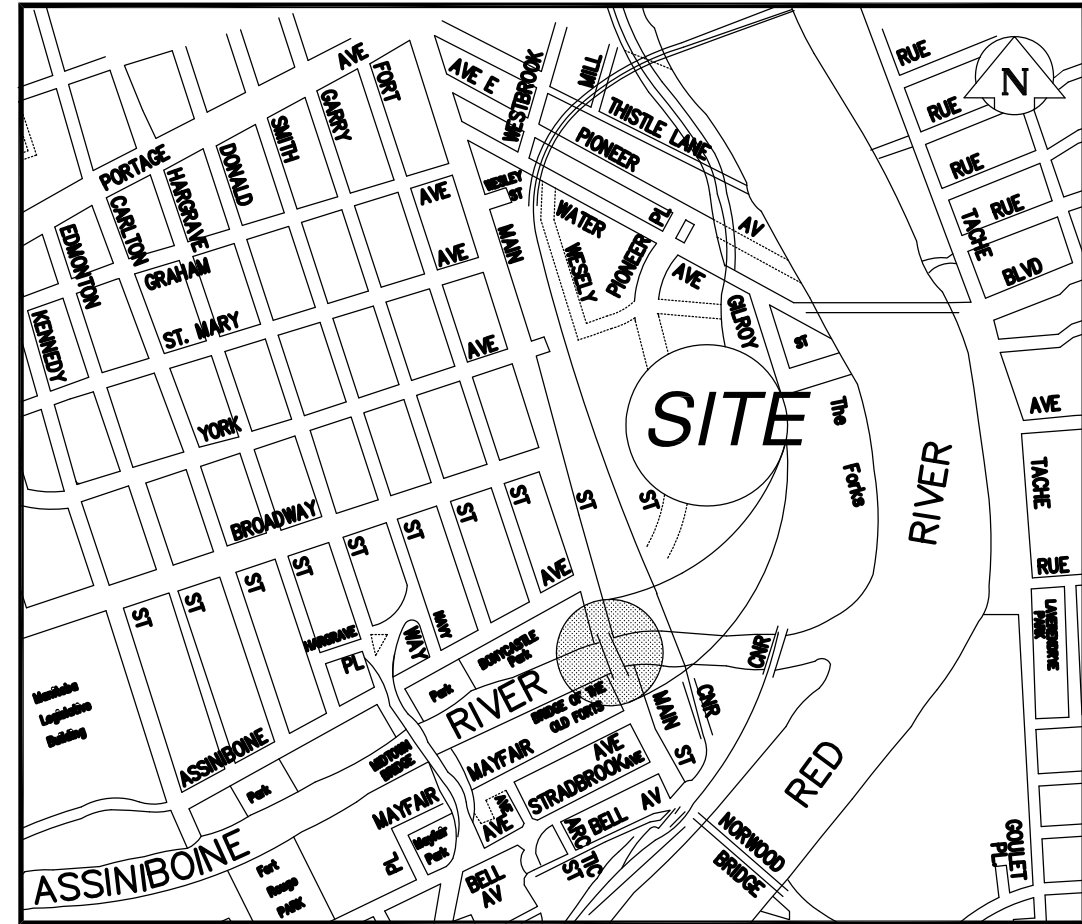


THE CITY OF WINNIPEG

WORKS AND OPERATIONS DIVISION
STREETS AND TRANSPORTATION DEPARTMENT

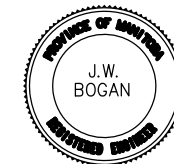


KEY PLAN

MAIN STREET AND NORWOOD BRIDGES PROJECT

MAIN STREET BRIDGE SOUTHBOUND STRUCTURE

RFP 96 - 068 AS CONSTRUCTED DRAWINGS

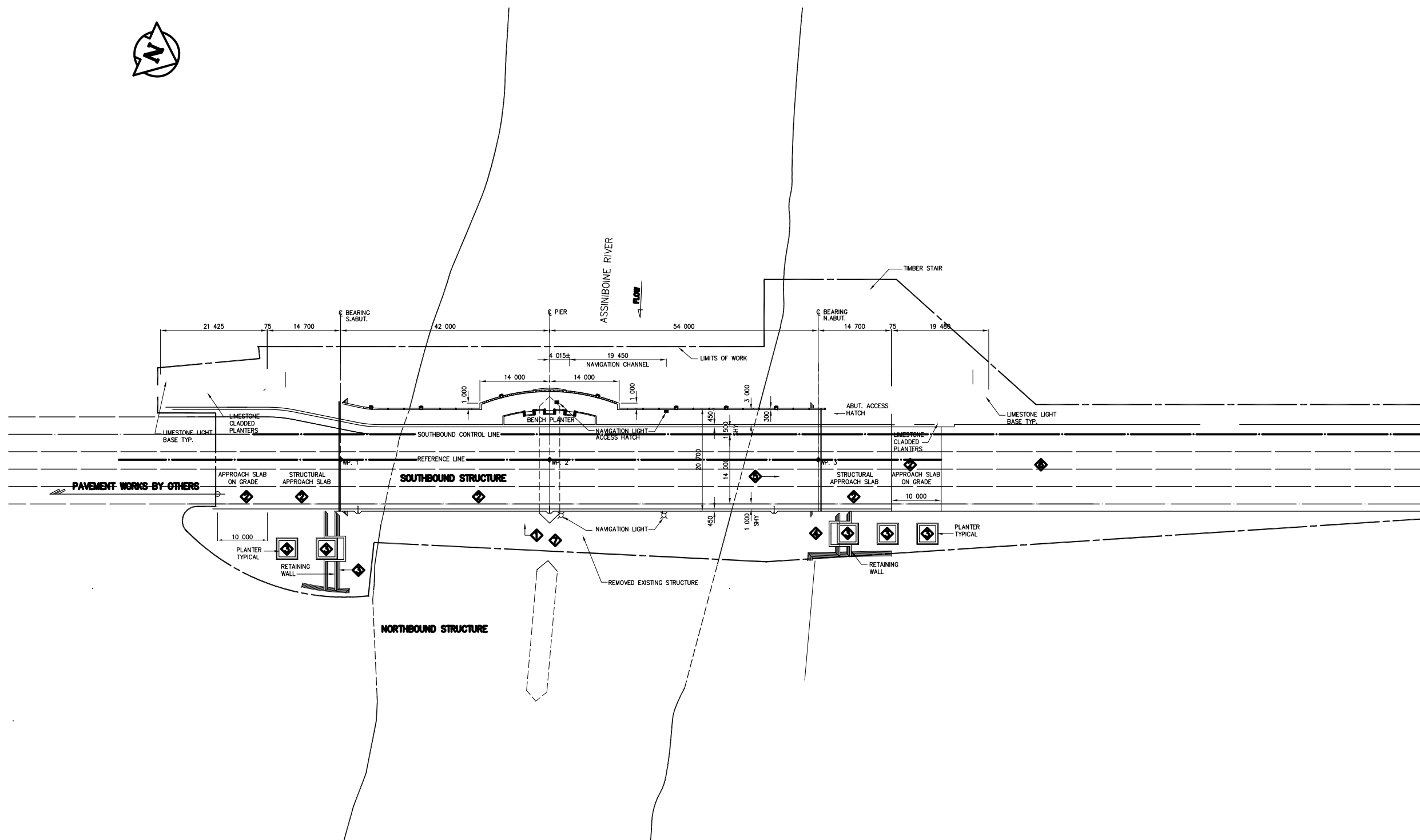


RELEASED FOR CONSTRUCTION BY: _____ DATE _____

L.S.W. LARKIN, ENG. MANAGER OF BRIDGE ENGINEERING

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948





AS - CONSTRUCTED WORKS	
1	DEMOLISHED EXISTING MAIN STREET BRIDGE AND ABANDONED ALL UTILITIES CARRIED ON BRIDGE.
2	CONSTRUCTED SOUTHBOUND MAIN STREET BRIDGE INCLUDING APPROACH SLABS
3	CONSTRUCTED RETAINING WALLS AND PLANTERS
4	CUT DOWN AND ABANDONED TEMPORARY SHEETPILE RETAINING WALL
5	RESTORED RIVERWALK
6	PAVEMENT RECONSTRUCTED
7	EXISTING RIPRAP RESTORED AND NEW RIP-RAP PLACED
8	LANDSCAPING

AS-CONSTRUCTED NOTES:

1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.W.BOGAN P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

LOCATIONS APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE	DATE
N.A.	

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTANCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION

B.M. ELEV.	NO.	REVISIONS	DATE	BY
	B	AS CONTRACTED	98 12 01	JWB
	A	ISSUED FOR CONSTRUCTION	97 08 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: JWB	CHECKED BY: JPL	DATE
DRAWN BY: RCS	APPROVED BY:	DATE
HOR. SCALE: 1:400	AUTHORIZED BY:	DATE
VERTICAL:	B. EBENSFANGER P.ENG./SENIOR BRIDGE ENGINEER	DATE
NO. REVISIONS	ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: R. DUERKSEN, P.ENG.	DATE

ENGINEER'S SEAL
J.P. LUKASHENKO
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

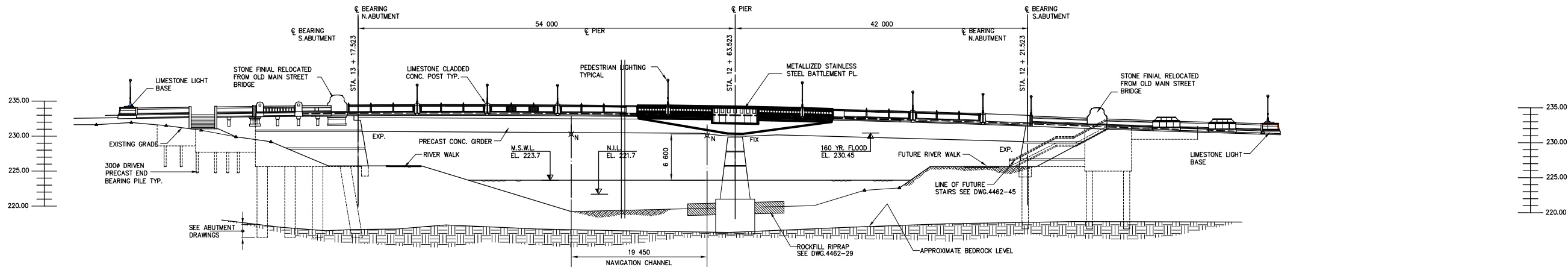
CONSULTANT DRAWING NO. **4482- 03 (SB)**

GENERAL ARRANGEMENT, SITE PLAN AND ITEMS OF WORK

NOTE:
These design documents are prepared solely for the use by the party with whom the design professional has entered into a contract and there are no representations of any kind made by the design professional to any party with whom the design professional has not entered into a contract.

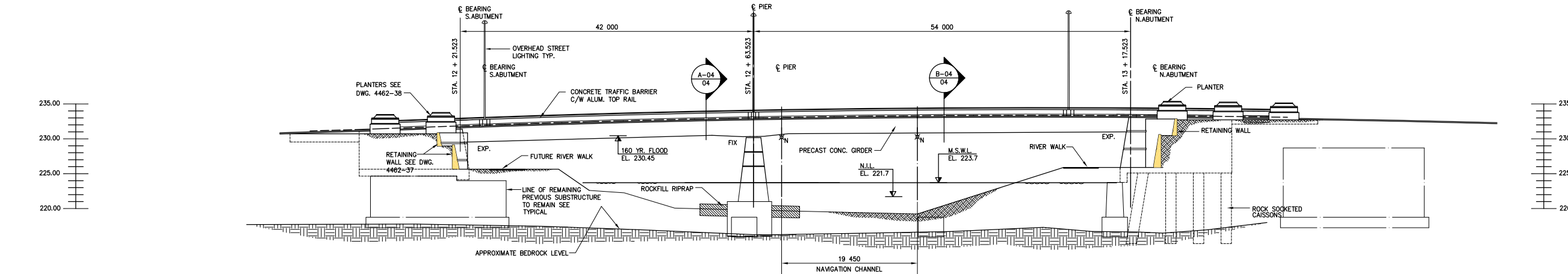
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

CITY DRAWING NUMBER	B104-97-03
SHEET OF	03 OF -
	B

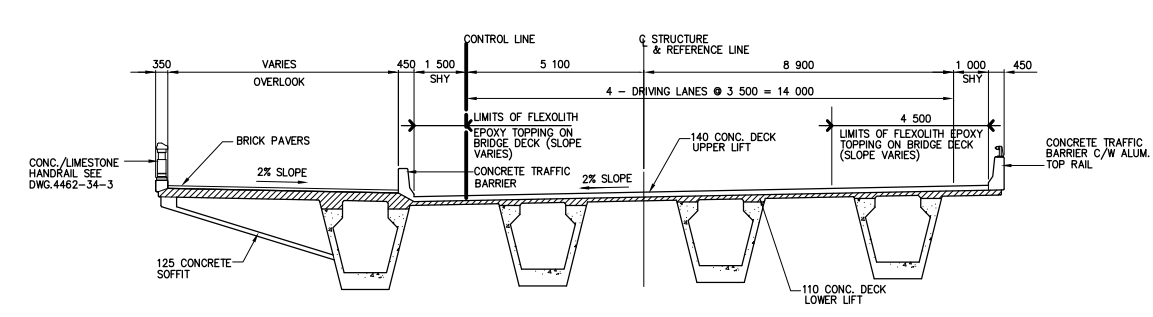


NOTE:
 M.S.W.L. - MEAN SUMMER WATER LEVEL
 N.I.L. - NORMAL ICE LEVEL
 N - NAVIGATION LIGHT

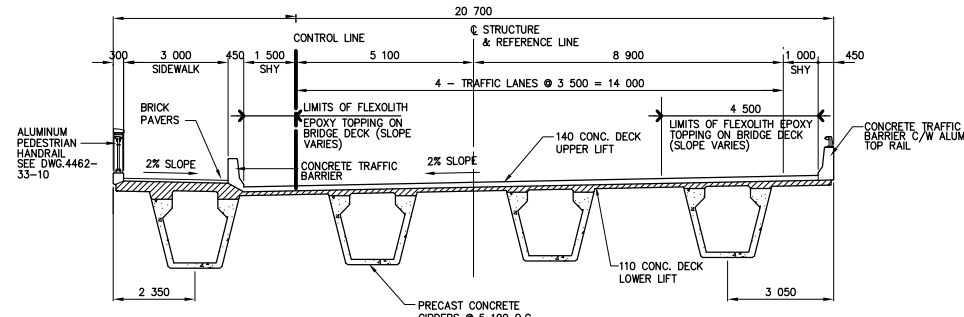
ELEVATION LOOKING DOWNSTREAM
 ELEVATION LOOKING UPSTREAM
 1:300



ELEVATION LOOKING UPSTREAM
 1:300



SECTION A-04
 1:100



SECTION B-04
 1:100

NOTE:
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METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES

AS-CONSTRUCTED NOTES:
 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.W. BOGAN P. ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

LOCATIONS APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.
N.A.		
SUPV. U/G STRUCTURES COMMITTEE	DATE	
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTANCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION		
B	AS CONSTRUCTED	98 12 01 JWB
A	ISSUED FOR CONSTRUCTION	97 09 05 JWB
NO.	REVISIONS	DATE BY

DESIGNED BY: JWB		CHECKED BY: JPL	DATE
DRAWN BY: RCS		APPROVED BY:	DATE
HOR. SCALE: AS SHOWN		AUTHORIZED BY: _____ DATE _____	
VERTICAL: AS SHOWN		ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: _____ DATE _____	
NO.		DATE	BY
R. DUERSEN, P. ENG.			



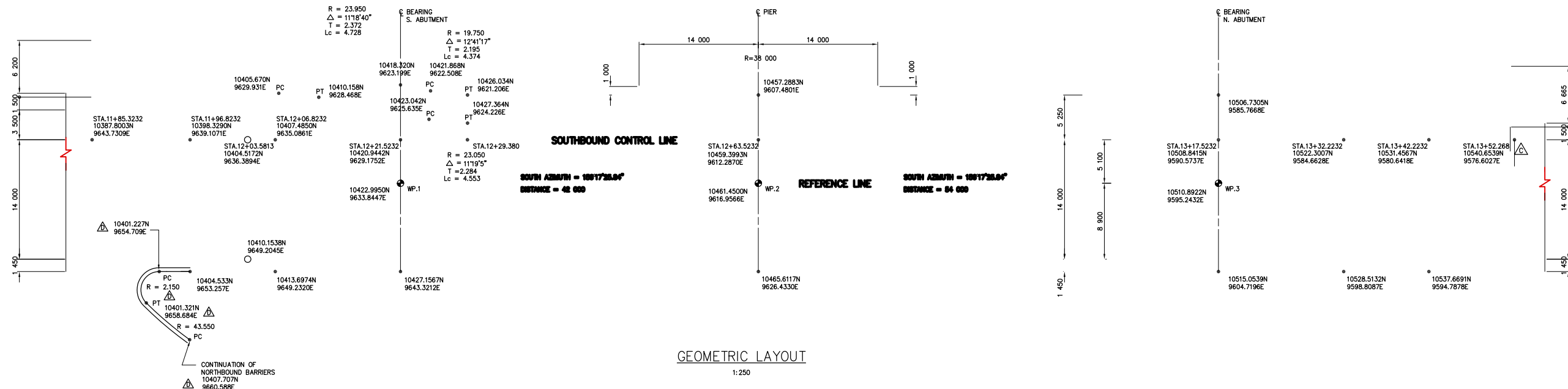
THE CITY OF WINNIPEG
 STREETS AND TRANSPORTATION DEPARTMENT
 BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
 MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

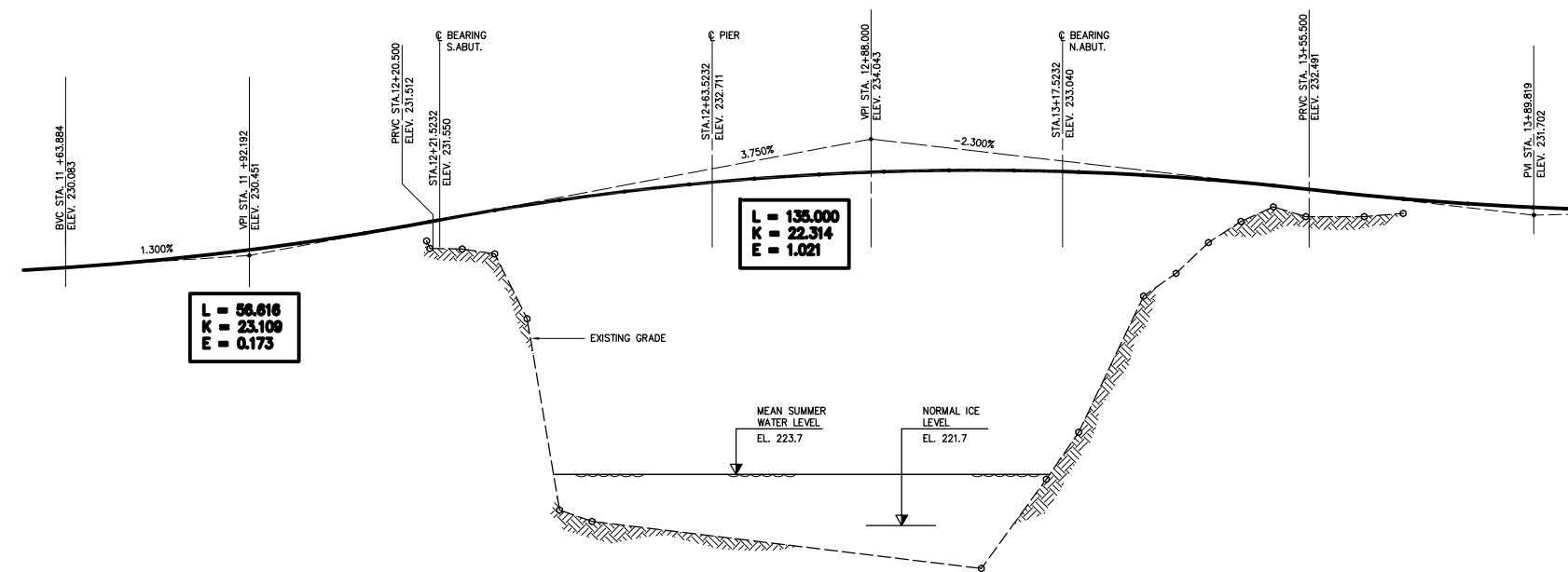
ELEVATIONS AND SECTIONS

CITY DRAWING NUMBER: **B104-87-04**
 SHEET **04** OF **-**

CONSULTANT DRAWING NO. **4462-04 (SB)**



GEOMETRIC LAYOUT
1:250



SOUTHBOUND CONTROL LINE
VERTICAL CURVE PROFILE

HORIZ. SCALE 1:500
VERT. SCALE 1:100

AS-CONSTRUCTED NOTES:
1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.W.BOGAN P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

NOTE:
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AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

NO.	REVISIONS	DATE	BY
D	AS CONSTRUCTED	98 12 01	JWB
C	REVISED LOCATION	97 10 07	JWB
B	ISSUED FOR CONSTRUCTION	97 09 05	JWB
A	ISSUED FOR REVIEW	97 06 17	JWB

DESIGNED BY	ERM	CHECKED BY:	JWB	DATE	
DRAWN BY	RCS	APPROVED BY:		DATE	
HOR. SCALE: AS SHOWN		AUTHORIZED BY:		DATE	
VERTICAL: -		B. EBENFANGER P.ENG./SENIOR BRIDGE ENGINEER		DATE	
NO. REVISIONS		ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY:		DATE	
		R. DUERKSEN, P.ENG.			



DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone | 204 | 943-3178 Facsimile | 204 | 943-4948

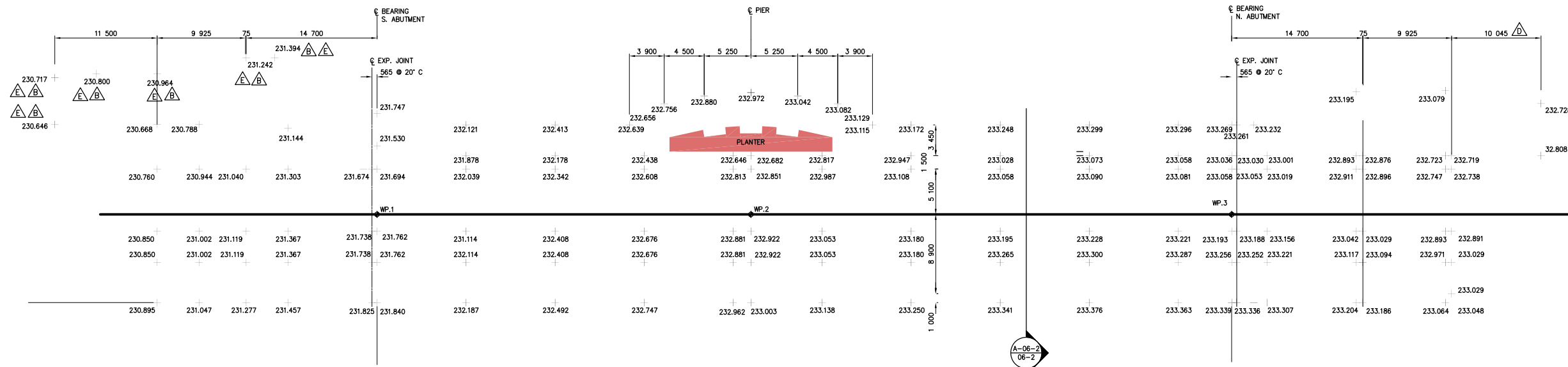
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

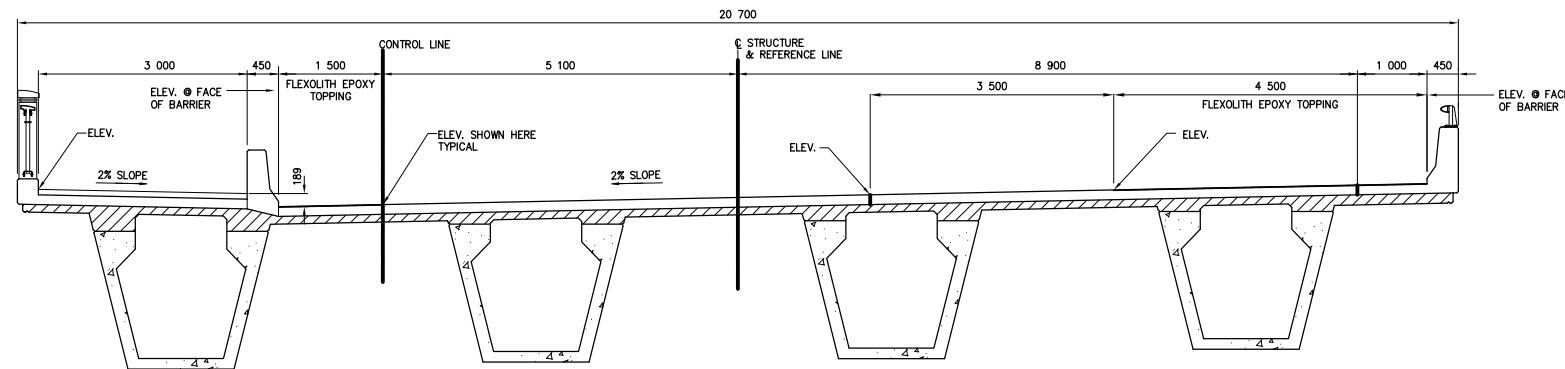
CITY DRAWING NUMBER **B104-97-6-1**
SHEET **06-1** OF **-**

CONSULTANT DRAWING NO. **4462-06-1 (SB)**

VERTICAL & HORIZONTAL ALIGNMENT



DECK ELEVATIONS
1:250



SECTION A-06-2
1:50

AS-CONSTRUCTED NOTES:

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.W.BOGAN P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES

N.A.	DATE

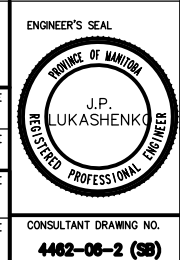
NOTE:

LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTANCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION

NO.	REVISIONS	DATE	BY
E	AS CONSTRUCTED	98 12 01	JWB
D	LENGTH REVISED	97 10 07	JWB
C	ISSUED FOR CONSTRUCTION	97 09 05	JWB
B	REVISED ELEV. AS MARKED	97 08 27	JWB
A	ISSUED FOR REVIEW	97 06 17	JWB

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Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone | 204 | 943-3178 Facsimile | 204 | 943-4948

DESIGNED BY: ERM	CHECKED BY: JWB	DATE
DRAWN BY: RCS	APPROVED BY:	DATE
HORIZ. SCALE: AS SHOWN		
VERTICAL:		
ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: DATE		
R. DUERSEN, P.ENG.		



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

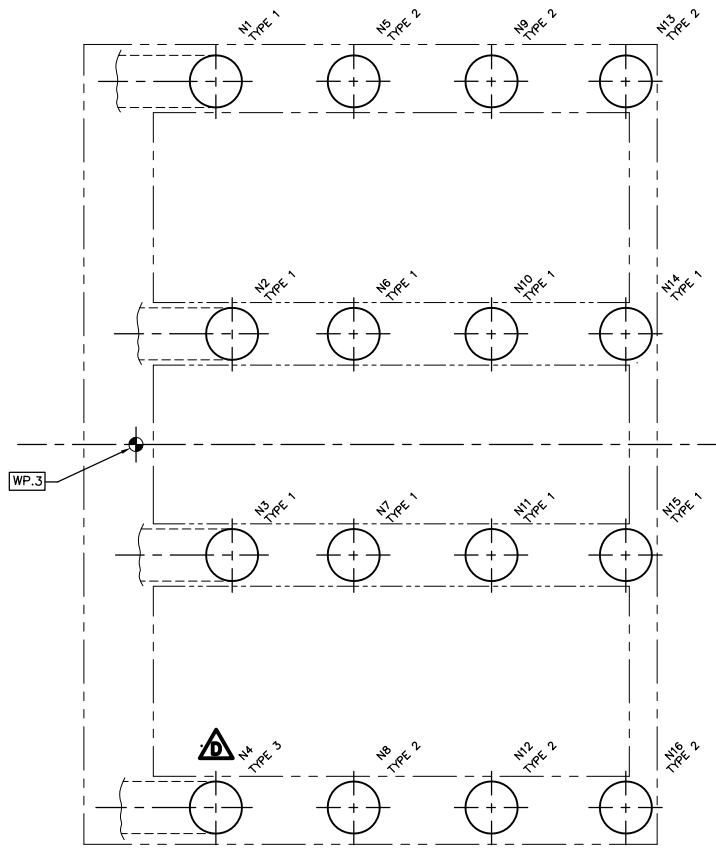
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4462-06-2 (SB)

CITY DRAWING NUMBER
B104-87-06-2

SHEET OF
06-2 -

PLAN ELEVATIONS

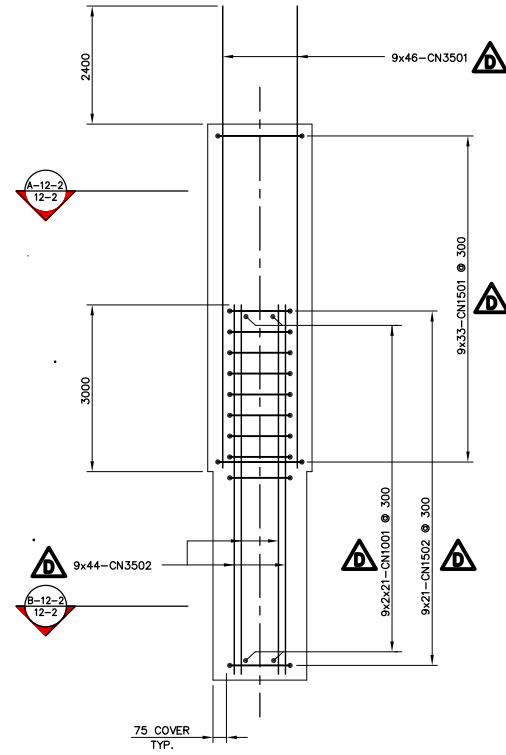
E



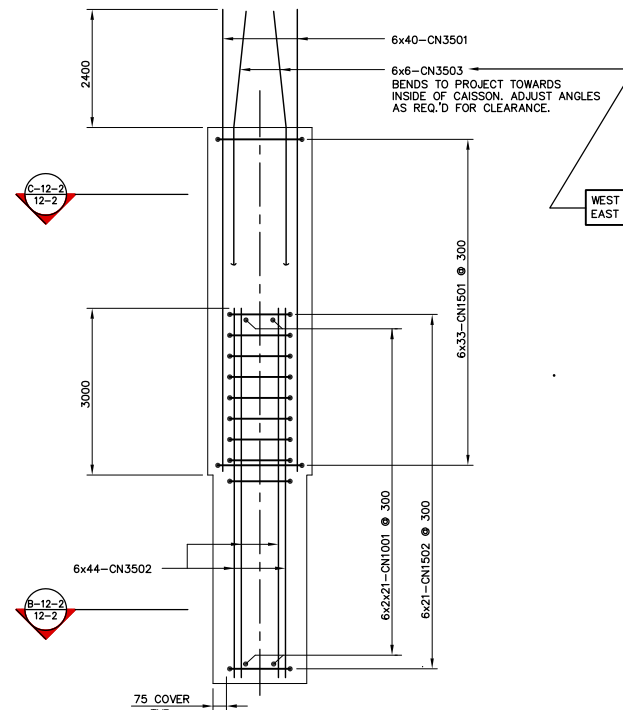
PLAN-CAISSONS - NORTH ABUTMENT
1:100

CAISSONS						
BATTERED	MARK No.	SHAFT DIA. (MM)	SOCKET DIA. (MM)	SOCKET LENGTH (MM)	TOP OF CAISSON EL.	REINFORCING TYPE
	N1 to N3 INCLUSIVE	1500	1350	3000	225.725	TYPE 1
	N6, N7, N10, N11, N14, N15	1500	1350	3000	225.725	TYPE 1
	N5, N8, N9, N12, N13, N16	1500	1350	3000	225.725	TYPE 2
BATTERED	N4	1500	1350	4600	225.725	TYPE 3

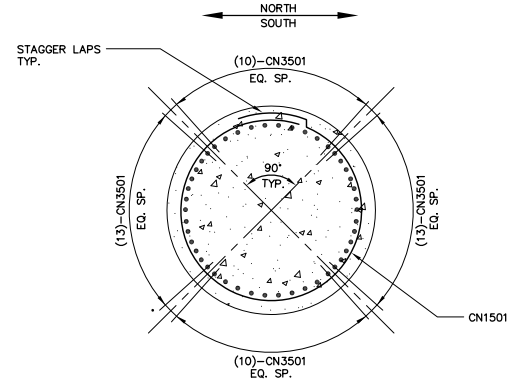
SOCKET OFFSET



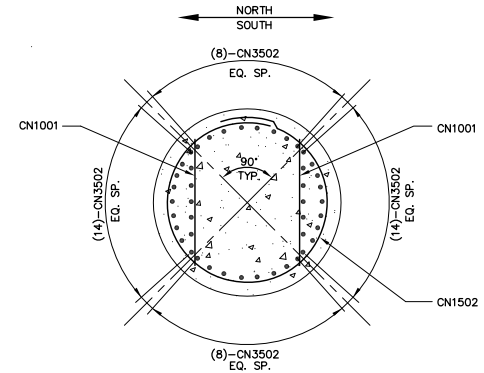
CAISSON - TYPE 1
1:50



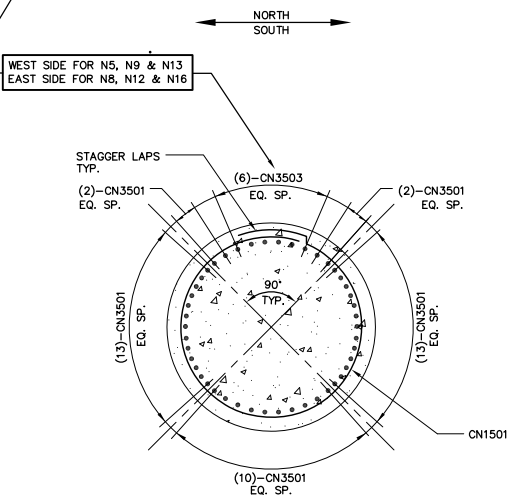
CAISSON - TYPE 2
1:50



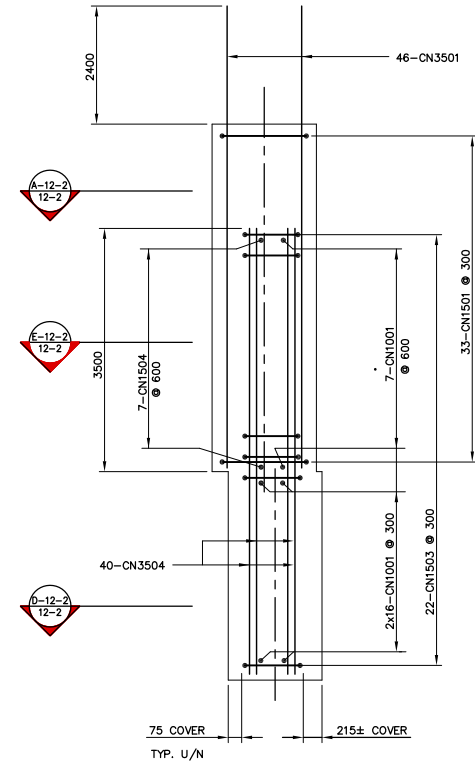
SECTION A-12-2
1:25



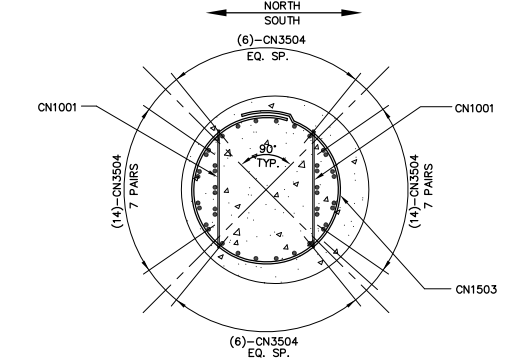
SECTION B-12-2
1:25



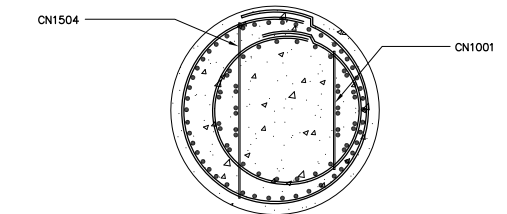
SECTION C-12-2
1:25



CAISSON - TYPE 3
1:50



SECTION D-12-2
1:25



SECTION E-12-2
1:25

FOR BAR CONFIGURATION ONLY

NOTE: The original drawing used for construction was sealed on January 30, 1997 by Bob Long. That drawing has been updated with construction revisions.

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

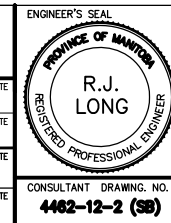
LOCATIONS APPROVED UNDERGROUND STRUCTURES

NOTE: [Illegible text]

NO.	REVISIONS	DATE	BY
E	"AS-CONSTRUCTED"	99 01 20	JWB
D	CAISSON "N4"-REIN. REVISED	97 03 03	JWB
C	RE-ISSUED FOR CONSTRUCTION	97 01 27	JWB
B	ISSUED FOR CONSTRUCTION	97 01 20	JWB
A	ISSUED FOR CONSTRUCTION	96 12 16	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.L.** CHECKED BY: **DBM** DATE: _____
 DRAWN BY: **J** APPROVED BY: _____ DATE: _____
 AUTHORIZED BY: _____ DATE: _____
 HORIZ. SCALE: **AS NOTED**
 VERTICAL: **AS NOTED**
 DATE: DEC. 1996 BY: **R. OVERSON, P. ENG.**



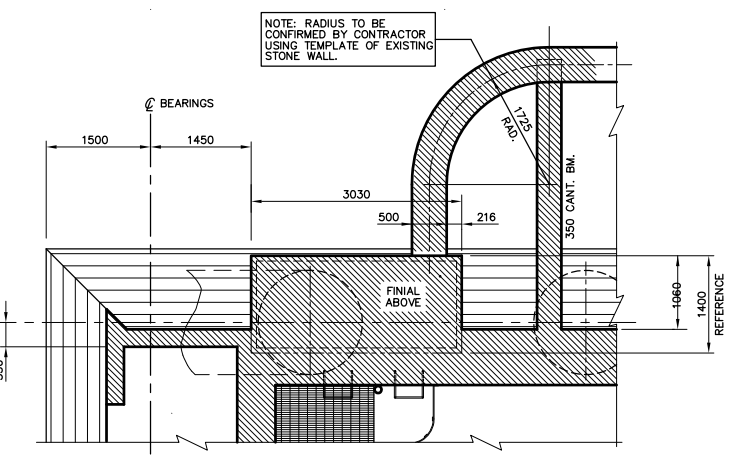
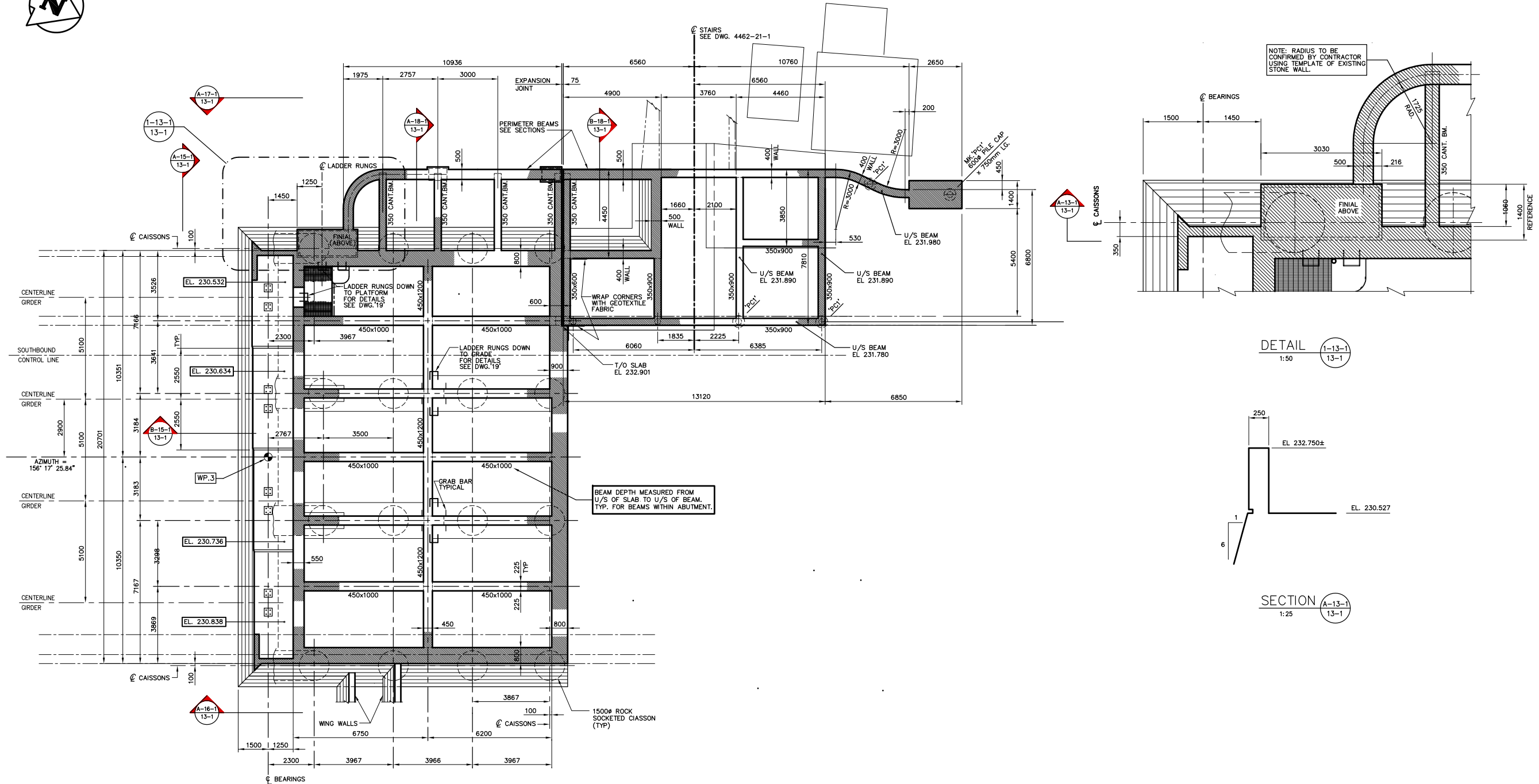
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS
NORTH ABUTMENT
CAISSON REINFORCING

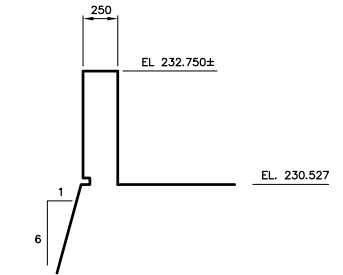
CONSULTANT DRAWING NO. **4462-12-2 (58)**

CITY DRAWING NUMBER	B104-87-12-2
SHEET	12-2 OF 60
	E

AS-CONSTRUCTED



DETAIL 1-13-1
1:50



SECTION A-13-1
1:25

SECTIONAL PLAN
1:100

NOTE:
The original drawing used for construction was sealed on May 09, 1997 by R.J. Long. This drawing has been updated with construction revisions.
These re-constructed drawings represent that the work was performed in general conformity with the construction drawings.

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

AS-CONSTRUCTED

LOCATIONS APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY
B	"AS-CONSTRUCTED"	99 01 20	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
O	ISSUED FOR PROPOSAL	96 07 15	JWB

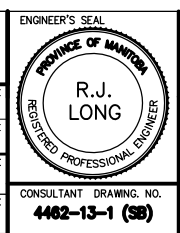
B.M. - ELEV. -

NO.	REVISIONS	DATE	BY
B	"AS-CONSTRUCTED"	99 01 20	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
O	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.L.** CHECKED BY: **DBM** DATE: _____
 DRAWN BY: **J** APPROVED BY: _____ DATE: _____
 AUTHORIZED BY: _____ DATE: _____

HOR. SCALE: **AS NOTED** B. EISENBERGER P. ENG./SENIOR BRIDGE ENGINEER
 VERTICAL: **AS NOTED** ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY DATE: _____
 R. QUERVEN, P. ENG.



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

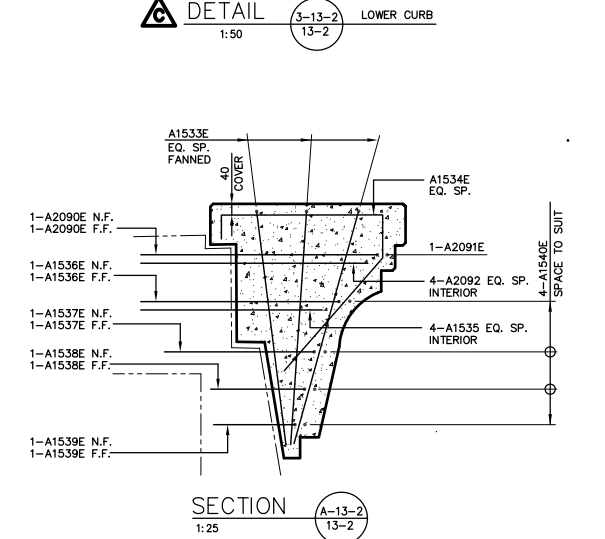
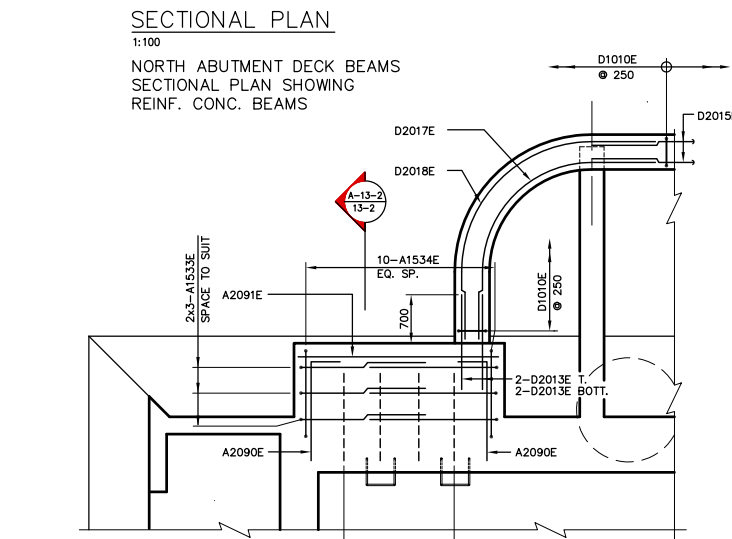
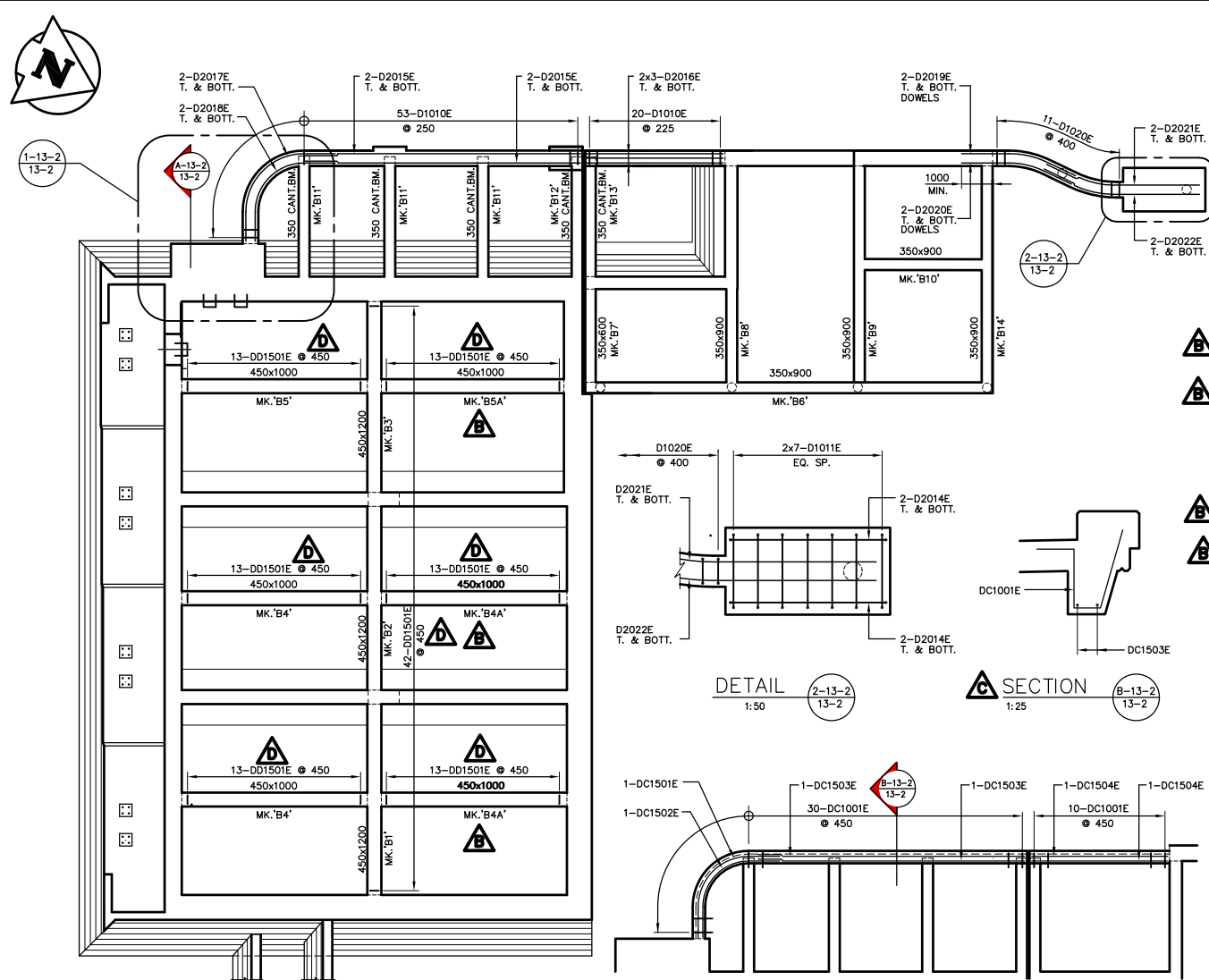
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **8104-87-13-1**
SHEET **13-1** OF **80**

CONSULTANT DRAWING NO. **4462-13-1 (SB)**

NORTH ABUTMENT-CONCRETE SECTIONAL PLAN

B



DECK SLAB - REINF. CONC. BEAM CHART			
MARK	QUANT.	BEAM ELEVATION (N.T.S.)	CROSS-SECTION
B1	ONE	WEST 2-D3501 N.F.,F.F. 2-D3005 MIDDLE 2x2-D1505 N.F.,F.F. 2-D3005 N.F.,F.F. PLACE O.F. ABUT. REINF. T. & BOT. B.M. DOWELS	
B2	ONE		
B3	ONE		
B4	2	NORTH 2x9-D1501 @ 200 2x9-D1501 @ 300 2x9-D1501 @ 200 2x9-D1501 @ 200	
B4A	2		
B5	1	NORTH 6-D1501 @ 300 6-D1501 @ 450 6-D1501 @ 300 6-D1501 @ 300	
B5A	1		
B6	ONE		
B7	ONE		
B8	ONE		
B9	ONE		
B10	ONE		
B11	3		
B12	ONE		
B13	ONE		
B14	ONE		

AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

NOTE:
The original drawing used for construction was issued on May 06, 1997 by Bob Long. That drawing has been updated with construction revisions.
These as-constructed drawings represent the work as performed in general conformity with the construction drawings.

NOTE:
These design documents are prepared solely for the use by the party with whom the design professional has entered into a contract and there are no representations of any kind made by the design professional to any party with whom the design professional has not entered into a contract.

KGS GROUP
CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

NO.	REVISIONS	DATE	BY
E	"AS-CONSTRUCTED"	99 01 20	JWB
D	BAR MARK "D01501E" ADDED	97 11 12	JWB
C	DETAIL "3" & SECT."B" ADDED, CURB REINF.	97 10 20	JWB
B	RENF. REVISED TO SUIT CONST. SEQUENCE	97 07 16	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
O	ISSUED FOR PROPOSAL	96 07 15	JWB

DESIGNED BY	CHECKED BY	DATE
RL	DBM	
DRAWN BY	APPROVED BY:	DATE
J		
AUTHORIZED BY:	DATE	

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone 1 204 943-3178 Facsimile 1 204 943-9448

DESIGNED BY: RL
CHECKED BY: DBM
DATE:
DRAWN BY: J
APPROVED BY:
DATE:
AUTHORISED BY:
DATE:
HOR. SCALE: AS NOTED
VERTICAL: AS NOTED
DATE: APRIL 1997



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

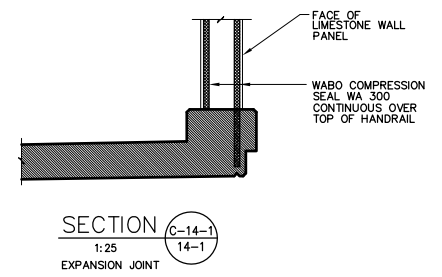
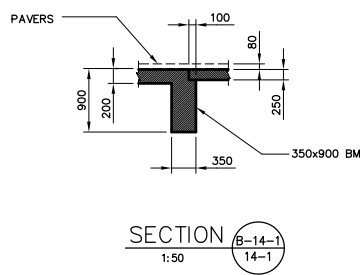
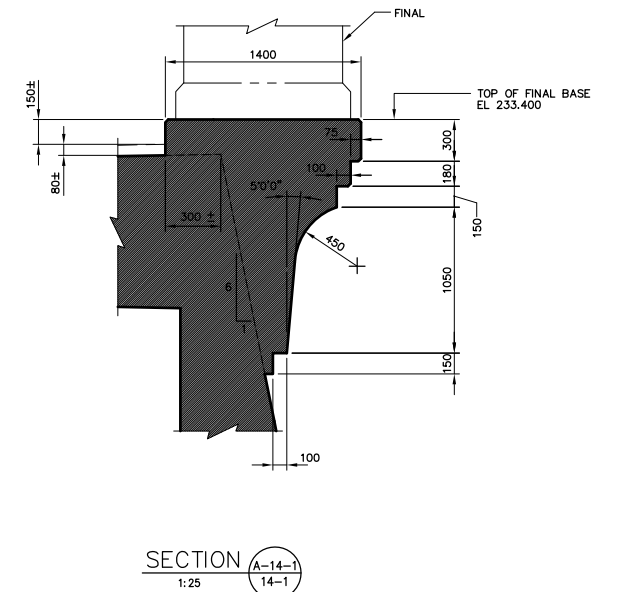
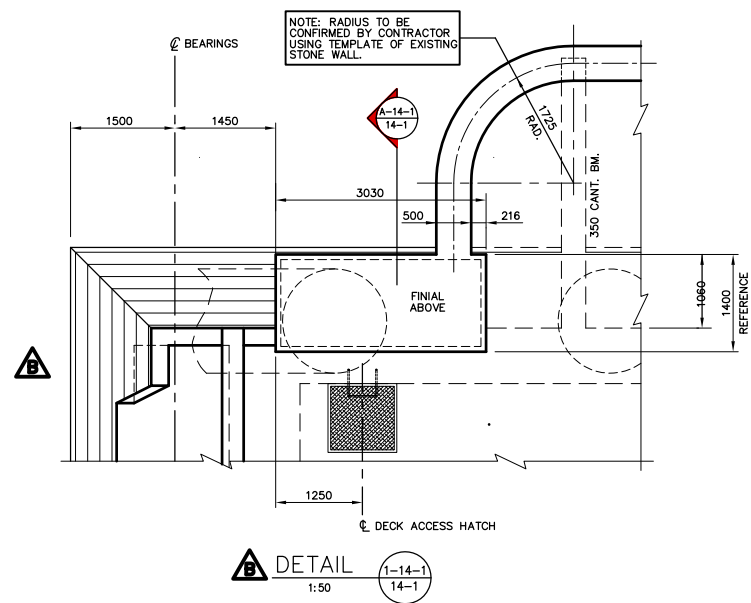
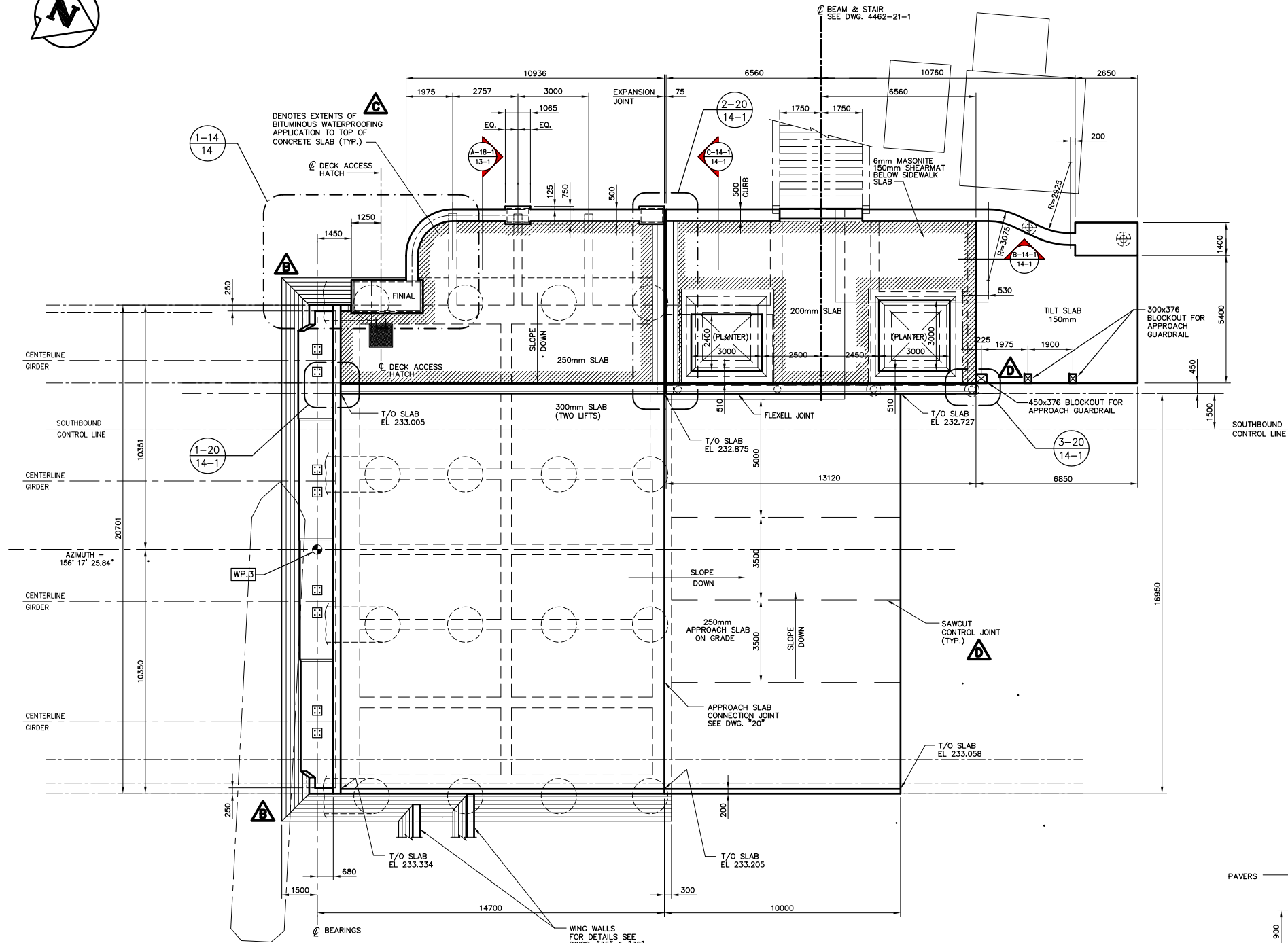
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-07-13-2**
SHEET 13-2 OF 80

CONSULTANT DRAWING NO. 4462-13-2 (58)

NORTH ABUTMENT-REINFORCING DECK SLAB BEAMS

E



PLAN 1:100

NOTE: WING WALL SLOTS TO ALIGN WITH SLOTS IN NORTH ABUTMENT OF NORTHBOUND STRUCTURE USING REFERENCE LINE OF SOUTHBOUND STRUCTURE ESTABLISH A LINE 90° TO REFERENCE LINE

AS-CONSTRUCTED

NOTE: The original drawing used for construction was issued on May 09, 1997 by B&B Long. This drawing has been updated with construction revisions.

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

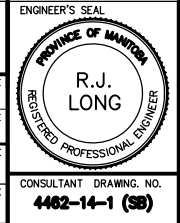
LOCATIONS APPROVED UNDERGROUND STRUCTURES

NOTE: [Illegible text]

NO.	REVISIONS	DATE	BY
E	"AS-CONSTRUCTED"	99 01 20	JWB
D	BLOCKOUT AND SAWCUTS ADDED	99 09 09	JWB
C	EXTENTS OF WATERPROOFING ADDED	99 09 09	JWB
B	MASK WALL REVISED	97 07 15	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.J. LONG** CHECKED BY: **DBM** DATE: _____
DRAWN BY: **J** APPROVED BY: _____ DATE: _____
HORIZ. SCALE: **AS NOTED** AUTHORIZED BY: _____ DATE: _____
VERTICAL: _____ ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: _____ DATE: _____
DATE: APRIL 1997 R. QUERVEN, P.ENG.



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

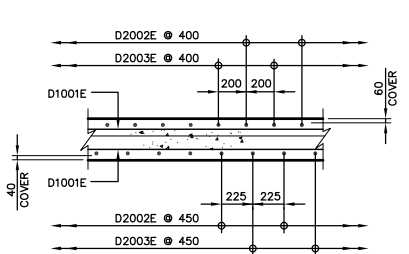
CITY DRAWING NUMBER: **8104-87-14-1**
SHEET **14-1** OF **80**

NORTH ABUTMENT-CONCRETE PLAN

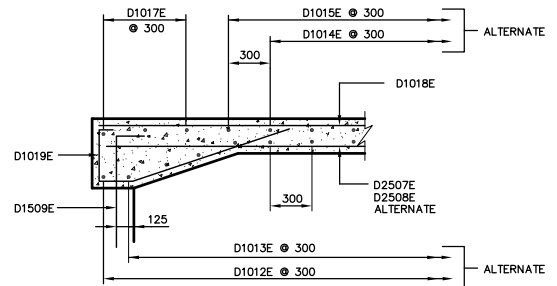
E

PLAN
1:100

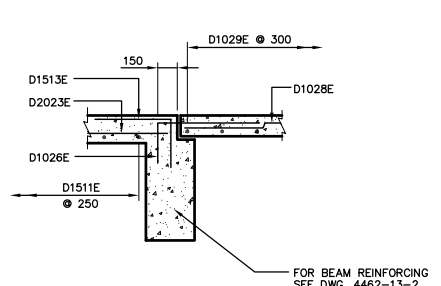
NORTH ABUTMENT SLAB
PLAN SHOWING REINFORCING



SECTION (A-14-2)
1:25



SECTION (B-14-2)
1:25



SECTION (C-14-2)
1:25

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

AS-CONSTRUCTED

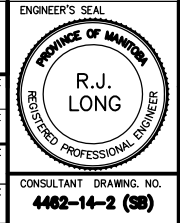
LOCATIONS APPROVED UNDERGROUND STRUCTURES

NOTE:
[Illegible text]

NO.	REVISIONS	DATE	BY

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: R.L.	CHECKED BY: DBM	DATE: _____
DRAWN BY: J	APPROVED BY: _____	DATE: _____
HOR. SCALE: AS NOTED	AUTHORIZED BY: _____	DATE: _____
VERTICAL: _____	ACCEPTED FOR P.C.I. CONTRACTORS CANADA INC. BY: _____	DATE: _____
DATE: APRIL 1997	R. QUENEN, P. ENG.	



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

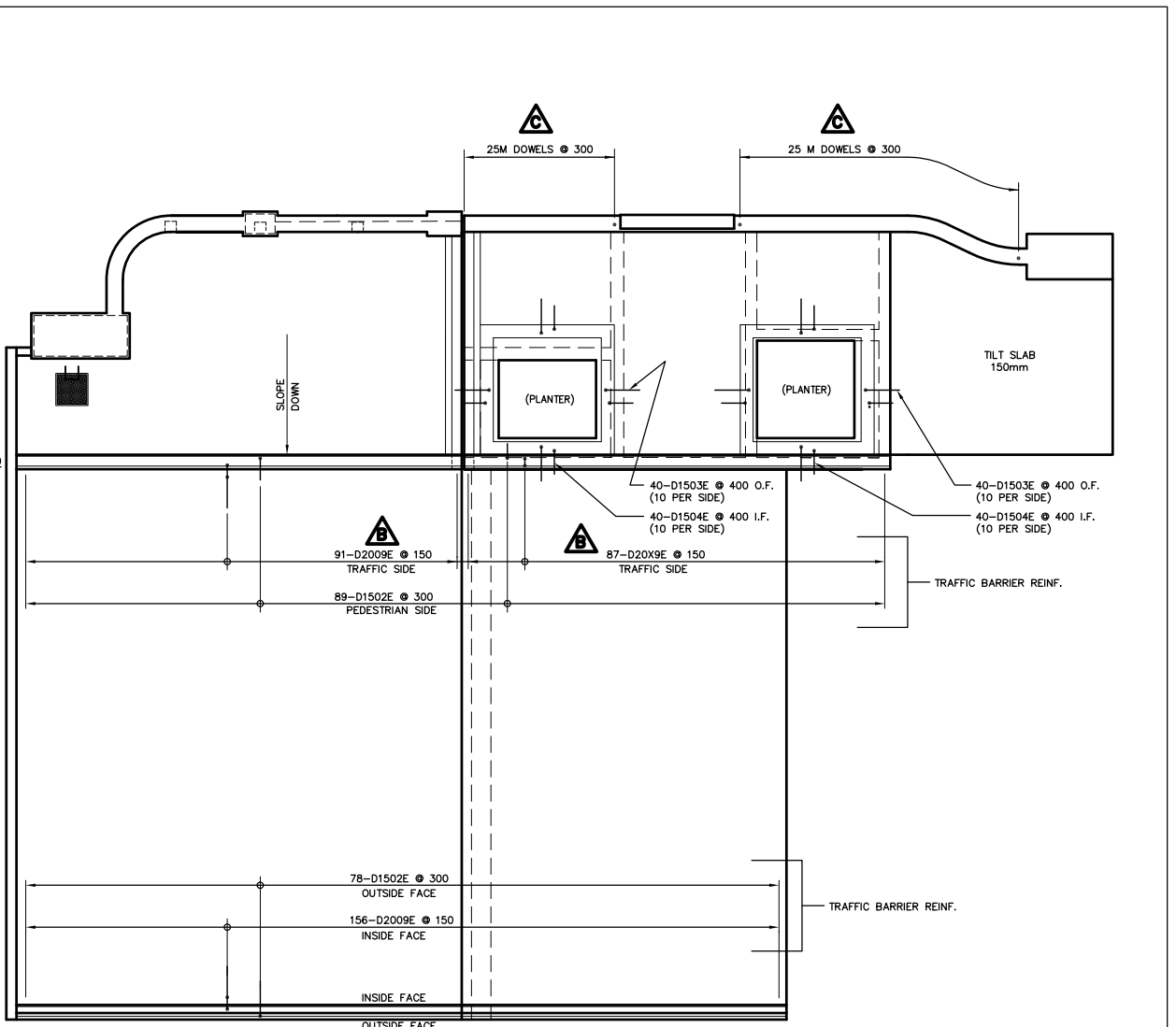
CITY DRAWING NUMBER: **8104-87-14-2**
SHEET **14-2** OF **60**

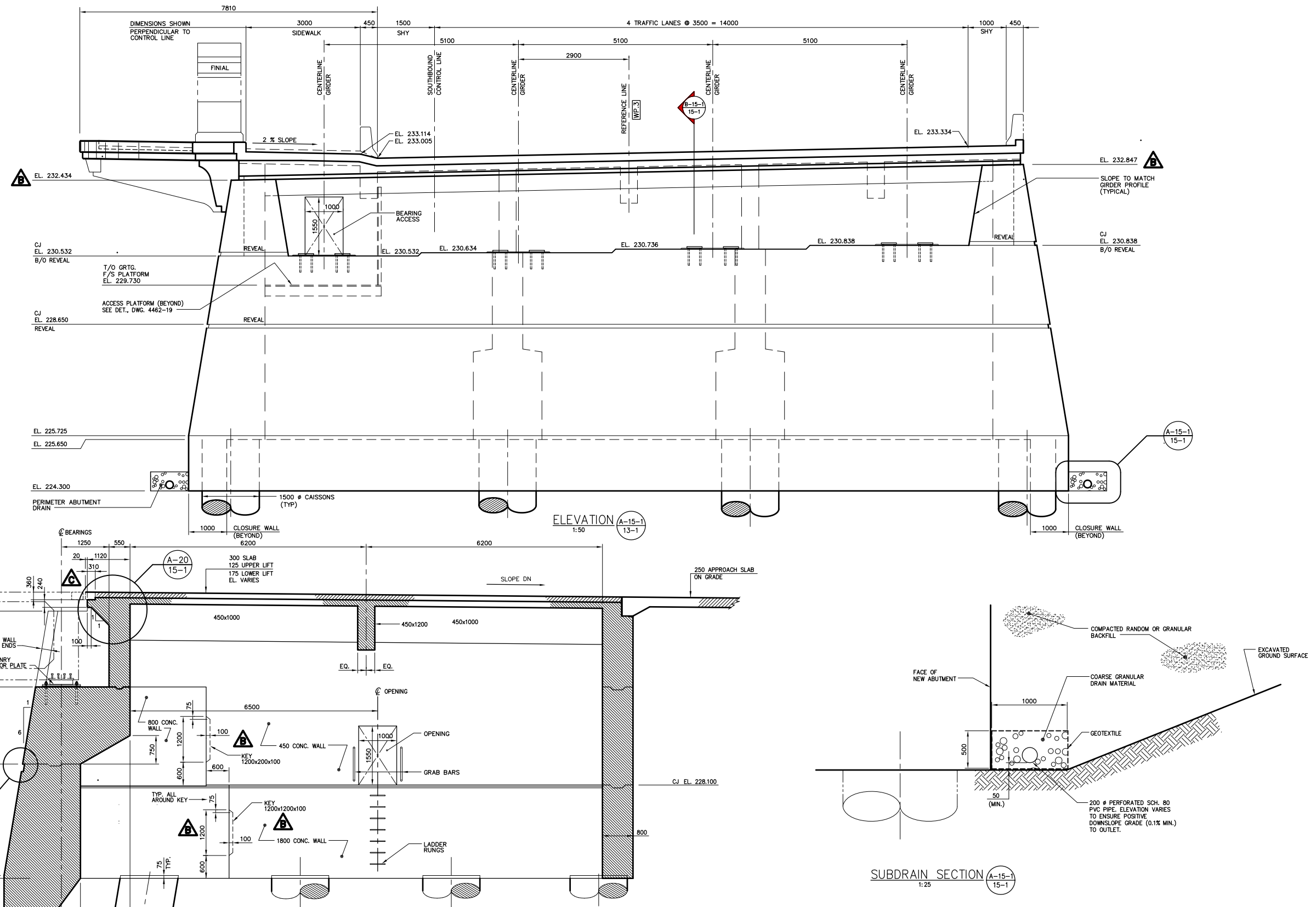
NORTH ABUTMENT-REINFORCING DECK SLAB

CONSULTANT DRAWING NO. **4462-14-2 (58)**



PLAN
1:100
NORTH ABUTMENT SLAB
PLAN SHOWING DOWEL
REINFORCING FOR HANDRAIL
TRAFFIC BARRIERS AND PLANTERS





NOTE: The original drawing used for construction was sealed on May 09, 1997 by Bob Long. That drawing has been updated with construction revisions.

SECTION (B-15-1) 15-1
1:50

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AS-CONSTRUCTED
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS CONSULTING ENGINEERS & PROJECT MANAGERS GROUP
WINNIPEG THUNDER BAY

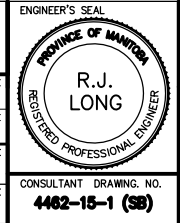
LOCATIONS APPROVED UNDERGROUND STRUCTURES

NOTE: [Illegible text]

NO.	REVISIONS	DATE	BY
E	"AS-CONSTRUCTED"	99 01 20	JWB
D	SECT. 'B' - BASE OF WALL REVISED	98 04 16	JWB
C	SECT. 'B' - EXP. JOINT DIM.'N REVISED	97 08 28	JWB
B	ELEVATIONS & CONST. JOINT ADDED	97 07 15	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
O	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3B1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.J. LONG** CHECKED BY: **DBM** DATE: _____
DRAWN BY: **J** APPROVED BY: _____ DATE: _____
HORIZ. SCALE: **AS NOTED** AUTHORIZED BY: _____ DATE: _____
VERTICAL: **AS NOTED** ACCEPTED FOR P.C.I. CONSTRUCTORS CANADA INC. BY: _____ DATE: _____
DATE: APRIL 1997 R. QUERVEN, P. ENG.



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

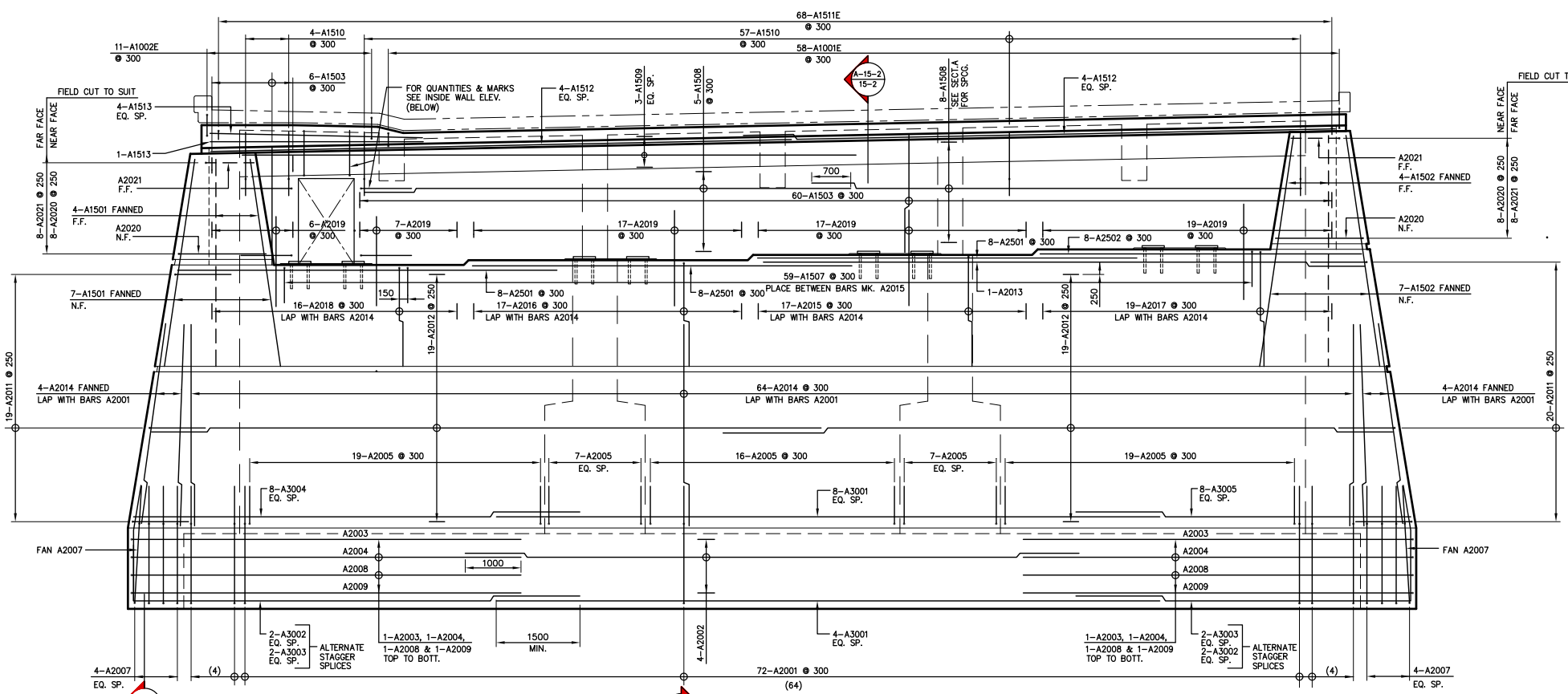
CITY DRAWING NUMBER: **B104-87-15-1**
SHEET **15-1** OF **80**

CONSULTANT DRAWING NO. **4462-15-1 (SB)**

NORTH ABUTMENT-CONCRETE SOUTH ELEVATION

841mm X 604mm / PLOT SCALE: 1:50

KGS FILE NO. 96-183-1015-2AC.DWG



ELEVATION
1:50
LOOKING NORTH

ELEVATION
1:50
LOOKING SOUTH (INSIDE)

AS-CONSTRUCTED

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED
UNDERGROUND STRUCTURES

NOTE:

NO.	REVISIONS	DATE	BY

B.M. -
ELEV. -

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R5B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.L.** CHECKED BY: **DBM** DATE:

DRAWN BY: **J** APPROVED BY: DATE:

HOR. SCALE: **AS NOTED** AUTHORIZED BY: DATE:

VERTICAL: SUPERVISOR: **B. BENSCHAFER P.ENG./SENIOR BRIDGE ENGINEER**
ACCEPTED FOR P.C.I. CONTRACTORS CANADA INC. BY DATE:

DATE: APRIL 1997 R. QUERVEN, P.ENG.

ENGINEER'S SEAL

R.J. LONG
REGISTERED PROFESSIONAL ENGINEER

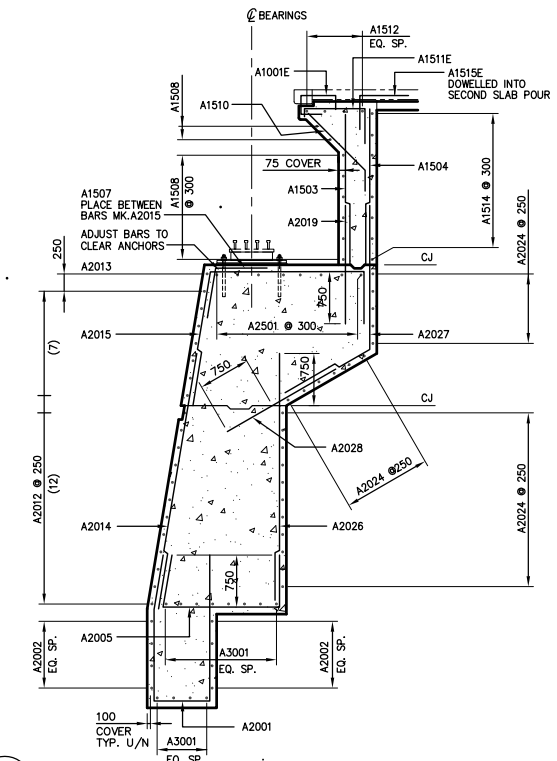
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

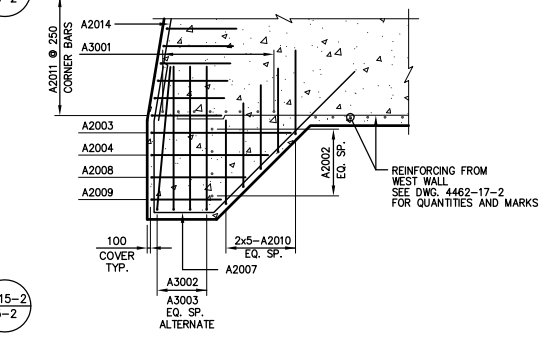
CITY DRAWING NUMBER
B104-97-15-2
SHEET **15-2** OF **60**

NORTH ABUTMENT-REINFORCING SOUTH WALL

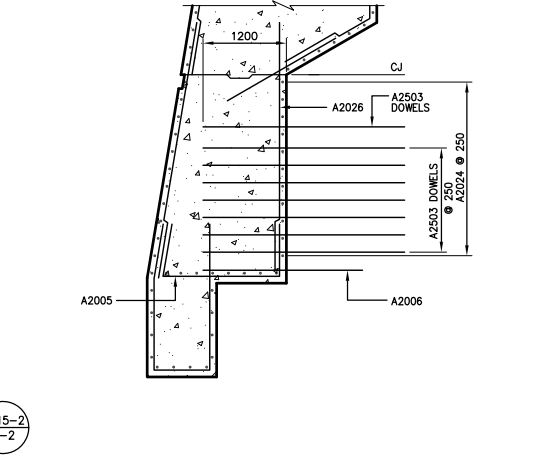
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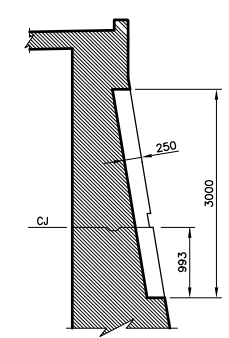
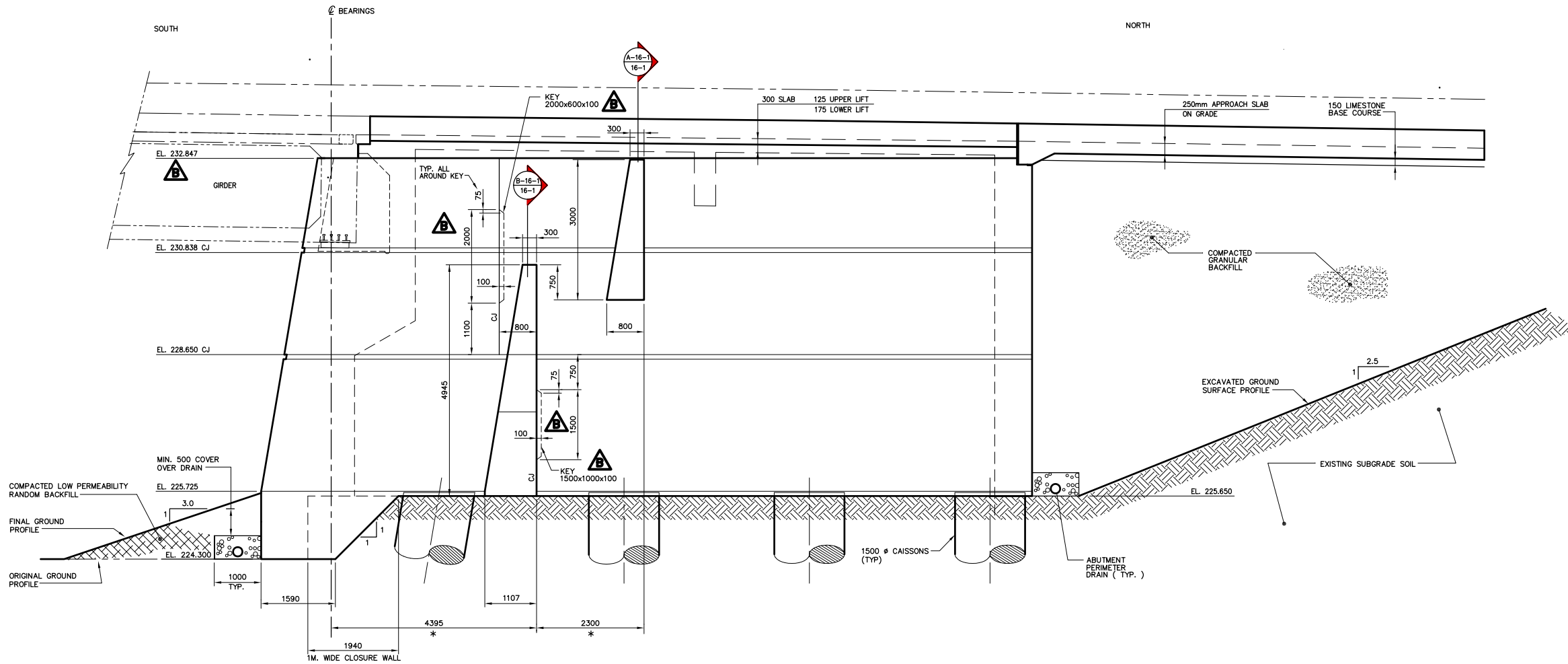
SECTION A-15-2/15-2
1:50



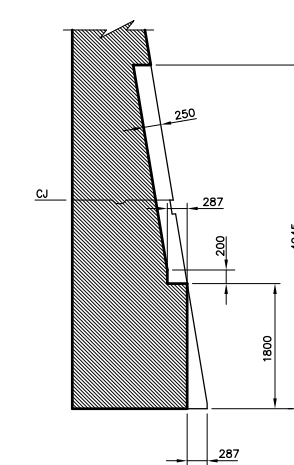
SECTION B-15-2/15-2
1:50
WEST CORNER
EAST CORNER SIMILAR



SECTION C-15-2/15-2
1:50



SECTION A-16-1
16-1



SECTION B-16-1
16-1

ELEVATION A-16-1
1:50
13-1

* - FIELD CHECK WITH NORTHBOUND STRUCTURE.
SEE WING WALL NOTE - DWG. 4462-14-1

AS-CONSTRUCTED

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

NO.	REVISIONS	DATE	BY
C	"AS-CONSTRUCTED"	99 01 20	JWB
B	ELEVATION & CONST. JOINTS ADDED	97 07 15	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

B.M. -	ELEV. -
DESIGNED BY: R.J. LONG	CHECKED BY: DBM
DRAWN BY: J	APPROVED BY:
HOR. SCALE: AS NOTED	AUTHORIZED BY:
VERTICAL:	DATE: APRIL 1997

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3B1
Phone [204] 943-3178 Facsimile [204] 943-9448

ENGINEER'S SEAL
R.J. LONG
REGISTERED PROFESSIONAL ENGINEER

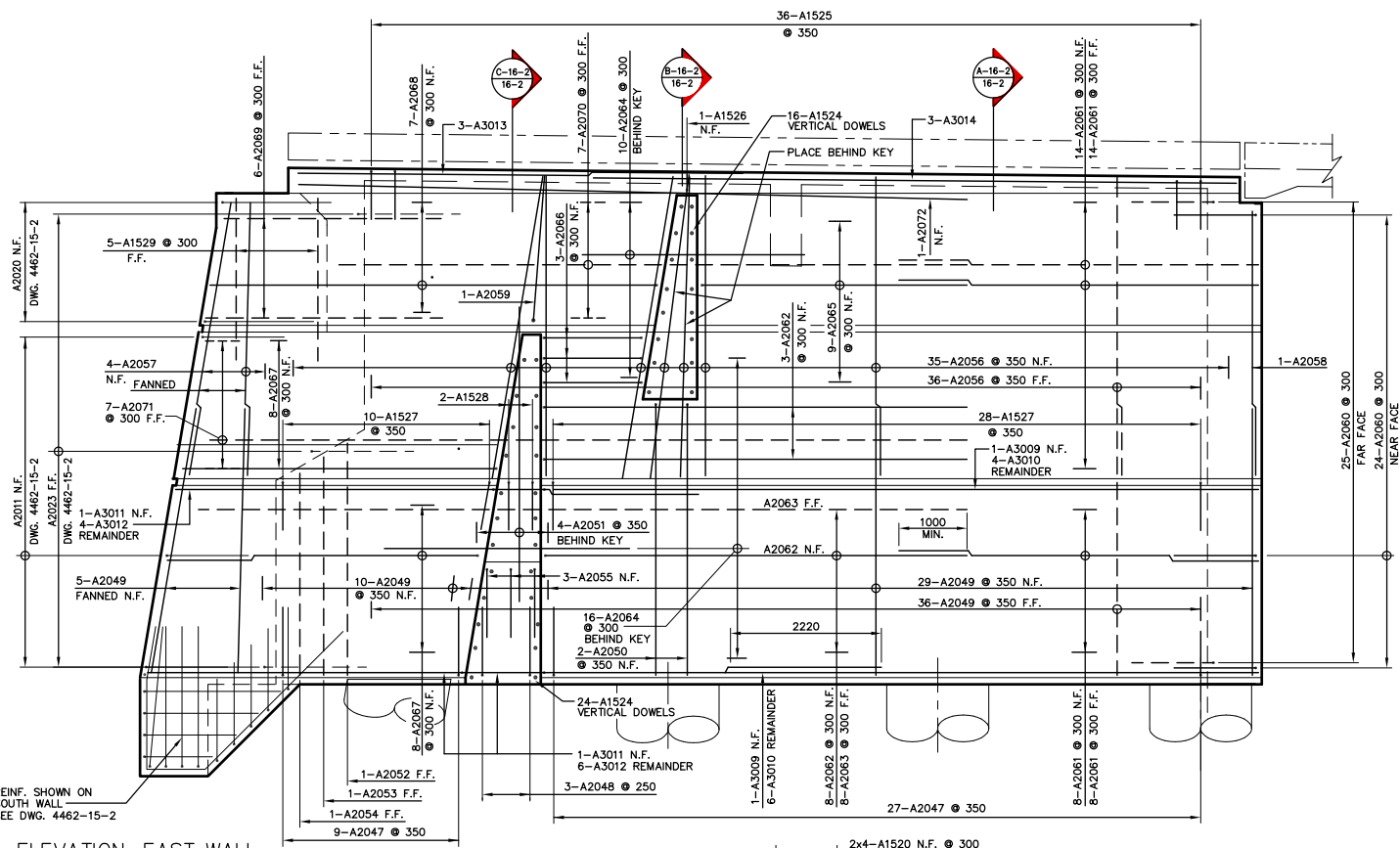
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

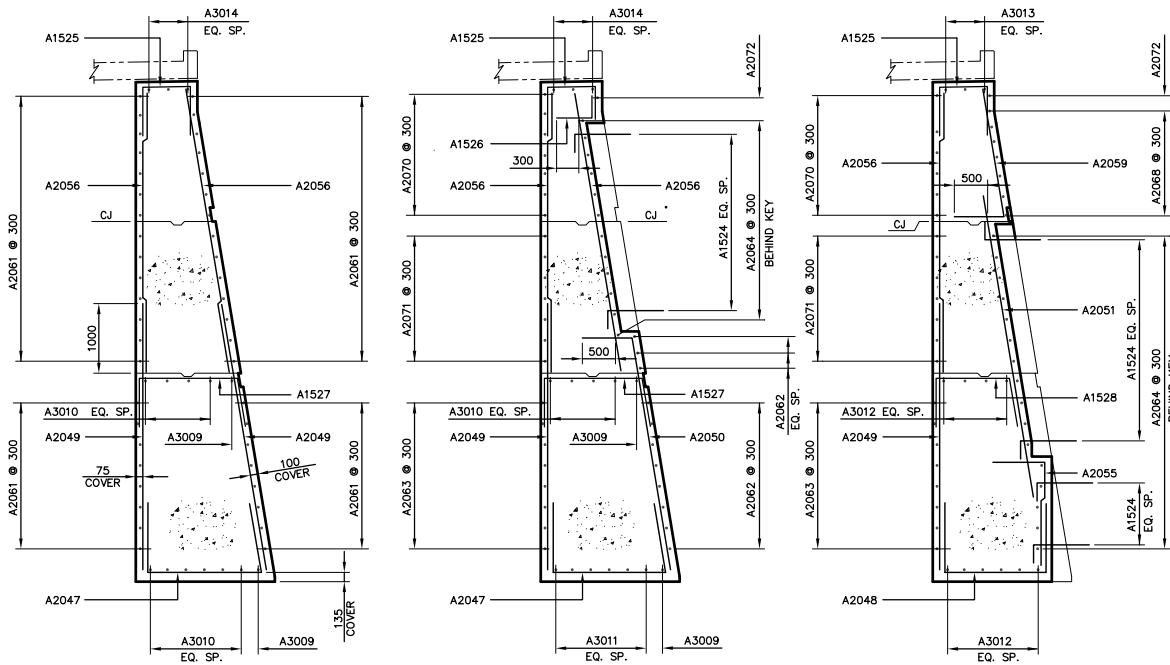
CITY DRAWING NUMBER **B104-07-16-1**
SHEET **16-1** OF **60**

CONSULTANT DRAWING NO. **4462-16-1 (SB)**

NORTH ABUTMENT-CONCRETE EAST ELEVATION



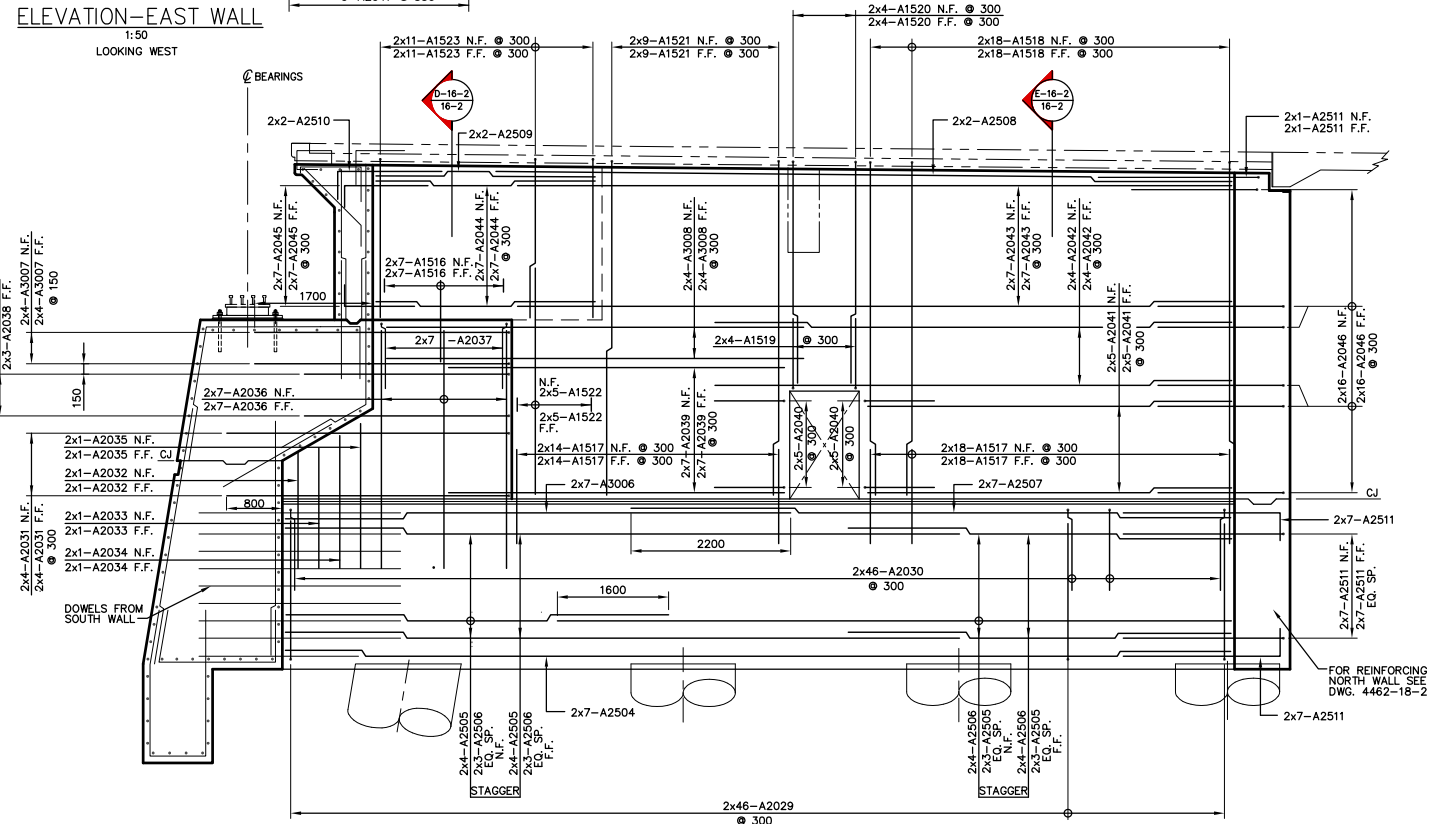
ELEVATION—EAST WALL
1:50
LOOKING WEST



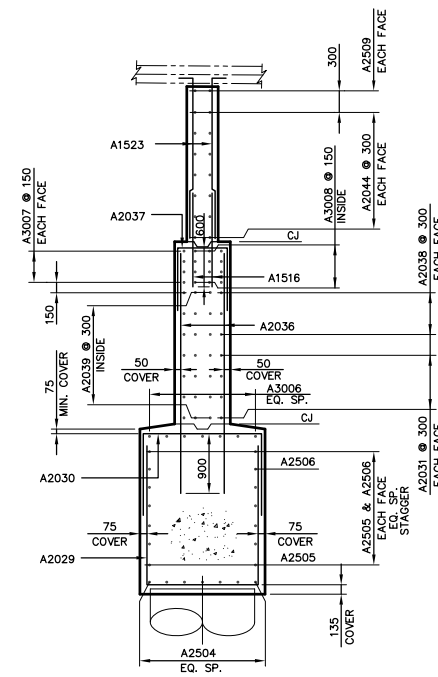
SECTION A-16-2
1:50

SECTION B-16-2
1:50

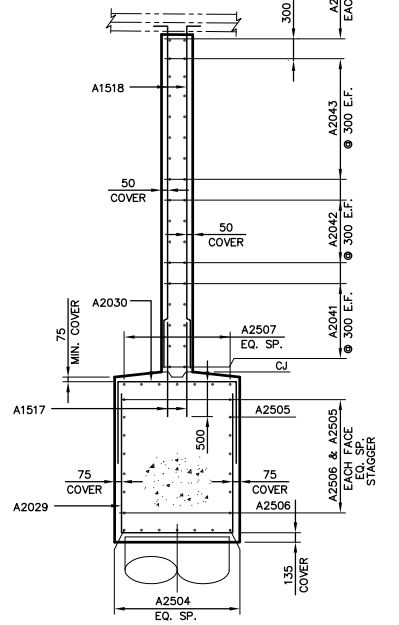
SECTION C-16-2
1:50



ELEVATION—INTERIOR WALLS
1:50
LOOKING WEST



SECTION D-16-2
1:50



SECTION E-16-2
1:50

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

AS-CONSTRUCTED

LOCATIONS APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY

B	"AS-CONSTRUCTED"	99 01 20	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **RL** CHECKED BY: **DBM** DATE: _____
 DRAWN BY: **J** APPROVED BY: _____ DATE: _____
 AUTHORIZED BY: _____ DATE: _____

HOR. SCALE: **AS NOTED** B. BENEFINDER P./ENGR BRIDGE ENGINEER
 VERTICAL: **AS NOTED** ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY DATE: _____

DATE: APRIL 1997 R. BERNIERI, P.ENG.



