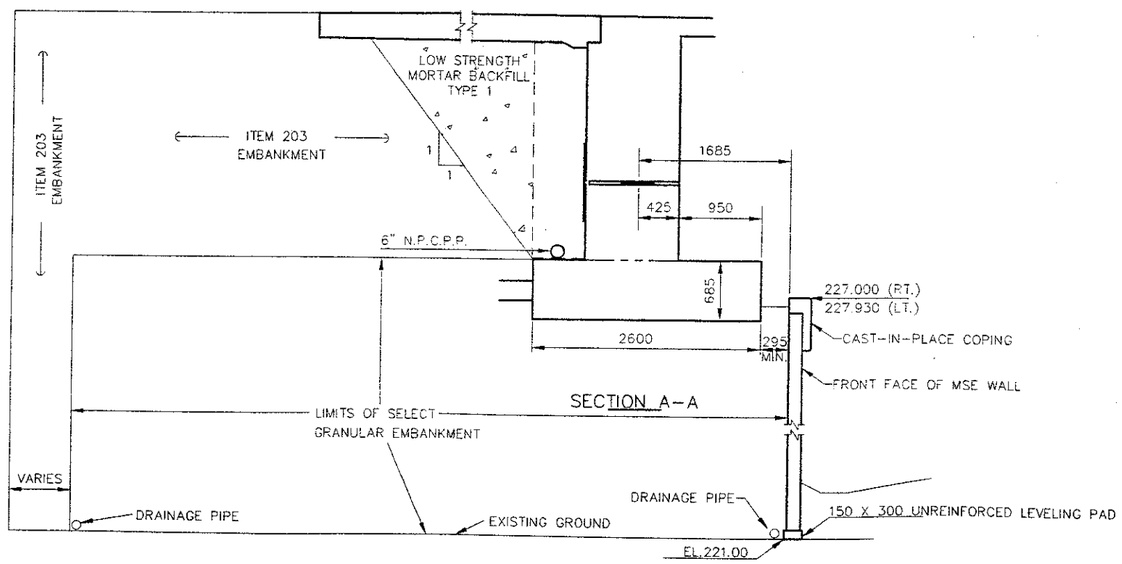
DESIGNED	DRAWN	REVISED	DATE
G.G.N.	C.R.M.	A.Y.Z.	7-25-02
CHECKED	REVISED	DIRECTORY FILE NUMBER	
K.K.H.		4002245 L 4002253 R	

CONSTRUCTION SEQUENCE
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

JAC-32-27.631

4/34





metric units

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

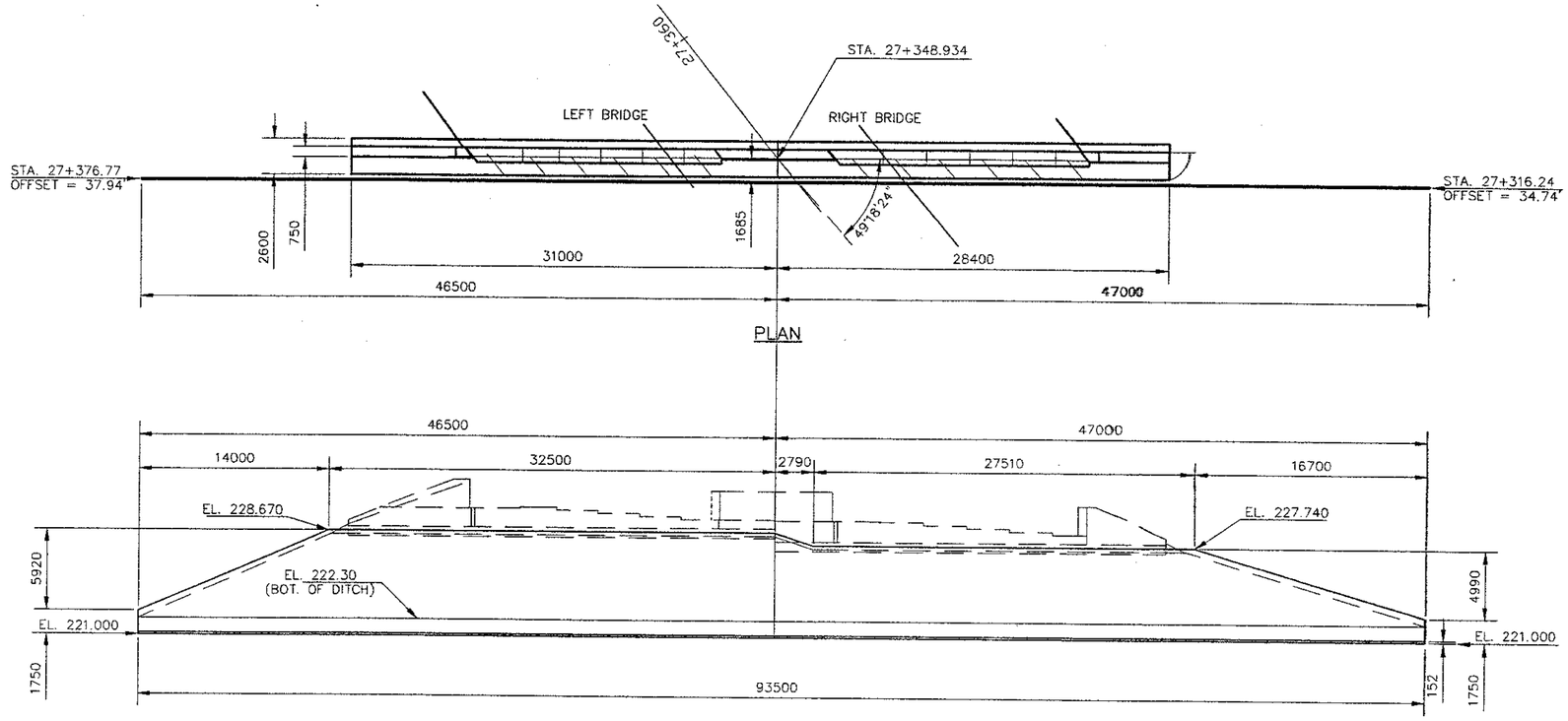
CIVILTECH CONSULTING ENGINEERS INC.

DESIGNED G.G.N.
DRAWN S.F.W.
CHECKED K.K.H.
REVIEWED A.Y.Z.
DATE 7-25-02
REVISED
STRUCTURE FILE NUMBER 4002245 L 4002253 R

REAR MSE WALL LAYOUT

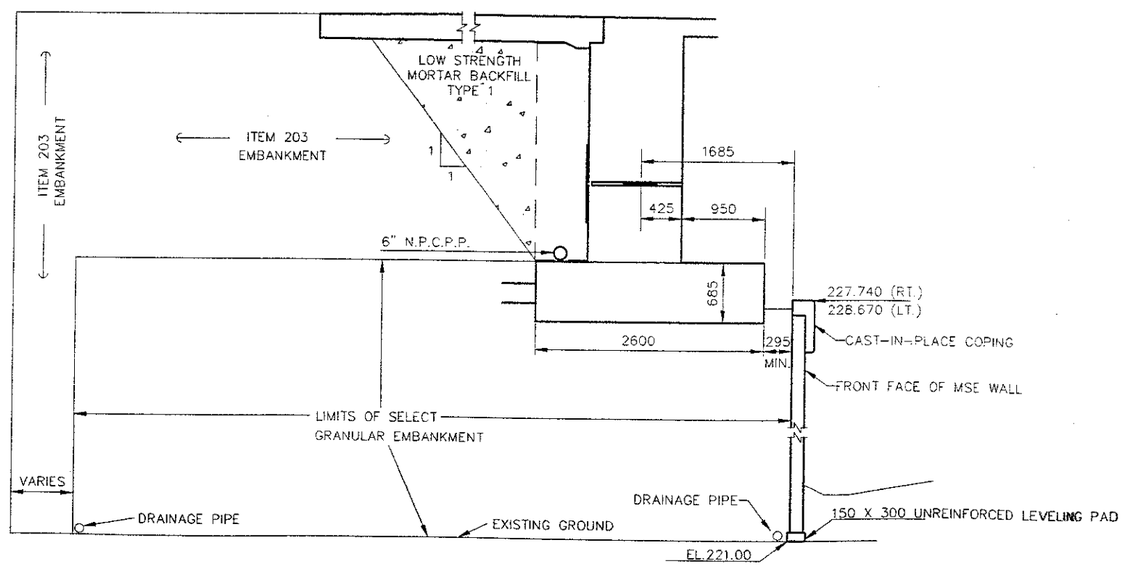
BRIDGE NO. JAC-32-1712 L & R
S.R.32 OVER S.R.327

JAC-32-27.631



PLAN

ELEVATION (MSE)



SECTION A–A

metric units

N

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

CIVILTECH CONSULTING ENGINEERS INC.	DATE
	REVIEWED A.Y.Z. 7-25-02
	STRUCTURE FILE NUMBER 4002253 L 4002253 R
DESIGNED G.G.N.	DRAWN S.F.W.
CHECKED K.K.H.	REVISED

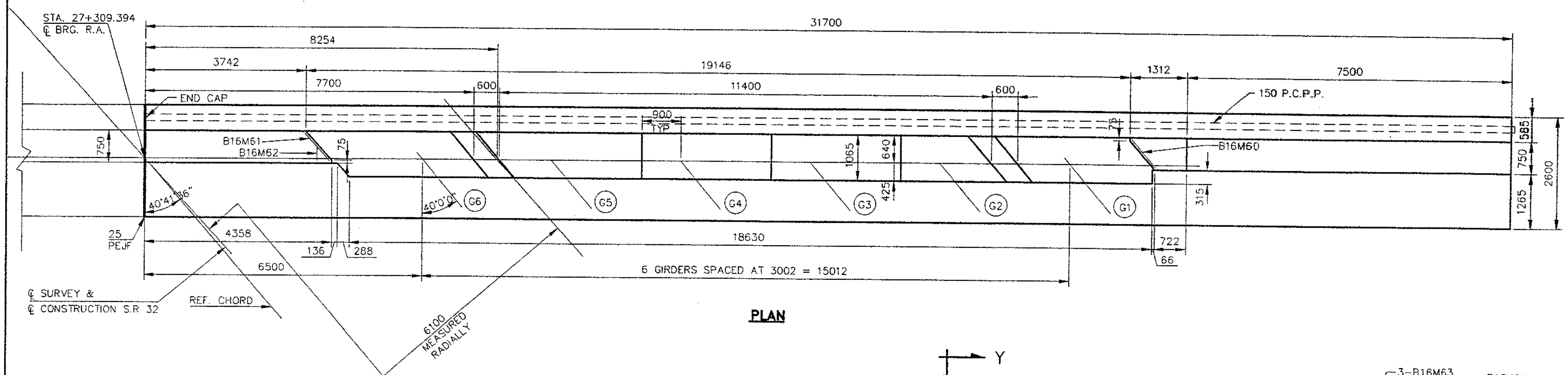
FORWARD MSE WALL LAYOUT

BRIDGE NO. JAC-32-1712 L & R
S.R.32 OVER S.R.327

JAC-32-27.631

6 / 34

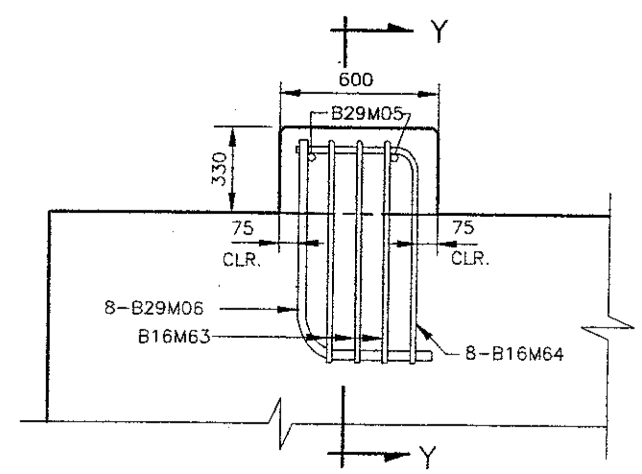
1



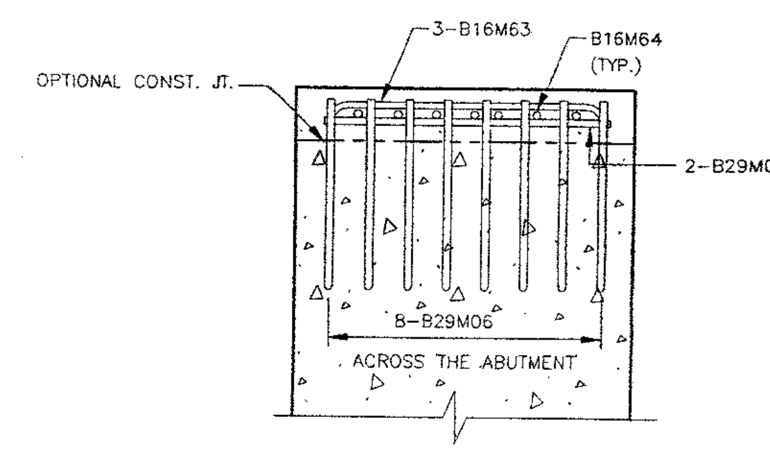
PLAN

LEGEND

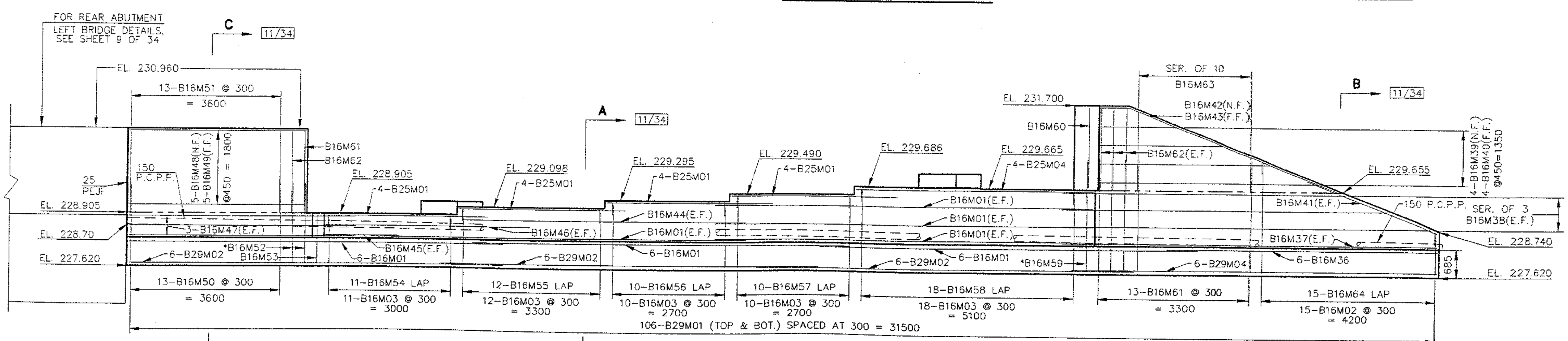
E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
P.G. = PROFILE GRADE
*B16M52 = LONG LEG PLACED NEAR FACE
*B16M59 = LONG LEG PLACED FAR FACE



SEISMIC PEDESTAL DETAILS



SECTION Y-Y



ELEVATION (ABUTMENT)

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE

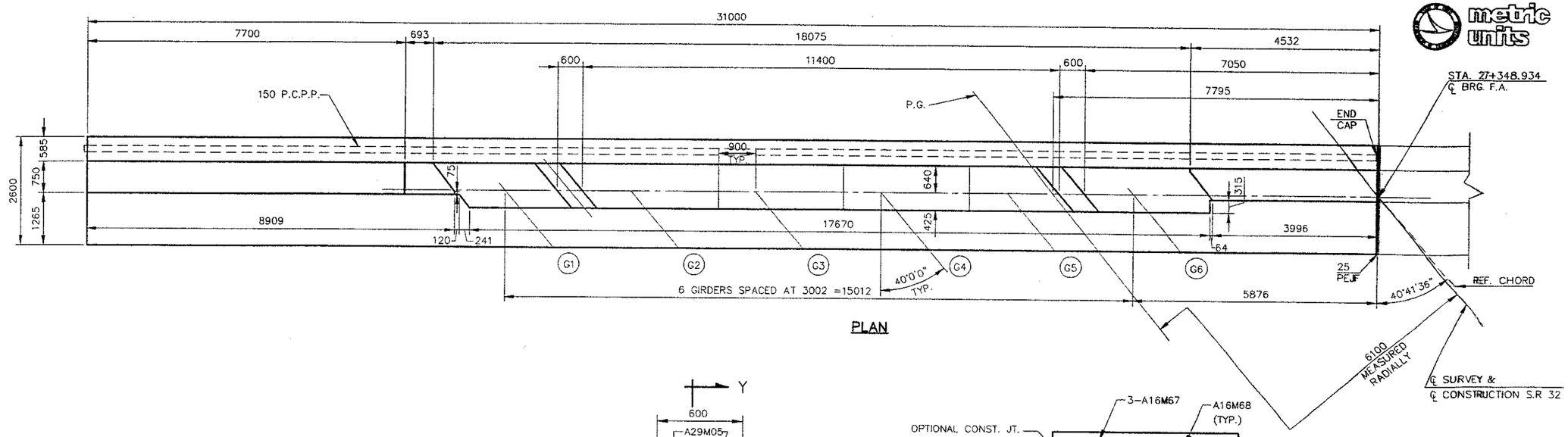
DESIGNED G.G.N. | CHECKED K.K.H. | DRAWN C.R.M. | REVIEWED A.Y.Z. | DATE 7-25-02
STRUCTURE FILE NUMBER 4002245

REAR ABUTMENT DETAILS (LEFT BRIDGE)

BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

JAC-32-27.631

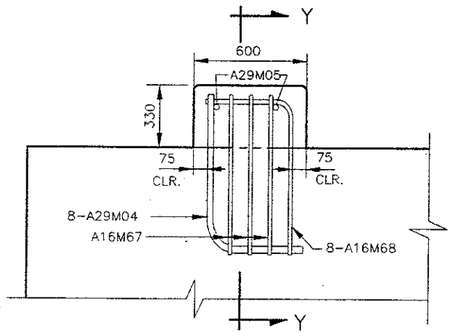
metric units



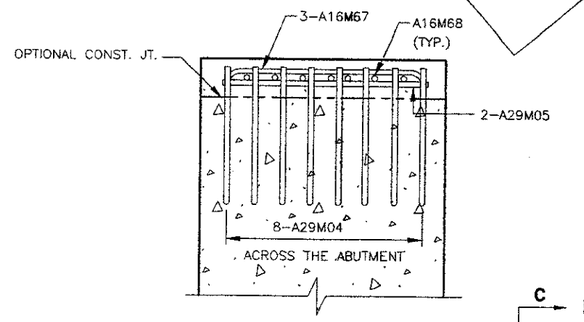
PLAN

LEGEND

E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
P.G. = PROFILE GRADE
*A16M53 = LONG LEG PLACED NEAR FACE
*A16M61 = LONG LEG PLACED FAR FACE

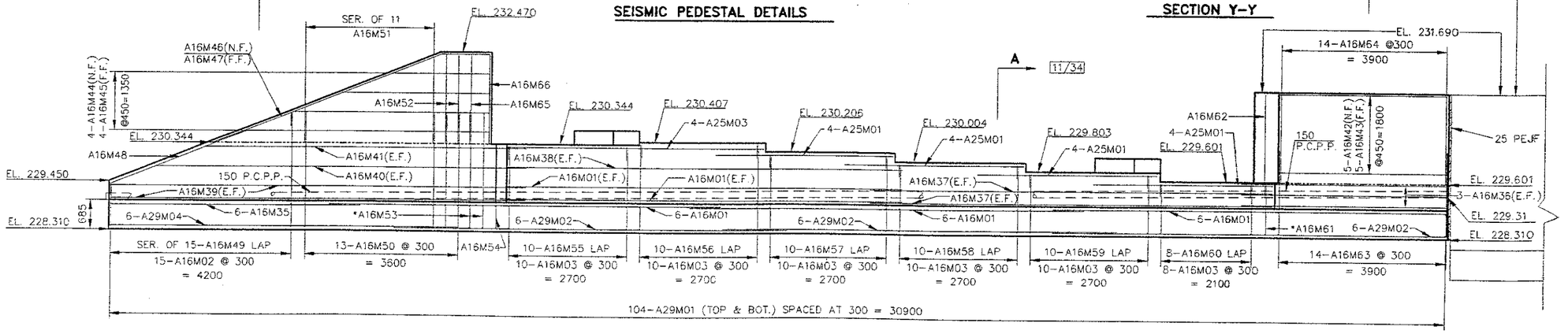


SEISMIC PEDESTAL DETAILS



SECTION Y-Y

FOR FORWARD ABUTMENT RIGHT BRIDGE DETAILS, SEE SHEET 10 OF 34



ELEVATION

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN OH 43016

CIVILTECH CONSULTING ENGINEERS INC.

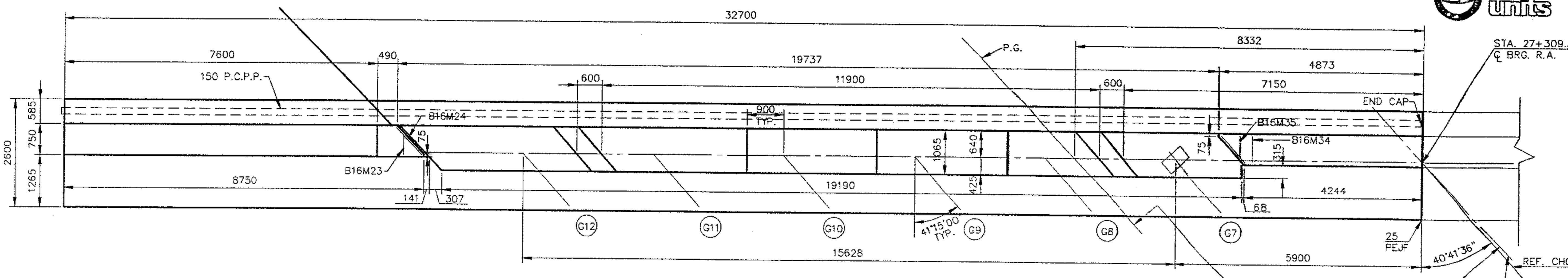
DESIGNED G.G.N.
DRAWN C.R.M.
CHECKED K.K.H.
REVIEWED A.Y.Z.
DATE 7-25-02
STRUCTURE FILE NUMBER 4002245 L 4002245 R
PLANS

FORWARD ABUTMENT DETAILS (LEFT BRIDGE)

BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

JAC-32-27.631

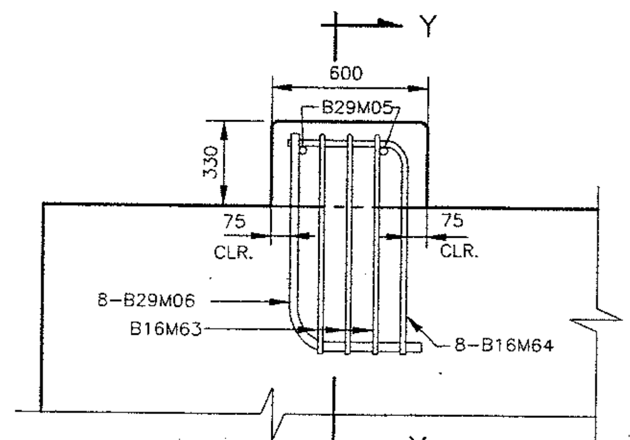
8 / 34



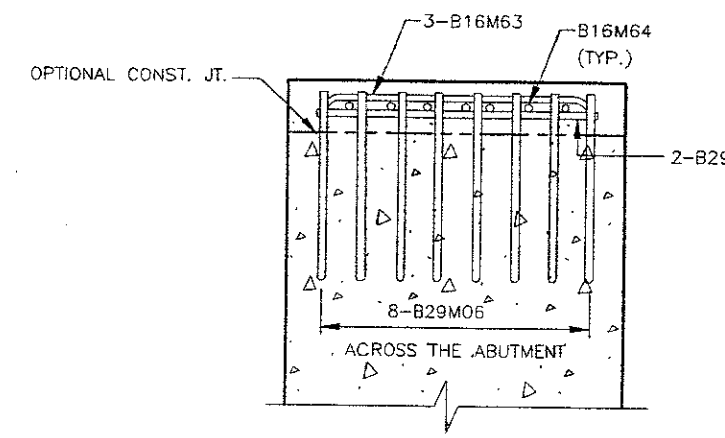
PLAN

LEGEND

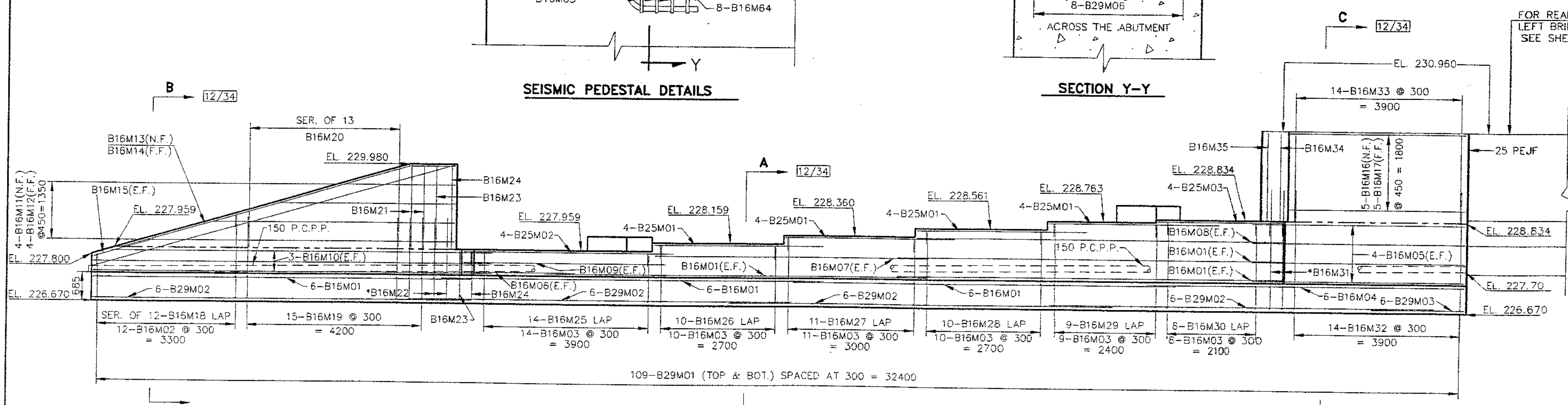
E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
P.G. = PROFILE GRADE
*B16M22 = LONG LEG PLACED NEAR FACE
*B16M31 = LONG LEG PLACED FAR FACE



SEISMIC PEDESTAL DETAILS



SECTION Y-Y



ELEVATION (ABUTMENT)

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

REAR ABUTMENT DETAILS (RIGTH BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

DESIGN AGENCY
CIVIL TECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

DESIGNED G.G.N. CHECKED K.K.H. DRAWN C.R.M. REVIEWED A.Y.Z. DATE 7-5-02

JAC-32-27.631

metric units

STA. 27+348.934
℄ BRG. F.A.

