

AS BUILT PLANS

016-2407

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FBI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55		COOK	169	1

0203-632 HB-K-1
D-91-295-92

FOR INDEX OF SHEETS, SEE SHEET NO. 2

DIVISION OF HIGHWAYS PLANS FOR PROPOSED FEDERAL AID HIGHWAY

F.A.I. 55 (INTERSTATE 55)
SECTION: 0203-632 HB-K-1
AT US 12/20/45 (LaGRANGE ROAD)
WIDENING & RESURFACING
BRIDGE REPLACEMENT
PROJECT: IM-NHI-55-7(180)278
COOK COUNTY
C-91-295-92

PROJECT LOCATED IN:
VILLAGE OF HODGKINS
VILLAGE OF WILLOW SPRINGS

TRAFFIC DATA

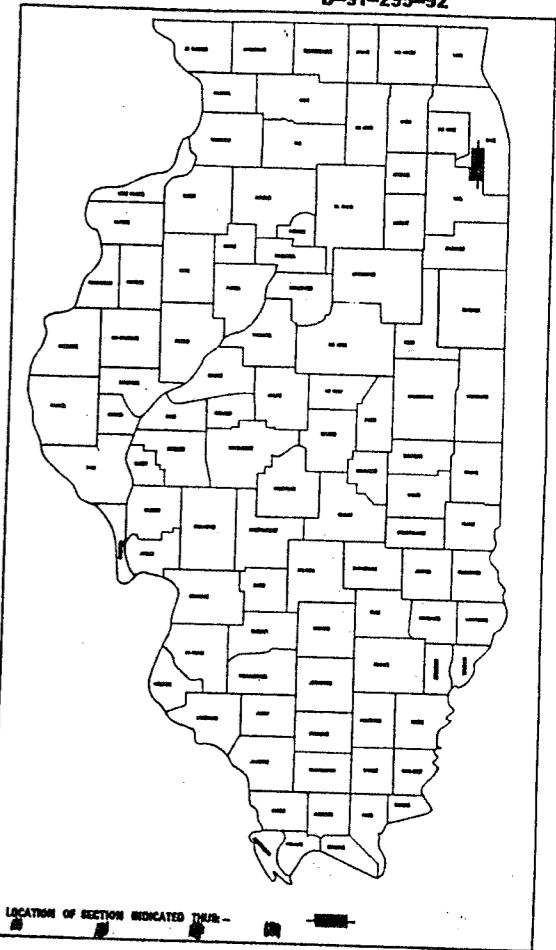
US 12/20/45
1990 ADT: 14,700 - 36,000 VEHICLES
2010 ADT: 15,000 - 38,000 VEHICLES
INTERSTATE 55
1990 ADT: 57,400 - 58,700 VEHICLES
2010 ADT: 74,000 - 77,000 VEHICLES

POSTED SPEED LIMIT

US 12/20/45: 45 MPH
INTERSTATE 55: 55 MPH

DESIGN DESIGNATION

6900 (10) MAJOR 12.85 (COMPOSITE - 20)



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

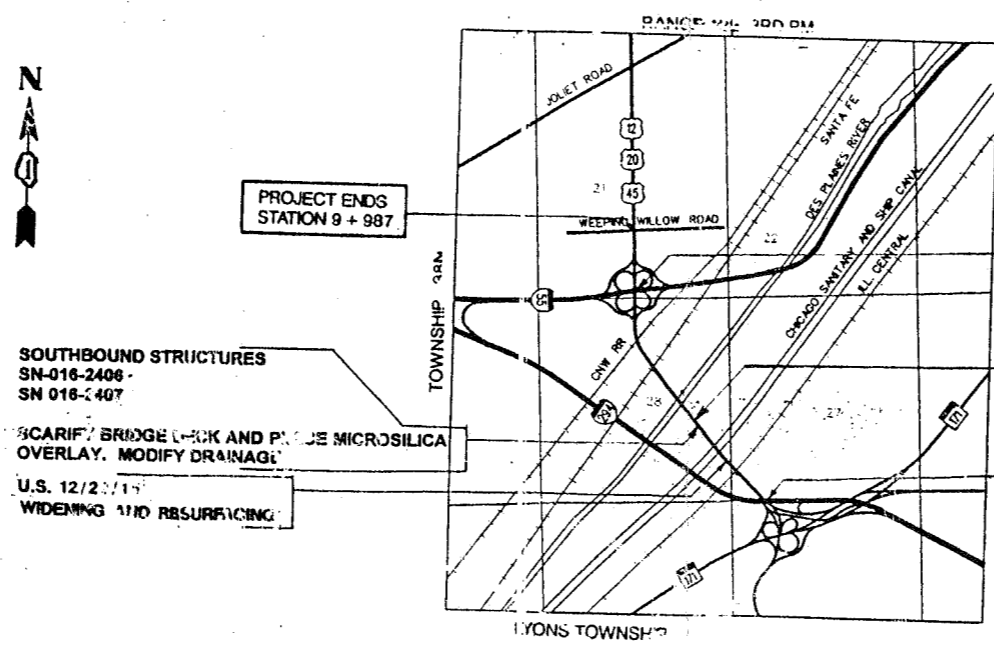
SUBMITTED: *[Signature]*
EXAMINED: *[Signature]*
PASSED: October 21, 1994
APPROVED: October 21, 1994