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

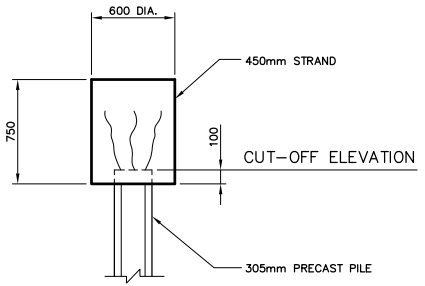
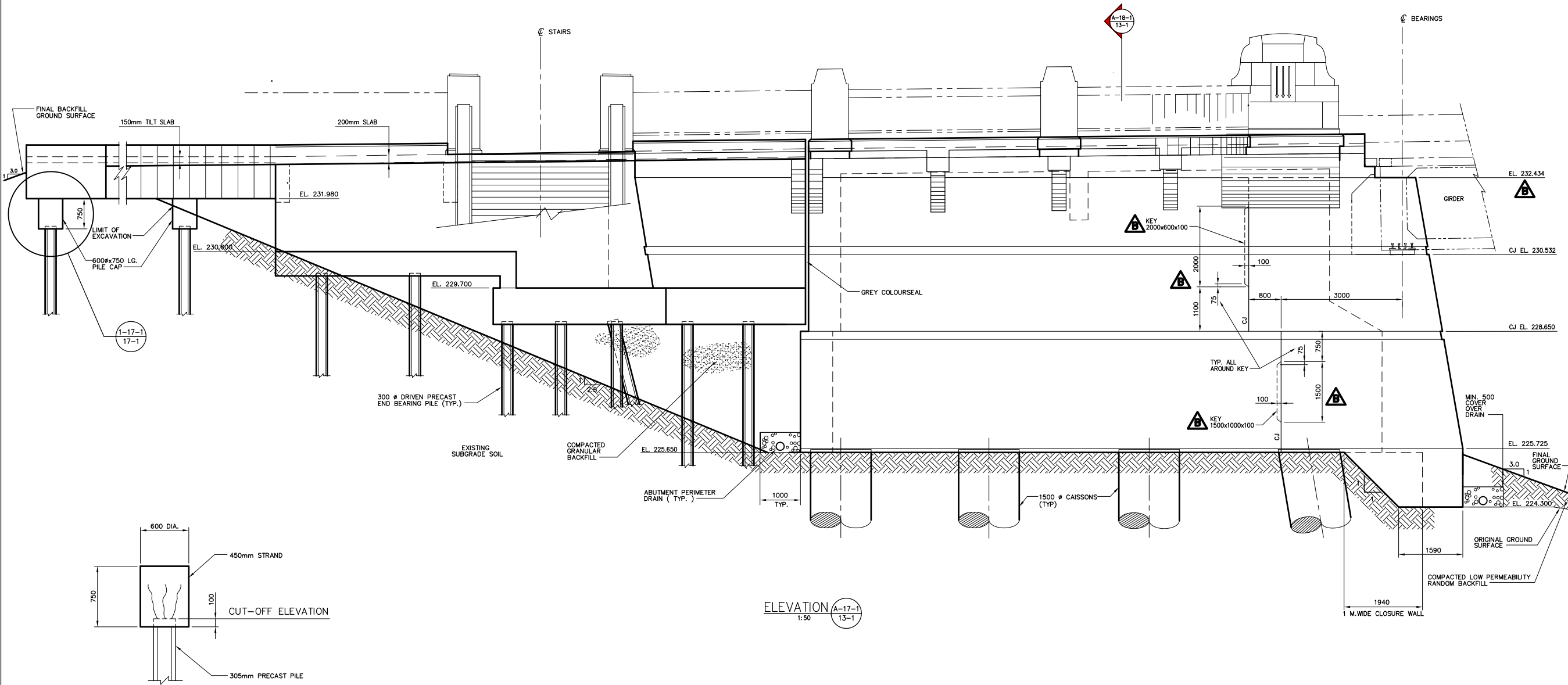
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **B104-87-16-2**
SHEET **16-2** OF **60**

CONSULTANT DRAWING NO. **4462-16-2 (58)**

NORTH ABUTMENT—REINFORCING EAST WALL AND INTERIOR WALLS

B



ELEVATION A-17-1
1:50

AS-CONSTRUCTED

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DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

NO.	REVISIONS	DATE	BY
C	"AS-CONSTRUCTED"	99 01 20	JWB
B	ELEVATION & CONST. JOINTS ADDED	97 07 15	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.J. LONG** CHECKED BY: **DBM** DATE: _____
 DRAWN BY: **JWB** APPROVED BY: _____ DATE: _____
 AUTHORIZED BY: _____ DATE: _____
 HORIZ. SCALE: **AS NOTED**
 VERTICAL: **AS NOTED**
 DATE: APRIL 1997

ENGINEER'S SEAL

R.J. LONG
 REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **B104-97-17-1**
SHEET **17-1** OF **80**

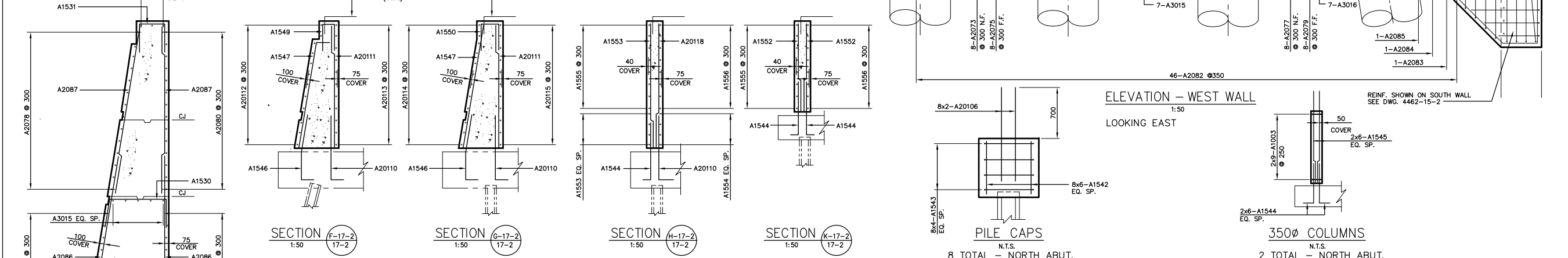
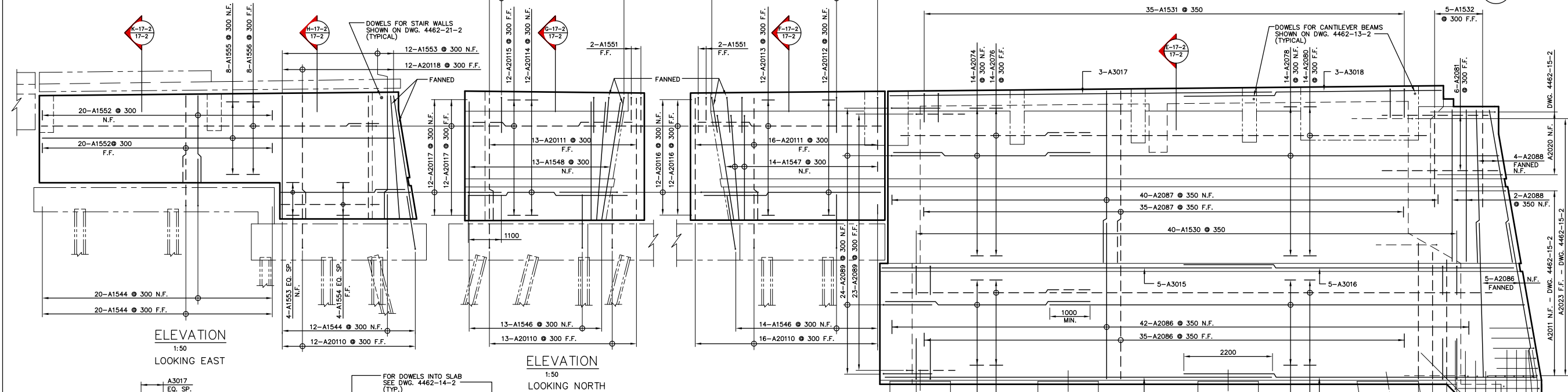
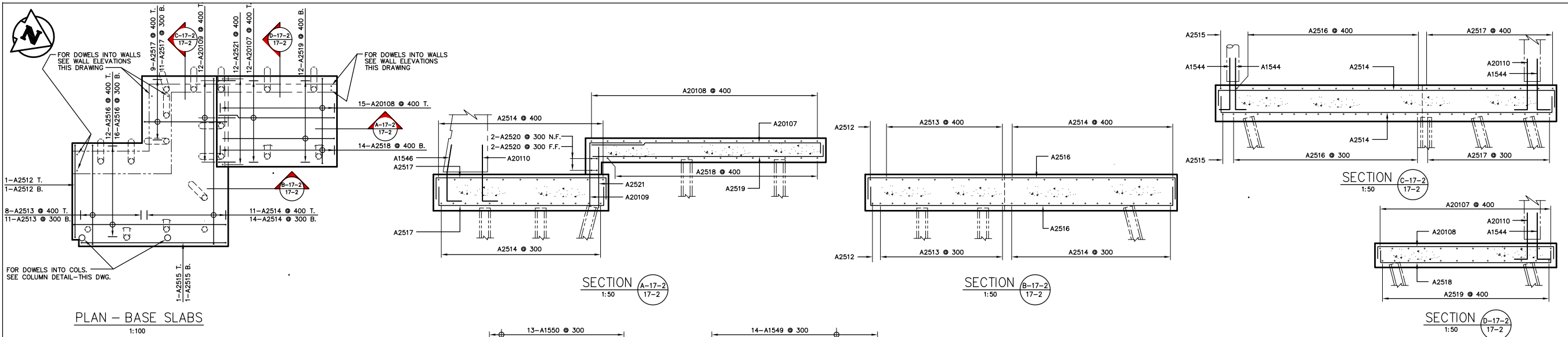
CONSULTANT DRAWING NO. **4462-17-1 (SB)**

NORTH ABUTMENT-CONCRETE WEST ELEVATION

C

841mm X 604mm/ PLT SCALE: 1:50

KGS FILE NO. 96-183-1017-2AC.DWG



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AS-CONSTRUCTED
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES

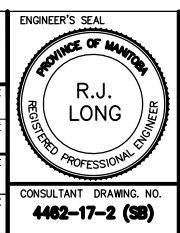
NO.	REVISIONS	DATE	BY

B.M. - ELEV. -

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DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone (204) 943-3178 Facsimile (204) 943-9448

DESIGNED BY: RL	CHECKED BY: DBM	DATE
DRAWN BY: J	APPROVED BY:	DATE
HOR. SCALE: AS NOTED	AUTHORIZED BY: B. EISENBAUER P.ENG./SENIOR BRIDGE ENGINEER	DATE
VERTICAL: AS NOTED	ACCEPTED FOR P.C.L. CONTRACTORS CANADA INC. BY: DATE	
DATE: APRIL 1997	BY: R. GIBSON, P.ENG.	



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

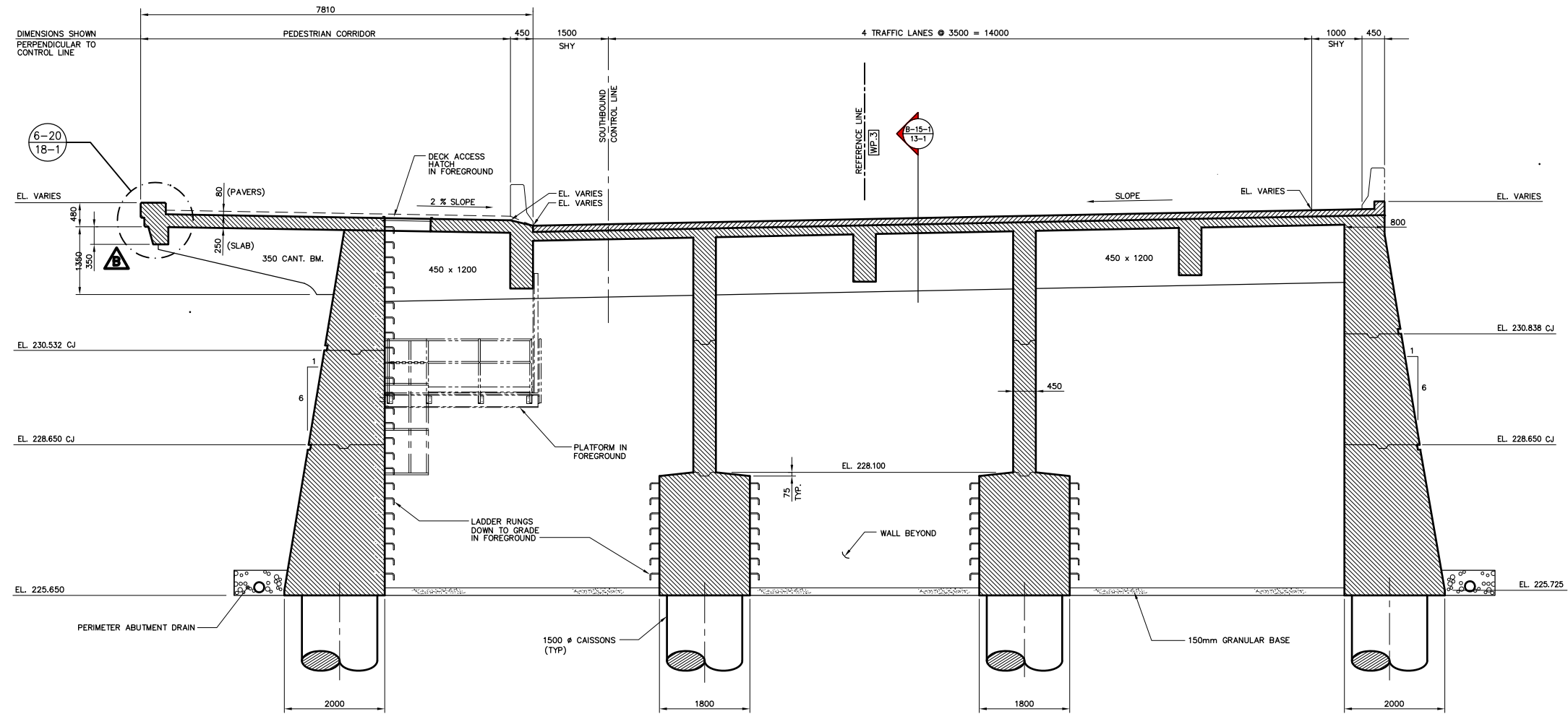
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-07-17-2**
SHEET **17-2** OF **60**

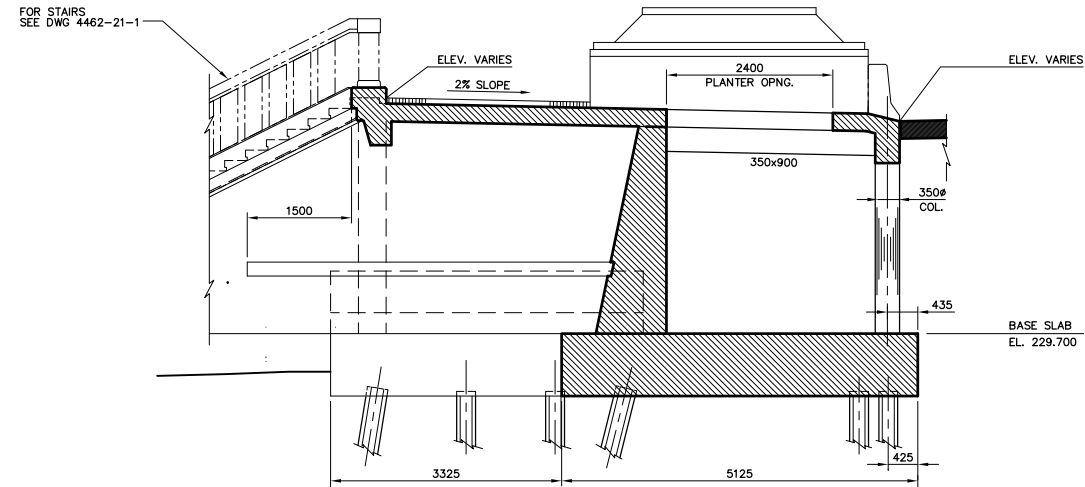
CONSULTANT DRAWING NO.: **4462-17-2 (58)**

NORTH ABUTMENT-REINFORCING BASE SLABS, WEST WALL, COLS. & PILE CAPS

B



SECTION A-18-1
1:50



SECTION B-18-1
1:50

NOTE:
The original drawing used for construction was sealed on May 08, 1997 by Bob Long. That drawing has been updated with construction revisions.

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS CONSULTING ENGINEERS & PROJECT MANAGERS GROUP
WINNIPEG THUNDER BAY

LOCATIONS APPROVED
UNDERGROUND STRUCTURES

NOTE:
THIS DRAWING IS THE PROPERTY OF DS-LEA CONSULTANTS LTD. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF DS-LEA CONSULTANTS LTD.

NO.	REVISIONS	DATE	BY
C	"AS-CONSTRUCTED"	99 01 20	JWB
B	SLAB EDGE REVISED	98 04 16	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DESIGNED BY	DATE	CHECKED BY	DATE
R.J.		DBM	
DRAWN BY	DATE	APPROVED BY:	DATE
J			
HOR. SCALE:	AS NOTED	AUTHORIZED BY:	
VERTICAL:	AS NOTED	B. EBENFANGER P. ENG./ SENIOR BRIDGE ENGINEER	
DATE	APRIL 1997	ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY DATE	
		R. QUERVEN, P. ENG.	

ENGINEER'S SEAL
R.J. LONG
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

NORTH ABUTMENT-CONCRETE SECTION

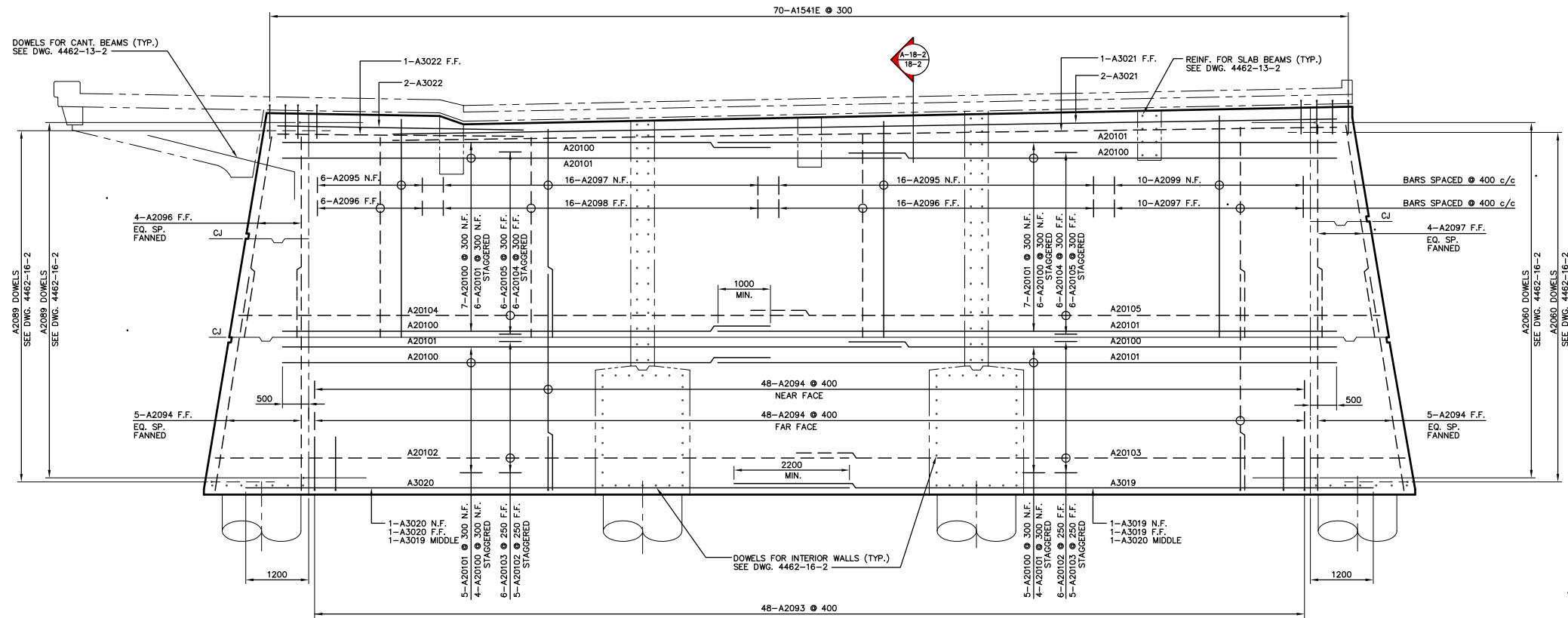
HALF SIZE REDUCTION

CITY DRAWING NUMBER
B104-87-18-1

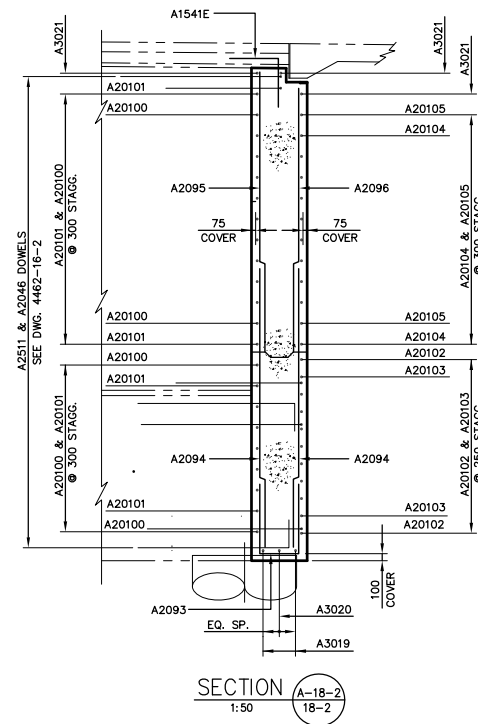
SHEET
18-1 OF **80**

C

AS-CONSTRUCTED



ELEVATION
1:50
LOOKING NORTH
INSIDE LOOKING OUT



SECTION
1:50

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

AS-CONSTRUCTED

LOCATIONS APPROVED
UNDERGROUND STRUCTURES

NOTE:
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NO.	REVISIONS	DATE	BY
B	AS-CONSTRUCTED	99 01 20	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

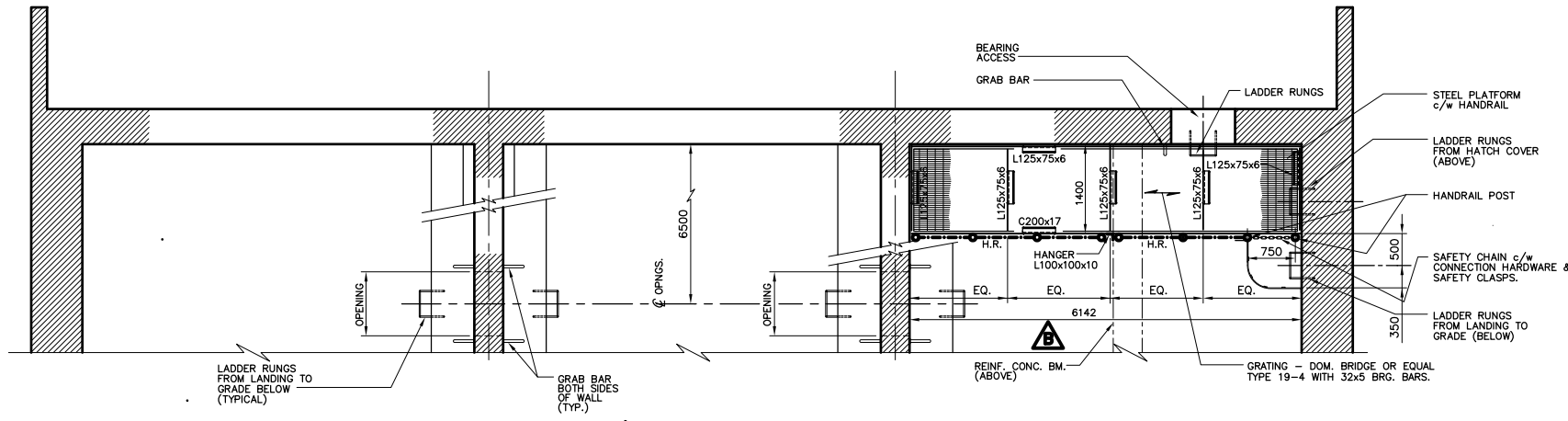
DESIGNED BY	ML	CHECKED BY	DBM	DATE
DRAWN BY	J	APPROVED BY:		DATE
HOR. SCALE:	AS NOTED	AUTHORIZED BY:		DATE
VERTICAL:	AS NOTED	ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY:		DATE
DATE	APRIL 1997	R. OVERSEEN, P. ENG.		

ENGINEER'S SEAL
PROVINCE OF MANITOBA
REGISTERED PROFESSIONAL ENGINEER
R.J. LONG

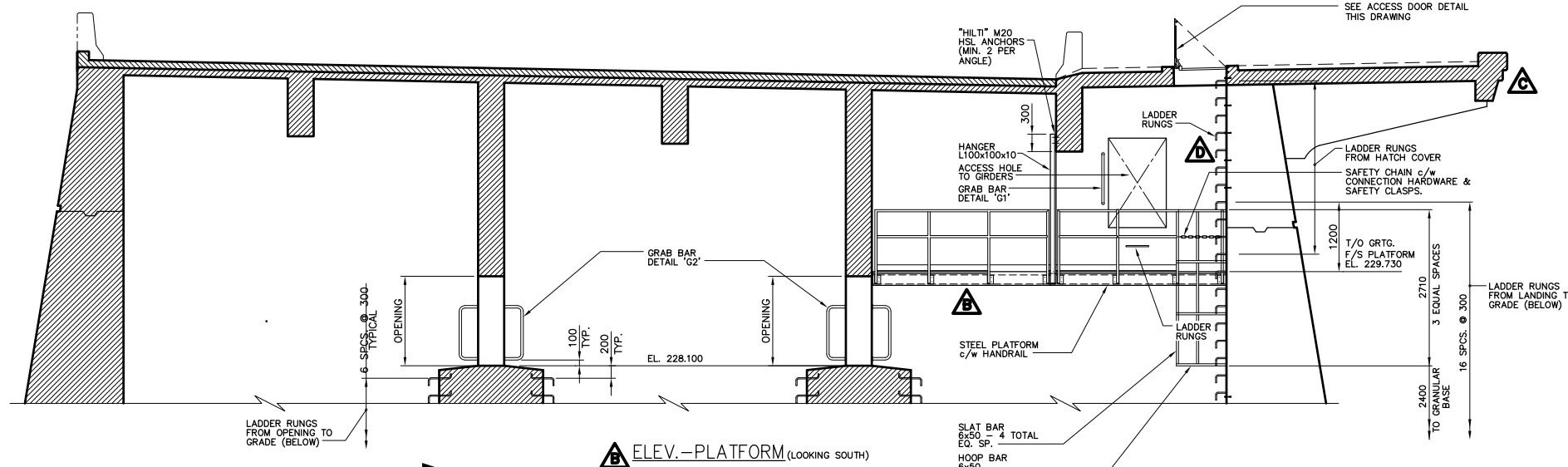
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS
NORTH ABUTMENT-REINFORCING
NORTH WALL

CITY DRAWING NUMBER
8104-07-18-2
SHEET 18-2 OF 60
B

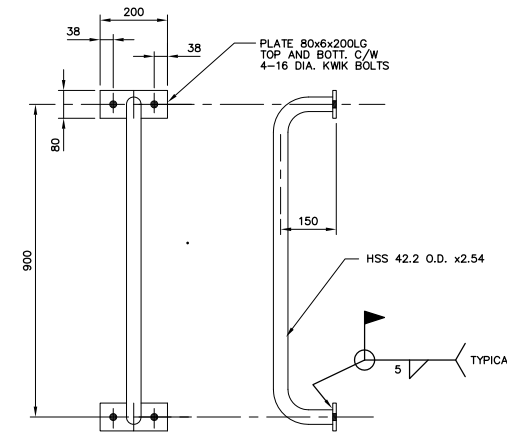
CONSULTANT DRAWING NO.
4462-18-2 (SB)



PLAN-PLATFORM
1:50

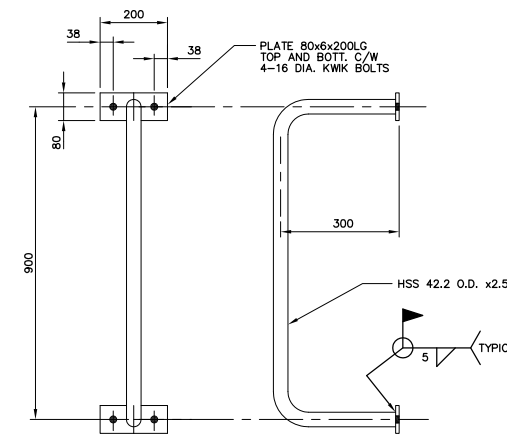


ELEV.-PLATFORM (LOOKING SOUTH)
1:50



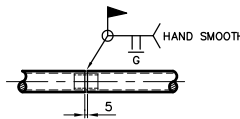
NOTE:
ALL MATERIAL TO BE GALVANIZED

GRAB BAR DETAIL 'G1'
ONE REQUIRED

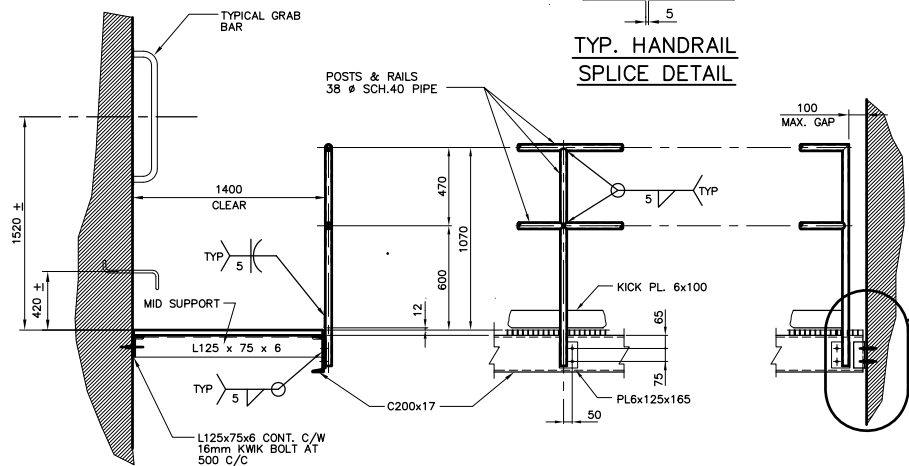


NOTE:
ALL MATERIAL TO BE GALVANIZED

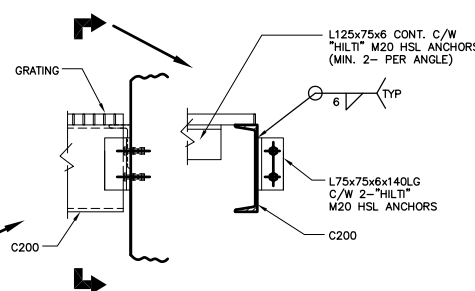
GRAB BAR DETAIL 'G2'
8 REQUIRED



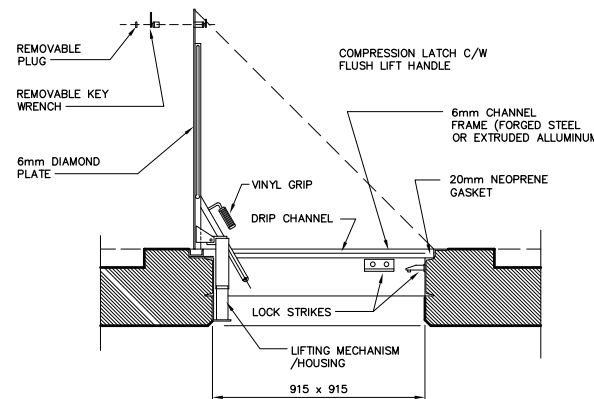
TYP. HANDRAIL SPLICE DETAIL



TYP. HANDRAIL & PLATFORM KICK DETAIL
1:25

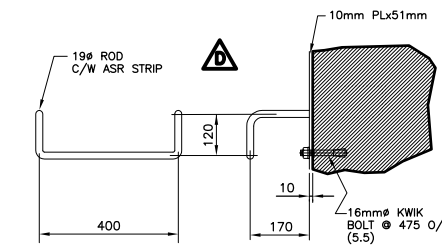


SECTIONAL END VIEW
N.T.S.



- NOTES:
- ACCESS SHAFT TO BE FLOODTIGHT VAULT DOOR FLUSH-MOUNTED.
 - ALL MATERIAL TO BE ALUMINUM. APPLY MINIMUM TWO COATS OF PAINT TO ALL SURFACES IN CONTACT WITH CONCRETE.
 - HATCH TO BE TYPE J-4AL AB MANUFACTURED BY RICHARD-WILCOX OF CANADA LIMITED OR ACCEPTED EQUAL.

DECK ACCESS HATCH DETAIL
N.T.S.



RUNG DETAIL

AS-CONSTRUCTED

NOTE:
The original drawing used for construction was sealed on May 06, 1997 by Bob Long. That drawing has been updated with construction revisions.

NOTE:
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GRATING - DOM. BRIDGE OR EQUAL TYPE 19-4 WITH 32x5 BRG. BARS. (WELDED EVERY 4th BAR)
NOTE:
ALL MATERIAL TO BE GALVANIZED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY
E	'AS-CONSTRUCTED'	99 01 20	JWB
D	LADDER REVISED	99 09 09	JWB
C	SLAB EDGE REVISED	98 04 16	JWB
B	PLATFORM SIZE REVISED	97 07 08	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

B.M. - ELEV. -	DESIGNED BY	CHECKED BY	DATE
	R.L.	DBM	
	J		

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: R.L. CHECKED BY: DBM DATE: _____
DRAWN BY: J APPROVED BY: _____ DATE: _____
HORIZ. SCALE: AS NOTED AUTHORIZED BY: _____ DATE: _____
VERTICAL: AS NOTED ACCEPTED FOR P.C.I. CONTRACTORS CANADA INC. BY: _____ DATE: _____
DATE: APRIL 1997 R. QUERVEN, P. ENG.

ENGINEER'S SEAL
R.J. LONG
REGISTERED PROFESSIONAL ENGINEER

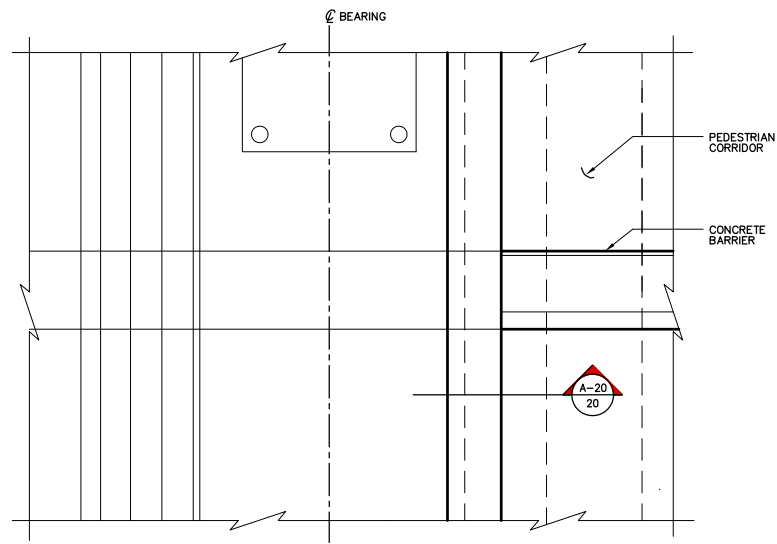
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-97-19**
SHEET: **19** OF **60**

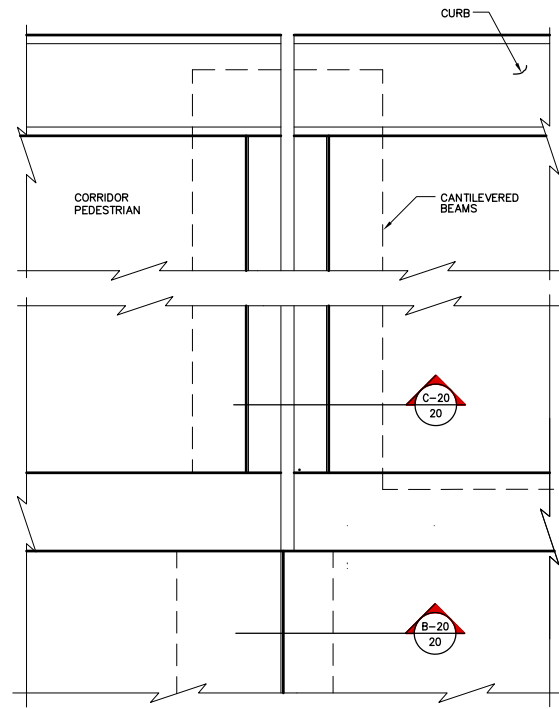
CONSULTANT DRAWING NO.: **4462-19 (SB)**

NORTH ABUTMENT MAINTENANCE PLATFORM
E



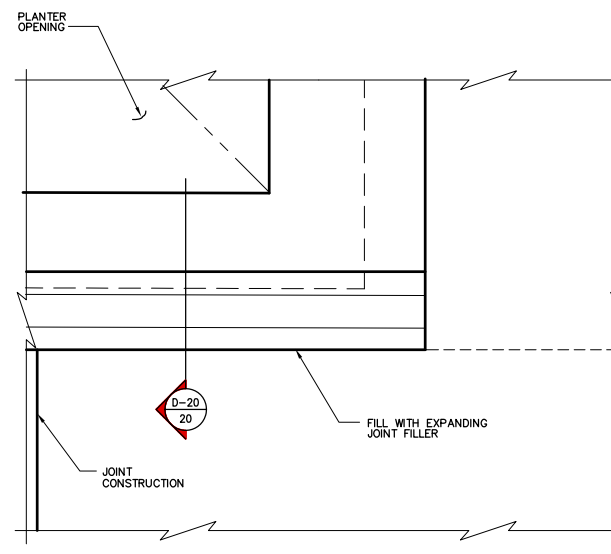
DETAIL 1-20
N.T.S. 14-1

DETAIL 1-20 SIMILAR &
N.T.S. 24-1 OPP. HAND



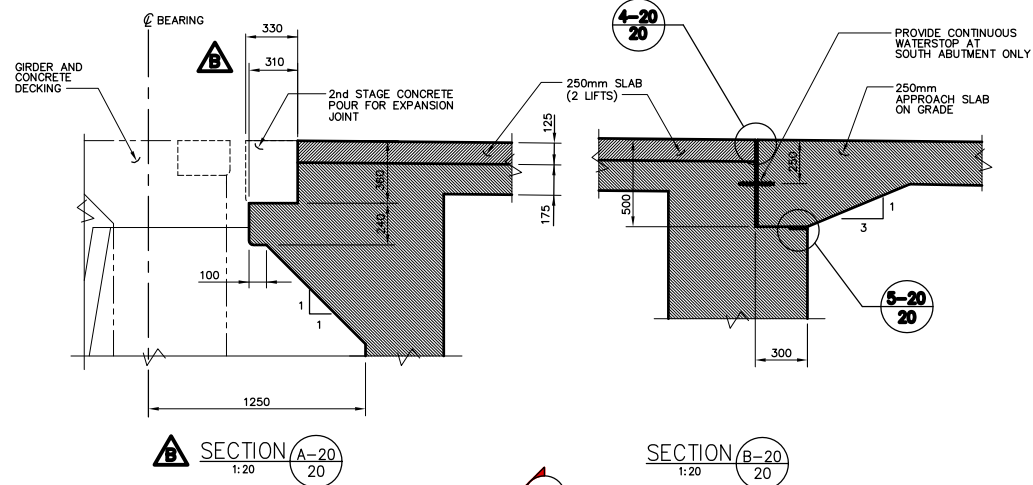
DETAIL 2-20
N.T.S. 14-1

DETAIL 2-20 SIMILAR &
N.T.S. 24-1 OPP. HAND

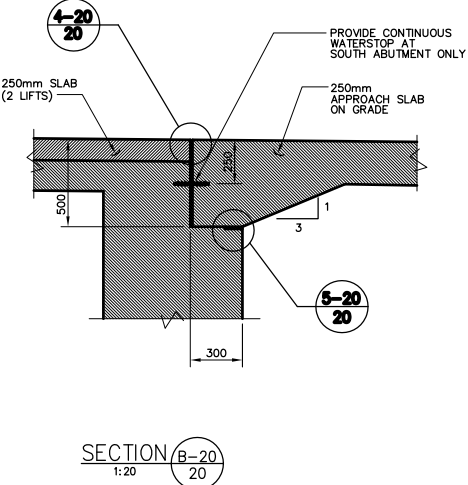


DETAIL 3-20
N.T.S. 14-1

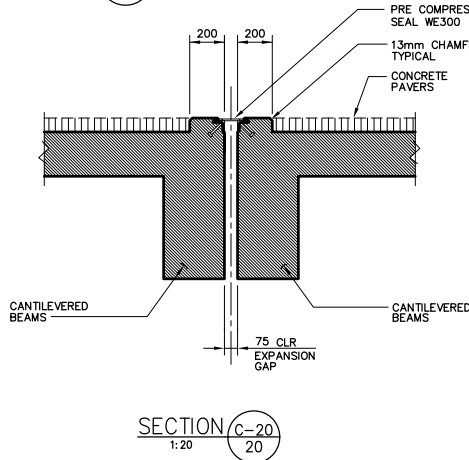
DETAIL 3-20 SIMILAR &
N.T.S. 24-1 OPP. HAND



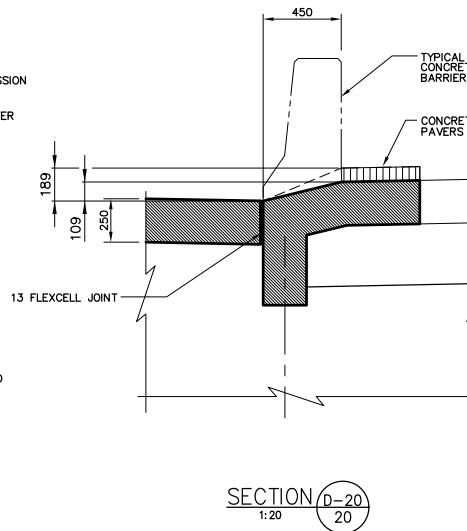
SECTION B-A-20
1:20



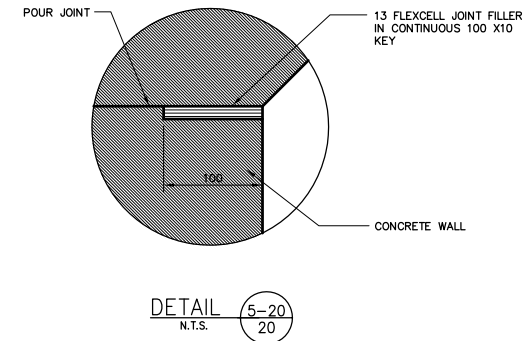
SECTION B-B-20
1:20



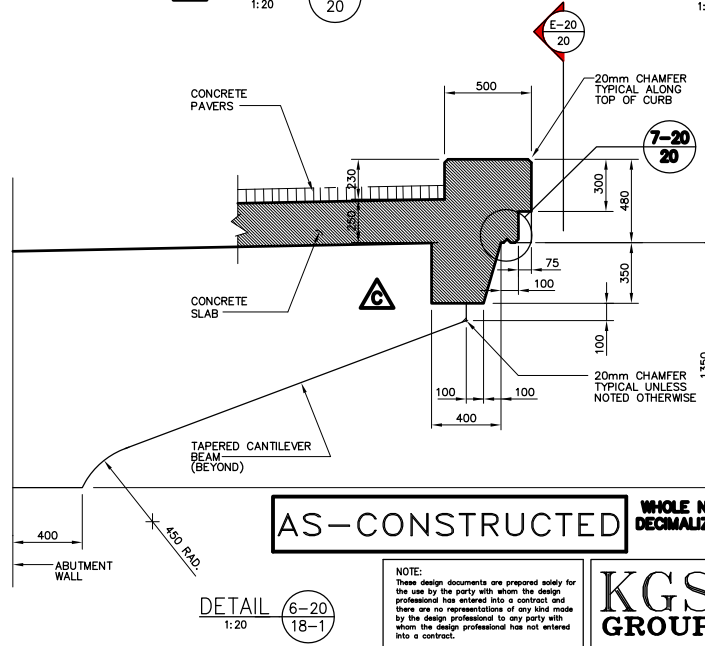
SECTION C-20
1:20



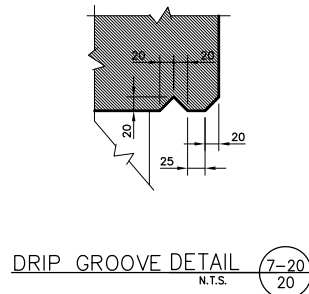
SECTION D-20
1:20



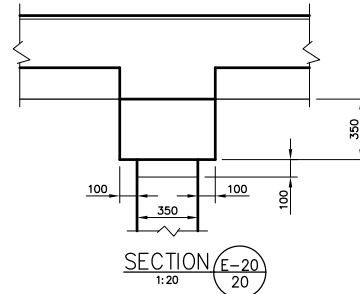
DETAIL E-20
N.T.S. 20



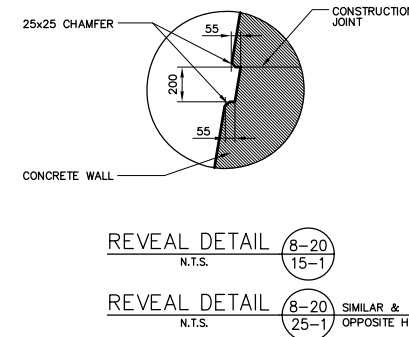
DETAIL C-C-20
1:20 18-1



DRIP GROOVE DETAIL 7-20
N.T.S. 20



SECTION E-20
1:20 20



REVEAL DETAIL 8-20
N.T.S. 15-1

REVEAL DETAIL 8-20 SIMILAR &
N.T.S. 25-1 OPPOSITE HAND

NOTE:
The original drawing used for construction was issued on May 09, 1997 by Bob Long. That drawing has been updated with construction revisions.

HALF SIZE REDUCTION

AS-CONSTRUCTED
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

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KGS GROUP
CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

NO.	REVISIONS	DATE	BY
0	ISSUED FOR PROPOSAL	96 07 15	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
B	SECT. 'A', EXP. JOINT DETAIL REVISED	97 08 28	JWB
C	DETAIL 6-20/18-1 REVISED	98 04 15	JWB
D	"A"-CONSTRUCTED	99 01 20	JWB

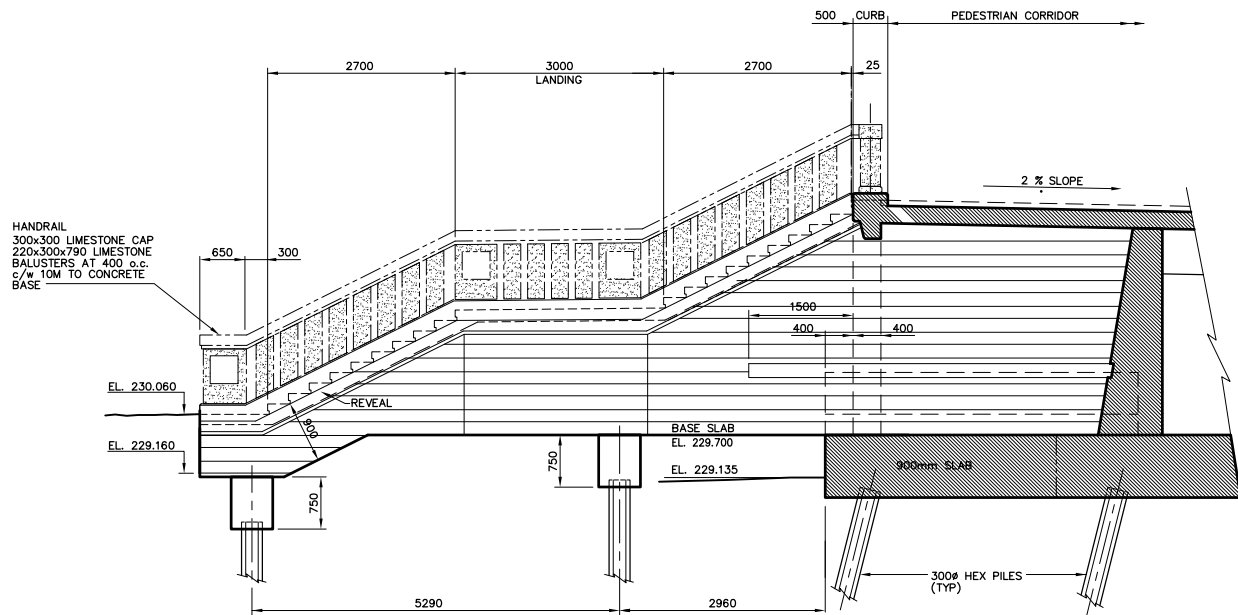
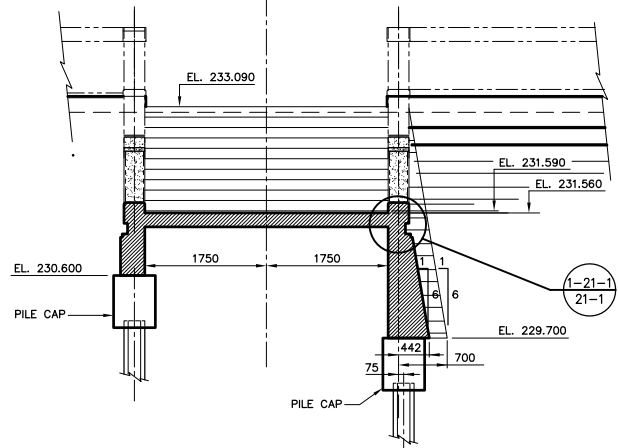
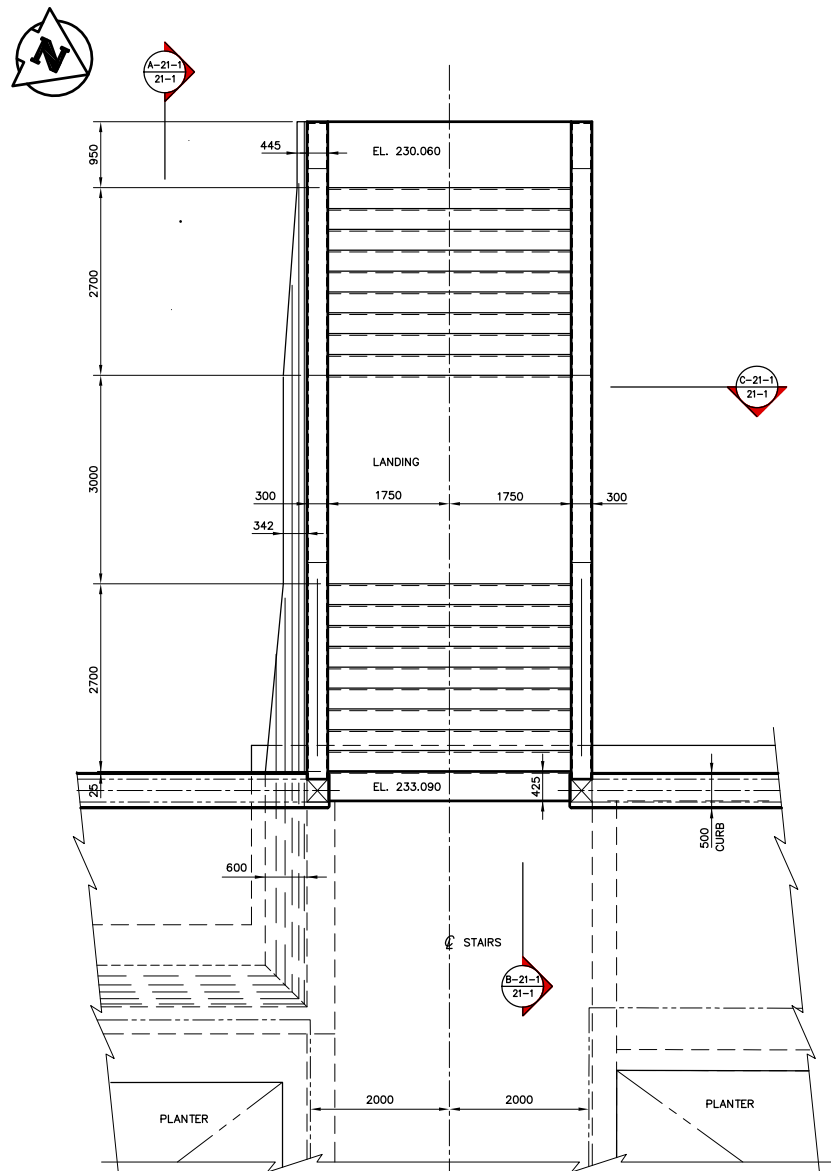
DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.J. LONG** DATE: _____
DRAWN BY: **J** DATE: _____
HOR. SCALE: **AS NOTED**
VERTICAL: _____
DATE: APRIL 1997

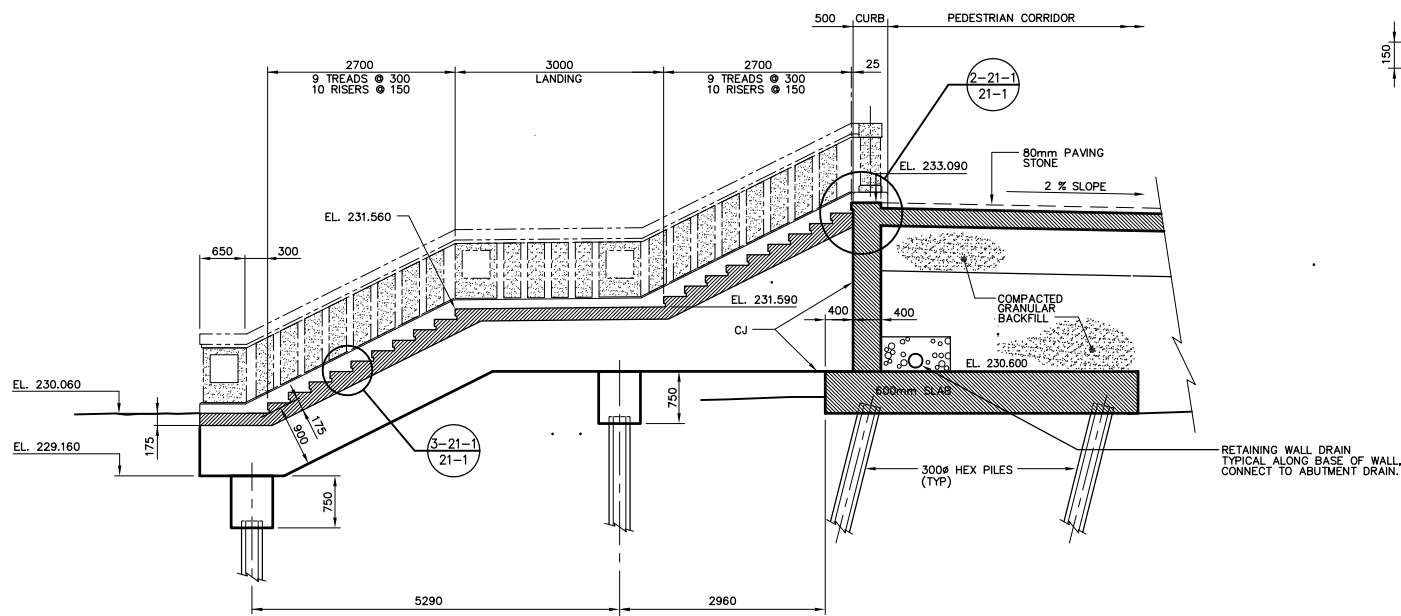


THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS
NORTH ABUTMENT-CONCRETE DETAILS

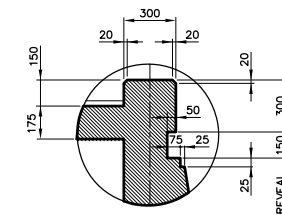
CITY DRAWING NUMBER: **B104-07-20**
SHEET **20** OF **60**
D



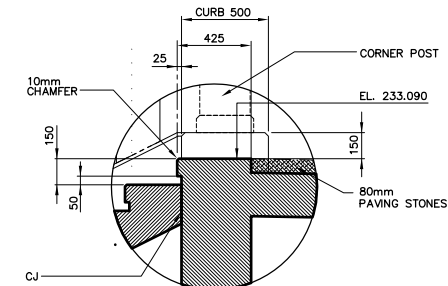
SECTION A-21-1
1:50



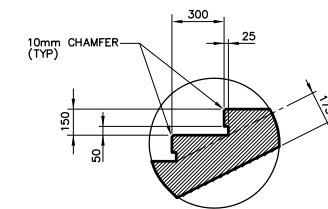
SECTION B-21-1
1:50



DETAIL 1-21-1
1:20



DETAIL 2-21-1
1:20



DETAIL 3-21-1
1:20

AS-CONSTRUCTED

SECTION C-21-1
1:50

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KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY
B	"AS-CONSTRUCTED"	99 01 20	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DESIGNED BY	DATE	CHECKED BY	DATE
R.J. LONG		DBM	
APPROVED BY:	DATE	AUTHORIZED BY:	DATE
		B. EISENBAUER P. ENG./ SENIOR BRIDGE ENGINEER	

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: R.J. LONG
CHECKED BY: DBM
APPROVED BY: [Signature]
AUTHORISED BY: B. EISENBAUER P. ENG./ SENIOR BRIDGE ENGINEER
ACCEPTED FOR P.C.I. CONSTRUCTORS CANADA INC. BY: DATE

HOR. SCALE: AS NOTED
VERTICAL: AS NOTED
DATE: APRIL 1997

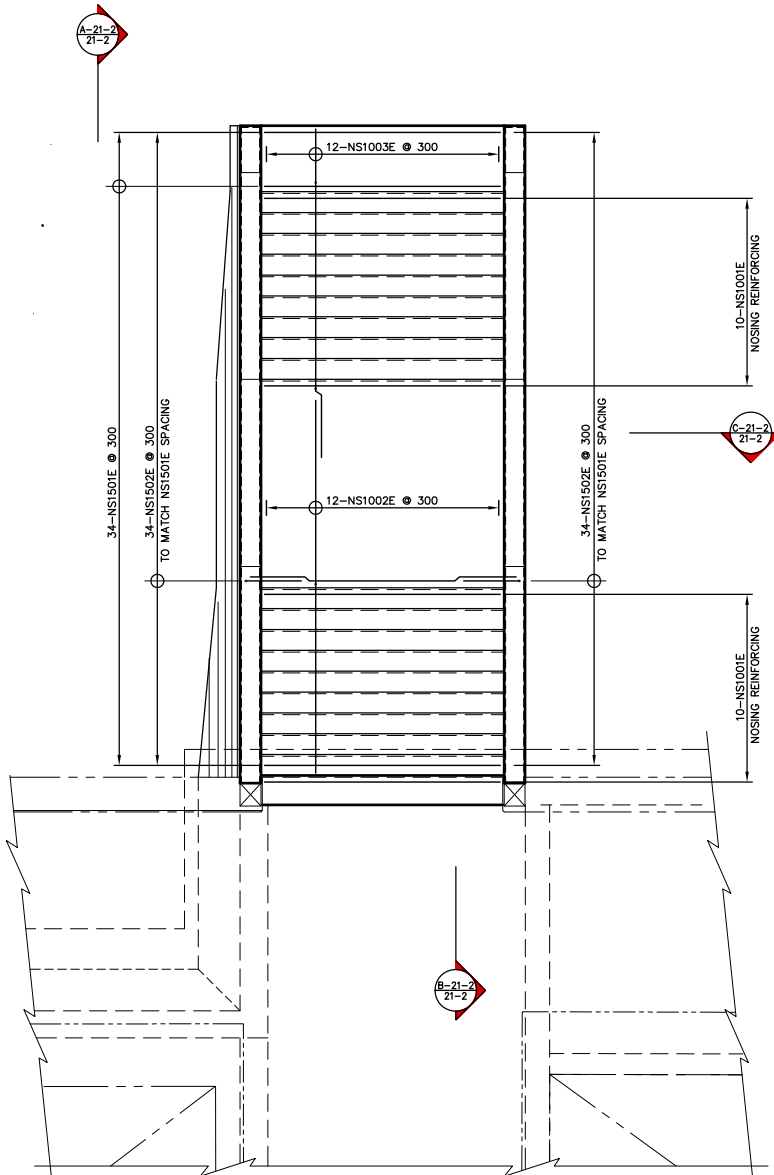
ENGINEER'S SEAL
R.J. LONG
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

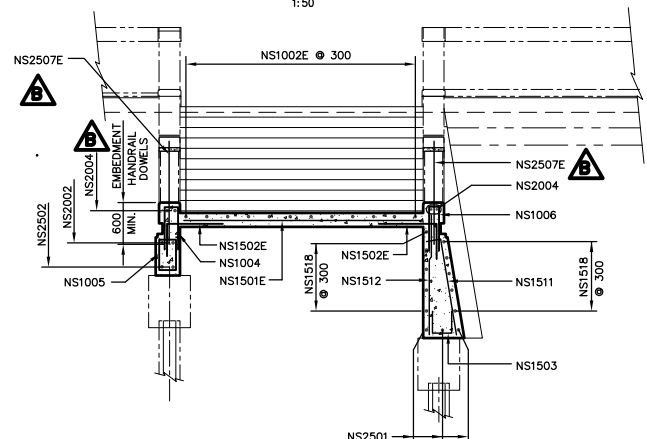
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS
NORTH ABUTMENT-CONCRETE STAIR

CITY DRAWING NUMBER: **8104-97-21-1**
SHEET **21-1** OF **60**
B

CONSULTANT DRAWING NO. **4462-21-1 (SB)**



PLAN
1:50



SECTION C-21-2
1:50

AS-CONSTRUCTED

NOTE:
The original drawing used for construction was sealed on October 29, 1997 by Bob Long. That drawing has been updated with construction revisions.

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KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED
UNDERGROUND STRUCTURES

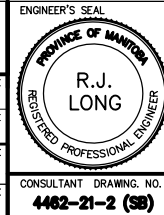
NO.	REVISIONS	DATE	BY
C	"AS-CONSTRUCTED"	99 01 20	JWB
B	HANDRAIL DOWELS ADDED	97 10 29	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB

B.M. -
ELEV. -

NO.	REVISIONS	DATE	BY
C	"AS-CONSTRUCTED"	99 01 20	JWB
B	HANDRAIL DOWELS ADDED	97 10 29	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: RL	CHECKED BY: DBM	DATE:
DRAWN BY: J	APPROVED BY:	DATE:
HOR. SCALE: AS NOTED		
VERTICAL: AS NOTED		
DATE: APRIL 1997		



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS
NORTH ABUTMENT-REINFORCING STAIR

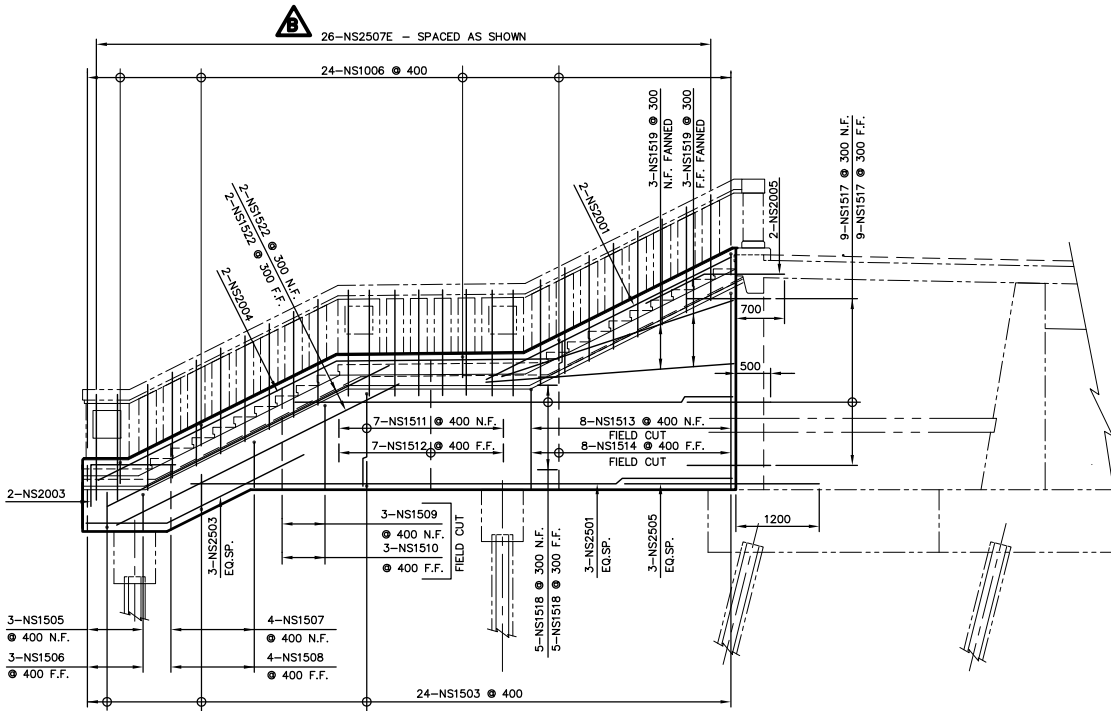
CITY DRAWING NUMBER

8104-97-21-2

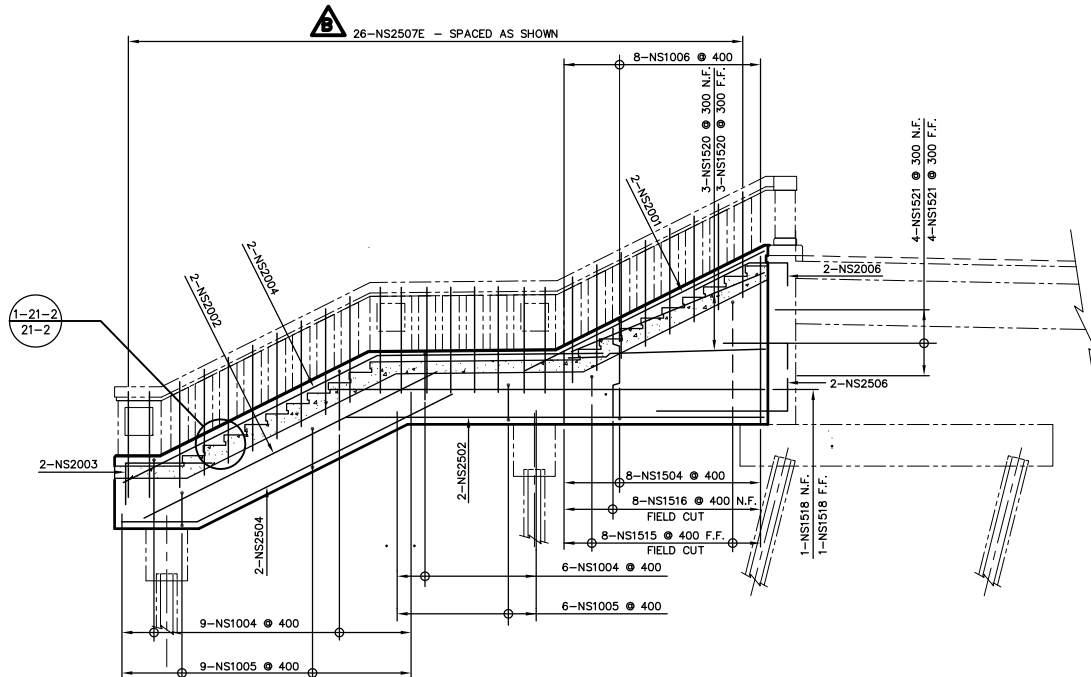
SHEET **21-2** OF **60**

C

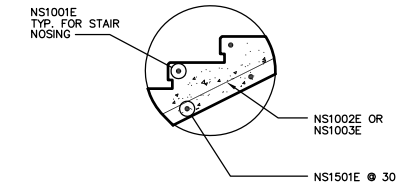
CONSULTANT DRAWING NO.
4462-21-2 (58)



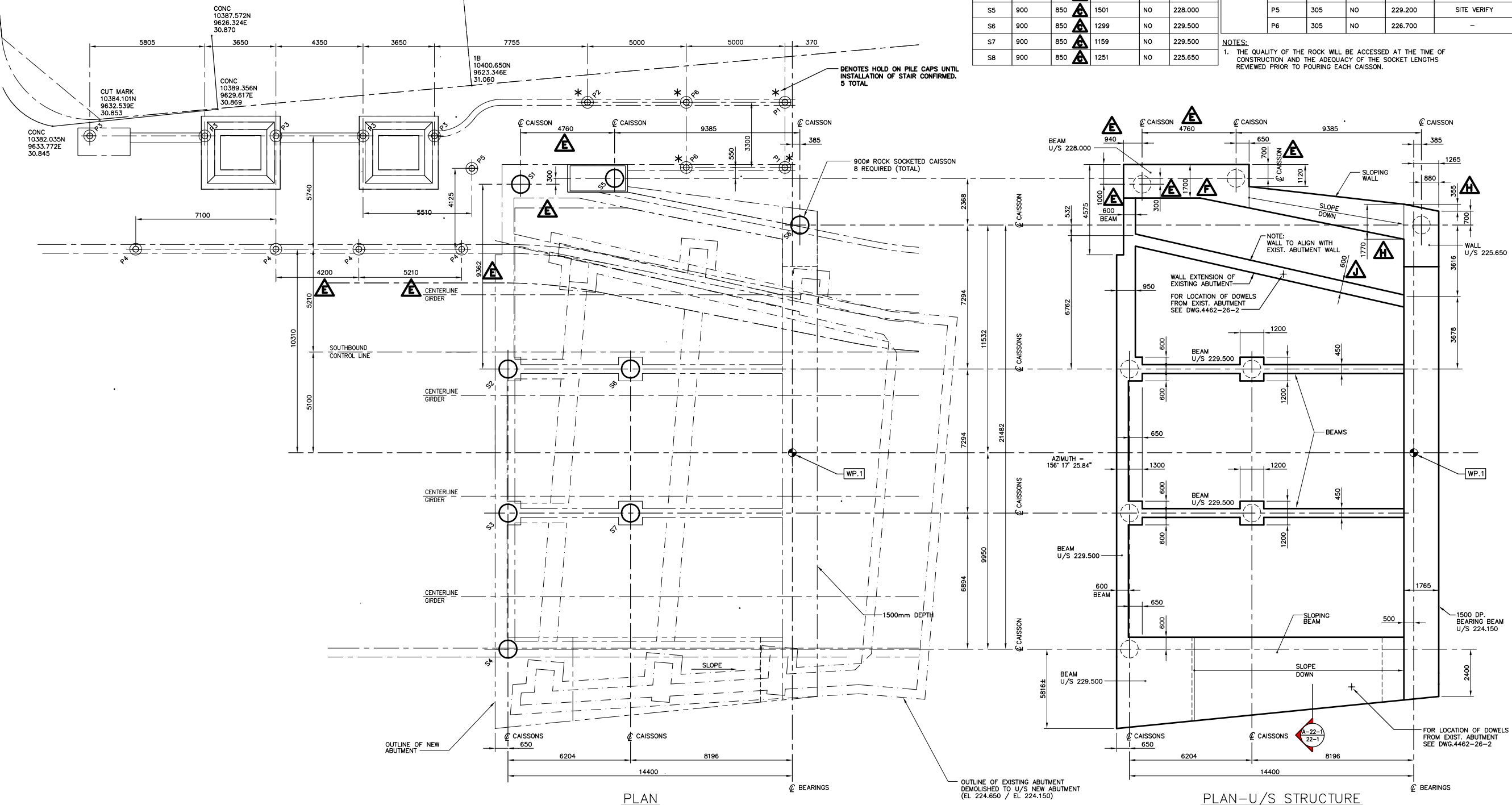
SECTION A-21-2
1:50



SECTION B-21-2
1:50



DETAIL 1-21-2
1:20



FOUNDATION SCHEDULE										
CAISSONS					PRECAST DRIVEN PILES					
MARK No.	SHAFT DIA. (MM)	SOCKET DIA. (MM)	SOCKET LENGTH (MM)	BATTER	TOP OF CAISSON EL.	MARK No.	SIZE	BATTER	CUT-OFF ELEVATION	REMARKS
S1	900	850	1903	NO	228.000	P1	305	NO	225.000	-
S2	900	850	1284	NO	229.500	P2	305	NO	227.400	-
S3	900	850	1267	NO	229.500	P3	305	NO	228.895	-
S4	900	850	1431	NO	229.500	P4	305	NO	229.100	SITE VERIFY
S5	900	850	1501	NO	228.000	P5	305	NO	229.200	SITE VERIFY
S6	900	850	1299	NO	229.500	P6	305	NO	226.700	-
S7	900	850	1159	NO	229.500					
S8	900	850	1251	NO	225.650					

NOTES:
 1. THE QUALITY OF THE ROCK WILL BE ACCESSED AT THE TIME OF CONSTRUCTION AND THE ADEQUACY OF THE SOCKET LENGTHS REVIEWED PRIOR TO POURING EACH CAISSON.

PLAN
 1:100
 SOUTH ABUTMENT FOUNDATION
 PILE LAYOUT AND BASE SLABS

PLAN-U/S STRUCTURE
 1:100
 SOUTH ABUTMENT FOUNDATION

HALF SIZE
 REDUCTION

NOTE:
 The original drawing used for construction was sealed on December 16, 1996 by Bob Long. That drawing has been updated with construction revisions.

METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
 WINNIPEG THUNDER BAY

AS-CONSTRUCTED

LOCATIONS APPROVED
 UNDERGROUND STRUCTURES

NOTE:
 [Illegible text]

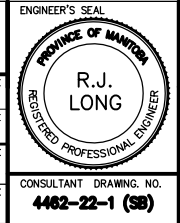
B.M.	ELEV.	DATE	BY
H	'AS-CONSTRUCTED'	99 01 20	JWB
J	DIMENSION REVISED	98 04 16	JWB
H	DIMENSION REVISED	97 07 08	JWB
G	ISSUED FOR CONSTRUCTION	97 05 09	JWB
F	DIMENSION REVISED	97 04 10	JWB
E	CAISSON & PILES RELOCATED	97 02 03	JWB
D	RE-ISSUED FOR CONSTRUCTION	97 01 27	JWB
C	REVISED AS PER CONTRACTOR'S REQUEST	97 01 22	JWB
B	ISSUED FOR CONSTRUCTION	97 01 20	JWB
A	ISSUED FOR CONSTRUCTION	96 12 16	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB
NO.	REVISIONS	DATE	BY

DS-Lea Consultants Ltd.
 Consulting Engineers - Planners - Transportation Consultants
 Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3B1
 Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.J. LONG** CHECKED BY: **DBM** DATE: _____
 DRAWN BY: **J** APPROVED BY: _____ DATE: _____
 AUTHORIZED BY: _____ DATE: _____

HOR. SCALE: **AS NOTED**
 VERTICAL: **AS NOTED**

DATE: DEC. 1996



THE CITY OF WINNIPEG
 STREETS AND TRANSPORTATION DEPARTMENT
 BRIDGE ENGINEERING DIVISION

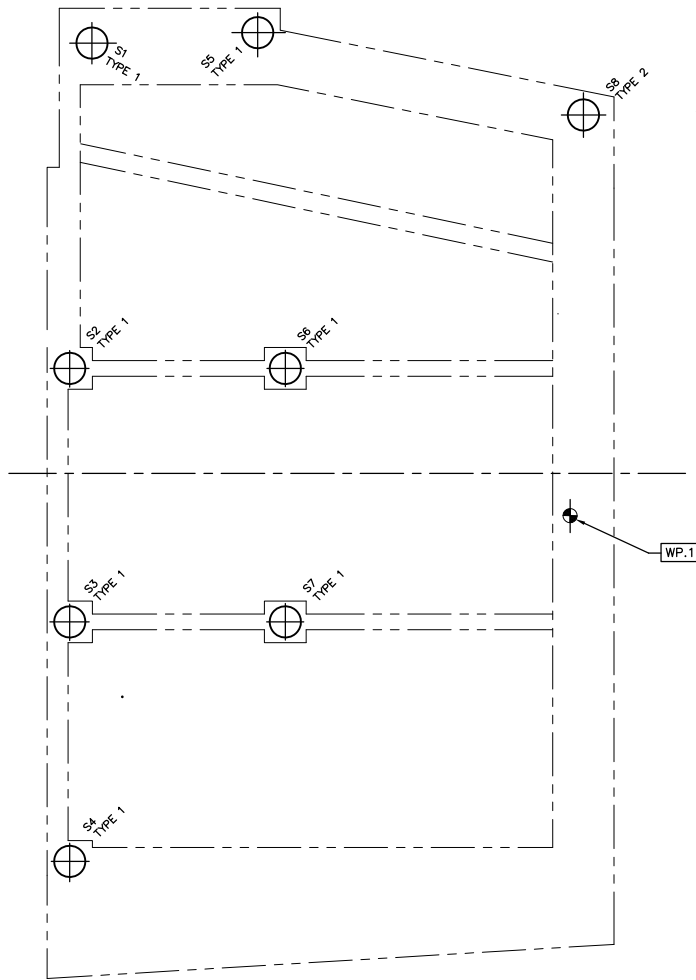
MAIN STREET AND NORWOOD BRIDGES PROJECT
 MAIN STREET BRIDGE
 SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **8104-07-22-1**
 SHEET: **22-1** OF **60**

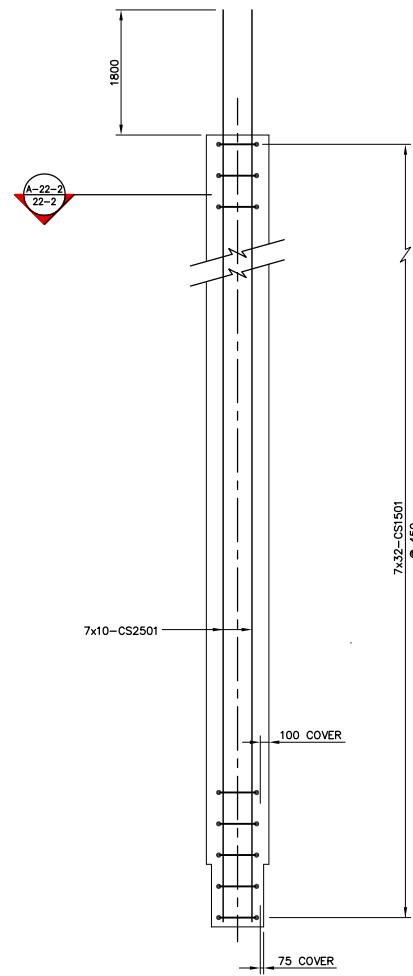
CONSULTANT DRAWING NO.: **4462-22-1 (58)**

SOUTH ABUTMENT - CONCRETE FOUNDATION PLAN

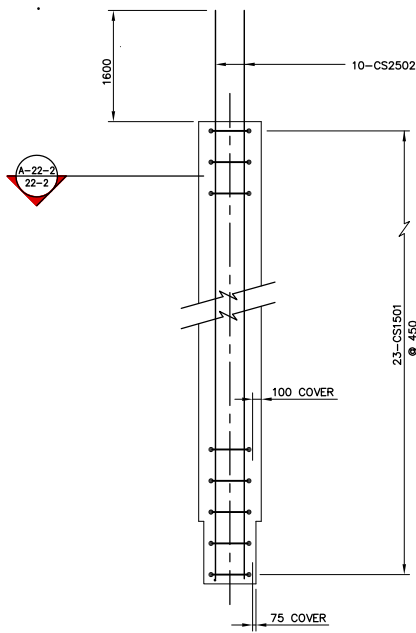
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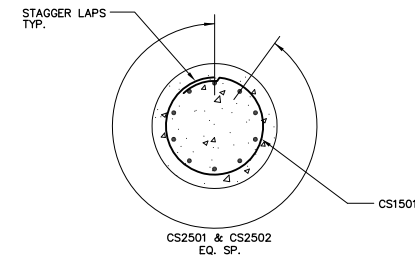
PLAN-CAISSONS
1:100



CAISSON - TYPE 1
1:50



CAISSON - TYPE 2
1:50



SECTION A-22-2
1:25

CAISSONS					
MARK No.	SHAFT DIA. (MM)	SOCKET DIA. (MM)	SOCKET LENGTH (MM)	TOP OF CAISSON EL.	REINFORCING TYPE
S1 & S5	900	850	900	228.000	TYPE 1
S2, S3, S4 S6 & S7	900	850	900	229.500	TYPE 1
S8	900	850	900	225.650	TYPE 2



AS-CONSTRUCTED

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED
UNDERGROUND STRUCTURES

NOTE:
THIS DRAWING IS THE PROPERTY OF DS-LEA CONSULTANTS LTD. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF DS-LEA CONSULTANTS LTD.

