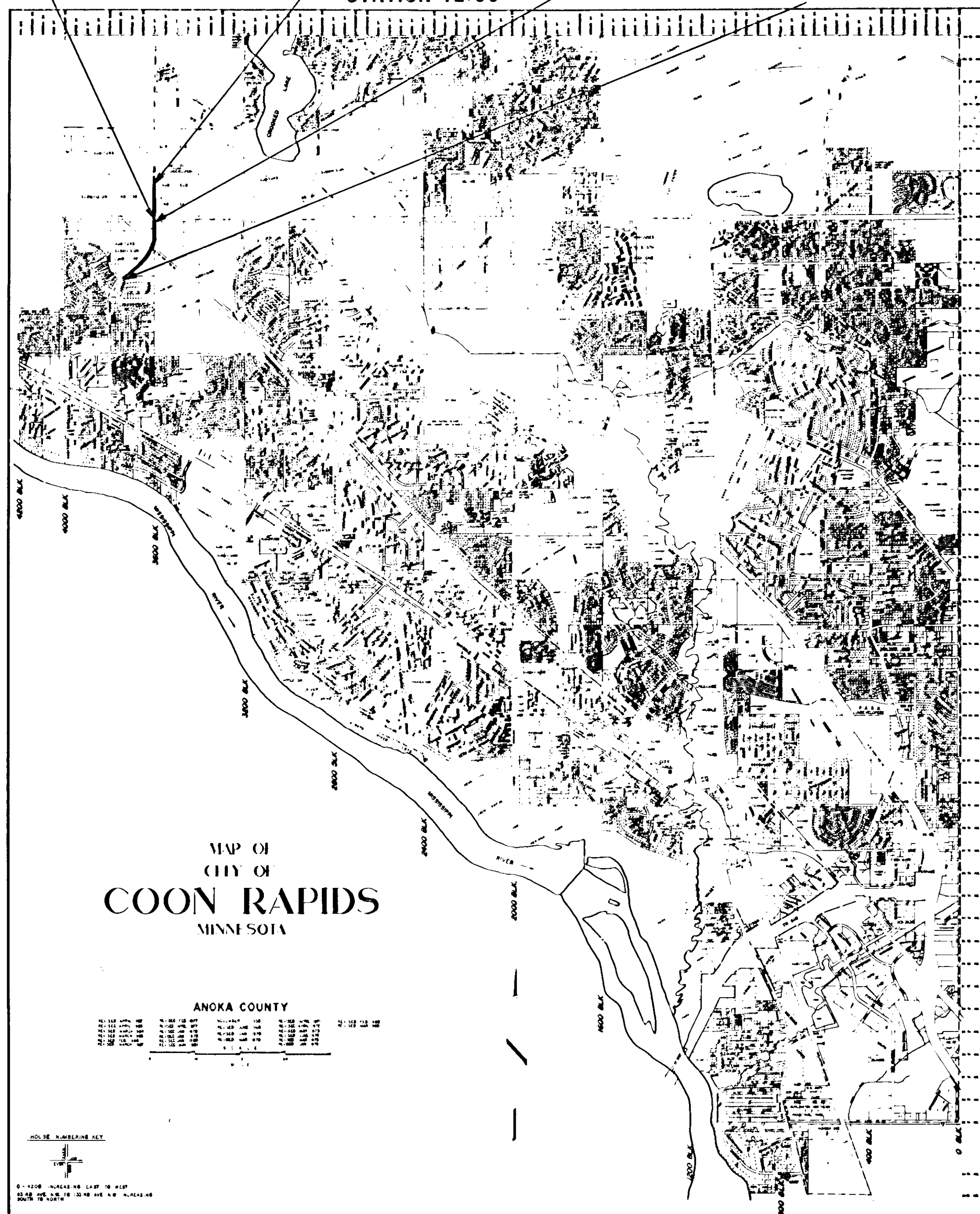


CITY OF COON RAPIDS IMPROVEMENT PROJECT 89-48 REISLING BOULEVARD NW. S.A.P. NO. 114-121-07

CITY OF COON RAPIDS/ANOKA COUNTY IMPROVEMENT PROJECT 89-50 ROUND LAKE BLVD (C.S.A.H. NO. 9) S.A.P. NO. 02-609-09

START S.A.P. 02-609-09 STATION 0+00 END S.A.P. 02-609-09 STATION 12+00 END S.A.P. 114-121-07 STATION 33+12.34 START S.A.P. 114-121-07 STATION 11+71.99



**REISLING BOULEVARD NW.
S.A.P. NO. 114-121-07**

**BETWEEN WEDGEWOOD DRIVE NW.
AND MAIN STREET (C.S.A.H. NO. 14)**

GROSS LENGTH: 2,140.35 FEET 0.405 MILES
EXCEPTIONS: 0.000 FEET 0.000 MILES
NET LENGTH: 2,140.35 FEET 0.405 MILES

DESIGN DESIGNATION

PRESENT ADT: N/A NO. OF TRAFFIC LANES: 4
ANTICIPATED ADT: 16,716 (YEAR 2010) NO. OF PARKING LANES: 0
ANTICIPATED HCADT: N/A
PAVEMENT DESIGN: 9 TON STOPPING SIGHT DISTANCE BASED ON:
DESIGN SPEED: 45 M.P.H. 3.5' HEIGHT OF EYE
R-VALUE: 70 0.5' HEIGHT OF OBJECT
N 18 FACTOR: 832,073
DESIGN SPEED EXCEPTION: 29+00-32+50 (VERTICAL CURVE 40 MPH)
FUNCTIONAL CLASSIFICATION: ARTERIAL (HIGH DENSITY)

**ROUND LAKE BLVD.
S.A.P. NO. 02-609-09**
**BETWEEN MAIN STREET (C.S.A.H. 14)
AND T.H. 10/47**

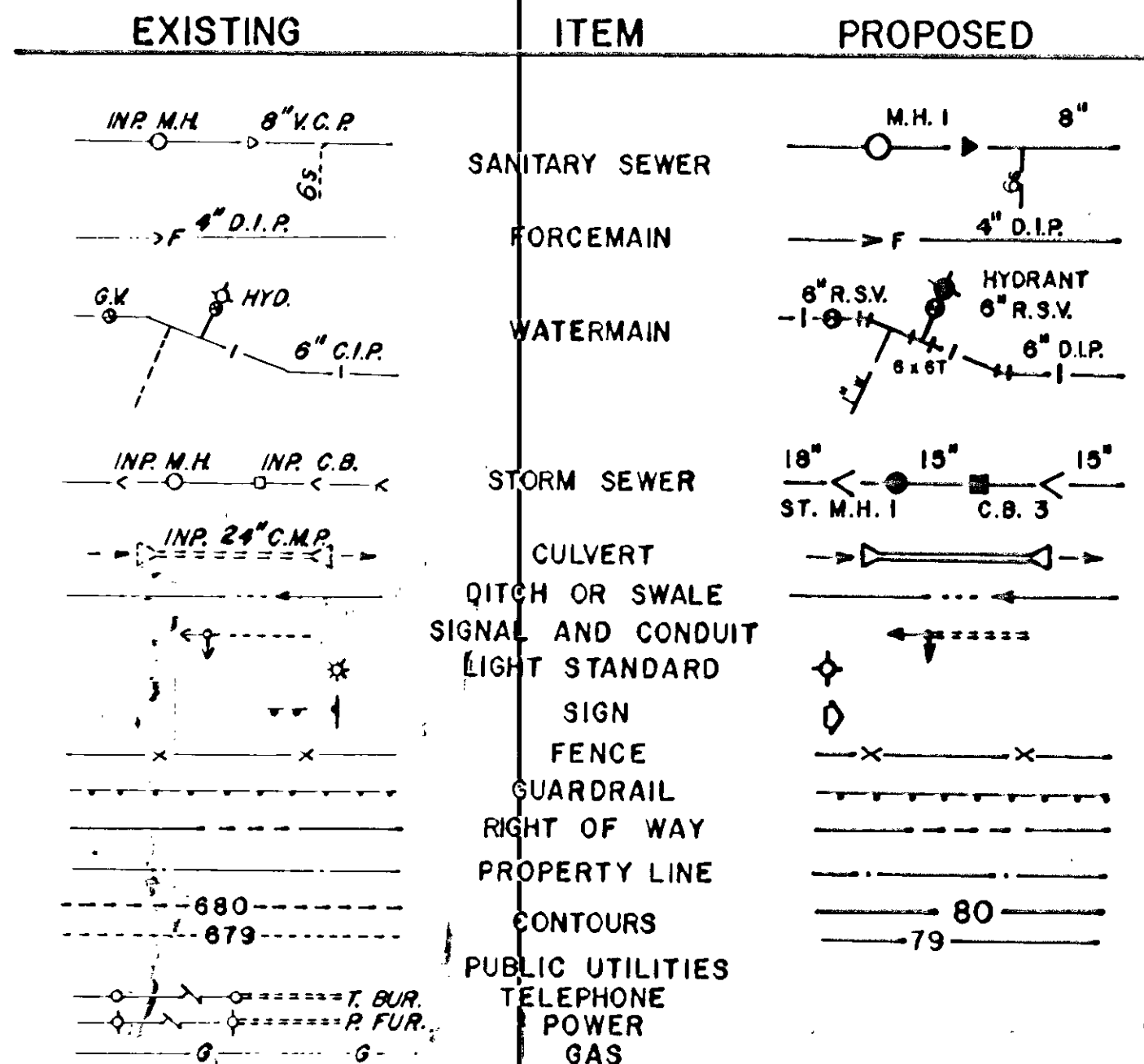
GROSS LENGTH: 1,200 FEET 0.227 MILES
EXCEPTIONS: 0.000 FEET 0.000 MILES
NET LENGTH: 1,200 FEET 0.227 MILES

DESIGN DESIGNATION

PRESENT ADT: 3700
ANTICIPATED ADT: 30,000 (YEAR 2010)
ANTICIPATED HCADT: N/A
PAVEMENT DESIGN: 9 TON
DESIGN SPEED: 45 M.P.H.
R-VALUE: 70
N 18 FACTOR: 1,896,668
DESIGN SPEED EXCEPTION: NONE
FUNCTIONAL CLASSIFICATION: ARTERIAL (HIGH DENSITY)
NO. OF TRAFFIC LANES: 6
NO. OF PARKING LANES: 0
STOPPING SIGHT DISTANCE BASED ON:
3.5' HEIGHT OF EYE
0.5' HEIGHT OF OBJECT

SPECIFICATIONS
THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS FOR CONSTRUCTION SHALL GOVERN.

CONVENTIONAL SYMBOLS



INDEX

SHEET NO.	DESCRIPTION
1	Title Sheet
2 - 3	Estimated Quantities
4 - 6	Construction Staging
7 - 16	Traffic Control
17	Soil Notes
18 - 20	Bridge Approach Panel & Treatment
21	Omitted
22 - 24	Standard Construction Details
25 - 27	Typical Sections
28 - 32	Roadway Plan and Profile
33	Intersection and Superelevation Details
34	Main Street Temporary By-Pass
35 - 37	Storm Drainage
38 - 40	Watermain & Sanitary Sewer
41 - 48	Signaling & Striping
49 - 56	Traffic Signal & Interconnect Plan
57 - 71	Cross-sections
1 - 36	Bridge No. 02557 Plans
1 - 13	Roadway Lighting

REVISION	DATE	SHEETS REVISED
1	7/19/90	36
2	10/4/90	41, 42, 43, 45, 46

Recommended for Approval *Tanel K. Kinn* Date 3/15/90
ANOKA COUNTY HIGHWAY ENGINEER
Recommended for Approval *W. R. O'Sullivan* Date 7/12/90
CITY ENGINEER
Recommended for Approval *Chadwick Johnson* Date 4/4/90
DISTRICT STATE AID ENGINEER
Recommended for Approval *David Stoddard* Date 5/31/90
STATE AID PLANS ENGINEER
Approved *William H. Coy* Date 5/31/90
STATE AID ENGINEER

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.
Douglas W. Fischer
Date 3/12/90 Minn. Reg. No. 20235

BRW
BRW INC.
THRESHER SQUARE, 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415
DESIGN BY: S.A.C.
DRAWN BY: S.L.G.
CHECKED BY: D.W.F.

ORIGINAL DATE: 3/12/90
REVISIONS:
SURVEY BK. NO.

**CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
IMPROVEMENT PROJECT 89-50
REISLING BOULEVARD NW. &
ROUND LAKE BLVD. (C.S.A.H. 9)**
TITLE SHEET

STATEMENT OF ESTIMATED QUANTITIES

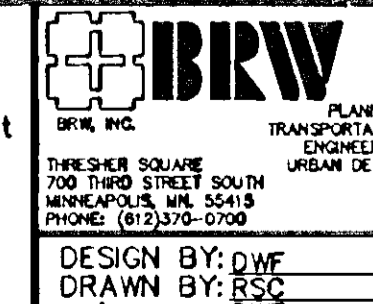
ITEM NO.	ITEM	UNIT	S.A.P. 114-121-07						S.A.P. 02-609-09						TOTAL QUANTITIES	
			PARTICIPATING		NON-PART.		STORM SEWER		PARTICIPATING		NON-PART.		STORM SEWER		EST.	FINAL
			EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL				
2021.501	MOBILIZATION	LUMP SUM	0.60		0.04		0.01		0.31		0.01		0.03		LS	
2031.501	FIELD OFFICE TYPE D	EACH	0.60		0.04		0.01		0.31		0.01		0.03		1.00	
2101.501	CLEARING	ACRE	0.45						1.00						1.45	
2101.502	CLEARING	TREE	2						11						13	
2101.506	GRUBBING	ACRE	0.45						1.00						1.45	
2101.507	GRUBBING	TREE	2						11						13	
2102.502	PAVEMENT MARKING REMOVAL (1)(2)(12)	LIN FT	1,368						3,370						4,738	
2104.501	REMOVE PIPE CULVERTS	LIN FT							240						240	
2104.501	REMOVE CURB AND GUTTER	LIN FT	70												70	
2104.505	REMOVE BITUMINOUS PAVEMENT (3)	SQ YD	356						9,763						10,119	
2104.509	REMOVE CONCRETE APRONS	EACH							2						2	
2104.509	REMOVE PERMANENT BARRICADES	EACH	4												4	
2104.513	SAWING BIT. PAVEMENT (FULL DEPTH) (4)	LIN FT	120						2,800						2,920	
2104.523	SALVAGE SIGNS TYPE C	EACH	2						16						18	
2105.501	COMMON EXCAVATION	CU YD	2,961						11,232					P	14,193	
2105.507	SUBGRADE EXCAVATION	CU YD	1,608						3,071						4,679	
2105.521	GRANULAR BORROW (CV)	CU YD	60,853						32,283					P	93,136	
2105.522	SELECT GRANULAR BORROW (CV)	CU YD	2,317						3,999					P	6,316	
2105.522	SELECT GRANULAR BORROW MOD. 10% (CV) (5)	CU YD	1,109											P	1,109	
2105.523	COMMON BORROW (CV)	CU YD	16,249						1902					P	18,151	
0105.601	RETENTION POND EXCAVATION	LUMP SUM							1						LS	
0105.609	CONSTRUCT ACCESS ROAD	SQ YD	1,058												1,058	
2130.501	WATER (6)	M GAL	15						15						30	
2211.503	AGGREGATE BASE PLACED CLASS 5	CU YD	1,367						1,882					P	3,249	
2211.503	AGGREGATE BASE PLACED CLASS 6	CU YD							3,120					P	3,120	
2221.503	AGGREGATE SHOULDERING PLACED CLASS 1	CU YD							175					P	175	
2301.553	BRIDGE APPROACH PANELS	SQ YD	257											P	257	
2331.508	TYPE 31 WEARING COURSE MIXTURE	TON							271						271	
2331.508	TYPE 41 WEARING COURSE MIXTURE (7)	TON	1,136						762						1,898	
2331.508	TYPE 61 WEARING COURSE MIXTURE (7)	TON							1,239						1,239	
2331.510	TYPE 31 BINDER COURSE MIXTURE	TON	1,255												1,255	
2331.510	TYPE 41 BINDER COURSE MIXTURE	TON							1,751						1,751	
2331.514	TYPE 31 BASE COURSE MIXTURE (7)	TON	1,412						5,183						6,595	
2331.516	TYPE 31 SHOULDER MIXTURE	TON							72						72	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT (8)	GAL	1,082						2,150						3,232	
2501.515	15" RC PIPE APRON (9)	EACH											1		1	
2501.515	18" RC PIPE APRON (9)	EACH						1							1	
2503.519	FLAP GATE FOR 15" RC PIPE	EACH											1		1	
2503.519	FLAP GATE FOR 18" RC PIPE	EACH						1							1	
2503.541	12" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT						49					111		160	
2503.541	15" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT						320					372		692	
2503.541	18" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT						80					320		400	
2503.541	21" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT											165		165	
2503.541	24" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT											118		305	
2503.541	30" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT						187					272		272	
2503.541	33" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT											65		65	
0503.602	15" PIPE PLUG (13)	EACH											1		1	
0503.602	30" PIPE PLUG (13)	EACH											1		1	
0503.605	PIPE INSULATION	SQ YD											15		15	
0503.602	18" RC PIPE BENDS 7 1/2°	EACH						5							5	
0503.602	18" PLUG	EACH											2		2	
0503.603	18" PVC SANITARY SEWER PIPE	LIN FT											260		260	
0504.602	CONNECT TO EXISTING WATERMAIN	EACH													1	
0504.602	12" PLUG	EACH											2		5	
0504.602	16" PLUG	EACH													1	
0504.602	16" PIPE BENDS 45	EACH													1	
0504.602	16" PIPE BENDS 22 1/2	EACH													1	
0504.602	16" x 12" TEE FITTING	EACH													3	
0504.602	16" BUTTERFLY VALVE AND BOX	EACH													2	
0504.602	ADJUST VALVE BOX, WATER	EACH													1	
0504.603	16" WATERMAIN-D.I.P. RESTRAINED JOINT	LIN FT													104	
0504.603	12" WATERMAIN-DUCTILE IRON CL 52	LIN FT											230		230	
0504.603	16" WATERMAIN-DUCTILE IRON CL 52	LIN FT													1,375	
0504.603	30" STEEL CASING PIPE (JACKED)	LIN FT													84	

NOTES:

- (1) SEE TRAFFIC CONTROL AND STRIPING PLANS FOR REMOVAL LIMITS.
- (2) FOR USE AS DIRECTED BY THE ENGINEER.
- (3) INCLUDES ALL BITUMINOUS SURFACING REGARDLESS OF THE THICKNESS OF THE PAVEMENT.
- (4) NO PAYMENT SHALL BE MADE UNDER THIS ITEM WHERE THE CONTRACTOR ELECTS TO MILL A STRAIGHT EDGE IN LIEU OF SAWING IN AREAS APPROVED BY THE ENGINEER.
- (5) FOR BRIDGE APPROACH TREATMENT.
- (6) FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.

- (7) INCLUDES QUANTITY FOR ADDING 1/4" TO THE DESIGN THICKNESS.
- (8) BASED ON AN APPLICATION RATE OF 0.05 GALLONS PER SQ YD PER LAYER APPLIED.
- (9) INCLUDES TRASH GUARD PER DETAIL DRAWING C.R.ST.S.7.
- (10) INCLUDES FILTER BLANKET AND GEOTEXTILE FABRIC AND SHALL BE INCIDENTAL TO THE RIPRAP PLACED.
- (11) SEE CONSTRUCTION SEQUENCE SHEETS FOR FENCE LIMITS.
- (12) LIN FT BASED ON 4" LINE EQUIVALENT.
- (13) TREATED PLYWOOD PLUG PER PLANS.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.



ORIGINAL DATE: 3/12/90
 REVISIONS: _____
 SURVEY BOOK: _____

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
IMPROVEMENT PROJECT 89-50
ESTIMATED QUANTITIES

Douglas W. Fischer
 Date: 3/12/90 Minn. Reg. No. 20235

S.A.P. NO. 02-609-09
 114-121-07

SHEET 2 OF 71

DESIGN FILE
 ESTQUA1
 No. 18-8951

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	S.A.P. 114-121-07						S.A.P. 02-609-09						TOTAL QUANTITIES	
			PARTICIPATING		NON-PART.		STORM SEWER		PARTICIPATING		NON-PART.		STORM SEWER		EST.	FINAL
			EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL				
2506.508	CONSTRUCT MANHOLES DESIGN 48-4020	EACH						3						16	19	
2506.508	CONSTRUCT MANHOLES DESIGN 54-4020	EACH												1	1	
2506.508	CONSTRUCT MANHOLES DESIGN SPECIAL 54"	EACH						1						1	1	
2506.508	CONSTRUCT MANHOLES DESIGN SPECIAL 60"	EACH						1						1	2	
2506.509	CONST CATCH BASINS DES SPECIAL 27"	EACH						1						1	1	
2506.522	ADJUST FRAME & RING CASTINGS	EACH						6						18	24	
0506.602	RECONSTRUCT MANHOLES	EACH						2							2	
2511.501	RANDOM RIPRAP CL III (10)	CU YD						3.5						3.5	7	
2521.501	3" CONCRETE WALK	SQ FT	5,685						12,394						18,079	
2521.501	4" CONCRETE WALK (14)	SQ FT	44						700						744	
2521.511	2" BITUMINOUS PATHWAY	SQ FT	15,920												15,920	
2531.501	CONCRETE C & G DES B618	LIN FT	4,504						65						4,569	
2531.501	CONCRETE C & G DES B618 (MODIFIED)	LIN FT	60												60	
2531.501	CONCRETE C & G DES B624	LIN FT							5,314						5,314	
2535.501	BITUMINOUS CURB	LIN FT							610						610	
2554.501	TRAFFIC BARRIER DES B8307	LIN FT	400												400	
2554.523	TWISTED END TREATMENT	EACH	4												4	
0563.601	TRAFFIC CONTROL - STAGE 1	LUMP SUM	0.05						0.95						LS	
0563.601	TRAFFIC CONTROL - STAGE 2	LUMP SUM	0.05						0.95						LS	
0563.601	TRAFFIC CONTROL - STAGE 3	LUMP SUM	0.05						0.95						LS	
0563.602	TYPE I BARRICADES	UNIT DAY							100						100	
0563.602	TYPE II BARRICADES	UNIT DAY							100						100	
0563.602	TYPE III BARRICADES	UNIT DAY							250						250	
0563.602	FLASHER TYPE A (LOW INTENSITY)	UNIT DAY							100						100	
0563.602	FLASHER TYPE B (HIGH INTENSITY)	UNIT DAY							100						100	
0563.602	FLASHER TYPE C (STEADY BURN)	UNIT DAY							100						100	
0563.602	TUBE DELINEATORS	UNIT DAY							250						250	
0563.602	REFLECTORIZED PLASTIC SAFETY DRUM	UNIT DAY							1,250						1,250	
0563.602	REFLECT PLAST SAFE DRUM W/DOWN ARROW	UNIT DAY							250						250	
0563.602	48X48 INCH STD. SIGN	UNIT DAY							250						250	
0563.602	48X48 INCH STD. SIGN WITH SUPPORTS	UNIT DAY							250						250	
0563.603	ONE-WAY TEMP RAISED PAVEMENT MARKER	EACH							875						875	
0563.603	TWO-WAY TEMP RAISED PAVEMENT MARKER	EACH							805						805	
0563.603	REPLACE ONE-WAY TRPM	EACH							40						40	
0563.603	REPLACE TWO-WAY TRPM	EACH							36						36	
2564.531	F & I SIGN PANELS TYPE C	SQ FT	142						291.96						433.96	
0564.602	INSTALL SIGNS TYPE C	EACH	1						12						13	
0564.602	PAVT MESSAGE (LT ARROW) EPOXY	EACH	1						10						11	
0564.602	PAVT MESSAGE (RT ARROW) EPOXY	EACH	2						6						8	
0564.602	PAVT MESSAGE (ONLY) EPOXY	EACH	3						16						19	
0564.603	24" STOP LINE WHITE - PAINT	LIN FT	93						277						370	
0564.603	4" SOLID LINE WHITE - PAINT	LIN FT	5,012						19,070						24,082	
0564.603	4" BROKEN LINE WHITE - PAINT (10-40)	LIN FT	465						2,080						2,545	
0564.603	4" SOLID LINE YELLOW - PAINT (15)	LIN FT	788						5,832						6,620	
0564.603	24" SOLID LINE YELLOW - PAINT	LIN FT	78						1,280						1,358	
0564.603	4" DOUBLE SOLID LINE YELLOW - PAINT	LIN FT	1,683						1,954						3,637	
0564.604	CROSSWALK ZEBRA MARKING	SQ FT	438						1,312						1,750	
0564.602	PAVT MESSAGE (RAILROAD CROSSING) EPOXY	EACH							2						2	
0564.602	PAVT MESSAGE (RAILROAD CROSSING) PAINT	EACH							2						2	
0565.601	TRAFFIC CONTROL INTERCONNECTION "A"	LUMP SUM							1						LS	
0565.601	TRAFFIC CONTROL INTERCONNECTION "F"	LUMP SUM							1						LS	
0565.601	SALVAGE SIGNAL SYSTEM "G"	LUMP SUM	0.25						0.75						LS	
2565.511	FULL TRAF ACT TRAF CONTROL SIGNAL SYS "G"	SIG SYS	0.25						0.75						1	
2573.501	BALE CHECK (2)	EACH	20						60						80	
2573.502	SILT FENCE, HEAVY DUTY (11)	LIN FT	200						1,550						1,750	
2575.501	ROADSIDE SEEDING	ACRE	4.0						1.8						5.8	
2575.502	SEED MIXTURE 500	POUND	202						91						293	
2575.505	SODDING	SQ YD	2,846						1,301						4,147	
2575.511	MULCH MATERIAL TYPE 1	TON	8						8						16	
2575.519	DISC ANCHORING	ACRE	4.0						3.7						7.7	
2575.532	COMMERCIAL FERT ANALYSIS 10-20-20	POUND	1,816						819						2,635	
2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN FT							10,885						10,885	

NOTES:

- SEE TRAFFIC CONTROL PLANS FOR REMOVAL LIMITS.
- FOR USE AS DIRECTED BY THE ENGINEER.
- INCLUDES ALL BITUMINOUS SURFACING REGARDLESS OF THE THICKNESS OF THE PAVEMENT.
- NO PAYMENT SHALL BE MADE UNDER THIS ITEM WHERE THE CONTRACTOR ELECTS TO MILL A STRAIGHT EDGE IN LIEU OF SAWING IN AREAS APPROVED BY THE ENGINEER.
- FOR BRIDGE APPROACH TREATMENT.
- FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
- INCLUDES QUANTITY FOR ADDING 1/4" TO THE DESIGN THICKNESS.
- BASED ON AN APPLICATION RATE OF 0.05 GALLONS PER SQ YD PER LAYER APPLIED.
- INCLUDES TRASH GUARD PER DETAIL DRAWING C.R.ST.S.7.
- INCLUDES FILTER BLANKET AND GEOTEXTILE FABRIC AND SHALL BE INCIDENTAL TO THE RIPRAP PLACED.
- SEE CONSTRUCTION SEQUENCE SHEETS FOR FENCE LIMITS.
- LIN FT BASED ON 4" LINE EQUIVALENT.
- TREATED PLYWOOD PLUG PER PLANS.
- FOR PEDESTRIAN RAMPS