PRINTED BY THE AUTHORITY OF
THE STATE OF ILLINOIS

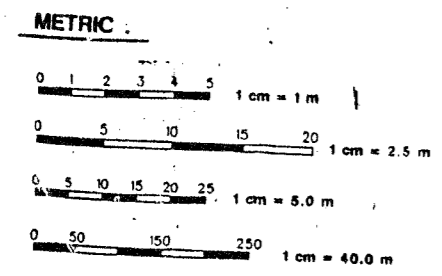
FOR UTILITIES INFORMATION, CALL
J.U.I.E. (800) 892-0123

CONSULTANT PROJECT ENGINEER: RICK YOUNG (708) 745-1332

CONSULTANT PROJECT ENGINEER: RICK YOUNG (708) 745-1332



US 12/20/45 OVER I-55
(EXIST) SN 016-0340
REMOVE EXISTING 4 SPAN CONTINUOUS COMPOSITE WIDE FLANGE BEAM BRIDGE INCLUDING PIERS AND PILE BENT ABUTMENTS AND REPLACE WITH:
SN 016-2665
2 SPAN PLATE GIRDER SUPERSTRUCTURE WITH VAULTED ABUTMENTS
NORTHBOUND STRUCTURES
SN 016-2468
SN 016-2467
SCARIFY BRIDGE DECK, PATCH DECK, AND PLACE MICRO SILICA OVERLAY. MODIFY DRAINAGE
PROJECT BEGINS STATION 7 + 07
PROJECT ENDS STATION 9 + 987



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

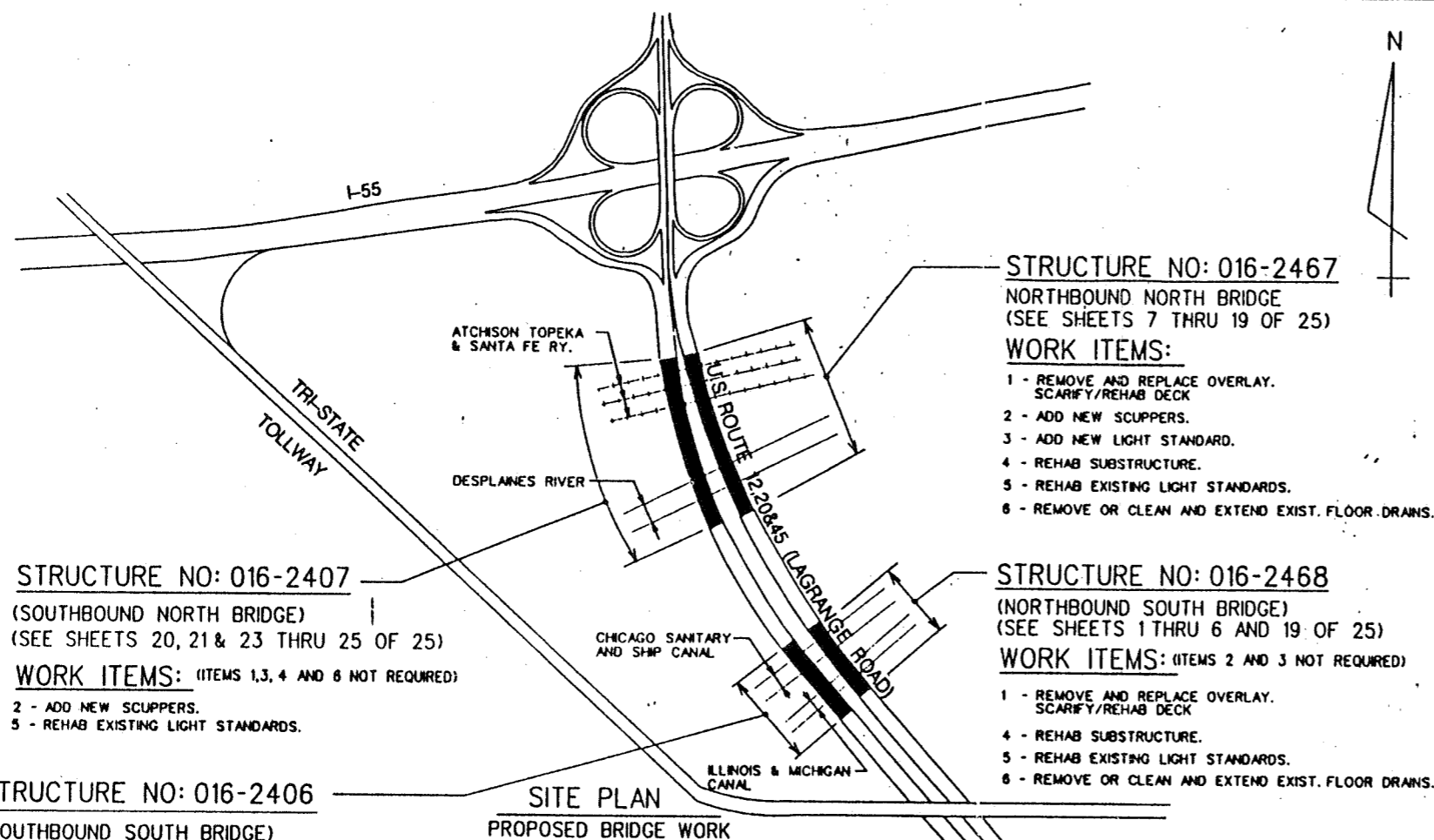
CONTRACT NO. 82184

GROSS AND NET LENGTH OF PROJECT = 2.500 METERS = 2.54 KM

ab alfred benesch & company
CONSULTING ENGINEERS
104 NORTH MICHIGAN AVENUE, CHICAGO, ILLINOIS 60602
JOB NO. 2415