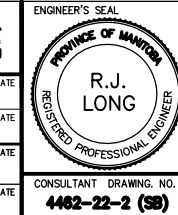
NO.	REVISIONS	DATE	BY
F	AS-CONSTRUCTED	99 01 20	JWB
E	ISSUED FOR CONSTRUCTION	97 05 09	JWB
D	RE-ISSUED FOR CONSTRUCTION	97 01 27	JWB
C	REVISED AS PER CONTRACTOR'S REQUEST	97 01 24	JWB
B	ISSUED FOR CONSTRUCTION	97 01 20	JWB
A	ISSUED FOR CONSTRUCTION	96 12 16	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.J. LONG** CHECKED BY: **DBM** DATE: _____
DRAWN BY: **JWB** APPROVED BY: _____ DATE: _____
AUTHORIZED BY: _____ DATE: _____

HOR. SCALE: **AS NOTED**
VERTICAL: **AS NOTED**

DATE: DEC. 1996
R. DIERSEN, P. ENG.

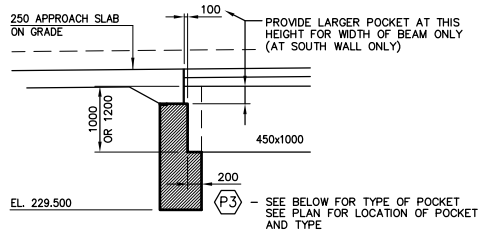
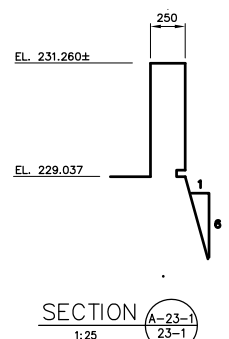
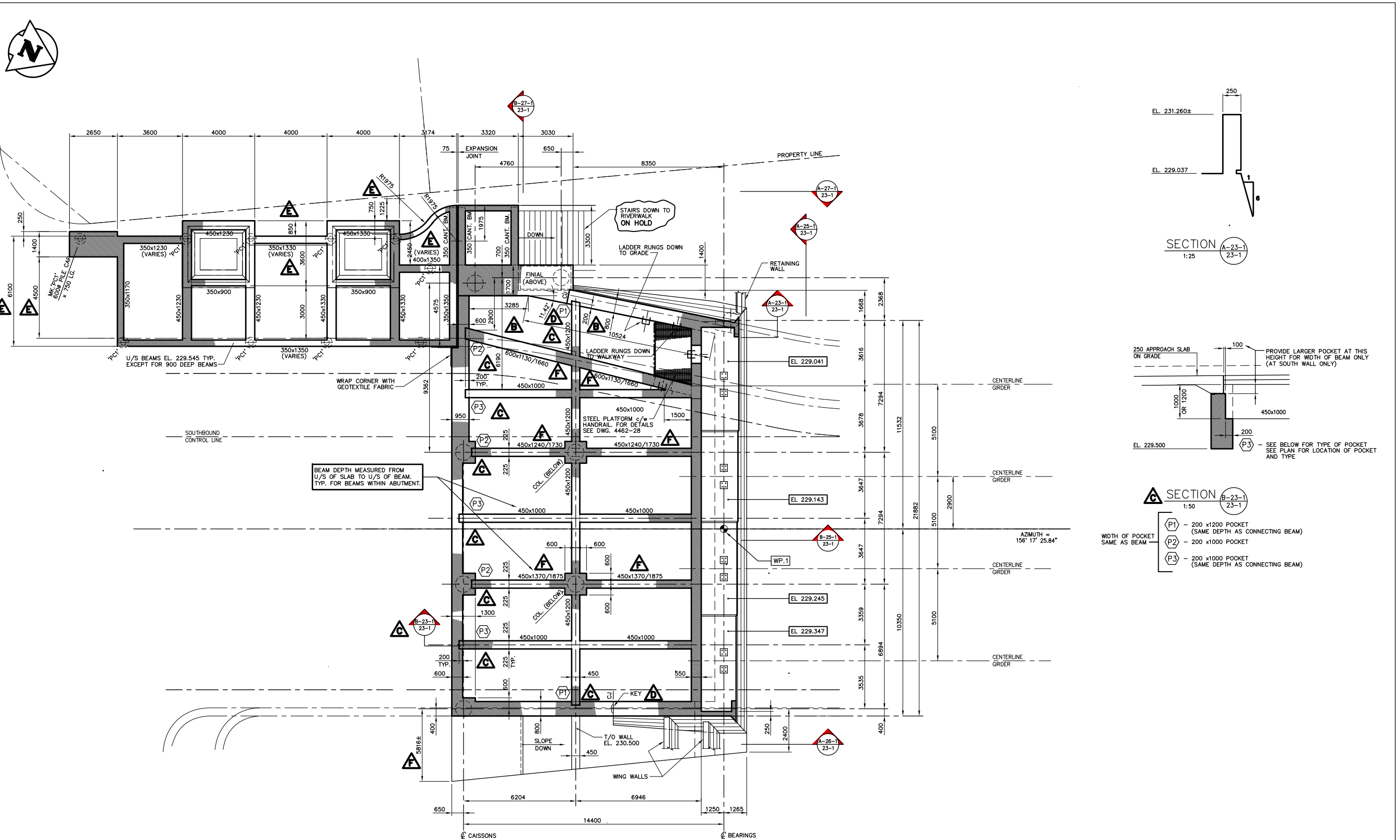


THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-97-22-2**
SHEET **22-2** OF **60**
F

CONSULTANT DRAWING NO. **4462-22-2 (SB)**
SOUTH ABUTMENT
CAISSON REINFORCING



- SECTION B-23-1/23-1**
1:50
- P1 - 200 x1200 POCKET (SAME DEPTH AS CONNECTING BEAM)
 - P2 - 200 x1000 POCKET
 - P3 - 200 x1000 POCKET (SAME DEPTH AS CONNECTING BEAM)
- WIDTH OF POCKET SAME AS BEAM
- SEE BELOW FOR TYPE OF POCKET
SEE PLAN FOR LOCATION OF POCKET AND TYPE

SECTIONAL PLAN
1:100

HALF SIZE
REDUCTION

NOTE:
The original drawing used for construction was issued on May 08, 1997 by R.J. Long. That drawing has been updated with construction revisions.

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

NO.	REVISIONS	DATE	BY
G	"AS-COINTEGRATED"	99 01 30	JWB
F	BEAM DIMENSIONS REVISED	98 04 16	JWB
E	REVISED TO SUIT SITE CONDITION	97 08 20	JWB
D	PLAN REVISED & CONST. JOINTS ADDED	97 07 15	JWB
C	BEAM POCKETS ADDED	97 07 10	JWB
B	DIMENSIONS ADDED	97 07 08	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
O	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3Z1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.J. LONG** CHECKED BY: **DBM** DATE: _____
APPROVED BY: _____ DATE: _____
HOR. SCALE: **AS NOTED** AUTHORIZED BY: _____ DATE: _____
VERTICAL: _____ ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: _____ DATE: _____

ENGINEER'S SEAL: **R.J. LONG**
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT DRAWING NO. **4462-23-1 (58)**

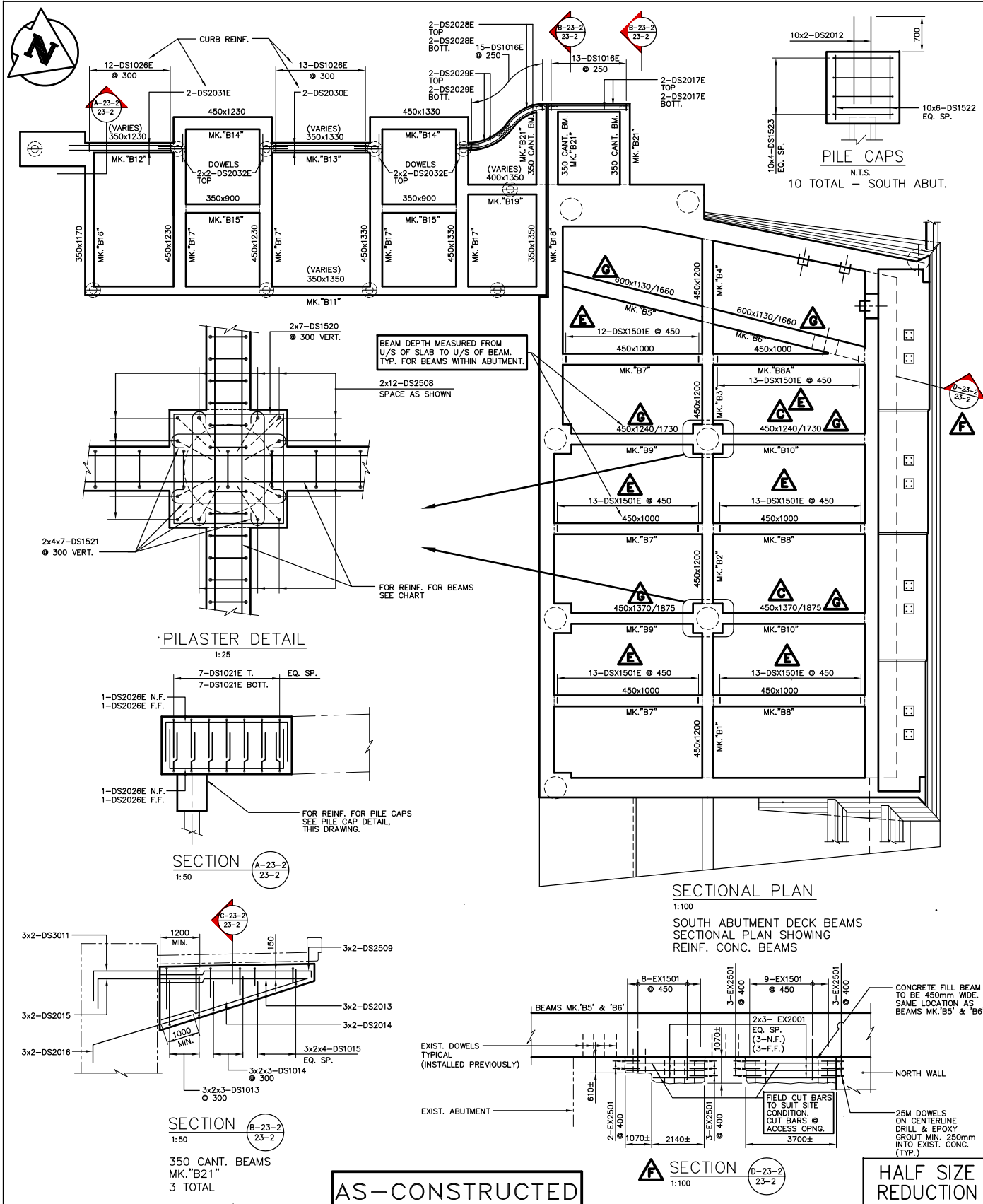
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **8104-97-23-1**
SHEET **23-1** OF **60**

SOUTH ABUTMENT-CONCRETE
SECTIONAL PLAN

G



DECK SLAB - REINF. CONC. BEAM CHART

MARK	QUANT.	BEAM ELEVATION (N.T.S.)	CROSS-SECTION
B1	ONE		
B2	ONE		
B3	ONE		
B4	ONE		
B5	ONE		
B6	ONE		
B7	3		
B8	2		
B8A	ONE		
B9	2		
B10	2		
B11	ONE		
B12	ONE		
B13	ONE		
B14	2		
B15	2		
B16	1		
B17	4		
B18	ONE		
B19	ONE		

AS-CONSTRUCTED

HALF SIZE REDUCTION

NOTE: The original drawing used for construction was issued on May 09, 1997 by Bob Long. That drawing has been updated with construction revisions.

NOTE: These design documents are prepared solely for the use by the party with whom the design professional has entered into a contract and there are no representations of any kind made by the design professional to any party with whom the design professional has not entered into a contract.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES

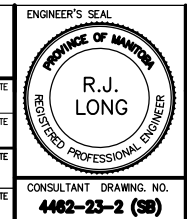
NO.	REVISIONS	DATE	BY
1	ISSUED FOR CONSTRUCTION	97 05 09	JWB
2	ISSUED FOR PROPOSAL	96 07 15	JWB

MARK	QUANT.	BEAM ELEVATION (N.T.S.)	CROSS-SECTION
B1	ONE		
B2	ONE		
B3	ONE		
B4	ONE		
B5	ONE		
B6	ONE		
B7	3		
B8	2		
B8A	ONE		
B9	2		
B10	2		
B11	ONE		
B12	ONE		
B13	ONE		
B14	2		
B15	2		
B16	1		
B17	4		
B18	ONE		
B19	ONE		

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone 1 204 943-3178 Facsimile 1 204 943-9448

DESIGNED BY: **RL** CHECKED BY: **DBM** DATE: _____
APPROVED BY: _____ DATE: _____
AUTHORIZED BY: _____ DATE: _____

HOR. SCALE: **AS NOTED** VERTICAL: **AS NOTED**
CONSULTANT DRAWING NO. **4462-23-2 (SB)**
DATE: APRIL 1997

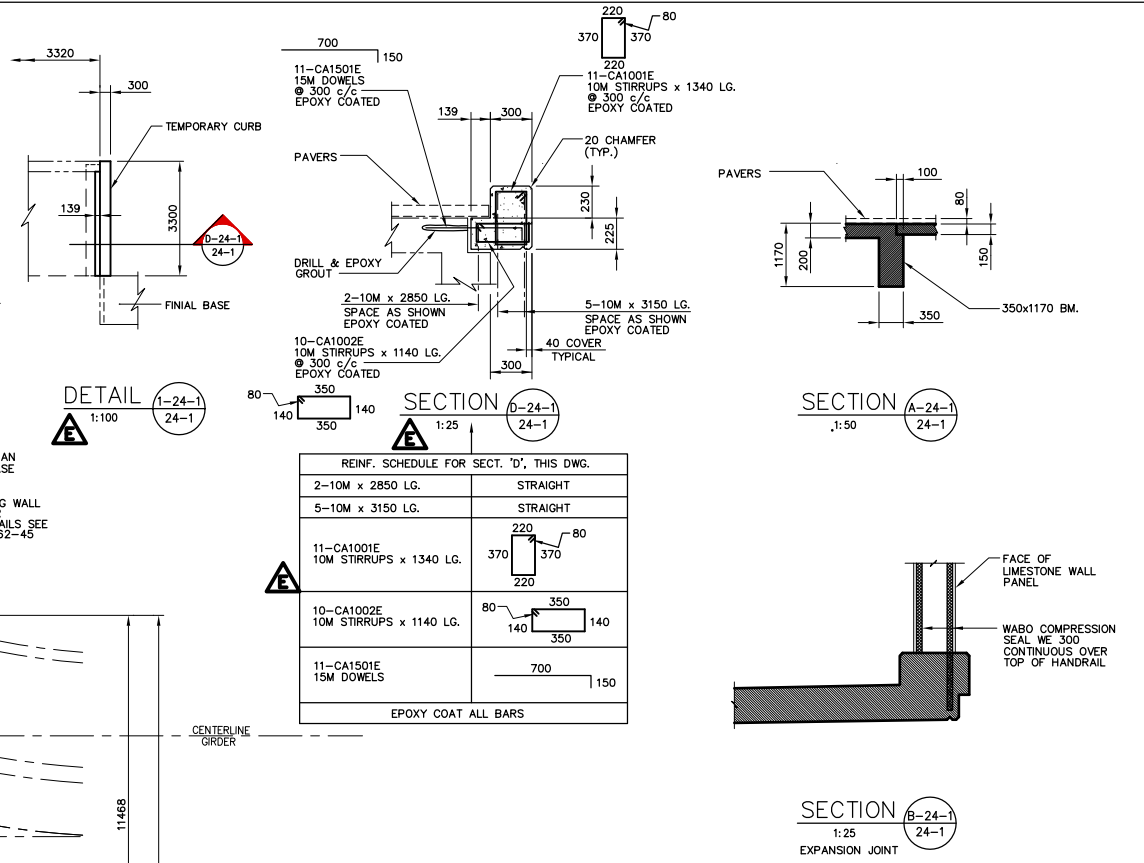
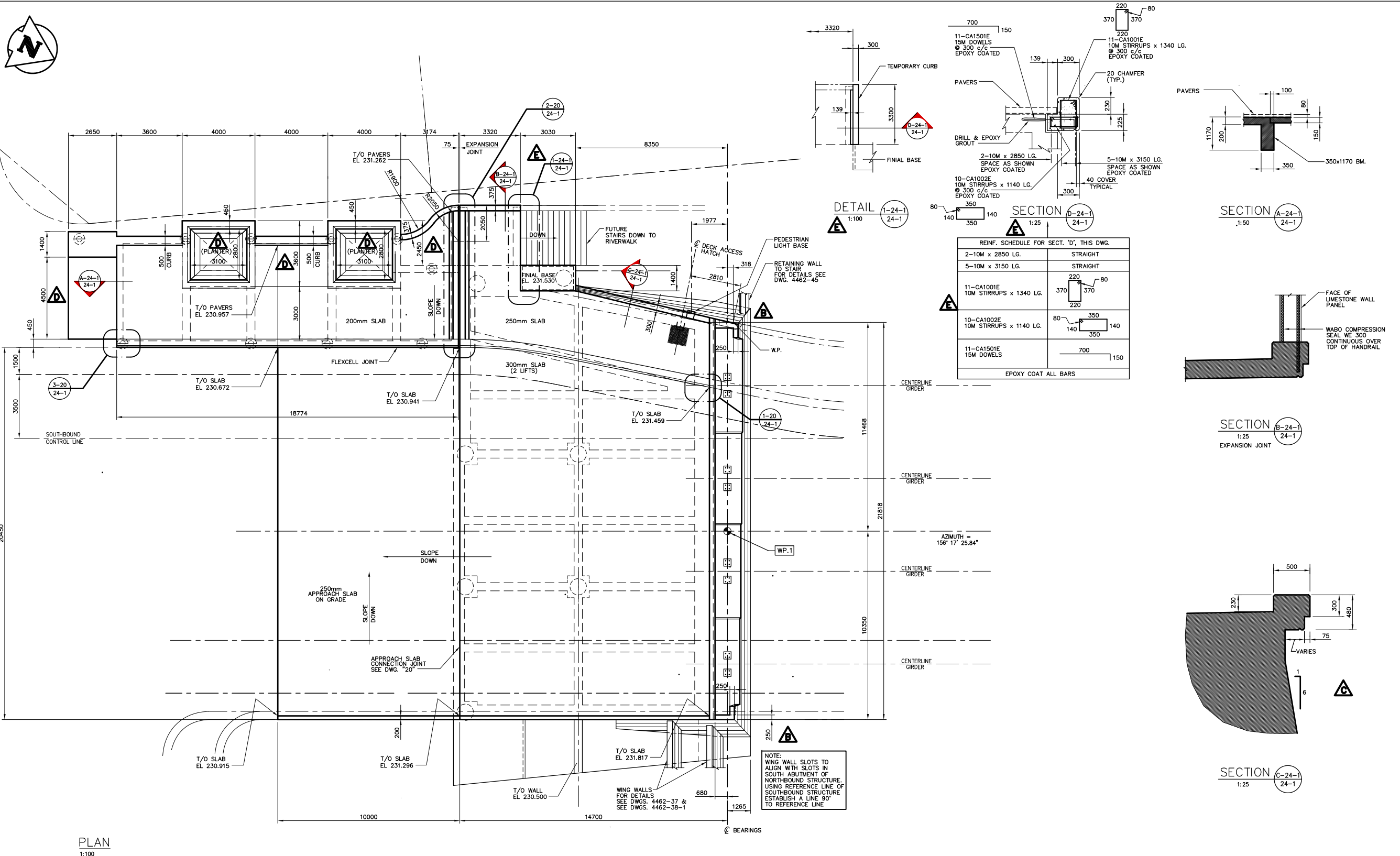


THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **B104-07-23-2**
SHEET **23-2** OF **60**

SOUTH ABUTMENT-REINFORCING DECK SLAB BEAMS



PLAN
1:100

AS-CONSTRUCTED

NOTE:
The original drawing used for construction was issued on May 08, 1997 by Bob Long. That drawing has been updated with construction revisions.

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

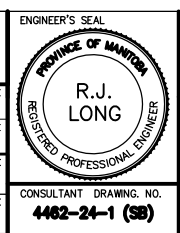
LOCATIONS APPROVED UNDERGROUND STRUCTURES

NOTE:
[Illegible text]

NO.	REVISIONS	DATE	BY
F	"AS-CONSTRUCTED"	99 01 20	JWB
E	DETAIL "Y", SECT. "D" & REIN. SCH. ADDED	98 02 19	JWB
D	REVISED TO SUIT SITE CONDITION	97 08 20	JWB
C	REVISED FINIAL CURB	97 07 29	JWB
B	MASKED WALL REVISED	97 07 14	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.L.** CHECKED BY: **DBM** DATE: _____
DRAWN BY: **J** APPROVED BY: _____ DATE: _____
HORIZ. SCALE: **AS NOTED** AUTHORIZED BY: _____ DATE: _____
VERTICAL: **AS NOTED** ACCEPTED FOR P.C.I. CONSTRUCTORS CANADA INC. BY: _____ DATE: _____
DATE: APRIL 1997 R. QUERVEN, P.ENG.



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

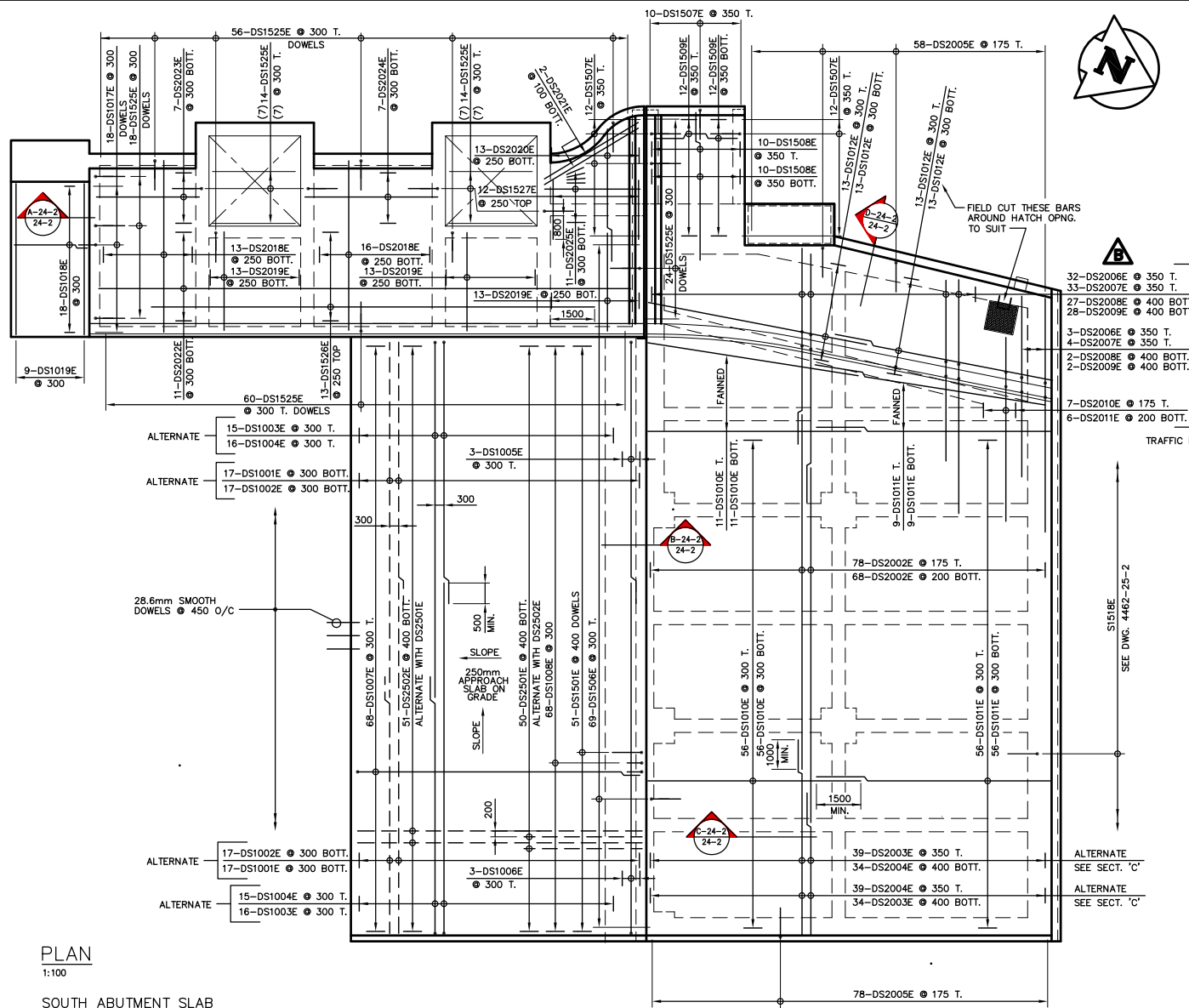
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **8104-97-24-1**
SHEET: **24-1** OF **80**

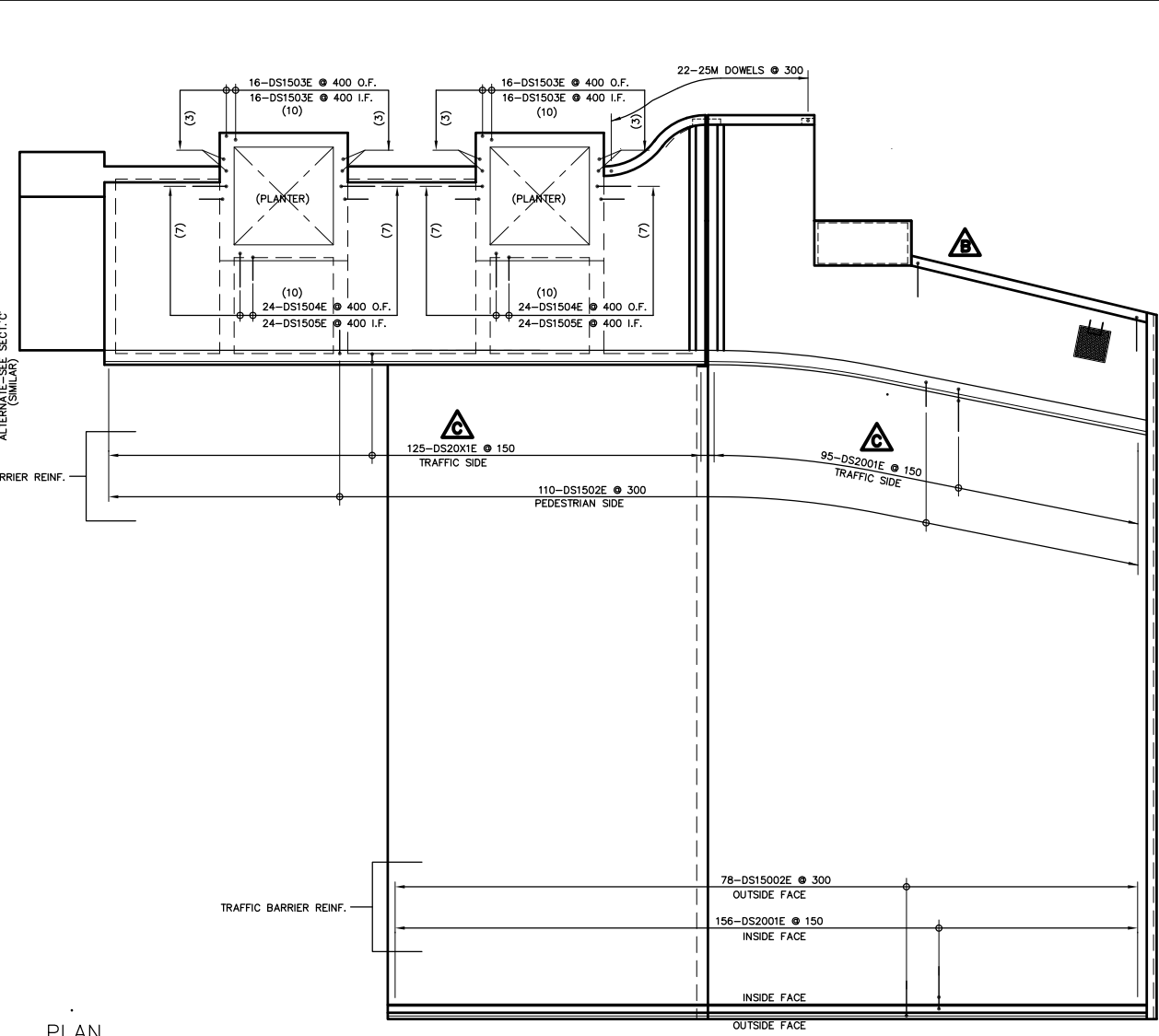
CONSULTANT DRAWING NO.: **4462-24-1 (58)**

SOUTH ABUTMENT-CONCRETE PLAN

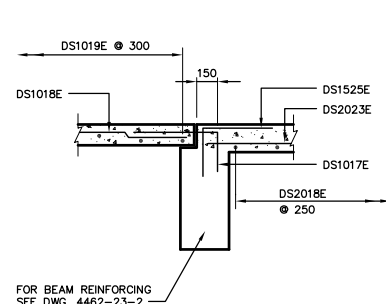
HALF SIZE REDUCTION



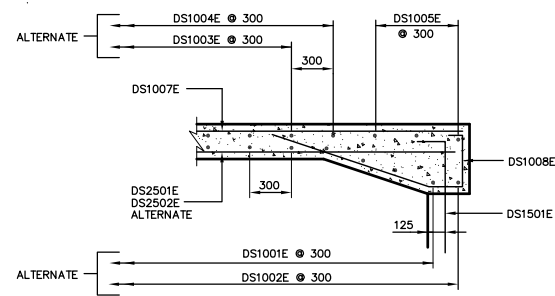
PLAN
1:100
SOUTH ABUTMENT SLAB
PLAN SHOWING REINFORCING



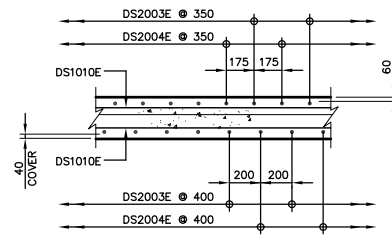
PLAN
1:100
SOUTH ABUTMENT SLAB
PLAN SHOWING DOWEL
REINFORCING FOR HANDRAIL,
TRAFFIC BARRIERS AND PLANTERS



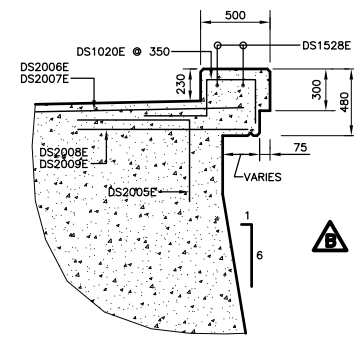
SECTION A-24-2
1:25



SECTION B-24-2
1:25



SECTION C-24-2
N.T.S.



SECTION D-24-1
1:25

AS-CONSTRUCTED

NOTE:
The original drawing used for construction was sealed on May 08, 1997 by R.J. Long. That drawing has been updated with construction revisions.
These as-constructed drawings represent that the work was performed in general conformity with the construction drawings.

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY

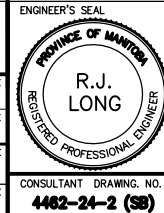
B.M. -	ELEV. -

DESIGNED BY: **R.J. LONG** CHECKED BY: **DBM** DATE: **APRIL 1997**

DRAWN BY: **J** APPROVED BY: DATE:

HOR. SCALE: **AS NOTED** VERTICAL: **AS NOTED**

DATE: **APRIL 1997**



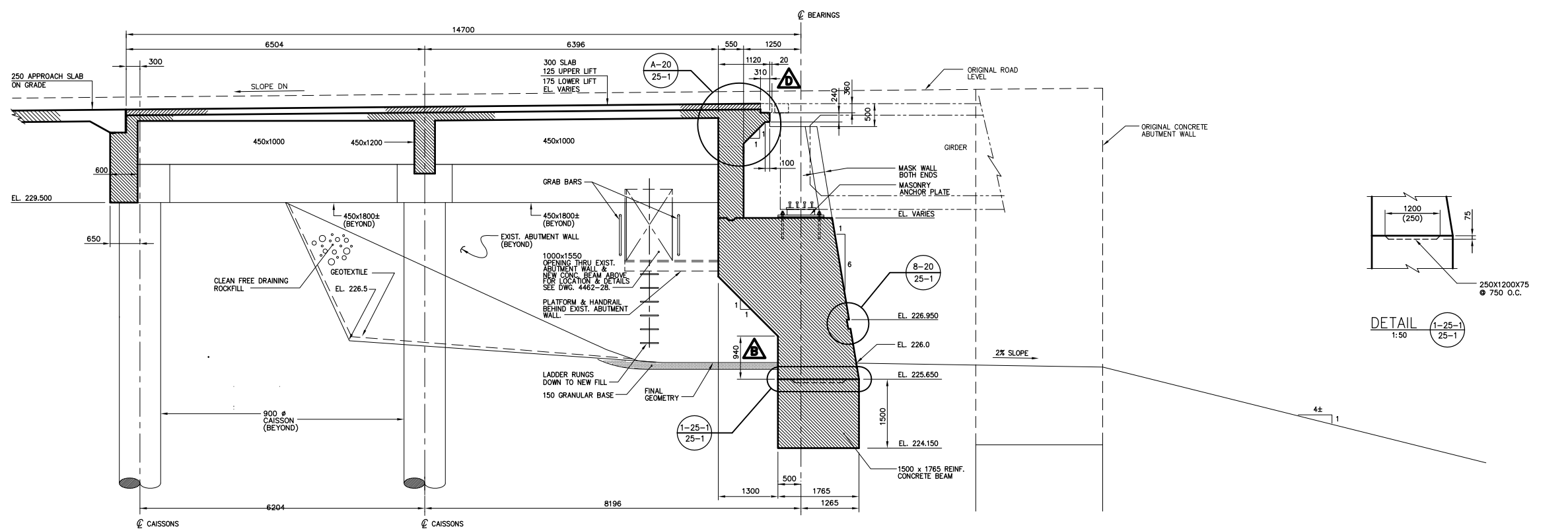
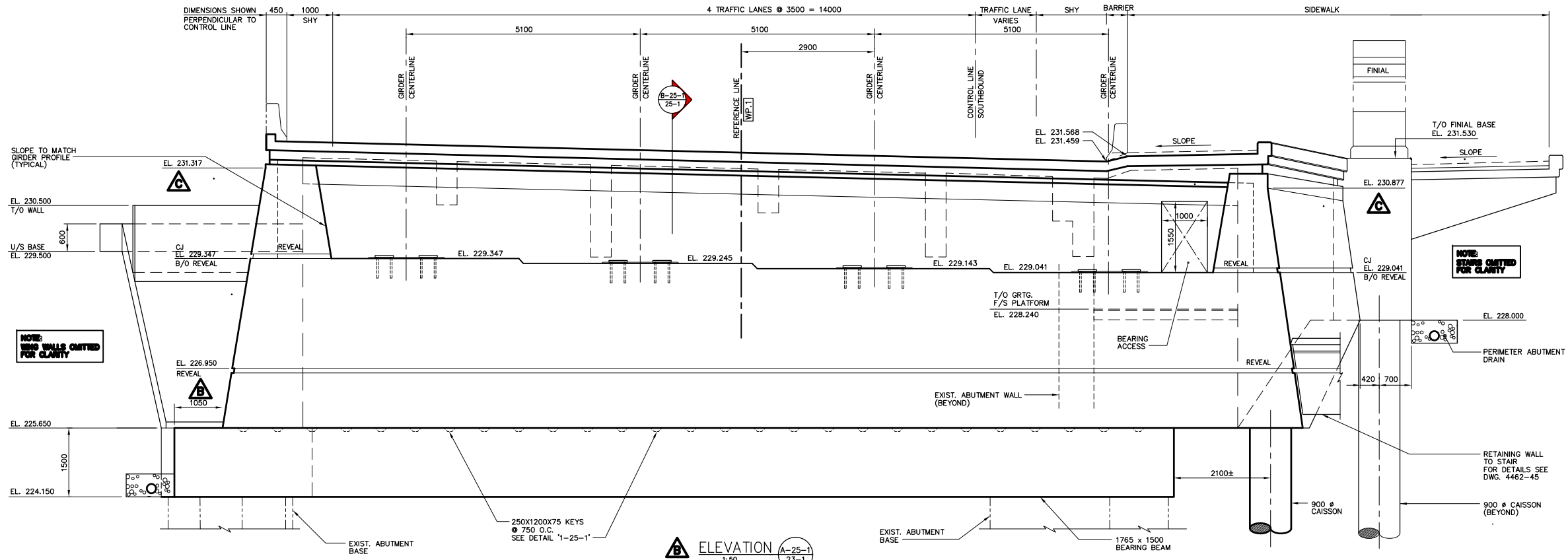
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-87-24-2**
SHEET: **24-2** OF **60**

SOUTH ABUTMENT-REINFORCING DECK SLAB

CONSULTANT DRAWING NO.: **4462-24-2 (SB)**



AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

NOTE: The original drawing used for construction was sealed on May 06, 1997 by Bob Long. That drawing has been updated with construction revisions.

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KGS CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY

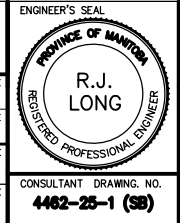
E	"AS-CONSTRUCTED"	99 01 20	JWB
D	SECT. 'B' - EXP. JOINT DIMAN REVISED	97 08 28	JWB
C	ELEVATIONS ADDED - SECT. 'A'	97 07 15	JWB
B	DIMENSIONS ADDED - SECT. 'A' & 'B'	97 07 07	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.L.** CHECKED BY: **DBM** DATE: _____
 DRAWN BY: **J** APPROVED BY: _____ DATE: _____
 AUTHORIZED BY: _____ DATE: _____

HOR. SCALE: **AS NOTED**
 VERTICAL: **AS NOTED**

DATE: APRIL 1997



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

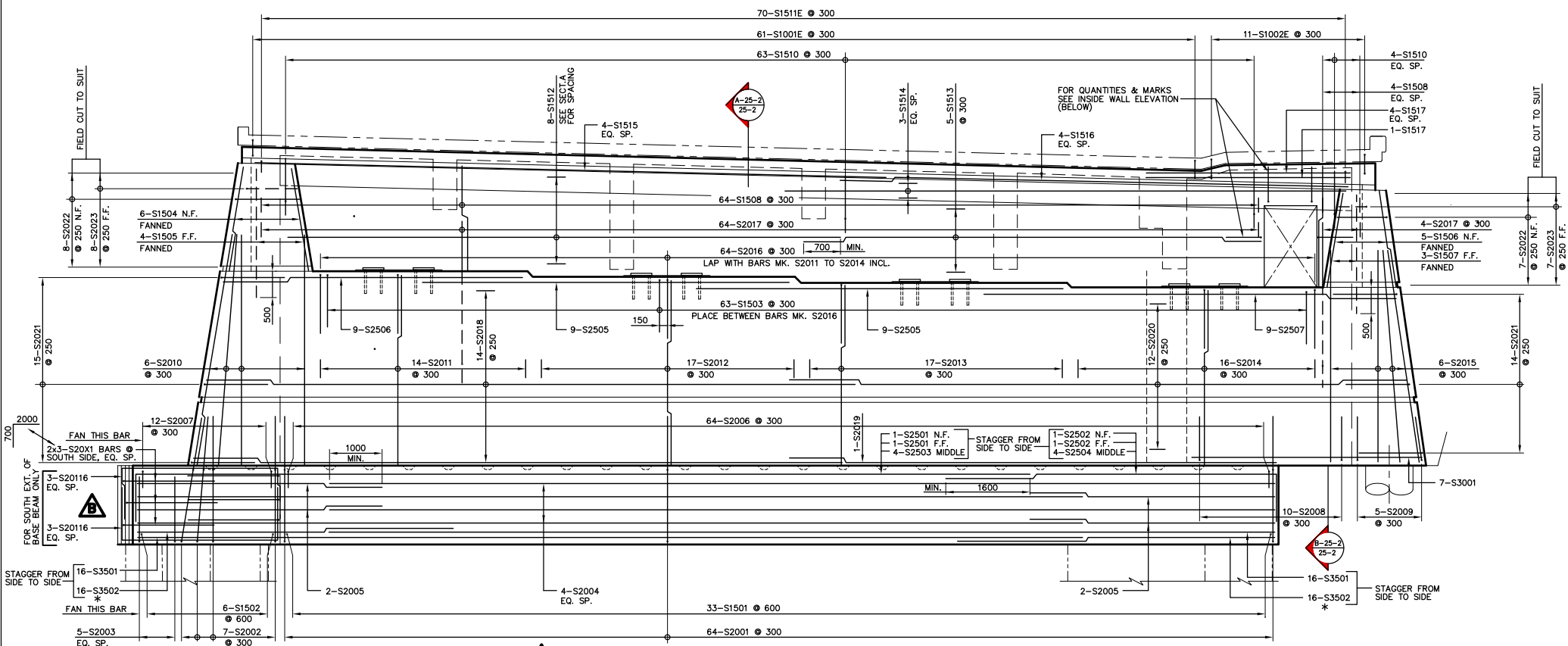
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **8104-97-25-1**
SHEET **25-1** OF **80**

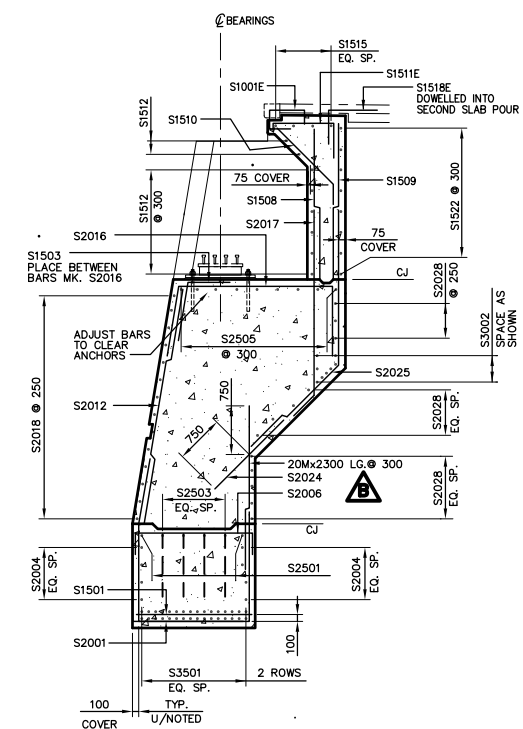
CONSULTANT DRAWING NO. **4462-25-1 (58)**

SOUTH ABUTMENT-CONCRETE NORTH ELEVATION

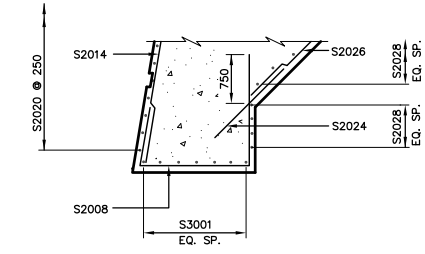
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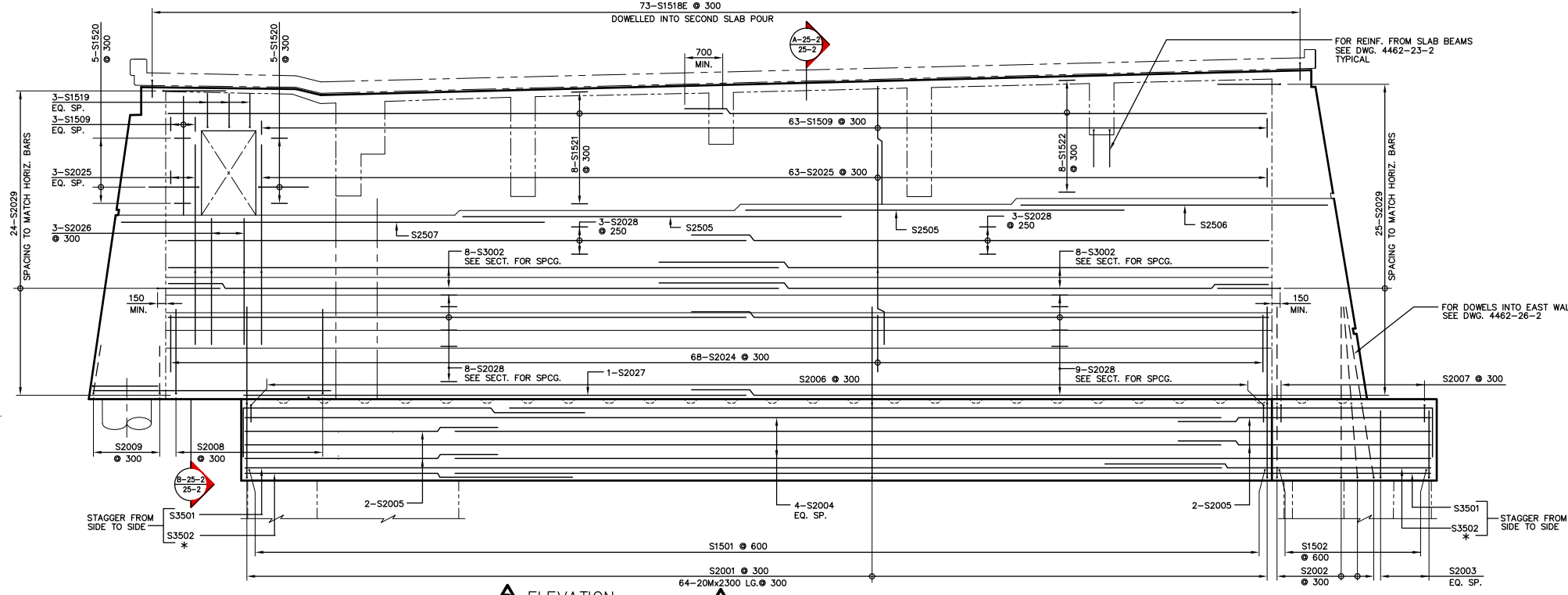
ELEVATION
1:50
LOOKING SOUTH



SECTION
1:50
A-25-2
25-2



SECTION
1:50
B-25-2
25-2



ELEVATION
1:50
LOOKING NORTH (INSIDE)

NOTE:
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AS-CONSTRUCTED

KGS CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY

B.M. - ELEV. -

--	--	--	--

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

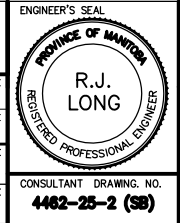
DESIGNED BY: **RL** CHECKED BY: **DBM** DATE: **APRIL 1997**

DRAWN BY: **J** APPROVED BY: DATE:

HOR. SCALE: **AS NOTED** AUTHORIZED BY: DATE:

VERTICAL: **AS NOTED** ACCEPTED FOR P.C.I. CONSTRUCTORS CANADA INC. BY: DATE:

DATE: APRIL 1997



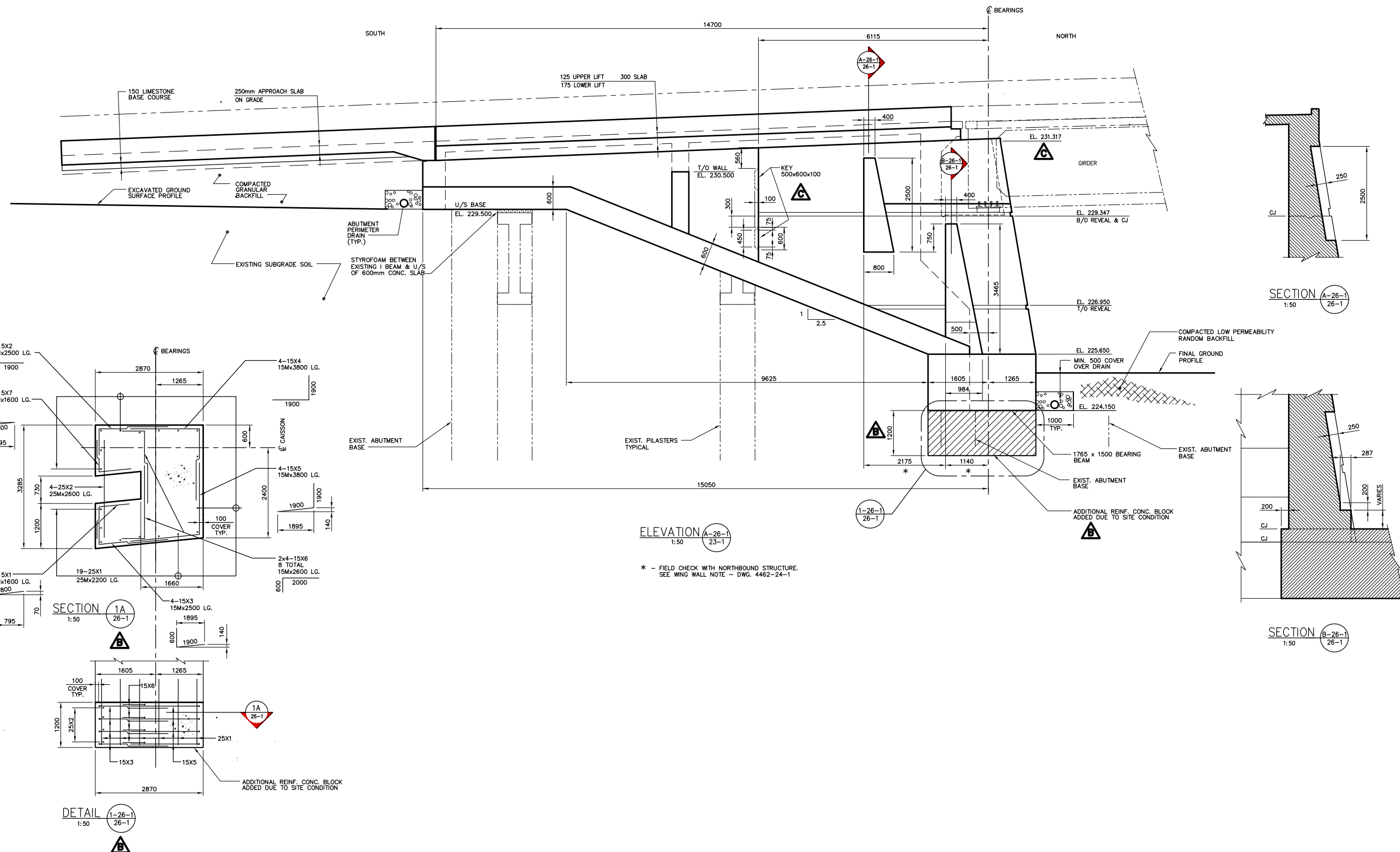
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS
SOUTH ABUTMENT-REINFORCING NORTH WALL

CITY DRAWING NUMBER: **B104-07-25-2**
SHEET **25-2** OF **60**

CONSULTANT DRAWING NO. **4462-25-2 (SB)**

C



ELEVATION A-26-1 / 23-1
1:50

SECTION A-26-1 / 26-1
1:50

SECTION B-26-1 / 26-1
1:50

* - FIELD CHECK WITH NORTHBOUND STRUCTURE.
SEE WING WALL NOTE - DWG. 4462-24-1

NOTE:
The original drawing used for construction was issued on May 08, 1997 by Bob Long. That drawing has been updated with construction revisions.

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

AS-CONSTRUCTED

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

NO.	REVISIONS	DATE	BY
D	"AS-CONSTRUCTED"	99 01 20	JWB
C	ELEVATION ADDED & CONST. KEYS ADDED	97 07 15	JWB
B	EXTRA REINF. CONCRETE BLOCK ADDED TO SUIT SITE CONDITION	97 06 27	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
O	ISSUED FOR PROPOSAL	96 07 15	JWB

DESIGNED BY: R.J. LONG	CHECKED BY: DBM	DATE:
DRAWN BY: J	APPROVED BY:	DATE:
HOR. SCALE: AS NOTED		
VERTICAL: AS NOTED		
DATE: APRIL 1997		

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3B1
Phone [204] 943-3178 Facsimile [204] 943-9448



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

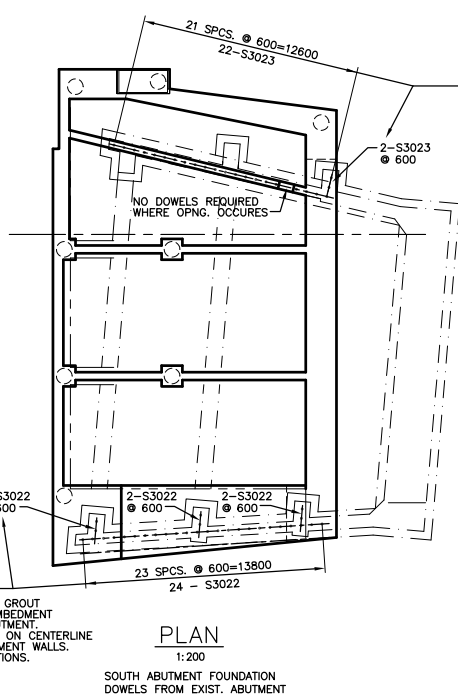
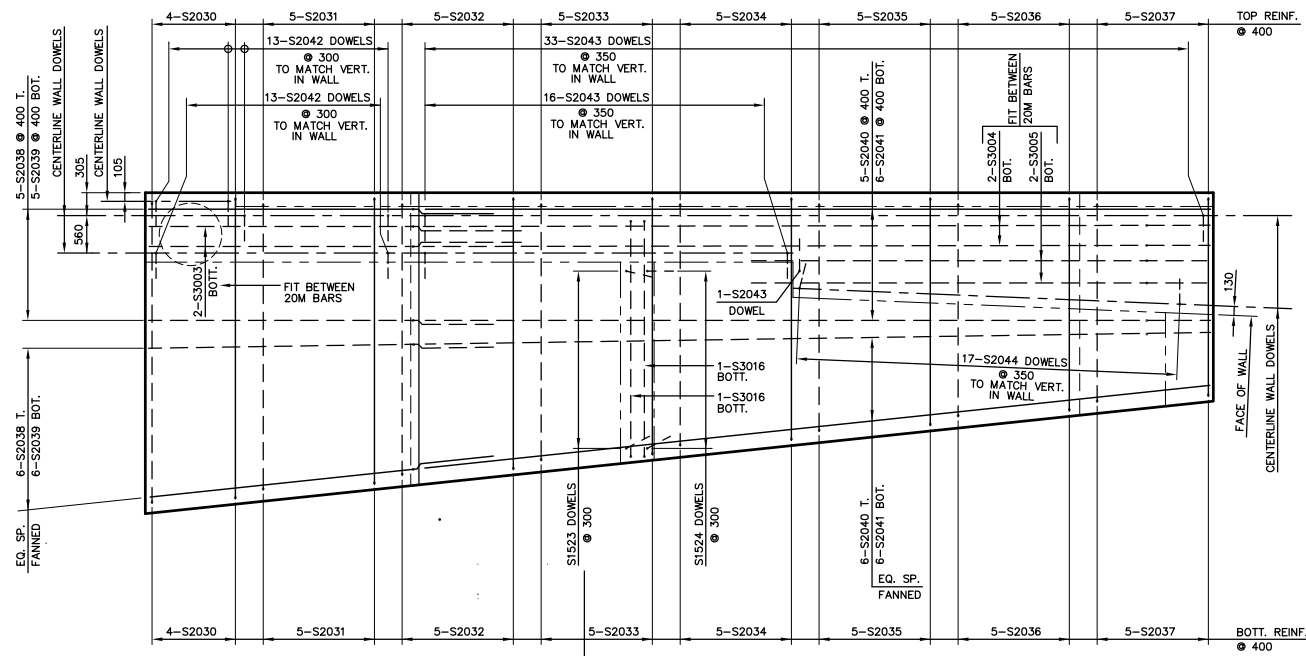
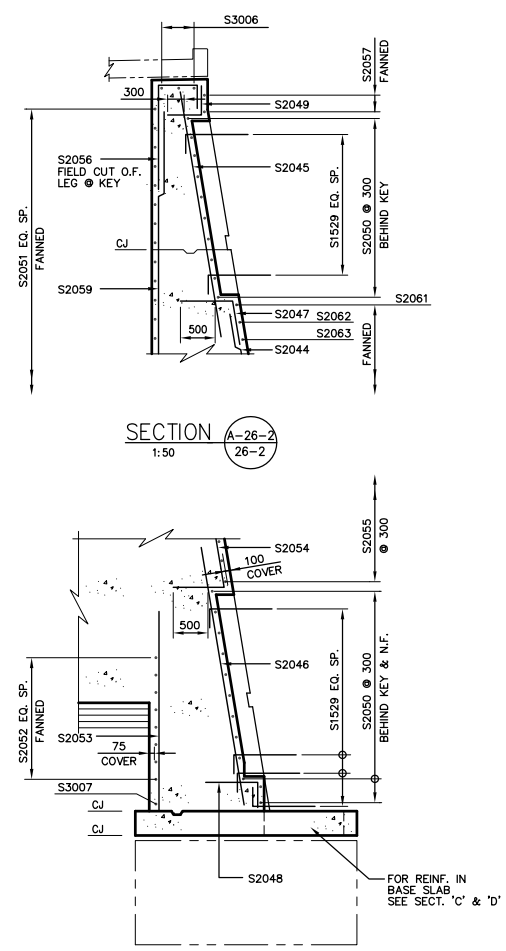
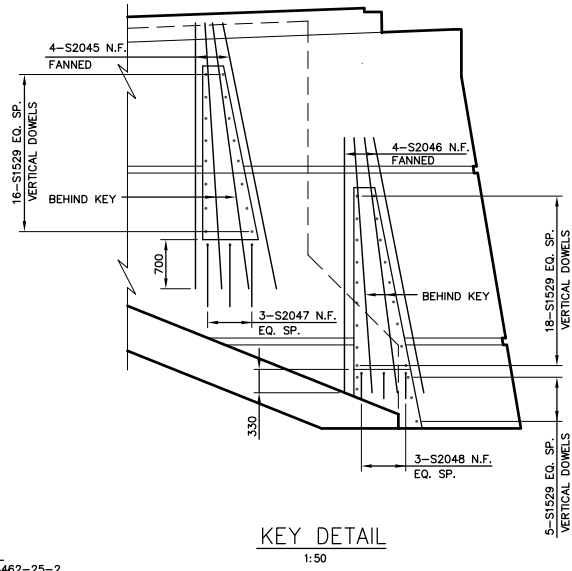
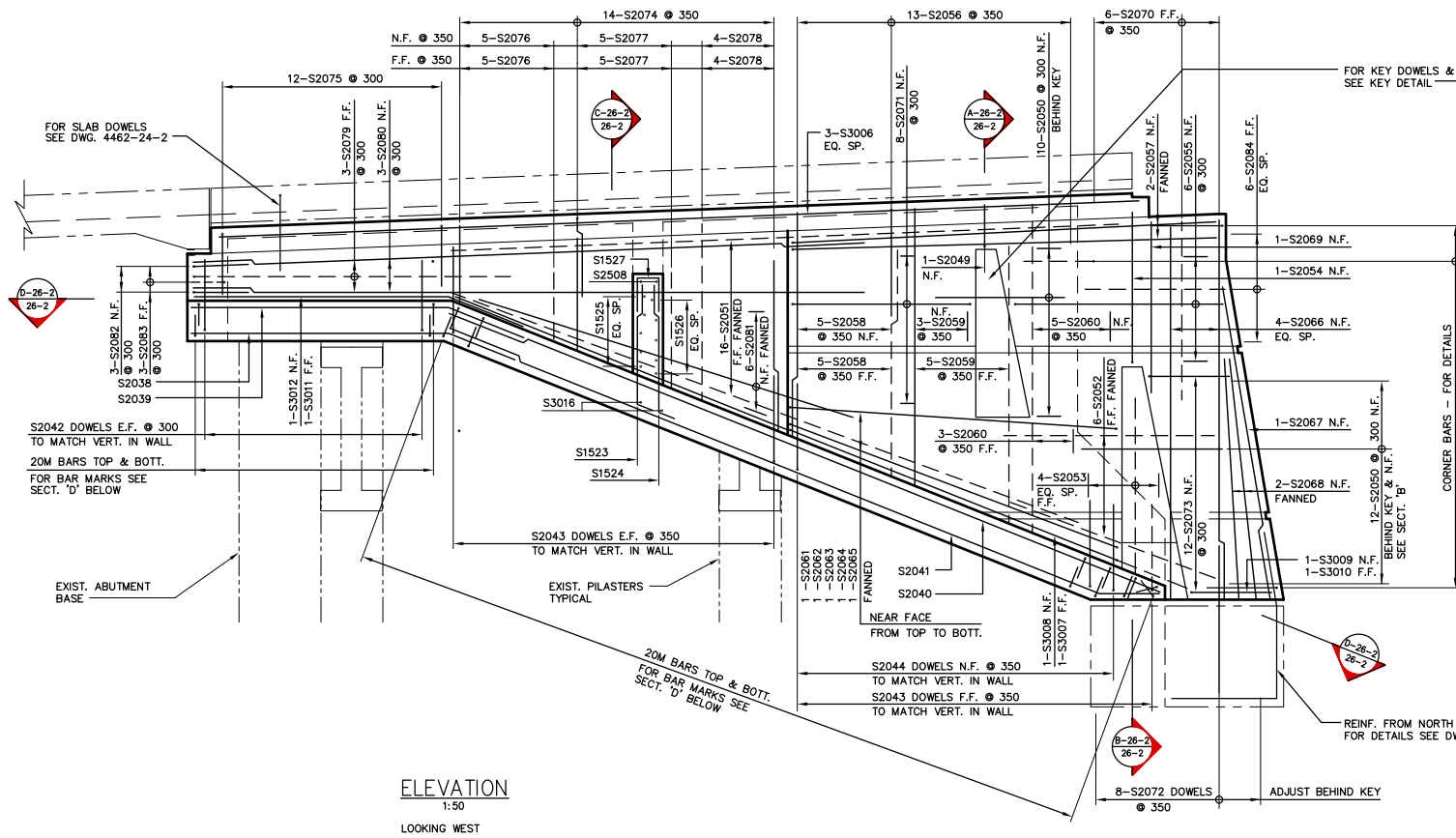
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-07-26-1**
SHEET **26-1** OF **60**

CONSULTANT DRAWING NO.: **4462-26-1 (58)**

SOUTH ABUTMENT-CONCRETE EAST ELEVATION

D



SECTION **C-26-2** 1:50 DEVELOPED

NOTE:
The original drawing used for construction was issued on May 08, 1997 by B&L Long. That drawing has been updated with construction revisions.

NOTE:
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AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES

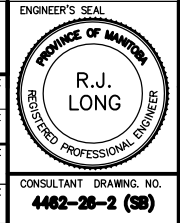
NO.	REVISIONS	DATE	BY
B	'AS-CONSTRUCTED'	99.01.20	JAW
A	ISSUED FOR CONSTRUCTION	97.05.09	JAW

B.M. - ELEV. -

NO.	REVISIONS	DATE	BY
-----	-----------	------	----

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **RL** CHECKED BY: **DBM** DATE: _____
DRAWN BY: **J** APPROVED BY: _____ DATE: _____
H.R. SCALE: **AS NOTED** AUTHORIZED BY: _____ DATE: _____
VERTICAL: _____ ACCEPTED FOR P.C.I. CONSTRUCTORS CANADA INC. BY DATE: _____
DATE: APRIL 1997 R. DIERSEN, P.E.N.G.



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

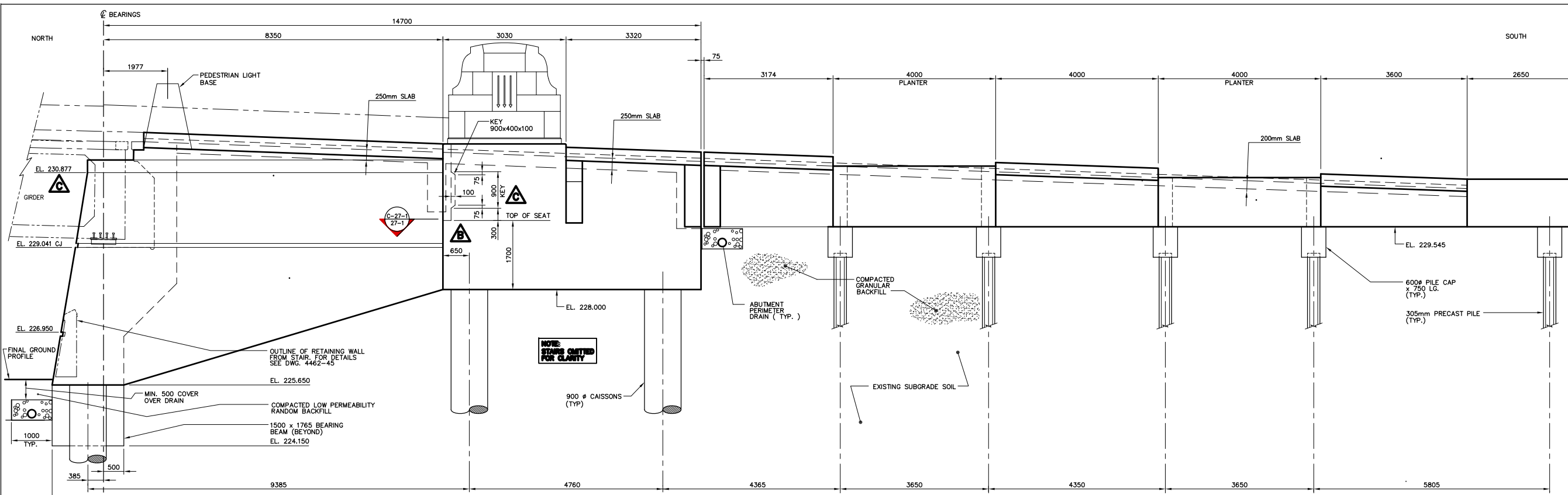
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SHEET **26-2** OF **60**

CONSULTANT DRAWING NO. **4462-26-2 (SB)**

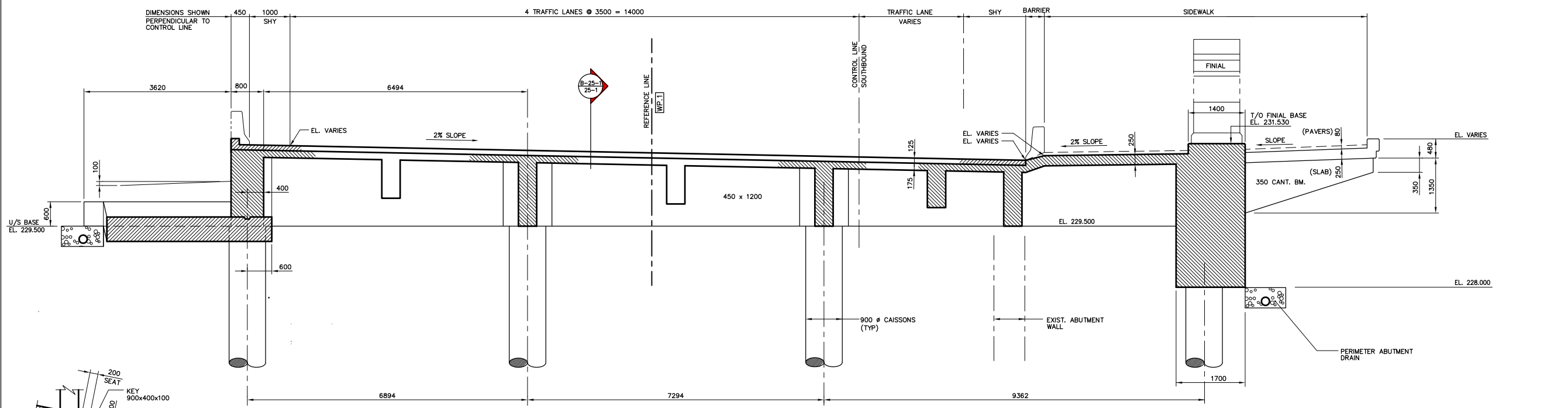
SOUTH ABUTMENT-REINFORCING EAST WALL

B

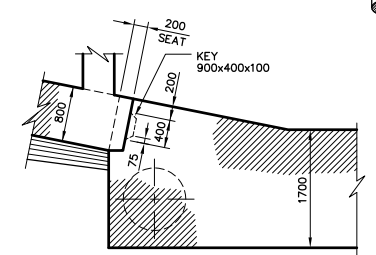
841mm X 604mm/ PLOT SCALE: 1:80



ELEVATION A-27-1
1:50



SECTION B-27-1
1:50



SECTION C-27-1
1:50

NOTE:
The original drawing used for construction was issued on May 08, 1997 by Bob Long. That drawing has been updated with construction revisions.

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AS-CONSTRUCTED

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES

NOTE:

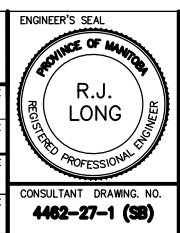
NO.	REVISIONS	DATE	BY

B.M. - ELEV. -

NO.	REVISIONS	DATE	BY

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.L.** CHECKED BY: **DBM** DATE: _____
DRAWN BY: **J** APPROVED BY: _____ DATE: _____
HORIZ. SCALE: **AS NOTED** AUTHORIZED BY: _____ DATE: _____
VERTICAL: **AS NOTED** ACCEPTED FOR P.C.I. CONTRACTORS CANADA INC. BY: _____ DATE: _____
DATE: APRIL 1997 R. OVERSEEN, P.ENG.



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

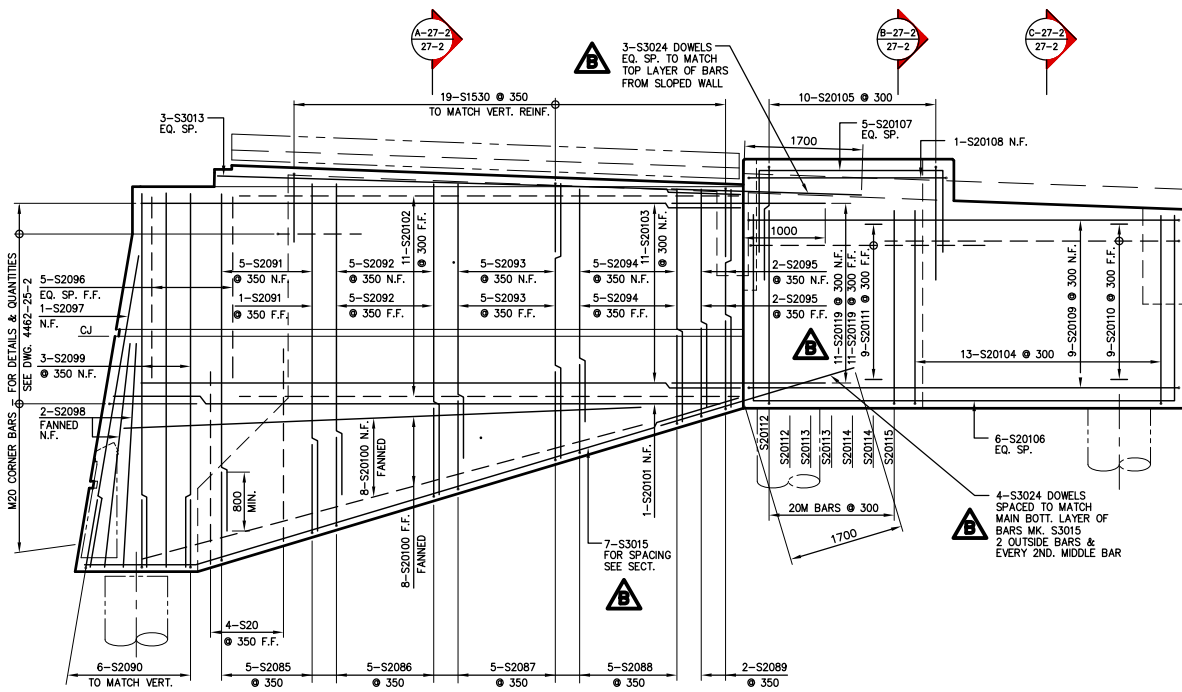
CITY DRAWING NUMBER: **B104-97-27-1**
SHEET **27-1** OF **60**

CONSULTANT DRAWING NO.: **4462-27-1 (58)**

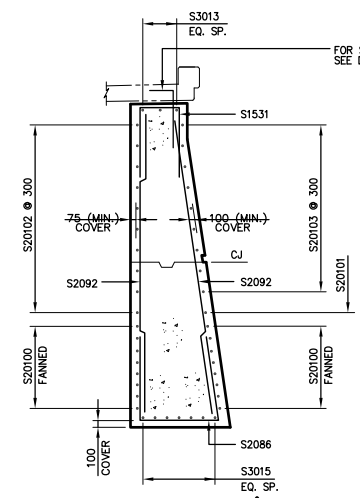
SOUTH ABUTMENT-CONCRETE WEST ELEVATION AND SECTION

D

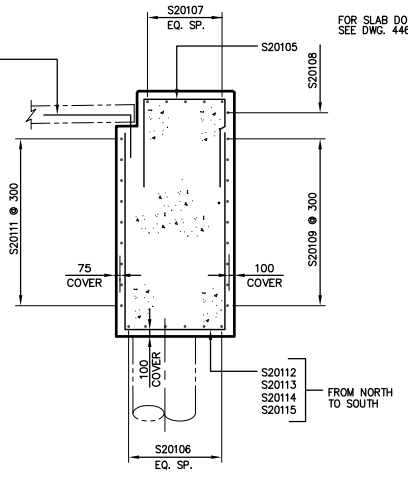
KGS FILE NO. 96-183-1027-1AC.DWG



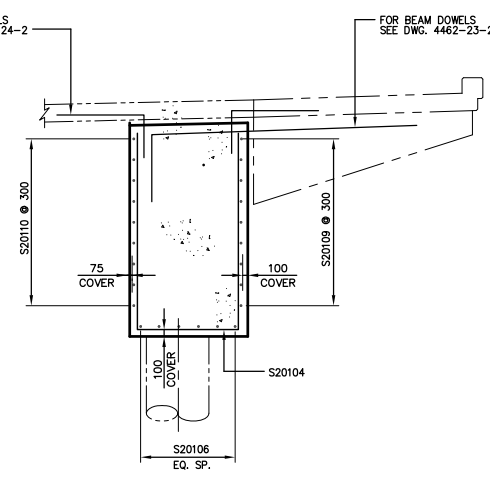
B ELEVATION-WEST WALL
1:50
LOOKING EAST



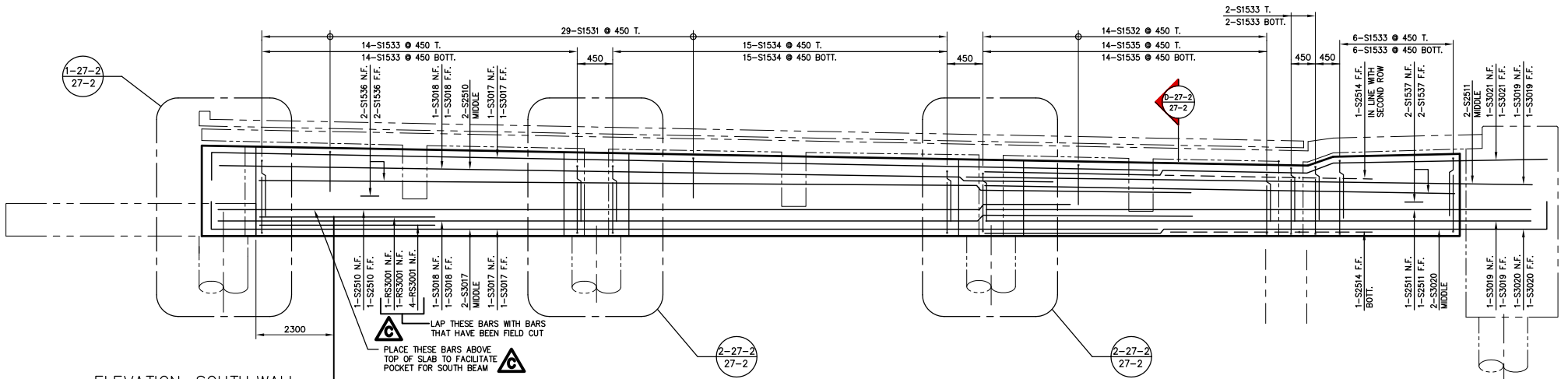
A SECTION (A-27-2)
1:50



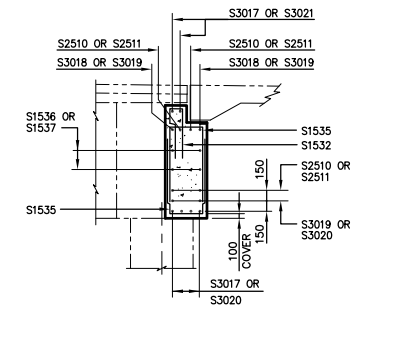
SECTION (B-27-2)
1:50



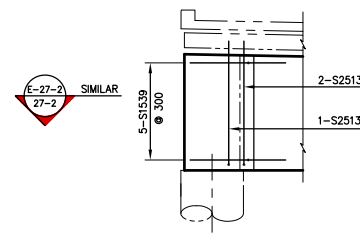
SECTION (C-27-2)
1:50



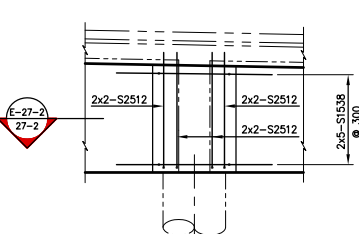
ELEVATION-SOUTH WALL
1:50
LOOKING SOUTH
INSIDE LOOKING OUT



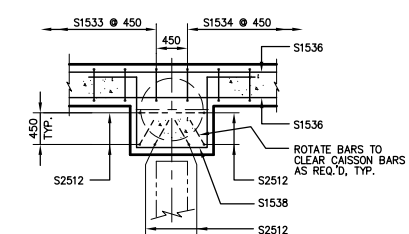
SECTION (D-27-2)
1:50



DETAIL (E-27-2)
1:50



DETAIL (F-27-2)
1:50



SECTION (G-27-2)
1:50

NOTE:
The original drawing used for construction was issued on May 09, 1997 by Bob Long. That drawing has been updated with construction revisions.

NOTE:
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AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES	
NO.	DATE

NOTE:

REVISIONS		
NO.	DATE	BY
D	99 01 20	JWB
C	97 07 10	JWB
B	97 07 03	JWB
A	97 05 09	JWB
0	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone: (204) 943-3178 Facsimile: (204) 943-9448

DESIGNED BY: **RL** DATE: CHECKED BY: **DBM** DATE: APPROVED BY: DATE: AUTHORIZED BY: DATE: ACCEPTED FOR P.C.I. CONTRACTORS CANADA INC. BY: DATE: R. QUENEN, P. ENG.

HOR. SCALE: **AS NOTED**
VERTICAL: **AS NOTED**
DATE: APRIL 1997

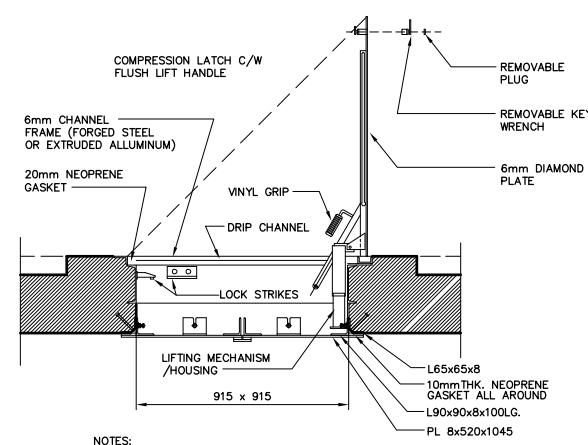
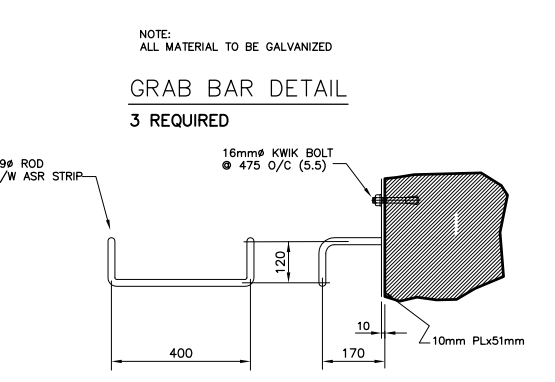
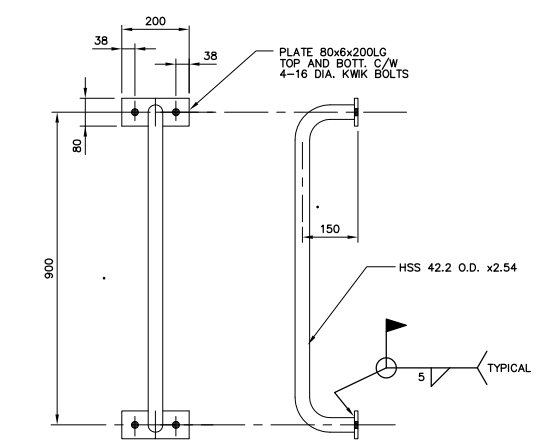
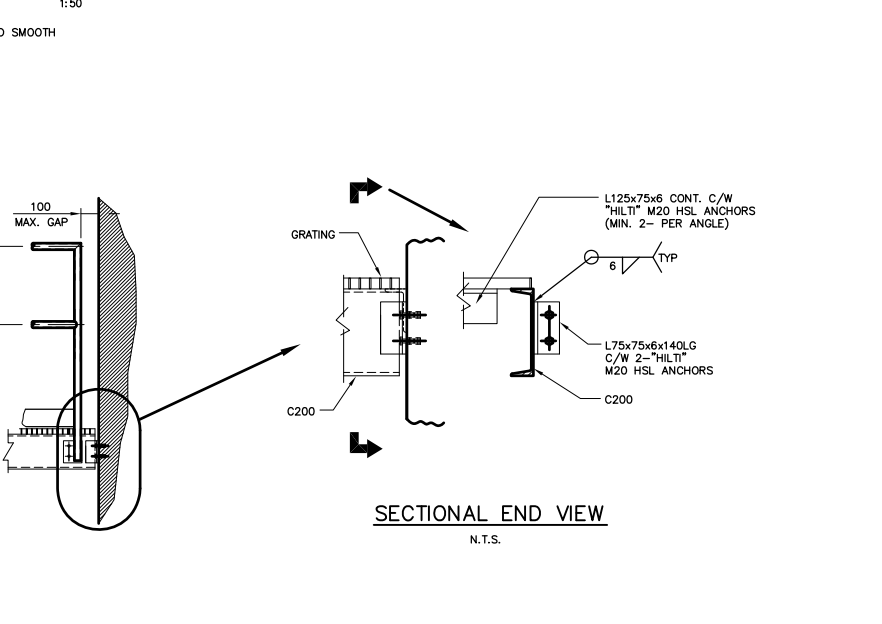
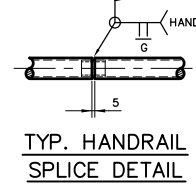
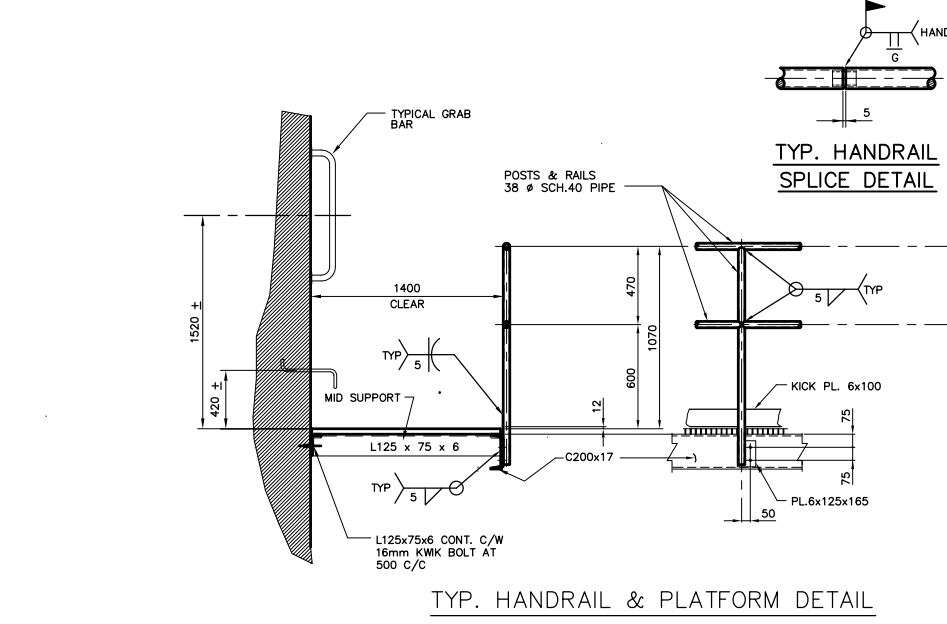
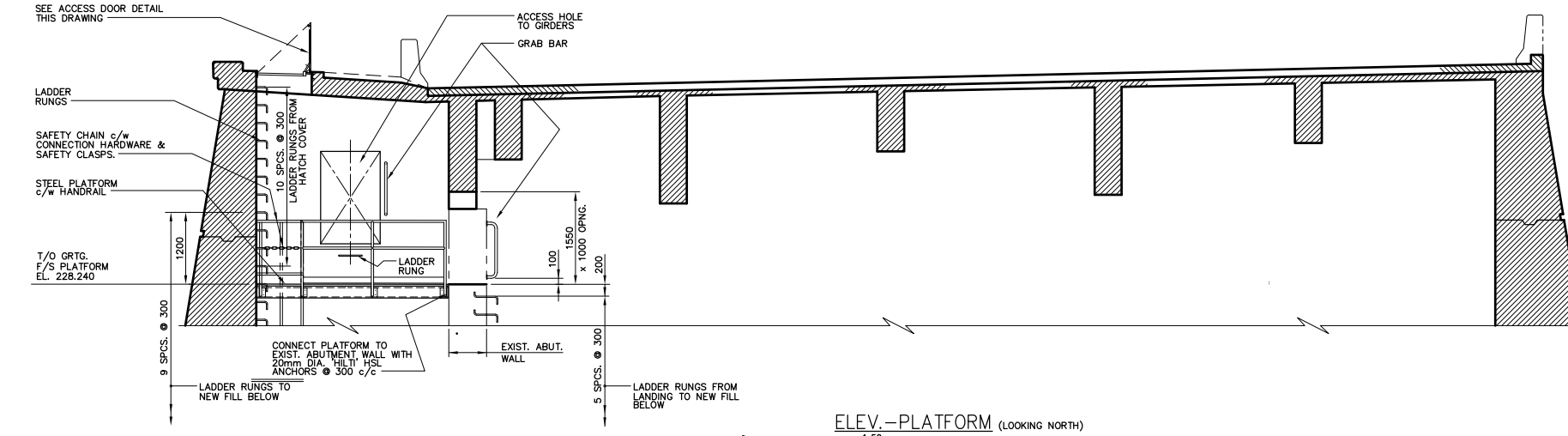
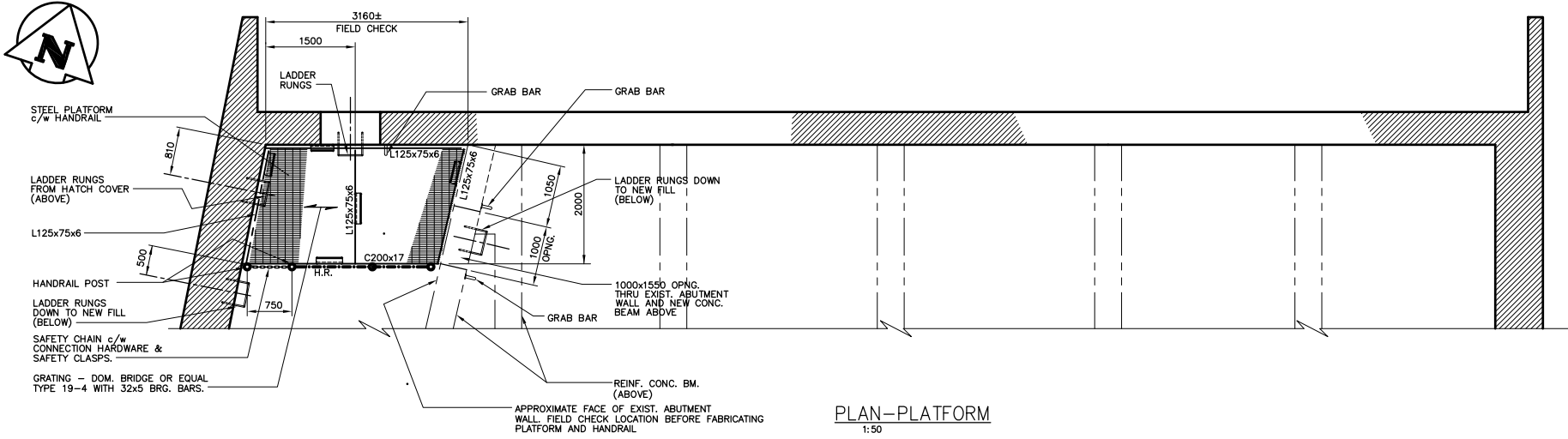


THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-97-27-2**
SHEET **27-2** OF **60**
DRAWING NUMBER: **D**

SOUTH ABUTMENT-REINFORCING WEST WALL AND SOUTH WALL



NOTES:
 1. ACCESS SHAFT TO BE FLOODTIGHT VAULT DOOR FLUSH-MOUNTED.
 2. ALL MATERIAL TO BE ALUMINUM. APPLY MINIMUM TWO COATS OF PAINT TO ALL SURFACES IN CONTACT WITH CONCRETE.
 3. HATCH TO BE TYPE J-4AL AB MANUFACTURED BY RICHARD-WILCOX OF CANADA LIMITED OR ACCEPTED EQUAL.

AS-CONSTRUCTED

METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES

NOTE:
 The original drawing used for construction was sealed on May 05, 1997 by Bob Long. That drawing has been updated with construction revisions.

