

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

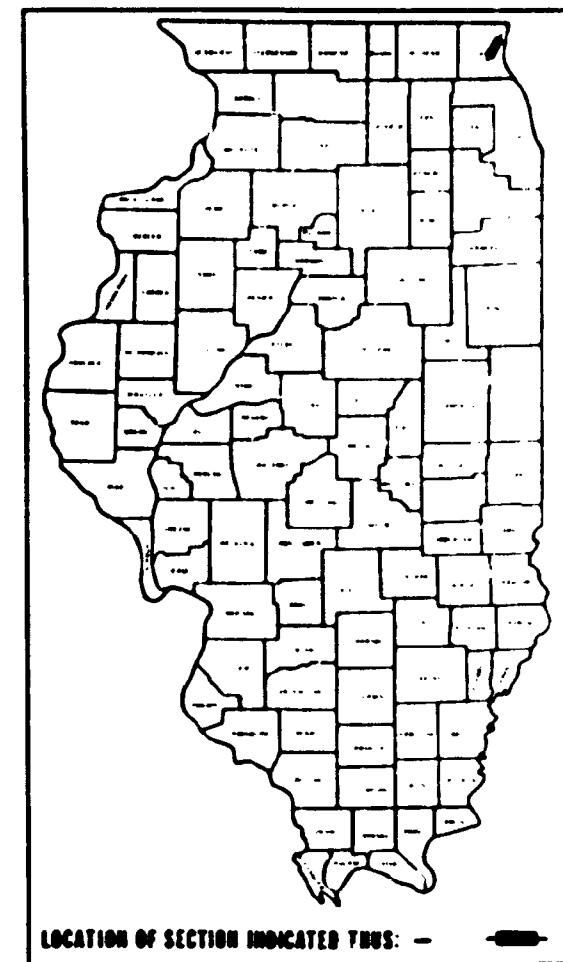
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

FOR INDEX OF SHEETS, SEE SHEET NO.2

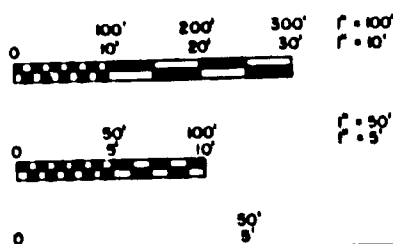
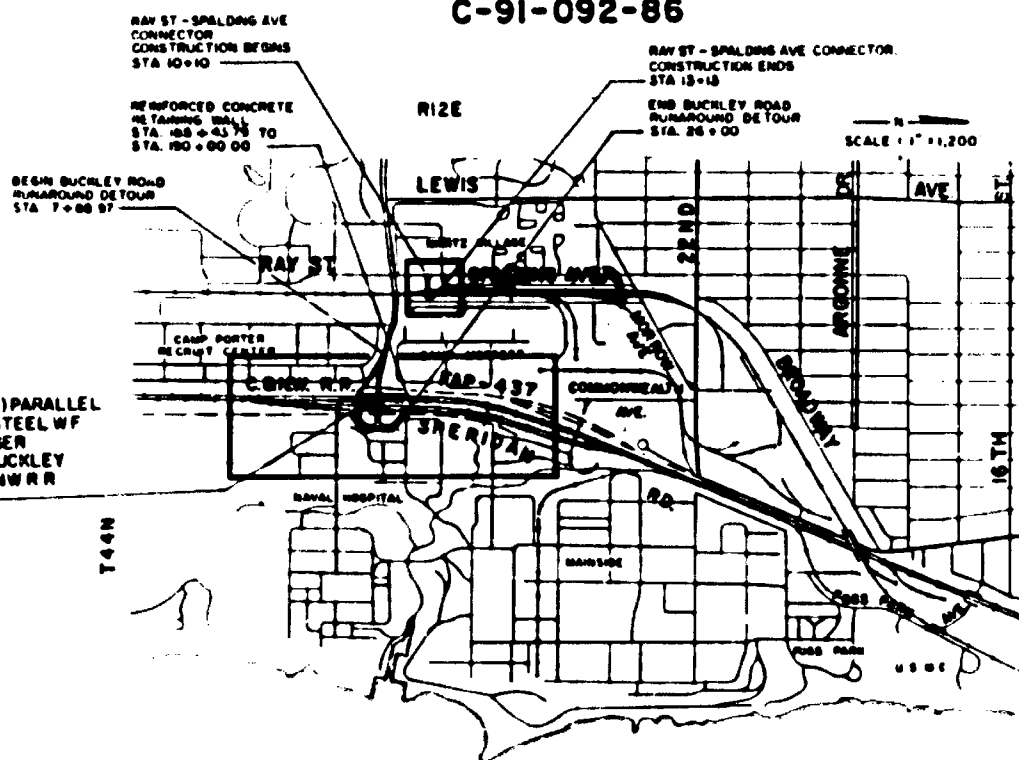
SCALES
PLAN 1" = 30'
PROFILES 1" = 30'
PROFILES VERT. 1" = 5'
CROSS SECTIONS 1" = 10'

LAKE FRONT HIGHWAY
F.A.P. ROUTE 437
SECTION 71(HBK,R-1 & SB)86
BUCKLEY ROAD DETOUR RUNAROUND
& C&N.W. R.R. BRIDGE
PROJECT IX-437-1(14)
LAKE COUNTY
C-91-092-86

FA 437	SECTION	COUNTY	ROUTE
FAP437	0	LAKE	66
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
P-91-270-85			



LOCATION OF SECTION INDICATED THIS: -



C&N.W. R.R. TWO(2) TRACK, TWO(2) PARALLEL SIMPLE SPAN, CONCRETE DECK, STEEL WF BEAM STRUCTURE AND PASSENGER PLATFORMS OVER PROPOSED BUCKLEY ROAD AT STA. 43+91.88, AND C&N.W. R.R. STA. 1680+50.50 BRIDGE NO. 0-49-0158

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.

DESIGN DESIGNATION

4,498(87) AREA SERVICE 0 821B-51

THIS PROJECT FALLS WITHIN THE GREAT LAKES CITY LIMITS.

JULIE TOLL FREE 1-800-892-0123

SECTION 71 (HBK, R-1 & SB)
NET LENGTH - BUCKLEY RUNAROUND DETOUR ROAD - 1811.03 L.F. = 343 MI.
C&N.W. R.R. BRIDGE OVER BUCKLEY ROAD - 98.00 L.F. = 0.18 MI.
RAY ST. - SPALDING AVE. CONNECTOR - 303.00 L.F. = 0.57 MI.



Robert W. Lochner

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

DESIGNED BY: *[Signature]*
CHECKED BY: *[Signature]*
PREPARED BY: *[Signature]*
APPROVED BY: *[Signature]*

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR DATE



STANDARDS

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F A P 437	0	LAKE	06	5
FED. ROAD DIV. NO. 0 ILLINOIS PROJECT IN 437 (1)				

© TROM, MCM, R-18 50106

- 1526-7 VALVE VAULT TYPE A
- 1527-9 MANHOLE TYPE A
- 1538-5 CATCH BASIN TYPE C
- 1686-4 STANDARD SYMBOLS AND ABBREVIATIONS
- 2113-1 DETAIL OF NAME PLATE FOR BRIDGES
- 2130-9 CONCRETE CURB AND COMBINATION CONCRETE CURB AND GUTTER
- 2213-1 FRAME AND LIDS TYPE I
- 2217-1 GRATE TYPE B
- 2262-4 REINFORCED CONCRETE PIPE ELBOW AND PRECAST REINFORCED CONCRETE FLARED END SECTION
- 2298-1 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
- 2299-1 DESIGN OF TRAFFIC CONTROL DEVICES
- 2300-1 FLAGGER TRAFFIC CONTROL SIGN
- 2302 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES-HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE.
- 2310 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES-HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE.
- 2319-1 SIGN PANEL MOUNTING DETAILS
- 2349 INLET-TYPE B
- 2356 SIDEWALK RAMP FOR THE HANDICAPPED
- 2368 HANDHOLE
- 2372 DETAILS OF SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
- 2383-1 TEMPORARY CONCRETE BARRIER
- 2396 TYPICAL PAVEMENT MARKINGS
- 2409 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES-HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE.
- U-1 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES-TWO LANE, TWO WAY TRAFFIC, UNDIVIDED URBAN, DAY OR NIGHT OPERATION.
- U-4 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES - MULTILANE INTERSECTION WITH LEFT TURN LANES, CORNER ISLANDS, AND 10 FT. NON-TRAVERSABLE MEDIAN OR PAINTED CENTER TURN LANE, DAY OR NIGHT CONDITIONS.
- U-5 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES-CROSSWALK OR SIDEWALK CLOSURES.

INDEX OF SHEETS

- 1. TITLE SHEET
- 2. STATE STANDARDS AND INDEX OF SHEETS
- 3. TYPICAL SECTIONS
- 4-5B SUMMARY OF QUANTITIES
- 6. GENERAL NOTES AND SCHEDULE OF QUANTITIES
- 7. ALIGNMENT TIES AND BENCHMARKS
- 8. ALIGNMENT PLAN
- 9-11. CONSTRUCTION STAGING AND MAINTENANCE OF TRAFFIC
- 12&13. PLAN AND PROFILE
- 14&15. DRAINAGE AND UTILITIES
- 15A. RAY-SPALDING CONNECTOR
- 16. SUPERELEVATION DETAIL
- 17. CONSTRUCTION DETAILS
- 18-20. TEMPORARY TRAFFIC SIGNAL PLANS
- 21. CHAIN LINK FENCE DETAIL
- 22. LIGHT POLE FOUNDATION DETAILS
- 23-20 BRIDGE PLANS
- 24-25A. CROSS SECTIONS
- STANDARDS

REVISIONS	
DATE	NAME
10 JULY 87	D.F.Z.

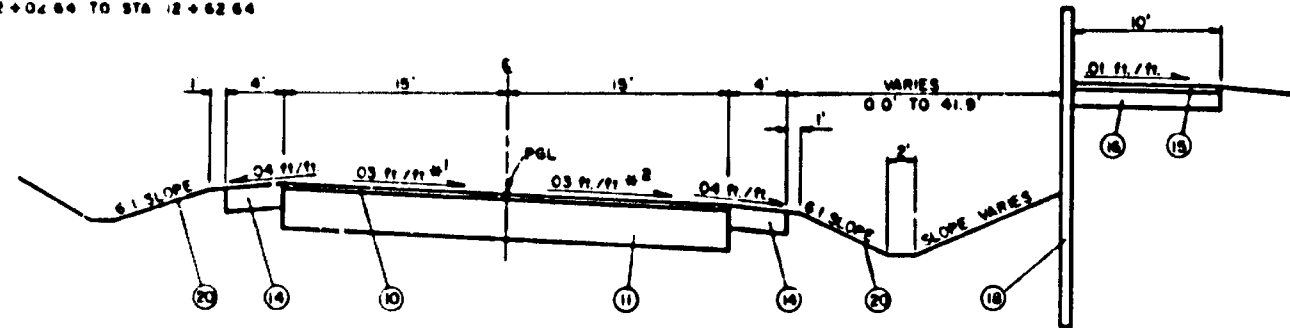
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
FAP 437
STATE STANDARDS
AND
INDEX OF SHEETS

DATE APRIL 30, 1987
SCALE NONE

DESIGNED BY PWR
CHECKED BY BPM

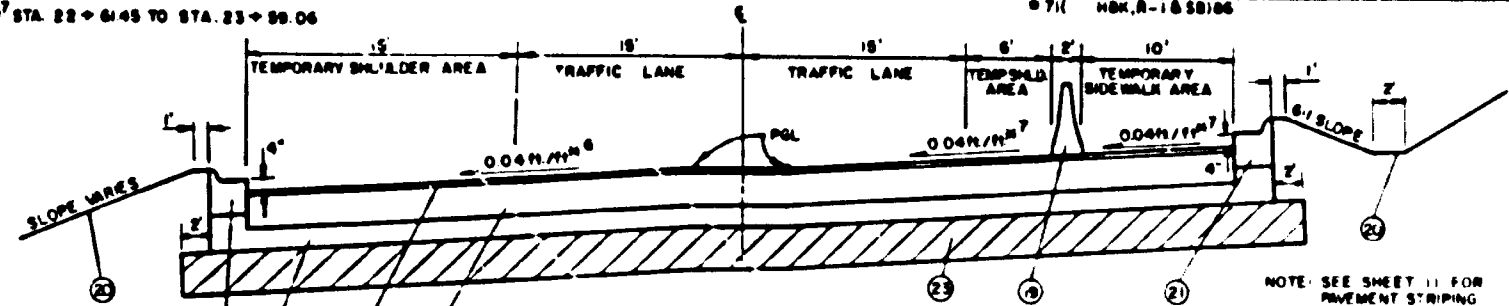
N. W. LOCKNER, INC.
ENGINEERS
CHICAGO, ILL.