7848
3580
6650
600
28400
18493
11900
600
1227
5100

END CAP
P.G.
150 P.C.P.P.
A16M23
A16M25
A16M26
A16M24
900 TYP.
1065
640
425
75
585
750
1265
2600
658
315
65
4126
125
255
18070
5389
6 GIRDERS SPACED AT 3126 = 15628
25 PEJF
40°41'36"
41°15'0"
6100 MEASURE RADIALLY
REF. CHORD
℄ SURVEY &
℄ CONSTRUCTION S.R 32
G7 G8 G9 G10 G11 G12

PLAN

LEGEND

E.F. = EACH FACE
F.F. = FAR FACE
N.F. = NEAR FACE
P.G. = PROFILE GRADE
*A16M11 = LONG LEG PLACED NEAR FACE
*A16M18 = LONG LEG PLACED FAR FACE

FOR FORWARD ABUTMENT LEFT BRIDGE DETAILS, SEE SHEET 8 OF 34

Y
600
A29M05
330
75 CLR.
75 CLR.
8-A29M04
A16M67
8-A16M68
Y

SEISMIC PEDESTAL DETAILS

OPTIONAL CONST. JT.
3-A16M67
A16M68 (TYP.)
2-A29M05
8-A29M04
ACROSS THE ABUTMENT

SECTION Y-Y

C 12/34
EL. 231.690
12-A16M27 @ 300 = 3300
5-A16M28(N.F.) 5-A16M29(F.F.) @ 450 = 1800
A16M25
A16M26
25 PEJF
EL. 229.533
EL. 229.510
EL. 229.310
EL. 229.093
A 12/34
EL. 228.885
EL. 228.677
EL. 228.40
4-A16M09(E.F.)
4-A25M02
4-A25M01
A16M01(E.F.)
150 P.C.P.P.
A16M08(E.F.)
A16M07(E.F.)
6-A16M01
*A16M11
*A16M12
6-A29M02
12-A16M10 @ 300 = 3300
21-A16M13 LAP
21-A16M03 @ 300 = 6000
10-A16M14 LAP
10-A16M03 @ 300 = 2700
11-A16M15 LAP
11-A16M03 @ 300 = 3000
10-A16M16 LAP
10-A16M03 @ 300 = 2700
7-A16M17 LAP
7-A16M03 @ 300 = 1800
A16M06(E.F.)
*A16M18
A16M24
A16M23
A16M22
B 12/34
SER. OF 9 A16M21
EL. 230.750
A16M32(N.F.) A16M33(F.F.)
EL. 228.677
A16M34(E.F.)
4-A16M30(N.F.) 4-A16M31(F.F.) @450=1350
150 P.C.P.P.
3-A16M05(E.F.)
EL. 228.520
6-A29M03
A16M35
6-A16M04
EL. 227.390
11-A16M19 @ 300 = 3000
SER. OF 8-A16M20 LAP 8-A16M02 @ 300 = 2100
95-A29M01 (TOP & BOT.) SPACED AT 300 =28200

ELEVATION (ABUTMENT)

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE

CIVILTECH CONSULTING ENGINEERS, INC.

DATE
REVISED A.Y.Z. 7-5-02
STRUCTURE FILE NUMBER 4002245 L
4002247 R

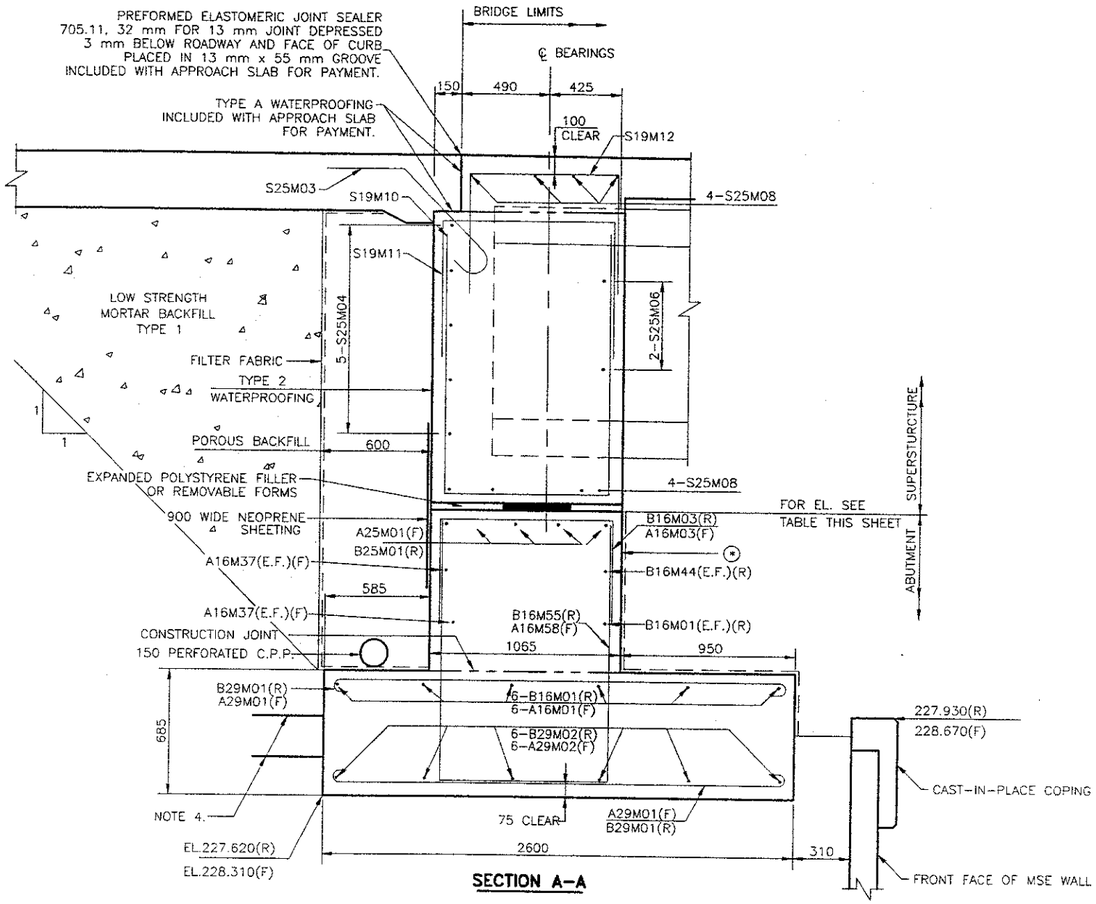
DRAWN C.R.M.
REVISED

DESIGNED G.G.N.
CHECKED K.K.H.

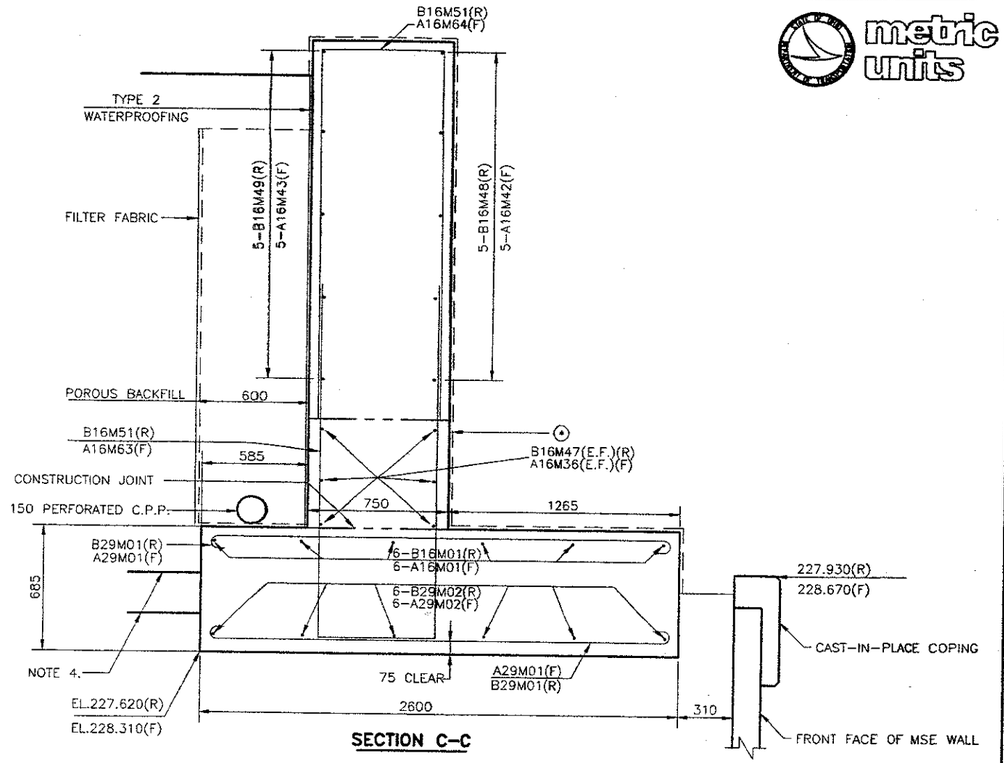
FORWARD ABUTMENT DETAILS (RIGHT BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

JAC-32-27.631

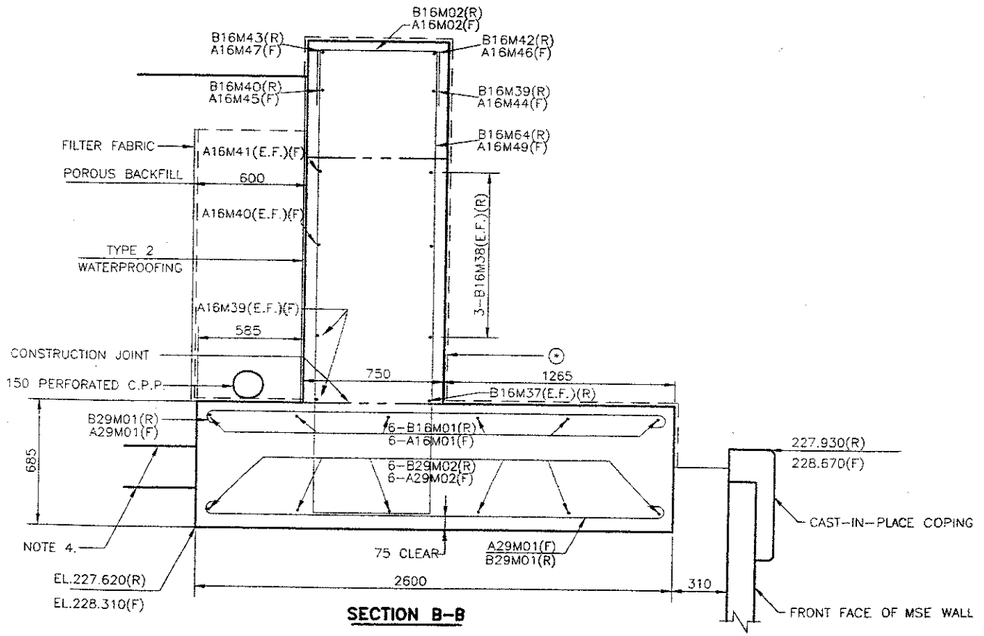
10 / 34



SECTION A-A



SECTION C-C



SECTION B-B

NOTES:

1. POROUS BACKFILL

POROUS BACKFILL WITH FILTER FABRIC SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE, TO 300 mm BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. FILTER FABRIC SHALL CONFORM WITH 712.09, TYPE A. FILTER FABRIC IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

2. ABUTMENT DIAPHRAGM CONCRETE

CONCRETE ENCASING THE PRESTRESSED I BEAM STRUCTURAL MEMBERS IN SEMI-INTEGRAL TYPE ABUTMENTS MAY BE PLACED AT LEAST 48 HOURS BEFORE THE ACTUAL DECK CONCRETE IS PLACED

3. FOR ADDITIONAL DETAILS, REFER TO STANDARD DWG. SICD-1-96M.
4. SEE MANUFACTURER'S MSE WALL PLANS FOR ADDITIONAL STRAPS ATTACHED TO ABUTMENT FOOTING.
5. SEE SHEET 4 & 5 OF 34 FOR MSE WALL DETAILS.
6. ABUTMENT BACKFILL ABOVE THE BRIDGE SEAT SHALL NOT BE PLACED UNTIL AFTER THE CONCRETE DECK SLAB HAS CURED FOR AT LEAST 48 HOURS.

LEGEND
(R) = REAR
(F) = FORWARD
⊙ = SEALING OF CONCRETE SURFACES

metric units

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

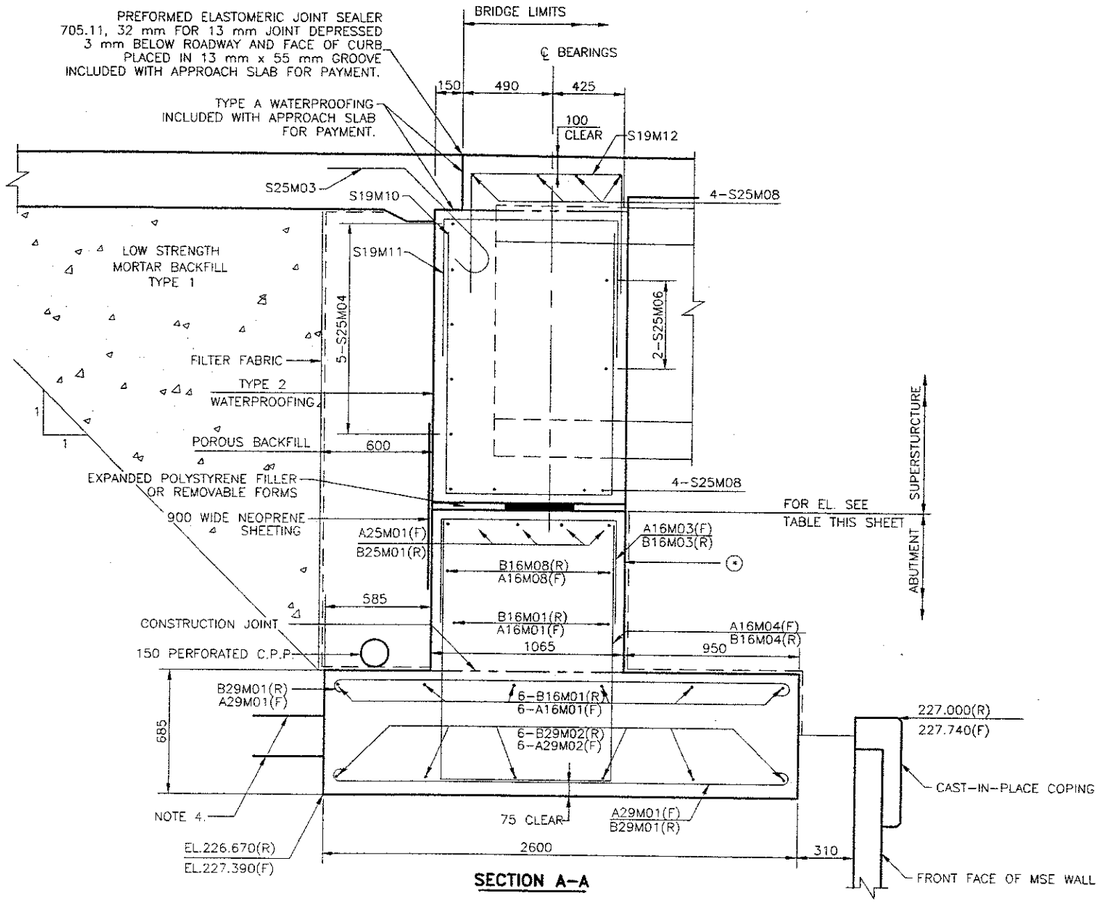
DESIGN AGENCY: CIVIL TECH CONSULTING ENGINEERS, INC. 6041 HEATHER BLUFF DRIVE
CIVIL TECH CONSULTING ENGINEERS INC.
DESIGNED G.G.N
DRAWN C.R.M.
CHECKED K K H
REVIEWED A.Y.Z.
DATE 7-5-02
REVISED
STRUCTURE FILE NO. 4002753 R 4002745 L &

ABUTMENT SECTION DETAILS (LEFT BRIDGE)

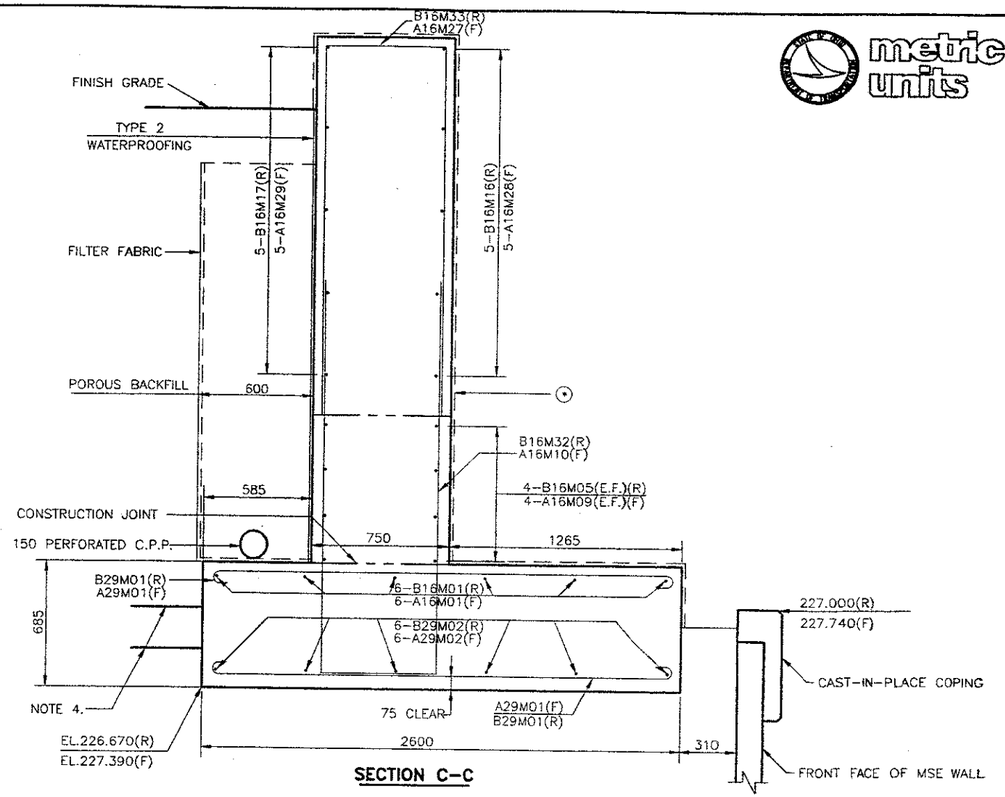
BRIDGE NO. JAC-32-1712 L & R
S.R.32 OVER S.R.327

JAC-32-27.631

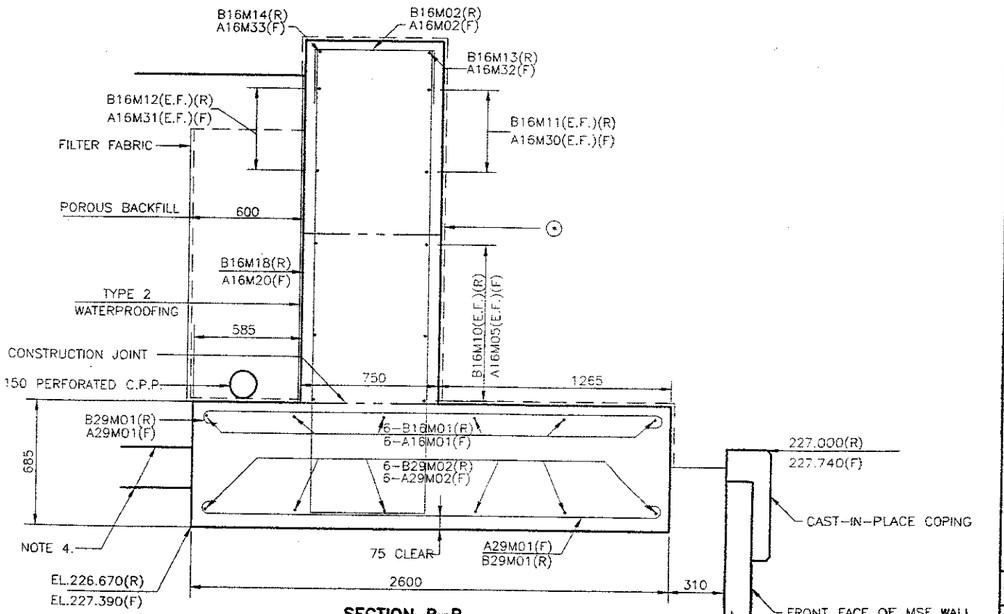
11/34



SECTION A-A



SECTION C-C



SECTION B-B

NOTES:

1. POROUS BACKFILL

POROUS BACKFILL WITH FILTER FABRIC SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE, TO 300 mm BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. FILTER FABRIC SHALL CONFORM WITH 712.09, TYPE A. FILTER FABRIC IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

2. ABUTMENT DIAPHRAGM CONCRETE

CONCRETE ENCASING THE PRESTRESSED I BEAM STRUCTURAL MEMBERS IN SEMI-INTEGRAL TYPE ABUTMENTS MAY BE PLACED AT LEAST 48 HOURS BEFORE THE ACTUAL DECK CONCRETE IS PLACED

3. FOR ADDITIONAL DETAILS, REFER TO STANDARD DWG. SICD-1-96M.

4. SEE MANUFACTURER'S MSE WALL PLANS FOR ADDITIONAL STRAPS ATTACHED TO ABUTMENT FOOTING.

5. SEE SHEET 4 & 5 OF 34 FOR MSE WALL DETAILS.

6. ABUTMENT BACKFILL ABOVE THE BRIDGE SEAT SHALL NOT BE PLACED UNTIL AFTER THE CONCRETE DECK SLAB HAS CURED FOR AT LEAST 48 HOURS.