NOTE:
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KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
 WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES

DATE: _____

NOTE:

NO.	REVISIONS	DATE	BY
B	"AS-CONSTRUCTED"	99 01 20	JWB
A	ISSUED FOR CONSTRUCTION	97 05 09	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
 Consulting Engineers - Planners - Transportation Consultants
 Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
 Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **RJ** CHECKED BY: **DBM** DATE: _____
 DRAWN BY: **J** APPROVED BY: _____ DATE: _____
 HORIZ. SCALE: **AS NOTED** AUTHORIZED BY: _____ DATE: _____
 VERTICAL: **AS NOTED** ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: _____ DATE: _____
 DATE: APRIL 1997 R. QUERVEN, P.ENG.

ENGINEER'S SEAL

R.J. LONG
 PROFESSIONAL ENGINEER

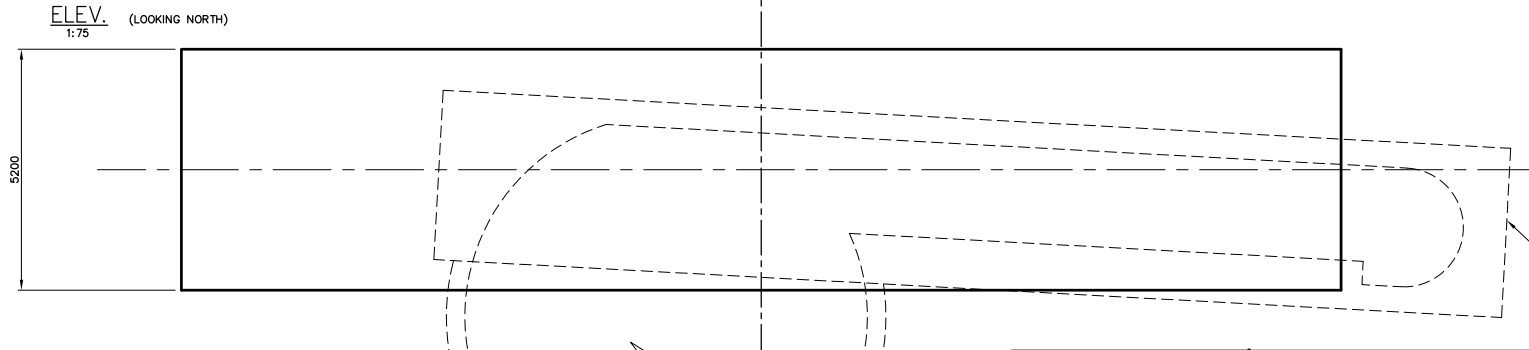
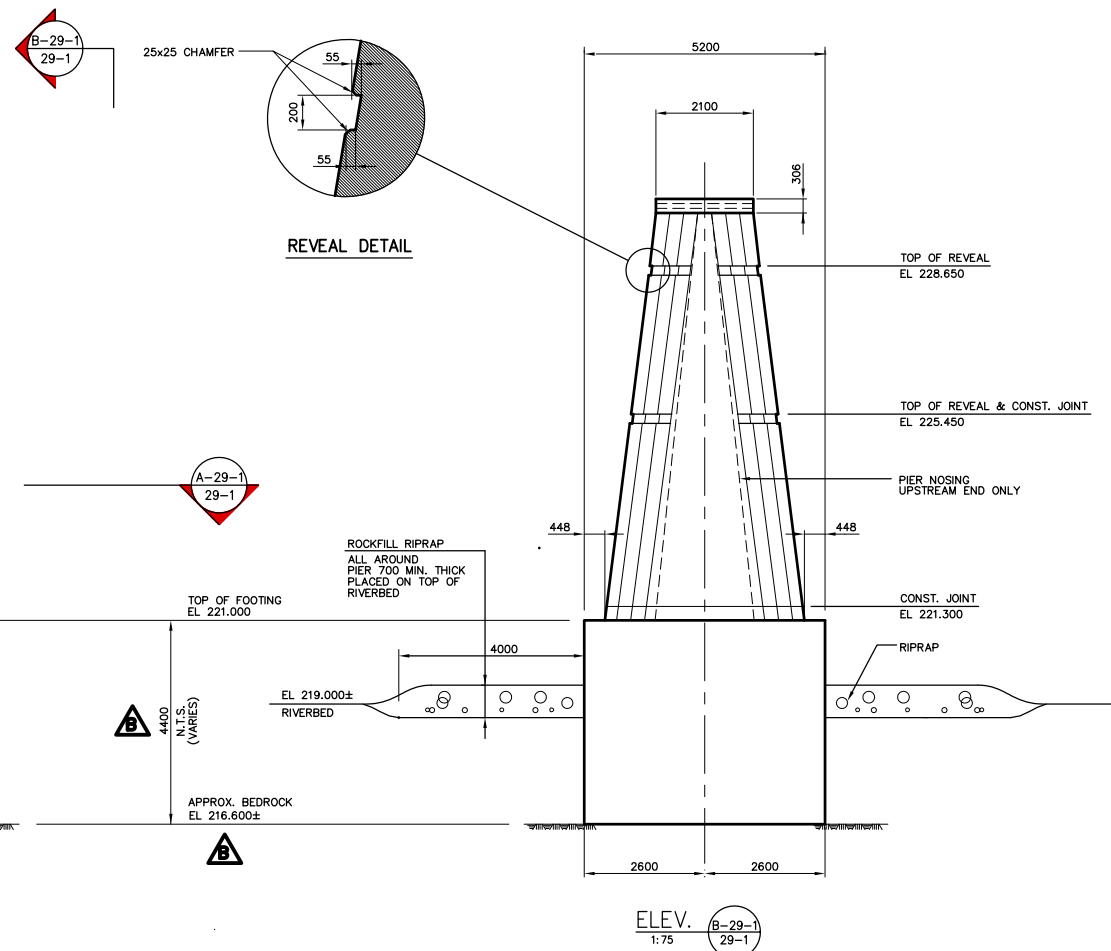
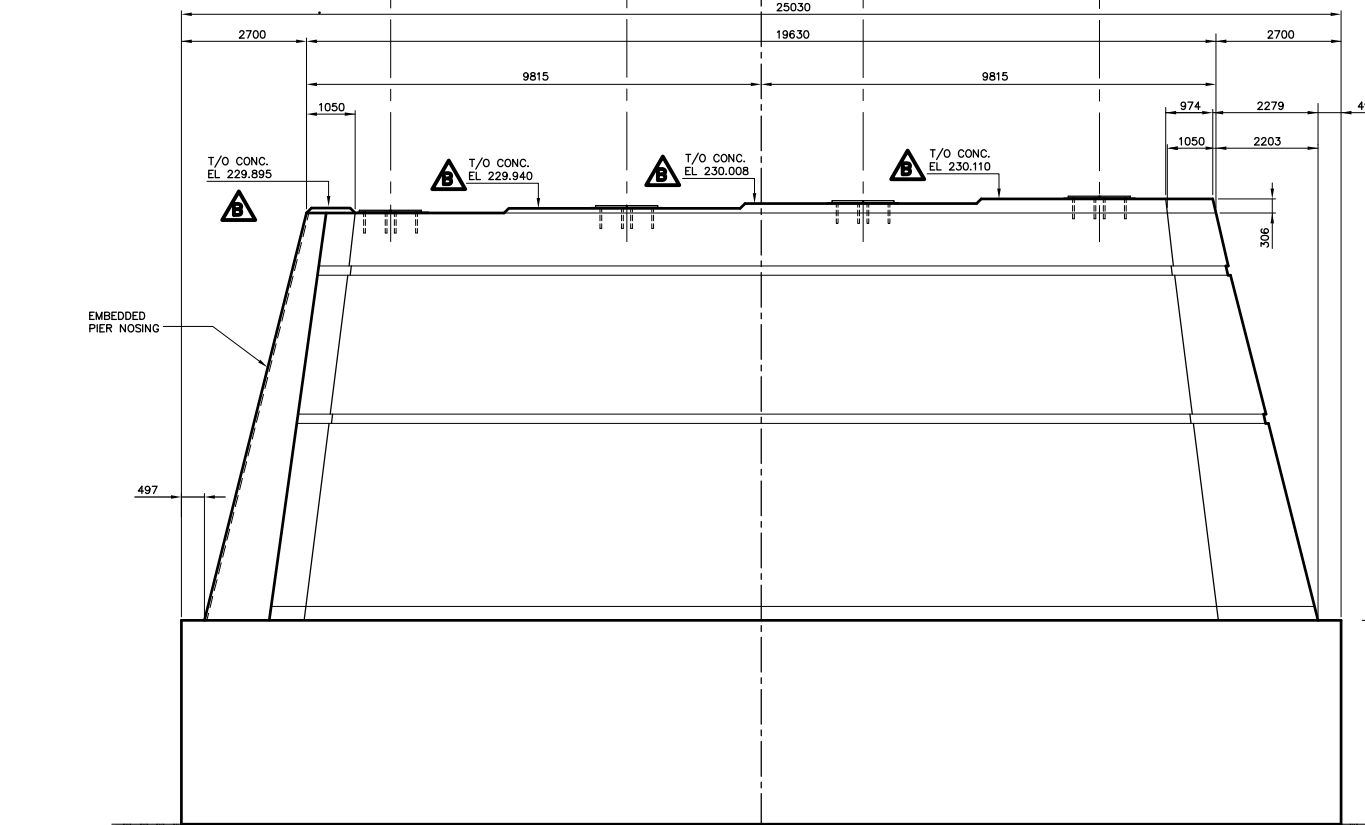
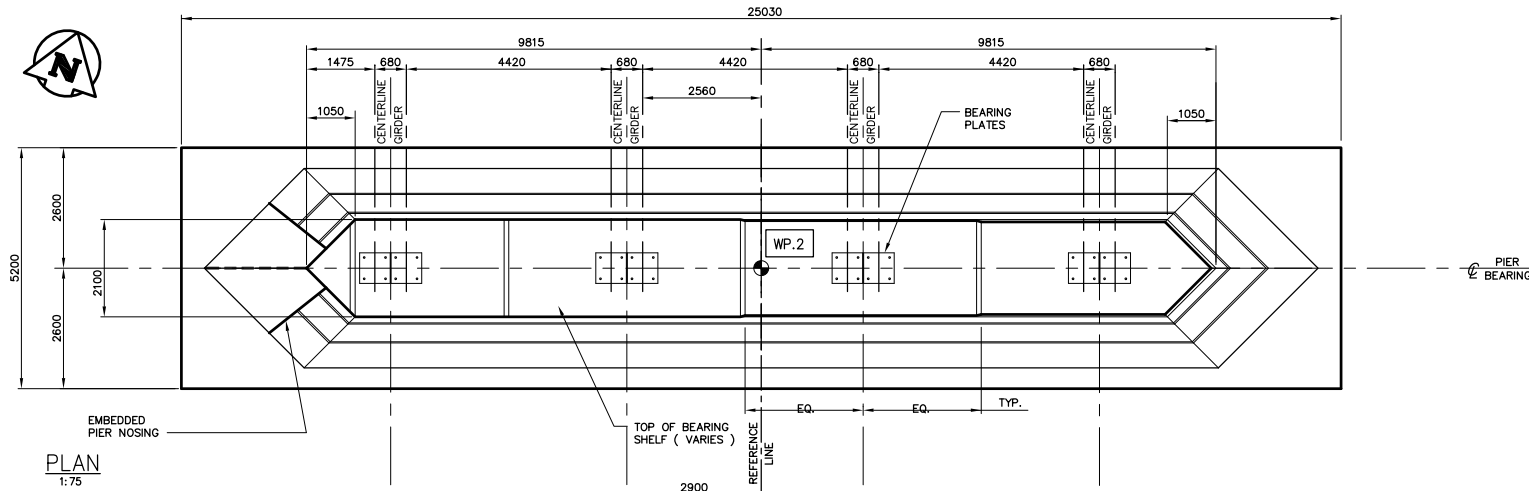
THE CITY OF WINNIPEG
 STREETS AND TRANSPORTATION DEPARTMENT
 BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
 MAIN STREET BRIDGE
 SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **B104-07-28**
 SHEET **28** OF **60**

SOUTH ABUTMENT CATWALK

CONSULTANT DRAWING NO. **4462-28 (SB)**



SECTION (A-29-1)
1:75

AS-CONSTRUCTED

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

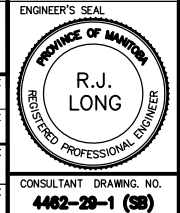
LOCATIONS APPROVED UNDERGROUND STRUCTURES

NO. REVISIONS DATE BY

C	"AS-CONSTRUCTED"	99 01 20	JWB
B	RE-ISSUED FOR CONSTRUCTION	97 01 27	JWB
A	ISSUED FOR CONSTRUCTION	96 12 16	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.J. LONG** CHECKED BY: **DBM** DATE: _____
DRAWN BY: **J** APPROVED BY: _____ DATE: _____
HORIZ. SCALE: **AS NOTED** AUTHORIZED BY: _____ DATE: _____
VERTICAL: **AS NOTED** ACCEPTED FOR P.C.I. CONSTRUCTORS CANADA INC. BY: _____ DATE: _____
DATE: DEC. 1996 R. DIERHSEN, P. ENG.



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-07-29-1**
SHEET: **29-1** OF **60**

CONSULTANT DRAWING NO.: **4462-29-1 (58)**

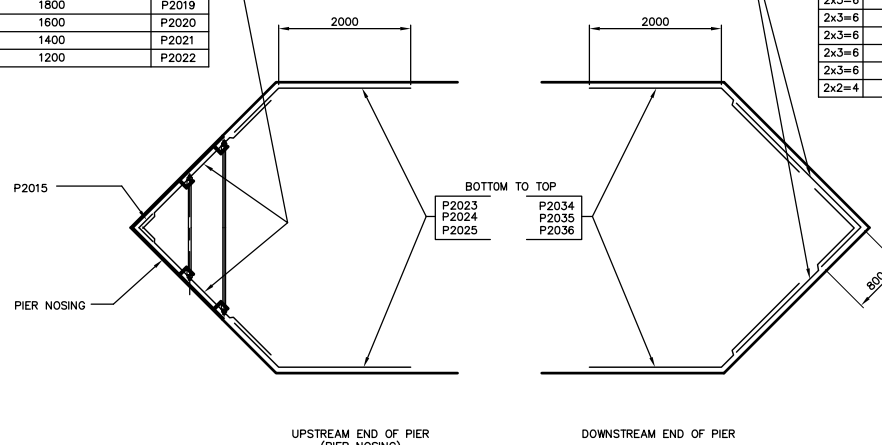
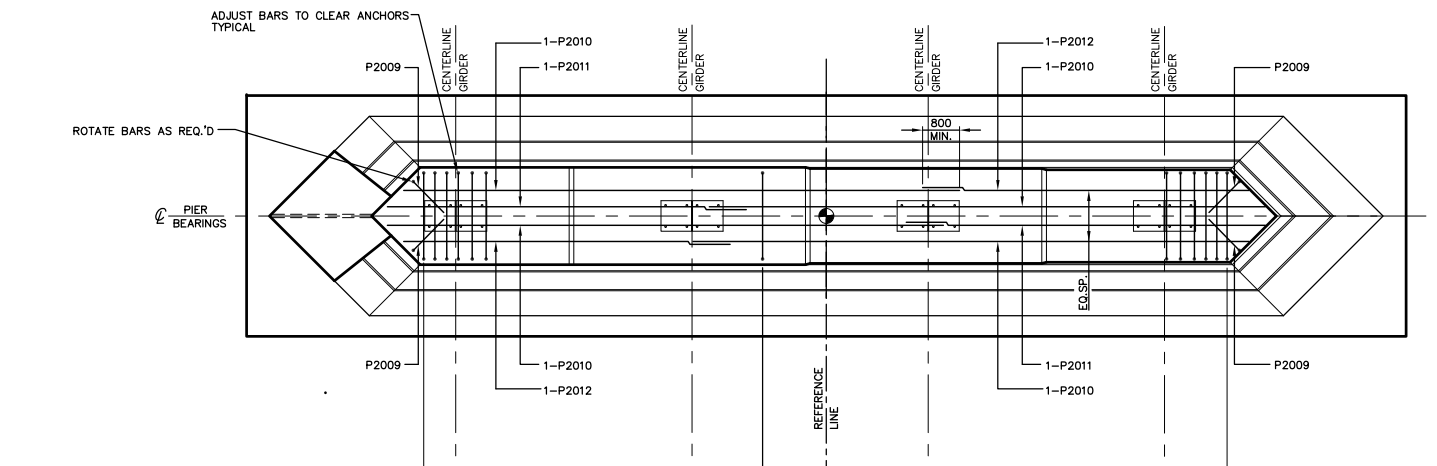
PIER CONCRETE

C

NOTE:
PLACE THESE BARS THROUGH ANGLES ON
ARMOUR PLATE BEFORE ERECTING PLATE.

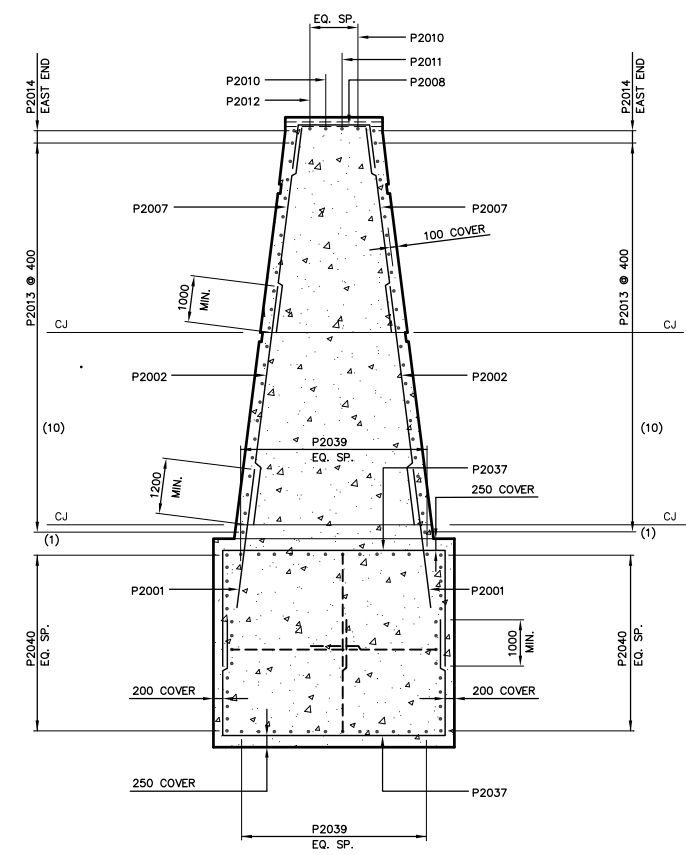
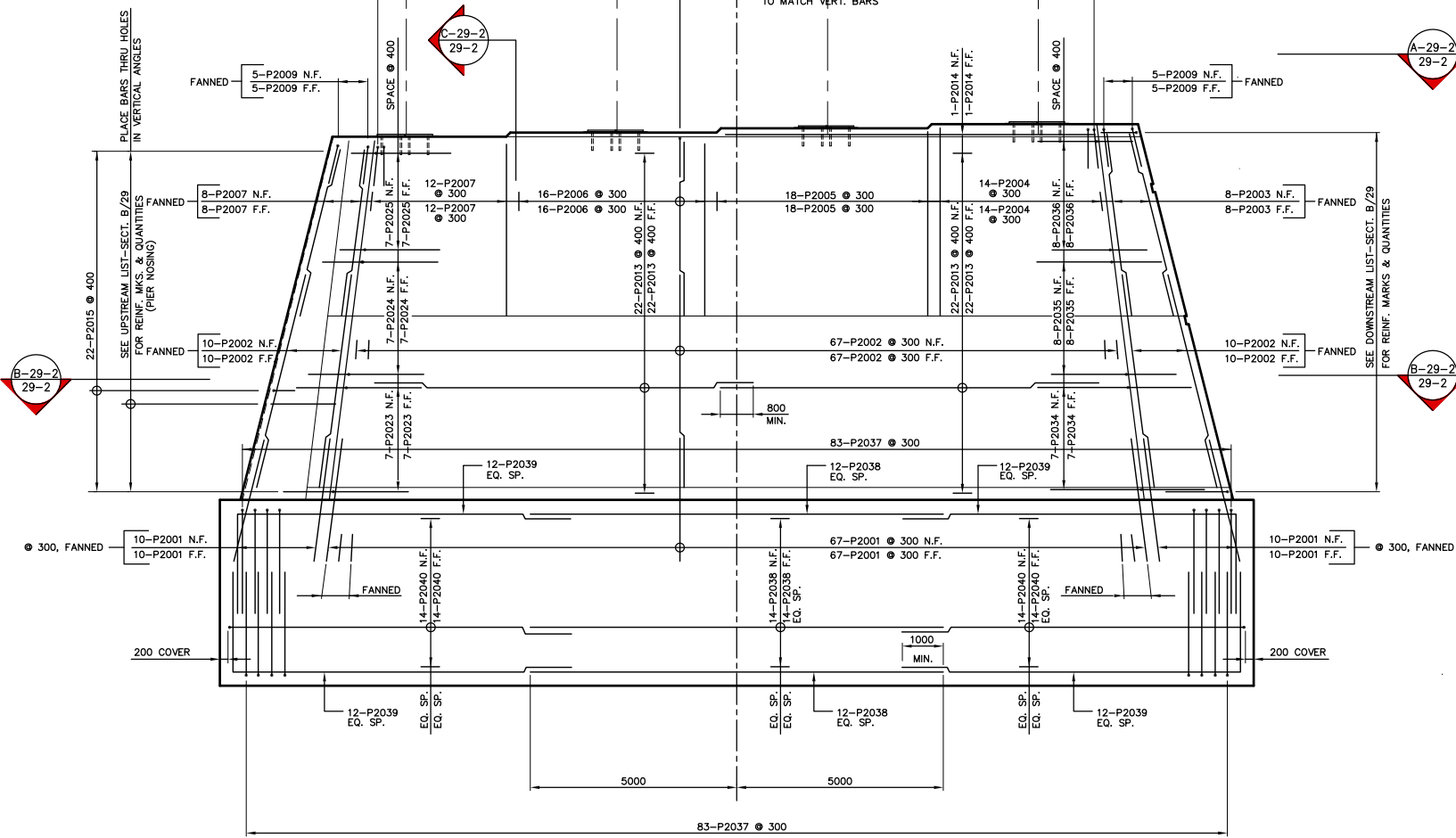
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2x3=6	2200	P2017
2x3=6	2000	P2018
2x3=6	1800	P2019
2x3=6	1600	P2020
2x3=6	1400	P2021
2x3=6	1200	P2022

QUANT.	"X"	MK.
2x3=6	2500	P2026
2x3=6	2200	P2027
2x3=6	1900	P2028
2x3=6	1700	P2029
2x3=6	1500	P2030
2x3=6	1300	P2031
2x3=6	1200	P2032
2x2=4	1100	P2033



PLAN A-29-2
1:75

SECT. B-29-2
1:75



ELEVATION
1:75

SECT. C-29-2
1:75

NOTE:
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issued on December 16, 1996 by Bob Long.
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construction revisions.

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

AS-CONSTRUCTED

LOCATIONS APPROVED
UNDERGROUND STRUCTURES

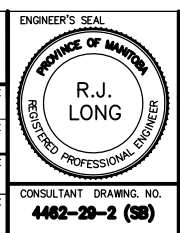
NO.	REVISIONS	DATE	BY
C	"AS-CONSTRUCTED"	99 01 20	JWB
B	RE-ISSUED FOR CONSTRUCTION	97 01 27	JWB
A	ISSUED FOR CONSTRUCTION	96 12 16	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

B.M. -
ELEV. -

DESIGNED BY	DATE	CHECKED BY	DATE
R.L.		DBM	
J.F.			

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY	DATE	CHECKED BY	DATE
R.L.		DBM	
J.F.			



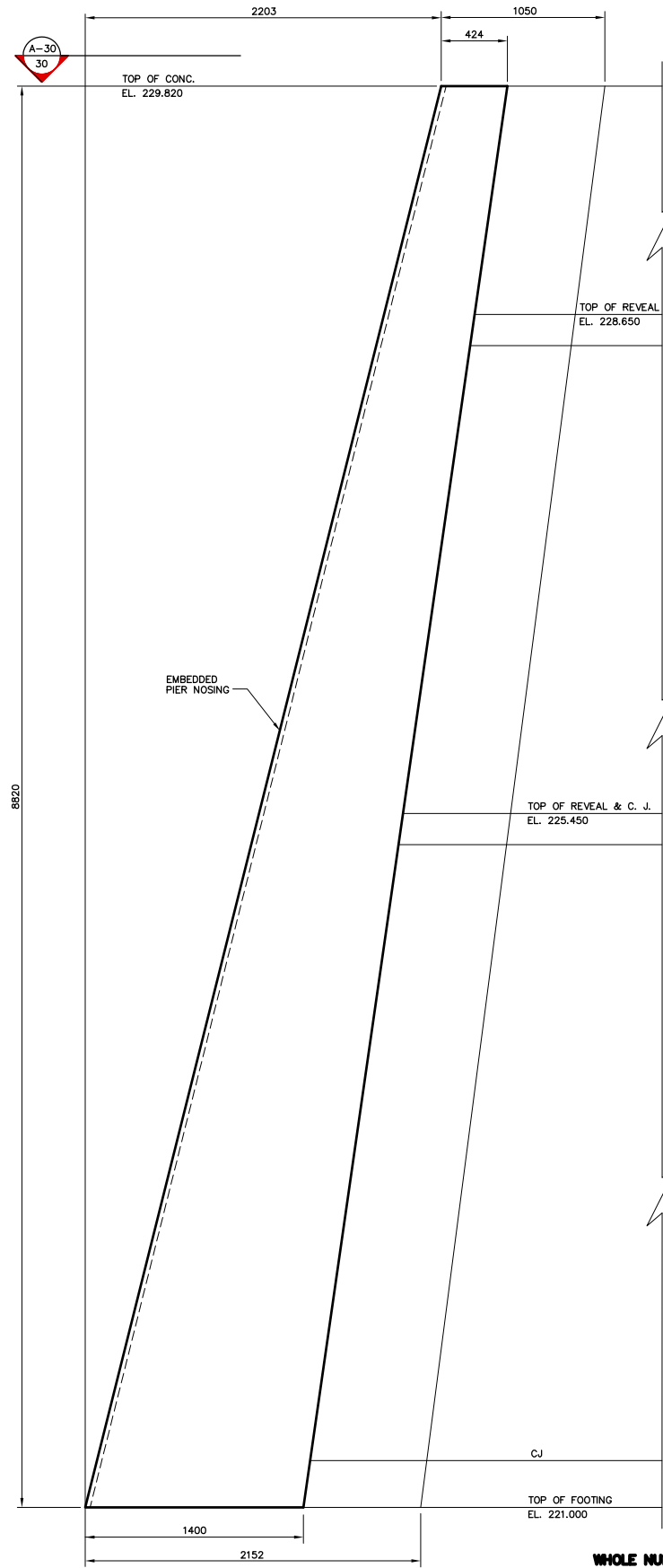
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS
PIER REINFORCING

CITY DRAWING NUMBER
B104-97-29-2
SHEET **29-2** OF **60**
C

CONSULTANT DRAWING NO.
4462-29-2 (58)

DATE DEC. 1996
R. QUERVEN, P. ENG.



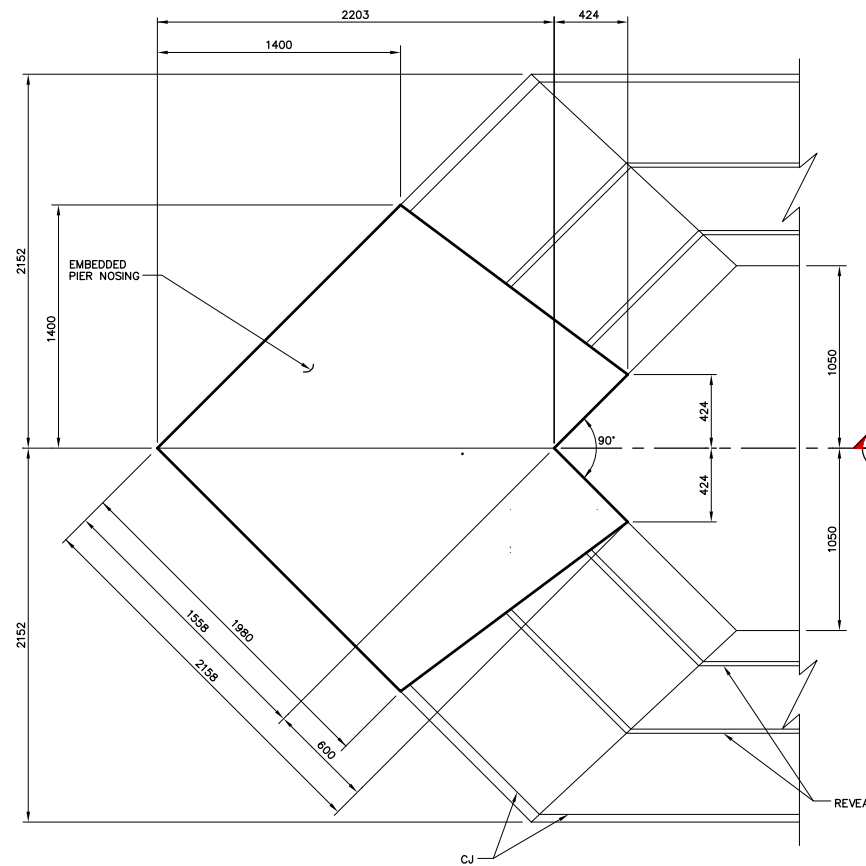
ELEVATION
1:20

NOTE:
The original drawing used for construction was issued on December 16, 1996 by Bob Long. That drawing has been updated with construction revisions.

NOTE:
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KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

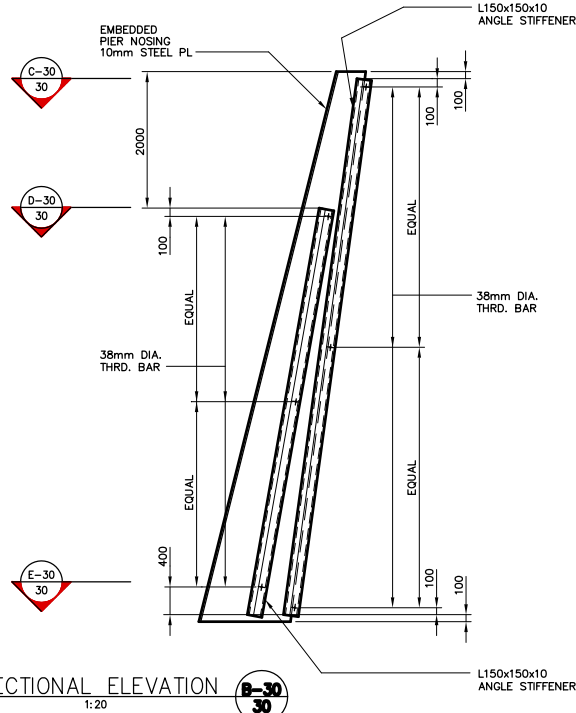


SECTION A-30
1:20

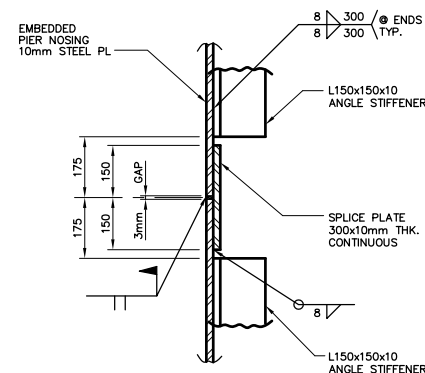
SECTION C-30
1:20

SECTION D-30
1:20

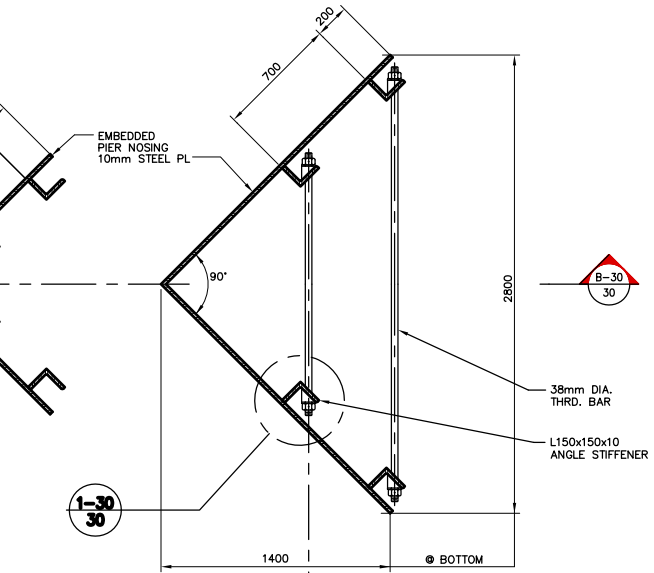
SECTION E-30
1:20



SECTIONAL ELEVATION B-30
1:20



OPTIONAL SPLICE DETAIL
1:10



DETAIL 1-30
1:10

AS-CONSTRUCTED

LOCATIONS APPROVED
UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY
C	"AS-CONSTRUCTED"	97 01 27	JWB
B	RE-ISSUED FOR CONSTRUCTION	97 01 27	JWB
A	ISSUED FOR CONSTRUCTION	96 12 16	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

B.M.	ELEV.

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3B1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: R.J. LONG	CHECKED BY: DBM	DATE: _____
DRAWN BY: J	APPROVED BY: _____	DATE: _____
HOR. SCALE: AS NOTED	AUTHORIZED BY: _____	DATE: _____
VERTICAL: AS NOTED	ACCEPTED FOR P.C.I. CONSTRUCTORS CANADA INC. BY: _____	DATE: _____
DATE: DEC. 1996	R. DIERSEN, P. ENG.	

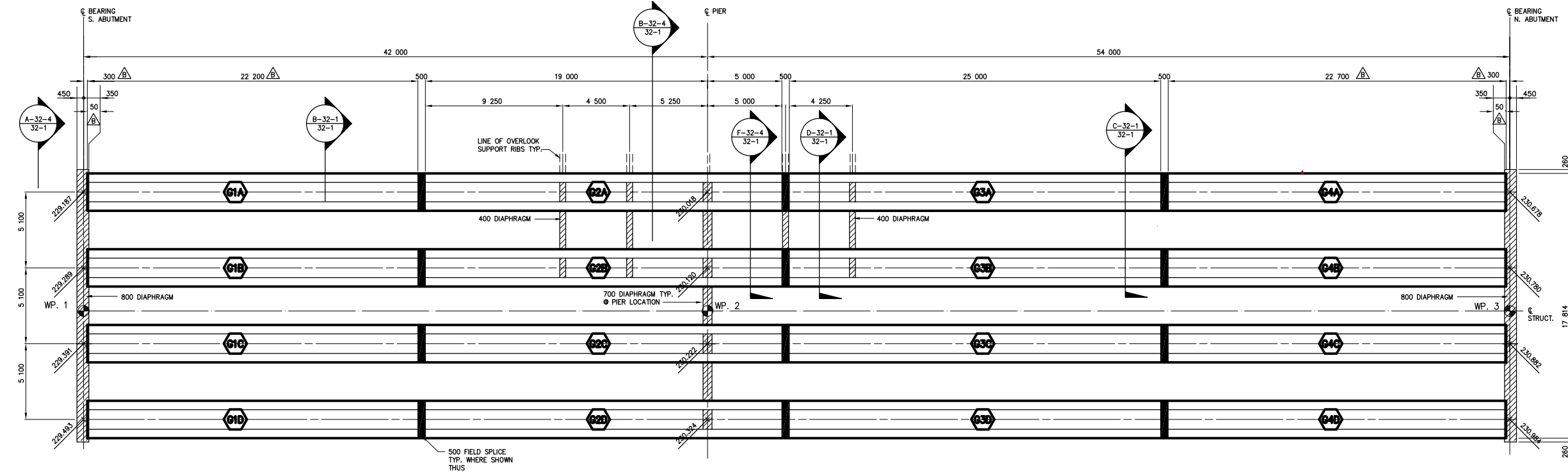
ENGINEER'S SEAL
R.J. LONG
PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

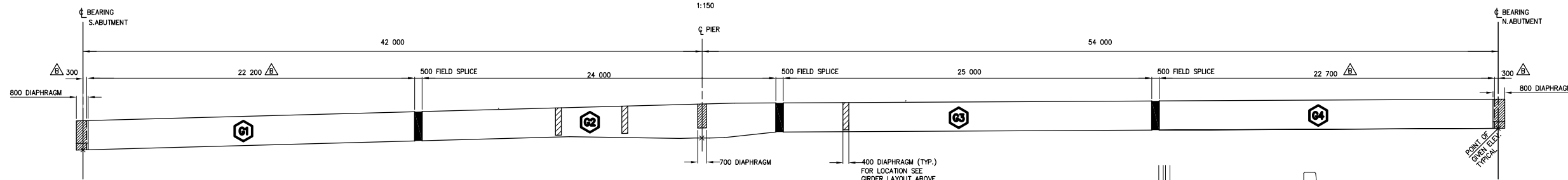
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOND AND RELATED ROADWORKS

MISCELLANEOUS METAL

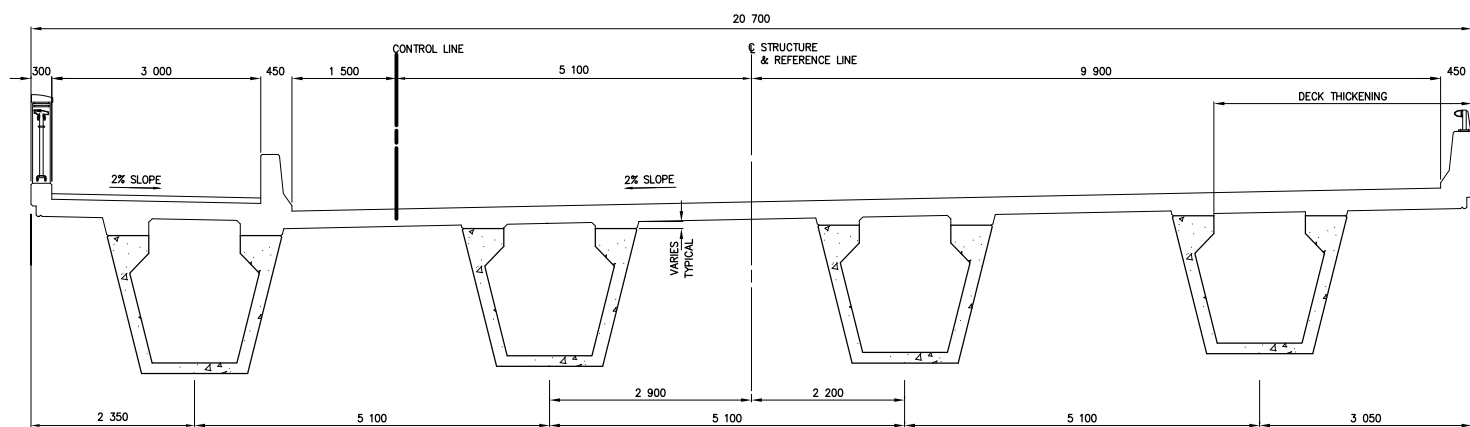
CITY DRAWING NUMBER B104-97-30
SHEET 30 OF 60
C



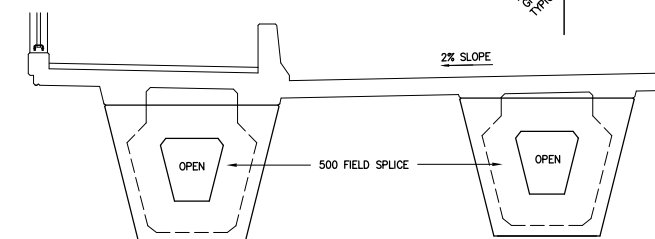
GIRDER LAYOUT
1:150



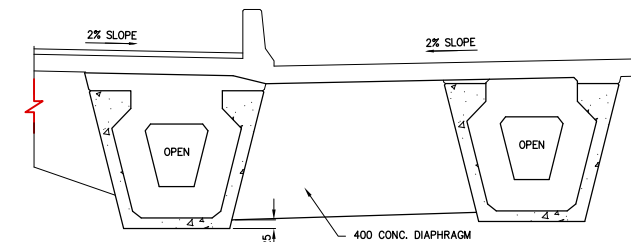
GIRDER ELEVATION
1:150



SECTION B-32-1
32-1
1:50



SECTION C-32-1
32-1
1:50



SECTION D-32-1
32-1
1:50

AS-CONSTRUCTED NOTES:

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 06 17 BY M.A.HATCH P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

NOTE:
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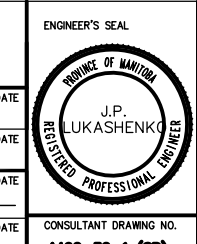
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY
D	AS CONSTRUCTED	98 12 01	JWB
C	ISSUED FOR CONSTRUCTION	97 06 17	JWB
B	DIMENSIONS REVISED	97 05 05	JWB
A	ISSUED FOR REVIEW	97 04 30	JWB

NO.	REVISIONS	DATE	BY
D	AS CONSTRUCTED	98 12 01	JWB
C	ISSUED FOR CONSTRUCTION	97 06 17	JWB
B	DIMENSIONS REVISED	97 05 05	JWB
A	ISSUED FOR REVIEW	97 04 30	JWB

DESIGNED BY	CHECKED BY	DATE
MAH	JWB	
DRAWN BY	APPROVED BY	DATE
RCS		
AUTHORIZED BY	DATE	
B. EBENFANGER P.ENG./SENIOR BRIDGE ENGINEER		
ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY	DATE	
R. DUERKSEN, P.ENG.		



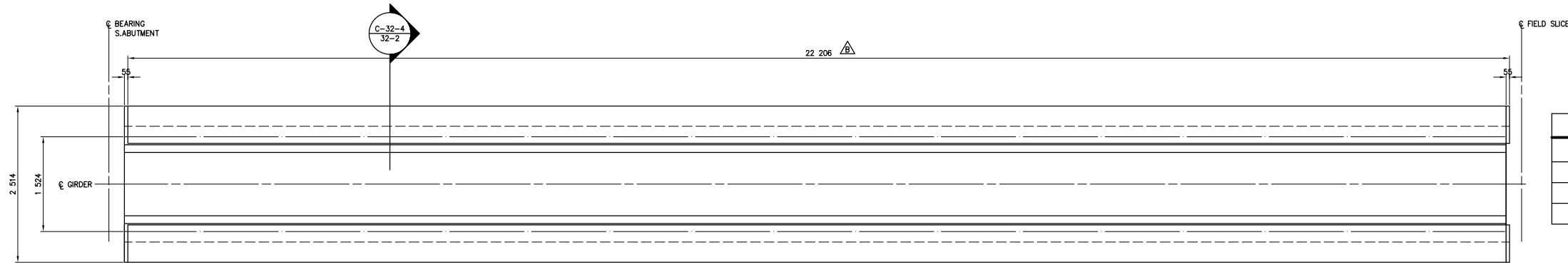
DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

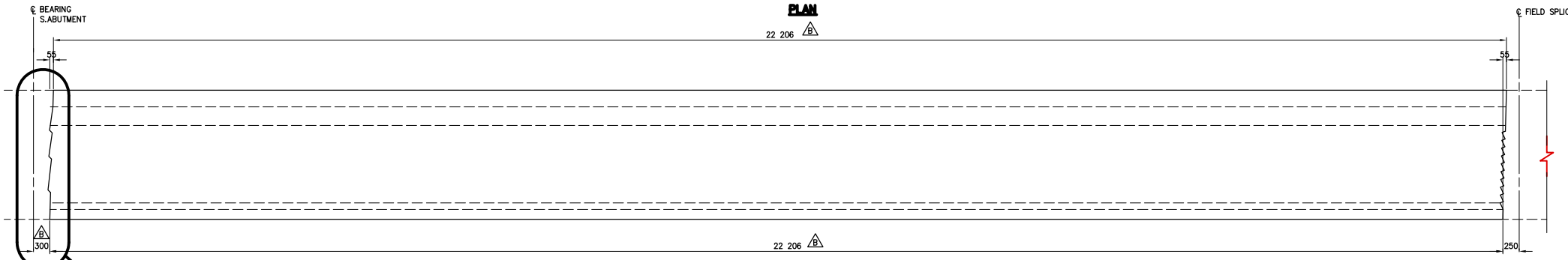
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CONSULTANT DRAWING NO.
4462-32-1 (5B)

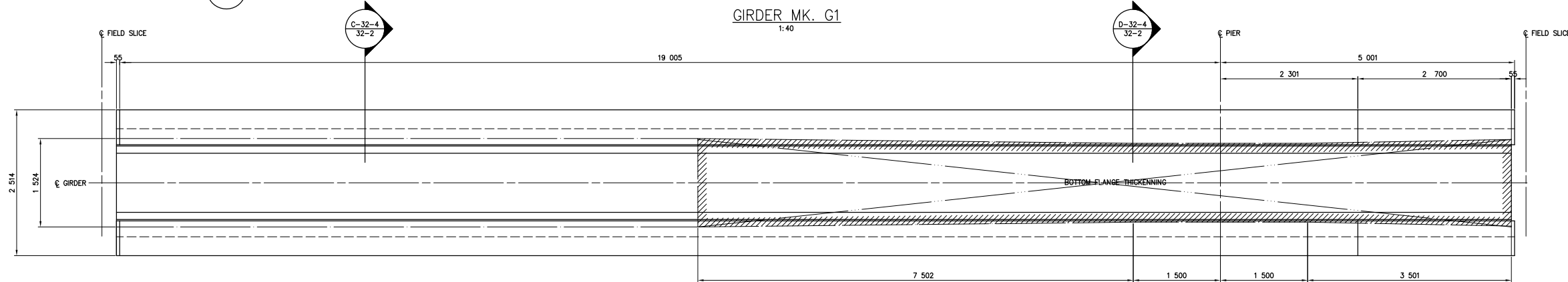
CITY DRAWING NUMBER
B104-07-32-1
SHEET OF
32-1 -
D



CONCRETE STRENGTH	
GIRDER	f _c
G1, G3, G4	60 MPa
G2A, G2B, G2C	64 MPa
G2D	68 MPa



GIRDER MK. G1
1:40



GIRDER MK. G2
1:40

AS-CONSTRUCTED NOTES

1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 06 17 BY M.A. HATCH P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

NOTE:
DIMENSIONS SHOWN ARE ACTUAL GIRDER LENGTHS AFTER ELASTIC SHORTENING DUE TO POST-TENSIONING.

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES

N.A.

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTANCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION

NO.	REVISIONS	DATE	BY
D	AS CONSTRUCTED	98 12 01	JWB
C	ISSUED FOR CONSTRUCTION	97 06 17	JWB
B	DIMENSIONS REVISED	-	JWB
A	ISSUED FOR REVIEW	97 04 30	JWB

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Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: MH	CHECKED BY: JWB	DATE
DRAWN BY: RCS	APPROVED BY:	DATE
HORIZ. SCALE: AS SHOWN		DATE
VERT. SCALE:		DATE
DATE: APRIL 1997		DATE

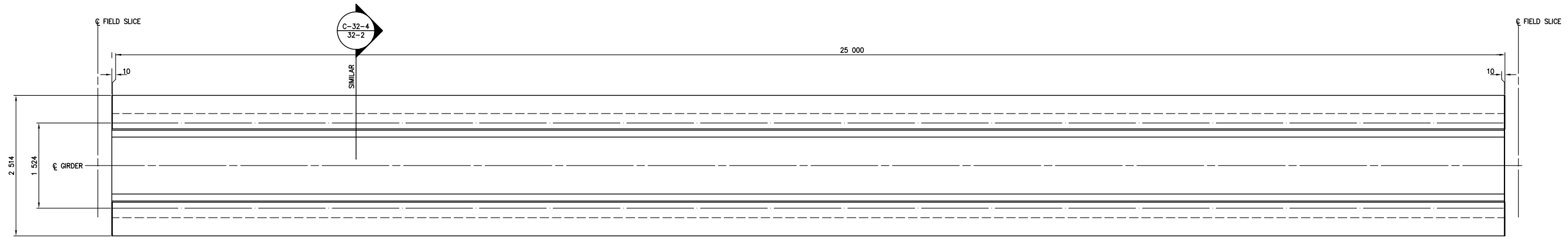
ENGINEER'S SEAL
J.P. LUKASHENKO
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

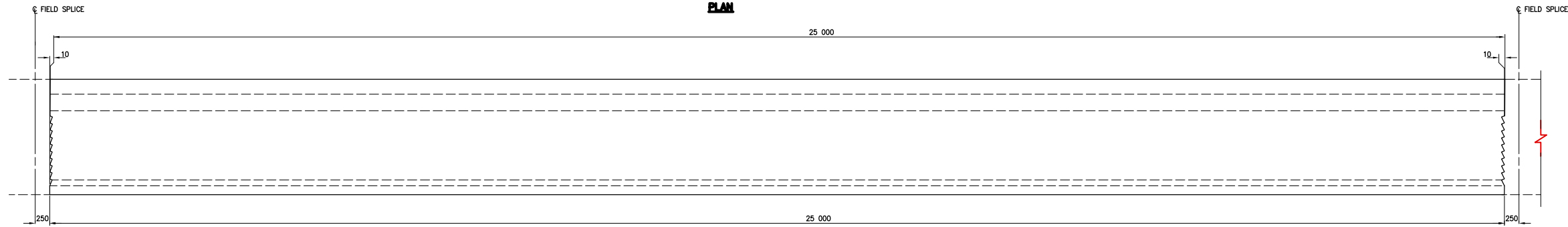
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CONSULTANT DRAWING NO. **4462-32-2 (SB)**

CITY DRAWING NUMBER B-104-87-32-2
SHEET OF 32-2 -
D

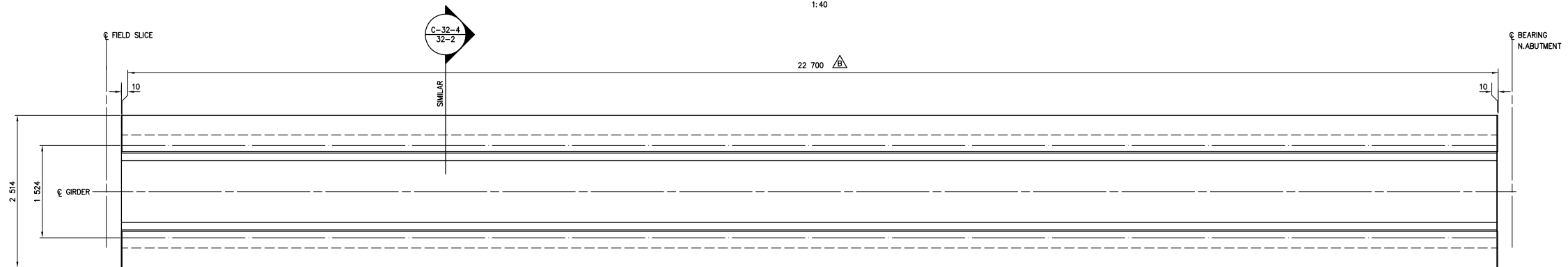


PLAN

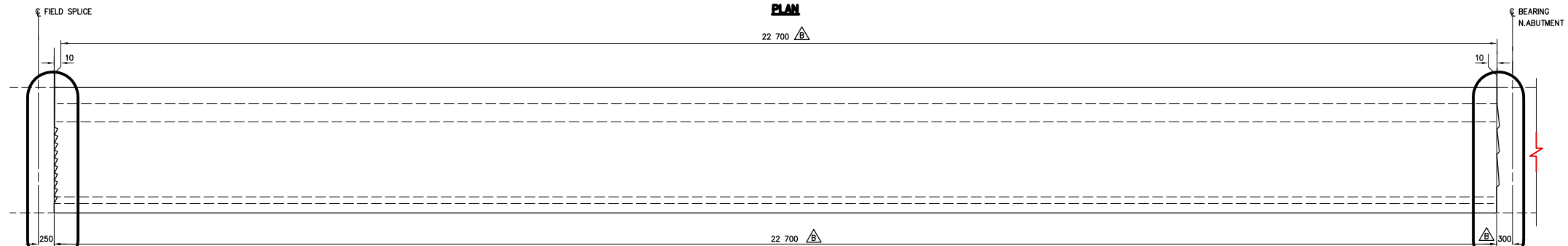


ELEVATION

GIRDER MK. G3
1:40



PLAN



ELEVATION

GIRDER MK. G4
1:40

DETAIL 2-32-4 / 32-2
SIMILAR

DETAIL 3-32-4 / 32-2
SIMILAR

AS-CONSTRUCTED NOTES:

1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 06 17 BY M.A.HATCH P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

NOTE: DIMENSIONS SHOWN ARE ACTUAL GIRDER LENGTHS AFTER ELASTIC SHORTENING DUE TO POST-TENSIONING.

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AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

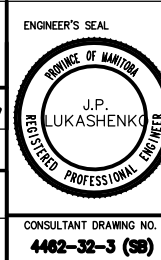
LOCATIONS APPROVED UNDERGROUND STRUCTURES

N.A.
SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION

NO.	REVISIONS	DATE	BY	DATE
D	AS CONSTRUCTED	98 12 01	JWB	
C	ISSUED FOR CONSTRUCTION	97 06 17	JWB	
B	DIMENSIONS REVISED	97 05 05	JWB	
A	ISSUED FOR REVIEW	97 04 30	JWB	

DESIGNED BY: MH		CHECKED BY: JWB 97 06 17	
DRAWN BY: RCS		APPROVED BY: _____ DATE _____	
HOR. SCALE: AS SHOWN		AUTHORIZED BY: _____ DATE _____	
VERT. SCALE: _____		B. EBENPANGER P.ENG./SENIOR BRIDGE ENGINEER	
DATE: APRIL 1997		ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: _____ DATE _____	
		R. DUERIKSEN, P.ENG.	



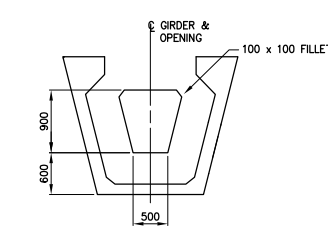
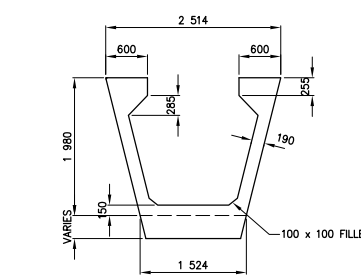
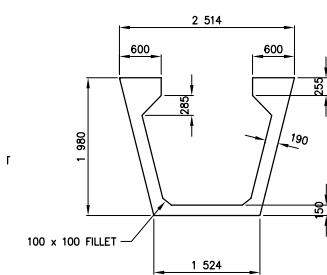
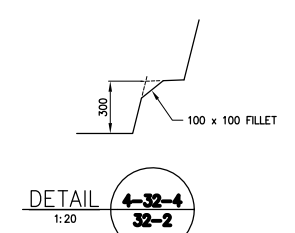
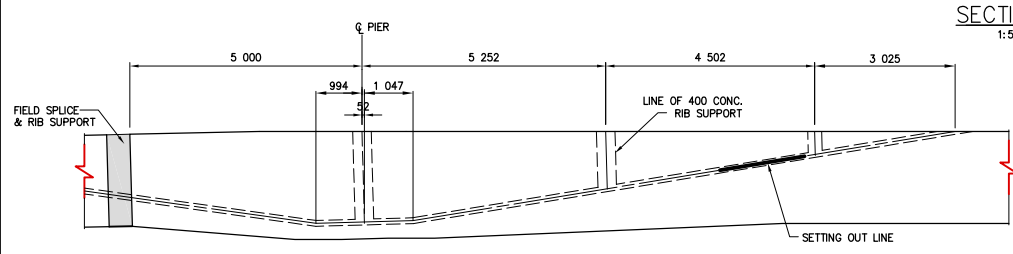
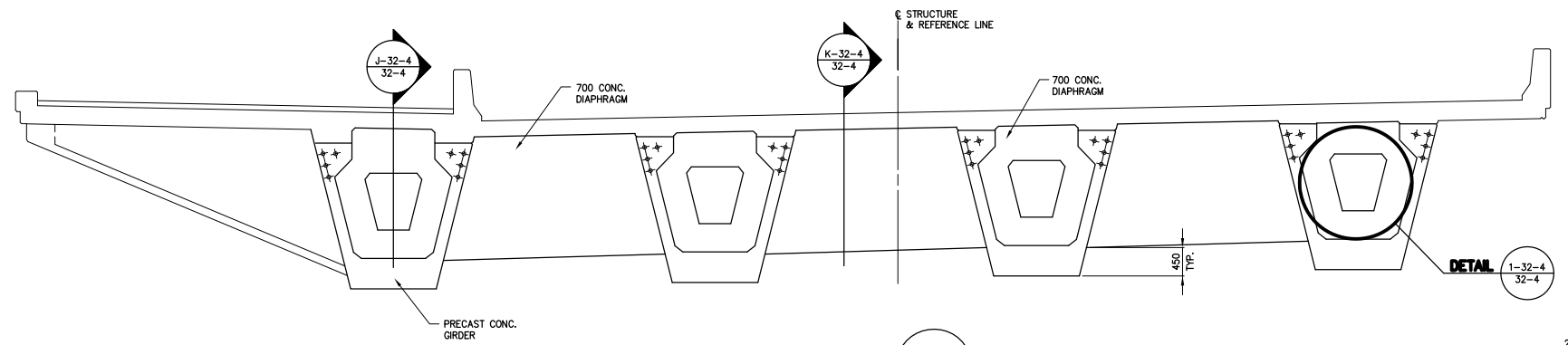
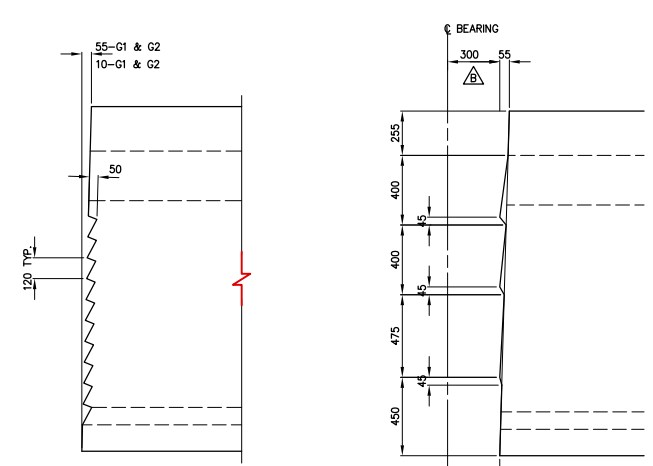
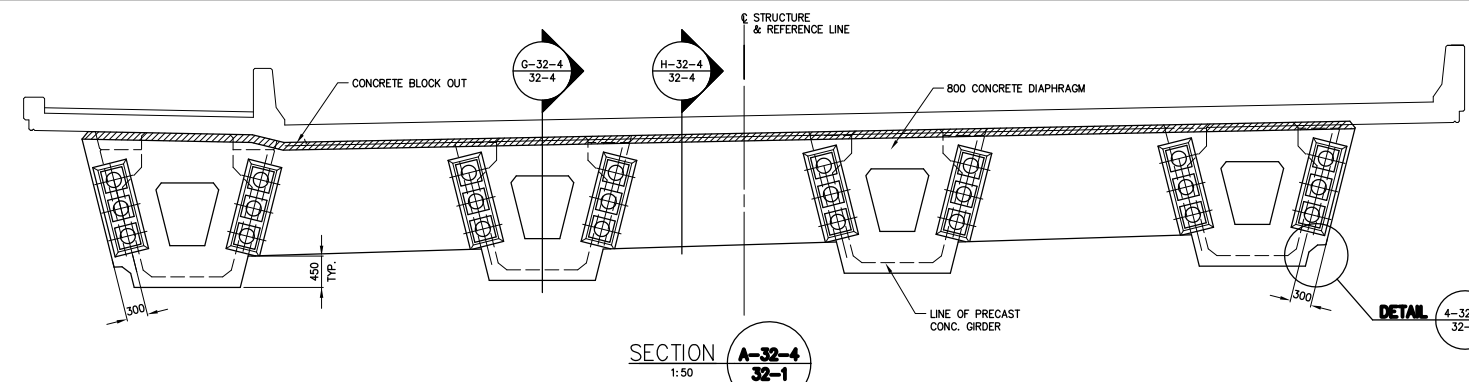
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

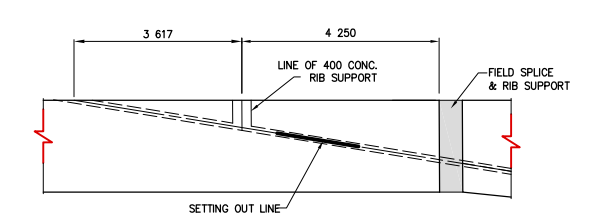
CONSULTANT DRAWING NO. **4462-32-3 (SB)**

CITY DRAWING NUMBER **8104-87-32-3**
SHEET OF **32-3** -
D

C:\2010\4462-301\446232-4 Date: 07/22/97

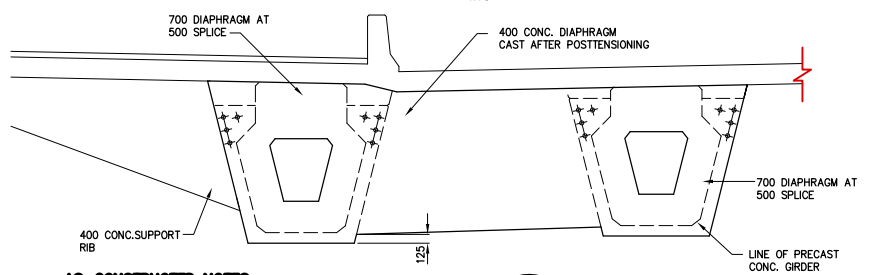


GIRDER G2A

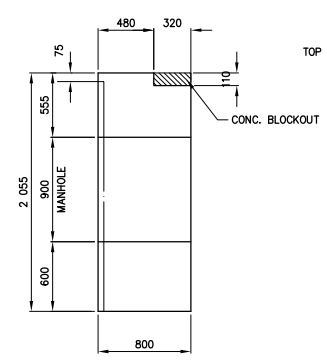


GIRDER G3A

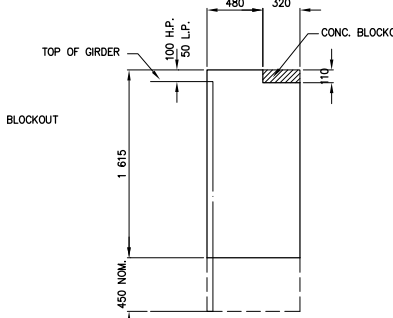
SOFFIT LAYOUT



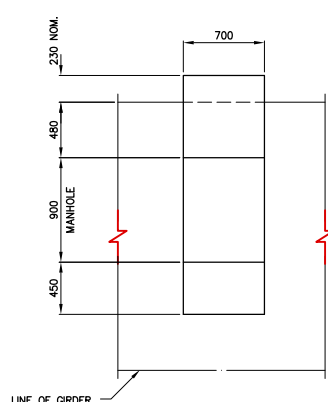
SECTION F-32-4 32-1



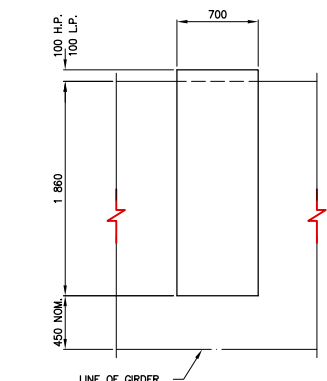
SECTION C-32-4 32-4



SECTION H-32-4 32-4



SECTION J-32-4 32-4



SECTION K-32-4 32-4

AS-CONSTRUCTED NOTES

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 06 17 BY M.A.HATCH P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

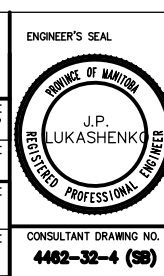
NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

NO.	REVISIONS	DATE	BY	DATE
E	AS CONSTRUCTED	98 12 01	JWB	
D	INSERT LAYOUT REVISED	97 07 15	JWB	
C	ISSUED FOR CONSTRUCTION	97 06 17	JWB	
B	DIMENSIONS REVISED	97 05 05	JWB	
A	ISSUED FOR REVIEW	97 04 30	JWB	

DESIGNED BY: MH		CHECKED BY: JWB 97 06 17	
DRAWN BY: RCS		APPROVED BY: _____ DATE _____	
HOR. SCALE: AS SHOWN		AUTHORIZED BY: _____ DATE _____	
VERT. SCALE: _____		ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: _____ DATE _____	
NO. _____		R. DUERKSEN, P.ENG.	

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

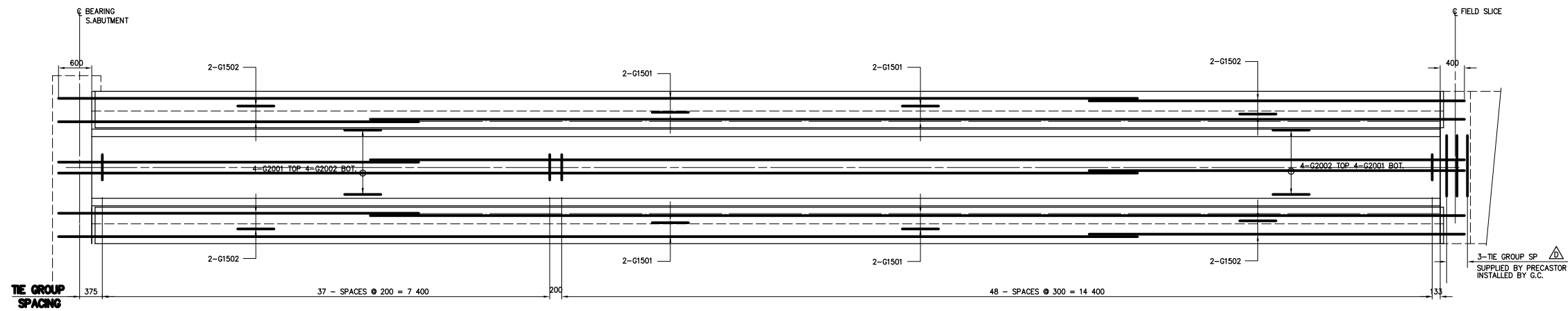
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **8104-87-32-4**
SHEET **32-4** OF **-**

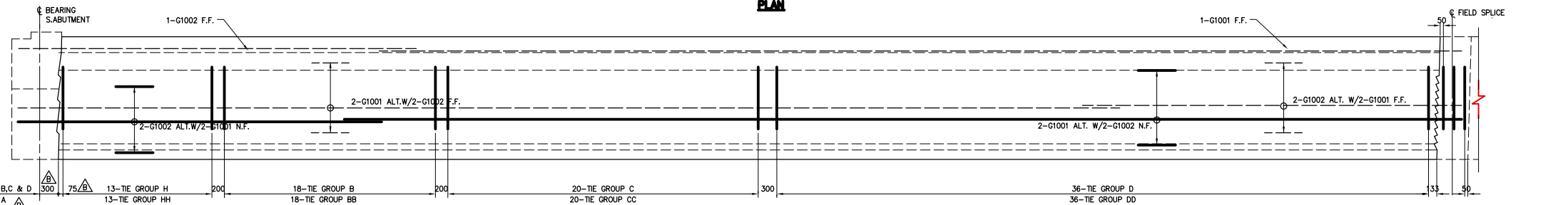
CONSULTANT DRAWING NO. **4462-32-4 (SB)**

CONCRETE GIRDER SECTIONS AND DETAILS

E

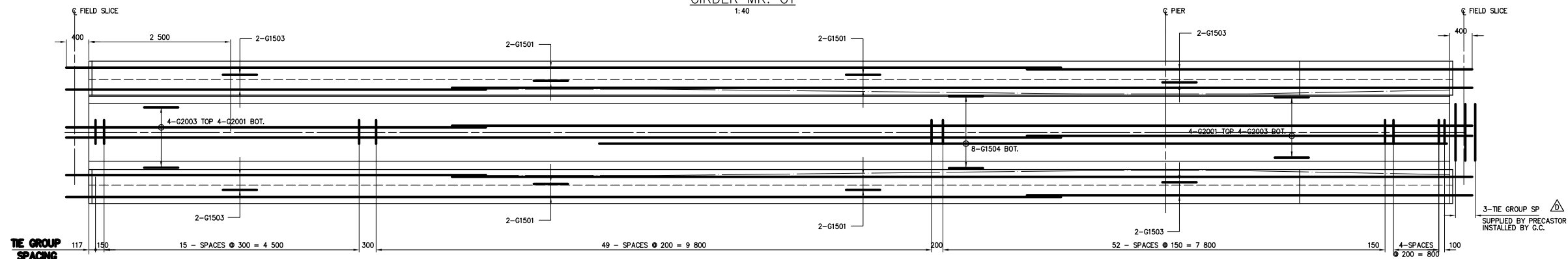


PLAN

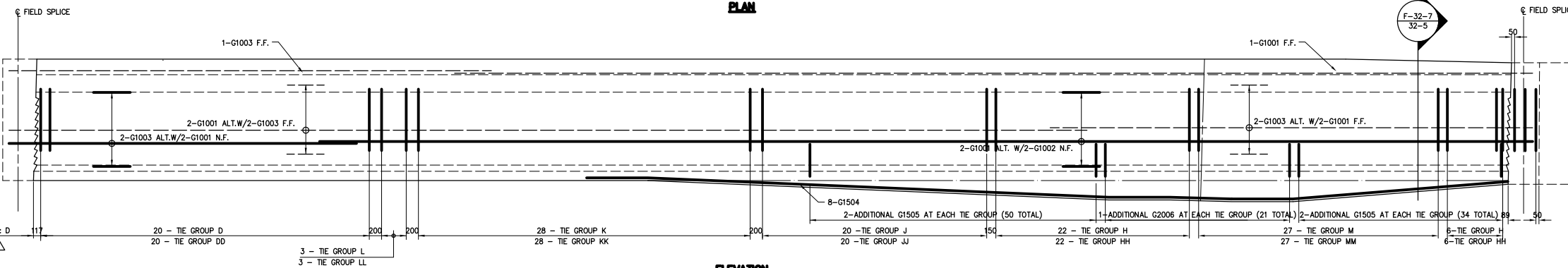


ELEVATION
GIRDERS MK. G1
1:40

TIE GROUP TYPES
 GRDERS MARKED B,C & D
 GRDERS MARKED A



PLAN



ELEVATION
GIRDERS MK. G2
1:40

TIE GROUP TYPES
 GRDERS MARKED B,C & D
 GRDERS MARKED A

AS-CONSTRUCTED NOTES:

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 17 BY M.A.HATCH P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

NOTE:
 FOR TIE GROUP BAR DESIGNATION SEE DWG. 4462-32-7

NOTE:
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METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES

N.A.
 SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:
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NO.	REVISIONS	DATE	BY	DATE
E	AS CONSTRUCTED	98 12 01	JWB	
D	SPUCE TIE GROUP REVISED	97 10 14	JWB	
C	ISSUED FOR CONSTRUCTION	97 05 23	JWB	
B	REVISED AS MARKED	97 05 05	JWB	
A	ISSUED FOR REVIEW	97 04 30	JWB	

DS-Lea Consultants Ltd.
 Consulting Engineers - Planners - Transportation Consultants
 Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
 Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: MAH	CHECKED BY: JWB	DATE
DRAWN BY: RCS	APPROVED BY:	DATE
HOR. SCALE: AS SHOWN	AUTHORIZED BY:	DATE
VERT. SCALE:	B. EBENSPANZER P.ENG./SENIOR BRIDGE ENGINEER	DATE
	ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: R. DUERKSEN, P.ENG.	DATE

ENGINEER'S SEAL

J.P. LUKASHENKO
 REGISTERED PROFESSIONAL ENGINEER

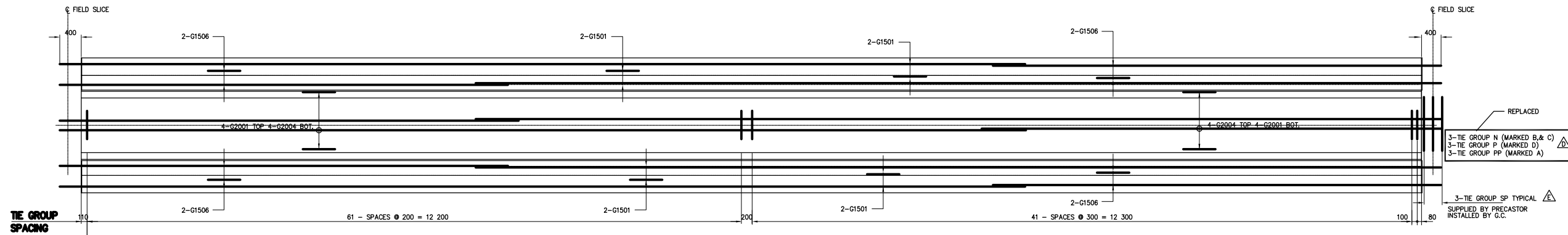
THE CITY OF WINNIPEG
 STREETS AND TRANSPORTATION DEPARTMENT
 BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
 MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

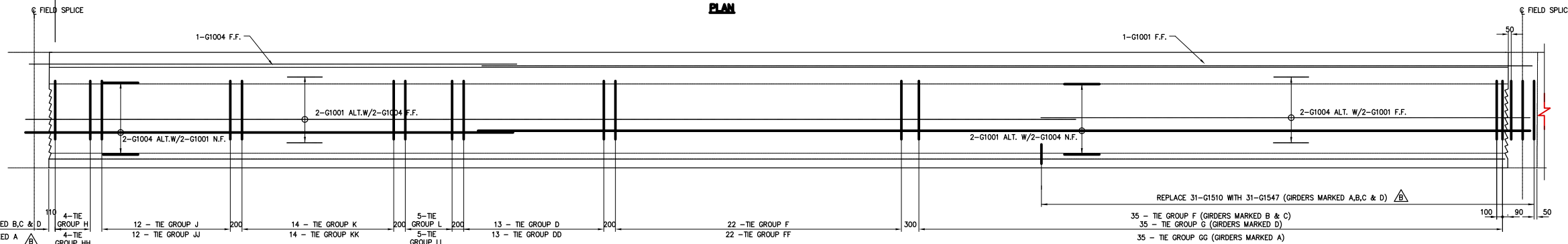
CONSULTANT DRAWING NO. **4462-32-5 (SB)**

ORDER REINFORCING LAYOUT
 GIRDER MK.G1 AND G2

CITY DRAWING NUMBER	B-104-07-32-5
SHEET OF	32-5 -
	E

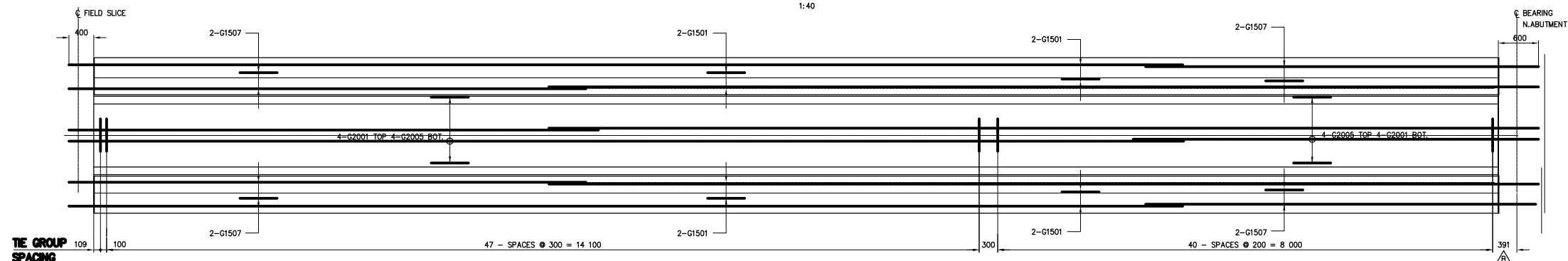


PLAN

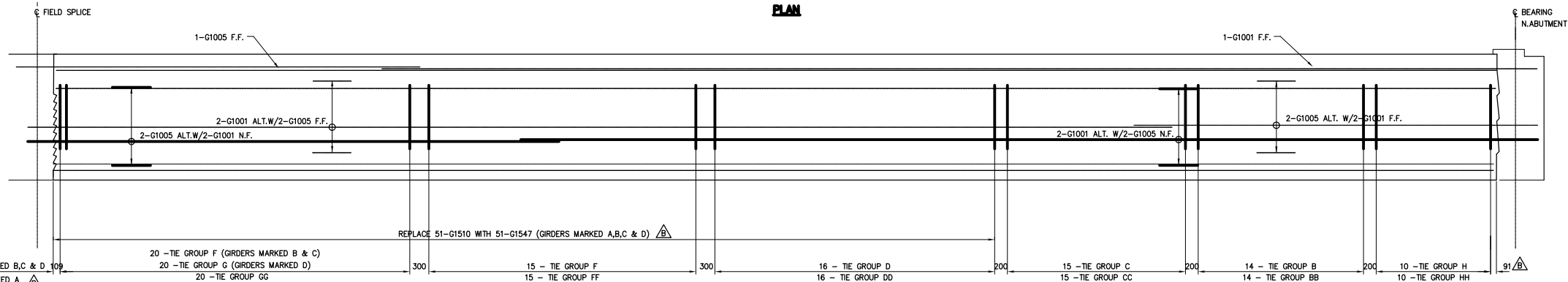


ELEVATION

GIRDER MK. G3
1:40



PLAN



ELEVATION

GIRDER MK. G4
1:40

TIE GROUP TYPE

GIRDERS MARKED B,C & D
GIRDERS MARKED A

TIE GROUP TYPE

GIRDERS MARKED B,C & D
GIRDERS MARKED A

AS-CONSTRUCTED NOTES

- THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 06 17 BY M.HATCH P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

NOTE:
FOR TIE GROUP BAR DESIGNATION SEE DWG. 4462-32-7

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES

N.A.

SUPV. U/G STRUCTURES COMMITTEE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION

NO.	REVISIONS	DATE	BY
F	AS CONSTRUCTED	98 12 01	JMB
E	SPLICE TIE GROUP REVISED	97 10 14	JMB
D	TIE GROUP CLARIFICATION, TIE GROUP N1 DELETED	97 08 11	JMB
C	ISSUED FOR CONSTRUCTION	97 08 17	JMB
B	REVISIONS AS MARKED	97 05 05	JMB
A	ISSUED FOR REVIEW	97 04 30	JMB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
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Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: **MAH** CHECKED BY: **JMB** DATE: **97 08 17**

DRAWN BY: **RCS** APPROVED BY: DATE:

AUTHORIZED BY: DATE:

HOR. SCALE: **AS SHOWN**

VERT. SCALE: **AS SHOWN**

ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY: DATE:

R. DUERKSEN, P.ENG.

ENGINEER'S SEAL

PROVINCE OF MANITOBA

J.P. LUKASHENKO

REGISTERED PROFESSIONAL ENGINEER

CONSULTANT DRAWING NO. **4462-32-6 (SB)**

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE

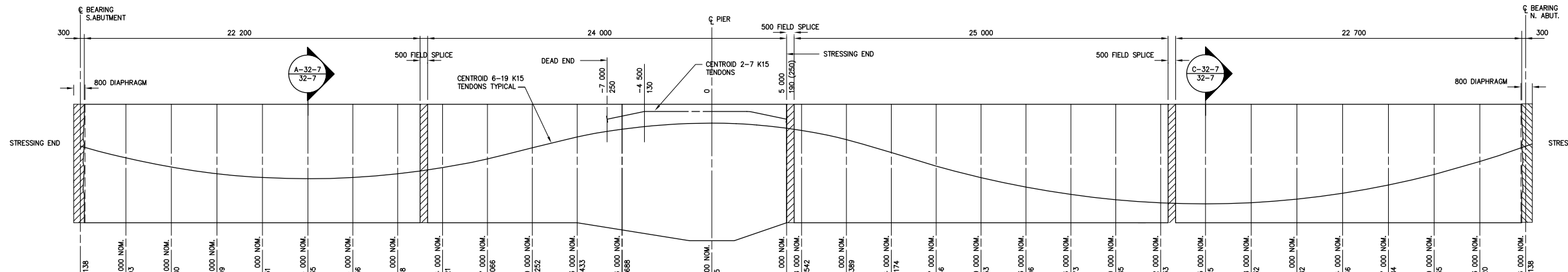
SOUTHBOUND AND RELATED ROADWORKS

**ORDER REINFORCING LAYOUT
GIRDER MK.G3 AND G4**

CITY DRAWING NUMBER **B104-97-32-6**

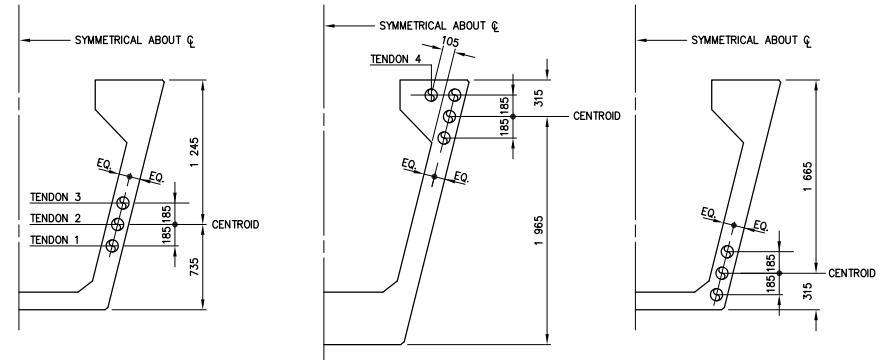
SHEET **32-6** OF **-**

F

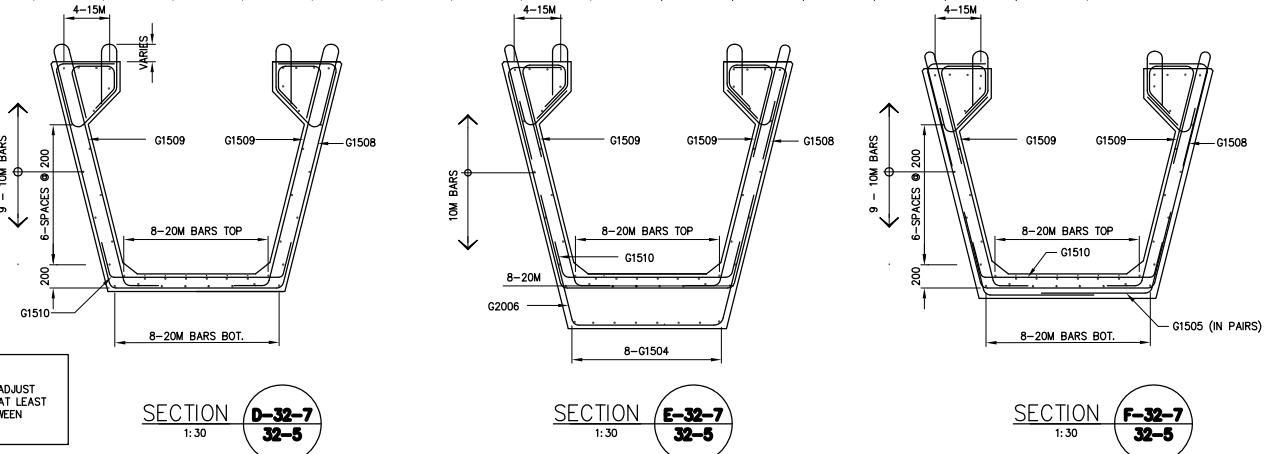


NOTE:
VERTICAL SCALE FOUR TIMES EXAGGERATION

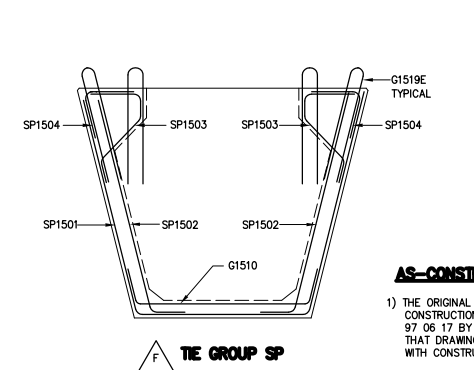
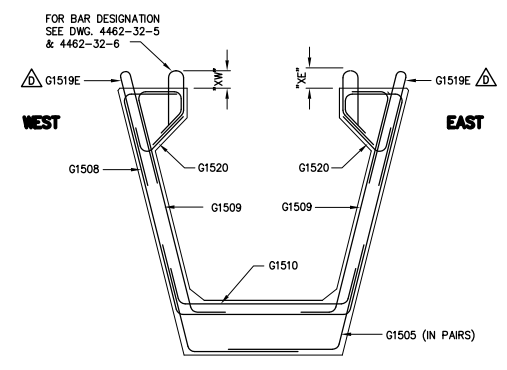
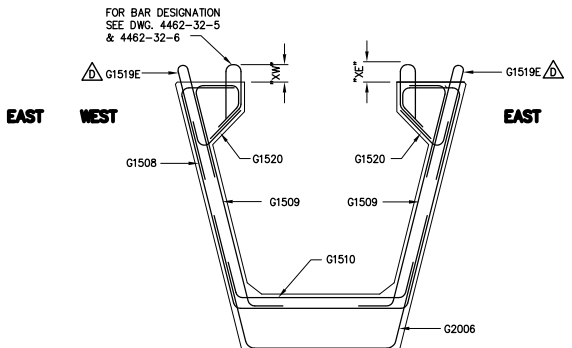
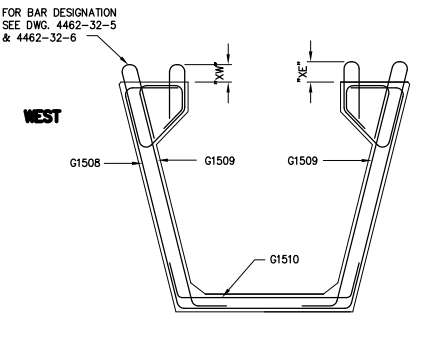
STRAND LAYOUT



NOTE
THE CONTRACTOR SHALL ADJUST REINFORCING TO ENSURE AT LEAST 65mm CLEAR SPACE BETWEEN LONGITUDINAL BARS.



SECTION A-32-7 1:30
SECTION B-32-7 1:30
SECTION C-32-7 1:30



TYPICAL TIE GROUP BAR ARRANGEMENT

THE GROUP TYPE	BAR MARKS
GROUP A	NOT USED
GROUP B	1-G1508, 2-G1509, 1-G1510 1-G1512E, 1-G1513E
GROUP C	1-G1508, 2-G1509, 1-G1510 1-G1514E, 1-G1515E
GROUP D	1-G1508, 2-G1509, 1-G1510 1-G1513E, 1-G1516E
GROUP E	NOT USED
GROUP F	1-G1508, 2-G1509, 1-G1510 1-G1515E, 1-G1517E
GROUP G	1-G1508, 2-G1509, 1-G1510 1-G1516E, 1-G1518E
GROUP H	1-G1508, 2-G1509, 1-G1510, 2-G1519E, 2-G1520E, 1-G1521E, 1-G1522E
GROUP J	1-G1508, 2-G1509, 1-G1510, 2-G1519E, 2-G1520E, 1-G1523E, 1-G1524E
GROUP K	1-G1508, 2-G1509, 1-G1510, 2-G1519E, 2-G1520E, 1-G1522E, 1-G1525E
GROUP L	1-G1508, 2-G1509, 1-G1510, 2-G1519E, 2-G1520E, 1-G1524E, 1-G1529E
GROUP M	1-G1508, 2-G1509, 1-G1510, 2-G1519E, 2-G1520E, 1-G1523E, 1-G1527E
GROUP N	1-G1508, 2-G1509, 1-G1510, 2-G1519E, 2-G1520E, 1-G1525E, 1-G1526E
GROUP P	1-G1508, 2-G1509, 1-G1510, 2-G1519E, 2-G1520E, 1-G1528E, 1-G1529E
GROUP BB	1-G1508, 2-G1509, 1-G1510, 1-G1530E, 1-G1531E
GROUP CC	1-G1508, 2-G1509, 1-G1510, 1-G1532E, 1-G1533E
GROUP DD	1-G1508, 2-G1509, 1-G1510, 1-G1531E, 1-G1534E
GROUP FF	1-G1508, 2-G1509, 1-G1510, 1-G1533E, 1-G1535E
GROUP GG	1-G1508, 2-G1509, 1-G1510, 1-G1534E, 1-G1536E
GROUP HH	1-G1508, 2-G1509, 1-G1510, 2-G1537E, 2-G1520E, 1-G1538E, 1-G1539E
GROUP JJ	1-G1508, 2-G1509, 1-G1510, 2-G1537E, 2-G1520E, 1-G1540E, 1-G1541E
GROUP KK	1-G1508, 2-G1509, 1-G1510, 2-G1537E, 2-G1520E, 1-G1539E, 1-G1542E
GROUP LL	1-G1508, 2-G1509, 1-G1510, 2-G1537E, 2-G1520E, 1-G1541E, 1-G1543E
GROUP MM	1-G1508, 2-G1509, 1-G1510, 2-G1537E, 2-G1520E, 1-G1544E, 1-G1540E
GROUP NN	1-G1508, 2-G1509, 1-G1510, 2-G1537E, 2-G1520E, 1-G1542E, 1-G1545E
GROUP PP	1-G1508, 2-G1509, 1-G1510, 2-G1537E, 2-G1520E, 1-G1543E, 1-G1546E
GROUP SP	1-SP1501, 2-SP1502, 1-G1510, 2-SP1503, 2-SP1504, 4-G1519E

NOTES

- CONTRACTOR TO ENSURE THAT GIRDER STRESSES CONFORM TO AASHTO REQUIREMENTS DURING HANDLING, TRANSPORTATION, AND ERECTION BY PROVIDING TEMPORARY PRESTRESS AS REQUIRED.
- POSTTENSIONING TENDONS ARE 19K15 AND 7K15 TENDONS.
- ANY CORRECTIONS FOR CAMBER DUE TO POSTTENSIONING MUST BE MADE BY ADJUSTING FLANGE HAUNCH HEIGHT (NOMINAL 75 AT ABUTMENTS AND PIER). NO CORRECTIONS SHALL BE MADE IN THE DECK THICKNESS.
- POSTTENSIONING STEEL SHALL BE SEVEN-WIRE LOW RELAXATION STRAND, 15 NOMINAL DIAMETER, $f_{pu}=1860 \text{ MPa}$, $c_{sa} = 140 \text{ mm}^2$.
- CAST-IN-PLACE CONCRETE SPLICES AND DIAPHRAGMS SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 60 MPa PRIOR TO POSTTENSIONING.
- ANCHORAGE REINFORCING AS REQUIRED FOR ANCHORAGE SYSTEM USED SHALL BE PROVIDED BY THE GIRDER FABRICATOR.
- THE CONTRACTOR SHALL ENSURE PROPER SEATING OF THE BEARINGS AFTER COMPLETION OF POSTTENSIONING.
- POSTTENSIONING DUCTS SHALL BE CORRUGATED, SEMI-RIGID METAL TUBES OF AN APPROVED SIZE WITH MAXIMUM DESIGN VALUES OF $k=0.0023/m$, $n=0.18/\text{rad}$, ANCHOR SET=10 mm.
- THE TENDON SELECTION AND DRAPE SHOWN FOR THE ORDERS REPRESENT AN APPROVED SYSTEM. IF THE CONTRACTOR WISHES TO USE AN ALTERNATIVE SYSTEM HE SHALL SUBMIT DETAILS WITH CALCULATIONS TO THE CONTRACT ADMINISTRATOR FOR APPROVAL.
- NOMINAL JACKING STRESS=0.85 f_{pu} , APPLIED IN TWO EQUAL STAGES.
- ANCHORAGE DETAILS SHALL CONFORM TO THE FREYSSINET 19K15 AND 7K15 SYSTEMS, OR APPROVED EQUAL.
- 19K15 POSTTENSIONING TENDONS ARE TO BE STRESSED SIMULTANEOUSLY FROM BOTH ENDS. 7K15 POSTTENSIONING TENDONS ARE TO BE STRESSED FROM THE SOUTH END.
- POSTTENSIONING DESIGN IS BASED ON A STAGED SEQUENCE OF CONSTRUCTION. ANY VARIATION IN THE CONSTRUCTION SEQUENCE OR POSTTENSIONING SYSTEM SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR FOR REVIEW/ACCEPTANCE PRIOR TO IMPLEMENTATION.
- DUCT GROUTING VENTS SHALL BE PROVIDED AT HIGH POINTS AND AT BOTH ENDS OF ALL TENDONS AND DRAIN VENTS SHALL BE PROVIDED AT ALL LOW POINTS.
- WELDING IS NOT PERMITTED WITHIN 3000mm OF ANY TENDON OR TENDON DUCT.
- ALL ANCHORAGE RECESSES SHALL BE ABRASIVE BLAST CLEANED AND COATED WITH AN APPROVED CEMENT PASTE PRIOR TO CASTING 35 MPa CONCRETE IN THE RECESS.
- DUCTS FOR PRESTRESSING STEEL SHALL BE SECURELY FASTENED IN PLACE TO PREVENT MOVEMENT UNTIL CONCRETE IS PLACED AND HARDENED. DUCTS SHALL BE SUPPORTED AT INTERVALS OF NOT MORE THAN 600mm.