SUPERELEVATION TRANSITION
 #1 STA 10+33 TO STA 10+75
 STA 12+02.64 TO STA 12+62.64
 #2 STA 12+04.64 TO STA 12+62.64



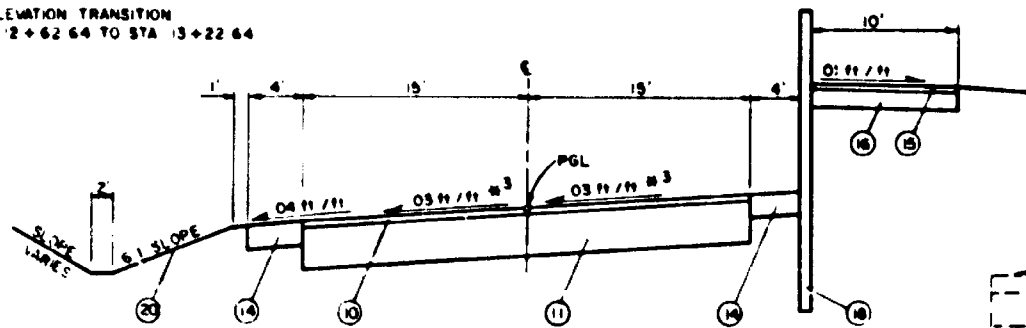
BUCKLEY ROAD RUNAROUND DETOUR
 STA 10+33 TO STA. 12+62.64

SUPERELEVATION TRANSITION
 #6 STA 22+61.46 TO STA 23+22.05
 #7 STA 22+61.45 TO STA 23+22.05

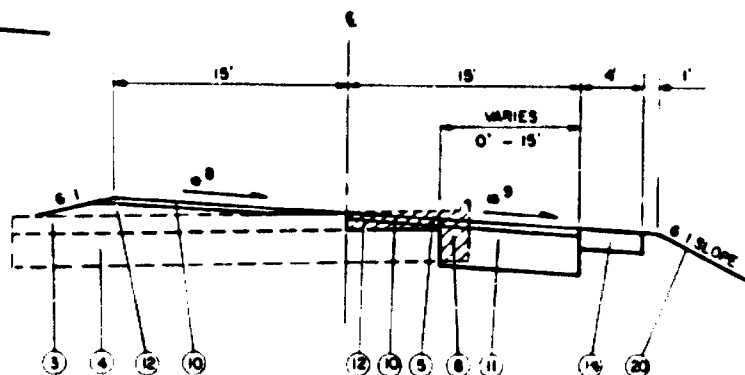


BUCKLEY ROAD RUNAROUND DETOUR
 STA 21+30.97 TO STA 23+22.05

SUPERELEVATION TRANSITION
 #3 STA 12+62.64 TO STA 13+22.64

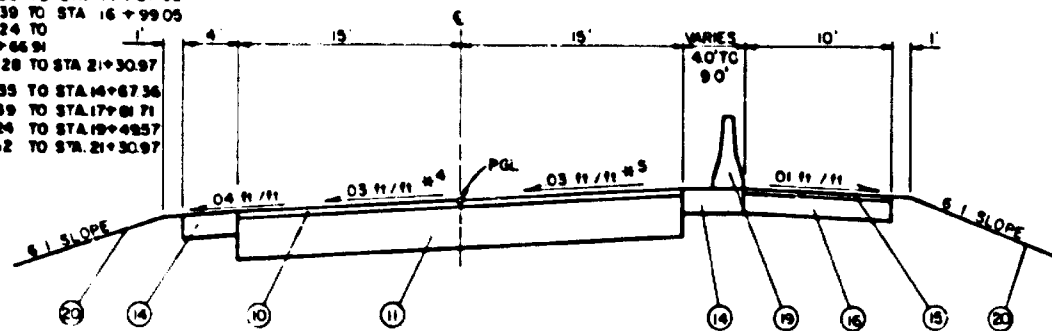


BUCKLEY ROAD RUNAROUND DETOUR
 STA 12+62.64 TO STA 13+22.64

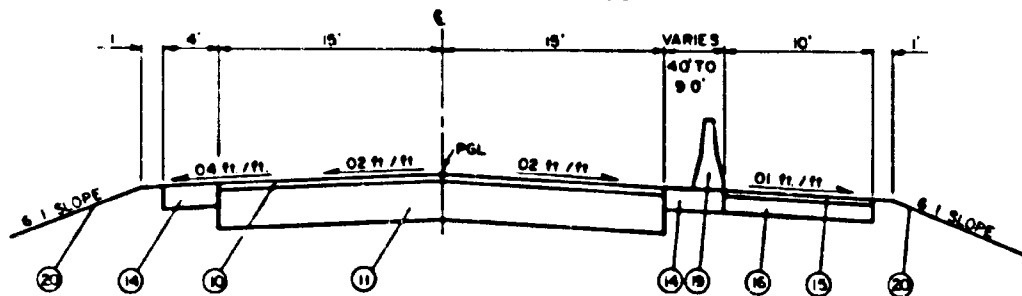


BUCKLEY ROAD RUNAROUND DETOUR
 STA 9+19 TO STA 10+33
 SUPERELEVATION TRANSITION
 #4 STA 9+78 TO STA 10+33
 #5 STA 9+19 TO STA 10+19

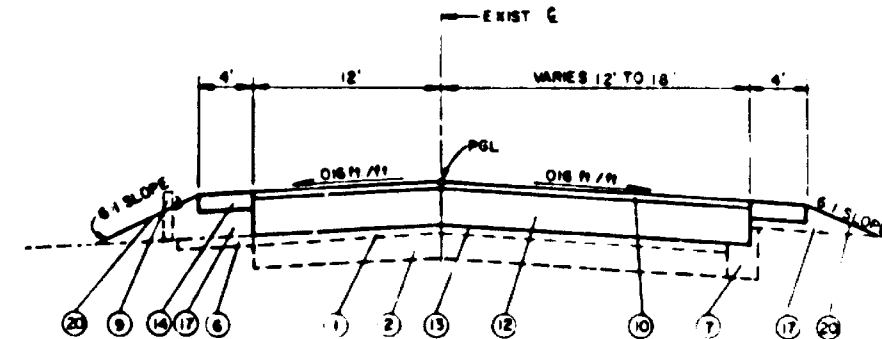
SUPERELEVATION TRANSITION
 #4 STA 14+07.35 TO STA 14+67.36
 STA 16+80.39 TO STA 16+99.05
 STA 18+48.24 TO STA 18+66.91
 STA 21+08.28 TO STA 21+30.97
 #5 STA 14+07.35 TO STA 14+67.36
 STA 16+80.39 TO STA 17+01.71
 STA 18+48.24 TO STA 19+48.57
 STA 20+25.62 TO STA 21+30.97



BUCKLEY ROAD RUNAROUND DETOUR
 STA 13+80 TO STA 14+67.36
 STA 16+80.39 TO STA 16+99.05
 STA 18+48.24 TO STA 19+48.57
 STA 20+25.62 TO STA 21+30.97



BUCKLEY ROAD RUNAROUND DETOUR
 STA 14+67.36 TO STA 16+80.39
 STA 16+80.39 TO STA 17+01.71
 STA 18+48.24 TO STA 19+48.57
 STA 20+25.62 TO STA 21+30.97



SHEPIDAN ROAD
 STA 8+00 TO STA 12+00

LEGEND

- 1 EXIST. BITUMINOUS CONCRETE SURFACE, 5' TO 9"
- 2 EXIST. CONCRETE BASE, 6" TO 11"
- 3 EXIST. BITUMINOUS CONCRETE SURFACE, 3"
- 4 EXIST. CONCRETE BASE, 11"
- 5 EXIST. BITUMINOUS CONCRETE SURFACE TO BE REMOVED
- 6 EXIST. AGGREGATE SHOULDER
- 7 EXIST. CONCRETE CURB AND GUTTER
- 8 EXIST. CONCRETE CURB AND GUTTER TO BE REMOVED
- 9 EXIST. GUARDRAIL (TO BE REMOVED)
- 10 PROP. BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE D, CLASS 1, 1"
- 11 PROP. BITUMINOUS BASE COURSE 15"
- 12 PROP. BITUMINOUS BASE COURSE, VARIABLE DEPTH
- 13 PROP. BITUMINOUS MATERIALS (PRIME COAT) AND AGGREGATE (PRIME COAT)
- 14 PROP. AGGREGATE SHOULDERS, TYPE B, 6"
- 15 PROP. BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE D, CLASS 1, 2"
- 16 PROP. AGGREGATE BASE COURSE, TYPE B, 6"
- 17 PROP. EMBANKMENT
- 18 PROP. SHEET PILE WALL
- 19 PROP. TEMPORARY CONCRETE BARRIER
- 20 PROP. TEMPORARY SEEDING
- 21 PROP. COMBINATION CONCRETE CURB AND GUTTER, TYPE B-8.24
- 22 PROP. SUB-BASE GRANULAR MATERIAL, TYPE B, 6"
- 23 POROUS GRANULAR EMBANKMENT, 2' - 0" (STA 24+00 TO STA 25+00)

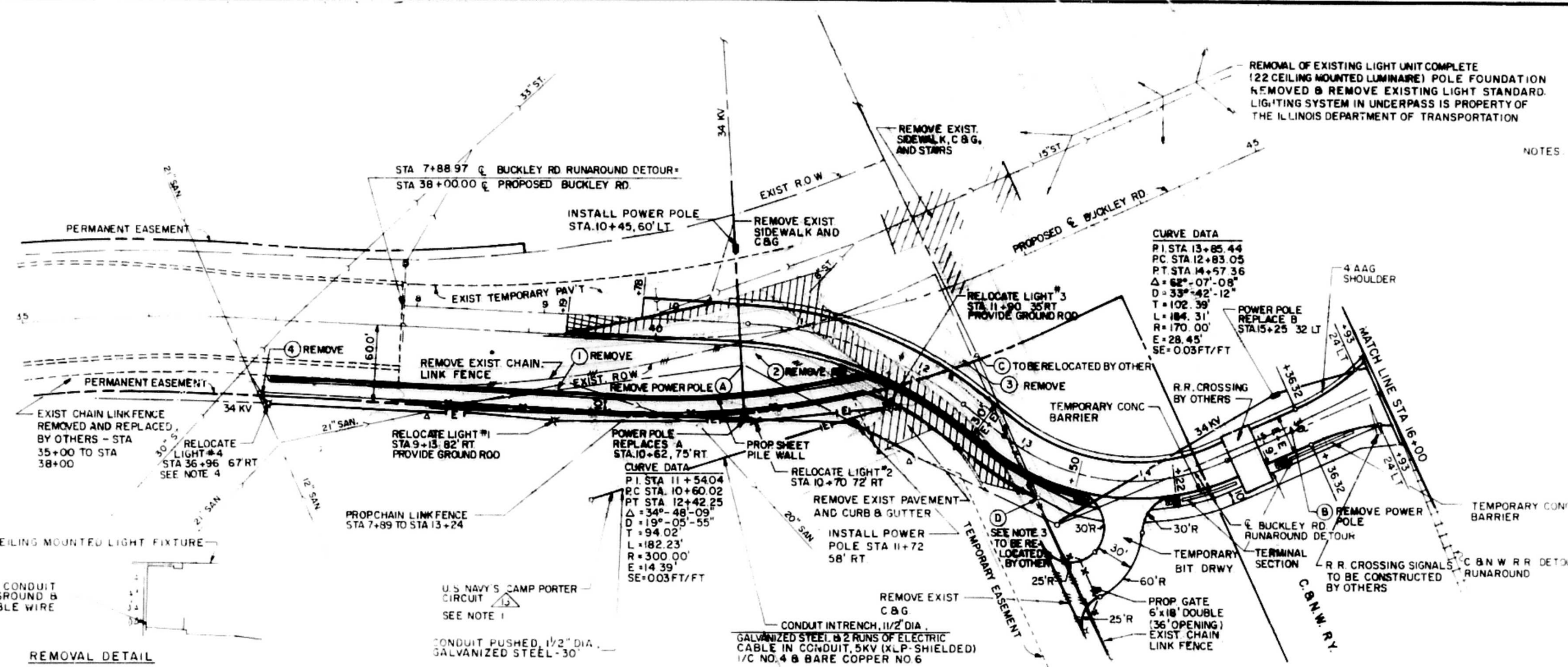
PAVEMENT DESIGN DATA

- 1 STRUCTURAL DESIGN TRAFFIC
PV=12,008, SU=2383, MU=107
- 2 CLASS OF STREET - CLASS I
- 3 MIN SOL. SUPPORT (1BR)=20
- 4 PERCENT OF SDY IN DESIGN LANE
P=S+M=0.90
- 5 TRAFFIC FACTOR 0.92
- 6 FLEXIBLE PAVEMENT STRUCTURAL NUMBER 465
- 7 PAVEMENT STRUCTURE MATERIALS
1" BIT CONCRETE SURFACE COURSE, MIX D, CL 1
15" BIT BASE COURSE

REVISIONS	
DATE	NAME

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 FAP 437
 TYPICAL SECTIONS
 BUCKLEY ROAD RUNAROUND DETOUR
 STA 9+8.00 TO STA 23-22.05
 SHERIDAN ROAD
 STA 8+00 TO STA 12+00
 DATE: APRIL 30, 1987 DESIGNED BY: PBL
 SCALE: NONE REVIEWED BY: DMH
 H. W. LUCHEM, INC.
 CHICAGO, ILL.

FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
F.A.P. 437	*	LAKE	8-E	12
FED. ROAD DIV. No. 4 ILLINOIS PROJECT IX 437 ()				
* 71(L) HBK, R-1 (B 5B) 86				



CURVE DATA
 P1 STA 13+85.44
 PC STA 12+83.05
 PT STA 14+57.36
 $\Delta = 62^\circ - 07' - 08''$
 $D = 33^\circ - 42' - 12''$
 $T = 102.39'$
 $L = 184.31'$
 $R = 170.00'$
 $E = 28.45'$
 $SE = 0.03 FT/FT$

CURVE DATA
 P1 STA 11+54.04
 PC STA 10+60.02
 PT STA 12+42.25
 $\Delta = 34^\circ - 48' - 09''$
 $D = 19^\circ - 05' - 55''$
 $T = 94.02'$
 $L = 182.23'$
 $R = 300.00'$
 $E = 14.39'$
 $SE = 0.03 FT/FT$

- NOTES**
1. A CIRCUIT NO. 13 IS A HIGH VOLTAGE SERIES REGULATED CIRCUIT. ALL CONNECTIONS, SPLICES AND WIRE SHALL BE RATED FOR 5KV USE.
 2. THE RELOCATION OF THE LIGHTING UNITS SHALL BE SCHEDULED SO THAT AT NO NIGHT HOURS SHALL THE FENCE AREA NOT BE LIGHTED.
 3. SEE SHEET 22 FOR LIGHTING DETAILS
 4. THE PROPOSED TEMPORARY DRIVEWAY THAT EXTENDS FROM EXIST. OHIO ST. TO THE DETOUR ROAD SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR STABILIZED DRIVEWAY B'
 5. IF UPON FIELD VERIFICATION A MINIMUM 10' SIDEWALK CAN BE MAINTAINED, RELOCATING THE POWER POLE WILL BE WAIVED.
 6. PROVIDE HAND HOLE TO SPLICE INTO EXISTING CIRCUIT.