(15) INCLUDES PAINTING FACE AND TOP OF 610 LF BIT CURB

STANDARD PLATES	
PLATE NO.	DESCRIPTION
0004A	SPECIFICATION REFERENCE TO STANDARD PLATES (1988)
1120S	CONTRACTION JOINTS
1140S	LONGITUDINAL JOINTS
1141C	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
3000K	REINFORCED CONCRETE PIPE
3006F	GASKET JOINT FOR R.C. PIPE
3007B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133B	RIPRAP AT RCP OUTLETS
3145E	CONCRETE PIPE TIES
4020E	MANHOLE OR CATCH BASIN (FOR USE UNDER TRAFFIC LOADS)
7065C	BITUMINOUS CURB
7100F	CONCRETE CURB AND GUTTERS (DESIGNS B & V)
7111G	INSTALLATION AND REINFORCEMENT OF C.B. CASTINGS
8000I	STANDARD BARRICADES
8117G	PRECAST CONCRETE HANDHOLE (OR PULLBOX)
8307N	STRUCTURAL PLATE BEAM GUARDRAIL
8318C	GUARDRAIL ANCHORAGE PLATE FOR BRIDGES
8319G	TWISTED END TREATMENT

COON RAPIDS STANDARD DETAILS	
PLATE NO.	DESCRIPTION
C.R.C2	STANDARD INLET CASTINGS
C.R.WM7	TYPICAL WATERMAIN INSULATION
C.R.ST.S.2	LARGE DIAMETER MANHOLE
C.R.ST.S.3	SHALLOW STORM SEWER MANHOLE OR CATCH BASIN
C.R.ST.S.5	HS-20 DESIGN TOP SLAB (RECTANGULAR OPENING)
C.R.ST.S.7	TRASH GUARD
C.R.R17	BITUMINOUS BIKEWAY

NOTE: REFER TO PROJECT SPECIFICATIONS FOR DETAILS.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

IBRW
INCORPORATED
PLANNING
TRANSPORTATION
ENGINEERING
DESIGN

THRESHOLD SQUARE
700 THIRD STREET SOUTH
MINNEAPOLIS, MN 55415
PHONE: (612) 376-0700

DESIGN BY: DWF
DRAWN BY: BSC
CHECKED BY: DWF

ORIGINAL DATE: 3/12/99
REVISIONS: _____

SURVEY BOOK: _____

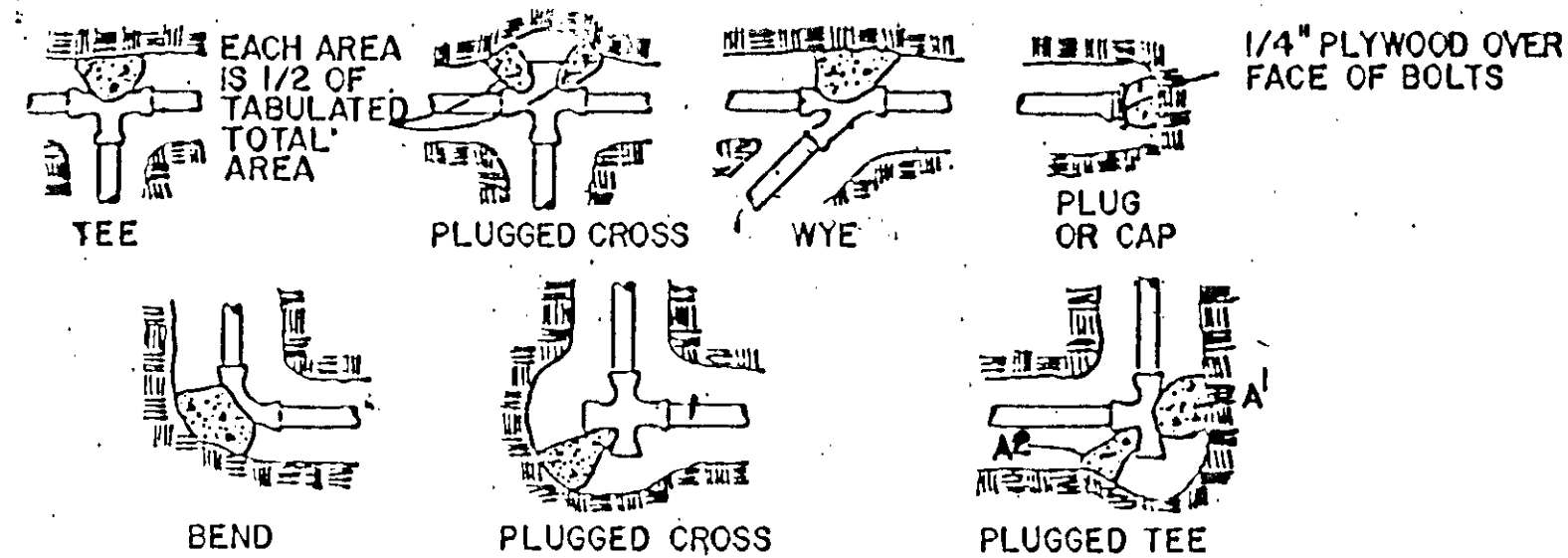
CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
IMPROVEMENT PROJECT 89-50

ESTIMATED QUANTITIES

S.A.P. NO. 02-609-09
114-121-07

SHEET 3 OF 71

DESIGN FILE ESTQUAZ No. 16-8951



NOMINAL FITTING SIZE, INCHES	TEE, WYE, PLUG OR CAP	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN A1 A2	45° BEND	22 1/2° BEND	11 1/4° BEND
4	1.0	1.4	1.9 1.4	1.0	-	-
6	2.1	3.0	4.3 3.0	1.6	1.0	-
8	3.8	5.3	7.6 5.4	2.9	1.5	1.0
10	5.9	8.4	11.8 8.4	4.6	2.6	1.2
12	8.5	12.0	17.0 12.0	6.6	3.4	1.7

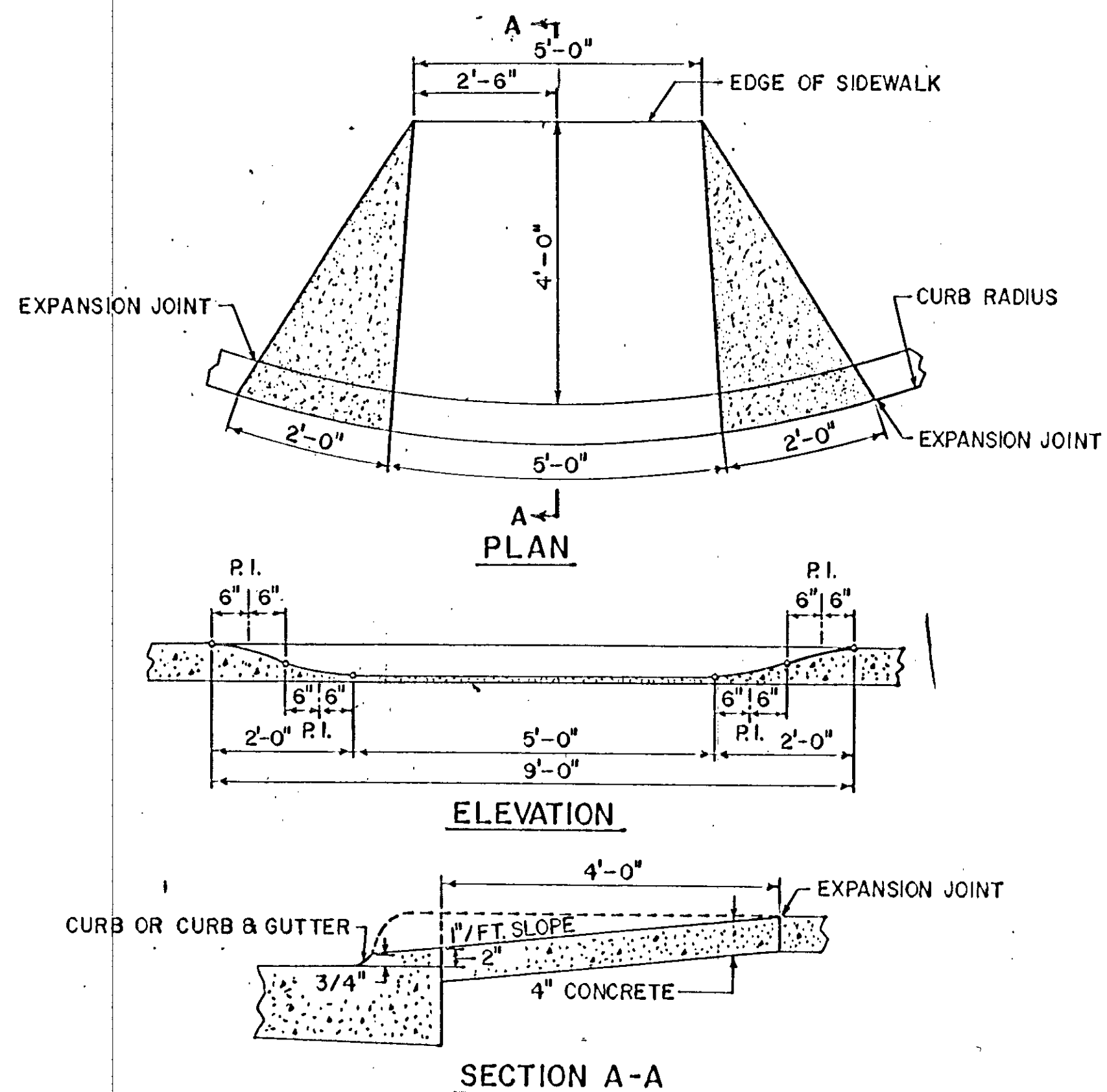
NOTES:

- 1) CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
- 2) KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
- 3) IF NOT SHOWN ON PLANS, REQUIRED BEARING AREAS AT FITTING SHALL BE AS INDICATED ABOVE, ADJUST IF NECESSARY TO CONFORM TO THE TEST PRESSURES AND ALLOWABLE SOIL BEARING STRESSES.
- 4) BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN THIS STANDARD DETAIL.

NOTE:

ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 P.S.I. AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/150) * (2000/SOIL BEARING STRESS) * (TABLE VALUE).

THRUST BLOCKING DETAIL



PEDESTRIAN CURB RAMP

EARTHWORK SUMMARY

EXCAVATION	
COMMON EXCAVATION.....	14,193 CY (EV)
REGULAR.....	2,739 CY (EV)
TOPSOIL.....	11,454 CY (EV)
SUBGRADE EXCAVATION.....	4,679 CY (EV)
EMBANKMENT	
EMBANKMENT.....	132,399 CY (CV)
COMMON.....	27,861 CY (CV)
GRANULAR.....	97,113 CY (CV)
SELECT GRANULAR.....	6,316 CY (CV)
SEL. GRAN. MOD.....	1,109 CY (CV)
TOPSOIL.....	5617 CY (CV)
COMMON BORROW.....	18,151 CY (CV)
GRANULAR BORROW.....	93,136 CY (CV)
SELECT GRANULAR BORROW.....	6,316 CY (CV)
SELECT GRANULAR MODIFIED BORROW.....	1,109 CY (CV)

GENERAL NOTES:

1. 15% SHRINKAGE FACTOR FOR NORMAL GRADING (EV TO CV).

SOILS AND CONSTRUCTION NOTES:

1. TOP OF GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE AGGREGATE BASE.
2. GRANULAR MATERIAL, REGARDLESS OF SOURCE, SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2A.
3. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B.
4. COMPACTION OF THE GRADING PORTION OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD".
5. TEST ROLLING WILL NOT BE REQUIRED.
6. AS A PRECAUTIONARY MEASURE FROM A SOILS STANDPOINT, TRAFFIC LANES TO BE USED DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE ADJACENT EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING 2:1 OR GREATER (FLATTER) SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION.
7. THE ROADWAY EMBANKMENT WITHIN 1-1/2:1 SLOPES FROM THE GRADING SHOULDER P.I. SHALL BE CONSTRUCTED WITH GRANULAR MATERIAL, OF WHICH THE UPPER 1.0 FEET SHALL CONSIST OF SELECT GRANULAR MATERIAL.
8. BITUMINOUS AND/OR CONCRETE ITEMS REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED OR DISPOSED OF OFF THE PROJECT LIMITS.
9. DISPOSITION OF EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH SPEC. 2105.3D.
10. WHERE MATCHING INTO THE INPLACE ROADWAY AT THE ENDS OF CONSTRUCTION, CUT VERTICALLY TO THE TOP OF THE GRADING SUBGRADE AND THEN AT A 20:1 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
11. PROVIDE 20:1 TAPERS BETWEEN CHANGES IN DEPTH OF SUBGRADE EXCAVATIONS.
12. WHERE CONNECTING NEW SURFACING TO AN INPLACE PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING THE INPLACE PAVEMENT.

13. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES PRIOR TO PLACING BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING CONCRETE OR BITUMINOUS SURFACES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GALLONS PER SQUARE YARD BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY); ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357.
14. COMPACTION OF THE BITUMINOUS BASE, BINDER, SHOULDER MIXTURE AND TYPE 41 WEAR SHALL BE BY THE "SPECIFIED DENSITY METHOD". COMPACTION OF THE TYPE 61 WEAR SHALL BE BY THE "ORDINARY COMPACTION METHOD".
15. COMPACTION OF THE AGGREGATE BASE LAYERS SHALL BE BY THE "SPECIFIED DENSITY METHOD" EXCEPT THAT IN AREAS WHERE THE PLANNED THICKNESS IS 2 INCHES, COMPACTION SHALL BE OBTAINED BY THE "ORDINARY COMPACTION METHOD".
16. IN AREAS TO BE DISTURBED BY CONSTRUCTION, STRIP AND RE-USE AS SLOPE DRESSING ALL TOPSOIL AND INPLACE SLOPE DRESSING. REFER TO THE CROSS-SECTIONS FOR THE LIMITS OF TOPSOIL STRIPPING. GENERAL DEPTHS OF TOPSOIL LAYER ARE ASSUMED TO BE AS FOLLOWS:

REISLING BLVD - 1'-0"
 ROUND LAKE BLVD - 1'-0"
 MAIN ST - 0'-6"

17. SLOPE DRESSING ON THIS PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF.
18. PLACE A MINIMUM OF 4 INCHES TOPSOIL OR SLOPE DRESSING ON ALL AREAS DISTURBED BY CONSTRUCTION AND SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. FERTILIZE WITH COMMERCIAL FERTILIZER, ANALYSIS 10-20-10, AT A RATE OF 450 POUNDS PER ACRE, OR EQUIVALENT.
19. ON PERMANENT SLOPES, USE MIXTURE 500 SEED AND TYPE 1 MULCH WITH DISC ANCHORING.
20. ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC. 3878.2B (EROSION CONTROL SOD).
21. TRAFFIC SHALL NOT BE ALLOWED ON NEWLY PLACED BITUMINOUS WEARING COURSES FOR 12 HOURS OR UNTIL THE SURFACE TEMPERATURE HAS DROPPED TO 140 DEGREES (F) OR AS DIRECTED BY THE ENGINEER. THE SURFACE TEMPERATURE MAY BE LOWERED BY FLUSHING WITH WATER.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas M. Fischer
 Date 3/12/90, Minn. Reg. No. 20235

BRW
 BRW INC.
 700 THIRD STREET SOUTH
 MINNEAPOLIS, MN 55415
 PHONE: (612) 335-0700

DESIGN BY: DWF
 DRAWN BY: RSC
 CHECKED BY: DWF

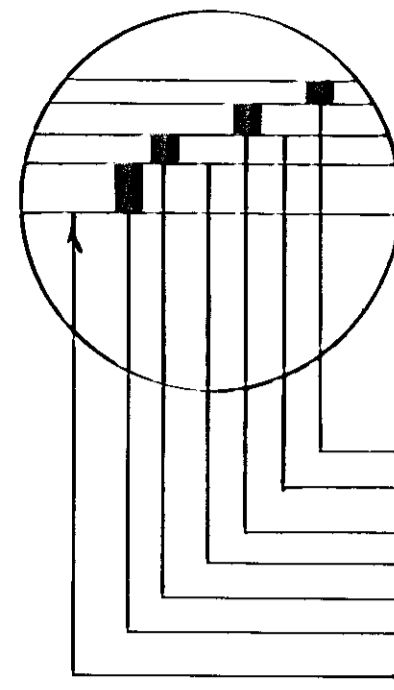
ORIGINAL DATE	3/12/90
REVISIONS	
SURVEY BOOK	

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
IMPROVEMENT PROJECT 89-50
EARTHWORK SUMMARY
MISC. DETAILS

S.A.P. NO. 02-609-09
 114-121-07

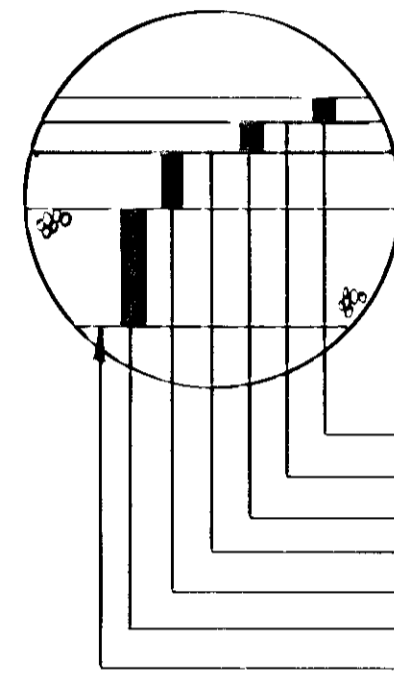
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 SHEET 17 OF 71

INSET A



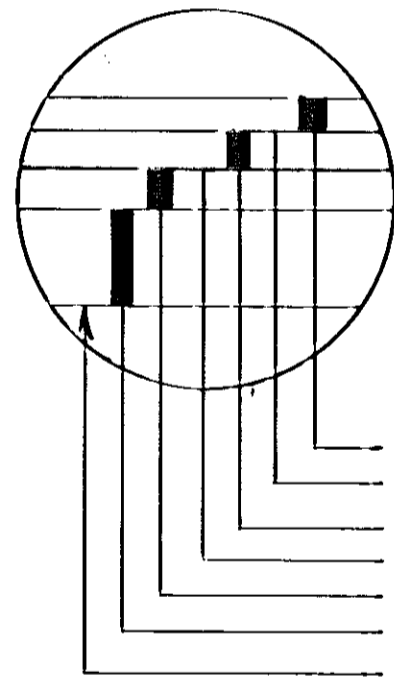
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 TACK COAT - SPEC. 2357
 2" TYPE 31 BINDER COURSE MIXTURE - SPEC. 2331
 TACK COAT - SPEC. 2357
 2" TYPE 31 BASE COURSE MIXTURE - SPEC. 2331
 4" AGGREGATE BASE CLASS 5 - SPEC. 2211
 GRADING GRADE

INSET B



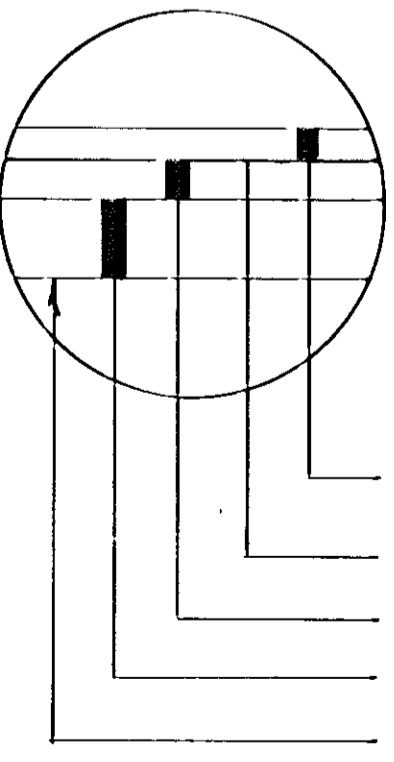
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 TACK COAT - SPEC. 2357
 1 1/2" TYPE 41 BINDER COURSE MIXTURE - SPEC. 2331
 TACK COAT - SPEC. 2357
 3 1/2" TYPE 31 BASE COURSE MIXTURE - SPEC. 2331
 6" AGGREGATE BASE CLASS 6 - SPEC. 2211
 GRADING GRADE

INSET C



1" TYPE 61 WEARING COURSE MIXTURE - SPEC. 2331
 TACK COAT - SPEC. 2357
 2 1/2" TYPE 41 BINDER COURSE MIXTURE - SPEC. 2331
 TACK COAT - SPEC. 2357
 3 1/2" TYPE 31 BASE COURSE MIXTURE - SPEC. 2331
 6" AGGREGATE BASE CLASS 6 - SPEC. 2211
 GRADING GRADE

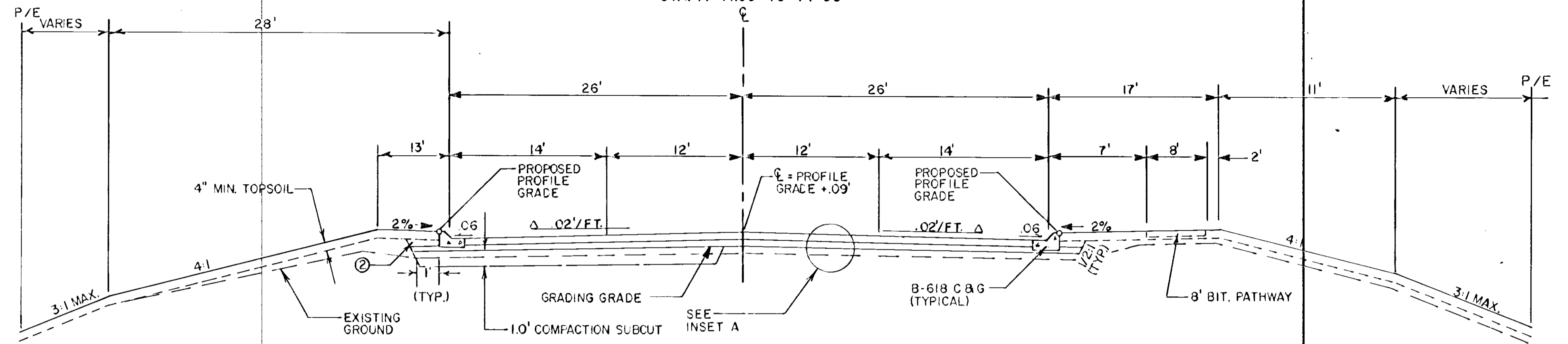
INSET D



1 1/2" TYPE 41 WEARING COURSE MIXTURE - SPEC. 2331
 TACK COAT - SPEC. 2357
 2 1/2" TYPE 31 BASE COURSE MIXTURE - SPEC. 2331
 5" AGGREGATE BASE CLASS 5 - SPEC. 2211
 GRADING GRADE

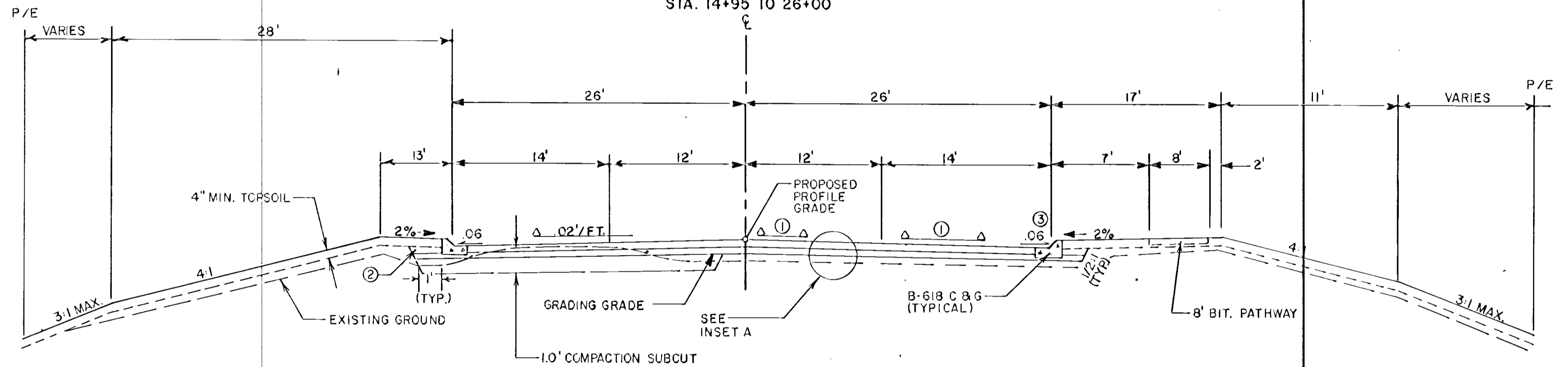
REISLING BOULEVARD

STA. 11+71.99 TO 14+95



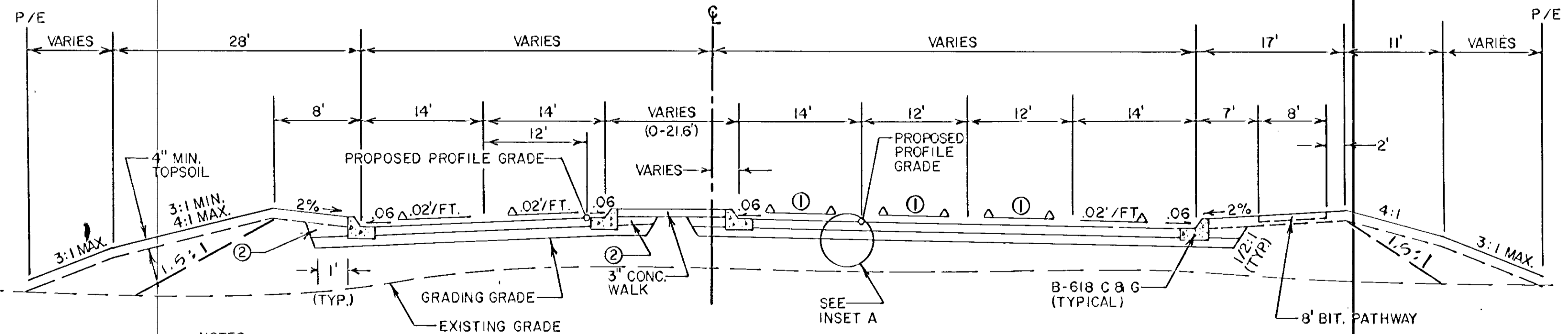
REISLING BOULEVARD

STA. 14+95 TO 26+00



REISLING BOULEVARD

STA. 26+00 TO 32+12.34



NOTES

- ① CROSS-SLOPE DIRECTION & GRADE VARIES, .02'/FT. MAX. FOR SUPERELEVATION TRANSITIONS SEE PLAN SHEETS. UNLESS OTHERWISE SPECIFIED, THE SUBGRADE CROSS-SLOPES WILL BE THE SAME AS THE FINISHED CROSS-SLOPES.
- ② GRANULAR MATERIAL. (TYPICAL)
- ③ MAX. ROLLOVER WITH CURB SHALL NOT EXCEED 0.07'

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas M. Fischer

Date 3/12/90 Minn. Reg. No. 20235



DESIGN BY: SAC
 DRAWN BY: GLG

ORIGINAL DATE: 3/12/90
 REVISIONS:

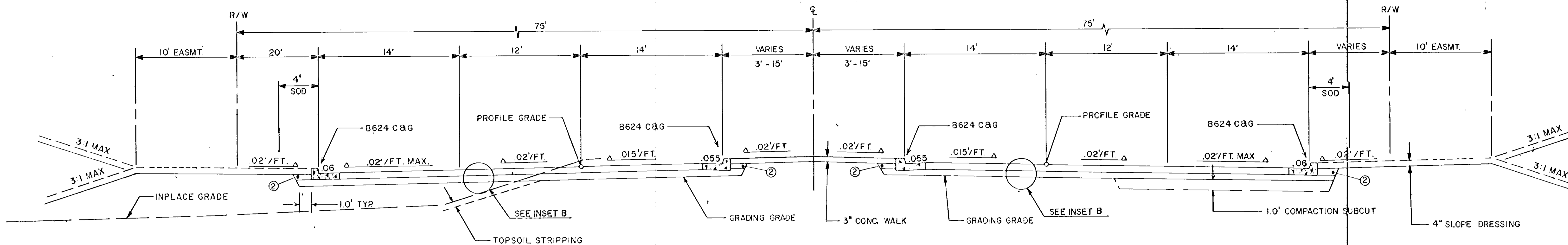
SURVEY EX. NO.