CONSTRUCTION SEQUENCE

- PLACE AND SET TEMPORARY AND PERMANENT BEARING ASSEMBLIES AND TEMPORARY BENTS.
- ERECT GIRDER SECTIONS ON TEMPORARY BENTS AND PLACE TEMPORARY BRACING.
- CAST SPLICES AND DIAPHRAGMS.
- STRESS POSTTENSIONING TENDONS TO VALUES SHOWN.
- FORM AND PLACE CONCRETE HAUNCHES, REMAINING DIAPHRAGMS, AND CONCRETE DECK LOWER LIFT.
- PLACE CONCRETE DECK UPPER LIFT, OVERLOOK, TRAFFIC BARRIERS, PLANTER, PEDESTRIAN RAILINGS/WALLS, ETC.

JACKING FORCES

- TENDONS 1 - 4205 kN
- TENDONS 2 - 4205 kN
- TENDONS 3 - 4205 kN
- TENDONS 4 - 1550 kN

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WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

AS-CONSTRUCTED NOTES:

- THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 06 17 BY M.A.HATCH P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

NO.	REVISIONS	DATE	BY
G	AS CONSTRUCTED	98 12 01	JMB
F	THE GROUP SP ADDED	98 01 12	JMB
E	DELETED THE GROUP NN	97 08 11	JMB
D	CHANGE REBARS TO EPOXY COATED	97 08 21	JMB
C	ISSUED FOR CONSTRUCTION	97 06 17	JMB
B	REVISIONS AS MARKED	97 05 05	JMB
A	ISSUED FOR REVIEW	97 04 30	JMB

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Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: **MH** CHECKED BY: **JMB** DATE: **97 08 17**
DRAWN BY: **RCS** APPROVED BY: DATE:
AUTHORIZED BY: DATE:
H.R. EBENFANGER P.ENG./SENIOR BRIDGE ENGINEER
ACCEPTED FOR P.C.I. CONSTRUCTORS CANADA INC. BY: DATE:
R. DUERKSEN, P.ENG.



ENGINEER'S SEAL

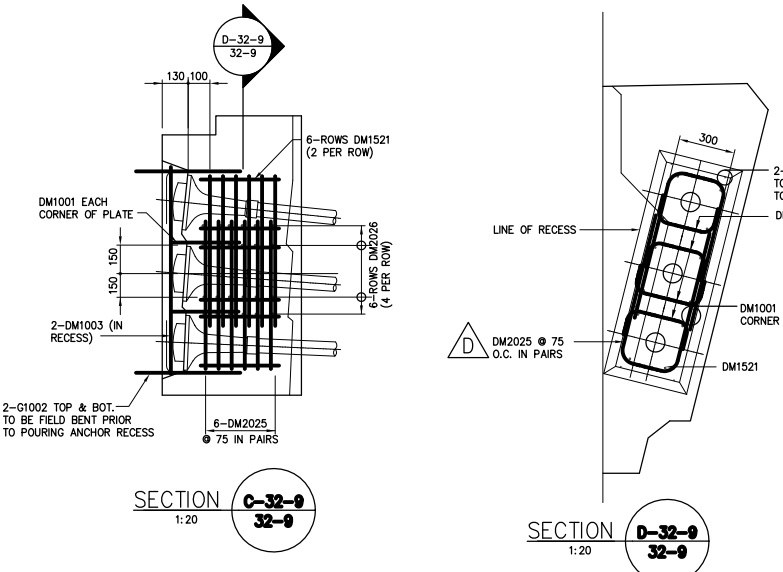
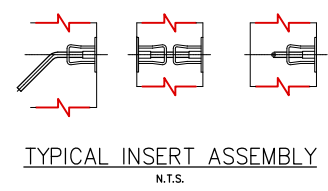
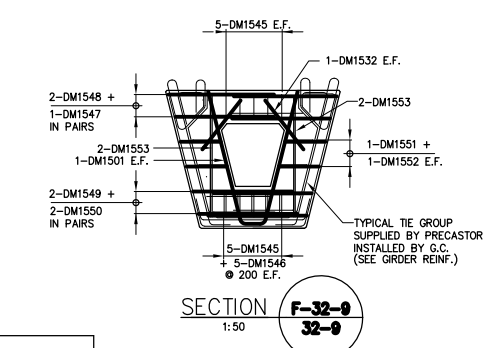
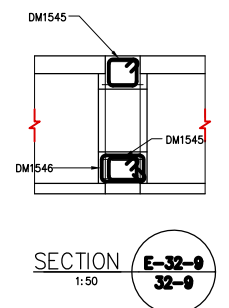
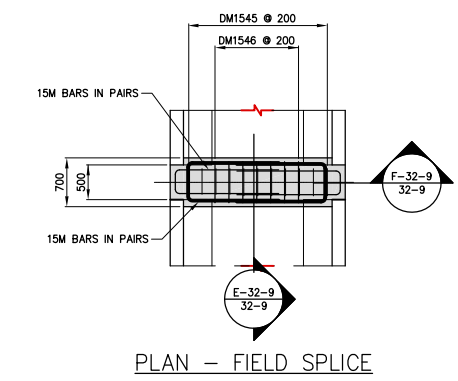
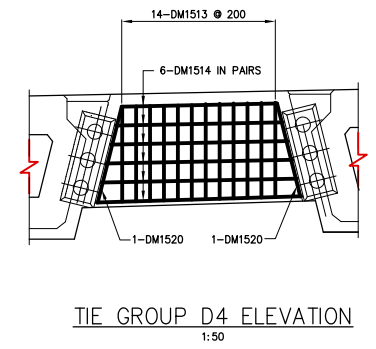
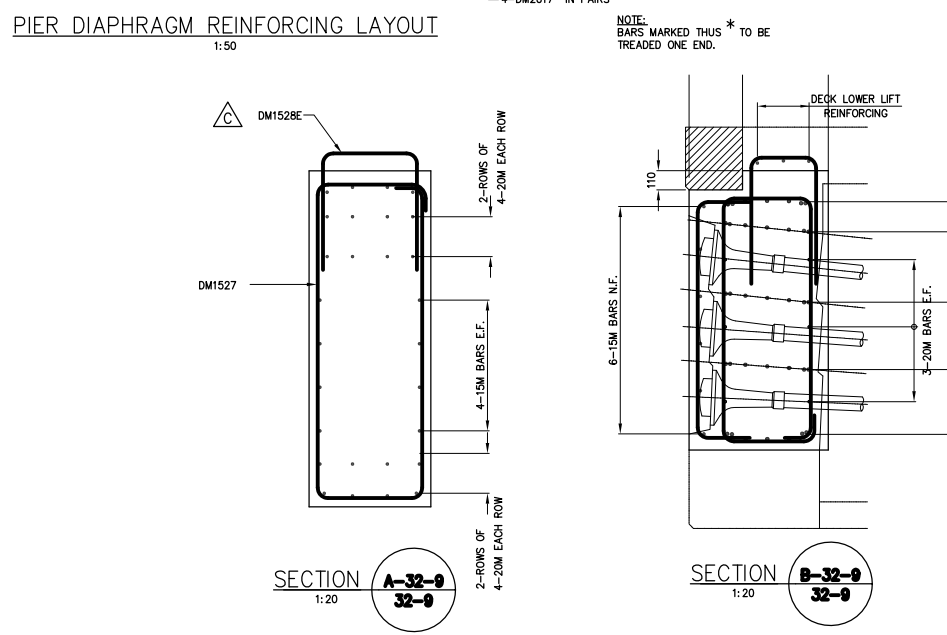
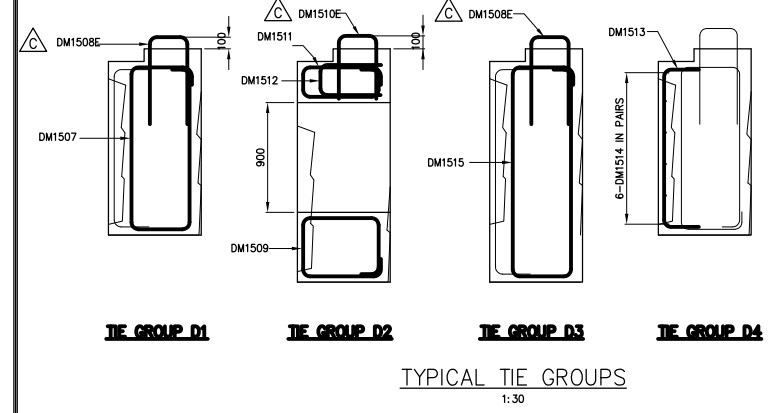
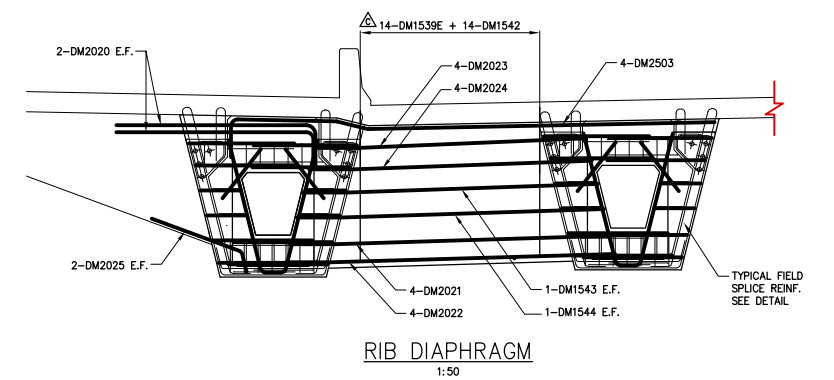
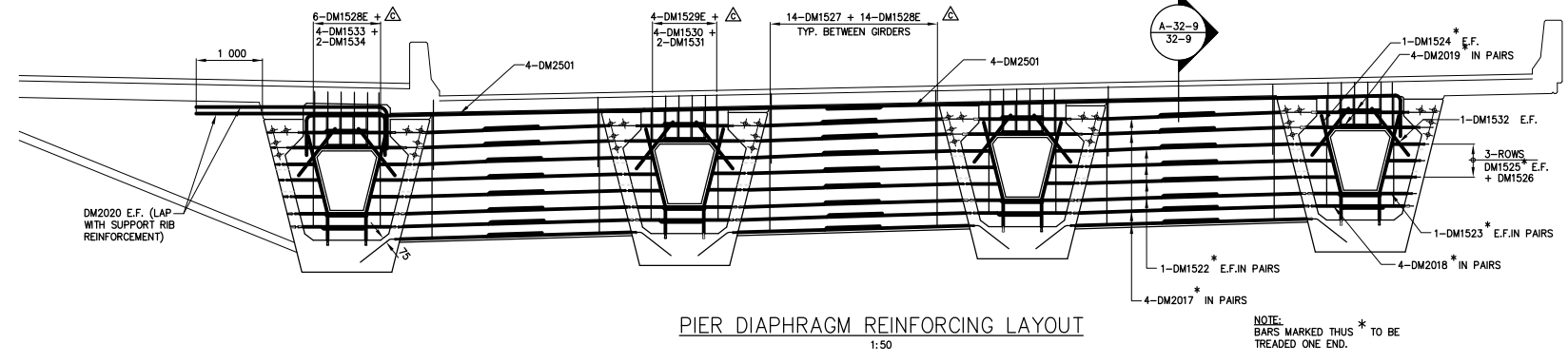
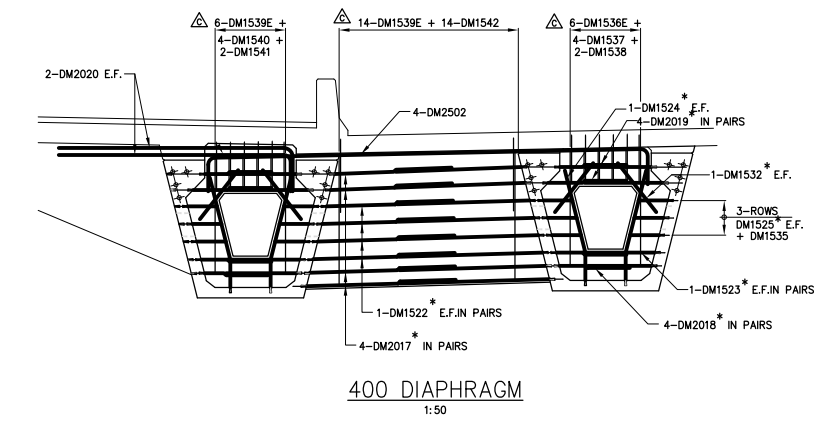
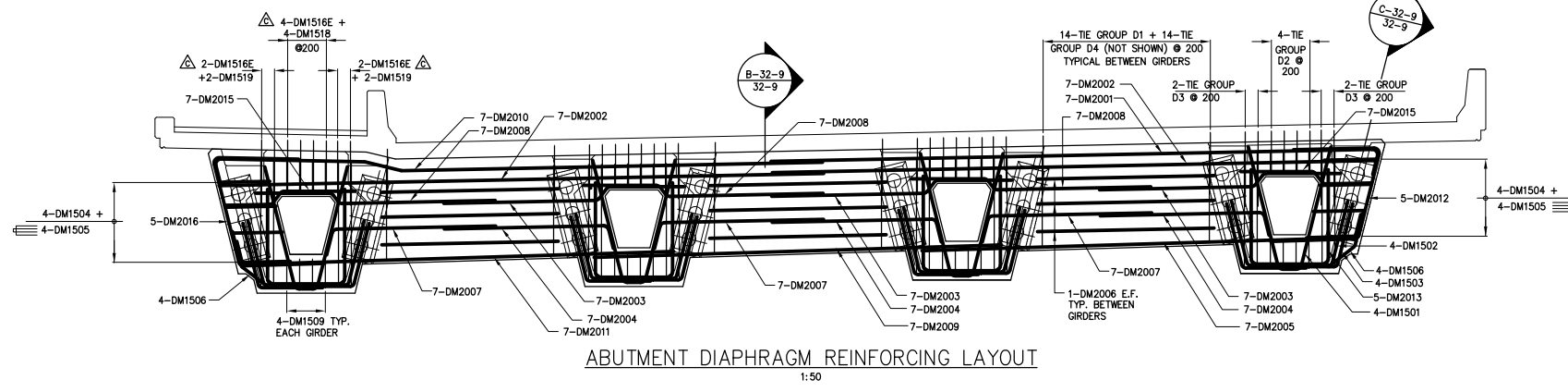
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **8104-87-32-7**
SHEET OF: **32-7**

CONSULTANT DRAWING NO.: **4462-32-7 (SB)**

GIRDER MISCELLANEOUS DETAILS



AS-CONSTRUCTED NOTES:
1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 06 17 BY M.A.HATCH P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

REVISIONS			
NO.	REVISIONS	DATE	BY
E	AS CONSTRUCTED	98 12 01	JMB
D	CHANGE REBAR DESIGNATION	97 10 15	JMB
C	CHANGE REBARS TO EPOXY COATED	97 07 21	JMB
B	ISSUED FOR CONSTRUCTION	97 06 17	JMB
A	ISSUED FOR REVIEW	97 05 05	JMB

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Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone | 204 | 943-3178 Facsimile | 204 | 943-4948

DESIGNED BY: MAH
DRAWN BY: RCS
CHECKED BY: JMB
APPROVED BY: JMB
AUTHORIZED BY: B. EISENBAUER P.ENG./SENIOR BRIDGE ENGINEER
ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: R. DUERKSEN, P.ENG.

DATE: 97 06 17

ENGINEER'S SEAL
PROVINCE OF MANITOBA
J.P. LUKASHENKO
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS
DIAPHRAGM REINFORCING DETAILS

CITY DRAWING NUMBER: B104-87-32-9
SHEET OF: 32-9 -
E

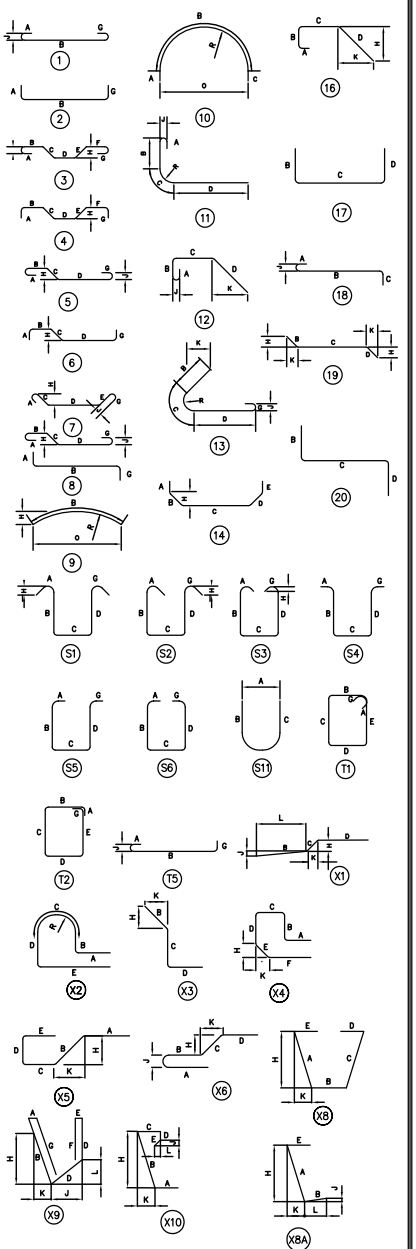
CONSULTANT DRAWING NO. 4462-32-9 (SB)

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

D:\22106\4462\301\446232-9 Date: 10/15/97 Time: 05:28:50

Main table with columns: MARK, No. OF BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, L, M, O, R, SHAPE, MASS. Includes sections for ABUTMENT, RIB DIAPHRAGM, FIELD SPICE, PIER, and 400 DIAPHRAGM.

Continuation of the main table with columns: MARK, No. OF BARS, SIZE, LENGTH, TYPE, A, B, C, D, E, F, G, H, J, K, L, M, O, R, SHAPE, MASS. Includes sections for RIB DIAPHRAGM, FIELD SPICE, PIER, and 400 DIAPHRAGM.



- NOTES: 1. ALL DIMENSIONS ARE OUT TO OUT EXCEPT "A" AND "G" ON STANDARD 180 AND 135 DEGREE HOOKS. 2. "J" DIMENSION ON 180° HOOK TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE... 3. WHERE "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TRUSS BARS... 4. "H" DIMENSION ON STIRRUPS TO BE SHOWN WHERE NECESSARY TO FIT CONCRETE. 5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES... 6. FIGURES IN CIRCLES SHOW TYPES. 7. NO ALLOWANCE FOR BEND FOR CURVATURE HAS BEEN MADE EXCEPT FOR STANDARD HOOKS AND RADI IN EXCESS OF SAME. 8. SPACERS TO BE PROVIDED WITH ALL SPIRALS AS SPECIFIED IN A.C.I. 315-57. 9. WEIGHT OF SPIRALS, SUPPORT BARS AND SPACERS NOT INCLUDED ON THIS TABLE.

SUMMARY table: ABUTMENT TOTAL = 4,666.49 kg x 2 = 9,332.98 kg; PIER TOTAL = 2,145.98 kg; 400 DIAPHRAGM TOTAL = 791.28 kg x 3 = 2,373.84 kg; RIB DIAPHRAGM TOTAL = 480.03 kg; FIELD SPICE TOTAL = 248.84 kg x 12 = 2,986.08 kg; GRAND TOTAL = 17,318.91 kg.

THE GROUP HEIGHT table with columns: THE GROUP, HEIGHT, THE GROUP, HEIGHT. Lists groups A through P and AA through PP.

Table with columns: B.M., ELEV., and a grid for tracking construction progress.

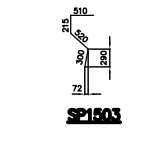
DS-Lea Consultants Ltd. Consulting Engineers - Planners - Transportation Consultants. Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1. Phone 1 204 943-3178 Facsimile 1 204 943-4948.

ENGINEER'S SEAL: J.P. LUKASHENKO, REGISTERED PROFESSIONAL ENGINEER.

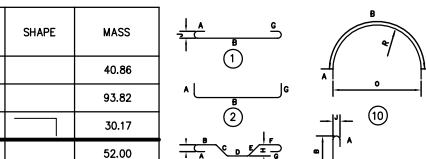
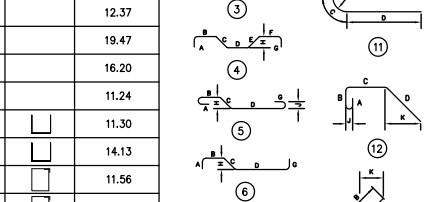
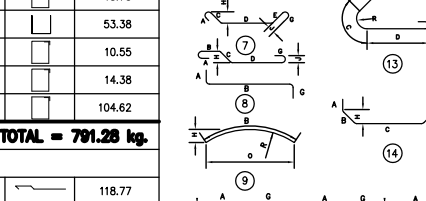
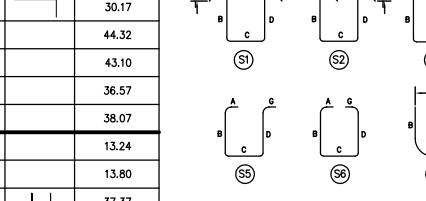
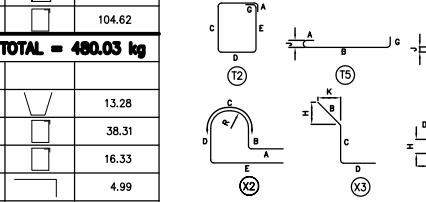
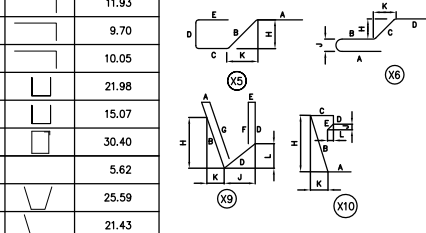
AS-CONSTRUCTED NOTES: 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 06 17 BY M.A.HATCH P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

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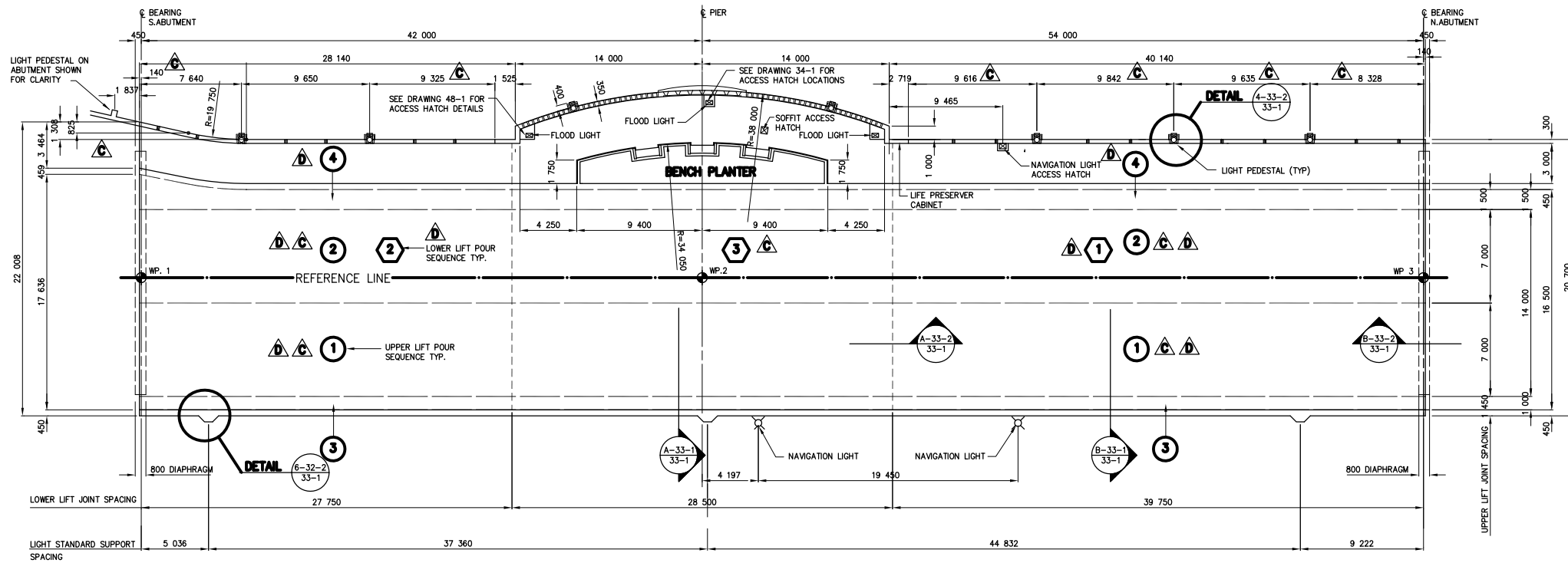
CITY DRAWING NUMBER: 8104-97-32-10. SHEET OF: 32-10. DIAPHRAGM REINFORCING STEEL SCHEDULE. E

THE CITY OF WINNIPEG STREETS AND TRANSPORTATION DEPARTMENT BRIDGE ENGINEERING DIVISION. MAIN STREET AND NORWOOD BRIDGES PROJECT MAIN STREET BRIDGE. SOUTHBOUND AND RELATED ROADWORKS.

CONSULTANT DRAWING NO. 4462-32-10 (SB)

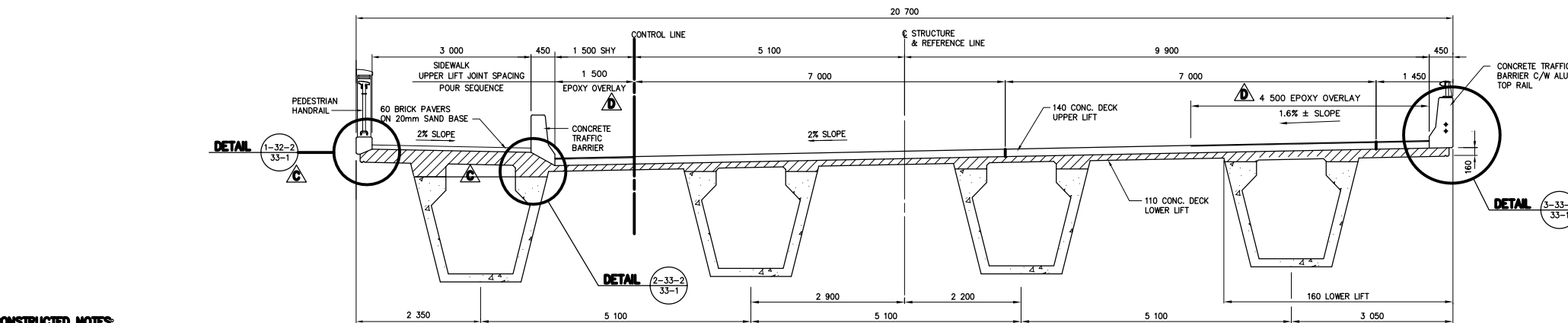
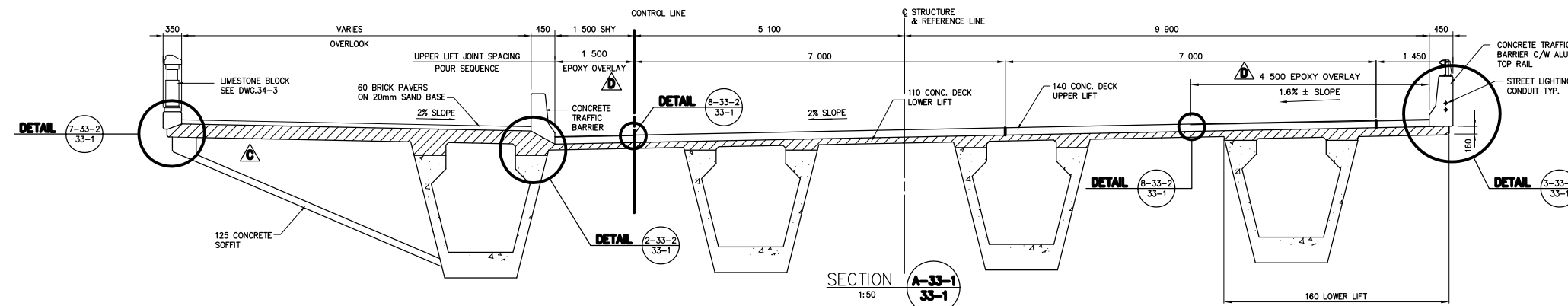
DESIGNED BY: MH. CHECKED BY: JNB 97 06 17. DRAWN BY: RCS. APPROVED BY: DATE. AUTHORIZED BY: DATE. HORIZ. SCALE: AS SHOWN. VERT. SCALE: AS SHOWN.

Table with columns: NO., REVISIONS, DATE, BY. Includes entries for AS CONSTRUCTED, FIELD SPICE REBARS REVISED, DM1554E & DM1555E ADDED, DM1517 DELETED, CHANGE REBARS TO EPOXY COATED, REVISED GRAND TOTAL, ISSUED FOR CONSTRUCTION, REVISIONS.



GENERAL NOTES:

- POUR (4) NORMAL CONCRETE
POURS (1) - (3) HIGH DENSITY W/SILICA FUME
FIBRE REINFORCED CONCRETE OVERLAY AS PER SPECIFICATION.
- 20 GRANITE AGGREGATE SHALL BE USED FOR TRAFFIC BARRIERS, PLANTER WALLS, CONCRETE DECK LOWER LIFT, SIDEWALK AND CURBS.
- ALL CONCRETE EXCEPT DECK UPPER LIFT SHALL HAVE THE FOLLOWING PROPERTIES:
f_c = 35 MPa
MAX. WATER/CEMENT RATIO = 0.40
MIN. CEMENT CONTENT = 365 kg/m³
SLUMP = 75mm±25mm
AIR CONTENT = 5.0% - 8.0%
20mm AGGREGATE
TYPE 10 CEMENT AS PER SPECIFICATION
- CONCRETE DECK UPPER LIFT SHALL HAVE THE FOLLOWING PROPERTIES:
SEE SPECIFICATIONS
- REINFORCING STEEL SHALL CONFORM TO CSA G30.18-M92 GRADE 400
- REQUIRED TENSION LAP LENGTHS
EPOXY COATED REINFORCING:
10M = 380mm
15M = 530mm
20M = 780mm
25M = 1 310mm
- FALSEWORK TO REMAIN IN PLACE UNTIL ALL CONCRETE IN DECK, CONCRETE BARRIERS AND SIDEWALK HAS REACHED A STRENGTH OF 35MPa, UNLESS OTHERWISE ACCEPTED BY THE CONTRACT ADMINISTRATOR
- CONCRETE DECK UPPER LIFT, CONCRETE BARRIERS AND SIDEWALK SHALL NOT BE PLACED UNTIL CONCRETE DECK LOWER LIFT HAS REACHED A STRENGTH OF 35MPa, UNLESS OTHERWISE ACCEPTED BY THE CONTRACT ADMINISTRATOR
- THE TOP SURFACE OF THE LOWER OF CONCRETE DECK SHALL BE GIVEN A ROUGH TEXTURE FINISH AS PER SPECIFICATIONS
- CONCRETE DECK UPPER LIFT PLACING AND FINISHING EQUIPMENT MUST BE SUPPORTED DIRECTLY BY A GRIDER OR BY FALSEWORK DESIGNED FOR THAT PURPOSE
- SAME NUMBERED POUR SEQUENCES AREAS SHALL BE POURED SIMULTANEOUSLY
- DECK JOINTS ARE MODULAR EXPANSION TYPE (D.S BROWN D-160), WITH COVER PLATES THROUGH SIDEWALK ONLY



AS-CONSTRUCTED NOTES:

- THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 09 05 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

NOTE:
These design documents are prepared solely for the use by the party with whom the design professional has entered into a contract and there are no representations of any kind made by the design professional to any party with whom the design professional has not entered into a contract.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE	DATE
N.A.	

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTANCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION

B.M. ELEV.	DATE	BY

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: JPL	CHECKED BY: JMB	DATE:
DRAWN BY: RCS	APPROVED BY:	DATE:
HOR. SCALE: AS SHOWN	AUTHORIZED BY:	DATE:
VERTICAL:	B. EBENPANGER P.ENG./SENIOR BRIDGE ENGINEER	DATE:
	ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY: R. DUERKSEN, P.ENG.	DATE:

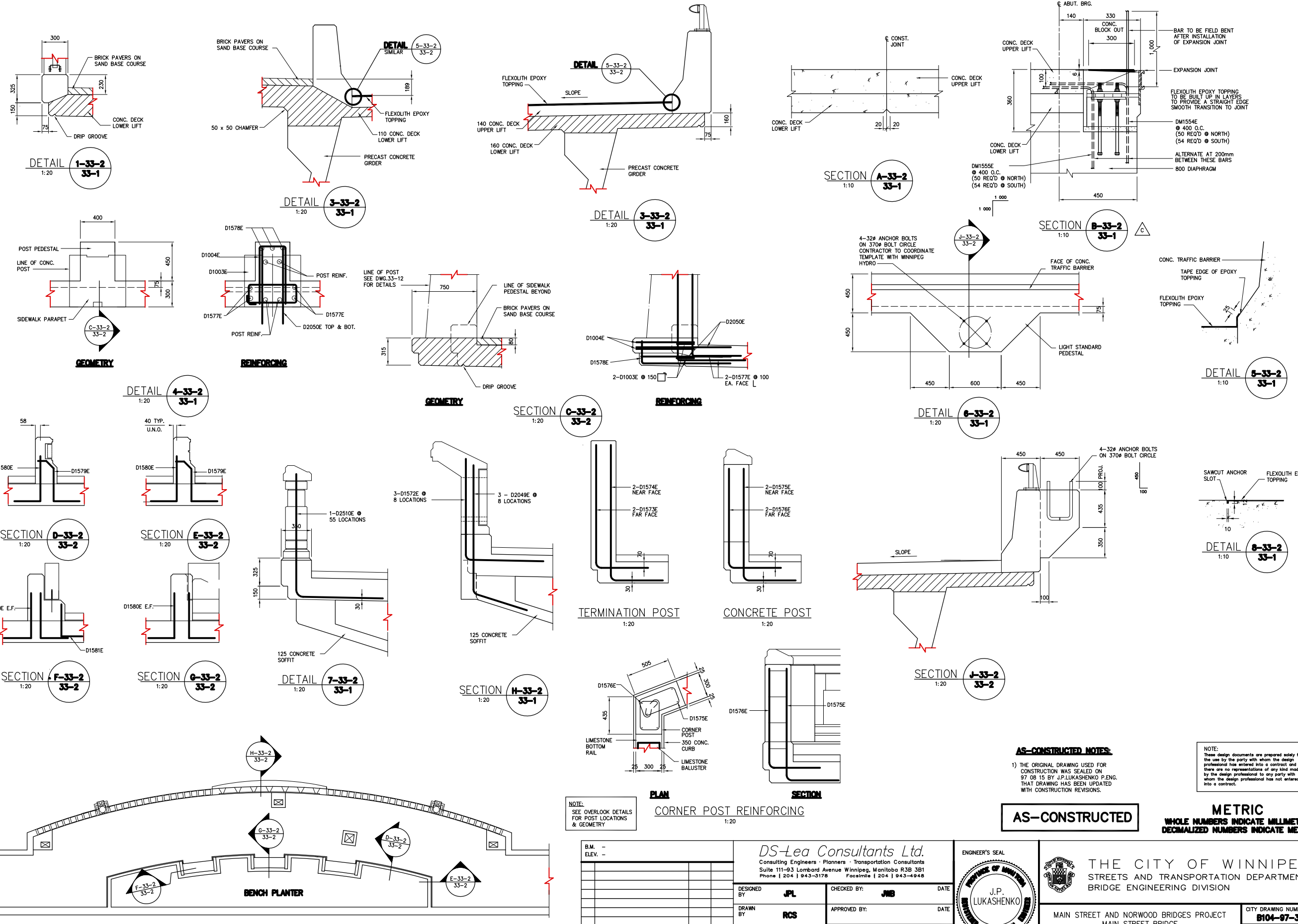
ENGINEER'S SEAL
J.P. LUKASHENKO
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **8104-07-33-1**
SHEET OF **33-1**

CONSULTANT DRAWING NO. **4462-33-1**
DECK GEOMETRY AND SECTIONS



AS-CONSTRUCTED NOTES:

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

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AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

NOTE:
SEE OVERLOOK DETAILS FOR POST LOCATIONS & GEOMETRY

PLAN
CORNER POST REINFORCING
1:20

NO.	REVISIONS	DATE	BY	DATE
D	AS CONSTRUCTED	98 12 01	JWB	
C	EXP. JOINT BLOCKOUT REINF. REVISED	97 10 20	JWB	
B	ISSUED FOR CONSTRUCTION	97 08 15	JWB	
A	ISSUED FOR REVIEW	97 06 17	JWB	

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone (204) 943-3178 Facsimile (204) 943-4948

DESIGNED BY: **JPL** CHECKED BY: **JWB** DATE: _____
DRAWN BY: **RCS** APPROVED BY: _____ DATE: _____

HOR. SCALE: **AS SHOWN**
VERT. SCALE: _____

ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: _____ DATE: _____
R. DUERKSEN, P.ENG.



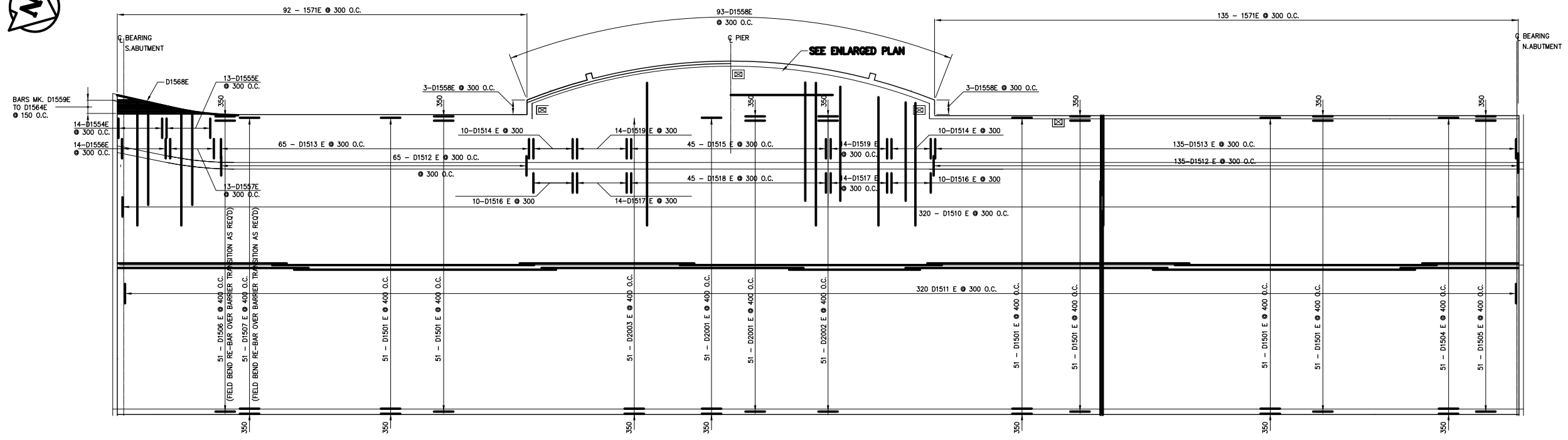
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **8104-87-33-2**
SHEET **33-2** OF **-**

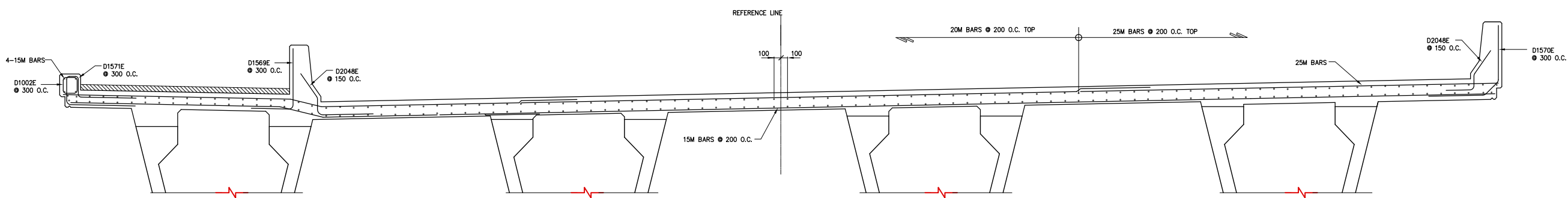
CONSULTANT DRAWING NO. **4462-33-2 (SB)**

CONCRETE DECK DETAILS

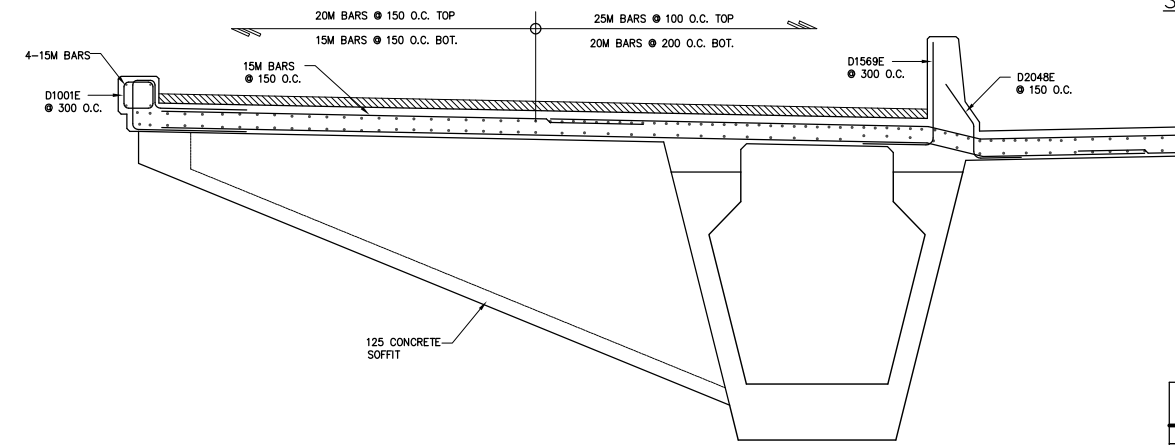


LOWER LIFT REINFORCING LAYOUT
 1:150

NOTE:
 REQUIRED MIN. TENSION LAP LENGTHS FOR EPOXY COATED REINFORCING:
 10M = 380mm
 15M = 530mm
 20M = 780mm
 25M = 1 310 mm



SECTION A-33-4
 33-3
 1:30



SECTION B-33-4
 33-3
 1:30

AS-CONSTRUCTED NOTES
 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

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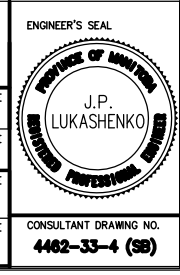
AS-CONSTRUCTED

METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES

B.M. -					
ELEV. -					
D	AS CONSTRUCTED	98 12 01	JWB		
C	GENERAL REVISION	98 03 24	JWB		
B	ISSUED FOR CONSTRUCTION	97 09 05	JWB		
A	ISSUED FOR REVIEW	97 06 17	JWB		
NO.	REVISIONS	DATE	BY	DATE	

DS-Lea Consultants Ltd.
 Consulting Engineers - Planners - Transportation Consultants
 Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
 Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: JPL	CHECKED BY: JWB	DATE
DRAWN BY: RCS	APPROVED BY:	DATE
HORIZ. SCALE: AS SHOWN		
VERT. SCALE:		
ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY DATE		
R. DUERKSEN, P.ENG.		



THE CITY OF WINNIPEG
 STREETS AND TRANSPORTATION DEPARTMENT
 BRIDGE ENGINEERING DIVISION

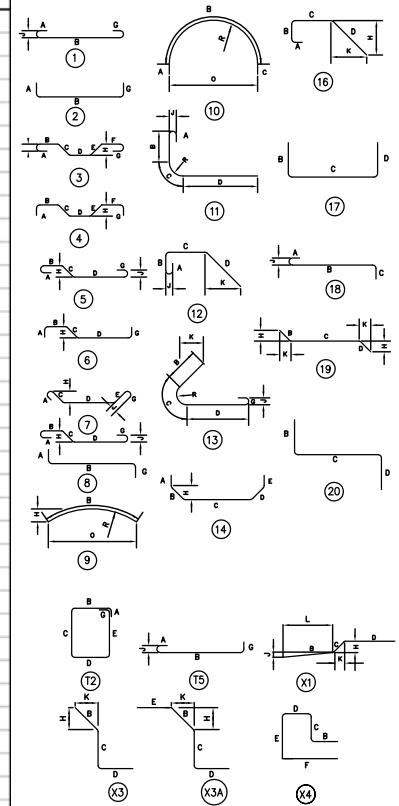
MAIN STREET AND NORWOOD BRIDGES PROJECT
 MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER
9-101-07-33-4
 SHEET **33-4** OF -
2

CONSULTANT DRAWING NO.
4462-33-4 (SB)

REINFORCING LAYOUT
SHEET 2 OF 2

D



NOTES:

- 1. ALL DIMENSIONS ARE OUT TO OUT EXCEPT "A" AND "G" ON STANDARD 180 AND 135 DEGREE HOOKS.
- 2. "J" DIMENSION ON 180° HOOK TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- 3. WHERE "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TRUSS BARS, WHERE "J" CAN EXCEED "H", IT SHOULD BE SHOWN.
- 4. "H" DIMENSION ON STIRRUPS TO BE SHOWN WHERE NECESSARY TO FIT CONCRETE.
- 5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER TOLERANCES SHOULD HAVE LIMITS INDICATED.
- 6. FIGURES IN CIRCLES SHOW TYPES.
- 7. NO ALLOWANCE FOR BEND FOR CURVATURE HAS BEEN MADE EXCEPT FOR STANDARD HOOKS AND RADII IN EXCESS OF SAME.
- 8. SPACERS TO BE PROVIDED WITH ALL SPIRALS AS SPECIFIED IN A.C.I. 315-57.
- 9. WEIGHT OF SPIRALS, SUPPORT BARS AND SPACERS NOT INCLUDED ON THIS TABLE.

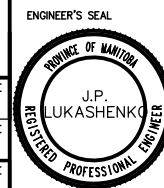
AS-CONSTRUCTED NOTES:

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 09 05 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

B.M.	-		
ELEV.	-		
DESIGNED BY	JPL	CHECKED BY	JWB
DRAWN BY	RCS	APPROVED BY	
D GENERAL REVISIONS 98 03 28 JWB C GENERAL REVISIONS 98 03 24 JWB B ISSUED FOR CONSTRUCTION 97 09 05 JWB A ISSUED FOR REVIEW 97 05 23 JWB		HORIZ. SCALE: AS SHOWN VERT. SCALE:	
NO.	REVISIONS	DATE	BY
		MAY 1997	

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 Consulting Engineers - Planners - Transportation Consultants
 Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
 Phone [204] 943-3178 Facsimile [204] 943-4948



THE CITY OF WINNIPEG
 STREETS AND TRANSPORTATION DEPARTMENT
 BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
 MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

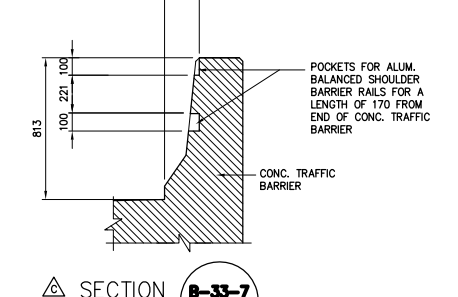
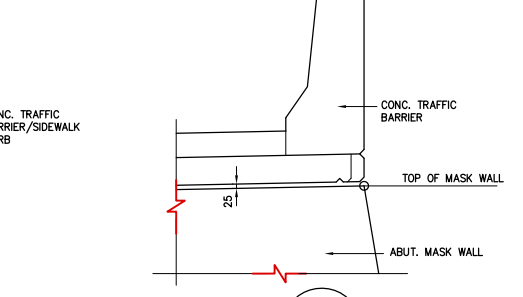
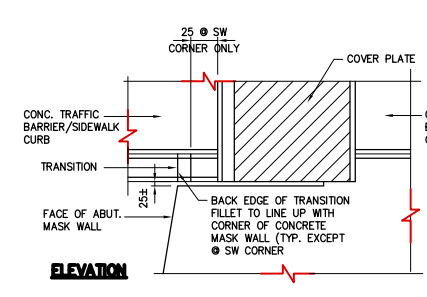
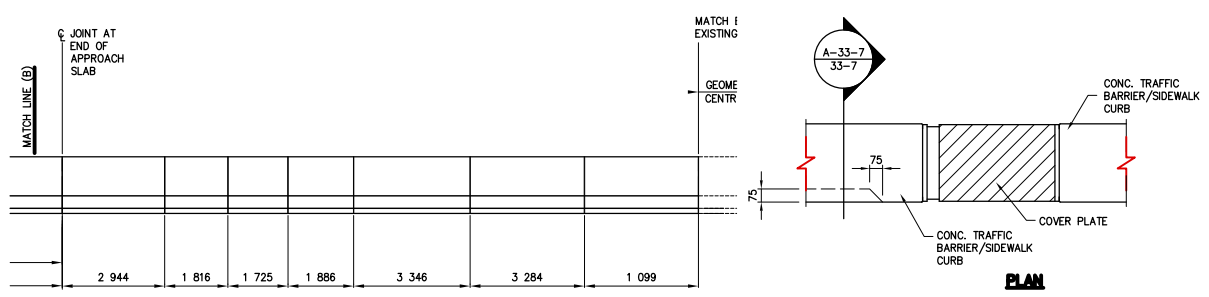
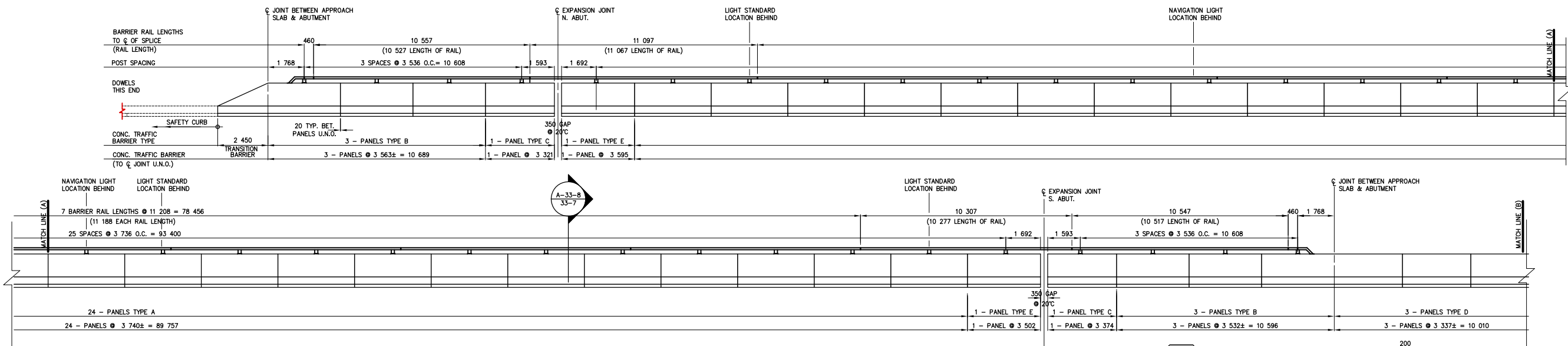
DECK REINFORCING STEEL SCHEDULE

CITY DRAWING NUMBER
8104-97-33-5
 SHEET OF
33-5 -

D

ENGINEER'S SEAL
 B. EBENFANGER P.ENG./SENIOR BRIDGE ENGINEER
 ACCEPTED FOR P.C.L. CONSTRUCTORS CANADA INC. BY DATE
 R. DUERSEN, P.ENG.

CONSULTANT DRAWING NO.
 4462-33-5 (SB)

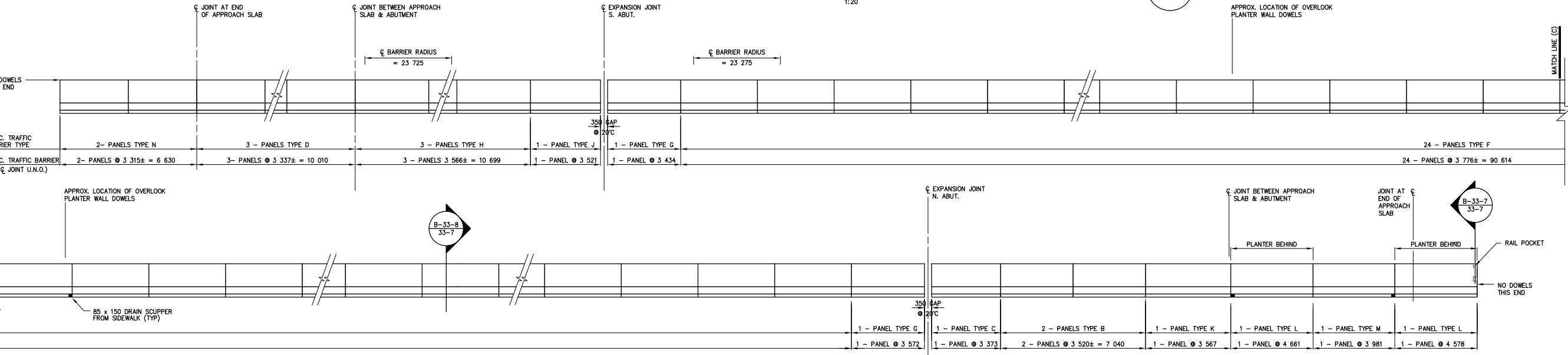


ELEVATION - EAST SIDE TRAFFIC BARRIER

DETAIL AT ABUT. MASK WALL

SECTION A-33-7/33-7

SECTION B-33-7/33-7



TRAFFIC BARRIER ALUMINUM TOP RAIL BILL OF MATERIALS

COMPONENT	QUANTITY
RAIL END SECTION	2
10 527 RAIL SECTION	1
11 067 RAIL SECTION	1
11 186 RAIL SECTION	7
10 277 RAIL SECTION	1
SPLICE BAR 700mm	2
SPLICE BAR 460mm	10
RAIL CLAMP BAR	68
CAP SCREW	180
WASHER	180
TRAFFIC BARRIER RAIL POST	3
SHIMS AS REQUIRED	
STRAIGHT ANCHOR BOLTS	72
BENT ANCHOR BOLTS	72
25# DOWELS	174

CONCRETE TRAFFIC BARRIER

PANEL TYPE	No. REQUIRED	
	WEST SIDE	EAST SIDE
A	-	24
B	2	6
C	1	2
D	5	3
E	-	2
F	24	-
G	2	-
H	3	-
J	1	-
K	1	-
L	1	-
M	1	-
N	2	-

AS-CONSTRUCTED NOTES:

1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 07 08 15 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

REVISIONS

NO.	REVISIONS	DATE	BY
D	AS CONSTRUCTED	98 12 01	JMB
C	ADDED DETAILS	98 04 13	JMB
B	ISSUED FOR CONSTRUCTION	97 08 15	JMB
A	ISSUED FOR REVIEW	97 06 17	JMB

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 Consulting Engineers - Planners - Transportation Consultants
 Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
 Phone (204) 943-3178 Facsimile (204) 943-4948

DESIGNED BY: **JPL** CHECKED BY: **JMB** DATE: **97 06 17**

DRAWN BY: **TC** APPROVED BY: DATE:

HOR. SCALE: **AS SHOWN**

VERTICAL: **-**

ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: DATE:

R. DUERKSEN, P.ENG.



METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES

THE CITY OF WINNIPEG
 STREETS AND TRANSPORTATION DEPARTMENT
 BRIDGE ENGINEERING DIVISION

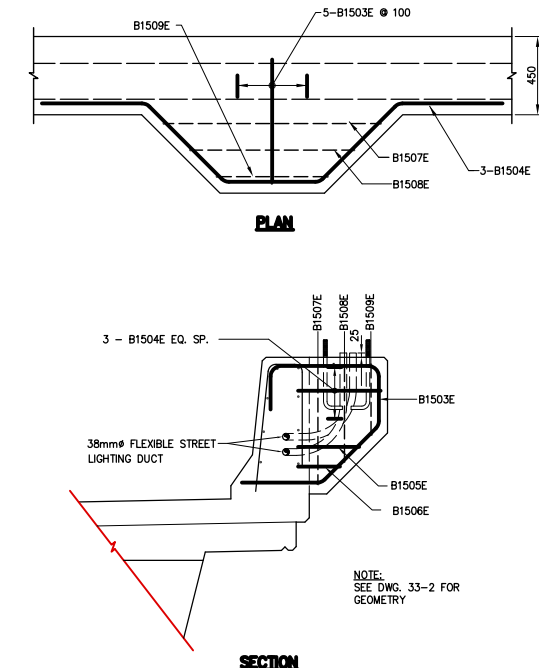
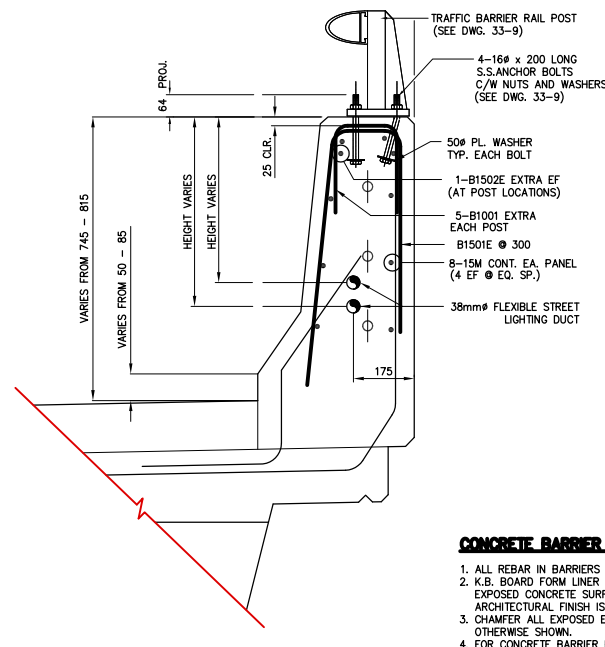
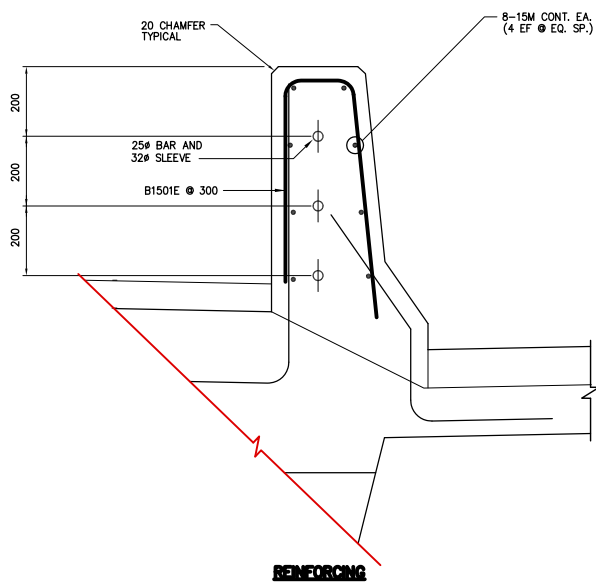
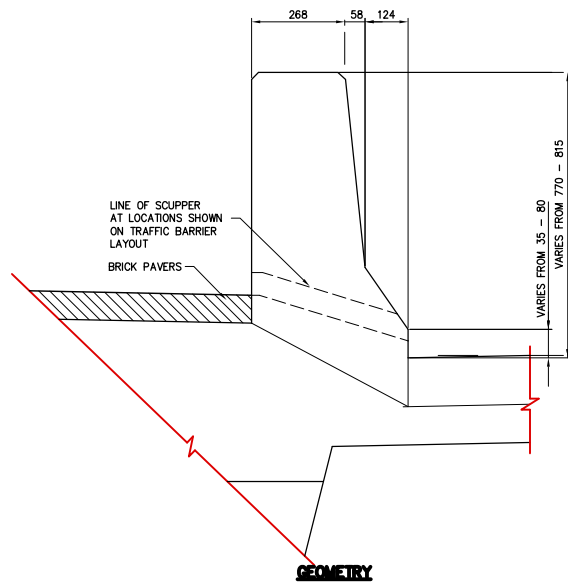
MAIN STREET AND NORWOOD BRIDGES PROJECT
 MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **8104-87-33-7**
 SHEET **33-7** OF **-**

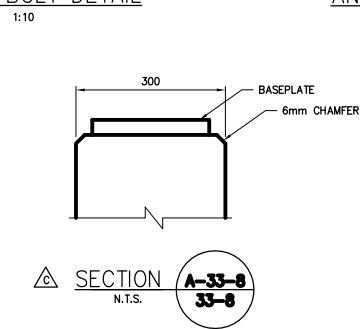
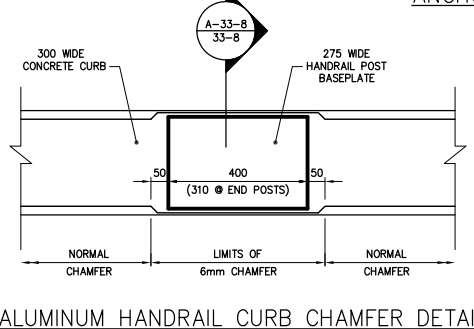
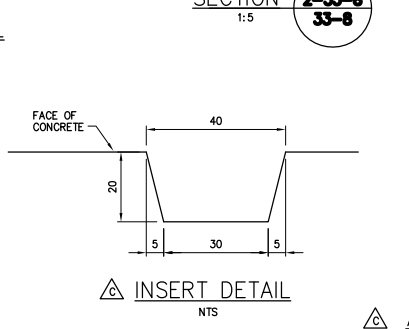
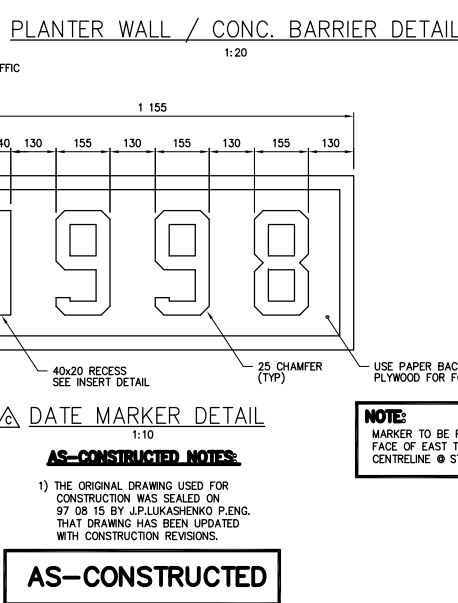
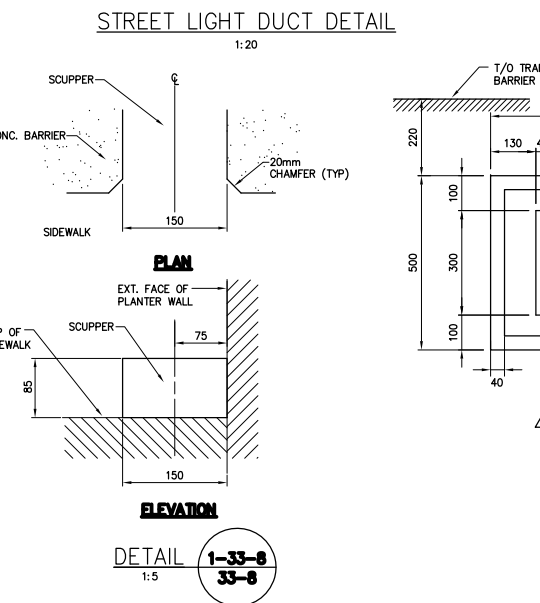
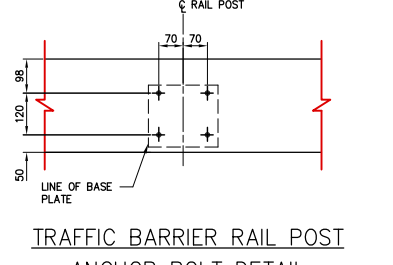
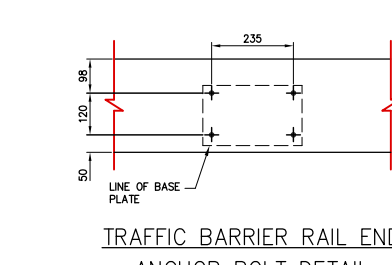
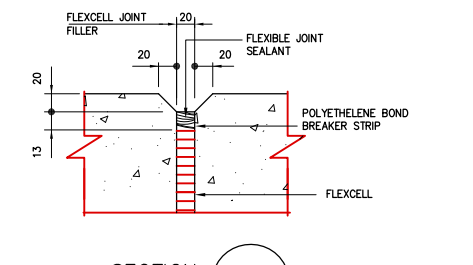
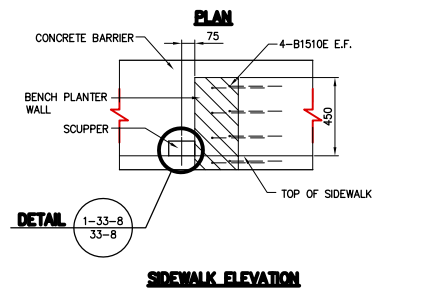
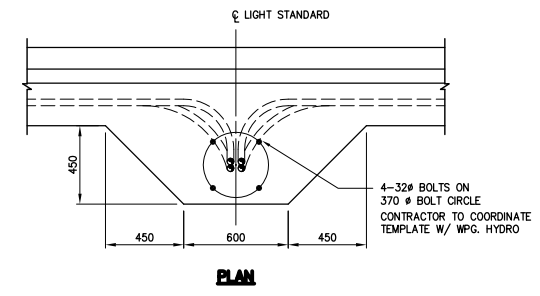
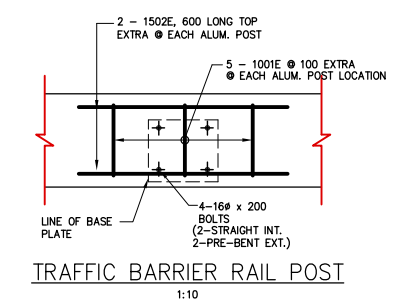
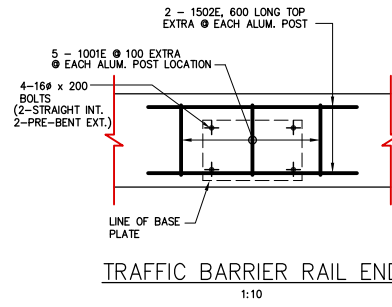
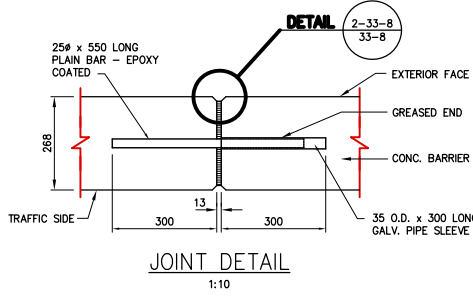
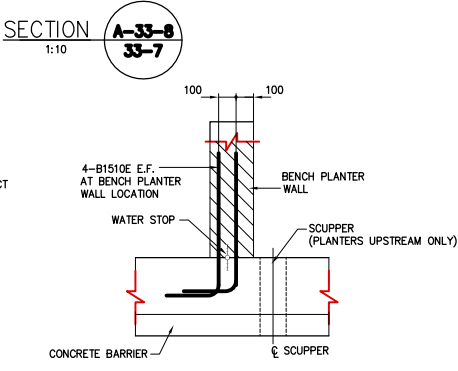
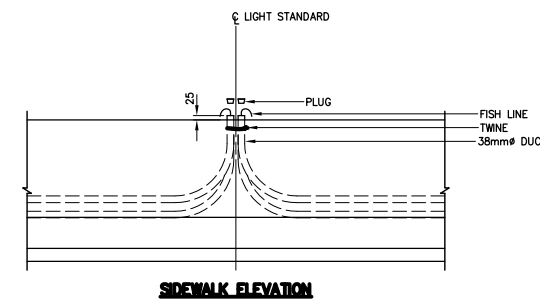
CONSULTANT DRAWING NO. **4462-33-7 (SB)**

CONCRETE TRAFFIC BARRIER LAYOUT

D



- CONCRETE BARRIER NOTES**
1. ALL REBAR IN BARRIERS SHALL BE EPOXY COATED
 2. K.B. BOARD FORM LINER SHALL BE USED FOR ALL EXPOSED CONCRETE SURFACES EXCEPT WHERE ARCHITECTURAL FINISH IS SHOWN.
 3. CHAMFER ALL EXPOSED EDGES 13mm UNLESS OTHERWISE SHOWN.
 4. FOR CONCRETE BARRIER PANEL TYPE & LAYOUT SEE DRAWING 33-7



SEE DRAWING NO.4462-34-10 (SB) FOR REINFORCING SCHEDULE.

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

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AS-CONSTRUCTED

NOTE:
MARKER TO BE PLACED ON THE BACK FACE OF EAST TRAFFIC BARRIER WITH CENTRELINE @ STA. 13 + 30.462

NO.	REVISIONS	DATE	BY
D	AS CONSTRUCTED	98 12 01	JWB
C	ADDED DETAILS	98 03 23	JWB
B	ISSUED FOR CONSTRUCTION	97 08 15	JWB
A	ISSUED FOR REVIEW	97 06 17	JWB

DESIGNED BY: JPL		CHECKED BY: JWB		DATE
DRAWN BY: RCS		APPROVED BY:		DATE
HOR. SCALE: AS SHOWN		AUTHORIZED BY:		DATE
VERT. SCALE: AS SHOWN		B. EBENSPANER P.ENG./SENIOR BRIDGE ENGINEER		DATE
NO. REVISIONS		R. DUERKSEN, P.ENG.		DATE



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THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

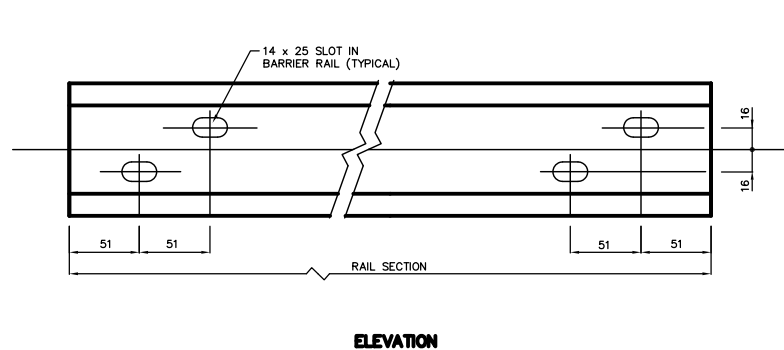
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **8104-87-33-8**
SHEET OF: **33-8**

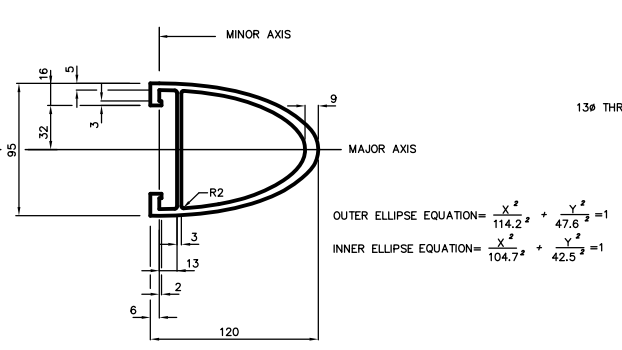
CONSULTANT DRAWING NO.: **4462-33-8 (SB)**

CONCRETE BARRIER DETAILS

D

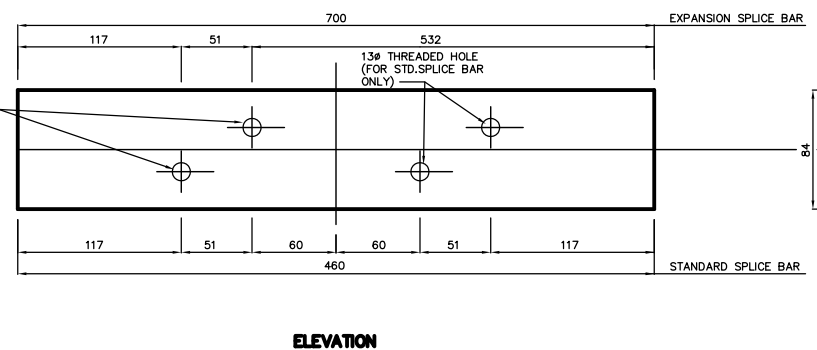


ELEVATION

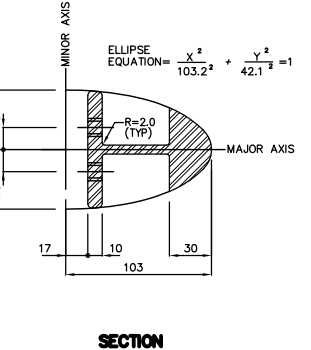


SECTION

BARRIER RAIL DETAIL

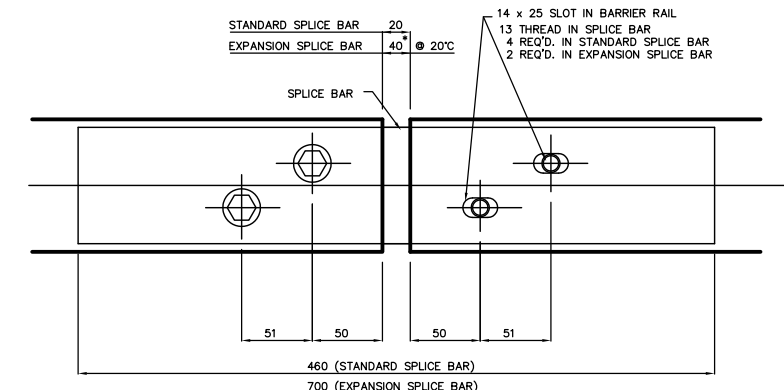


ELEVATION

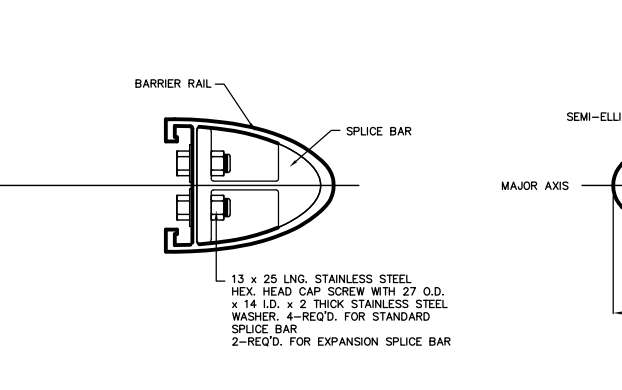


SECTION

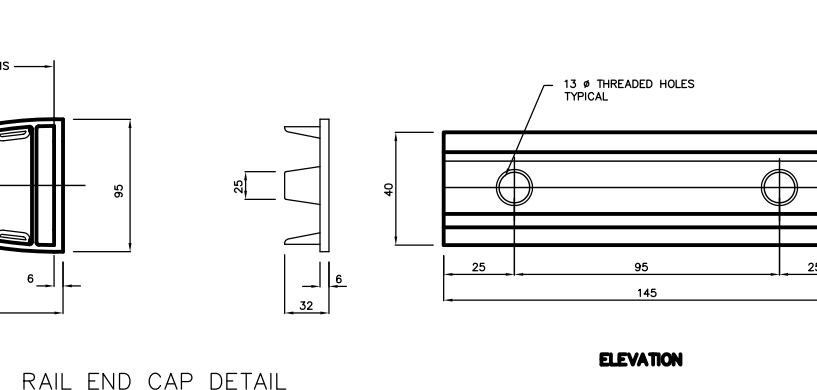
SPLICE BAR DETAIL



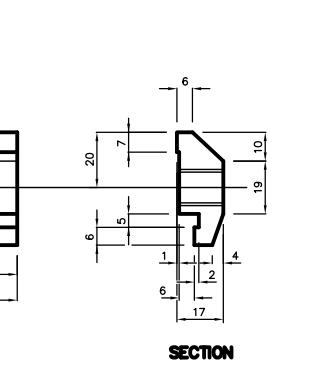
ELEVATION



SECTION



RAIL END CAP DETAIL



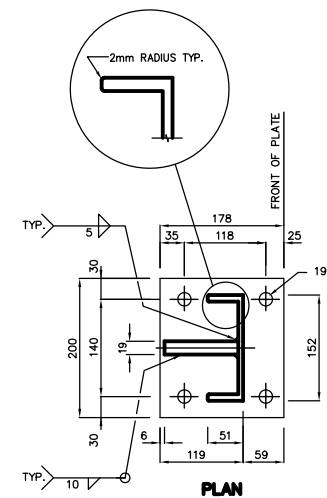
ELEVATION

SECTION

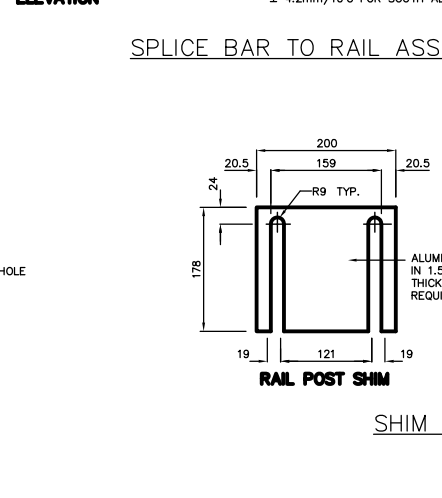
RAIL CLAMP BAR DETAIL

SPLICE BAR TO RAIL ASSEMBLY DETAIL

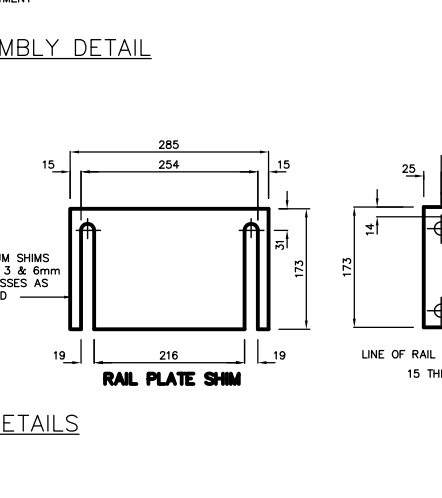
*ADJUST ± 5.4mm/10°C FOR NORTH ABUTMENT
± 4.2mm/10°C FOR SOUTH ABUTMENT



PLAN

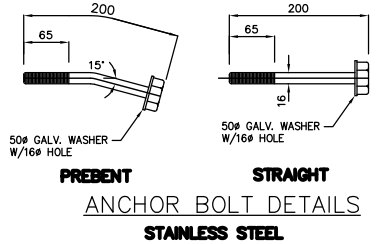


RAIL POST SHIM



RAIL PLATE SHIM

RAIL PLATE DETAIL



ANCHOR BOLT DETAILS
STAINLESS STEEL

NOTES:

1. THE 19mm DIA. HOLES (4) IN THE BASE OF THE BARRIER RAIL POSTS AND RAIL PLATES ARE DESIGNED TO ACCOMMODATE 16mm DIA. RAIL POST ANCHOR BOLTS AS DETAILED. SUPPLY WITH EACH ANCHOR BOLT: ONE STAINLESS STEEL PLAIN WASHER, ONE STAINLESS STEEL LOCK WASHER AND ONE STAINLESS STEEL HEX. NUT.
2. A COMBINATION OF 1.5, 3 AND/OR 6mm THICK ALUMINUM RAIL POST OR RAIL PLATE SHIMS ARE TO BE USED AS REQUIRED TO SET THE BARRIER RAIL TO THE SPECIFIED HEIGHT. (MINIMUM 3mm SHIM PLATE REQUIRED AT EACH POST OR PLATE.)
3. REMOVE ALL BURRS AND SHARP EDGES IN THE SHOP. AFTER THE INSTALLATION OF THE BARRIER HAS BEEN COMPLETED, THE TOP EDGES AND CORNERS OF THE BARRIER RAIL POSTS SHALL BE ROUNDED SMOOTH TO THE SATISFACTION OF THE ENGINEER.
4. BOTTOM SURFACE OF SHIM (SURFACE IN CONTACT WITH CONCRETE) IS TO BE PAINTED WITH 2-COATS OF ALKALI BITUMINOUS PAINT, EACH COAT BEING 1mm IN THICKNESS.

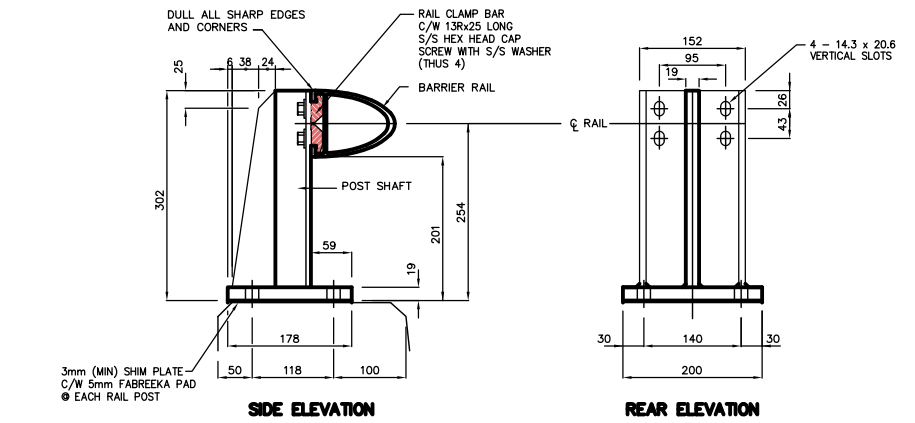
SPECIFICATION:

1. EXTRUDED ALUMINUM SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. B221, ALLOY 6061-T6 OR ALLOY 6351-T5 (MINIMUM ELONGATION 10%).
2. THE STAINLESS STEEL HEX HEAD CAP SCREWS SHALL MEET THE REQUIREMENTS OF A.S.T.M. A276, TYPE 430, AND THE DIMENSIONAL REQUIREMENTS OF A.N.S.I. B18.3.
3. DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE, AND ACCEPTED MANUFACTURING PRACTICES.

NOTE:
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AS-CONSTRUCTED NOTES:

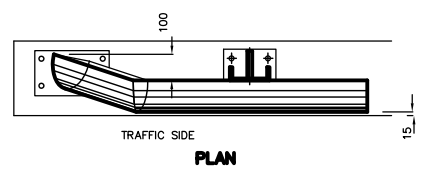
- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.



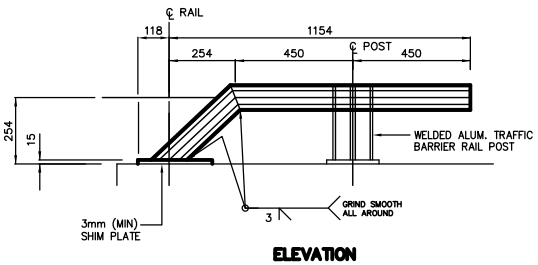
SIDE ELEVATION

REAR ELEVATION

WELDED ALUMINUM TRAFFIC BARRIER
ALSO SHOWING RAIL TO POST ASSEMBLY DETAIL FOR USE ON CONCRETE TRAFFIC BARRIER



PLAN



ELEVATION

RAIL END SECTION DETAIL

AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

C:\22063\4462-301\446233-9 Date: 06/25/97 Time: 11:03:39

LOCATIONS APPROVED UNDERGROUND STRUCTURES	B.M. - ELEV. -	DESIGNED BY: JPL		DATE: 97 06 17
N.A.		DRAWN BY: RCS		DATE:
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION		HOR. SCALE: AS SHOWN		DATE: JUNE 1997
		VERT. SCALE:		
		NO. REVISIONS		

DS-Lea Consultants Ltd. Consulting Engineers - Planners - Transportation Consultants Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1 Phone 204 943-3178 Facsimile 204 943-4948	
ENGINEER'S SEAL	
CHECKED BY: JNB APPROVED BY: AUTHORIZED BY:	DATE: 97 06 17 DATE: DATE:
ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY: DATE: R. DUERKSEN, P.ENG.	



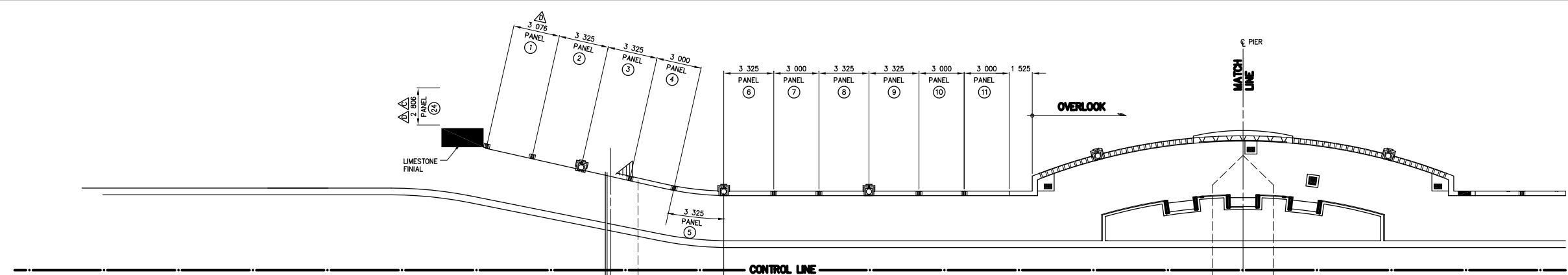
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE

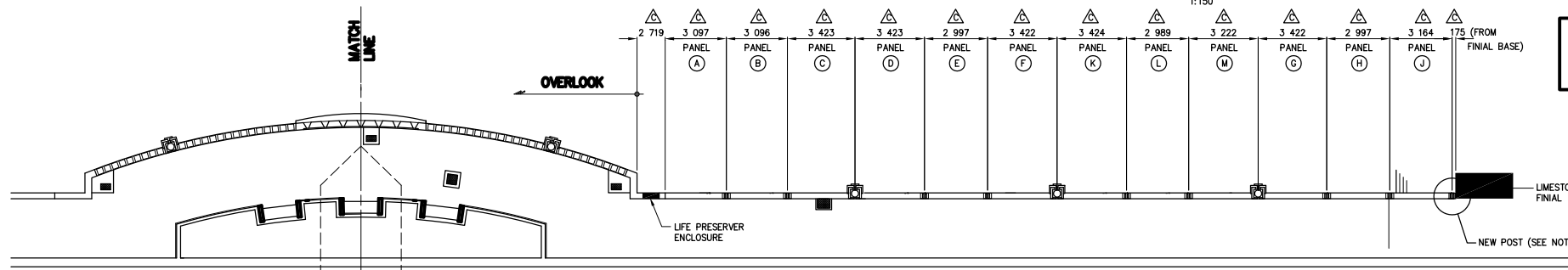
SOUTHBOUND AND RELATED ROADWORKS

ALUMINUM TRAFFIC BARRIER RAIL DETAILS

CITY DRAWING NUMBER	8104-87-33-9
SHEET OF	33-9 -
CONSULTANT DRAWING NO.	4462-33-9 (SB)

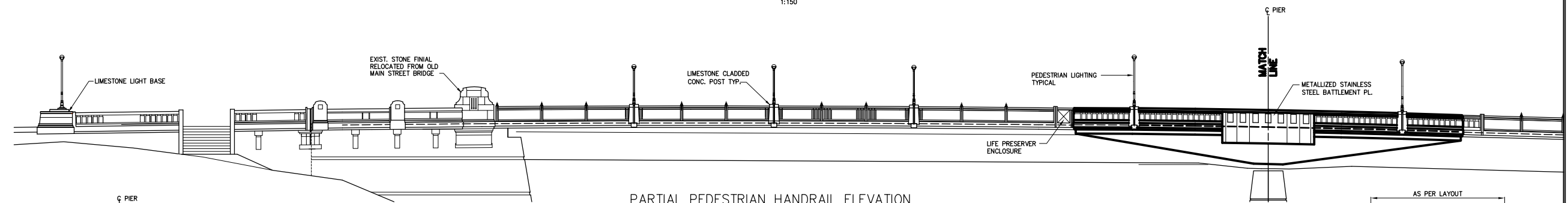


PARTIAL PEDESTRIAN HANDRAIL LAYOUT

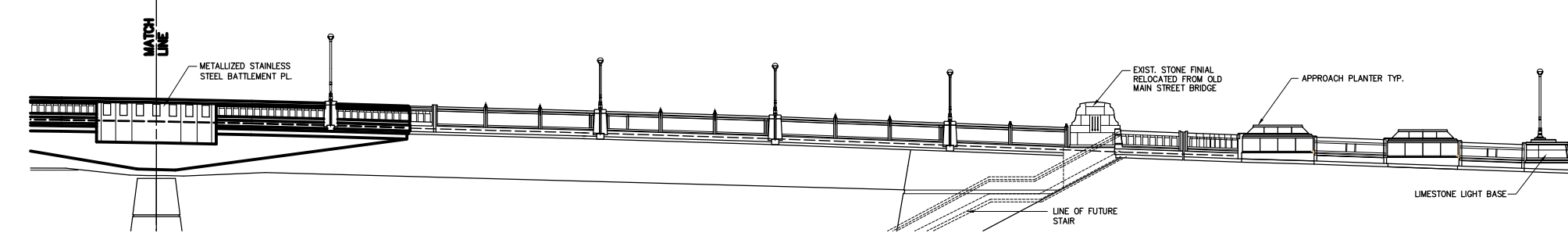


NOTE:
ALL POSTS ON NORTH SIDE TO
BE REUSED FROM NORTHBOUND
STRUCTURE EXCEPT WHERE
SHOWN OTHERWISE.

