

FOR INDEX OF SHEETS, SEE SHEET NO. 2

FUNCTIONAL CLASSIFICATION
 PRINCIPAL ARTERIAL (URBAN)
 CLASS II TRUCK ROUTE

DESIGN DESIGNATION: 2430(20) PRINCIPAL ARTERIAL 4.93 (PCC-20)

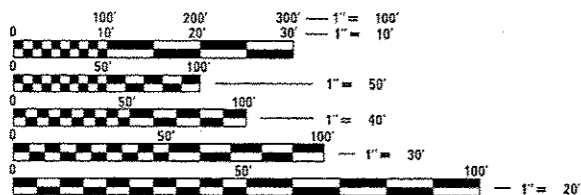
TRAFFIC DATA:

IL 132
 2020 ADT = 32,000 (20 YR. DESIGN)
 POSTED SPEED LIMIT (35 MPH)
 DESIGN SPEED LIMIT (40 MPH)
 RAMP D
 2020 ADT = 10,660 (20 YR. DESIGN)
 POSTED SPEED LIMIT (45 MPH)
 DESIGN SPEED LIMIT (45 MPH)

RAILROAD DATA:

TRAINS/DAY: 20
 # OF TRACKS: 2
 SPEED: 50 MPH
 DOT #: 176813A
 MILE POST: 37.75
 MILWAUKEE SUBDIVISION

PROJECT LOCATED IN:
 VILLAGE OF GURNEE
 WARREN TOWNSHIP
 LAKE COUNTY



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.

J.U.L.I.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
 1-800-892-0123
 OR 811

UPRR BRIDGE REPLACEMENT
 STA. 22 + 87.44
 EXIST. SN 049-0106
 PROP. SN 049-0602

RAMP D IMPROVEMENT
 STA. 400 + 40.77 TO
 STA. 406 + 44.37

BEGIN IMPROVEMENT
 STA. 14 + 70

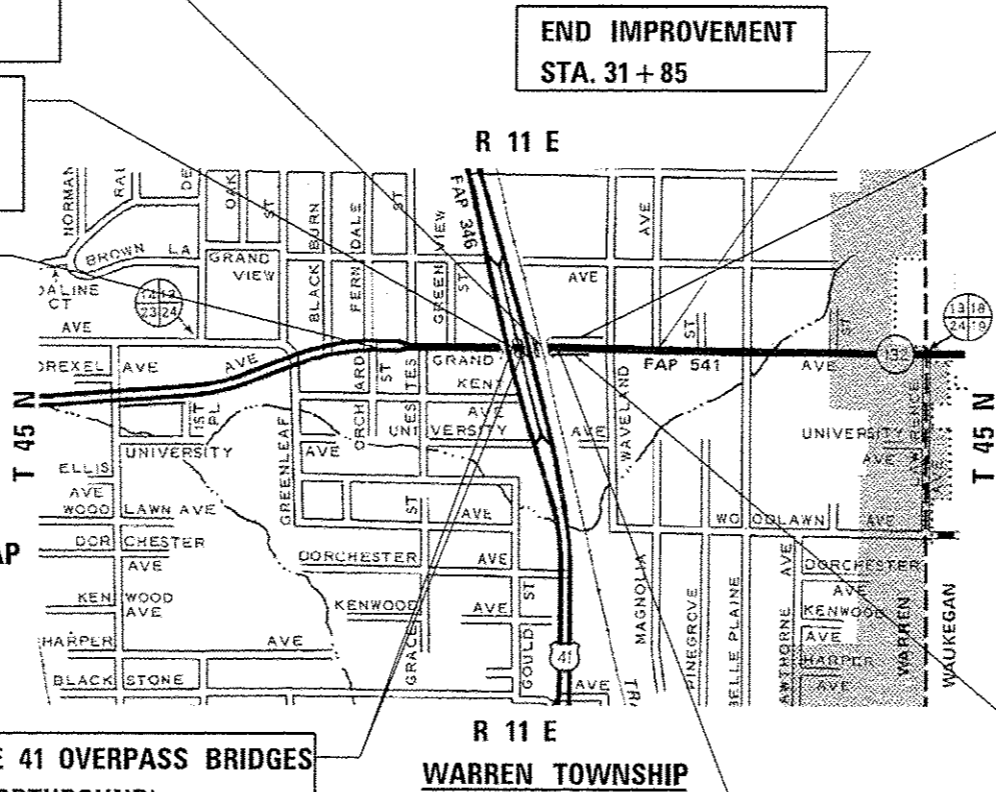
EXIST. U.S. ROUTE 41 OVERPASS BRIDGES
 SN 049-0210 (NORTHBOUND)
 SN 049-0209 (SOUTHBOUND)

GROSS LENGTH = 1,715.00 FT. = 0.325 MILE
 NET LENGTH = 1,715.00 FT. = 0.325 MILE

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

**PROPOSED
 HIGHWAY PLANS**

FAP ROUTE 346 (US 41)
 AT IL ROUTE 132 (UNDER UPRR)
 SECTION: 125X-N&J-SB-B
BRIDGE REPLACEMENT AND INTERCHANGE IMPROVEMENT
 PROJECT: ACNHPP-0346(019)
 LAKE COUNTY
 D-91-603-10



* 361 + 14 = 375 TOTAL SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	125X-N&J-SB-B	LAKE	361	1
		ILLINOIS	CONTRACT NO.	60K80

D-91-603-10



RET. WALL "S"
 STA. 23 + 16.09 TO
 STA. 27 + 97.77
 PROP. SN 049-W047

P.K. GANDHI
 062-34995
 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
 PROJECT ENGINEER (TRAFFIC SIGNALS)
 LICENSE EXPIRES 11-30-11

DAVID M. STILSON
 01003185
 REGISTERED STRUCTURAL ENGINEER OF ILLINOIS
 PROJECT MANAGER
 LICENSE EXPIRES 11-30-16

BRYAN A. PROFFER
 062-04885
 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
 PROJECT ENGINEER
 LICENSE EXPIRES 11-30-17

Peter A. Vandell
 062-043463
 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
 PROJECT ENGINEER (LIGHTING)
 LICENSE EXPIRES 11-30-17

RET. WALL "T"
 STA. 23 + 49.22
 STA. 25 + 52.34
 PROP. SN 049-W048

SHOOFLY BRIDGE
 STA. 23 + 46

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUBMITTED *6/27/16* 2016
John F. ... REGIONAL ENGINEER

Dee A. ... 2016
 MAUREEN M. ADDIS, P.E.
 ENGINEER OF DESIGN AND ENVIRONMENT

Dee A. ... 2016
 DIRECTOR OF PROGRAM DEVELOPMENT

IDOT PROJECT MANAGER: MR. LONG TRAN, PE (847) 705-4232
 IDOT PROJECT ENGINEER: MR. CRAIG BAUER (847) 705-4265
 CONTRACT NO. 60K80

HOH HARRY O. HESTER-ASSOCIATES, INC.
 DESIGN AND CONSULTING ENGINEERS
 55 East Jackson Blvd., Suite 800
 Chicago, IL 60604
 312-328-0121

PROJECT NUMBER
 3366

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS
 DISTRICT 1

Rev 1-05-17

INDEX OF SHEETS

1 COVER SHEET
 2- 3 INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES, AND COMMITMENTS
 4- 22 SUMMARY OF QUANTITIES
 23- 26 TYPICAL SECTIONS
 27- 34 SCHEDULE OF QUANTITIES
 35- 36 ALIGNMENT, TIES, AND BENCHMARKS
 37 REMOVAL PLANS
 38- 44 ROADWAY PLAN AND PROFILES
 45- 59 MAINTENANCE OF TRAFFIC PLANS
 60- 63 DETOUR PLANS
 64- 73 EROSION AND SEDIMENT CONTROL PLANS
 74- 78 DRAINAGE AND UTILITY PLANS
 79 DRAINAGE AND UTILITY DETAILS
 80- 81 DRAINAGE SCHEDULES
 82- 85 SUE PLANS
 86- 115 PLAT OF HIGHWAY
 116 INTERSECTION PLAN
 117- 120 JOINTING PLANS
 121- 124 ADA RAMP DETAILS
 125- 128 PAVEMENT MARKING PLANS
 129- 130 SIGNING PLANS
 131- 135 LANDSCAPING PLANS
 136- 170 TRAFFIC SIGNAL PLANS
 171- 184 LIGHTING PLANS
 185- 202 RETAINING WALL "S" PLANS
 203- 215 RETAINING WALL "T" PLANS
 216- 258 UPRR BRIDGE PLANS
 258A- 258N EXISTING UPRR BRIDGE PLANS
 259- 283 SHOULDER BRIDGE PLANS
 284- 323 UPRR TRACK PLANS
 324- 336 CROSS SECTIONS (IL 132)
 337- 339 CROSS SECTIONS (RAMP D)

GENERAL NOTES

- THE CONTRACTOR SHALL MAINTAIN ALL ROADWAYS OPEN TO TRAFFIC AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS.
- BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL J.U.L.I.E. AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE, AND GAS UTILITIES (48 HOURS NOTIFICATION IS REQUIRED). CONTACT MR. DAVID ZIEGLER, DIRECTOR OF COMMUNITY DEVELOPMENT, VILLAGE OF GURNEE AT (847) 599-7550 OR MR. THOMAS RIGWOOD, DIRECTOR OF PUBLIC WORKS AT (847) 599-6800 FOR WATER AND SEWER LOCATIONS.
- 10 FOOT TRANSITIONS SHALL BE USED TO MATCH PROPOSED CURB AND GUTTER AND MEDIAN ITEMS OF WORK TO EXISTING CURB AND GUTTERS AND MEDIAN ITEMS IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED LARGER ITEM OF SPECIFIED WORK.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET A YARD OR FIELD OFFICE ON STATE RIGHT-OF-WAY OR PROPERTY WITHOUT PRIOR WRITTEN PERMISSION FROM THE ENGINEER.
- BARRICADES: THE CONTRACTOR SHALL PROVIDE AND INSTALL TWO WEIGHTED SAND BAGS ON EACH TYPE I OR TYPE II BARRICADE USED (ONE WEIGHTED SAND BAG ACROSS EACH BOTTOM RAIL). ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.
- NIGHT OPERATIONS: WHEN ARTIFICIAL LIGHTING IS UTILIZED IN NIGHT OPERATIONS, THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTION IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AS WELL AS THE ADJOINING RESIDENTIAL AREAS.
- ALL STORM SEWER CONNECTIONS WITH PIPES 27 INCHES IN DIAMETER AND SMALLER SHALL BE MADE WITH PRECAST "TEE" OR "WYE" PIPES. FOR PROPOSED STORM SEWER PIPES LARGER THAN 27 INCHES IN DIAMETER, OPENINGS OF THE SPECIFIED DIAMETER SHALL BE MADE IN THE PIPE AT THE TIME IT IS MANUFACTURED. PRECAST "TEE" AND "WYE" PIPE CONNECTIONS FOR PROPOSED STORM SEWER WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE INVOLVED STORM SEWERS.
- USE NO.8 EPOXY-COATED TIE BARS CONFORMING TO ARTICLE 1006.1 (B)(2) OF THE STANDARD SPECIFICATION FOR LONGITUDINAL CONSTRUCTION JOINT, GROUDED-IN-PLACE TIE BARS, AS SHOWN ON STATE STANDARDS 420001, AND FOR TYING PCC PAVEMENT WIDENING TO EXISTING CONCRETE PAVEMENT AS SHOWN ON THE PLANS. THE COST OF THIS ITEM SHALL BE INCLUDED IN THE COST OF THE PAVEMENT ITEMS BEING CONSTRUCTED.
- SPECIAL UTILITY NOTE: DUE TO THE CONSTRUCTION ACTIVITIES BY OTHERS IN THE PROJECT AREA, UTILITY LOCATIONS SHOWN ON THESE PLANS MAY NOT BE CORRECT OR COMPLETE. THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (SEE NOTE 2) PRIOR TO CONSTRUCTION AND COORDINATE ACTIVITIES WITH THE ENGINEER.
- THE REMOVAL OF EXISTING DRIVEWAY AND FIELD ENTRANCE CULVERTS SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION, DRIVEWAY PAVEMENT, AND PIPE CULVERT REMOVALS SHALL BE PAID FOR SEPARATELY.

GENERAL NOTES

- ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.
- STORM SEWER - WATER MAIN QUALITY IS TO BE USED AT LOCATIONS WHERE LATERAL SEPARATION BETWEEN THE SEWER AND WATER MAIN IS LESS THAN 10 FEET AND THE WATER MAIN INVERT IS LESS THAN 1.5 FEET ABOVE THE STORM SEWER CROWN.
- STORM SEWER, RUBBER GASKET IS TO BE USED AT LOCATIONS WHERE THE WATER MAIN CROSSES BELOW THE SEWER, REGARDLESS OF VERTICAL SEPARATION OR WHERE THE BOTTOM OF THE WATER MAIN IS LESS THAN 1.5 FEET ABOVE THE TOP OF THE SEWER.
- BEFORE ORDERING STORM SEWERS, CATCH BASINS, PIPE CULVERTS, PIPE DRAINS, AND MANHOLES, THE CONTRACTOR SHALL REVIEW DRAINAGE SCHEDULES FOUND IN THE PLANS AS TO THE EXACT LENGTH AND QUANTITY REQUIRED.
- THE RESIDENT ENGINEER SHALL CONTACT MR. WALTER CZARNY, AREA TRAFFIC FIELD ENGINEER, AT WALTER.CZARNY@ILLINOIS.GOV AT LEAST TWO WEEKS PRIOR TO THE INSTALLATION OF PERMANENT PAVEMENT MARKING.
- THE CONTRACTOR SHALL MAINTAIN THE SURFACE DRAINAGE OF ALL ROADWAYS DURING CONSTRUCTION OF THIS PROJECT. WHEN EXISTING DRAINAGE FACILITIES ARE DISTURBED, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY OUTLETS AND CONNECTIONS FOR ALL PRIVATE OR PUBLIC DRAINS, SEWERS, INLETS AND CATCH BASINS. THE CONTRACTOR SHALL PROVIDE FACILITIES TO TAKE IN ALL STORM WATER, WHICH WILL BE RECEIVED BY THESE DRAINS AND SEWERS AND DISCHARGE SAME. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A TEMPORARY OUTLET AND BE PREPARED AT ALL TIMES TO DISPOSE OF THE WATER RECEIVED FROM THESE TEMPORARY CONNECTIONS UNTIL INSTALLATION IS COMPLETE, INCLUDING PAVEMENT. THIS WORK SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED INCLUDED IN THE CONTRACT. COORDINATION WITH ALL AGENCIES INVOLVED IS REQUIRED.
- THE FOLLOWING PARCELS SHOWN ON THE R.O.W. PLATS ARE INCLUDED IN THIS CONTRACT: IEU0019, IEU0020, IEU0020TE, IEU0021, IEU0021TE, IEU0022, IEU0024, IEU0025, IEU0026, IEU0044, IEU0044TE, IEU0029, IEU0029TE, IEU0030TE, IEU0031, IEU0031TE, IEU0032, IEU0032TE, IEU0033TE.
- THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		QUALITY MANAGEMENT PROGRAM (QMP)
MIXTURE TYPE	AIR VOIDS @ NDE	
STABILIZED SUBBASE		
STABILIZED SUBBASE (HMA BINDER IL-19 MM)	3% @ 50 GYR.	QC/OA
DRIVEWAYS		
HMA SURFACE COURSE, MIX "D", N50 (IL 9.5 MM)	4% @ 50 GYR.	QC/OA
HMA BASE COURSE (HMA BINDER IL-19 MM)	4% @ 50 GYR.	QC/OA
TEMPORARY PAVEMENT		
2 INCH - HMA SURFACE COURSE, MIX "D", N50 (IL 9.5 MM)	4% @ 50 GYR.	QC/OA
6 INCH - TEMP PAVEMENT (HMA BINDER IL-19 MM)	4% @ 50 GYR.	QC/OA
QMP DESIGNATION: QUALITY CONTROL/QUALITY ASSURANCE (QC/OA)		

- THE UNIT WEIGHT USED TO CALCULATE ALL HMA MIXTURE QUANTITIES IS 112 LB/SO YD/IN.
 - FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.
 - FOR USE OF RECYCLED MATERIALS SEE DISTRICT ONE SPECIAL PROVISIONS.
 - PCC TEMPORARY PAVEMENT SHALL CONSIST OF CLASS PV CONCRETE MEETING THE REQUIREMENTS OF ARTICLE 1020 OF THE STANDARD SPECIFICATIONS; TYPICALLY 6" THICK.
 - QUALITY MANAGEMENT PROGRAM (QMP) IDENTIFIES THE PARTICULAR QUALITY CONTROL SPECIFICATION THAT APPLIES TO THE HMA MIXTURE.
- THIS PROJECT REQUIRES A US ARMY CORPS OF ENGINEERS 404 PERMIT. THE PERMIT ISSUED TO THE ILLINOIS DEPT OF TRANSPORTATION DOES NOT COVER THE IN-STREAM WORK BY THE CONTRACTOR. THEREFORE, AFTER AWARD THE CONTRACTOR WILL NEED TO SUBMIT A WORK PLAN TO THE US ARMY CORPS OF ENGINEERS. THE CORPS WILL NOT BE PROVIDING AN APPROVAL UNLESS STATED OTHERWISE IN THE PERMIT AND IN-STREAM WORK CAN COMMENCE AT THE CONTRACTOR'S DISCRETION. GUIDELINES FOR ACCEPTABLE IN-STREAM WORK TECHNIQUES CAN BE FOUND ON THE CORPS WEBSITE. [HTTP://WWW.LRC.USACE.MIL/PORTALS/36/DOCS/REGULATORY/pdf/SESCREC.pdf](http://www.LRC.USACE.MIL/PORTALS/36/DOCS/REGULATORY/pdf/SESCREC.pdf)
 - AGGREGATE SUBGRADE IMPROVEMENT (CU YD) HAS BEEN PROVIDED FOR USE AT THE LOCATIONS INDICATED FOR SOILS THAT TEND TO BE UNSTABLE AND/OR UNSUITABLE. THE ACTUAL NEED FOR REMOVAL AND REPLACEMENT WITH ASI WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE GEOTECHNICAL ENGINEER. ALL POTENTIALLY UNSTABLE SOILS SHOULD BE TESTED WITH A STATIC OR DYNAMIC CONE PENETROMETER AND TREATED IN ACCORDANCE WITH ARTICLE 301.04 OF THE SSRBC AND IDOT SUBGRADE STABILITY MANUAL. IF UNSTABLE AND/OR UNSUITABLE SOILS ARE NOT ENCOUNTERED, THEN THE QUANTITY SHALL BE DEDUCTED AND NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR.