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
IMPROVEMENT PROJECT 89-50
REISLING BLVD. NW.
ROUND LAKE BLVD. (C.S.A.H.9)
TYPICAL SECTIONS

S.A.P. NO. 114-121-07, 02-609-09 SHEET 25 OF 71 DESIGN FILE No. 16-8951

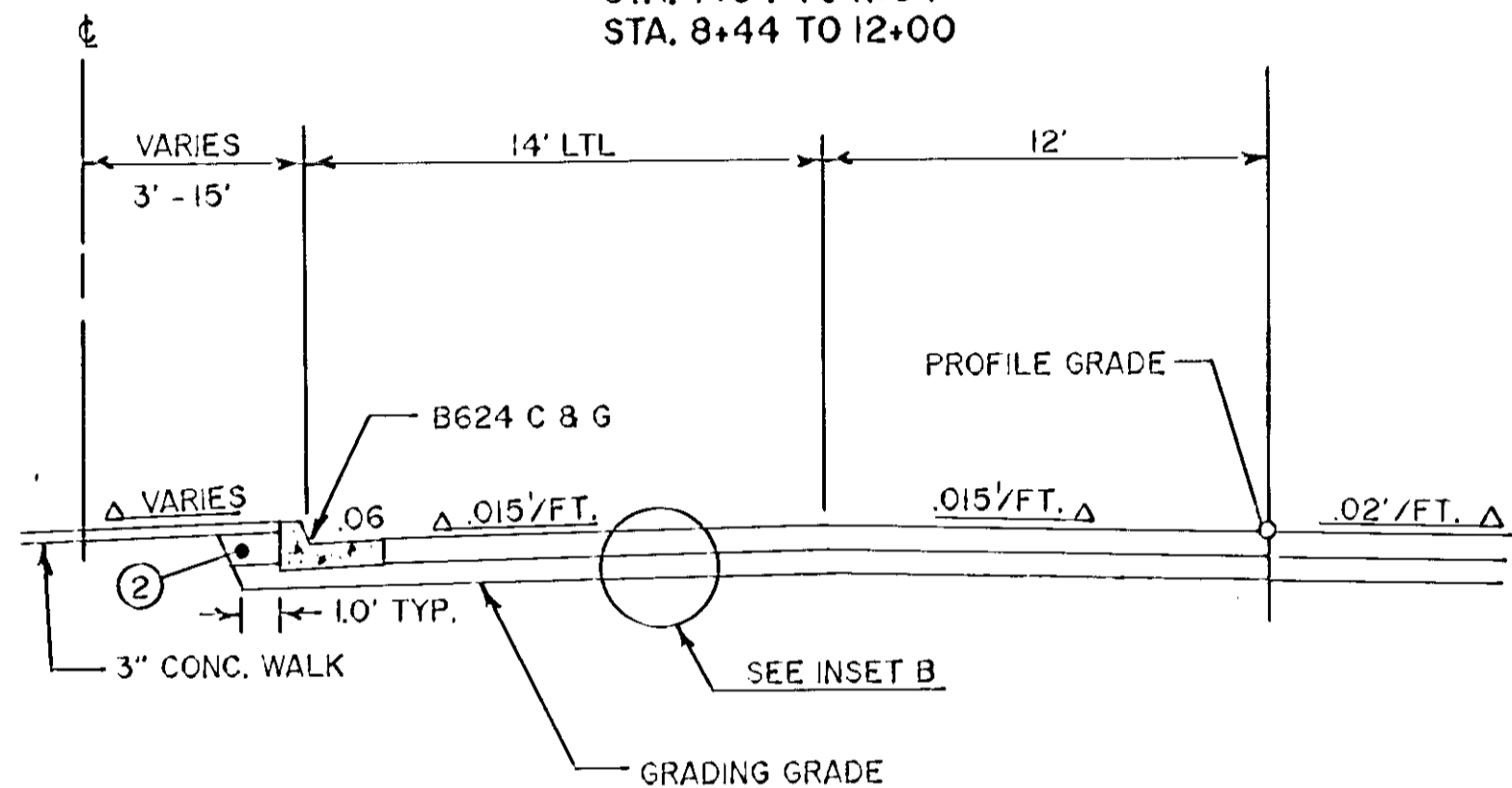
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STA. 1+18 TO 12+00 ①



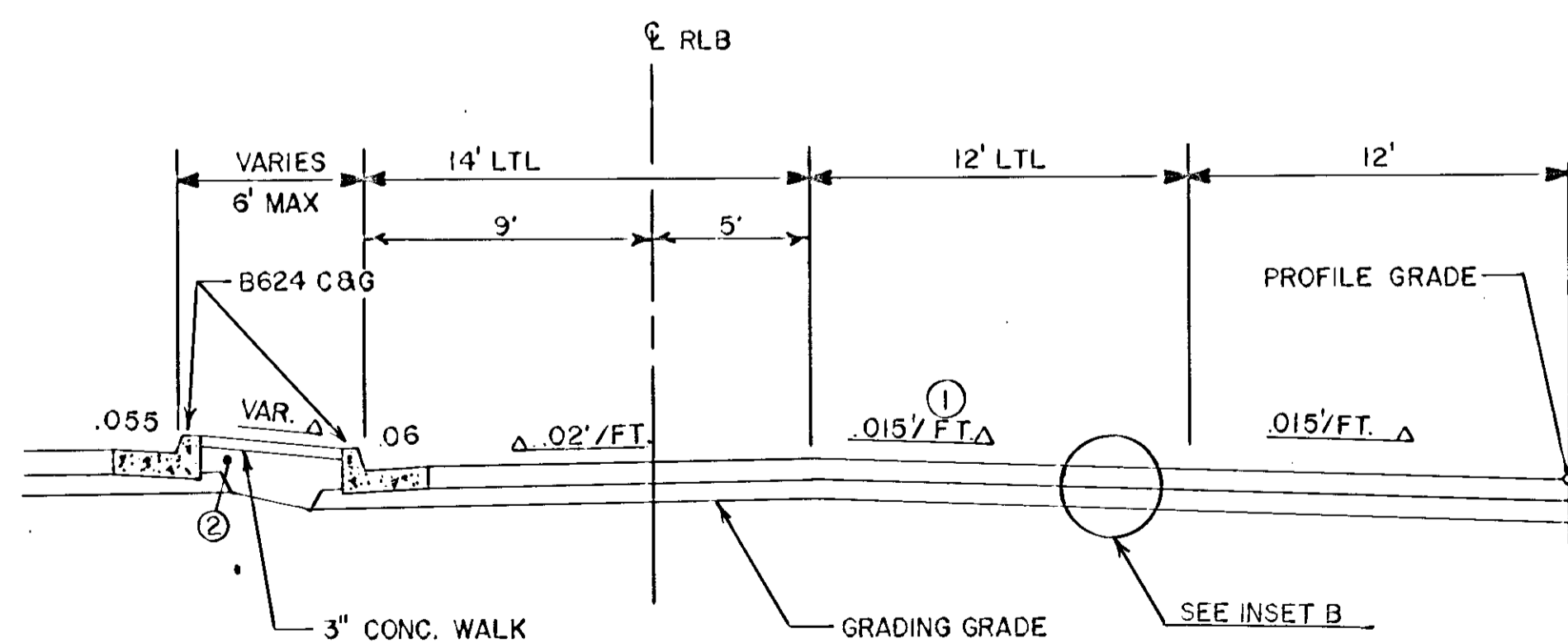
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LEFT TURN LANE

STA. 7+94 TO 11+94
STA. 8+44 TO 12+00



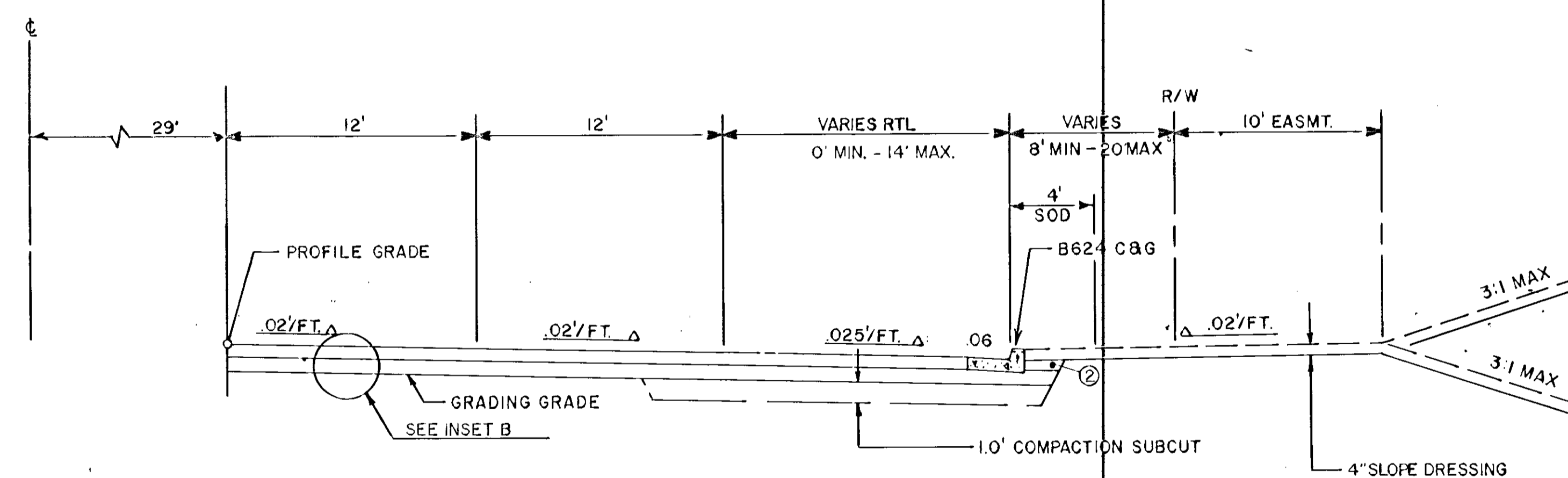
ROUND LAKE BLVD. (C.S.A.H. 9)
DOUBLE LEFT TURN LANE

S.B. STA. 0+41 TO 6+38



ROUND LAKE BLVD. (C.S.A.H. 9)
RIGHT TURN LANE

STA. 3+00 TO 6+69
STA. 8+75.5 TO 12+00



NOTES

- ① FOR SUPERELEVATION TRANSITIONS, SEE SUPERELEVATION PLAN UNLESS OTHERWISE SPECIFIED, THE SUBGRADE CROSS SLOPES WILL BE THE SAME AS THE FINISHED CROSS SLOPES.
- ② GRANULAR MATERIAL

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas M. ...
Date 3/12/99 Minn. Reg. No. 20235



ORIGINAL DATE: 3/12/99
REVISIONS:

SURVEY BK. NO. _____

S.A.P. NO. 02-609-09

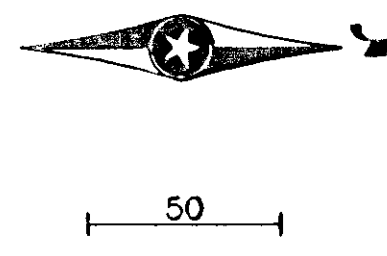
CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-50

ROUND LAKE BLVD. (C.S.A.H. 9)
TYPICAL SECTIONS

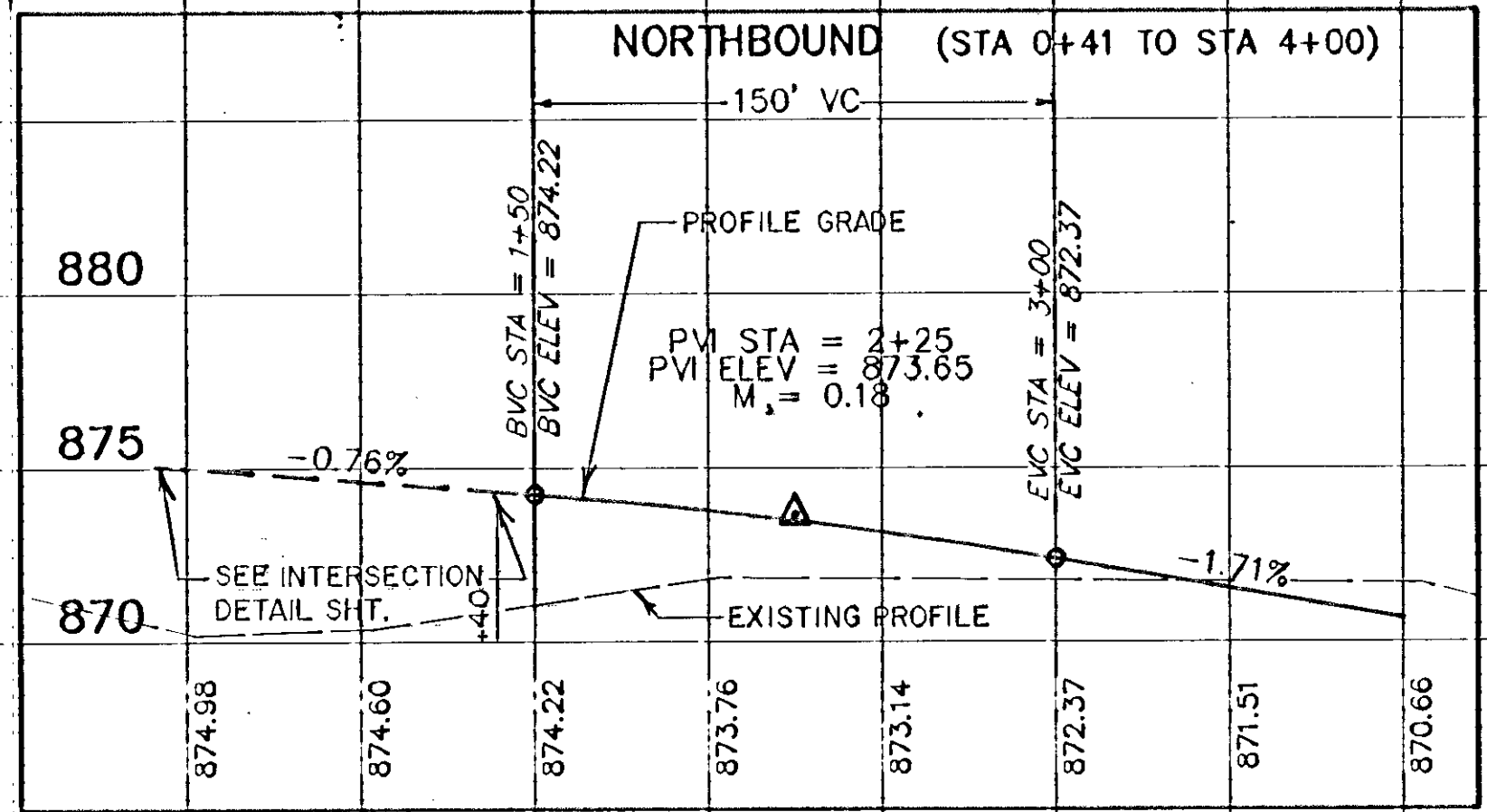
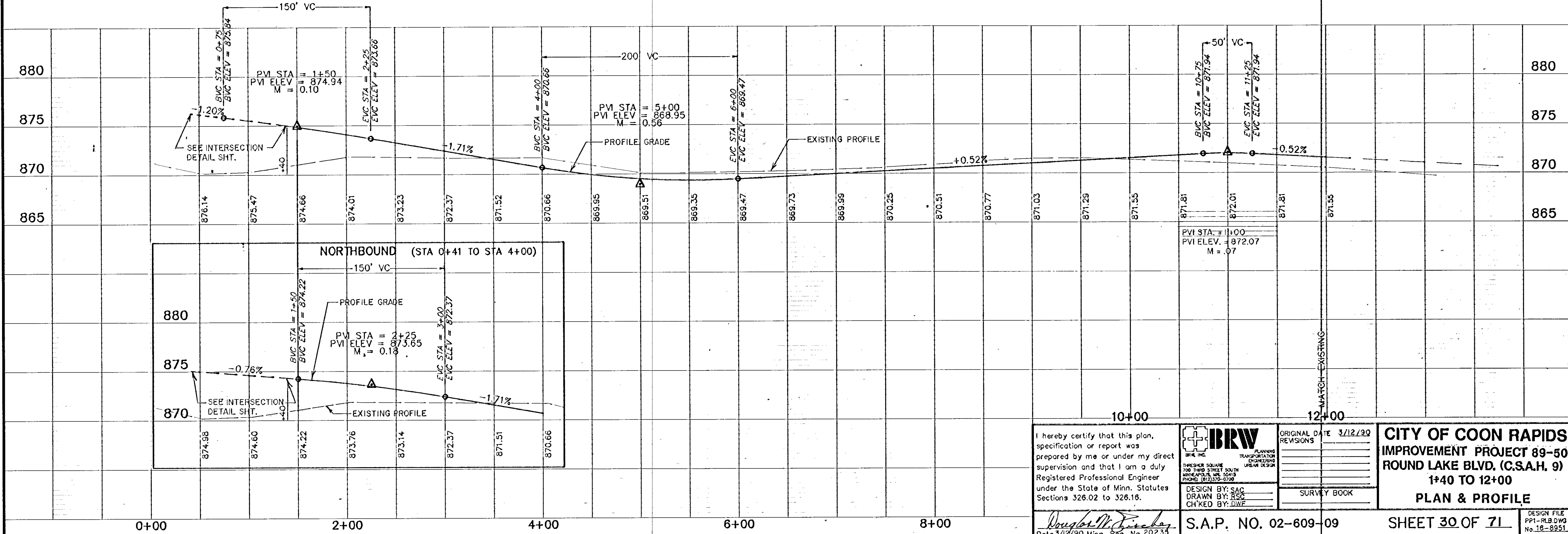
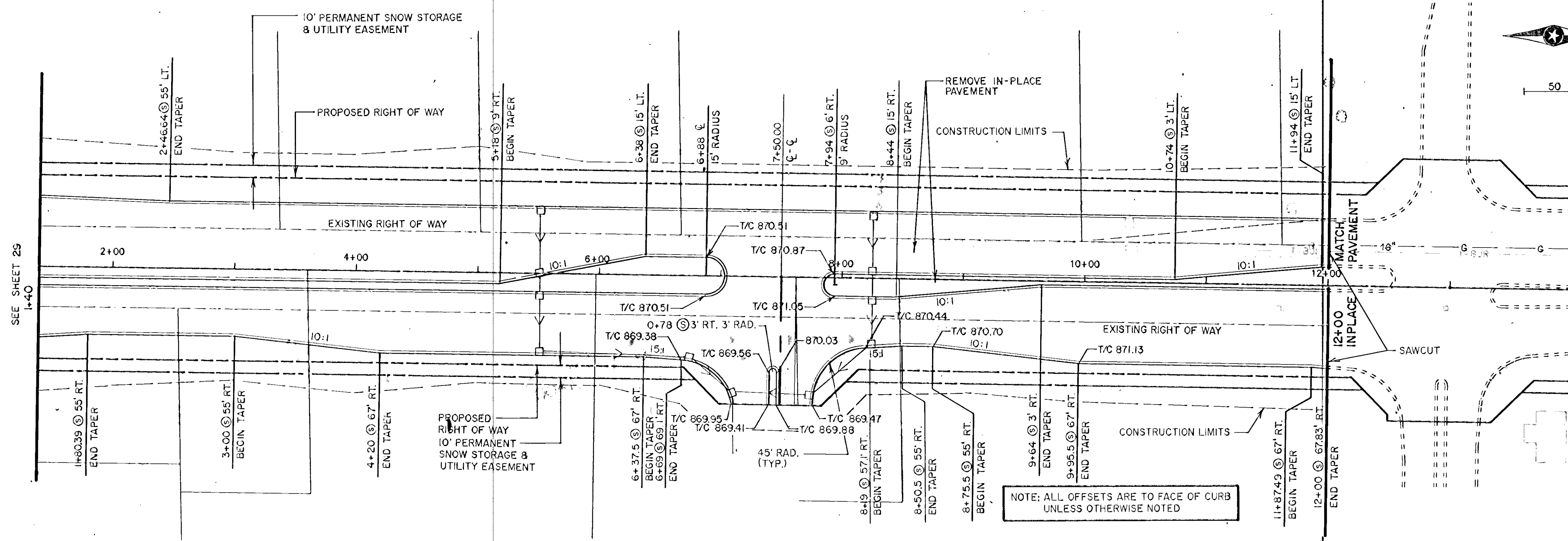
SHEET 26 OF 71

DESIGN FILE No. 16-895L

ROUND LAKE BLVD



SEE INTERSECTION DETAIL
PLAN SHEET 33



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Douglas M. Fischer
Date 3/12/90, Minn. Reg. No. 20235

BRW
BRW INC.
PLANNING
TRANSPORTATION
ENGINEERING
URBAN DESIGN

THRESHER SQUARE
700 THIRD STREET SOUTH
MINNEAPOLIS, MN 55415
PHONE: (612) 370-0700

DESIGN BY: SAC
DRAWN BY: RSC
CHECKED BY: DWF

ORIGINAL DATE	3/12/90
REVISIONS	
SURVEY BOOK	

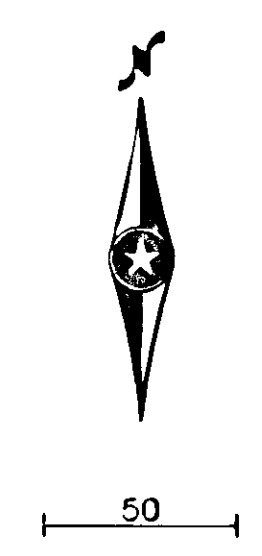
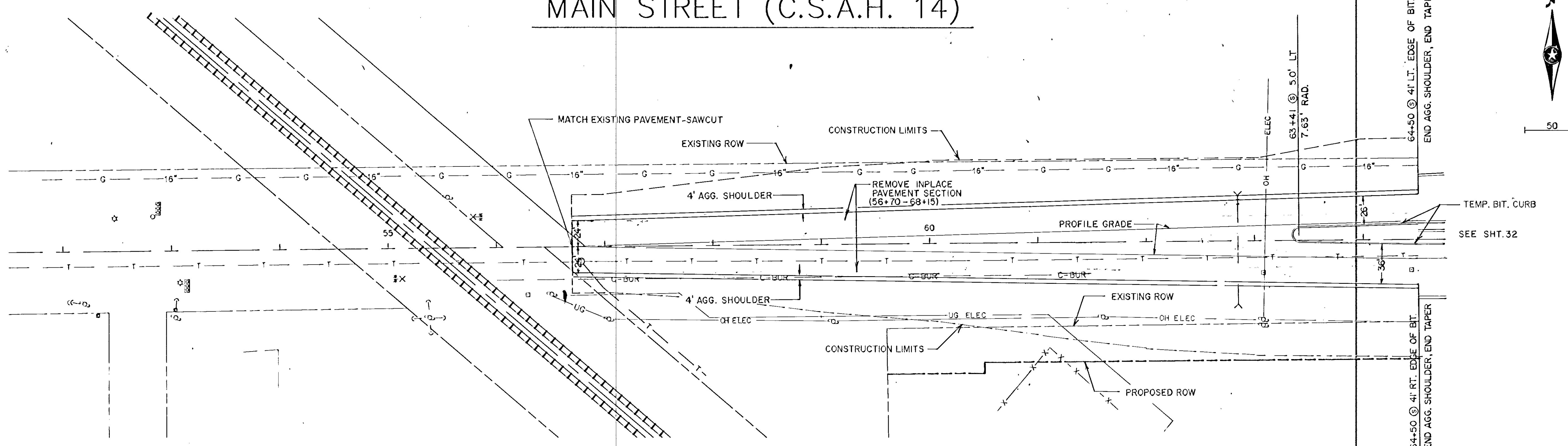
CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-50
ROUND LAKE BLVD. (C.S.A.H. 9)
1+40 TO 12+00
PLAN & PROFILE

S.A.P. NO. 02-609-09

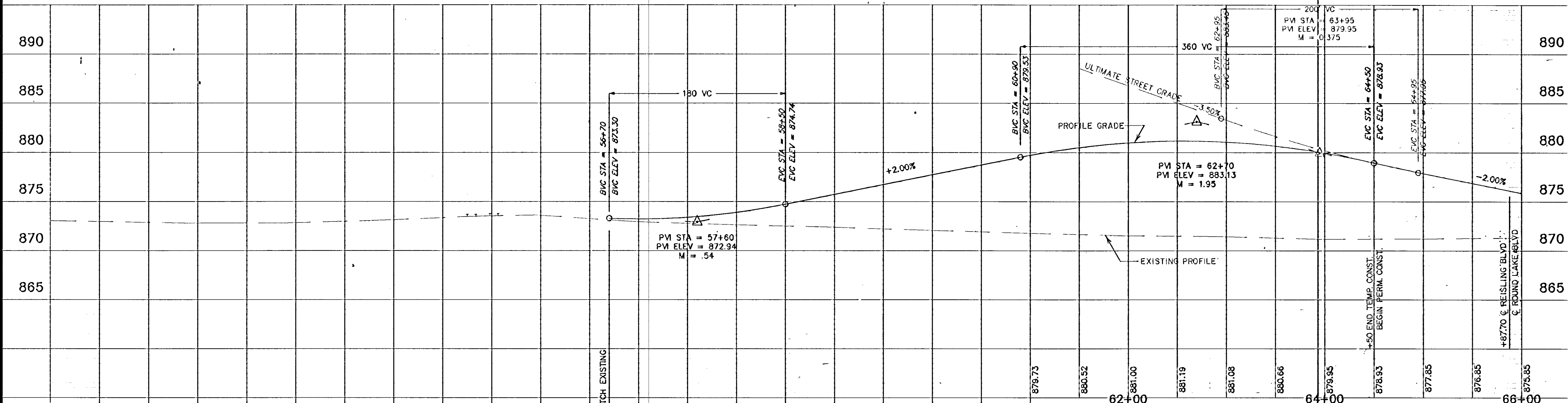
SHEET 30 OF 71

DESIGN FILE
PP1-RLB.DWG
No. 18-8951

MAIN STREET (C.S.A.H. 14)