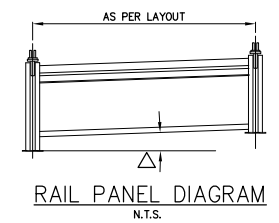
PARTIAL PEDESTRIAN HANDRAIL LAYOUT



PARTIAL PEDESTRIAN HANDRAIL ELEVATION



PARTIAL PEDESTRIAN HANDRAIL ELEVATION



RAIL PANEL DIAGRAM
N.T.S.

AS-CONSTRUCTED NOTES:

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97 08 15 BY J.P. LUKASHENKO P.ENG.
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WITH CONSTRUCTION REVISIONS.

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

AS-CONSTRUCTED

PANEL No.	GRADE Δ	REMARKS	PANEL No.	GRADE Δ	REMARKS
1	3.4%		B	0.9%	3rd PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
2	3.6%		C	0.8%	3rd PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
3	3.7%		D	0.6%	4th PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
4	3.6%		E	0.5%	5th PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
5	3.5%		F	0.4%	6th PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
6	3.3%		K	0.2%	7th PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
7	3.2%		L	-	8th PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
8	3.1%		M	-	9th PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
9	2.9%		G	-0.2%	10th PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
10	2.8%		H	-0.4%	11th PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
11	2.7%		J	-0.5%	12th PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE
A	1.1%	1st PANEL FROM OVERLOOK ON NORTHBOUND STRUCTURE	24	2.0%	

FOR NEW HANDRAILS TO BE INSTALLED ON NORTHBOUND STRUCTURE SEE DWG. 4462-33-10
NOTE: PANELS A - J TO BE RELOCATED FROM MAIN STREET BRIDGE NORTHBOUND

NO.	REVISIONS	DATE	BY
D	AS CONSTRUCTED	98 12 01	JWB
C	DIMENSIONS REVISED	98 04 09	JWB
B	ISSUED FOR CONSTRUCTION	97 08 15	JWB
A	ISSUED FOR REVIEW	97 06 17	JWB

LOCATIONS APPROVED UNDERGROUND STRUCTURES
N.A.

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone | 204 | 943-3178 Facsimile | 204 | 943-4948

DESIGNED BY: **JPL** CHECKED BY: **JWB** DATE: _____
DRAWN BY: **RCS** APPROVED BY: _____ DATE: _____

HOR. SCALE: **AS SHOWN**
VERT. SCALE: _____

ACCEPTED FOR P.C.I. CONSULTANTS CANADA INC. BY: _____ DATE: _____
R. DUERSEN, P.ENG.

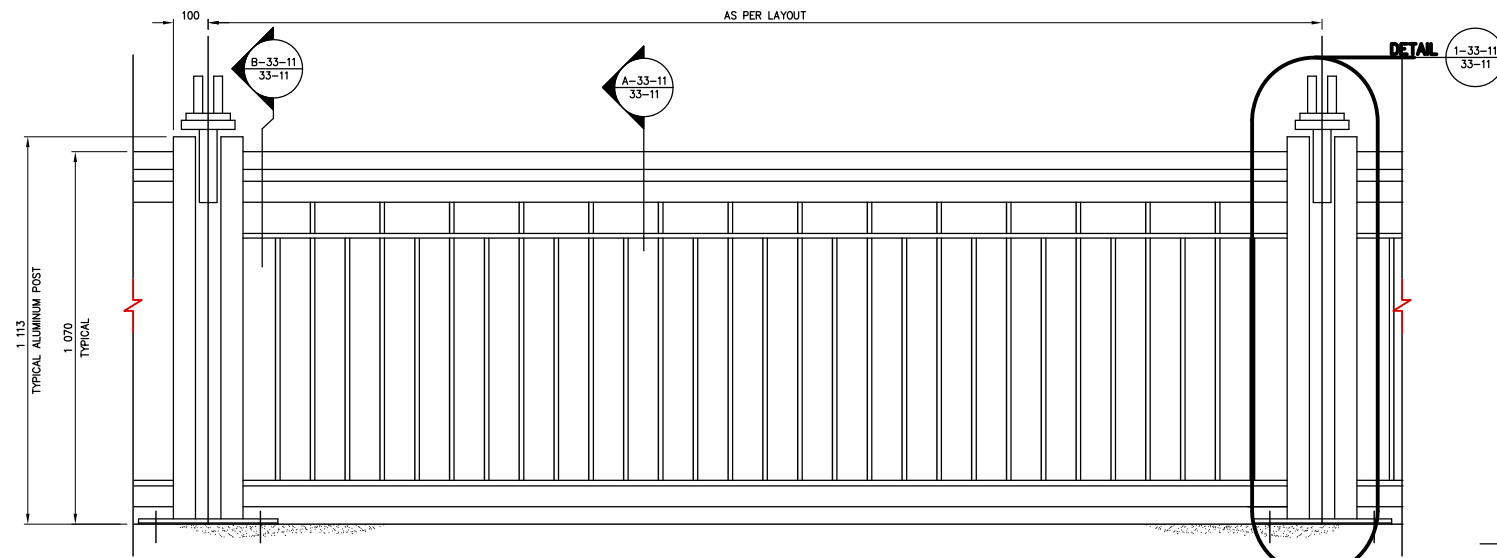


THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

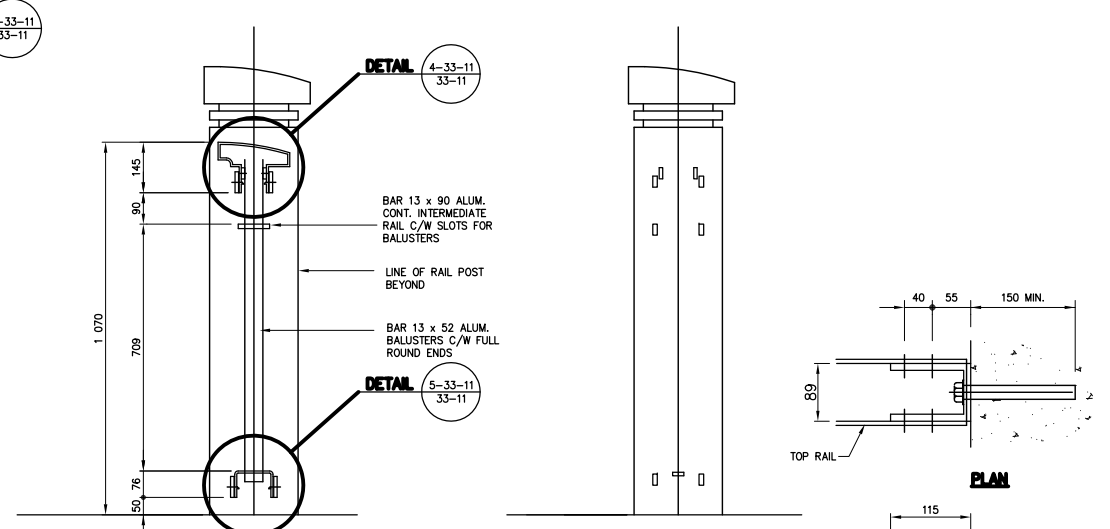
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **8104-97-33-10**
SHEET OF: **33-10** OF **-**
D

CONSULTANT DRAWING NO. **4462-33-10 (58)**

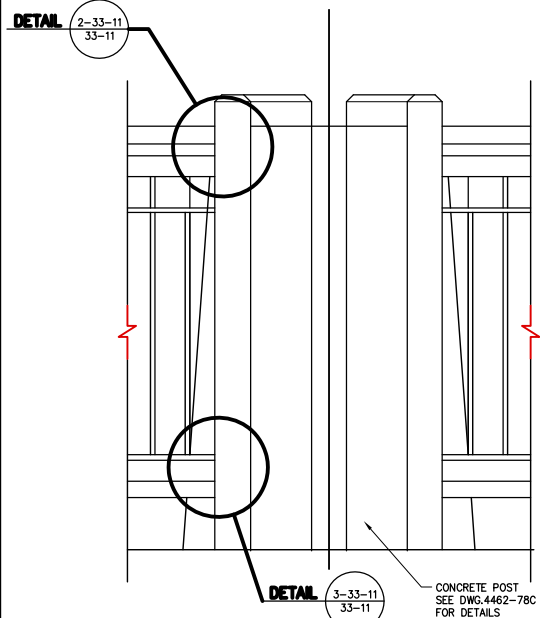


TYPICAL PANEL ELEVATION
1:10



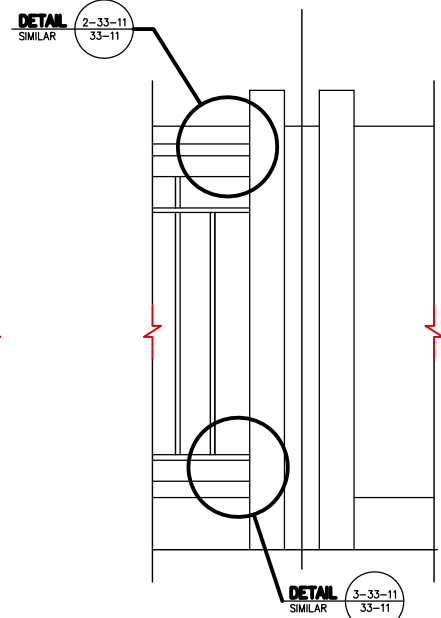
SECTION A-33-11
1:10

SECTION B-33-11
1:10



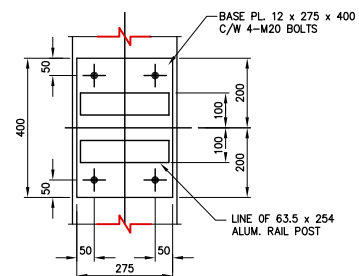
DETAIL 2-33-11
1:10

DETAIL 3-33-11
1:10

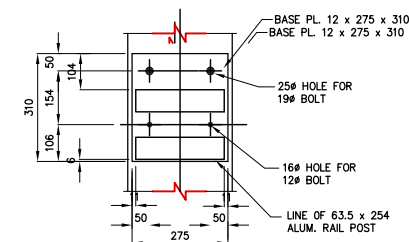


DETAIL 2-33-11
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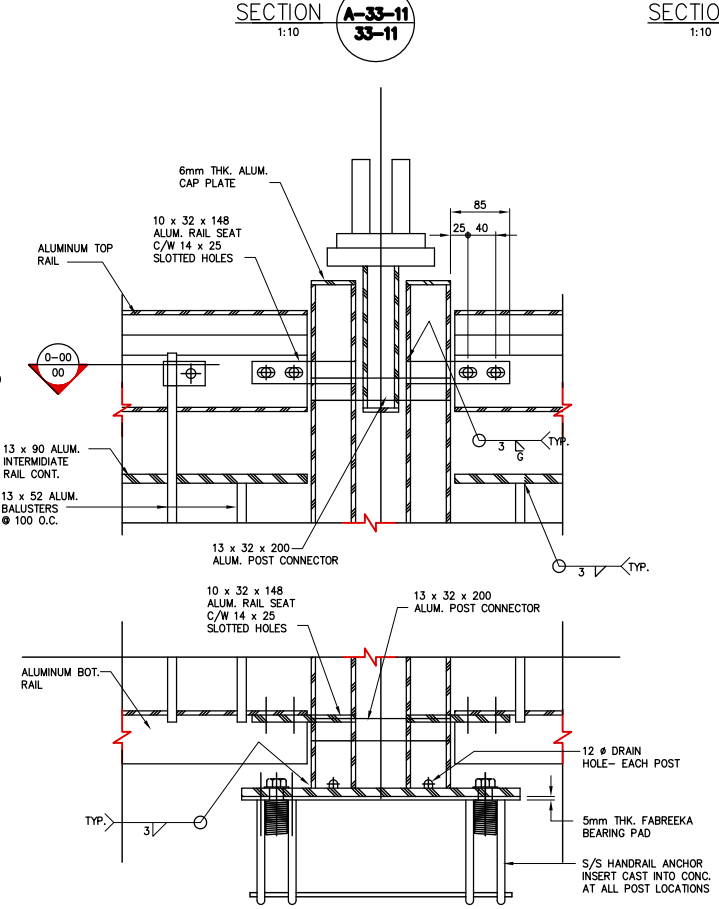
DETAIL 3-33-11
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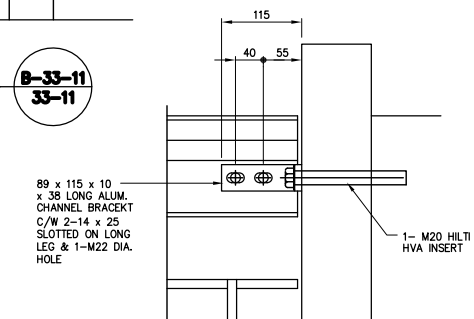
BASE PLATE DETAIL
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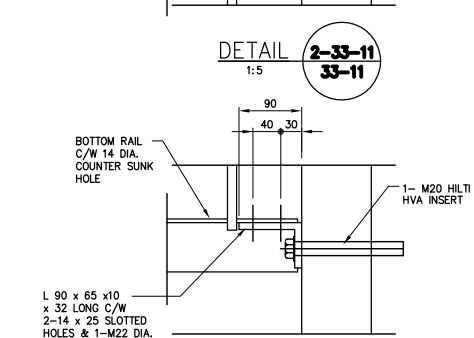
BASE PLATE DETAIL ADJACENT TO FINIAL
1:10



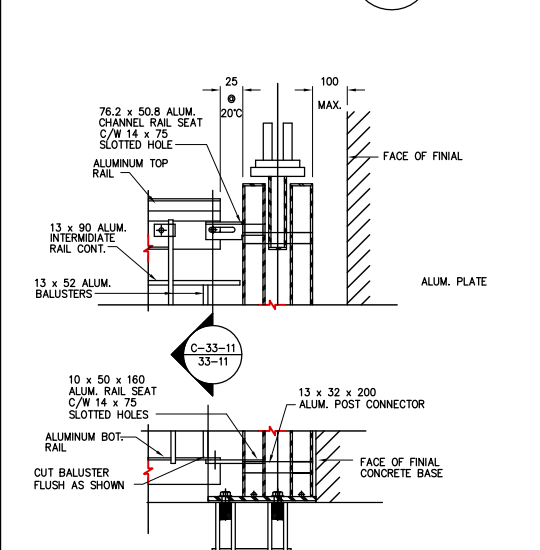
DETAIL 1-33-11
1:5



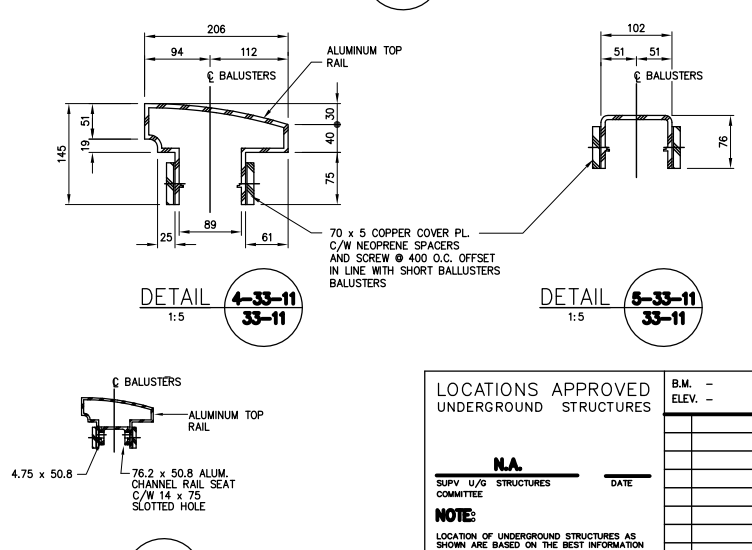
DETAIL 2-33-11
1:5



DETAIL 3-33-11
1:5



EXPANSION CONNECTION DETAIL
1:10



DETAIL 4-33-11
1:5

DETAIL 5-33-11
1:5

SECTION C-33-11
1:10

AS-CONSTRUCTED NOTES:

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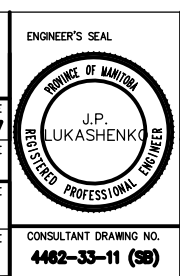
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AS-CONSTRUCTED

C:\220M\4462-301\44623311 Time: 11:11:08 Date: 06/25/97

LOCATIONS APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.
N.A.		
SUPV. U/G STRUCTURES COMMITTEE	DATE	
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION		
C	AS CONSTRUCTED	08 12 01 JWB
B	ISSUED FOR CONSTRUCTION	07 08 15 JWB
A	ISSUED FOR REVIEW	07 06 17 JWB
NO.	REVISIONS	DATE BY

DESIGNED BY		CHECKED BY:		DATE	
JPL		JWB		07 06 17	
DRAWN BY		APPROVED BY:		DATE	
RCS					
HOR. SCALE:		AUTHORIZED BY:		DATE	
AS SHOWN		B. EISENPAJER P.ENG./SENIOR BRIDGE ENGINEER			
VERT. SCALE:		ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY:		DATE	
		R. DUERKSEN, P.ENG.			

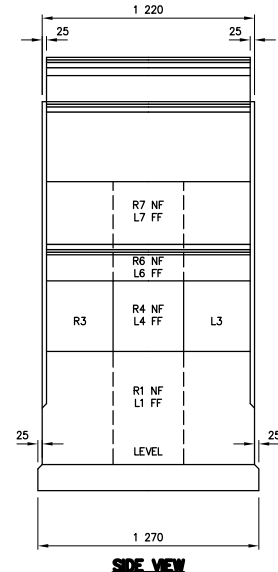
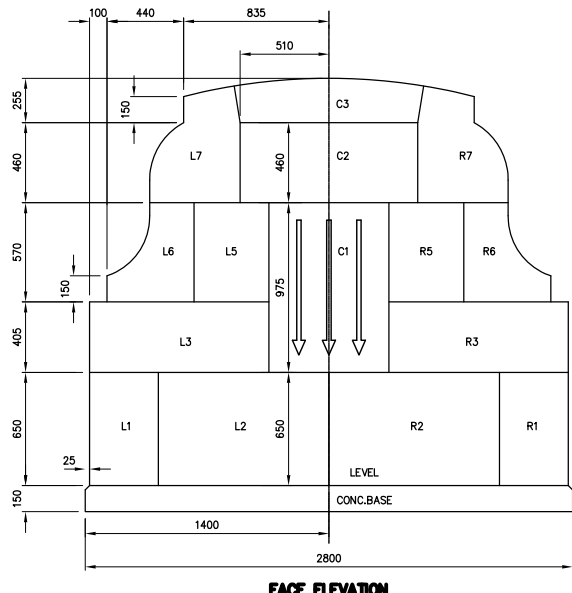


THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

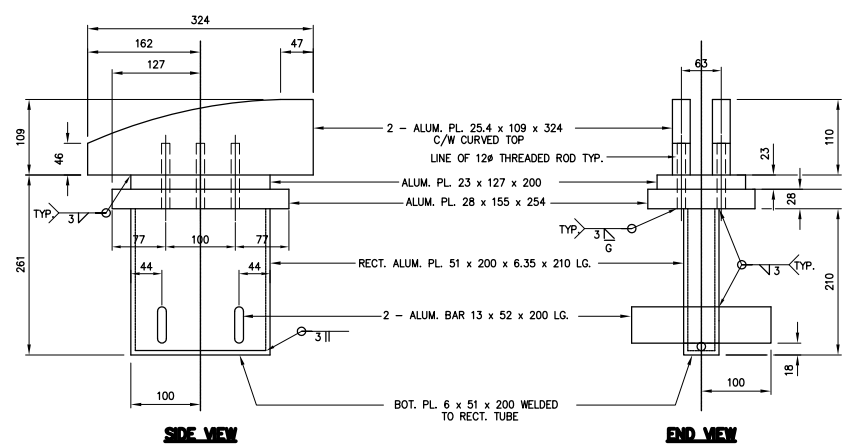
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CONSULTANT DRAWING NO. **4462-33-11 (SB)**

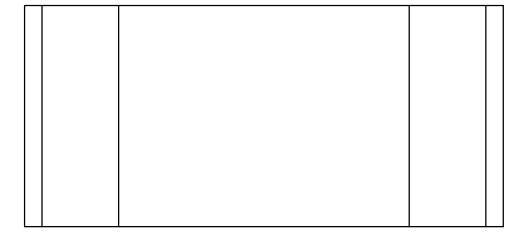
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SHEET **33-11** OF **-**
C



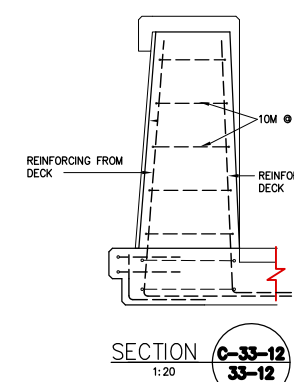
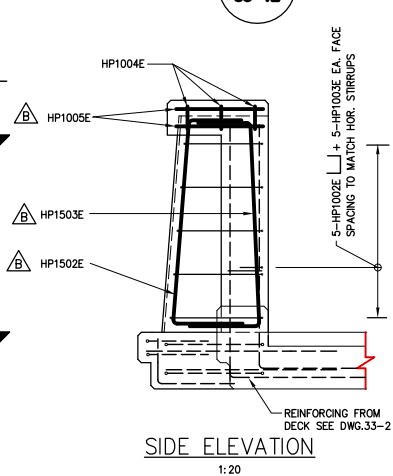
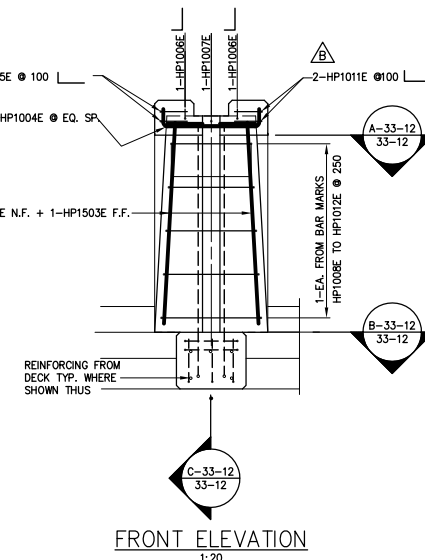
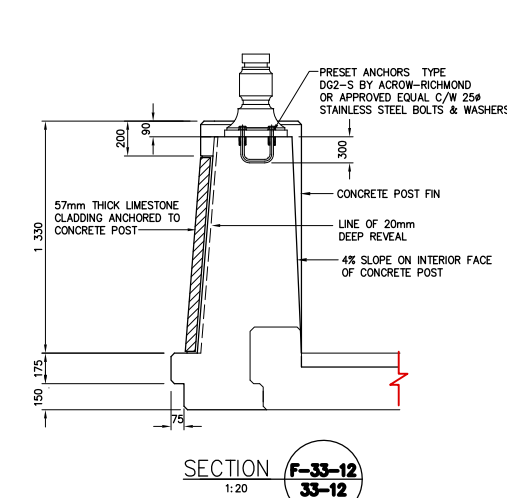
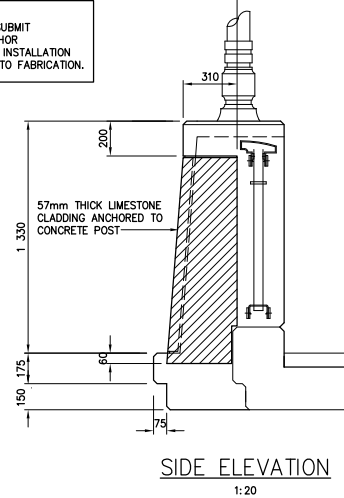
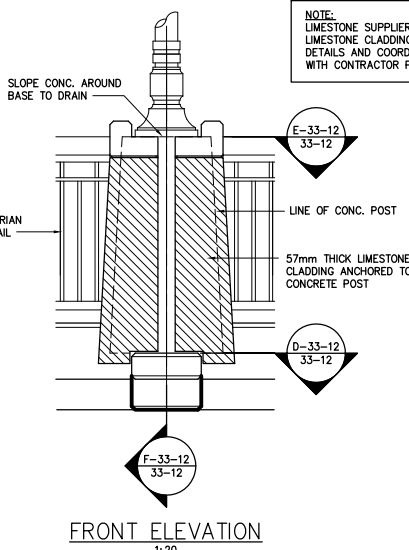
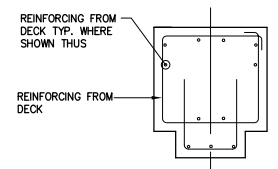
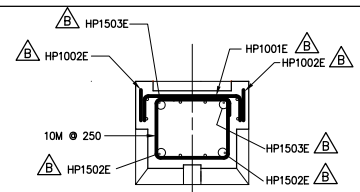
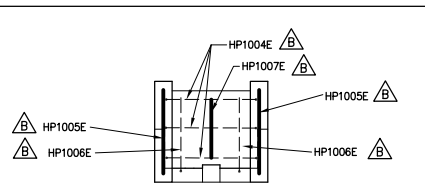
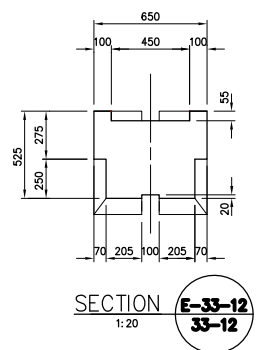
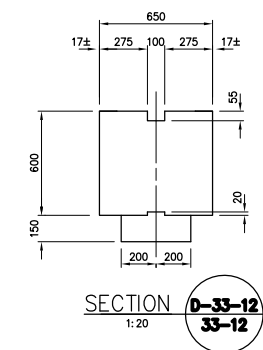
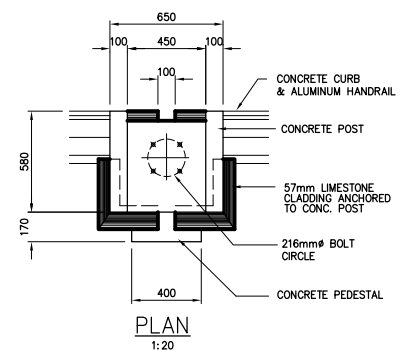
ORNAMENTAL LIMESTONE BLOCK SCHEDULE			
MARK	NO.	SIZE	REMARKS
R1	1	395 x 650 x 1 220	-
L1	1	98 x 650 x 300	-
R2	2	98 x 650 x 300	-
L2	2	1 030 x 405 x 300	-
R3	2	1 030 x 405 x 300	-
R4	1	620 x 405 x 395	-
L4	1	620 x 405 x 395	-
R5	2	430 x 570 x 300	-
L5	2	430 x 570 x 300	-
R6	1	500 x 570 x 1 220	-
L6	1	500 x 570 x 1 220	-
R7	1	520 x 690 x 1 220	CURVED SIDE AND TOP
L7	1	520 x 690 x 1 220	CURVED SIDE AND TOP
C1	2	690 x 975 x 300	CURVED FACE
C2	1	1 015 x 460 x 1 220	-
C3	1	1 065 x 255 x 1 220	CURVED TOP



DETAIL OF ALUMINUM HANDRAIL POST TOP CAP
SCALE 1:5



ORNAMENTAL LIMESTONE BLOCK DETAILS
SCALE 1:20



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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

AS-CONSTRUCTED

LOCATIONS APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.
N.A.		
SUPV. U/G STRUCTURES COMMITTEE	DATE	
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION		
D	AS CONSTRUCTED	98 12 01 JWB
C	ISSUED FOR CONSTRUCTION	97 08 15 JWB
B	REBAR CHANGED FROM P TO HP	97 07 30 JWB
A	ISSUED FOR REVIEW	97 06 17 JWB
NO.	REVISIONS	DATE BY

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone (204) 943-3178 Facsimile (204) 943-4948

DESIGNED BY: **JPL** CHECKED BY: **JWB** DATE: _____
DRAWN BY: **RCS** APPROVED BY: _____ DATE: _____
AUTHORIZED BY: _____ DATE: _____
B. EBENPANGER P.ENG., SENIOR BRIDGE ENGINEER
ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: _____ DATE: _____
R. DUERSEN, P.ENG.

HOR. SCALE: **AS SHOWN**
VERT. SCALE: _____

DATE: JUNE 1997



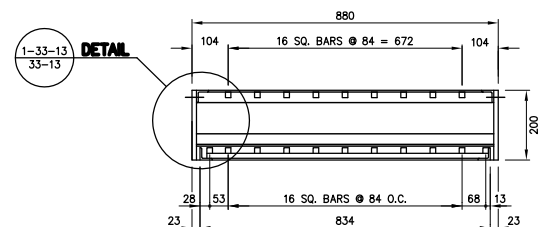
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

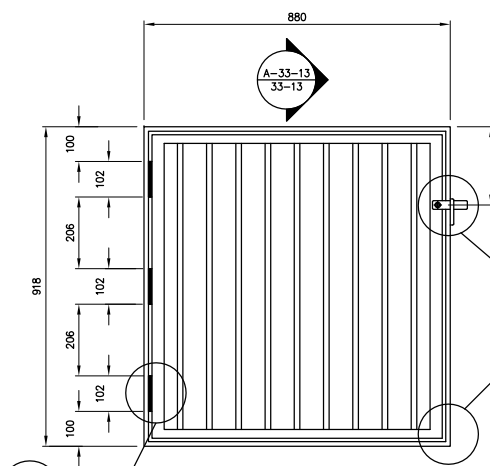
CITY DRAWING NUMBER: **8104-87-33-12**
SHEET OF: **33-12** OF **-**

PEDESTRIAN HANDRAIL MISCELLANEOUS DETAILS

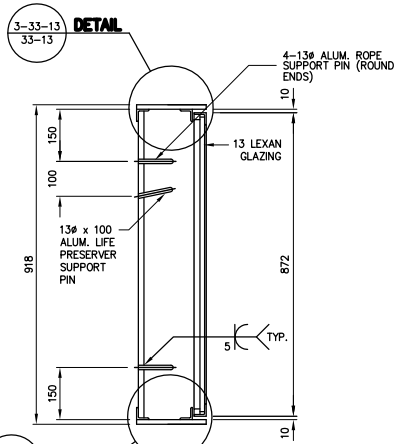
CONSULTANT DRAWING NO. **4462-33-12 (SB)**



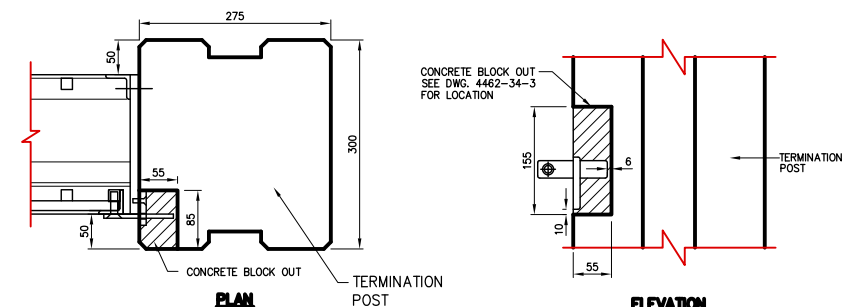
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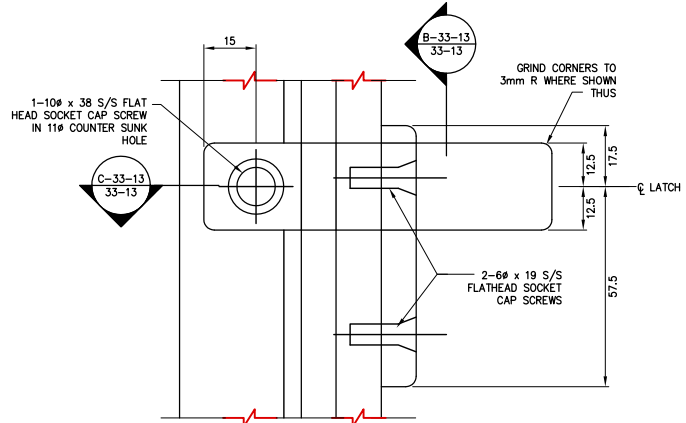
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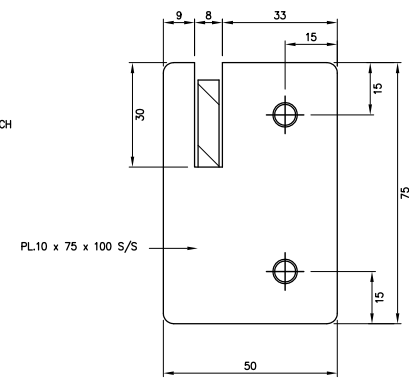
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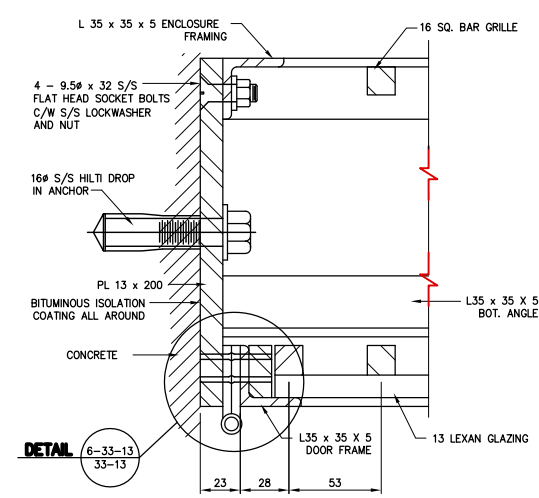
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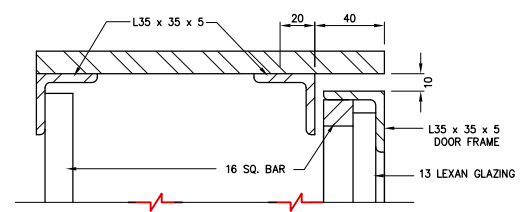
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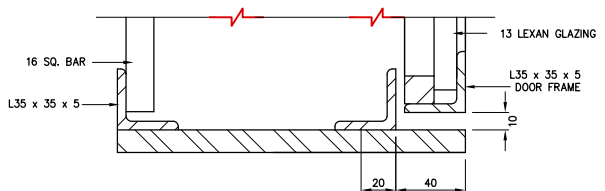
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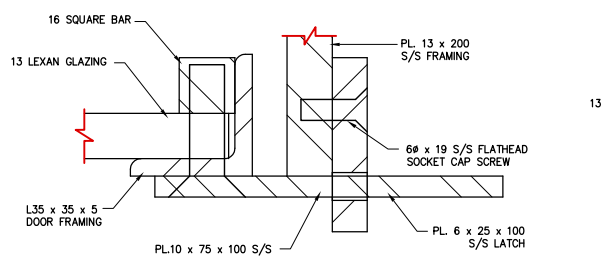
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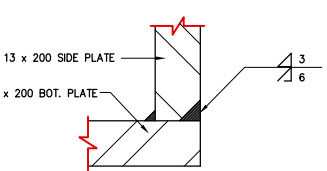
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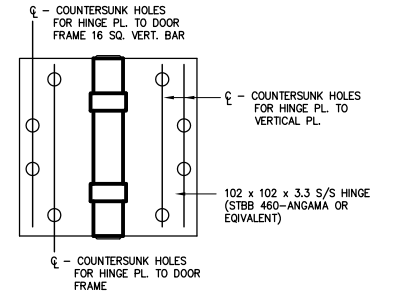
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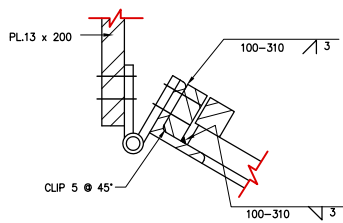
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DETAIL 7-33-13/33-13
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DETAIL 6-33-13/33-13
1:2



DETAIL 6-33-13/33-13
1:2

AS-CONSTRUCTED NOTES:

1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.W.BOGAN P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

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NO.	REVISIONS	DATE	BY
C	AS CONSTRUCTED	98 12 01	JWB
B	ISSUED FOR CONSTRUCTION	97 08 15	JWB
A	ISSUED FOR REVIEW	97 06 17	JWB

DESIGNED BY	CHECKED BY	DATE
JWB	JPL	
DRAWN BY	APPROVED BY	DATE
TC		
HOR. SCALE	DATE	DATE
AS SHOWN	JUNE 1997	
VERTICAL:	DATE	DATE
-		

ENGINEER'S SEAL
J.P. LUKASHENKO
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

LIFE PRESERVER ENCLOSURE DETAILS

CITY DRAWING NUMBER
B104-07-33-13
SHEET OF
33-13 OF
C

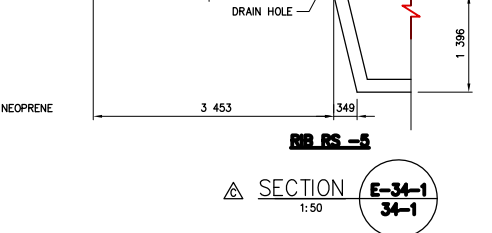
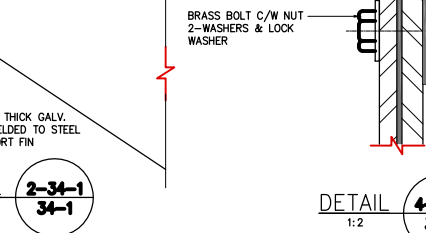
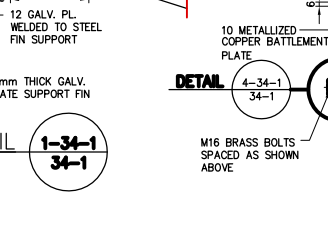
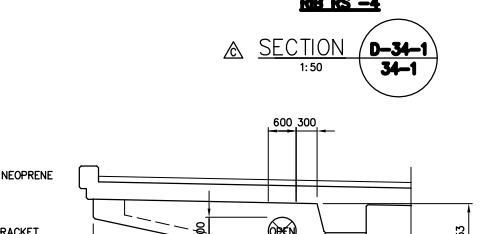
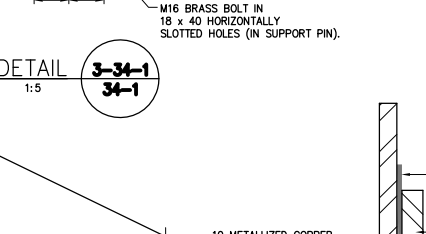
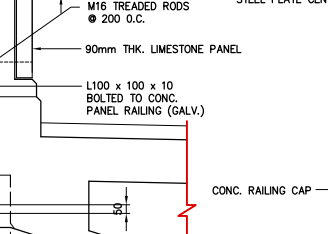
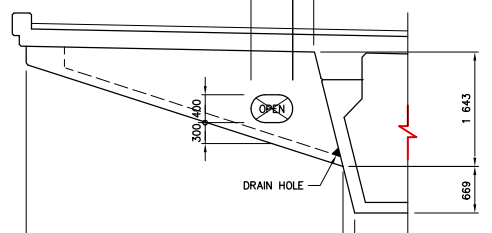
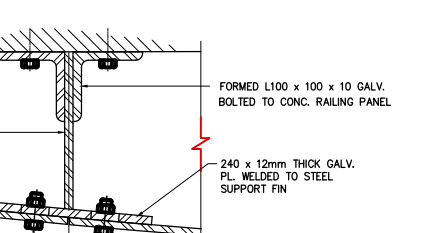
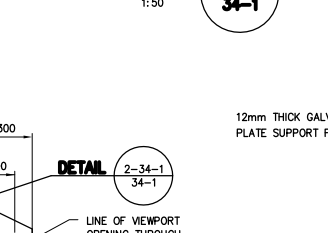
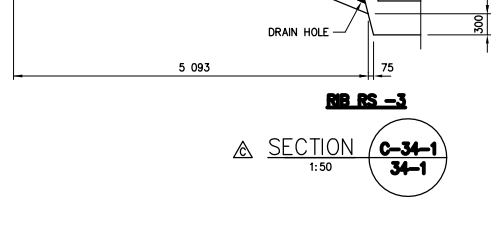
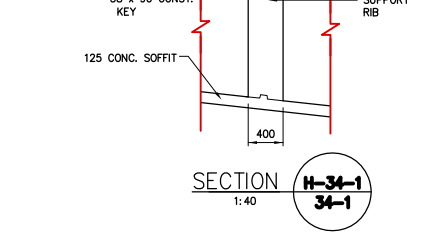
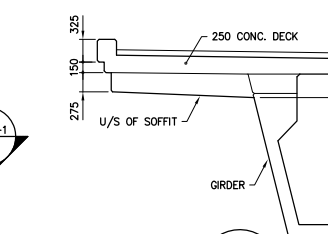
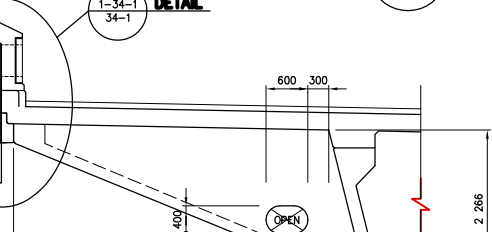
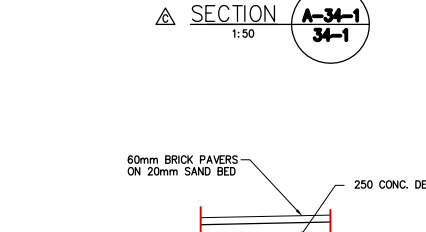
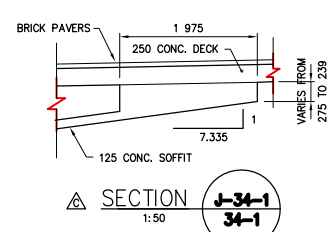
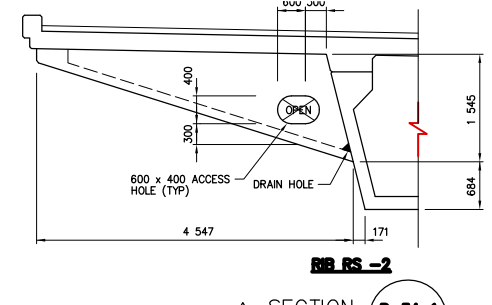
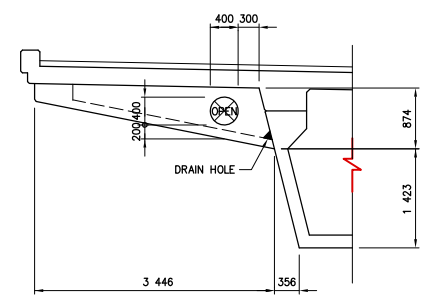
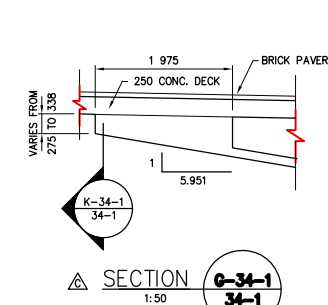
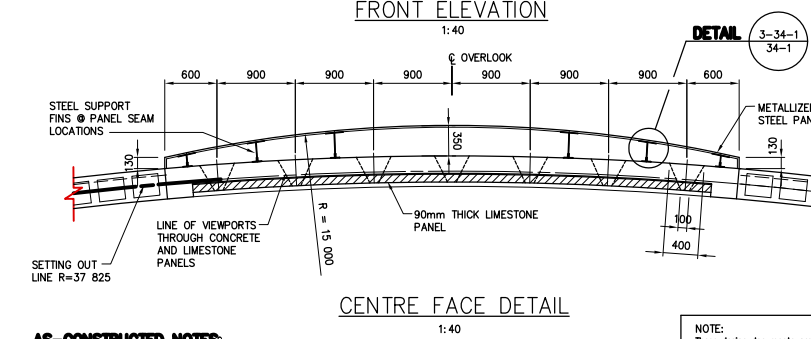
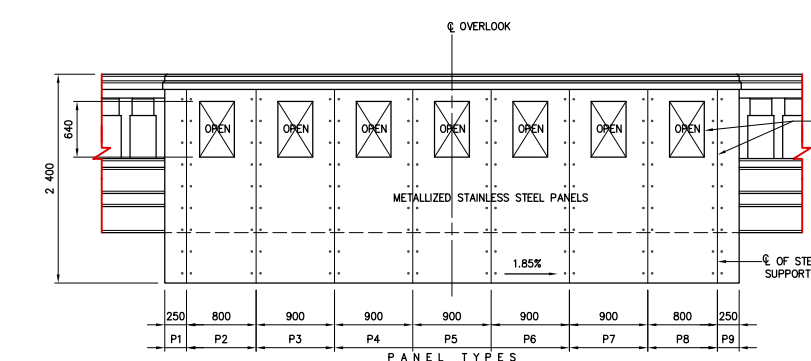
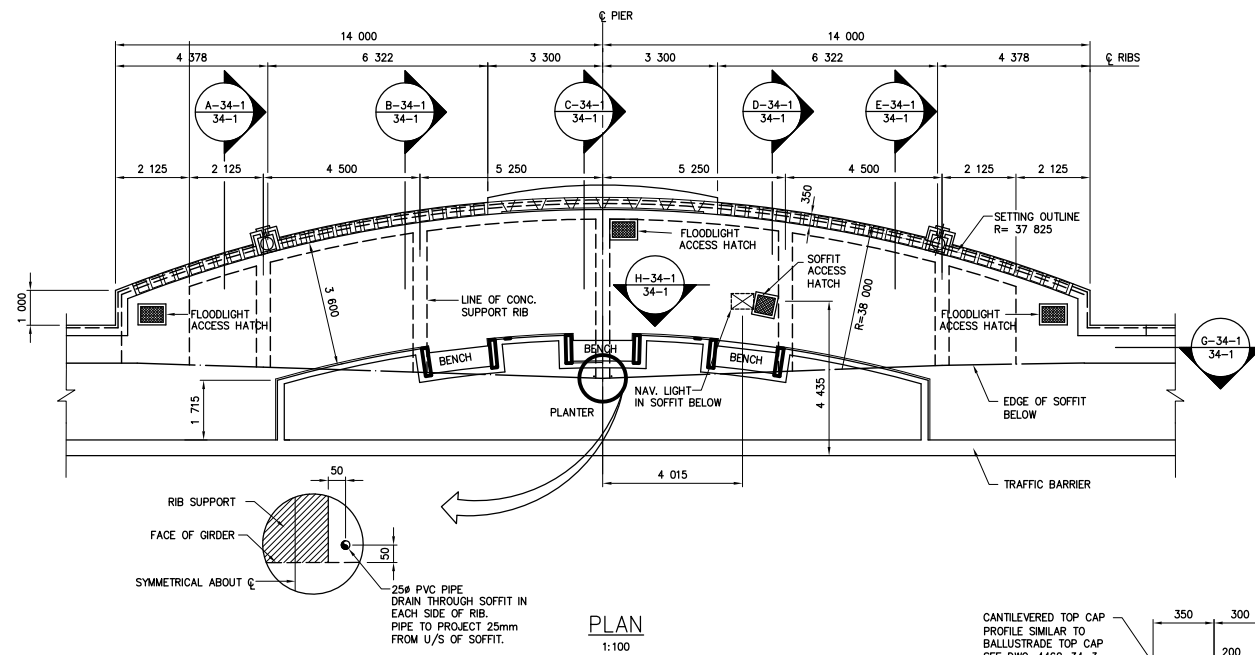
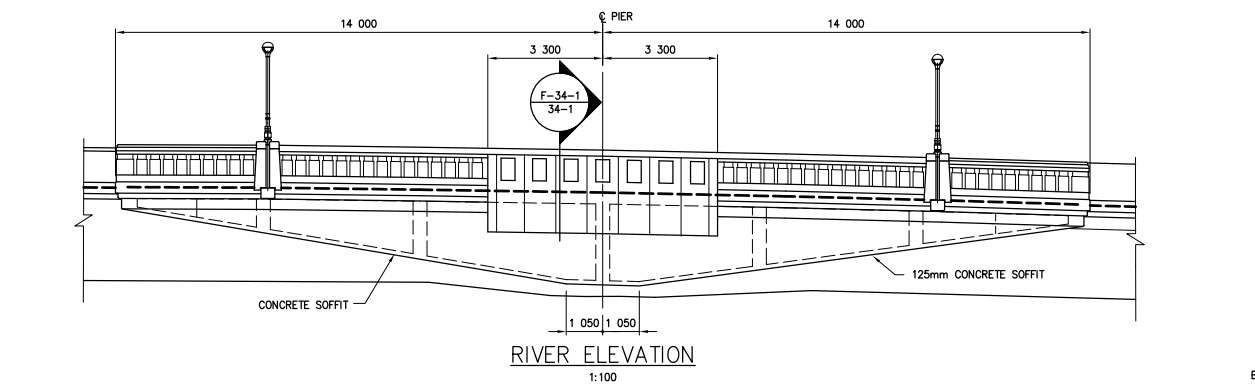
LOCATIONS APPROVED UNDERGROUND STRUCTURES

N.A.

NOTE:
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DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone (204) 943-3178 Facsimile (204) 943-4948

CONSULTANT DRAWING NO.
4462-33-13 (SB)



AS-CONSTRUCTED NOTES:
1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 06 17 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

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NO.	REVISIONS	DATE	BY
D	AS CONSTRUCTED	98 12 01	JWB
C	RIBS DETAILS REVISED, SECTIONS ADDED	97 11 03	JWB
B	ISSUED FOR CONSTRUCTION	97 06 17	JWB
A	ISSUED FOR REVIEW	97 05 14	JWB

DESIGNED BY	CHECKED BY	DATE
JPL	JWB	
DRAWN BY	APPROVED BY	DATE
RCS		
AUTHORIZED BY	DATE	
B. EBENSFANGER P.ENG./SENIOR BRIDGE ENGINEER		
ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY	DATE	
R. DUERKSEN, P.ENG.		



DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

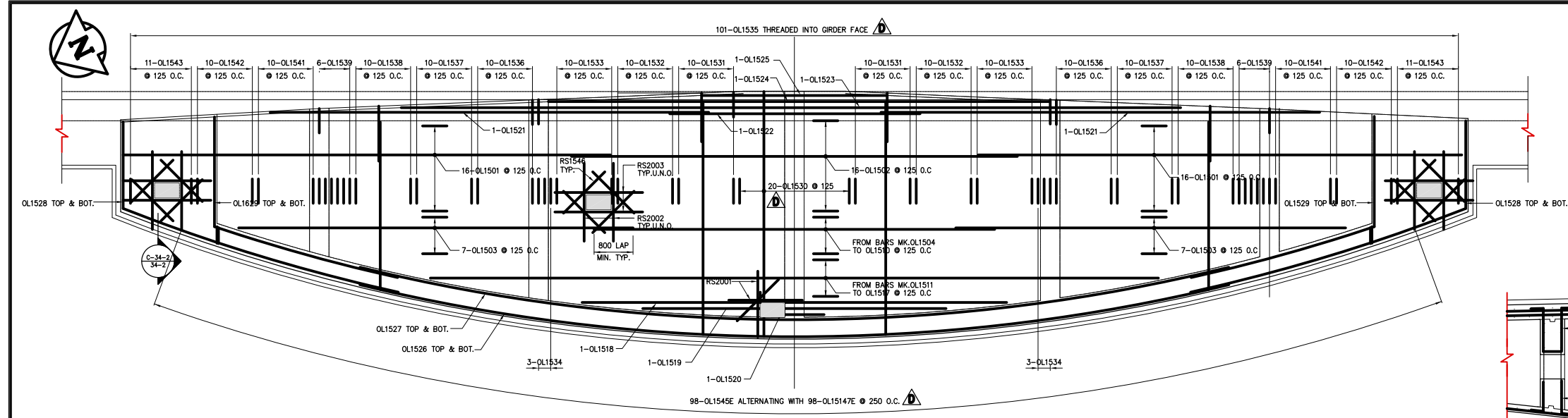
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **8104-87-34-1**
SHEET: **34-1** OF **-**

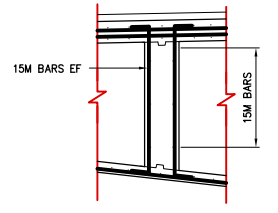
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OVERLOOK GEOMETRY SECTIONS AND DETAILS

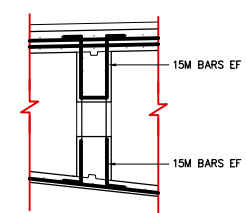
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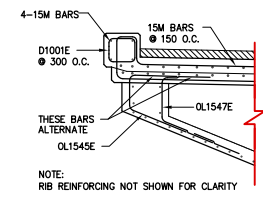
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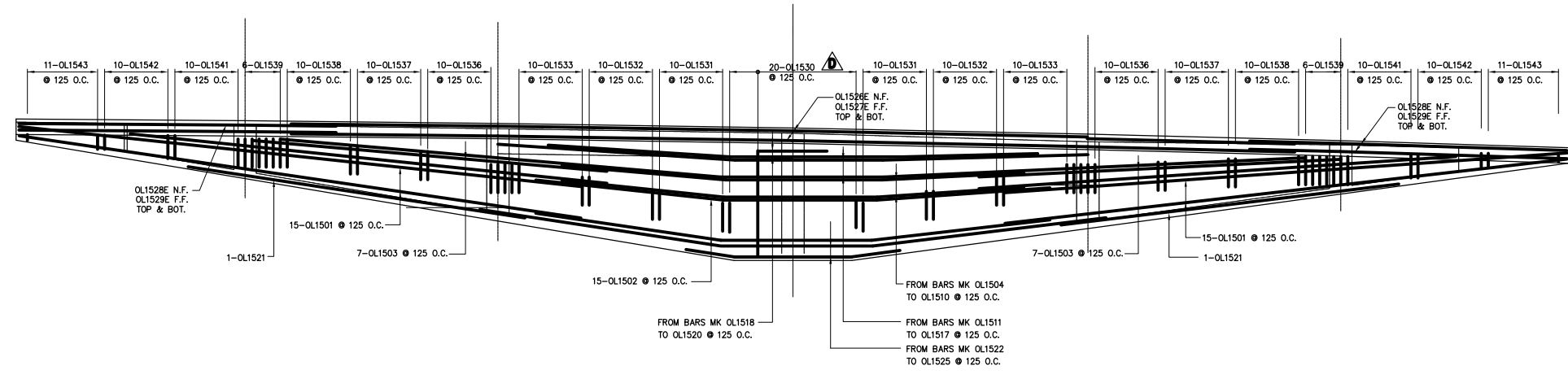
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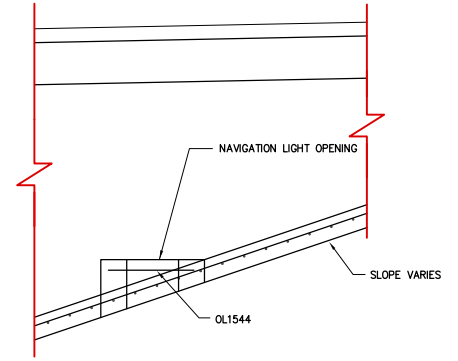
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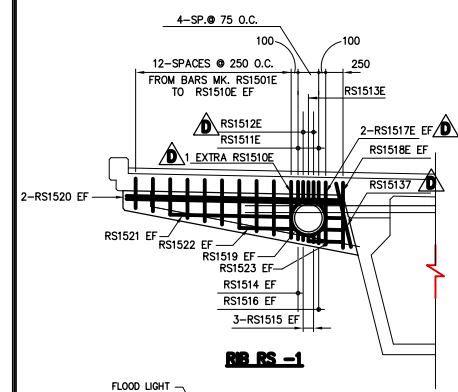
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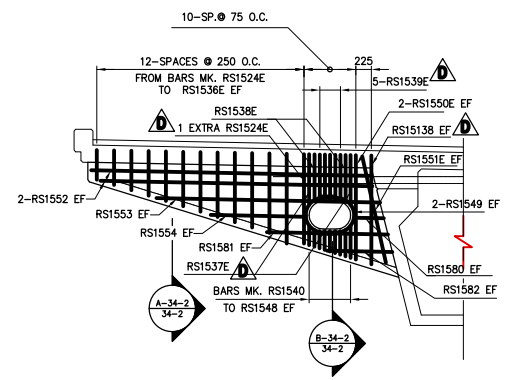
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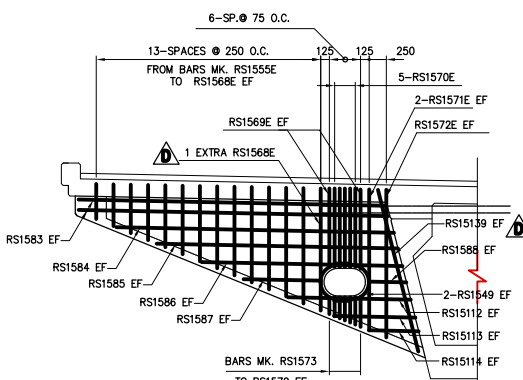
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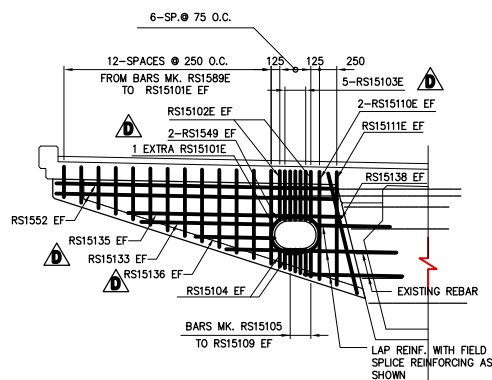
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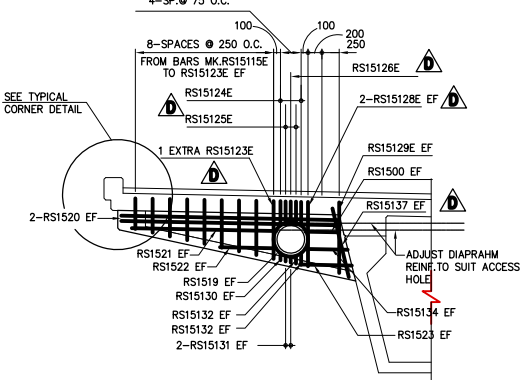
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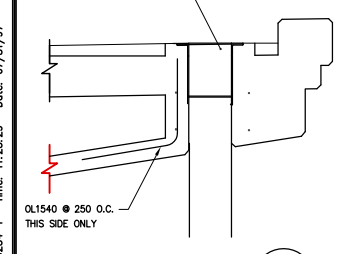
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RIB RS -4



RIB RS -5



SECTION C-34-2
34-2
NTS

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

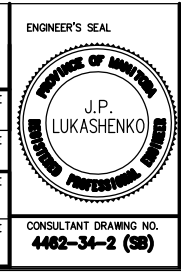
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AS-CONSTRUCTED

LOCATIONS APPROVED UNDERGROUND STRUCTURES		B.M. -	ELEV. -
N.A.			
SUPV U/G STRUCTURES COMMITTEE	DATE		
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT COPIES OF INDIVIDUAL UTILITIES AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION			
NO.	REVISIONS	DATE	BY
E	AS CONSTRUCTED	98 12 01	JWB
D	MISCELLANEOUS REINFORCING REVISIONS	98 03 23	JWB
C	REVISED ALL REINFORCING	97 11 07	JWB
B	ISSUED FOR CONSTRUCTION	97 06 17	JWB
A	ISSUED FOR REVIEW	97 05 14	JWB

DS-Lea Consultants Ltd. Consulting Engineers - Planners - Transportation Consultants Suite 111-83 Lombard Avenue Winnipeg, Manitoba R3B 3B1 Phone (204) 943-3178 Facsimile (204) 943-4948			
DESIGNED BY	JPL	CHECKED BY	JWB
DRAWN BY	RCS	APPROVED BY	
HOR. SCALE:	AS SHOWN	AUTHORIZED BY:	
VERTICAL:		B. EBENSCHNIGER P.ENG./SENIOR BRIDGE ENGINEER ACCEPTED FOR P.C.L. CONSTRUCTORS CANADA INC. BY DATE	
		R. KUERSSEN, P.ENG.	



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE

SOUTHBOUND AND RELATED ROADWORKS

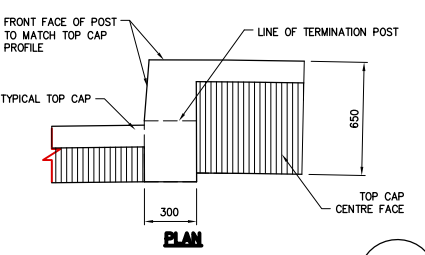
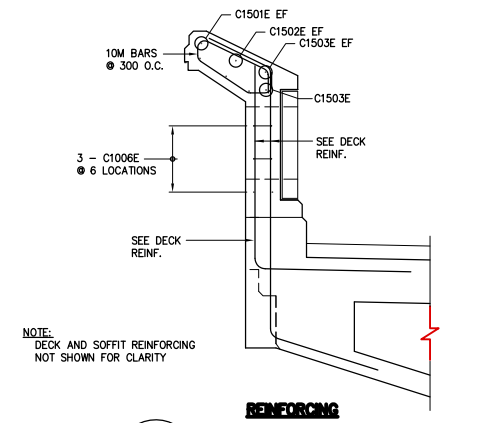
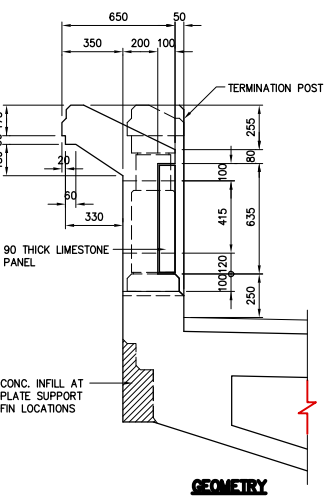
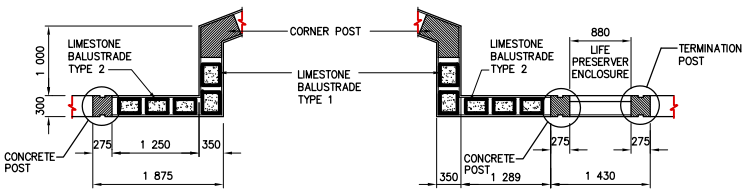
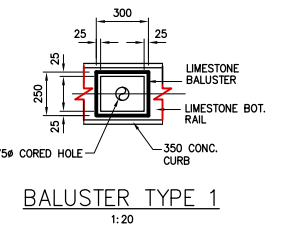
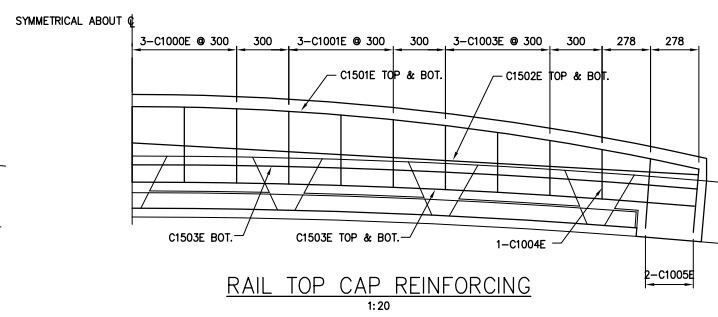
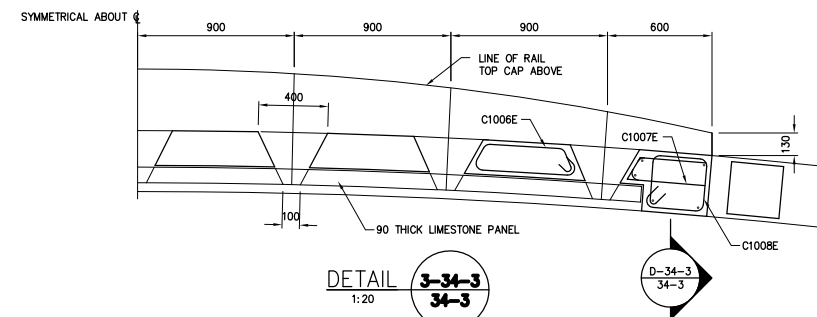
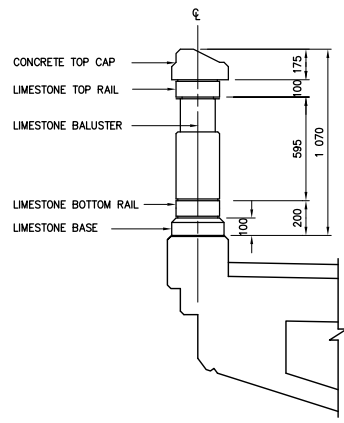
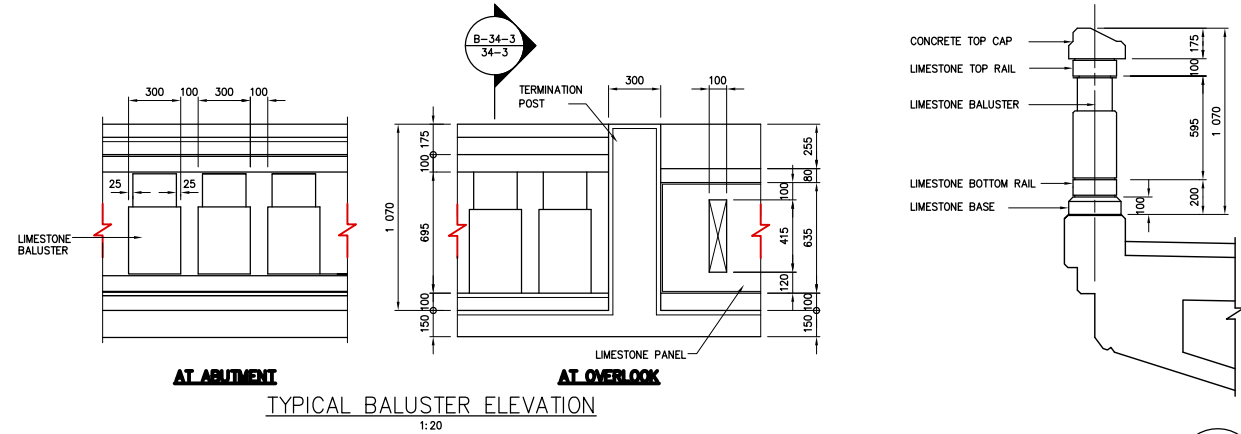
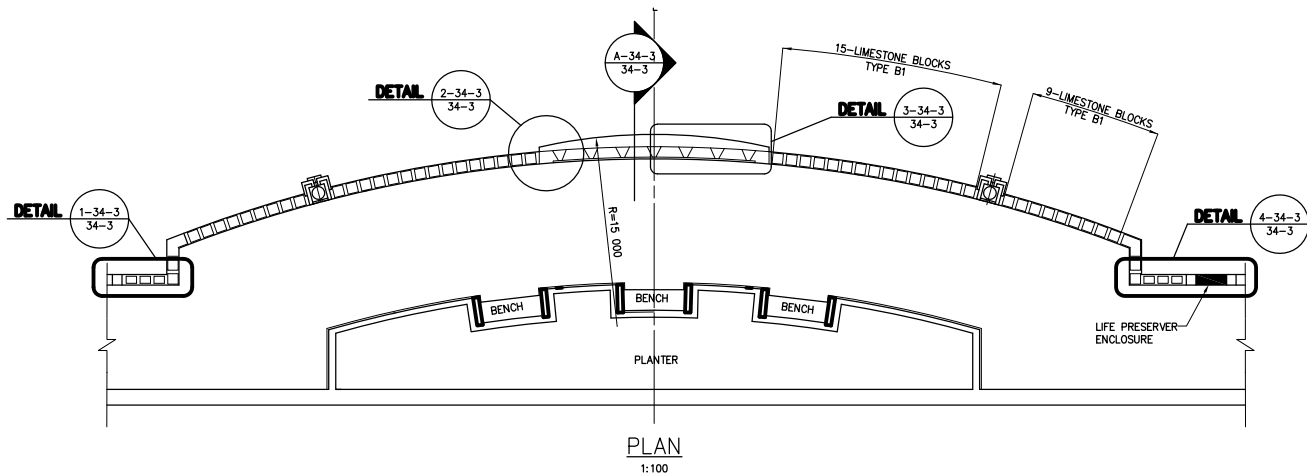
OVERLOOK GEOMETRY
SECTIONS AND DETAILS

CITY DRAWING NUMBER
B104-87-34-2

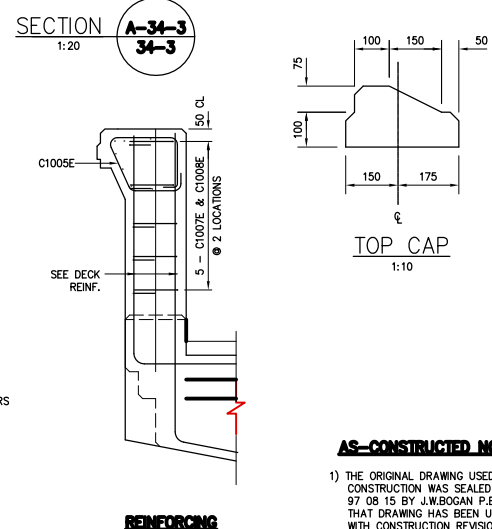
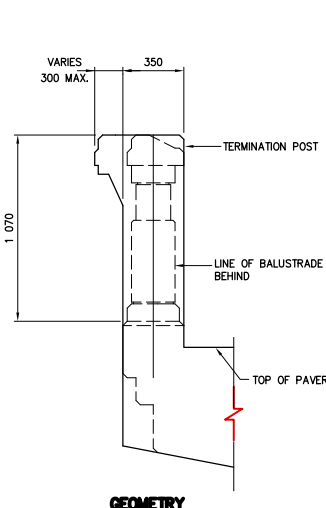
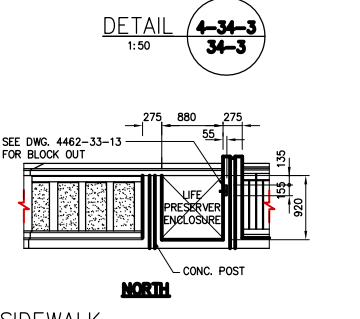
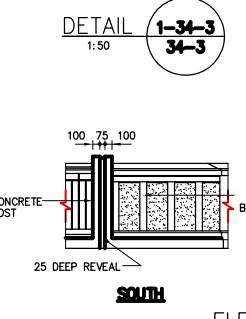
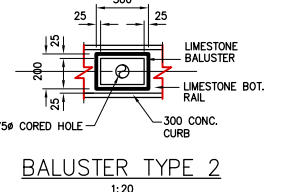
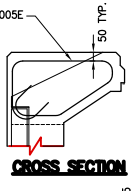
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34-2 OF
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CONSULTANT DRAWING NO.
4462-34-2 (SB)

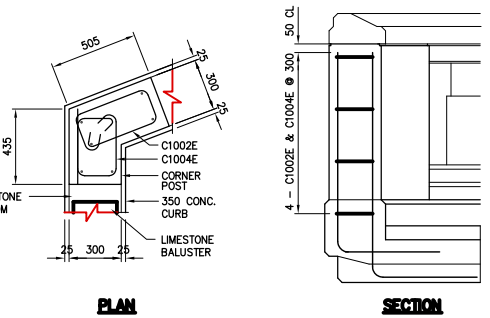
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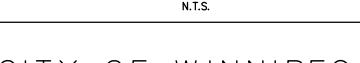
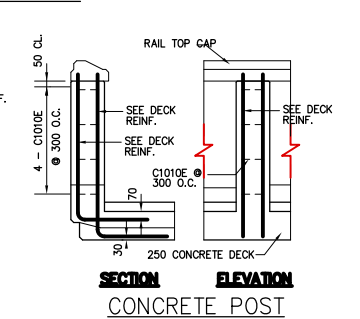
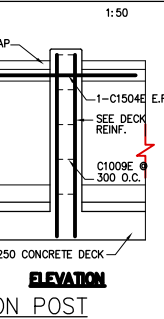
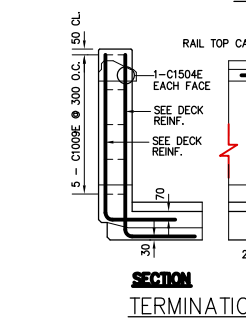
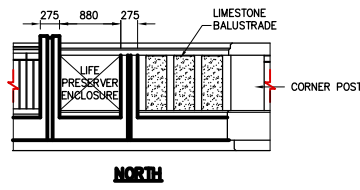
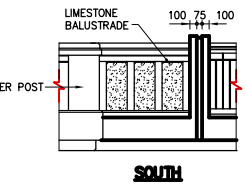
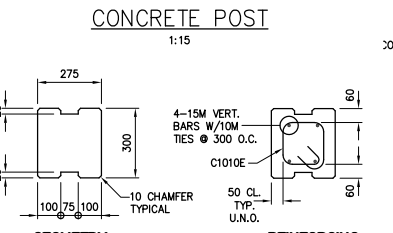
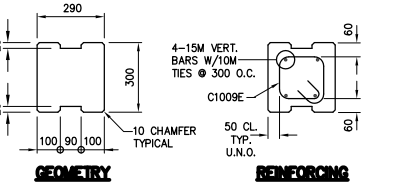
DETAIL 2-34-3
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SECTION A-34-3
1:20



SECTION
1:20



AS-CONSTRUCTED NOTES:
1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.W. BOGAN P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

NO.	REVISIONS	DATE	BY
C	AS CONSTRUCTED	98 12 01	JWB
B	ISSUED FOR CONSTRUCTION	97 08 15	JWB
A	ISSUED FOR REVIEW	97 06 17	JWB

DESIGNED BY	CHECKED BY	DATE
JWB	JWB	
DRAWN BY	APPROVED BY	DATE
TC		
AUTHORIZED BY	DATE	
B. EISENBAUMER P.ENG./SENIOR BRIDGE ENGINEER		
ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY	DATE	
R. DUERKSEN, P.ENG.		



DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone 1 204 943-3178 Facsimile 1 204 943-4948

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

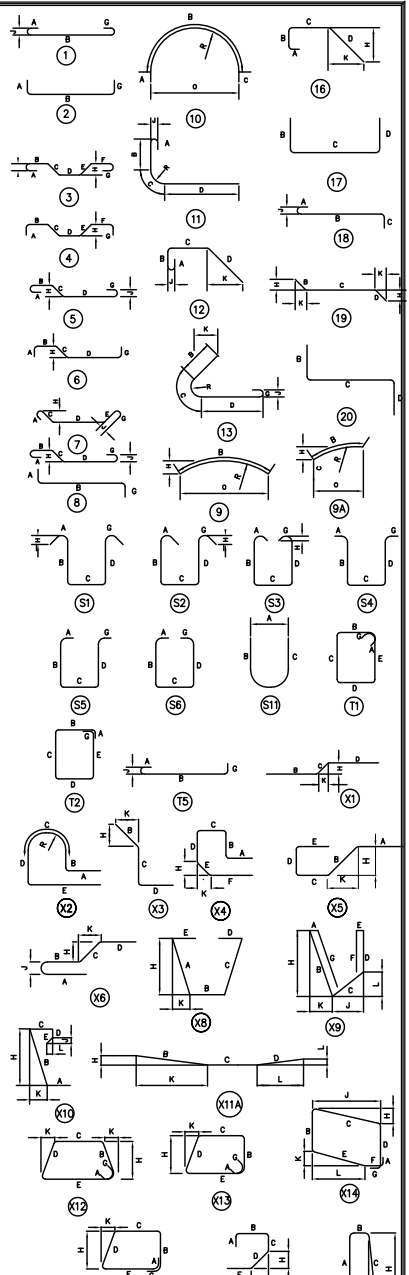
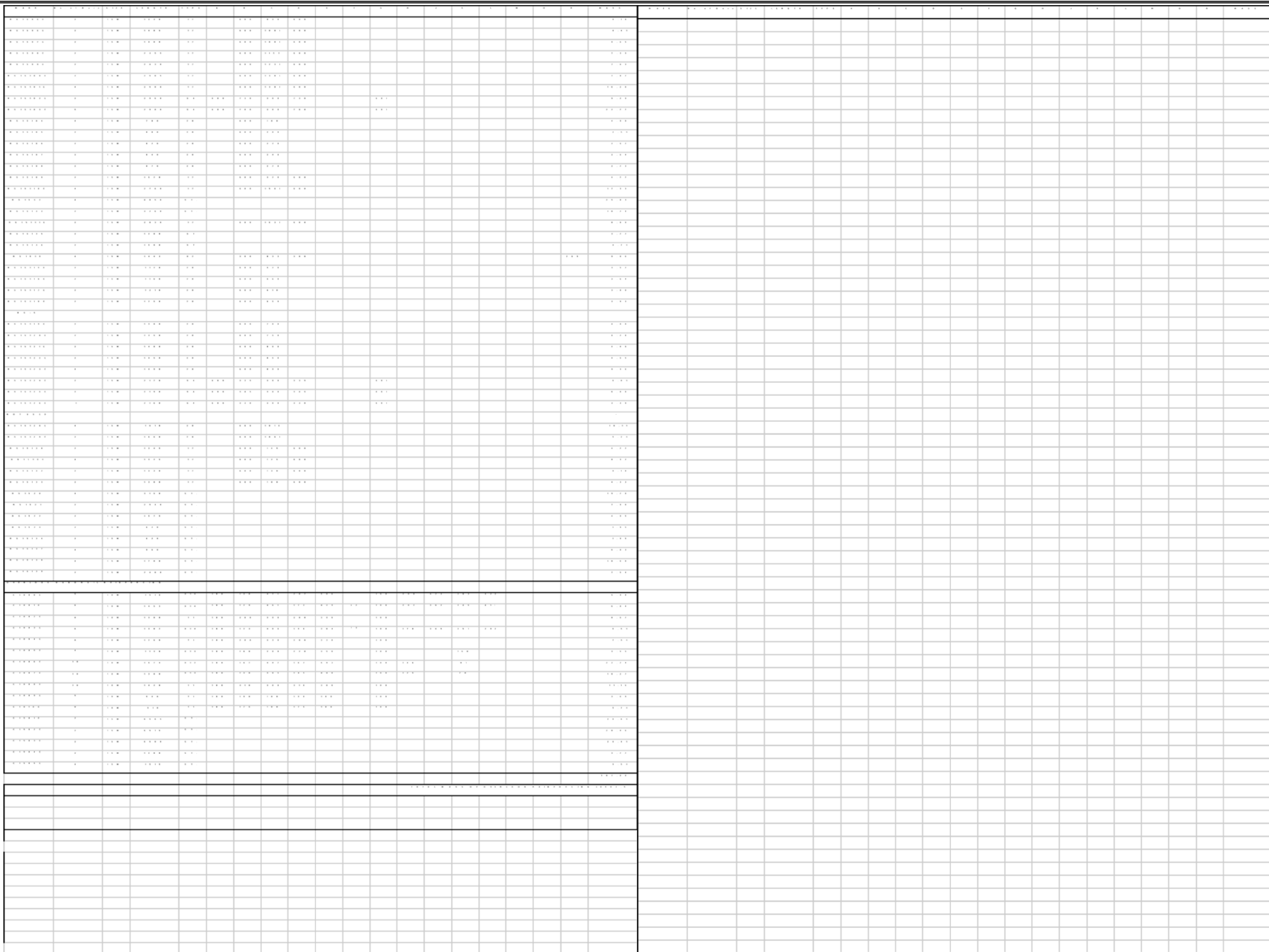
CITY DRAWING NUMBER **8104-87-34-3**
SHEET **34-3** OF **-**

CONSULTANT DRAWING NO. **4462-34-3 (SB)**

OVERLOOK DETAILS

C

C:\2000\4462-301\446234-4 Date: 07/01/97 Time: 11:36:12



- NOTES:
1. ALL DIMENSIONS ARE OUT TO OUT EXCEPT "A" AND "G" ON STANDARD 180 AND 135 DEGREE HOOKS.
 2. "J" DIMENSION ON 180° HOOK TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
 3. WHERE "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TRUSS BARS. WHERE "J" CAN EXCEED "H", IT SHOULD BE SHOWN.
 4. "H" DIMENSION ON STIRRUPS TO BE SHOWN WHERE NECESSARY TO FIT CONCRETE.
 5. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS WHICH REQUIRE CLOSER TOLERANCES SHOULD HAVE LIMITS INDICATED.
 6. FIGURES IN CIRCLES SHOW TYPES.
 7. NO ALLOWANCE FOR BEND FOR CURVATURE HAS BEEN MADE EXCEPT FOR STANDARD HOOKS AND RADII IN EXCESS OF SAME.
 8. SPACERS TO BE PROVIDED WITH ALL SPIRALS AS SPECIFIED IN A.C.I. 315-57.
 9. WEIGHT OF SPIRALS, SUPPORT BARS AND SPACERS NOT INCLUDED ON THIS TABLE.

AS-CONSTRUCTED NOTES:

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 09 05 BY J.P.LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

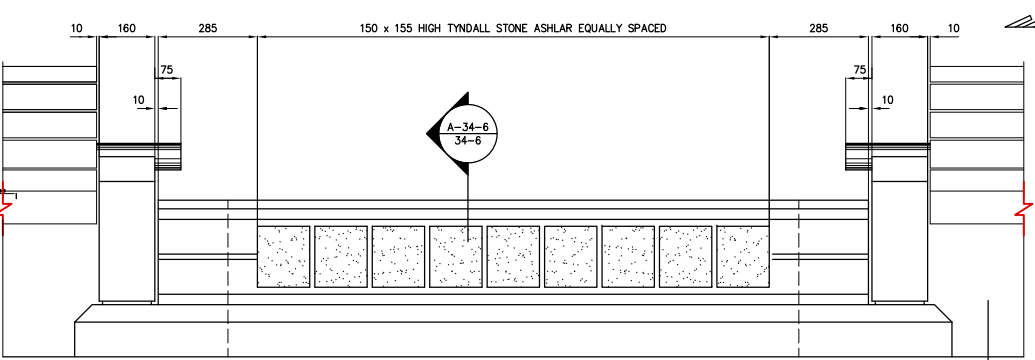
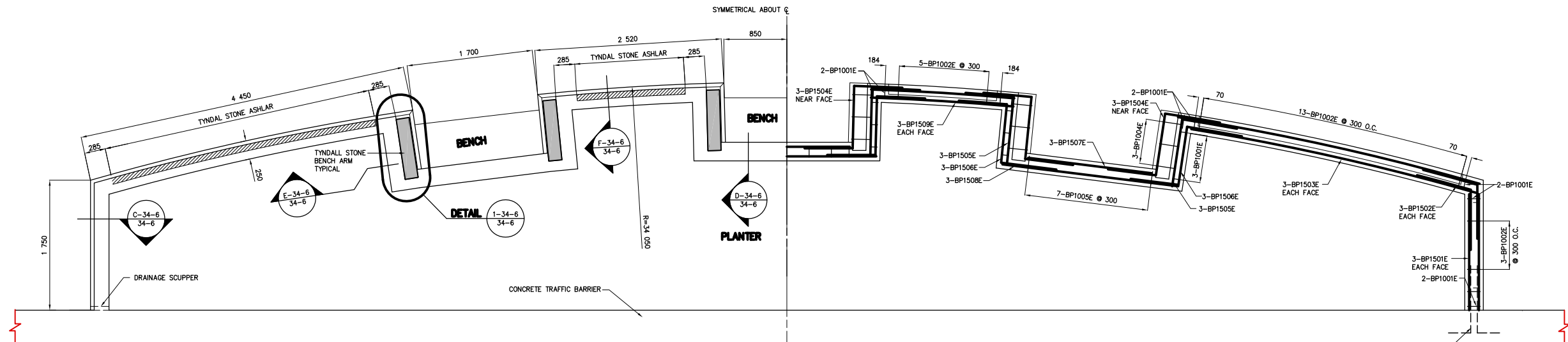
AS-CONSTRUCTED

NO.	REVISIONS	DATE	BY
G	AS CONSTRUCTED	98 12 01	JWB
F	REVISED BAR LIST	98 03 24	JWB
E	REVISED BAR LIST	97 01 07	JWB
D	ISSUED FOR CONSTRUCTION	97 09 05	JWB
C	REMOVE TRAFFIC BARRIER REINFORCING	97 07 30	JWB
B	REVISED TRAFFIC BARRIER REINFORCING	97 07 14	JWB
A	ISSUED FOR REVIEW	97 06 17	JWB

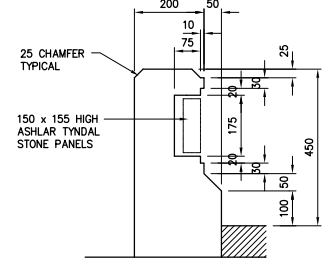
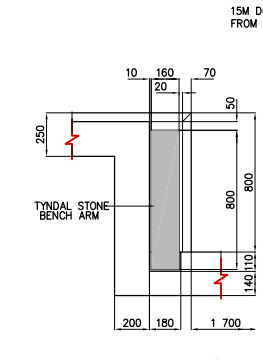
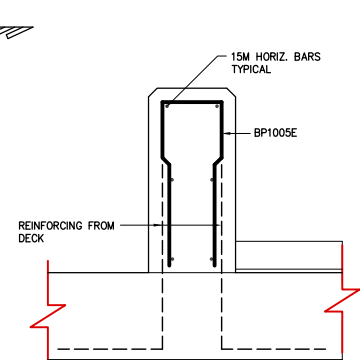
B.M. -			
ELEV. -			
<i>DS-Lea Consultants Ltd.</i> Consulting Engineers - Planners - Transportation Consultants Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1 Phone 204 943-3178 Facsimile 204 943-4948			
DESIGNED BY	JPL	CHECKED BY:	JWB DATE
DRAWN BY	TC	APPROVED BY:	DATE
HOR. SCALE:	AS SHOWN	AUTHORIZED BY:	DATE
VERT. SCALE:		B. EISENPAINGER P.ENG./SENIOR BRIDGE ENGINEER ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY DATE	
		R. DUERKSEN, P.ENG.	