INDEX OF SHEETS

SHEET NUMBER	DESCRIPTION OF SHEETS
1A	SITE PLAN, INDEX OF SHEETS AND BILL OF MATERIAL
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2	NORTHBOUND SOUTH BRIDGE PLAN AND ELEV. SPANS 11-13
3	NORTHBOUND SOUTH BRIDGE CONSTRUCTION STAGING
4	NORTHBOUND SOUTH BRIDGE DECK REPAIR PLAN SPANS 1-10
5	NORTHBOUND SOUTH BRIDGE DECK REPAIR PLAN SPANS 11-13
6	NORTHBOUND SOUTH BRIDGE SUBSTRUCTURE REPAIR
7	NORTHBOUND NORTH BRIDGE PLAN AND ELEV. SPANS 1-9
8	NORTHBOUND NORTH BRIDGE PLAN AND ELEV. SPANS 10-17
9	NORTHBOUND NORTH BRIDGE PLAN AND ELEV. SPANS 18-25
10	NORTHBOUND NORTH BRIDGE PLAN AND ELEV. SPANS 26-30
11	NORTHBOUND NORTH BRIDGE CONSTRUCTION STAGING
12	NORTHBOUND NORTH BRIDGE REPAIR PLAN SPANS 1-9
13	NORTHBOUND NORTH BRIDGE REPAIR PLAN SPANS 10-18
14	NORTHBOUND NORTH BRIDGE REPAIR PLAN SPANS 19-26
15	NORTHBOUND NORTH BRIDGE REPAIR PLAN SPANS 27-30
16	NORTHBOUND NORTH BRIDGE SCUPPER DETAILS
17	NORTHBOUND NORTH BRIDGE SUBSTRUCTURE REPAIR
18	NORTHBOUND NORTH BRIDGE SUBSTRUCTURE REPAIR
19	NORTHBOUND NORTH AND SOUTH BRIDGE MISCELLANEOUS DETAILS
20	SOUTHBOUND NORTH AND SOUTH BRIDGE TYPICAL DECK SECT. & NOTES
21	SOUTHBOUND NORTH AND SOUTH BRIDGE CONSTRUCTION STAGING
22	SOUTHBOUND SOUTH BRIDGE DECK REPAIR PLAN
23	SOUTHBOUND NORTH BRIDGE DECK REPAIR PLAN
24	SOUTHBOUND NORTH AND SOUTH BRIDGE SCUPPER DETAILS
25	SOUTHBOUND NORTH AND SOUTH BRIDGE MISCELLANEOUS DETAILS
25A	STEEL DRAINAGE SCUPPER DETAILS
25B	ALTERNATE CAST IRON DRAINAGE SCUPPER DETAILS
25C	GRIDER REPAIR
25D	GRIDER REPAIR



STRUCTURE NO: 016-2407
 (SOUTHBOUND NORTH BRIDGE)
 (SEE SHEETS 20, 21 & 23 THRU 25 OF 25)
WORK ITEMS: (ITEMS 1, 3, 4 AND 6 NOT REQUIRED)
 2 - ADD NEW SCUPPERS.
 5 - REHAB EXISTING LIGHT STANDARDS.

STRUCTURE NO: 016-2406
 (SOUTHBOUND SOUTH BRIDGE)
 (SEE SHEETS 20 THRU 22, 24 & 25 OF 25)
WORK ITEMS: (ITEMS 1, 3, 4 AND 6 NOT REQUIRED)
 2 - ADD NEW SCUPPERS.
 5 - REHAB EXISTING LIGHT STANDARDS.

STRUCTURE NO: 016-2467
 NORTHBOUND NORTH BRIDGE
 (SEE SHEETS 7 THRU 19 OF 25)
WORK ITEMS:
 1 - REMOVE AND REPLACE OVERLAY. SCARIFY/REHAB DECK
 2 - ADD NEW SCUPPERS.
 3 - ADD NEW LIGHT STANDARD.
 4 - REHAB SUBSTRUCTURE.
 5 - REHAB EXISTING LIGHT STANDARDS.
 6 - REMOVE OR CLEAN AND EXTEND EXIST. FLOOR DRAINS.

STRUCTURE NO: 016-2468
 (NORTHBOUND SOUTH BRIDGE)
 (SEE SHEETS 1 THRU 6 AND 19 OF 25)
WORK ITEMS: (ITEMS 2 AND 3 NOT REQUIRED)
 1 - REMOVE AND REPLACE OVERLAY. SCARIFY/REHAB DECK
 4 - REHAB SUBSTRUCTURE.
 5 - REHAB EXISTING LIGHT STANDARDS.
 6 - REMOVE OR CLEAN AND EXTEND EXIST. FLOOR DRAINS.