LEGEND

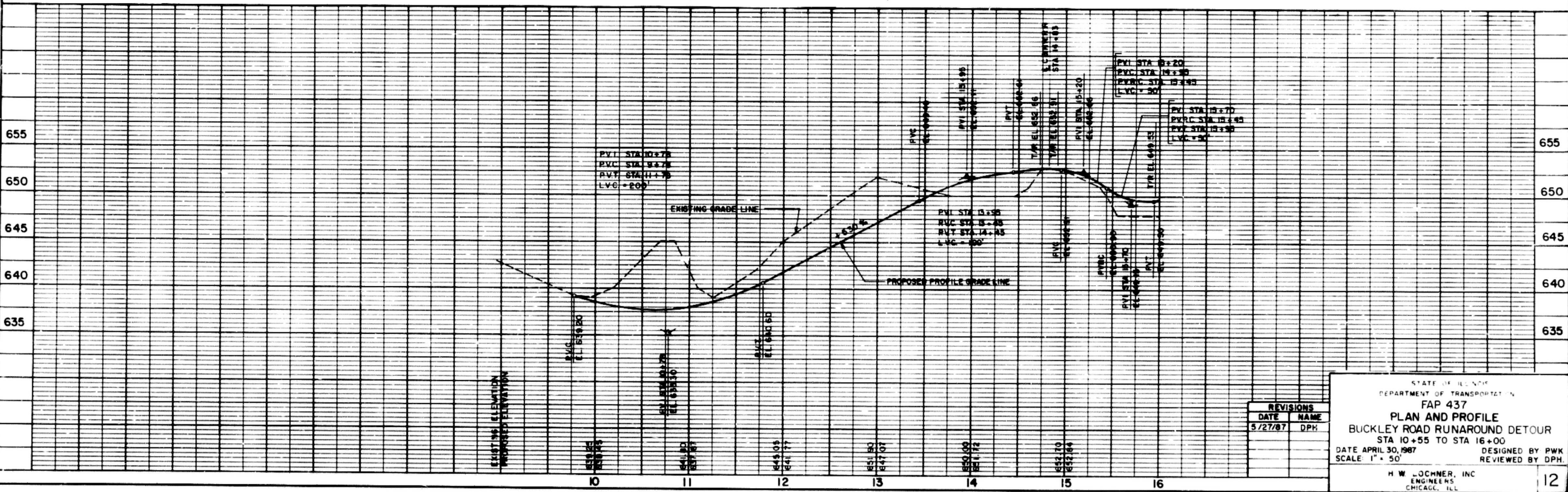
- [Symbol] DANCE MIDDLE IMPACT ATTENUATOR
- [Symbol] ITEM TO BE REMOVE
- [Symbol] EXISTING 34KV AERIAL POWER LINE
- [Symbol] PROPOSED AERIAL POWER LINE
- [Symbol] POWER POLE TO BE INSTALLED
- [Symbol] PROPOSED UNDERGROUND ELECTRIC CABLE IN CONDUIT OF SPECIFIED TYPE
- [Symbol] ITEM TO BE REMOVED AND REPLACED
- [Symbol] PROPOSED STORM SEWER
- [Symbol] EXISTING STORM SEWER
- [Symbol] EXISTING SANITARY SEWER
- [Symbol] EXISTING POWER POLE & LOAD BREAK SWITCH

PLAN

DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____
 IN CHARGE: _____

PROFILE

DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____
 IN CHARGE: _____



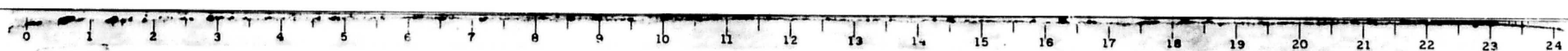
REVISIONS

DATE	NAME
5/27/87	DPH

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 FAP 437
PLAN AND PROFILE
 BUCKLEY ROAD RUNAROUND DETOUR
 STA 10+55 TO STA 16+00
 DATE APRIL 30, 1987
 SCALE 1" = 50'

DESIGNED BY PWK
 REVIEWED BY DPH.

H. W. LOCHNER, INC.
 ENGINEERS
 CHICAGO, ILL.



FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
F A P 437	#	LAKE	-	13
FED. ROAD DIV. No. 4 ILLINOIS PROJECT # 47				
* 71(1) HBK, R-1 B 38186				

NOTE EXISTING TEMPORARY CONCRETE BARRIER ALONG THE WEST SIDE OF SHERIDAN ROAD SHALL BE REMOVED FROM STA 8+50 TO STA 11+18

REMOVE EXIST GUARDRAIL FROM STA 8+75 TO STA 9+15 AND INSTALL TRAFFIC BARRIER TERMINAL (ET TYPE 1)

- NOTES
- 1 STATIONS AND OFFSETS SHOWN FOR PERMANENT EASEMENT LINES PERTAIN TO THE PROPOSED FUTURE CENTERLINES OF SHERIDAN RD AND BUCKLEY RD WHICH ARE SHOWN ON SHEET 8.
 - 2 LIGHT STANDARD (5) WILL BE RELOCATED ON NAVY PROPERTY UNDER A FUTURE CONTRACT.

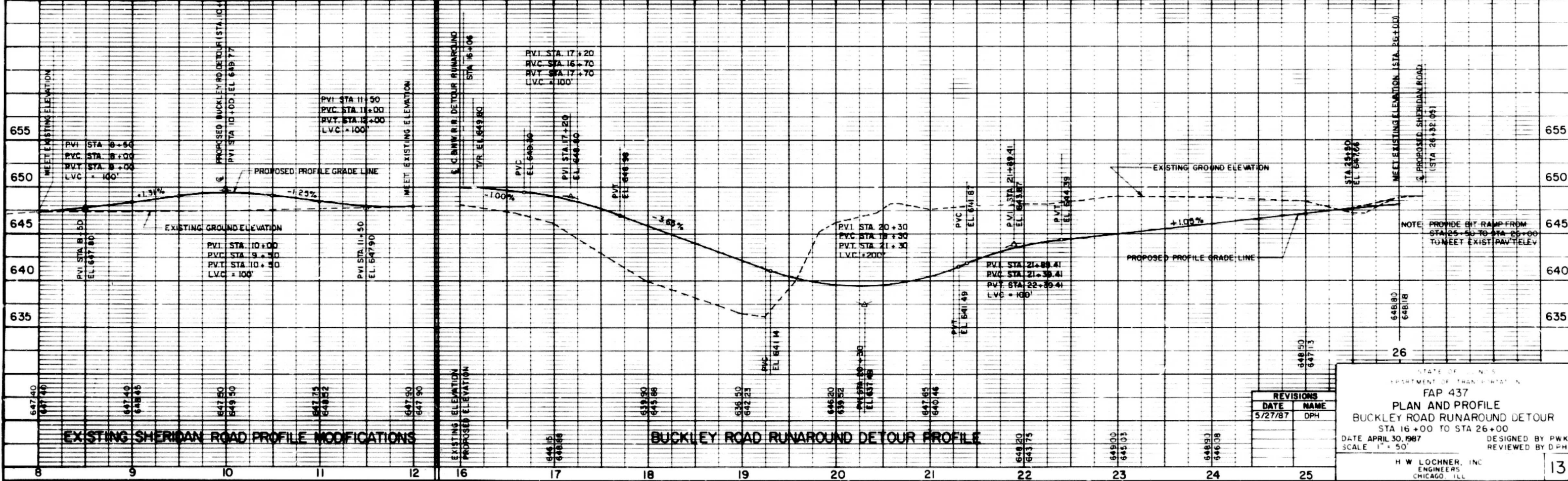
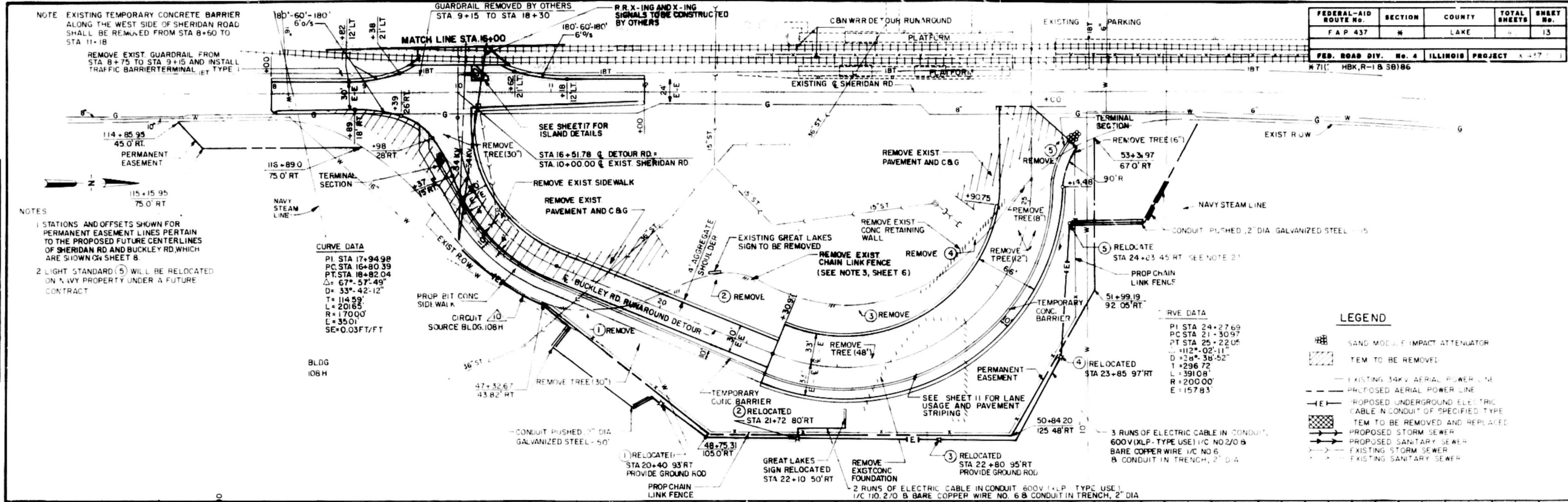
CURVE DATA

PI STA	17+94.98
PC STA	16+80.39
PT STA	18+82.04
Δ	67°-57'-49"
D	33'-42'-12"
T	114.59'
L	201.65'
R	1700.0'
E	35.01'
SE	0.03FT/FT

CURVE DATA

PI STA	24+27.69
PC STA	21+30.97
PT STA	25+22.05
Δ	112°-02'-11"
D	28°-38'-52"
T	296.72'
L	391.08'
R	2000.0'
E	157.83'

- LEGEND
- SAND MODIFIED IMPACT ATTENUATOR
 - TEM TO BE REMOVED
 - EXISTING 34KV AERIAL POWER LINE
 - PROPOSED AERIAL POWER LINE
 - PROPOSED UNDERGROUND ELECTRIC CABLE IN CONDUIT OF SPECIFIED TYPE
 - TEM TO BE REMOVED AND REPLACED
 - PROPOSED STORM SEWER
 - PROPOSED SANITARY SEWER
 - EXISTING STORM SEWER
 - EXISTING SANITARY SEWER

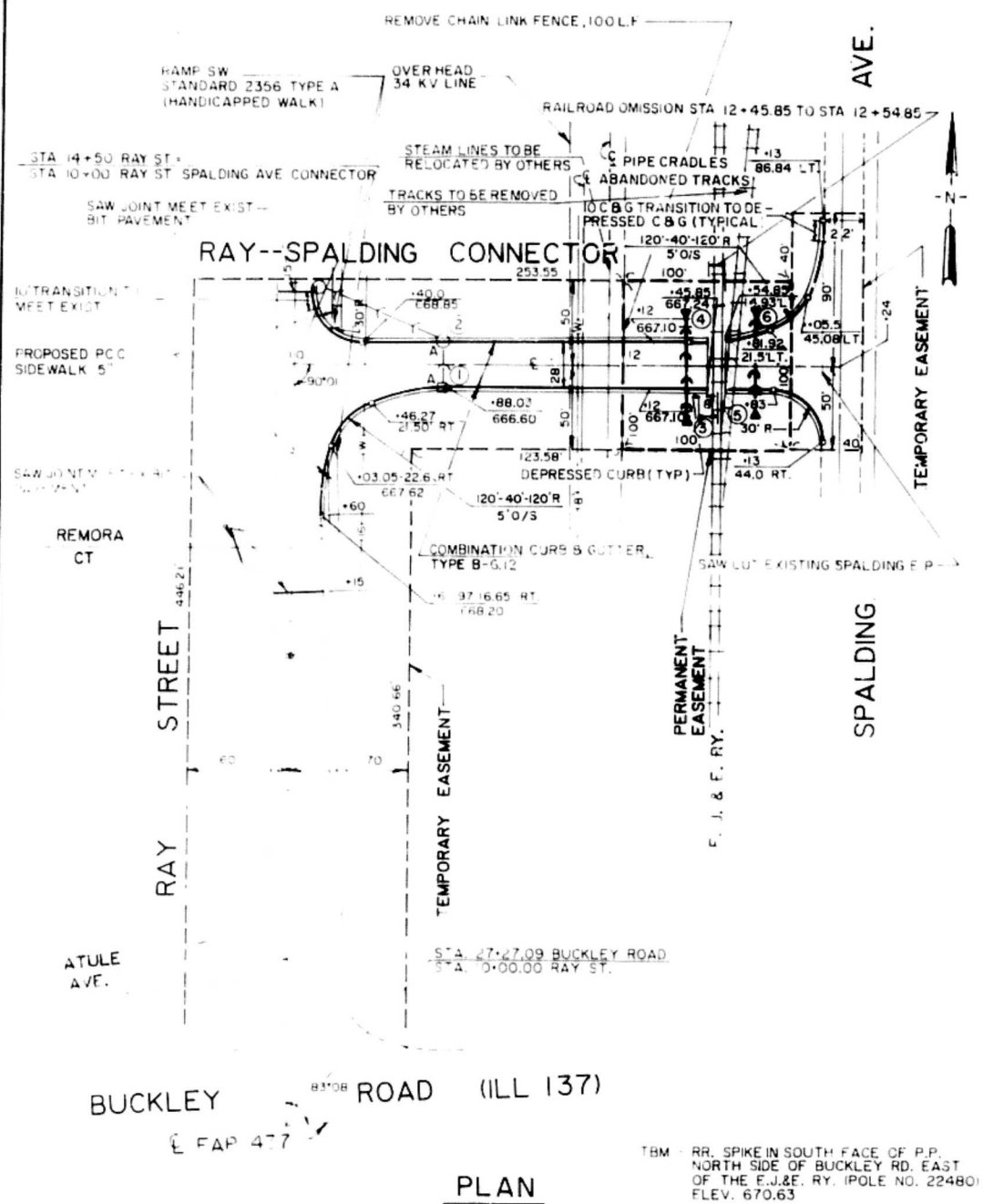


REVISIONS

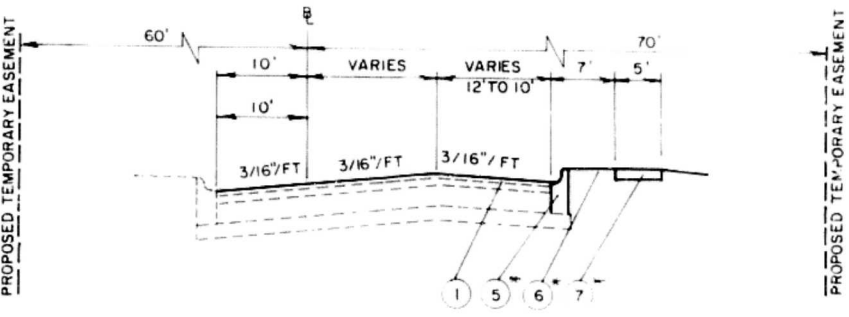
DATE	NAME
5/27/87	DPH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
FAP 437
PLAN AND PROFILE
BUCKLEY ROAD RUNAROUND DETOUR
STA 16+00 TO STA 26+00
DATE APRIL 30, 1987
SCALE 1" = 50'
DESIGNED BY PWK
REVIEWED BY DPH
H W LOCHNER, INC.
ENGINEERS
CHICAGO, ILL.