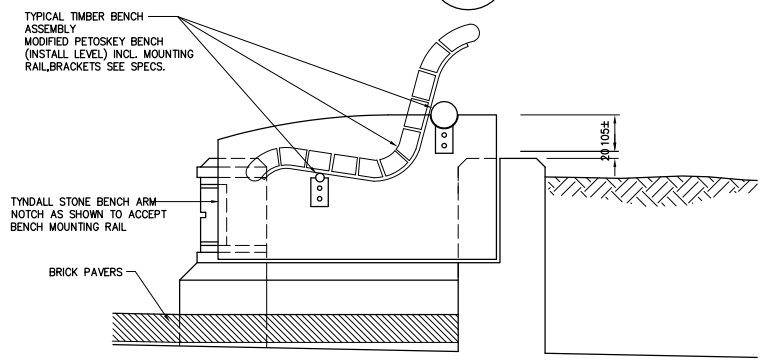
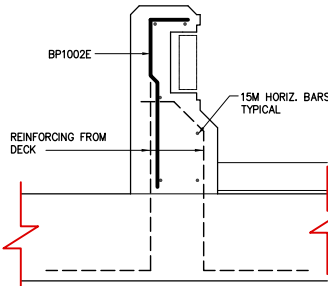
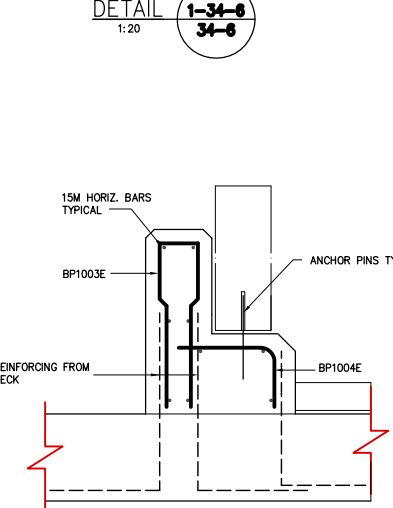
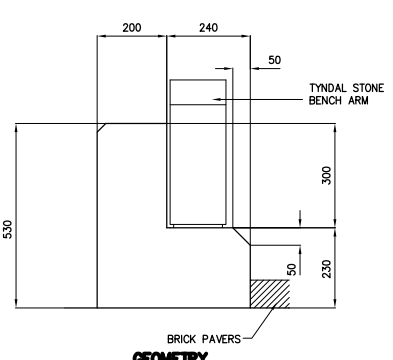
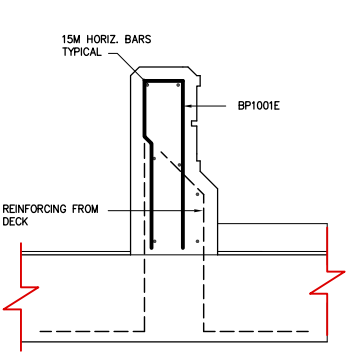
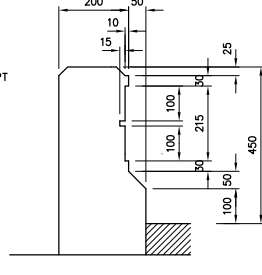
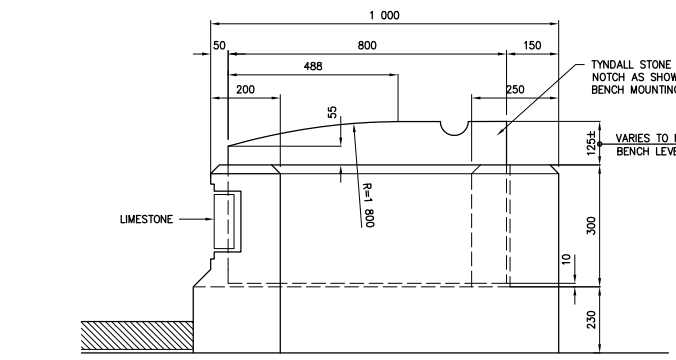
 THE CITY OF WINNIPEG STREETS AND TRANSPORTATION DEPARTMENT BRIDGE ENGINEERING DIVISION	
MAIN STREET AND NORWOOD BRIDGES PROJECT MAIN STREET BRIDGE	
SOUTHBOUND AND RELATED ROADWORKS	
CITY DRAWING NUMBER 8104-87-34-5	SHEET OF 34-5 -
OVERLOOK REINFORCING STEEL SCHEDULE SHEET 2 OF 2	
CONSULTANT DRAWING NO. 4462-34-5 (SB)	
CITY DRAWING NUMBER G	



BENCH PLANTER LAYOUT
1:30



TYPICAL ELEVATION BETWEEN BENCHES
1:10



SECTION B-34-6
1:10

NOTE:
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AS-CONSTRUCTED NOTES
1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 09 05 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

AS-CONSTRUCTED

NO.	REVISIONS	DATE	BY
C	AS CONSTRUCTED	97 09 05	JMB
B	ISSUED FOR CONSTRUCTION	97 09 05	JMB
A	ISSUED FOR REVIEW	97 06 17	JMB

DESIGNED BY	JPL	CHECKED BY	JMB	DATE	
DRAWN BY	RCS	APPROVED BY:		DATE	
AUTHORIZED BY:		DATE			
HOR. SCALE:	AS SHOWN				
VERT. SCALE:					
DATE	JUNE 1997				



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

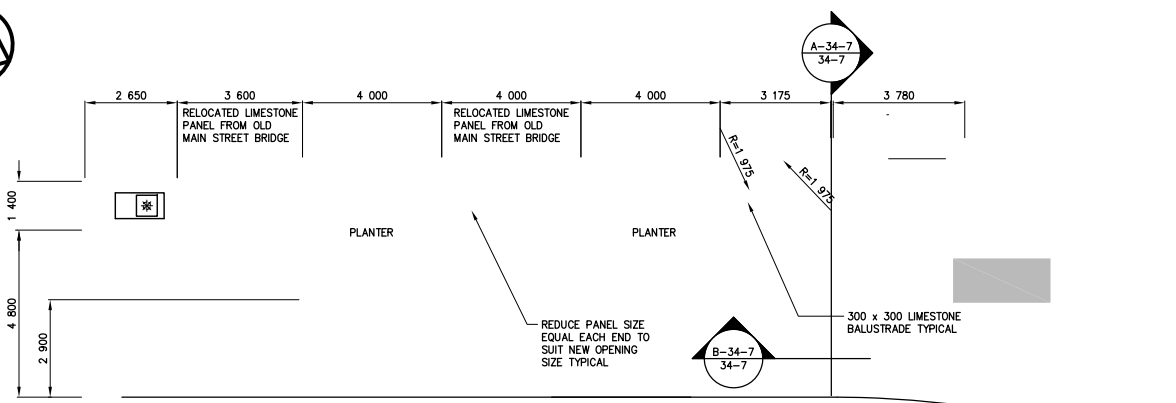
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8104-87-34-6
SHEET **34-6** OF **-**

CONSULTANT DRAWING NO.
4462-34-6 (SB)

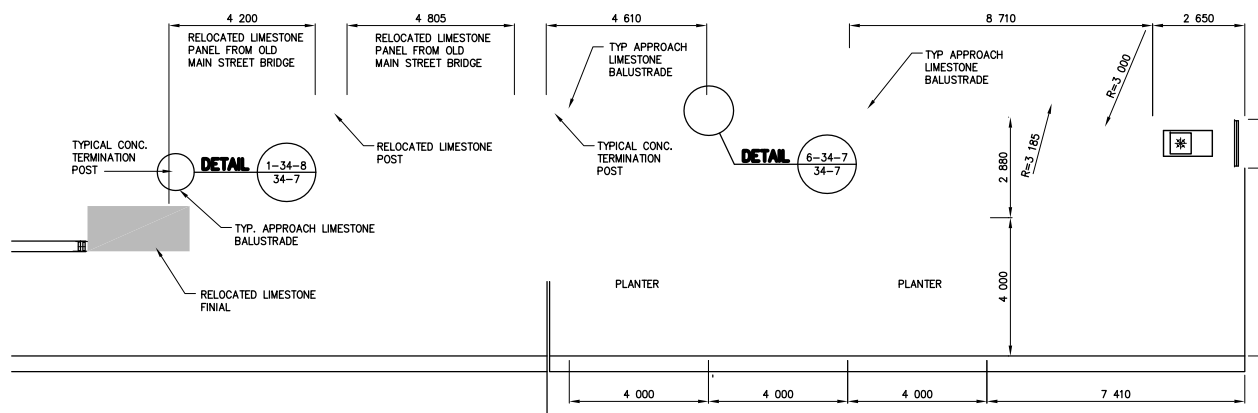
BENCH PLANTER LAYOUT, SECTIONS AND DETAILS

C

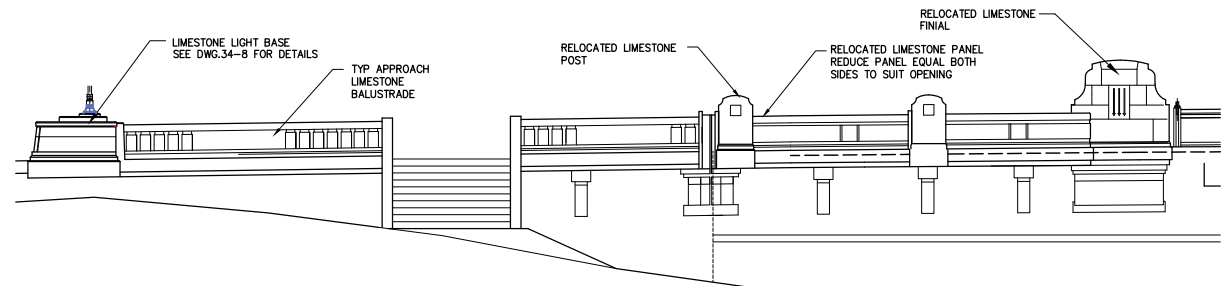
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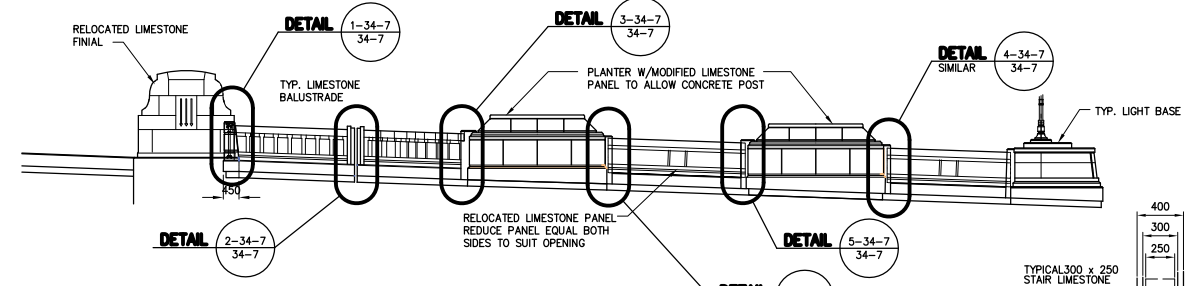
PLAN AT SOUTH ABUTMENT
1:100



PLAN AT NORTH ABUTMENT
1:100

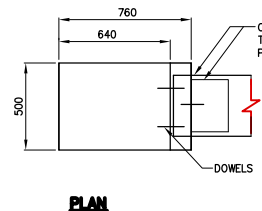


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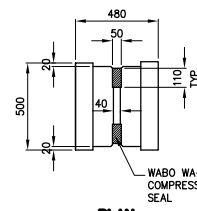


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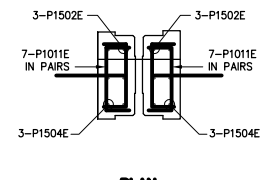
RIVER ELEVATION
1:100



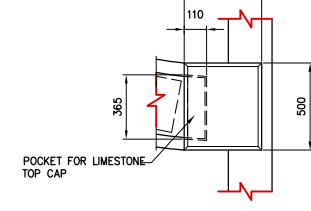
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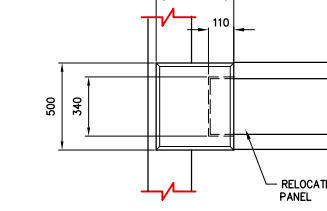
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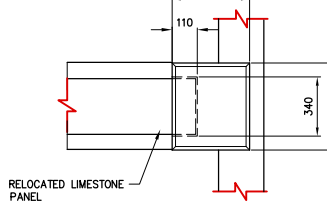
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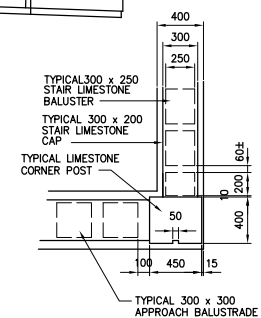
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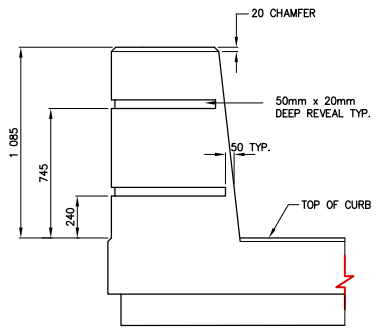
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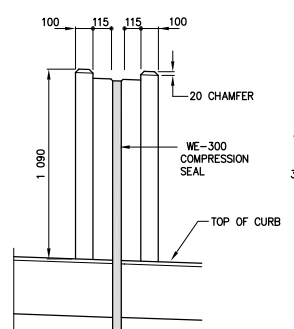
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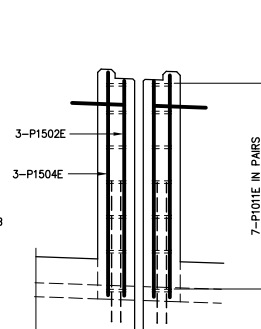
DETAIL 8-34-7/34-7



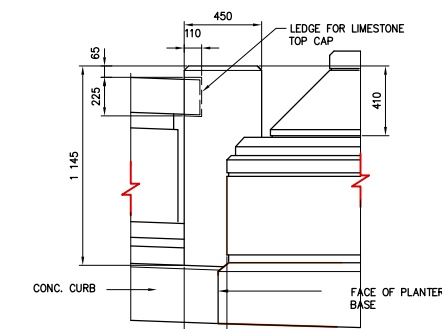
ELEVATION



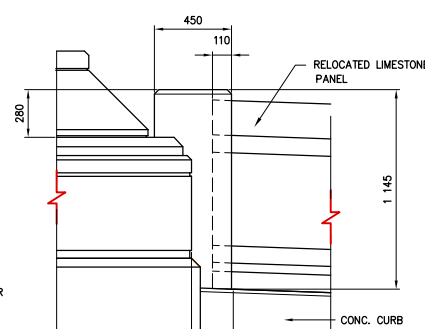
ELEVATION



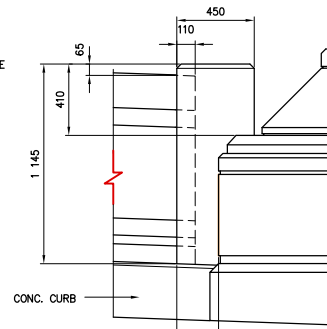
ELEVATION



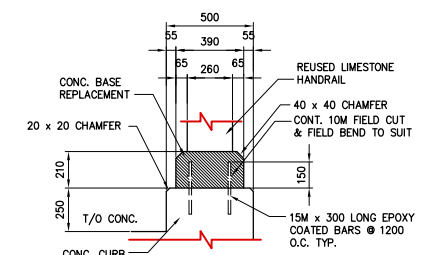
ELEVATION



ELEVATION



ELEVATION



REUSED LIMESTONE BASE REPLACEMENT DETAIL
1:20

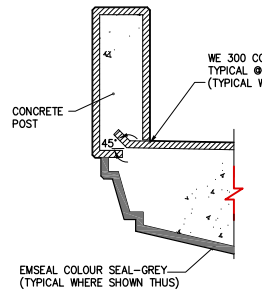
DETAIL 1-34-7/34-7
1:20

DETAIL 2-34-7/34-7
1:20

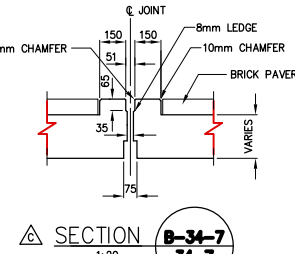
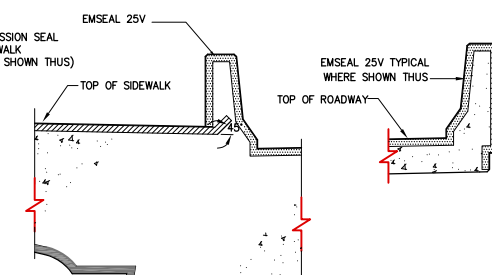
DETAIL 3-34-7/34-7
1:20

DETAIL 4-34-7/34-7
1:20

DETAIL 5-34-7/34-7
1:20



SECTION A-34-7/34-7
1:30



SECTION B-34-7/34-7
1:20

AS-CONSTRUCTED NOTES

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 07 08 15 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

B.M. -					
ELEV. -					
D	AS CONSTRUCTED	98 12 01	JMB		
C	ADDED DETAILS	98 02 23	JMB		
B	ISSUED FOR CONSTRUCTION	97 08 15	JMB		
A	ISSUED FOR REVIEW	97 06 17	JMB		
NO.	REVISIONS	DATE	BY	DATE	JUNE 1997

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: **JPL** CHECKED BY: **JMB** DATE: _____
DRAWN BY: **RCS** APPROVED BY: _____ DATE: _____
AUTHORIZED BY: _____ DATE: _____
B. EBENSPANER P.ENG./SENIOR BRIDGE ENGINEER
ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: _____ DATE: _____
R. DUERKSEN, P.ENG.

ENGINEER'S SEAL
PROFESSIONAL ENGINEER
J.P. LUKASHENKO

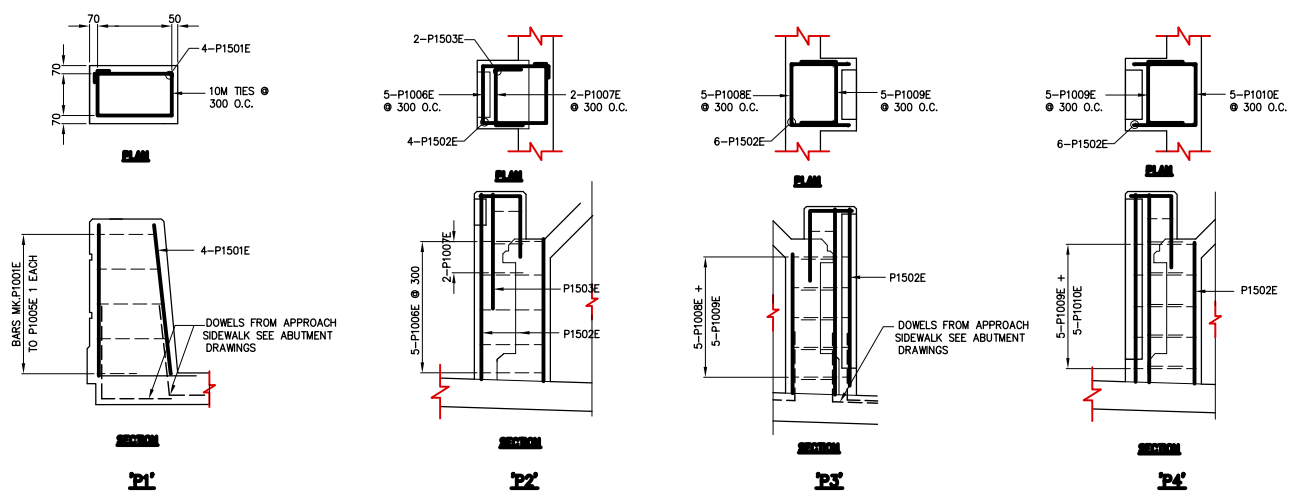
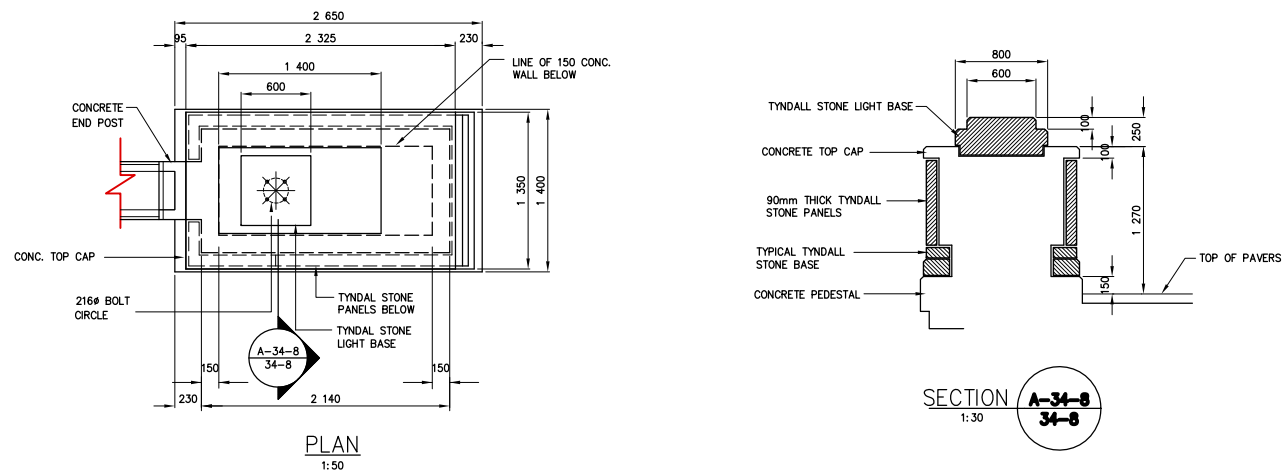
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

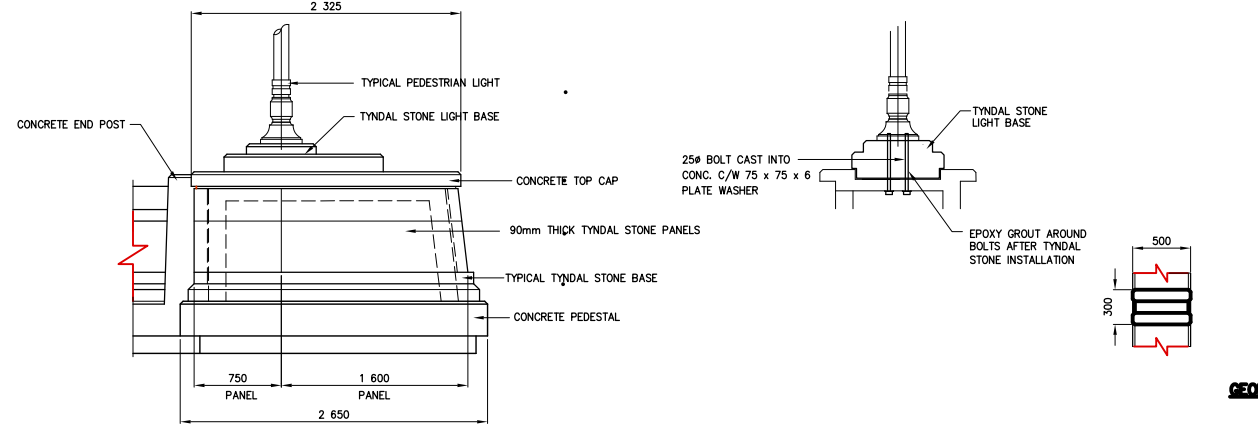
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SHEET OF: **34-7 -**

CONSULTANT DRAWING NO.: **4462-34-7 (SB)**

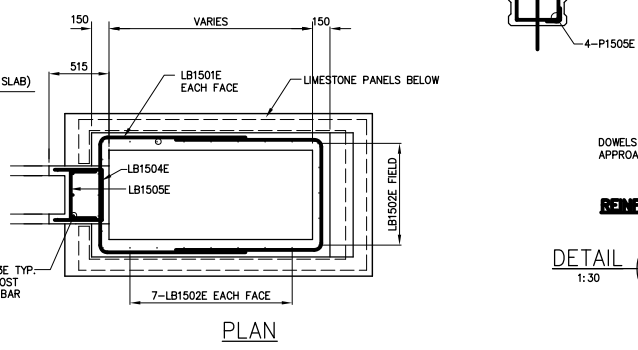
APPROACH RAILING DETAILS



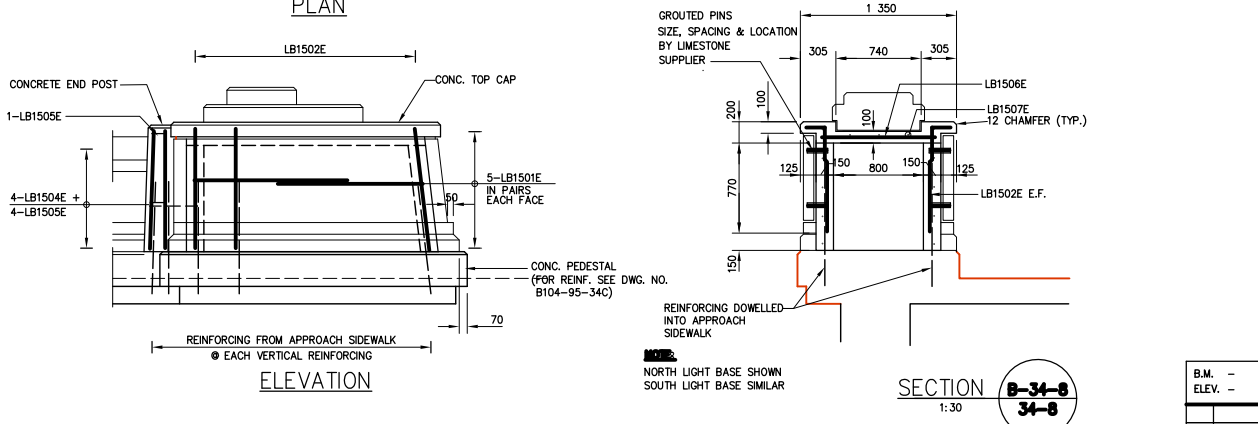
PLANTER POST REINFORCING DETAILS
1:30



ELEVATION
1:50



PLAN
1:30

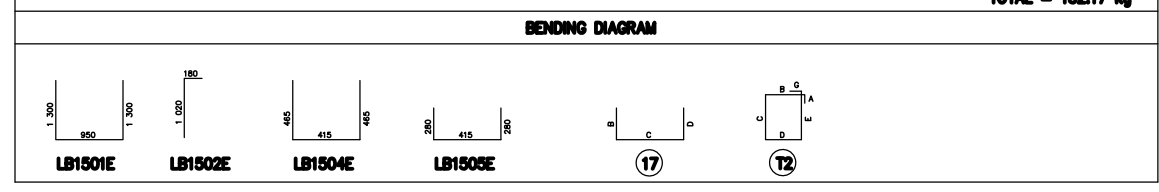


ELEVATION
1:30

SECTION
1:30

MARK	No. OF BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	M	O	R	SHAPE	MASS	
LIGHT BASE																					
LB1501E	10	15M	3 550	SEE DIAGRAM																55.73	
LB1502E	23	15M	1 200	SEE DIAGRAM																43.33	
LB1503E	8	15M	1 020	STR.																12.81	
LB1504E	4	15M	1 345	SEE DIAGRAM																8.45	
LB1505E	5	15M	975	SEE DIAGRAM																7.65	
LB1506E	9	15M	1 000	STR.																14.13	
LB1507E	5	15M	2 225	STR.																17.46	
																			TOTAL =	159.56 kg	
																			GRAND TOTAL =	159.56 x 4 =	638.24 kg

PLANTER POSTS																				
MARK	No. OF BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	M	O	R	SHAPE	MASS
P1501E	4	15M	1 300	STR.																8.16
P1502E	28	15M	1 200	STR.																52.75
P1503E	2	15M	600	STR.																1.88
P1504E	6	15M	1 280	STR.																12.06
P1505E	4	15M	1 040	STR.																6.53
P1001E	1	10M	1 840	T2	100	335	485	335	485				100							1.44
P1002E	1	10M	1 770	T2	100	300	485	300	485				100							1.39
P1003E	1	10M	1 710	T2	100	270	485	270	485				100							1.34
P1004E	1	10M	1 640	T2	100	235	485	235	485				100							1.29
P1005E	1	10M	1 570	T2	100	200	485	200	485				100							1.23
P1006E	5	10M	2 360	T2	100	555	525	555	525				100							9.26
P1007E	2	10M	1 125	17			300	525	300											1.77
P1008E	10	10M	1 490	17			500	490	500											11.70
P1009E	15	10M	1 090	17			300	490	300											12.83
P1010E	5	10M	1 585	17			530	525	530											6.22
P1011E	28	10M	780	17			210	360	210											17.14
P1012E	5	10M	1 320	T2	100	360	200	360	200				100							5.181
																			TOTAL =	152.17 kg



AS-CONSTRUCTED NOTES
1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

NOTE: These design documents are prepared solely for the use by the party with whom the design professional has entered into a contract and there are no representations of any kind made by the design professional to any party with whom the design professional has not entered into a contract.

AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

B.M. -			
ELEV. -			
DESIGNED BY	JPL	CHECKED BY	JWB
DRAWN BY	RCS	APPROVED BY	
C	AS CONSTRUCTED	08 12 01	JWB
B	ISSUED FOR CONSTRUCTION	07 08 15	JWB
A	ISSUED FOR REVIEW	07 06 17	JWB
NO.	REVISIONS	DATE	BY
		DATE	JUNE 1997

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone | 204 | 943-3178 Facsimile | 204 | 943-4948

ENGINEER'S SEAL
J.P. LUKASHENKO
REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: JPL
CHECKED BY: JWB
DATE: _____
DRAWN BY: RCS
APPROVED BY: _____
DATE: _____
AUTHORIZED BY: _____
DATE: _____
B. EBENFANGER P.ENG./SENIOR BRIDGE ENGINEER
ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY: DATE: _____
R. DUERKSEN, P.ENG.

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

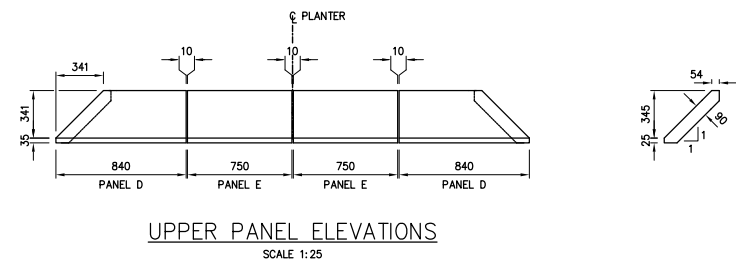
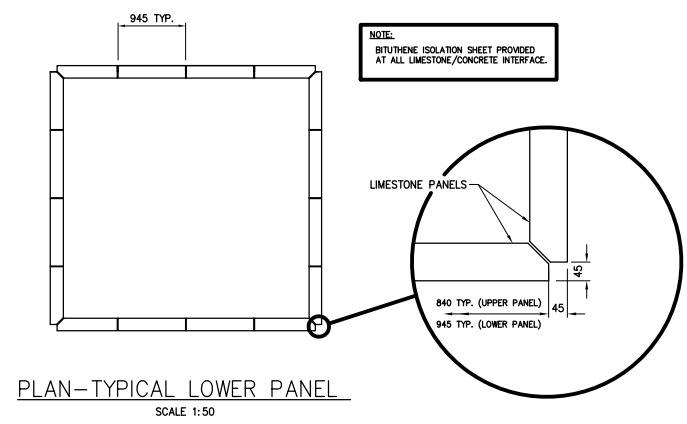
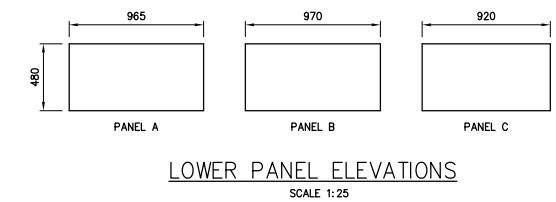
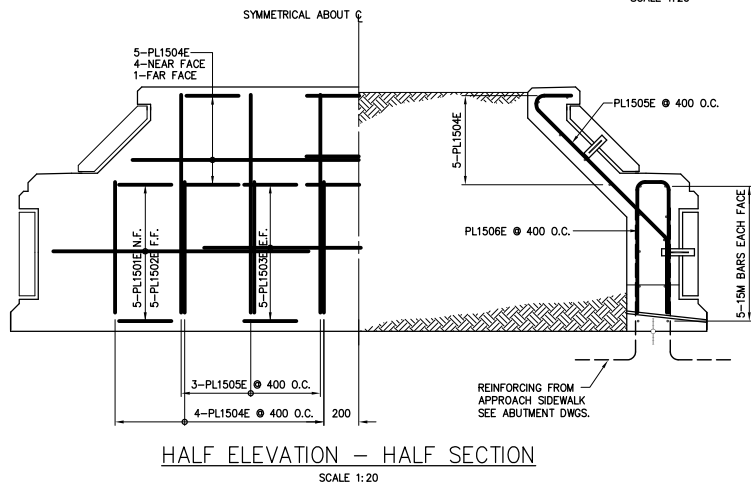
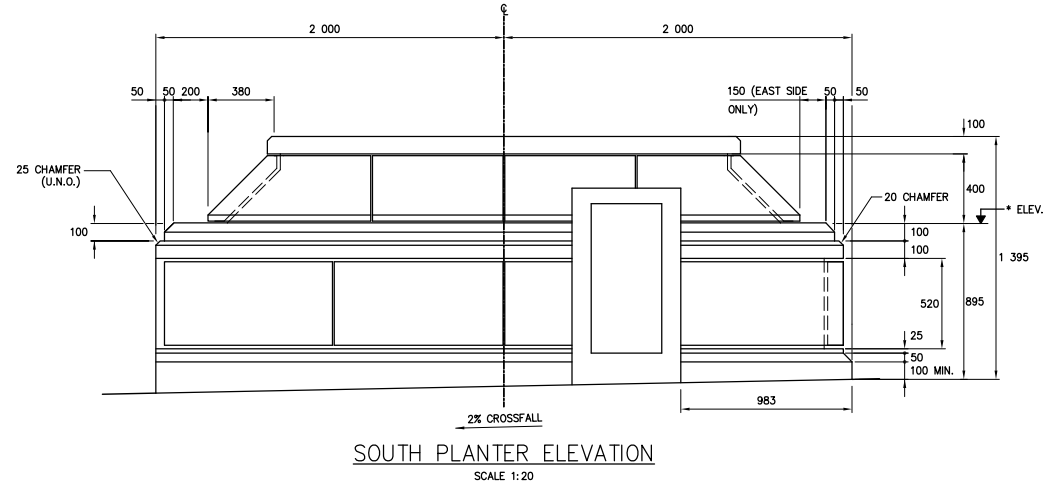
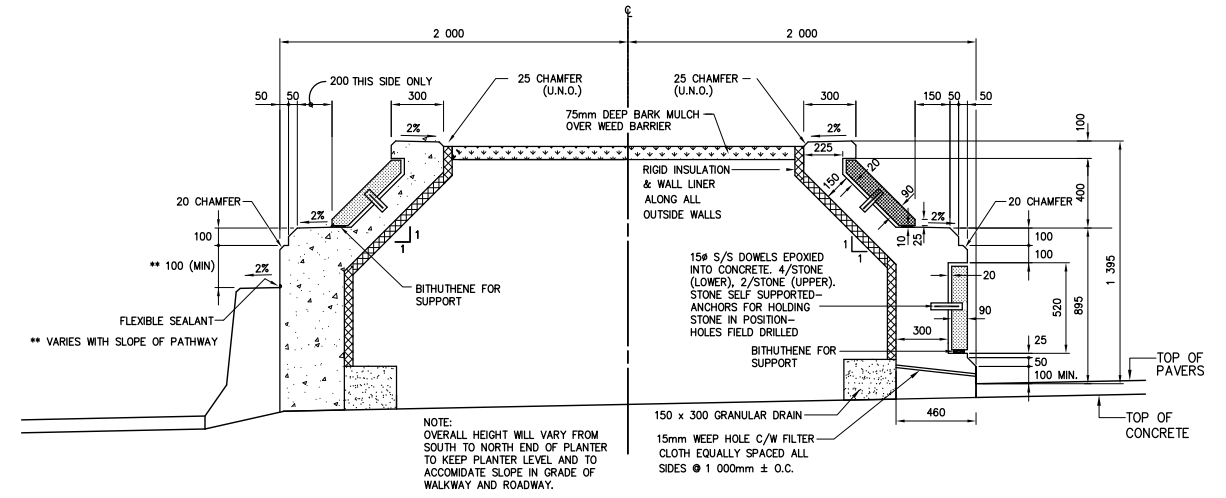
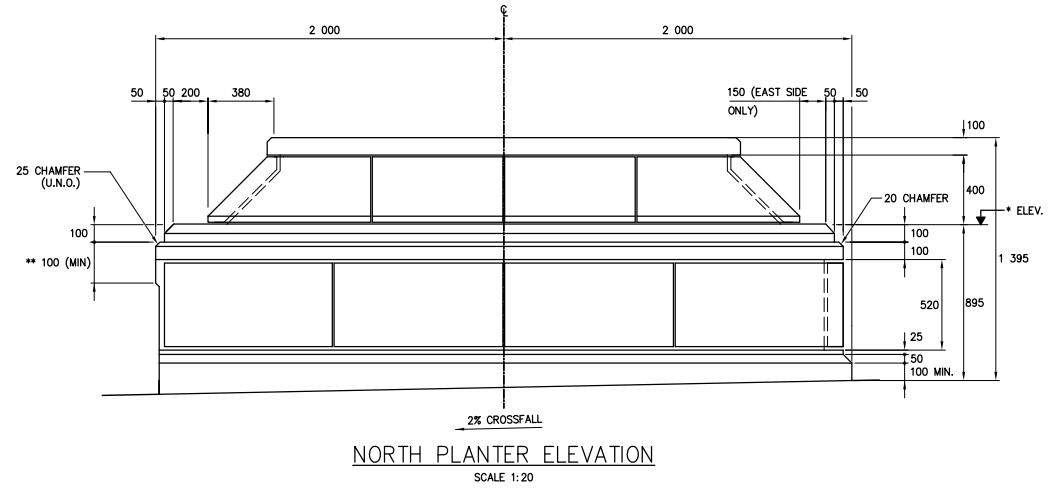
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER
8104-87-34-8
SHEET OF -
34-8

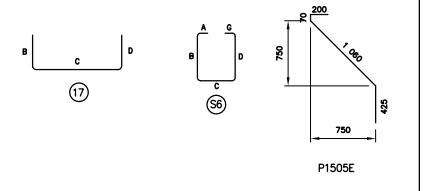
CONSULTANT DRAWING NO.
4462-34-8 (SB)

**LIMESTONE LIGHT BASE AND
PLANTER POST DETAILS**

C



MARK	No. OF BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	M	O	R	SHAPE	MASS
PLANTER																				
PL1001E	8	10M	700	17		350	350													4.40
PL1002E	14	10M	470	STR																4.43
PL1501E	10	15M	5 900	17		1 175	3 550	1 175												92.63
PL1502E	10	15M	5 210	17		1 000	3 210	1 000												81.78
PL1503E	20	15M	1 800	STR																56.52
PL1504E	20	15M	3 490	17		1 745	1 745													109.59
PL1505E	24	15M	1 755		SEE SKETCH															66.13
PL1506E	32	15M	1 700	56		750	200	750												85.41
PL1507E	2	15M	1 425	17		300	1 125													67.27
PL1508E	2	15M	1 260	17		300	960													3.95
PL1509E	2	15M	1 100	17		300	800													3.45
PL1510E	2	15M	995	17		300	695													3.12
PL1511E	2	15M	1 185	17		300	885													3.72
PL1512E	2	15M	1 000	17		300	700													3.14
PL1513E	2	15M	860	17		300	560													2.70
PL1513E	2	15M	755	17		300	455													2.43
																			TOTAL = 590.66 kg	
																			GRAND TOTAL 590.66 x 4 = 2,362.72 kg	



AS-CONSTRUCTED NOTES:
1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

AS-CONSTRUCTED

B.M. -	
ELEV. -	
DESIGNED BY	JPL
CHECKED BY	JNB
DATE	
DRAWN BY	RCS
APPROVED BY	
DATE	
AUTHORIZED BY	
DATE	
HOR. SCALE:	AS SHOWN
VERT. SCALE:	
NO. REVISIONS	DATE BY
	JUNE 1997

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone (204) 943-3178 Facsimile (204) 943-4948

ENGINEER'S SEAL
J.P. LUKASHENKO
REGISTERED PROFESSIONAL ENGINEER

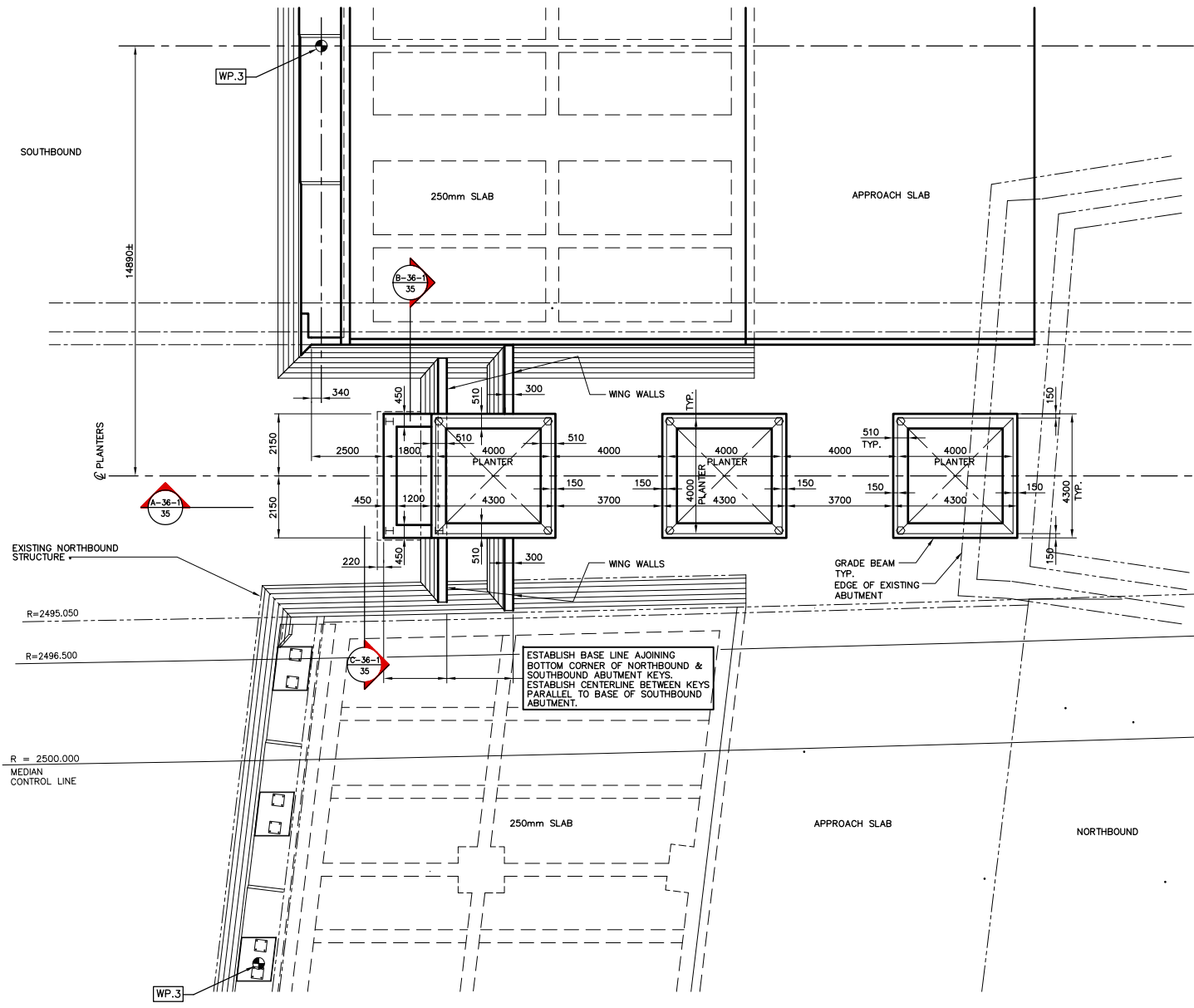
CONSULTANT DRAWING NO.
4462-34-9 (SB)



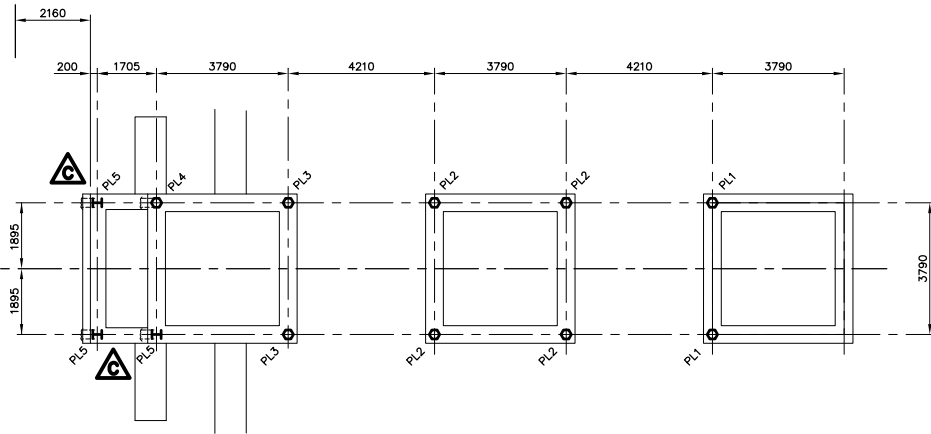
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER
B104-87-34-9
SHEET **34-9** OF -
D

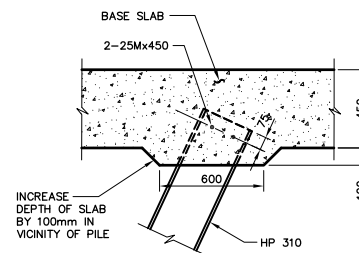


PART LOCATION PLAN
1:100



PILING PLAN
1:100

PL1, PL2 & PL3 - 305 MM HEX PRECAST PILE
PL4 - 355 MM HEX PRECAST PILE (BATTERED)
PL5 - HP310x110 STEEL 'H' PILES (BATTERED)



SECTION
1:20

PRECAST DRIVEN PILES				
MARK No	SIZE	BATTER	CUT-OFF ELEVATION	REMARKS
PL1	305	NO	232.360	-
PL2	305	NO	232.475	-
PL3	305	NO	229.945	-
PL4	355	YES	225.200	-
PL5	HP310x110	YES	225.200	-

NOTES:

- BATTER FOR PRECAST PILE SHALL BE 1:4

AS-CONSTRUCTED

NOTE:
The original drawing used for construction was sealed on October 17, 1997 by Bob Long. That drawing has been updated with construction revisions.

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

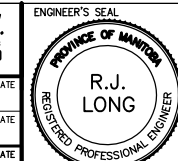
LOCATIONS APPROVED UNDERGROUND STRUCTURES

NO.	REVISIONS	DATE	BY
B	"AS-CONSTRUCTED"	99 01 20	JWB
A	ISSUED FOR CONSTRUCTION	97 10 17	JWB
O	ISSUED FOR PROPOSAL	96 07 15	JWB

B.M. - ELEV. -

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

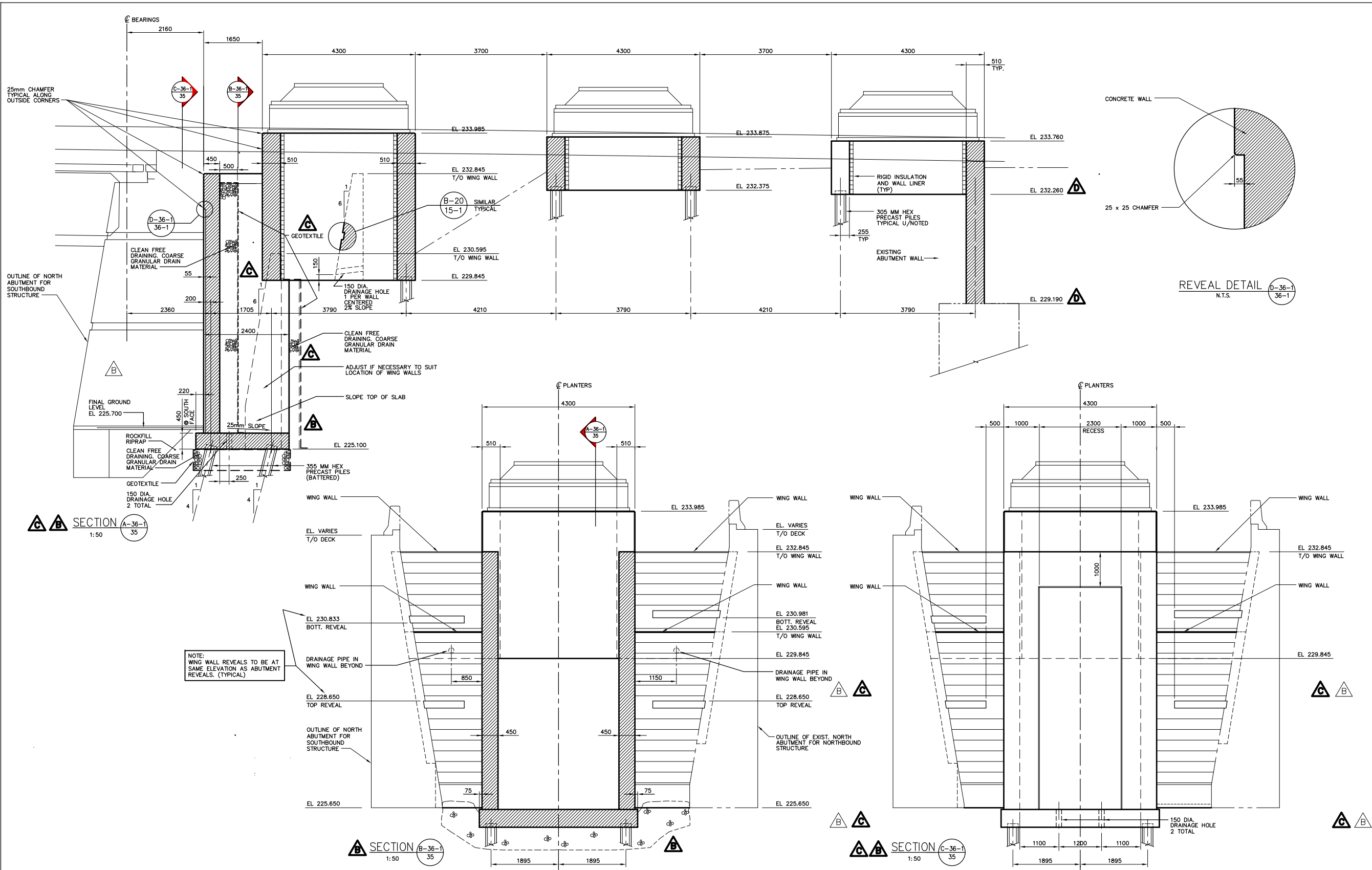
DESIGNED BY: R.J.	CHECKED BY: DBM	DATE:
DRAWN BY: J	APPROVED BY:	DATE:
HOR. SCALE: AS NOTED	AUTHORIZED BY:	DATE:
VERTICAL: AS NOTED	B. EBENFANGER P.ENG./SENIOR BRIDGE ENGINEER ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY DATE:	
DATE: 01.1997	R. QUERVEN, P.ENG.	



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT MAIN STREET BRIDGE SOUTHBOUND AND RELATED ROADWORKS	CITY DRAWING NUMBER B104-07-35 SHEET 35 OF 60
NORTH ABUTMENT - PLANTERS CONCRETE SUPPORT DETAILS	B

841mm X 694mm/ PLT SCALE: 1:50



SECTION A-36-1/35
1:50

SECTION B-36-1/35
1:50

SECTION C-36-1/35
1:50

NOTE: WING WALL REVEALS TO BE AT SAME ELEVATION AS ABUTMENT REVEALS. (TYPICAL)

NOTE: The original drawing used for construction was issued on October 17, 1997 by Bob Long. That drawing has been updated with construction revisions.

NOTE: These design documents are prepared solely for the use by the party with whom the design professional has entered into a contract and there are no representations of any kind made by the design professional to any party with whom the design professional has not entered into a contract.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

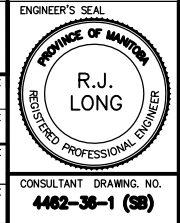
LOCATIONS APPROVED UNDERGROUND STRUCTURES

NOTE:

NO.	REVISIONS	DATE	BY

DESIGNED BY	ML	CHECKED BY	DBM	DATE
DRAWN BY	J	APPROVED BY:		DATE
HOR. SCALE:	AS NOTED	AUTHORIZED BY:		DATE
VERTICAL:	AS NOTED	B. EBENFANGER P.ENG./SENIOR BRIDGE ENGINEER		DATE
DATE	??, 1997	ACCEPTED FOR P.C.I. CONTRACTORS CANADA INC. BY:		DATE

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone: [204] 943-3178 Facsimile: [204] 943-9448



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-07-38-1**
SHEET: **38-1** OF **60**

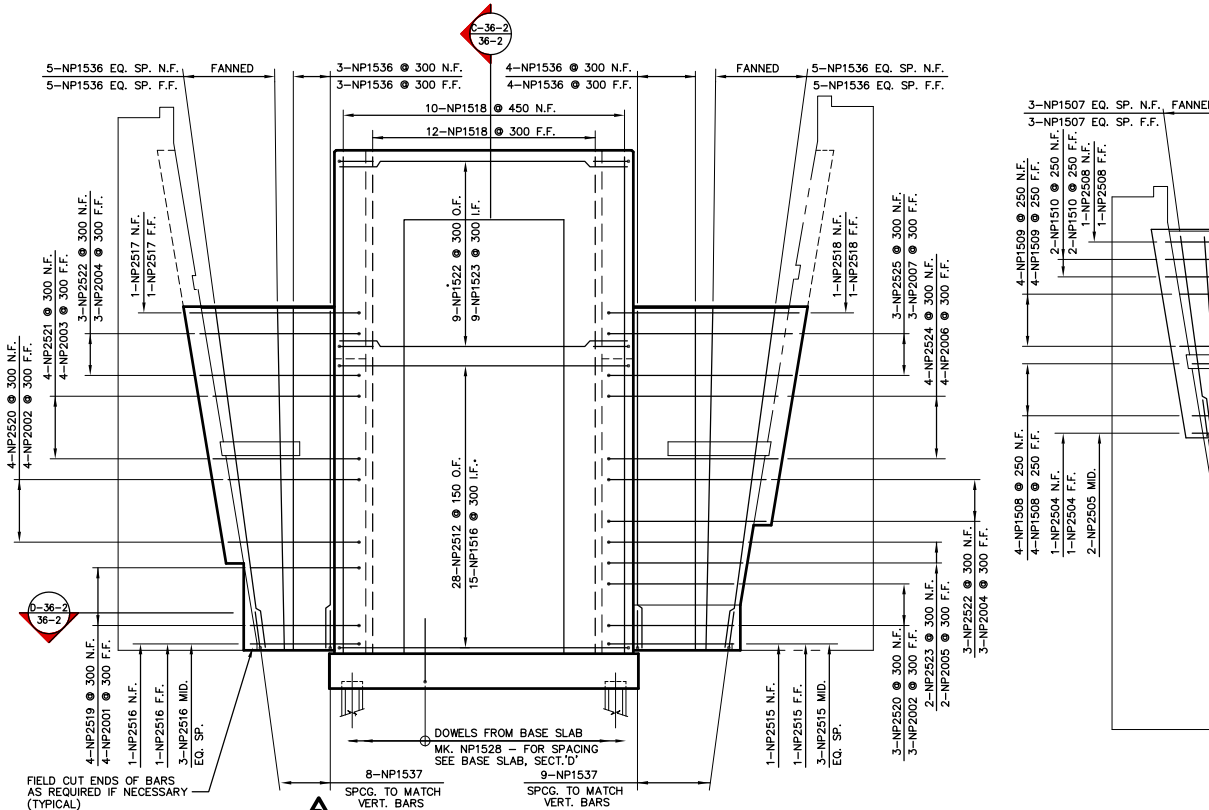
CONSULTANT DRAWING NO.: **4462-36-1 (58)**

NORTH ABUTMENT - PLANTERS SECTIONS

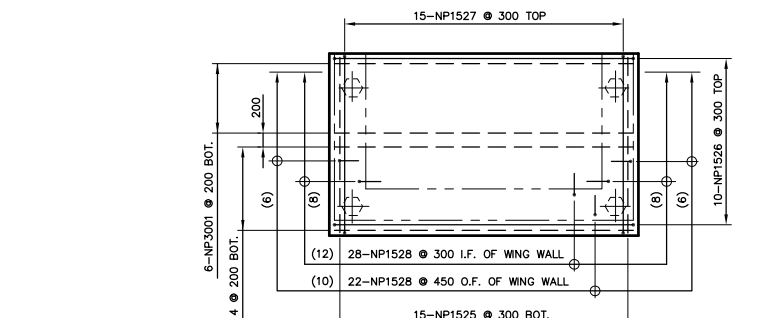
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AS-CONSTRUCTED

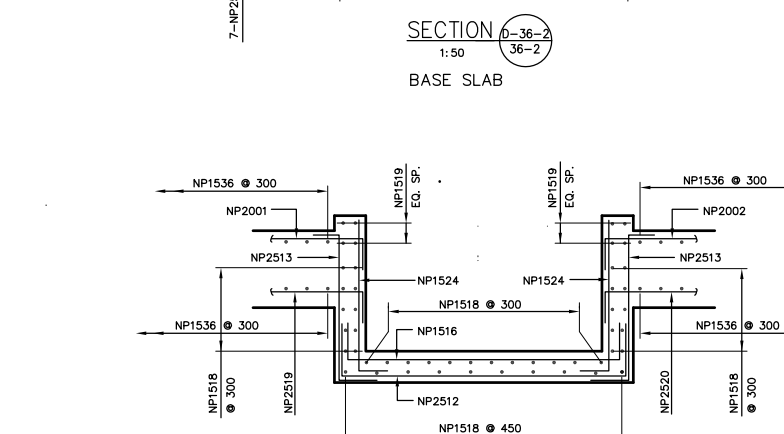
KGS FILE NO. 96-183-1036-1AC.DWG



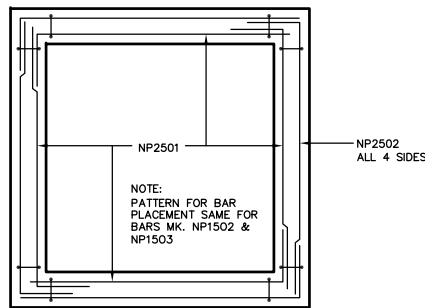
SECTION A-36-2
1:50
SOUTH WALL AND LOWER WING WALLS



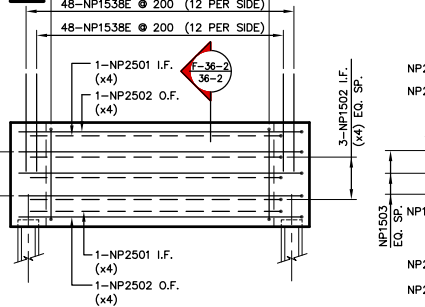
SECTION D-36-2
1:50
BASE SLAB



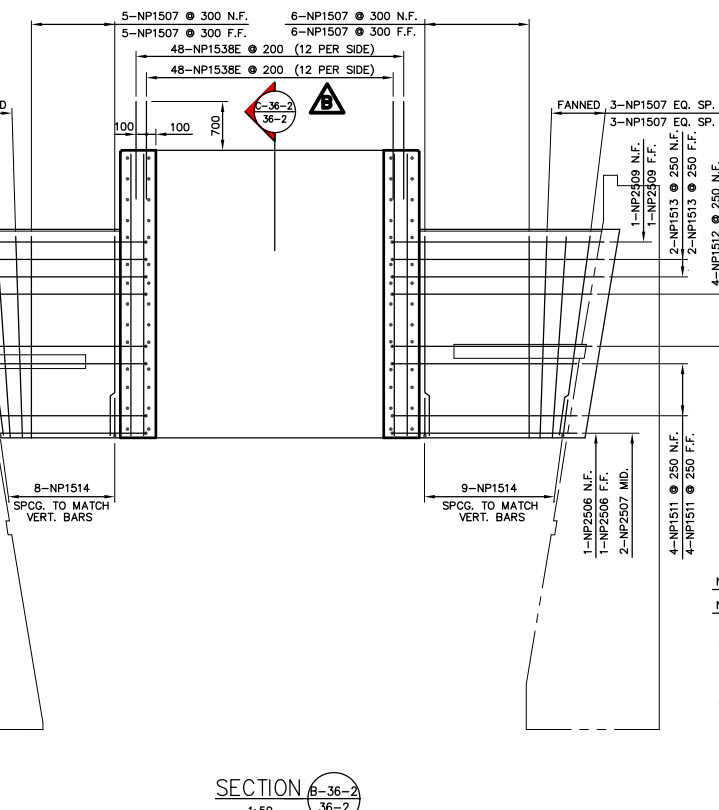
SECTION G-36-2
1:50
MIDDLE PLANTER



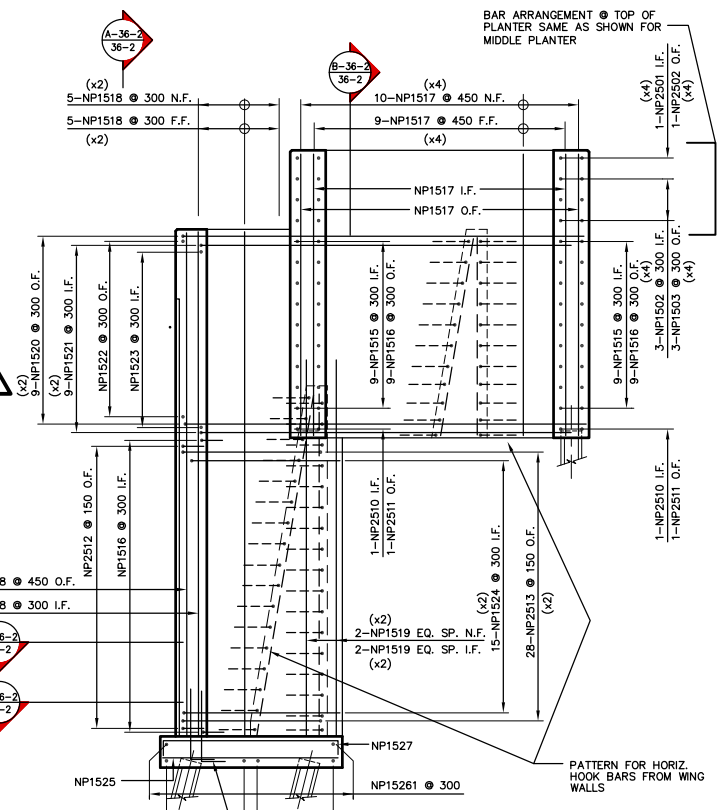
PLAN
SHOWING BAR PLACEMENT PATTERN



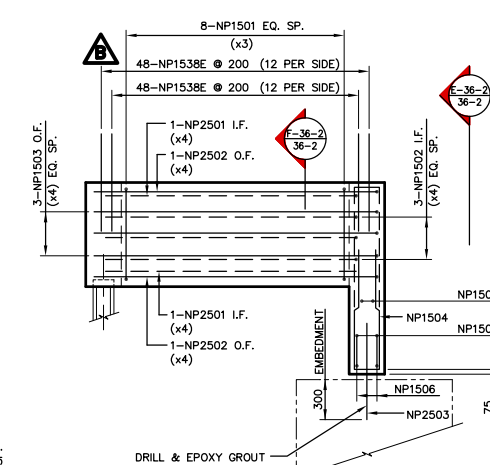
SECTION F-36-2
1:50
NORTH PLANTER



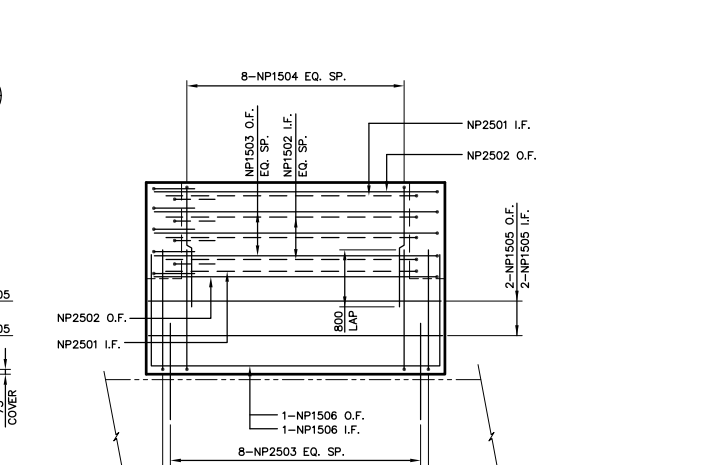
SECTION B-36-2
1:50
SOUTH PLANTER AND UPPER WING WALLS



SECTION C-36-2
1:50
SOUTH WALL AND SOUTH PLANTER



ELEV.



SECTION E-36-2
1:50
NORTH PLANTER

AS-CONSTRUCTED

NOTE: The original drawing used for construction was issued on October 17, 1997 by Bob Long. That drawing has been updated with construction revisions.
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED		B.M. - ELEV. -	
UNDERGROUND	STRUCTURES		

NO.	REVISIONS	DATE	BY
C	"AS-CONSTRUCTED"	99 01 20	JWB
B	PLANTER DOWELS ADDED & QUANTS. REV.	97 11 12	JWB
A	ISSUED FOR CONSTRUCTION	97 10 17	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB
0	REVISIONS		

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone 1 204 943-3178 Facsimile 1 204 943-6948

DESIGNED BY: **RL** CHECKED BY: **DBM** DATE: _____
DRAWN BY: **J** APPROVED BY: _____ DATE: _____
HORIZ. SCALE: **AS NOTED** AUTHORIZED BY: _____ DATE: _____
VERTICAL: _____ ACCEPTED FOR PCL CONTRACTORS CANADA INC. BY DATE: _____
DATE: 07 1997 R. QUENEN, P.ENG.

ENGINEER'S SEAL
R.J. LONG
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

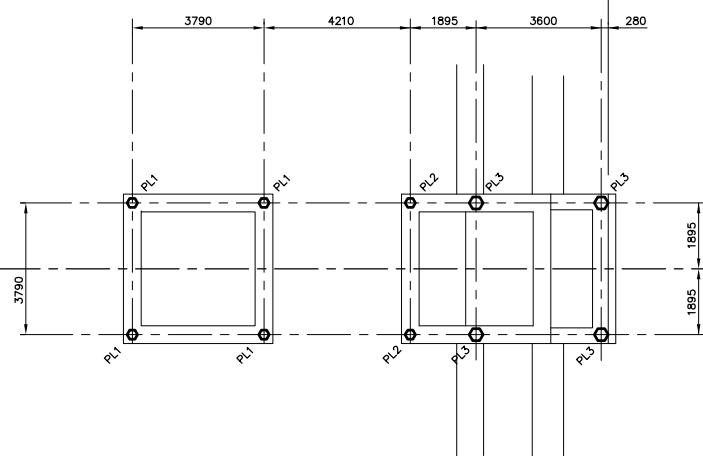
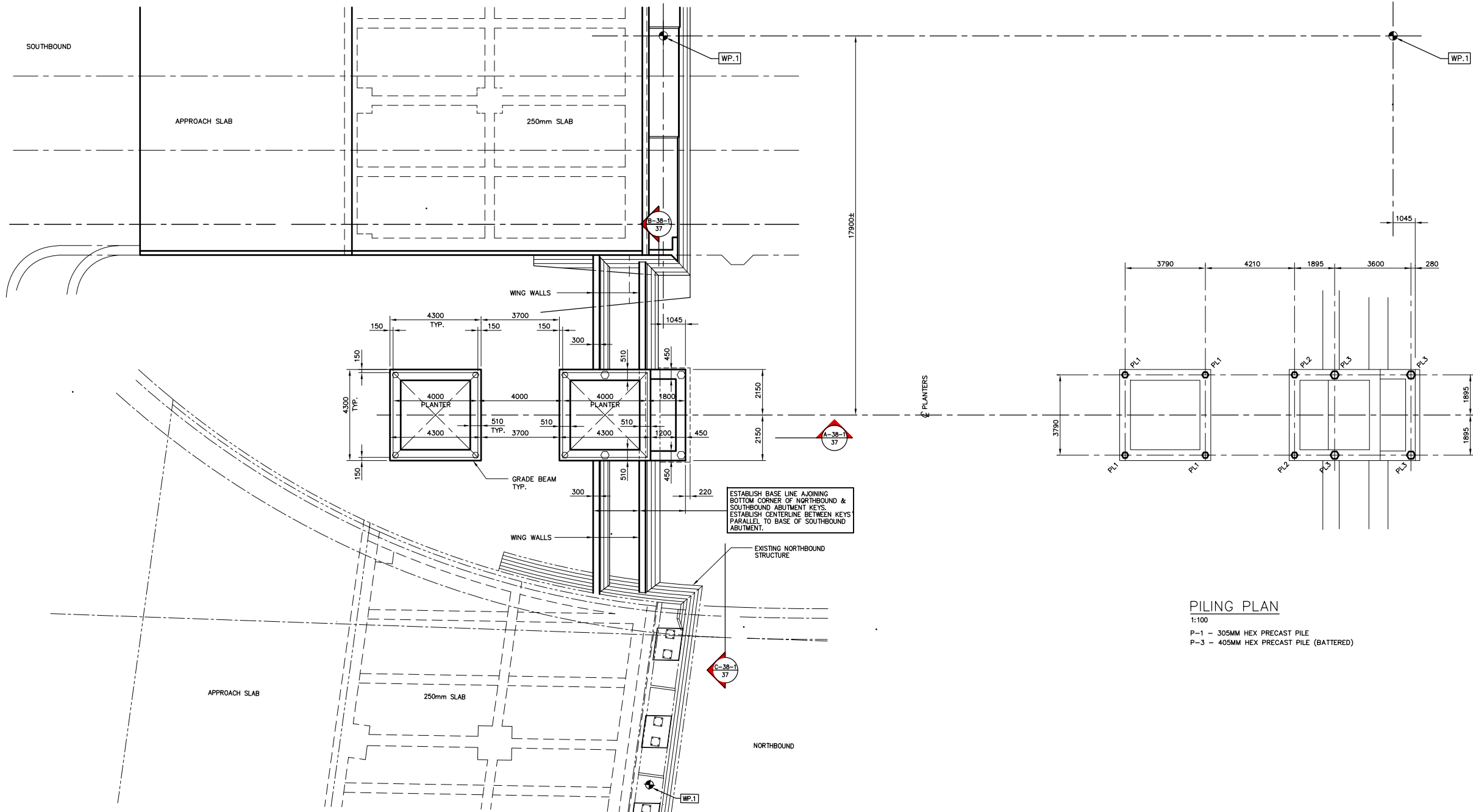
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS
NORTH ABUTMENT - PLANTERS REINFORCING

CITY DRAWING NUMBER: **B104-87-36-2**
SHEET: **36-2** OF **60**
CONSULTANT DRAWING NO.: **4462-36-2 (58)**



PRECAST DRIVEN PILES				
MARK No	SIZE	BATTER	CUT-OFF ELEVATION	REMARKS
PL1	305	NO	230.705	-
PL2	305	NO	228.465	-
PL3	405	YES	225.100	-

NOTES:
1. BATTER FOR PRECAST PILE SHALL BE 1:4



PILING PLAN
1:100
P-1 - 305MM HEX PRECAST PILE
P-3 - 405MM HEX PRECAST PILE (BATTERED)

PART LOCATION PLAN
1:100

AS-CONSTRUCTED

NOTE:
The original drawing used for construction was sealed on October 17, 1997 by Bob Long. That drawing has been updated with construction revisions.

NOTE:
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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

NO.	REVISIONS	DATE	BY
B	"AS-CONSTRUCTED"	99 01 20	JWB
A	ISSUED FOR CONSTRUCTION	97 10 17	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3B1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.J. LONG** CHECKED BY: **DBM** DATE: _____
DRAWN BY: **JWB** APPROVED BY: _____ DATE: _____
AUTHORIZED BY: _____ DATE: _____
HORIZ. SCALE: **AS NOTED** AUTHORIZED BY: _____ DATE: _____
VERTICAL: **AS NOTED** ACCEPTED FOR P.C.I. CONSTRUCTORS CANADA INC. BY: _____ DATE: _____

ENGINEER'S SEAL
R.J. LONG
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

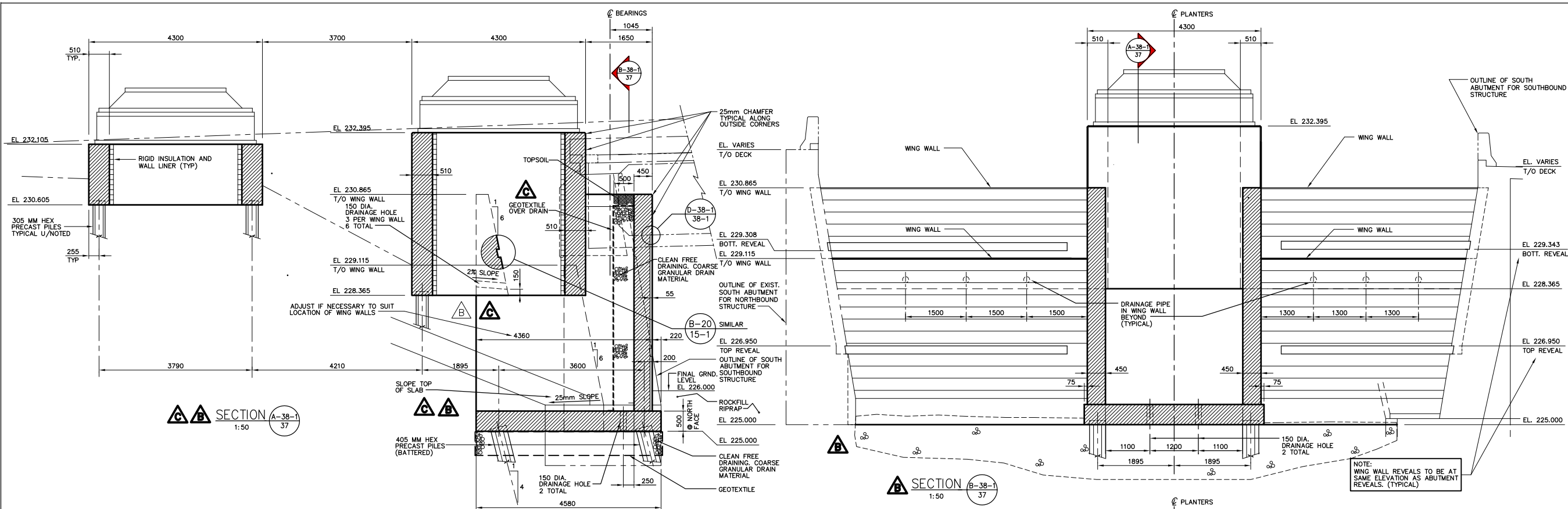
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **B104-97-37**
SHEET **37** OF **60**

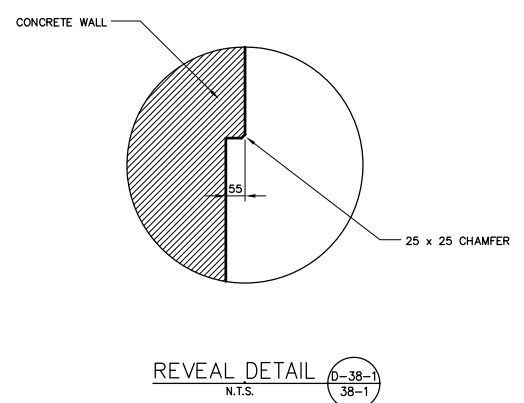
CONSULTANT DRAWING NO. **4482-37 (SB)**

SOUTH ABUTMENT - PLANTERS
CONCRETE SUPPORT DETAILS

B



NOTE: WING WALL REVEALS TO BE AT SAME ELEVATION AS ABUTMENT REVEALS. (TYPICAL)



AS-CONSTRUCTED

NOTE: The original drawing used for construction was issued on October 17, 1997 by Bob Long. That drawing has been updated with construction revisions.

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED UNDERGROUND STRUCTURES

DATE: 09/10/97

NOTE: [Illegible text]

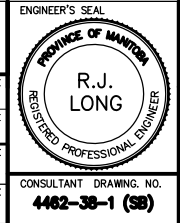
NO.	REVISIONS	DATE	BY
D	"AS-CONSTRUCTED"	99 01 20	JWB
C	DRAIN DELETED	98 01 15	JWB
B	DRAINAGE REVISED	97 12 08	JWB
A	ISSUED FOR CONSTRUCTION	97 10 17	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: **R.J. LONG** CHECKED BY: **DBM** DATE: [Illegible]
DRAWN BY: **J** APPROVED BY: [Illegible] DATE: [Illegible]
AUTHORIZED BY: [Illegible] DATE: [Illegible]

HOR. SCALE: **AS NOTED**
VERTICAL: **AS NOTED**

DATE: 09/10/97



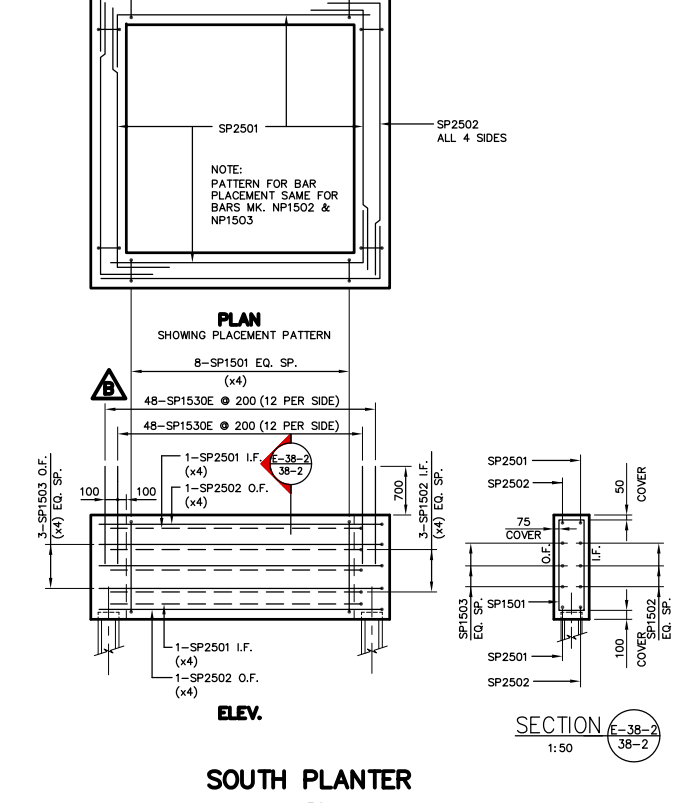
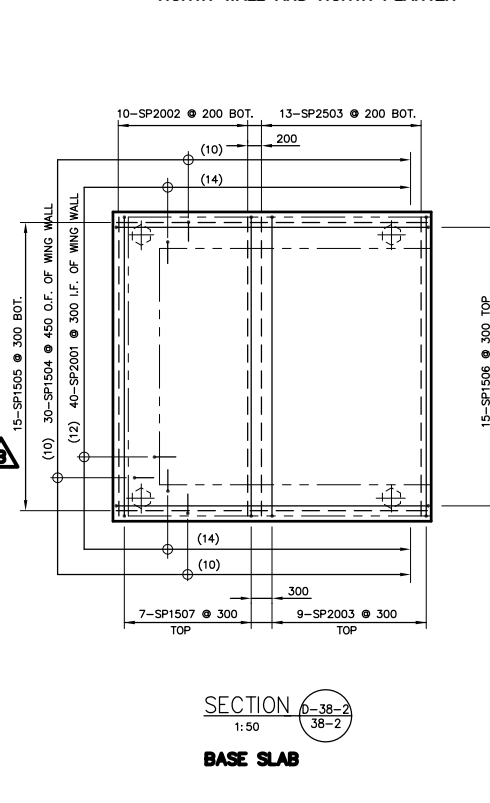
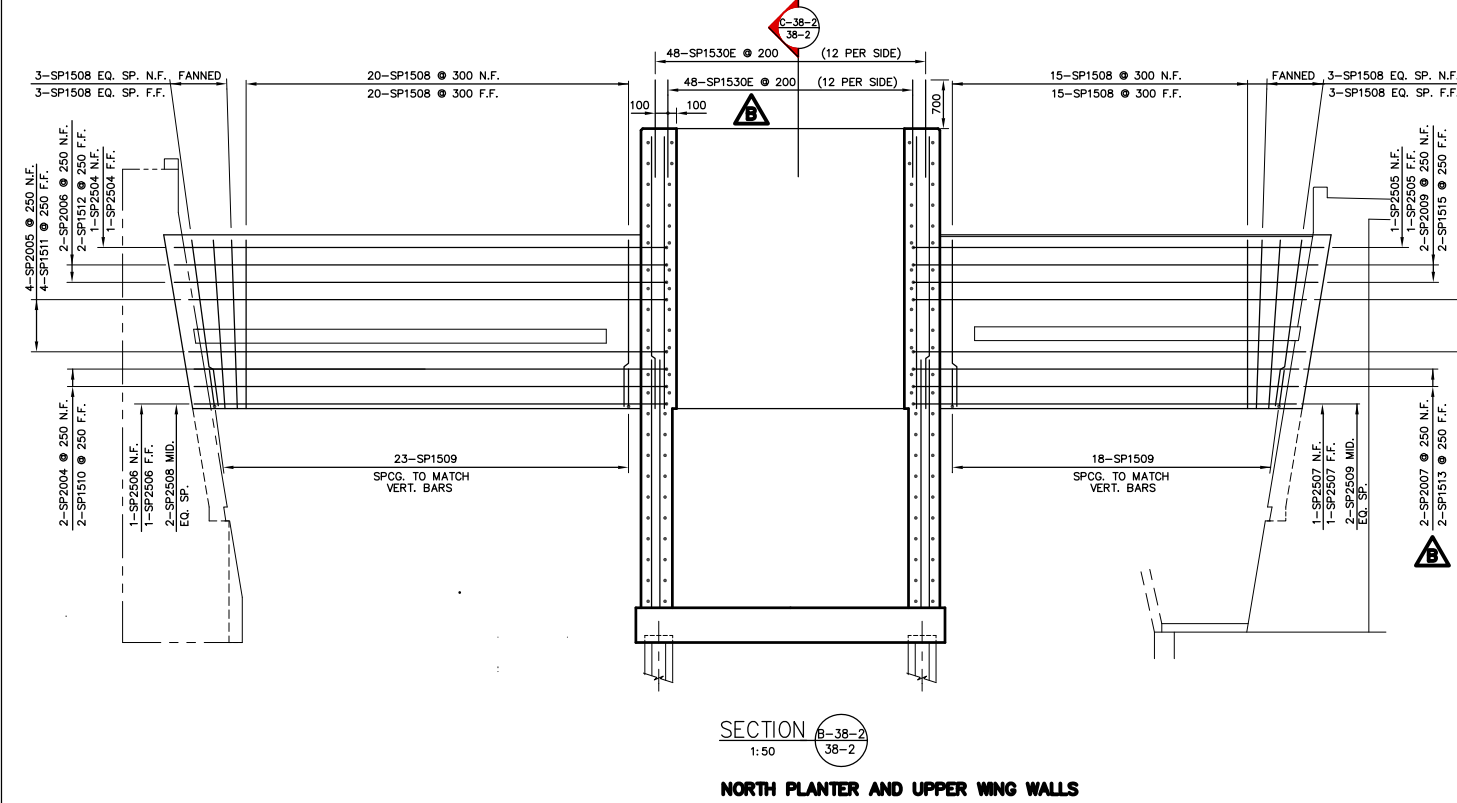
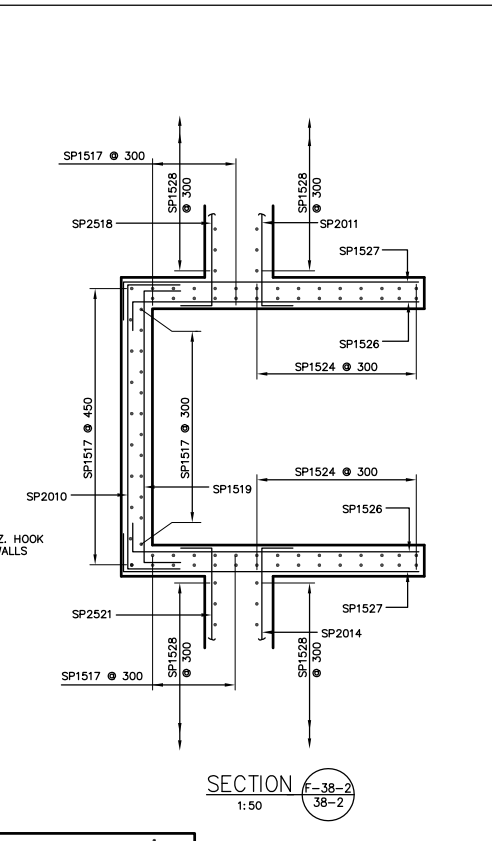
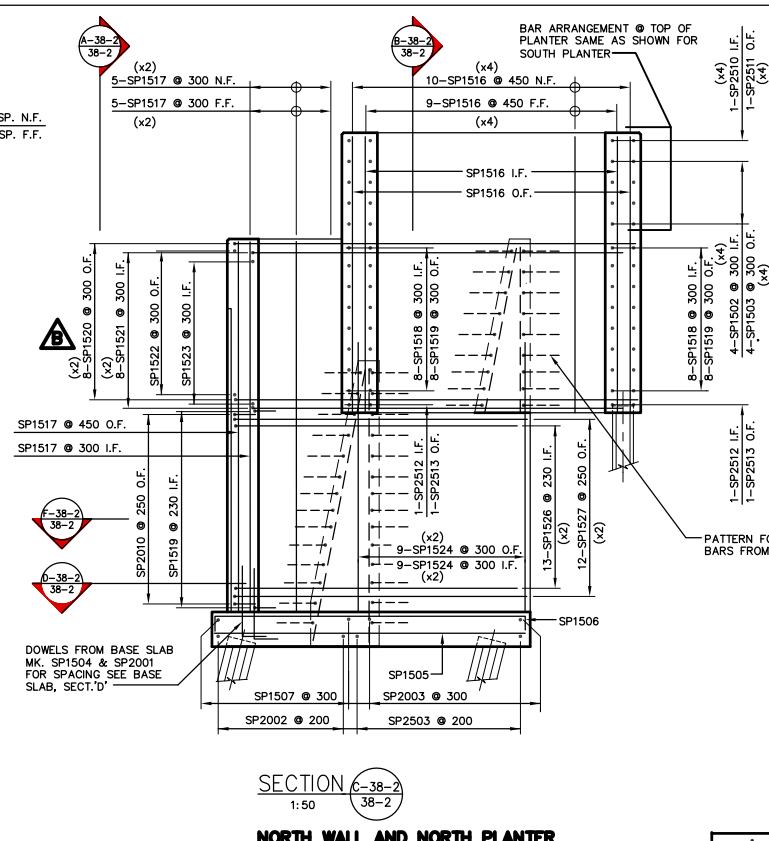
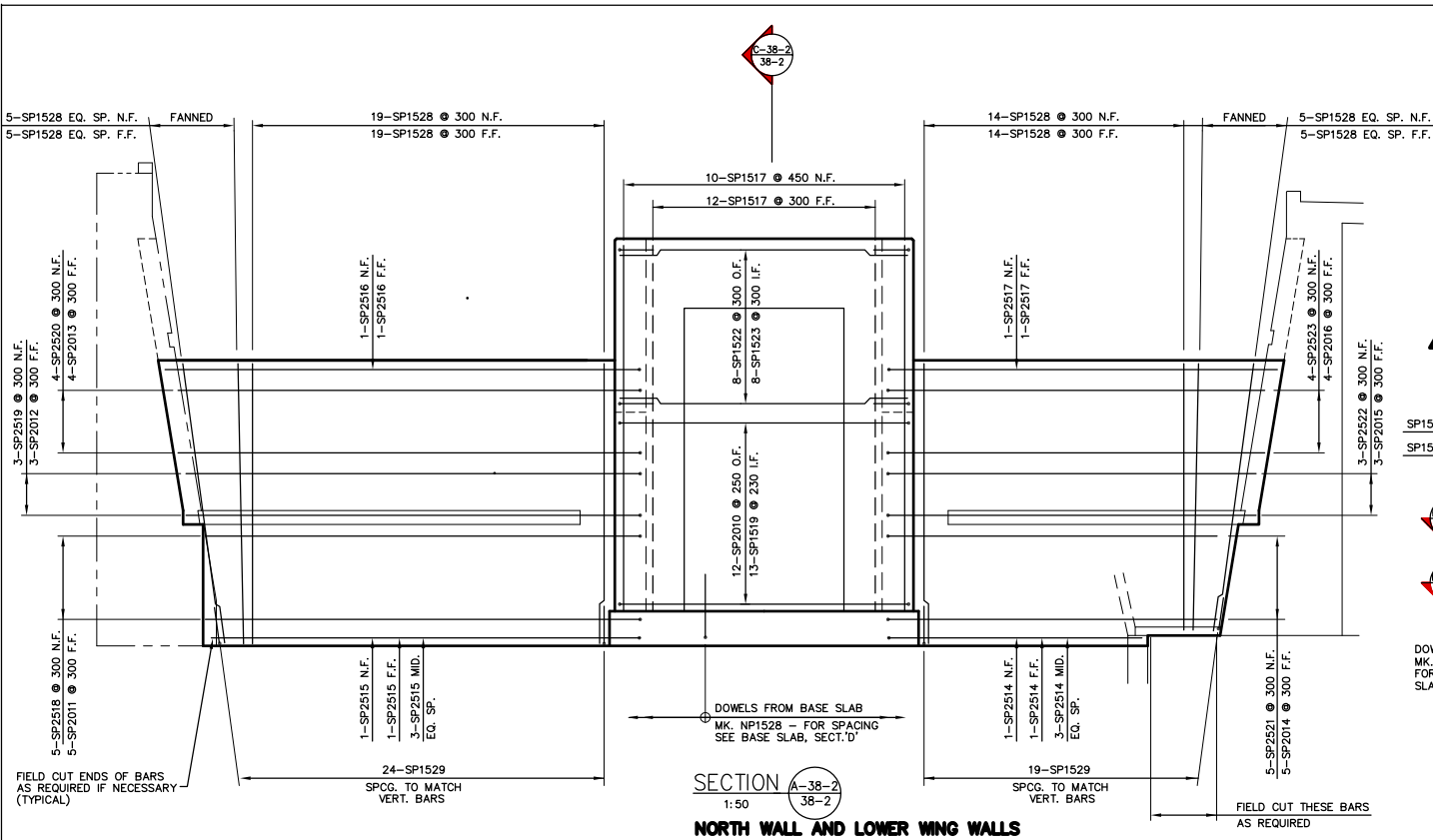
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-97-38-1**
SHEET: **38-1** OF **60**

SOUTH ABUTMENT - PLANTERS SECTIONS

D



AS-CONSTRUCTED

NOTE: The original drawing used for construction was issued on October 17, 1997 by Bob Long. That drawing has been updated with construction revisions.

NOTE: These design documents are prepared solely for the use by the party with whom the design professional has entered into a contract and there are no representations of any kind made by the design professional to any party with whom the design professional has not entered into a contract.