TOTAL BILL OF MATERIAL

ITEM	UNIT	STRUCTURE				TOTAL
		SN-016-2468	SN-016-2467	SN-016-2406	SN-016-2407	
CONCRETE SUPERSTRUCTURE	m ³	10.0	5.0	—	—	15.0
DRAINAGE SCUPPERS	EACH	—	1	9	15	25
DRAINAGE SYSTEM	L.SUM	—	0.06	—	0.94	1
DRAINAGE STRUCTURES TO BE CLEANED	EACH	18	53	2	19	92
FLOOR DRAIN EXTENSIONS	L.SUM	0.70	0.30	—	—	1
DECK SLAB REMOVAL (PARTIAL)	m ²	1400.0	743.0	—	—	2143.0
DECK SLAB REPAIR (FULL-DEPTH TYPE II)	m ²	00.0	355.0	—	—	455.0
DECK SLAB REPAIR (FULL-DEPTH TYPE II)	m ²	—	300.0	—	—	300.0
BITUMINOUS CONCRETE REMOVAL (DECK)	m ²	4,019.0	9,832.4	—	—	14,651.4
CONCRETE BRIDGE DECK SCARIFICATION 10mm	m ²	4,019.0	9,832.4	—	—	14,651.4
BRIDGE DECK MICROSILICA CONCRETE OVERLAY, 50mm	m ²	4,019.0	9,832.4	—	—	14,651.4
FORMED CONCRETE REPAIR (DEPTH ≤ 125mm)	m ²	17.0	57.0	—	—	74.0
EPOXY CRACK SEALING	m	34.5	5.0	—	—	39.5
REINFORCEMENT BARS, EPOXY COATED	kg	—	10	90	150	250
LIGHT STANDARD INSTALLATION	EACH	—	1	—	—	1
LIGHT STANDARD REPAIR	EACH	6	11	6	12	35
FURNISHING & ERECTING STRUCTURAL STEEL	kg	—	—	340	—	340
CLEANING EXISTING CONDUIT	L.SUM	0.16	0.34	0.16	0.34	1
REPAIR OF CONDUIT EXPANSION FITTINGS	EACH	1	5	—	—	6
FORMED CONCRETE REPAIR (DEPTH > 125mm)	m ²	2.0	6.0	—	—	8
PROTECTIVE SHIELD	m ²	2,254.0	3,890.0	—	—	6,144.0

DESIGNED	S.E.
CHECKED	D.P.
DRAWN	T.S.
CHECKED	S.E.

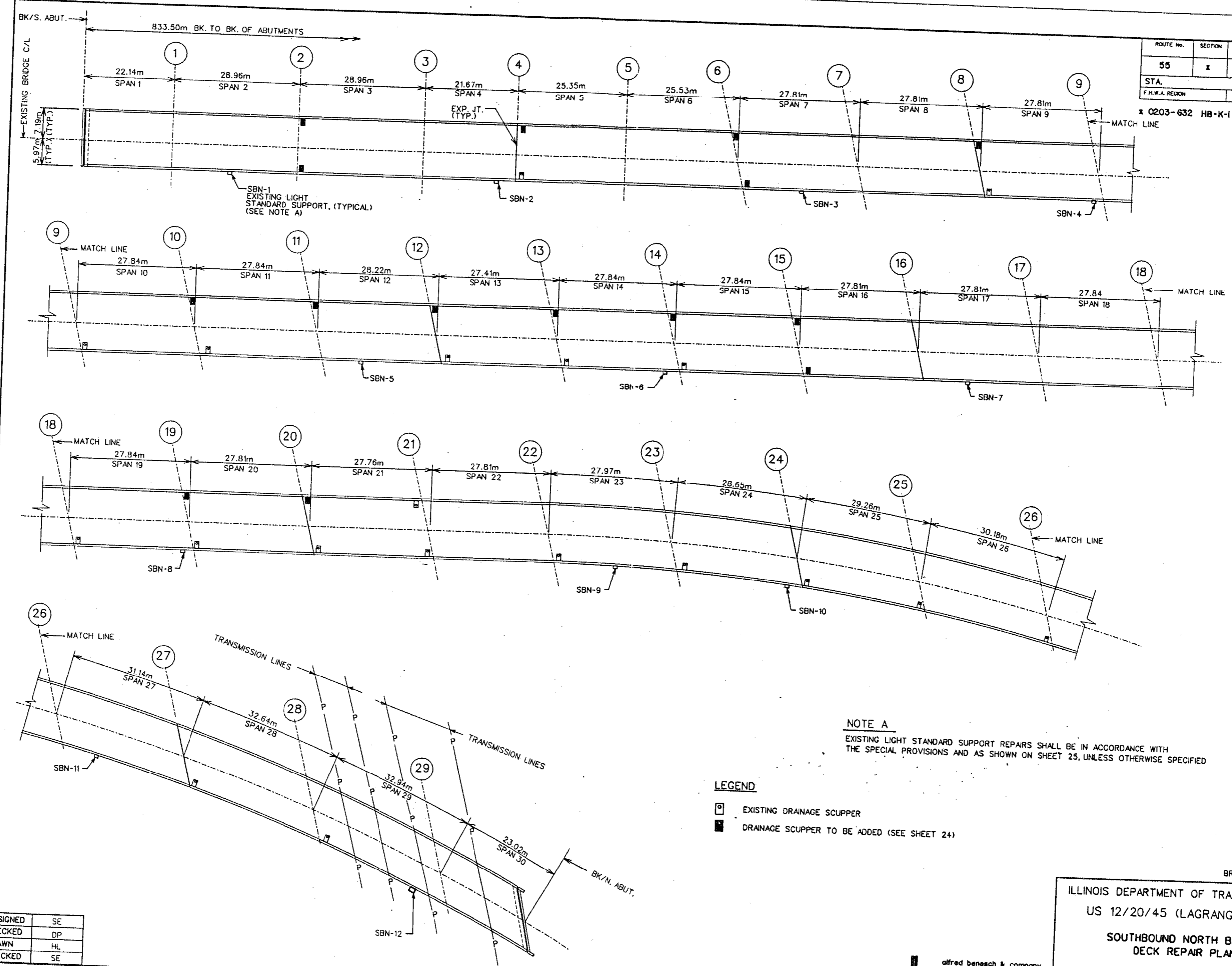
ILLINOIS DEPARTMENT OF TRANSPORTATION
 US 12/20/45 (LAGRANGE ROAD)
 SITE PLAN
 SN: 016-2407(N), 2406(S) SECTION 0203-632-HB-K-1
 SN: 016-2467(N), 2468(S) LA GRANGE ROAD
 COOK CO., IL.