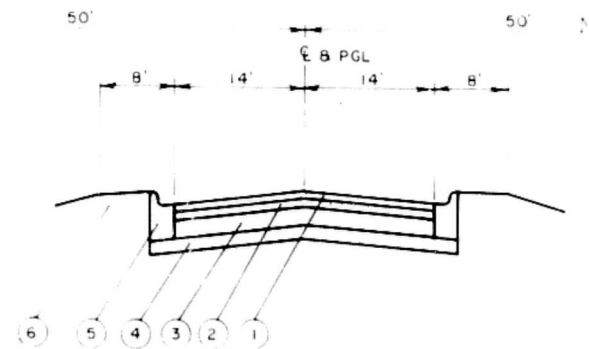
FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
FAP - 437	*	LAKE	85	15A
FED. ROAD DIV. No 4 ILLINOIS PROJECT (X 437)				
* 71(DM, HOK, R-18, 5B) 86				



PLAN



RAY STREET
STA 13+15 TO STA 15+00
* APPLICABLE FROM STA 13+60 TO STA 15+00



RAY ST. - SPALDING AVE. CONNECTOR
STA 10+10 TO STA 13+15

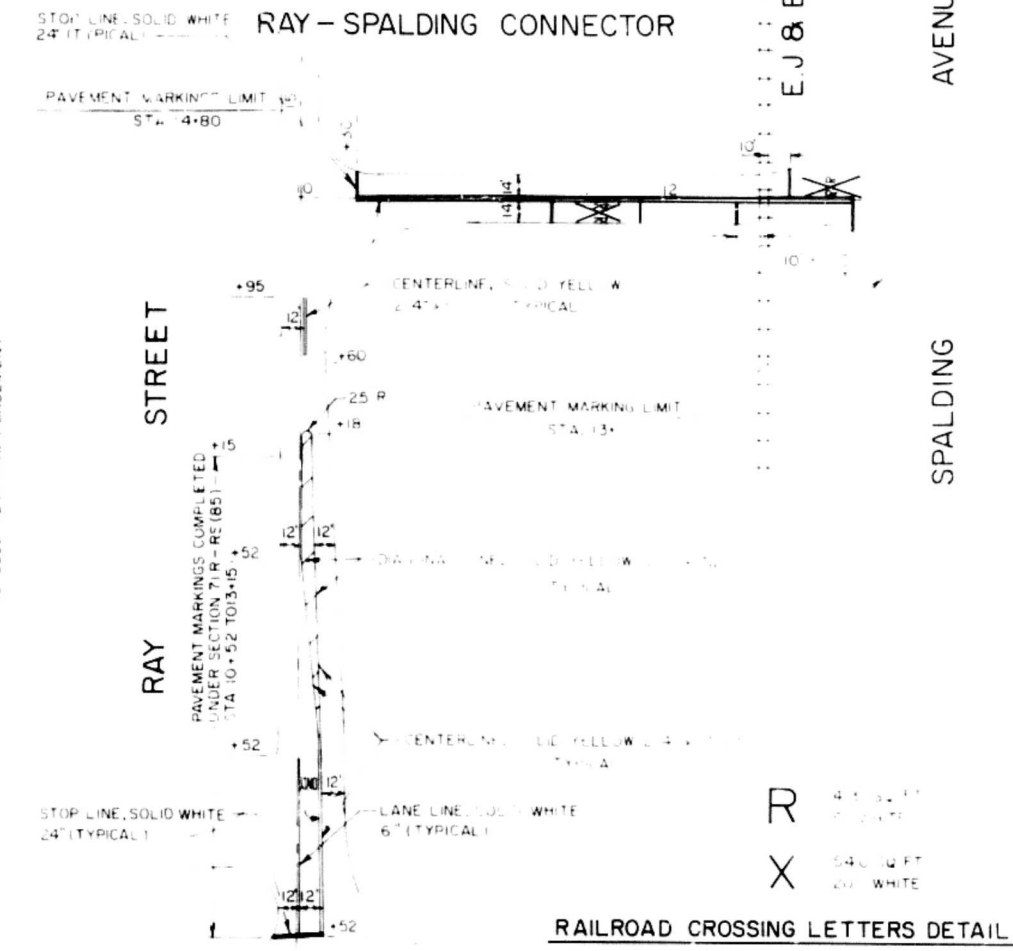
LEGEND

- 1 BITUMINOUS CONCRETE SURFACE COURSE, CLASS 1, MIXTURE D, 1 1/2"
- 2 BITUMINOUS CONCRETE BINDER COURSE, 1 1/2"
- 3 BITUMINOUS BASE COURSE, 9 1/2"
- 4 SUB-BASE GRANULAR MATERIAL, TYPE B, 4"
- 5 COMB. CONCRETE CURB & GUTTER, TYPE B-6.12
- 6 SODDING
- 7 PCC SIDEWALK, 5"

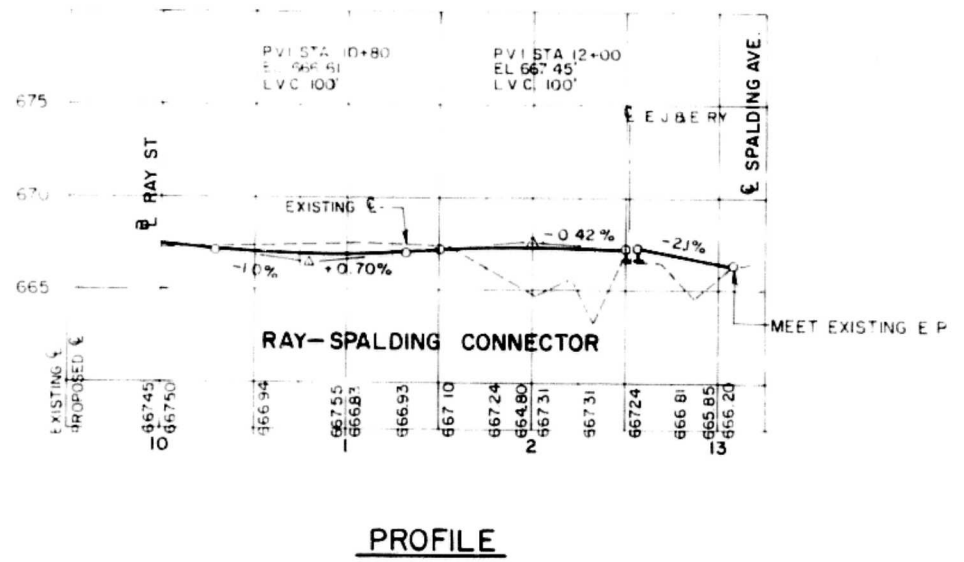
TYPICAL SECTIONS

NOTES:

- 1 ELEVATIONS SHOWN REPRESENT EDGE OF PAVEMENT.
- 2 COMBINATION C & G. TRANSITION SHALL BE PAID FOR AS COMBINATION C & G. TYPE B-6.12.
- 3 THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT SIDEWALK RAMPS FOR THE HANDICAPPED IN CONFORMANCE WITH STANDARD 2356. THIS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR P.C. CONCRETE SIDEWALK, 5".
- 4 ELEVATIONS SHOWN ARE BASED ON FIELD SURVEY DATA AND ON EXISTING ROADWAY PLANS. THE ENGINEER IS TO FIELD VERIFY GRADE ELEVATIONS AND SET GUTTER SUMMITS (WHERE NECESSARY) TO ENSURE PROPER DRAINAGE.
- 5 THE RECONSTRUCTION OF RAY STREET (EXCEPT FOR THE ITEMS NOTED ON THIS SHEET) ARE TO BE COMPLETED BY OTHERS UNDER SECTION 71R-RS (85).
- 6 ALL PAVEMENT MARKINGS ARE TO BE THERMOPLASTIC.
- 7 ALL SAW JOINT CUTS ON THIS SHEET ARE INCIDENTAL TO SURFACING.



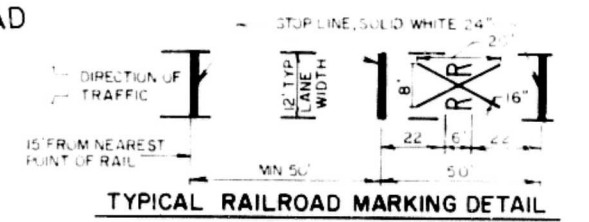
RAILROAD CROSSING LETTERS DETAIL



PROFILE

FAP 437
BUCKLEY

PROPOSED PAVEMENT MARKINGS



TYPICAL RAILROAD MARKING DETAIL

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. 437
RAY-SPALDING CONNECTOR

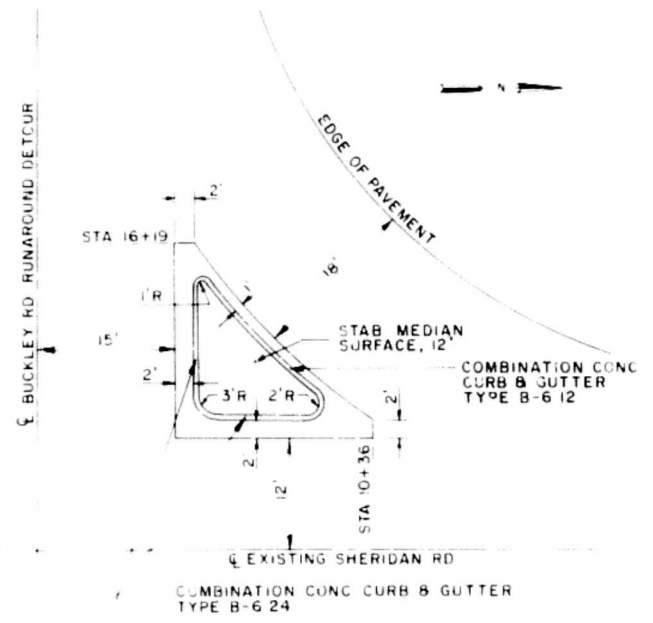
SCALE NONE
DATE JULY, 1987

DESIGNED BY
REVIEWED BY

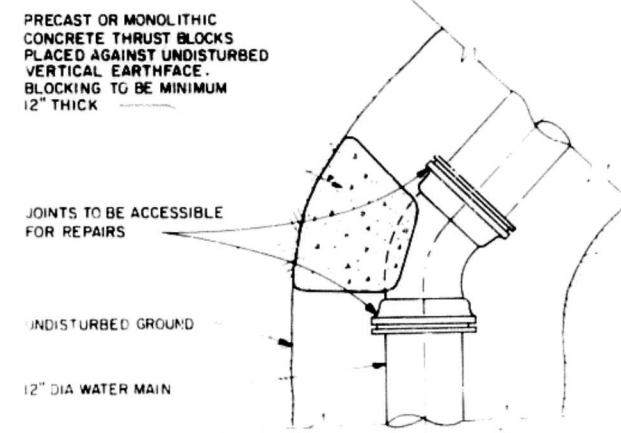
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILL.

15A

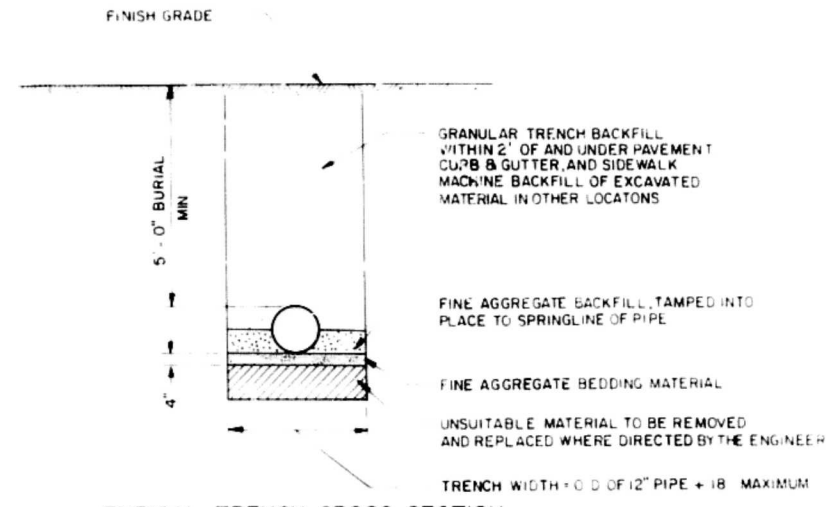
FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
FAP 437		LAKE	8	17
FED. ROAD DIV No 4 ILLINOIS PROJECT IX 437 ()				
711 HBK,R-1 B 5B186				



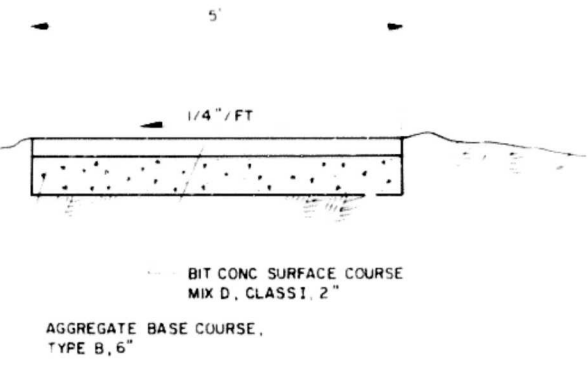
ISLAND DETAIL
NW QUAD OF DETOUR ROAD
& EXIST. SHERIDAN ROAD



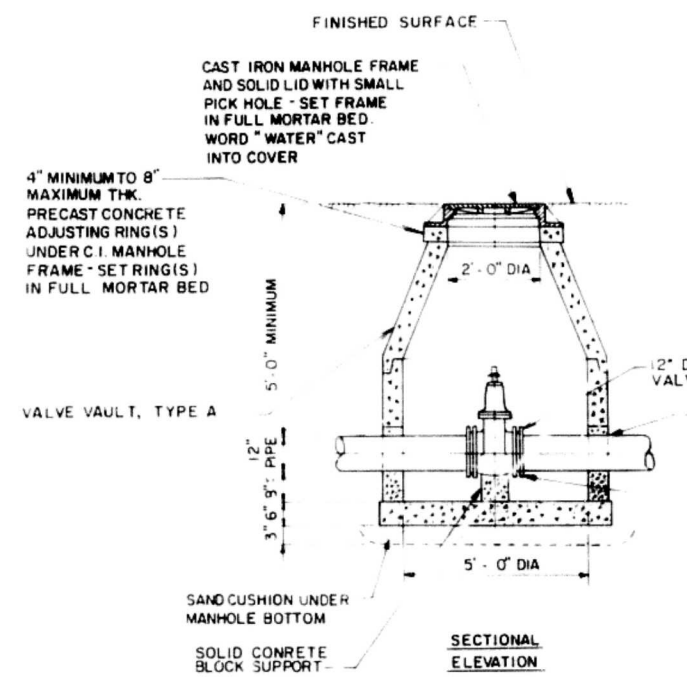
TYPICAL WATER MAIN THRUST BLOCK INSTALLATION