UNION PACIFIC RAILROAD GENERAL NOTES

- WITHIN THESE NOTES, THE UNION PACIFIC RAILROAD SHALL BE REFERRED TO AS THE "RAILROAD".
- A CONTRACTOR'S RIGHT-OF-ENTRY PERMIT IS REQUIRED BEFORE ANY WORK CAN COMMENCE ON RAILROAD PROPERTY. THE COST TO OBTAIN THIS PERMIT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
- NO DISRUPTIONS OF RAILROAD OPERATIONS WILL BE PERMITTED.
- ALL WORK WITHIN 25 FEET OF THE NEAREST TRACK WILL REQUIRE A RAILROAD FLAGMAN. TO SCHEDULE A FLAGMAN FOR WORK ON FREIGHT LINES, CALL DARYL CLARK AT (708) 649-5273, A MINIMUM OF 72 HOURS IN ADVANCE OF START OF WORK.
- WORK WINDOWS WITHIN THE 25 FOOT ZONE ARE ONLY AVAILABLE FROM 9:00 AM - 3:00 PM, MONDAY THROUGH FRIDAY. NIGHT WORK WINDOWS ARE AVAILABLE FROM 8:00 PM - 4:00 AM. PLEASE PROVIDE AT LEAST 72 HOURS OF ADDITIONAL NOTICE WHEN REQUESTING TO WORK AT NIGHT TO ENSURE APPROPRIATE FLAGGING COVERAGE. EXTENDED WORK WINDOWS MAY BE AVAILABLE ON THE WEEKENDS, NOT WITHSTANDING THE FORGOING, DUE TO INTERSTATE FREIGHT TRAIN AND COMMUTER PASSENGER TRAIN OPERATIONS AND SCHEDULES ALL WORK WINDOWS WITHIN THE TIMES LISTED ABOVE ARE SUBJECT TO ON SITE UNILATERAL ADJUSTMENT OR DENIAL FROM THE RAILROAD'S LOCAL FIELD MANAGER AND/OR CORRIDOR MANAGER. THIS MAY RESULT IN DENIAL OR ADJUSTMENT OF ACCESS FOR ANY AND ALL CONTRACTORS, SUBCONTRACTORS AND MATERIAL MEN DURING WORK WINDOWS.
- NO UN-USED WORK EQUIPMENT WILL BE ALLOWED TO REMAIN ON THE RAILROAD'S COMMUTER PLATFORM IF PRESENT.
- RAILROAD UTILITIES ARE NOT INCLUDED UNDER JULIE. CALL CANDICE MILLER AT (312) 496-4738 FOR LOCATES.
- FIBER OPTICS MAY BE PRESENT IN THIS AREA. CALL (800) 336-9193 TO COORDINATE ANY REQUIRED PROTECTION OR RELOCATION, PRIOR TO CONSTRUCTION.
- RAILROAD REVIEW AND APPROVAL OF SHORING, DEMOLITION, ERECTION, AND FALSEWORK IS REQUIRED.
- ERECTION OVER THE RAILROAD'S RIGHT-OF-WAY SHALL BE DESIGNED TO CAUSE NO INTERRUPTIONS TO RAILROAD'S OPERATIONS. ERECTION OVER THE RAILROAD'S TRACK SHALL BE DEVELOPED SUCH THAT IT ENABES THE TRACK(S) TO REMAIN OPEN TO TRAIN TRAFFIC PER RAILROAD'S REQUIREMENTS.
- MINIMUM CONSTRUCTION CLEARANCE ENVELOPE OF 21 FEET VERTICAL ABOVE THE PLANE OF TOP-OF-RAIL AND 12 FEET HORIZONTAL AT RIGHT ANGLE FROM CENTERLINE OF TRACK SHALL BE MAINTAINED AT ALL TIME DURING CONSTRUCTION.
- FALSEWORK CLEARANCE SHALL COMPLY WITH THE RAILROAD'S MINIMUM CONSTRUCTION CLEARANCE ENVELOPE.
- FOR RAILROAD COORDINATION PLEASE REFER TO THE RAILROAD MINIMUM REQUIREMENTS AS PART OF SPECIAL PROVISIONS.
- THE CONTRACTOR MUST SUBMIT A PROPOSED METHOD OF EROSION AND SETTLEMENT CONTROL AND HAVE THE METHOD APPROVED BY THE RAILROAD.
- THE PROPOSED GRADE SEPARATION PROJECT SHALL NOT CHANGE THE QUANTITY AND/OR CHARACTERISTICS OF THE FLOW IN THE RAILROAD DITCHES AND/OR DRAINAGE STRUCTURES.
- THE ELEVATION OF THE EXISTING TOP-OF-RAIL PROFILE SHALL BE VERIFIED BEFORE BEGINNING CONSTRUCTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE RAILROAD PRIOR TO CONSTRUCTION.

Rev. 1-05-17

ST. RAIL ROAD LANE 22 11
18703 10100
1884-4143

10 606

163 604

112 603

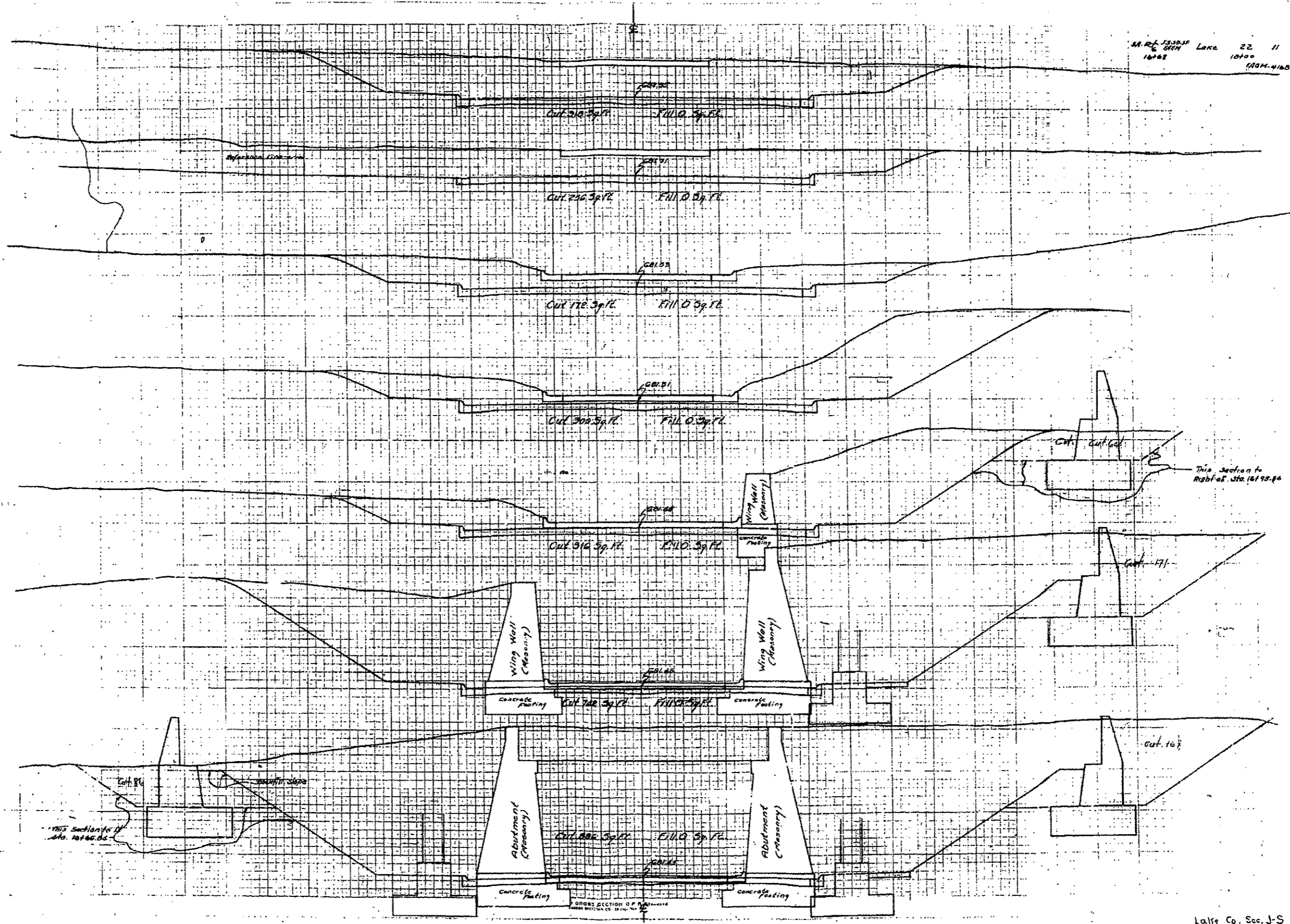
17 20 602

130 601

170 600

10 60

1/27
1/28
1/29
1/30
1/31
2/1
2/2
2/3
2/4
2/5
2/6
2/7
2/8
2/9
2/10
2/11
2/12
2/13
2/14
2/15
2/16
2/17
2/18
2/19
2/20
2/21
2/22
2/23
2/24
2/25
2/26
2/27
2/28
2/29
2/30
3/1
3/2
3/3
3/4
3/5
3/6
3/7
3/8
3/9
3/10
3/11
3/12
3/13
3/14
3/15
3/16
3/17
3/18
3/19
3/20
3/21
3/22
3/23
3/24
3/25
3/26
3/27
3/28
3/29
3/30
3/31
4/1
4/2
4/3
4/4
4/5
4/6
4/7
4/8
4/9
4/10
4/11
4/12
4/13
4/14
4/15
4/16
4/17
4/18
4/19
4/20
4/21
4/22
4/23
4/24
4/25
4/26
4/27
4/28
4/29
4/30
4/31
5/1
5/2
5/3
5/4
5/5
5/6
5/7
5/8
5/9
5/10
5/11
5/12
5/13
5/14
5/15
5/16
5/17
5/18
5/19
5/20
5/21
5/22
5/23
5/24
5/25
5/26
5/27
5/28
5/29
5/30
5/31
6/1
6/2
6/3
6/4
6/5
6/6
6/7
6/8
6/9
6/10
6/11
6/12
6/13
6/14
6/15
6/16
6/17
6/18
6/19
6/20
6/21
6/22
6/23
6/24
6/25
6/26
6/27
6/28
6/29
6/30
6/31
7/1
7/2
7/3
7/4
7/5
7/6
7/7
7/8
7/9
7/10
7/11
7/12
7/13
7/14
7/15
7/16
7/17
7/18
7/19
7/20
7/21
7/22
7/23
7/24
7/25
7/26
7/27
7/28
7/29
7/30
7/31
8/1
8/2
8/3
8/4
8/5
8/6
8/7
8/8
8/9
8/10
8/11
8/12
8/13
8/14
8/15
8/16
8/17
8/18
8/19
8/20
8/21
8/22
8/23
8/24
8/25
8/26
8/27
8/28
8/29
8/30
8/31
9/1
9/2
9/3
9/4
9/5
9/6
9/7
9/8
9/9
9/10
9/11
9/12
9/13
9/14
9/15
9/16
9/17
9/18
9/19
9/20
9/21
9/22
9/23
9/24
9/25
9/26
9/27
9/28
9/29
9/30
9/31
10/1
10/2
10/3
10/4
10/5
10/6
10/7
10/8
10/9
10/10
10/11
10/12
10/13
10/14
10/15
10/16
10/17
10/18
10/19
10/20
10/21
10/22
10/23
10/24
10/25
10/26
10/27
10/28
10/29
10/30
10/31
11/1
11/2
11/3
11/4
11/5
11/6
11/7
11/8
11/9
11/10
11/11
11/12
11/13
11/14
11/15
11/16
11/17
11/18
11/19
11/20
11/21
11/22
11/23
11/24
11/25
11/26
11/27
11/28
11/29
11/30
11/31
12/1
12/2
12/3
12/4
12/5
12/6
12/7
12/8
12/9
12/10
12/11
12/12
12/13
12/14
12/15
12/16
12/17
12/18
12/19
12/20
12/21
12/22
12/23
12/24
12/25
12/26
12/27
12/28
12/29
12/30
12/31

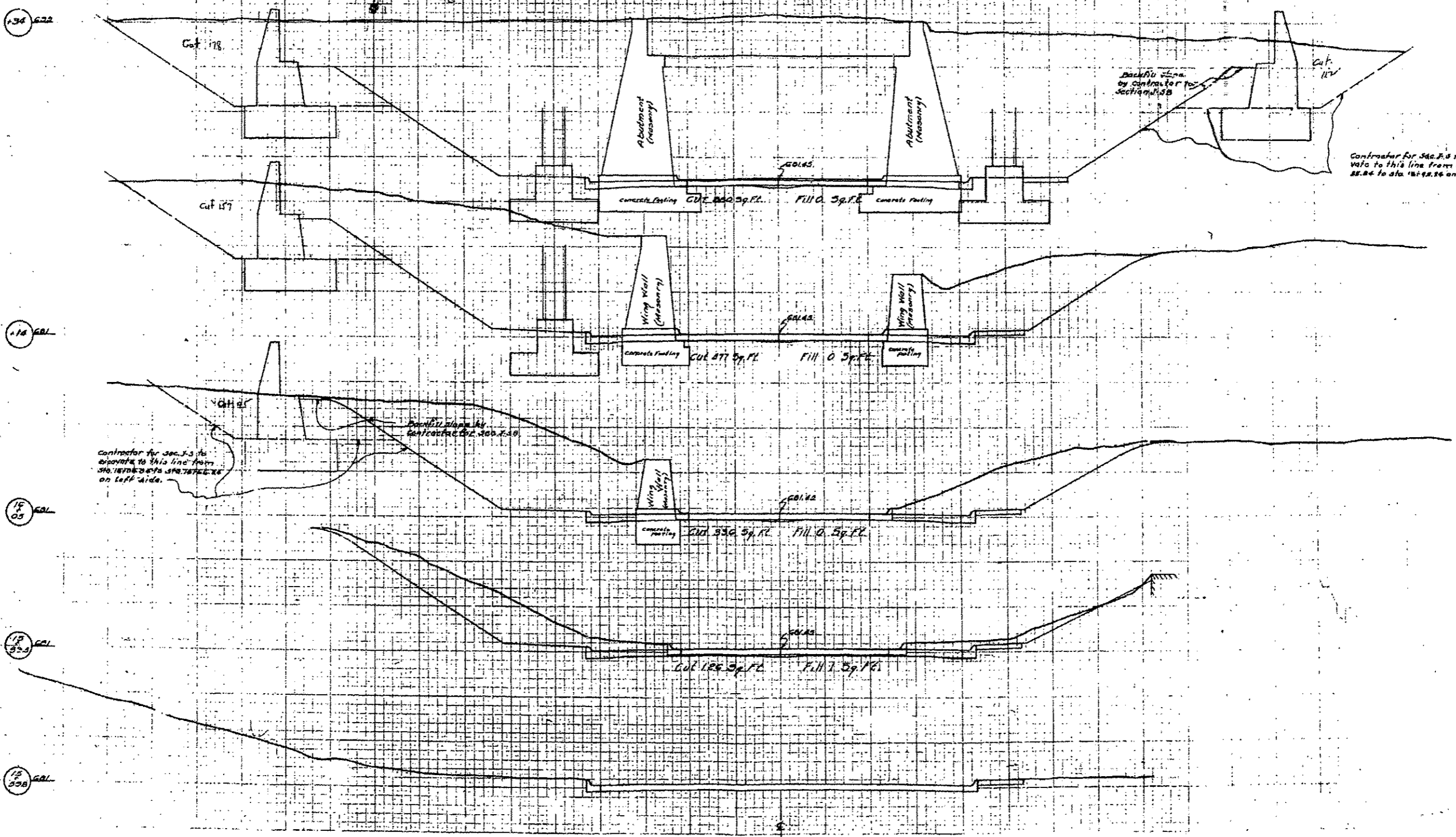


Lake Co. Sec. J-S

FILE NAME: \60K80_ExistBridgePlans	USER NAME: aofitzpatrick	DESIGNED: -	REVISD: -	DATE: 1/3/2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS UPRR RR OVER IL 132	F.A.P. RTE. 346	SECTION 125X-N&J-SB-B	COUNTY LAKE	TOTAL SHEETS 351	SHEET NO. 258J
3366	PLOT SCALE: 0.1667" = 1'	CHECKED: -	REVISD: -				CONTRACT NO. 60K80				
	PLOT DATE: 1/3/2017	DRAWN: -	REVISD: -				ILLINOIS FED. AID PROJECT				
		CHECKED: -	REVISD: -								

Sheet Added 1-05-17

S.A. RJ-J.S. 2017
 16134
 16134
 16134
 16134
 16134



178 GAL

177 GAL

176 GAL

175 GAL

174 GAL

Contractor for sec. J-3 to
 associate to this line from
 sta. 167+00 to sta. 167+00
 on left side.