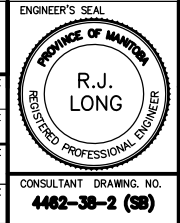
METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

NO.	REVISIONS	DATE	BY
C	"AS-CONSTRUCTED"	99 01 20	JWB
B	PLANTER DOWELS ADDED & QUANTS. REV.	97 11 12	JWB
A	ISSUED FOR CONSTRUCTION	97 10 17	JWB
0	ISSUED FOR PROPOSAL	96 07 15	JWB

DESIGNED BY	ML	CHECKED BY	DBM	DATE
DRAWN BY	J	APPROVED BY:		DATE
HOR. SCALE:	AS NOTED	AUTHORIZED BY:		DATE
VERTICAL:	AS NOTED	ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY:		DATE
DATE	??, 1997			

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-88 Lombard Avenue Winnipeg, Manitoba R2B 3P1
Phone [204] 943-3178 Facsimile [204] 943-9448



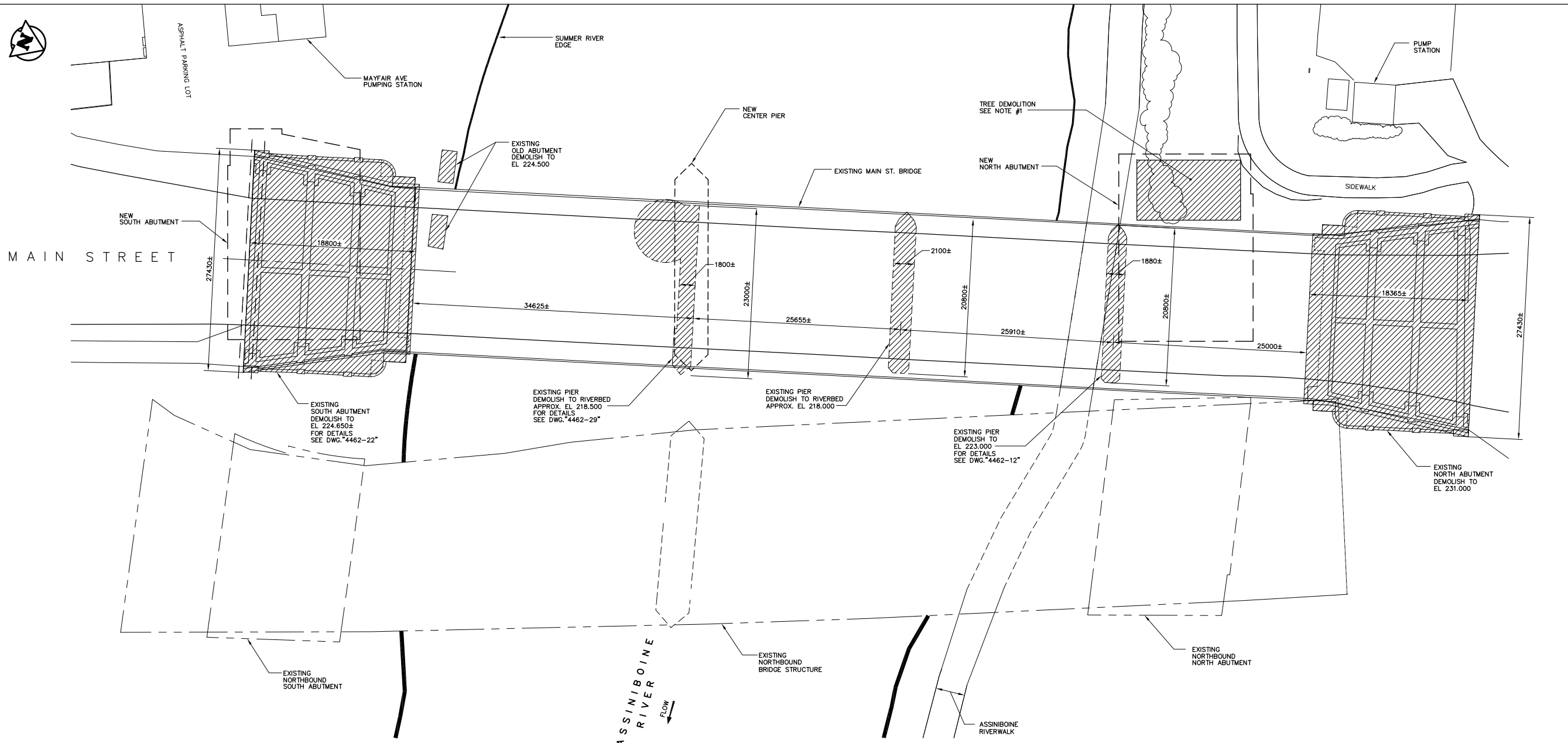
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **B104-87-38-2**
SHEET **38-2** OF **80**

CONSULTANT DRAWING NO. **4462-38-2 (38)**

SOUTH ABUTMENT - PLANTERS REINFORCING



PLAN
1:250

LAYOUT OF EXISTING STRUCTURES AND
PROPOSED NEW STRUCTURES

- DENOTES AREAS OF DEMOLITION

NOTES

- 1. ALL TREE REMOVAL SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR PRIOR TO DEMOLITION TO MINIMIZE TREE REMOVAL.
- 2. ALL EXISTING ABANDONED UTILITIES SHALL BE REMOVED AS NECESSARY TO SUIT EXCAVATION. SEE DWG. "4462-10" FOR SERVICE LOCATION.
- 3. FOR CONSTRUCTION ACCESS REFER TO DWG. "4462-05".
- 4. DRAWINGS SHOWING AVAILABLE DETAILS OF EXISTING BRIDGE PROVIDED IN THIS SET OF DRAWINGS. INFORMATION PROVIDED IS FROM AVAILABLE DRAWINGS, WHICH MAY OR MAY NOT REFLECT AS-BUILT CONDITIONS. CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND DETAILS IN ADVANCE OF SUBMITTING HIS OFFER.

AS-CONSTRUCTED

NOTE:
The original drawing used for construction was sealed on December 16, 1996 by Bob Long. That drawing has been updated with construction revisions.

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

KGS CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG THUNDER BAY

LOCATIONS APPROVED
UNDERGROUND STRUCTURES

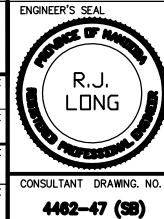
NO.	REVISIONS	DATE	BY
B	"AS-CONSTRUCTED"	99 01 20	JWB
A	ISSUED FOR CONSTRUCTION	96 12 16	JWB
O	ISSUED FOR PROPOSAL	96 07 15	JWB

B.M. -
ELEV. -

NO.	REVISIONS	DATE	BY
B	"AS-CONSTRUCTED"	99 01 20	JWB
A	ISSUED FOR CONSTRUCTION	96 12 16	JWB
O	ISSUED FOR PROPOSAL	96 07 15	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R2B 3B4
Phone [204] 943-3178 Facsimile [204] 943-9448

DESIGNED BY: R.J.	CHECKED BY: DBM	DATE
DRAWN BY: J	APPROVED BY:	DATE
HORIZ. SCALE: AS NOTED		
VERTICAL: AS NOTED		
DATE: 99, 1997	AUTHORIZED BY: B. EBENFANGER P.ENG./SENIOR BRIDGE ENGINEER ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY DATE	



ENGINEER'S SEAL

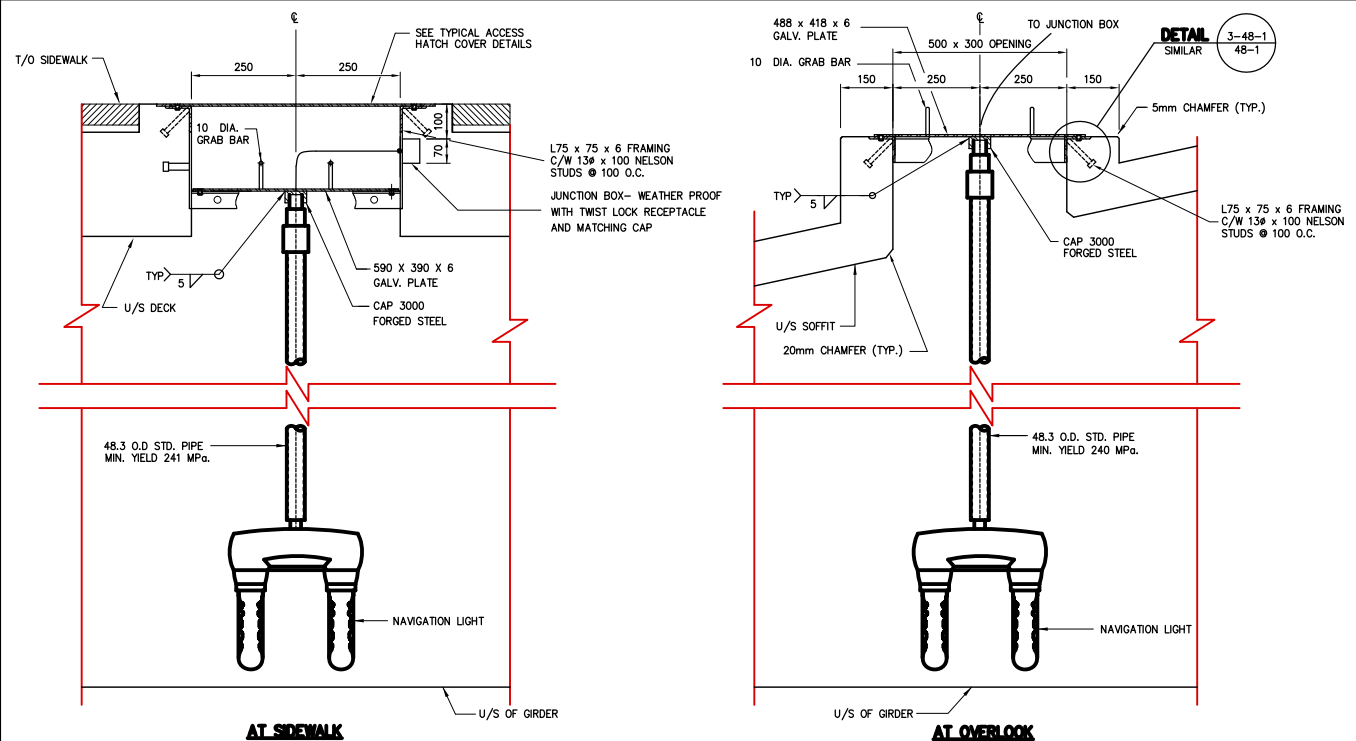
THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

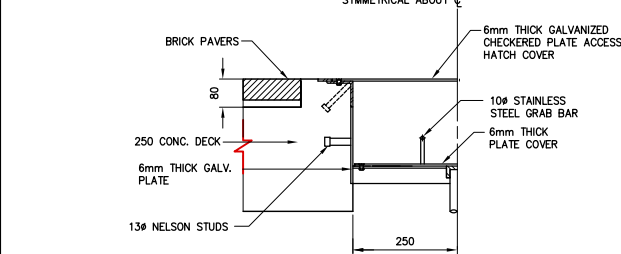
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SHEET **47** OF **60**

CONSULTANT DRAWING NO. **4462-47 (SB)**

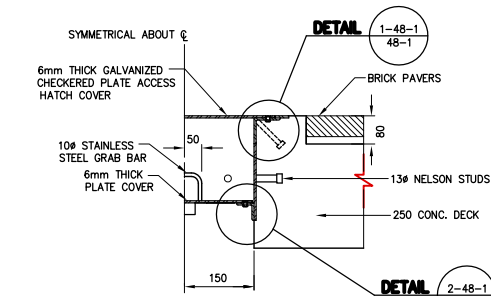
DEMOLITION PLAN



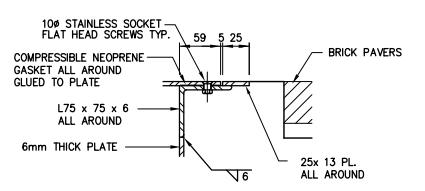
NAVIGATION LIGHT DETAILS
1:10



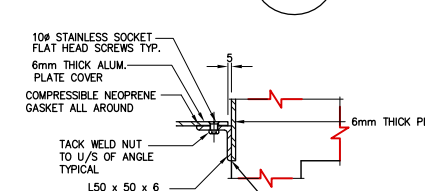
SECTION A-48-1
1:10



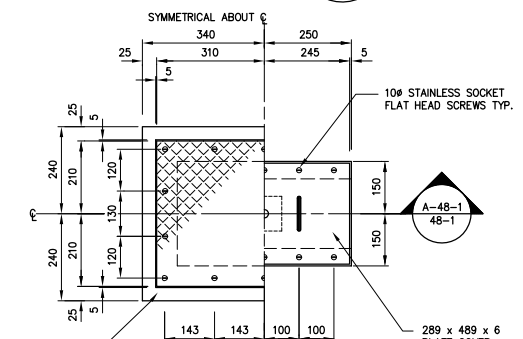
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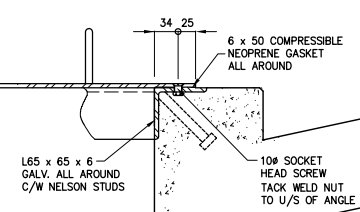
DETAIL 1-48-1
1:5



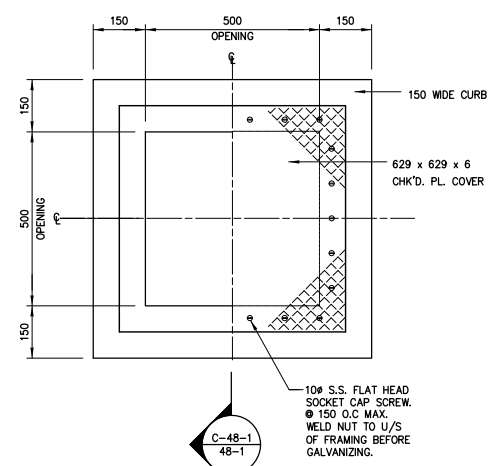
DETAIL 2-48-1
1:5



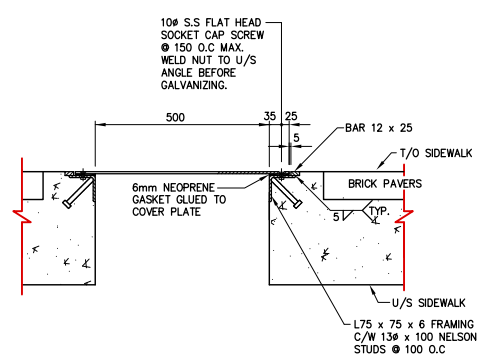
NAVIGATION LIGHT ACCESS HATCH COVER
HALF PLAN - HALF SECTION
1:10



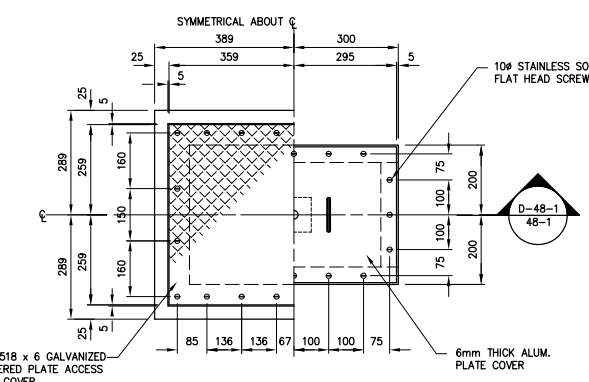
DETAIL 3-48-1
1:5



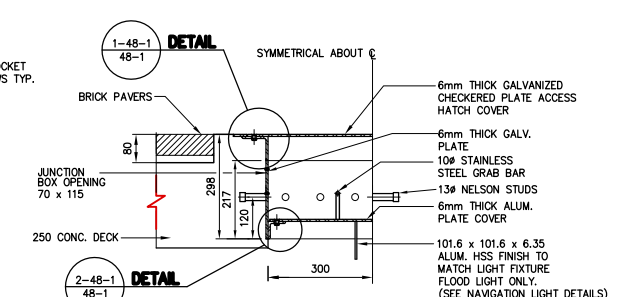
OVERLOOK ACCESS HATCH COVER
HALF PLAN - HALF SECTION
1:10



SECTION C-48-1
1:10



FLOOD LIGHT ACCESS HATCH COVER
HALF PLAN - HALF SECTION
1:10



SECTION D-48-1
1:10

AS-CONSTRUCTED NOTES:

1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 08 15 BY J.W.BOGAN P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

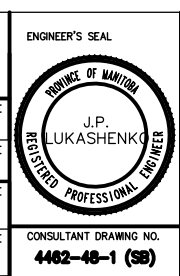
AS-CONSTRUCTED

C:\120M\1462-301\446248-1 Time: 11:42:40 Date: 07/21/97

LOCATIONS APPROVED UNDERGROUND STRUCTURES		B.M. -	ELEV. -
N.A.			
SUPV. U/S STRUCTURES COMMITTEE	DATE		
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION			
NO.	REVISIONS	DATE	BY

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: JWB	CHECKED BY: JPL	DATE
DRAWN BY: TC	APPROVED BY:	DATE
HOR. SCALE: AS SHOWN		
VERTICAL: -		
ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY: DATE		
R. DUERKSEN, P.ENG.		



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

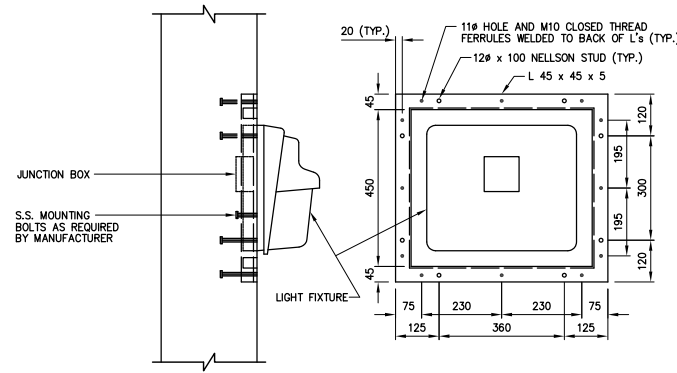
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE

SOUTHBOUND AND RELATED ROADWORKS

WEST SIDE NAVIGATION LIGHT DETAILS

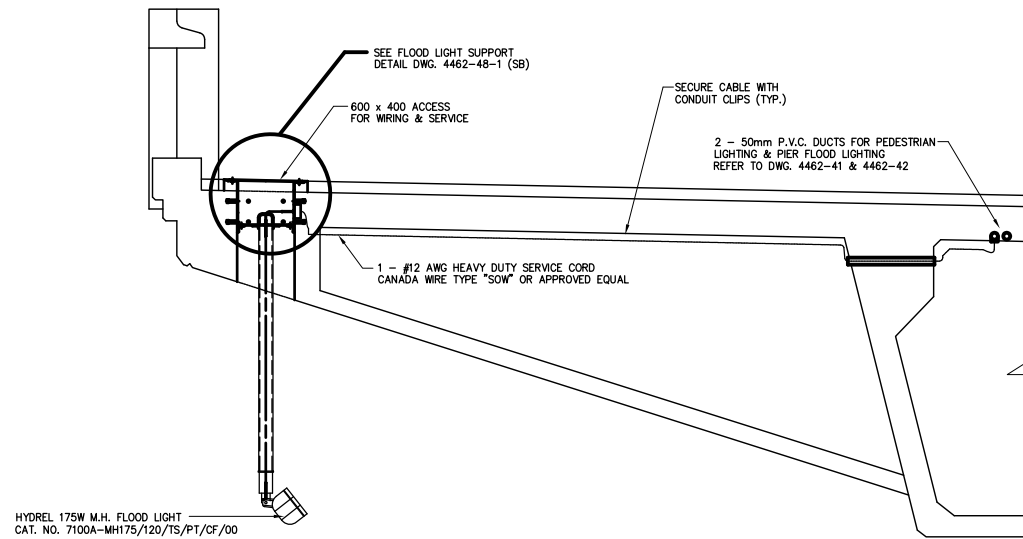
CITY DRAWING NUMBER	B104-87-48-1
SHEET OF	48-1 -
D	

CONSULTANT DRAWING NO.
4462-48-1 (58)

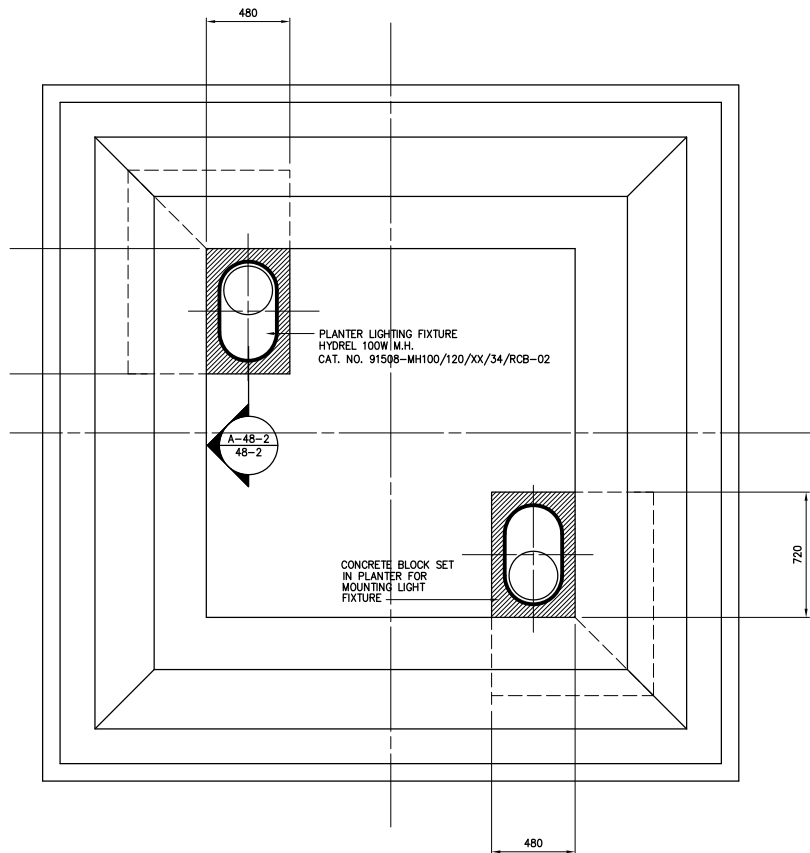


- NOTES:**
1. STEEL FRAMES AROUND LIGHT FIXTURES TO BE HOT DIP GALVANIZED TO A MIN. NET RETENSION OF 600 g/m²
 2. FIXTURES TO BE HOLOPHANE WALLPACK 11 LUMINAIRES 70W HPS (UNDERPASS TYPE) OR EQUIVALENT.

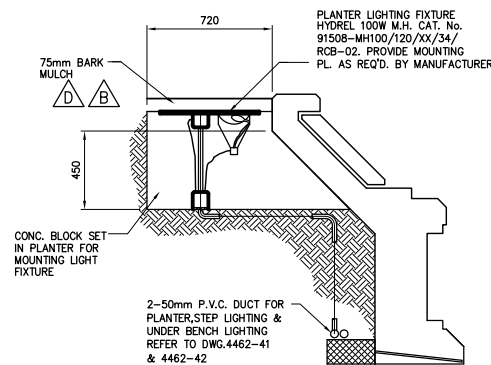
ABUTMENT MOUNTED LIGHTING FIXTURE
SCALE : 1:10



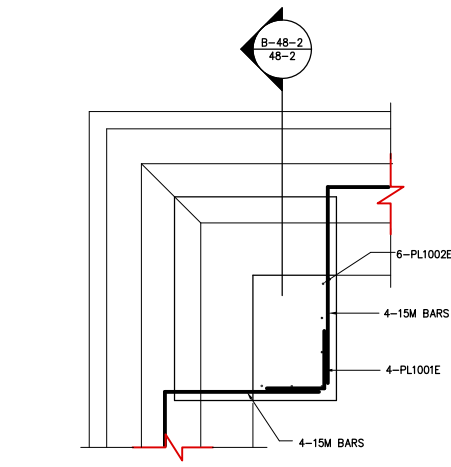
FLOOD - LIGHTING DETAIL
1:25



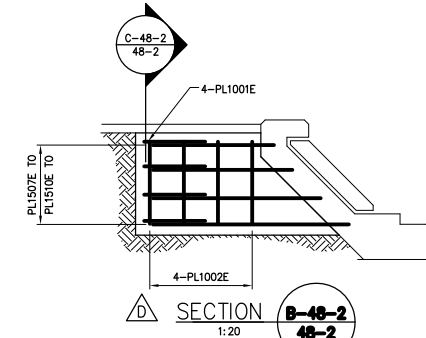
PLANTER LIGHTING CONCRETE BASE
1:20



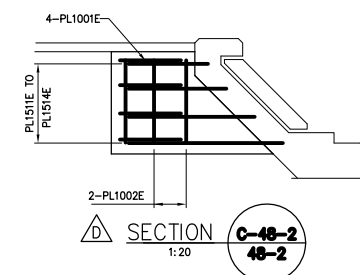
SECTION A-48-2
1:20



CONCRETE BASE REINFORCING PLAN
1:20



SECTION B-48-2
1:20



SECTION C-48-2
1:20

AS-CONSTRUCTED NOTES:

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 09 05 BY J.W.BOGAN P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

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METRIC
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DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.
N.A.		
SUPV. U/G STRUCTURES	DATE	
NOTE:		
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NO.	REVISIONS	DATE BY
E	AS CONSTRUCTED	98 12 01 JWB
D	REVISED DETAIL & ADDED REINFORCING	98 01 30 JWB
C	ISSUED FOR CONSTRUCTION	97 09 05 JWB
B	REVISED DETAIL	97 09 02 JWB
A	ISSUED FOR REVIEW	97 06 17 JWB
NO.	REVISIONS	DATE BY

DESIGNED BY		CHECKED BY:	
JWB		JPL	
DRAWN BY		APPROVED BY:	
TC			
HOR. SCALE:		DATE	
AS SHOWN			
VERTICAL:		DATE	
-			
ACCEPTED FOR P.C.L. CONSTRUCTORS CANADA INC. BY:		DATE	
R. DUERSEN, P.ENG.			

ENGINEER'S SEAL
PROVINCE OF MANITOBA
REGISTERED PROFESSIONAL ENGINEER
J.P. LUKASHENKO

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

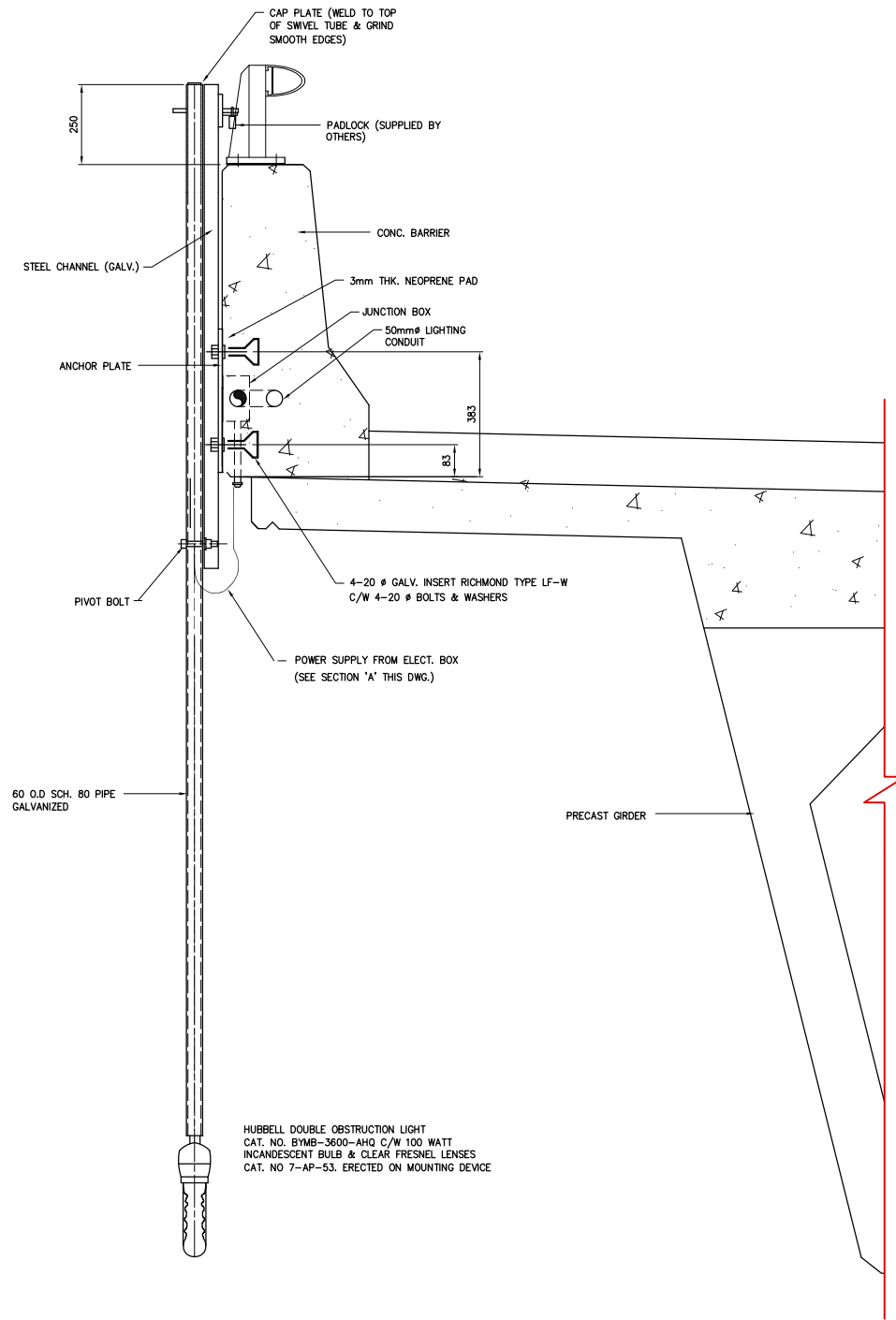
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE

SOUTHBOUND AND RELATED ROADWORKS

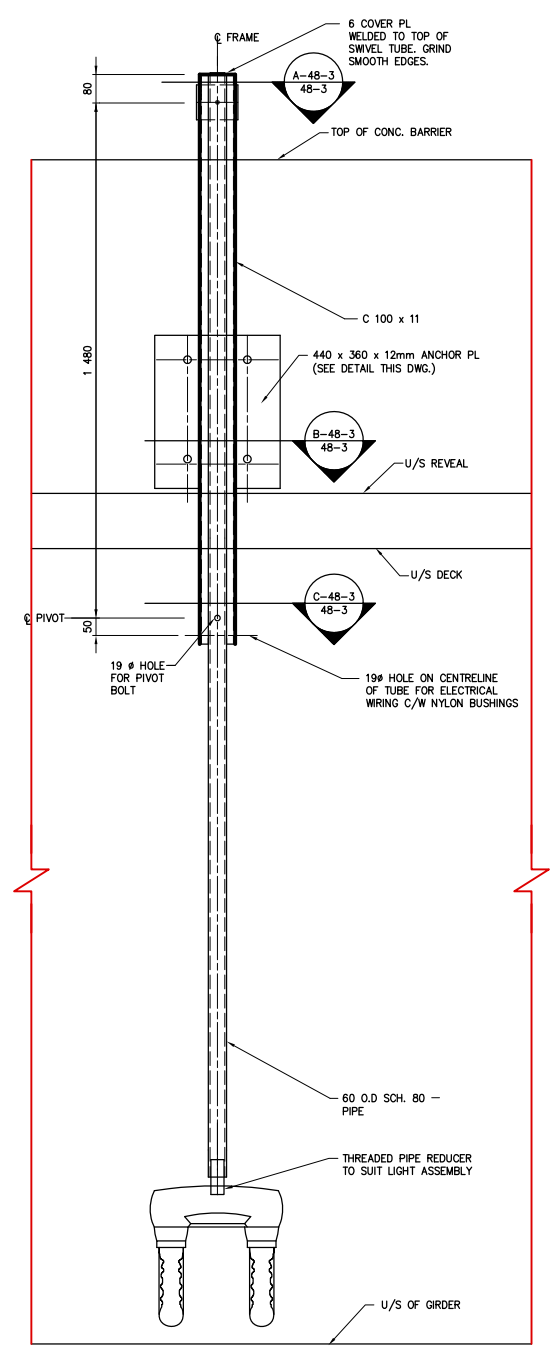
LIGHTING FIXTURES SECTIONS AND DETAILS

CITY DRAWING NUMBER **8104-87-48-2**
SHEET **48-2** OF **-**
E

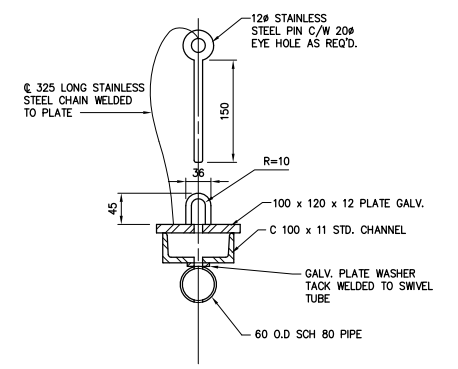
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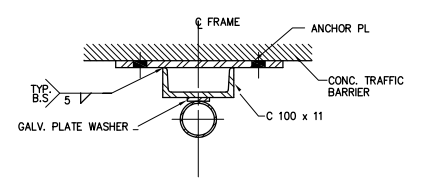
GENERAL ARRANGEMENT
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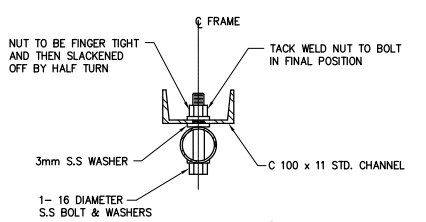
FRONT ELEVATION
1:10



SECTION A-48-3
1:5
48-3



SECTION B-48-3
1:5
48-3



SECTION C-48-3
1:5
48-3

AS-CONSTRUCTED NOTES:

1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 09 05 BY J.W. BOGAN P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

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DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.
N.A.		
SUPV. U/G STRUCTURES COMMITTEE	DATE	
NOTE:		
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C	AS CONSTRUCTED	88 12 01 JWB
B	ISSUED FOR CONSTRUCTION	97 09 05 JWB
A	ISSUED FOR REVIEW	97 06 17 JWB
NO.	REVISIONS	DATE BY

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: JWB	CHECKED BY: JPL	DATE
DRAWN BY: TC	APPROVED BY:	DATE
HOR. SCALE: AS SHOWN		
VERTICAL: -		
DATE: JUNE 1997		

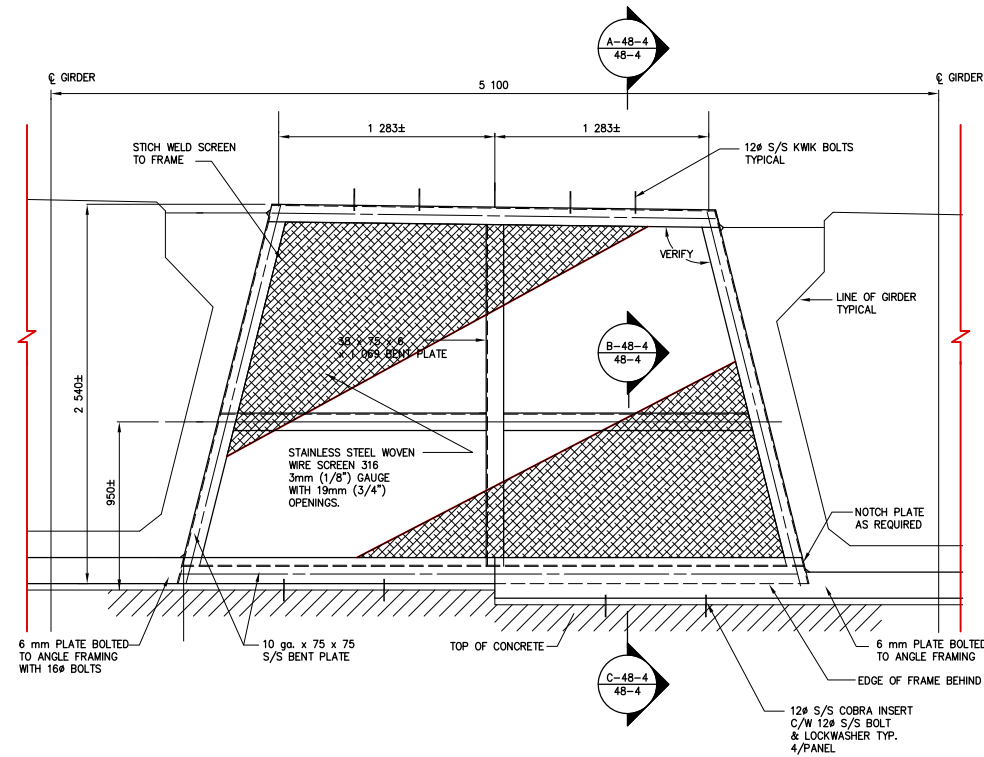
ENGINEER'S SEAL

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

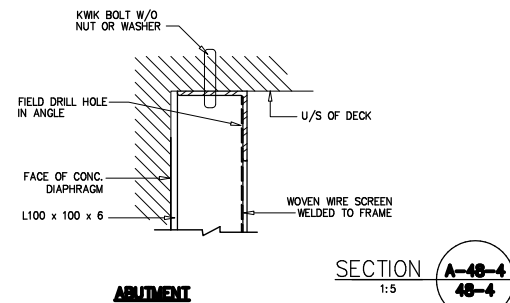
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

EAST SIDE NAVIGATION LIGHT DETAIL

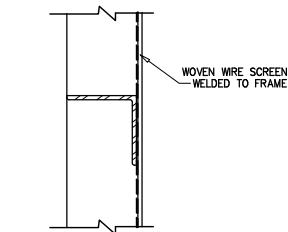
CITY DRAWING NUMBER	8104-87-48-3
SHEET OF	48-3 OF -
CONSULTANT DRAWING NO.	4462-48-3 (SB)
	C



MASK WALL DETAILS AT ABUTMENT/PIER
1:20



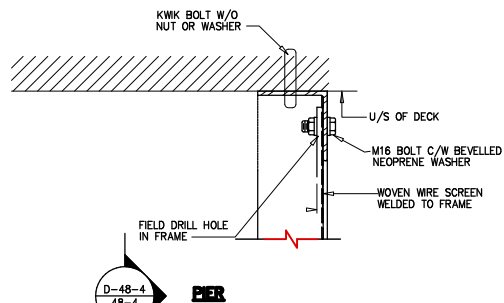
ABUTMENT



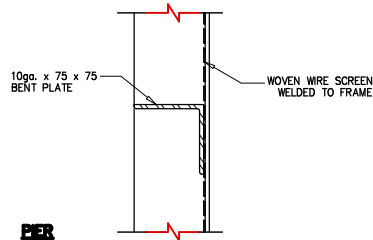
ABUTMENT

SECTION A-48-4
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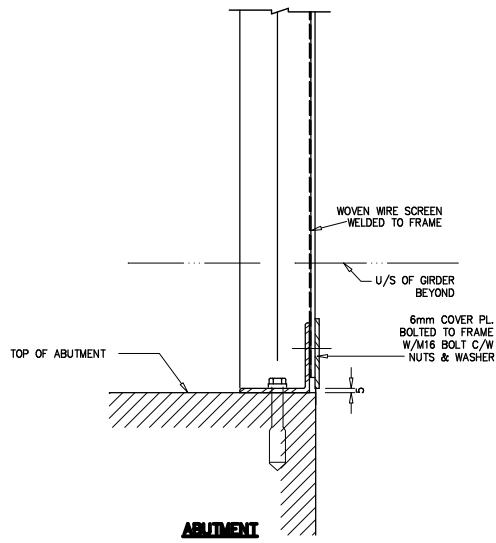
SECTION B-48-4
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PIER

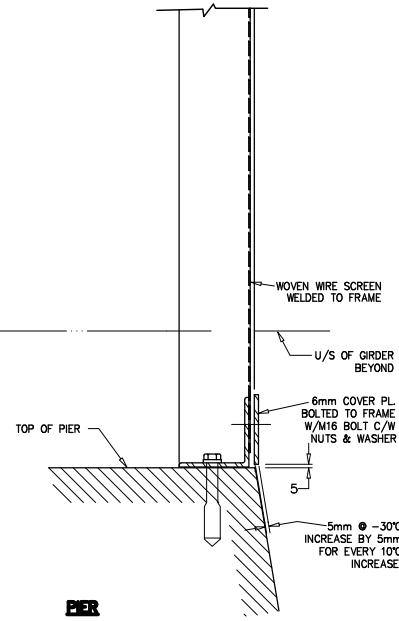


PIER



ABUTMENT

SECTION C-48-4
1:5



PIER

NOTE:
1. LENGTHS OF MESH FRAME MEMBERS SHALL BE CONFIRMED BY THE CONTRACTOR AT EACH FRAME LOCATION AFTER THE DECK IS IN PLACE.
2. ALL MASK WALL COMPONENTS SHALL BE STAINLESS STEEL.

AS-CONSTRUCTED NOTES:

1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 09 05 BY J.W.BOGAN P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

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WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES

SUPV. U/S STRUCTURES COMMITTEE	DATE
N.A.	

NOTE:
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NO.	REVISIONS	DATE	BY	DATE
C	AS CONSTRUCTED	98 12 01	JWB	
B	ISSUED FOR CONSTRUCTION	97 09 05	JWB	
A	ISSUED FOR REVIEW	97 06 17	JWB	

DESIGNED BY	CHECKED BY	DATE
JWB	JPL	
DRAWN BY	APPROVED BY	DATE
TC		
HOR. SCALE:	AS SHOWN	
VERTICAL:	-	
DATE	JUNE 1997	

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone | 204 | 943-3178 Facsimile | 204 | 943-4948

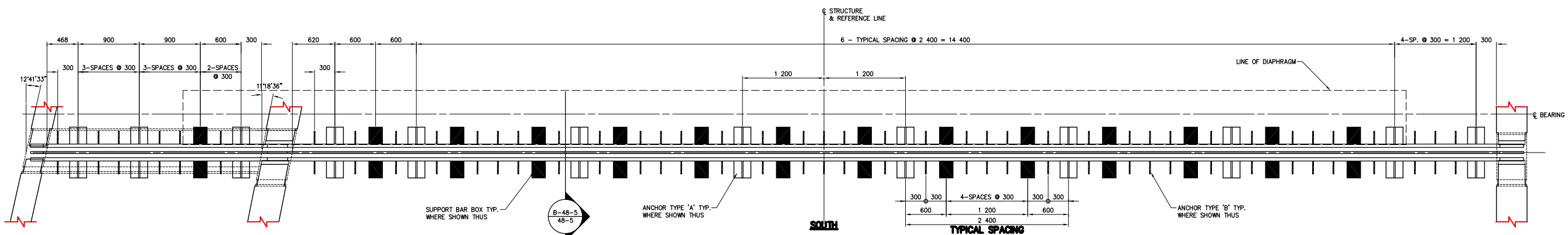
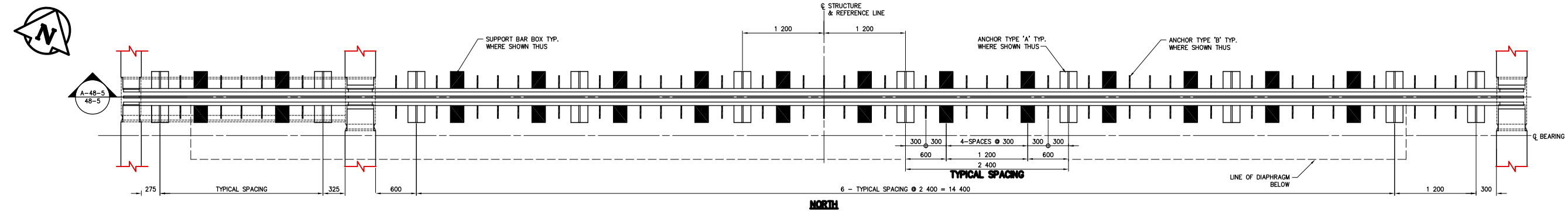


THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

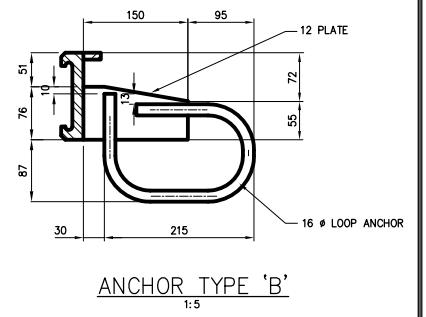
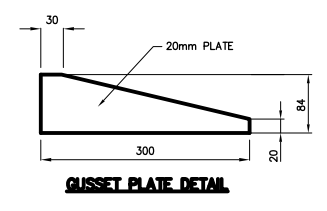
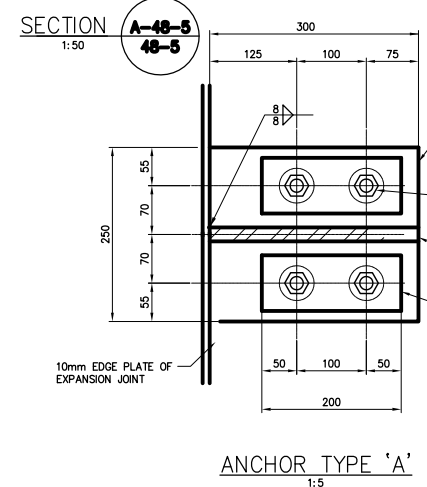
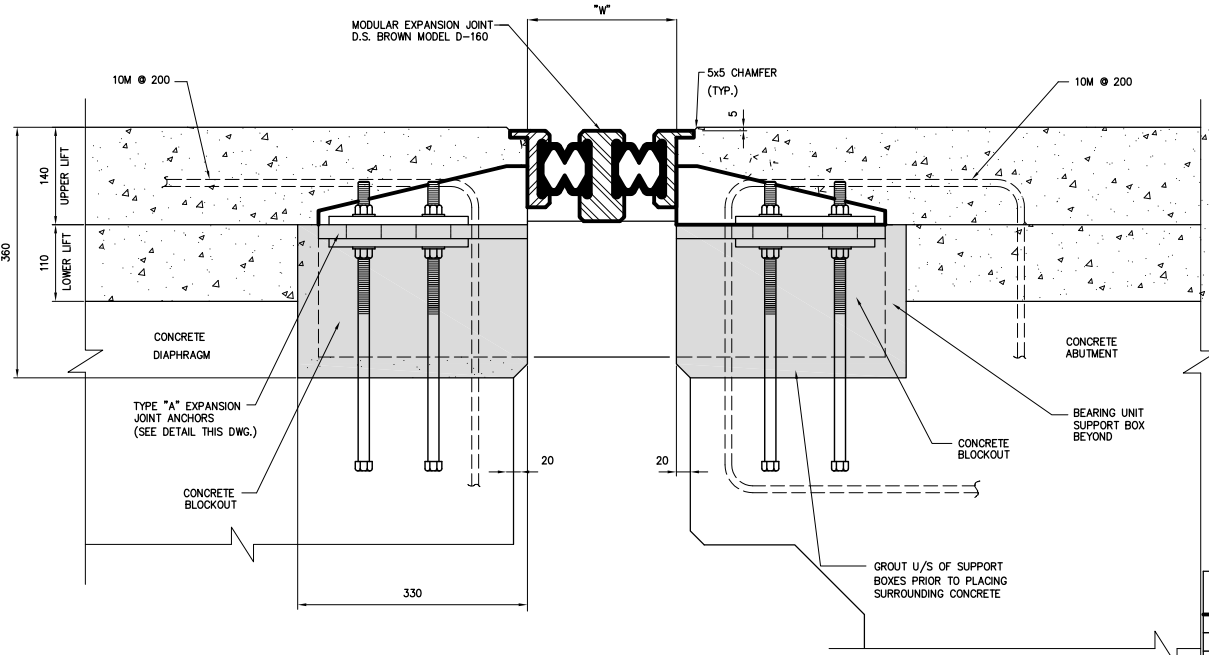
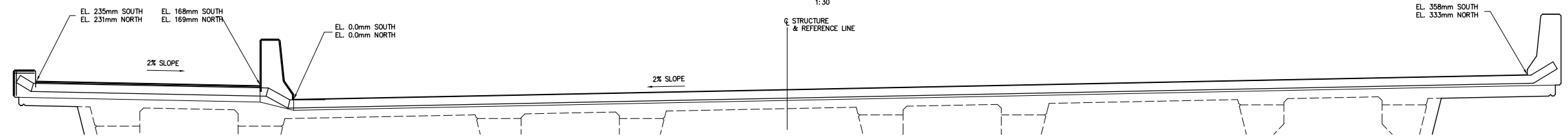
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CONSULTANT DRAWING NO. **4462-48-4 (SB)**

CITY DRAWING NUMBER **B104-87-48-4**
SHEET **48-4** OF **48-4**
C



EXPANSION JOINT LAYOUT
1:30



AS-CONSTRUCTED NOTES:

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 09 05 BY J.W.BOGAN P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

NOTE:
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AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

D:\220MG\4462\301\446248-5 Date: 02/27/97 Time: 07:22:30

NO.	REVISIONS	DATE	BY
D	AS CONSTRUCTED	98 12 01	JMB
C	CONCRETE BLOCKOUT DETAIL REVISED	97 09 25	JMB
B	ISSUED FOR CONSTRUCTION	97 09 05	JMB
A	ISSUED FOR REVIEW	97 08 22	JMB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone [204] 943-3178 Facsimile [204] 943-4948

DESIGNED BY: JMB	CHECKED BY: JPL	DATE:
DRAWN BY: RCS	APPROVED BY:	DATE:
HOR. SCALE: AS SHOWN		AUTHORIZED BY:
VERTICAL:		DATE:
NO. REVISIONS		DATE

ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY: **R. DUERKSEN, P.ENG.**



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

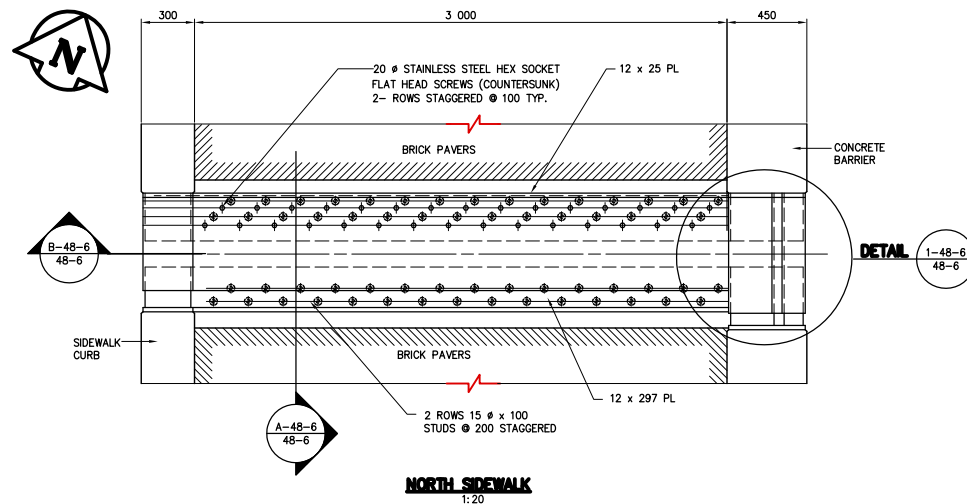
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **8104-87-48-5**
SHEET OF: **48-5**

CONSULTANT DRAWING NO.: **4462-48-5 (SB)**

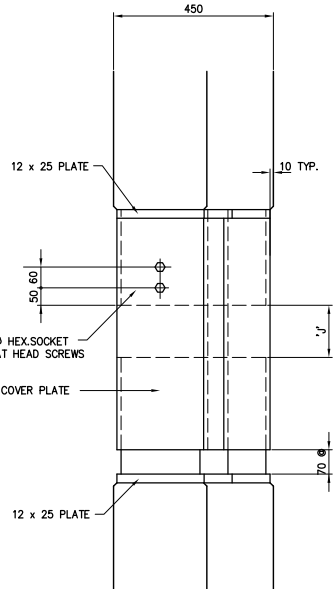
EXPANSION JOINT DETAILS

D

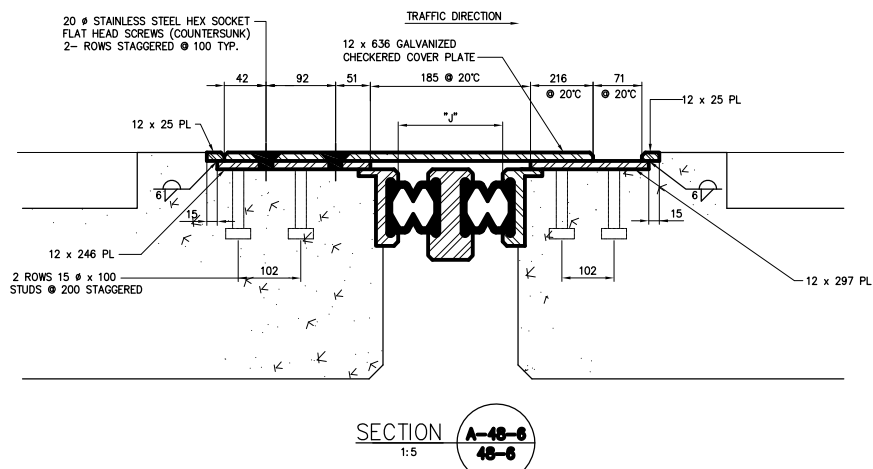


NORTH SIDEWALK
1:20

DETAIL 1-48-6
48-6

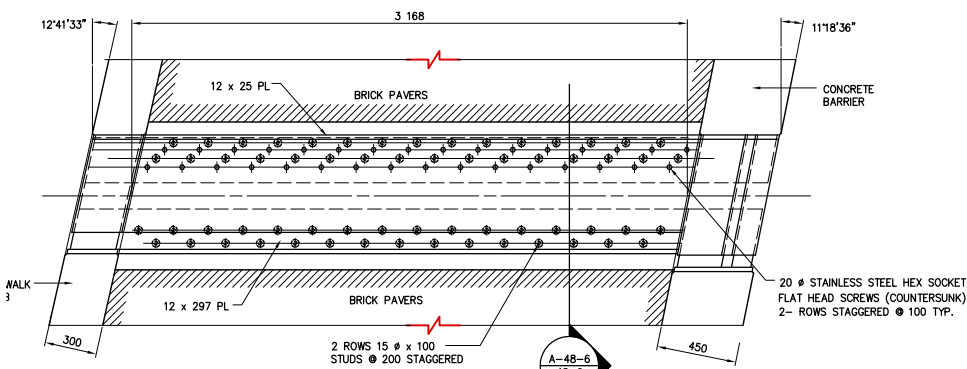


DETAIL 1-48-6
48-6
1:10



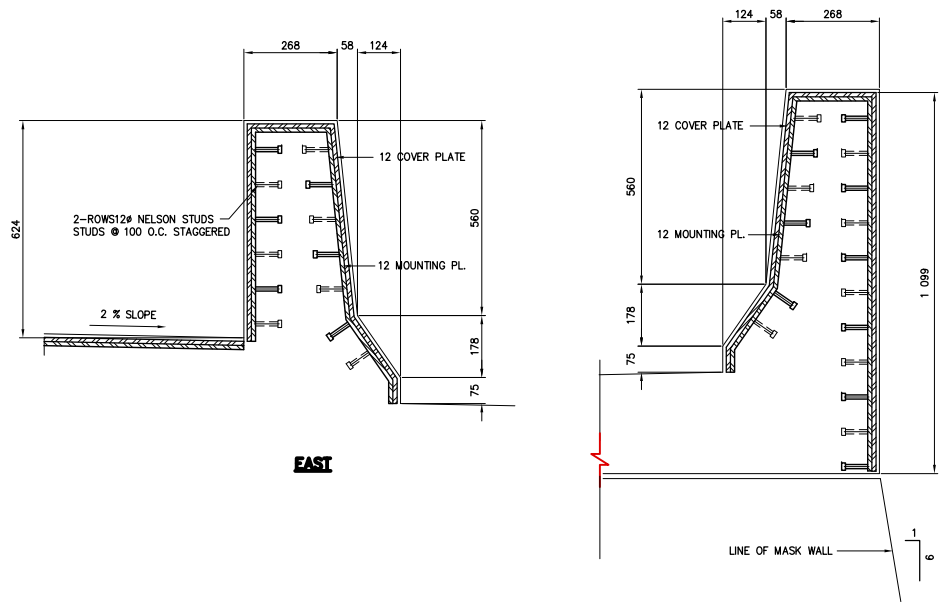
SECTION A-48-6
48-6
1:5

TYPICAL SECTION THROUGH SIDEWALK



SOUTH SIDEWALK
1:20

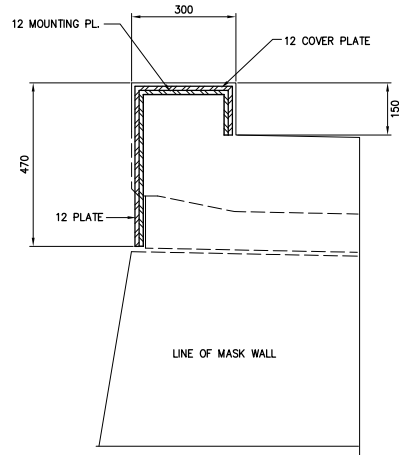
DETAIL 1-48-6
48-6



EAST

WEST

CONCRETE BARRIER CROSS SECTION
1:10



DETAIL B-48-6
48-6
1:10

AS-CONSTRUCTED NOTES

- 1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 97 09 05 BY J.P. LUKASHENKO P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

NOTE:
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AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES		B.M.	ELEV.
N.A.			
SUPV. U/G STRUCTURES COMMITTEE	DATE		
NOTE:			
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTANCE AND EXACT LOCATION OF ALL UTILITIES. SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.			
NO.	REVISIONS	DATE	BY
C	AS CONSTRUCTED	08 12 01	JWB
B	ISSUED FOR CONSTRUCTION	97 09 05	JWB
A	ISSUED FOR REVIEW	97 06 17	JWB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone (204) 943-3178 Facsimile (204) 943-4948

DESIGNED BY	JPL	CHECKED BY:	JWB	DATE	
DRAWN BY	TC	APPROVED BY:		DATE	
HOR. SCALE:	AS SHOWN	AUTHORIZED BY:		DATE	
VERTICAL:		B. EBENFANGER P.ENG./SENIOR BRIDGE ENGINEER		DATE	
NO.	REVISIONS	DATE	BY	DATE	JUNE 1997

ENGINEER'S SEAL
PROVINCE OF MANITOBA
J.P. LUKASHENKO
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE

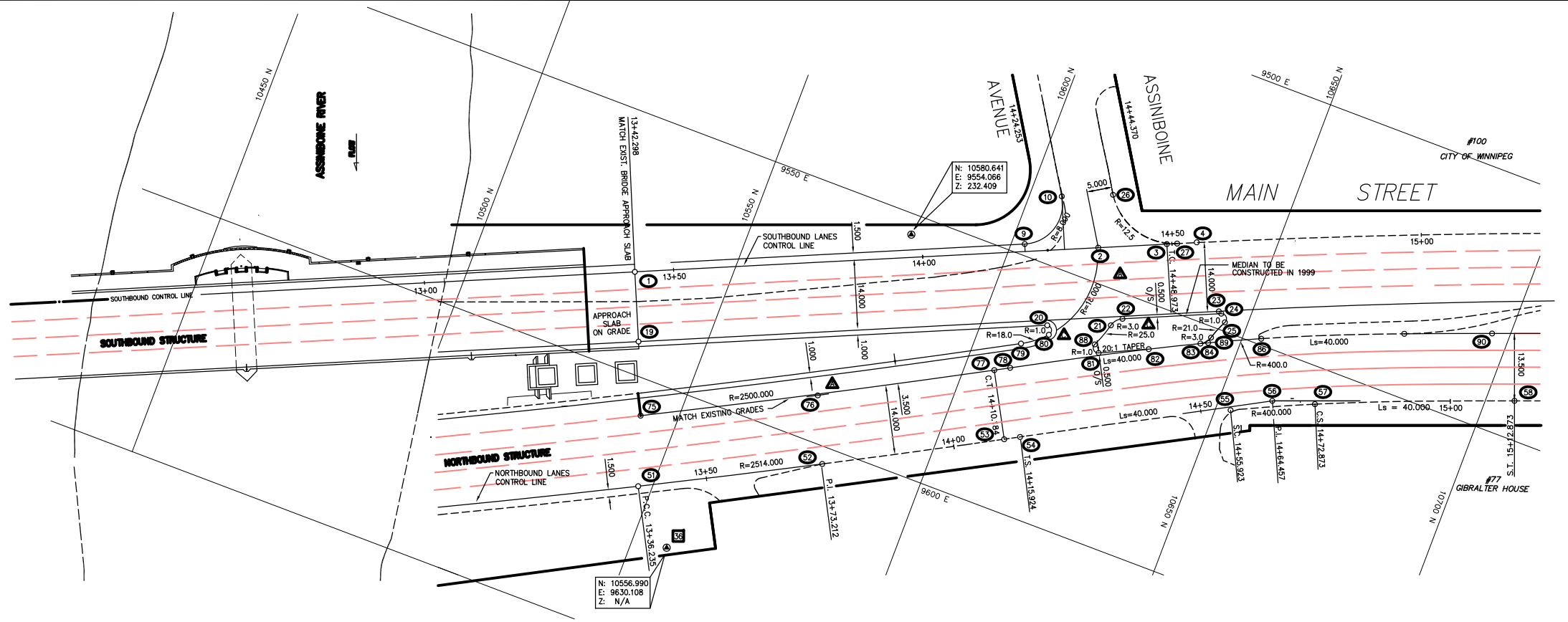
SOUTHBOUND AND RELATED ROADWORKS

EXPANSION JOINT COVER PLATES

CITY DRAWING NUMBER
B104-87-48-6

SHEET OF -
48-6

CONSULTANT DRAWING NO.
4462-48-6 (SB)



SOUTHBOUND LANES				
COORDINATE POINTS - GUTTER LINE & MEDIAN LINE				
POINT NO.	DESCRIPTION	STATION	NORTHING	EASTING
9	T.C.	14+20.539	10602.623	9547.750
10	C.T.	14+28.456	10606.179	9536.167
19	P.O.T.	13+42.223	10537.086	9593.460
20	T.C.	14+24.010	10612.372	9561.489
21	P.R.C.	14+36.933	10624.476	9556.912
22	C.T.	14+39.315	10626.184	9554.878
23	T.C.	14+58.560	10643.603	9546.681
24	T.C.	14+59.235	10644.337	9546.905
25	P.C.C.	14+59.884	10645.629	9548.277
26	T.C.	14+38.693	10615.490	9532.072
27	P.R.C.	14+51.044	10631.093	9536.886

CONTROL LINE - (GUTTER LINE)				
POINT NO.	DESCRIPTION	STATION	NORTHING	EASTING
1	P.O.T.	13+42.298	10531.457	9580.642
2	P.O.T.	14+35.210	10616.595	9543.252
3	T.C.	14+48.973	10629.196	9537.718
4	P.C.C.	14+55.000	10634.720	9535.305

CURVE NO.	CIRCULAR CURVE DATA			
	Δ	R	T	L
3-4	00°12'57.1"	1600.000	3.014	6.028
9-10	98°16'06.9"	8.000	9.247	13.721

NORTHBOUND LANES				
CONTROL LINE - (GUTTER LINE)				
POINT NO.	DESCRIPTION	STATION	NORTHING	EASTING
51	P.C.C.	13+36.235	10547.290	9620.603
52	P.I.	13+73.212	10580.180	9603.704
53	C.T.	14+10.184	10612.558	9585.845
54	T.S.	14+15.924	10617.584	9583.073
55	S.C.	14+55.924	10652.922	9564.343
56	P.I.	14+64.457	10660.081	9559.633
57	C.S.	14+72.873	10668.307	9557.233
58	S.T.	15+12.873	10705.474	9542.460

CURVE NO.	CIRCULAR CURVE DATA		
	Δ	R	L
51-53	01°41'07.2"	2514.000	36.977
75-77	01°38'15.6"	2500.000	35.731

CURVE NO.	SPIRAL CURVE DATA	
	Δ _s	T _s
54-55 AND 78-84 86-90	08°09'26.5"	48.533

SPIRAL CURVE DATA		CIRCULAR CURVE DATA	
L _s	A	Δ _c	R
40.000	126.491	02°25'40.0"	400.000
39.990	0.667	T _c	8.476
19.998	0.167	L _c	16.949
26.670			
13.337			
39.996			
02°51'53.2"			
00°57'17.7"			

COORDINATE POINTS - GUTTER LINE & MEDIAN LINE				
POINT NO.	DESCRIPTION	STATION	NORTHING	EASTING
75	P.C.C.	13+38.327	10542.741	9607.199
76	P.I.	13+74.256	10574.509	9590.843
77	C.T.	14+10.184	10605.797	9573.586
78	T.S.	14+13.398	10608.611	9572.034
79	T.C.	14+16.239	10608.923	9566.714
80	P.C.C.	14+21.986	10613.514	9563.077
81	C.T.	14+31.255	10624.132	9562.968
82	P.O.S.	14+41.162	10633.257	9558.703
83	S.C.	14+51.286	10642.553	9553.991
84	S.C.	14+52.842	10643.949	9553.303
85	P.I.	14+61.010	10651.108	9548.594
86	C.S.	14+69.193	10659.334	9546.194
88	P.R.C.	14+30.723	10622.804	9561.636
89	P.R.C.	14+53.420	10644.114	9552.120
90	S.T.	15+08.394	10696.501	9531.421

AS-CONSTRUCTED NOTES:

- THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 96 07 15 BY R.M.BORODY P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

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AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES	
NO.	DESCRIPTION
N.A.	

SUPERVISOR'S SIGNATURE	
DATE	DATE

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone | 204 | 943-3178 Facsimile | 204 | 943-4948

DESIGNED BY: ERM	CHECKED BY: RMB	DATE
DRAWN BY: D.d.	APPROVED BY:	DATE
HOR. SCALE: 1:500		
VERTICAL:		
ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY: DATE		
R. GUERKSEN, P.ENG.		



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE

SOUTHBOUND AND RELATED ROADWORKS

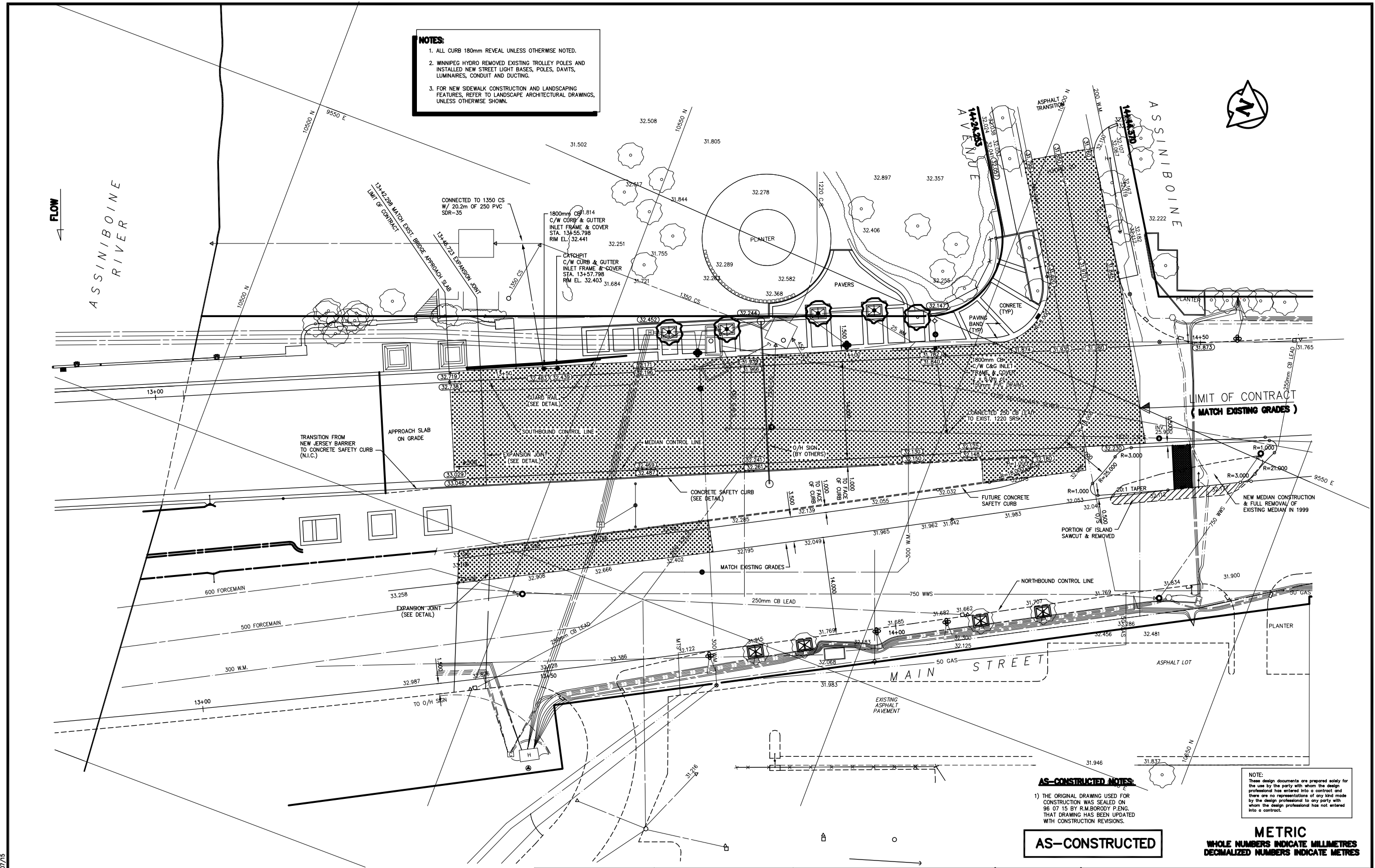
CITY DRAWING NUMBER: **8104-87-48-7**
SHEET OF: **48-7 -**
E

CONSULTANT DRAWING NO. **4462-48-7**
SOUTHBOUND ROADWORKS - CONTROL GEOMETRICS

NOTES:

1. ALL CURB 180mm REVEAL UNLESS OTHERWISE NOTED.
2. WINNIPEG HYDRO REMOVED EXISTING TROLLEY POLES AND INSTALLED NEW STREET LIGHT BASES, POLES, DAVITS, LUMINAIRES, CONDUIT AND DUCTING.
3. FOR NEW SIDEWALK CONSTRUCTION AND LANDSCAPING FEATURES, REFER TO LANDSCAPE ARCHITECTURAL DRAWINGS, UNLESS OTHERWISE SHOWN.

FLOW



AS-CONSTRUCTED NOTES:

1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 06 07 15 BY R.M. BORODY P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

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AS-CONSTRUCTED

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

G:\ASBULT\4462849 Time: 11:01:31 Date: 07/07/15

EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED
—	WATERMAIN	—	—	M.T.S.	—	—	CONCRETE	—
+	HYDRANT	+	—	PROPERTY LINE	—	—	ASPHALT OVERLAY	—
●	VALVE	●	—	BARRIER CURB	—	—	SIDEWALK PAVERS	—
—	LAND DRAINAGE SEWER	—	—	RAMP CURB	—	—	CONC. SIDEWALK/MEDIAN	—
—	WASTE WATER SEWER	—	—	ELEVATION	—	—	MONOLITHIC MEDIAN	—
○	MANHOLE	○	—	LIGHT STANDARD	—	—		—
□	CATCH BASIN	□	—	G.B.M.	—	—		—
△	CURB INLET	△	—		—	—		—
—	UTILITIES ADJUSTED	—	—		—	—		—
—	HYDRO	—	—		—	—		—
—	GAS	—	—		—	—		—

LOCATIONS APPROVED UNDERGROUND STRUCTURES

B.M.	35-027	
ELEV.	232.203	
DESIGNED BY	ERM	DATE
DRAWN BY	MWS	DATE
CHECKED BY	RMB	DATE
APPROVED BY		DATE
AUTHORIZED BY		DATE
ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY		DATE
CONSULTANT DRAWING NO.	4462-40	

REVISIONS

NO.	REVISIONS	DATE	BY
E	AS-CONSTRUCTED	08 12 01	RMB
D	ASSIN. AVE., PLANTERS, GUARD RAIL ISSUED FOR CONSTRUCTION	08 04 24	RMB
C	MEDIAN & ISLAND GEOMETRICS	08 02 10	RMB
B	ISSUED FOR REVIEW	07 11 04	JMB
A	GRADING & CONSTRUCTION LIMITS	07 07 15	JMB
0	ISSUED FOR CONSTRUCTION	06 07 15	JMB

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-83 Lombard Avenue Winnipeg, Manitoba R3B 3B1
Phone | 204 | 943-3178 Facsimile | 204 | 943-4948

DESIGNED BY: **ERM** DATE: _____
DRAWN BY: **MWS** DATE: _____
CHECKED BY: **RMB** DATE: _____
APPROVED BY: _____ DATE: _____
AUTHORIZED BY: _____ DATE: _____
ACCEPTED FOR P.C. CONSTRUCTORS CANADA INC. BY: _____ DATE: _____

HOR. SCALE: **1:250**
VERTICAL: _____

DATE: **JUNE 1997**



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

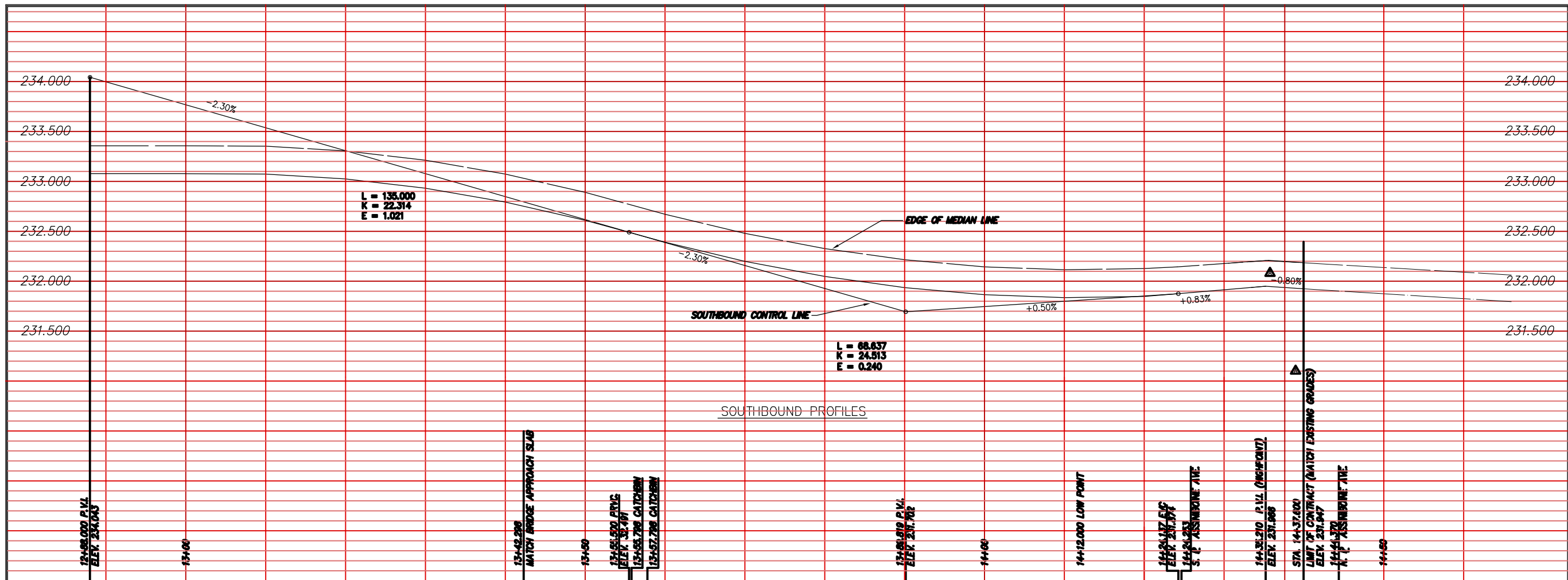
MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-97-40**
SHEET **40** OF **-**

SOUTHBOUND ROADWORKS - PLAN

LEGEND-PLAN

—	EXISTING	—	PROPOSED
---	----------	---	----------



SOUTHBOUND PROFILES

EDGE OF MEDIAN LINE ELEVATIONS

SOUTHBOUND CONTROL LINE ELEVATIONS

AS-CONSTRUCTED NOTES:

1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 9607 15 BY R.M.BORODY P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

AS-CONSTRUCTED

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

C:\ASBUILT\44620850 Time: 13:16:16 Date: 06/11/98

LOCATIONS APPROVED UNDERGROUND STRUCTURES

N.A.

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:
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B.M. ELEV.	-
D	AS-CONSTRUCTED 96 12 03 RMB
C	ISSUED FOR CONSTRUCTION 98 04 24 JMB
B	ISSUED FOR REVIEW 97 11 04 JMB
A	NORTH LIMIT OF CONTRACT 97 07 15 ERM
O	ISSUED FOR CONSTRUCTION 96 07 15 JMB
NO.	REVISIONS DATE BY

DS-Lea Consultants Ltd.
Consulting Engineers - Planners - Transportation Consultants
Suite 111-93 Lombard Avenue Winnipeg, Manitoba R3B 3E1
Phone | 204 | 943-3178 Facsimile | 204 | 943-4948

DESIGNED BY: **ERM** CHECKED BY: **RMB** DATE: _____
DRAWN BY: **D.d.** APPROVED BY: _____ DATE: _____
AUTHORIZED BY: _____ DATE: _____
R. EBENSPANER P.ENG./SENIOR BRIDGE ENGINEER
ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY: DATE: _____
R. DIERCKEN P.ENG.

HOR. SCALE: **1:250**
VERTICAL: **1:10**

DATE: JUNE 1997

ENGINEER'S SEAL

R.M. BORODY
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE

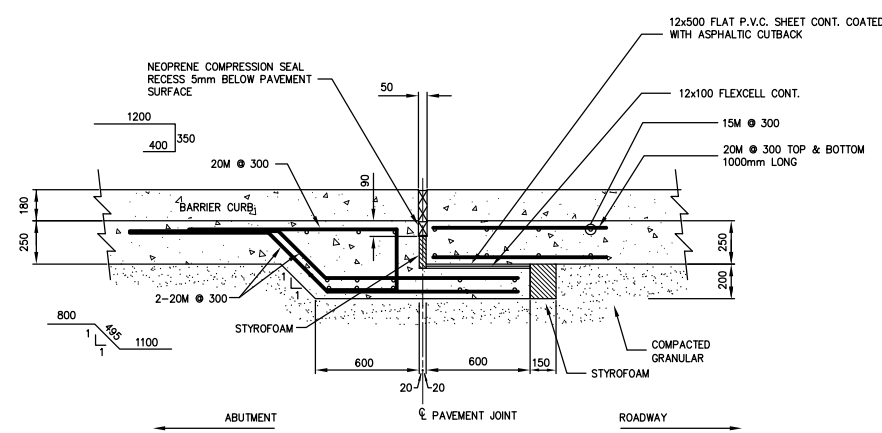
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER: **B104-97-50**
SHEET **50** OF **-**

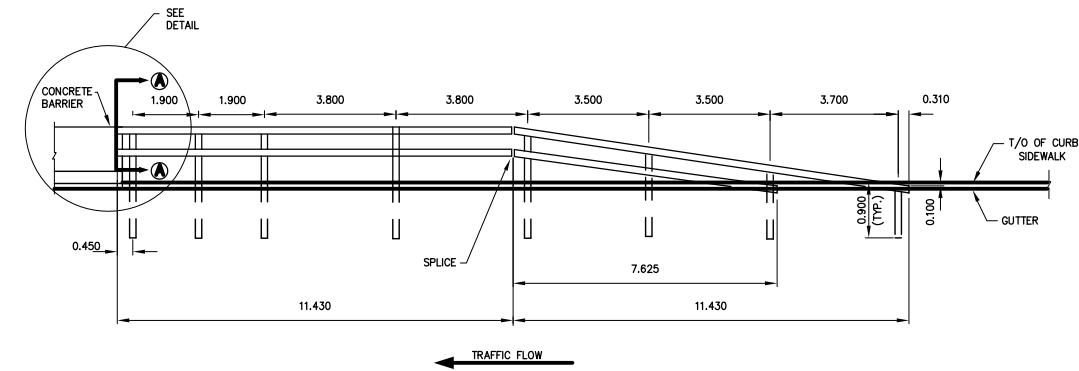
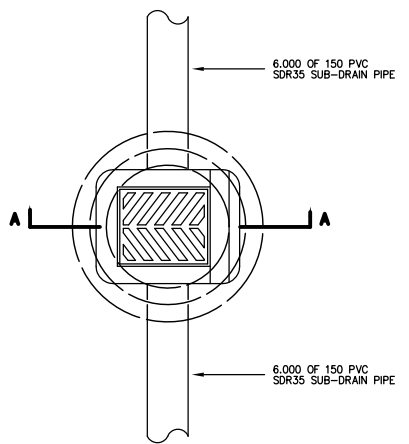
SOUTHBOUND ROADWORKS - PROFILE

D

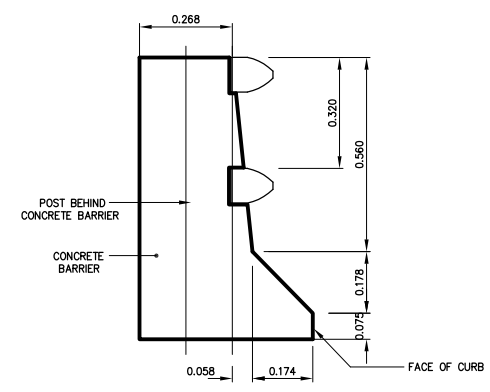
NOTE:
NEOPRENE COMPRESSION SEAL SHALL RUN UP SIDES AND ACROSS TOP OF CURBS. FORM BENDS IN ACCORDANCE WITH SEAL MANUFACTURER'S INSTRUCTIONS.



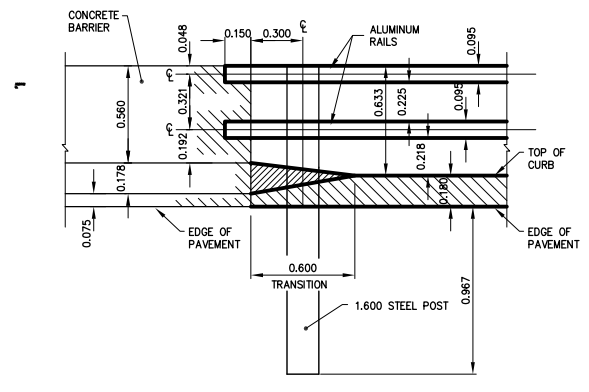
**ROADWAY EXPANSION/
CONTRACTION JOINT**
SCALE: 1:20
▲ ENTIRE DETAIL



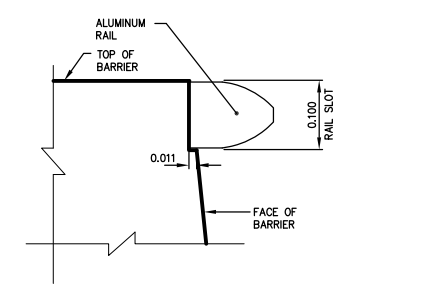
ELEVATION
NTS



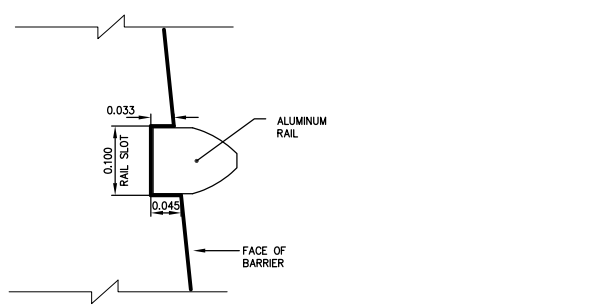
SECTION A-A
1:10



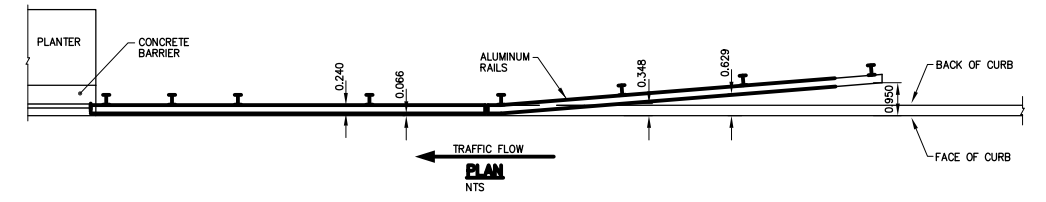
ELEVATION DETAIL
1:20



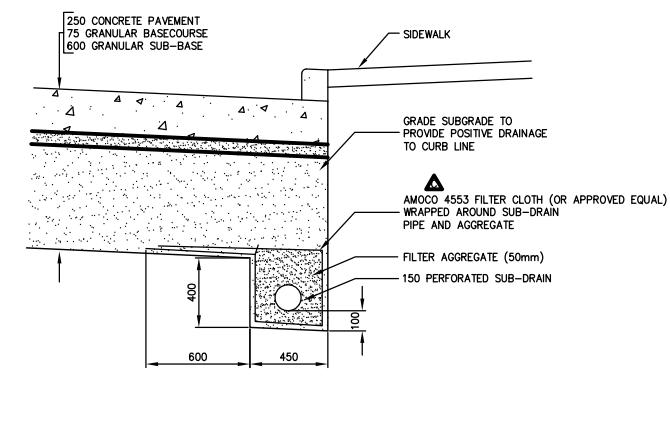
TOP RAIL SLOT DETAIL
1:5



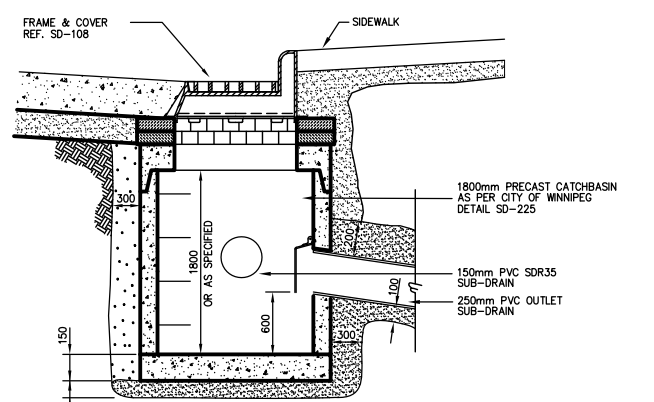
BOTTOM RAIL SLOT DETAIL
1:5



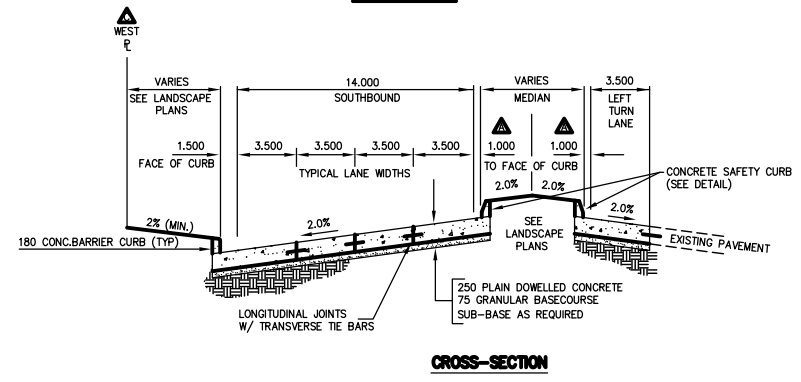
SOUTHBOUND GUARD RAIL ON MAIN STREET



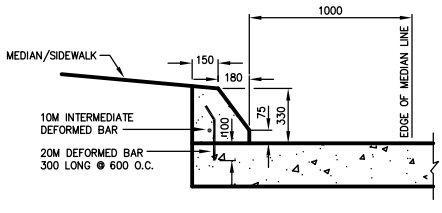
SUB-DRAIN
SCALE: 1:20



SECTION A-A



CROSS-SECTION



CONCRETE SAFETY CURB
SCALE: N.T.S. ▲ ENTIRE DETAIL

AS-CONSTRUCTED NOTES:
1) THE ORIGINAL DRAWING USED FOR CONSTRUCTION WAS SEALED ON 96 07 15 BY R.M.BORODY P.ENG. THAT DRAWING HAS BEEN UPDATED WITH CONSTRUCTION REVISIONS.

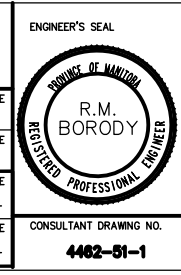
AS-CONSTRUCTED

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METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

NO.	REVISIONS	DATE	BY
E	AS-CONSTRUCTED	98 12 03	RMB
D	GUARD RAIL	98 04 24	JWB
C	X-SECTION & SUB-DRAIN	98 02 10	JWB
B	ISSUED FOR REVIEW	97 11 04	JWB
A	CONC. SAFETY MEDIAN & X-SECTION	97 07 15	ERM
D	ISSUED FOR CONSTRUCTION	96 07 15	JWB

DESIGNED BY: ERM		CHECKED BY: RMB	
DRAWN BY: D.d.		APPROVED BY:	
HOR. SCALE: AS SHOWN		AUTHORIZED BY:	
VERTICAL:		ACCEPTED FOR PCL CONSTRUCTORS CANADA INC. BY DATE	
DATE: JUNE 1997		CONSULTANT DRAWING NO. 4482-81-1	



THE CITY OF WINNIPEG
STREETS AND TRANSPORTATION DEPARTMENT
BRIDGE ENGINEERING DIVISION

MAIN STREET AND NORWOOD BRIDGES PROJECT
MAIN STREET BRIDGE
SOUTHBOUND AND RELATED ROADWORKS

CITY DRAWING NUMBER **B104-07-51-1**
SHEET OF **51-1**
E

SOUTHBOUND ROADWORKS - DETAILS 1 of 2