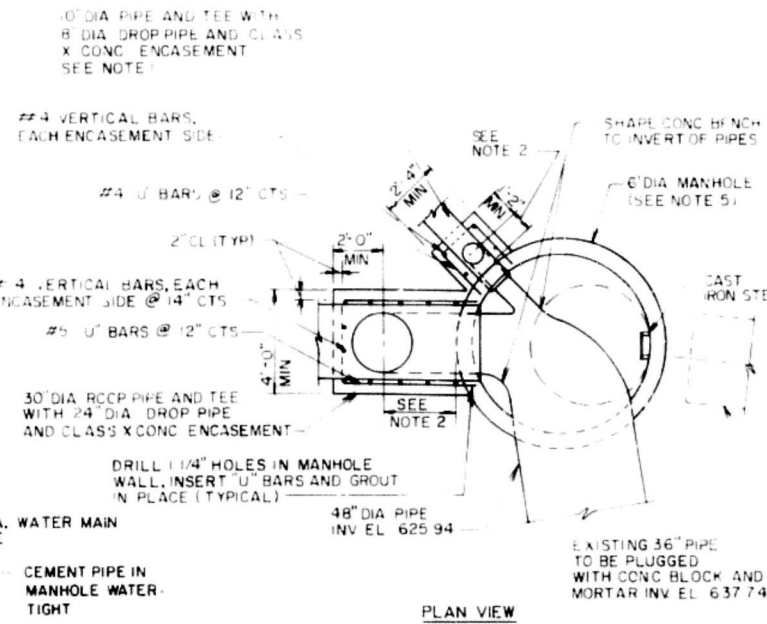
TYPICAL TRENCH CROSS SECTION WATERMAIN



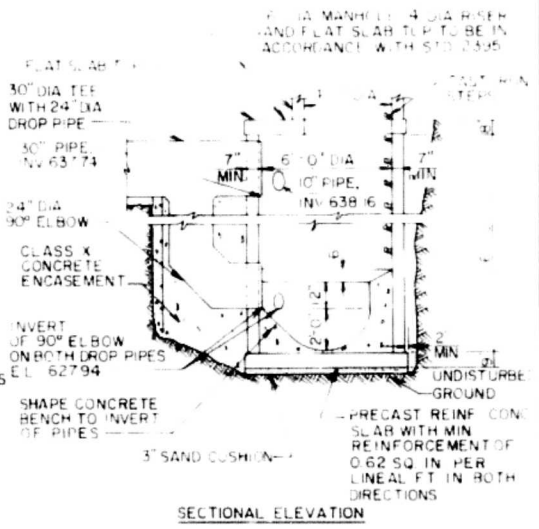
TEMPORARY BITUMINOUS CONCRETE SIDEWALK



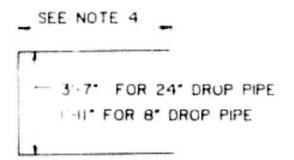
TYPICAL FOR 12\"/>



- NOTES:**
- CONTRACTOR SHALL PROVIDE TEE FITTING AND DROP PIPE OF THE SAME MATERIAL AS THE EXISTING 10\"/>
 - DIMENSION FROM DROP PIPE ϵ TO OUTSIDE WALL OF MANHOLE SHALL BE DETERMINED TO FIT MANUFACTURER OF TEE FITTING AND 90\"/>
 - THE COST OF THE DROP PIPE, FITTINGS AND REINFORCED CONCRETE ENCASEMENT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER EACH FOR MANHOLES, DROP TYPE, 6\"/>
 - U\"/>
 - WALLS FOR THE 6\"/>



MANHOLES, DROP TYPE, 6\"/>



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 437

CONSTRUCTION DETAILS

DATE: APRIL 30, 1987
SCALE: NCNE

DESIGNED BY: PWK
REVIEWED BY: DPH

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILL.

REVISIONS	
DATE	NAME
6/24/87	DPH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP-437	*	LAKE	85	23
FED. ROAD DIV. NO. 7		ILLINOIS	PROJECT IX 437 ()	
* 711 HBK, R-1 & SB186				

DESIGN DATA

LIVE LOAD
IMPACT
CONCRETE

COOPER E-80
EQUIPMENT WITHOUT HAMMER BLOW
PIER & ABUTMENTS

COMPRESSIVE STRENGTH $f_c = 3500$ psi
FLEXURE $f_c = 1400$ psi

PRECAST CONCRETE DECK SLABS

COMPRESSIVE STRENGTH $f_c = 4000$ psi
FLEXURE $f_c = 1600$ psi

HIGH STRENGTH BAR STEEL REINFORCEMENT M31, M42 OR M53, GRADE 60

YIELD STRENGTH $f_y = 60,000$ psi
TENSION $f_s = 24,000$ psi

STRUCTURAL STEEL M183

YIELD POINT $f_y = 36,000$ psi
TENSION $f_s = 20,000$ psi

FOUNDATION-SPREAD FOOTINGS ALLOWABLE SOIL PRESSURE

ABUTMENT AND PIER 5.3 ksf
RETAINING WALL 5.3 ksf

PRECAST CONCRETE PLATFORM PANELS

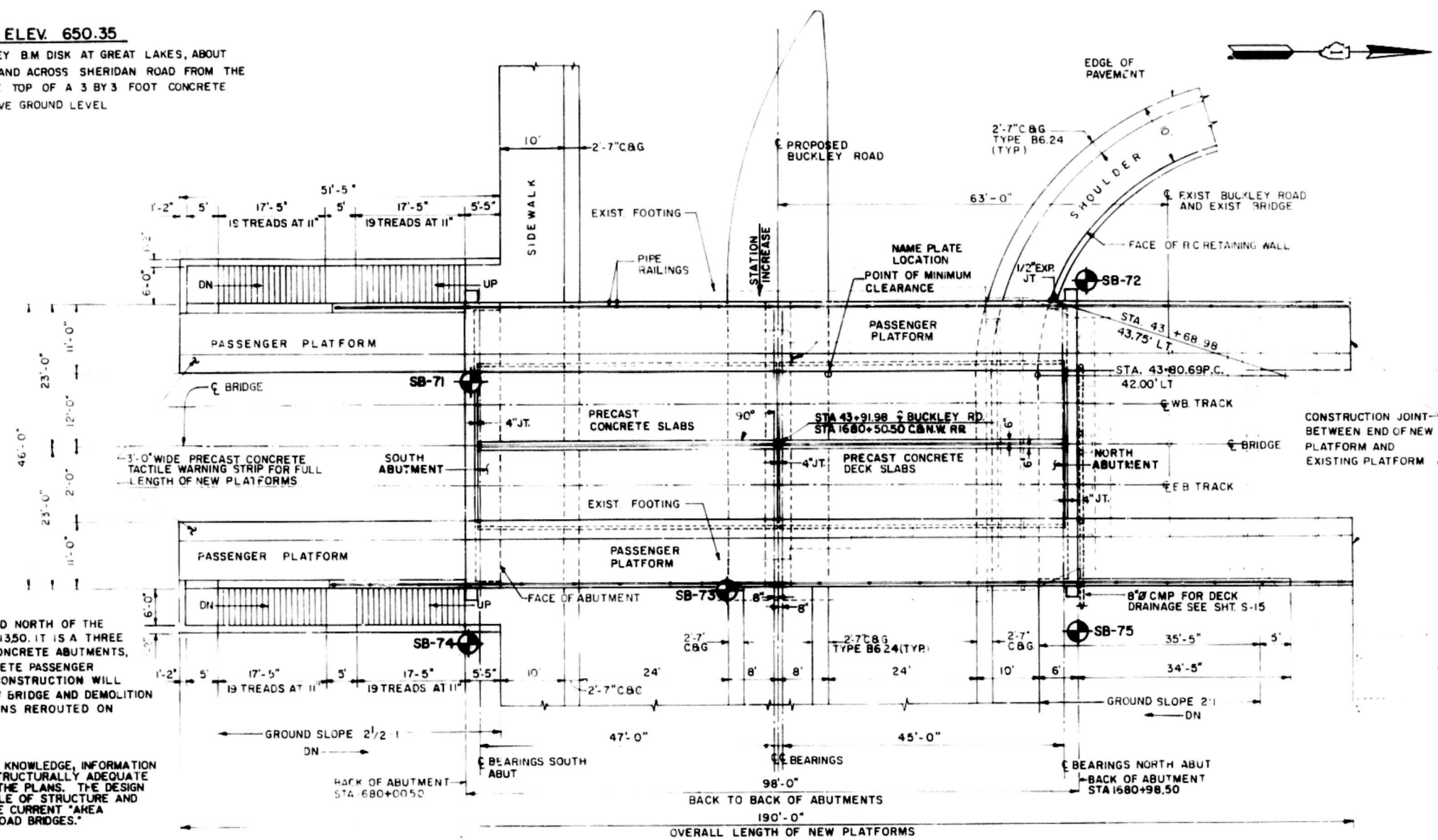
UNIFORM LOAD 50 psf
CONCENTRATED LOAD 1000 lbs
COMPRESSIVE STRENGTH $f_c = 4000$ psi
FLEXURE $f_c = 600$ psi

MAXIMUM LIVE LOAD PLUS IMPACT DEFLECTION

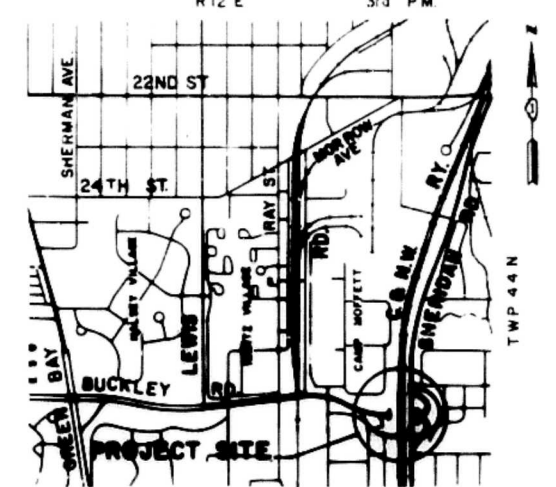
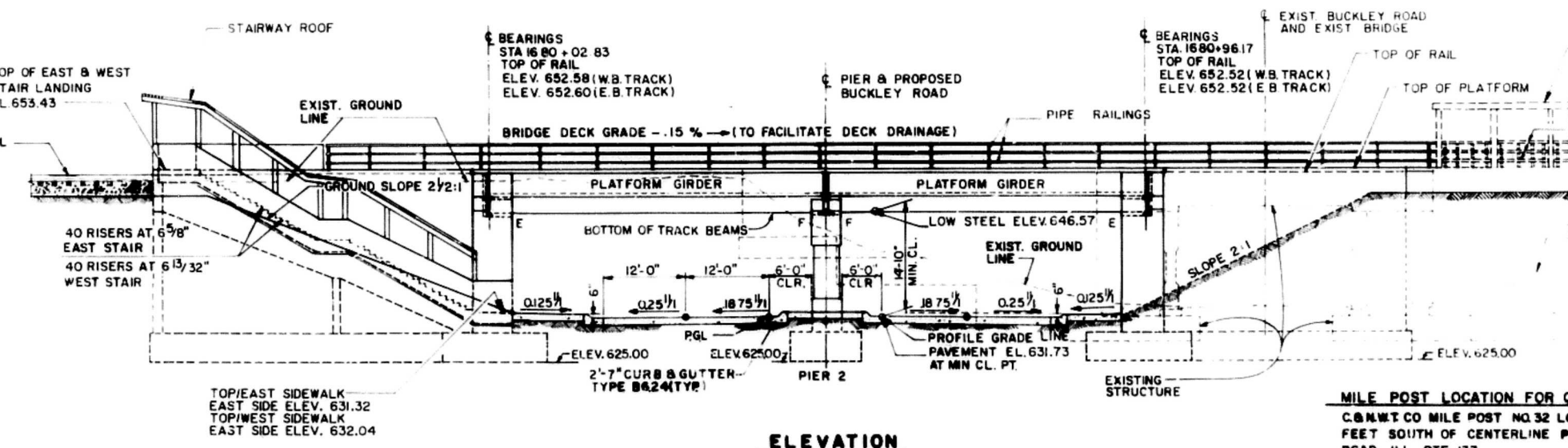
1/640 FOR RAILROAD SUPERSTRUCTURE

B.M. Z 273 ELEV. 650.35

A NATIONAL GEODETIC SURVEY B.M. DISK AT GREAT LAKES, ABOUT 115 YARDS NORTH NORTHEAST OF AND ACROSS SHERIDAN ROAD FROM THE C&N.W. RR STATION SET IN THE TOP OF A 3 BY 3 FOOT CONCRETE BLOCK, WHICH PROJECTS 14" ABOVE GROUND LEVEL



PLAN



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
C&N.W. RR BRIDGE OVER BUCKLEY RD.
BRIDGE 049-0158
FAP-437 SECTION 711 HBK, R-1 & SB186
STATION 1680+50.5
LAKE COUNTY
GENERAL PLAN & ELEVATION