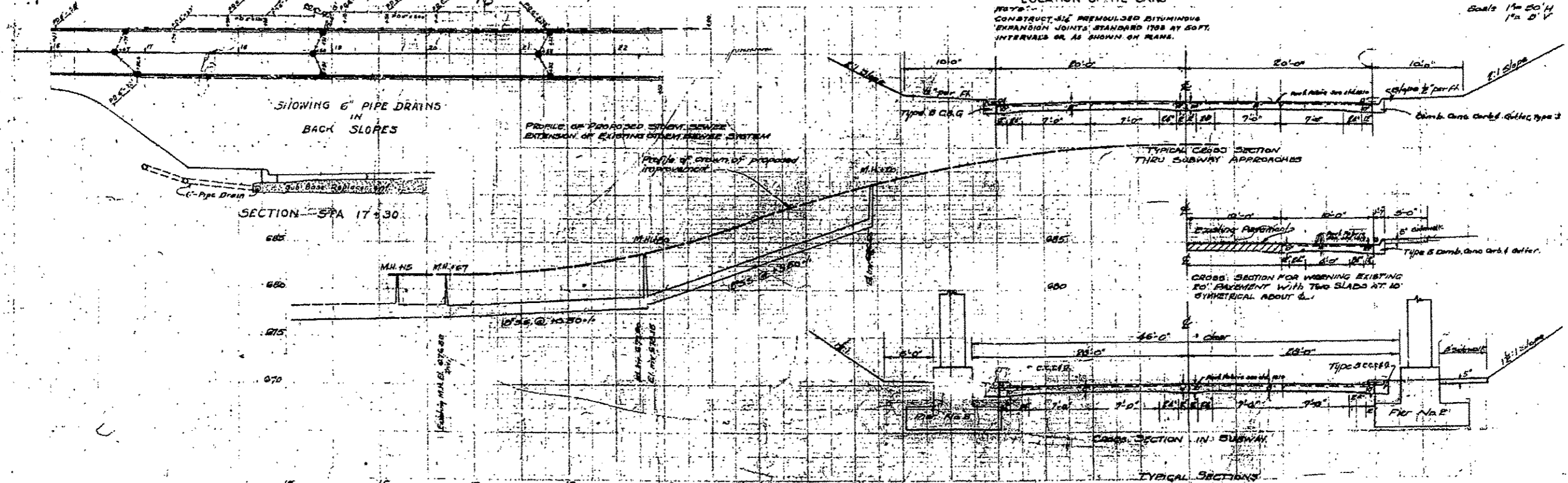
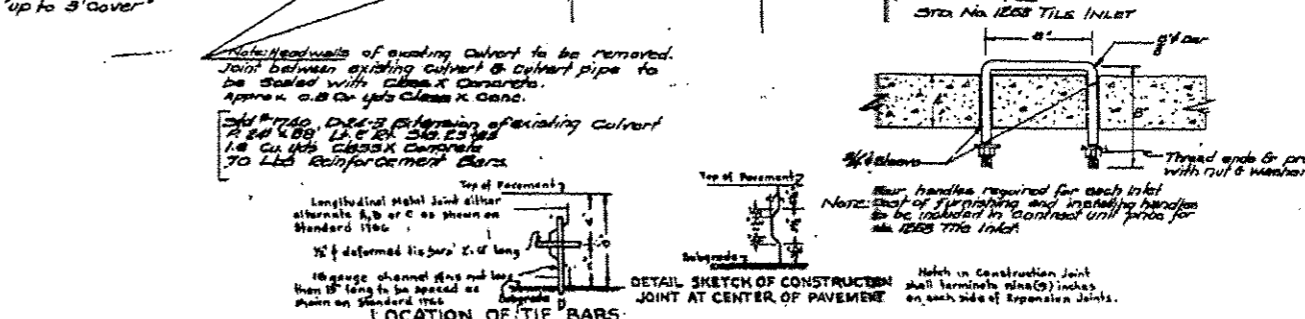
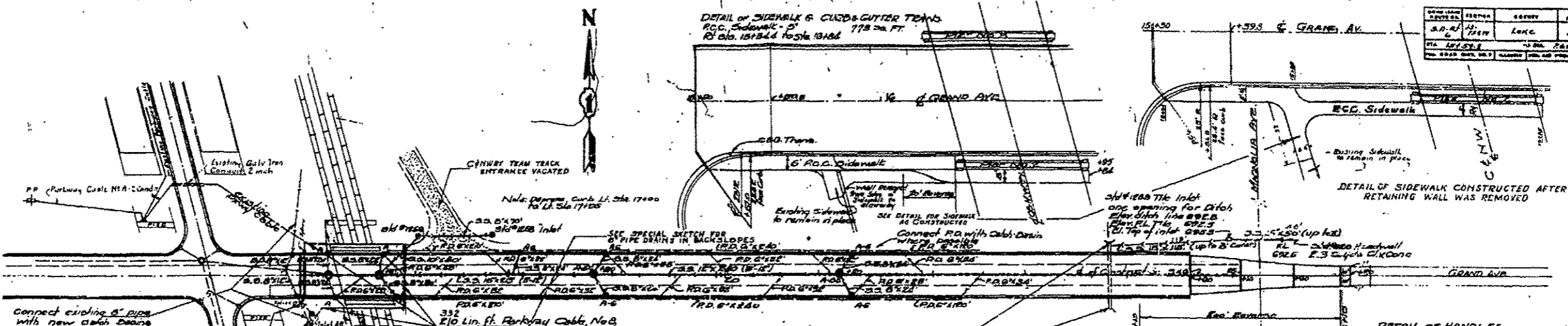
Backfill area
 by contractor for
 section 178

Contractor for sec. J-3 to
 associate to this line from sta. 167+00
 to sta. 167+00 on right

PLATE 3 CROSS SECTION B & B
 UPRR RR OVER ILL. 132

Lake Co. Sec. J-S

FILE NAME: ...60K80_ExistBridgePlans.dwg	USER NAME: eafitzpatrick	DESIGNED -	REVISD - 1/3/2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS UPRR RR OVER IL 132	F.A.P. RTE. 346	SECTION 125X-N&J-SB-B	COUNTY LAKE	TOTAL SHEETS 361	SHEET NO. 258K
HOH 3366	PLLOT SCALE: 0.1667" = 1'	CHECKED -	REVISD -			SHEET NO. 11 OF 14 SHEETS	CONTRACT NO. 60K80			
35 East Jackson Blvd., Suite 600 Chicago, Illinois 60604 312/966-8700	PLLOT DATE: 1/3/2017	DRAWN -	REVISD -			ILLINOIS FED. AID PROJECT				
		CHECKED -	REVISD -			Sheet Added 1-05-17				



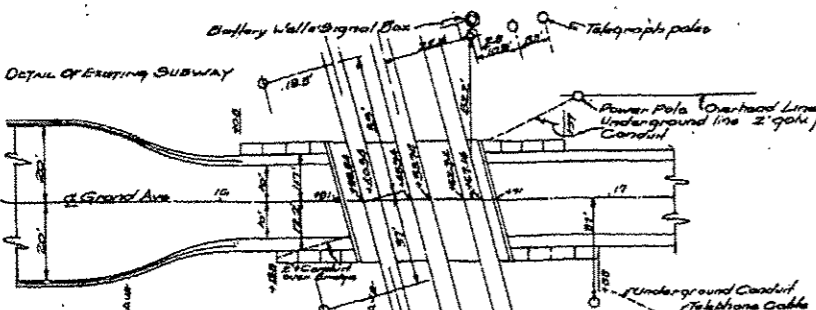
NO.	DATE	BY	CHKD.	APP'D.
1	1/15/17	JEM	LOK	22
2	1/17/17	JEM	LOK	22

Sheet Added 1-05-17

SECTION	DATE	BY	CHKD	APP'D
125X-N&J-SB-B	1/3/2017	COFF	PK	
LAKE	22	3		

Station to	Station	Width	Length	Area
15+00	15+00	Special	202	2010
15+00	24+00	18'6"	870	40
24+00	24+00	18'6"	180	Var
24+00	26+00	18'6"	10	22
26+00	26+00	18'6"	21	22
				Total 2405

Station to	Station	Type	Length
15+00	15+00	Transition	18
15+00	15+00	D	3
15+00	24+00	D	1000
			Total 1021



Station	Elevation
15+00	700.84
+40.24	700.84
+40.80	700.81
+50.74	700.81
+62.54	688.00
+67.12	688.00

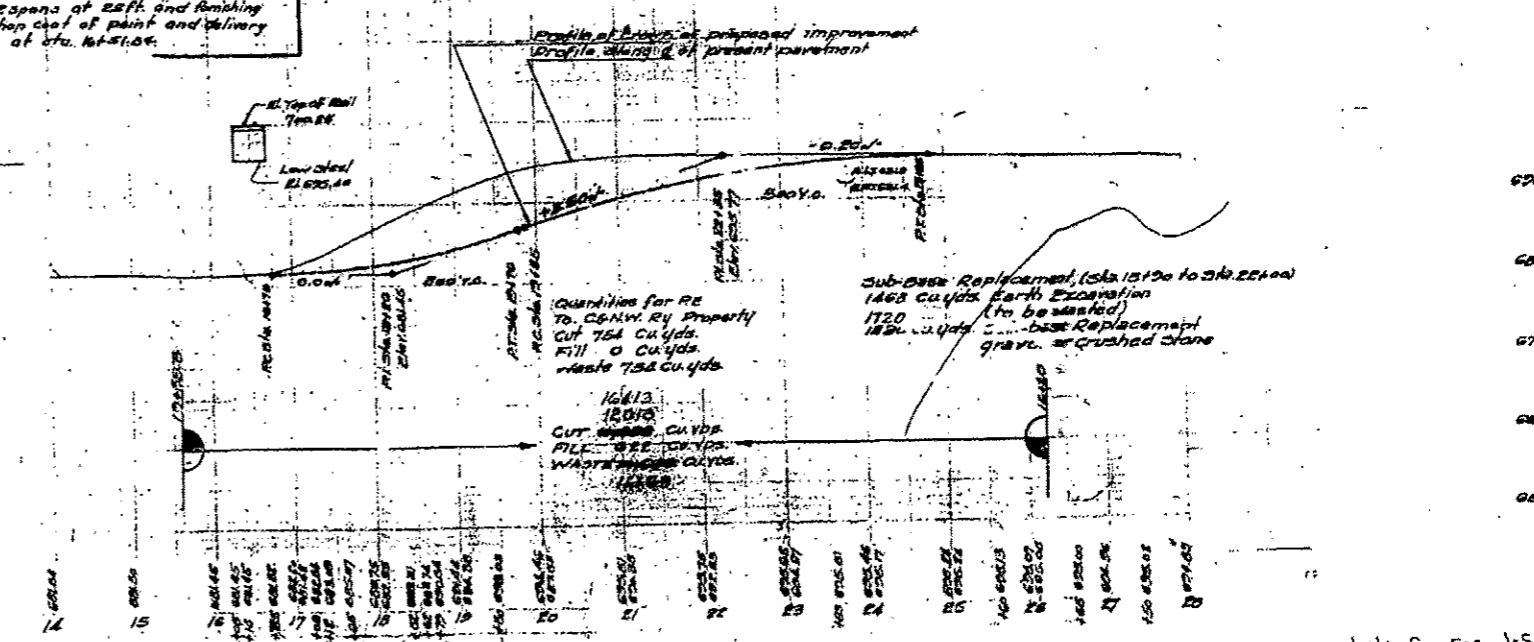
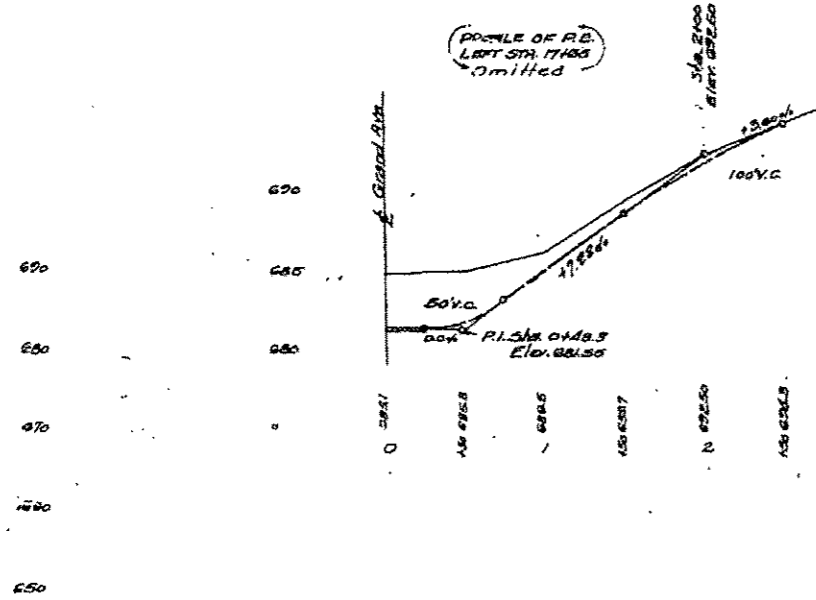
Entire Section incorporated and approved
 as to survey
 DATE OF ENGINEERING: 1/3/2017

0.1% 33' on N.E. Wing of N.E. abutment
of Highway Bridge
Elev. 688.00

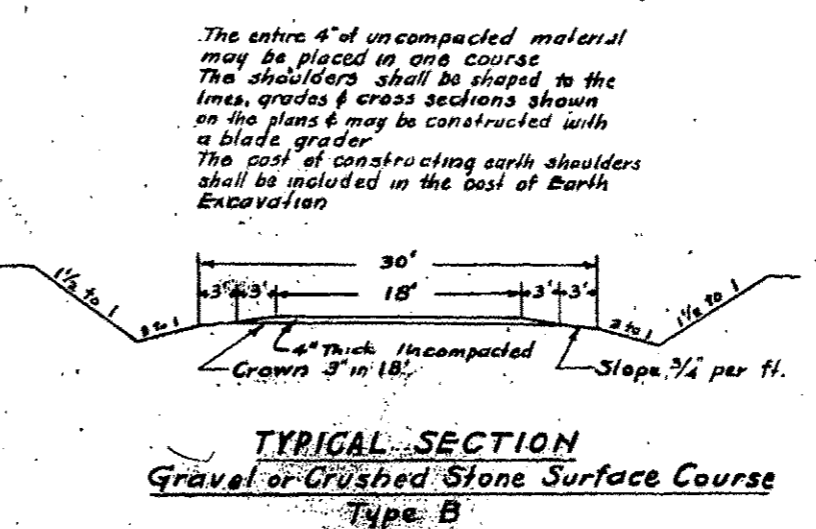
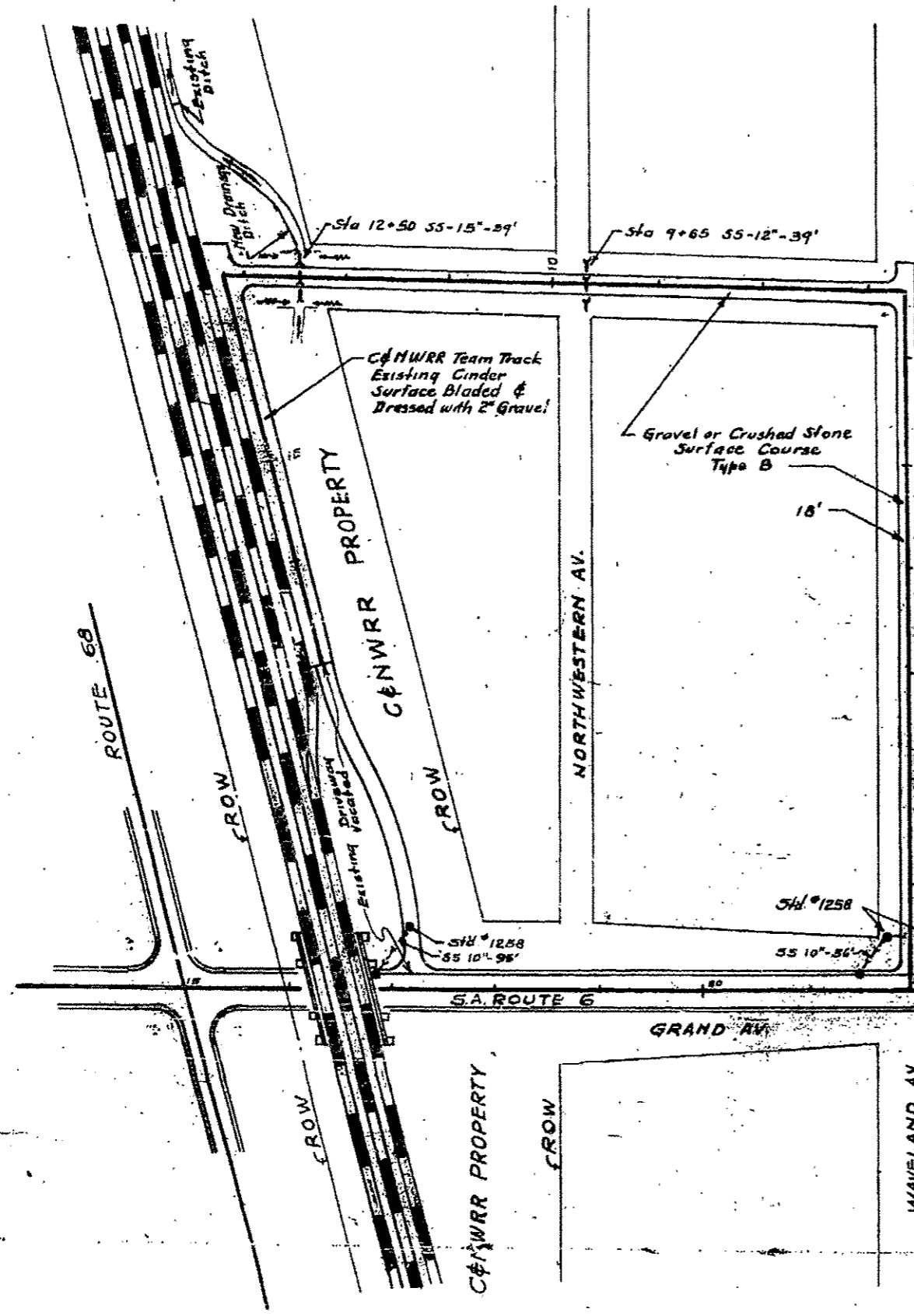
BM # 55 D on CURB 22' Dia. 1417
Elev. 681.82

SECTION - J-5B-FROM INCLUDES
 Construction of substructure for steel girder bridge,
 1 span of 86ft and spans of 23ft, including the furnishing
 fabrication and delivery to b bridge site of structural steel
 for the piers. Also includes furnishing and installation of paint for
 spot painting and a field coat of paint for the superstructure,
 furnishing and painting pipe handrail and finishing clean drains
 and class 2 concrete (Precast Deckwall Beams) for the bridge
 at Sta. 16+10.0.

SEC. J-5F-F.A.G.M INCLUDES
 Finishing and fabrication of structural steel for the superstructure
 and piers, 1 span at left and spans at right and finishing
 and application of paint for shop coat of paint and delivery
 to b bridge site for the bridge at Sta. 16+10.0.



Lake Co. sec. J-5



**ENTRANCE TO C&NWR TEAM TRACK
TO REPLACE
EXISTING DRIVEWAY LEFT STA 17+65**

SA ROUTE 6 SEC JS-FAEM-416B

FILE NAME: ...60X80-ExistBridgePlans.dwg	USER NAME: eoftzpatrick	DESIGNED: -	REVISED: - Δ 1/3/2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS UPRR RR OVER IL 132	F.A.P. RTE.:	SECTION:	COUNTY:	TOTAL SHEETS:	SHEET NO.:
HOH	346	125X-N&J-SB-B	LAKE			361	258N			
3366	SHEET NO. 14 OF 14 SHEETS		CONTRACT NO. 60X80							
ILLINOIS FED. AID PROJECT										

Δ Sheet Added 1-05-17

INDEX OF SHEETS
Sec. J5-FAGM

Sheet	No.	Title Page
1	1	Typical Cross Secs. & Drainage Details
2	2	Typical Profile Sta. 1615.01 to Sta. 2612.0
3	3	Standard 1700, 1750
4	4	1700, 1810, 1827
5	5	1770, 1760, 1850
6	6	1810, 1816
7	7	1640, 1700, 1820
8	8	1833, 1853
9	9	Inclusive Cross Sections

~ SEC. J3B & J3F - FAGM ~

Sheet	No.	Title Page
1	1	Plan & Profile Sta. 1512.0 to Sta. 2612.0
2	2	Cross Section Sheets
3	3	Typ. Special Bridge Design Sta. 1615.01 to (Sheet 14)

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

STATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.A. RT. 6	J5B	LAKE	22	1

SCALES

PLAN	1 INCH = 100 FT.
PROFILE, HOR.	1 INCH = 100 FT.
PROFILE, VERT.	1 INCH = 10 FT.
CROSS-SECTION	1 INCH = 8 FT.