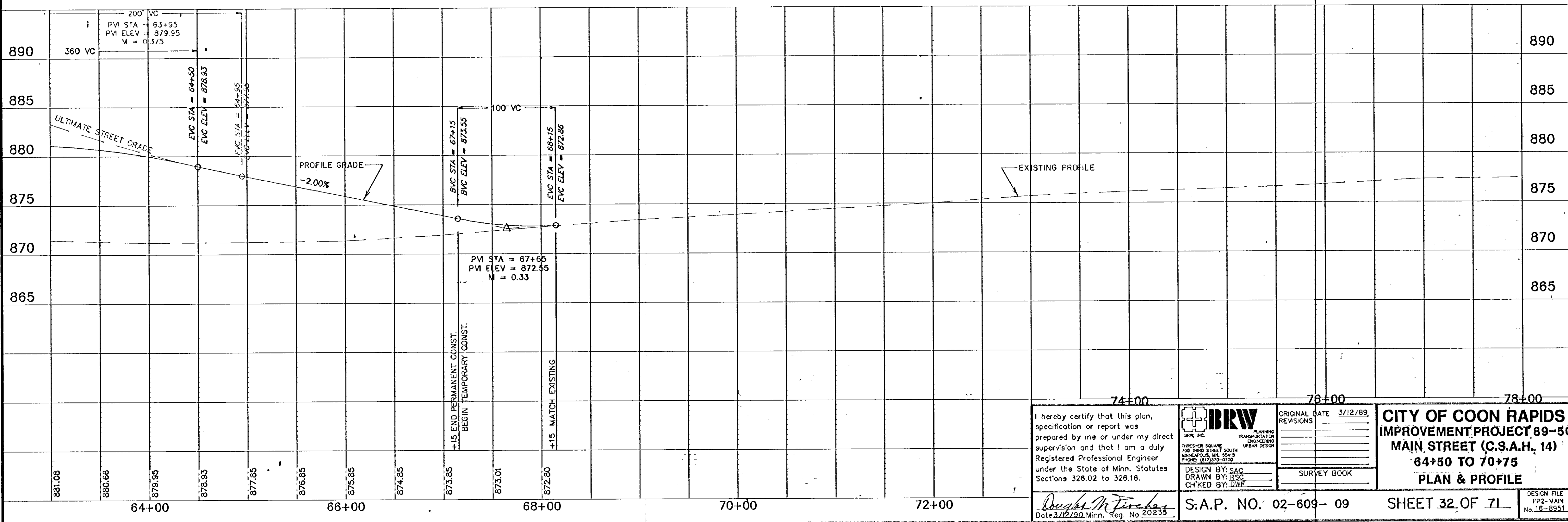
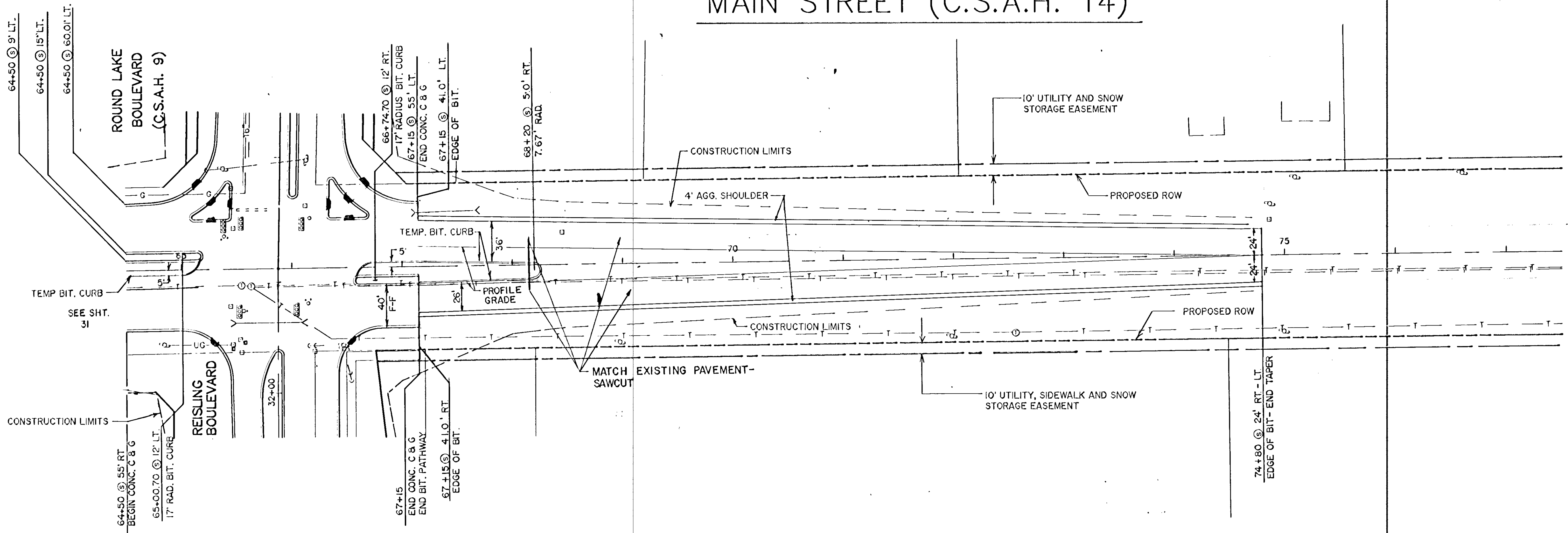
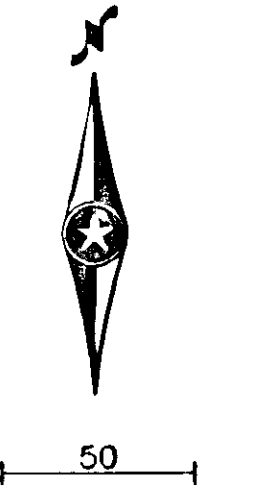
NOTE:
ALL OFFSETS ARE TO FACE OF CURB
UNLESS OTHERWISE NOTED.



52+00	54+00	56+00	58+00	60+00	62+00	64+00	66+00
					879.73	880.52	881.00
					881.19	881.08	880.66
					879.95	878.93	877.85
					876.85	876.85	875.85

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16. <i>Douglas W. Fischer</i> Date 3/12/90 Minn. Reg. No. 20235	IBRW INCORPORATED PLANNING TRANSPORTATION ENGINEERING URBAN DESIGN THRESHER SQUARE 700 THIRD STREET SOUTH MINNEAPOLIS, MN 55415 PHONE: (612) 372-0700	ORIGINAL DATE 3/12/90 REVISIONS	CITY OF COON RAPIDS IMPROVEMENT PROJECT 89-50 MAIN STREET (C.S.A.H. 14) 56+00 TO 64+50 PLAN & PROFILE	
		DESIGN BY: SAC DRAWN BY: RSC CHECKED BY: DWF		SURVEY BOOK
		S.A.P. NO. 02-609-09		

MAIN STREET (C.S.A.H. 14)



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Douglas M. Fincher
Date 3/12/90, Minn. Reg. No. 20235

IBRW
PLANNING
TRANSPORTATION
ENGINEERING
URBAN DESIGN

THRESHER SQUARE
700 THIRD STREET SOUTH
MINNEAPOLIS, MN 55419
PHONE: (612) 370-0700

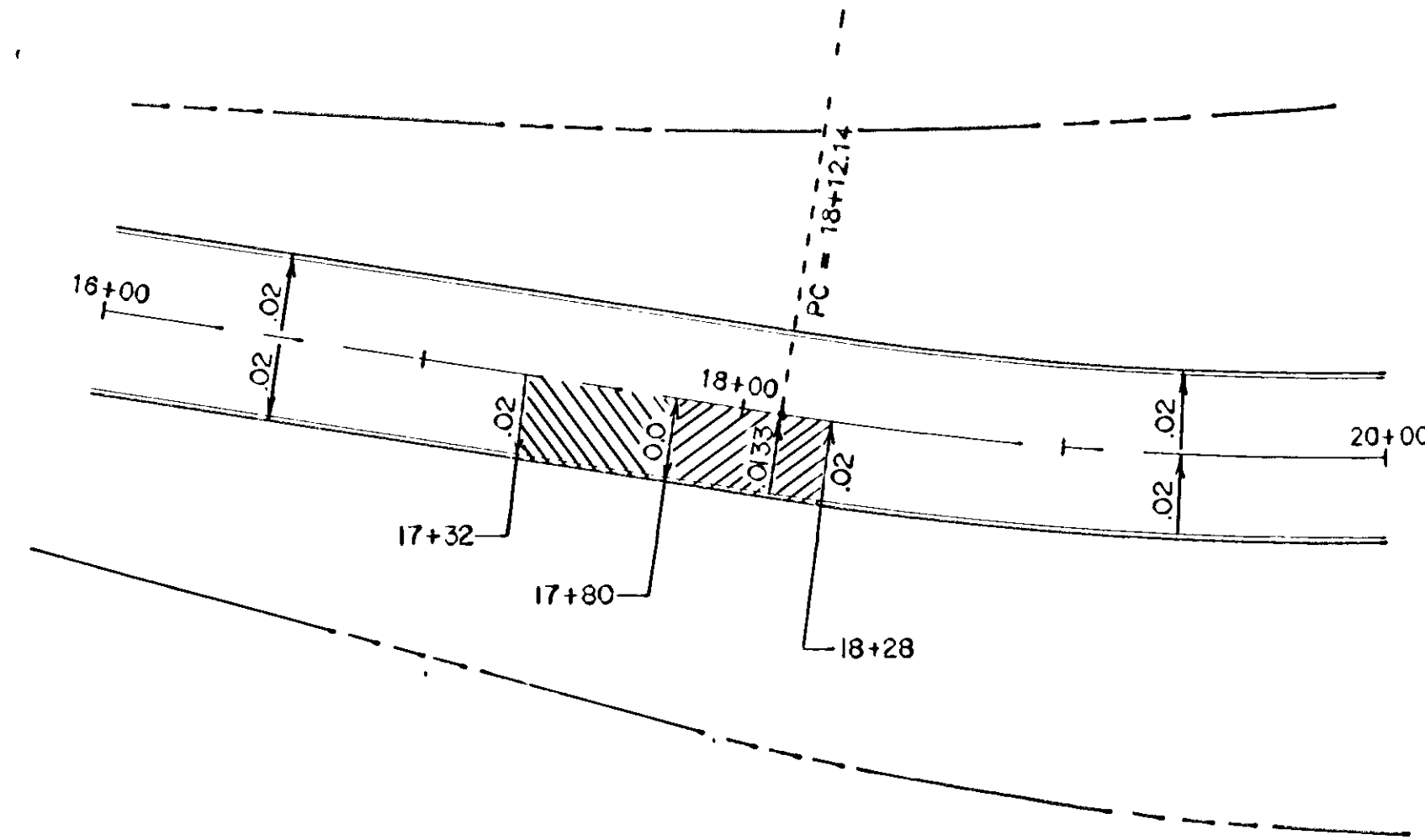
DESIGN BY: SAC
DRAWN BY: RSC
CHK'D BY: DWF

ORIGINAL DATE	3/12/89
REVISIONS	
SURVEY BOOK	

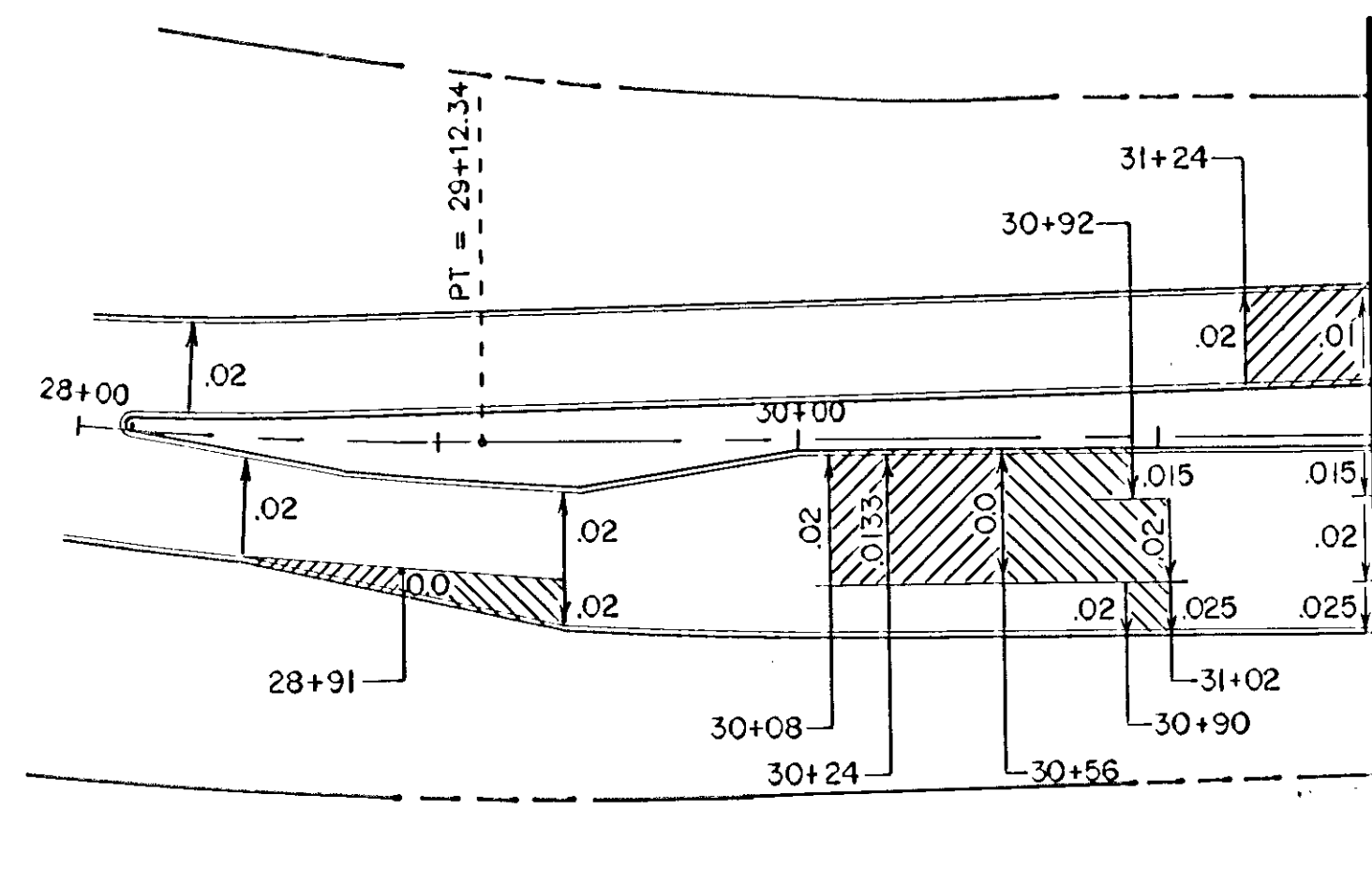
CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-50
MAIN STREET (C.S.A.H. 14)
64+50 TO 70+75
PLAN & PROFILE

DESIGN FILE
PP2-MAIN
No. 18-8951

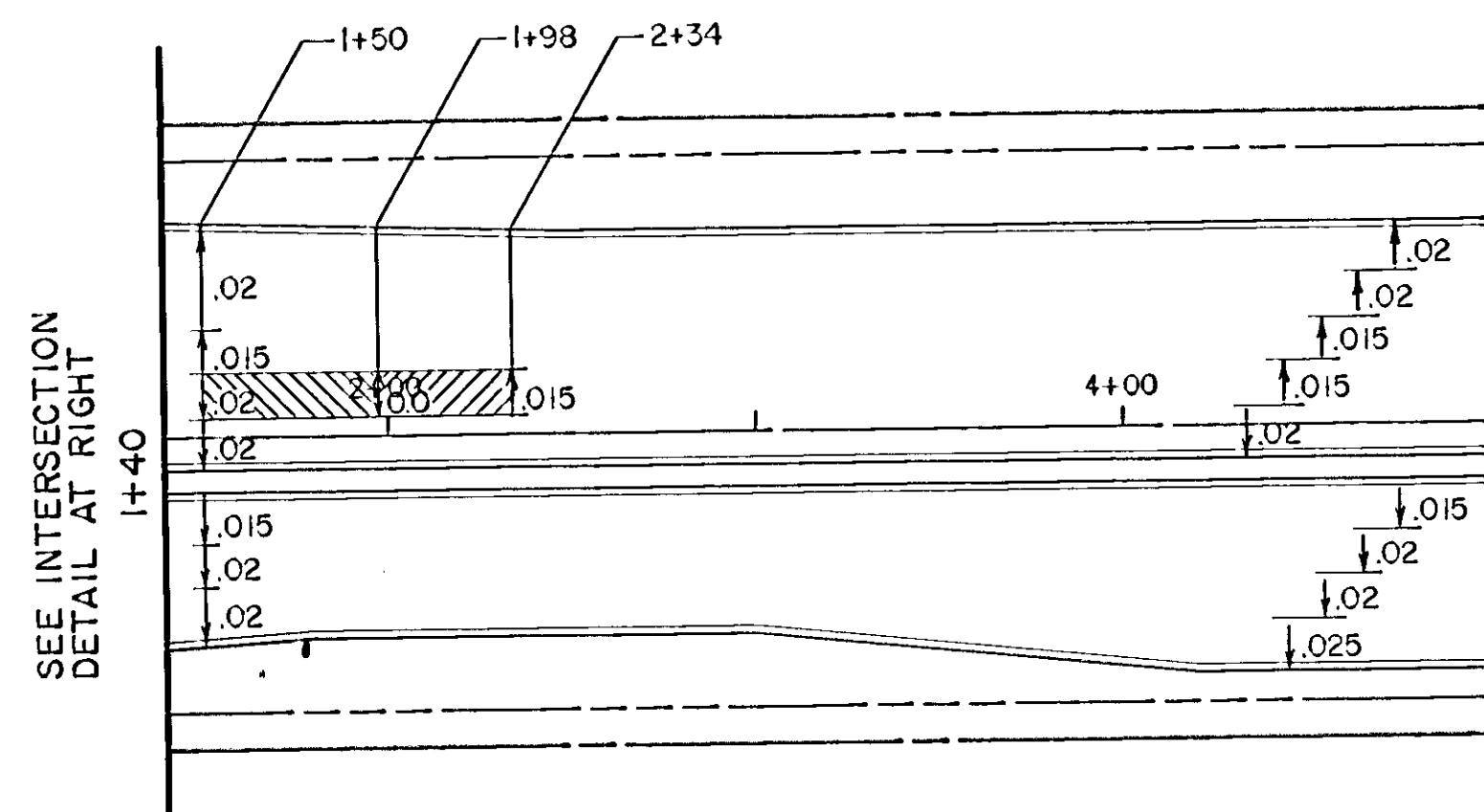
REISLING BOULEVARD
SUPERELEVATION DETAIL



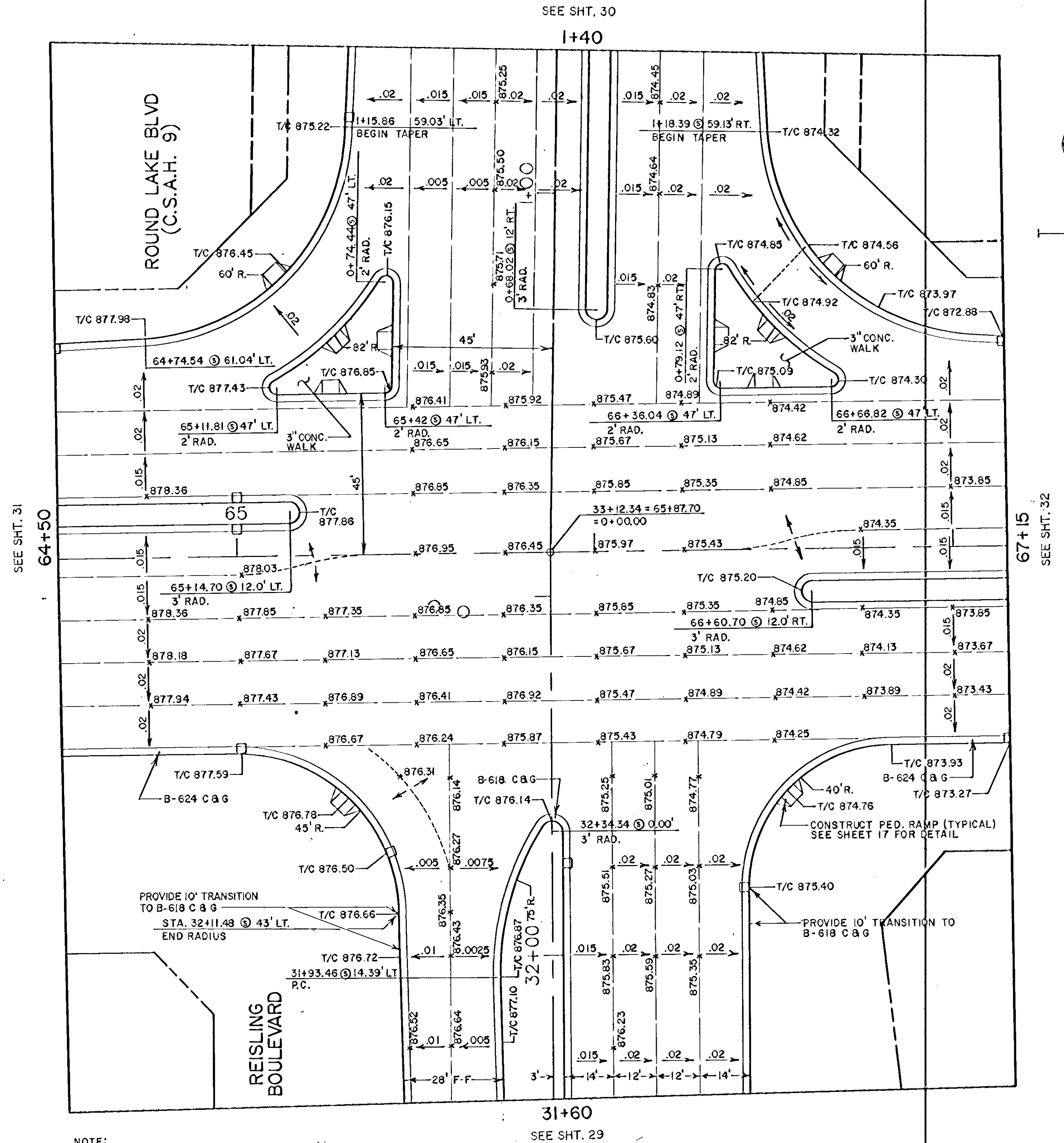
REISLING BOULEVARD
SUPERELEVATION DETAIL



ROUND LAKE BOULEVARD
SUPERELEVATION DETAIL



MAIN STREET (C.S.A.H. 14)



NOTE:
0.15 DENOTES SLOPE @ .015 FT./FT.

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Douglas W. Fincher
Date 3/12/90 Minn. Reg. No. 20235

IBRW
PLANNING
TRANSPORTATION
ENGINEERING
URBAN DESIGN

DESIGN BY: SAC
DRAWN BY: RSC
CHECKED BY: DJW

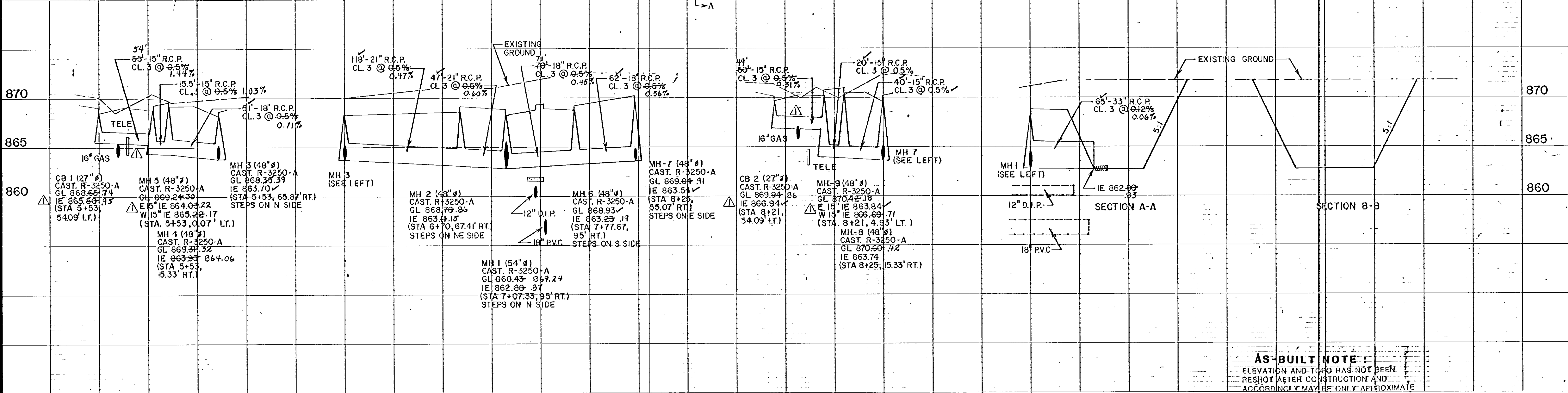
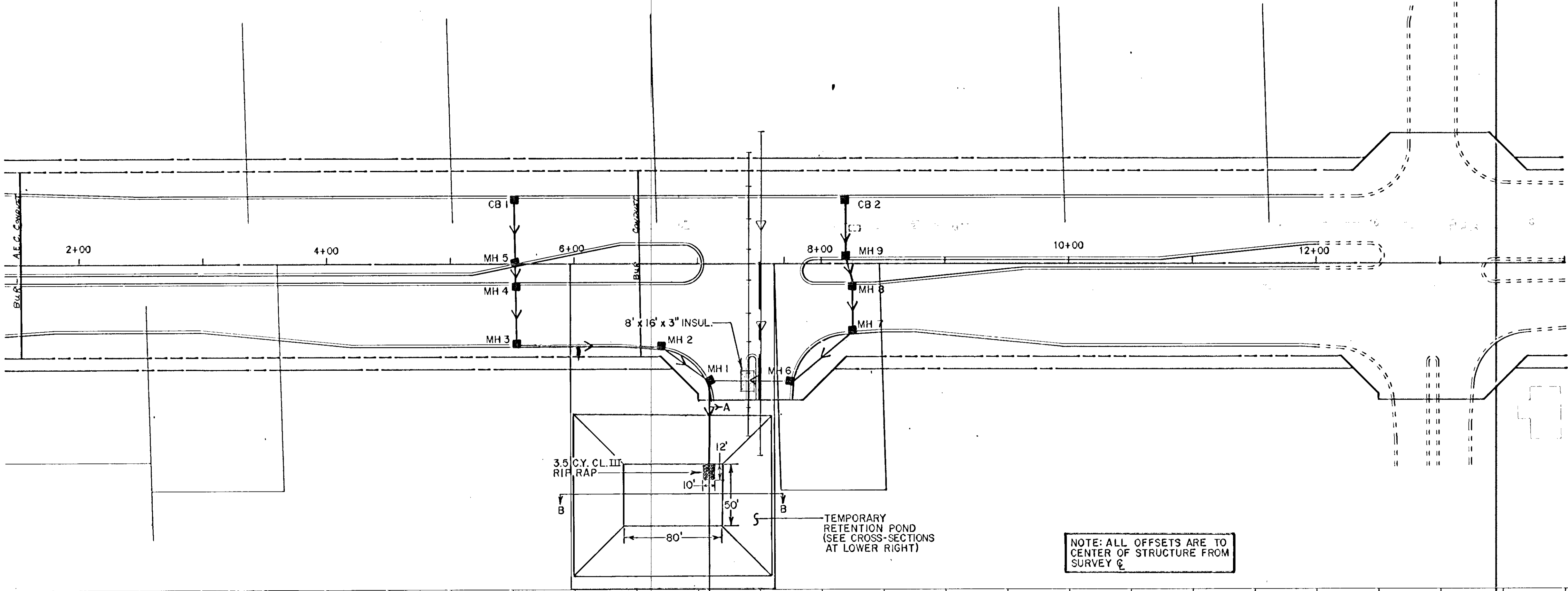
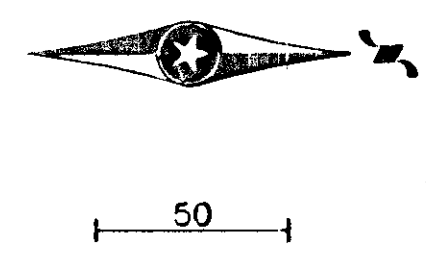
ORIGINAL DATE	3/12/90
REVISIONS	
SURVEY BOOK	