H. W. LOCHNER, INC.
CHICAGO, ILL.

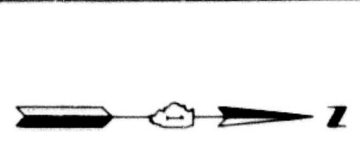


APPROVED
FOR STRUCTURAL ADEQUACY ONLY

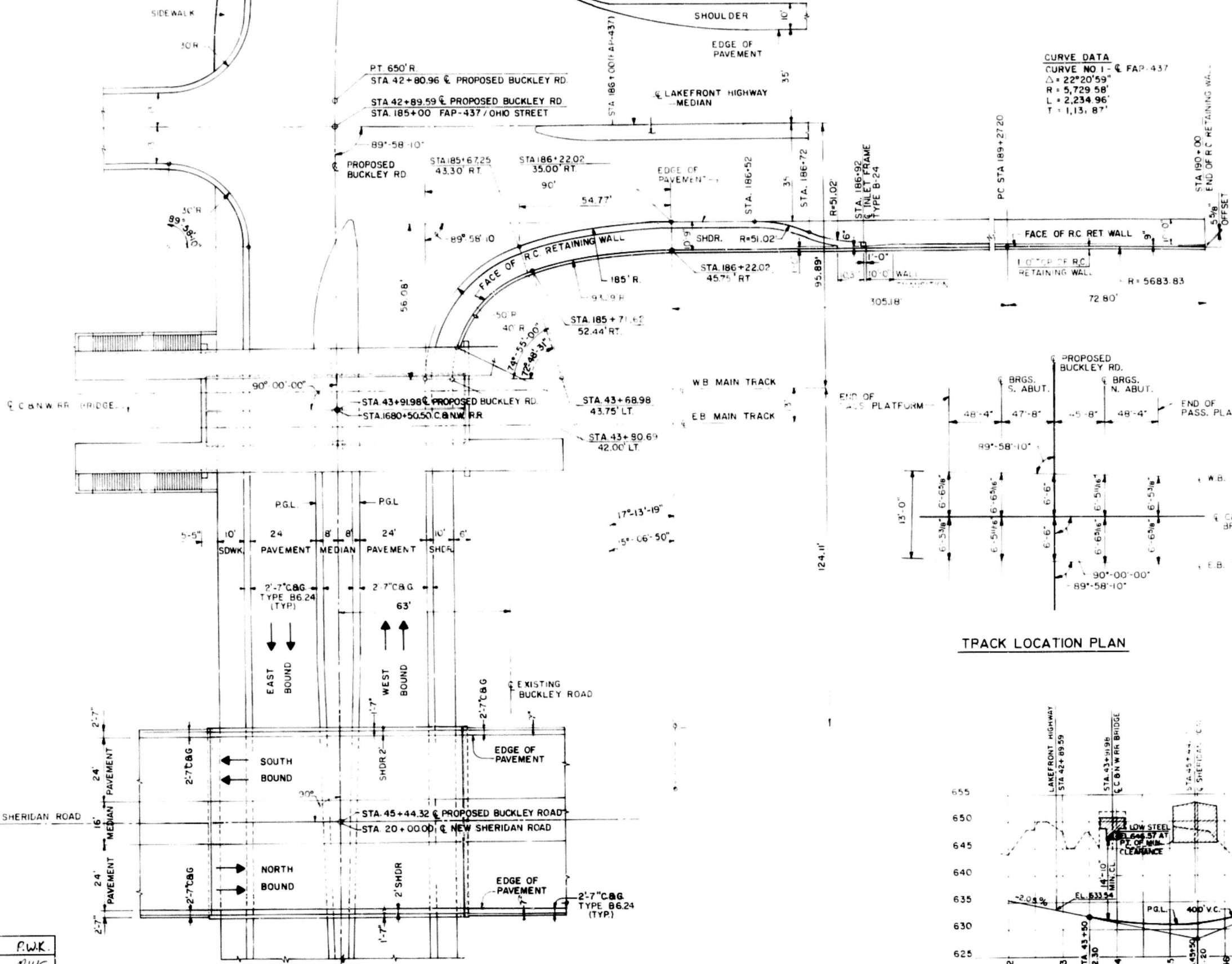
James J. Kelly

DESIGNED	A.D.H.
CHECKED	R.W.C.
DRAWN	F.M.L.
CHECKED	A.D.H.
REVIEWED	

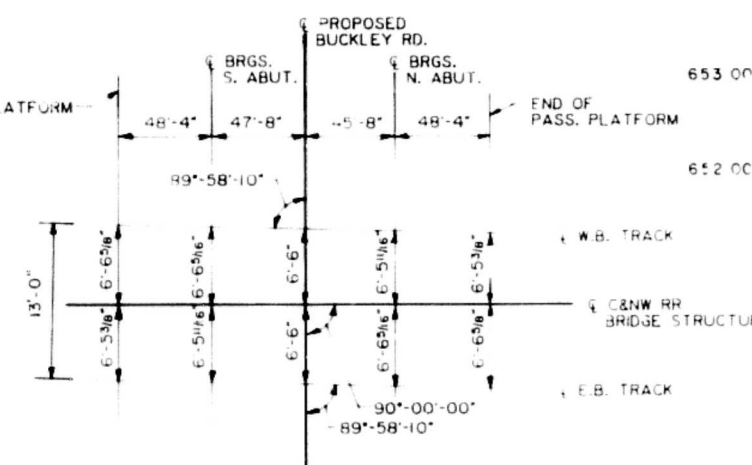
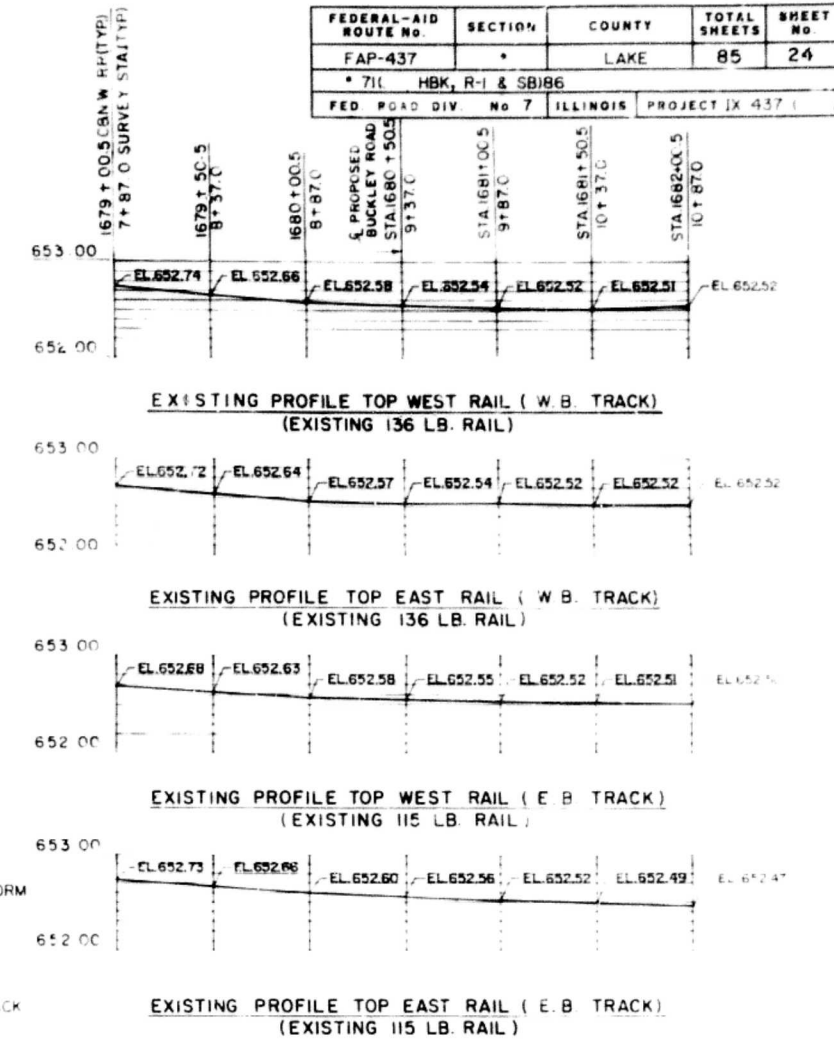
MILE POST LOCATION FOR C&N.W.T. CO.
C&N.W.T. CO MILE POST NO. 32 LOCATED 697.5 FEET SOUTH OF CENTERLINE PROPOSED BUCKLEY ROAD ILL. RTE 137



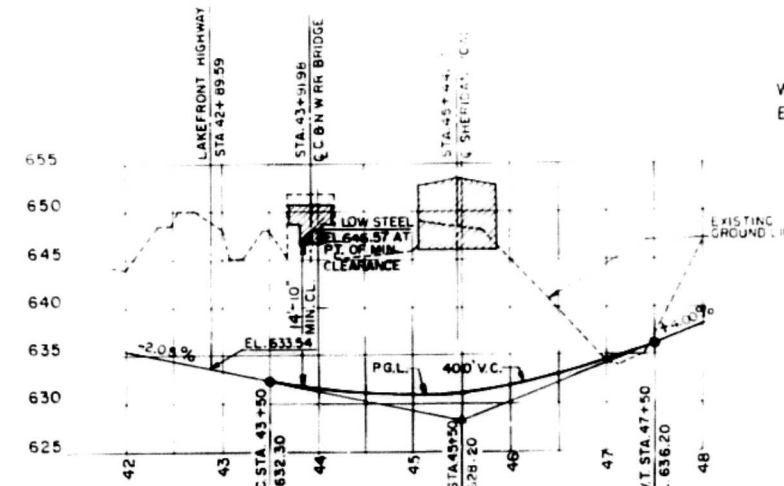
FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP-437	*	LAKE	85	24
* 71L HBK, R-1 & SB186				
FED. ROAD DIV. No 7 ILLINOIS PROJECT IX 437 ()				



CURVE DATA
 CURVE NO. 1 - FAP-437
 $\Delta = 22^\circ 20' 59''$
 $R = 5,729.58'$
 $L = 2,234.96'$
 $T = 1,131.87'$



TRACK LOCATION PLAN



PROPOSED BUCKLEY ROAD VERTICAL PROFILE

DESIGNED	P.W.K.
CHECKED	R.W.C.
DRAWN	J.M.
CHECKED	N.O.H.
REVIEWED	[Signature]

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 C&NW RR BRIDGE OVER BUCKLEY RD.
 BRIDGE 049-0158
 FAP-437 SECTION 71L HBK, R-1 & SB186
 STATION 1680+50.5
 LAKE COUNTY
 GEOMETRY AND PROFILES

H. W. LOCHNER, INC.
 ENGINEERS
 CHICAGO, ILL.

FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
FAP-437	*	LAKE	85	25
FED. ROAD DIST. No. 7 ILLINOIS PROJECT IX 437 ()				
* 71 : , HBK, R-1 & SB186				

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S-2	GEOMETRY AND PROFILES
S-3	GENERAL NOTES, SCHEDULE OF QUANTITIES, INDEX OF SHEETS
S-4	FOOTING LAYOUT
S-5	BORING LOGS SB-71 & SB-72
S-6	BORING LOGS SB-73 & SB-74
S-7	BORING LOG SB-75
S-8	DECK CROSS SECTION AND WATERPROOFING DETAILS
S-9	WATERPROOFING DETAILS
S-10	DECK SLAB LAYOUT & PLATFORM PANEL LAYOUT.
S-11	5FT WIDE PRECAST CONCRETE DECK SLAB
S-12	4FT WIDE PRECAST CONCRETE DECK SLAB
S-13	PLATFORM PANEL - 3FT
S-14	PLATFORM PANEL - 4FT
S-15	DECK DRAINAGE DETAILS
S-16	HANDRAILS AND DETAILS
S-17	ELECTRICAL LIGHTING PLAN & DETAILS
S-18	BEAM SPAN 1
S-19	BEAM SPAN 2
S-20	PLATFORM GIRDER - SPAN 1
S-21	PLATFORM GIRDER - SPAN 2
S-22	BEARING DETAILS
S-23	SOUTH ABUTMENT & SECTIONS
S-24	SOUTH ABUTMENT DETAILS
S-25	SOUTH ABUTMENT RETAINING WALLS
S-26	SOUTH ABUTMENT RETAINING WALL DETAILS
S-27	NORTH ABUTMENT & SECTIONS
S-28	NORTH ABUTMENT DETAILS
S-29	NORTH ABUTMENT RETAINING WALL
S-30	REINFORCEMENT BAR LISTS - ABUTMENTS & RETAINING WALLS
S-31	PIER
S-32	PIER DETAILS AND REINFORCEMENT BAR LISTS
S-33	STAIRS & DETAILS
S-34	STAIR SECTIONS
S-35	STAIRWAY ROOF CANOPY
S-36	STAIRWAY ROOF CANOPY DETAILS
S-37	PLATFORM EXTENSIONS AND DRAINAGE PLAN
S-38	PLATFORM EXTENSION DETAILS
S-39	INTER-TRACK FENCE
S-40	LAKE FRONT HIGHWAY RETAINING WALL - GENERAL PLAN & ELEVATION
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S-43	LAKE FRONT HIGHWAY RETAINING WALL - STEM & FOOTING REINFORCEMENT
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S-45	LAKE FRONT HIGHWAY RETAINING WALL - STEM & FOOTING REINFORCEMENT
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S-47	LAKE FRONT HIGHWAY RETAINING WALL - SECTIONS & DETAILS
S-48	LAKE FRONT HIGHWAY RETAINING WALL - REINFORCEMENT BAR DETAILS
S-49	LAKE FRONT HIGHWAY RETAINING WALL - DRAINAGE & TRANSITION SECTION
S-50	STRUCTURE REMOVAL & EXCAVATION - PLATFORM CANOPY ROOF FACIA REPAIRS
S-51	STRUCTURE REMOVAL DETAILS
S-52	STRUCTURE REMOVAL DETAILS
S-53	STRUCTURE REMOVAL DETAILS
S-54	BUCKLEY ROAD RUNAROUND DETOUR - STEEL SHEET PILE WALL PLAN & SECTIONS
S-55	BUCKLEY ROAD RUNAROUND DETOUR - STEEL SHEET PILE WALL ELEVATIONS PERMANENT & TEMPORARY WALL
S-56	SANITARY SEWER AND CANOPY ROOF DRAINAGE ALTERATIONS
S-57	RAILROAD EMBLEM AND NAME PLATE
S-58	ANCHOR BOLT DETAILS / ABB-1

GENERAL NOTES

STEEL DESIGN IN ACCORDANCE WITH A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES, DATED 1985. CONCRETE DESIGN IN ACCORDANCE WITH A.R.E.A. SPECIFICATIONS FOR CONCRETE STRUCTURES AND FOUNDATIONS, DATED 1985. WORKMANSHIP AND MATERIALS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF ILLINOIS, DEPARTMENT OF TRANSPORTATION, ADOPTED OCTOBER 1, 1983, EXCEPT THAT STEEL FABRICATION AND WELDING SHALL BE IN ACCORDANCE WITH A.R.E.A. SPECIFICATIONS.

THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THE FRACTURE CRITICAL COMPONENTS ARE THE W-BEAMS CARRYING THE RAILROAD. THESE COMPONENTS ARE DESIGNATED AS N.T.R. AND F.C.M. ON THE PLANS.

THE WEIGHT OF LEAD PLATES IS INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "FURNISHING AND ERECTING STRUCTURAL STEEL".

CALCULATED PLAN WEIGHT OF THESE ITEMS IS AS FOLLOWS:

STRUCTURAL STEEL (M 183)	305,415	LBS
LEAD PLATES	725	LBS

ALL SHOP AND FIELD CONNECTIONS SHALL BE BOLTED WITH HIGH STRENGTH BOLTS EXCEPT WHERE OTHERWISE NOTED OR SHOWN ON THE DRAWINGS TO BE BOLTED WITH MACHINE BOLTS OR WELDED. ALL HIGH STRENGTH BOLTS SHALL BE 7/8" DIAMETER UNLESS OTHERWISE NOTED. HOLES SHALL BE 1/8" LARGER THAN THE BOLT SIZE UNLESS OTHERWISE NOTED.

ALL HIGH STRENGTH BOLT CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST ISSUE OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 (M 164) BOLTS FOR SLIP-CRITICAL CONNECTIONS. ONLY THE TURN-OF-NUT TIGHTENING METHOD SHALL BE USED.

HOLES FOR SHOP FASTENERS SHALL BE SUBPUNCHED OR SUBDRILLED AND REAMED TO SIZE WITH PARTS ASSEMBLED AS REQUIRED BY THE A.R.E.A. MANUAL SPECIFICATIONS. HOLES FOR FIELD CONNECTIONS OF DIAPHRAGMS AND IN MEMBERS TO WHICH THEY CONNECT SHALL BE SUBPUNCHED OR SUBDRILLED AND FIELD REAMED TO SIZE WITH PARTS ASSEMBLED OR DRILLED FULL SIZE WHILE ASSEMBLED AS SHOWN ON THE PLANS AND AS REQUIRED BY THE A.R.E.A. SPECIFICATIONS.

FIELD WELDING WILL BE PERMITTED ONLY AT LOCATIONS NOTED IN THE PLANS.

STEEL SHALL BE SHOP INSPECTED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION BEFORE PAINTING. STEEL MAY ALSO BE INSPECTED BY THE RAILROAD. THE ZINC SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A618, M42 OR M53, GRADE 60. REINFORCEMENT BARS SHALL HAVE A MINIMUM COVER OF 2 INCHES OF CONCRETE UNLESS OTHERWISE NOTED.

CLASS X CONCRETE SHALL BE USED THROUGHOUT. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE SHOWN OR NOTED ON THE PLANS.