S.A. RT. 6 - SECS. J5B } FAGM - LAKE COUNTY
FEDERAL AID GRADE CROSSING
PROJECT - FAGM-416B

From a point on Grand Ave. near the intersection with S.E. 161st in Gurnee
To a point on Grand Ave. East of Magnolia Avenue in Gurnee.



SUMMARY OF QUANTITIES
SEC. J5-FAGM

14235	Cu. Yds.	Earth Excavation
1430	Cu. Yds.	Sub-Base Replacement Gravel or Crushed Stone
230	Cu. Yds.	Trench Backfill
4408	Sq. Yds.	R.C. Concrete Pavement
21	Cu. Yds.	Class X Concrete
70	Lbs.	Reinforcing Iron Bars
100	Units	Tire Removal (in units of each diam.)
773	Sq. Ft.	R.C. Sidewalk, Smooth
1000	Lin. Ft.	Comb. Conc. Curb & Gutter, Type A
10	Lin. Ft.	Comb. Conc. Curb & Gutter, Transition
375	Cu. Yds.	Gravel or Crushed Stone Surface Course, Type B
309	Lin. Ft.	Curb & Gutter Removal
2137	Sq. Yds.	Pavement & Driveway Removal
266	Sq. Ft.	Sidewalk Removal
2180	Sq. Yds.	Sodding
1735	Sq. Yds.	Earth Shoulders
30	Lin. Ft.	Pipe Culverts (up to 4' Cover) 24inch
310	Lin. Ft.	Storm Sewers (up to 4' Cover) 24inch
30	Lin. Ft.	Storm Sewers (up to 4' Cover) 18inch
165	Lin. Ft.	Storm Sewers (up to 4' Cover) 12inch
240	Lin. Ft.	Storm Sewers (up to 4' Cover) 15inch
213	Lin. Ft.	Storm Sewers (up to 4' Cover) 18inch
1844	Lin. Ft.	Pipe Underdrains 24inch
5	Each	Catch Basins, Type A with Type B Frame
2	Each	Manholes, Type A, 4' dia. with Type B Frame
2	Each	Manholes, to be Adjusted
10	Each	Tile Sights
453	Each	Erecting R.D.F. Mangers
4162	Lin. Ft.	Cutter Removal
20	Sq. Yds.	Pavement Fabric
210	Lin. Ft.	Calc. Iron Pipe, 12" Dia.
20	Lin. Ft.	Paroway Cable, No. 8 - 2 Conductor
20	Cu. Yds.	Crushed Stone
1845	Sq. Yds.	Portland Cement
2	Each	Section Marker

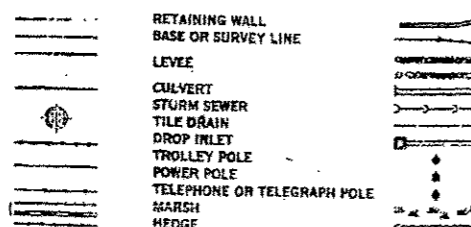
SEC. J3B-FAGM

Lump Sum	Unit	Description
230	Cu. Yds.	Removal of Existing Concrete and Stone Abutments
15	Cu. Yds.	Earth Backfill in Retaining Embankment
570	Cu. Yds.	Gravel or Crushed Stone Backfill
26950	Lbs.	Class X Concrete
1663	Sq. Ft.	Reinforcement Bars
74000	Lbs.	Welded Wire Fabric
720	Lin. Ft.	Structural Steel
250	Lin. Ft.	Deck Drains (Material only)
255	Lin. Ft.	Abutment Drains
972	Lump Sum	Reinforcing Structural Steel
255	Lin. Ft.	Pipe Removal (Material & Painting only)
5	Cu. Yds.	Class X Concrete (Precast Backwall Blocks)
972	Sq. Yds.	Portland Cement

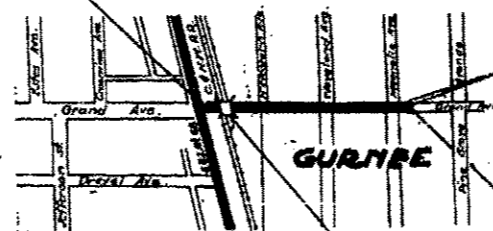
SEC. J3F-FAGM

88400	Lbs.	Structural steel
-------	------	------------------

STATE LINE
COUNTY LINE
CITY, VILLAGE OR TOWN
TOWNSHIP LINE
SECTION LINE
GRANT LINE
SECTION CORNER
FENCE LINE
UNFENCED PROPERTY
RIGHT OF WAY LINE
GUARD RAIL
STEAM RAILROAD
ELECTRIC RAILROAD



Layout Begins
Sta. 1615.0



Proposed Extension (P.C.)
Sta. 2612.0 to 2614.1

Layout Ends
Sta. 2612.0

~ LAYOUT ~

approximate scale 1 in = 400 ft.
Net Length of Layout: 1000.0 ft. = 0.2000 Miles

SEC. J3B-FAGM-INCLUDES

Construction of the substructure for steel girder bridge, 1 span of each end & spans of 25 ft. including the furnishing and delivery to the site of structural steel for the piers. Also includes furnishing and application of paint for cast piers. Also includes furnishing and application of paint for cast piers, painting and the field cast of paint for the superstructure, furnishing and painting pipe handrail and furnishing Deck Drains and class X concrete (Precast Backwall Blocks) for the bridge at Sta. 1615.0.

SEC. J3F-FAGM-INCLUDES

Furnishing and fabrication of structural steel for the superstructure and piers, 1 span of 25 ft. - 2 spans of 25 ft., and furnishing and application of paint for shop cast of paint and delivery to the bridge site for the bridge at Sta. 1615.0.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS

DESIGNED: May 17, 1938
C.H. APPLE

EXAMINED: [Signature]
E.D. [Signature]

APPROVED: [Signature]
[Signature]

APPROVED: [Signature]
[Signature]

RECOMMENDED FOR APPROVAL

DISTRICT ENGINEER, Bureau of Public Works

RECOMMENDED FOR APPROVAL

CHIEF ENGINEER, Bureau of Public Works

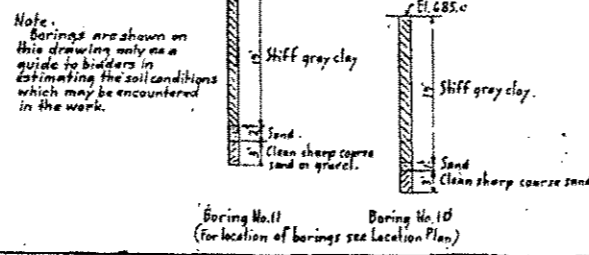
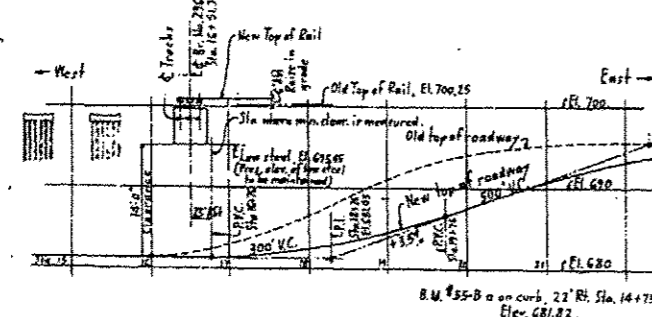
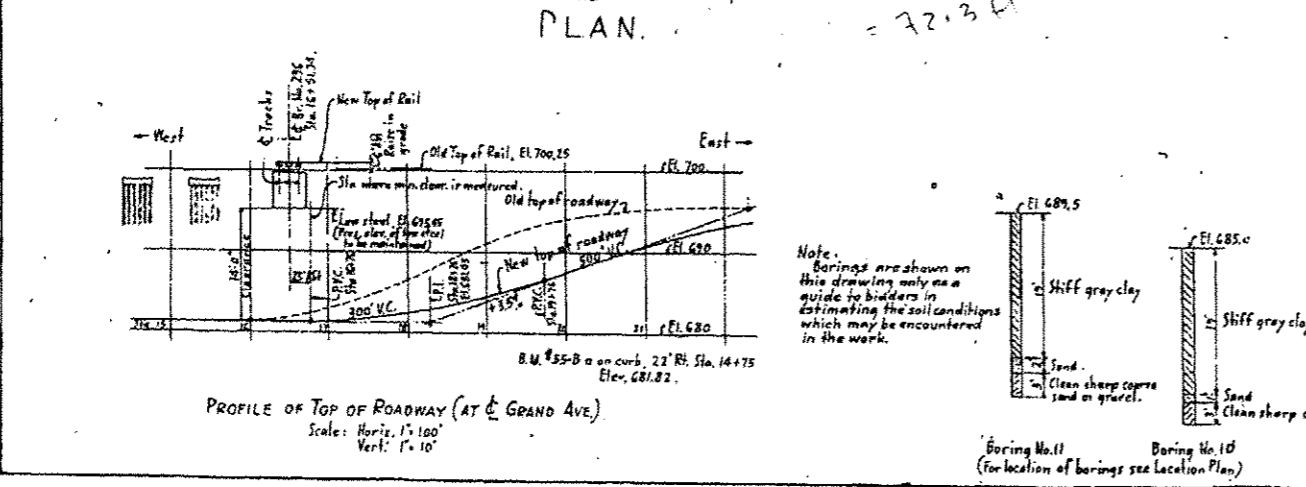
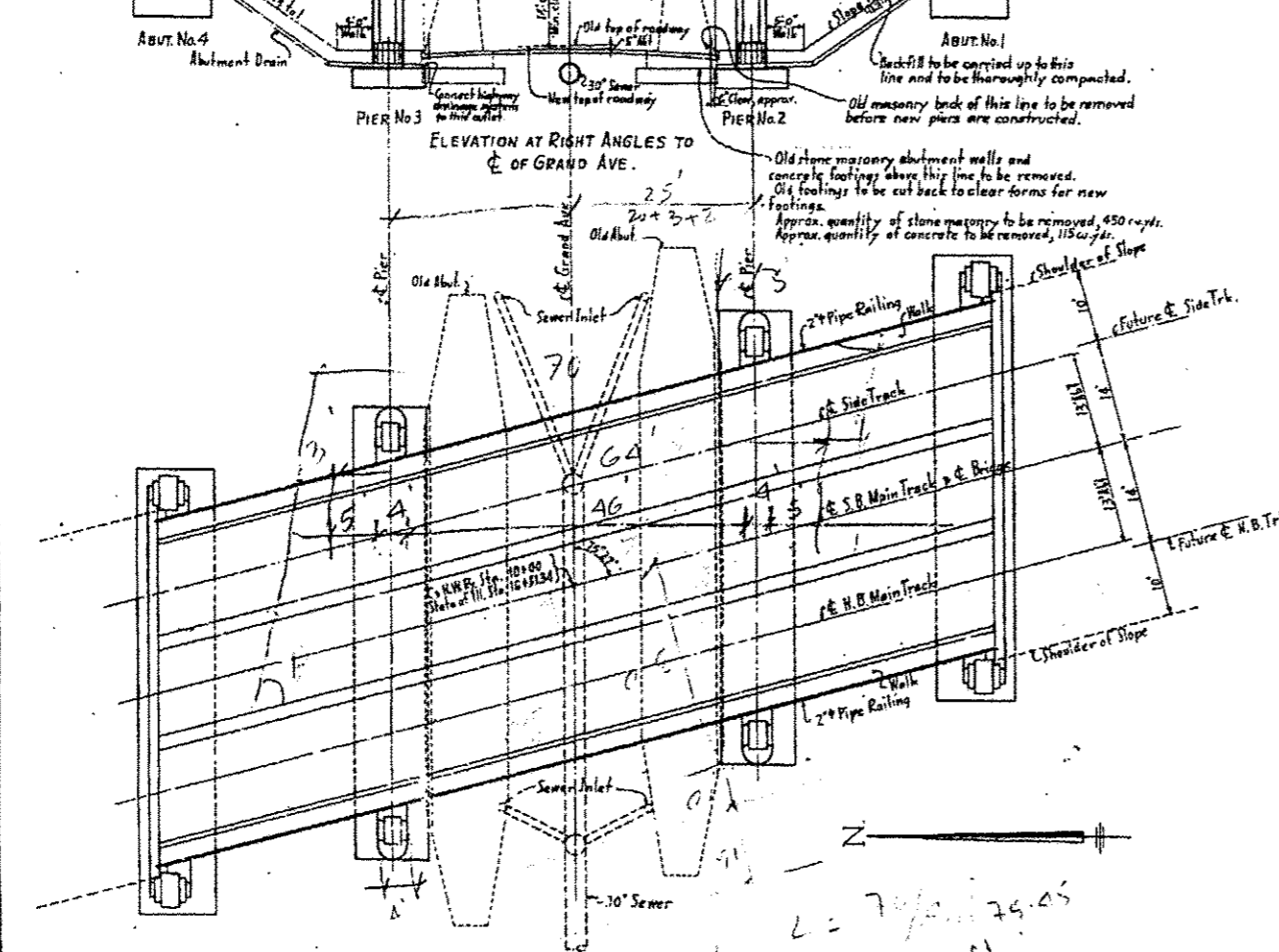
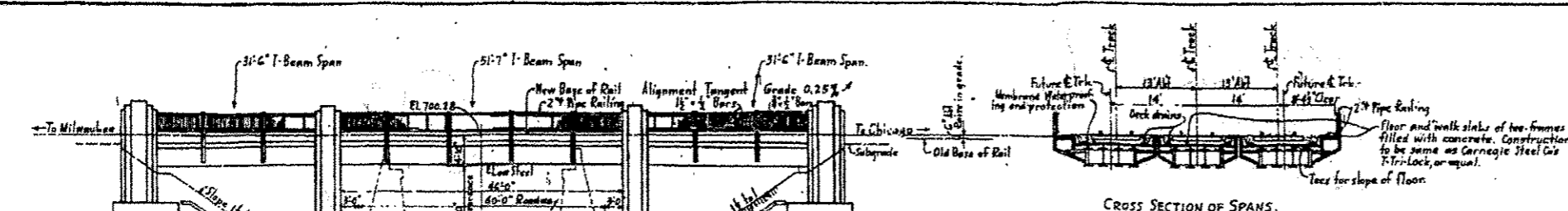
APPROVED

CHIEF, Bureau of Public Works

M.C.B. - 6-10-38

LAKE COUNTY SECTION J5 } FAGM ROUTE S.A. 6
J3B }
J3F }

DATE	2/22/17	PROJECT	LAKE	22	15
STATE	ILL.	F.A.G.M. PROJECT NO.	41C8	FISCAL YEAR	1978
TOTAL SHEETS		TOTAL PROJECT		TOTAL SHEETS	
14		22		36	



- (A) To be removed by C. & N. W. Ry.
 - (B) Materials to be furnished and placed by C. & N. W. Ry.
 - (C) Materials to be furnished only, by Contractor, and to be placed by C. & N. W. Ry., except for 74,000 lbs. of structural steel in piers to be erected by S. B. Contractor.
- + Payment included in contract unit price bid for class of concrete involved.

LIST OF DRAWINGS FOR BRIDGE No. 296.

C&N.W.R. DRAWING NO.	TITLE OF DRAWING.
22615	General Plan.
22616	Substructure - Abutments Nos. 1 & 4.
22617	Substructure - Piers Nos. 2 & 3.
22618	Superstructure - Spans & Benls.
22619	Superstructure - Floor Details.
22620	Deck - Waterproofing, Benls & Conc. Filling.
22621	Pipe Handrail.
22622	Falswork.

TABLE OF APPROXIMATE QUANTITIES FOR ENTIRE BRIDGE.

Description	Unit	Abut. 1 & 4	Piers 2 & 3	Superstr.	Falswork	TOTAL
Removal of existing bridge structural steel	lb.					113495
Removal of existing concrete abutment	cu. yd.					520
Removal of existing concrete pier	cu. yd.					75
Earth backfill in Railroad embankment	cu. yd.	520				520
Gravel or crushed stone ballast	cu. yd.	75				75
Class X Concrete (Floor, Benls, Benls at falsework)	cu. yd.	930	260			590
Class X Concrete (Floor, Benls, Benls)	cu. yd.			90		90
Reinforcement bars	lb.	8600	17640	650		26890
Welded wire fabric	sq. ft.	1425				1425
Structural steel (Furnish only)	lb.	74000	476000			550000
Copper bearing structural steel (Furnish only)	lb.		110000			110000
Cast steel (Furnish only)	lb.		4000			4000
Galvanized metal deck Benls (Furnish only)	sq. ft.		720			720
Abutment drains	lin. ft.	250				250
Painting Structural Steel	sq. ft.					250
Waterproofing, at Benls	sq. ft.	360				360
Waterproofing, deck	sq. ft.		6300			6300
Asphalt mastic	cu. yd.		17			17
Asphalt plank	sq. ft.		4800			4800
Pipe Handrail (Furnish with Paint only)	lin. ft.		235			235
Crushed stone ballast for bridge deck	cu. yd.		180			180
Untreated lumber (Falswork)	MBM				50	50
Untreated piling	lin. ft.				2840	2840
Hardware	lb.				3100	3100
Portland Cement	bbi.	528	416	48		992
Class X Concrete, Precast Benls Backwall blocks	cu. yd.	5				5
Structural Steel (erection only)	lbs.		74000			74000

GENERAL NOTES

Specifications for design: "Steel and Concrete Structures-AREA Manual", 1935.

Specifications for design: "Steel and Concrete Structures-AREA Manual", 1935.

Specifications for material and workmanship: "Steel and Concrete Structures-AREA Manual", 1935.

Specifications for Fusion Welding, American Welding Soc., 1936.

Waterproofing and asphalt plank, "Steel and Concrete Structures-AREA Manual", 1935.

Except as otherwise provided material and workmanship shall conform to Standard Specifications for Road and Bridge Construction of the State of Illinois Division of Highways, adopted July 1, 1935.

All exposed surfaces of concrete masonry shall have a surface finish in accordance with State Specifications.