alfred benesch & company
 CONSULTING ENGINEERS
 100 NORTH WILSON AVENUE, DEERFIELD, ILLINOIS 60015
 312 940 3000



REVISION 12-7-94 DWP

ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	X	COOK	165	119
STA.		TO STA.		
F.H.W.A. REGION		KLMS	PROJECT	

X 0203-632 HB-K-1 SHEET 23 OF 25



NOTE A
 EXISTING LIGHT STANDARD SUPPORT REPAIRS SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND AS SHOWN ON SHEET 25, UNLESS OTHERWISE SPECIFIED

- LEGEND**
-  EXISTING DRAINAGE SCUPPER
 -  DRAINAGE SCUPPER TO BE ADDED (SEE SHEET 24)

M:\PROJ2875\WADUCT\BRNT.DGN 6-1-94

DESIGNED	SE
CHECKED	DP
DRAWN	HL
CHECKED	SE

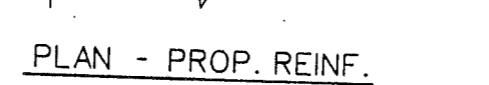
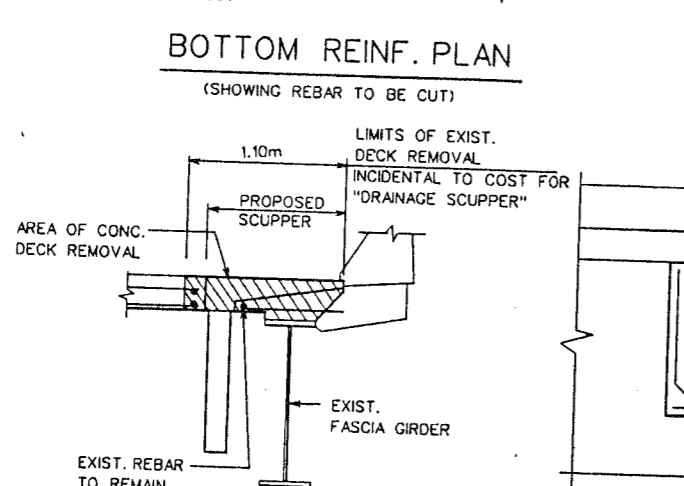
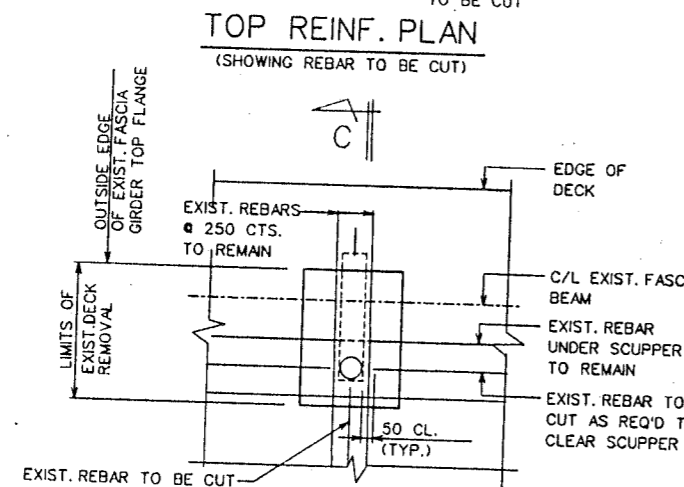
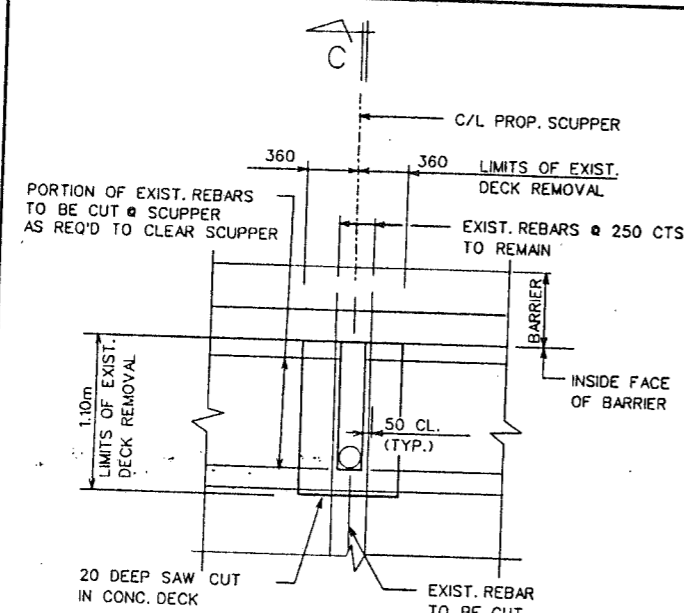
BRNT.DGN 9-1-94