LEGEND
(R) = REAR
(F) = FORWARD
⊙ = SEALING OF CONCRETE SURFACES

metric units

DESIGN AGENCY: CIVILTECH CONSULTING ENGINEERS, INC. 6041 HEATHER BLUFF DRIVE
CIVILTECH CONSULTING ENGINEERS Inc.
DESIGNED G.G.N. DRAWN C.R.M. CHECKED
REVIEWED A.Y.Z. REVISED
DATE 7-25-02
STRUCTURE FILE NO. 4002945 & 4002952

ABUTMENT SECTION DETAILS (RIGHT BRIDGE)

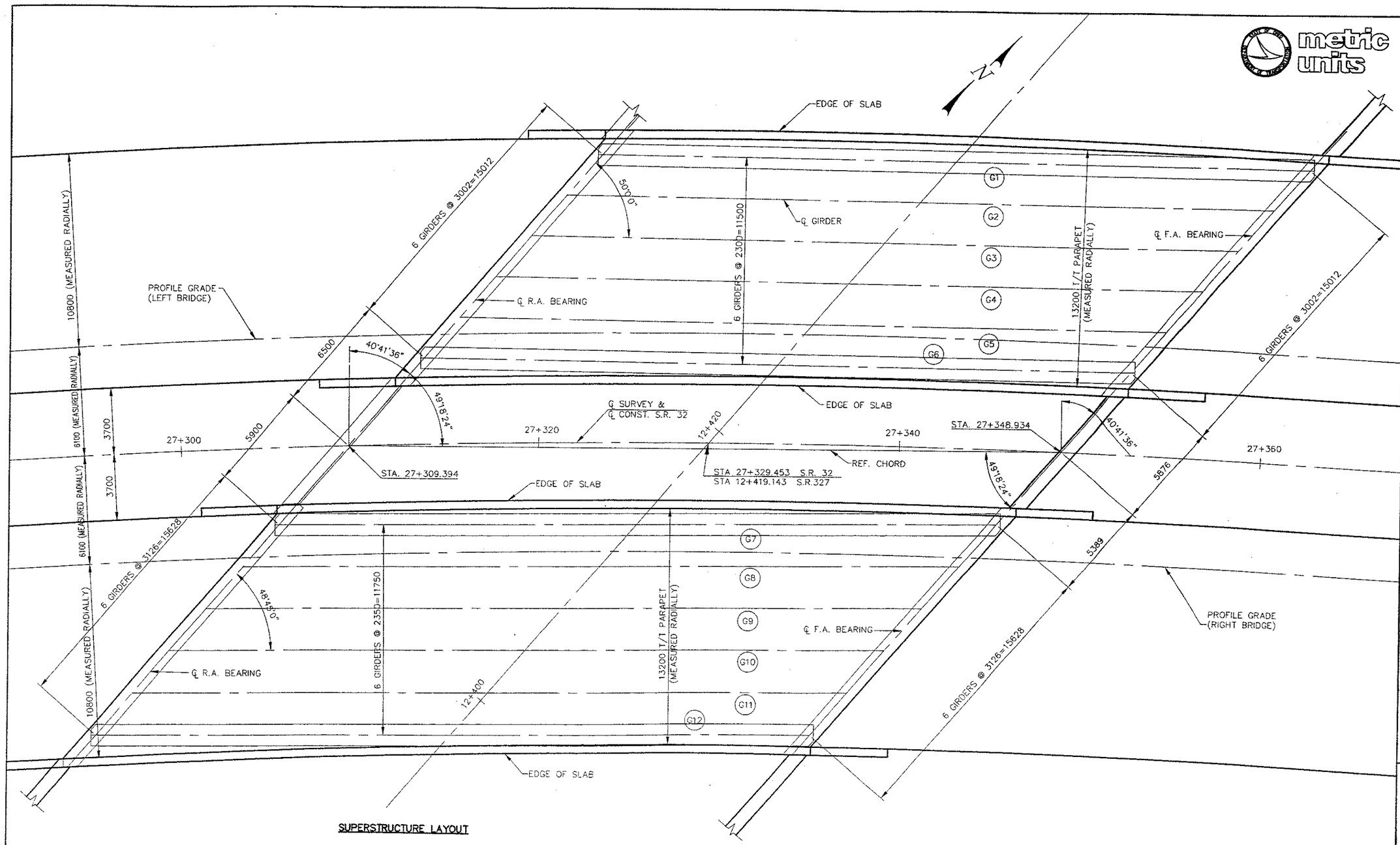
BRIDGE NO. JAC-32-1712 L & R
S.R.32 OVER S.R.327

JAC-32-27.631

12/34

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units



SUPERSTRUCTURE LAYOUT

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE

DESIGNED	DRAWN	REVIEWED	DATE
G.G.N.	C.R.M.	A.Y.Z.	7-15-02
CHECKED K K H	REVISED	REVISED	STRUCTURE FILE NUMBER 400246 L

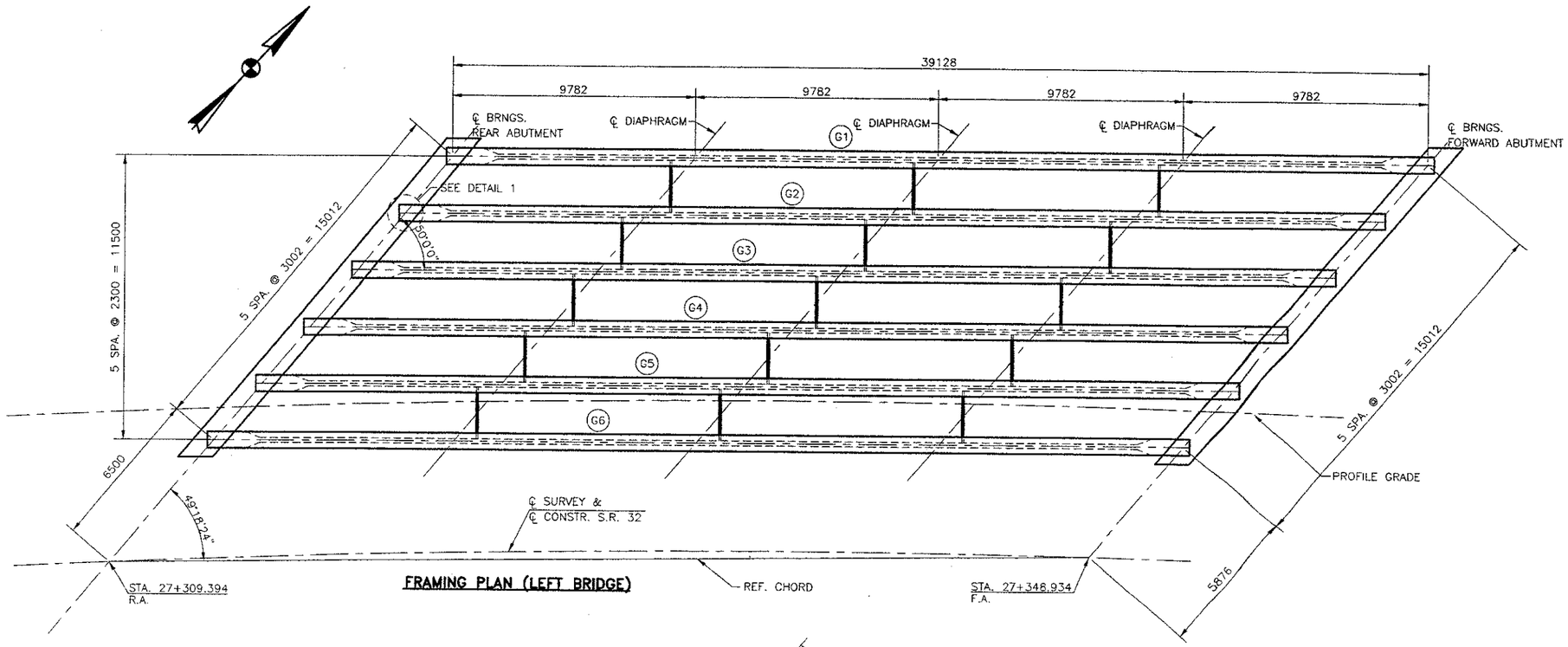
CIVILTECH CONSULTING ENGINEERS, INC.

SUPERSTRUCTURE LAYOUT
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 over NWPR S.R. 327

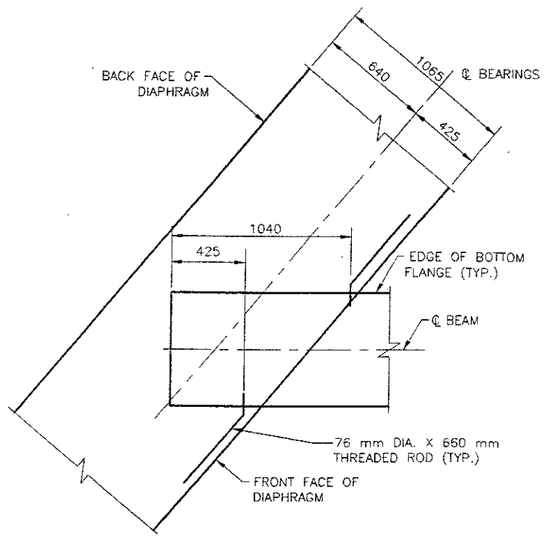
JAC-32-27.631

13 / 34

metric units



FRAMING PLAN (LEFT BRIDGE)



DETAIL 1

NOTES:

1. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 26 & 27 OF 34
2. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE STD. DWG PSID-1-99
3. SEE SHEET 23 OF 34 FOR CLIPPED TOP FLANGE DETAILS

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

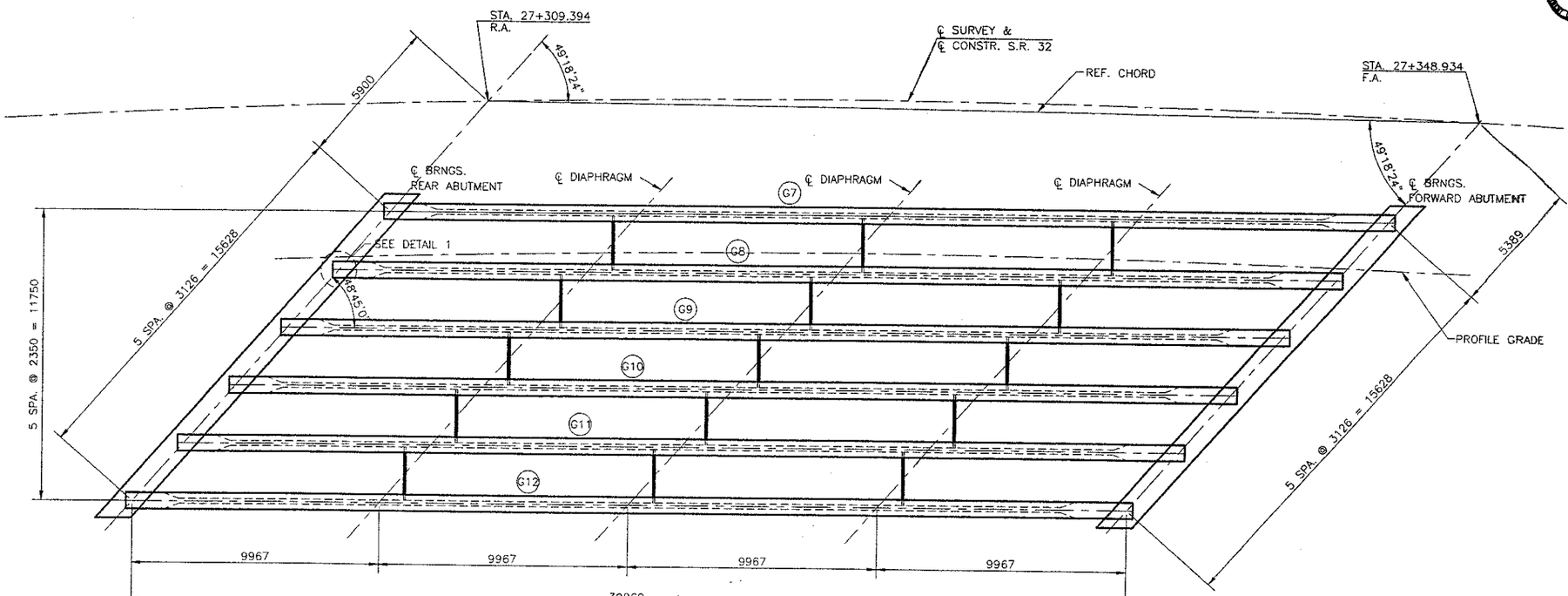
DESIGN AGENCY
CIVILTECH CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE

DESIGNED	DRAWN	REVIEWED	DATE
G.G.N.	C.R.M.	A.Y.Z.	7-25-02
CHECKED	REVISED	STRUCTURE FILE NO.	
K.K.H.		1002345.1	

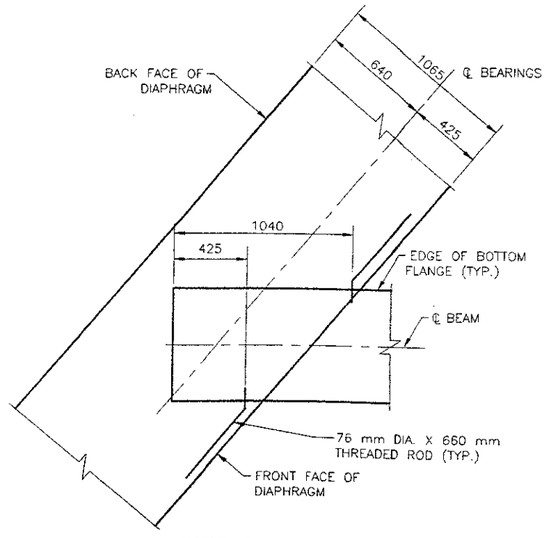
FRAMING PLAN (LEFT BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

JAC-32-27.631

14/34



FRAMING PLAN (RIGHT BRIDGE)



DETAIL 1

NOTES:

1. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 26 & 27 OF 34
2. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE STD. DWG PSID-1-99
3. SEE SHEET 23 OF 34 FOR CLIPPED TOP FLANGE DETAILS

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
8041 HEATHER BLUFF DRIVE
PLANO, TEXAS 75025

CIVILTECH
CONSULTING ENGINEERS, INC.

DATE 7-25-02

REVIEWED A.Y.Z.

STRUCTURE FILE NO. 400252 P

DESIGNED G.G.N.
DRAWN C.R.M.
CHECKED K.K.H.
REVISED

FRAMING PLAN (RIGHT BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

JAC-32-27.631

15/34

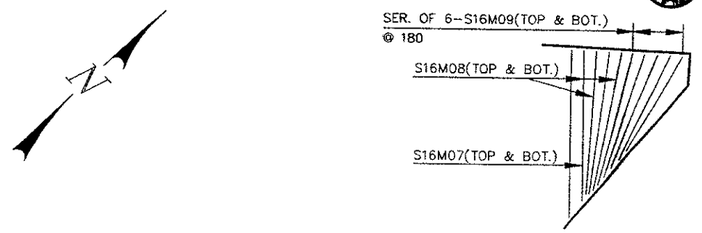
NOTES:

1. CONCRETE DECK SLAB DEPTH
   FOR CAMBER AND DECK THICKNESS DIAGRAM SEE SHEET 20 OF 34.
2. MINIMUM LAP LENGTHS
   LAP NO.13M BARS 840 mm.
   LAP NO.16M BARS 970 mm.
3. FOR PARAPET TRANSITION DETAILS, SEE SHEET 31 OF 34.
4. FOR PARAPET DETAILS, SEE SHEET 18 OF 35

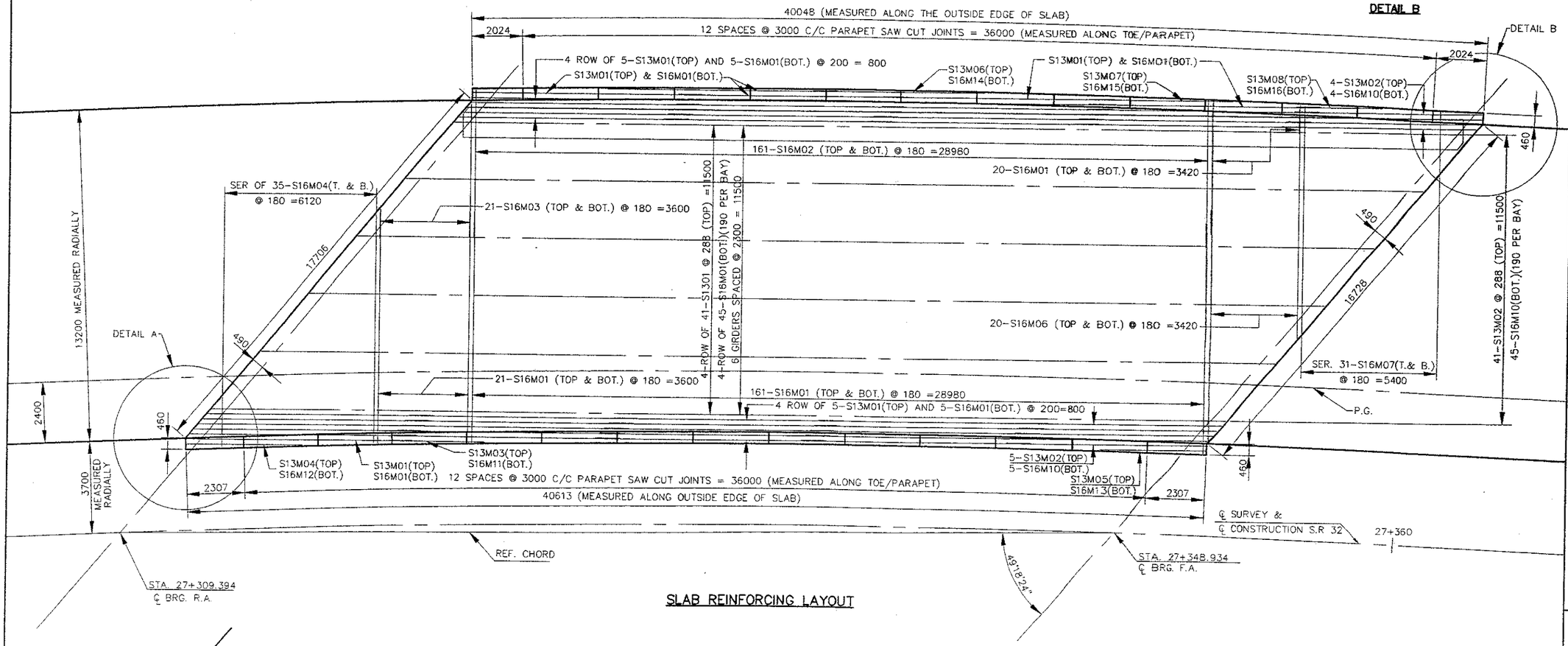
LEGEND

T. = TOP
B. = BOTTOM

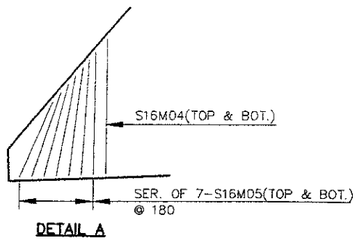
metric units



DETAIL B



SLAB REINFORCING LAYOUT



DETAIL A

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

DESIGN AGENCY: CIVIL TECH CONSULTING ENGINEERS, INC. 6041 HEATHER BLUFF DRIVE HILLIARD, OHIO 43026
CIVILTECH CONSULTING ENGINEERS INC.
DATE: 7-25-02
REVIEWED: A.Y.Z.
STRUCTURE NUMBER: 4002245 4002253 L R
DRAWN: C.R.M.
REVISED:
DESIGNED: G.G.N.
CHECKED: K.K.H.

SLAB REINFORCING LAYOUT (LEFT BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

JAC-32-27.631

16 / 34

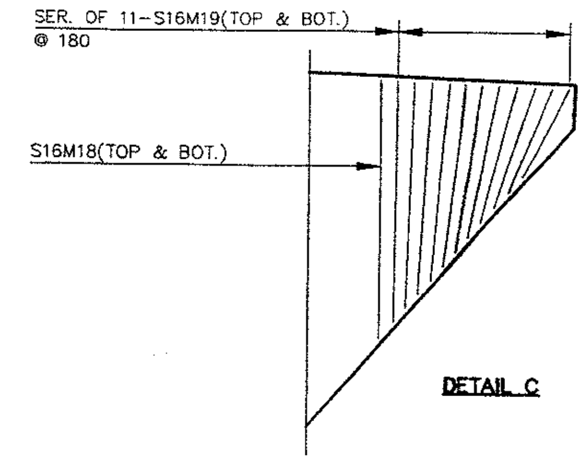
NOTES:

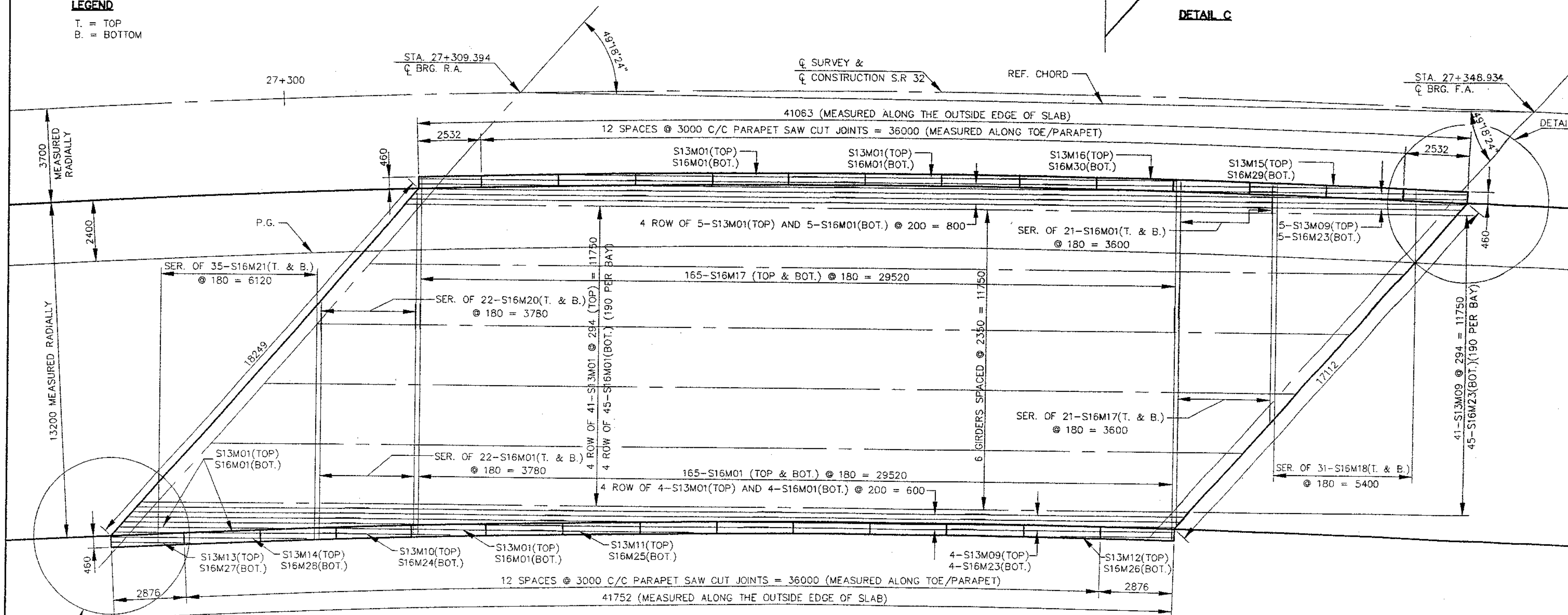
1. CONCRETE DECK SLAB DEPTH
   FOR CAMBER AND DECK THICKNESS DIAGRAM SEE SHEET 20 OF 34.
2. MINIMUM LAP LENGTHS

   LAP NO.13M BARS 840 mm.
   LAP NO.16M BARS 970 mm.
3. FOR PARAPET TRANSITION DETAILS, SEE SHEET 31 OF 34.
4. FOR PARAPET DETAILS, SEE SHEET 19 OF 34

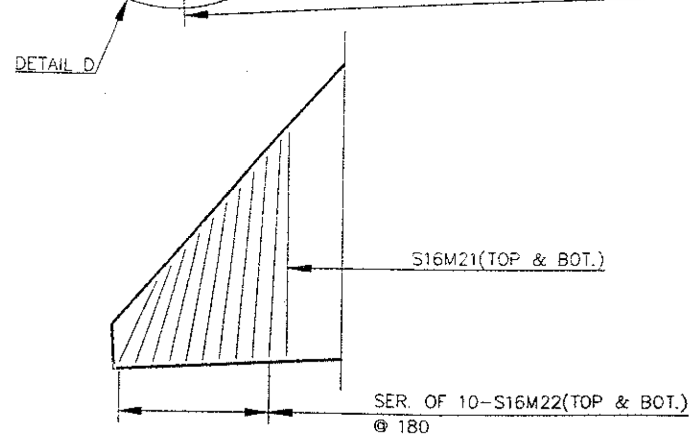
LEGEND

T. = TOP
B. = BOTTOM





SLAB REINFORCING LAYOUT



ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

DESIGNED G.C.N. CHECKED K.K.H.
DRAWN C.R.M. REVISED
REVIEWED A.Y.Z. DATE 7-25-02
STRUCTURE FILE NUMBER 4002245 L 4002253 R

SLAB REINFORCING LAYOUT (RIGHT BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

JAC-32-27.631

NOTES:

1. CONCRETE DECK SLAB DEPTH

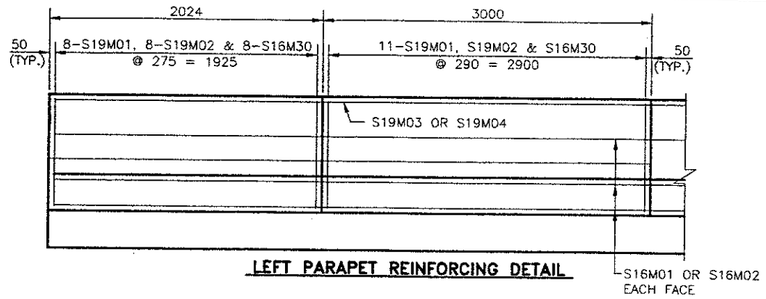
FOR CAMBER AND DECK THICKNESS DIAGRAM SEE SHEET 20 OF 34

2. MINIMUM LAP LENGTHS

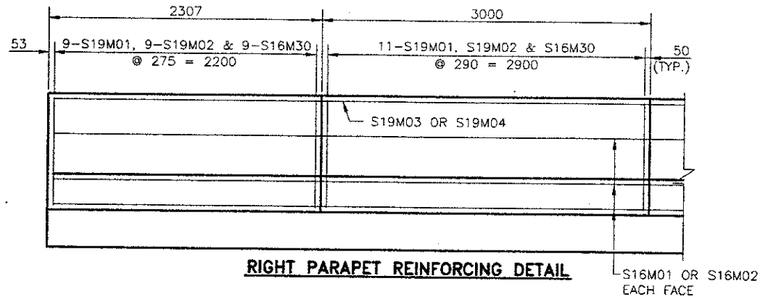
LAP NO.13M BARS 675 mm.
LAP NO.16M BARS 875 mm.
LAP NO.19M BARS 1041 mm.

3. FOR DECK REINFORCING LAYOUT, SHEET 16 OF 34

4. FOR PARAPET TRANSITION DETAILS, SEE SHEET 31 OF 34.

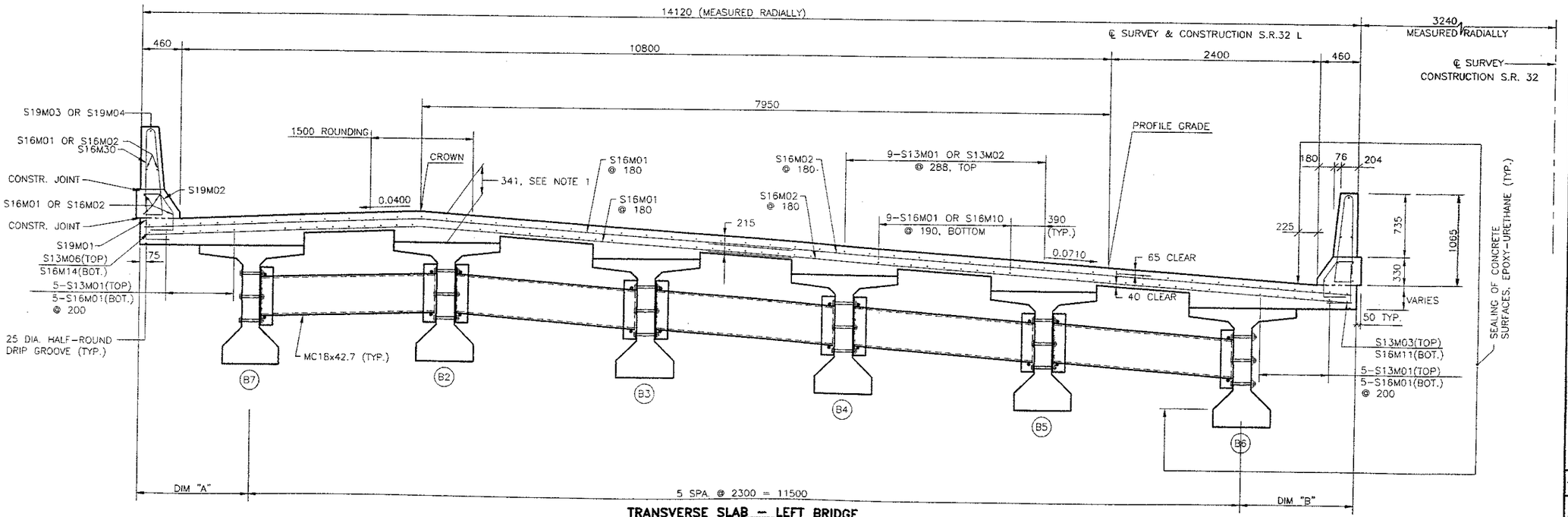


LEFT PARAPET REINFORCING DETAIL



RIGHT PARAPET REINFORCING DETAIL

SLAB CANTILEVERS TABLE		
LOCATION	LEFT SIDE DIM "A"	RIGHT SIDE DIM "B"
℄ BRG. REAR	1356	1560
0.1L	1428	1422
0.2L	1475	1310
0.3L	1495	1224
0.4L	1491	1165
0.5L	1460	1131
0.6L	1405	1124
0.7L	1323	1143
0.8L	1216	1188
0.9L	1083	1258
℄ BRG. FWD.	925	1356



TRANSVERSE SLAB – LEFT BRIDGE

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGN AGENCY
CIVILTECH CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE

CIVILTECH CONSULTING ENGINEERS

DESIGNED G.G.N.
DRAWN C.R.M.
CHECKED
REVIEWED A.Y.Z.
DATE 7-25-02
REVISED
STRUCTURE FILE NO.

TRANSVERSE SLAB DETAILS (LEFT BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 127

JAC-32-27.631

18/34

NOTES:

1. CONCRETE DECK SLAB DEPTH

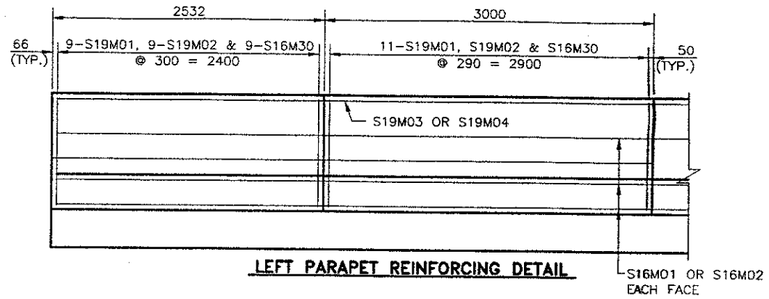
FOR CAMBER AND DECK THICKNESS DIAGRAM SEE SHEET 17 OF 34

2. MINIMUM LAP LENGTHS

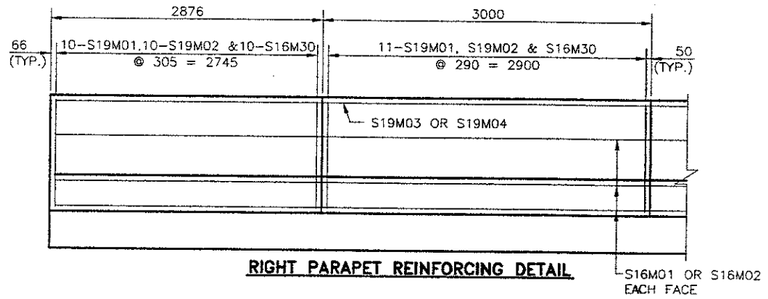
LAP NO.13M BARS 675 mm.
LAP NO.16M BARS 875 mm.
LAP NO.19M BARS 1041 mm.

3. FOR DECK REINFORCING LAYOUT, SHEET 17 OF 34

4. FOR PARAPET TRANSITION DETAILS, SEE SHEET 31 OF 34.

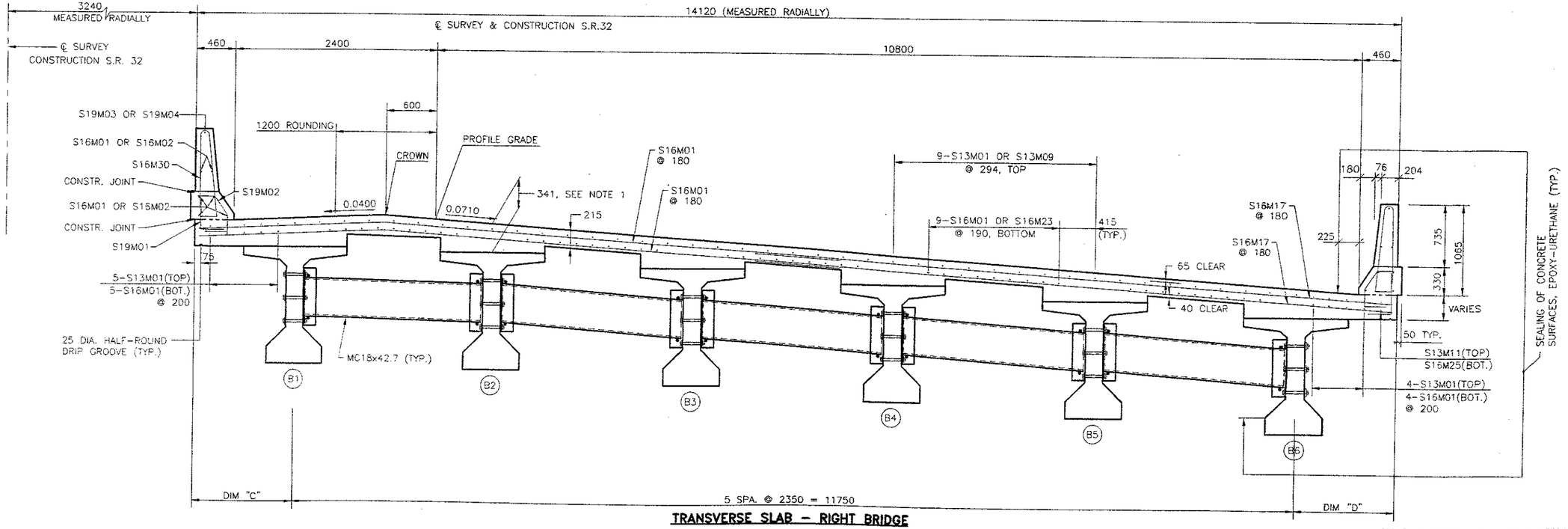


LEFT PARAPET REINFORCING DETAIL



RIGHT PARAPET REINFORCING DETAIL

SLAB CANTILEVERS TABLE		
LOCATION	LEFT SIDE DIM "C"	RIGHT SIDE DIM "D"
℄ BRG. REAR	1085	1712
0.1L	1196	1527
0.2L	1279	1370
0.3L	1334	1241
0.4L	1362	1139
0.5L	1363	1066
0.6L	1335	1022
0.7L	1281	1005
0.8L	1198	1016
0.9L	1089	1055
℄ BRG. FWD.	952	1123



TRANSVERSE SLAB – RIGHT BRIDGE

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

CIVILTECH CONSULTING ENGINEERS INC

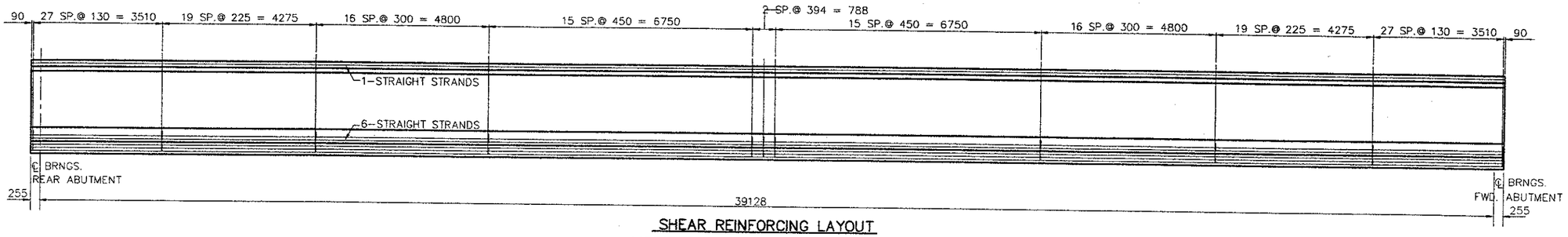
DESIGNED G.G.N.
DRAWN C.R.M.
CHECKED K.K.H.
REVIEWED A.Y.Z.
REVISED
DATE 7-25-02
STRUCTURE FILE NO. 4107251 R

TRANSVERSE SLAB DETAILS (RIGHT BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

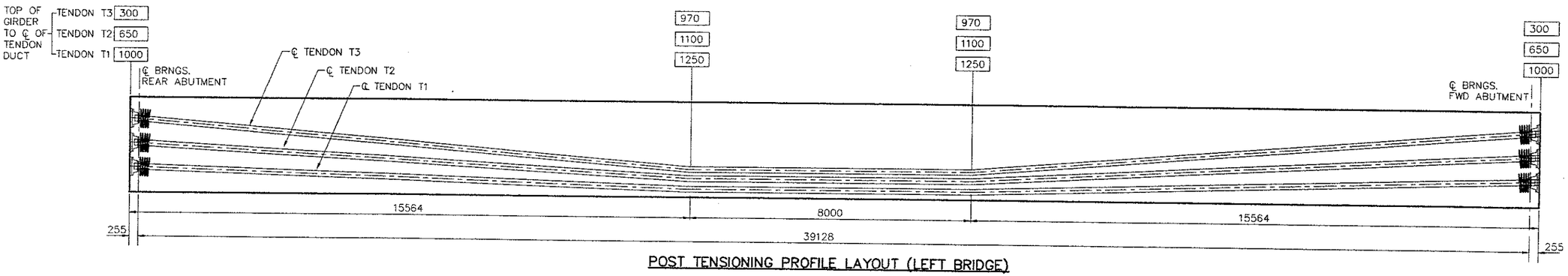
JAC-32-27.631

19/34

metric units

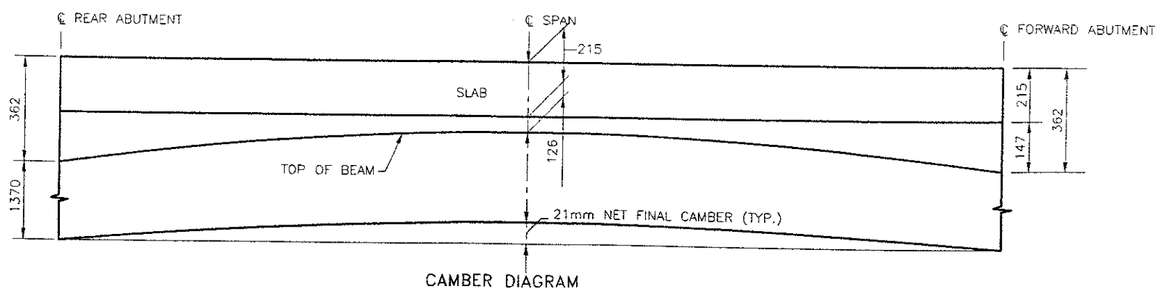


SHEAR REINFORCING LAYOUT
MODIFIED AASHTO TYPE 4 I-GIRDERS

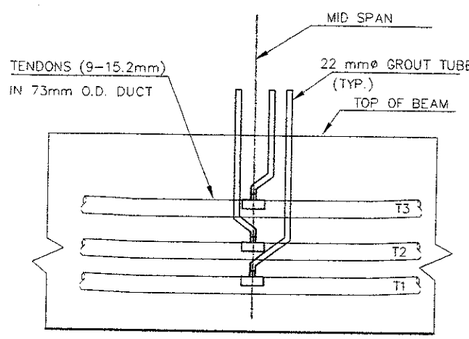


POST TENSIONING PROFILE LAYOUT (LEFT BRIDGE)

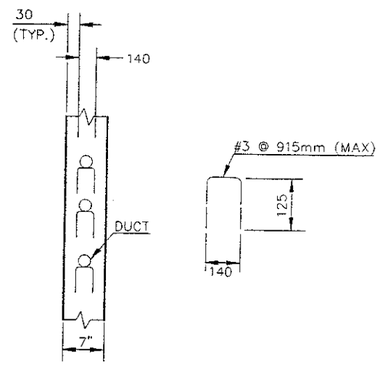
STRESSING INSTRUCTIONS						
TENDON FORCES, ELONGATIONS AND JACKING LOCATIONS						
TENDON	TENDON SIZE	JACK LOCATION	JACK FORCE BEFORE ANCHORAGE	ELONGATION BEFORE ANCHOR SET	ELONGATION AFTER ANCHOR SET	STRESSING SEQUENCE
			KN	mm	mm	
T1	9-15.2 mm	REAR ENDS	1759	213	204	1
T2	9-15.2 mm	REAR ENDS	1759	212	203	2
T3	9-15.2 mm	FWD. ENDS	1759	211	203	3



CAMBER DIAGRAM



GROUT TUBE DETAILS
NOT TO SCALE



DUCT SUPPORT DETAIL
NOT TO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

DESIGN AGENCY
CIVILTECH CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

CIVILTECH CONSULTING ENGINEERS INC.

DATE 8-1-02
REVIEWED A.Y.Z.
STRUCTURE FILE NUMBER 4002245 L 4002253 R

DRAWN S.F.W.
REVISED

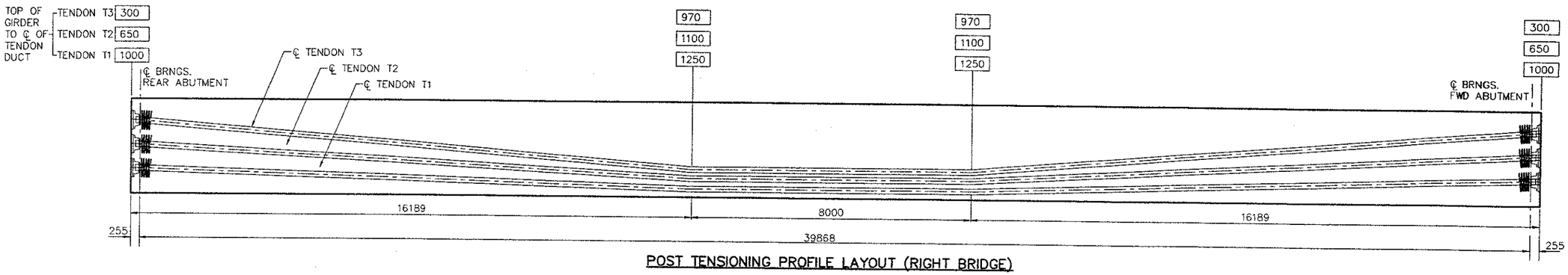
DESIGNED G.G.N.
CHECKED JP/KKH

CONCRETE GIRDER DETAILS (LEFT BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R.327

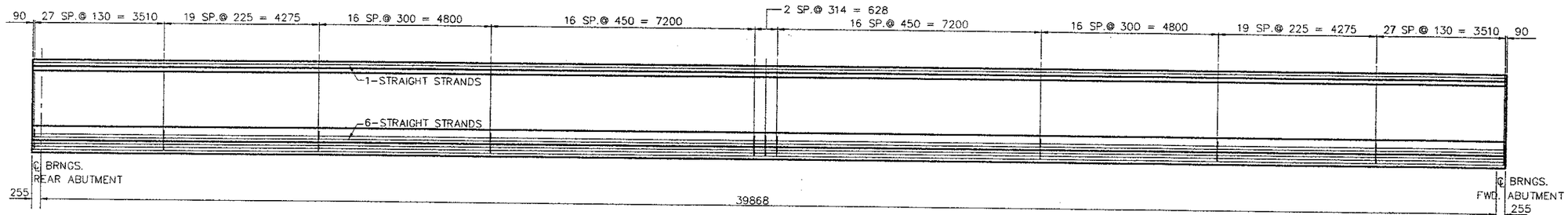
JAC-32-27.631

20 / 34

metric units

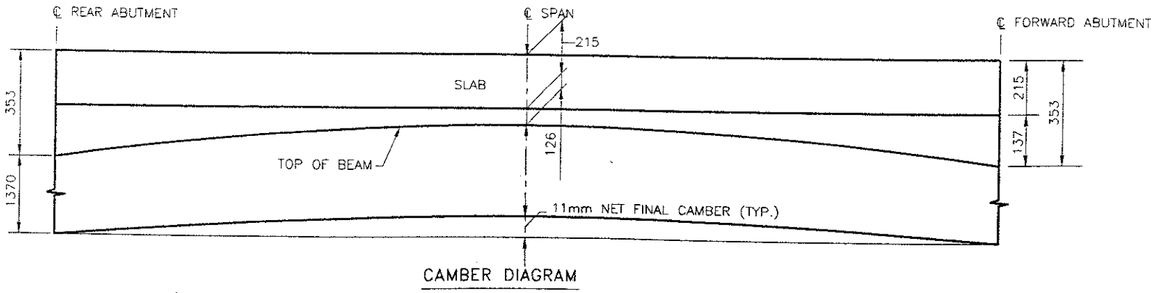


POST TENSIONING PROFILE LAYOUT (RIGHT BRIDGE)

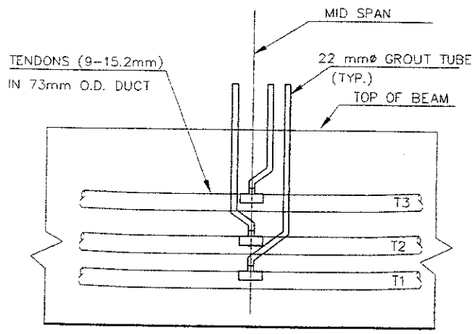


SHEAR REINFORCING LAYOUT
MODIFIED AASHTO TYPE 4 I-GIRDERS

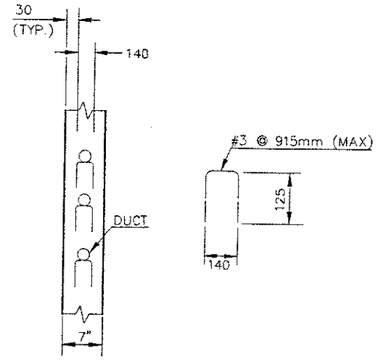
STRESSING INSTRUCTIONS						
TENDON FORCES, ELONGATIONS AND JACKING LOCATIONS						
TENDON	TENDON SIZE	JACK LOCATION	JACK FORCE BEFORE ANCHORAGE	ELONGATION BEFORE ANCHOR SET	ELONGATION AFTER ANCHOR SET	STRESSING SEQUENCE
			KN	mm	mm	
T1	9-15.2 mm	REAR ENDS	1759	218	208	1
T2	9-15.2 mm	REAR ENDS	1759	216	207	2
T3	9-15.2 mm	FWD. ENDS	1759	215	206	3



CAMBER DIAGRAM



GROUT TUBE DETAILS
NOT TO SCALE



DUCT SUPPORT DETAIL
NOT TO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

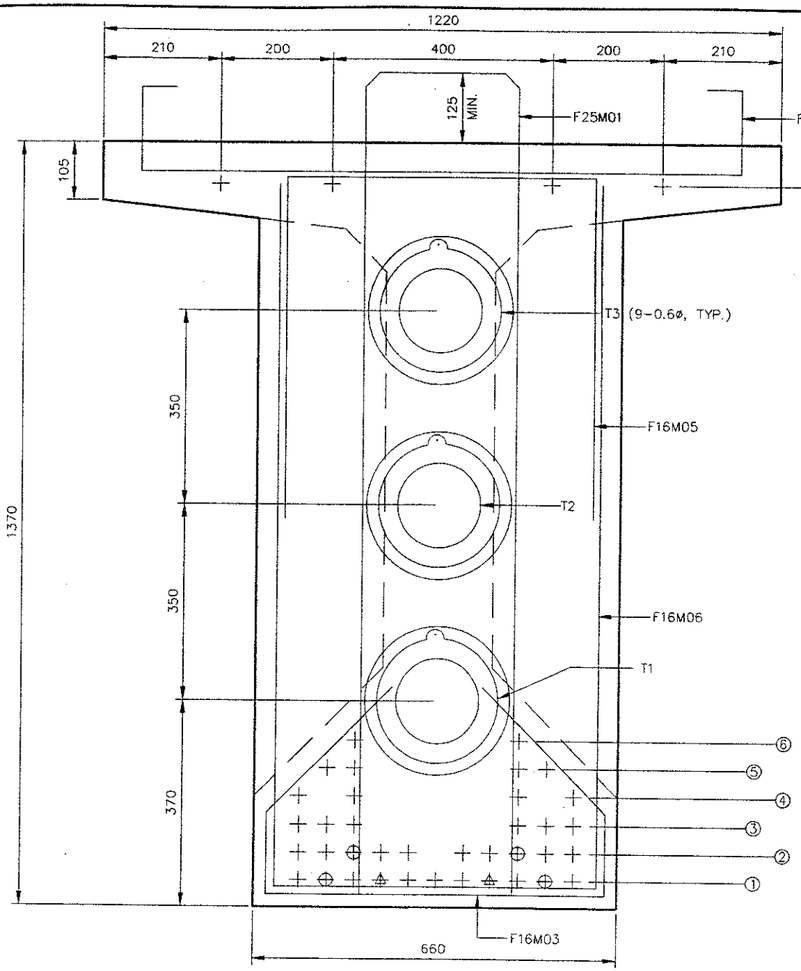
DESIGN AGENCY
CIVILTECH CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

CIVILTECH CONSULTING ENGINEERS INC.

DESIGNED G.G.N.
DRAWN S.F.W.
CHECKED AYZ/KKH
REVIEWED U.P.
DATE 8-1-02
REVISED
STRUCTURE FILE NUMBER 4002245 L 4002253 R

CONCRETE GIRDER DETAILS (RIGTH BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R.327

JAC-32-27.631



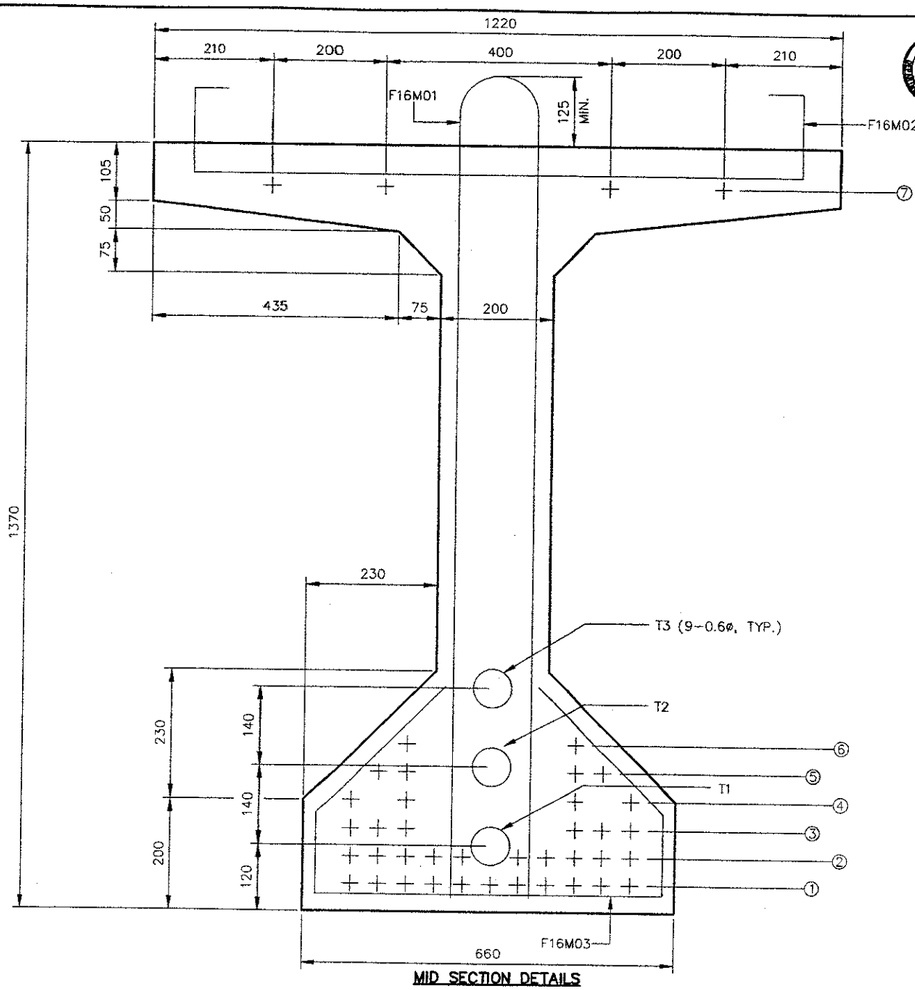
END SECTION DETAILS

⊕ – DEBONDED STRAND (3050 MM)

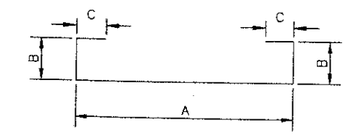
⊕ – DEBONDED STRAND (1750 MM)

BEAM MARK	NUMBER OF STRANDS PER ROW — ROW NUMBER ①	②	③	④	⑤	⑥	⑦	TOTAL STRANDS	CONCRETE STRENGTHS f'ci	f'c
G1 TO G6	11	10	6	4	4	2	4	41	34.5 MPa	55.2 MPa
G7 TO G12	11	10	6	4	4	2	4	41	34.5 MPa	55.2 MPa

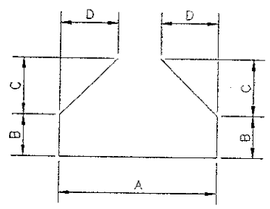
MARK	TYPE	A	B	C	D	R	INCR
F16M01	1	140	1465			70	
F16M03	2	600	155	220	220		
F16M02	3	1120	200	75			
F16M04	4	1270	100 TO 600				125
F16M05	4	600	800				
F16M06	4	600	1270				
F16M07	1	140	450				
F16M08	2	595	1475	600	225		
F25M01	4	280	1465				



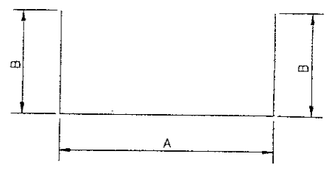
MID SECTION DETAILS



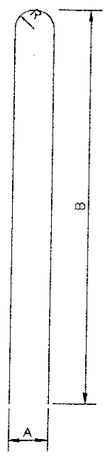
TYPE 3



TYPE 2



TYPE 4



TYPE 1

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

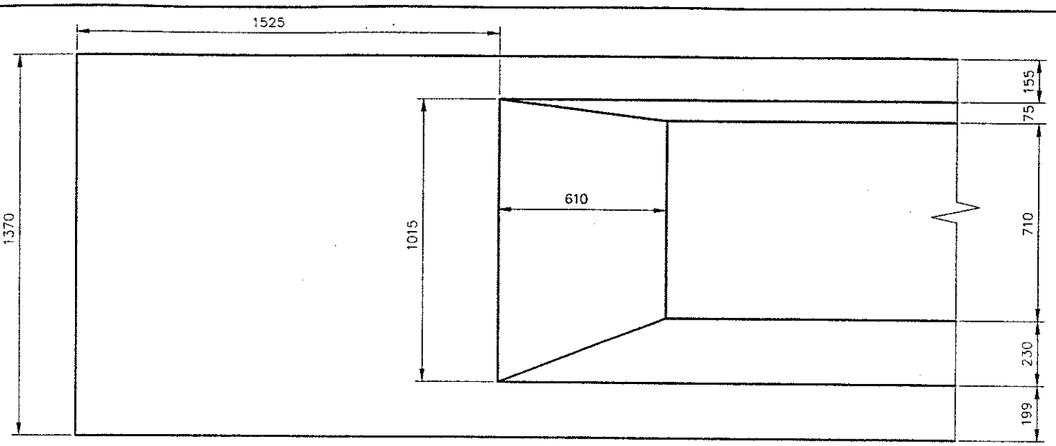
CIVILTECH CONSULTING ENGINEERS INC.

DESIGNED	DRAWN	REVIEWED	DATE
G.G.N.	S.F.W.	A.Y.Z.	8-1-02
CHECKED	REVISED	STRUCTURE NUMBER	
K.K.H.		4002245 L	
		4002253 R	

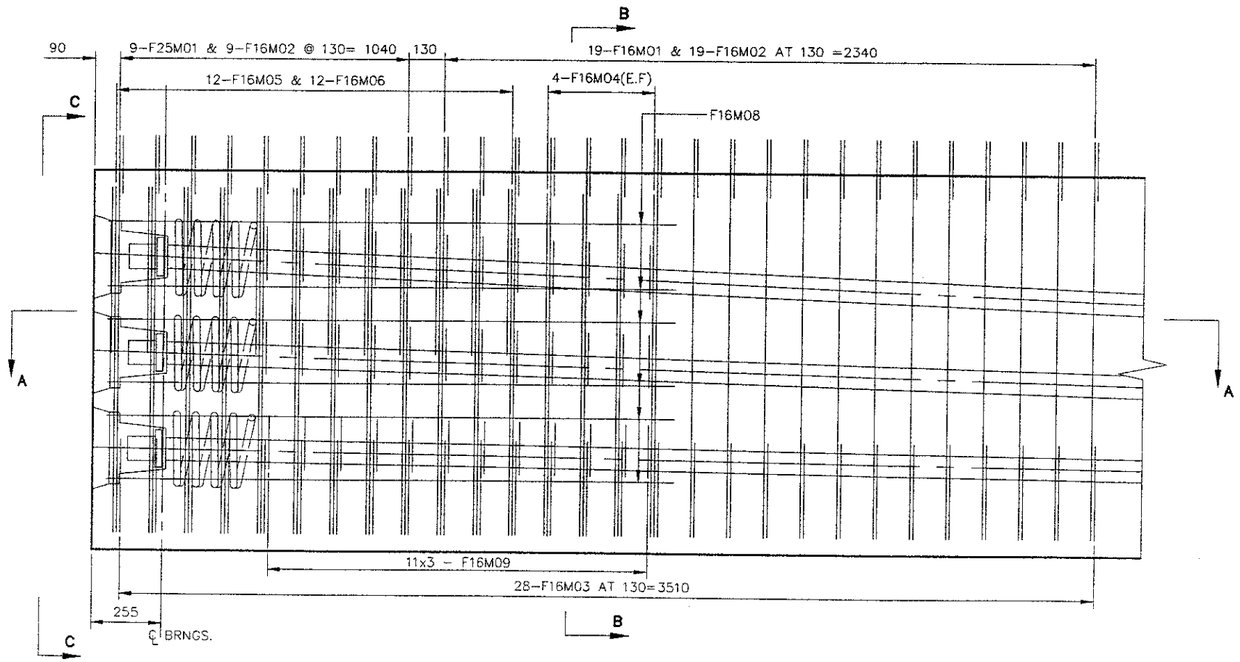
CONCRETE GIRDER SECTIONS

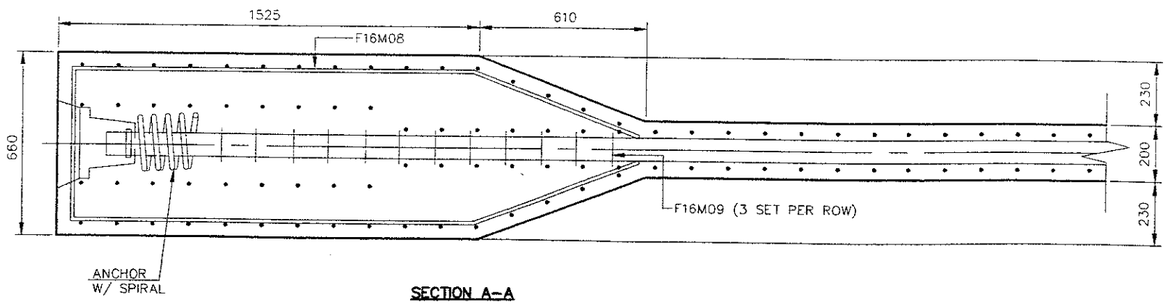
BRIDGE NO. JAC-32-1712 L & R
S.R.32 OVER S.R.327

JAC-32-27.631

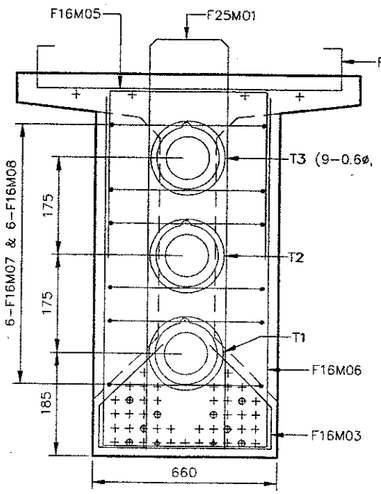


END SECTION DETAILS





SECTION A-A

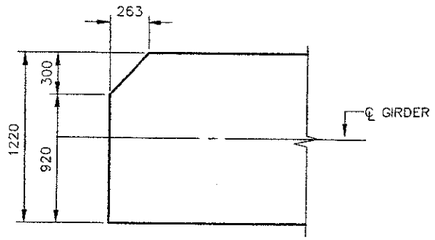


VIEW C-C

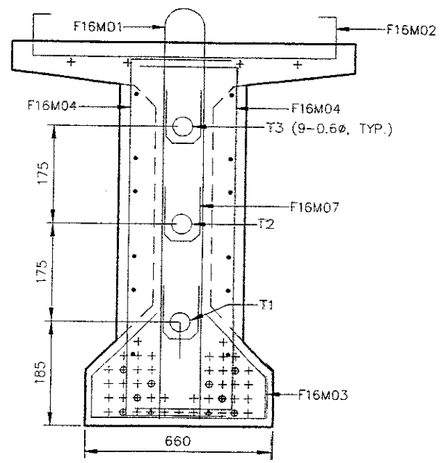
NOTE:

ANCHORAGES AND BLOCKOUTS
ANCHORAGE SYSTEMS AND BLOCKOUTS AND THEIR DETAILS SHALL BE DETERMINED BY THE POST-TENSIONING SYSTEM USED. THE FABRICATOR SHALL DETERMINE DIMENSIONS AND ADJUST REINFORCING AS REQUIRED.

BEAM FABRICATOR SHALL DETAIL ALL HARDWARE, HOLES, ETC. REQUIRED FOR ANY HANDLING, TRANSPORATION, DECK FORMING, ETC. ON SHOP DRAWINGS.



CLIPPED FLANGE DETAILS



SECTION B-B

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

DESIGNED	DRAWN	REVIEWED	DATE
G.G.N.	S.F.W.	A.Y.Z.	7-15-02
CHECKED	REVISED	STRUCTURE FILE NUMBER	
K.K.H.		4002245 L 4002253 R	

CIVILTECH CONSULTING ENGINEERS INC.

GIRDER END BLOCK DETAILS
BRIDGE NO. JAC-32-1712 L & R
S.R.32 OVER S.R.327

JAC-32-27.631

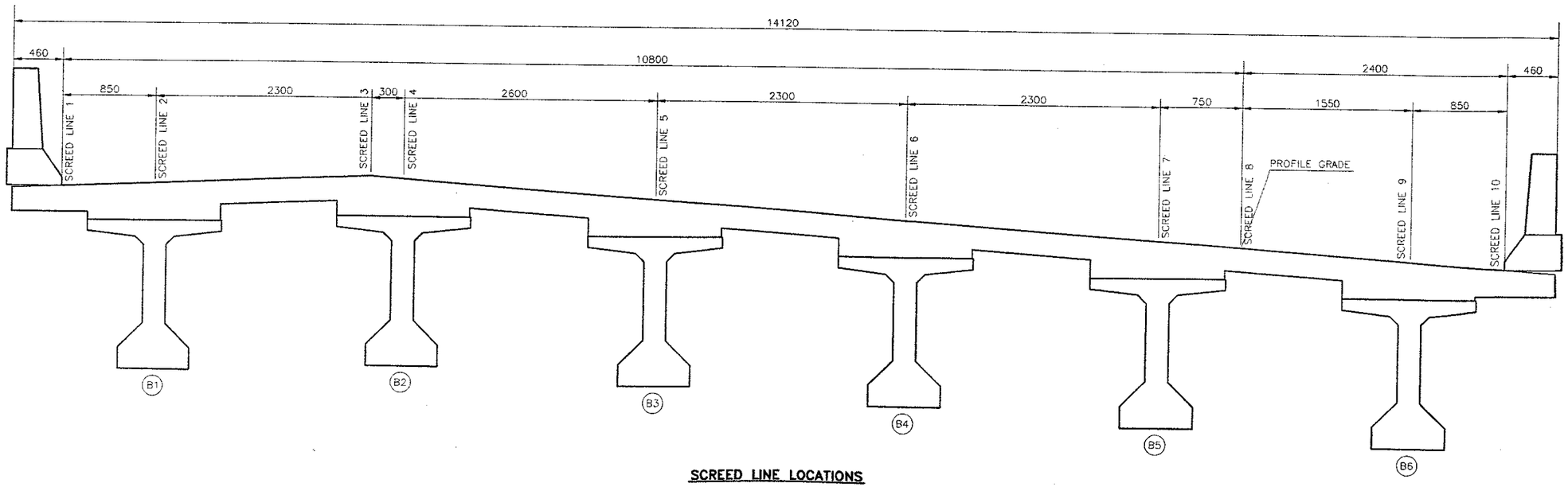
23 / 34

SCREED ELEVATIONS TABLE

		SCREED LINE 1		SCREED LINE 2		SCREED LINE 3		SCREED LINE 4		SCREED LINE 5	
SPAN NO.	LOCATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
SPAN NO.1	0.00 L	27+324.818	27316.372	27+324.103	27316.392	27+322.174	27316.416	27+322.425	27316.442	27+320.244	27316.217
	0.17 L	27+331.340	27316.502	27+330.625	27316.522	27+328.695	27316.546	27+328.947	27316.572	27+326.765	27316.347
	0.33 L	27+337.861	27316.632	27+337.146	27316.652	27+335.216	27316.676	27+335.468	27316.702	27+333.286	27316.477
	0.50 L	27+344.383	27316.762	27+343.668	27316.782	27+341.738	27316.806	27+341.989	27316.832	27+339.808	27316.607
	0.67 L	27+350.904	27316.872	27+350.189	27316.892	27+348.259	27316.916	27+348.511	27316.942	27+346.329	27316.717
	0.83 L	27+357.425	27316.982	27+356.710	27317.002	27+354.780	27317.026	27+355.032	27317.052	27+352.850	27316.827
	1.00 L	27+363.947	27317.092	27+363.232	27317.112	27+361.302	27317.136	27+361.554	27317.162	27+359.372	27316.937

SCREED ELEVATIONS TABLE

		SCREED LINE 6		SCREED LINE 7		SCREED LINE 8		SCREED LINE 9		SCREED LINE 10	
SPAN NO.	LOCATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
SPAN NO.1	0.00 L	27+318.314	27316.018	27+316.384	27315.819	27+315.754	27315.754	27+314.454	27315.620	27+313.739	27315.547
	0.17 L	27+324.835	27316.148	27+322.905	27315.949	27+322.276	27315.884	27+320.975	27315.750	27+320.260	27315.677
	0.33 L	27+331.356	27316.278	27+329.426	27316.079	27+328.797	27316.014	27+327.497	27315.880	27+326.782	27315.807
	0.50 L	27+337.878	27316.408	27+335.948	27316.209	27+335.319	27316.144	27+334.018	27316.010	27+333.303	27315.937
	0.67 L	27+344.399	27316.518	27+342.469	27316.319	27+341.840	27316.254	27+340.539	27316.120	27+339.824	27316.047
	0.83 L	27+350.921	27316.628	27+348.991	27316.429	27+348.361	27316.364	27+347.061	27316.230	27+346.346	27316.157
	1.00 L	27+357.442	27316.738	27+355.512	27316.539	27+354.883	27316.474	27+353.582	27316.340	27+352.867	27316.267



SCREED LINE LOCATIONS

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

NOTES

1. **SCREED ELEVATIONS**

SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

L = SPAN LENGTH

DESIGN AGENCY
CIVILTECH CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE

CIVILTECH CONSULTING

DESIGNED G.G.N.
DRAWN SFW
CHECKED
REVISED
REVIEWED A.Y.Z.
DATE 6-15-02
STRUCTURE FILE NO.

SCREED ELEVATIONS (LEFT BRIDGE)
BRIDGE NO. JAC-32-1712 L & R
SR 32 OVER SR 327

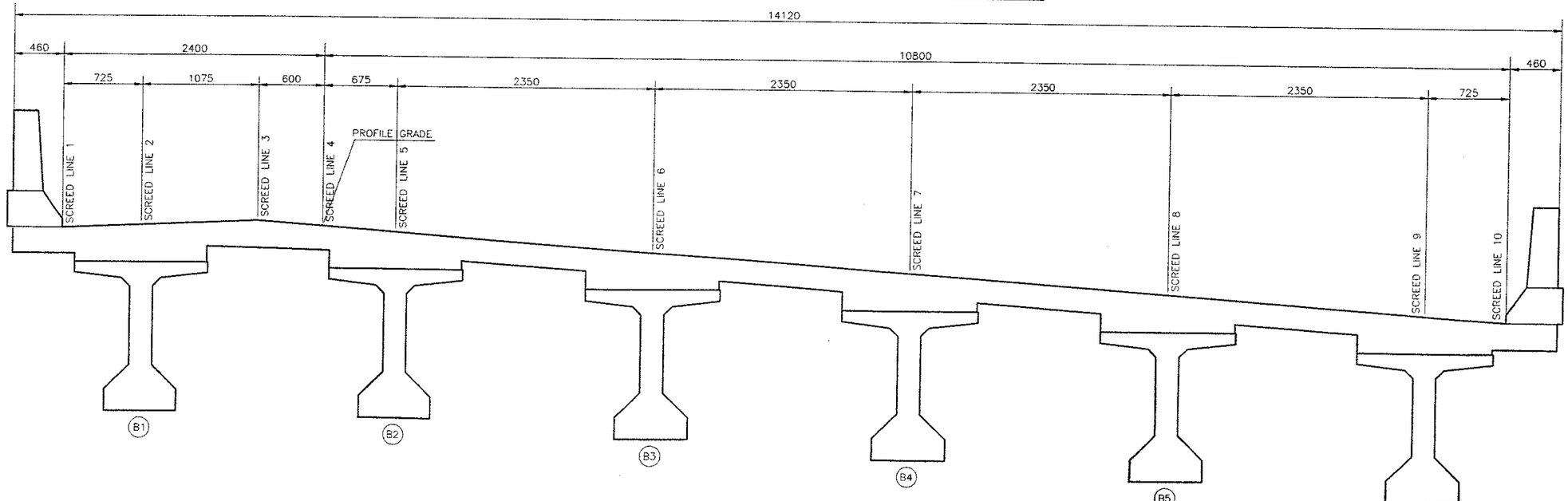
JAC-32-27.631

SCREED ELEVATIONS TABLE

		SCREED LINE 1		SCREED LINE 2		SCREED LINE 3		SCREED LINE 4		SCREED LINE 5	
SPAN NO.	LOCATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
SPAN NO.1	0.00 L	27+305.797	27303.700	27+305.160	27303.718	27+304.217	27303.743	27+303.691	27303.691	27+303.099	27303.632
	0.17 L	27+312.442	27303.833	27+311.805	27303.850	27+310.862	27303.876	27+310.336	27303.823	27+309.744	27303.764
	0.33 L	27+319.087	27303.965	27+318.449	27303.982	27+317.506	27304.008	27+316.980	27303.956	27+316.388	27303.897
	0.50 L	27+325.731	27304.097	27+325.094	27304.114	27+324.151	27304.140	27+323.625	27304.088	27+323.033	27304.029
	0.67 L	27+332.376	27304.209	27+331.738	27304.227	27+330.796	27304.252	27+330.269	27304.200	27+329.677	27304.141
	0.83 L	27+339.020	27304.322	27+338.383	27304.339	27+337.440	27304.365	27+336.914	27304.312	27+336.322	27304.253
	1.00 L	27+345.665	27304.434	27+345.027	27304.451	27+344.085	27304.477	27+343.558	27304.425	27+342.967	27304.366

SCREED ELEVATIONS TABLE

		SCREED LINE 6		SCREED LINE 7		SCREED LINE 8		SCREED LINE 9		SCREED LINE 10	
SPAN NO.	LOCATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
SPAN NO.1	0.00 L	27+301.038	27303.427	27+298.977	27303.223	27+298.916	27303.018	27+294.855	27302.813	27+294.218	27302.750
	0.17 L	27+307.683	27303.560	27+305.622	27303.355	27+303.561	27303.150	27+301.500	27302.945	27+300.862	27302.882
	0.33 L	27+314.327	27303.692	27+312.266	27303.487	27+310.206	27303.282	27+308.145	27303.078	27+307.507	27303.014
	0.50 L	27+320.972	27303.824	27+318.911	27303.619	27+316.850	27303.415	27+314.789	27303.210	27+314.152	27303.147
	0.67 L	27+327.616	27303.936	27+325.556	27303.732	27+323.495	27303.527	27+321.434	27303.322	27+320.796	27303.259
	0.83 L	27+334.261	27304.049	27+332.200	27303.844	27+330.139	27303.639	27+328.078	27303.434	27+327.441	27303.371
	1.00 L	27+340.906	27304.161	27+338.845	27303.956	27+336.784	27303.751	27+334.723	27303.547	27+334.085	27303.483



SCREED LINE LOCATIONS

NOTES

1. SCREED ELEVATIONS

SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

L = SPAN LENGTH

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGNED G.G.N. | DRAWN SFW | REVIEWED A.Y.Z. | DATE 6-15-02

DESIGNATED BY CIVILTECH CONSULTING ENGINEERS, INC 6041 HEATHER BLUFF DRIVE

CIVILTECH CONSULTING ENGINEERS, INC

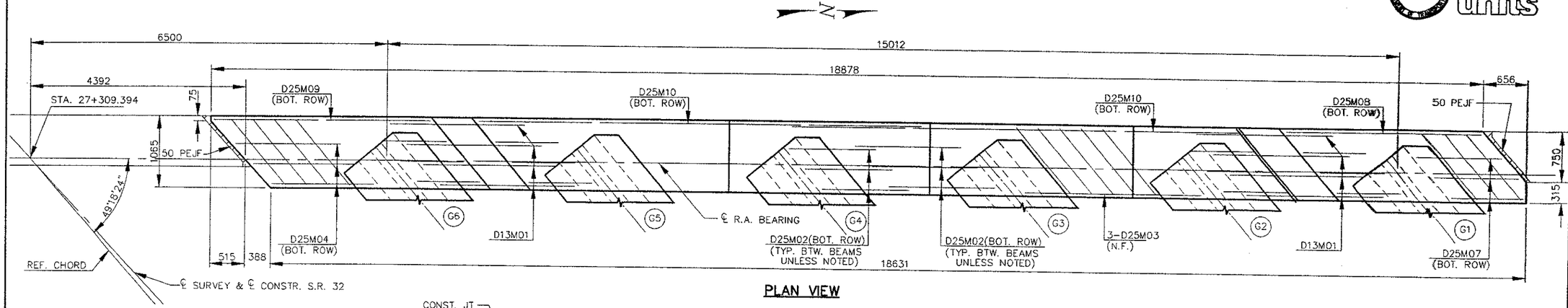
CHECKED | REVISED | STRUCTURE FILE NO.

SCREED ELEVATIONS
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

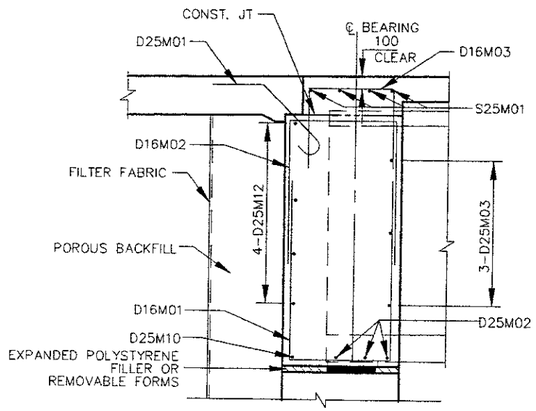
JAC-32-27.631

25/34

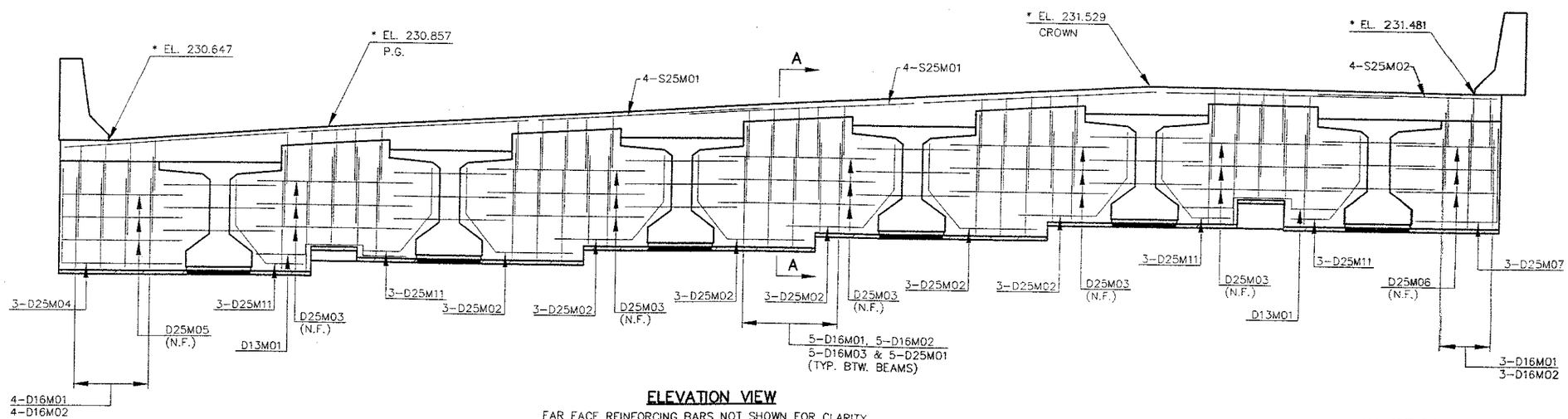
metric units



PLAN VIEW



SECTION A-A



ELEVATION VIEW

FAR FACE REINFORCING BARS NOT SHOWN FOR CLARITY

NOTES:

1. MINIMUM LAP LENGTHS

LAP NO.16 BARS 970
LAP NO.25 BARS 1930

* ELEVATION ARE GIVEN @ C.L. BEARING.

ABBREVIATIONS

N.F. = NEAR FACE
F.F. = FAR FACE

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

DESIGN AGENCY
CIVILTECH CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

CIVILTECH CONSULTING ENGINEERS INC.

DESIGNED G.G.N.
DRAWN C.R.M.
CHECKED K.K.H.
REVIEWED A.Y.Z.
DATE 07-25-02
STRUCTURE FILE NUMBER 4002245 L 4002253 R
REVISED

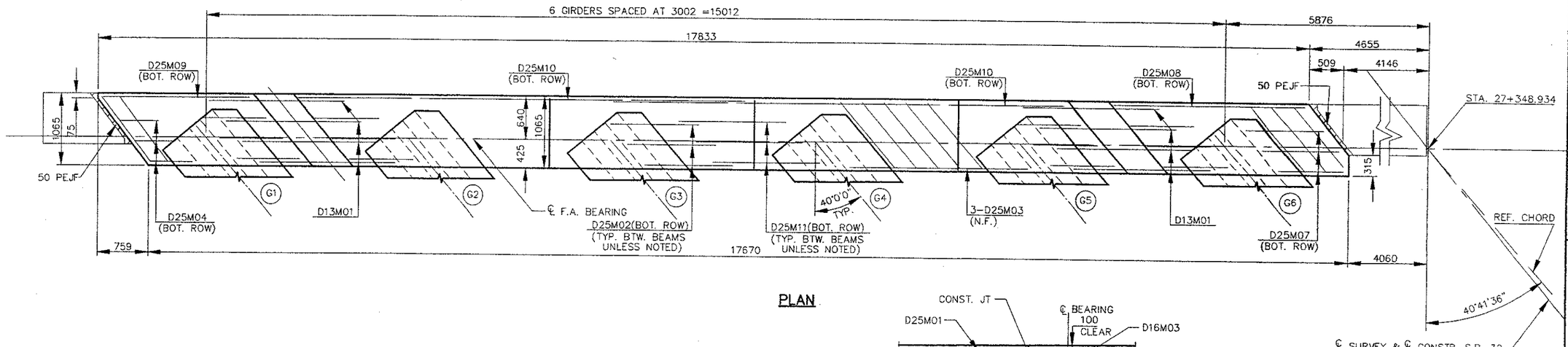
REAR ABUTMENT DIAPHRAGM DETAILS (LEFT BRIDGE)

BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R.327

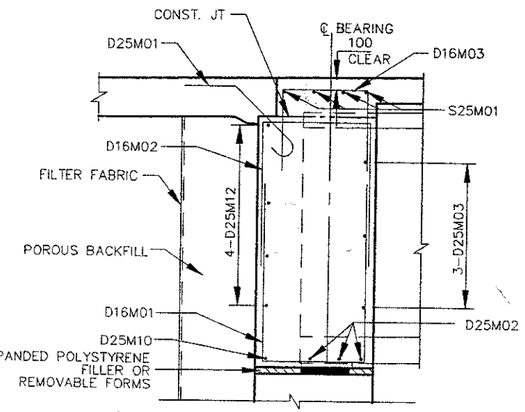
JAC-32-27.631

26 / 34

metric units



PLAN



SECTION A-A

NOTES:

1. MINIMUM LAP LENGTHS

LAP NO.16 BARS 970
LAP NO.25 BARS 1930

* ELEVATION ARE GIVEN @ C.L. BEARING.

ABBREVIATIONS

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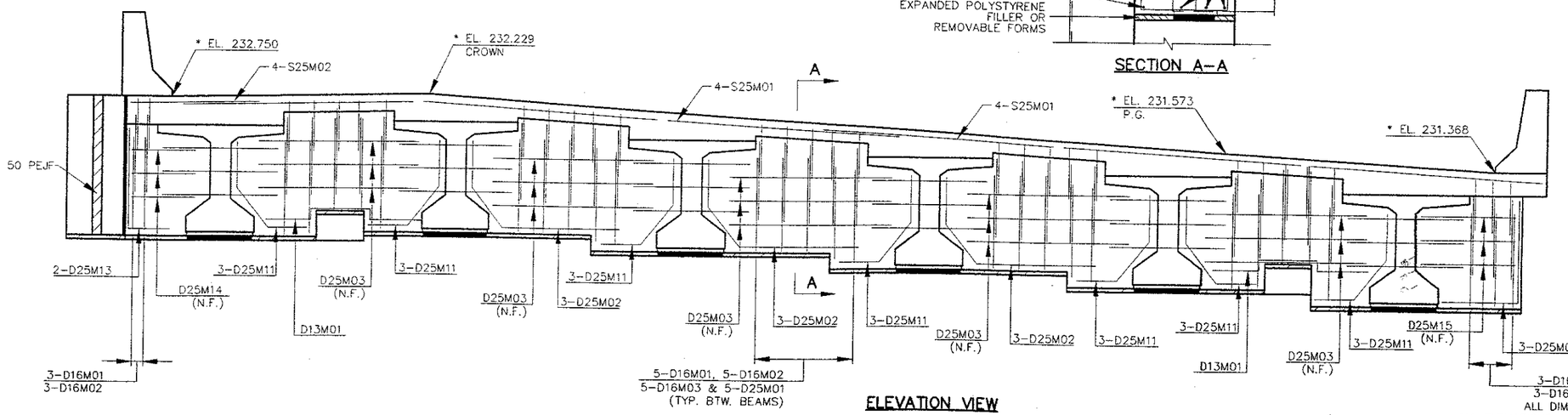
F.F. = FAR FACE



ELEVATION VIEW

FAR FACE REINFORCING BARS NOT SHOWN FOR CLARITY

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

DESIGN AGENCY
CIVIL TECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

CIVIL TECH CONSULTING ENGINEERS INC.

DESIGNED G.G.N.
DRAWN C.R.M.
CHECKED K.K.H.
REVISED
DATE A.Y.Z. 07-15-02
STRUCTURE FILE NUMBER 4002245 L 4002253 R

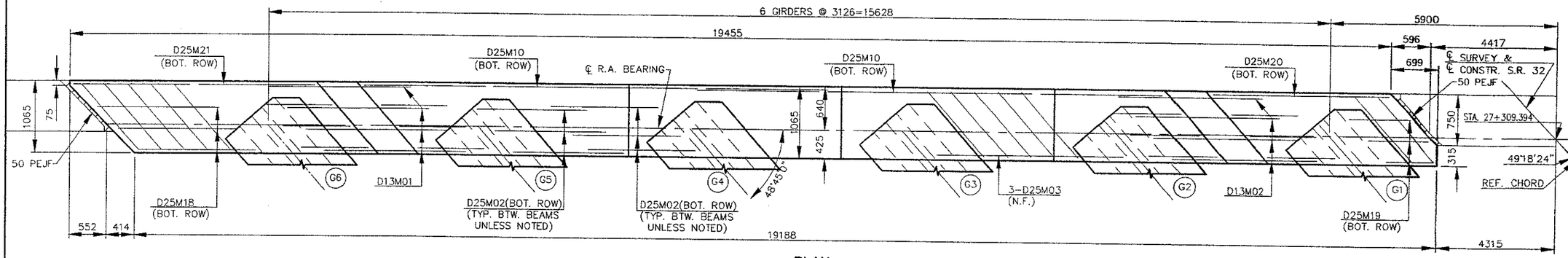
FORWARD ABUTMENT DIAPHRAGM DETAILS (LEFT BRIDGE)

BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R.327

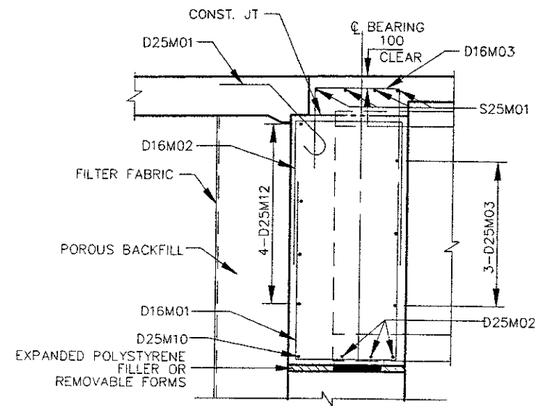
JAC-32-27.631

27 / 34

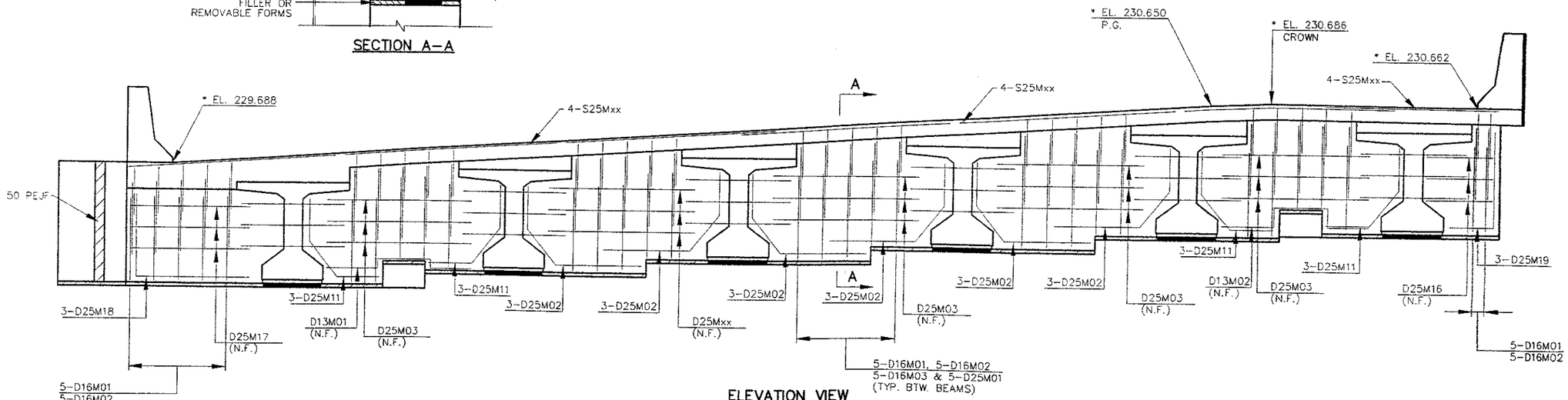
metric units



PLAN



SECTION A-A



ELEVATION VIEW

FAR FACE REINFORCING BARS NOT SHOWN FOR CLARITY

NOTES:

1. MINIMUM LAP LENGTHS

LAP NO.16 BARS 970
LAP NO.25 BARS 1930

* ELEVATION ARE GIVEN @ C.L. BEARING.

ABBREVIATIONS

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DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

CIVILTECH CONSULTING ENGINEERS INC.

DATE REVIEWED: A.Y.Z. 07-15-02
STRUCTURE FILE NUMBER: 4002245 L, 4002253 R

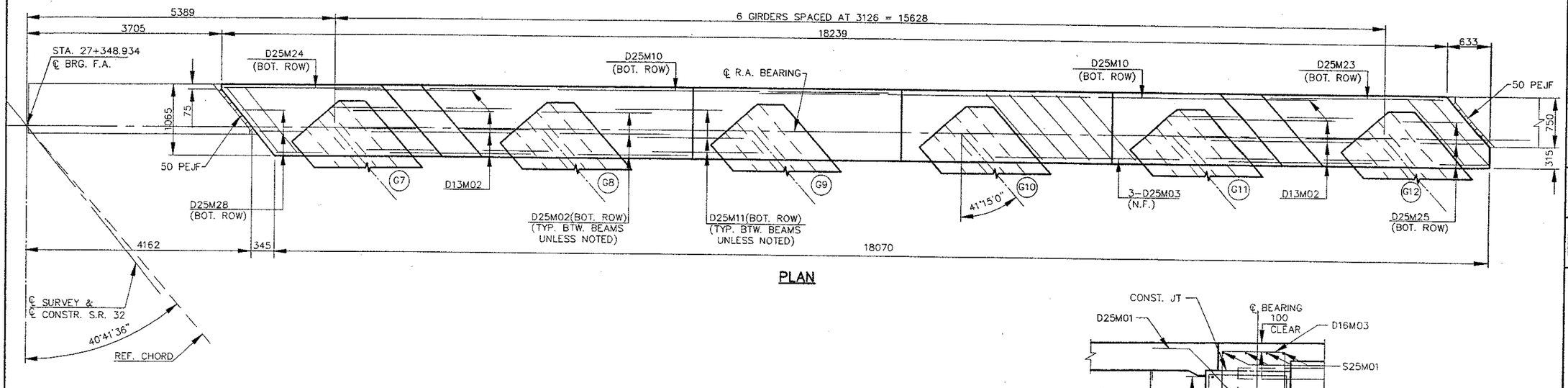
DRAWN: C.R.M.
REVISED:

DESIGNED: G.G.N.
CHECKED: K.K.H.

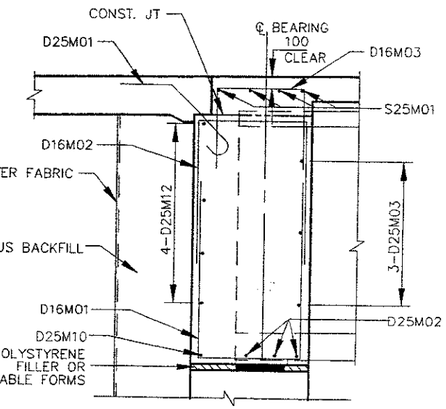
REAR ABUTMENT DIAPHRAGM DETAILS (RIGHT BRIDGE)

BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R.327

JAC-32-27.631



PLAN



SECTION A-A

NOTES:

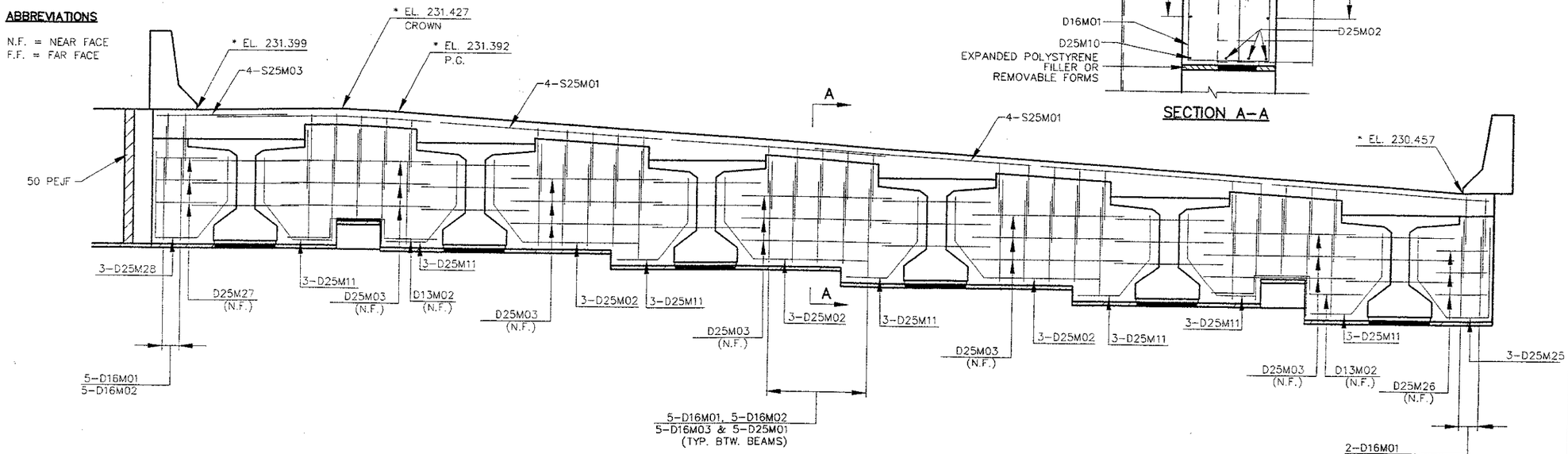
1. MINIMUM LAP LENGTHS

LAP NO.16 BARS 970
LAP NO.25 BARS 1930

* ELEVATION ARE GIVEN @ C.L. BEARING.

ABBREVIATIONS

N.F. = NEAR FACE
F.F. = FAR FACE



ELEVATION VIEW

FAR FACE REINFORCING BARS NOT SHOWN FOR CLARITY

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

CIVILTECH CONSULTING ENGINEERS INC

DATE: 07-25-02
REVIEWED: A.Y.Z.
STRUCTURE FILE NUMBER: 4002245 L, 4002253 R
DRAWN: C.R.M.
REVISED:
DESIGNED: G.G.N.
CHECKED: K.K.H.

FORWARD ABUTMENT DIAPHRAGM DETAILS (RIGHT BRIDGE)

BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R.327

JAC-32-27.631

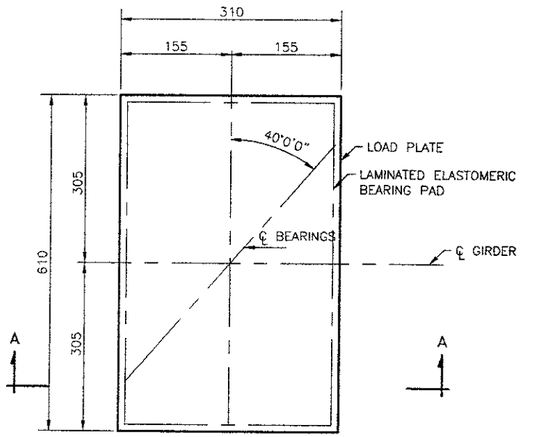
29 / 34

metric units

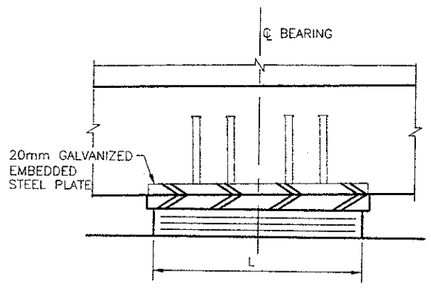
LAMINATED ELASTOMERIC BEARINGS										
LOCATION	BEARING DIMENSIONS						STEEL LOAD PLATE	REACTIONS		MAXIMUM
	L	W	ti	te	T	N	LENGTH X WIDTH X THICKNESS	DL	LL	DESIGN LOAD
ABUTMENTS	310	610	10	7	52	4	340 x 640 x 50 (MIN)	805 kN	271 kN	1076 kN

ti = THICKNESS OF INTERNAL LAYER
te = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

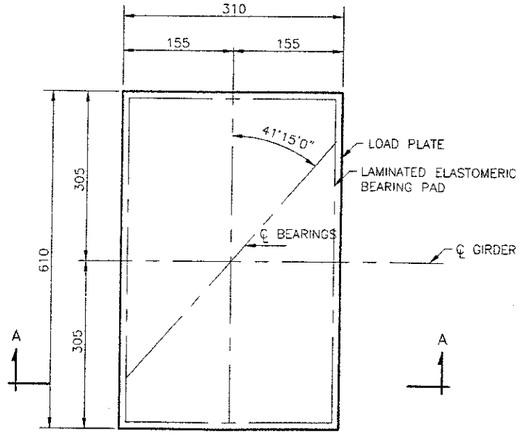
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 1.89 mm
DUROMETER OF ELASTOMER = 50 DUROMETER
LOAD PLATE THICKNESS IS MEASURED AT CL BEARINGS.



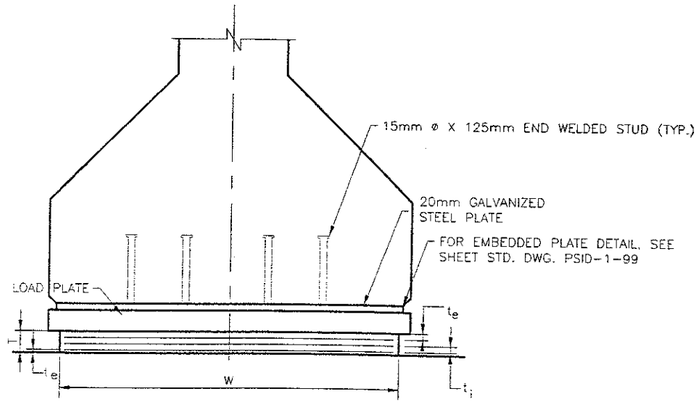
PLAN
LEFT BRIDGE



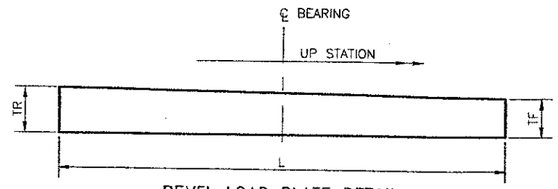
VIEW A-A



PLAN
RIGHT BRIDGE



LAMINATED ELASTOMERIC EXPANSION BEARING



BEVEL LOAD PLATE DETAIL

SUPPORT	TR	TF
REAR ABUTMENT	56	50
FWD. ABUTMENT	59	50

NOTES:

LOAD PLATE

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 SHALL NOT EXCEED 150° C AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BASIS OF PAYMENT

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, LAMINATED ELASTOMERIC BEARINGS.

ELASTOMERIC BEARINGS

ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 18, BEARING, DEVICES DIVISION II, CONSTRUCTION, ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE. BEARINGS WERE DESIGNED UNDER SECTION 14.6.6 METHOD A OF SECTION 14, BEARINGS, DIVISION I, DESIGN. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.

BEARING REPOSITIONING

IF THE DECK IS POURED AT AN AMBIENT TEMPERATURE HIGHER THAN 27° C OR LOWER THAN 4° C AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/16 OF THE BEARING HEIGHT AT 15° C ± 5° C, THE BEAMS OR GIRDERS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 15° C ± 5° C.

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ALL ELEVATIONS AND STATIONS ARE IN METERS.

DESIGN AGENCY
CIVILTECH CONSULTING ENGINEERS, INC.
6041 HEATHER BLUFF DRIVE
DUBLIN, OH 43016

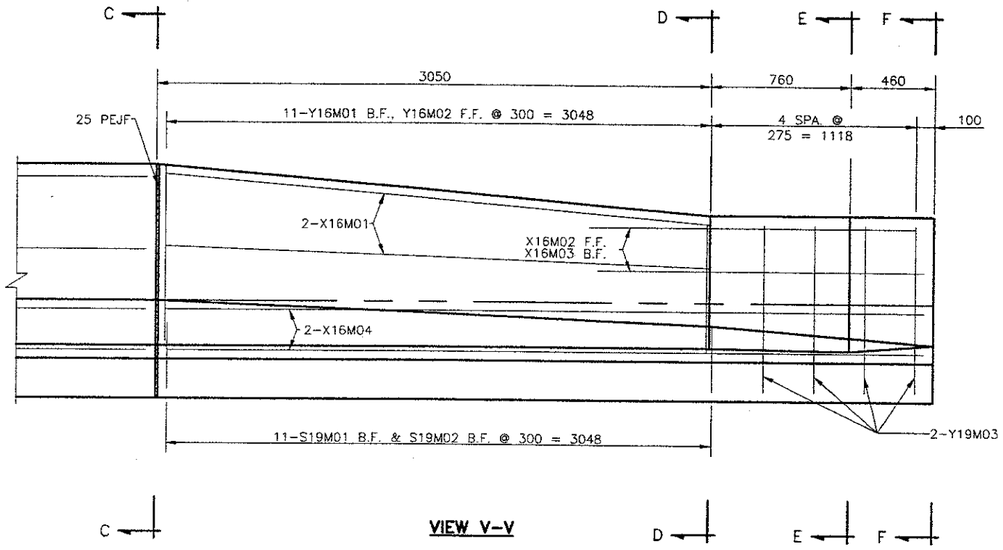
CIVILTECH CONSULTING ENGINEERS INC.

DATE 7-15-02
REVIEWED A.Y.Z.
STRUCTURE FILE NO. 4002245
DRAWN S.F.W. REVISED
DESIGNED G.G.N CHECKED K.K.M

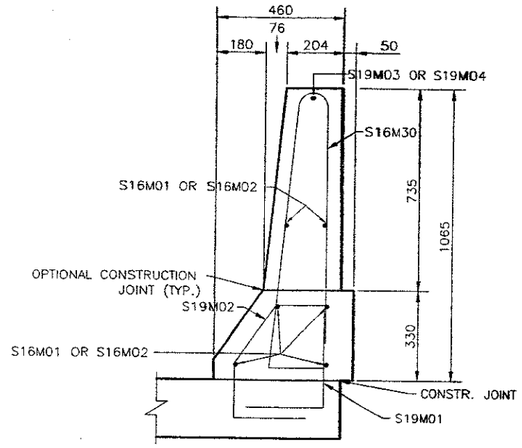
BEARING PAD DETAILS
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R.327

JAC-32-27.631

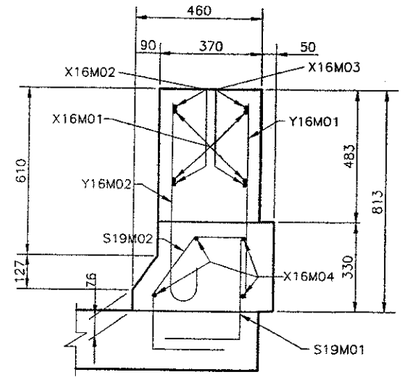
30/34



VIEW V-V



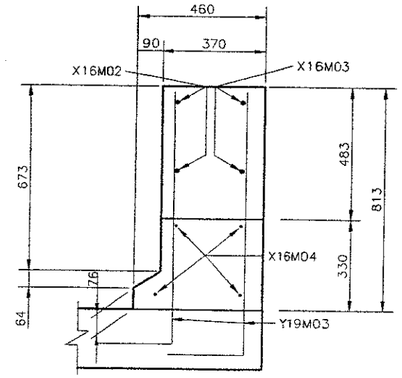
SECTION C-C



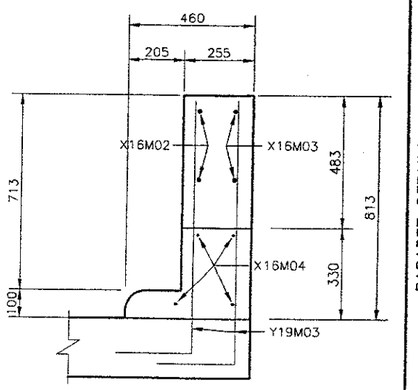
SECTION D-D

END PARAPET STATION (LEFT BRIDGE)	
REAR LEFT	27+319.558
REAR RIGHT	27+307.868
FWD LEFT	27+366.746
FWD RIGHT	27+356.742

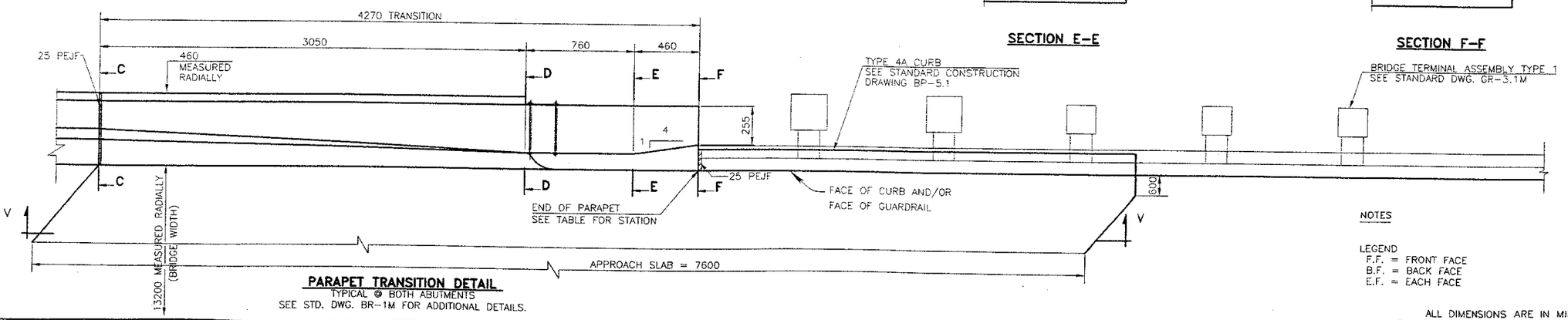
END PARAPET STATION (RIGHT BRIDGE)	
REAR LEFT	27+300.983
REAR RIGHT	27+288.053
FWD LEFT	27+350.871
FWD RIGHT	27+339.884



SECTION E-E



SECTION F-F



PARAPET TRANSITION DETAIL
TYPICAL @ BOTH ABUTMENTS
SEE STD. DWG. BR-1M FOR ADDITIONAL DETAILS.

NOTES

LEGEND
F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

ALL DIMENSIONS ARE IN MILLIMETERS.
ALL ELEVATIONS AND STATIONS ARE IN METERS.

metric units

DESIGN AGENCY
CIVILTECH
CONSULTING ENGINEERS, INC.
8041 HEATHER BLUFF DRIVE

CIVILTECH

DATE 7-25-02

REVIEWED A.Y.Z.

STRUCTURE FILE NO.

DRAWN C.R.M.

REVISED

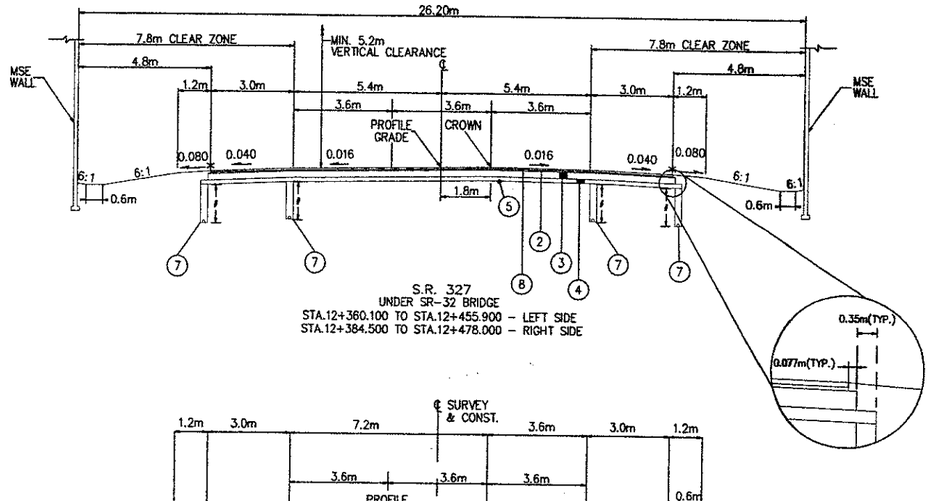
DESIGNED G.G.N.

CHECKED

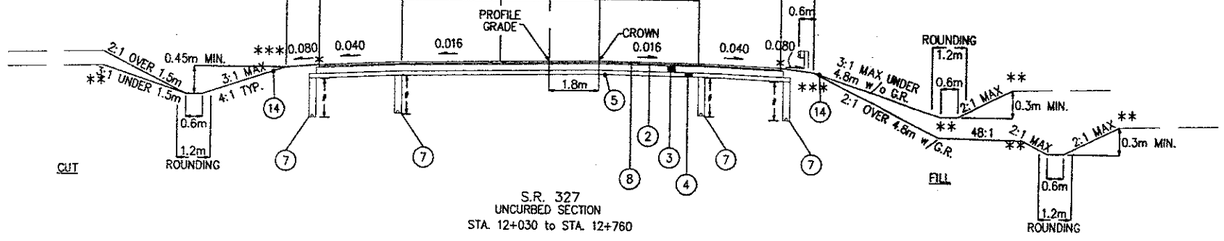
PARAPET DETAILS
BRIDGE NO. JAC-32-1712 L & R
S.R. 32 OVER S.R. 327

JAC-32-27.631

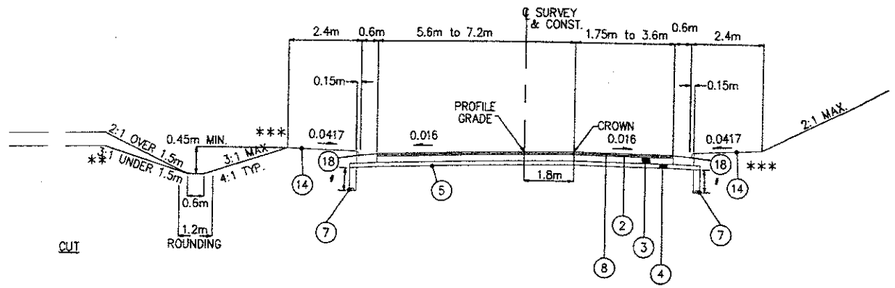
31/34



S.R. 327
UNDER SR-32 BRIDGE
STA.12+360.100 TO STA.12+455.900 – LEFT SIDE
STA.12+384.500 TO STA.12+478.000 – RIGHT SIDE



S.R. 327
UNCURBED SECTION
STA. 12+030 to STA. 12+760



S.R. 327
CURB SECTION
STA. 11+900 to STA. 12+030

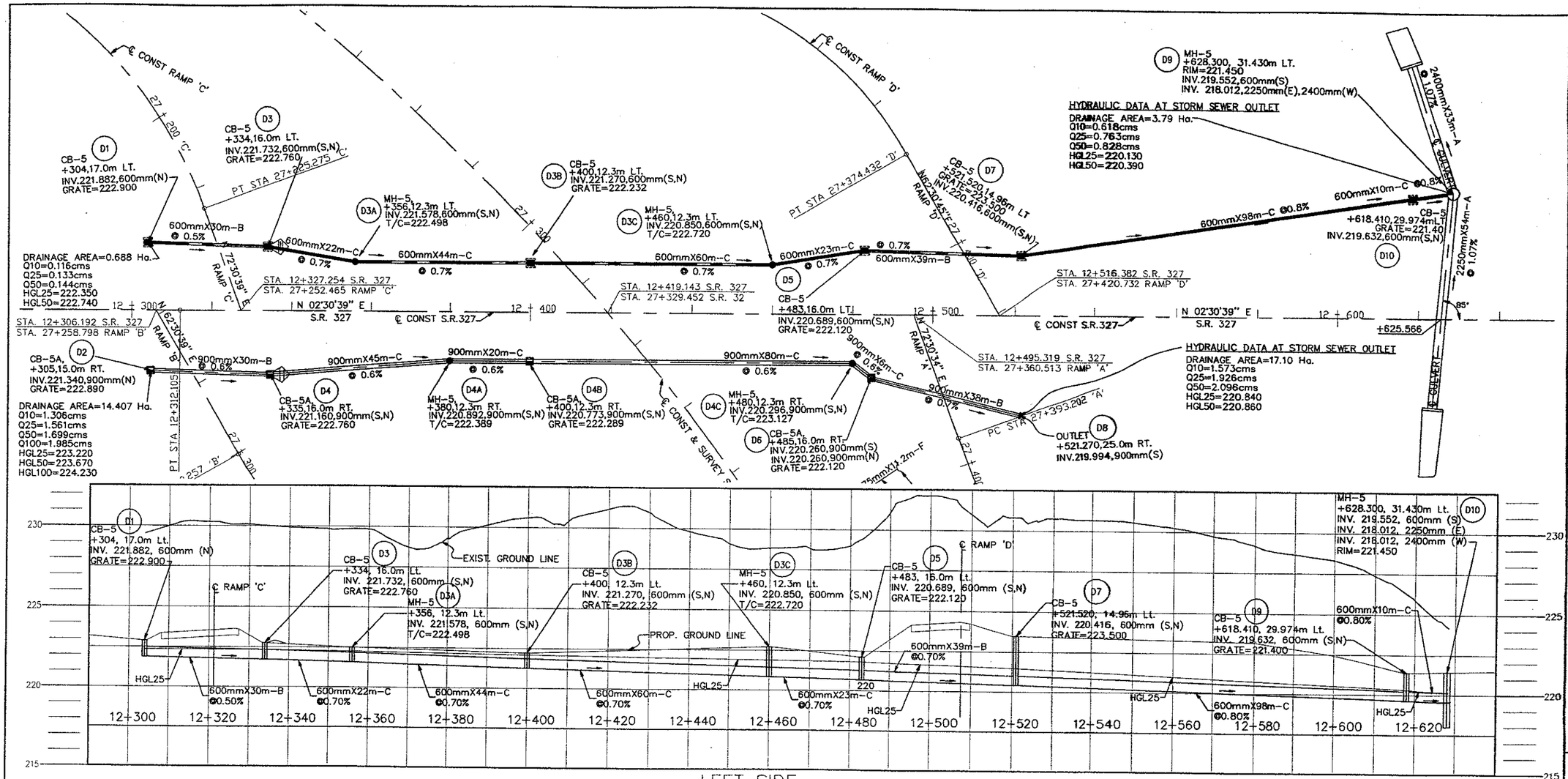
* – DROP EARTH PORTIONS OF SHOULDERS 25mm BELOW STABILIZED PORTIONS
** – 1.2m ROUNDING
*** – 2.4m ROUNDING

NOTE: 1). SEE SHEET 3 FOR LEGEND.

2). FOR DETAILS AT INTERSECTION & RAMP TERMINAL AREAS SEE INTERSECTION DETAIL AND PAVEMENT DETAIL SHEETS.

TYPICAL SECTIONS – T.R. 187 & S.R. 327

JAC – 32 – 27.631



STORM SEWER PROFILES

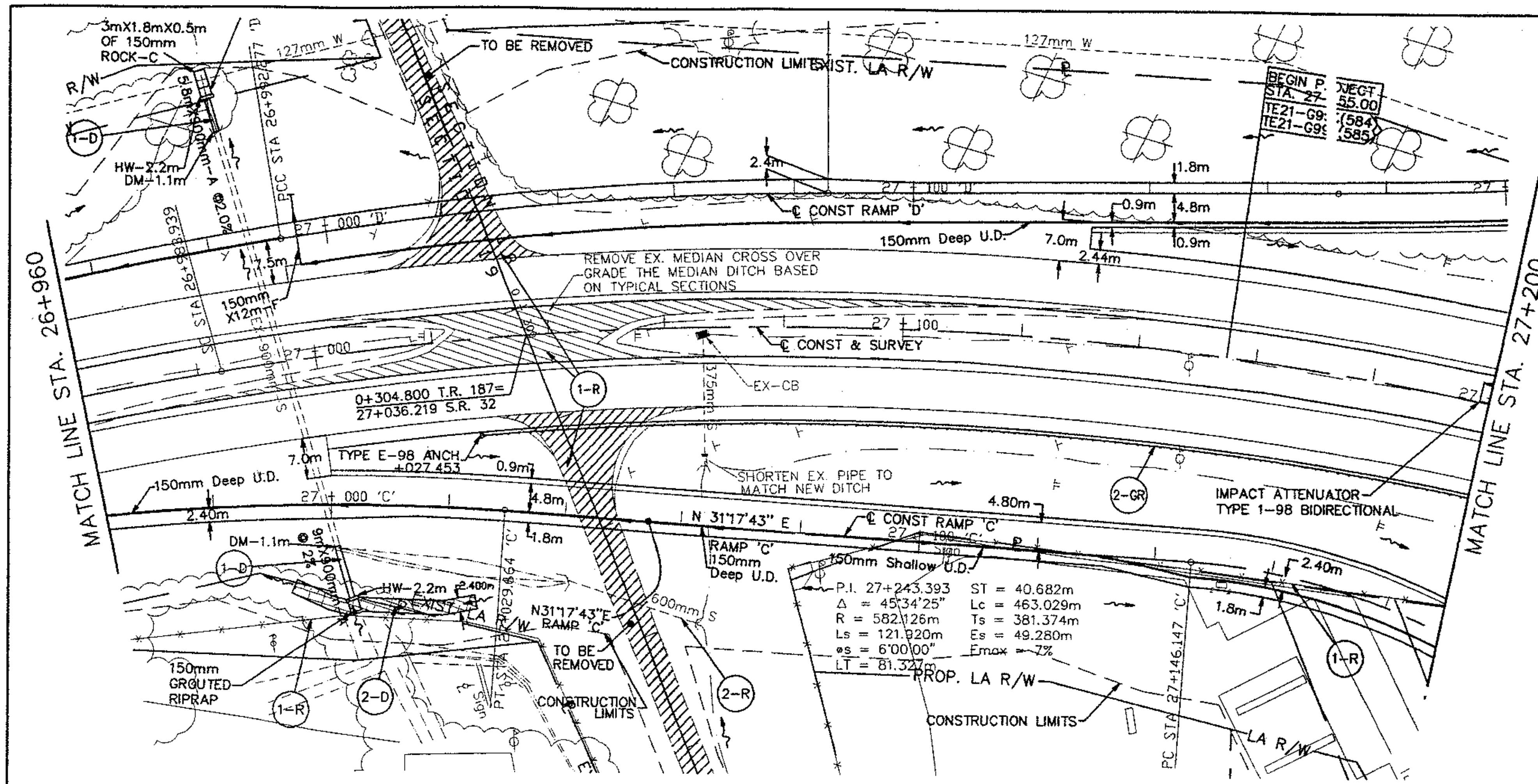
JAC - 32 - 27.631

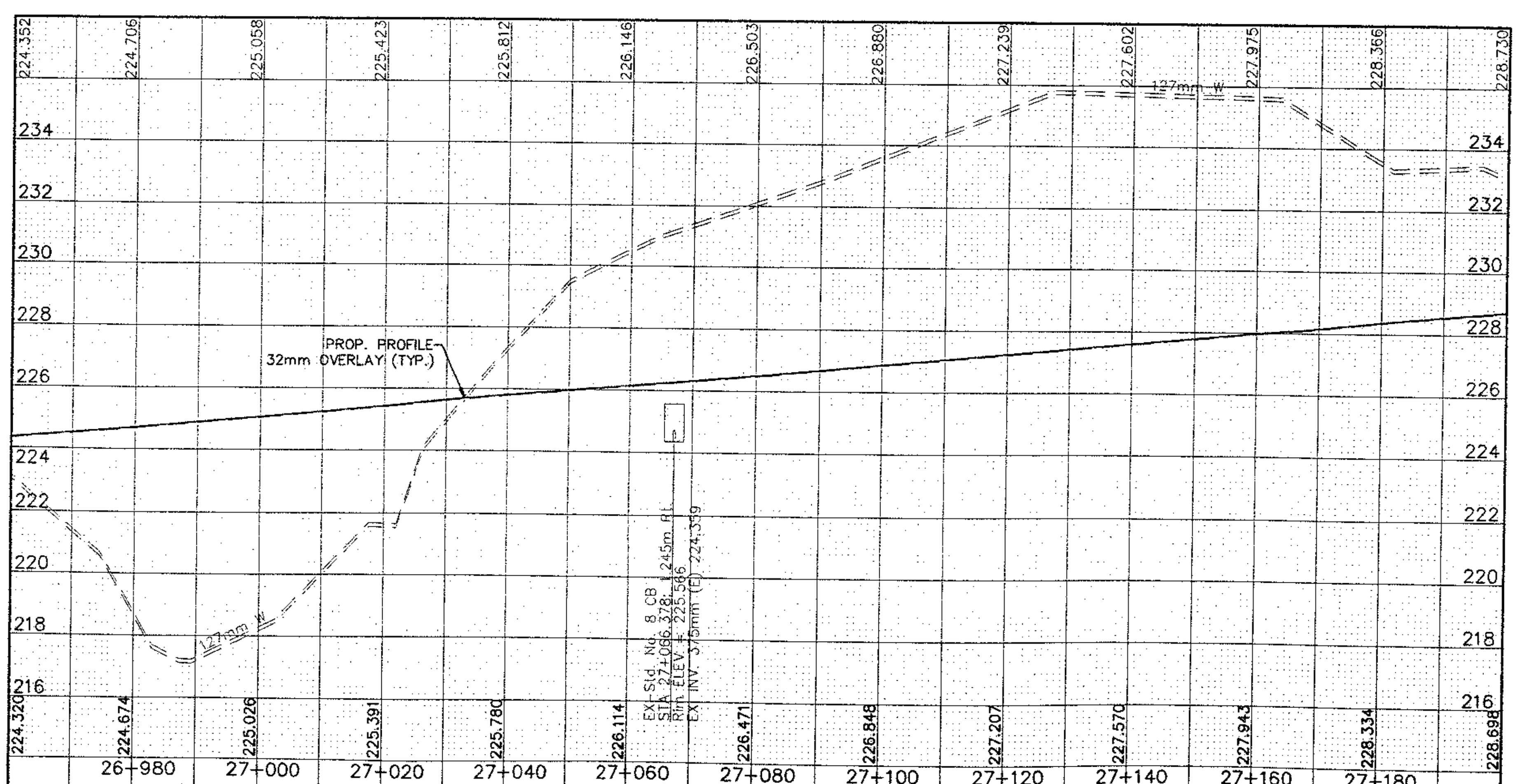
37
235

PLAN & PROFILE – S.R. 32
STA. 26+960 TO STA. 27+200

JAC – 32 – 27.631

FOR RAMP 'C', SEE SHEET 65–66
FOR RAMP 'D', SEE SHEET 68–69
FOR TRANSVERSE SEWERS, SEE CROSS SECTION SHEETS
FOR PAVEMENT DETAIL, SEE SHEETS 139–142





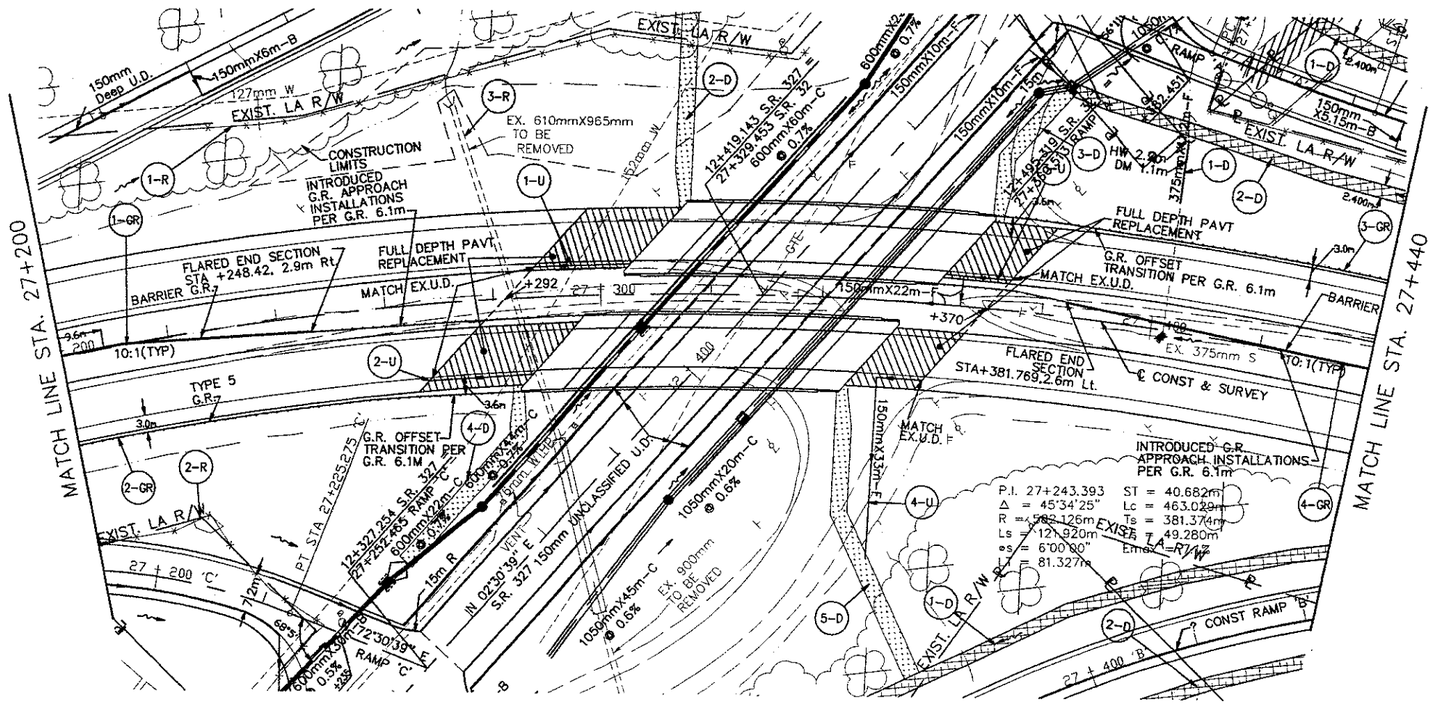
CROSS REFERENCES		
SHEET NO.	DESCRIPTION	
65, 66 68, 69	UNDERDRAIN LOCATIONS ON RAMPS	
68	CONDUIT RIP-RAP	(1-D)
65	FENCE REMOVAL	(1-R)
65	PIPE REMOVAL	(2-R)
65	CONDUIT, DITCH EROSION PROTECTION	(1-D) & (2-D)

REF. NO.	STATION TO STATION	SIDE	202 PAVEMENT REMOVED (SQ. M.)	606 GUARDRAIL TYPE 5 (METER)	606 ANCHOR ASSEMBLY TYPE E-98 (EACH)
1-R	26+968.69 to 27+119.073	L&R	1977.141		
2-GR	27+027.453 to 27+200	Rt.		168.804	1
Totals to Subsummary See Sheet 31&32			1977.141	168.804	1

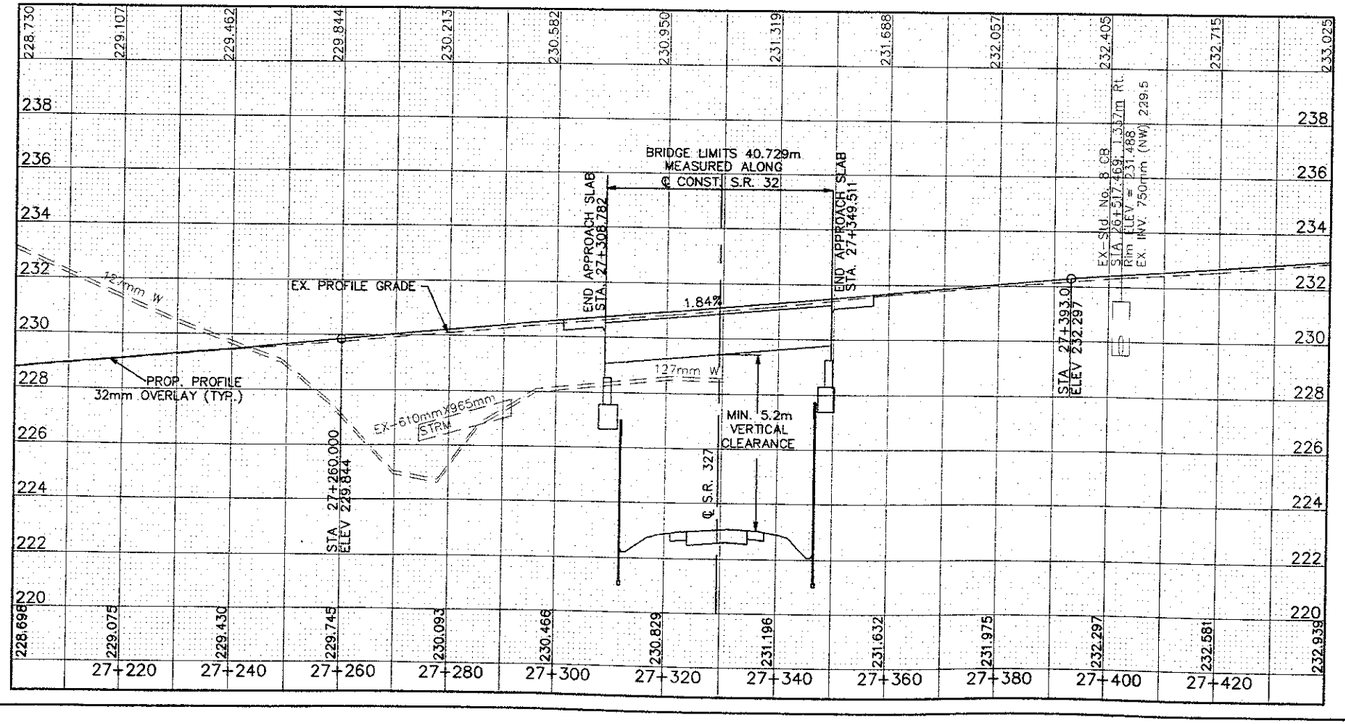
0 5 10 25 HORIZONTAL

CHECKED E.P.C. G.C.N.

FOR BRIDGE SITE PLAN, SEE SHEET 164
FOR S.R. 327, SEE SHEET 49–50
FOR TYPICAL SECTIONS UNDER BRIDGE, SEE SHEET 9
FOR PAVEMENT QUANTITIES, SEE SHEET 33–34
FOR STORM SEWER PROFILE, SEE SHEET 37



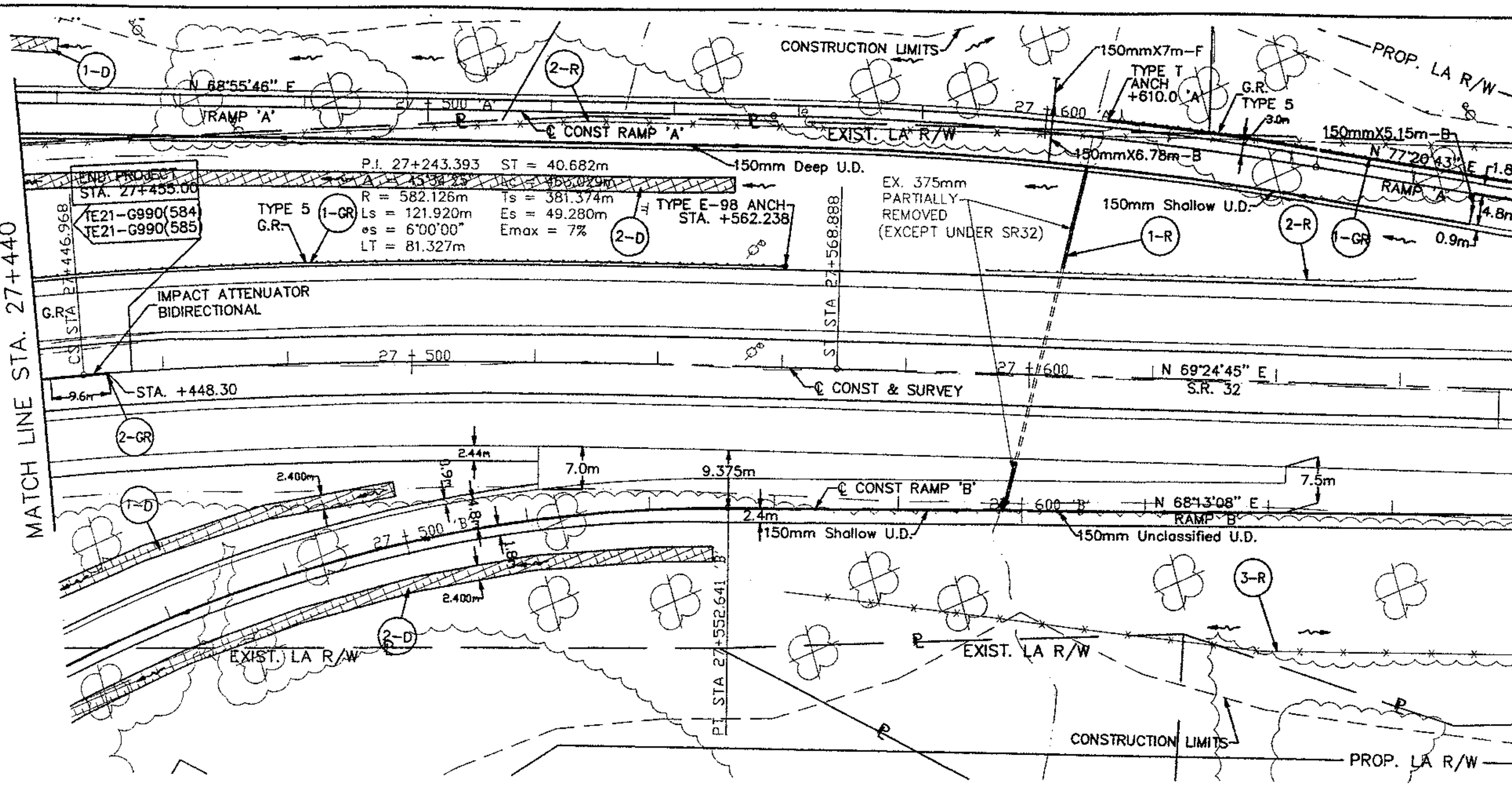
CROSS REFERENCES	
SHEET NO.	DESCRIPTION
49,66,69	UNDERDRAIN LOCATIONS
50,57,60	ON RAMPS
57	DITCH EROSION PROTECTION 'A' (1–D) & (2–D)
60	DITCH EROSION PROTECTION 'B' (1–D) & (2–D)

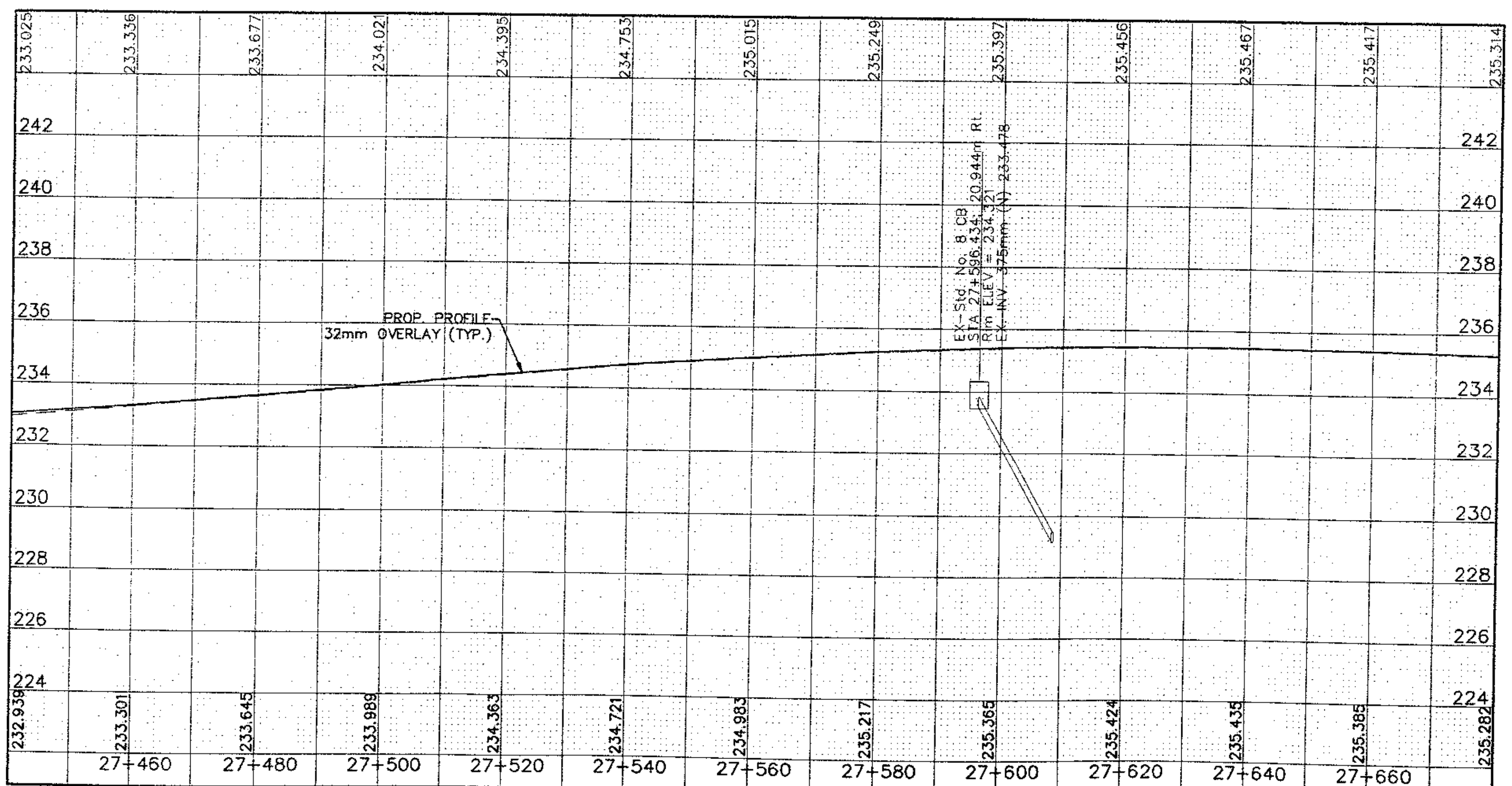


REF. NO.	STATION TO STATION	SIDE	202 PIPE REMOVED ABOVE 610mm METER	202 FENCE REMOVED METER	606 GUARDRAIL TYPE 5 METER	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 EACH	606 GUARDRAIL BARRIER DESIGN TYPE 5 METER	690 IMPACT ATTEN. TYPE 1–98 BIDIRECTIONAL EACH	605 150mm DEEP U.D. METER	605 150mm CONDUIT TYPE F METER	660 REINFORCED SODDING SQ.M.	707 375mm CONDUIT TYPE F METER
1–GR	27+200 to 27+301.623	Lt.			45.72	1	38.100	1				
2–GR	27+200 to 27+288.693	Rt.			82.216	1						
3–GR	27+366.106 to 27+440	Lt.			76.65	1	38.100					
4–GR	27+356.102 to 27+440	Rt.			19.05	1						
1–R	27+175.395 to 27+200	Rt.		120.344							162	
2–R	27+026.703 to 27+200	Rt.		36.674							83	
3–R	27+275.817 to 27+291.449	L&R	64								146	
1–D	27+026.703 to 27+200	Rt.									218	11.2
4–D	27+313 to 27+318	Lt.										
3–D	27+370 to 27+373	Rt.										
4–D	27+282 to 27+285	Lt.										
5–D	27+343 to 27+346	Rt.										
1–U	27+287.82 to 27+305.54	Lt.							17.6			
2–U	27+267.03 to 27+286.73	Rt.							18.302			
3–U	27+382.04 to 27+873.90	Lt.							11.882	22.399		
4–U	27+350.69 to 27+359.12	Rt.							8.223	33		
Totals to Subsummary See Sheet 31&32			64	159.018	228.636	4	76.200	1	55.987	55.399	609	11.2

PLAN & PROFILE – S.R. 32
STA. 27+200 TO STA. 27+440

JAC – 32 – 27.631





FOR RAMP 'A', SEE SHEET 57-58
FOR RAMP 'B', SEE SHEET 61-62
FOR CLT FENCE, SEE SWPP PLAN, SHEET 35
FOR PAVEMENT DETAIL, SEE SHEET 139-142

CROSS REFERENCES

SHEET NO.	DESCRIPTION
57, 58, 60, 61	UNDERDRAIN LOCATIONS ON RAMPS
57, 60	DITCH EROSION PROTECTION (1-D) & (2-D)
57	FENCE REMOVAL (2-R)
58	GUARDRAIL & ANCHOR ASSEMBLY (1-GR)

REF. NO.	STATION TO STATION	SIDE	202 GUARDRAIL REMOVED (METER)	202 PIPE REMOVED 610mm & UNDER (METER)	202 CATCH BASIN REMOVED (EACH)	202 FENCE REMOVED (METER)	606 GUARDRAIL TYPE 5 (METER)	606 GUARDRAIL BARRIER DESIGN TYPE 5 (METER)	606 TYPE E-98 ANCHOR ASSEMBLY (EACH)	690 IMPACT ATTEN. TYPE 1-98 BIDIRECTIONAL (EACH)
1-GR	27+440 to 27+562.238	Lt.					121.426		1	
2-GR	27+440 to 27+448.298	Lt.								1
1-R	27+596.434 to 27+608.439	L&R		24	1					
2-R	27+592.579 to 27+661.736	Lt.	69.179							
3-R	27+561.462 to 27+680	Rt.				118.878				
Totals to Subsummary See Sheet 31&32			69.179	24	1	118.878	121.426		1	1

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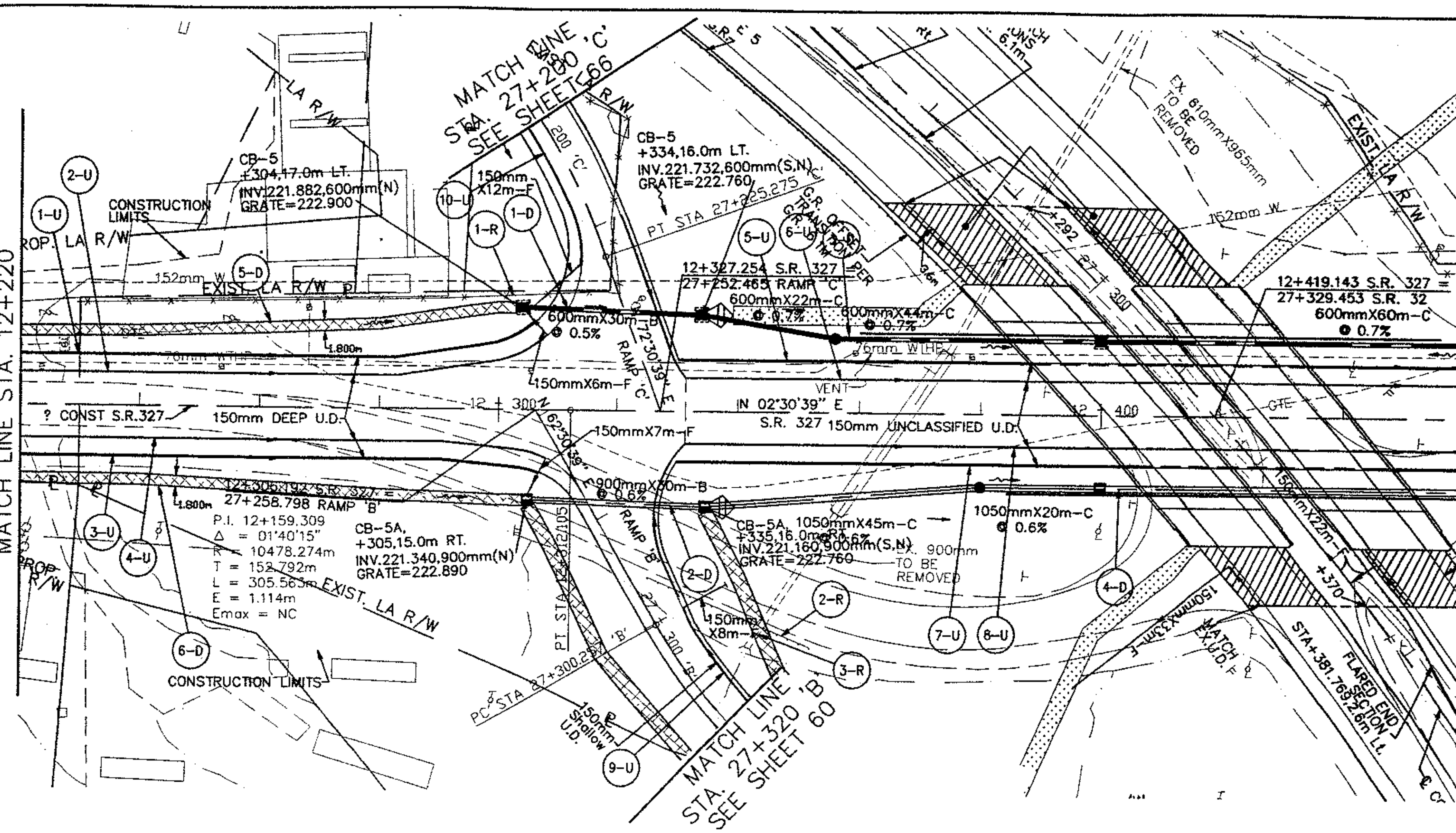
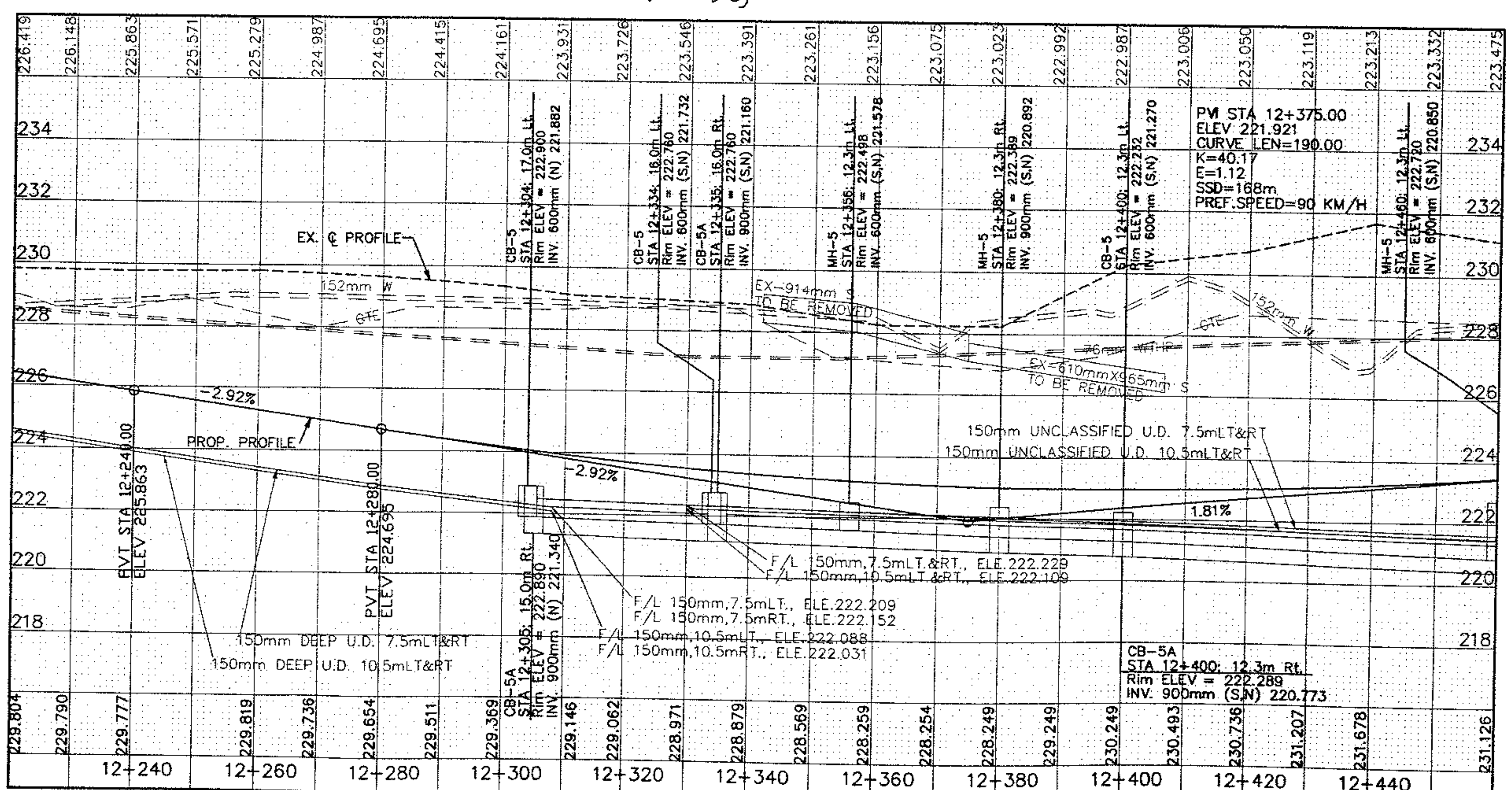
CALCULATED E.P.C. CHECKED G.O.N.

PLAN & PROFILE - S.R. 32
STA. 27+440 TO STA. 27+680

JAC - 32 - 27.631

FOR BRIDGE SITE PLAN, SEE SHEET 164
FOR BENCHMARKS & CENTERLINE REFERENCES, SEE SHEET 3
FOR INTERSECTION DETAILS, SEE SHEET 143-144
FOR STORM SEWER PROFILES, SEE SHEET 37





REF. NO.	STATION TO STATION	SIDE	202 FENCE REMOVED (METER)	202 GUARDRAIL REMOVED (METER)	202 PIPE REMOVED 610mm & UNDER (METER)	603 600mm CONDUIT TYPE B (METER)	603 600mm CONDUIT TYPE C (METER)	603 900mm CONDUIT TYPE B (METER)	603 900mm CONDUIT TYPE C (METER)	604 CATCH BASIN NO. 5 (EACH)	604 CATCH BASIN NO. 5A (EACH)	604 MANHOLE TYPE 5 (EACH)	605 150mm DEEP U.D. (METER)	605 150mm UNCLASSIFIED U.D. (METER)	605 150mm CONDUIT TYPE F (METER)	605 150mm SHALLOW U.D. (METER)	670 DITCH EROSION PROTECTION (SQ. M.)
1-R	12+229.205 to 27+200 'C'	Lt.	129.810														
2-R	12+325.433 to 12+352.250	Rt.		29.182													
3-R	12+341.424 to 12+358	L&R			27												
1-D	12+304 to 12+334	Lt.				30				1							
2-D	12+305 to 12+335	Rt.						30			1						
3-D	12+334 to 12+460	Lt.					126			2		2					
4-D	12+335 to 12+460	Rt.							125		2	1					
5-D	12+220 to 12+302.86	Lt.															149.399
6-D	12+220 to 12+303.966	Rt.															150.362
1-U	12+220 to 12+305.732	Lt.											87.076				
2-U	12+220 to 12+308	Lt.											89.397		6		
3-U	12+220 to 12+306.76	Rt.											86.918				
4-U	12+220 to 12+308	Rt.											88.299		7		
5-U	12+330.262 to 12+460	Lt.												129.738			
6-U	12+320.62 to 12+460	Lt.												157.571			
7-U	12+330.043 to 12+460	Rt.												129.957			
8-U	12+330.587 to 12+460	Rt.												156.34			
9-U	27+300 'B' to 27+320 'B'	Lt.													8	20	
10-U	27+200 'C' to 27+229.5 'C'	Rt.													12	24.635	
Totals to Subsummary See Sheet 31&32			129.810	29.182	27	30	126	30	125	3	3	3	351.69	573.606	33	44.635	299.761

CALCULATED E.P.C.
CHECKED G.G.N.

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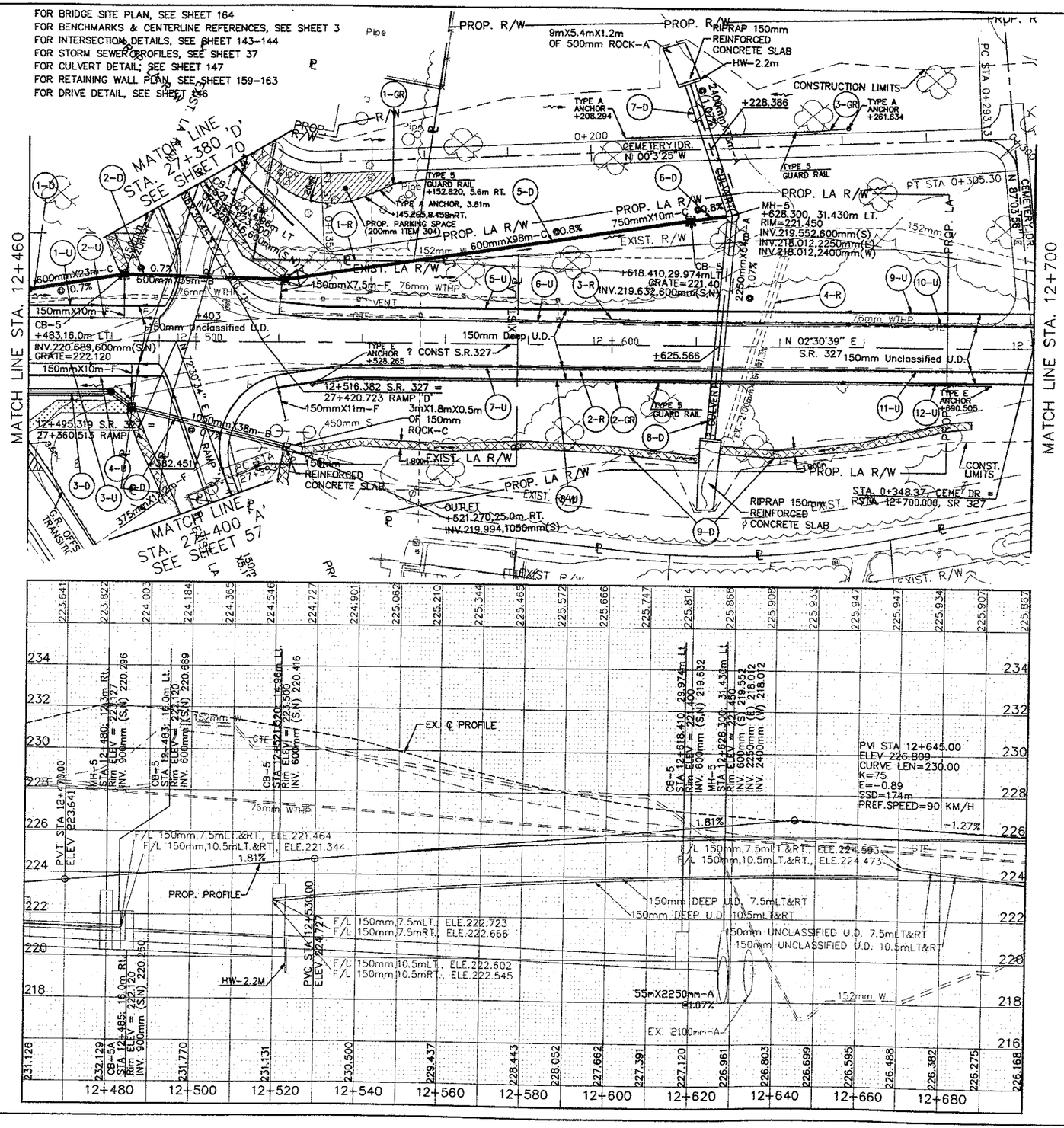
PLAN & PROFILE - S.R. 327
12+220 TO STA. 12+460

JAC - 32 - 27.631



FOR BRIDGE SITE PLAN, SEE SHEET 164
FOR BENCHMARKS & CENTERLINE REFERENCES, SEE SHEET 3
FOR INTERSECTION DETAILS, SEE SHEET 143-144
FOR STORM SEWER PROFILES, SEE SHEET 37
FOR CULVERT DETAIL, SEE SHEET 147
FOR RETAINING WALL PLAN, SEE SHEET 159-163
FOR DRIVE DETAIL, SEE SHEET 146

REF. NO.	STATION TO STATION	SIDE	202 FENCE REMOVED	202 GUARDRAIL REMOVED	202 PIPE REMOVED OVER 610mm	601 RCP TYPE A W/FILTER	601 RCP TYPE C W/FILTER	601 RIPRAP	602 CONCRETE MASONRY	603 600mm CONDUIT TYPE B	603 600mm CONDUIT TYPE C	603 900mm CONDUIT TYPE B	603 900mm CONDUIT TYPE C	603 2250mm CONDUIT TYPE A	603 2400mm CONDUIT TYPE A	604 MANHOLE TYPE 5	604 CATCH BASIN NO. 5	604 CATCH BASIN NO. 5A	605 150mm DEEP U.D.	605 150mm UNCLASSIFIED U.D.	605 150mm CONDUIT TYPE F		606 GUARDRAIL TYPE 5	606 TYPE E ANCHOR ASSEMBLY	606 TYPE A ANCHOR ASSEMBLY		670 DITCH EROSION PROTECTION
			METER	METER	METER	CU. M.	CU. M.	SQ. M.	CU. M.	METER	METER	METER	METER	METER	METER	EACH	EACH	EACH	METER	METER	METER		METER	EACH	EACH		SQ. M.
1-R	12+513.421 to 12+605.243	Lt.	120.109																								
2-R	12+520.242 to 12+700	Rt.		180																							
3-R	12+595.574 to 12+700	Lt.		105																							
4-R	12+627.777 to 12+641.04	L&R			45.59																						
1-D	12+460 to12+483	Lt.									23																
2-D	12+483 to 12+521.52	Lt.								39							1										
3-D	12+460 to 12+485	Rt.											26			1											
4-D	12+485 to 12+521.270	Rt.					2.7	2.7	0.662			38						1									
5-D	12+521.52 to 12+618.41	Lt.									98						1										
6-D	12+618.41 to 12+628.30	Lt.									10						1										
7-D	12+617.857 to 12+628.30	Lt.				58.32		1.8	5.16						33	1											
8-D	12+623.621 to 12+628.30	L&R						73.64	4.38					54													
9-D	12+520 to 12+685	Rt.																									281.654
1-GR	27+380 'D' to 12+547.67	Lt.																					39.807		1		
2-GR	12+528.265 to 12+691.032	Rt.																					162.868	2			
3-GR	0+208.254 to 0+261.634 'CEM'	Lt.																					53.353		2		
1-U	12+460 to 12+492.531	Lt.																32.531							
2-U	12+460 to 27+378.99 'D'	Lt.																61.439	10						
3-U	12+460 to 27+390 'A'	Rt.																56.922	10						
4-U	12+460 to 12+492.169	Rt.																32.169							
5-U	12+520.306 to 12+669.50	Lt.															149.253								
6-U	12+520 to 12+669.50	Lt.															149.559		7.5						
7-U	12+520 to 12+669.50	Rt.															185.829		11						
8-U	27+400 'A' to 12+669.50	Rt.															149.725								
9-U	12+520 to 12+669.50	Lt.																29.5							
10-U	12+670.50 to 12+700	Lt.																29.5							
11-U	12+670.50 to 12+700	Rt.																29.5							
12-U	12+670.50 to 12+700	Rt.																29.5							
13-U	27+380 'D' to 27+389.664 'D'	Rt.																	15.262						
Totals to Subsummary See Sheet 31&32			120.109	285	45.59	58.32	2.7	78.14	10.222	39	131	38	26	54	33	2	3	1	634.366	301.061	53.762		256.028	2	3		281.654

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G.C.N.

PLAN & PROFILE - S.R. 327
12+460 TO STA. 12+700

JAC - 32 - 27.631