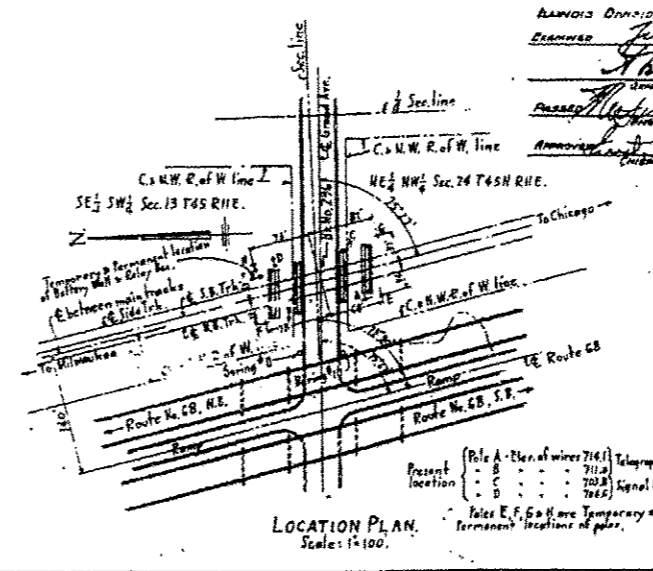
Bridge shall be level.

Openings used for highway.

Heavy lines indicate new work.

Light lines indicate old work.

Information for this drawing taken from Plan and Profile received Oct. 26, 1937, and from plan showing borings received Nov. 10, 1937, furnished by Illinois Division of Highways, also from Situation Plan furnished by Office of Division Engineer, C. & N. W. Ry., dated Chicago, Ill., Nov. 26, 1937, and plan dated 4-19-38. Elevations refer to datum used by Illinois Division of Highways.



ILLINOIS DIVISION OF HIGHWAYS
 EXAMINED June 6 1938
 Approved by State Engineer
 Approved by Division Engineer

See agreement with State of Illinois Division of Highways.

C. & N. W. R. Y.
 WISCONSIN DIV.
 BRIDGE No. 296.

Over Grand Ave. (S.A. Route No. 6)
 0.1 MI. South of Channahon, Ill.

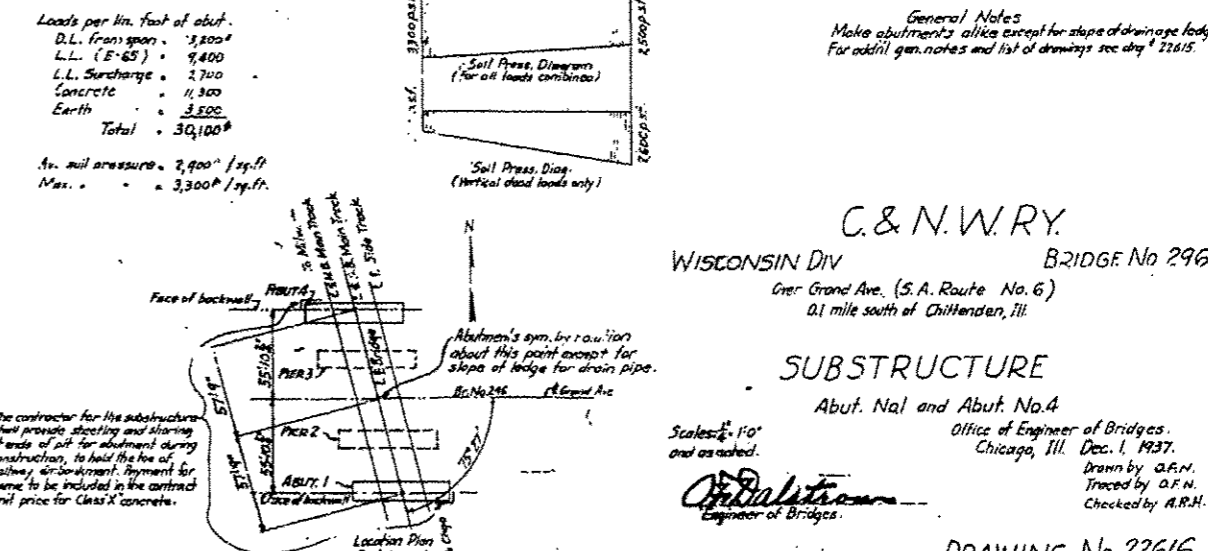
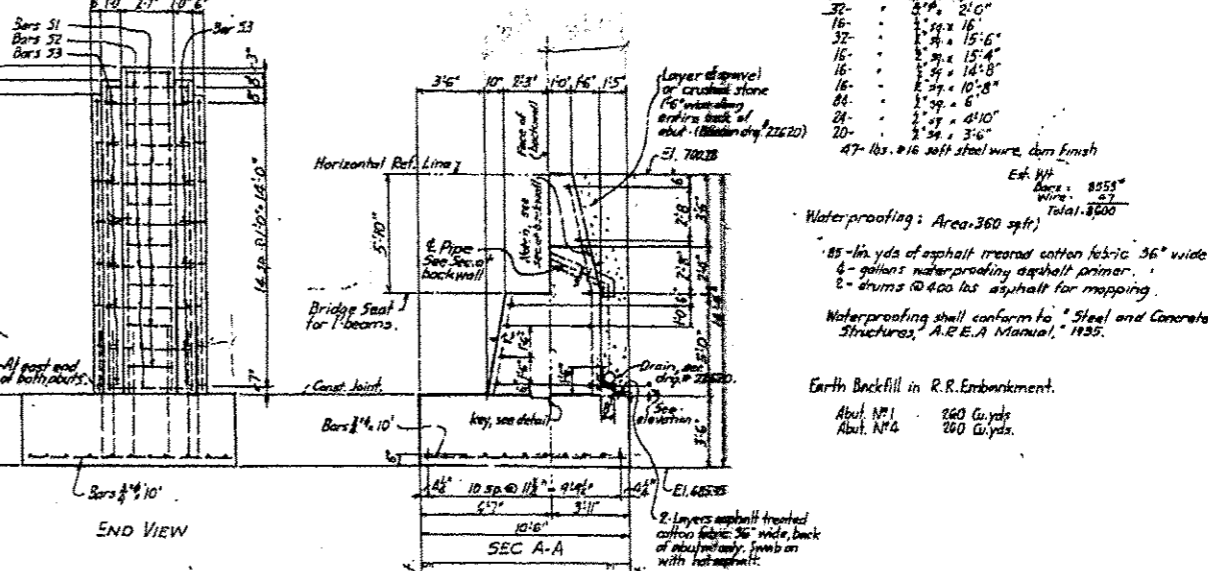
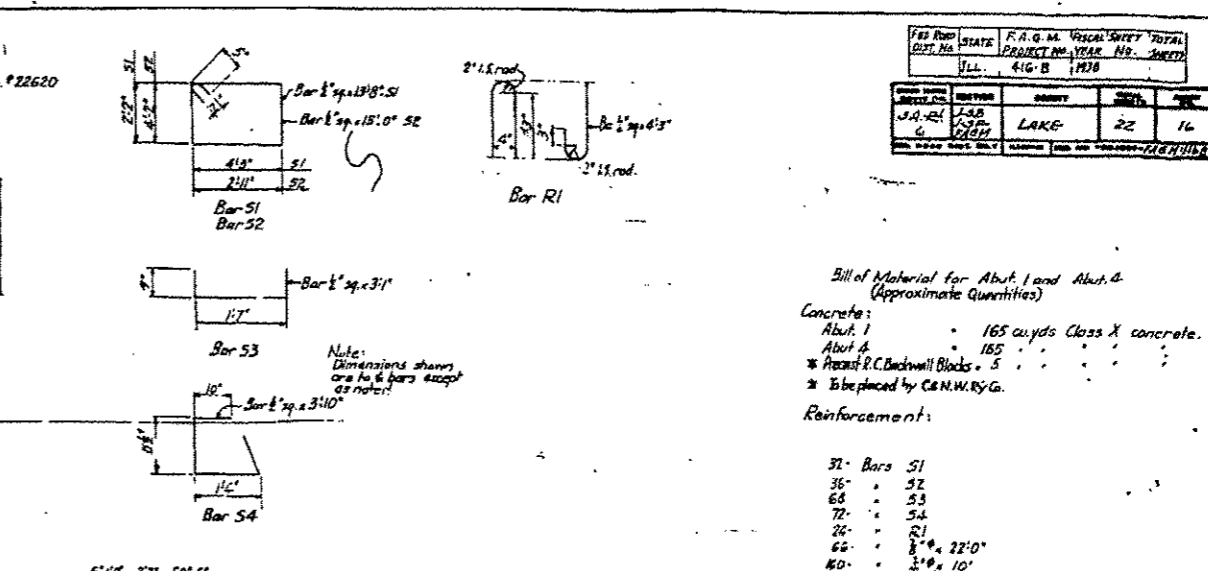
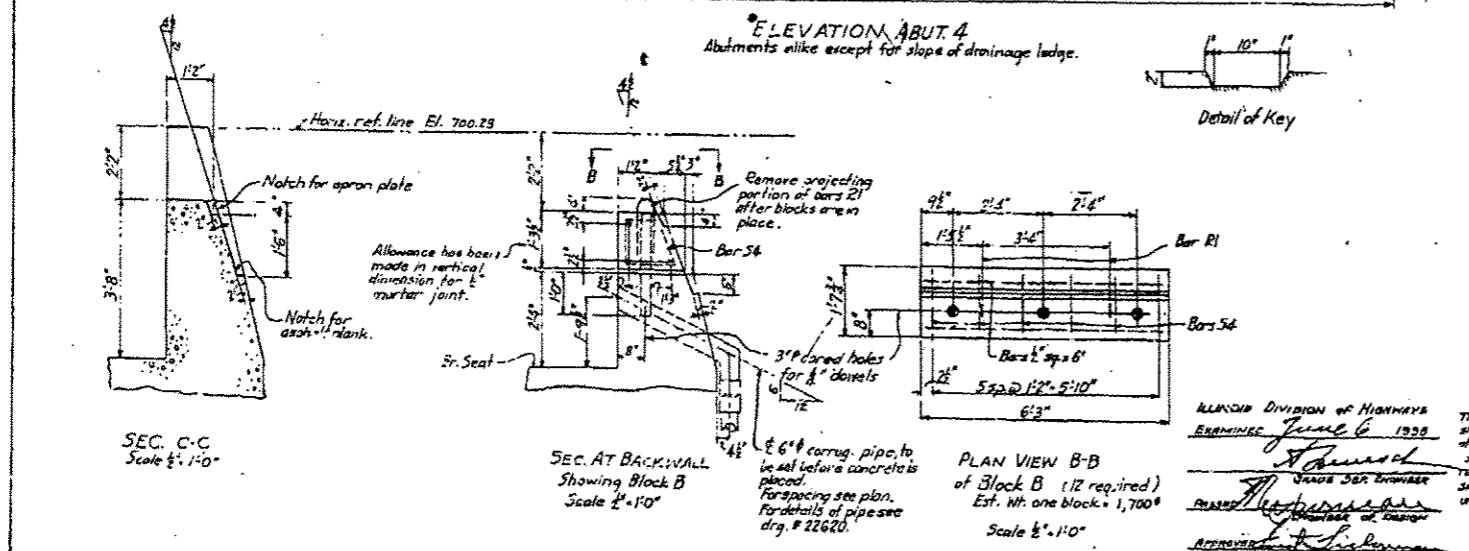
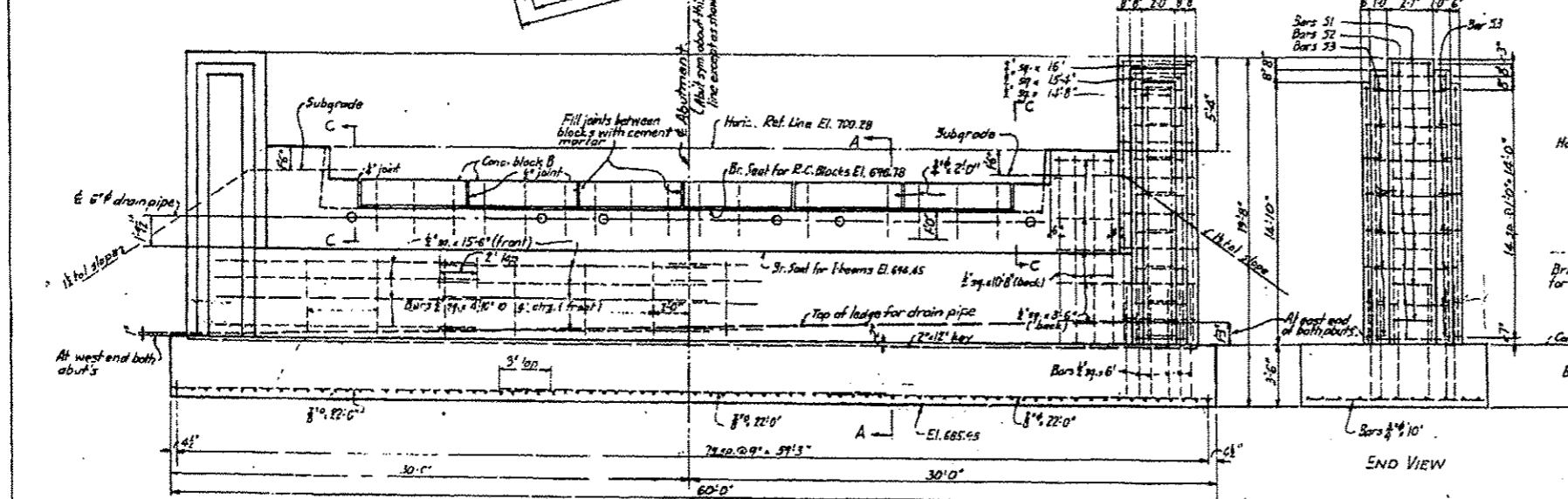
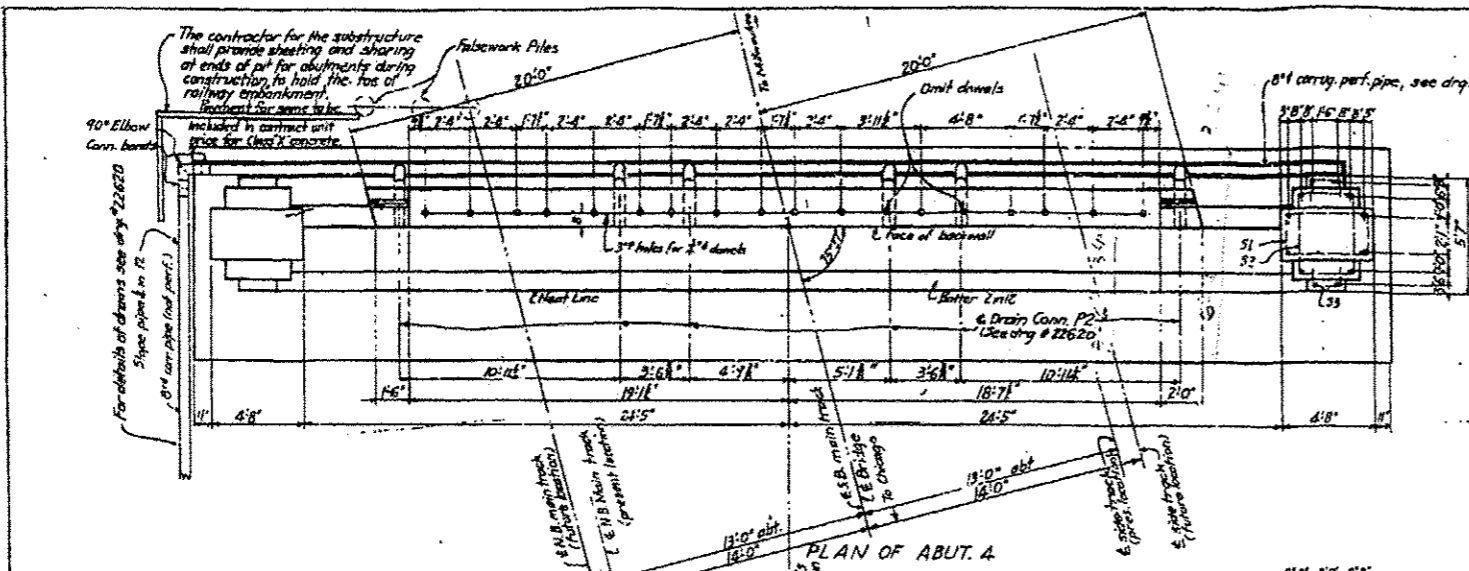
GENERAL PLAN.
 QUANTITIES AND LIST OF DRAWINGS.

Office of Engineer of Bridges,
 Chicago, Ill., Dec. 21, 1937.

Drawn by D.E.P.
 Traced by D.E.P.
 Checked by A.R.H.

Engineer of Bridges

DRAWING No. 22615.



Proj. No.	State	F.A.M. No.	Scale	Sheet No.	Total Sheets
346	ILL.	410-B	1:20	22	16

Bill of Material for Abut. and Abut. A
(Approximate Quantities)

Concrete:
 Abut. 1 165 cu yds Class X concrete.
 Abut. A 185
 * Ascast R.C. Backwall Blocks - 5
 * Replaced by C.N.W.R.Y.G.

Reinforcement:

32	Bars 51
36	52
68	53
72	54
26	21
60	22' x 22' 0"
40	22' x 10'
32	22' x 21' 6"
16	22' x 16'
16	22' x 15' 6"
16	22' x 14' 8"
16	22' x 10' 8"
24	22' x 6"
24	22' x 4' 10"
20	22' x 3' 6"

47-lbs. #16 soft steel wire, corr finish
 Est. Wt. 8555#
 wire 27
 Total 8582#

Waterproofing: Area 360 sq ft.
 85-lb. yds of asphalt treated cotton fabric 36" wide.
 4-galons waterproofing asphalt primer.
 2-trucks @ 400 lbs asphalt for mopping.

Waterproofing shall conform to "Steel and Concrete Structures," A.R.E.A. Manual, 1935.

Earth Backfill in R.R. Embankment.
 Abut. No. 1 260 Cu yds.
 Abut. No. 4 260 Cu yds.

Loads per lin. foot of abut.
 D.L. (Span) 1,800#
 L.L. (E-65) 9,400
 L.L. Surcharge 2,700
 Concrete 11,300
 Earth 3,500
 Total 30,100#

4-in. soil pressure = 2,900# / sq. ft.
 Max. = 3,300# / sq. ft.

General Notes
 Make abutments alike except for slope of drainage ledge.
 For add'l gen. notes and list of drawings see dry # 22620.

C. & N. W. R. Y.
 WISCONSIN DIV. BRIDGE No 296
 One Grand Ave. (S.A. Route No. 6)
 0.1 mile south of Chittenden, Ill.

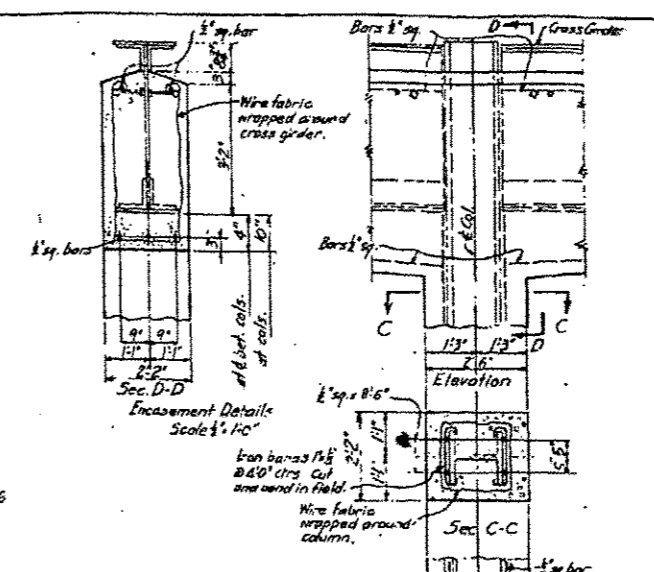
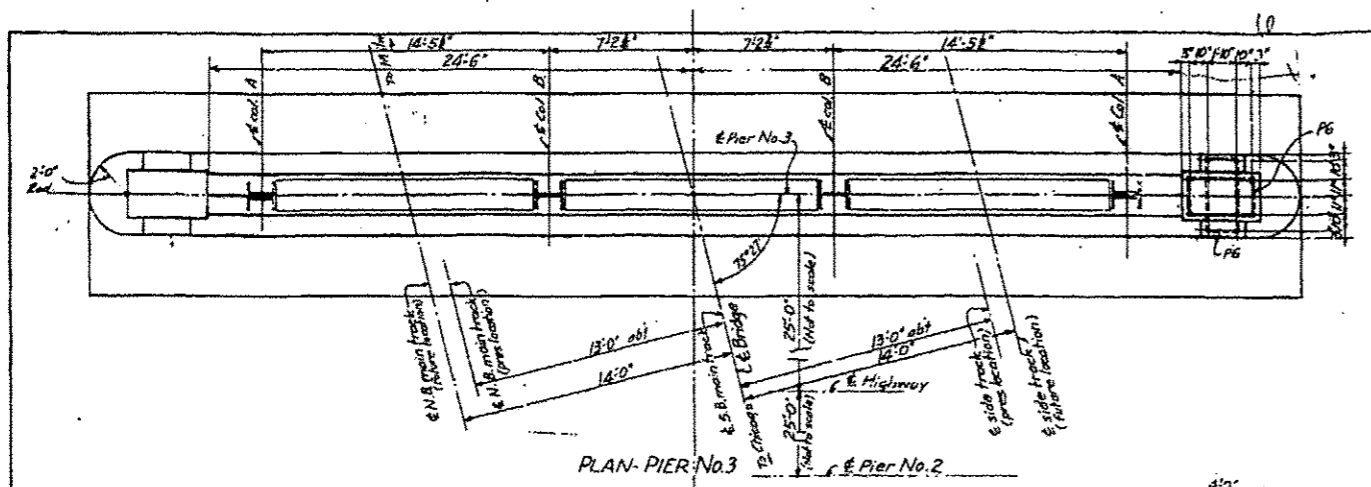
SUBSTRUCTURE
 Abut. No. 1 and Abut. No. 4

Office of Engineer of Bridges,
 Chicago, Ill. Dec. 1, 1937.
 Drawn by A.F.H.
 Traced by A.F.H.
 Checked by A.R.H.

DRAWING No. 22616

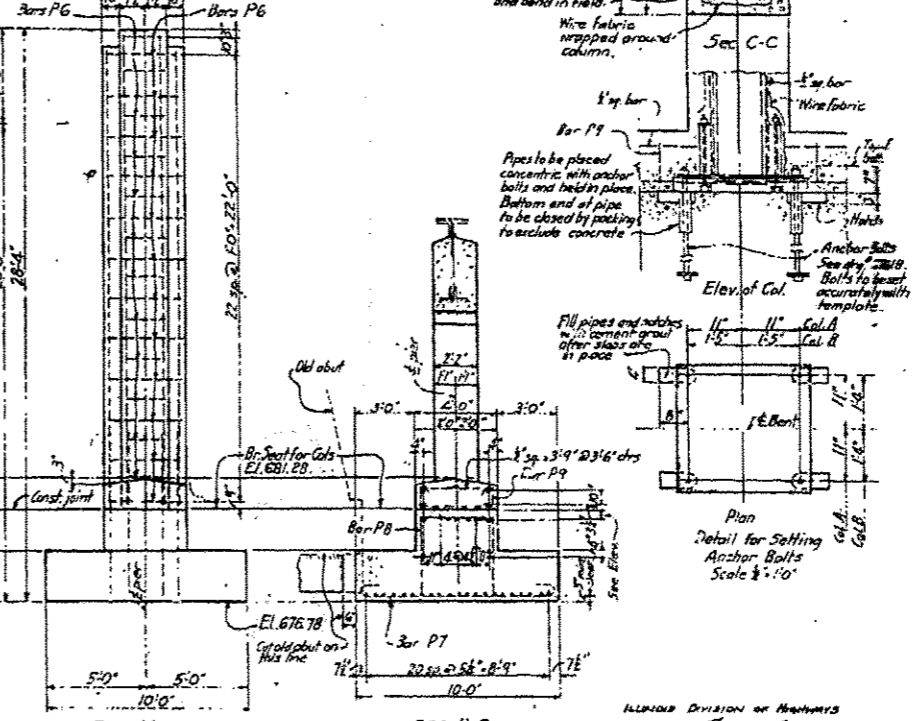
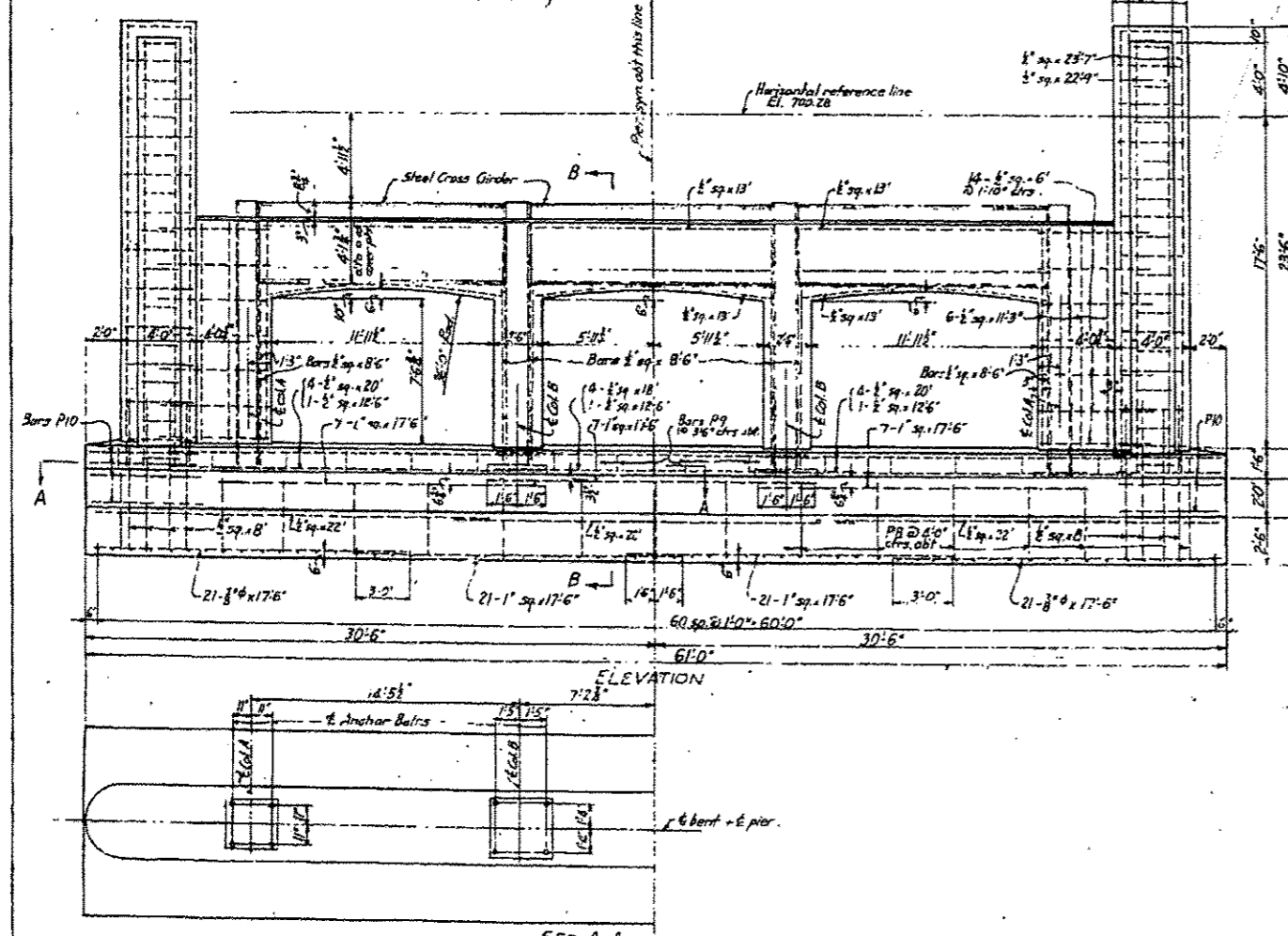
Sheet Added 1-05-17

FED. ROAD DIST. No.	STATE	F.A.O.M. PROJECT No.	YEAR	SHEET No.	TOTAL SHEETS
ILL.	ILL.	416-B	1938	17	361



Bill of Material for Pier No. 2 and Pier No. 3
Approximate Quantities

Concrete:	Pier 2, 130 cu. yds. Class X Concrete	} After deducting volume of structural steel enclosed. (For weight of structural steel in bents see city Mo. 22618)
	Pier 3, 130	
Reinforcement Bars:	Ext. Wt.	30-8 Section - 17,520 #
46 - Bars PG	Wt. 80	
12 - Bars P7		
30 - Bars P8		
32 - Bars P9		
16 - Bars P10		Total - 17,640 #

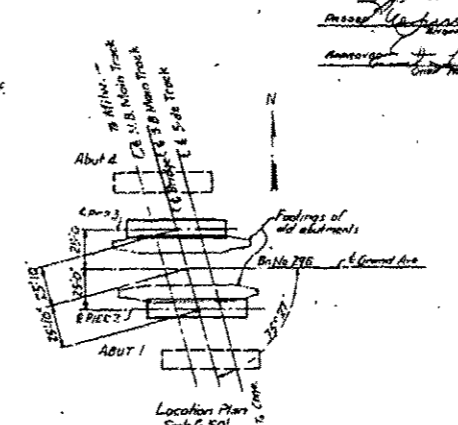
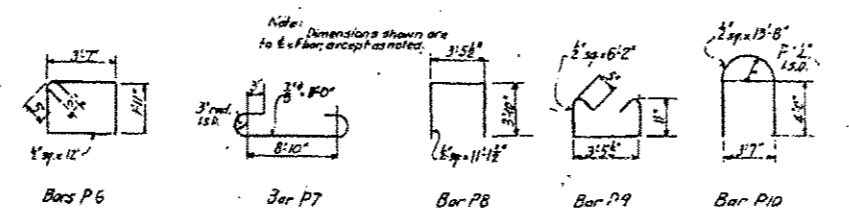


126 - Bars 1" sp. x 17'-6"	
84 - " " " " " " 17'-6"	
12 - " " " " " " 22"	
16 - " " " " " " 20"	
8 - " " " " " " 18"	
30 - " " " " " " 5"	
16 - " " " " " " 23'-9"	
6 - " " " " " " 2'-6"	
24 - " " " " " " 11'-3"	
24 - " " " " " " 8'-6"	
56 - " " " " " " 6'	
32 - " " " " " " 8'	
32 - " " " " " " 3'-9"	
90 - lbs. #16 soft steel wire, ann. finish.	
70 - lin. feet bandiron 1" x 8"	

Loads on entire pier:
 D.L. from spans - 552,000 #
 L.L. (E65) - 166,000
 Bents (Cont. + Steel) - 113,000
 Concrete - 437,000
 Total - 1,268,000 #
 Average soil pressure - 1,400 p.s.f.

ILLINOIS DIVISION OF HIGHWAYS
 EXAMINED June 6, 1938
 Approved James G. ...
 Approved ...

General Notes
 Make pers alike
 For general notes and list of drawings see city # 22615



C. & N. W. R. Y.
 WISCONSIN DIV. BRIDGE No. 296
 Over Grand Ave. (S.A. Route No. 6)
 0.1 mile south of Chittenden Ill.
SUBSTRUCTURE
 Pier No. 2 and Pier No. 3.
 Office of Engineer of Bridges,
 Chicago Ill., Dec. 20, 1937
 Drawn by O.F.H.
 Traced by O.F.H.
 Checked by A.R.H.
ENGINEER OF BRIDGES
 DRAWING No. 22617

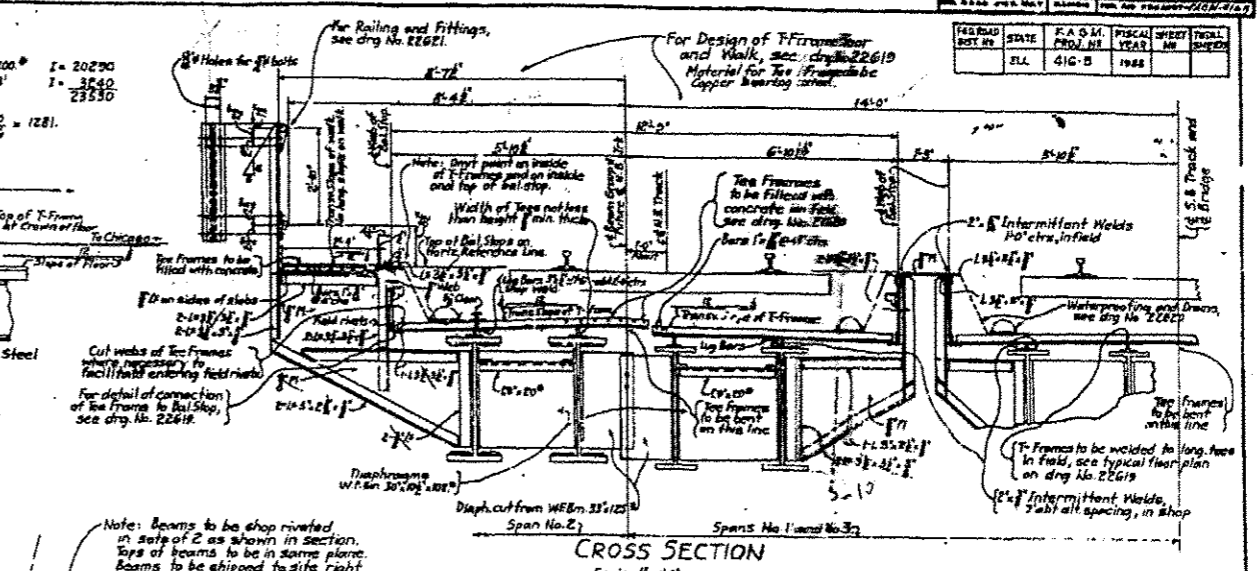
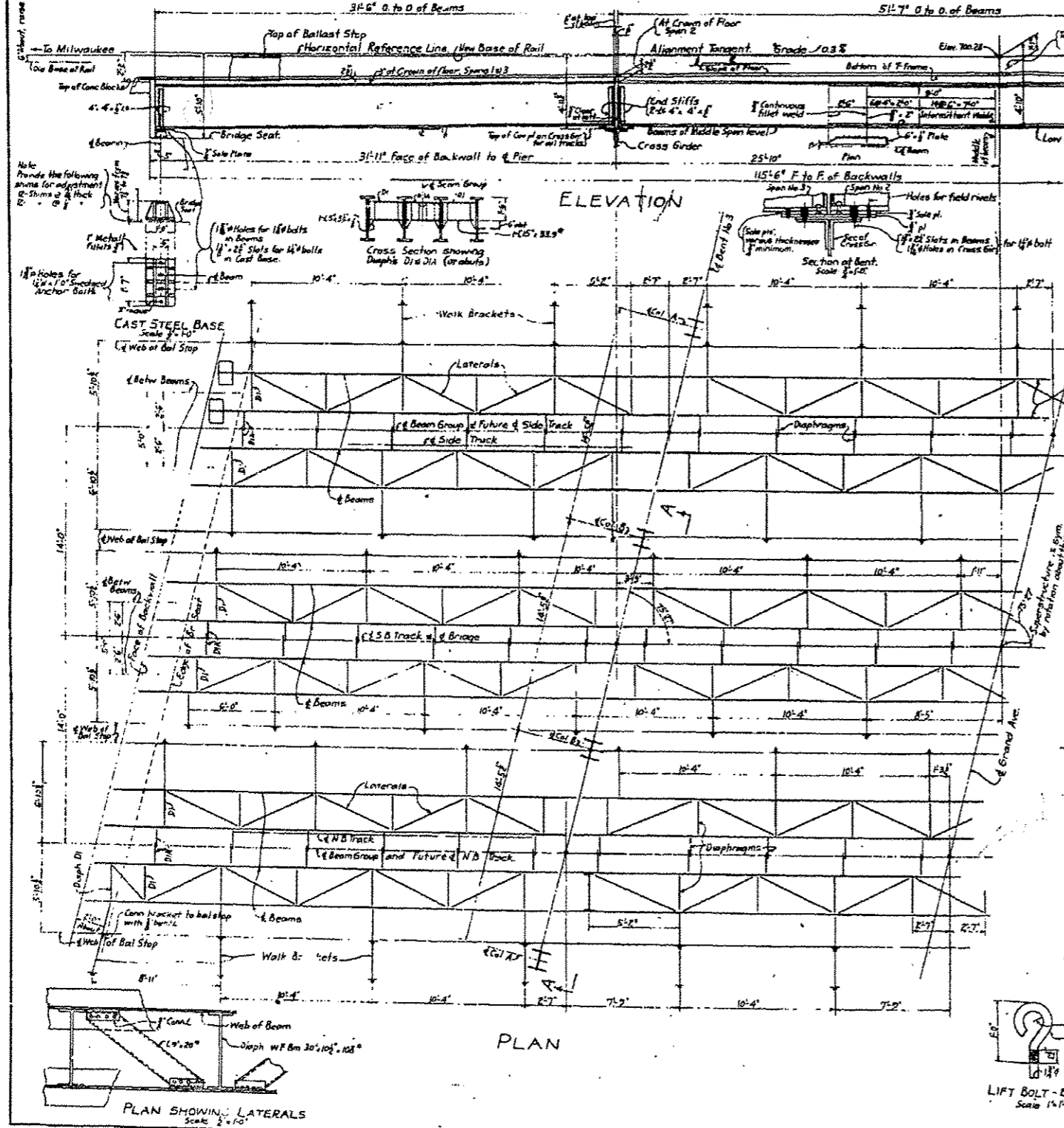
Sheet Added 1-05-17

NO.	DATE	BY	REVISION
1	1/22/17	LAK	22
2	1/22/17	LAK	18

DESIGN OF BEAMS

SPAN No. 1 AND No. 3
 Shear per beam: $V = 17000$
 Moment per beam: $M = 132000$
 Masonry bearing: $SM = 825400 \times 12 = 5681760$

SPAN No. 2
 Shear per beam: $V = 17000$
 Moment per beam: $M = 132000$
 Masonry bearing: $SM = 825400 \times 12 = 5681760$



DESIGN OF CROSS GIRDERS

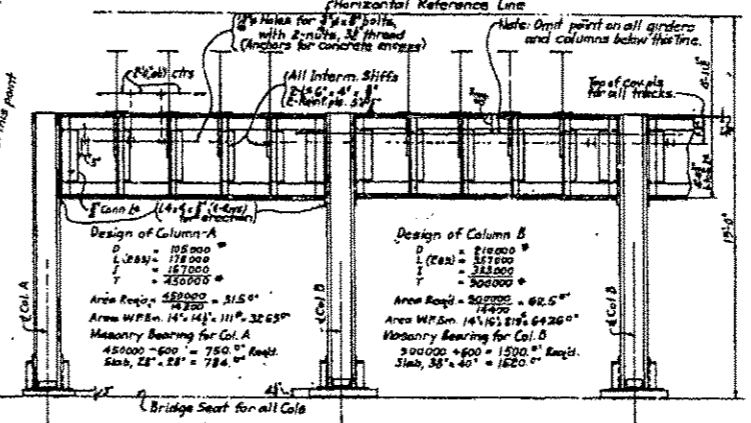
Shear: $V = 17000$
 Moment: $M = 132000$
 Section: $I_g = 20290$
 Net SM Req'd = 1281

BILL OF MATERIAL

2-30'4\"/>

APPROX WEIGHTS

TYPE	SPAN 1	SPAN 2	BENTS	TOTAL
Steel	21000	206000	74000	529000
Concrete	60000	60000	110000	230000
Masonry	4000	4000	4000	12000
TOTAL	275000	315000	148000	738000



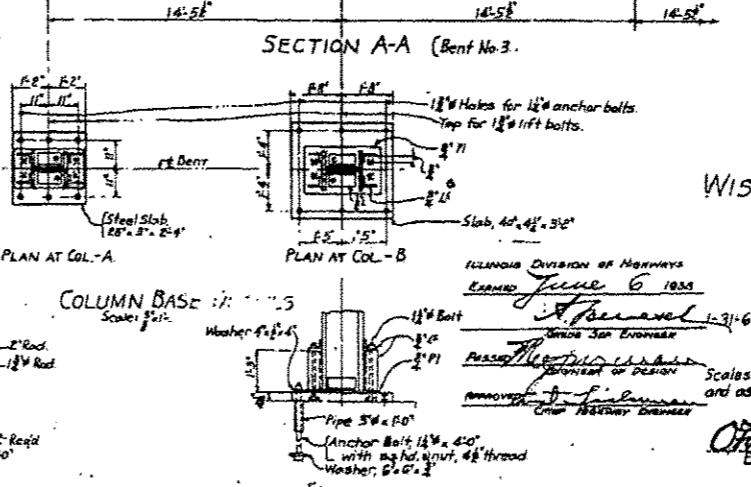
GENERAL NOTES

Specifications: Steel and Concrete Structures AREA Manual 1935, except as noted for Welding and Reinforcement.

Welding: Specifications for fusion welding, American Welding Society, dated 1936.

Live Load: Cooper's CLASS E65.

Roadway: 14'-0\"/>



C. & N.W.R.Y.
WISCONSIN DIV. BRIDGE No. 296
 Over Grand Ave. (S.A. Route No. 6)
 0.1 Mi. south of Chittenden, Ill.

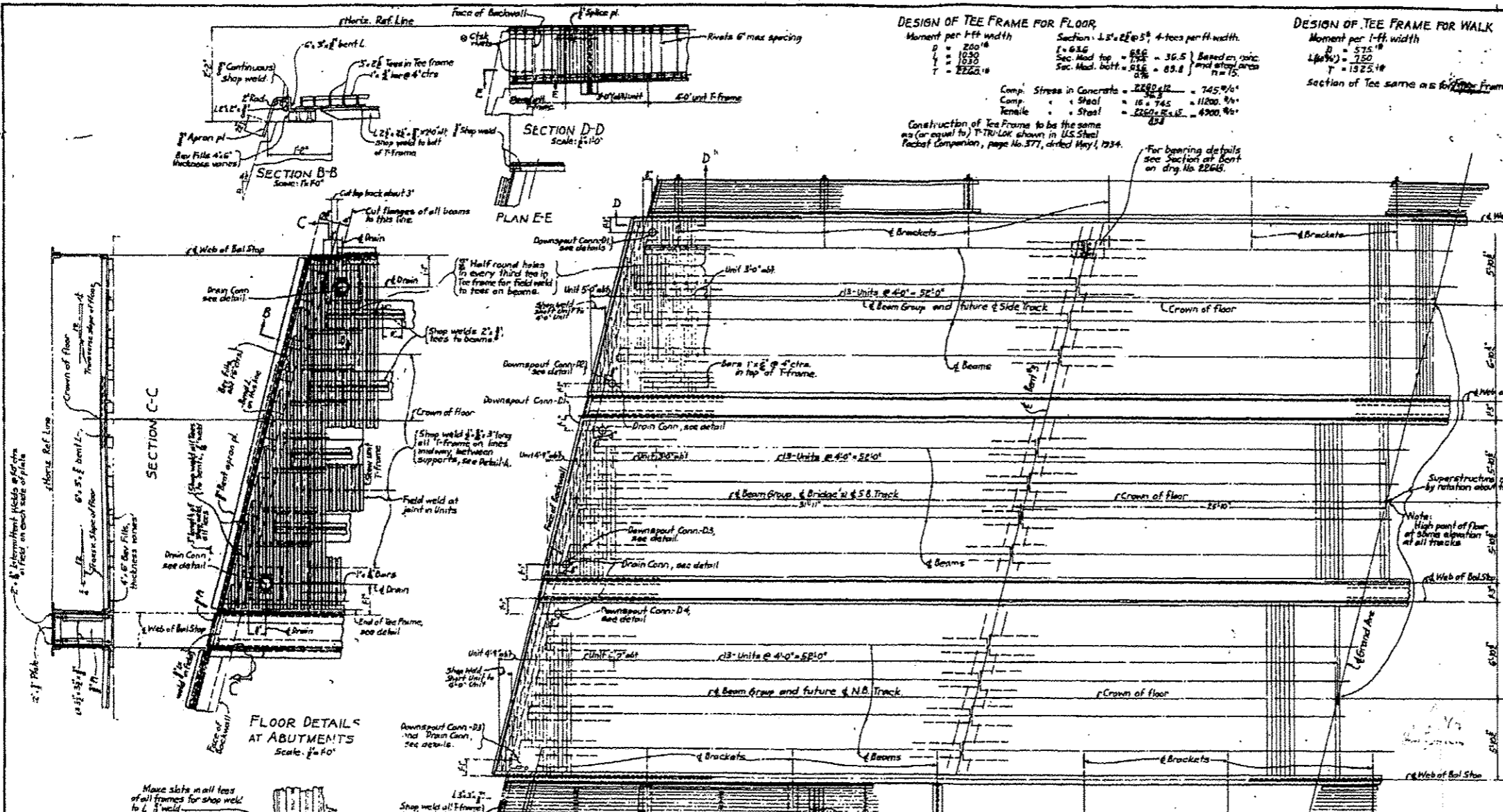
SUPERSTRUCTURE

Office of Engineer of Bridges
 Chicago, Ill. December 22, 1937

Drawn by L.A.
 Traced by R.T.
 Checked by R.R.H.

DRAWING No. 22618

PERIOD	STATE	F.A.S.M.	FISCAL	SHEET	TOTAL
EST. NO.	ILL.	410-0	DSM	22	17



DESIGN OF TEE FRAME FOR FLOOR
 Moment per ft width
 $M = 220^2$
 $L = 1830$
 $T = 2222.18$

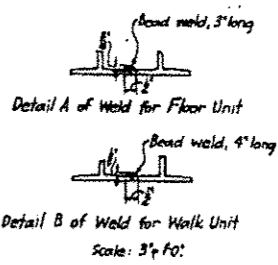
Section: $4.5' \times 22' \times 5'$, 4-tees per ft width.
 $I = 63.6$
 $S_{ec. Mod. top} = 56.6 = 36.5$ Based on r_{min}
 $S_{ec. Mod. bott.} = 63.6 = 63.8$ and r_{min} area $r_{min} = 7.5$

Comp. Stress in Concrete = 2280 psi = 745.9%
 Comp. " " Steel = 16 x 745 = 11920.0%
 Tensile " " Steel = 2280 x 4.5 = 10260.0%

Construction of Tee Frame to be the same as (or equal to) T-TRUCK shown in U.S. Steel Factbook Companion, page No. 377, dated May, 1934.

DESIGN OF TEE FRAME FOR WALK
 Moment per 1-ft width
 $M = 575^2$
 $L = 1750$
 $T = 1323.18$

Section of Tee same as in floor frame for floor



GENERAL NOTES
 For design of spans and bents and additional general notes, see drawing No. 22618.

Work this drawing with drawing No. 22618.

ILLINOIS DIVISION OF HIGHWAYS
 EXAMINED June 6 1938
[Signature]
 CHIEF ENGINEER
 APPROVED [Signature]
 CHIEF OF DESIGN
 APPROVED [Signature]
 CHIEF MECHANICAL ENGINEER

C. & N.W.R.Y.
 WISCONSIN DIV. BRIDGE No. 296
 Over Grand Ave. (S.A. Route No. 6)
 0.1-Mile South of Chittenden, Ill.

SUPERSTRUCTURE
 Floor Details.

Scales: $1/4" = 1'-0"$
 and as noted.

Office of Engineer of Bridges
 Chicago, Ill. December 29, 1937
 Drawn by L.A.
 Traced by R.T.B.
 Checked by A.R.H.

DRAWING No. 22619

NO.	DATE	BY	REVISION
1	11/20/35	J.M.	PREPARED
2	1/20/36	J.M.	REVISED
3	1/20/36	J.M.	REVISED
4	1/20/36	J.M.	REVISED
5	1/20/36	J.M.	REVISED
6	1/20/36	J.M.	REVISED
7	1/20/36	J.M.	REVISED
8	1/20/36	J.M.	REVISED
9	1/20/36	J.M.	REVISED
10	1/20/36	J.M.	REVISED
11	1/20/36	J.M.	REVISED
12	1/20/36	J.M.	REVISED
13	1/20/36	J.M.	REVISED
14	1/20/36	J.M.	REVISED
15	1/20/36	J.M.	REVISED
16	1/20/36	J.M.	REVISED
17	1/20/36	J.M.	REVISED
18	1/20/36	J.M.	REVISED
19	1/20/36	J.M.	REVISED
20	1/20/36	J.M.	REVISED

Bill of Material & Approximate Quantities

- Concrete Filling for Tee-frame:** By C.&N.W.R.Y.
 30- cubic yards Class X Concrete
 Concrete to conform to state spec except size aggregate to pass # 8' mesh slump to be not more than 2 inches. (720 cu ft.)
- Deck Drains:**
 6- Deck Drains - D1
 12- Drain connections - P1
- Abutment Drains:** (250 cu ft.)
 17- Drain Connections - P2
 12- pcs 6" corrugated pipe #16 ga. complete with tees and connecting bands. (Vertical drains)
 14- pcs. 8" corrugated pipe #16 ga., part part. as shown, complete with tees, elbows, connecting bands and plugs (fabric collectors)
 6- pcs. 8" corrugated pipe #16 ga. complete with elbows and connecting bands (fabric collectors)
 Material for deck drains and abutment drains shall be pure iron, galvanized, and conform to state spec.
- Gravel or Crushed Stone Backfill**
 75- cu. yds. gravel or crushed stone.
Balast for Deck: By C.&N.W.R.Y.
 180- cu. yds. crushed stone
- Reinforcement Bars:** (630 lbs.)
 48- Bars 2" sq x 16"
 Bars shall be uniform and conform to state spec.
 4- lbs #16 steel wire, common finish.

Deck Waterproofing: By C.&N.W.R.Y. (6300 sq. ft.)

- 1400- lin. yards asphalt treated cotton fabric 35' wide.
 150- gals. asphalt waterproofing primer
 36- Drums @ 400 lbs asphalt for mopping
 4800- sq. ft. asphalt plank, 1" thick, square edges
- 17- drums @ 400 lbs asphalt } Make 17
 90- sacks of cement } cu. yds of
 10- cu. yds fine aggregate } mastic
 10- cu. yds coarse aggregate }

Specifications for Waterproofing: shall conform to "Steel and Concrete Structures" Manual, 1935
 Application shall conform to "Steel and Concrete Structures" R.E.A. Manual, 1935
 Surfaces to be waterproofed shall be given a uniform coating of primer before applying the fabric and placing the mastic. The surfaces shall be clean and dry when the primer is applied. The primer may be applied with a brush. The mastic shall be heated to a temperature between 250 and 300 degrees Fahrenheit for application.
 The fabric shall be cut in strips of the floor. A strip of fabric shall be cut in short lengths to facilitate placing. The strips shall be laid out from the lowest point of the floor and be laid out from the lowest point of the floor and be laid out from the lowest point of the floor. The mastic shall be applied to the fabric and the fabric shall be applied to the mastic. The mastic shall be applied to the fabric and the fabric shall be applied to the mastic. The mastic shall be applied to the fabric and the fabric shall be applied to the mastic.
 The asphalt planks shall be cut to the required lengths and set in a hot mopping of hot asphalt. They shall be pressed into the asphalt and set in place to conform to the surface on which they are laid. They shall be laid with edges in close contact.

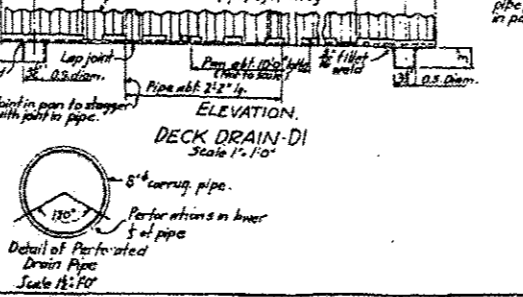
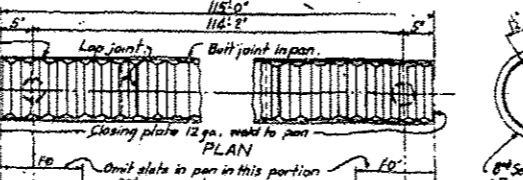
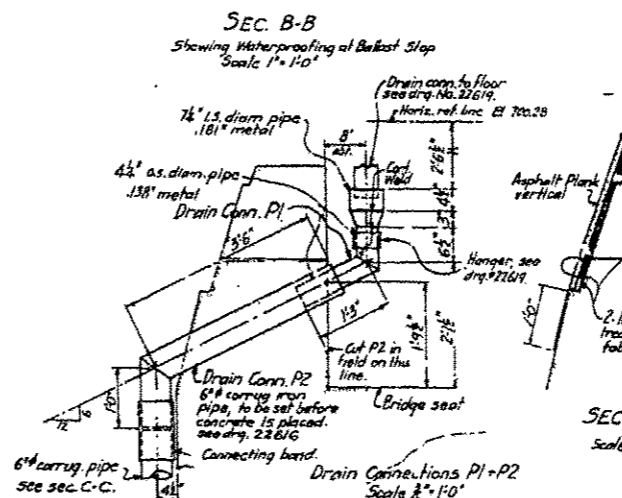
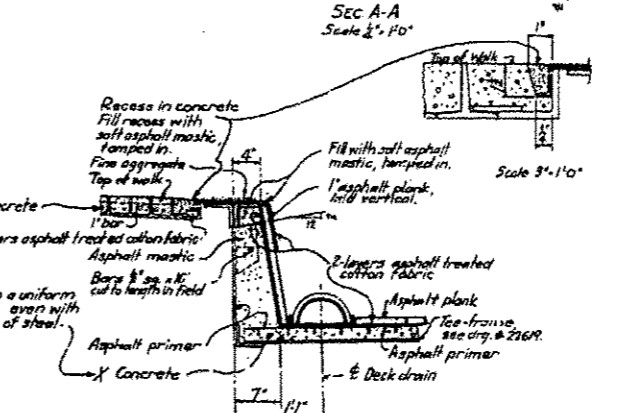
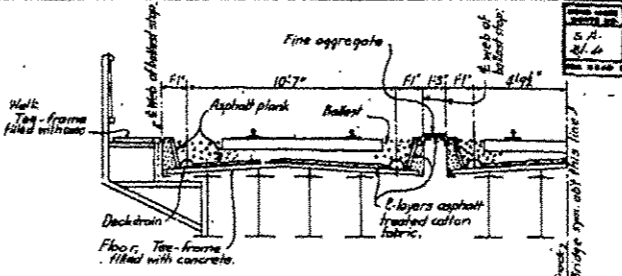
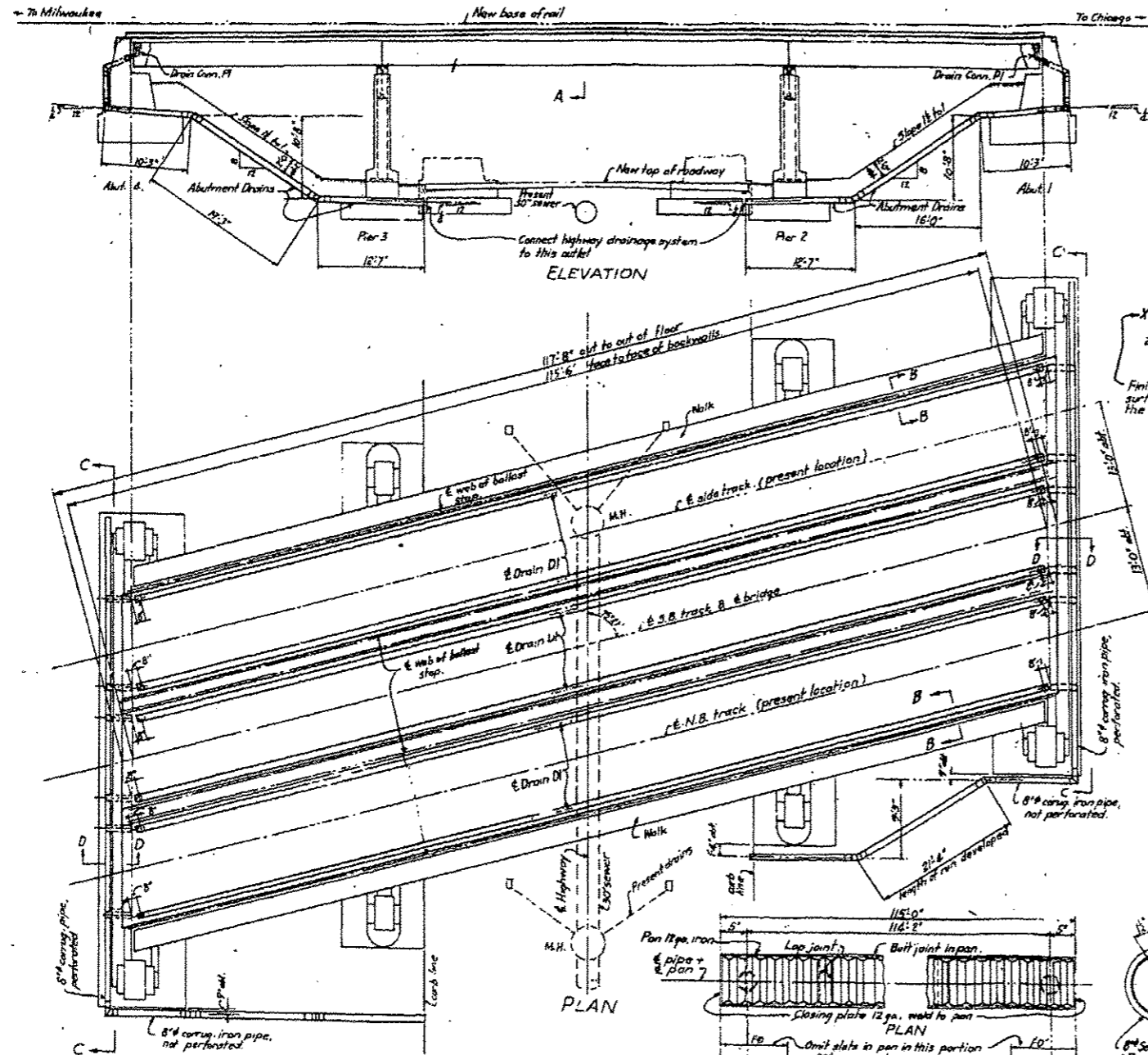
General Notes
 The term "state specifications" refers to the Illinois Division of Highways Standard Specifications for Road and Bridge Construction adopted July 1, 1934.
 For list of drawings and additional general notes see drawing no. 22615.

C.&N.W.R.Y.
 WISCONSIN DIV. BRIDGE No. 296
 Over Grand Ave., (S.A. Route No. 6)
 0.1 mi. south of Chittenden, Ill.

DECK
 Waterproofing, Drains & Concrete Filling for Tee-frames

Office of Engineer of Bridges
 Chicago, Ill., Jan. 6, 1935
 Drawn by O.P.N.
 Traced by O.P.N.
 Checked by J.M.

DRAWING No. 22620



FILE NAME: ...GDKB0.ExistBridgePlans.d
 USER NAME: oafitpatrick
 DESIGNED: -
 CHECKED: -
 DRAWN: -
 CHECKED: -

DESIGNED: -
 CHECKED: -
 DRAWN: -
 CHECKED: -

REVISIONS:
 1/3/2017
 1/3/2017
 1/3/2017
 1/3/2017
 1/3/2017

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

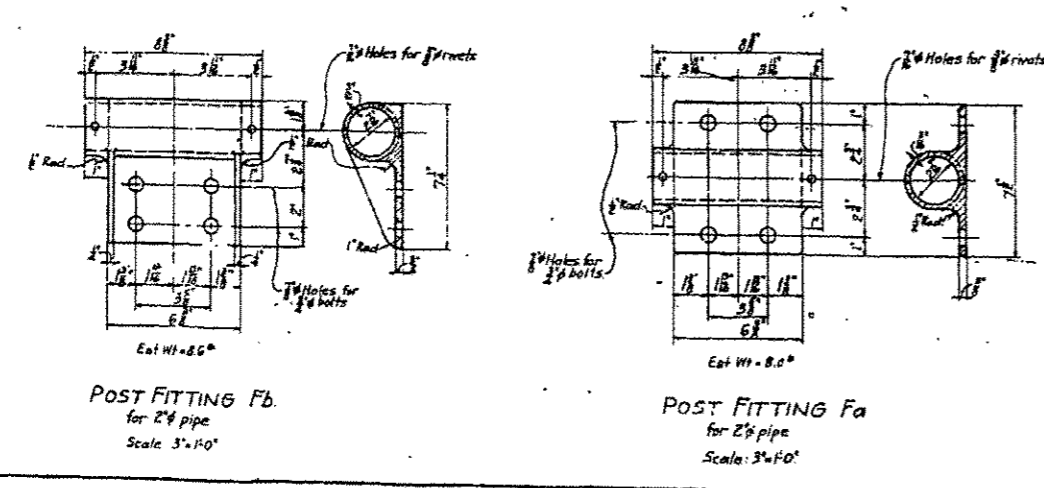
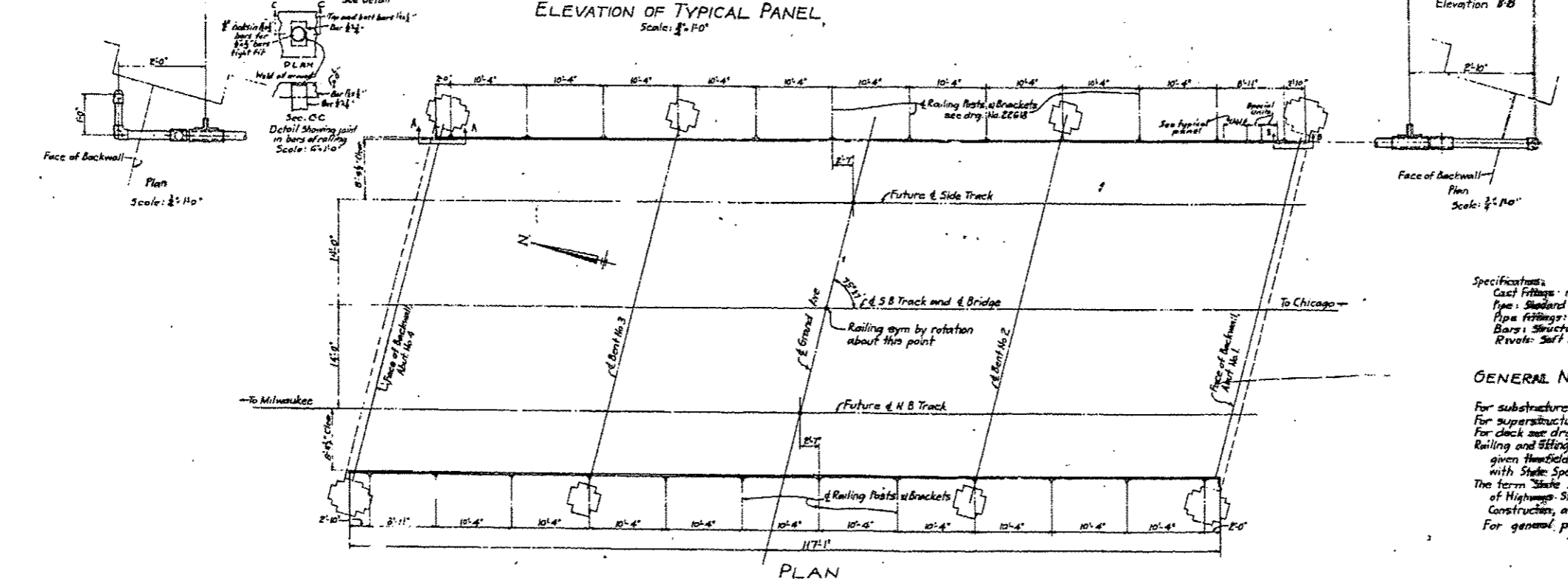
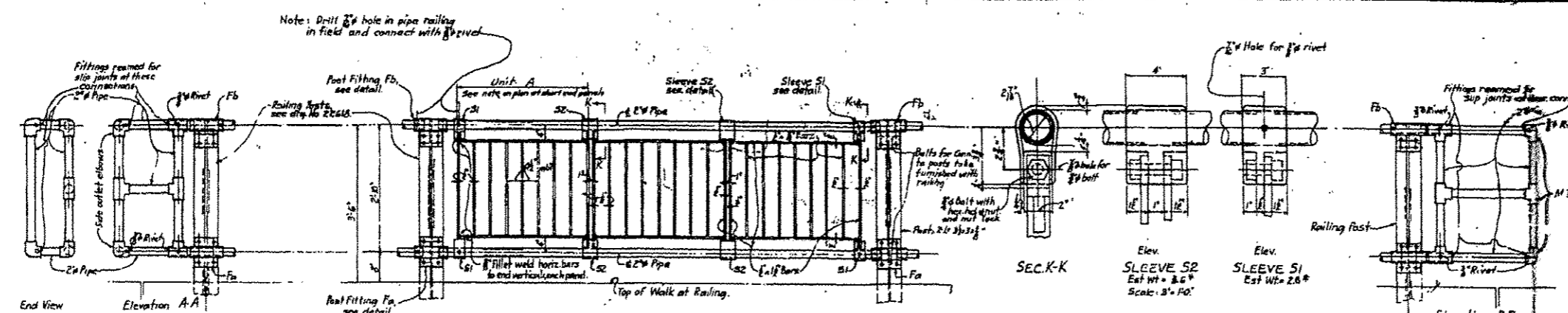
EXISTING BRIDGE PLANS
 UPRR RR OVER IL 132
 SHEET NO. 7 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
346	125X-N&J-SB-B	LAKE	361	2586

CONTRACT NO. 60K80
 ILLINOIS FED. AID PROJECT

Sheet Added 1-05-17

SECTION	DATE	BY	CHKD	TOTAL SHEETS
1	1/3/2017	DAVID PATRICK		22
2				21



BILL OF MATERIAL FOR PIPE HANDRAIL
 To be furnished only by S.B. Contractor to be placed by Ry. Co.

Railing, complete with bar grilles and post fittings
 Approx. Quantity = 235 lin ft (measured horiz)

Approx. Weights:

Fittings	= 960
Bars	= 3150
Pipe	= 1800
Bolts & Rivets	= 285
Total	= 6195

Specifications:
 Cast fittings: malleable iron
 Pipe: standard weight black steel pipe
 Pipe fittings: malleable iron, ball type
 Bars: structural steel
 Rivets: soft steel

Material to conform to the State Specifications

GENERAL NOTES

For substructure, abutments, see drg. No. 22616
 For superstructure, see drgs. No. 22618 and No. 22619
 For deck see drg. No. 22620
 Railing and fittings not to be painted in shop. They are to be given field coats of paint after erection in accordance with State Specifications.
 The term "State Specifications" refers to the Illinois Division of Highways Standard Specifications for Road and Bridge Construction, adopted July 1, 1936.
 For general plan see drg. No. 22615

C & N.W. RY.
 WISCONSIN DIV. BRIDGE NO. 296
 Over Grand Ave (S.A. Route No 6)
 0.1-mi south of Chittenden, Ill.

PIPE HANDRAIL

ILLINOIS DIVISION OF HIGHWAYS
 DRAWING JUL 6 1936

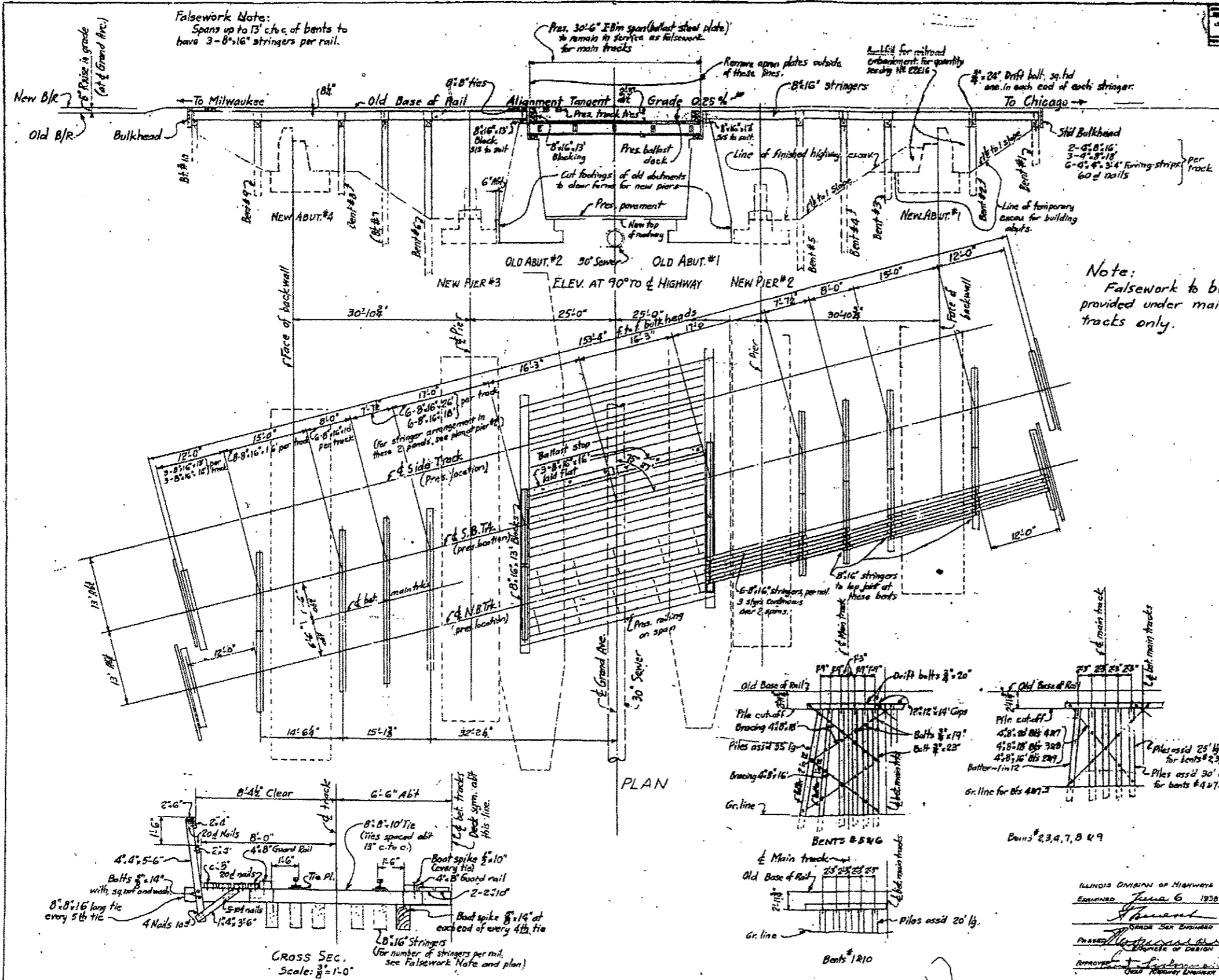
Office of Engineer of Bridges
 Chicago, Ill January 10, 1938

Drawn by: L.A.
 Traced by: R.T.B.
 Checked by: D.R.N.

DRAWING NO. 22621

Sheet Added 1-05-17

DATE	BY	REVISION
1/3/2017	aoftzpatrick	DESIGN
		CHECKED
		DRAWN
		APPROVED



BILL OF MATERIALS
(Complete except for tie plates and stringings)

20	12" x 12" x 16' SISE Cap
24	8" x 16" x 26' SIE to B
24	8" x 16" x 18' SIE to 15'
38	2" x 16" x 16' SIE
12	8" x 16" x 15' SIE
24	8" x 16" x 10' SIE
68	8" x 16" x 16' SIE to 7'
176	8" x 8" x 10' SISE
8	4" x 8" x 20' S/S Bracing
20	4" x 8" x 18' S/S Bracing
36	4" x 8" x 16' S/S Bracing
48	4" x 4" x 34' S/S Railing
24	4" x 4" x 34' S/S Bulkhead
64	2" x 8" x 16' SISE Walk
32	2" x 10" x 16' SISE
16	2" x 6" x 16' S/S Railing
32	2" x 4" x 16' S/S
48	1" x 5" x 3' 6" Post braces

24	treated piles, ass'd 35' lg	2040	lin. ft.
20	"	25'	untreated piling
40	"	20'	"

Hardware:

24	Machine bolts 3/4" x 25' galvanized
216	Drift bolts 3/4" x 26' gal.
272	Drift bolts 3/4" x 20' gal.
136	Machine bolts 5/8" x 14' gal.
130	Drift spikes 3/4" x 10'
440	" " " "
480	2nd cut iron old washers for bolts
96	2nd steel washers for bolts
25	lbs. 602 wire spikes
50	" 202 Common wire nails
10	" 10d "

Note:
Falsework to be provided under main tracks only.

Falsework Note:
All material may be secured in good condition. Stringers shall be Douglas Fir. Sider lumber may be white pine. Sizes and dimensions may vary slightly.

GENERAL NOTES:
Live load: CBWW Class II
For substructure, see Plans 22622, 22623 for Gen. Plan, see 22624 for details.

C. & N.W. RY.
WISCONSIN DIV. BR. NO. 296
Over Grand Ave. (S.A. Route No. 6)
1/2 Mi. south of Chittenden, Ill.

FALSEWORK
For building substructure

Office of Engineer of Bridges
Chicago, Ill. Dec. 11, 1937.

Drawn by: ARH.
Checked by: G.P.M.

DRAWING NO. 22622

ILLINOIS DIVISION OF HIGHWAYS
EXAMINED June 6 1938
APPROVED [Signature]
CHIEF ENGINEER