ILLINOIS DEPARTMENT OF TRANSPORTATION
 US 12/20/45 (LAGRANGE ROAD)
 SOUTHBOUND NORTH BRIDGE
 DECK REPAIR PLAN

ab alfred benesch & company
 CONSULTING ENGINEERS
 215 NORTH MICHIGAN STREET, CHICAGO, ILLINOIS 60601
 JOB NO. 2875

SN: 018-2407
 COOK CO., IL.
 SECTION 0203-632-HB-K-1
 STA. R + 325.000

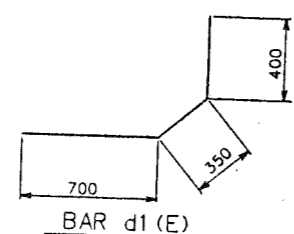
ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	-	COOK	165	120
STA.		TO STA.		
F.H.W.A. REGION		ILLINOIS	PROJECT	
#0203-632 HB-K-1		SHT. 24 OF 25		



BILL OF MATERIAL

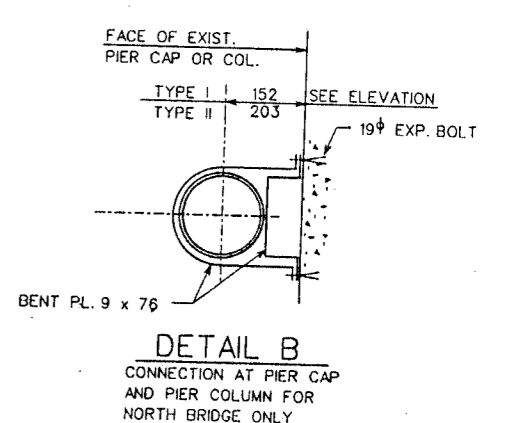
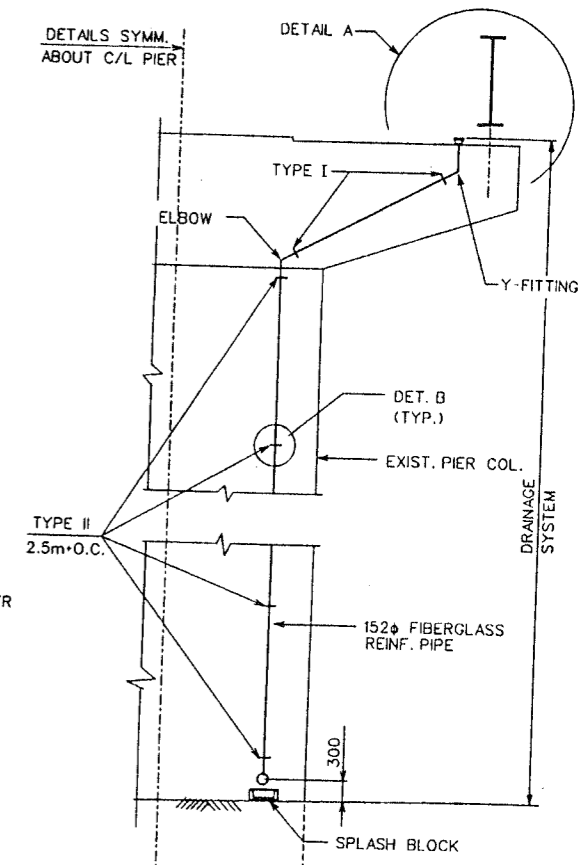
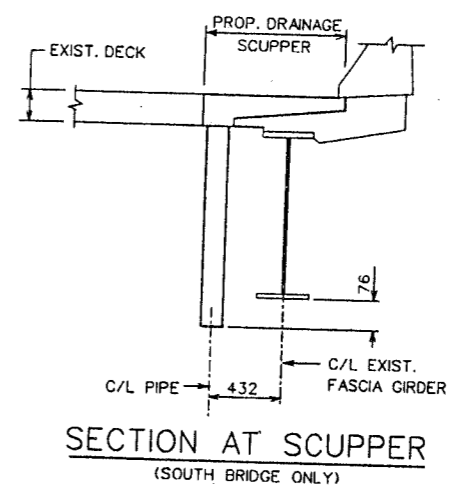
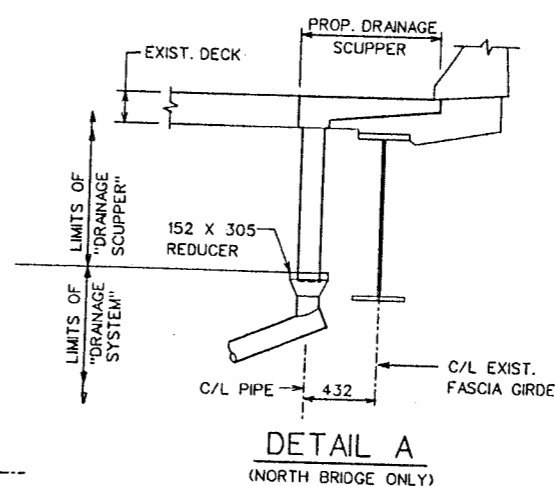
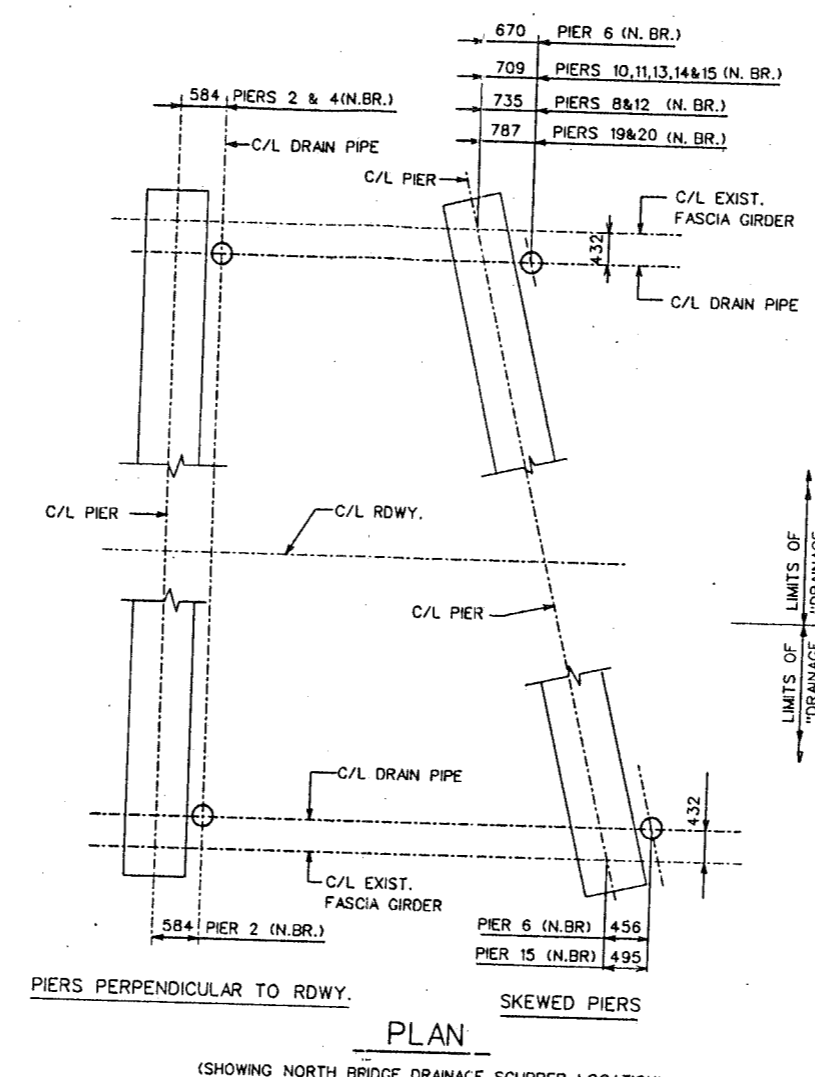
BAR	No.	SIZE	LENGTH	SHAPE
d1 (E)	96	15	1.45m	

ITEM	UNIT	TOTAL
REINF. BARS, EPOXY COATED	kg	240

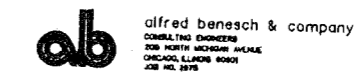


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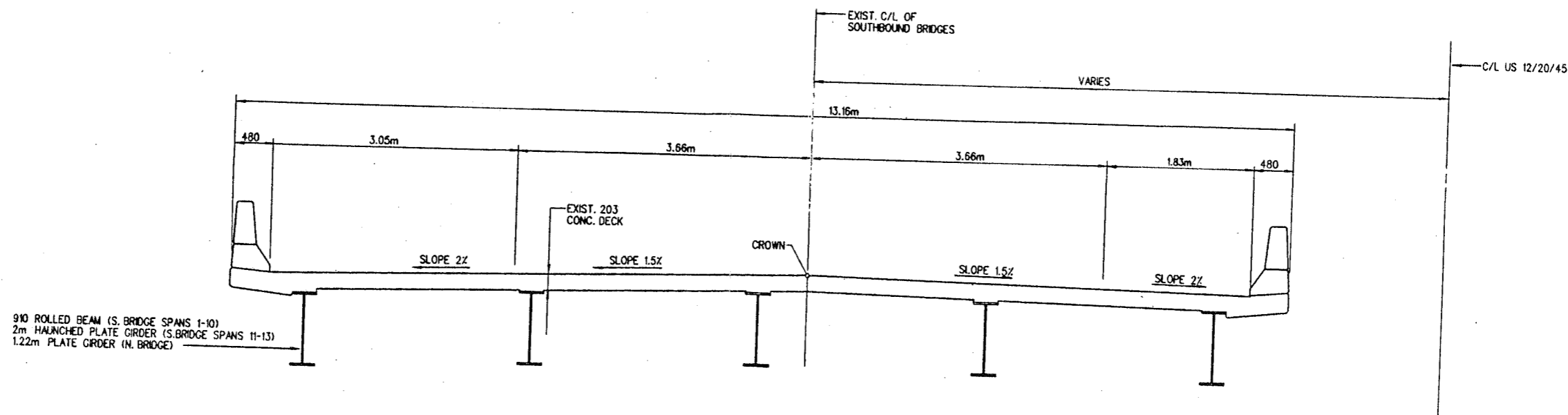
DESIGNED	SE
CHECKED	DP
DRAWN	HL
CHECKED	SE



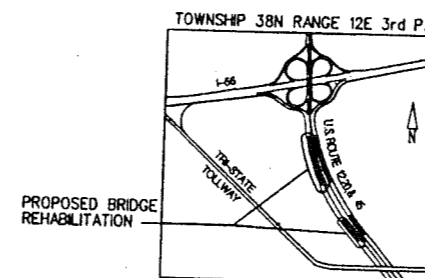
NOTE:
ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.
NO DRAINAGE PIPE SYSTEMS REQUIRED FOR SOUTH BRIDGE. FOR DRAINAGE SCUPPER DETAILS SEE SHEET 25A AND 25B.



SBDRRAIN.DGN 9-1-94
ILLINOIS DEPARTMENT OF TRANSPORTATION
US 12/20/45 (LAGRANGE ROAD)
SOUTHBOUND NORTH AND SOUTH BRIDGE
SCUPPER DETAILS
SN: 016-2407(N)
SN: 016-2406(S)
COOK CO., IL.
SECTION 0203-632-HB-K-1
STA. 8 + 325.000



TYPICAL DECK SECTION
(LOOKING UPSTATION)



LOCATION SKETCH

NOTES

TRAFFIC SHALL BE MAINTAINED UTILIZING STAGE CONSTRUCTION ABOUT THE CENTERLINE OF THE ROADWAY.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-318, M-42M OR M-53M GRADE 400.

ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM, COST INCIDENTAL TO WORK BEING PERFORMED.

ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO CLASSIFICATION M-270 GR. 250.

THE ZINC-SILICATE/ACRYLIC/ACRYLIC PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL EXCEPT WHERE OTHERWISE NOTED. THE COLOR OF THE FINISH COAT SHALL BE INTERSTATE GREEN TO MATCH THE EXIST. BRIDGES.

ALL EXISTING DRAINAGE SCUPPERS SHALL BE CLEANED. CLEANING SHALL INCLUDE ALL THE EXISTING DRAINAGE SYSTEMS. THIS WORK SHALL BE INCIDENTAL TO "DRAINAGE STRUCTURES TO BE CLEANED".

DESIGN SPECIFICATIONS

AASHTO 1992 SPECIFICATIONS WITH 1993 INTERM

LOADING: MS18

DESIGN STRESSES

$f'_c = 24 \text{ MPa}$
 $f_y = 400 \text{ MPa}$ (REINFORCEMENT)

EXISTING STRUCTURE

STRUCTURE NO. 016-2408 (SOUTH BRIDGE)
BUILT IN 1981

R.C. OPEN ABUTMENTS ON CONCRETE PILES
4 BRIDGE UNITS:

- 1 - FOUR SPAN ROLLED BEAM UNIT
- 2 - THREE SPAN ROLLED BEAM UNITS
- 1 - THREE SPAN HAUNCH PLATE GIRDER UNITS

STRUCTURE NO. 016-2407 (NORTH BRIDGE)
BUILT IN 1981

R.C. OPEN ABUTMENTS ON STEEL PILES

8 BRIDGE UNITS:

- 2 - THREE SPAN PLATE GIRDER UNITS
- 6 - FOUR SPAN PLATE GIRDER UNITS

TOTAL BILL OF MATERIAL

(SOUTHBOUND SOUTH BRIDGE SN-016-2408)
(SOUTHBOUND NORTH BRIDGE SN-016-2407)

ITEM	UNIT			TOTAL
		SN-016-2408	SN-016-2407	
DRAINAGE SCUPPERS	EACH	9	15	24
DRAINAGE SYSTEM	L.SUM	—	0.94	0.94
REINFORCEMENT BARS, EPOXY COATED	kg	90	150	240
LIGHT STANDARD REPAIR	EACH	6	12	18
DRAINAGE STRUCTURES TO BE CLEANED	EACH	2	19	21
FURNISHING & ERECTING STRUCTURAL STEEL	kg	340	—	340
CLEANING EXISTING CONDUIT	L.SUM	0.16	0.34	0.50

DESIGNED	S.E.
CHECKED	D.P.
DRAWN	T.S.
CHECKED	S.E.

SBGEN.DGN 9-1-94

ILLINOIS DEPARTMENT OF TRANSPORTATION
US 12/20/45 (LAGRANGE ROAD)

SOUTHBOUND NORTH AND SOUTH BRIDGE
TYPICAL DECK SECTION AND NOTES

SN: 016-2407(N)
SN: 016-2406(S)
COOK CO., IL.

SECTION 0203-632-HB-K-1
STA. 8+325.00

alfred benesch & company
CONSULTING ENGINEERS
208 NORTH MICHIGAN AVENUE, CHICAGO ILLINOIS 60601
JOB NO. 2878