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
MAIN STREET (C.S.A.H. 14)
SUPERELEVATION DETAILS
INTERSECTION DETAIL

S.A.P. NO. 114-121-07, 02-609-09 SHEET 33 OF 71

DESIGN FILE
14-R-INT
No. 16-8951

ROUND LAKE BLVD



AS-BUILT NOTE:
 ELEVATION AND TOPO HAS NOT BEEN
 RESHOT AFTER CONSTRUCTION AND
 ACCORDINGLY MAY BE ONLY APPROXIMATE

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IBRW
 INCORPORATED
 TRANSPORTATION
 ENGINEERING
 URBAN DESIGN

700 THIRD STREET SOUTH
 MINNEAPOLIS, MN 55415
 PHONE: (612) 370-0700

ORIGINAL DATE	3/12/90
REVISIONS	1. 7/19/90 REVISE TO UTILITY CONFLICTS
DESIGN BY	SPJ
DRAWN BY	RSC/SLG
CHECKED BY	DWF
SURVEY BOOK	

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-50
ROUND LAKE BLVD (C.S.A.H. 9)
 1+40 TO 12+00
STORM SEWER

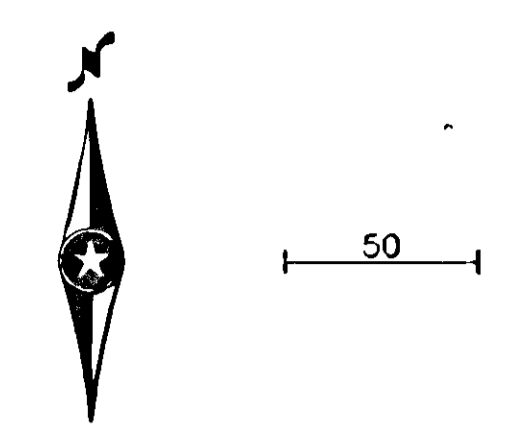
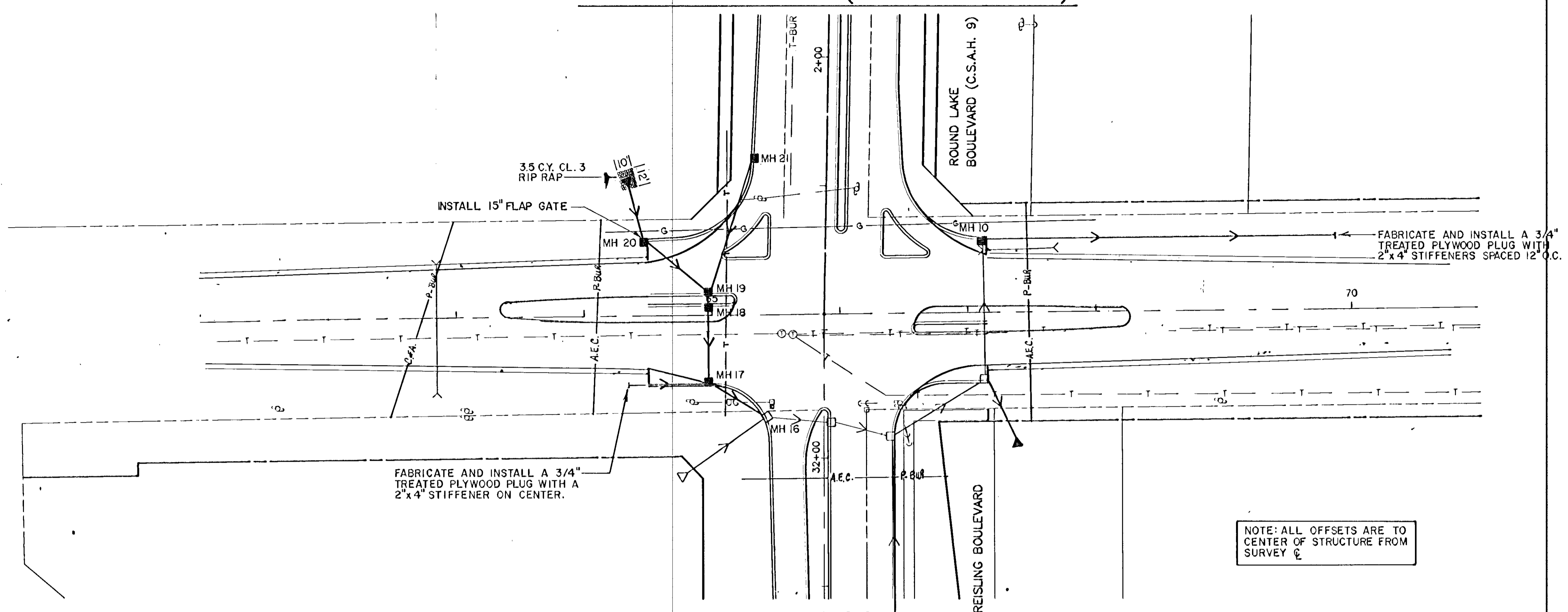
Douglas M. Jensen
 Date 3/12/90 Minn. Reg. No. 20233

S.A.P. NO. 02-609-09

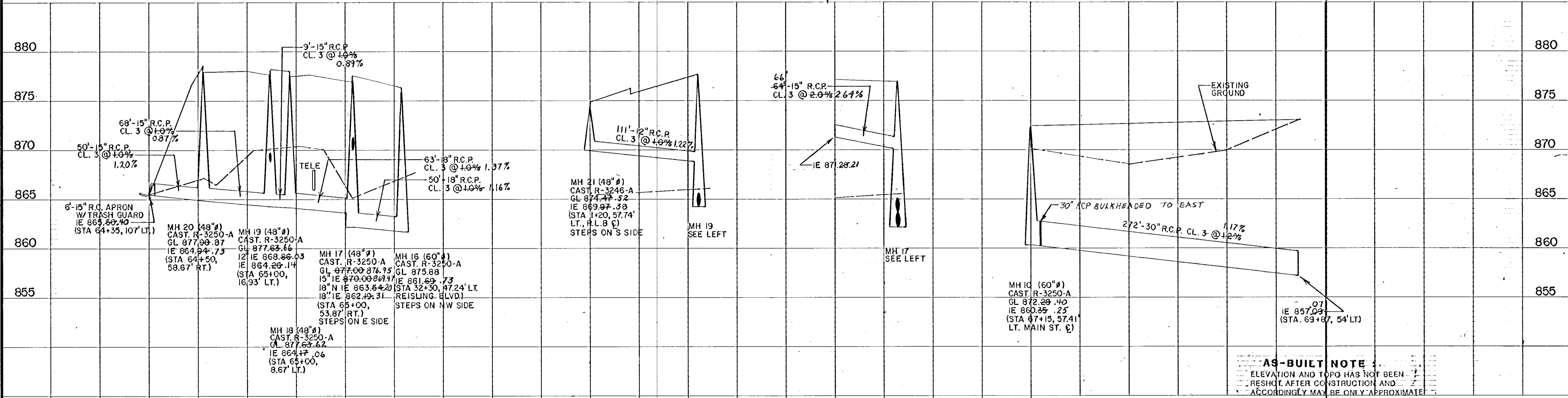
SHEET 36 OF 71

DESIGN FILE
 RLB-DR-1
 No. 16-8951

MAIN STREET (C.S.A.H. 14)



NOTE: ALL OFFSETS ARE TO CENTER OF STRUCTURE FROM SURVEY ϕ



AS-BUILT NOTE
 ELEVATION AND TOPO HAS NOT BEEN RESHIFT AFTER CONSTRUCTION AND ACCORDINGLY MAY BE ONLY APPROXIMATE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 328.02 to 328.16.

IBRW
 INC.
 PLANNING
 TRANSPORTATION
 ENGINEERING
 URBAN DESIGN
 700 THIRD STREET SOUTH
 MINNEAPOLIS, MN 55415
 PHONE: (612) 370-0700

ORIGINAL DATE	3/12/90
REVISIONS	
AS BUILT	11/28/90 DWF
SURVEY BOOK	

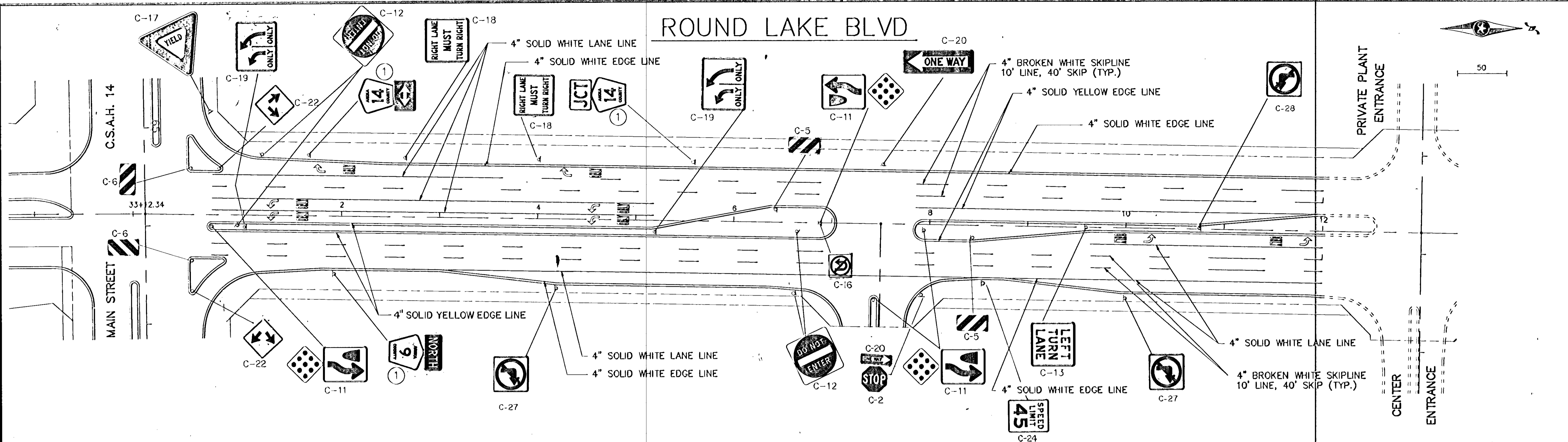
CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-50
MAIN STREET (C.S.A.H. 14)
60+00 TO 70+00
STORM SEWER

Douglas M. Swisher
 Date 3/12/90 Minn. Reg. No. 20235

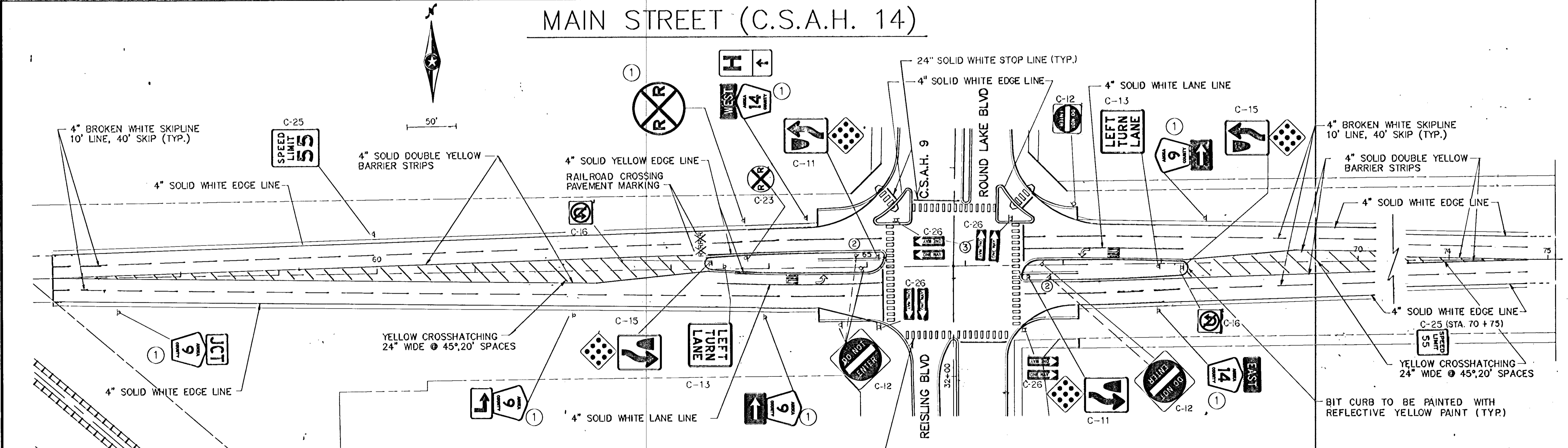
S.A.P. NO. 02-609-09

SHEET 37 OF 71
 DESIGN FILE MAIN-001 No. 16-8251

ROUND LAKE BLVD



MAIN STREET (C.S.A.H. 14)



- SPECIFIC NOTES:**
- 1) INSTALL SALVAGED SIGN
 - 2) PROVIDE FOR FUTURE INSTALLATION IN CONCRETE MEDIUM
 - 3) POST MOUNT OR BAND TO SIGNAL POLE AS DIRECTED BY ENGINEER

- CROSSWALK NOTES:**
- 1) PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
 - 2) A MINIMUM OF 1.5' CLEAR DISTANCE MUST BE LEFT ADJACENT TO CURB. ANY PAINTED AREA FALLING INTO THIS DISTANCE IS OMITTED.
 - 3) CROSSWALK TO BE PLACED ONLY AFTER TYPE 61 WEARCOURSE.

8'x3' CROSSWALK BAR STRIPE @ 3' SPA. (TYP.)

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas M. Fischer
Date: 3/12/90 Minn. Reg. No. 20235

IBRW
TRANSPORTATION ENGINEERING
THRESHER SQUARE
700 THIRD STREET SOUTH
MINNEAPOLIS, MN 55415
PHONE: (612) 373-0700

DESIGN BY: SAC
DRAWN BY: RSC
CHECKED BY: DWF

ORIGINAL DATE: 3/12/90
REVISION: 10/24/90
REVISED PER STATE COMMENTS

SURVEY BOOK

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
IMPROVEMENT PROJECT 89-50
MAIN STREET (C.S.A.H. 14)
ROUND LAKE BLVD. NW.
SIGNING & STRIPING

S.A.P. NO. 02-609-09

SHEET 42 OF 71

DESIGN FILE SIGN-1 No. 18-8951

SIGNAL INDICATIONS					
FACE	PHASE	FLASH	R	Y	G
H-1	1	R	12"	12"	12"
I-2	1	R	12"	12"	12"
2-1	2	R	12"	12"	12"
2-2	2	R	12"	12"	12"
2-3	2	R	12"	12"	12"
2-4	2	R	12"	12"	12"
3-1	3	R	12"	12"	12"
3-2	3	R	12"	12"	12"
3-3	3	R	12"	12"	12"
4-1	4	R	12"	12"	12"
4-2	4	R	12"	12"	12"
4-3	4	R	12"	12"	12"
4-4	4	R	12"	12"	12"
5-1	5	R	12"	12"	12"
5-2	5	R	12"	12"	12"
5-3	5	R	12"	12"	12"
6-1	6	R	12"	12"	12"
6-2	6	R	12"	12"	12"
6-3	6	R	12"	12"	12"
7-1	7	R	12"	12"	12"
7-2	7	R	12"	12"	12"
7-3	7	R	12"	12"	12"
8-1	8	R	12"	12"	12"
8-2	8	R	12"	12"	12"
8-3	8	R	12"	12"	12"
8-4	8	R	12"	12"	12"

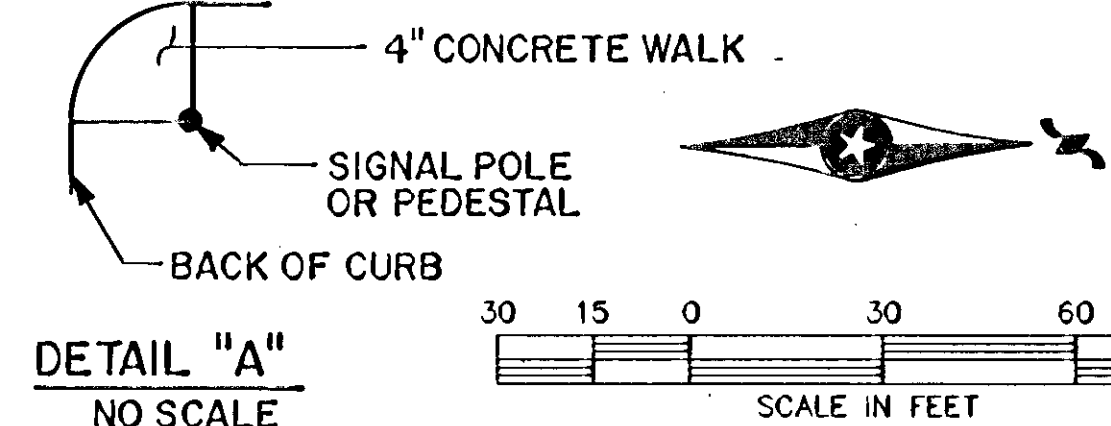
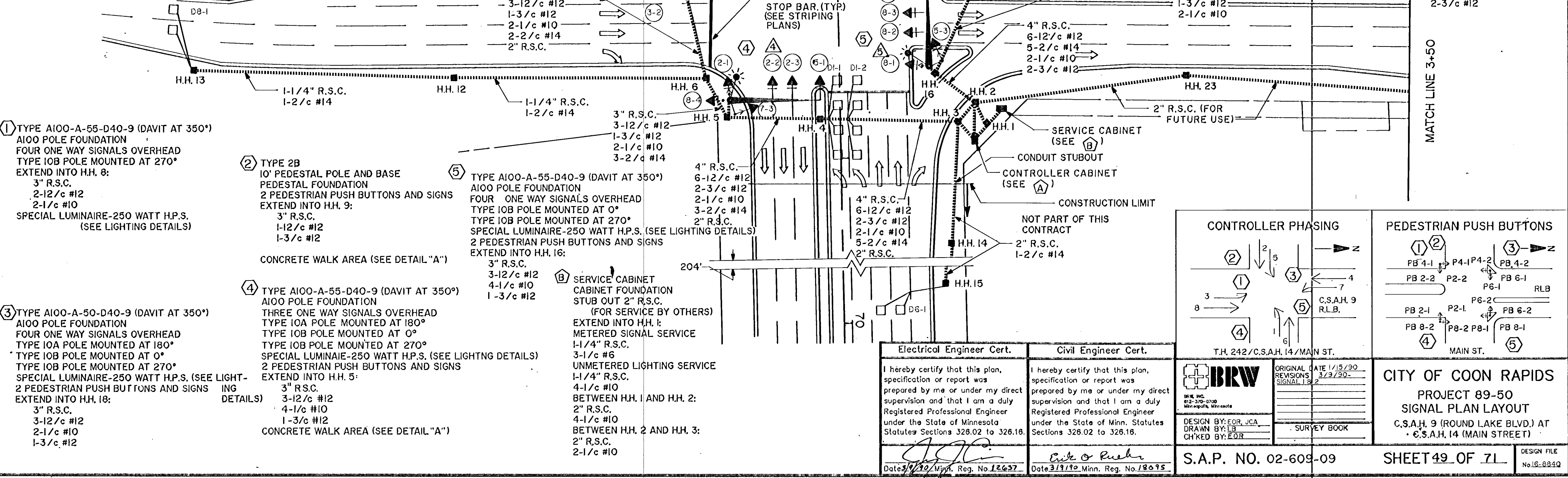
NOTES:

- SEE SPECIAL PROVISIONS FOR CONTRACTOR'S RESPONSIBILITY FOR LOCATION OF UTILITIES.
- ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS.
- LUMINAIRE AT LOCATIONS 4 AND 5 SHALL INCLUDE P.E.C. AND CHECK SWITCH.
- SEE SPECIAL PROVISIONS FOR ANOKA COUNTY SERVICE CABINET DETAILS.
- HANDHOLES SHALL BE CONCRETE.
- LOOP DETECTOR WIRES SHALL BE CROSS LINKED POLYETHYLENE (XLP) IN 1" N.M.C.. SEE SPECIAL PROVISIONS.
- ALL PEDESTRIAN INDICATIONS SHALL BE 12"x12".
- HUBS FOR POLE MOUNTED SIGNAL INDICATIONS SHALL BE PROVIDED ON FOUR SIDES OF MAST ARM POLES.
- CONTRACTOR SHALL INSTALL COUNTY-FURNISHED CONTROLLER AND CABINET. SEE SPECIAL PROVISIONS.
- MID-MAST ARM SIGNAL HEAD SHALL BE LOCATED AS FOLLOWS:
 LOCATION 1: 12 FEET, 28 FEET, AND 40 FEET FROM END OF MAST ARM.
 LOCATION 3: 20 FEET AND 32 FEET FROM END OF MAST ARM.
 LOCATION 4: 17 FEET AND 29 FEET FROM END OF MAST ARM.
 LOCATION 5: 10 FEET, 22 FEET, AND 34 FEET FROM END OF MAST ARM.
- CONDUIT, HANDHOLES, AND DETECTORS ALONG C.S.A.H. 14 WHICH ARE SHOWN AS "NOT PART OF THIS CONTRACT" ARE FOR INFORMATION ONLY TO BE INSTALLED LATER, BY OTHERS.

LOOP DETECTORS			
NUMBER	SIZE	LOC.#	FUNC.
DI-1	4-6'x6'	-	I
DI-2	4-6'x6'	-	I
D2-1	3-6'x6'	330'	I
D3-1	4-6'x6'	-	I
D4-1	3-6'x6'	330'	I
D5-1	4-6'x6'	-	I
D5-2	4-6'x6'	-	I
D6-1	2-6'x6'	330'	I
D7-1	4-6'x6'	-	I
D7-2	4-6'x6'	-	I
D8-1	2-6'x6'	330'	I

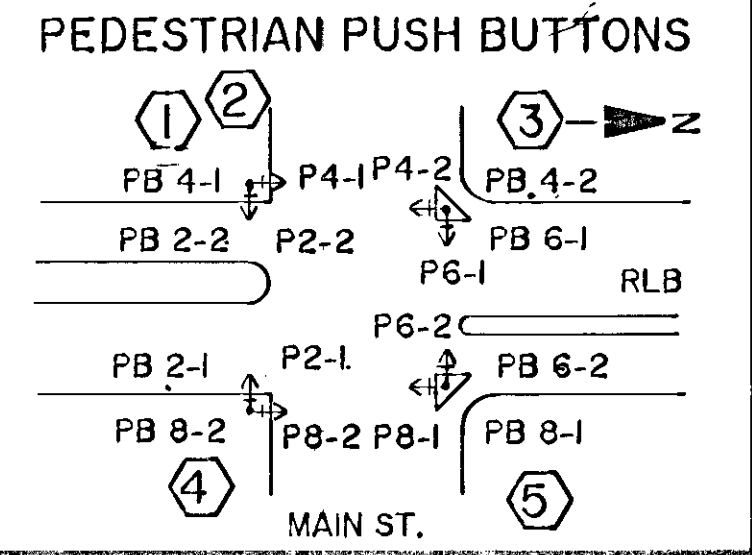
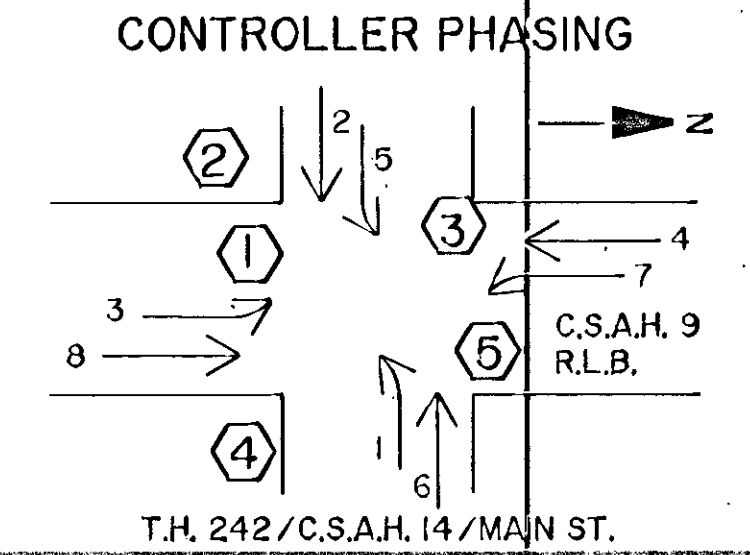
* DISTANCE TO STOP BAR
 ** NOT PART OF THIS CONTRACT

CONTROLLER AND CABINET CABINET FOUNDATION EXTEND INTO H.H. 1: METERED SIGNAL SERVICE 1-1/4" R.S.C. 3-1/c #6 EXTEND INTO H.H. 2: 4" R.S.C. 6-12/c #12 6-12/c #12 5-2/c #14 2-3/c #12 EXTEND INTO H.H. 3: 4" R.S.C. 6-12/c #12 6-2/c #14 2-3/c #12



LOOP DETECTOR FUNCTIONS

- CALL AND EXTEND
- CALL ONLY
- EXTEND ONLY
- CALL ONLY DENSITY
- DELAYED CALL ONLY
- DELAYED CALL ONLY DENSITY
- DELAYED CALL - IMMEDIATE EXTEND
- CARRY OVER (STRETCH)
- ADVISORY DETECTOR
- SAMPLING DETECTOR
- SPECIAL DETECTOR



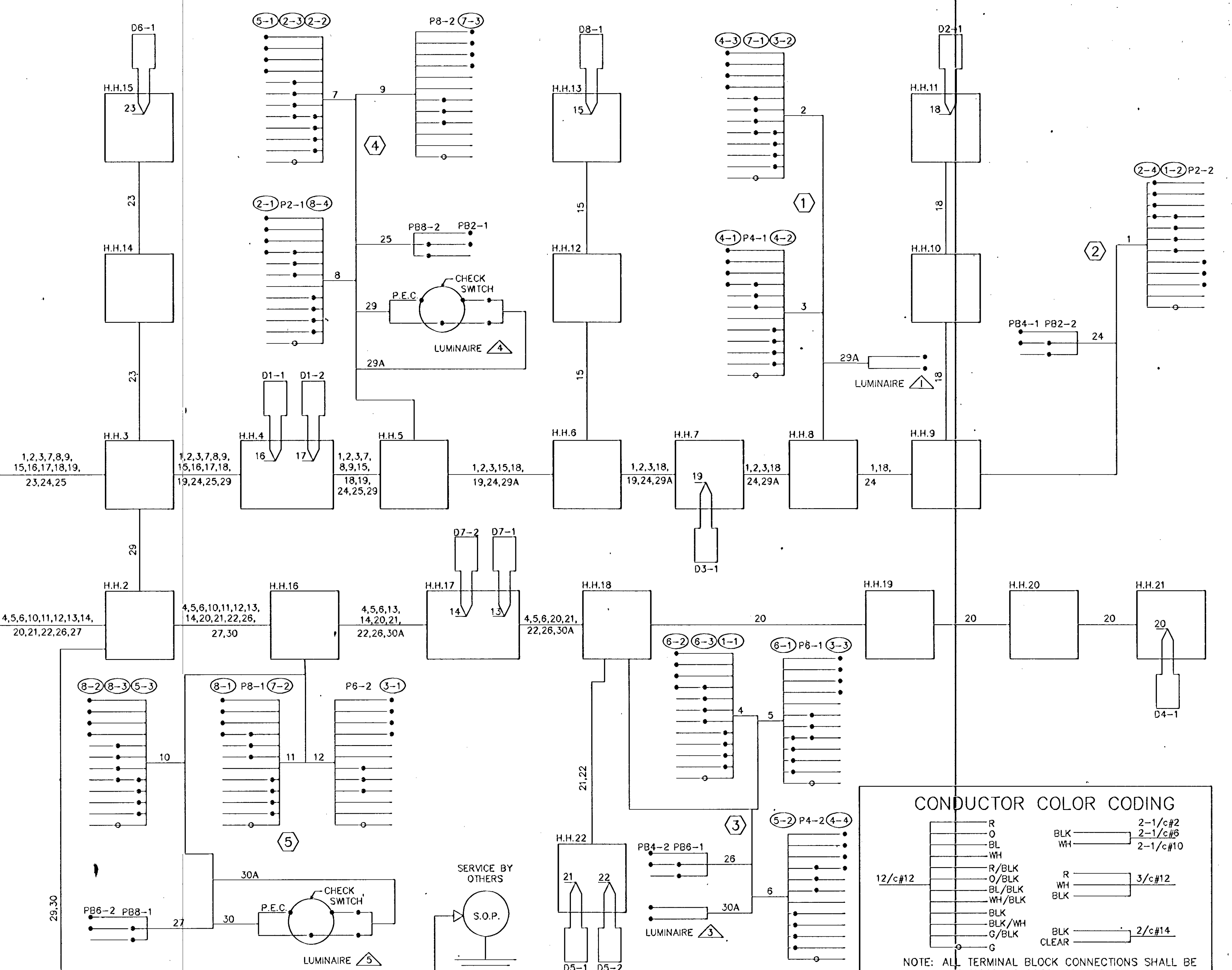
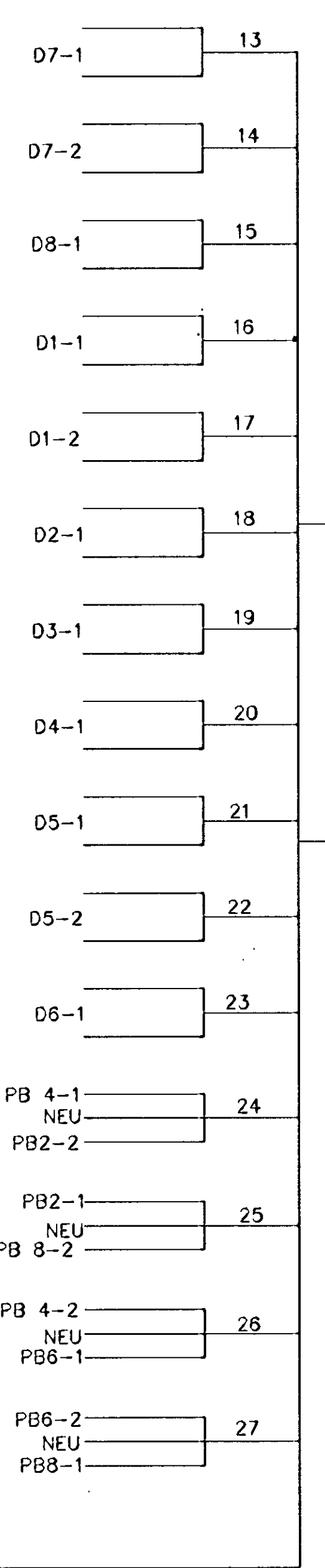
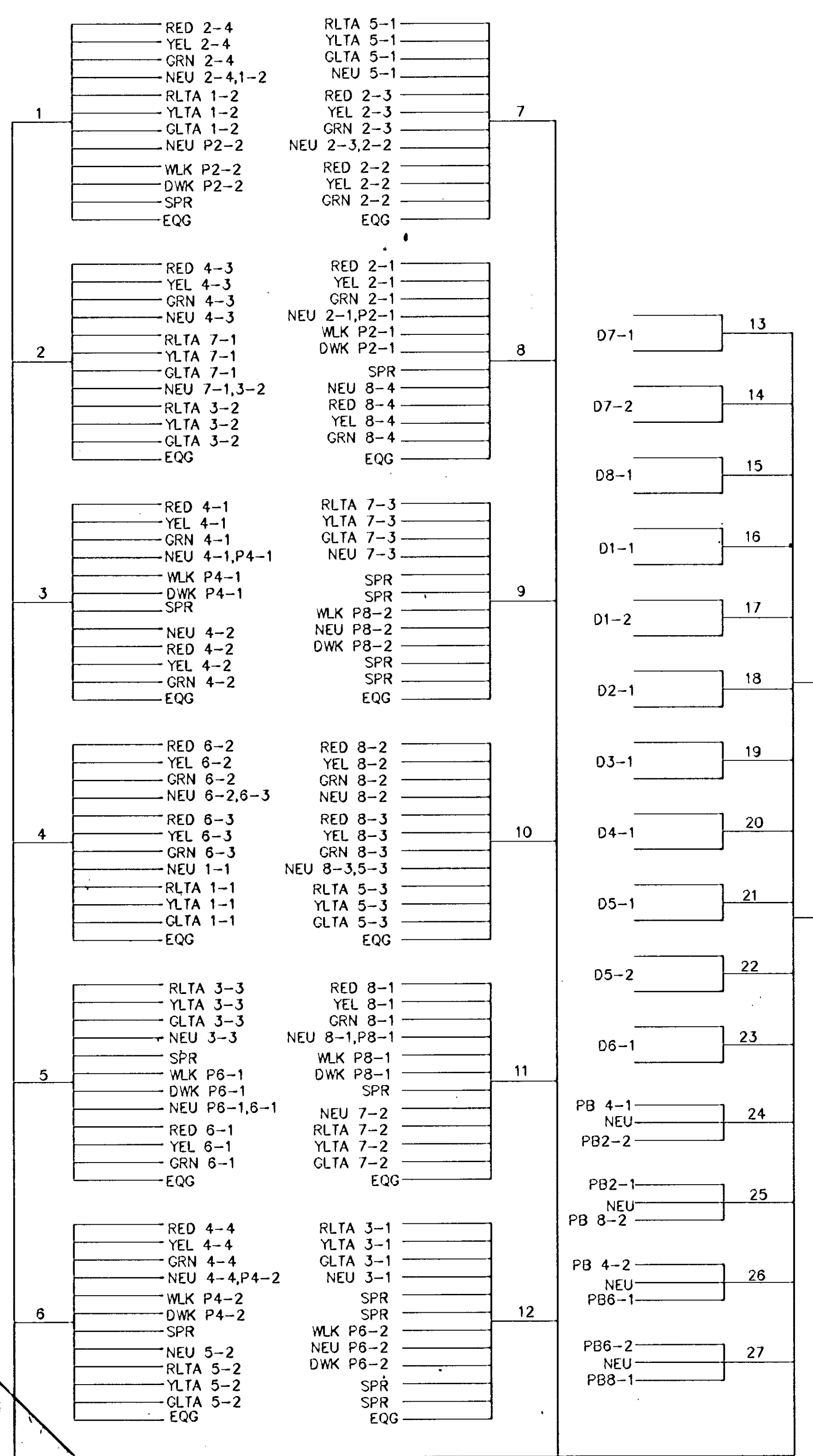
Electrical Engineer Cert. I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minnesota Statutes Sections 326.02 to 326.16.
 Date 3/19/90, Minn. Reg. No. 12637

Civil Engineer Cert. I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.
 Date 3/19/90, Minn. Reg. No. 18095

IBRW
DESIGN BY: EOR, JCA
DRAWN BY: LB
CHK'D BY: EOR

CITY OF COON RAPIDS
PROJECT 89-50
SIGNAL PLAN LAYOUT
C.S.A.H. 9 (ROUND LAKE BLVD.) AT
C.S.A.H. 14 (MAIN STREET)

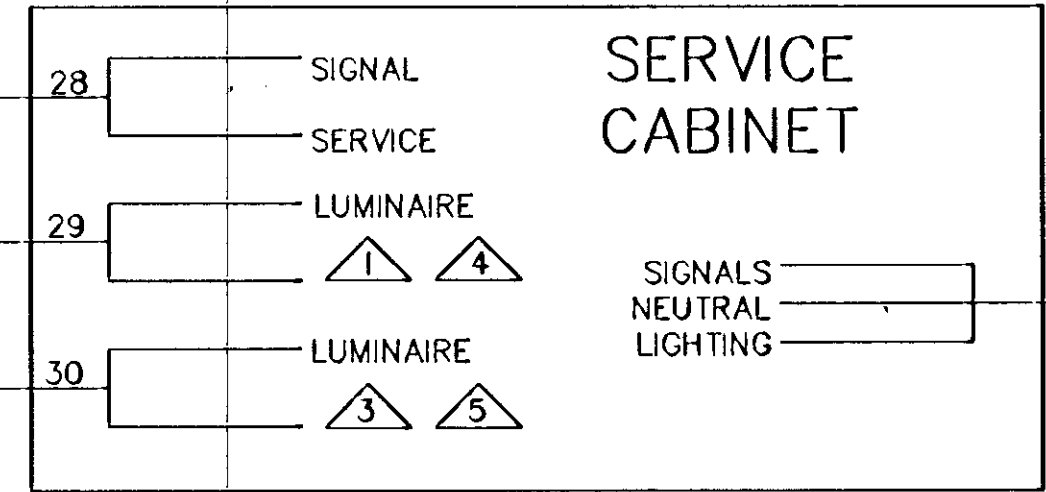
CONTROLLER CABINET



CONDUCTOR COLOR CODING

R	BLK	2-1/c#2
O	WH	2-1/c#6
BL	WH	2-1/c#10
WH		
R/BLK	R	3/c#12
O/BLK	WH	
BL/BLK	BLK	
WH/BLK		
BLK		
BLK/WH	BLK	2/c#14
G/BLK	CLEAR	
G		

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.



<p>Electrical Engineer Cert.</p> <p>I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Electrical Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.</p> <p><i>JCA</i></p> <p>Date 3/9/90 Minn. Reg No. 12637</p>	<p>Civil Engineer Cert.</p> <p>I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.</p> <p><i>Eric O. Rusk</i></p> <p>Date 3/9/90 Minn. Reg No. 18095</p>
---	--

BRW
 PLANNING
 TRANSPORTATION
 ENGINEERING
 URBAN DESIGN

700 POND STREET SOUTH
 MINNEAPOLIS, MN 55415
 PHONE: (612) 370-0700

ORIGINAL DATE: 1/20/90
 REVISIONS: 3/6/90
 3/9/90 LUMINAIRE I

DESIGN BY: JCA
 DRAWN BY: JCA
 CHECKED BY: EOR

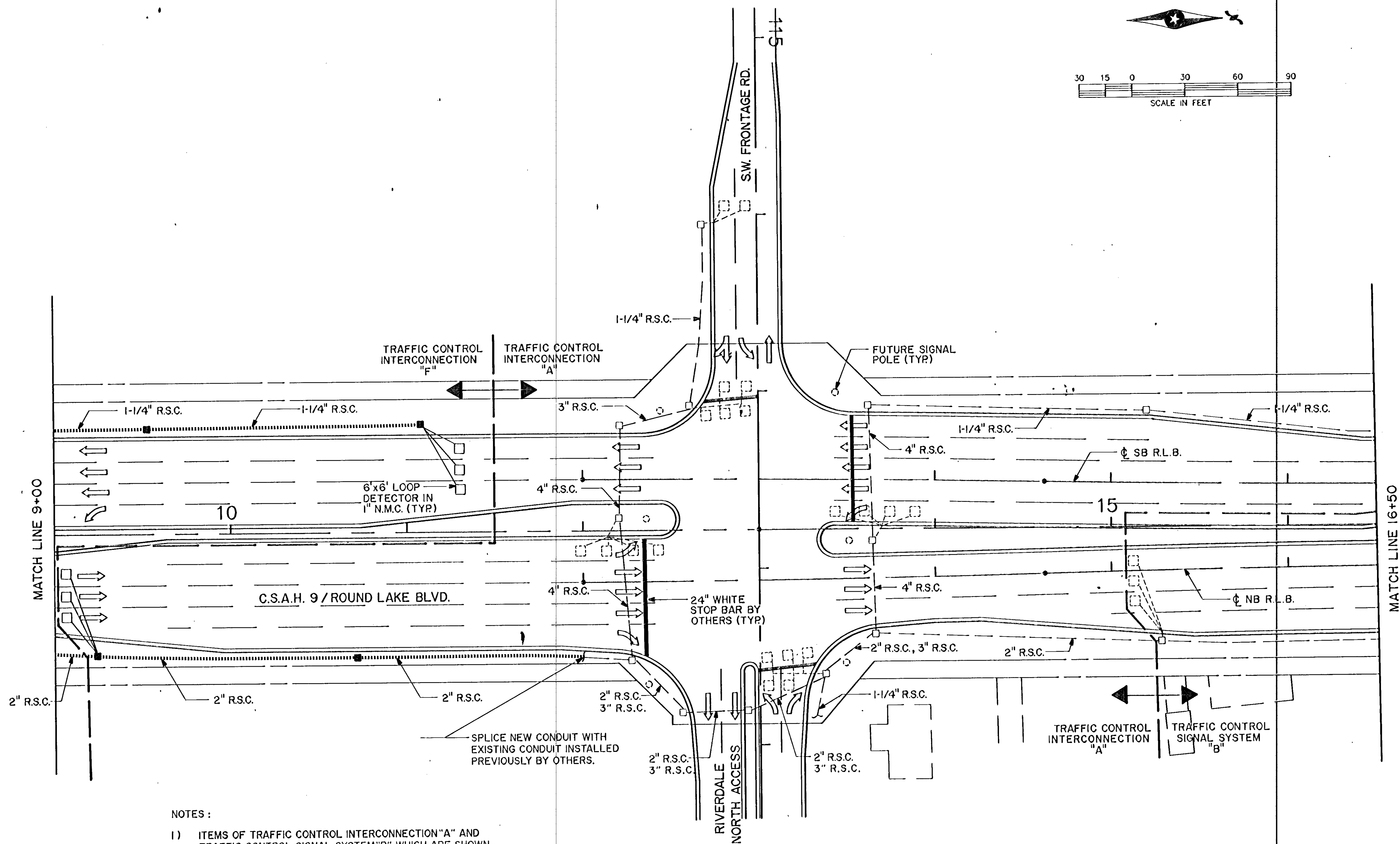
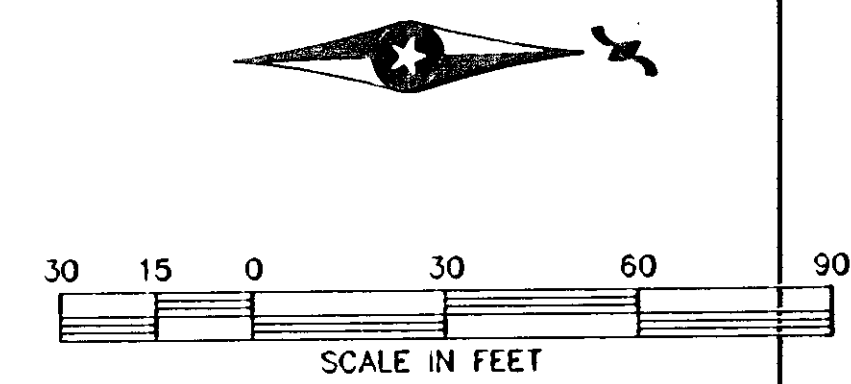
SURVEY BK. NO.

CITY OF COON RAPIDS
 PROJECT 89-50
 FIELD WIRING DIAGRAM
 C.S.A.H. 9 (ROUND LAKE BLVD)
 AT C.S.A.H. 14 (MAIN ST.)

S.A.P.NO. 02-609-09

SHEET 50 OF 71

DESIGN FILE No. 16-8840



NOTES :

- 1) ITEMS OF TRAFFIC CONTROL INTERCONNECTION "A" AND TRAFFIC CONTROL SIGNAL SYSTEM "B" WHICH ARE SHOWN AS EXISTING ARE TO BE INSTALLED BY OTHERS.
- 2) FOR DETECTOR DETAILS, SEE DETECTOR DETAIL SHEET.

Civil Engineer Cert.
 I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.
E. J. O'Neil
 Date 3/7/92 Minn. Reg. No. 18095

BRW
 BRW INC.
 812-370-0100
 Minneapolis, Minnesota
 DESIGN BY: EOR, JCA
 DRAWN BY: LB
 CHECKED BY: EOR

ORIGINAL DATE 1/15/90
 REVISIONS
 SURVEY BOOK

CITY OF COON RAPIDS
 PROJECT 89-50
 SIGNAL PLAN LAYOUT
 C.S.A.H. 9 (ROUND LAKE BLVD.) AT
 RIVERDALE NORTH ACCESS

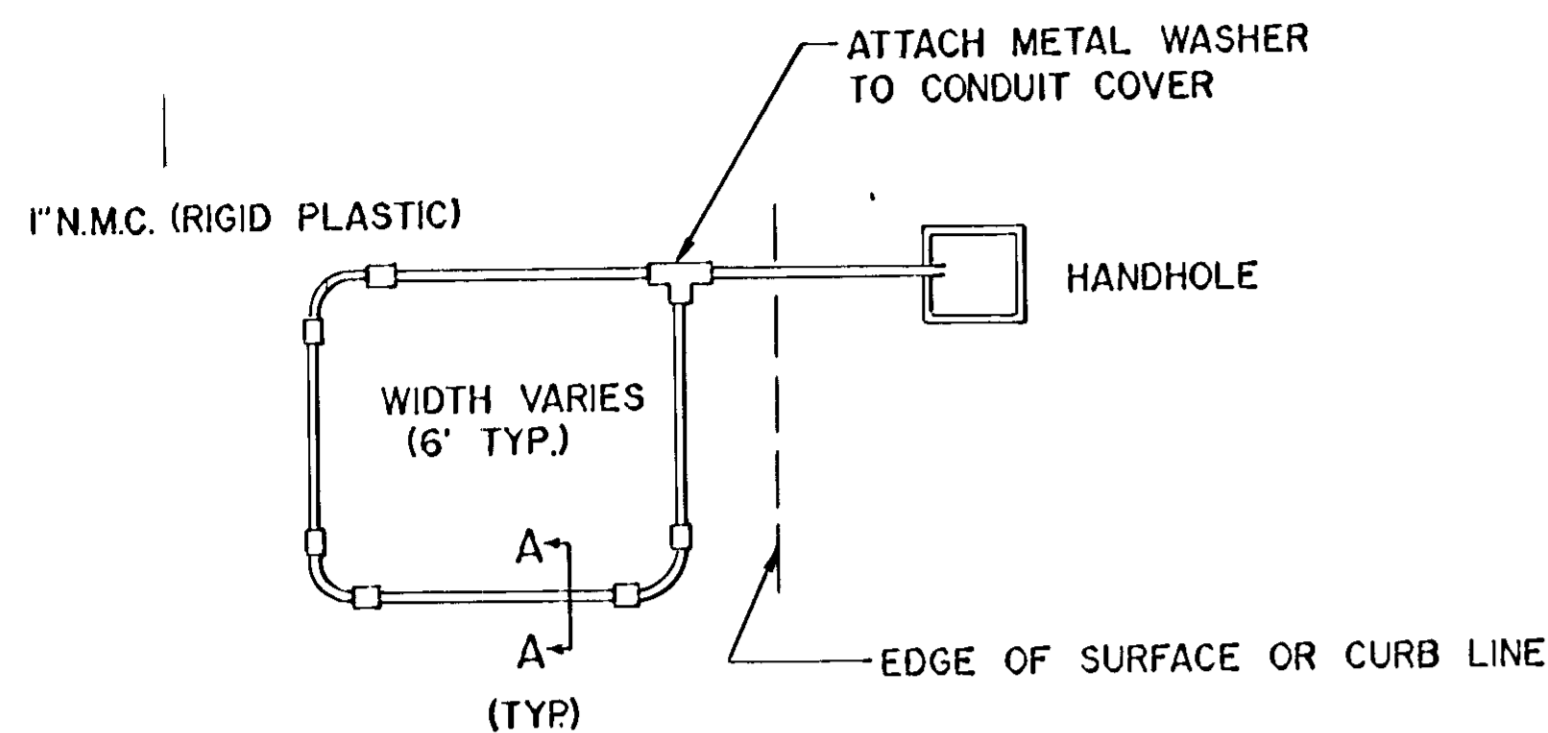
S.A.P. NO. 02-609-09

SHEET 52 OF 71

DESIGN FILE
 No. 16-8949

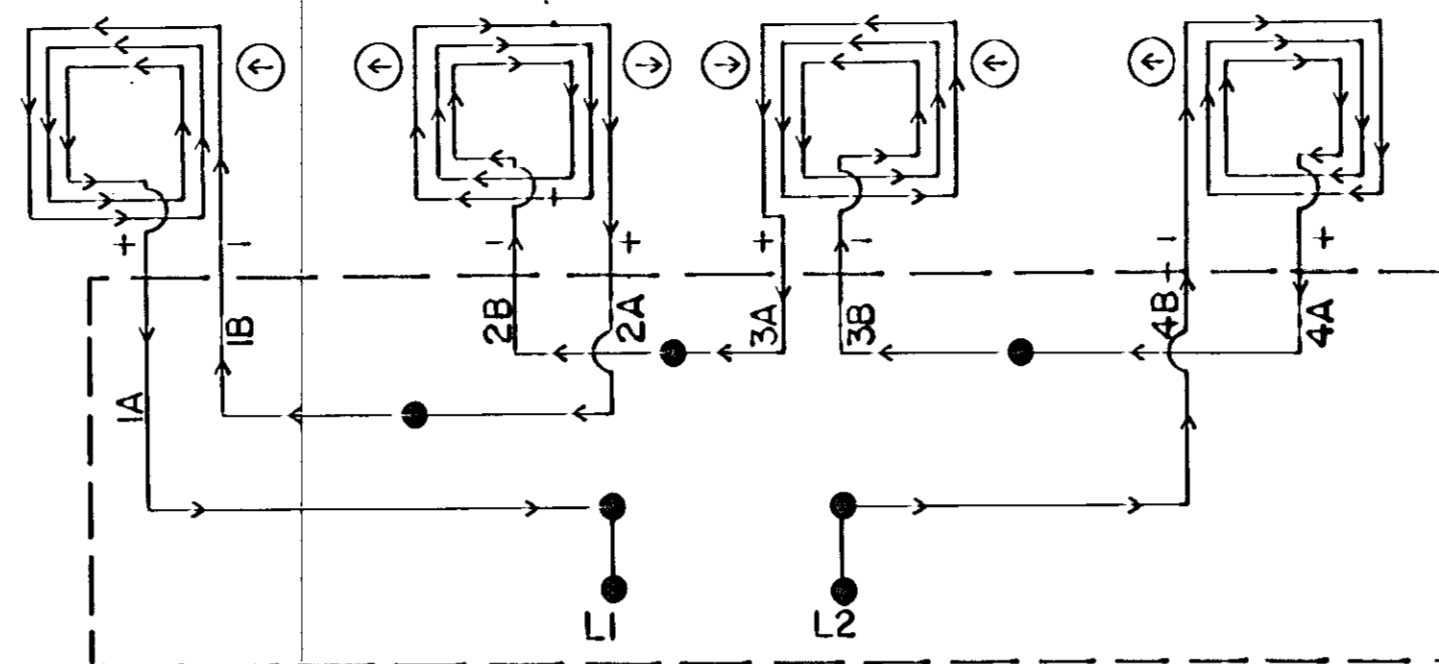
LOOP DETECTOR DETAIL "A"

PLAN VIEW
(NOT TO SCALE)



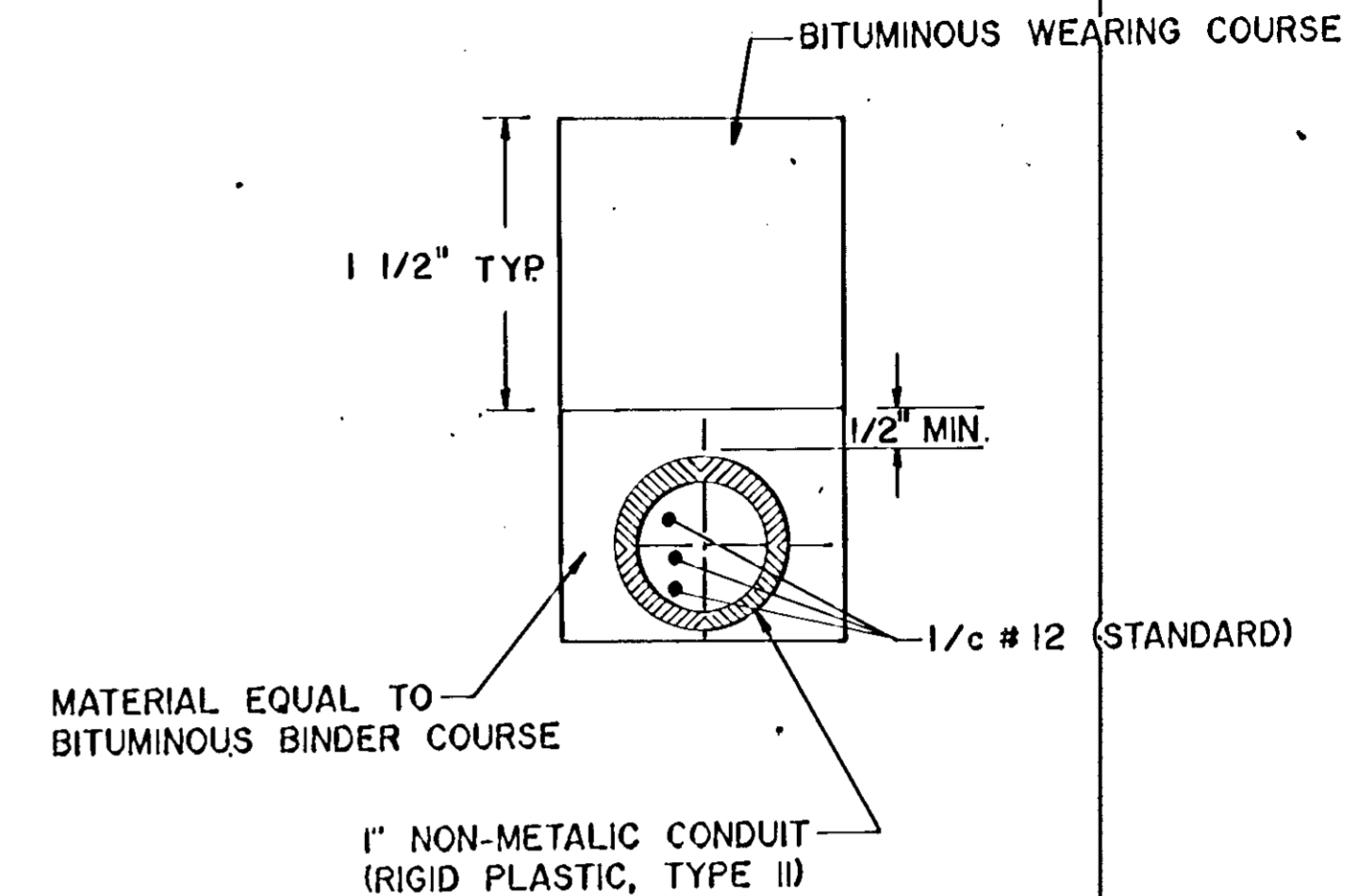
LOOP DETECTOR DETAIL "C"

PLAN VIEW (NOT TO SCALE)
(LOOP PHASING FOR SERIES CONNECTION)



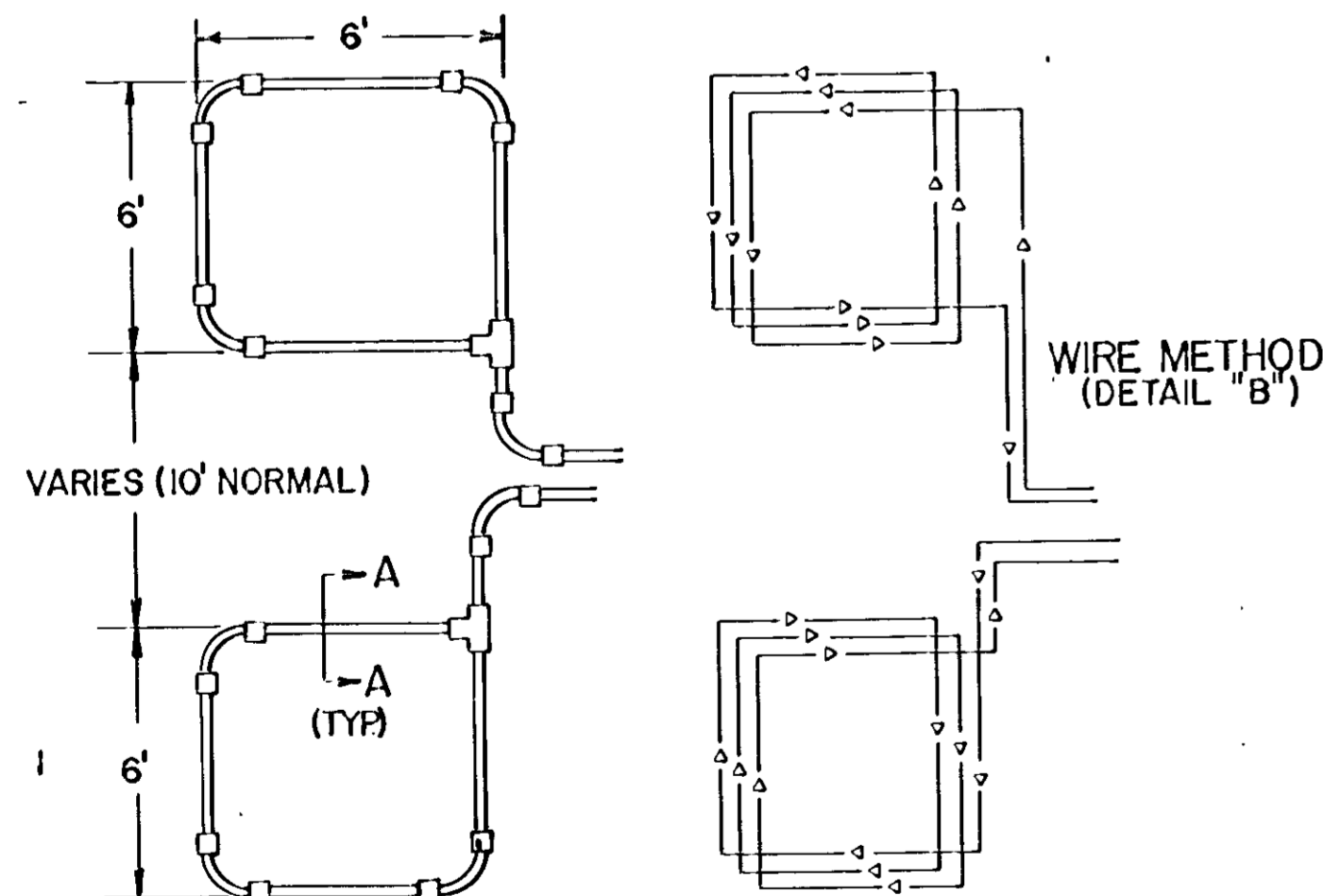
LOOP CONNECTIONS SHALL BE SPliced IN THE HANDHOLE AS FOLLOWS:
L1 TO 1A, 1B TO 2A, 2B TO 3A, 3B TO 4A, AND 4B TO L2. SPlice
CONTROL CABLE TO L1 & L2 IN HANDHOLE. ALL CONDUCTORS SHALL
BE TAGGED IN HANDHOLE (1A, 1B, ETC.)

CROSS SECTION A-A



CONDUIT INSTALLATION DETAIL FOR LOOP DETECTORS

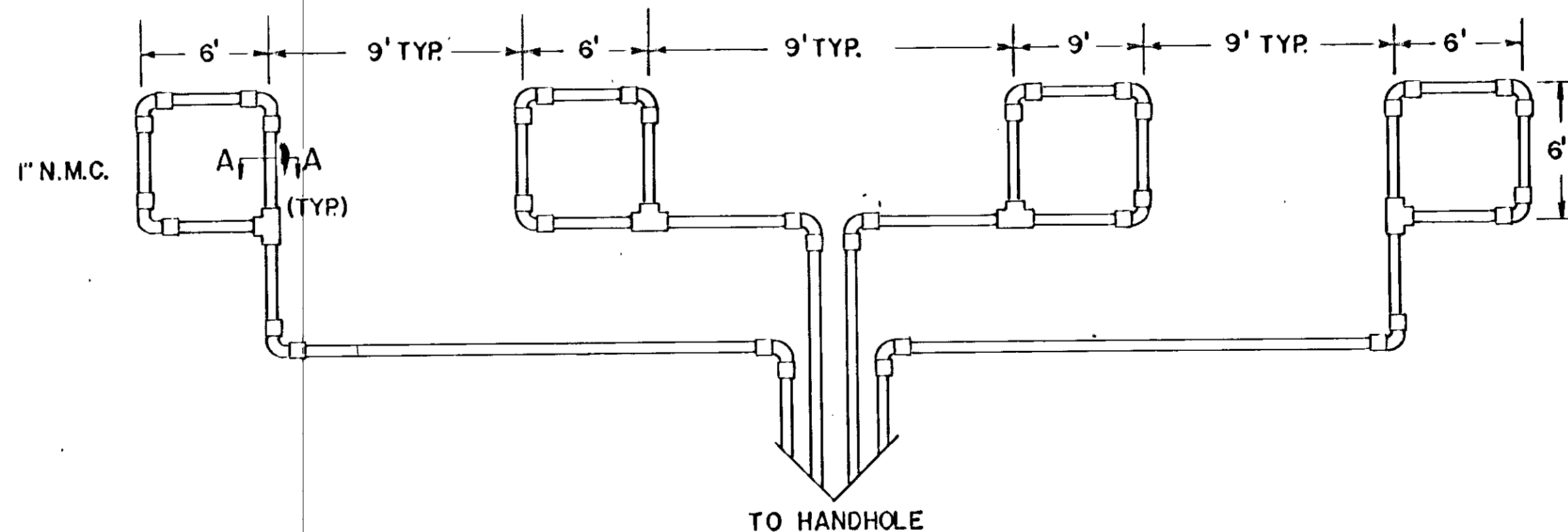
LOOP DETECTOR CONDUITS ARE TO BE INSTALLED IN 3" CUT TRENCHES AS SHOWN ON PLANS. INSTALL EACH COMPLETE DETECTOR ASSEMBLY WITH THE DETECTOR WIRE PULLED THROUGH THE COMPLETE ASSEMBLY TO HANDHOLE. WHERE APPROPRIATE, PLACE DETECTOR CONDUIT IN BITUMINOUS BINDER COURSE PRIOR TO PLACEMENT OF THE WEARING COURSE. THE DEPTH OF THE TRENCH AND THE RESULTANT PLACEMENT OF THE DETECTOR CONDUIT SHALL BE SUCH THAT THE ENTIRE DETECTOR ASSEMBLY DRAINS INTO THE HANDHOLE. BACKFILL AND COMPACT THE TRENCHES WITH MATERIAL EQUIVALENT TO THE MATERIAL REMOVED.



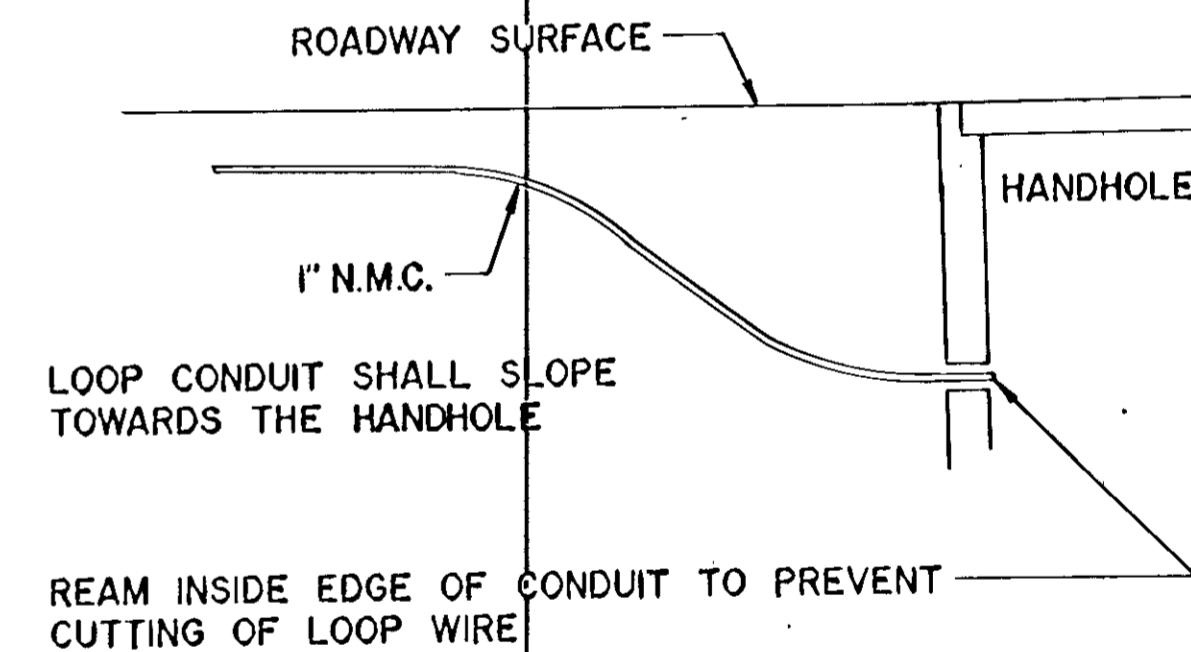
LOOP DETECTOR DETAIL "B"

PLAN VIEW
(NOT TO SCALE)
(TYPICAL)

CONDUITS MAY BE PLACED
IN COMMON TRENCH.



- NOTES:
- 1) ALL CORNERS SHALL BE STANDARD 90° CONDUIT BENDS.
 - 2) CONNECT WIRES IN HANDHOLES USING WESTERN UNION SPLICE, SOLDERED, TAPED & WATERPROOFED.
 - 3) LOOP DETECTOR WIRES SHALL BE CROSS LINKED POLYETHYLENE (XPL.) SEE SPECIAL PROVISIONS.
 - 4) LOOP WIRES SHALL BE TWISTED A MIN. OF 1 TURN PER 3 FEET FROM THE LOOP TO THE CONDUIT AND 3 TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
 - 5) N.M.C. DESIGNATES NON-METALLIC CONDUIT (SPEC 3803).



DRAINAGE DETAILS

<p>ELEC. ENGR. CERT.</p> <p>I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.</p> <p><i>[Signature]</i> Date <u>3/19/90</u> Minn. Reg. No. <u>12632</u></p>	<p>CIVIL ENGR. CERT.</p> <p>I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.</p> <p><i>[Signature]</i> Date <u>3/19/90</u> Minn. Reg. No. <u>18095</u></p>
---	---

BRW
BRW, INC.
PLANNING
TRANSPORTATION
ENGINEERING
URBAN DESIGN
THRESHOLD SQUARE
700 THIRD STREET SOUTH
MINNEAPOLIS, MN 55415
PHONE: (612) 370-0700

<p>ORIGINAL DATE: <u>11/15/90</u></p> <p>REVISIONS:</p>	<p>DESIGN BY: <u>EOR</u></p> <p>DRAWN BY: <u>KJM</u></p>
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CITY OF COON RAPIDS
PROJECT 89-50
DETECTOR DETAILS

S.A.P. NO. 02-609-09

SHEET 53 OF 71

DESIGN FILE
No. 18-8840

STANDARD PLATES	
PLATE NO.	DESCRIPTION
* 8110 C	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
* 8111 B	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
* 8112 C	PEDESTAL FOUNDATION
* 8113 C	MAGNETIC VEHICLE DETECTOR INSTALLATION
* 8115 C	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8117 F	PRECAST CONCRETE HANDHOLE
* 8118 C	SERVICE EQUIPMENT AND POLE
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 H	P-80 AND P-90 POLE FOUNDATION
* 8121 B	TRANSFORMER BASE WITH POLE BASE PLATE
* 8122 C	PEDESTAL AND PEDESTAL BASE
* 8123 B	POLE AND MAST ARM
* 8124 D	SIGNAL HEAD MOUNTS
8126 C	P-100 POLE FOUNDATION
8130 D	SAW CUT LOOP DETECTORS

* STANDARD PLATES APPLICABLE TO THIS PLAN





































CONDUCTOR COLOR CODE

- R-RED
- O-ORANGE
- BL-BLUE
- WH-WHITE
- R/BLK-RED WITH BLACK TRACER
- O/BLK-ORANGE WITH BLACK TRACER
- BL/BLK-BLUE WITH BLACK TRACER
- W/BLK-WHITE WITH BLACK TRACER
- BLK-BLACK
- BLK/WH-BLACK WITH WHITE TRACER
- G/BLK-GREEN WITH BLACK TRACER
- G-GREEN

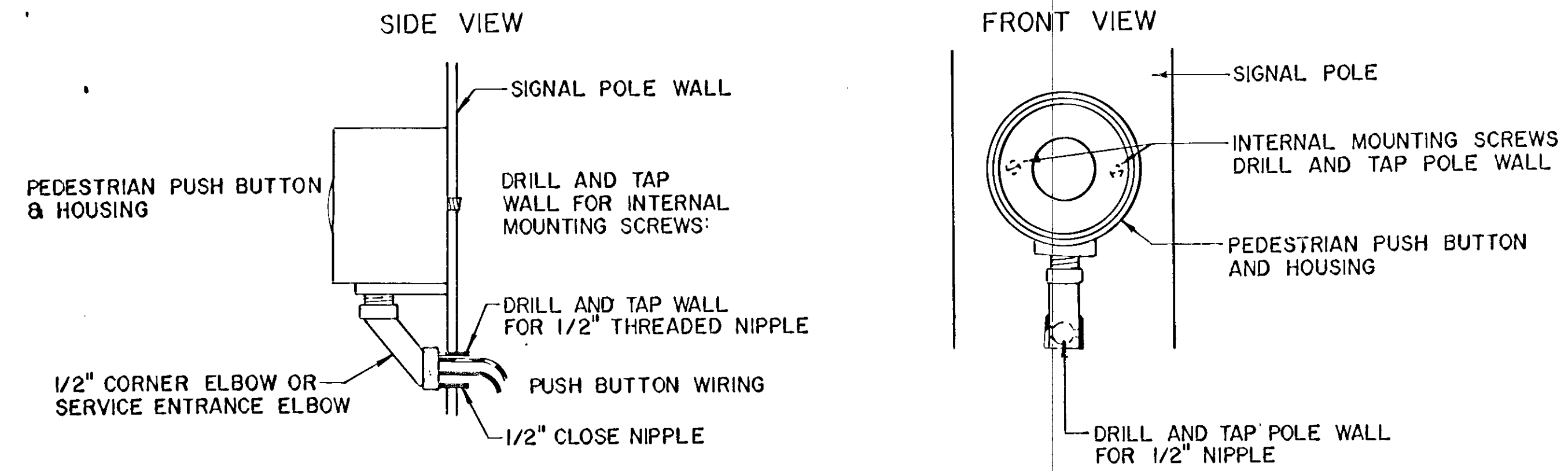
ABBREVIATIONS
EQUIPMENT AND INDICATIONS

- R,RED-RED
- Y,YEL-YELLOW
- G,GRN-GREEN
- WLK-WALK
- NEU-NEUTRAL
- DWK-DON'T WALK
- LUM-LUMINAIRE
- DNL-DOWNLIGHT
- H.H.-HANDHOLE
- EQG-EQUIPMENT GROUND
- R,S,C.-RIGID STEEL CONDUIT
- GLTA-GREEN LEFT TURN ARROW
- YRTA-YELLOW RIGHT TURN ARROW
- D2-1(eg)-DETECTOR-PHASE "2"
- GR,R-GROUND ROD
- SER.-SERVICE
- P2-2 PEDESTRIAN INDICATIONS-PHASE "2"
- 2-1(eg)-SIGNAL HEADS-PHASE "2"
- SPR.-SPARE CONDUCTORS
- N.M.C.-NON METALLIC CONDUIT
- E.V.P.-EMERGENCY VEHICLE PRE-EMPTION
- J.B.-JUNCTION BOX
- W.P.-WOOD POLE
- P.E.C.-PHOTOELECTRIC CELL
- Br.Gr.-BARE GROUND

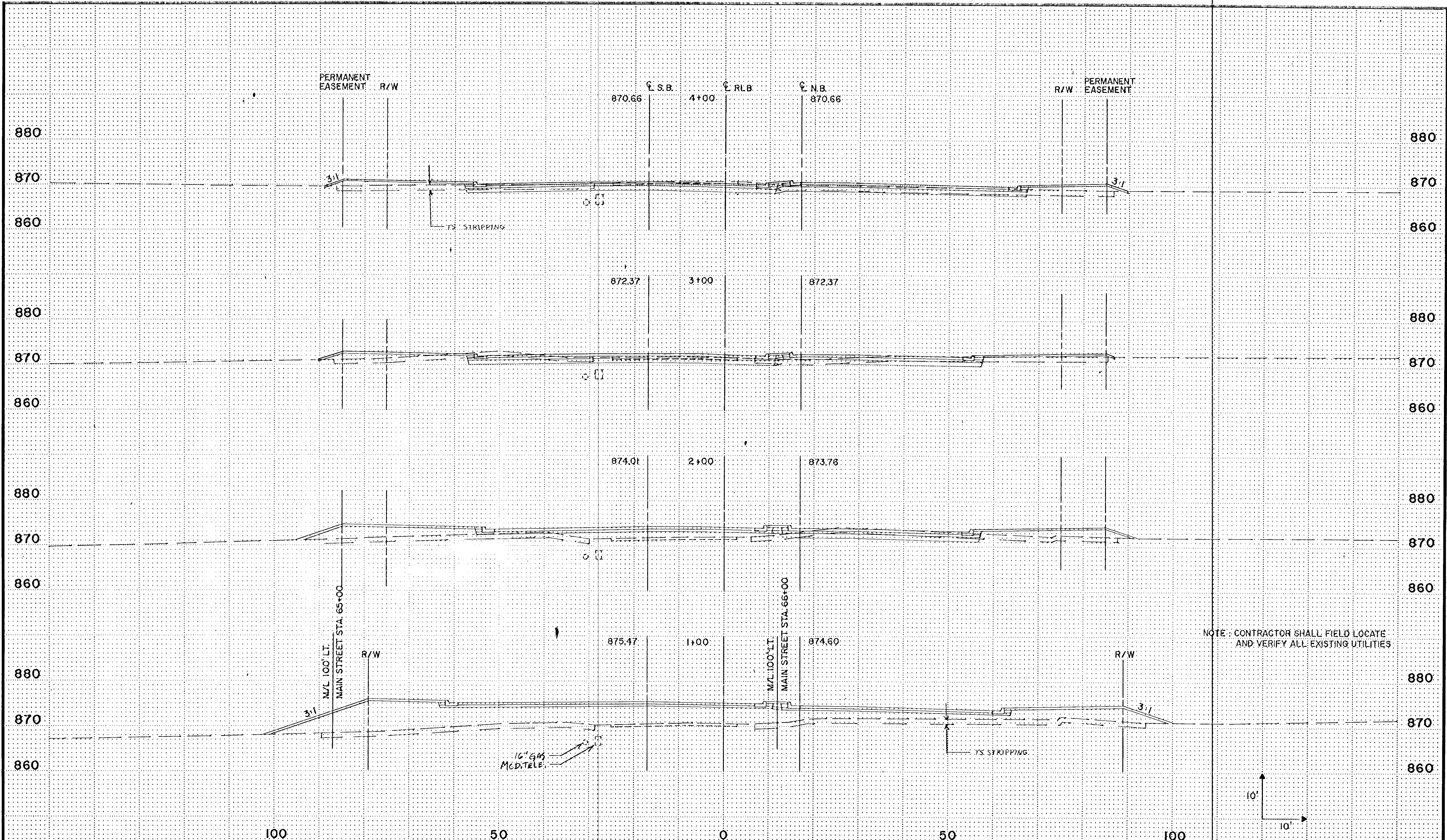
LEGEND OF SYMBOLS

- CONTROLLER AND SERVICE EQPT. NO'S 
- SIGNAL BASE NO. 
- SIGNAL FACE NO. 
- LUMINAIRE NO. 
- CONTROLLER AND CABINET 
- CONTROLLER AND CABINET-IN PLACE 
- HANDHOLE 
- HANDHOLE-IN PLACE 
- RIGID STEEL CONDUIT (R.S.C.) 
- RIGID STEEL CONDUIT (R.S.C.)-IN PLACE 
- SIGNAL FACE WITH BACKGROUND SHIELD 
- SIGNAL FACE W/O BACKGROUND SHIELD 
- SIGNAL FACE-IN PLACE 
- PEDESTRIAN INDICATIONS 
- PEDESTRIAN INDICATIONS-IN PLACE 
- PEDESTRIAN PUSH BUTTON ON PEDESTAL OR POLE 
- PEDESTRIAN PUSH BUTTON STATION 
- TRAFFIC SIGNAL PEDESTAL 
- TRAFFIC SIGNAL PEDESTAL-IN PLACE 
- TRAFFIC SIGNAL POLE AND MAST ARM 
- TRAFFIC SIGNAL POLE AND MAST ARM-IN PLACE 
- STREET LIGHT POLE AND LUMINAIRE 
- STREET LIGHT POLE AND LUMINAIRE-IN PLACE 
- MAST ARM AND LUMINAIRE 
- MAST ARM AND LUMINAIRE-IN PLACE 
- WOOD POLE 
- WOOD POLE-IN PLACE 
- SOURCE OF POWER 
- RAILROAD SIGNAL-IN PLACE 
- RIGHT OF WAY LINE 
- CENTER LINE 
- EDGE OF ROADWAY 
- SHOULDER LINE 
- CURB LINE 
- STOP BAR 
- CROSSWALK 

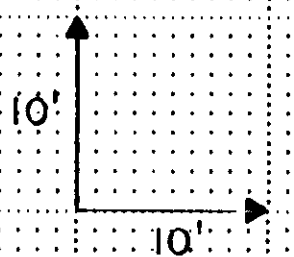
PEDESTRIAN PUSH BUTTON MOUNTING DETAIL



<p>ELEC. ENGR. CERT.</p> <p>I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.</p> <p><i>[Signature]</i> Date <u>3/17/90</u> Minn. Reg. No. <u>12632</u></p>	<p>CIVIL ENGR. CERT.</p> <p>I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.</p> <p><i>[Signature]</i> Date <u>3/19/90</u> Minn. Reg. No. <u>13095</u></p>	<p>BRW INC. PLANNING TRANSPORTATION ENGINEERING URBAN DESIGN</p> <p>700 THIRD STREET SOUTH MINNEAPOLIS, MN 55415 PHONE (612) 370-0700</p> <p>DESIGN BY: EOR DRAWN BY: KJM</p>	<p>ORIGINAL DATE: <u>1/15/90</u> REVISIONS: _____</p> <p>SURVEY BK. NO. _____</p>	<p>CITY OF COON RAPIDS PROJECT 89-50 DETAILS / LEGENDS</p>
<p>S.A.P. NO. 02-609-09</p>			<p>SHEET <u>54</u> OF <u>71</u></p>	<p>DESIGN FILE No. <u>16-8840</u></p>



NOTE: CONTRACTOR SHALL FIELD LOCATE AND VERIFY ALL EXISTING UTILITIES



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas W. Jensen
 Date 3/12/90 Minn. Reg. No. 20235

BRW
 PLANNING TRANSPORTATION ENGINEERING URBAN DESIGN
 214 N. W. THUNDER SQUARE 7TH FLOOR SOUTH MINNEAPOLIS, MN 55415

DESIGN BY: S.A.C.
 DRAWN BY: G.L.G.

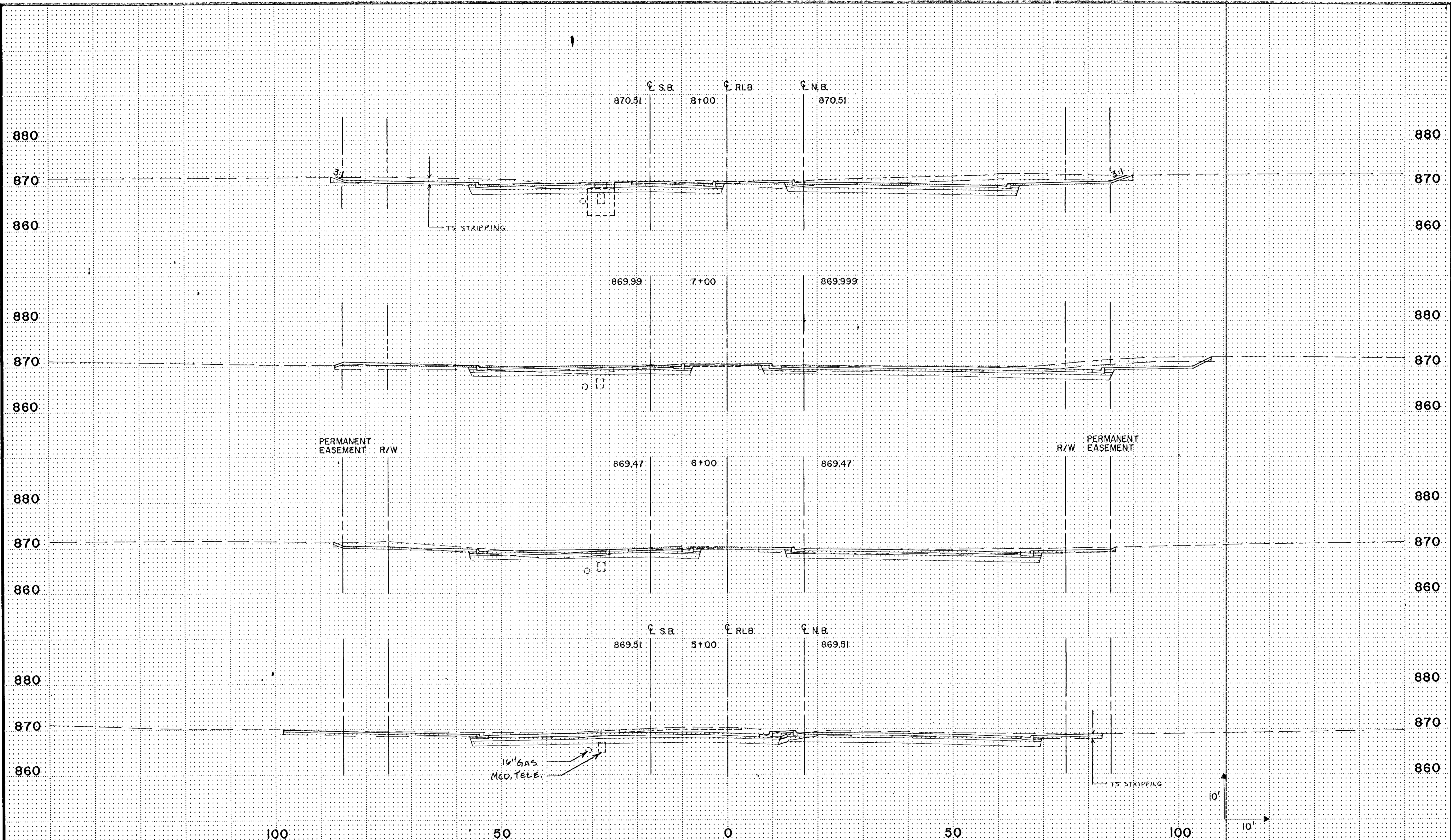
S.A.P. NO. 02-609-09

ORIGINAL DATE: 3/12/90
REVISIONS:
SURVEY BK. NO.

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-50
ROUND LAKE BOULEVARD
CROSS SECTIONS
1+00 TO 4+00

SHEET 64 OF 71

DESIGN FILE No. 8-8951



PERMANENT EASEMENT R/W

R/W PERMANENT EASEMENT

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas M. Fincher
 Date 3/12/90 Minn. Reg. No. 20235



DESIGN BY: S.A.C.
 DRAWN BY: S.L.S.

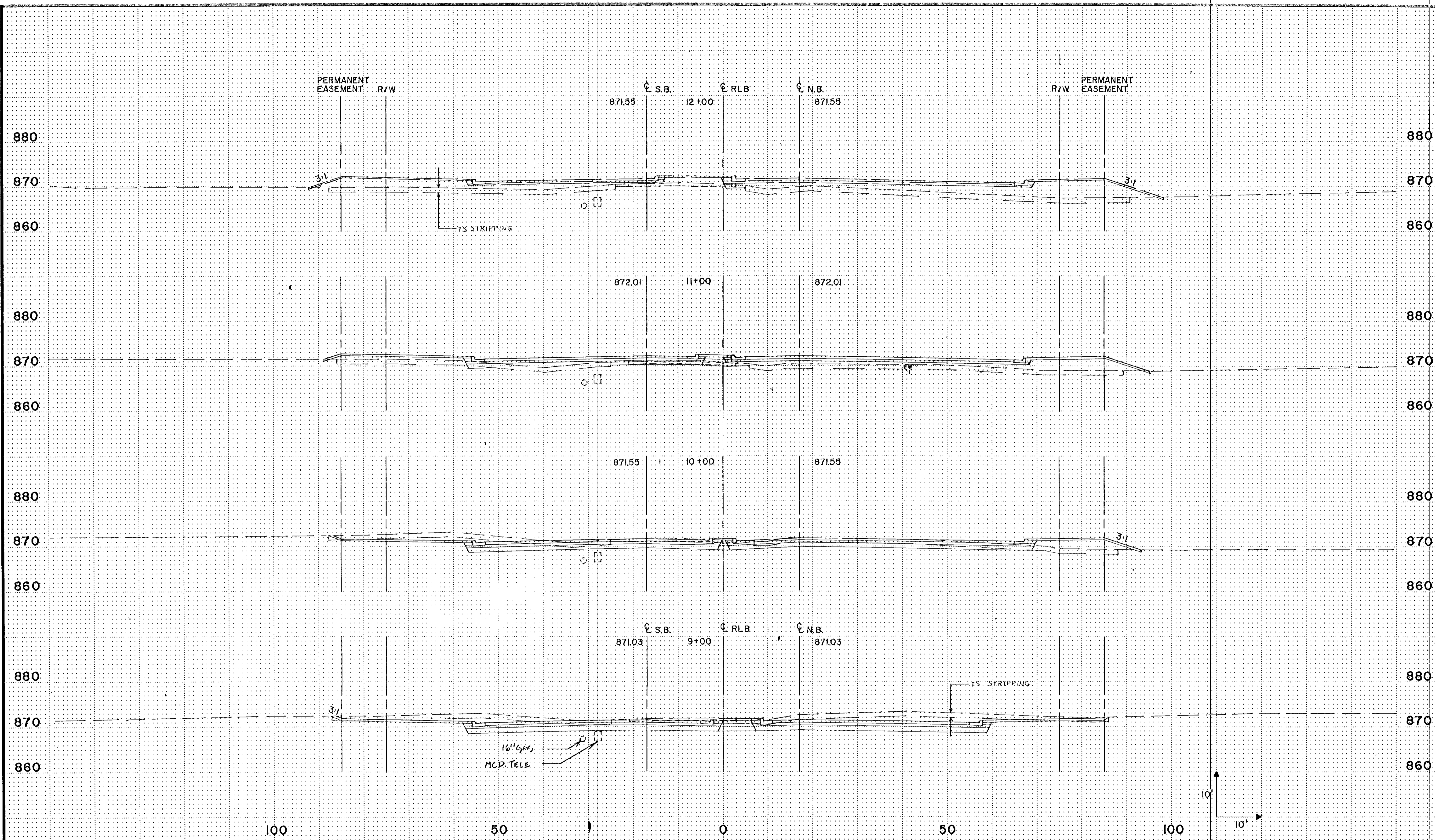
ORIGINAL DATE: 3/12/90
REVISIONS:
SURVEY BK. NO.

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-50
ROUND LAKE BOULEVARD
CROSS SECTIONS
5+00 TO 8+00

DESIGN FILE
 No. 16-895L

S.A.P. NO. 02-609-09

SHEET 65 OF 71



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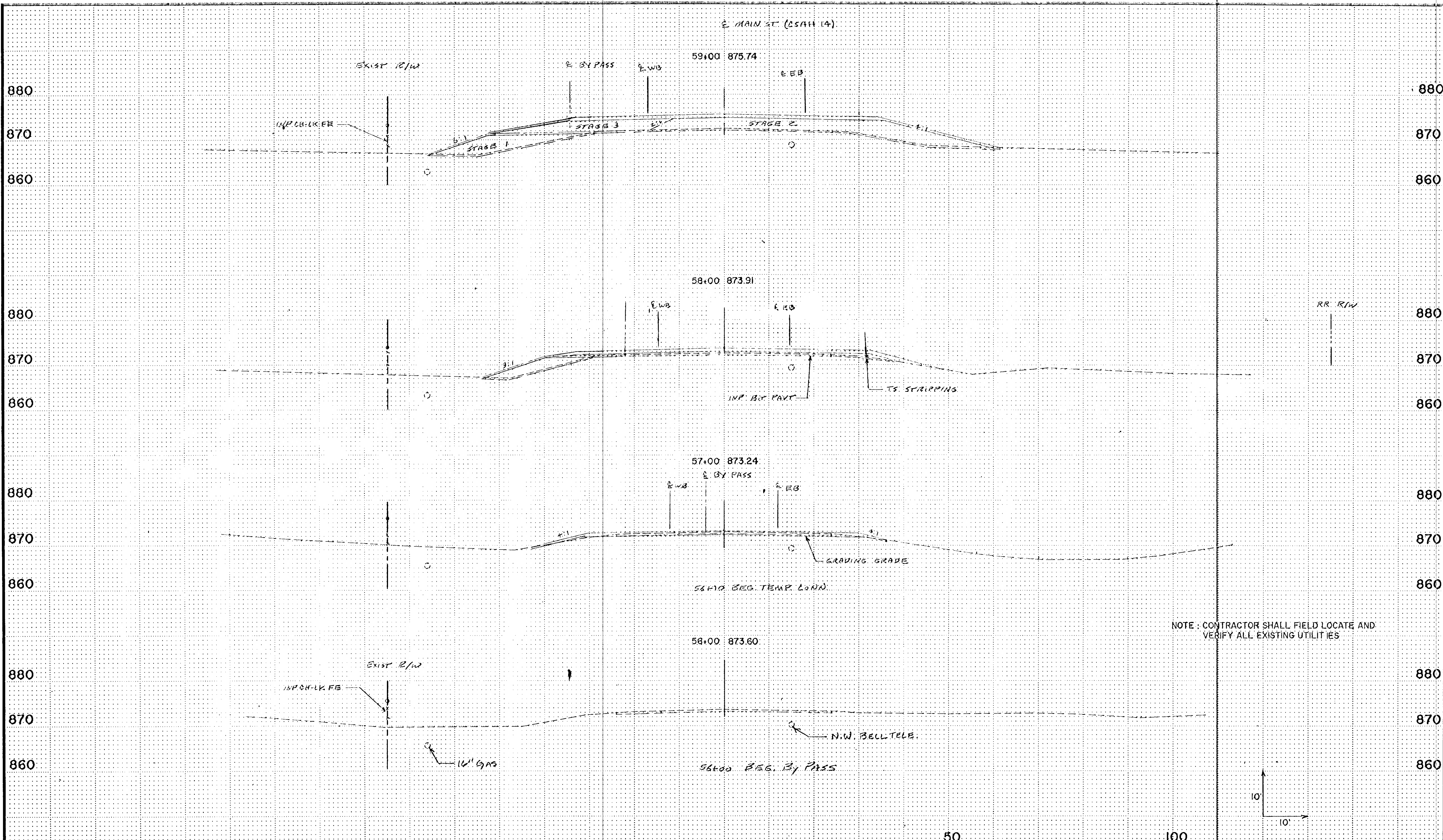
100

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.
Douglas W. Fincher
 Date 3/12/90 Minn. Reg. No 20235.

BRW
 BRW INC.
 1100 W. WASHINGTON ST. SUITE 100
 MINNEAPOLIS, MN 55401
 DESIGN BY: S.A.C.
 DRAWN BY: G.L.G.
 S.A.P. NO. 02-609-09

ORIGINAL DATE	3/12/90
REVISIONS	
SURVEY BK. NO.	

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-50
ROUND LAKE BOULEVARD
CROSS SECTIONS
9+00 TO 12+00
 SHEET 66 OF 71
 DESIGN FILE No 16-8951



NOTE: CONTRACTOR SHALL FIELD LOCATE AND VERIFY ALL EXISTING UTILITIES

50 100

E MAIN ST (C.S.A.H. 14)

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas W. Fincher
 Date 3/12/90 Minn. Reg. No. 20235

DESIGN BY: S.A.C.
 DRAWN BY: G.L.G./JRM

S.A.P. NO. 02-609-09

ORIGINAL DATE	3/12/90
REVISIONS:	
SURVEY BK. NO.	

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
MAINSTREET (C.S.A.H. 14)
CROSS - SECTIONS
56+00 TO 59+00

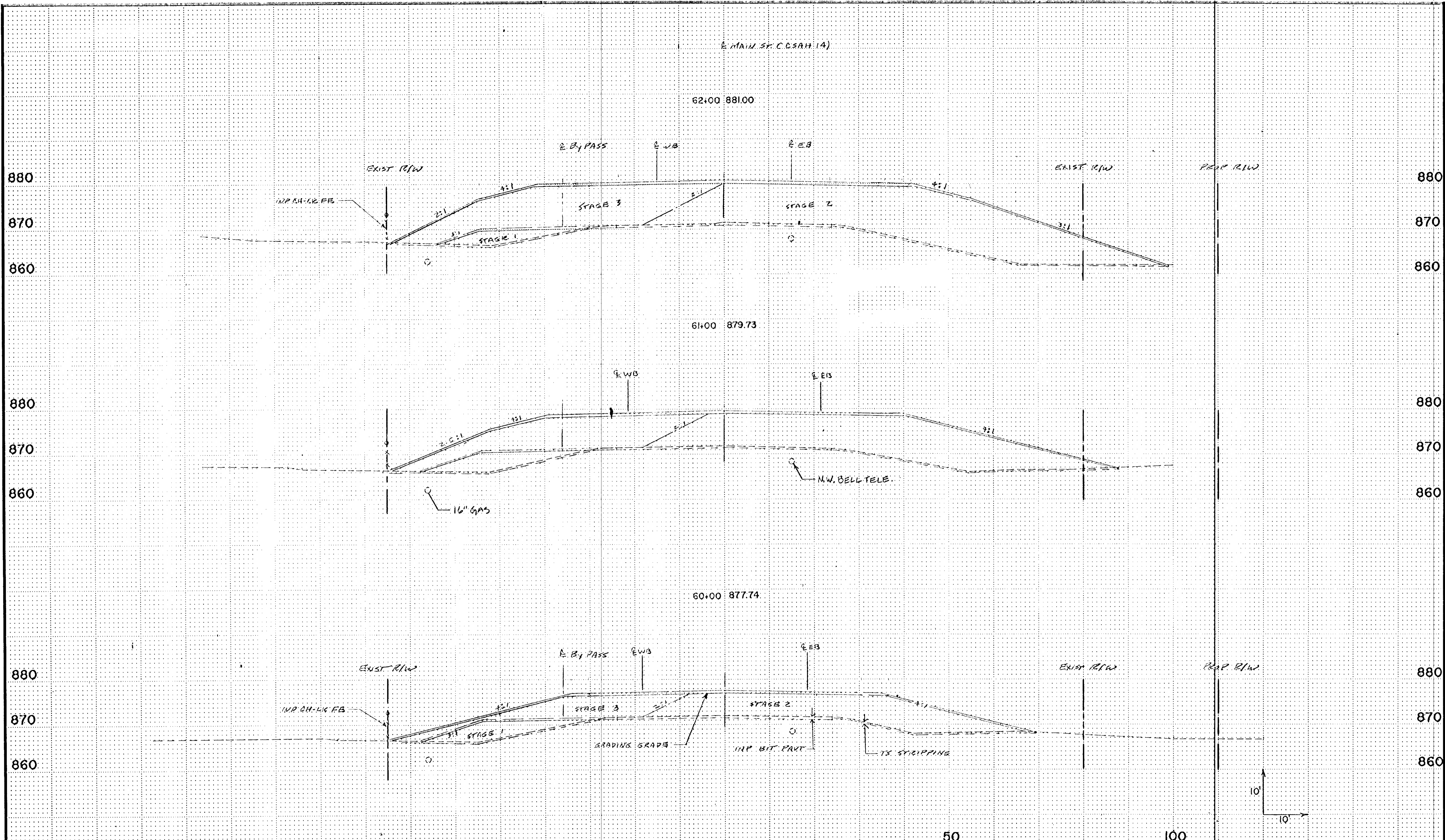
SHEET 67 OF 71

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DESIGN FILE No. 18-8951



E MAIN ST. (C.S.A.H. 14)

62+00 881.00

61+00 879.73

60+00 877.74

E MAIN ST. (C.S.A.H. 14)

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas Th. Jensen

Date 3/12/90 Minn. Reg. No. 20235

BRW
 DESIGN BY: S.A.C.
 DRAWN BY: JRM

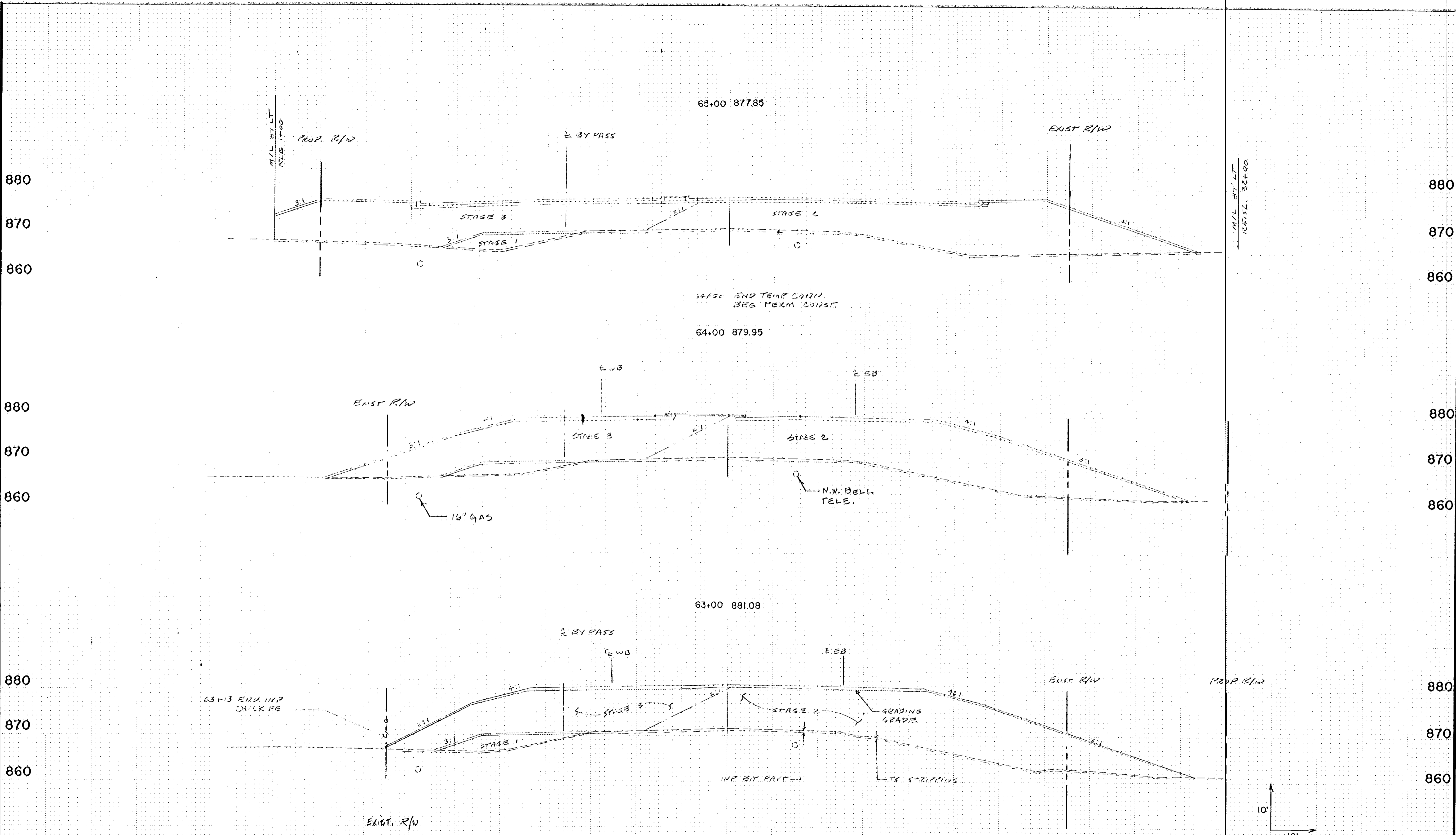
S.A.P. NO. 02-609-09

ORIGINAL DATE	3/12/90
REVISIONS:	
SURVEY BK NO.	

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
MAINSTREET (C.S.A.H. 14)
CROSS - SECTIONS
60+00 TO 62+00

SHEET 68 OF 71

DESIGN FILE No. 16-8951



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EXIST. R/W

100 Proposed R/W

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas W. Finckley

Date 3/12/90 Minn. Reg. No. 20235

DESIGN BY S.A.C.
DRAWN BY JRM

S.A.P. NO. 02-609-09

ORIGINAL DATE 3/12/90
REVISIONS

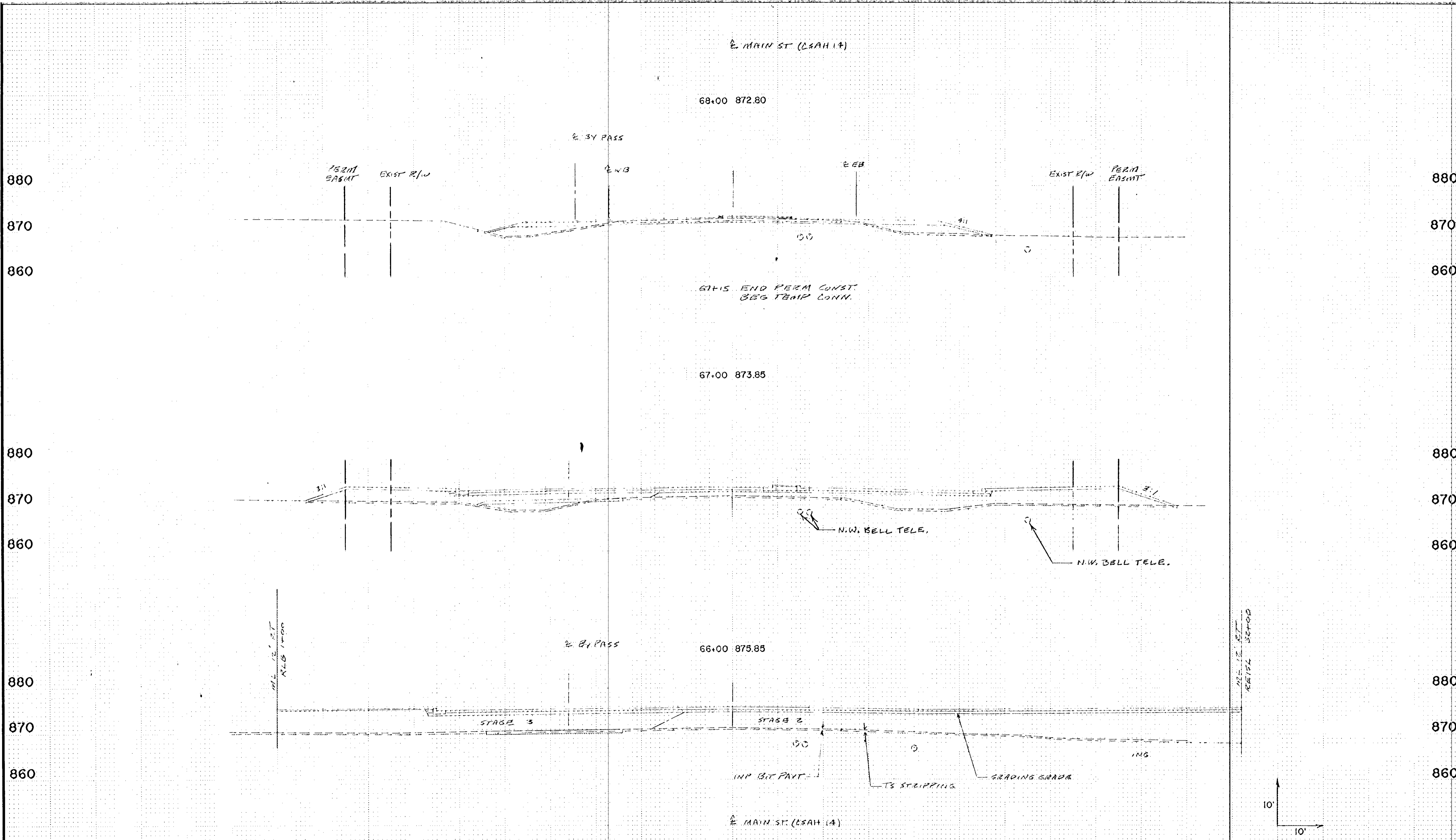
SURVEY BK NO

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
MAINSTREET (C.S.A.H. 14)
CROSS - SECTIONS
63+00 TO 65+00

SHEET 69 OF 71

DESIGN FILE No. 16-8951

R. MAIN ST. C.S.A.H. 14



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100

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas W. Jermolov

Date 3/12/90 Minn. Reg. No. 20233

BRW

DESIGN BY S.A.C.
DRAWN BY JRM

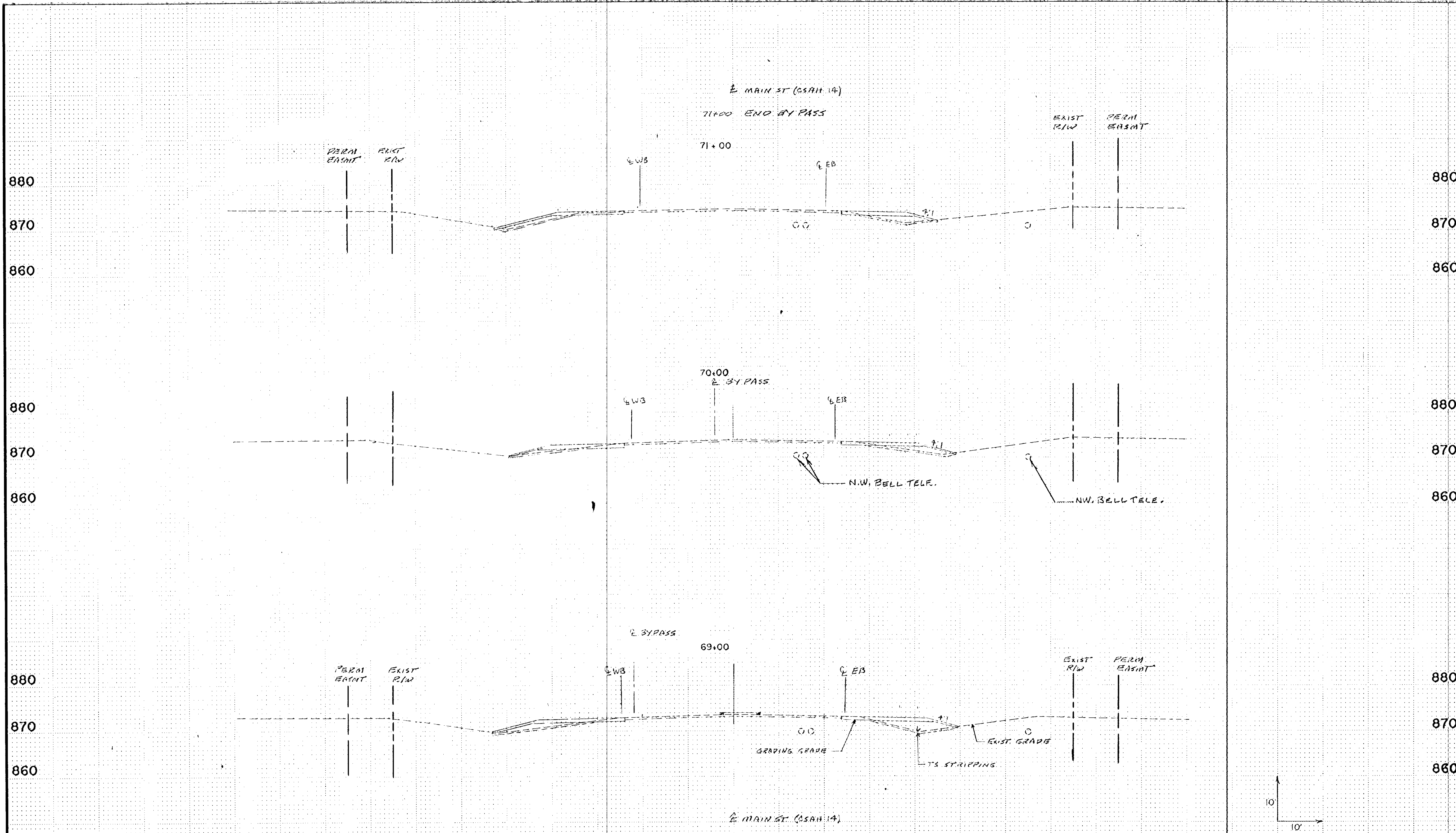
S.A.P. NO. 02-609-09

ORIGINAL DATE	3/12/90
REVISIONS	
SURVEY BK NO.	

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-43
MAINSTREET (C.S.A.H. 14)
CROSS - SECTIONS
66+00 TO 68+00

SHEET 70 OF 71

DESIGN FILE No. 16-895L



100

50

0

50

100

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minn. Statutes Sections 326.02 to 326.16.

Douglas M. Finley

Date 3/12/90 Minn. Reg. No. 20235

BRW

DESIGN BY S.A.C.
DRAWN BY JRM.

S.A.P. NO. 02-609-09

ORIGINAL DATE	3/12/90
REVISIONS	
SURVEY BK NO.	

CITY OF COON RAPIDS
IMPROVEMENT PROJECT 89-48
MAINSTREET (C.S.A.H. 14)
CROSS - SECTIONS
69+00 TO 71+00

SHEET 71 OF 71

DESIGN FILE No. 16-8951