SOLE PLATES AND BASE PLATES FOR THE TRACK BEAMS SHALL BE MACHINED FROM STEEL PLATES. THE BOTTOM SURFACE OF SOLE PLATES AND THE TOP SURFACE OF BASE PLATES SHALL BE MACHINED TO A SMOOTH TRUE FINISH, ANSI 250.

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS HAVE BEEN OBTAINED BY FIELD SURVEYS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THIS DATA IS ESSENTIALLY CORRECT, BUT THE DEPARTMENT AND OTHER ASSOCIATED WITH THESE PLANS DO NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR WILL BE REQUIRED TO VERIFY THE EXACT LOCATION OF EACH FACILITY WITH THE UTILITY COMPANY WHEN THE POTENTIAL EXISTS FOR INVOLVEMENT AND SHALL TAKE DUE CARE IN ALL PHASES OF THE CONSTRUCTION TO PROTECT ANY SUCH FACILITIES WHICH MAY BE AFFECTED BY THE WORK. ANY DAMAGES TO THE UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

THE EXISTING SEWER LINE RUNNING SOUTH ALONG THE EAST SIDE OF THE TRACKS MUST BE RELOCATED AROUND THE CONSTRUCTION SITE BEFORE BRIDGE REMOVAL WORK COMMENCES. SEE SHEET NO. S-56. THEN REINSTALLED ON ITS ORIGINAL ALIGNMENT AND GRADE UNDER THE NEW EAST PASSENGER PLATFORM OVER THE NEW BRIDGE.

THE STORM SEWER LINE FROM THE EXISTING DEPOT ROOF DRAINS MUST BE BROKEN AND EXTENDED DOWN TO THE NEW BUCKLEY ROAD DRAINAGE SYSTEM UPON COMPLETION OF THE BRIDGE CONSTRUCTION WORK. SEE SHEET NO. S-55.

LIGHTING UNDER THE EXISTING BRIDGE AND POWER TO THE STREET LIGHTING MUST BE DISCONNECTED PRIOR TO REMOVAL OF THE BRIDGE AND ANY STREET LIGHTS.

EXISTING NAVY POWER POLES AND ELECTRICAL POWER LINE MUST BE RELOCATED AS SHOWN ON SHEET NO. S-40.

AT C&N.W.T. COMPANY'S REQUEST, THE BRIDGE WAS DESIGNED FOR THE EXISTING 13'-0" TRACK CENTERS BUT ALSO TO ACCOMMODATE FUTURE WIDENED TRACK CENTERS OF 14'-0" WITH ONLY A SHIFTING OR CUTBACK OF PASSENGER PLATFORMS. THIS ACCOUNTS FOR THE 3' ECCENTRICITY OF THE & TRACKS WITH THE & TRACK BEAMS.

THE BACK FACE OF ALL CONCRETE ABUTMENTS AND RETAINING WALLS BELOW GROUND SHALL BE WATERPROOFED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE 503.11 OF THE STANDARD SPECIFICATIONS.

TRACK, BALLAST, AND SUB-BALLAST SHALL BE REMOVED AND REINSTALLED BY C&N.W. RR FORCES.

SCHEDULE OF QUANTITIES

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL
20200100	EARTH EXCAVATION	CU YD	29458
20700100	EMBANKMENT	CU YD	4655
21100100	POROUS GRANULAR BACKFILL	CU YD	112
21100400	SAND BACKFILL	CU YD	8096
21301100	SUB-BASE GRANULAR MATERIAL TYPE B	CU YD	39.5
21800300	TOP SOIL PLACEMENT 4"	SQ YD	2860
40800800	BITUMINOUS CONCRETE SURFACE COURSE, CLASS I	TON	25
50100800	REMOVAL OF EXISTING STRUCTURES	L SUM	1
50800100	STRUCTURE EXCAVATION	CU YD	1333
50400300	CLASS X CONCRETE	CU YD	2359
50700100	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
50800800	PEDESTRIAN RAIL	LIN FT	320
51000100	TREATED TIMBER	FBM	2310
51200100	REINFORCEMENT BARS	POUND	220110
51200300	REINFORCEMENT BARS, EPOXY COATED	POUND	43990
51200400	WELDED WIRE FABRIC	SQ FT	574
51300600	STEEL SHEET PILING	SQ FT	20872
51400100	NAME PLATES	EACH	1
60700800	PIPE UNDERDRAINS PERFORATED, CORR STEEL PIPE, 8"	LIN FT	715
61700100	PAVEMENT REMOVAL	SQ YD	101
61700500	COMBINATION CURB & GUTTER REMOVAL	LIN FT	187
61700800	SIDEWALK REMOVAL	SQ FT	1993
63000100	BARBED WIRE FENCE, FOUR STRAND	LIN FT	240
63500100	PIPE HANDRAIL	LIN FT	193
64200300	SEEDING CLASS III	ACRE	0.59
64200400	NITROGEN FERTILIZER NUTRIENT	POUND	53.5
64200500	PHOSPHOROUS FERTILIZER NUTRIENT	POUND	32
64200800	POTASSIUM FERTILIZER NUTRIENT	POUND	17.7
64300400	EXCELSIOR BLANKET	SQ YD	2860
L0002800	ELECTRICAL SERVICE CONNECTION	L SUM	1
L0004800	JUNCTION BOX	EACH	4
L0005800	LIGHTING UNIT COMPLETE	EACH	4
66304200	CONDUIT ATTACHED TO STRUCTURES, 3/4" DIA., GALV. STL	LIN FT	550
66304300	CONDUIT ATTACHED TO STRUCTURES, 1" DIA., GALV. STL	LIN FT	550
	ELECTRIC CABLE IN CONDUIT 1/2" NO. 8	LIN FT	1100
66060300	BARE COPPER WIRE 1/2" NO. 8	LIN FT	550
Z0006700	BRIDGE DRAINAGE SYSTEM	EACH	1
Z0017100	DOWEL BARS	EACH	132
Z0020300	EPOXY CRACK SEALING	LIN FT	35
Z0024400	FILTER FABRIC	SQ YD	795
Z0048500	RAILROAD EMBLEMS	EACH	2
Z0075400	TIE RODS	EACH	43
50600100	MEMBRANE WATERPROOFING	SQ FT	3213
	PRECAST CONCRETE DECK SLAB - 4FT	EACH	12
	PRECAST CONCRETE DECK SLAB - 5FT	EACH	28
	PRECAST CONCRETE PLATFORM PANEL, A - 3FT	EACH	2
	PRECAST CONCRETE PLATFORM PANEL, B - 3FT	EACH	2
	PRECAST CONCRETE PLATFORM PANEL, C - 4FT	EACH	24
	PRECAST CONCRETE PLATFORM PANEL, D - 4FT	EACH	22
	STAIRWAY ROOF CANOPY	L SUM	1
	PRECAST CONCRETE TACTILE WARNING STRIP - 5FT LG	EACH	32
	PRECAST CONCRETE TACTILE WARNING STRIP - 3FT LG	EACH	8
	CANOPY ROOF REPAIRS	L SUM	1

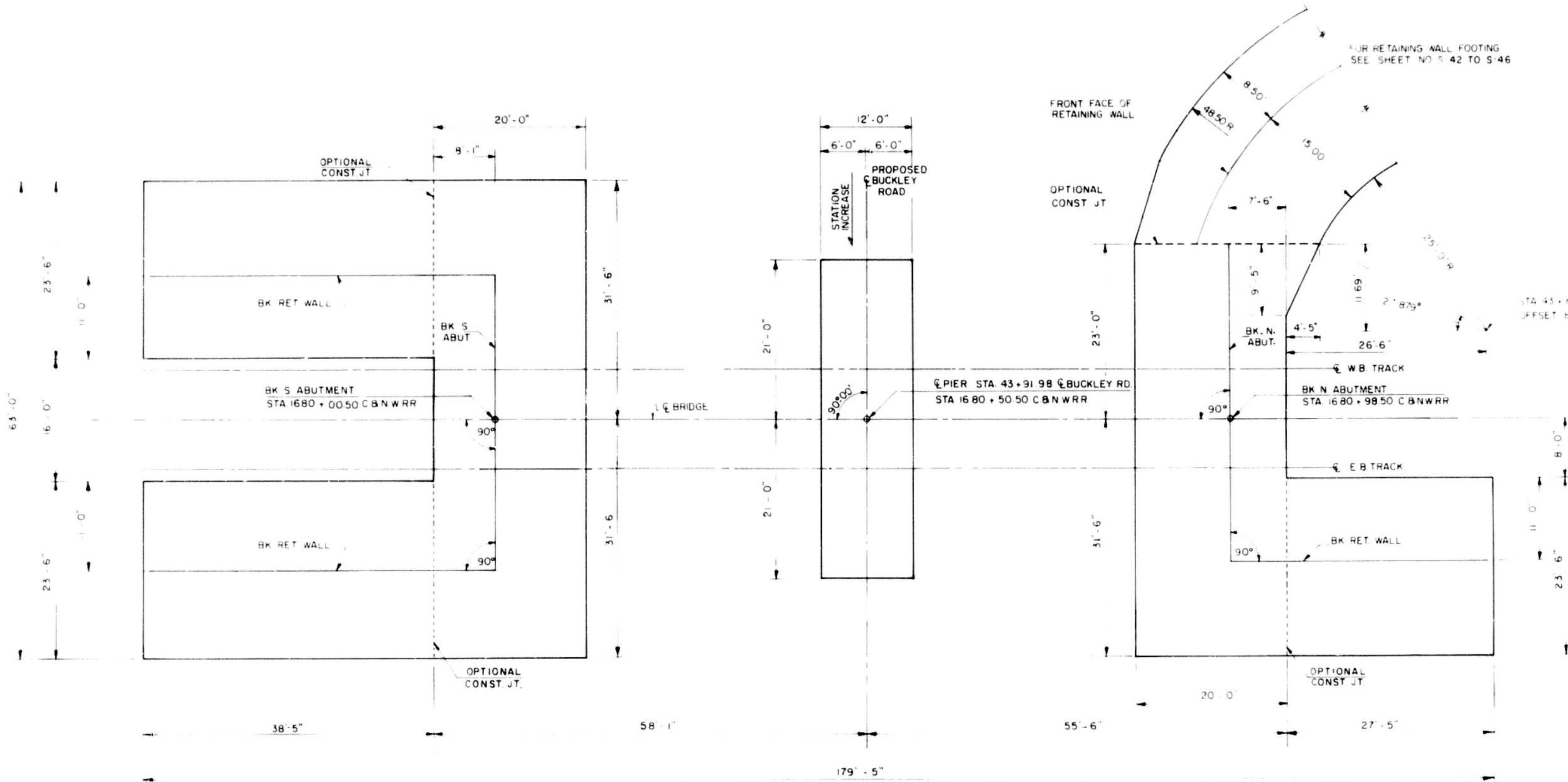
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CHECKED	LKT
DRAWN	SB
CHECKED	HDH
REVIEWED	HTG

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
C&N.W. RR BRIDGE OVER BUCKLEY RD.
BRIDGE 049-0158
FAP-437 SECTION 71: HBK, R-1 & SB186
STATION 1680+50.5
LAKE COUNTY
GENERAL NOTES, SCHEDULE OF QUANTITIES
INDEX OF SHEETS

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILL.

S-3

FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
FAP-437	*	LAKE	85	26
FED ROAD DIV No 7 ILLINOIS PROJECT IX 437()				
* 71() HBK, R-1 & SB186				



NOTE:
 1. FOR TRACK LOCATION PLAN SEE SHEET NO S-2

FOOTING LAYOUT

DESIGNED	LRT
CHECKED	N.C.B.
DRAWN	F.G.M.
CHECKED	H.D.W.
REVIEWED	Lg.

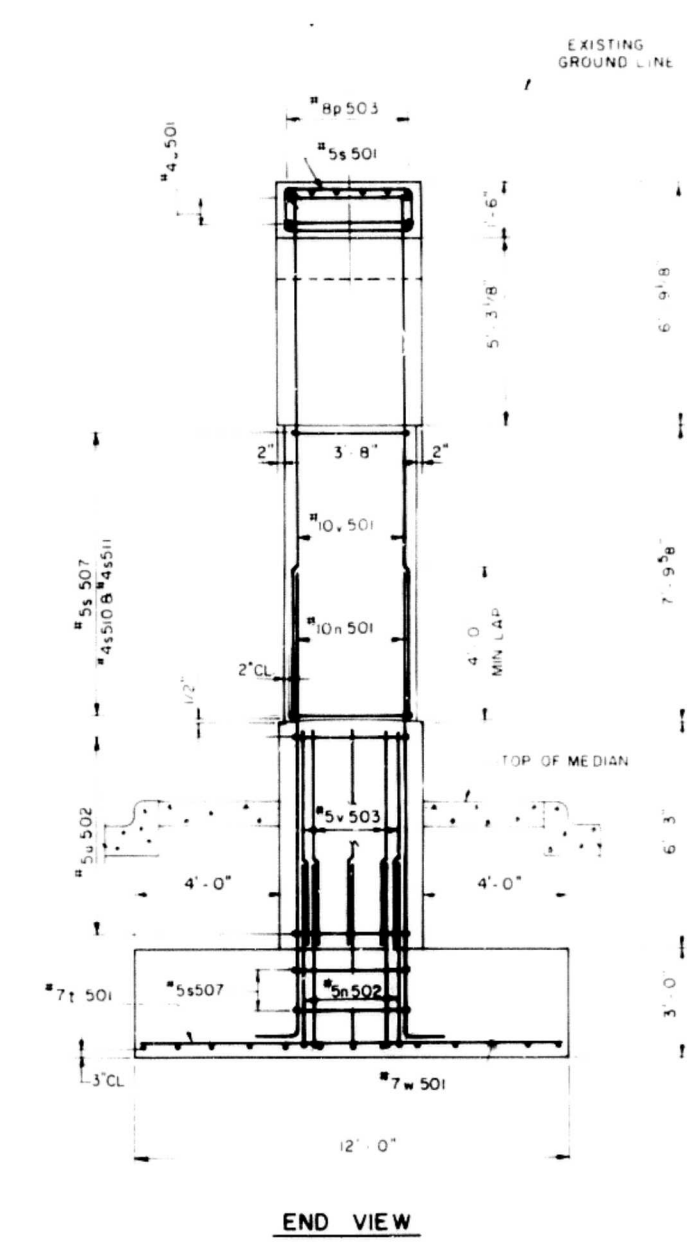
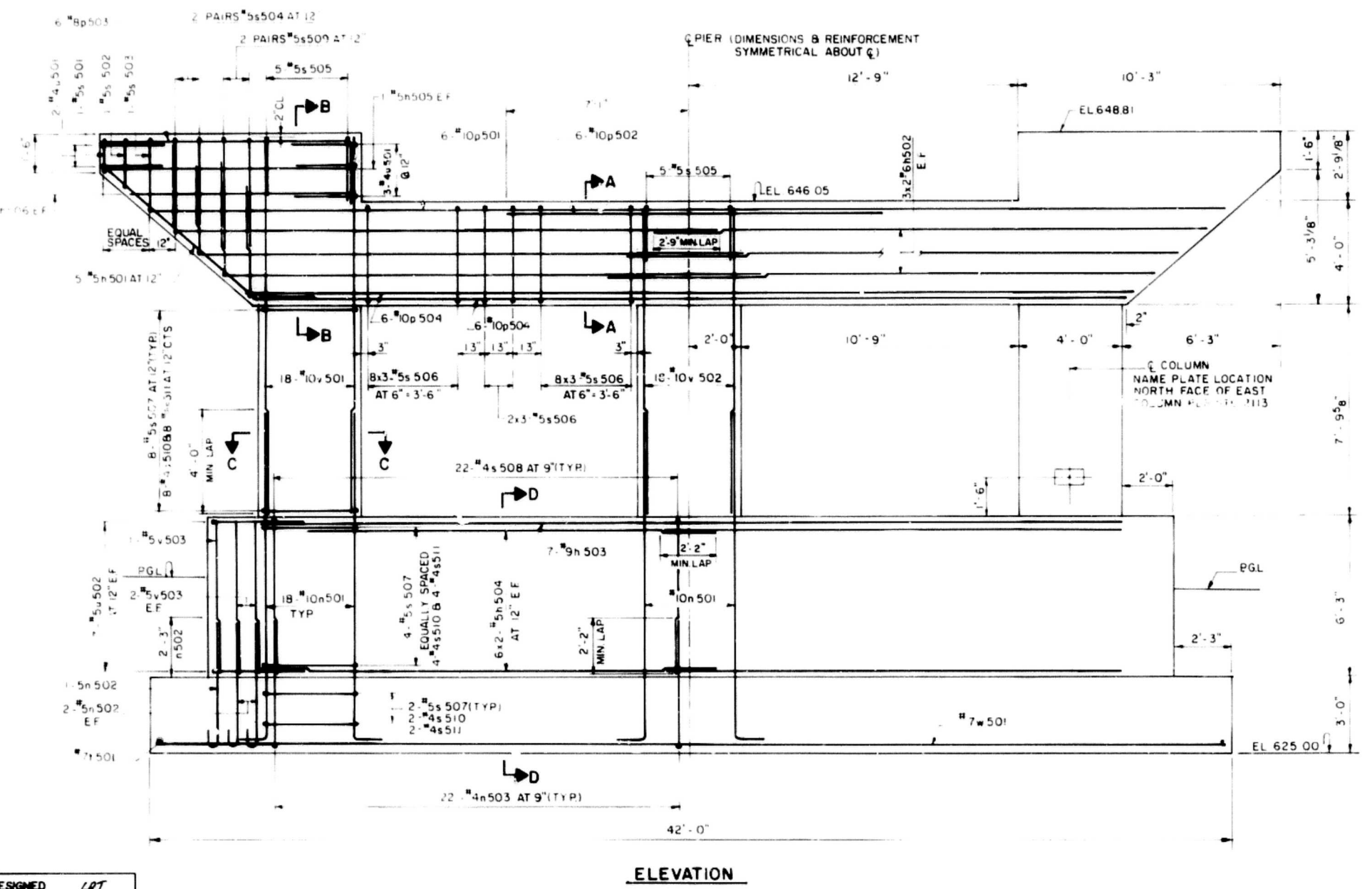
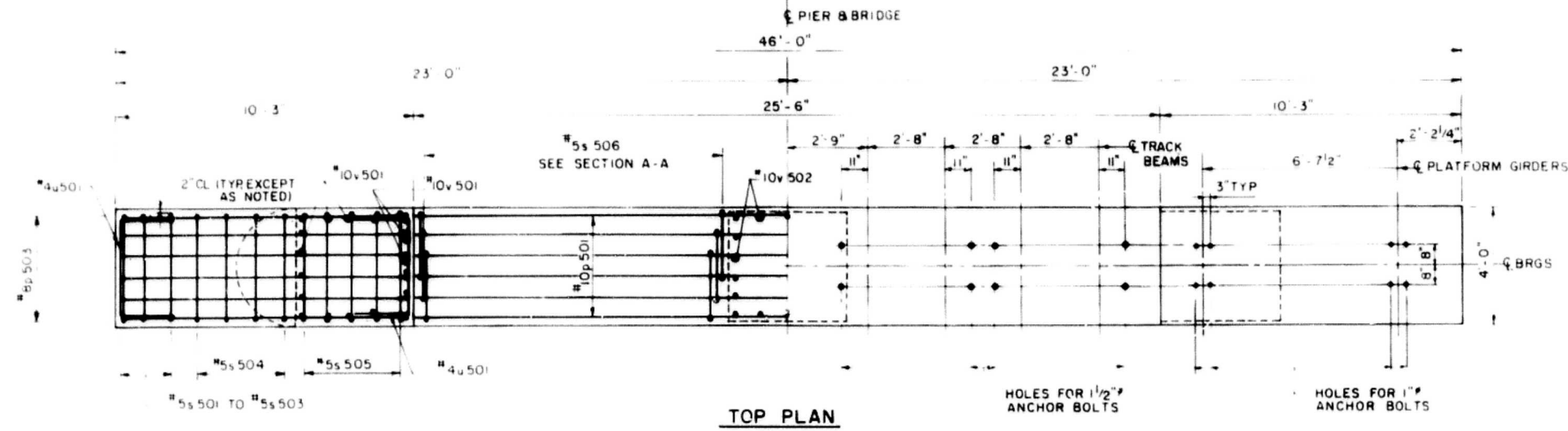
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 C&N RR BRIDGE OVER BUCKLEY RD.
 BRIDGE 049-0158
 FAP-437 SECTION 71() HBK, R-1 & SB186
 STATION 1680+50.5
 LAKE COUNTY
 FOOTING LAYOUT

H. W. LOCHNER, INC.
 ENGINEERS
 CHICAGO, ILL.

FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
FAP-437	.	LAKE	85	53

FED. ROAD DIV. No. 7 ILLINOIS PROJECT IX 437 ()

71 (), HBK, R-1 & SB186



DESIGNED	LRT
CHECKED	PWP
DRAWN	ESM
CHECKED	MR
REVIEWED	MY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
C&Nw PR BRIDGE OVER BUCKLEY RD
BRIDGE 049-0158
FAP-437 SECTION 71() P. 1 & SB.06
STATION 1680+00.5
LAKE COUNTY
PIER

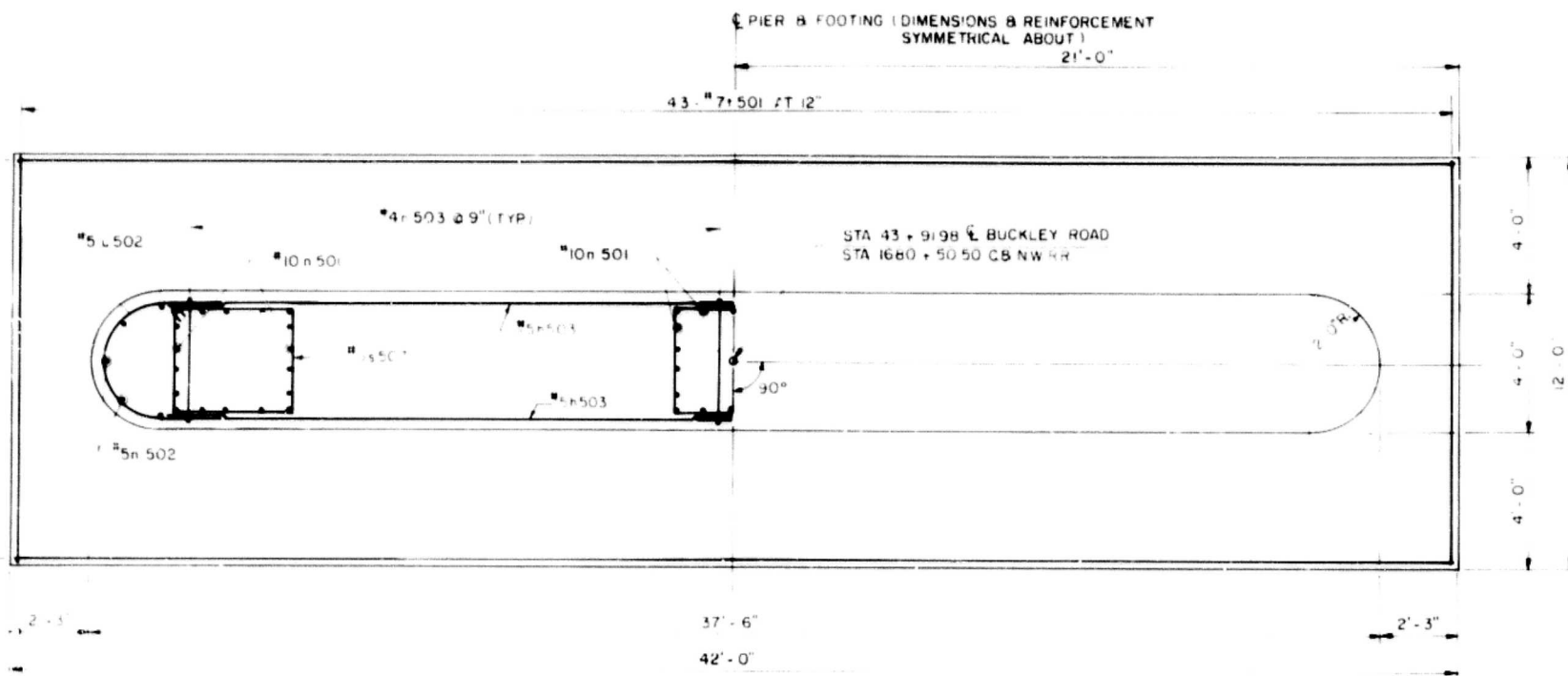
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILL. **S-31**

FEDERAL-AID ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAP-437	*	LAKE	85	54

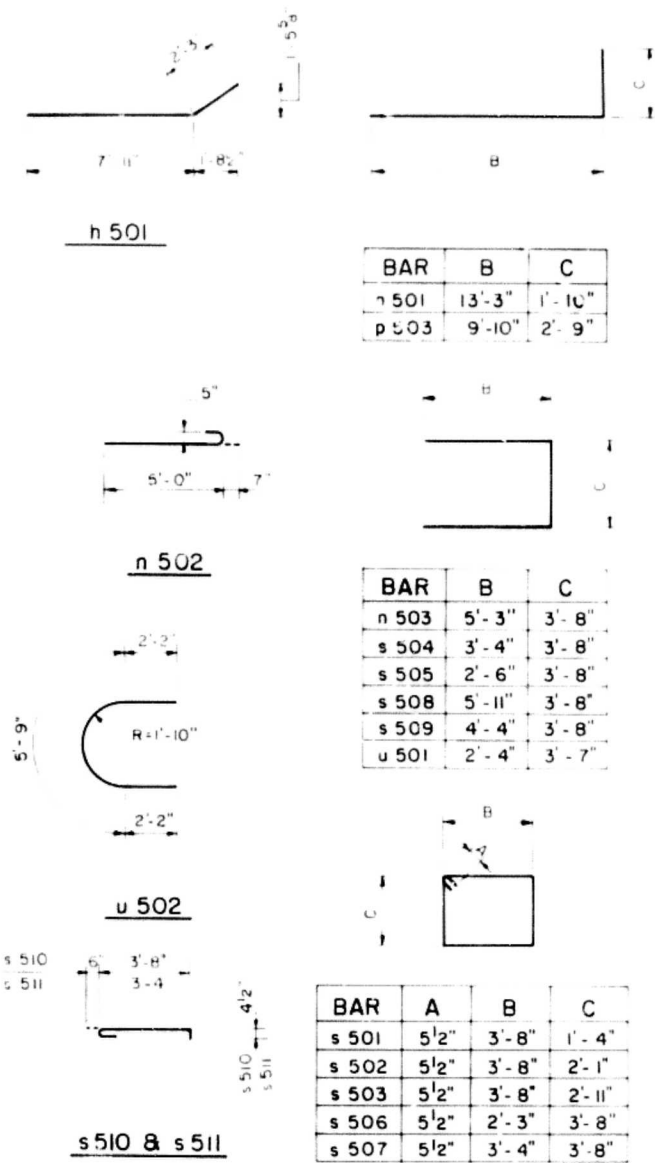
FED ROAD DIV	NO	ILLINOIS	PROJECT
71	HBK, R-1 & SB186		IX 437

*71 HBK, R-1 & SB186

BAR LIST				
BAR	NO	SIZE	LENGTH	SHAPE
h 501	10	#5	10'-2"	
h 502	12	#6	21'-7"	
h 503	7	#9	33'-6"	
h 504	24	#5	17'-10"	
h 505	4	#5	9'-11"	
h 506	4	#5	8'-9"	
n 501	54	#10	15'-1"	
n 502	10	#5	5'-7"	
n 503	44	#4	14'-2"	
p 501	6	#10	42'-2"	
p 502	6	#10	4'-2"	
p 503	12	#8	12'-7"	
p 504	12	#10	33'-6"	
s 501	2	#5	10'-11"	
s 502	2	#5	12'-5"	
s 503	2	#5	14'-1"	
s 504	8	#5	10'-4"	
s 505	15	#5	8'-8"	
s 506	108	#5	12'-9"	
s 507	42	#5	14'-11"	
s 508	44	#5	15'-6"	
s 509	8	#5	12'-4"	
s 510	42	#4	4'-7"	
s 511	42	#4	4'-3"	
t 501	43	#7	11'-6"	
u 501	10	#4	8'-3"	
u 502	14	#5	10'-1"	
v 501	36	#10	14'-3"	
v 502	18	#10	11'-6"	
v 503	10	#5	6'-0"	
w 501	13	#7	41'-6"	



FOOTING PLAN



PLATFORM GIRDER ANCHOR BOLTS 1"Ø W/2"Ø D x 1/8" I.D., .177 THK WASHERS #10p501

TRACK BEAM ANCHOR BOLTS 1 1/2"Ø W/3"Ø D x 1 1/8" I.D., .177 THK WASHERS #10p502

SECTION A-A

SECTION C-C

SECTION B-B

SECTION D-D

BILL OF MATERIALS		
ITEM	UNIT	TOTAL
CLASS X CONCRETE	CU YD	139
REINFORCEMENT BAR	LB	18,056

- NOTES:**
- FOR TRACK LOCATION SEE SHEET NOS-2
 - CONTRACTOR SHALL PLACE REINFORCEMENT STEEL CAREFULLY TO AVOID CONFLICT WITH THE DRILLING OF ANCHOR BOLT HOLES
 - FOR DETAIL OF ANCHOR BOLTS SEE SHT. NO: S-58

DESIGNED	LRT
CHECKED	PWP
DRAWN	FQM
CHECKED	HR
REVIEWED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
C&NW RR BRIDGE OVER BUCKLEY RD.
BRIDGE 049-0158
FAP-437 SECTION 711 HBK, R-1 & SB186
STATION 1680+50.5
LAKE COUNTY
PIER DETAILS AND
REINFORCEMENT BAR LIST
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILL.