

GOVERNING SPECIFICATIONS

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.
 ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JAN. 2001."

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THIS PLAN SET CONTAINS 76 SHEETS

DESIGN DESIGNATION

CSAH 78	
ESAL ₂₀	2,640,000
R VALUE	50
ADT (2002)=	10,450
Proj. ADT (2022)=	16,700
Proj. HCADT (2022)=	1,200
9.1 METRIC TON DESIGN	
CR 18	
ESAL ₂₀	1,160,000
R VALUE	50
ADT (2002)=	6,050
Proj. ADT (2022)=	9,700
Proj. HCADT (2022)=	680
9.1 METRIC TON DESIGN	
CSAH 78	
Functional Classification	EXPANDER ARTERIAL
No. of Traffic Lanes	2 No. of Parking Lanes 0
Design Speed	90 km/h
CR 18	
Functional Classification	B-MINOR ARTERIAL
No. of Traffic Lanes	2 No. of Parking Lanes 0
Design Speed	72 km/h West, 80 km/h East
Design Speed Not Achieved At :	
STA. 0+323.344 to STA. 0+456.860	(65 km/h)
CSAH 78 and CR 18	
Based on Stopping Sight Distance	
Height of eye	1070 mm Height of object 150 mm

Approved 4/15/2002 [Signature] ANOKA COUNTY ENGINEER
 Approved 4/18/2002 [Signature] CITY OF ANDOVER ENGINEER
 Reviewed for Compliance with State Aid Rules/Policy [Signature] 6/14/2002
 Approved for State and Federal Aid Funding [Signature] 6/24/2002

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, DRAINAGE, AGGREGATE BASE, BITUMINOUS SURFACE, CURB & GUTTER, SIGNAL SYSTEMS.

LOCATED ON C.S.A.H. 78 (HANSON BLVD.) 315 m SOUTH OF CO. RD. 18 (CROSSTOWN BLVD.) TO 281 m NORTH OF INTERSECTION
 AND ON CO. RD. 18 (CROSSTOWN BLVD.) 272 m WEST OF C.S.A.H. 78 (HANSON BLVD.) TO 319 m EAST OF INTERSECTION

FED. PROJ. NO.	
STATE PROJ. NO.	02-678-13
STATE PROJ. NO.	198-020-18
STATE PROJ. NO.	198-131-02

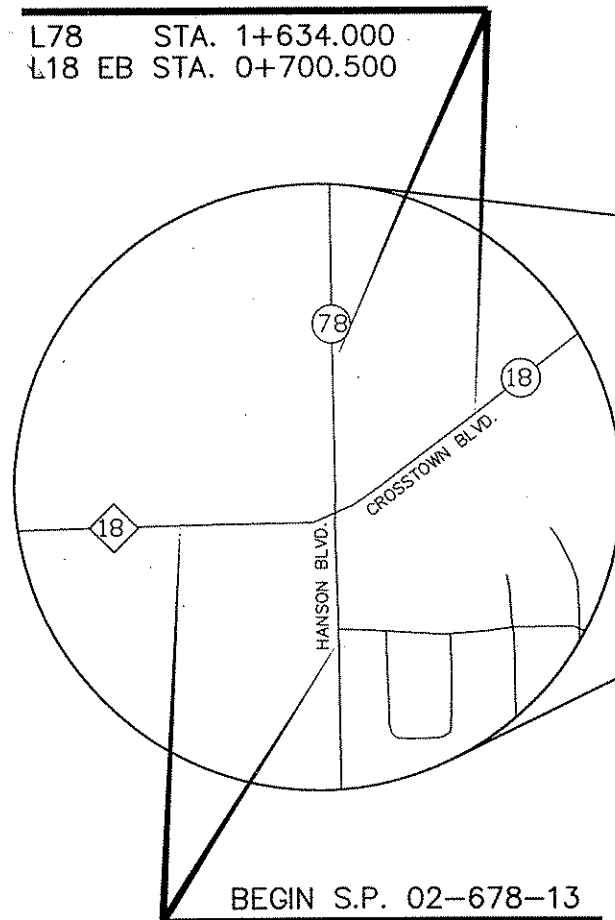
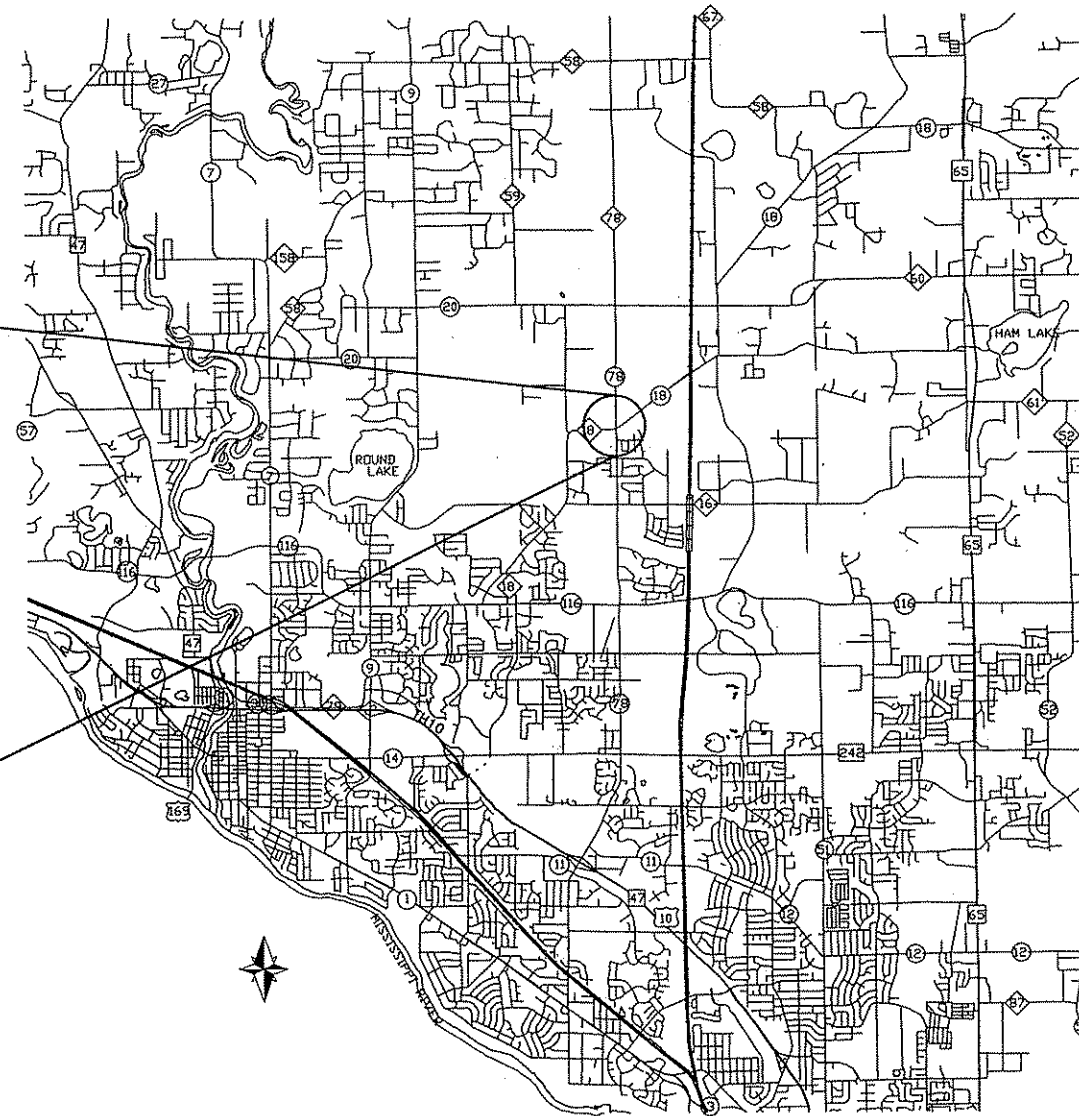
C.S.A.H. 78 (HANSON BLVD.)			CO. RD. 18 (CROSSTOWN BLVD.)		
GROSS LENGTH	596,000 m	0.596 km	GROSS LENGTH	592,500 m	0.592 km
BRIDGES-LENGTH	0 m	0 km	BRIDGES-LENGTH	0 m	0 km
EXCEPTIONS-LENGTH	0 m	0 km	EXCEPTIONS-LENGTH	0 m	0 km
NET LENGTH	596,000 m	0.596 km	NET LENGTH	592,500 m	0.592 km

END S.P. 02-678-13

L78 STA. 1+634.000
 L18 EB STA. 0+700.500

BEGIN S.P. 02-678-13

L78 STA. 1+038.000
 L18 EB STA. 0+108.000



PLAN SYMBOLS

- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- PRESERV. RIGHT OF WAY
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY
- RIVER OR CREEK
- DRAINAGE DITCH
- CULVERT
- DROP INLET
- GAIRD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- STONE WALL OR FENCE
- HEDGE

- LOWLAND
- TIMBER
- ORCHARD
- BRUSH
- NURSERY

- CATTLE GAIRD

- OVERPASS (Highway Over)

- UNDERPASS (Highway Under)

- BRIDGE

- BUILDING (One Story Frame)

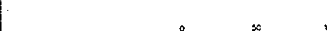
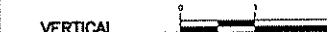
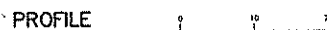
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO

- RAILROAD CROSSING BELL
- RAILROAD CROSSING GATE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- CAST IRON MONUMENT
- IRON PIN
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

UTILITY SYMBOLS

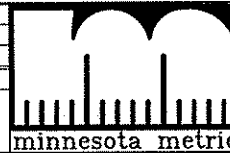
- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE & POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (Cable Terminus)
- GAS MAIN
- WATERMAIN
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- AERIAL TELEPHONE CABLE
- SEWER (Sanitary or Storm)
- SEWER MANHOLE

SCALES



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NO	DATE	BY	CKD	APPR	REVISION



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 James C. Knutson
 DATE 4-12-02 REG. NO. 10159

DRAWN BY: SRH DATE: _____
 DESIGN BY: JCK DATE: _____
 CHECKED BY: JAG DATE: _____

STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
 HIGHWAY DEPT.

TITLE SHEET
 Sheet 1 of 76 Sheets

STATEMENT OF ESTIMATED QUANTITIES

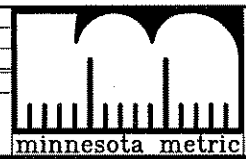
TAB NO.	ITEM NO.	ITEM	UNIT	TOTAL CONTRACT QUANTITY	ANOKA COUNTY S.P. 02-678-11 PARTICIPATING		ANOKA COUNTY S.P. 02-678-11 NON-PARTICIPATING		CITY OF ANDOVER S.P. 198-020-18 PARTICIPATING		CITY OF ANDOVER S.P. 198-131-02 PARTICIPATING		PARTICIPATING STORM SEWER		SEE NOTE
					EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	
	2013.601	CELLULAR MOBILE TELEPHONE	LUMP SUM	2	2										
	2015.601	COMPUTER EQUIPMENT	LUMP SUM	1	1										
	2021.501	MOBILIZATION	LUMP SUM	1	1										
	2031.501	FIELD OFFICE TYPE D (MODIFIED)	EACH	1	1										
N	2101.502	CLEARING	TREE	6	6										
N	2101.507	GRUBBING	TREE	6	6										
	2102.502	PAVEMENT MARKING REMOVAL	m	1150	1150										
P	2104.509	REMOVE PIPE APRON	EACH	1	1										
L	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	m	117	117										
K	2104.521	SALVAGE CHAIN LINK FENCE	m	98	98										
K	2104.521	SALVAGE 3-WIRE FENCE	m	200	200										
	2104.523	SALVAGE SIGN-TYPE A	EACH	1	1										
	2104.523	SALVAGE SIGN TYPE C	EACH	41	41										
I	2104.627	SALVAGE PAVEMENT SECTION	m ²	13993	13993										3
	2105.501	COMMON EXCAVATION (EV) (P)	m ³	10155	10155										1
	2105.522	SELECT GRANULAR BORROW (LV)	m ³	580	580										2
	2105.525	TOPSOIL BORROW (LV)	m ³	2383	2383										
	2130.501	WATER	m ³	125	125										
D	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	m ³	3360	3360										3
D	2350.503	TYPE MV 4 WEAR COURSE MIXTURE (C), 50 mm THICK	m ²	149	149										4
D	2350.501	TYPE MV 4 WEARING COURSE MIXTURE (C)	t	2499	2499										
D	2350.502	TYPE MV 3 NON WEARING COURSE MIXTURE (C)	t	3644	3644										
D	2350.502	TYPE LV 3 NON WEARING COURSE MIXTURE (C)	t	4299	4299										
D	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	L	8818	8818										
Q	2501.515	300 mm RC PIPE APRON	EACH	4	4								4		
Q	2501.515	600mm RC PIPE APRON	EACH	1	1								1		
Q	2501.569	300 mm RC SAFETY APRON (DESIGN 3022)	EACH	2	2								2		
Q	2501.602	TRASH GUARD FOR 600MM PIPE APRON	EACH	1	1								1		
Q	2503.541	300 mm RC PIPE SEWER DESIGN 3006 CLASS III	m	31.4	31.4								31.4		
Q	2503.541	300 mm RC PIPE SEWER DESIGN 3006 CLASS IV	m	198.7	198.7								198.7		
Q	2503.541	600 mm RC PIPE SEWER DESIGN 3006 CLASS III	m	3.7	3.7								3.7		
B	2504.602	ADJUST VALVE BOX	EACH	4							4				
A	2504.602	RELOCATE HYDRANT AND VALVE	EACH	1							1				

NOTES:

- (1) INCLUDES 6231 m3 SUBGRADE EXCAVATION FOR COMPACTION
- (2) SELECT GRANULAR MATERIAL TO BE USED IN TOP AREA OF SUBCUT BACKFILL AS DIRECTED BY THE ENGINEER.
- (3) APPROXIMATELY 2356 m3 (CV) OF AGGREGATE BASE MATERIAL SHALL BE OBTAINED FROM RECLAMATION OF THE EXISTING PAVEMENT SECTION. THE QUANTITY OF EXISTING PAVEMENT SECTION WAS CALCULATED USING CORES AND EXISTING PLANS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL THICKNESS.
- (4) FOR CONSTRUCTING BITUMINOUS TRAIL

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[Signature]
DATE 5/13/02 REG. NO. 28383

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C.S.A.H. 78 (HANSON BLVD.) @
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ANOKA COUNTY
HIGHWAY DEPT.

STATEMENT OF ESTIMATED QUANTITIES
Sheet 2 of 76 Sheets

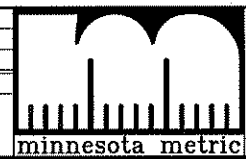
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TAB NO.	ITEM NO.	ITEM	UNIT	TOTAL CONTRACT QUANTITY	ANOKA COUNTY S.P. 02-678-11 PARTICIPATING		ANOKA COUNTY S.P. 02-678-11 NON-PARTICIPATING		CITY OF ANDOVER S.P. 198-020-18 PARTICIPATING		CITY OF ANDOVER S.P. 198-131-02 PARTICIPATING		PARTICIPATING STORM SEWER		SEE NOTE
					EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	
Q	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN- G	m	2.7	2.7									2.7	
Q	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN- H	m	9.1	9.1									9.1	
														14	
Q	2506.516	CASTING ASSEMBLY	EACH	14	14										
C	2506.522	ADJUST FRAME AND RING CASTING (WATER)	EACH	1						1					
Q	2511.501	RANDOM RIPRAP CLASS II	m ³	13.8	13.8										
	2511.515	GEOTEXTILE FILTER TYPE IV	m ²	65	65										
G	2521.501	100 mm CONCRETE WALK	m ²	632.0	632.0										
E	2531.501	CONCRETE CURB AND GUTTER DESIGN B418	m	1368	1206.5				161.5						
	2531.602	PED CURB RAMP	EACH	4	4										
	2531.602	CONCRETE MEDIAN NOSE DESIGN 7113	EACH	9	8				1						
	2559.504	GUIDE POST, TYPE B	EACH	7	7										
H	2557.603	INSTALL CHAIN LINK FENCE	m	95	95										
H	2557.603	INSTALL 3-WIRE FENCE	m	200	200										
	2563.601	TRAFFIC CONTROL STAGE 1	LUMP SUM	1	1										
	2563.601	TRAFFIC CONTROL STAGE 2	LUMP SUM	1	1										
	2563.601	TRAFFIC CONTROL STAGE 3	LUMP SUM	1	1										
	2563.601	DETOUR SIGNING	LUMP SUM	1	1										
	2563.602	RAISED PAVEMENT MARKER TEMPORARY	EACH	1160	1160										
	2563.602	REPLACE RAISED PAVEMENT MARKER TEMPORARY	EACH	465	465										
	2563.610	POLICE OFFICER	HOUR	100	100										
	2564.531	SIGN PANELS TYPE C	m ²	37.9	37.9										
	2564.537	INSTALL SIGN TYPE A	EACH	1	1										
	2564.602	HAZARD MARKER X4-2	EACH	10	10										
	2564.602	PAVEMENT MESSAGE (LEFT ARROW)-POLY PREFORMED	EACH	9	9										
	2564.602	PAVEMENT MESSAGE (RIGHT ARROW)-POLY PREFORMED	EACH	8	8										
	2564.603	100 mm SOLID LINE WHITE-PAINT	m	9700	9700										1
	2564.603	100 mm SOLID LINE YELLOW-PAINT	m	1620	1620										1
	2564.603	100 mm SOLID DOUBLE LINE YELLOW-PAINT	m	3645	3645										1
	2564.603	300mm SOLID LINE WHITE-POLY PREFORMED	m	50	50										
	2564.603	600 mm SOLID LINE YELLOW -PAINT	m	110	110										
	2564.604	ZEBRA CROSSWALK WHITE-POLY PREFORMED	m ²	55	55										
	2581.501	REMOVEABLE PREFORMED PLASTIC MARKING	m	4500	4500										2
	2565.511	FULL TRAF. ACTUATED TRAF. CONTROL SIGNAL SYS.	SIG. SYS.	1	0.5				0.38		0.12				
	2565.601	EMERGENCY VEHICLE PRE-EMPTION SYSTEM	LUMP SUM	1					0.75		0.25				
J	2573.501	BALE CHECK	EACH	80	80										
J	2573.502	SILT FENCE, TYPE MACHINE SLICED	m	2100	2100										
J	2573.512	TEMPORARY DITCH CHECK, TYPE 1	m	70	70										
M	2575.501	SEEDING	ha	1.3	1.3										
M	2575.502	SEED, MIXTURE 60B	kg	148	148										
M	2575.505	SODDING TYPE SALT RESISTANT	m ²	758	758										
M	2575.511	MULCH MATERIAL TYPE 1	t	5.9	5.9										
M	2575.519	DISK ANCHORING	ha	1.3	1.3										
M	2575.523	EROSION CONTROL BLANKETS, CATEGORY 3	m ²	200	200										
M	2575.532	COMMERCIAL FERTILIZER ANALYSIS 10-20-20	kg	358	358										

- (1) INCLUDES PAINT FOR CONSTRUCTION STAGING TRAFFIC CONTROL
- (2) 3000 m WHITE AND 1500 m DOUBLE YELLOW

NO	DATE	BY	CKD	APPR	REVISION



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[Signature]
DATE 5/13/02 REG. NO. 26383

DRAWN BY: SRH DATE: _____
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STATE PROJECT NO. 02-678-13
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 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

STATEMENT OF ESTIMATED QUANTITIES
 Sheet 3 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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EARTHWORK SUMMARY

EXCAVATION	BALANCE
STRIPPING.....1406 m3 (15)	SP 02-678-11
REGULAR.....2468 m3	TOPSOIL (TOPSOIL SALVAGE (EV) x SHRINKAGE FACTOR) - TOPSOIL DRESSING (CV) x FACTOR = EXCESS (+) OR SHORTAGE (-)
SUBCUT.....6231 m3 (21)	(50 x 0.80) - (1742) = -1702 m3 BORROW (CV) (SEE NOTE 19).
TOPSOIL.....50 m3	TOPSOIL BORROW BORROW(CV) x SWELL FACTOR = BORROW (LV) 1702 x 1.4 = 2383 m3 (LV) (PAY ITEM)
SALVAGE	EMBANKMENT MATERIAL [REG. EXCAVATION (EV) x 0.80 FACTOR] + [SUBCUT x 0.85 FACTOR] + [GRANULAR BORROW x 0.85 FACTOR] - [REG. EMBANKMENT (CV) + SUBCUT] = SHORTAGE(-) OR EXCESS (+). [3874 x 0.80] + (6231 x 0.85) + (580 x 0.85) - [610 + 493 + 6231] = +1555 m3 EXCESS (CV)
EMBANKMENT (CV)	
BACKFILL SUBCUT..... 6231	
SELECT.GRANULAR BORROW 493	
EMBANKMENT (REG.)..... 610 m3	
TOPSOIL BORROW..... 1702 m3	
TOPSOIL SALVAGE.....40 m3	

(4) COMMON EXCAVATION.....10155 m3

EXCAVATION

- (1) REGULAR GRADING AND TOPSOIL DRESSING (EV TO CV): 80% SHRINKAGE.
- (2) SUBCUT COMPACTION (EV TO CV): 85% SHRINKAGE.
- (3) TOPSOIL BORROW (CV TO LV): 140% SWELL.
- (4) QUANTITY DOES NOT INCLUDE BITUMINOUS AND AGGREGATE FROM SALVAGE PAVEMENT SECTION.

SOIL AND CONSTRUCTION NOTES

- (1) TOP OF GRADING GRADE IS DEFINED AS THE BOTTOM OF THE AGGREGATE BASE.
- (2) IN FILL AREA, THE SUBGRADE SHALL BE CONSTRUCTED WITH SELECTED GRADING MATERIAL, SUPPLEMENTED WITH SELECT GRANULAR.
- (3) GRANULAR MATERIAL, REGARDLESS OF SOURCE, 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) BITUMINOUS OR CONCRETE ITEMS REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE EITHER RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF 2104.3C3 WITH NO DIRECT COMPENSATION MADE THEREFORE.
- (7) DISPOSITION OF EXCESS EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 2105.3D WITH NO DIRECT COMPENSATION THEREFORE.
- (8) WHERE MATCHING INTO THE INPLACE ROADWAY AT THE ENDS OF CONSTRUCTION, CUT VERTICALLY TO THE TOP OF THE GRADING GRADE, THEN AT A 20:1 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
- (9) WHERE CONNECTING NEW SURFACING TO AN INPLACE PAVEMENT, THE EXCAVATION SHALL BE BACK FILLED PROMPTLY TO AVOID UNDERMINING THE INPLACE PAVEMENT.
- (10) USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES PRIOR TO PLACING BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING CONCRETE AT UNIFORM RATE OF 0.23L/m2 BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSION (AS SUPPLIED FROM THE REFINERY); ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC.2357.
- (11) COMPACTION OF THE AGGREGATE BASE LAYERS SHALL BE BY THE "SPECIFIED DENSITY METHOD", UNLESS RECYCLED MATERIALS WHICH SHALL BE BY THE PENETRATION INDEX METHOD OR QUALITY COMPACTION METHOD.
- (12) PLACE MINIMUM 150mm TOPSOIL OR SLOPE DRESSING ON ALL AREAS DISTURBED BY CONSTRUCTION AND SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. FERTILIZED WITH COMMERCIAL FERTILIZER.
- (13) SOD ALL MAINTAINED LAWNS DISTURBED BY CONSTRUCTION.
- (14) ALL SOD UTILIZED IN THE PROJECT LIMITS SHALL MEET THE REQUIREMENT OF SPEC. 3878.2C (SALT RESISTANT SOD).
- (15) ORGANIC AND NONGRANULAR EXCAVATED MATERIAL MAY BE USED IN EMBANKMENT CONSTRUCTION IN AREAS OUTSIDE OF A 1 1/2:1 SLOPE FROM 1' BEHIND THE BACK OF CURB OR GRADING P.I. AND FOR TOPSOIL DRESSING IF DETERMINED NECESSARY BY THE ENGINEER.
- (16) THE CONTRACTOR SHALL RECLAIM THE EXISTING BITUMINOUS/AGGREGATE BASE PAVEMENT SECTION. ESTIMATED BITUMINOUS PAVEMENT AND AGGREGATE BASE THICKNESS IS BASED ON CORES NEAR THE INTERSECTION AND OLD PLANS. CONTRACTOR SHALL INVESTIGATE AND MAKE OWN DETERMINATION OF ACTUAL PAVEMENT DEPTH. THE VOLUME OF EXISTING BITUMINOUS PAVEMENT AND AGGREGATE BASE SALVAGED IS CALCULATED USING THE ESTIMATED OR AVERAGE THICKNESSES.
- (17) ALL SILT FENCING AS SHOWN IN THE PLANS SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF GRADING OPERATIONS IN ADJACENT AREA UNLESS OTHERWISE CALLED FOR IN THE PLAN.
- (18) A ROW OF BALE CHECKS OR SILT FENCE DITCH CHECK SHALL BE INSTALLED ALONG DITCH RUNS FOR EROSION CONTROL AS DIRECTED BY THE ENGINEER. BALE CHECK DAMS SHALL BE PLACED AROUND DRAINAGE STRUCTURE USED TO COLLECT RUNOFF FROM CONSTRUCTION AREA.
- (19) TOPSOIL STRIPPINGS TO BE SALVAGED AND UTILIZED TO ITS FULLEST EXTENT WITHIN THE PROJECT LIMITS.
- (20) CONTRACTOR SHALL SALVAGE EXISTING AGGREGATE BASE USING METHODS WHICH WILL NOT CONTAMINATE IT FOR LATER REUSE AS AGGREGATE BASE UNDER NEW PAVEMENT.
- (21) SUBCUT IS FOR THE PURPOSE OF UNIFORM COMPACTION AND WILL BE PAID FOR AS COMMON EXCAVATION.

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT

STANDARD PLATES	
PLATE NO.	DESCRIPTION
M3000L	REINFORCED CONCRETE PIPE
M3006G	GASKET JOINT FOR R.C. PIPE
M3022C	PRECAST CONCRETE SAFETY APRON
M3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
M3133C	RIPRAP AT RCP OUTLETS
M3139A	RIP-RAP AT PRECAST CONCRETE END SECTIONS
M3145E	CONCRETE PIPE TIES
M4006L	MANHOLE OR CATCH BASIN - DESIGN G, H
M4010H	CONCRETE SHORT CONE AND ADJUSTING RINGS
M4011E	PRECAST CONCRETE BASE
M4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
M4126F	CATCH BASIN FRAME CASTING
M4149C	GRATE CASTING FOR CATCH BASIN
M4161F	CURB BOX CASTING FOR CATCH BASIN
M4180J	MANHOLE OR CATCH BASIN STEP
M7036E	PEDESTRIAN CURB RAMP
M7100G	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
M7111J	INSTALLATION OF CATCH BASIN CASTINGS
M7113A	CONCRETE APPROACH NOSE DETAIL
MB000I	STANDARD BARRICADES
MB110D	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
MB114A	P.V.C. HANDHOLE/PULLBOX
MB118C	SERVICE EQUIPMENT & POLE TRAFFIC CONTROL SIGNALS
MB121D	TRANSFER BASE AND POLE BASE PLATE (PA90M AND PA100M)
MB123E	POLE AND MAST ARM
MB124E	MAST ARM SIGNAL HEAD MOUNTS
MB126F	POLE FOUNDATION (PA90 AND PA100)
MB150B	INSTALLATION OF CULVERT MARKERS
M9102D	TURF ESTABLISHMENT AREAS
M9322J	CHAIN LINK FENCE

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B	6	ADJUST VALVE BOX - WATER
C	6	ADJUST FRAME & RING CASTING
D	7	BASE AND BITUMINOUS QUANTITIES CHART
E	7	CONSTRUCT CONCRETE CURB AND GUTTER
F	7	CONCRETE PEDESTRIAN RAMPS
G	7	CONC WALK AND MEDIAN NOSE DES 7113
H	8	FENCE CONSTRUCTION
I	8	PAVEMENT SECTION REMOVAL AND SALVAGE
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Q	26	DRAINAGE TABULATION

BASIS OF PLANNED QUANTITIES

- 2350 TYPE MV 4 PLANT MIXED WEARING COURSE BITUMINOUS MIXTURE 65 kg/m2/25mm THICKNESS
- 2350 TYPE MV 3 PLANT MIXED NON WEARING COURSE BITUMINOUS MIXTURE 65kg/m2/25mm THICKNESS
- 2350 TYPE LV 3 PLANT MIXED NON WEARING COURSE BITUMINOUS MIXTURE 65 kg/m2/25mm THICKNESS
- 2357 BITUMINOUS MATERIAL FOR TACK 0.23L/m2 PER LIFT APPLIED.
- 2575 COMMERCIAL FERTILIZER, ANALYSIS 10-20-20, 300kg/ha ON ALL SOD AREAS. 250kg/ha ON ALL SEED AREAS
- 2575 SEED MIXTURE 60B, 112 kg/ha
- 2575 MULCH TYPE 1, 4.5 t/ha

NO	DATE	BY	CKD	APPR	REVISION



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James Christensen
DATE 4-14-02 REG. NO. 10169

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C.S.A.H. 78 (HANSON BLVD.) @
C.R. 18 (CROSTOWN BLVD. N.W.)



**ANOKA COUNTY
HIGHWAY DEPT.**

**EARTHWORK SUMMARY/
STANDARD PLATES**

Sheet 4 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS				
STATION	OFFSET (m)	DESCRIPTION	OWNER	REMARKS
POWER				
L78 1+038.015	22.29 LT.	POWER POLE	CONNEXUS	
L78 1+080.459	14.77 RT.	POWER POLE	CONNEXUS	
L78 1+213.466	14.80 RT.	POWER POLE	CONNEXUS	
L78 1+356.864	21.52 LT.	POWER POLE	CONNEXUS	
L78 1+385.337	19.44 LT.	POWER POLE	CONNEXUS	
L78 1+478.868	15.62 RT.	POWER POLE	CONNEXUS	
L78 1+611.680	15.84 RT.	POWER POLE	CONNEXUS	
L78 1+694.160	16.60 LT.	POWER POLE	CONNEXUS	
L18 0+111.601	8.91 LT.	POWER POLE	CONNEXUS	
L18 0+130.289	8.94 LT.	POWER POLE W/TEL	CONNEXUS	
L18 0+174.448	8.97 LT.	POWER POLE W/TEL	CONNEXUS	
L18 0+207.887	8.98 LT.	POWER POLE W/TEL	CONNEXUS	
L18 0+269.500	13.0 LT.	POWER POLE	CONNEXUS	
L18 0+282.539	9.52 LT.	POWER POLE W/TEL	CONNEXUS	
L18 0+346.896	10.08 LT.	POWER POLE W/TEL	CONNEXUS	
L18 0+350.164	9.89 LT.	POWER POLE W/TEL	CONNEXUS	
L18 0+358.000	11.00 RT.	POWER POLE W/TEL	CONNEXUS	
L18 0+391.000	11.00 RT.	POWER POLE W/TEL	CONNEXUS	
L18 0+405.000	7.50 LT.	POWER POLE W/TEL	CONNEXUS	
L78 1+165.686 TO 1+373.908	24.32 RT. TO 21.39 RT.	P-BUR	CONNEXUS	
L78 1+379.206 TO 1+373.908	17.32 LT. TO 21.39 RT.	P-BUR	CONNEXUS	
L78 1+375.838 TO 1+677.037	16.55 RT. TO 12.65 RT.	P-BUR	CONNEXUS	
L78 1+526.784 TO 1+518.823	15.09 LT. TO 12.86 RT.	P-BUR	CONNEXUS	
L18 0+408.049 TO 0+720.000	12.65 LT. TO 10.03 LT.	P-BUR	CONNEXUS	
L18 0+175.000	9.00 LT. TO 12.00 RT.	P-BUR	CONNEXUS	
L78 1+380.000	17.00 LT.	POWER VAULT	CONNEXUS	
TELEPHONE				
L78 1+368.000	15.50 LT.	HANDHOLE	QWEST	
L78 1+169.178 TO 1+168.912	35.74 RT. TO 15.24 LT.	T-BUR	QWEST	
L78 1+168.912 TO 1+338.504	15.24 LT. TO 17.51 LT.	T-BUR	QWEST	
L78 1+365.366 TO 1+478.556	16.90 LT. TO 16.81 LT.	T-BUR	QWEST	
L78 1+478.556 TO 1+478.607	16.81 LT. TO 29.66 LT.	T-BUR	QWEST	
L18 0+100.00 TO 0+366.000	17.00 LT. TO 16.03 LT.	T-BUR	QWEST	
L18 0+210.468 TO 0+210.312	45.13 LT. TO 9.31 RT.	T-BUR	QWEST	
L18 0+130.000 TO 0+210.500	6.40 LT. TO 7.80 LT.	T-BUR	QWEST	
L18 0+210.312 TO 0+360.229	9.31 RT. TO 10.26 RT.	T-BUR	QWEST	
L78 1+340.000 TO 0+640.000	31.0 LT. TO 16.0 LT.	T-BUR	AT&T BROADBAND	
L18 0+405.000 TO 0+705.000	10.0 LT. TO 13.0 LT.	T-BUR	AT&T BROADBAND	
GAS				
L78 1+000.000 TO 1+167.100	11.50 RT.	GAS	MINNEGASCO	
L78 1+167.705 TO 1+167.114	33.18 RT. TO 11.48 RT.	GAS	MINNEGASCO	
L78 1+167.114 TO 1+339.254	11.48 RT. TO 16.62 RT.	GAS	MINNEGASCO	
L78 1+339.254 TO 1+653.905	16.62 RT. TO 18.31 RT.	GAS	MINNEGASCO	
L18 0+111.834 TO 0+111.784	6.71 LT. TO 8.60 RT.	GAS	MINNEGASCO	
L18 0+111.784 TO 0+298.057	8.60 RT. TO 8.24 RT.	GAS	MINNEGASCO	
L18 0+297.665 TO 0+298.057	22.57 LT. TO 8.24 RT.	GAS	MINNEGASCO	
L18 0+298.057 TO 0+391.346	8.24 RT. TO 18.00 RT.	GAS	MINNEGASCO	
L18 0+391.300 TO 0+698.000	18.00 RT. TO 8.08 RT.	GAS	MINNEGASCO	
L18 0+698.047 TO 0+715.724	8.08 RT. TO 7.57 RT.	GAS	MINNEGASCO	
L18 0+716.972 TO 0+715.724	17.57 LT. TO 7.57 RT.	GAS	MINNEGASCO	

EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS				
STATION	OFFSET (m)	DESCRIPTION	OWNER	REMARKS
SANITARY SEWER				
L78 1+175.079	22.59 RT.	SANITARY MANHOLE	ANDOVER	LEAVE AS IS
L18 0+101.800	13.81 LT.	SANITARY MANHOLE	ANDOVER	LEAVE AS IS
L18 0+101.969	21.56 RT.	SANITARY MANHOLE	ANDOVER	LEAVE AS IS
L18 0+242.141	14.11 LT.	SANITARY MANHOLE	ANDOVER	LEAVE AS IS
L18 0+709.054	16.94 LT.	SANITARY MANHOLE	ANDOVER	LEAVE AS IS
WATER MAIN				
L78 1+173.235	14.49 LT.	GATE VALVE	ANDOVER	ADJUST
L78 1+174.325	14.05 LT.	GATE VALVE	ANDOVER	ADJUST
L78 1+173.885	12.94 LT.	GATE VALVE	ANDOVER	ADJUST
L78 1+336.072	12.62 LT.	GATE VALVE	ANDOVER	ADJUST
L18 0+145.547	13.89 RT.	GATE VALVE	ANDOVER	LEAVE AS IS
L18 0+197.953	12.83 RT.	GATE VALVE	ANDOVER	LEAVE AS IS
L18 0+202.881	12.67 RT.	GATE VALVE	ANDOVER	LEAVE AS IS
L18 0+338.813	11.19 RT.	WATER MANHOLE	ANDOVER	ADJUST
L18 0+700.006	22.80 LT.	GATE VALVE	ANDOVER	
L18 0+704.782	18.17 LT.	GATE VALVE	ANDOVER	
L78 1+157.897 TO 1+336.072	14.19 LT. TO 12.62 LT.	WATER MAIN	ANDOVER	
L78 1+173.675 TO 1+173.889	35.86 RT. TO 14.05 LT.	WATER MAIN	ANDOVER	
L78 1+173.231 TO 1+173.283	14.06 LT. TO 20.03 LT.	WATER MAIN	ANDOVER	
L18 0+100.000 TO 0+364.149	14.44 RT. TO 14.55 RT.	WATER MAIN	ANDOVER	
L18 0+194.843 TO 0+194.811	12.88 RT. TO 10.98 RT.	WATER MAIN	ANDOVER	
L18 0+698.144 TO 0+712.062	18.11 LT. TO 18.24 LT.	WATER MAIN	ANDOVER	
L18 0+200.500	13.00 RT. TO 45.00 LT.	WATER MAIN	ANDOVER	
L18 0+700.051 TO 0+700.006	18.13 LT. TO 22.80 LT.	WATER MAIN	ANDOVER	
L18 0+194.811	10.98 RT.	HYDRANT	ANDOVER	LEAVE AS IS
L18 0+363.500	12.00 LT.	HYDRANT	ANDOVER	RELOCATE

NOTES:

- UTILITY RELOCATION/ADJUSTMENTS NECESSARY FOR CONSTRUCTION OF THE PROPOSED DRAINAGE SYSTEM MAY NOT BE LISTED IN THE ABOVE TABLE. THE UTILITY COMPANIES SHALL WORK WITH THE CONTRACTOR TO FIELD VERIFY ANY UTILITY CONFLICTS AND TO TAKE THE NECESSARY ACTION.
- THE CONTRACTOR SHALL UTILIZE THE "GOPHER STATE ONE CALL SYSTEM" @ 1-800-252-1166, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION WORK AS REQUIRED BY MINNESOTA STATUTE CHAPTER 216D.
- ALL ADJUSTMENTS TO CITY OF ANDOVER UTILITIES TO BE DONE BY CONTRACTOR. ALL ADJUSTMENTS TO PRIVATE TO BE DONE BY UTILITY OWNERS.
- IT IS THE RESPONSIBILITY OF THE UTILITY COMPANIES TO VERIFY THE UTILITY LOCATIONS LISTED AND TO VERIFY ALL NECESSARY RELOCATIONS/ADJUSTMENTS. THE UTILITY COMPANIES SHALL WORK WITH THE CONTRACTOR TO FIELD VERIFY ANY UTILITY CONFLICT AND TO TAKE THE NECESSARY ACTION.

CONNEXUS ENERGY CONTACT:
MR. STEVE ZIMMERMAN
CONNEXUS ENERGY
14601 RAMSEY BOULEVARD
RAMSEY MN 55303
PHONE: 763-323-2766

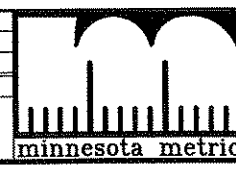
AT&T BROADBAND
BRAD GREENWALDT
OR DOUG ZAHN
1238 GREY FOX ROAD
ARDEN HILLS, MN 55112
PHONE: 651-493-5307 OR 651-493-5316

MINNEGASCO CONTACT:
MR. RICHARD J. PILON, P.E. OR MR. KARL GALBRECHT
MINNEGASCO
700 WEST LINDEN AVENUE
P.O. BOX 1165
MINNEAPOLIS, MN 55440-1165
PHONE: 612-321-5426 OR 612-342-5200
OR 612-454-0002 FOR FIELD LOCATION WITHIN 48 HOURS.

QWEST CONTACT:
MR. JIM BOZER
QWEST
1711 HIGHWAY 36
MAPLEWOOD, MN 55109
PHONE: 800-773-0055

CITY OF ANDOVER:
MR. SCOTT ERICKSON
CITY OF ANDOVER
1685 CROSSTOWN BLVD. N.W.
ANDOVER, MN 55304
PHONE: 763-755-5100 EXT. 130

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ANOKA COUNTY
HIGHWAY DEPT.

PUBLIC UTILITY
TABULATION
Sheet 5 of 76 Sheets

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A RELOCATE HYDRANT AND VALVE				
EXISTING LOCATION		RELOCATE	PROPOSED LOCATION	
STATION	OFFSET (m)		STATION	OFFSET (m)
L18EB 0+363.9	9.04 RT	1	L18EB 0+356.8	12.09 RT
TOTAL		1		

B ADJUST VALVE BOX - WATER						
EXISTING LOCATION		DESCRIPTION	OWNER	ADJUST (EACH) (1)	EXISTING ELEVATION	PROPOSED ELEVATION
STATION	OFFSET (m)					
L78 1+173.23	14.49 LT	GATE VALVE	ANDOVER	1	274.55	274.59
L78 1+173.89	12.94 LT	GATE VALVE	ANDOVER	1	274.55	274.63
L78 1+174.33	14.05 LT	GATE VALVE	ANDOVER	1	274.52	274.59
L78 1+336.07	12.62 LT	GATE VALVE	ANDOVER	1	273.90	274.15
TOTAL				4		

(1) ADJUST VALVE BOX-WATER.

C ADJUST FRAME & RING CASTING						
STATION	OFFSET (m)	DESCRIPTION	OWNER	ADJUST (EA.)	EXISTING ELEV.	PROPOSED ELEV.
L18EB 0+340.0	8.4 RT	WATER MAIN VALVE MANHOLE	ANDOVER	1	273.73	273.90
TOTAL				1		

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ANOKA COUNTY
 HIGHWAY DEPT.

PUBLIC UTILITY
 TABULATION
 Sheet 6 of 76 Sheets

LOCATION	BASE AND BITUMINOUS QUANTITIES CHART														
	BIT. WEAR COURSE			BIT. BINDER COURSE (1)			BIT. BASE COURSE (1)			AGG. BASE CL5 (4)			TACK COAT (2)		
	AREA	DEPTH	QUANT	AREA	DEPTH	QUANT	AREA	DEPTH	QUANT	AREA	DEPTH	QUANT	AREA	LIFTS	QUANT
m ²	mm	t	m ²	mm	t	m ²	mm	t	m ²	mm	m ³	m ²		L	
L78NB 1+038.0 TO 1+335.8 (4)	2724	50	354	2724	80	609	2724	80	609	3343	150	502	2724	2	1253
150TH LANE NW	260	50	34	260	80	58	260	80	58	307	150	46	260	2	120
L78NB 1+335.8 TO 1+370.3	683	50	89	683	80	153	683	80	153	683	150	103	683	2	314
L78NB 1+370.3 TO 1+634.0 (4)	2110	50	274	2110	80	472	2110	80	472	2599	150	390	2110	2	971
L78SB 1+038.0 TO 1+335.8	2345	50	305	2345	80	524	2345	80	524	2692	150	404	2345	2	1079
L78SB 1+335.8 TO 1+370.3	608	50	79	608	80	136	608	80	136	608	150	92	608	2	280
L78SB 1+370.3 TO 1+634.0	2323	50	302	2323	80	520	2323	80	520	2652	150	398	2323	2	1069
L18 0+108.0 TO 0+271.0	2530	50	329	2530	50	368	2530	80	566	2726	150	409	2530	2	1164
L18EB 0+271.0 TO 0+359.0 (4)	900	50	117	900	50	131	900	80	201	1020	150	153	900	2	414
L18EB 0+403.1 TO 0+517.1 (4)	620	50	81	620	50	90	620	80	139	993	150	149	620	2	285
L18EB 0+517.1 TO 0+700.5	2276	50	296	2276	50	331	2276	80	509	2496	150	375	2276	2	1047
L18WB 0+271.0 TO 0+358.0	656	50	85	656	50	96	656	80	147	772	150	116	656	2	302
L18WB 0+400.5 TO 0+512.5	1071	50	139	1071	50	156	1071	80	239	1252	150	188	1071	2	493
L78SB 1+170 LT DRIVEWAY	77	50	10				77	80	17	77	150	12	77	1	18
L18WB 0+263 LT DRIVEWAY	40	50	5				40	80	9	40	150	6	40	1	9
L18EB 0+359, 14M RT(3)	22	50								26	100	3			
L18WB 0+362, 11M LT(3)	30	50								38	100	4			
L18WB 0+410, 12M LT(3)	97	50								101	100	10			
TOTALS	149		2499			3644			4299	22365		3360			8818

- (1) 6mm BITUMINOUS THICKNESS ADDED TO BINDER AND BASE COURSES.
- (2) TACK COAT INCLUDES TWO LAYERS (0.23L/m²) PER LAYER.
- (3) BITUMINOUS TRAIL PAID BY AREA 50MM THICK.
- (4) INCLUDES AREA FOR CL5 AGGREGATE BASE UNDER MEDIAN CONCRETE WALK.
AGGREGATE BASE SHOWN FOR INFORMATION ONLY, SEE SPECIAL PROVISIONS FOR SALVAGED AGGREGATE

E CONSTRUCT CONCRETE CURB AND GUTTER			
STATION	LOCATION	DESCRIPTION	B418
L78NB 1+148 TO 1+334.8	LT.	MEDIAN CURB	187
L78NB 1+371.3 TO 1+521.3	LT.	MEDIAN CURB	150
L78SB 1+148 TO 1+334.8	RT.	MEDIAN CURB	187
L78SB 1+371.2 TO 1+521.3	RT.	MEDIAN CURB	150
L78NB 1+178	13 RT.	150TH LANE MEDIAN	22
L18EB 0+272 TO 0+358	LT.	MEDIAN CURB	86
L18EB 0+404.1 TO 0+516.1	LT.	MEDIAN CURB	112
L18EB 0+397 TO 1+456.8	RT.	SHOULDER CURB	62
L18WB 0+272 TO 0+357	RT.	MEDIAN CURB	85
L18WB 0+401.5 TO 0+511.5	RT.	MEDIAN CURB	110
L18WB 0+400.5 TO 0+453.15	LT.	SHOULDER CURB	57
L78NB 1+193.0 TO 1+348.7	RT.	SHOULDER CURB	160
TOTAL			1368

F CONC. PEDESTRIAN RAMPS		
STATION	LOCATION	EACH
L18WB 0+405	11 LT	1
L18WB 0+362	8 LT	1 (1)
L18EB 0+360	11 RT	1 (1)
L78SB 1+364	11 LT	1 (1)
TOTAL		4

- (1) 100mm CONCRETE WALK APPROXIMATELY 4m² WITH 1.2m WIDE SURFACE TREATMENT.

G CONCRETE WALK AND MEDIAN NOSE DESIGN 7113				
STATION	LOCATION	MEDIAN NOSE DESIGN 7113	100 mm m ²	150 mm m ²
L78SB 1+147 TO 1+148.0	1.5 RT	1		
L78SB 1+148.0 TO 1+334.8	1.5 RT		260.8	
L78SB 1+334.8 TO 1+335.8	1.5 RT	1		
L78NB 1+370.3 TO 1+371.3	1.5 RT	1		
L78NB 1+371.3 TO 1+465	1.5 RT		151.2	
L78NB 1+506 TO 1+521.3	1.5 RT		33.7	
L78NB 1+521.3 TO 1+522.3	1.5 RT	1		
L18EB 0+271 TO 0+272.0	4.5 LT	1		
L18EB 0+272 TO 0+358.0	4.5 LT		68.8	
L18EB 0+358.0 TO 0+359	4.5 LT	1		
L18EB 0+403.1 TO 0+404.1	1.2 LT	1		
L18EB 0+404.1 TO 0+480	1.2 LT		63.1	
L18EB 0+480 TO 0+516.1	1.2 LT		28.9	
L18EB 0+516.1 TO 0+517.1	1.2 LT	1		
150TH LANE MEDIAN		1		25.5
TOTAL		9	632.0	

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ANOKA COUNTY
HIGHWAY DEPT.

MISC. TABULATIONS
Sheet 7 of 76 Sheets

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H FENCE CONSTRUCTION						
STATION	LOCATION	REMOVE m	SALVAGE m	INSTALL m	F & I m	REMARKS
L18WB 0+112 TO 0+207	12.00 LT		98	95		1.2 m CHAIN LINK FENCE
L18EB 0+430 TO 0+630	8 TO 10 RT		200	200		3 WIRE FENCE (1)
TOTAL			298	295		

(1) STEEL AND WOOD POST

K INPLACE FENCE			
STATION	LOCATION	LENGTH m	REMARKS
L78 1+124.134 TO 1+133.619	23.56 RT. TO 23.65 RT.	9.5	LEAVE AS IS
L78 1+198.924 TO 1+348.314	23.02 RT. TO 23.55 RT.	149.4	LEAVE AS IS
L78 1+476.636 TO 1+476.811	30.46 LT. TO 23.02 LT.	7.4	LEAVE AS IS
L78 1+476.811 TO 1+537.742	23.02 LT. TO 23.66 LT.	61.0	LEAVE AS IS
L78 1+648.627 TO 1+662.230	22.67 LT. TO 22.57 LT.	13.6	LEAVE AS IS
L18 0+112.0 TO 0+210.0	9.36 LT. TO 9.52 LT.	98.0	SALVAGE CHAIN LINK
L18 0+400.295 TO 0+647.508	11.85 RT. TO 9.88 RT.	250.3	SALVAGE 200m 3 WIRE
TOTAL		561.2	

M TURF ESTABLISHMENT							
STATION	LOCATION	SOD m ²	BLANKET m ²	SEEDING ha	SEED kg	MULCH t	FERTILIZER kg
L78N 1+038 TO 1+350	RT.			0.29	32	1.40	72
L78N 1+375 TO 1+634	RT.			0.25	28	1.1	63
L78N 1+128	RT.	13					1
L78N 1+260	RT.	8					1
L78N 1+322	RT.	20					1
L78N 1+340 TO 1+348	RT.	20					1
L78N 1+377 TO 1+384	RT.	20					1
L78N 1+388	RT.	8					1
L78N 1+460	RT.	8					1
L78S 1+038 TO 1+333	LT.			0.14	16	0.6	35
L78S 1+360 TO 1+621	LT.			0.21	24	0.9	53
L18E 0+106 TO 0+358	RT.			0.14	16	0.6	35
L18E 0+397 TO 0+455	RT.			0.02	2	0.1	5
L18E 0+495	RT.	8					1
L18E 0+455 TO 0+700	RT.			0.11	12	0.4	27
L18W 0+108 TO 0+360	LT	620					22
L18W 0+410 TO 0+465	LT			0.01	1	0.1	3
L18W 0+465 TO 0+700	LT			0.15	17	0.7	34
L18W 0+521	LT	8					1
TOTAL		733		1.3	148	5.9	358

L SAWING BITUMINOUS PAVEMENT		
ROADWAY STATION	LOCATION	LENGTH m
L78 1+038	LT TO RT	15
L78 1+165 TO 1+176	15.5 LT	11
L78 1+170 TO 1+186	23.0 RT	16
L78 1+634	LT TO RT	26
L18 0+108	LT TO RT	14
L18 0+260 TO 0+268	14 LT	8
L18 0+699	LT TO RT	11
L18 0+356 TO 0+361	15 RT TO 20 RT	7
L18 0+361 TO 0+364	17 LT	3
L18 0+414	25 LT	3
L18 0+430	15 LT	3
TOTAL		117

N CLEAR AND GRUB					
STATION	LOCATION	CLEARING		GRUBBING	
		TREE	ha	TREE	ha
L78 1+255.509	18.81 RT.	1		1	
L78 1+258.055	18.91 RT.	1		1	
L18 0+522.552	10.92 RT.	1		1	
L18 0+557.003	11.80 RT.	1		1	
L18 0+566.998	10.75 RT.	1		1	
L18 0+583.762	11.21 RT.	1		1	
TOTALS		6	0	6	0

I BITUMINOUS PAVEMENT SECTION REMOVAL & SALVAGE (1)						
STATION	BIT. m ²	CORE (mm)			EST PAV'T SALVAGE (m ³)	
		PAV'T	SHLDR	AGG (2)	BIT	AGG
L18 0+108 TO 0+376	1956	138(3)	0	175/0	234	125
L18 0+388 TO 0+699	2270	150(3)	0	50/0	272	0
L78 1+038 TO 1+353	4641	113	63	100/175	408	461
L78 1+353 TO 1+634	4145	113	63	100/175	364	412
DRIVEWAY/INTERSECTION						
L78 1+170 LT	118	100			12	
L78 1+180 RT	384	100			38	
L18 0+265 LT	129	100			13	
TRAIL						
L78-L18 INTERSECTION	350	50			17	
TOTALS		13,993	864	126	425/350	1,358

- PAVEMENT CORES INDICATE BITUMINOUS SURFACE IS EQUAL TO OR LESS THAN 150mm.
- AGGREGATE BASE THICKNESS UNDER PAVEMENT/SHOULDER.
- ASSUMED OVERLAY IN AREA OF INTERSECTION WITH CSAH 78.

J TEMPORARY EROSION CONTROL					
STATION	SOD m ² (1)	SILT FENCE m (2)	DITCH CHECK		
			BALE EACH (3)	SILT FENCE m (4)	
L18EB 0+110 TO 0+360		251			
L18WB 0+110 TO 0+360		241			
L18WB 0+305 TO 0+315		30			
L18EB 0+440 TO 0+557		117			
L18EB 0+667 TO 0+696		29			
L18WB 0+410 TO 0+580		170			
L18WB 0+585 TO 0+695		110			
L78NB 1+050 TO 1+165		117			
L78SB 1+050 TO 1+163		113			
L78SB 1+178 TO 1+330		152			
L78NB 1+194 TO 1+297		105			
L78NB 1+398 TO 1+610		221			
L78SB 1+377 TO 1+617		240			
L18 0+132 RT & LT				12	
L18 0+240 RT				6	
L18 0+340 RT				4	
L18 0+493 RT			6		
L18 0+515 RT				6	
L18 0+525 LT			5		
L18 0+580 LT				6	
L18 0+696 LT				8	
L18 0+700 RL			6		
L78 1+130 RT			6		
L78 1+196 RT			5		
L78 1+227 RT				8	
L78 1+297 RT				8	
L78 SAG POINTS			16		
L18 SAG POINTS			16		
ENGINEER'S DISCRETION	25	204	20	12	
TOTAL		25	2100	80	70

- APPLY EROSION CONTROL SOD AS DIRECTED BY ENGINEER.
- SILT FENCE SHALL BE PLACED 0.5m OUTSIDE OF THE CONSTRUCTION LIMITS.
- BALE CHECKS SHALL BE APPLIED AROUND THE CBS AT SAG POINTS AND CULVERT INLETS.
- TEMPORARY DITCH CHECK, TYPE 1.

NO	DATE	BY	CKD	APPR	REVISION

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James C. Knutson
DATE 4-14-02 REG. NO. 10169

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DESIGN BY JCK DATE _____
CHECKED BY JAG DATE _____

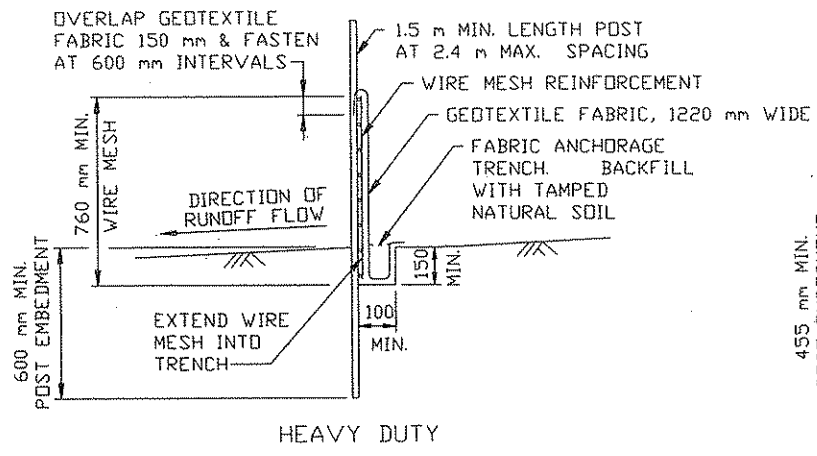
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STATE PROJECT NO. 198-020-18
STATE PROJECT NO. 198-131-02
C.S.A.H. 78 (HANSON BLVD.) ©
C.R. 18 (CROSSTOWN BLVD. N.W.)



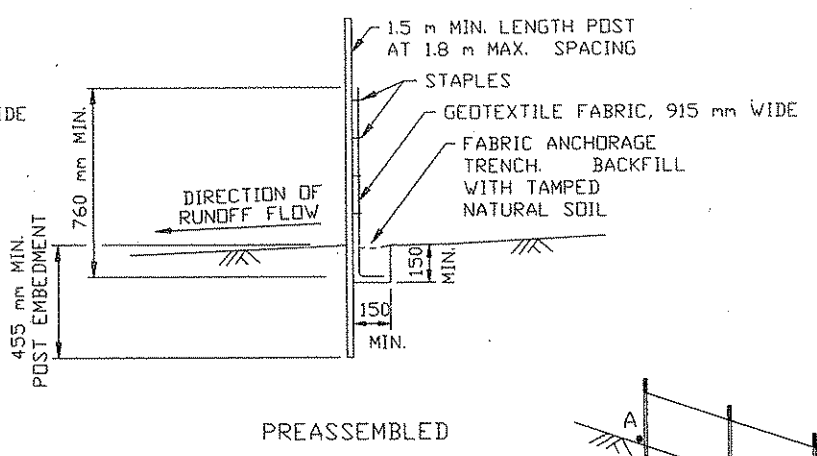
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MISC. TABULATIONS
Sheet 8 of 76 Sheets

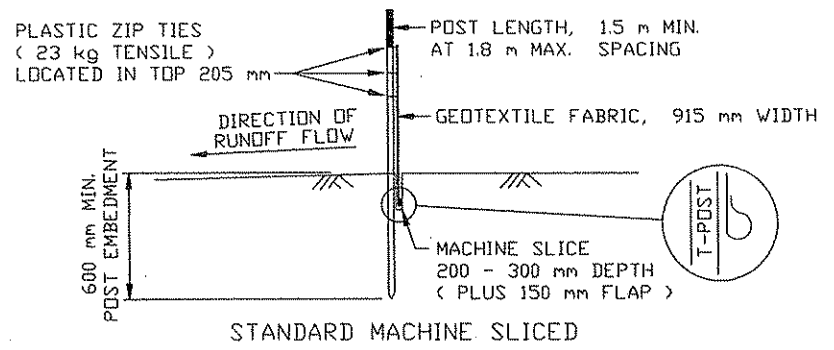
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HEAVY DUTY



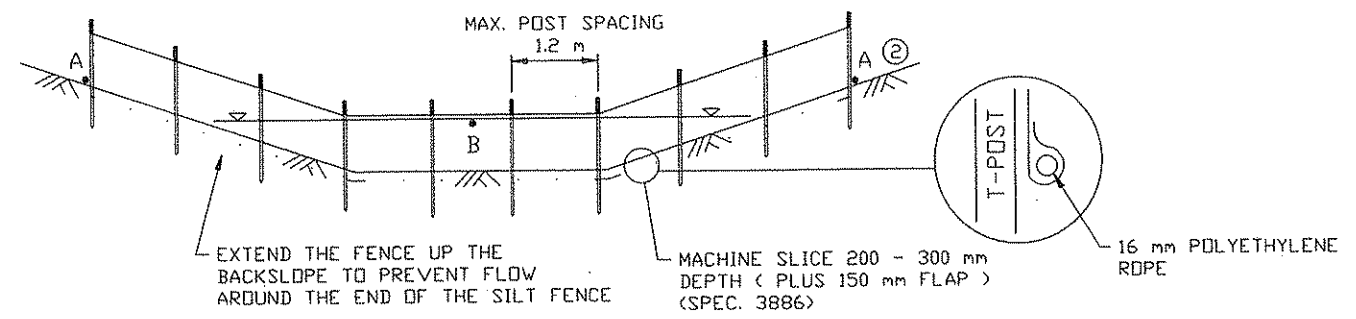
PREASSEMBLED



STANDARD MACHINE SLICED

SILT FENCE DETAILS
 TO PROTECT AREAS FROM SHEET FLOW
 (SEE SPEC. 3886)

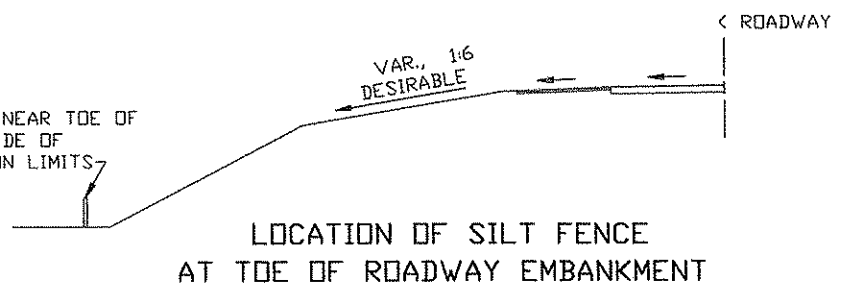
DESIGN GUIDELINES:
 MAXIMUM CONTRIBUTING AREA: 1.2 ha



DESIGN GUIDELINES	
STORM FREQUENCY	2 YR.- 24 HR.
MAX. DITCH GRADE	5%
MAX. DRAINAGE AREA	0.40 ha

NOTE:
 WHEN SEDIMENT BUILD UP REACHES 460 mm,
 THE SILT SHOULD BE REMOVED OR A SECOND
 SILT FENCE BUILT UPSTREAM FROM THE
 EXISTING ONE AT A SUITABLE DISTANCE.

MACHINE SLICED
 (TYPE 1 SPEC. 3889)



- NOTES:
 SEE SPECS. 2573, 3885, 3886 & 3889.
 SPACING OF DITCH CHECKS IS DEPENDENT ON DRAINAGE AREA AND GRADES. SEE DISTRICT HYDRAULICS ENGINEER FOR RECOMMENDATIONS.
- ① POINT A MUST BE 0.8 m MIN. HIGHER THAN POINT B.
 - ② POINT A MUST BE 0.6 m MIN. HIGHER THAN POINT B.

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James Knutson
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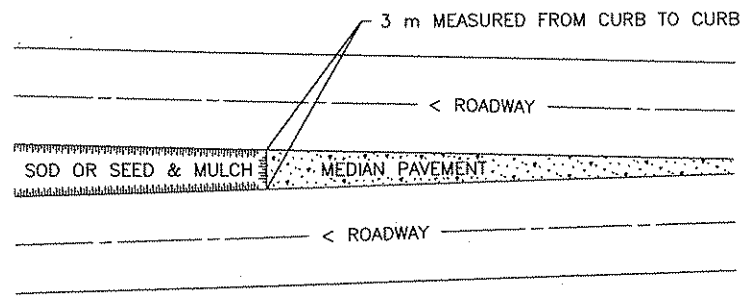
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 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



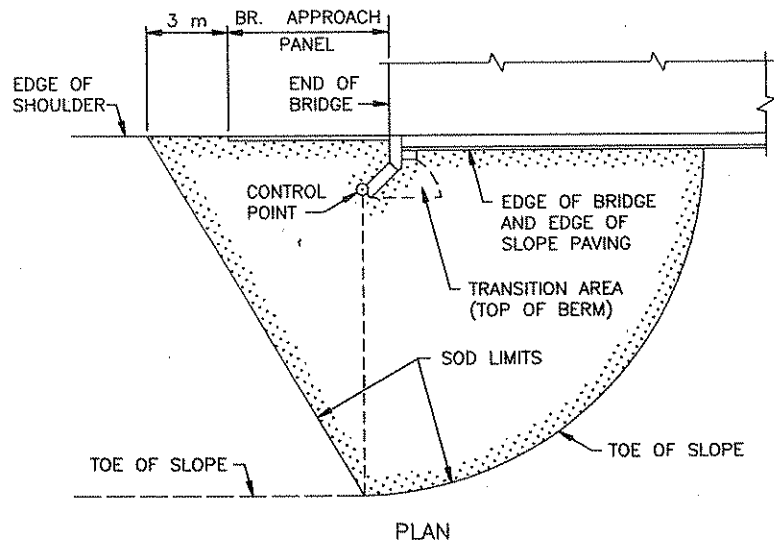
ANOKA COUNTY
 HIGHWAY DEPT.

TEMPORARY EROSION CONTROL DETAILS
 Sheet 9 of 76 Sheets

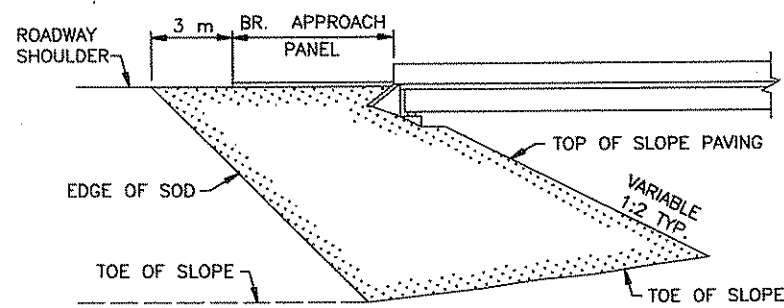
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SODDING LIMITS AT GORE AREA

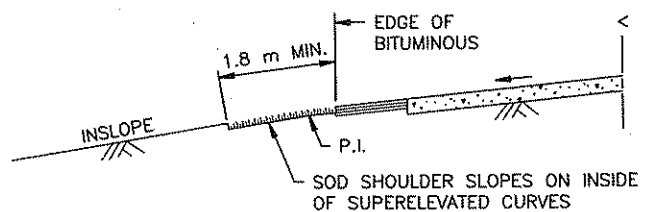


PLAN

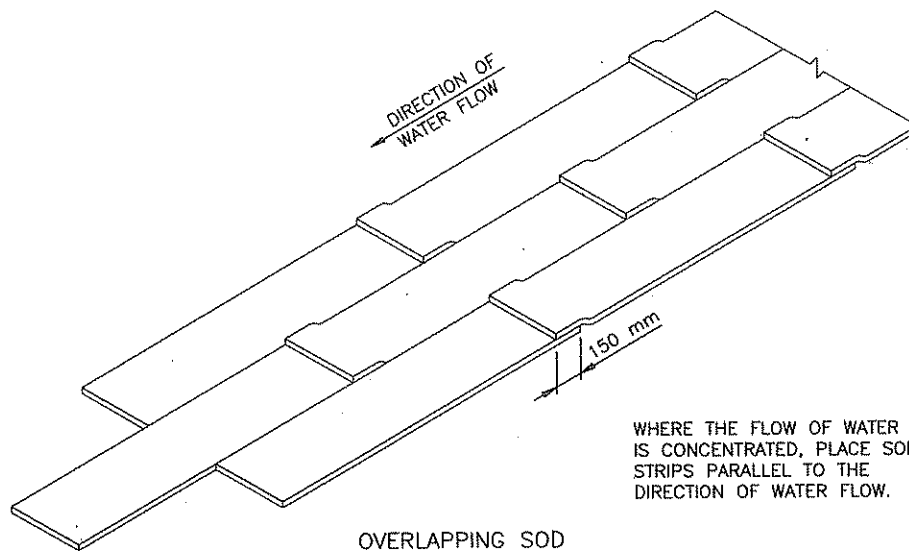


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

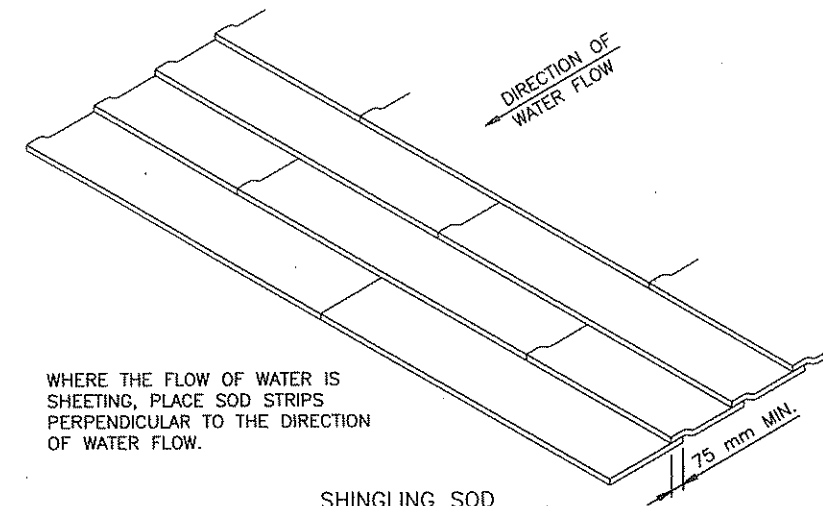


SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

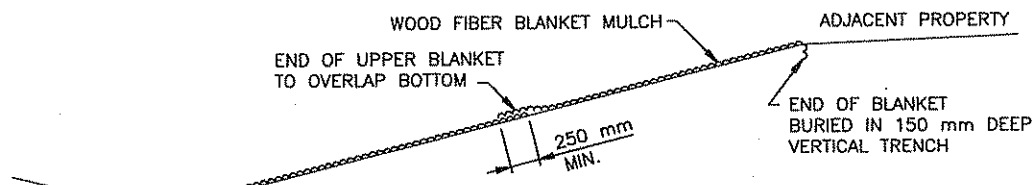
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.



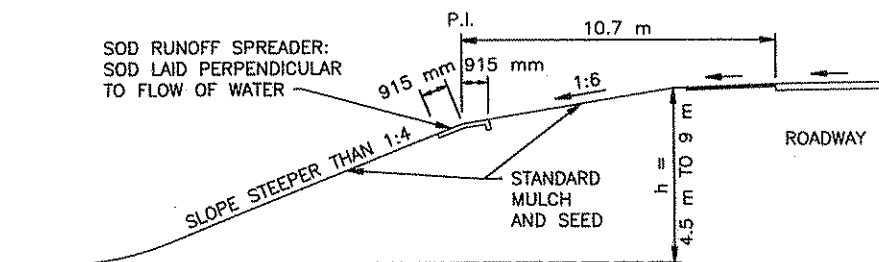
SHINGLING SOD

WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

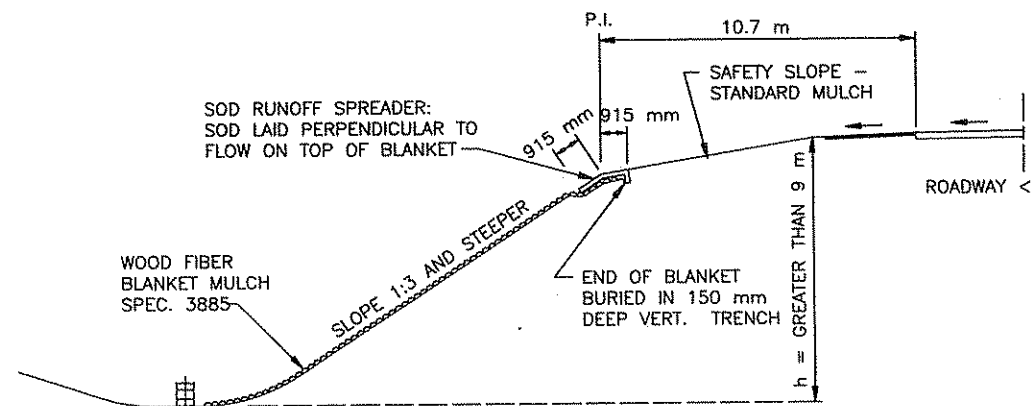
SPECIAL SOD PLACEMENT TECHNIQUES



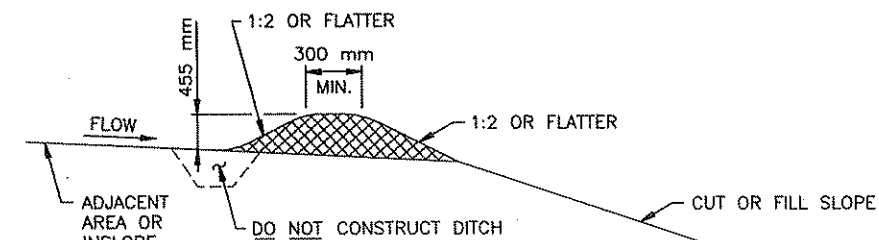
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



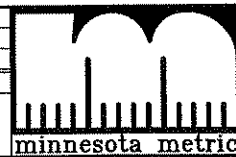
WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)



PERMANENT SLOPE PROTECTION DIKE

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James Chantler
 DATE 4-12-02 REG. NO. 10169

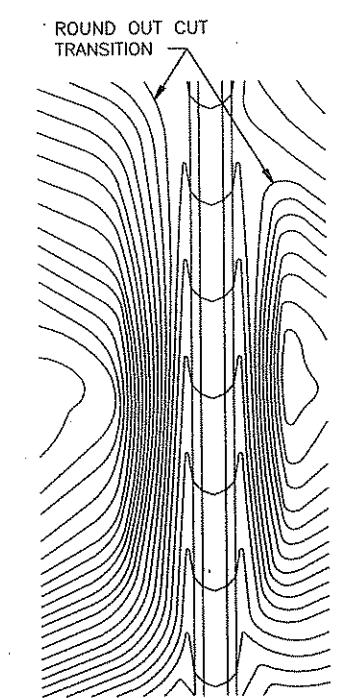
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 C.R. 18 (CROSTOWN BLVD. N.W.)

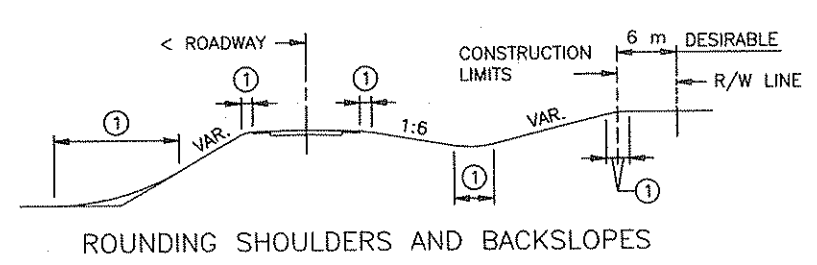


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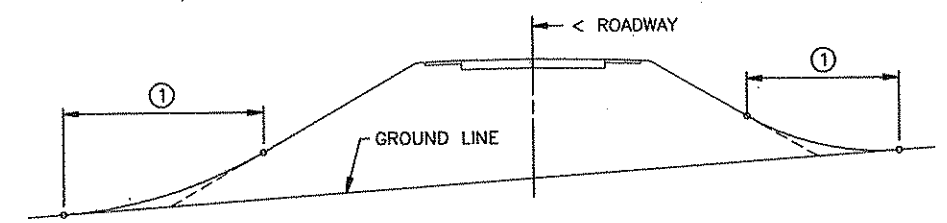
PERMANENT EROSION CONTROL DETAILS
 Sheet 10 of 76 Sheets



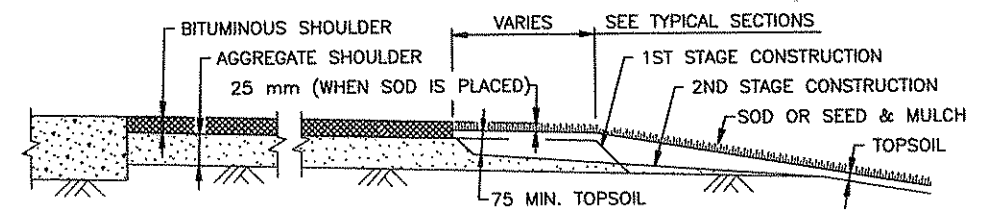
CONTOURING ROAD CUTS



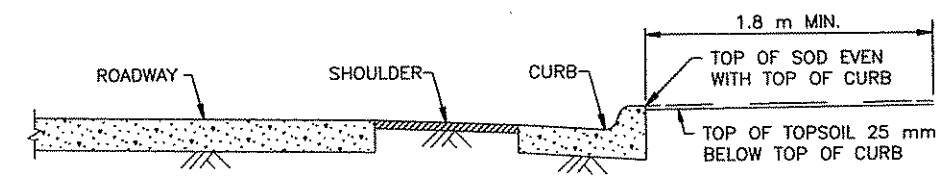
ROUNDING SHOULDERS AND BACKSLOPES



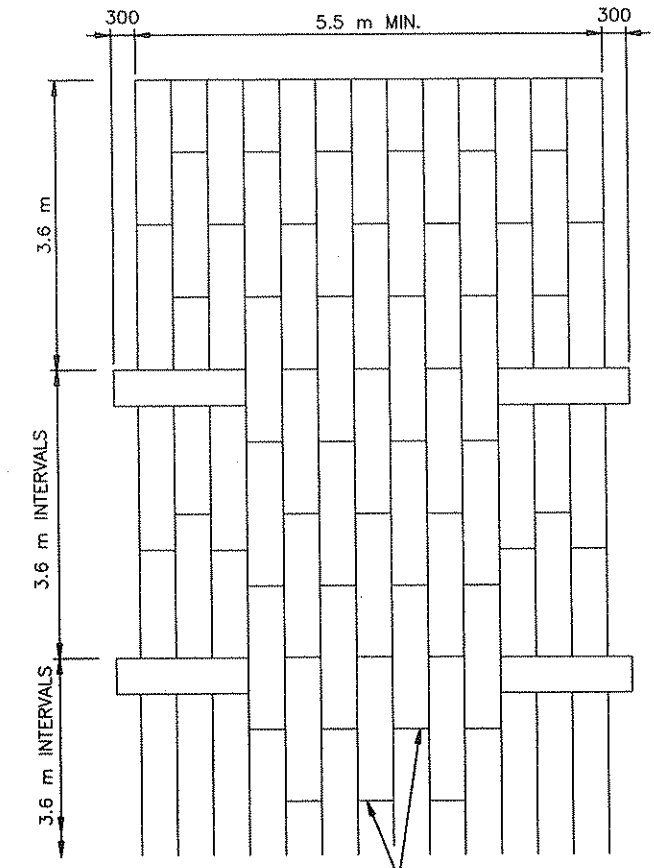
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



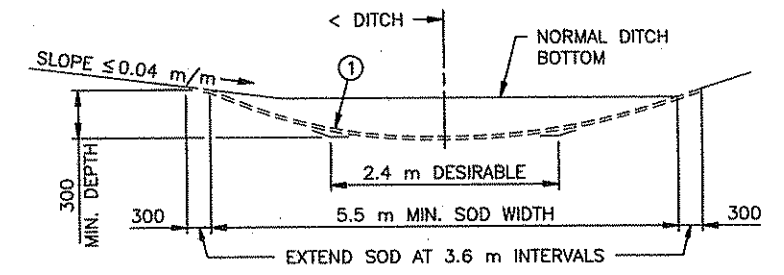
SHAPING AND TOPSOILING INSLOPES



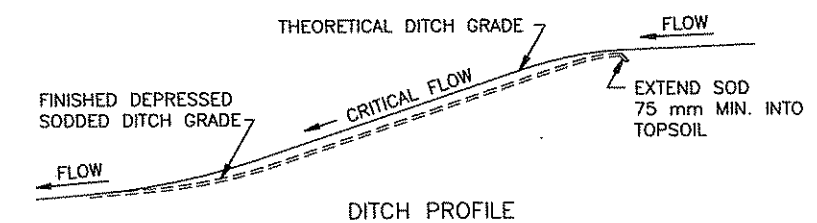
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



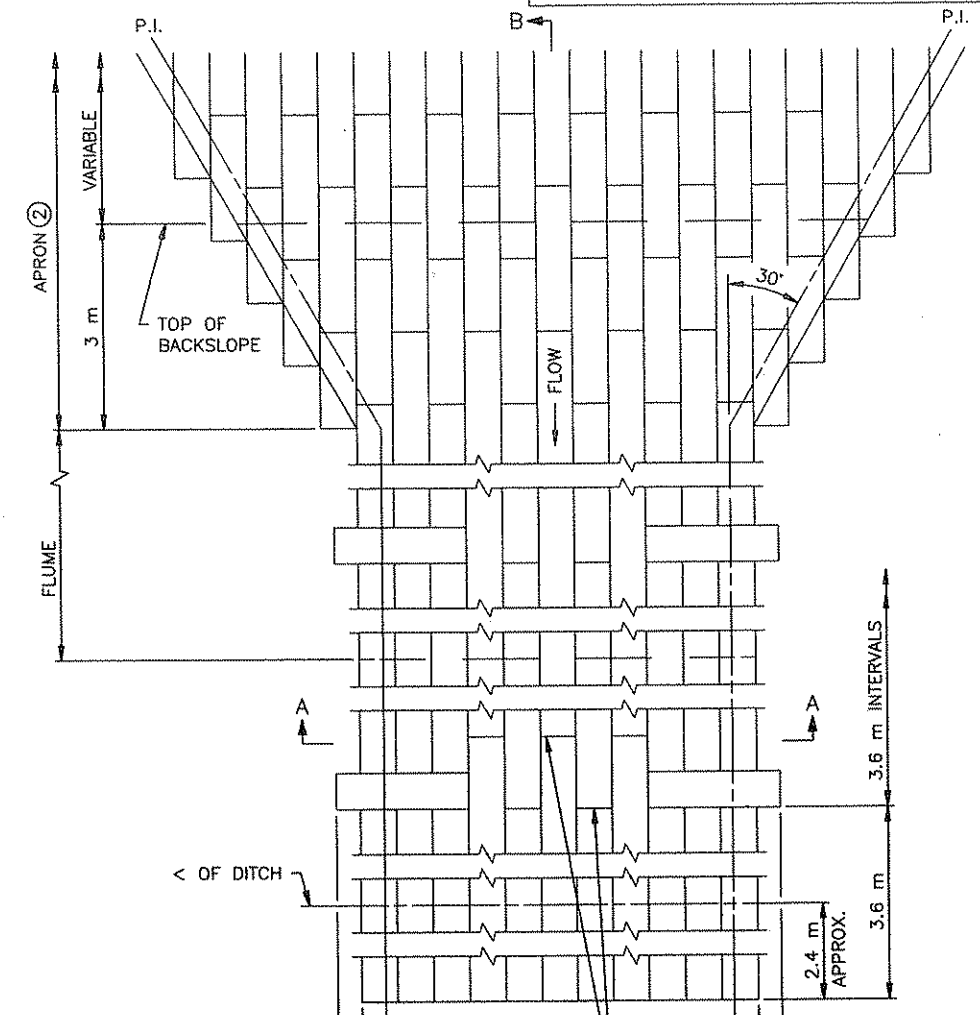
PLAN VIEW



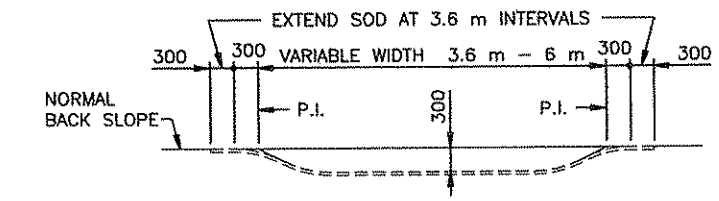
SODDED DITCH CROSS SECTION WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 0.04 m/m), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



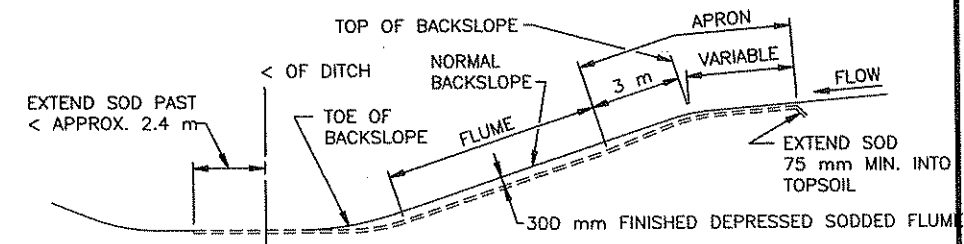
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

- NOTES:
 SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
 ① FOR ROUNDING, SEE ROAD DESIGN MANUAL.
 ② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

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James C. Hunter
 DATE 4-12-02 REG. NO. 10169

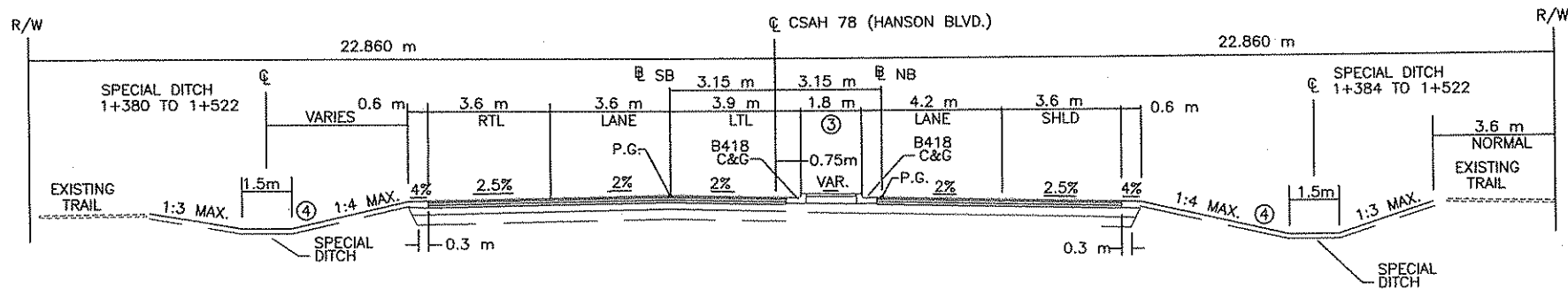
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 C.R. 18 (CROSTOWN BLVD. N.W.)

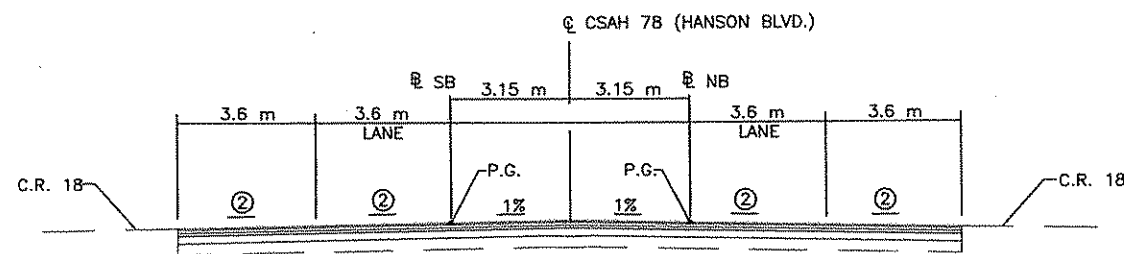


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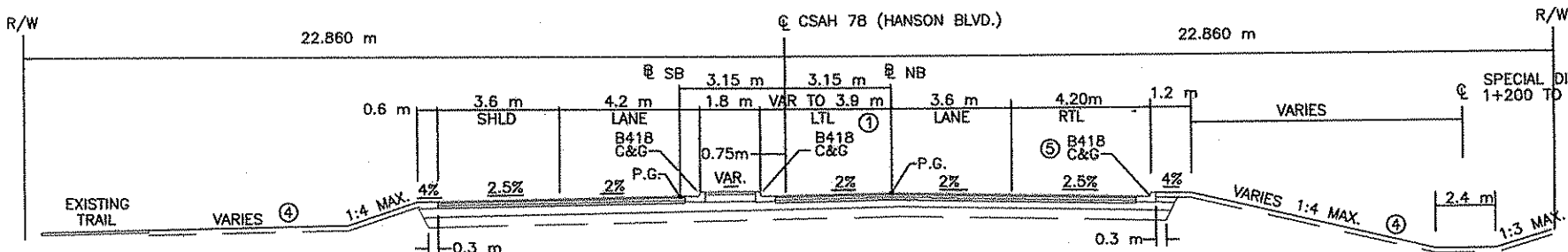
PERMANENT EROSION CONTROL DETAILS
 Sheet 11 of 76 Sheets



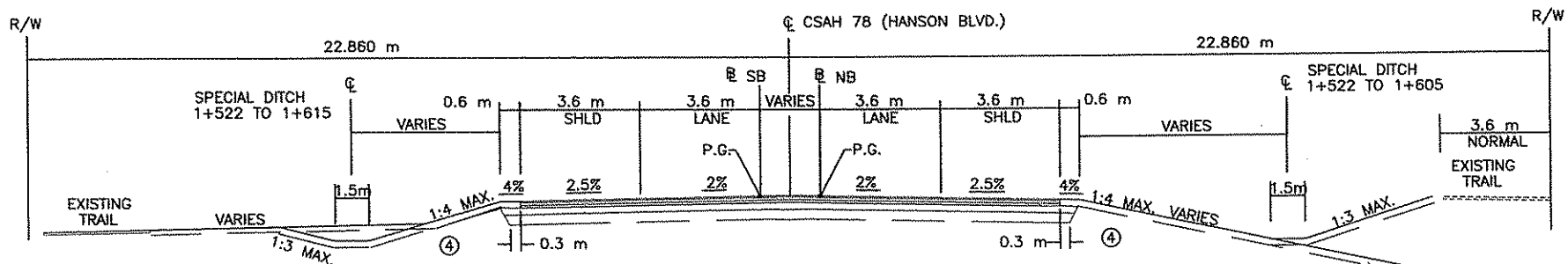
PROPOSED TYPICAL SECTION - CSAH 78 (HANSON BLVD)
STA. 1+370.2 TO STA. 1+522.0



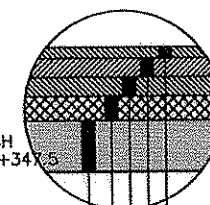
PROPOSED TYPICAL SECTION - CSAH 78 (HANSON BLVD)
STA. 1+335.8 TO STA. 1+370.2



PROPOSED TYPICAL SECTION - CSAH 78 (HANSON BLVD)
STA. 1+147.0 TO STA. 1+335.8



PROPOSED TYPICAL SECTION - CSAH 78 (HANSON BLVD)
STA. 1+038.0 TO STA 1+147.0
STA. 1+522.0 TO STA 1+634.0



- 50 mm WEARING COURSE MIXTURE (MVWE45035C)
- BITUMINOUS TACK COAT
- 80 mm NON WEARING COURSE MIXTURE (MVNW35035C)
- BITUMINOUS TACK COAT
- 80 mm NON WEARING COURSE MIXTURE (LVNW35030C)
- 150 mm AGGREGATE BASE CLASS 5
- 300 mm SUBCUT FOR UNIFORM COMPACTION

CSAH 78 (HANSON BLVD.)
TYPICAL PAVEMENT SECTION

NOTES:

1. VARIABLE LEFT TURN LANE
STA. 1+147 TO STA. 1+230.74
2. PAVEMENT CROSS SLOPE VARIES. 1% MINIMUM.
4. 150 mm TOPSOIL
3. B418 C & G, NB78 STA. 1+193.06; 7.8 m RT
TO STA. 1+347.5, 14.2 m RT

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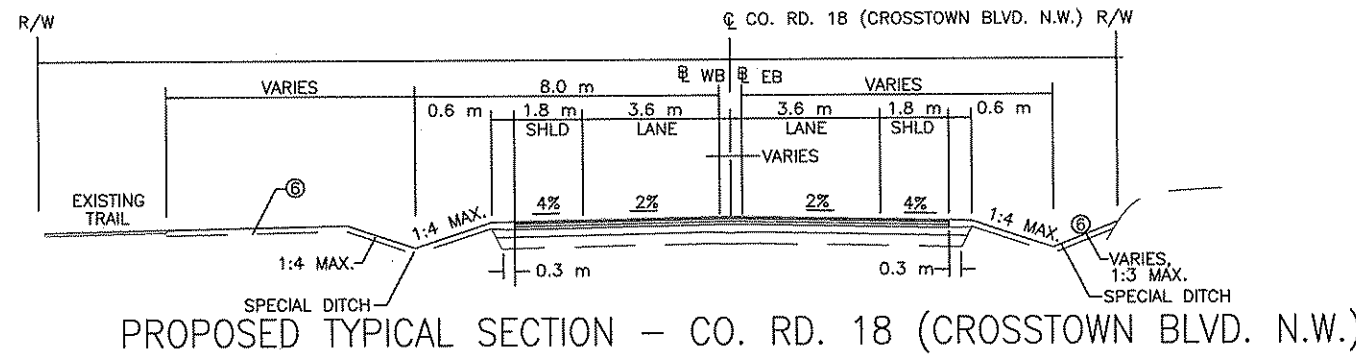
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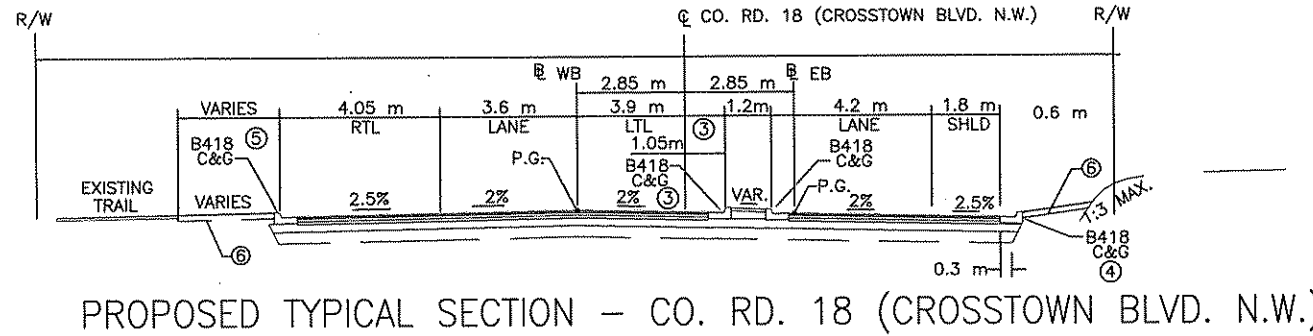


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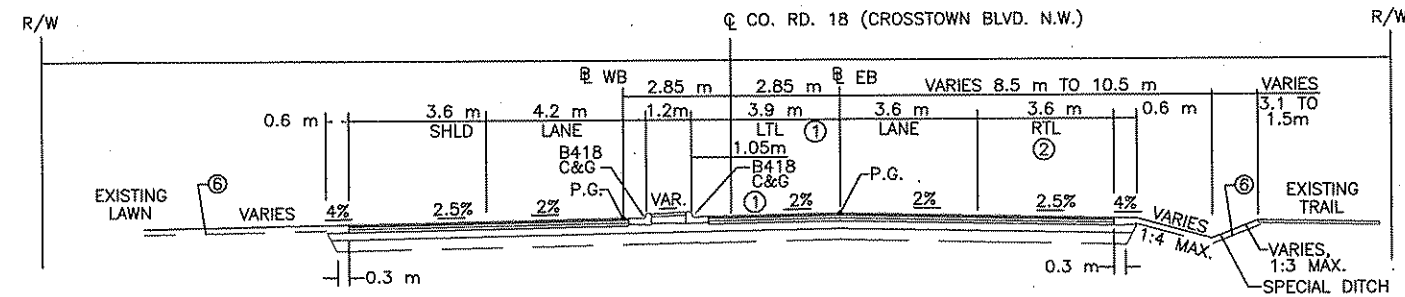
TYPICAL SECTIONS
C.S.A.H. 78
(HANSON BLVD.)
Sheet 12 of 76 Sheets



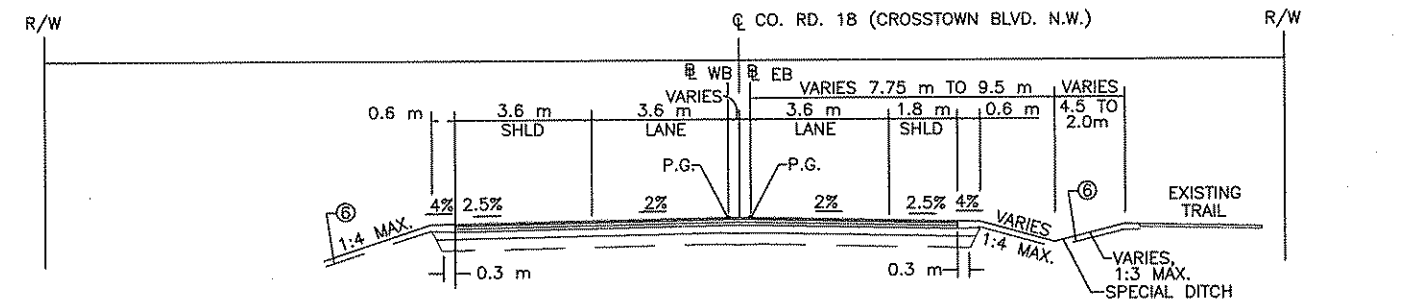
STA. 0+517.1 EB TO STA. 0+700.5 EB
 STA. 0+513.5 WB TO STA. 0+696.8 WB



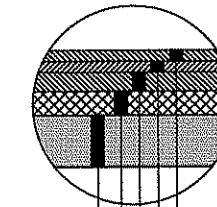
STA. 0+402.0 TO STA. 0+515.25 C-L=
 STA. 0+517.1 EB



STA. 0+271.0 TO STA. 0+358.5



STA. 0+108 TO STA. 0+271.0



- 50 mm WEARING COURSE MIXTURE (MVWE45035C)
- BITUMINOUS TACK COAT
- 50 mm NON WEARING COURSE MIXTURE (MVNW35035C)
- BITUMINOUS TACK COAT
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- 150 mm AGGREGATE BASE CLASS 5
- 300 mm SUBCUT FOR UNIFORM COMPACTION

CR. RD. 18 (CROSSTOWN BLVD. N.W.)
 TYPICAL PAVEMENT SECTION

NOTES:

1. VARIABLE LEFT TURN LANE, E.B.
 STA. 0+271.0 TO STA. 0+300.0 CROSS
 SLOPE LEFT VARIES FROM + 2% TO -2%
2. RIGHT TURN LANE 0+300.0 TO 0+360.0
3. VARIABLE LEFT TURN LANE
 W.B STA. 0+467.0 TO STA. 0+515.25
 CROSS SLOPE RIGHT VARIES -2% TO +2%,
 STA. 0+452.0 TO STA. 0+480.0
4. TYPE B418 C&G EB STA. 0+397.00
 TO STA. 0+456.86
5. TYPE B418 C&G AND RIGHT TURN LANE
 WB STA. 0+400.50 TO STA. 0+453.15
6. 150 mm TOPSOIL

PARSONS TRANSPORTATION GROUP
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PARSONS
 PARSONS TRANSPORTATION GROUP INC.
 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
 Phone: (612)332-0421 • Fax: (612)332-9180



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

[Signature]
 DATE 5/13/02 REG. NO. 26383

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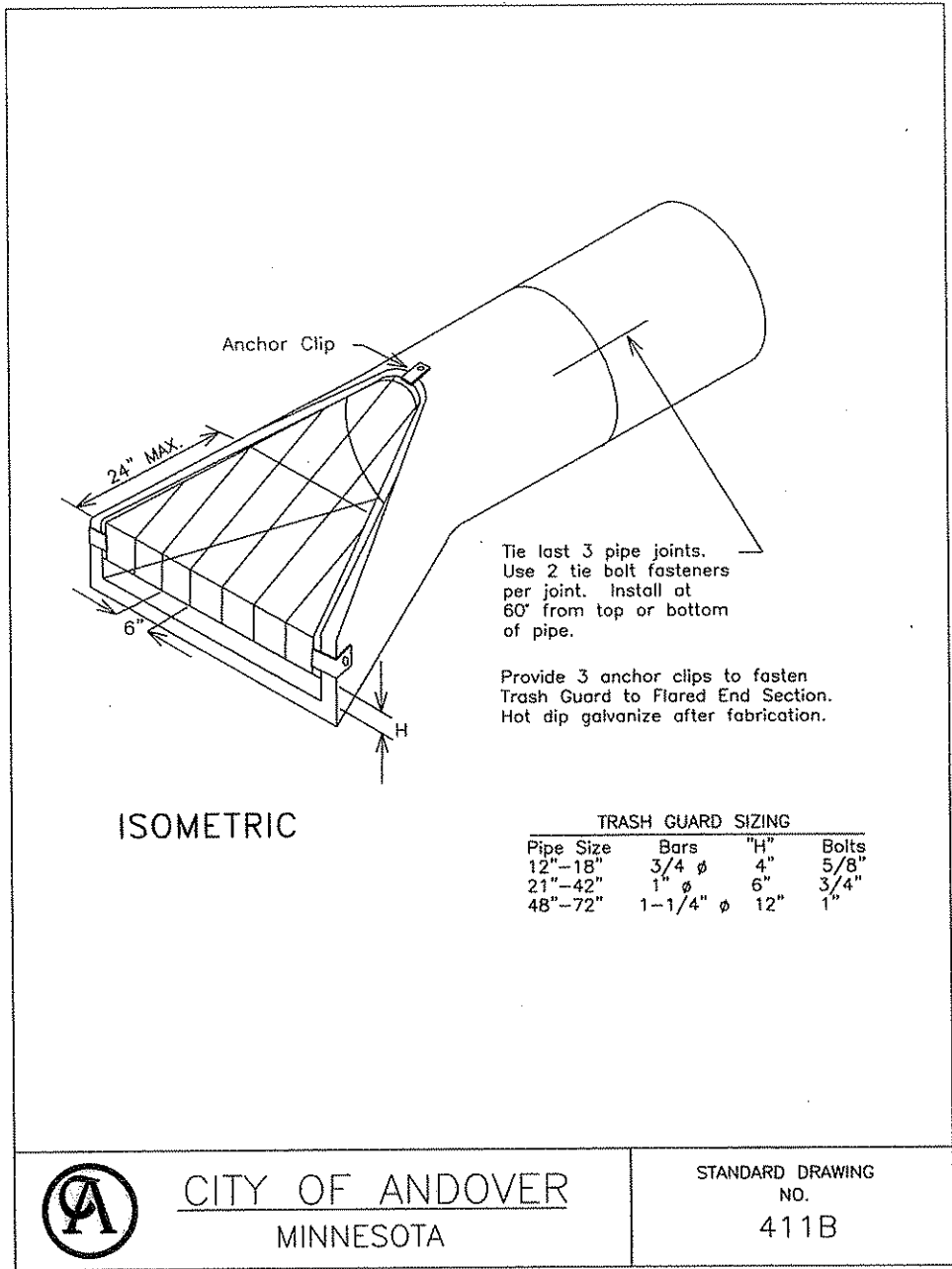
STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

TYPICAL SECTIONS
 CO. RD. 18
 (CROSSTOWN BLVD. N.W.)
 Sheet 13 of 76 Sheets

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James C. Knutson
 DATE 4-12-02 REG. NO. 10169

DRAWN BY SRH DATE _____
 DESIGN BY JCK DATE _____
 CHECKED BY JAG DATE _____

STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
 HIGHWAY DEPT.

MISC. DETAILS
 Sheet 14 of 76 Sheets

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ALIGNMENT TABULATION - C.S.A.H. 78 (HANSON BLVD.)													
CURVE NO.	POINT NO.	POINT TYPE	LOCATION	CURVE DATA					COORDINATES			REMARKS	
				DELTA	DEGREE	RADIUS (m)	TANGENT (m)	LENGTH (m)	NORTHING Y	EASTING X	AZIMUTH		
L78 = CSAH 78 (HANSON BLVD) CENTERLINE													
	100	POT	L78 1+000.000=L78 NB 1+000.000 =L78 SB 1+000.000							119631.147	878863.583	358-45-07	
	101		L78 1+350.000=L18 EB 0+380.042							119981.064	878855.959		
	102		L78 1+352.956=L18 0+380.002							119984.020	878855.896		
	103		L78 1+355.916=L18 WB 0+380.025							119986.978	878855.830		
	104	POT	L78 1+745.000=L78 NB 1+745.054 =L78 SB 1+745.054							120375.970	878847.355		
L78 = CSAH 78 (HANSON BLVD) NORTHBOUND													
	200	PC	L78NB 1+038.000							119669.138	878862.755		
1	201	PI	L78NB 1+045.777	01-01-07	06-32-53	875.000	7.777	15.554		119676.913	878862.586	359-15-40	
	202	RP	L78NB 1+038.000, 875.000 RT.							119688.198	879737.548		
	203	PT	L78NB 1+053.554							119684.890	878862.555	359-46-13	
	204	PC	L78NB 1+215.215							119846.350	878861.907		
2	205	PI	L78NB 1+222.992, 875.000 LT.	01-01-07	06-32-53	875.000	7.777	15.554		119854.127	878861.876	359-15-40	
	206	RP	L78NB 1+215.215							119842.843	877986.914		
	207	PT	L78NB 1+230.769							119861.903	878861.706	358-45-07	
	208		L78NB 1+350.916=L18 EB 0+383.315							119982.021	878859.089		
	209		L78NB 1+353.886=L18 0+383.277							119984.990	878859.024		
	210		L78NB 1+356.859=L18WB 0+383.306							119987.963	878858.960		
	211	PC	L78NB 1+455.425							120086.505	878856.813		
3	212	PI	L78NB 1+463.202	01-01-07	06-32-53	875.00	7.777	15.554		120094.281	878856.643	358-14-33	
	213	RP	L78NB 1+455.425, 875.000 LT.							120067.446	877982.020		
	214	PT	L78NB 1+470.979							120102.052	878856.336	357-44-00	
	215	PC	L78NB 1+632.640							120263.586	878849.942		
4	216	PI	L78NB 1+640.417, 875.000 RT.	01-01-07	06-32-53	875.000	7.777	15.554		120271.357	878849.634	358-14-33	
	217	RP	L78NB 1+632.640, 875.000 RT.							120298.193	879724.257		
	218	PT	L78NB 1+648.194							120279.133	878849.465	358-45-07	
L78 = CSAH 78 (HANSON BLVD) SOUTHBOUND													
	300	PC	L78SB 1+038.000							119669.138	878862.755		
5	301	PI	L78SB 1+045.777	01-01-07	06-32-53	875.000	7.777	15.554		119676.913	878862.586	358-14-33	
	302	RP	L78SB 1+038.000, 875.000 LT.							119650.078	877987.963		
	303	PT	L78SB 1+053.554							119684.684	878862.278	357-44-00	
	304	PC	L78SB 1+215.215							119846.219	878855.885		
6	305	PI	L78SB 1+222.992, 875.000 RT.	01-01-07	06-32-53	875.000	7.777	15.554		119853.990	878855.577	358-14-33	
	306	RP	L78SB 1+215.215, 875.000 RT.							119880.825	879730.200		
	307	PT	L78SB 1+230.769							119861.765	878855.408	358-45-07	
	308		L78SB 1+349.193=L18 EB 0+376.783							119980.161	878852.828		
	309		L78SB 1+352.136=L18 0+376.738							119983.104	878852.764		
	310		L78SB 1+355.083=L18WB 0+376.760							119986.050	878852.700		
	311	PC	L78SB 1+455.425							120086.368	878850.514		
7	312	PI	L78SB 1+463.202, 875.000 RT.	01-01-07	06-32-53	875.000	7.777	15.554		120094.143	878850.345	359-15-40	
	313	RP	L78SB 1+455.425, 875.000 RT.							120105.428	879725.306		
	314	PT	L78SB 1+470.979							120101.921	878850.313	359-46-13	
	315	PC	L78SB 1+632.640							120263.580	878849.665		
8	316	PI	L78SB 1+640.417, 875.000 LT.	01-01-07	06-32-53	875.000	7.777	15.554		120271.357	878849.634	359-15-40	
	317	RP	L78SB 1+632.640, 875.000 LT.							120260.073	877974.672		
	318	PT	L78SB 1+648.194							120279.133	878849.465	358-45-07	

NO	DATE	BY	CKD	APPR	REVISION



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James C. Kuntz
DATE 4-12-02 REG. NO. 10169

DRAWN BY: SRH DATE: _____
DESIGN BY: JCK DATE: _____
CHECKED BY: JAG DATE: _____

STATE PROJECT NO. 02-678-13
STATE PROJECT NO. 198-020-18
STATE PROJECT NO. 198-131-02
C.S.A.H. 78 (HANSON BLVD.) @
C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

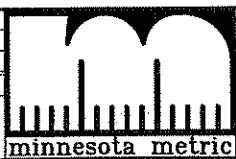
ALIGNMENT PLAN AND TABULATION
C.S.A.H. 78 (HANSON BLVD.)
Sheet 15 of 76 Sheets

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O ALIGNMENT TABULATION - CO. RD. 18 (CROSSTOWN BLVD.)													
CURVE NO.	POINT NO.	POINT TYPE	LOCATION	CURVE DATA					COORDINATES			REMARKS	
				DELTA	DEGREE	RADIUS (m)	TANGENT (m)	LENGTH (m)	NORTHING Y	EASTING X	AZIMUTH		
L18 = CO. RD. 18 (CROSSTOWN BLVD) CENTERLINE													
	400	POT	L18 0+100.000=L18 EB 0+100.000 =L18 WB 0+100.000					223.312		119972.734	878576.751	89-18-16	
	401	PC	L18 0+323.312							119975.444	878800.046		
9	402	PI	L18 0+391.571	37-19-00	28-20-36	202.150	68.260	131.660		119976.273	878868.301	70-38-47	
	403	RP	L18 0+323.312, 202.150 LT.							120177.580	878797.592		
	404	PT	L18 0+454.971					265.029		120018.309	878922.082	51-59-17	
	405	POT	L18 0+720.000=L18 EB 0+721.922 =L18 WB 0+718.209							120181.521	879130.893		
L18 = CO. RD. 18 (CROSSTOWN BLVD) EASTBOUND													
	500	PC	L18EB 0+119.451							119972.970	878596.201		
10	501	PI	L18EB 0+130.219	01-24-36	06-32-53	875.000	10.768	21.534		119973.101	878606.968	90-00-34	
	502	RP	L18EB 0+119.451, 875.000 RT.							119098.035	878606.821		
	503	PT	L18EB 0+140.985							119972.966	878617.734	90-42-53	
	504	PC	L18EB 0+235.266							119971.791	878712.008		
11	505	PI	L18EB 0+246.034, 875.000 LT	01-24-36	06-32-53	875.000	10.768	21.534		119971.656	878722.775	90-00-34	
	506	RP	L18EB 0+235.266							120846.723	878722.921		
	507	PT	L18EB 0+256.000							119971.787	878733.542	51-59-17	
	508	PC	L18EB 0+323.344							119972.595	878800.081		
12	509	PI	L18EB 0+392.567	37-19-00	27-56-57	205.000	69.222	133.516		119973.435	878869.298	70-38-47	
	510	RP	L18EB 0+323.344, 205.000 LT.							120177.580	878797.592		
	511	PT	L18EB 0+456.860							120016.064	878923.837	51-59-17	
	512	PC	L18EB 0+475.889							120027.782	878938.829		
13	513	PI	L18EB 0+486.657, 875.000 LT	01-24-36	06-32-53	875.000	10.768	21.534		120034.413	878947.313	51-16-59	
	514	RP	L18EB 0+475.889, 875.000 LT.							120717.179	878399.981		
	515	PT	L18EB 0+497.423							120041.251	878955.631	50-34-41	
	516	PC	L18EB 0+591.704							120101.122	879028.462		
14	517	PI	L18EB 0+602.472	01-24-36	06-32-53	875.000	10.768	21.534		120107.960	879036.780	51-16-59	
	518	RP	L18EB 0+591.704, 875.000 RT.							119425.194	879584.112		
	519	PT	L18EB 0+613.238					108.683		120114.591	879045.263	51-59-17	
L18 = CO. RD. 18 (CROSSTOWN BLVD) WESTBOUND													
	600	PC	L18WB 0+119.451							119972.970	878596.201		
15	601	PI	L18WB 0+130.219	01-24-36	06-32-53	875.000	10.768	21.534		119973.101	878606.968	88-35-58	
	602	RP	L18WB 0+119.451, 875.000 LT.							120847.906	878585.580		
	603	PT	L18WB 0+140.985							119973.496	878617.728	87-53-40	
	604	PC	L18WB 0+235.266							119976.960	878711.945		
16	605	PI	L18WB 0+246.034, 875.000 RT	01-24-36	06-32-53	875.000	10.768	21.534		119977.356	878722.706	88-35-58	
	606	RP	L18WB 0+235.266							119102.551	878744.093		
	607	PT	L18WB 0+256.800							119977.487	878733.472	89-18-16	
	608	PC	L18WB 0+323.344							119978.294	878800.011		
17	609	PI	L18WB 0+390.642	37-19-00	28-44-55	199.300	67.298	129.803		119979.111	878867.304	70-38-47	
	610	RP	L18WB 0+323.344, 199.300 LT.							120177.580	878797.592		
	611	PT	L18WB 0+453.148							120020.555	878920.327	51-59-17	
	612	PC	L18WB 0+472.177							120032.273	878935.319		
18	613	PI	L18WB 0+482.944, 875.000 RT	01-24-36	06-32-53	875.000	10.768	21.534		120038.904	878943.803	52-41-35	
	614	RP	L18WB 0+472.177, 875.000 RT.							119342.877	879474.167		
	615	PT	L18WB 0+493.711							120045.324	878952.447	53-23-53	
	616	PC	L18WB 0+587.992							120101.540	879028.136		
19	617	PI	L18WB 0+598.760	01-24-36	06-32-53	875.000	10.768	21.534		120107.960	879036.780	52-41-35	
	618	RP	L18WB 0+587.992, 875.000 LT.							120803.987	878506.415		
	619	PT	L18WB 0+609.526					108.683		120114.591	879045.263	51-59-17	

NO	DATE	BY	CKD	APPR	REVISION

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James C. Kuntz
DATE: 4-12-02 REG. NO. 10169

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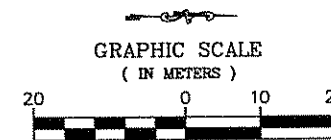
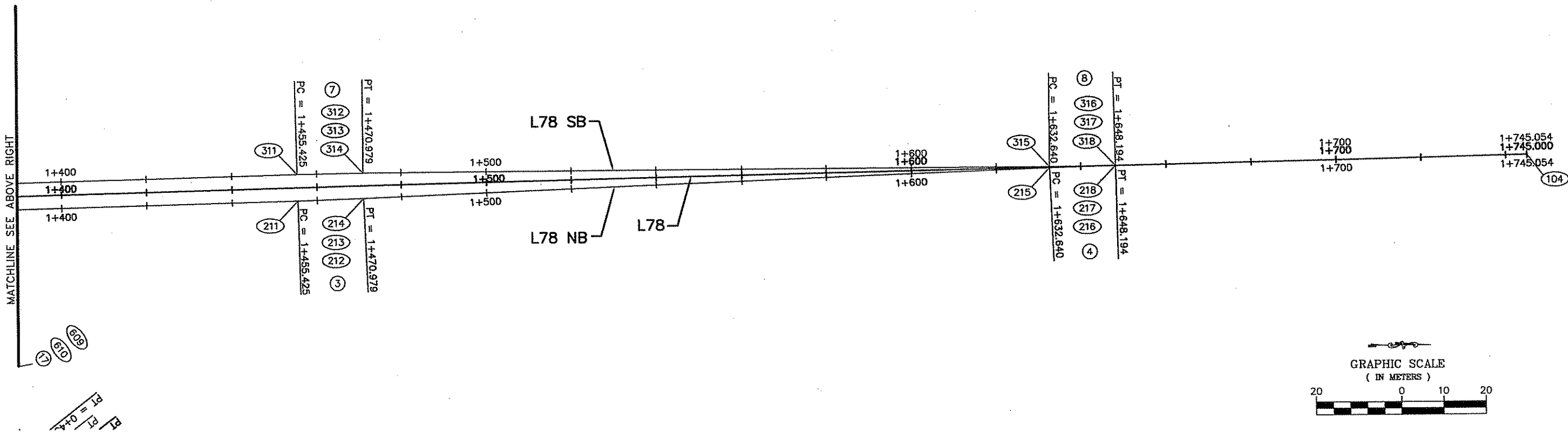
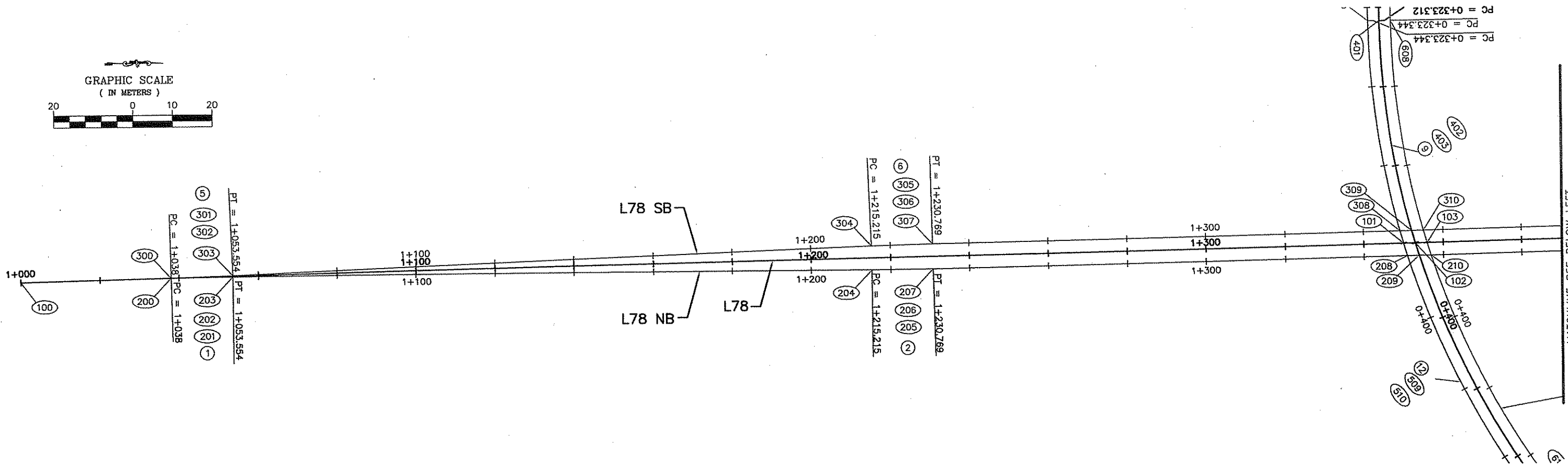
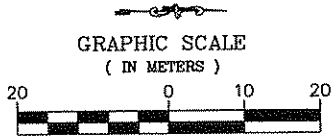
STATE PROJECT NO. 02-678-13
STATE PROJECT NO. 198-020-18
STATE PROJECT NO. 198-131-02
C.S.A.H. 78 (HANSON BLVD.) @
C.R. 18 (CROSSTOWN BLVD. N.W.)



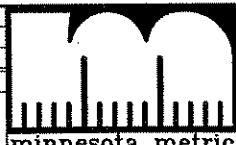
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ALIGNMENT PLAN AND TABULATION
CO. RD. 18 (CROSSTOWN BLVD.)
Sheet 16 of 76 Sheets

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James Chantson
 DATE 9-12-02 REG. NO. 10169

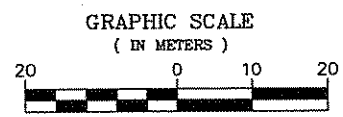
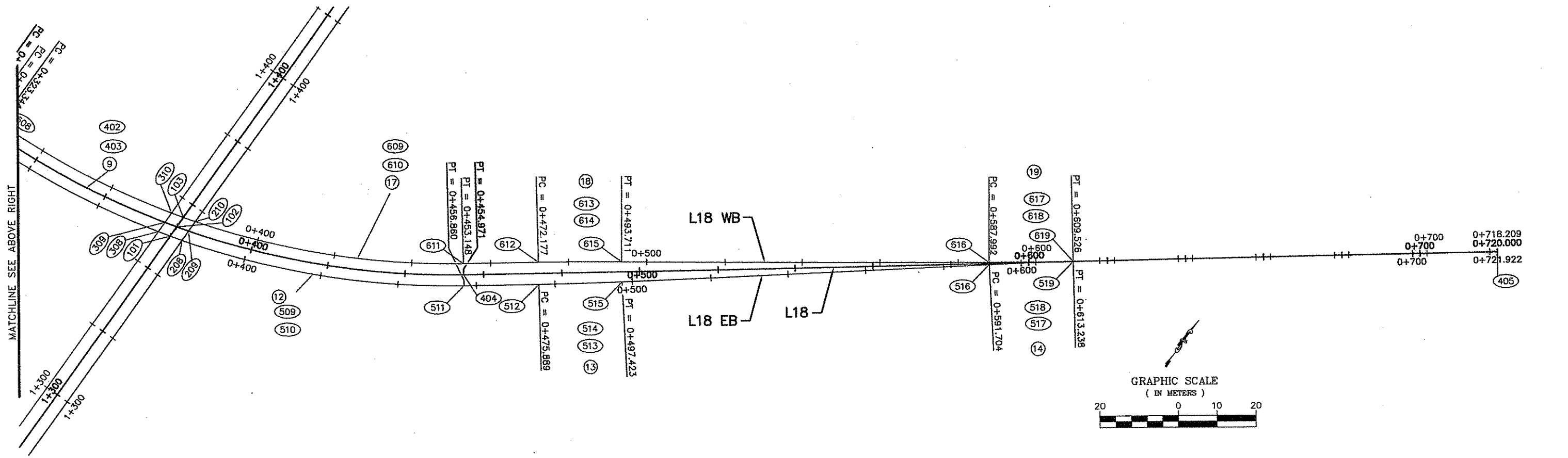
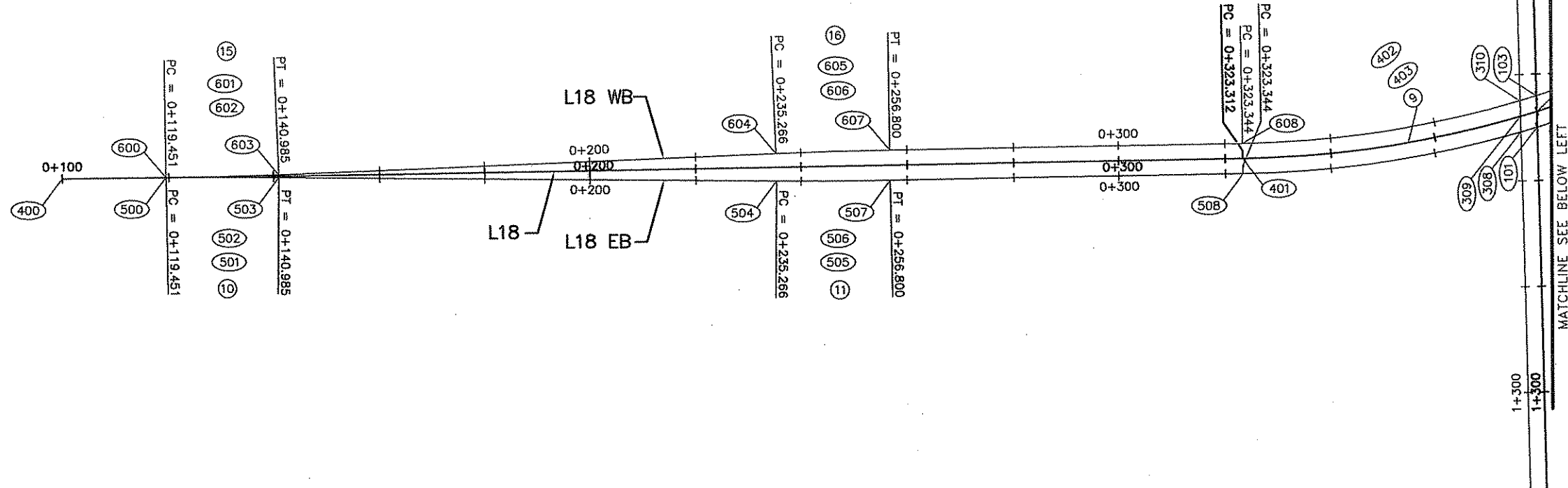
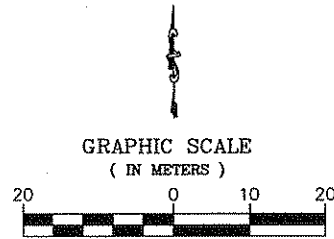
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ANOKA COUNTY
 HIGHWAY DEPT.

ALIGNMENT PLAN
 AND TABULATION
 C.S.A.H. 78 (HANSON BLVD.)
 Sheet 17 of 76 Sheets



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James O. Johnston
DATE 4-12-02 REG. NO. 10169

DRAWN BY SRH DATE
DESIGN BY JCK DATE
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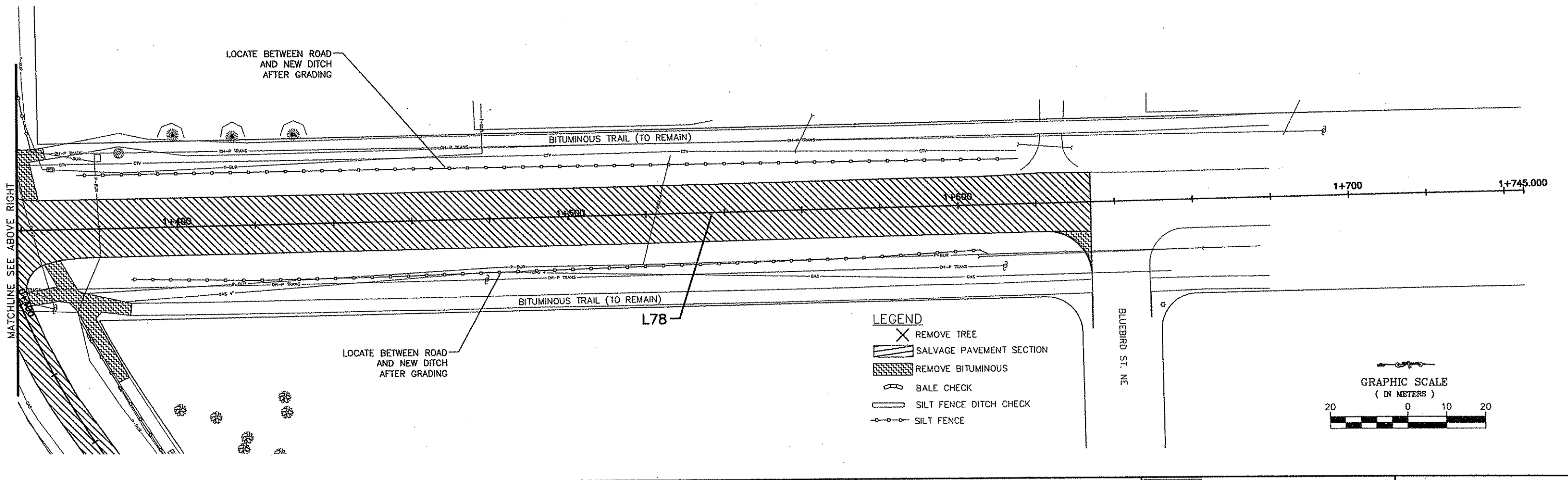
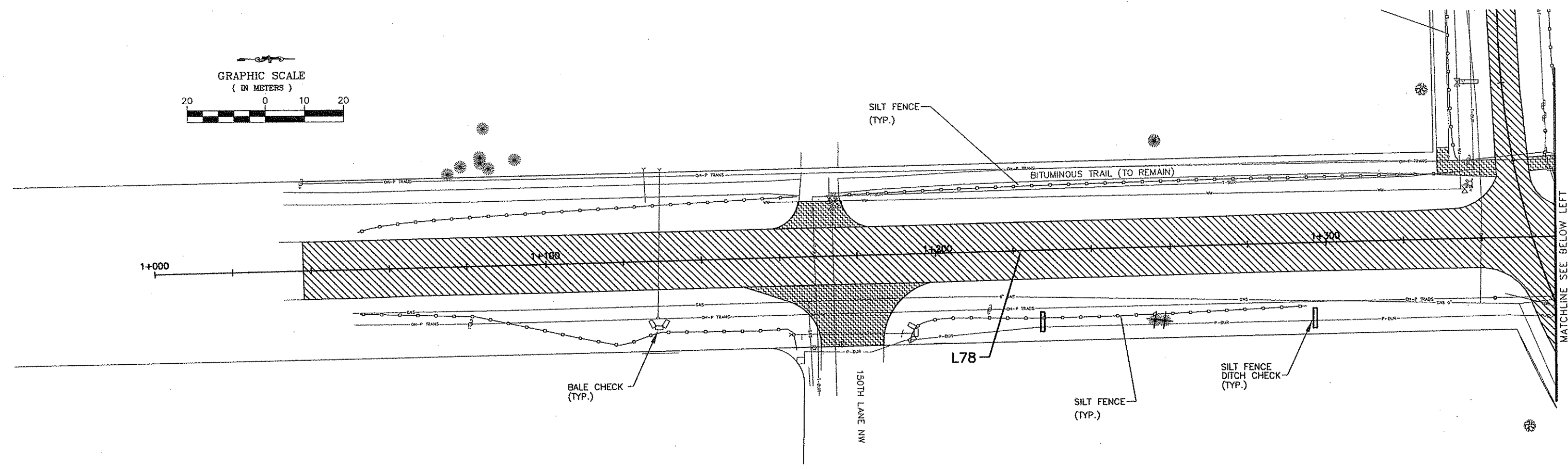
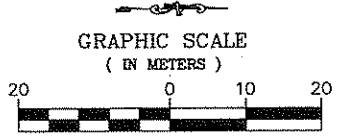
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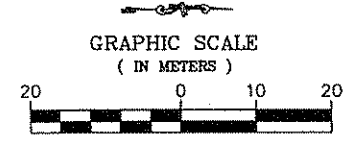
ANOKA COUNTY
HIGHWAY DEPT.

ALIGNMENT PLAN
AND TABULATION
CO. RD. 18 (CROSTOWN BLVD.)
Sheet 18 of 76 Sheets

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- LEGEND**
- REMOVE TREE
 - SALVAGE PAVEMENT SECTION
 - REMOVE BITUMINOUS
 - BALE CHECK
 - SILT FENCE DITCH CHECK
 - SILT FENCE



NO	DATE	BY	CKD	APPR	REVISION
PARSONS					
PARSONS TRANSPORTATION GROUP INC. 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA Phone: (612)332-6451 • Fax: (612)332-6160					



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James Chantrow
 DATE 4-12-02 REG. NO. 10169

DRAWN BY: SRH DATE: _____
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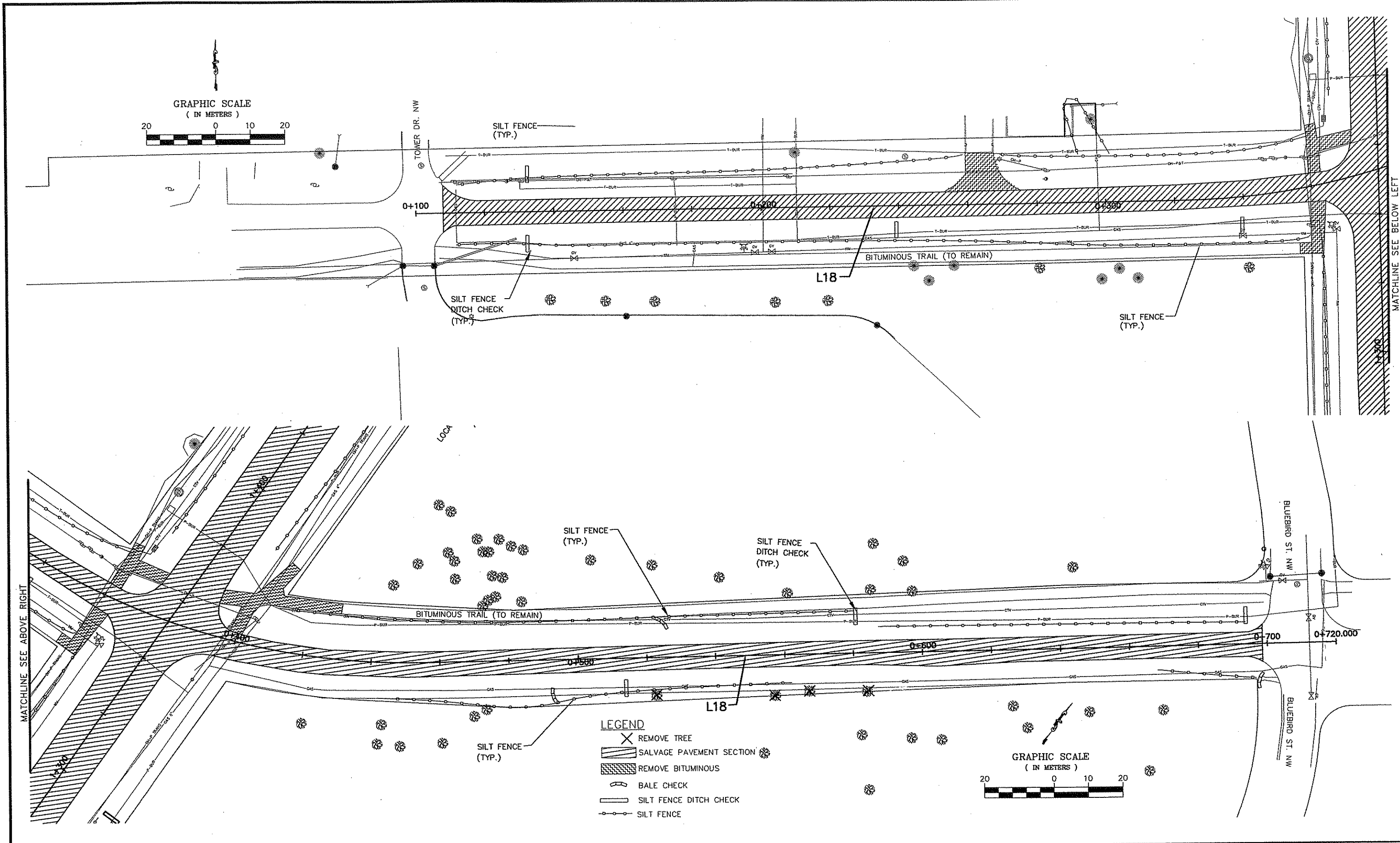
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 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

TOPO/UTILITIES/EROSION CONTROL AND REMOVAL
 C.S.A.H. 78 (HANSON BLVD.)
 Sheet 19 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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NO	DATE	BY	CHKD	APPR	REVISION



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James Chantona
 DATE 4-12-02 REG. NO. 10169

DRAWN BY SRH DATE
 DESIGN BY JCK DATE
 CHECKED BY JAG DATE

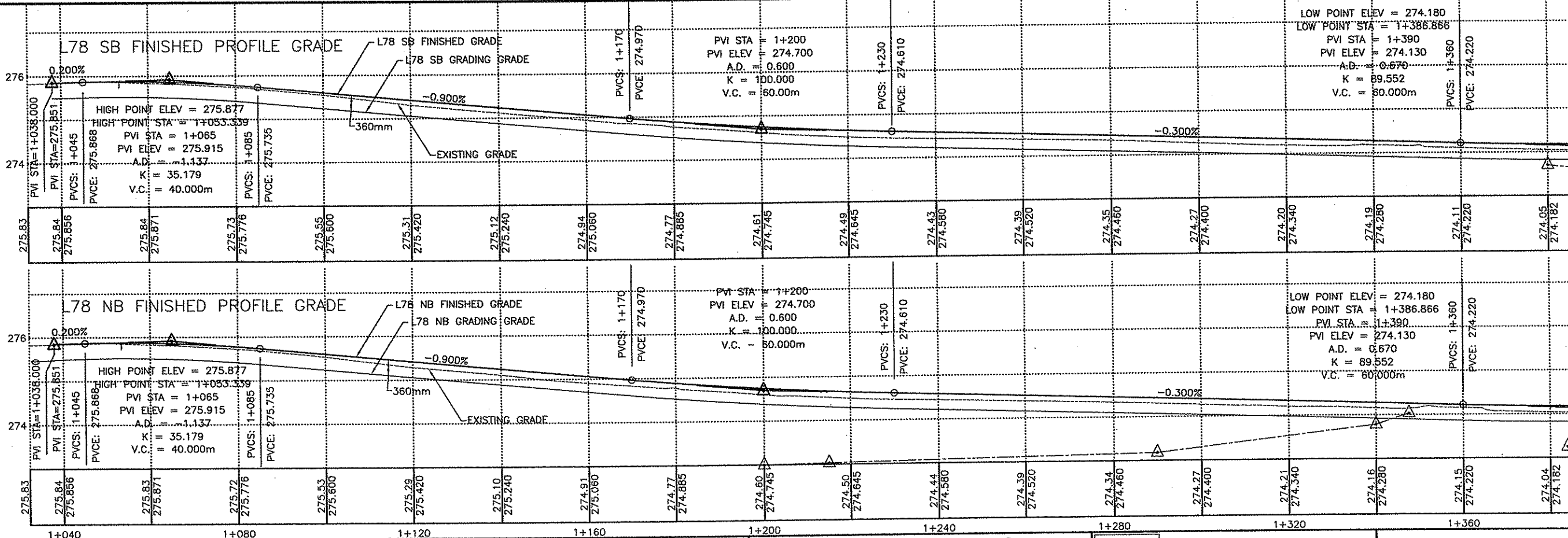
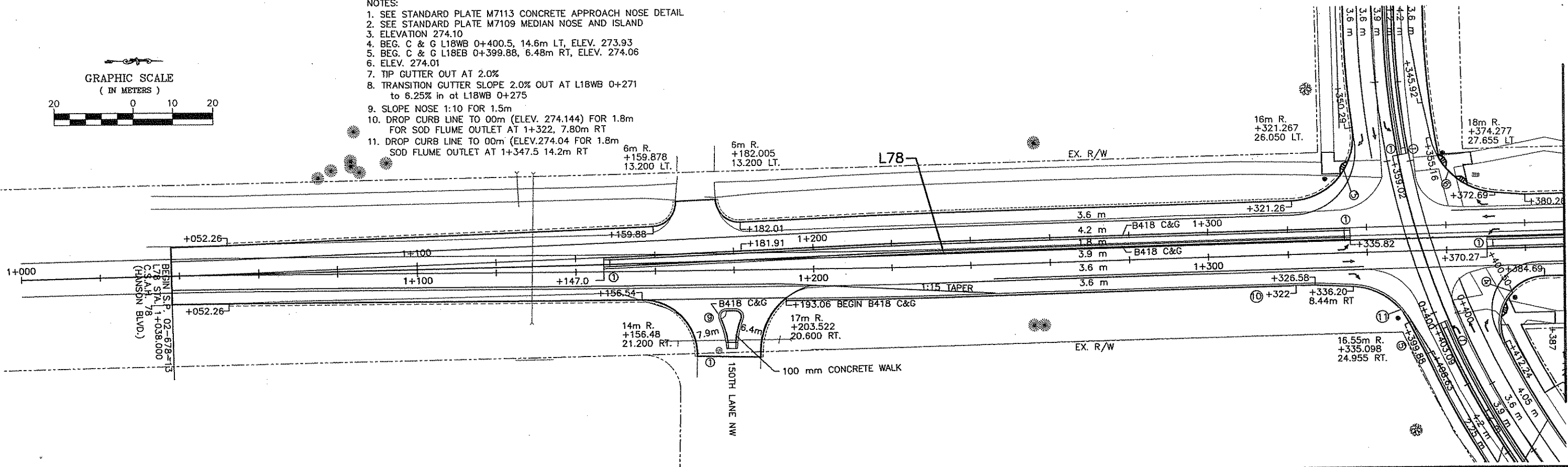
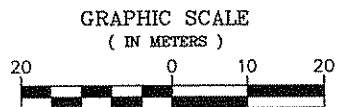
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
 HIGHWAY DEPT.

TOPO/UTILITIES/EROSION CONTROL AND REMOVAL
 CO. RD. 18 (CROSSTOWN BLVD.)
 Sheet 20 of 76 Sheets

- NOTES:
1. SEE STANDARD PLATE M7113 CONCRETE APPROACH NOSE DETAIL
 2. SEE STANDARD PLATE M7109 MEDIAN NOSE AND ISLAND
 3. ELEVATION 274.10
 4. BEG. C & G L18WB 0+400.5, 14.6m LT, ELEV. 273.93
 5. BEG. C & G L18EB 0+399.88, 6.48m RT, ELEV. 274.06
 6. ELEV. 274.01
 7. TIP GUTTER OUT AT 2.0%
 8. TRANSITION GUTTER SLOPE 2.0% OUT AT L18WB 0+271 to 6.25% in at L18WB 0+275
 9. SLOPE NOSE 1:10 FOR 1.5m
 10. DROP CURB LINE TO 00m (ELEV. 274.144) FOR 1.8m FOR SOD FLUME OUTLET AT 1+322, 7.80m RT
 11. DROP CURB LINE TO 00m (ELEV. 274.04 FOR 1.8m SOD FLUME OUTLET AT 1+347.5 14.2m RT



PARSONS TRANSPORTATION GROUP DIR. & FILENAME: R:\642632_Anoka-18ig\PlanSheets\Site-D\Layout\Plan set\7818con.dwg 4-12-02 9:50:22 am EST

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James C. Kuntz
DATE 4-12-02 REG. NO. 10169

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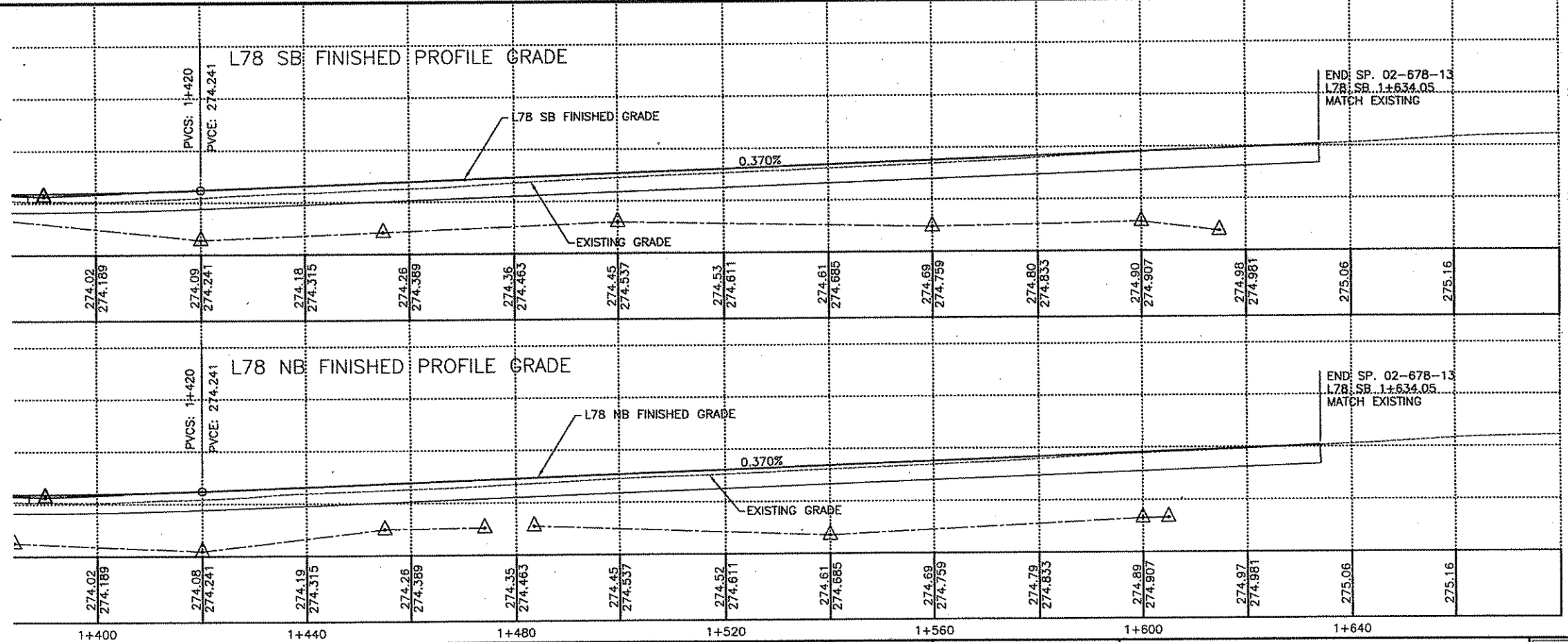
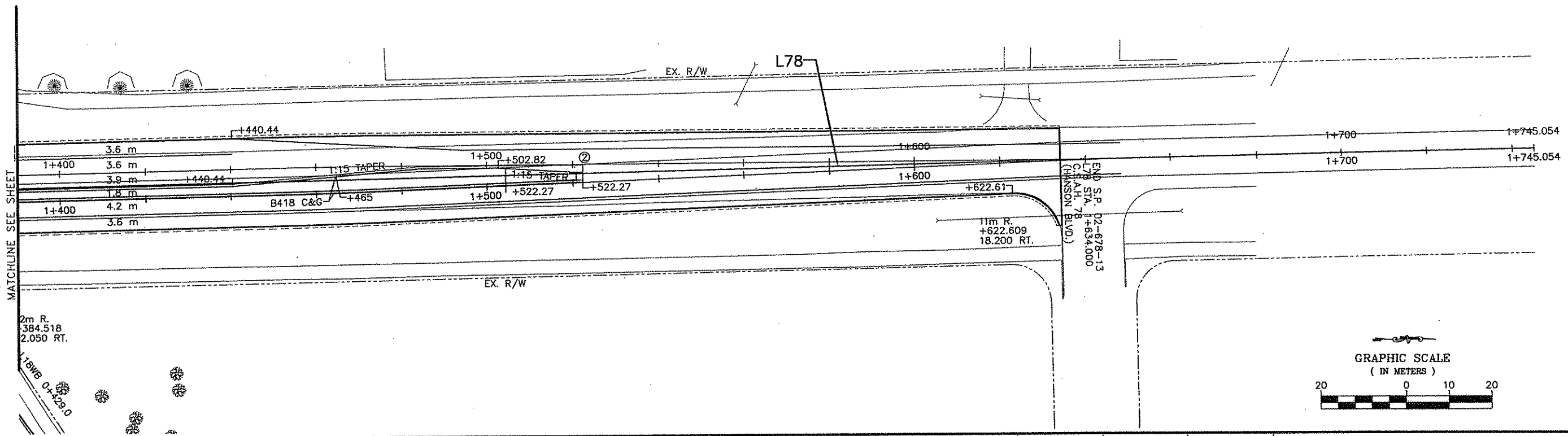
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C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
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CONSTRUCTION
PLAN AND PROFILE
L78 STA. 1+038 TO 1+390
Sheet 21 of 76 Sheets

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- NOTES:
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 - SEE STANDARD PLATE M7109 MEDIAN NOSE AND ISLAND
 - ELEVATION 274.10
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 - BEG. C & G L18EB 0+399.88, 6.48m RT, ELEV. 274.06
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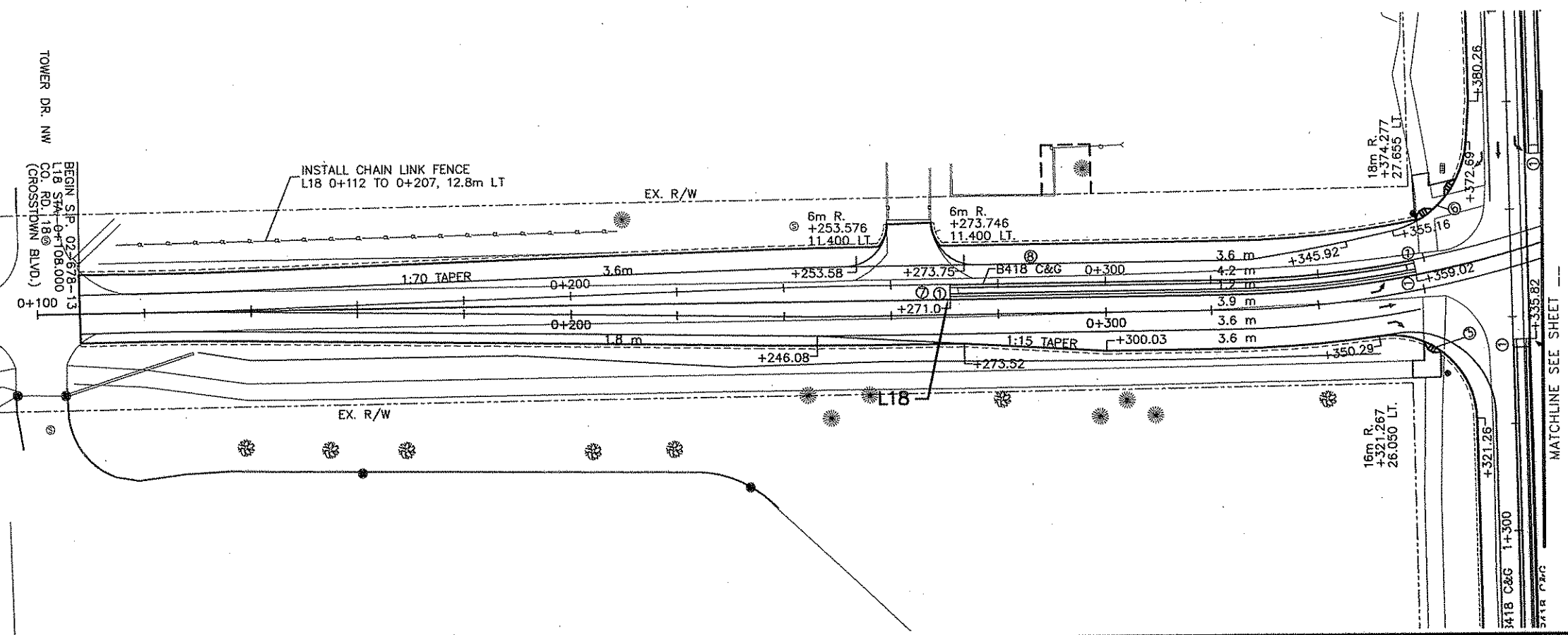
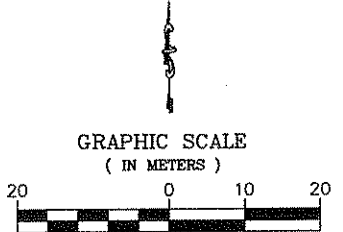
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



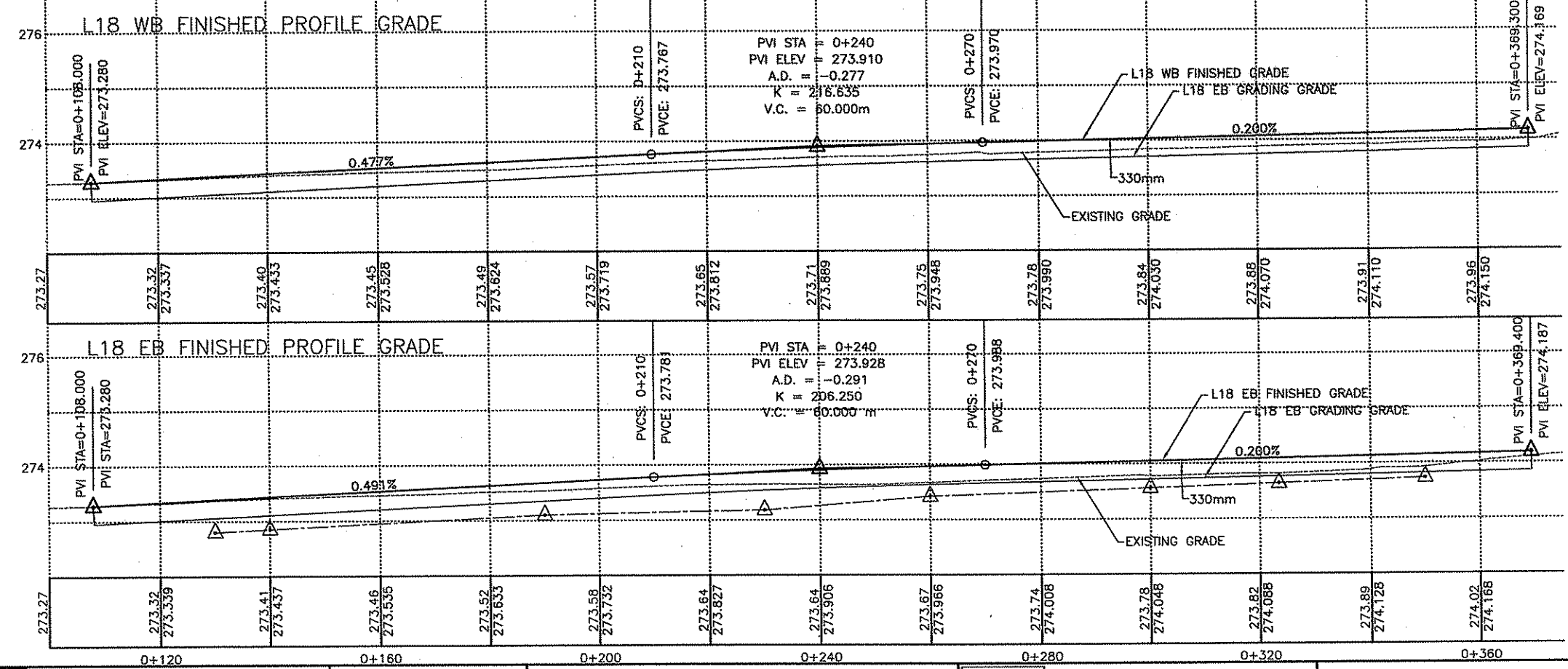
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CONSTRUCTION
 PLAN AND PROFILE
 L78 STA. 1+390 TO 1+634
 Sheet 22 of 76 Sheets

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- NOTES:
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 2. SEE STANDARD PLATE M7109 MEDIAN NOSE AND ISLAND
 3. ELEVATION 274.10
 4. BEG. C & G L18WB 0+400.5, 14.6m LT, ELEV. 273.93
 5. BEG. C & G L18EB 0+399.88, 6.48m RT, ELEV. 274.06
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James Chantoso
 DATE 4-12-02 REG. NO. 10169

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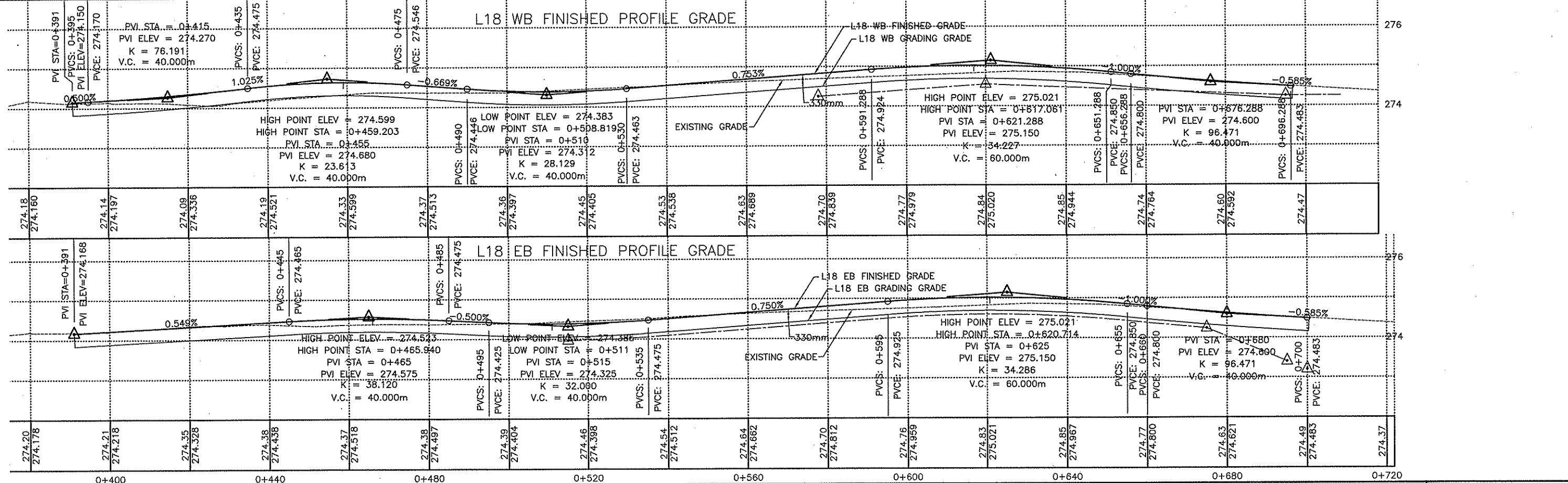
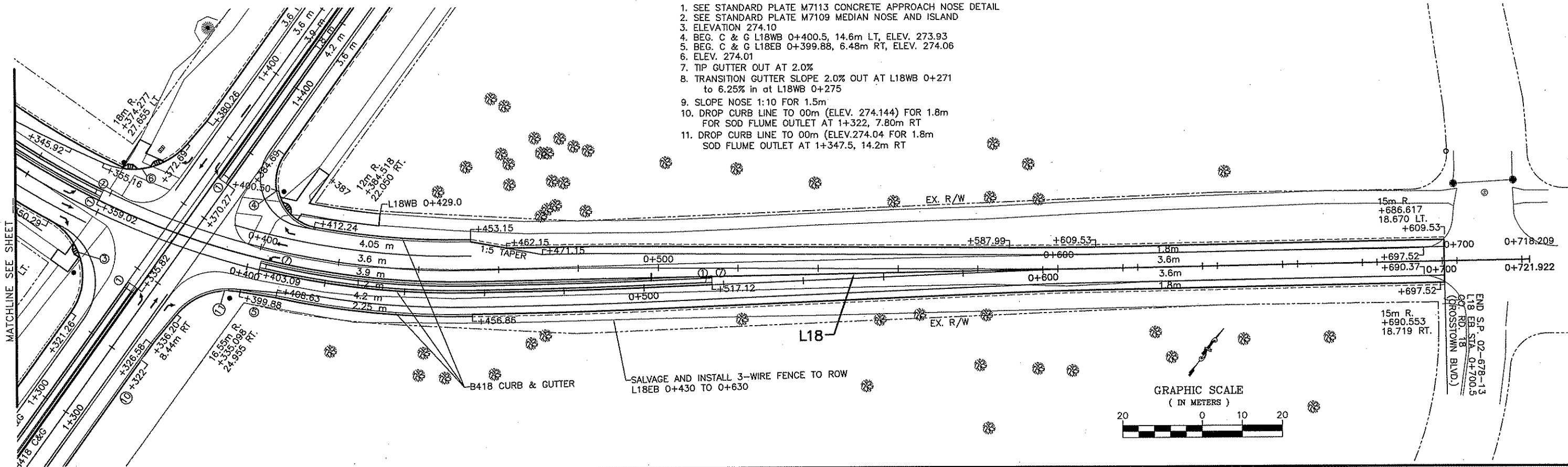
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 STATE PROJECT NO. 198-131-02
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 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
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CONSTRUCTION
 PLAN AND PROFILE
 L18 STA. 0+108 TO 0+360
 Sheet 23 of 76 Sheets

- NOTES:
1. SEE STANDARD PLATE M7113 CONCRETE APPROACH NOSE DETAIL
 2. SEE STANDARD PLATE M7109 MEDIAN NOSE AND ISLAND
 3. ELEVATION 274.10
 4. BEG. C & G L18WB 0+400.5, 14.6m LT, ELEV. 273.93
 5. BEG. C & G L18EB 0+399.88, 6.48m RT, ELEV. 274.06
 6. ELEV. 274.01
 7. TIP GUTTER OUT AT 2.0%
 8. TRANSITION GUTTER SLOPE 2.0% OUT AT L18WB 0+271 to 6.25% in at L18WB 0+275
 9. SLOPE NOSE 1:10 FOR 1.5m
 10. DROP CURB LINE TO 00m (ELEV. 274.144) FOR 1.8m FOR SOD FLUME OUTLET AT 1+322, 7.80m RT
 11. DROP CURB LINE TO 00m (ELEV.274.04 FOR 1.8m SOD FLUME OUTLET AT 1+347.5, 14.2m RT



NO	DATE	BY	CKD	APPR	REVISION

PARSONS TRANSPORTATION GROUP
111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
Phone: (612)332-0421 • Fax: (612)332-6180

minnesota metric

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DATE 5/13/02 REG. NO. 26383

DRAWN BY: SRH DATE: _____
DESIGN BY: JCK DATE: _____
CHECKED BY: JAG DATE: _____

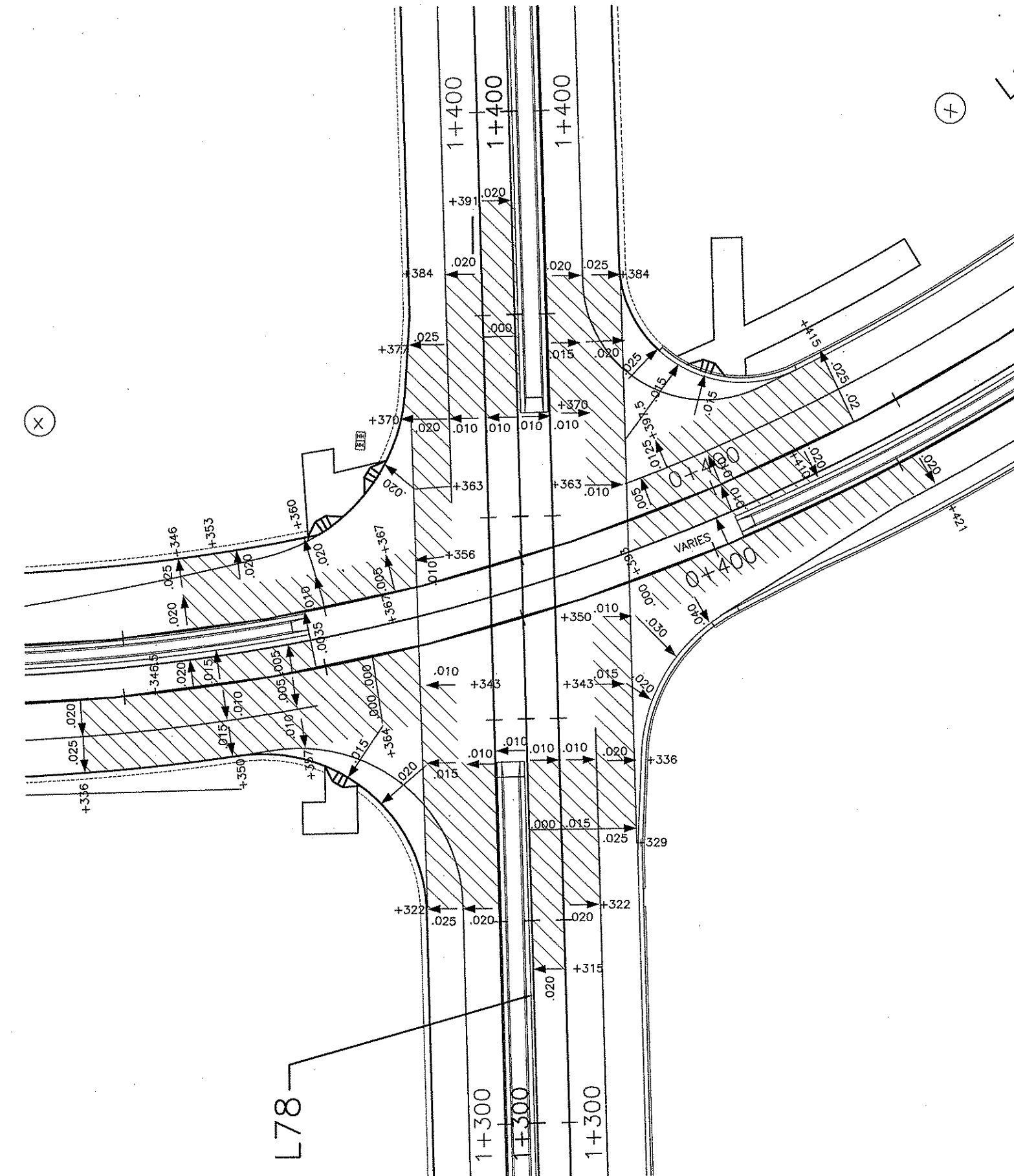
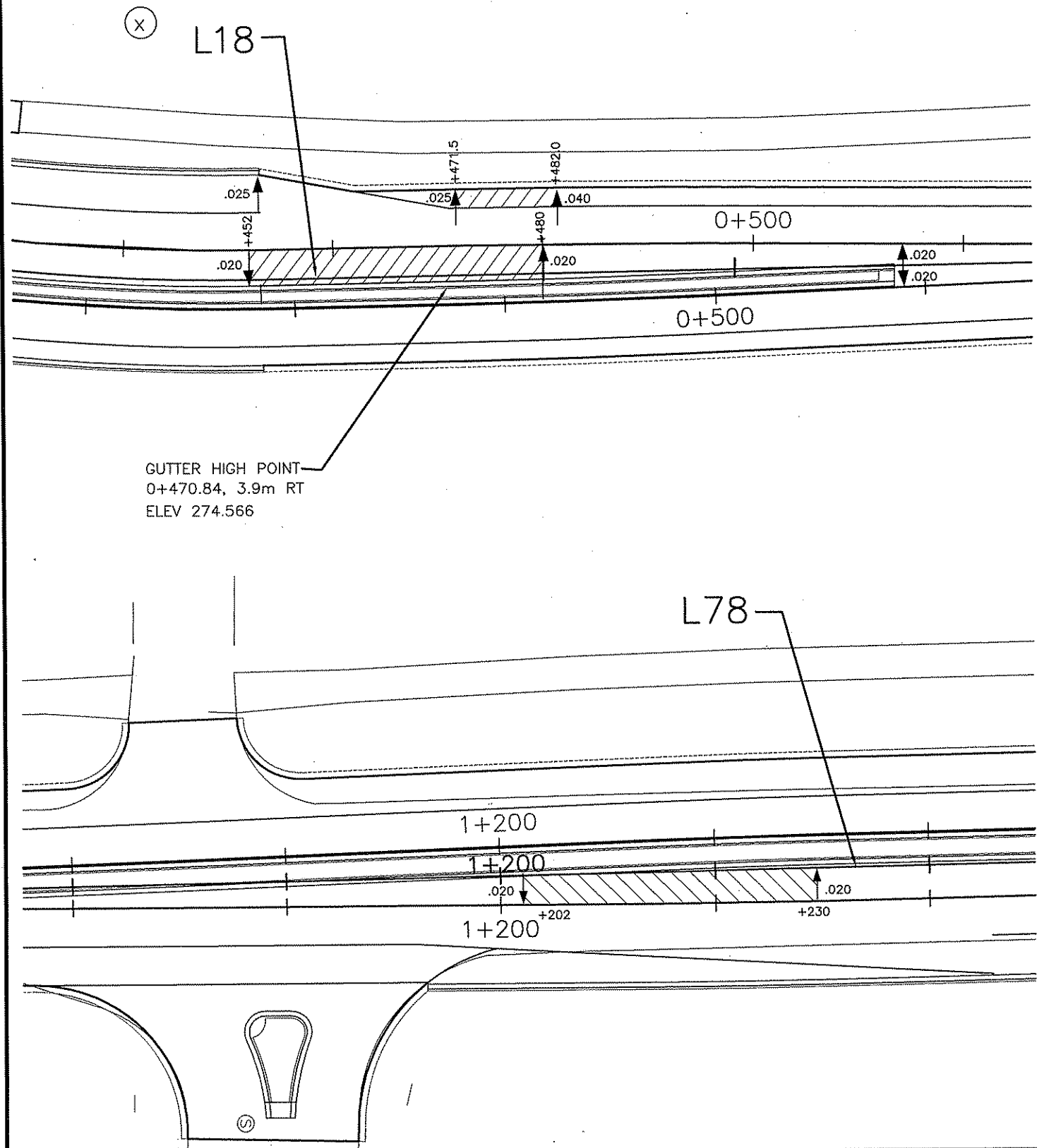
STATE PROJECT NO. 02-678-13
STATE PROJECT NO. 198-020-18
STATE PROJECT NO. 198-131-02
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C.R. 18 (CROSSTOWN BLVD. N.W.)

ANOKA COUNTY
HIGHWAY DEPT.

CONSTRUCTION PLAN AND PROFILE
L18 STA. 0+360 TO 0+700
Sheet 24 of 76 Sheets

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[Signature]
 DATE 5/13/02 REG. NO. 26383

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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
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 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
 HIGHWAY DEPT.

SUPER ELEVATION PLAN
 STA. 1+300 TO 1+400
 Sheet 25 of 76 Sheets

P INPLACE DRAINAGE TABULATION																															
STRUCT. NO.	STRUCT. TYPE	STATION	LOCATION	INPLACE TOP OF RING		FLOW LINE	FLOWS TO STRUCT.	INPLACE PIPE SEWER	PROPOSED TOP OF RING	EXISTING CASTING ASSEMBLY	NEW CASTING ASSEMBLY	ADJUST FRAME CASTING	CONNECT TO EX. STRUCTURE	ABAND. C.B.	REMOVE C.B.	REMOVE CASTING (S)	REMOVE PIPE SEWER	ABANDON PIPE SEWER	INPLACE PIPE SIZE & TYPE	REMARKS											
				ELEV	ELEV																m	ELEV	EACH	EACH	EACH	EACH	EACH	EACH	m	m	
E100	CB	L18 0+105.074	15.22 RT.	273.07																300 mm RCP	LEAVE AS IS										
E101	SA	L18 0+126.7	8.5 RT.		272.6		E102														LEAVE AS IS										
E102	CB	L18 0+096.0	15.0 RT.	273.05			WEST														LEAVE AS IS										
E103	CB	L18 0+258.7	17.0 LT.				E104														LEAVE AS IS										
E104	CB	L18 0+267.5	17.0 LT.				POND														LEAVE AS IS										
E105	CB	L18 0+701.263	19.43 LT.	274.03																	LEAVE AS IS										
E106	FES	L78NB1+128.6	12.7 RT.		272.76		POND													600 mm RCP	4										
E107	CB	L78 0+290.8	27.8 LT.	273.83	272.11		MH																								
TOTALS												0	0	0	0	0	0	0	0												

FES = CONCRETE APRON FOR RCP (DESIGN M3100)
 SA = PRECAST CONCRETE SAFETY APRON (DESIGN M3022)
 4. REMOVE APRON, EXTEND EXISTING 600mm RCP PLUS NEW APRON AND TRASH GUARD
 NEW INVERT AT APRON END 128.6 NB, 16.4m RT, ELEV 272.78

(5) DRAINAGE CASTING SCHEDULE			
ASSEMBLIES TYPE	NUMBER REQUIRED	FRAME, GRATE, CURB BOX CASTING NO.	STANDARD PLATE NO.
B-1	14	FRAME CASTING NO. 801 GRATE CASTING NO. 810 CURB BOX NO. 821B	M4126 M4149 M4161

Q DRAINAGE TABULATION (1) (2)																												
STRUCT. NO.	STATION	LOCATION	COORDINATES (3)		CONSTRUCTION			CASTING ASSEMBLY	TOP OF CASTING	INVERT	RC PIPE SEWER, DES3006 (m)						GRADE PERCENT	RIPRAP CLASS II (m3)	DRAINS TO	DRAINAGE NOTES								
			X	Y	M.H. or C.B.	DESIGN	PAY HEIGHT METERS (6)				CLASS III 300 mm	CLASS IV 300 mm	FES 300 mm	S.A. 300 mm	CLASS III 600 mm	F.E.S. 600mm												
101	L78NB 1+260	3.554 LT	878857.516	119891.049	CB	G	1.13	B-1	274.415	273.220						17.5			105									
102	L78NB 1+315	3.554 LT	878856.318	119946.036	CB	H	0.66	B-1	274.249	273.525						55.0			101	CURB BOX 821B (4161)								
103	L78SB 1+260	0.254 RT	878855.024	119891.022	CB	H	1.18	B-1	274.517	273.27	2.5								101									
104	L78SB 1+331	0.254 RT	878853.478	119961.978	CB	H	0.61	B-1	274.273	273.60						16.2			102									
105	L78NB 1+260	16.25 RT	878876.066	119891.471	FES					273.120					1			2.1	DITCH									
106	L78SB 1+387	3.554 RT	878855.558	120018.037	CB	H	0.67	B-1	274.074	273.34						2.5			107	CURB BOX 821B (4161)								
107	L78NB 1+387	0.254 LT	878858.049	120018.091	CB	H	0.76	B-1	274.146	273.320						10.7			108	CURB BOX 821B (4161)								
108	L78NB 1+387	12.30 RT	878870.600	120018.365	FES					273.250					1			2.1	DITCH									
109	L78SB 1+460	2.235 RT	878852.660	120091.018	CB	H	0.70	B-1	274.310	273.550						3.8			110									
110	L78NB 1+460	0.254 LT	878856.446	120091.121	CB	H	0.76	B-1	274.355	273.53						10.7			111									
111	L78NB 1+460	12.3 RT	878868.995	120091.460	FES					273.46					1			2.1	DITCH									
112	L18WB 0+275.5	0.254 RT	878752.174	119977.460	CB	H	0.84	B-1	273.947	273.04									113	CURB BOX 821B (4161)								
113	L18EB 0+300.4	3.554 LT	878777.095	119975.870	CB	G	1.53	B-1	273.942	272.35	28.9								E107	CURB BOX 821B (4161)								
114	NOT USED																											
115	L18EB 0+412.74	0.254 LT	878886.324	119993.060	CB	H	0.79	B-1	274.253	273.40						1.9			116	CURB BOX 821B (4161)								
116	L18WB 0+410.0	3.554 RT	878885.266	119994.650	CB	H	0.71	B-1	274.154	273.380						22.7			117	CURB BOX 821B (4161)								
117	L18WB 0+406.17	20.718 LT	878871.672	120015.087	FES					273.25					1				2.1	DITCH								
118	L18EB 0+511.0	0.254 LT	878965.957	120050.069	CB	H	0.60	B-1	274.350	273.690						18.1			119	CURB BOX 821B (4161)								
119	L18EB 0+494.0	10.000 RT	878959.302	120031.333	SA					273.59					1				2.7	DITCH								
120	L18WB 0+508.8	2.282 RT	878966.025	120052.570	CB	H	0.82	B-1	274.410	273.53						14.6			121	CURB BOX 821B (4161)								
121	L18WB 0+520.7	9.20 LT	878968.628	120068.802	SA					273.45					1				2.7	DITCH								
122	L78NB 1+128.6	16.4RT			FES					272.78						3.7		1		POND	CONNECT TO EXISTING PIPE							
TOTALS										11.8	14																	
TOTALS										G 2.7																		
TOTALS										H 9.1																		

FES = CONCRETE APRON FOR RCP (DESIGN M3100)
 SA = PRECAST CONCRETE SAFETY APRON (DESIGN M3022)
 5. CASTING ASSEMBLY B-1 DOES NOT INCLUDE A CURB BOX UNLESS CALLED FOR AT A LOW POINT (9 CURB BOXES)
 6. PAY HEIGHT = (T/C - INVERT) - CASTING + BASE

DRAINAGE NOTES:
 (1) SEE DRAINAGE PLAN AND PROFILE SHEETS FOR DETAILS.
 (2) FIELD VERIFY ALL ELEVATIONS AND LOCATIONS PRIOR TO CONSTRUCTION.
 (3) COORDINATES, STATION AND OFFSETS ARE GIVEN TO CENTER OF CASTINGS, WHICH IS 0.346m FROM FACE OF CURB.

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[Signature]
 DATE 5/13/02 REG. NO. 26383

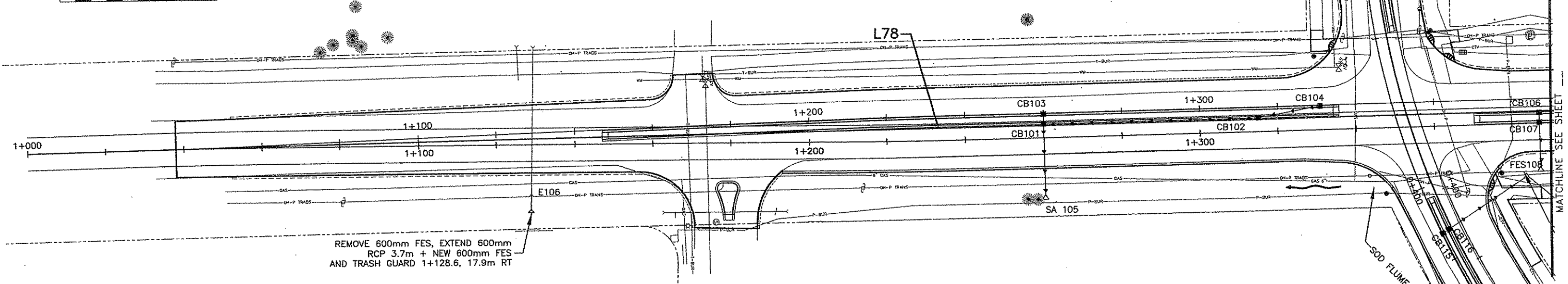
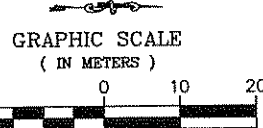
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 C.S.A.H. 78 (HANSON BLVD.) ©
 C.R. 18 (CROSSTOWN BLVD. N.W.)

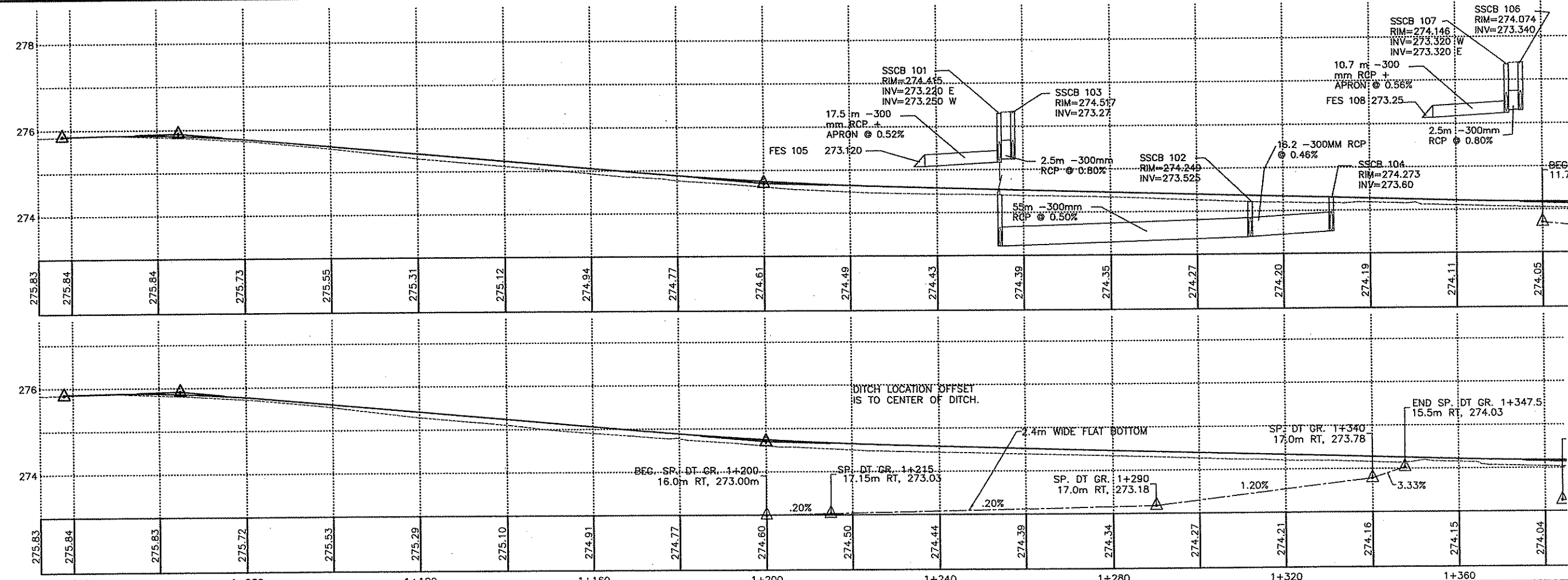


ANOKA COUNTY
 HIGHWAY DEPT.

DRAINAGE TABULATION
 Sheet 26 of 76 Sheets



REMOVE 600mm FES, EXTEND 600mm RCP 3.7m + NEW 600mm FES AND TRASH GUARD 1+128.6, 17.9m RT



275.83	275.84	275.84	275.73	275.55	275.31	275.12	274.94	274.77	274.61	274.49	274.43	274.39	274.35	274.27	274.20	274.19	274.11	274.05
1+040	1+080	1+120	1+160	1+200	1+240	1+280	1+320	1+360										

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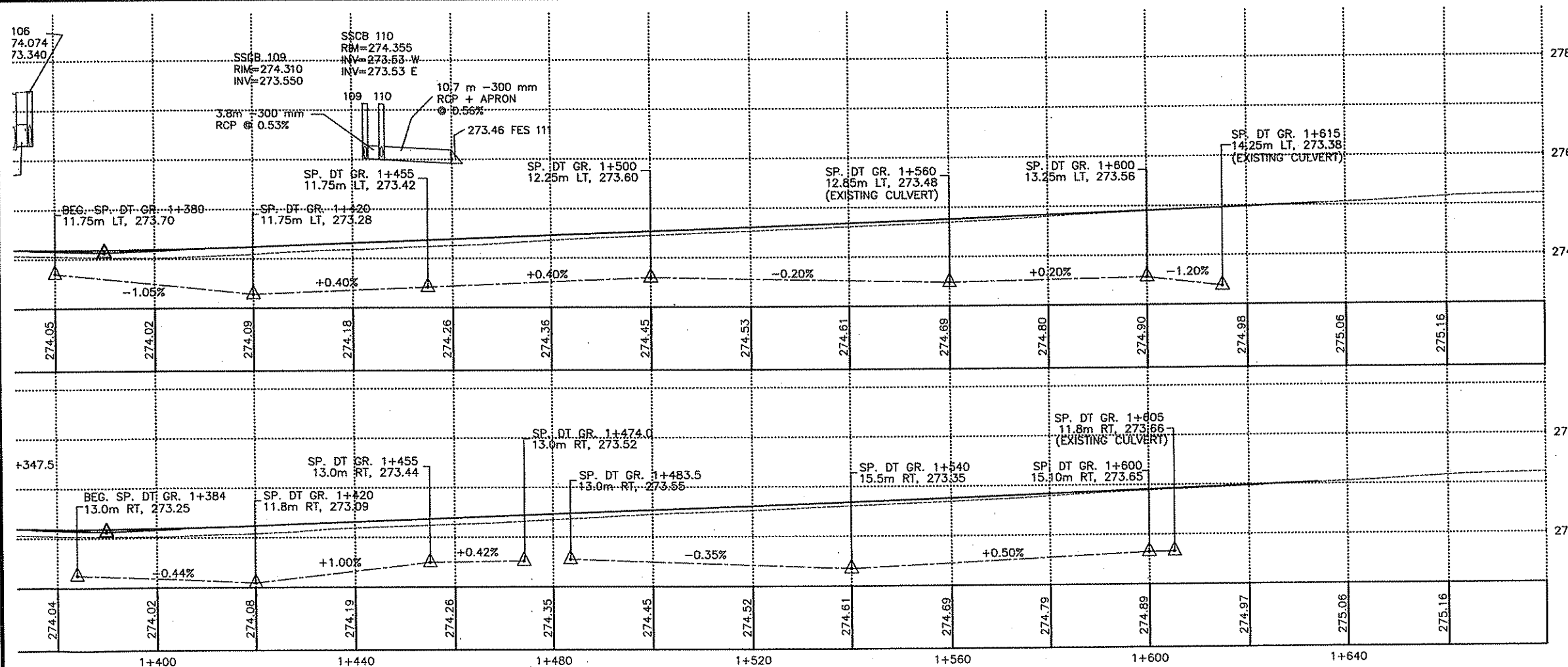
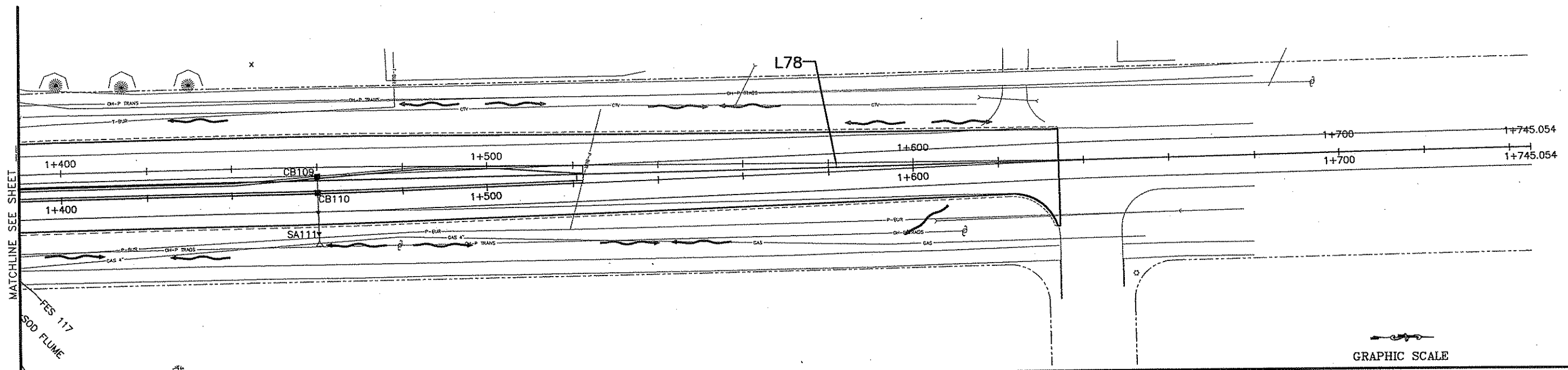
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ANOKA COUNTY
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DRAINAGE
PLAN AND PROFILE
L78 STA. 1+038 TO 1+390
Sheet 27 of 76 Sheets

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NOTES:
 1. DITCH OFFSETS TO CENTER OF 1.5m FLAT DITCH.

NO	DATE	BY	CKD	APPR	REVISION

PARSONS
 PARSONS TRANSPORTATION GROUP INC.
 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
 Phone: (612)332-0421 • Fax: (612)332-0180



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James R. Knudsen
 DATE: 4-12-02 REG. NO. 10169

DRAWN BY: SRH DATE: _____
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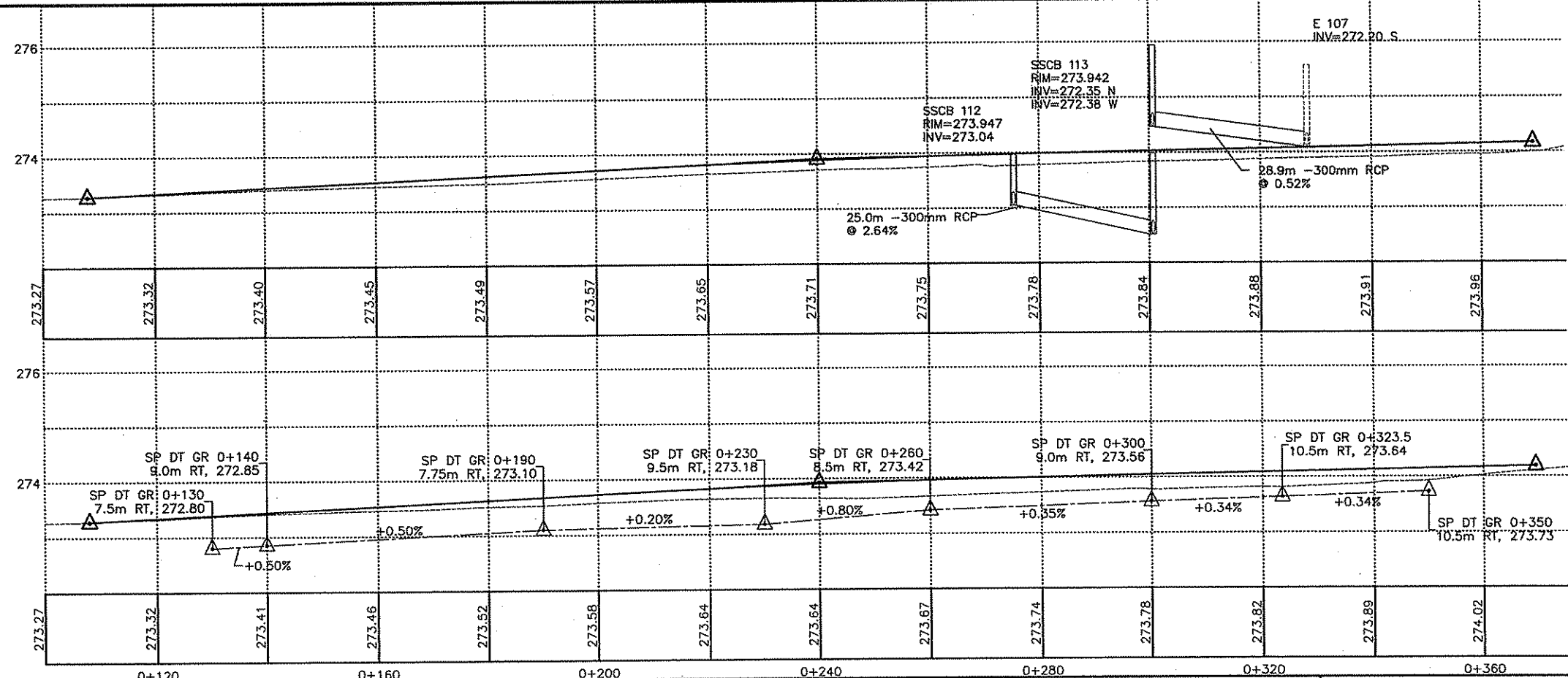
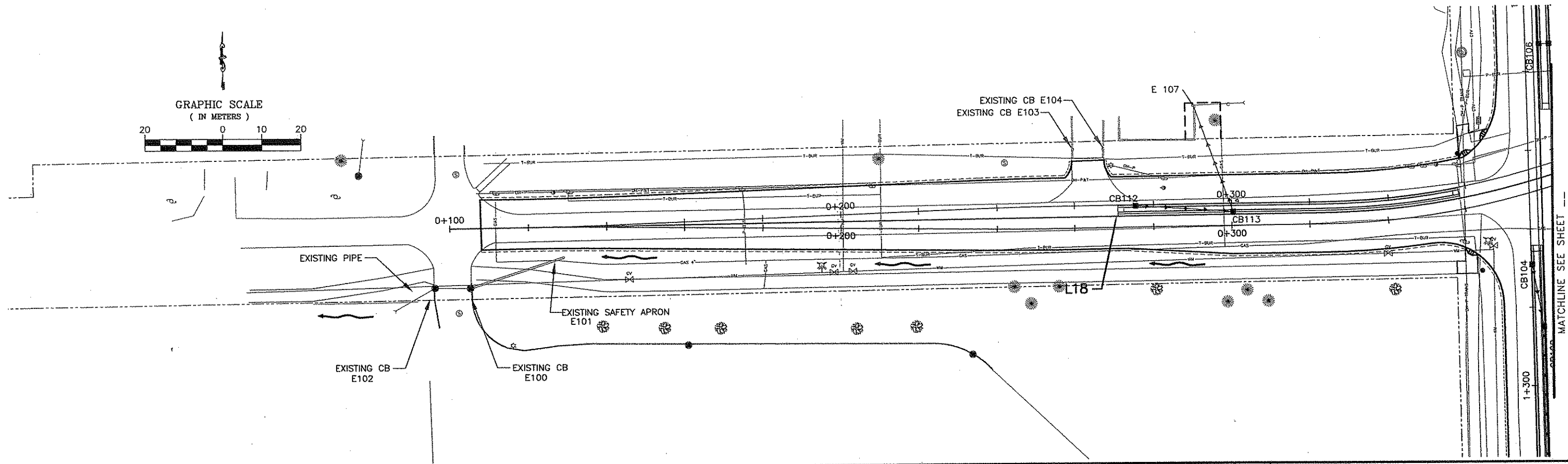
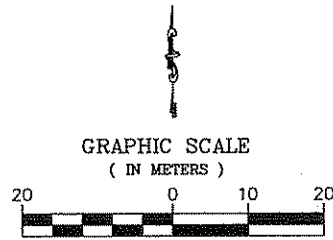
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ANOKA COUNTY
HIGHWAY DEPT.

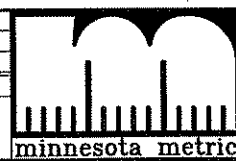
DRAINAGE PLAN AND PROFILE
 L78 STA. 1+390 TO 1+634
 Sheet 28 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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PARSONS
 PARSONS TRANSPORTATION GROUP INC.
 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
 Phone: (612)332-0121 • Fax: (612)332-6190



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
James O. Knutson
 DATE 4-12-02 REG. NO. 10169

DRAWN BY SRH DATE
 DESIGN BY JCK DATE
 CHECKED BY JAG DATE

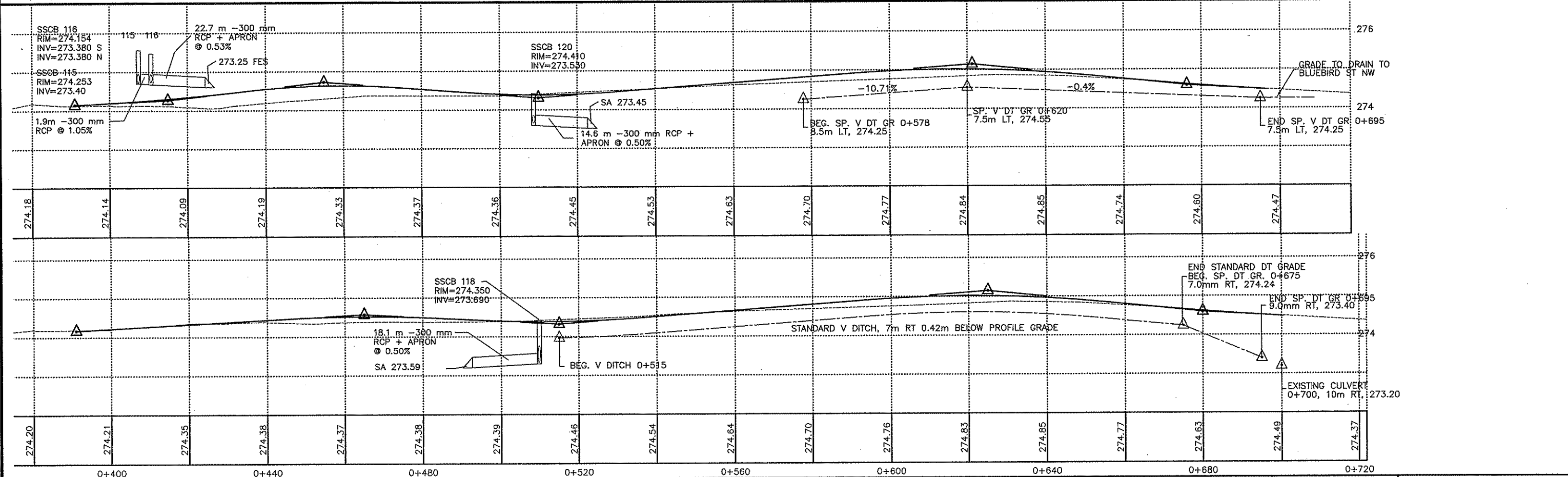
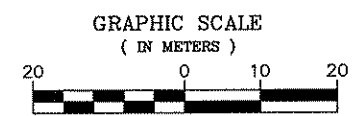
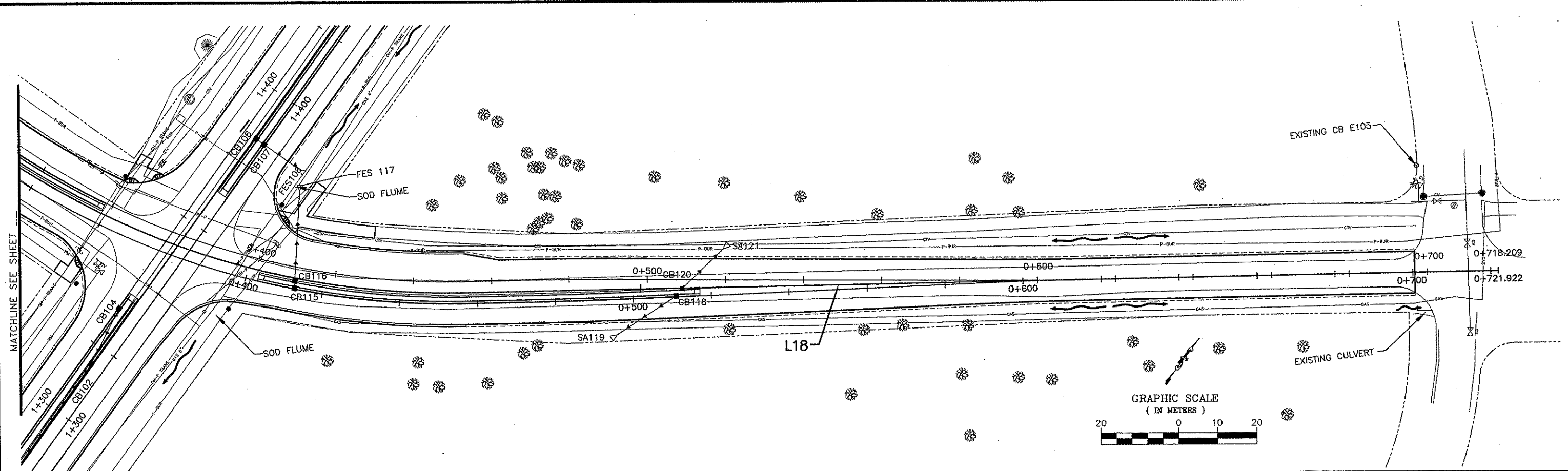
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



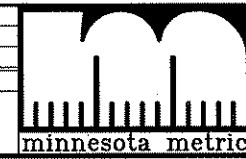
ANOKA COUNTY
HIGHWAY DEPT.

DRAINAGE
PLAN AND PROFILE
 L18 STA. 0+108 TO 0+360
 Sheet 29 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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 DATE 5/13/02 REG. NO. 26383

DRAWN BY SRH DATE
 DESIGN BY JCK DATE
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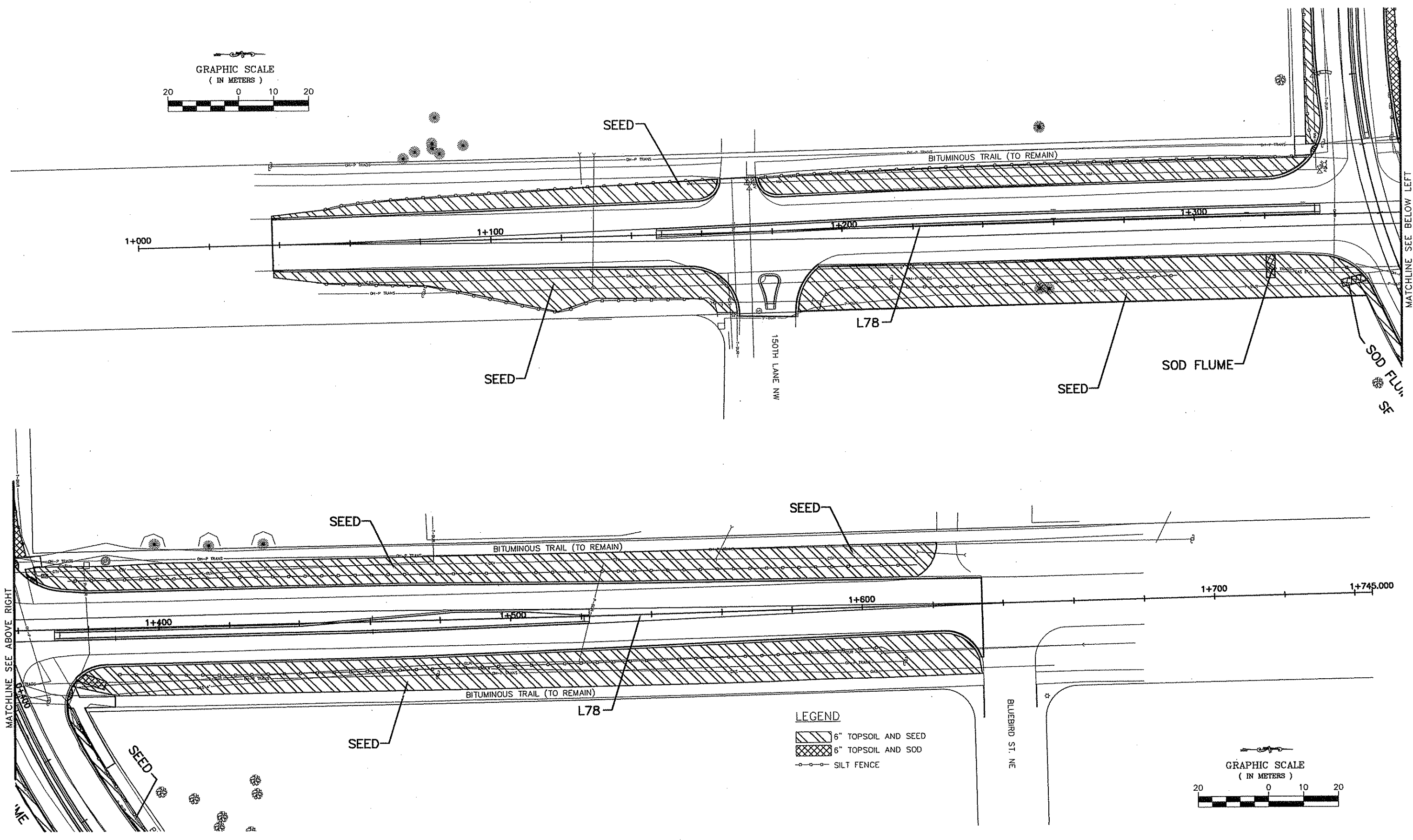
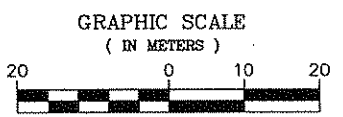
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



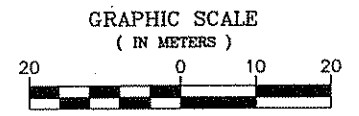
ANOKA COUNTY
HIGHWAY DEPT.

DRAINAGE PLAN AND PROFILE
 L18 STA. 0+360 TO 0+700
 Sheet 30 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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- LEGEND**
- 6" TOPSOIL AND SEED
 - 6" TOPSOIL AND SOD
 - SILT FENCE



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James C. Knutson
 DATE 4-12-02 REG. NO. 10159

DRAWN BY: SRH DATE _____
 DESIGN BY: JCK DATE _____
 CHECKED BY: JAG DATE _____

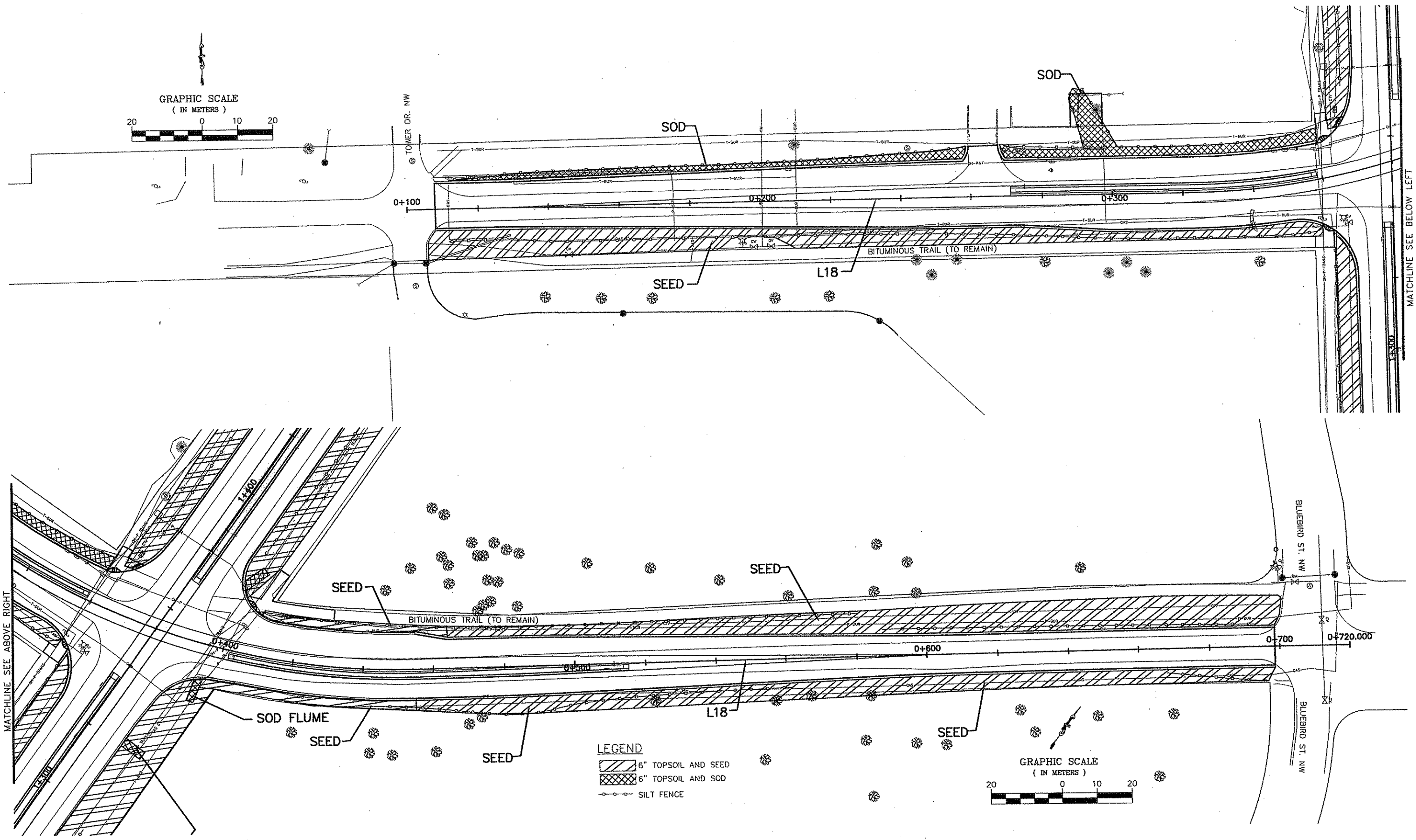
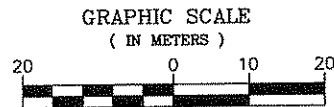
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 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



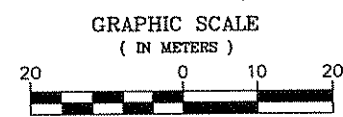
ANOKA COUNTY
HIGHWAY DEPT.

TURFING PLAN
 C.S.A.H. 78 (HANSON BLVD.)
 Sheet 31 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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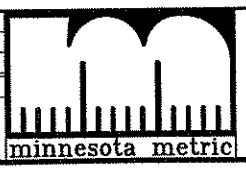


- LEGEND**
- 6" TOPSOIL AND SEED
 - 6" TOPSOIL AND SOD
 - SILT FENCE



NO	DATE	BY	CKD	APPR	REVISION

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 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
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James C. Knutson
 DATE 4-12-02 REG. NO. 10169

DRAWN BY SRH DATE _____
 DESIGN BY JCK DATE _____
 CHECKED BY JAG DATE _____

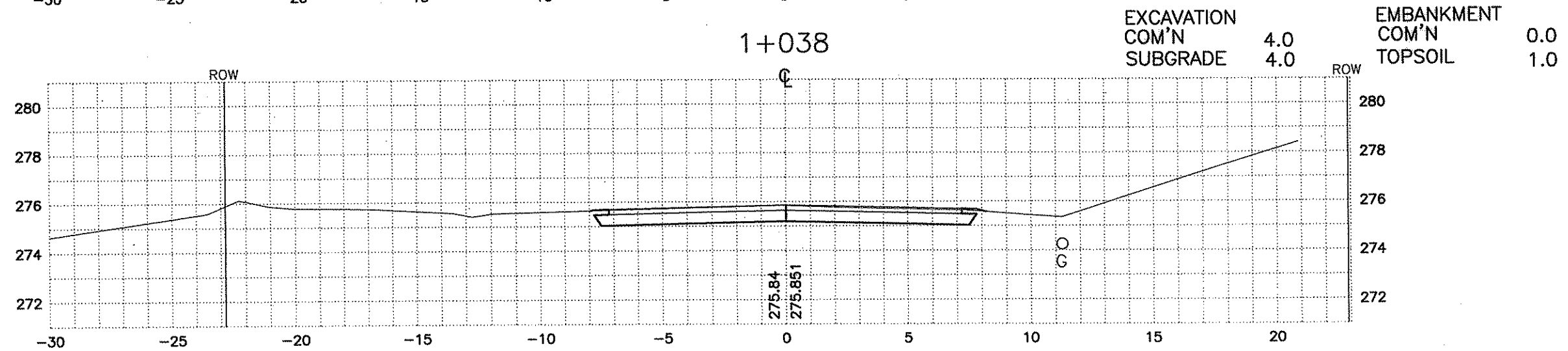
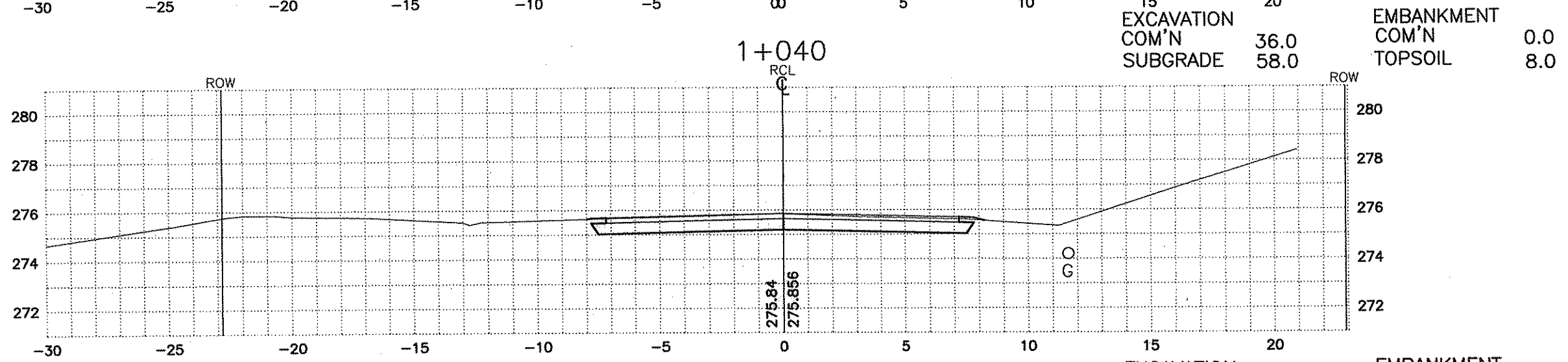
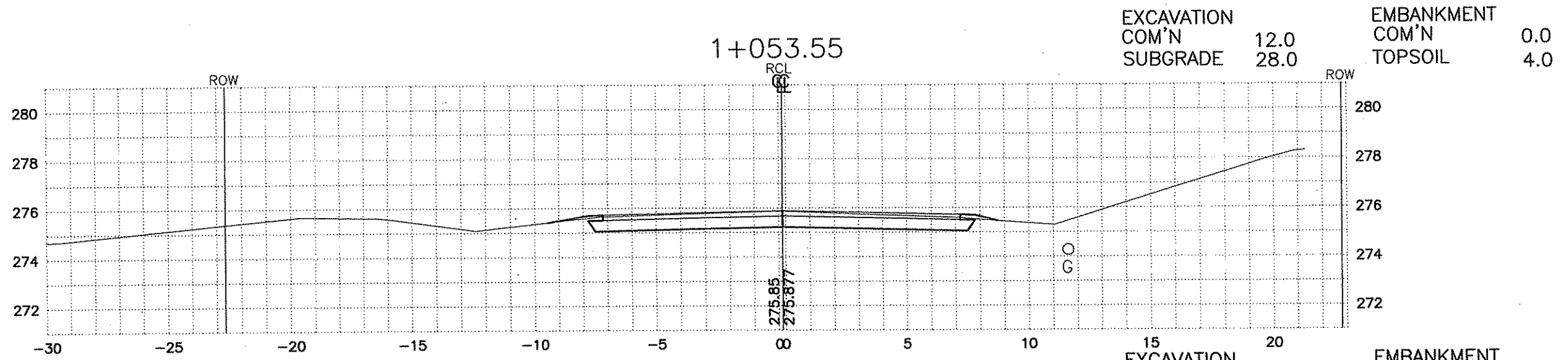
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 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
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TURFING PLAN
 CO. RD. 18 (CROSSTOWN BLVD.)
 Sheet 32 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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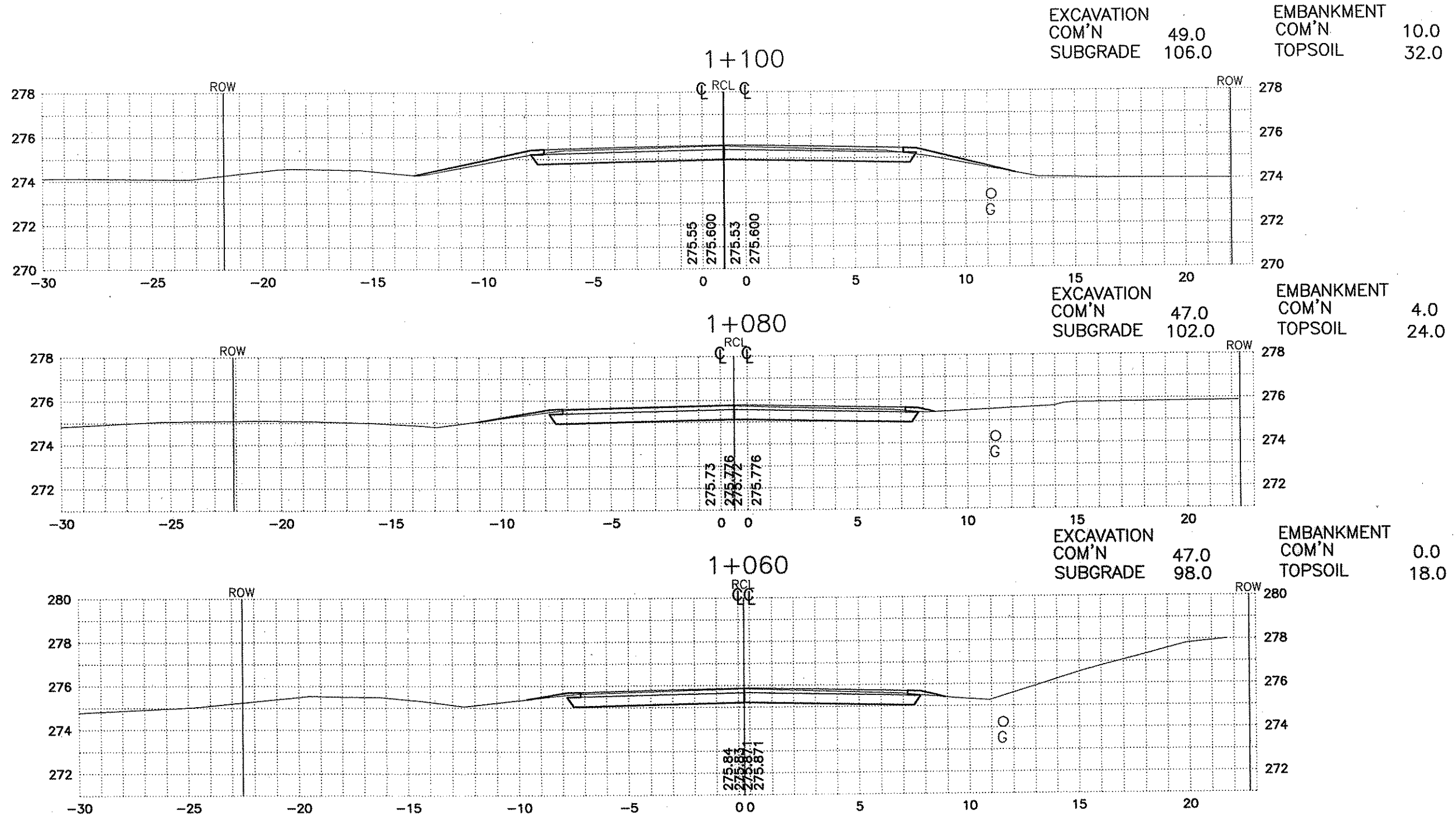
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 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
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CROSS SECTIONS
 STA. 1+038 TO STA. 1+053.55
 Sheet 33 of 76 Sheets

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 DIR & FILENAME: R:\642632.Anoka-Tsig\PlanSheets\Site-D\Layout\Plan set\78-xs-10-NB.dwg 4-12-02 9:55:55 am EST



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DATE _____ REG. NO. 10169

DRAWN BY SRH DATE _____
 DESIGN BY JCK DATE _____
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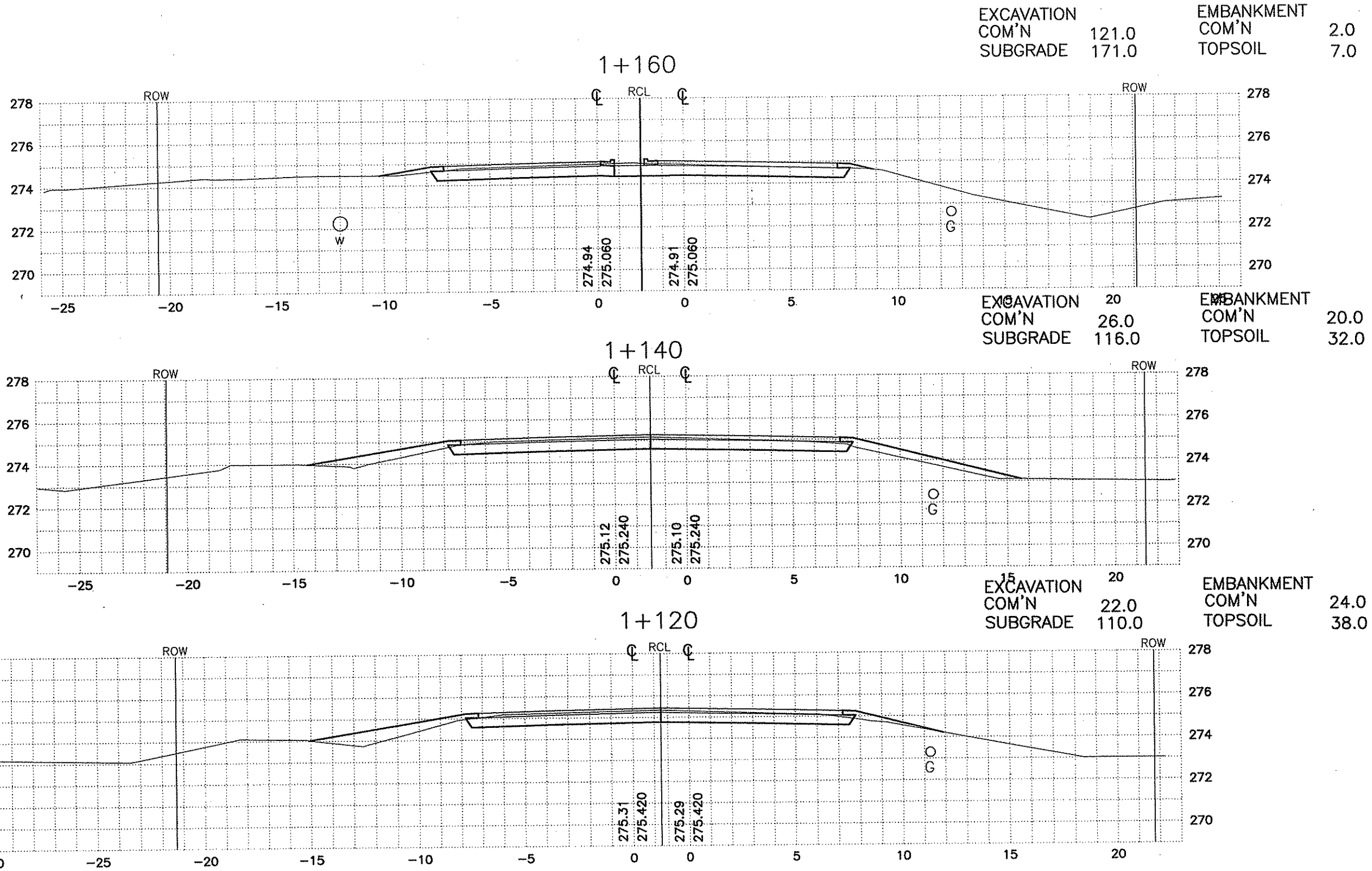
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

CROSS SECTIONS
 STA. 1+060 TO STA. 1+100
 Sheet 34 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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DATE _____ REG. NO. 10169

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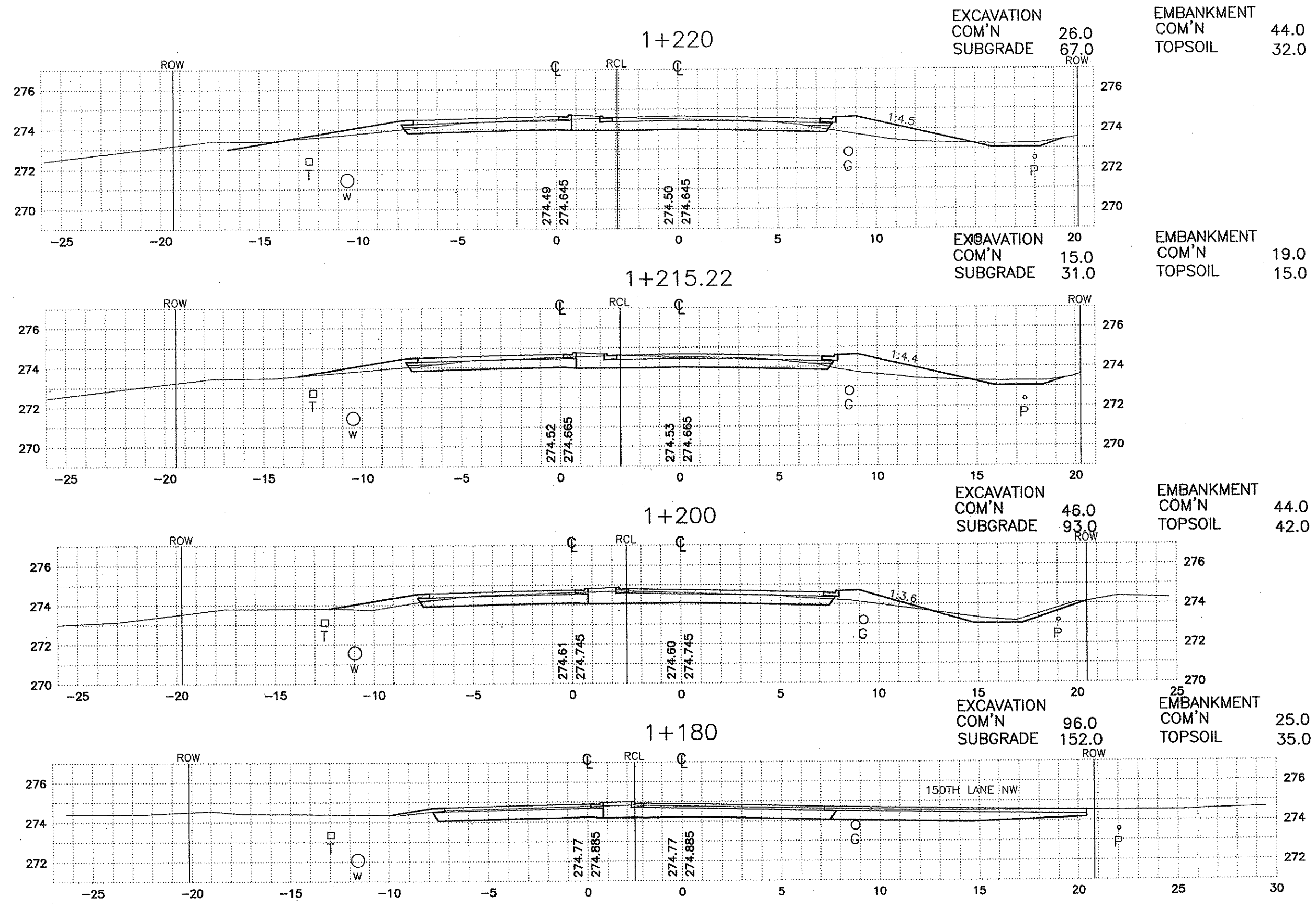
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 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
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CROSS SECTIONS
 STA. 1+120 TO STA. 1+160
 Sheet 35 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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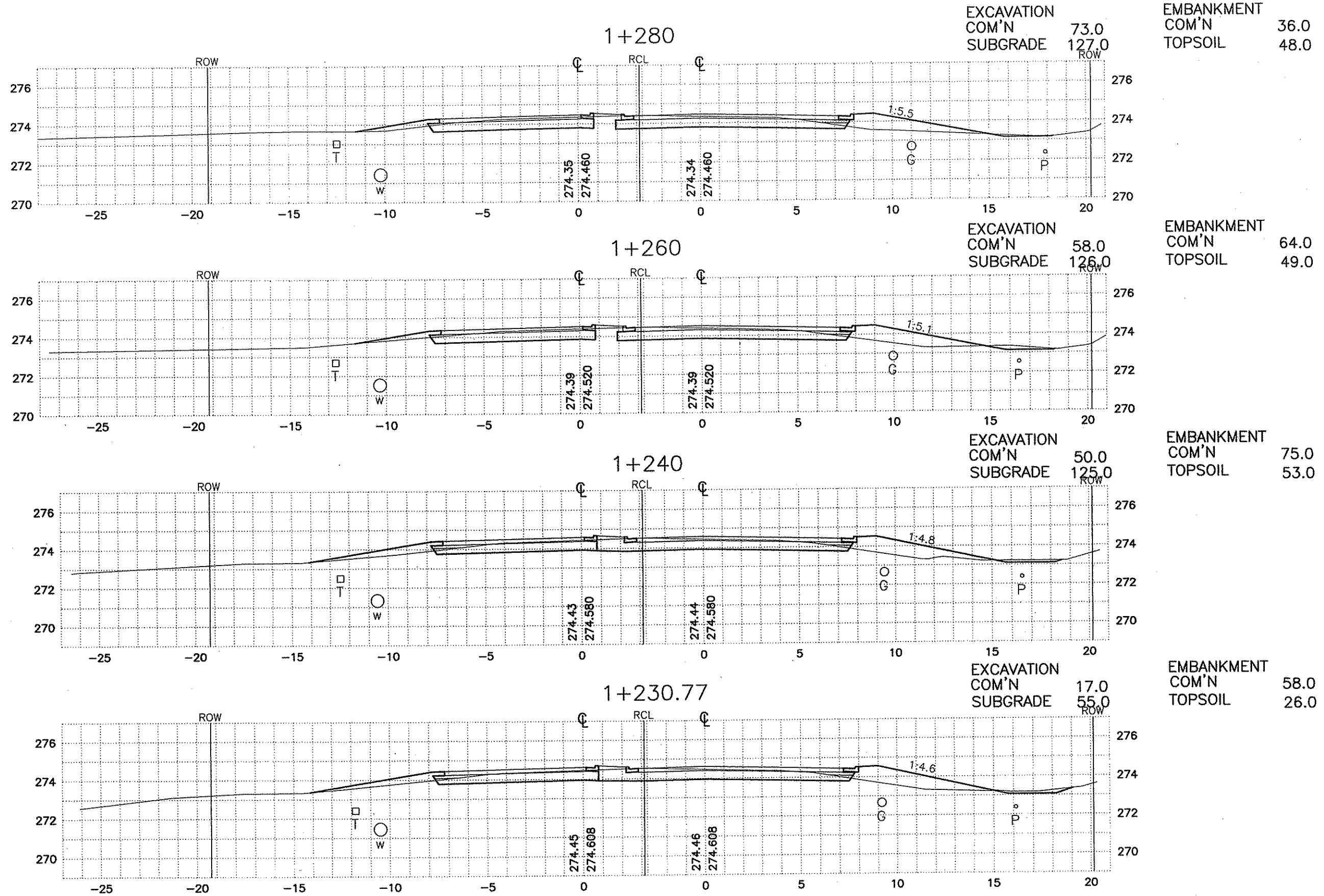
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 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

CROSS SECTIONS
 STA. 1+180 TO STA. 1+220
 Sheet 36 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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NO	DATE	BY	CHKD	APPR	REVISION

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DATE _____ REG. NO. 10159

DRAWN BY: SRH DATE _____
 DESIGN BY: JCK DATE _____
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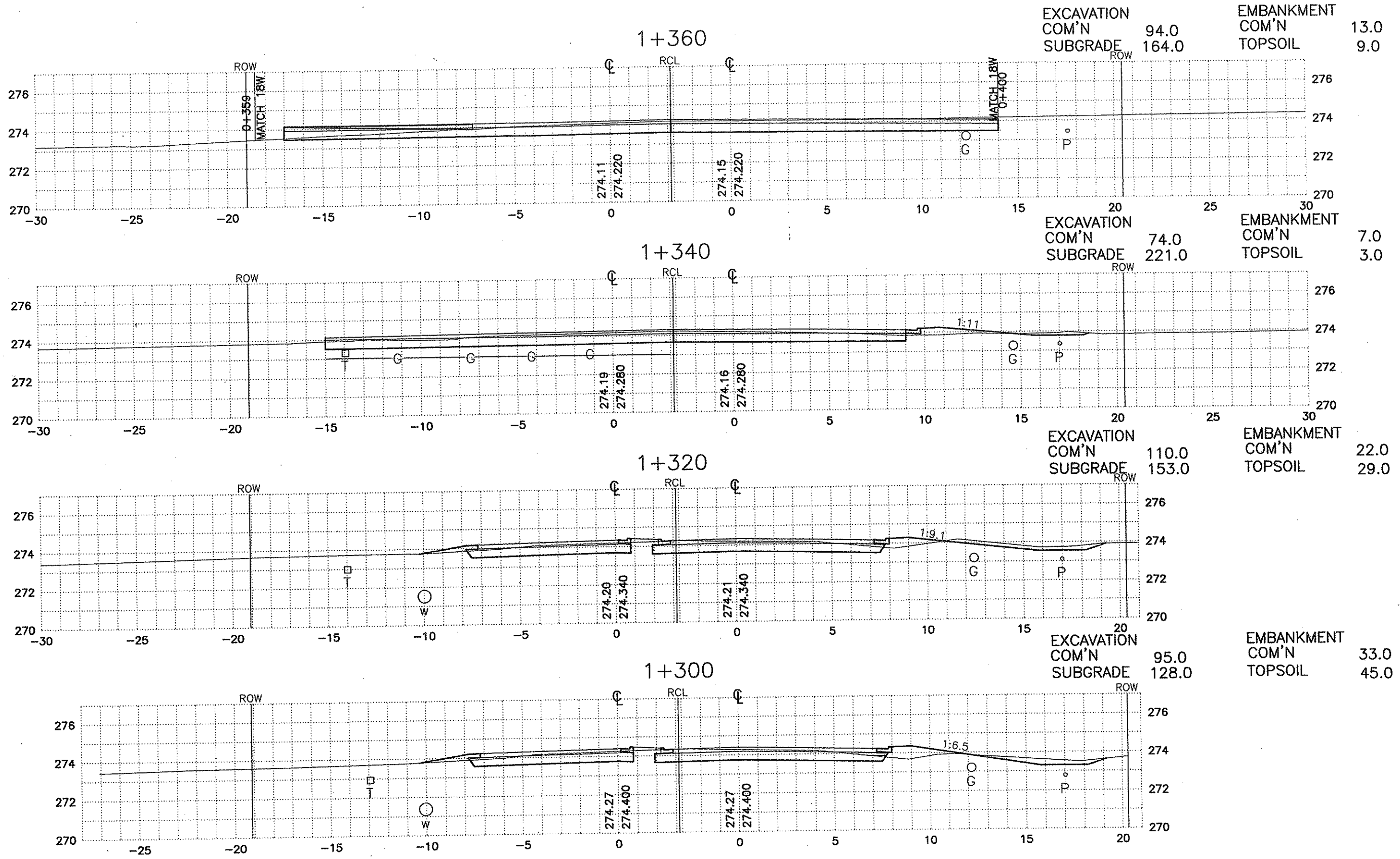
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

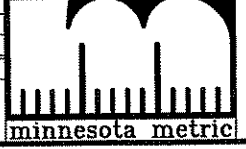
CROSS SECTIONS
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 Sheet 37 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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 111 Third Avenue South, Suite 300 • Minneapolis, Minnesota 55401 USA
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DATE _____ REG. NO. 10169

DRAWN BY: SRH DATE _____
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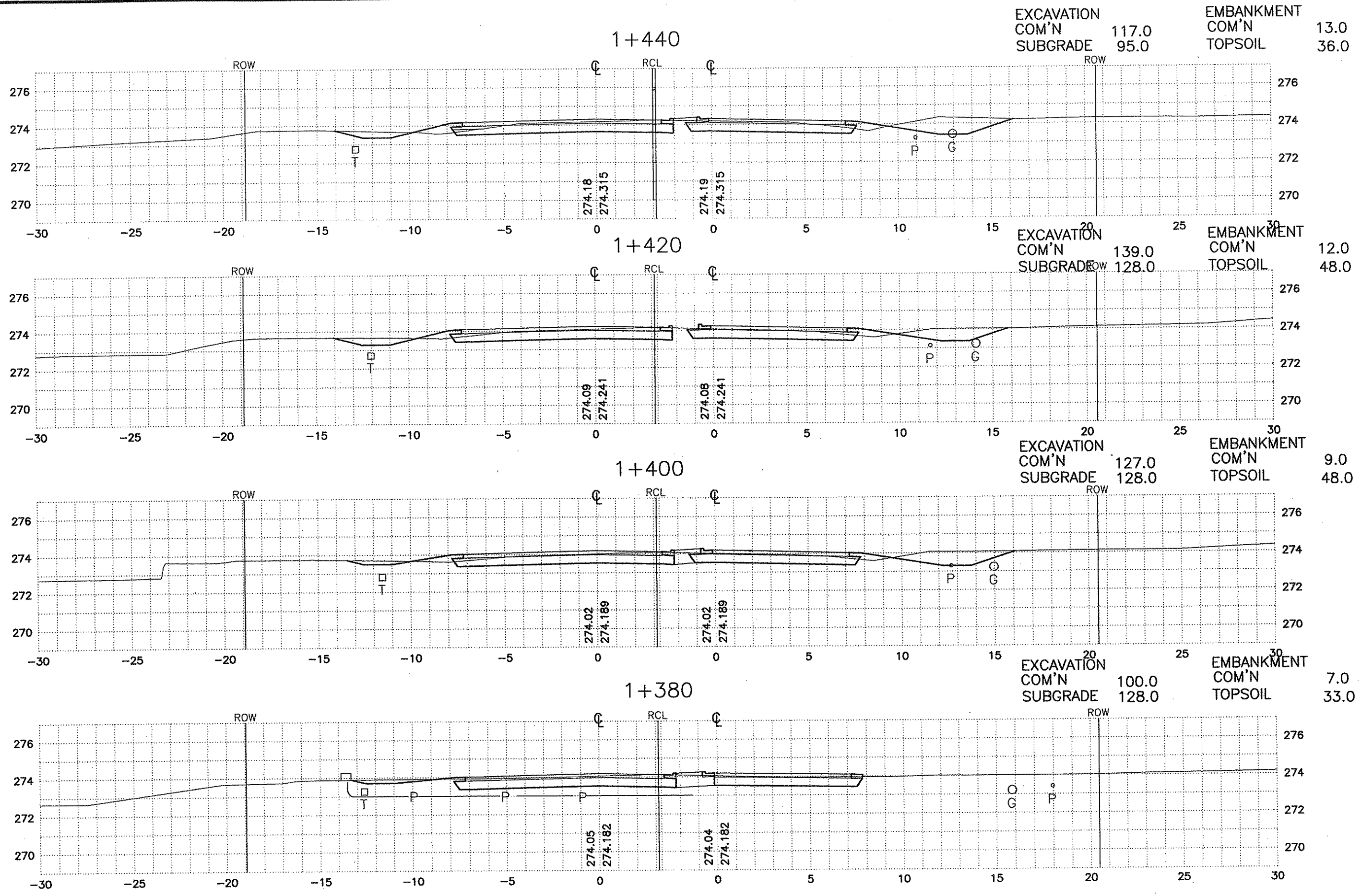
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 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
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CROSS SECTIONS
 STA. 1+300 TO STA. 1+360
 Sheet 38 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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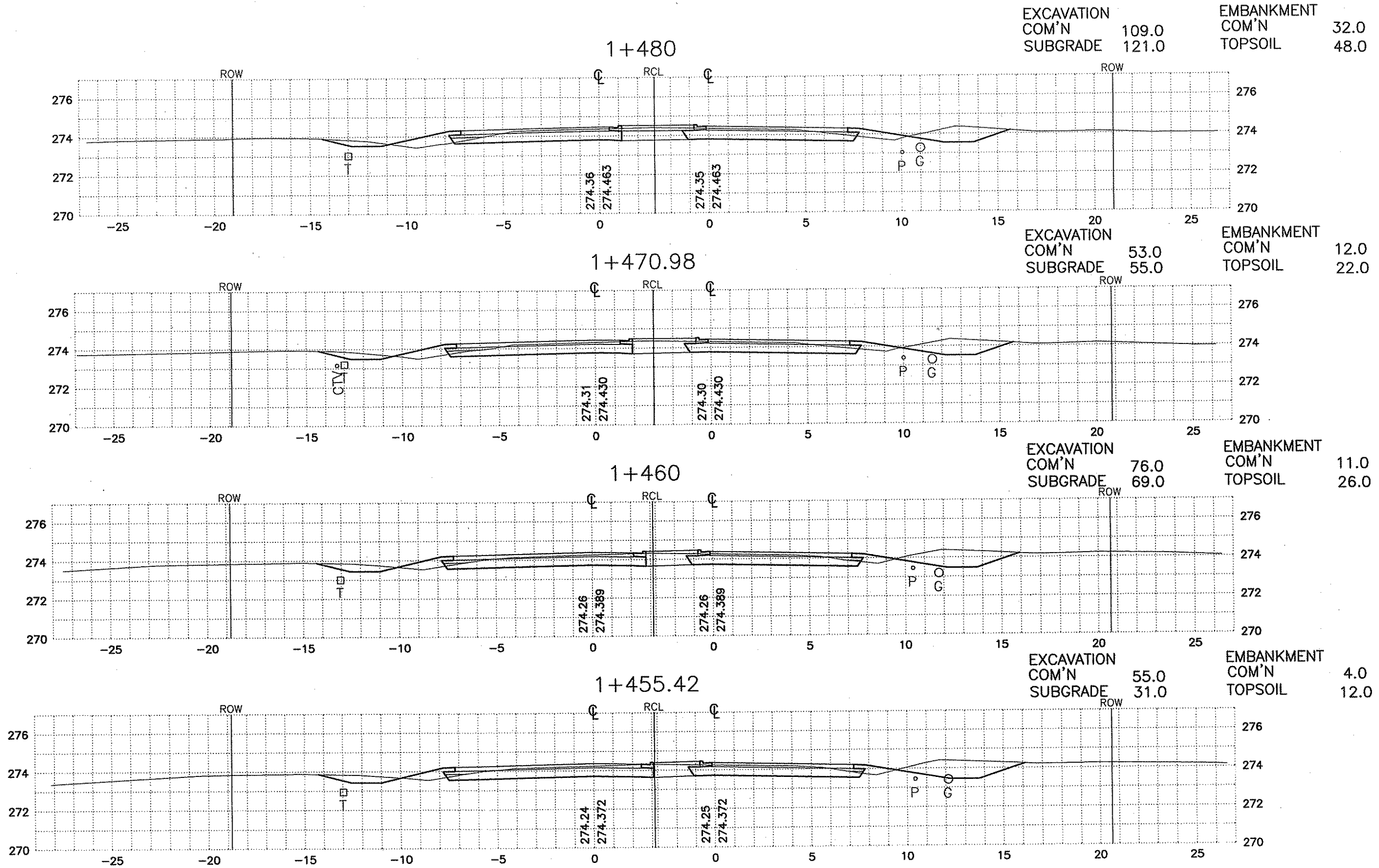
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 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

CROSS SECTIONS
 STA. 1+380 TO STA. 1+440
 Sheet 39 of 76 Sheets

PARSONS TRANSPORTATION GROUP
 DIR & FILENAME: R:\642632.Anoke-Tsig\PlanSheets\Site-D\Layout\Plan set\78-xs-10-NB.dwg 4-12-02 9:55:55 am EST



NO	DATE	BY	CKD	APPR	REVISION



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 DATE _____ REG. NO. 10169

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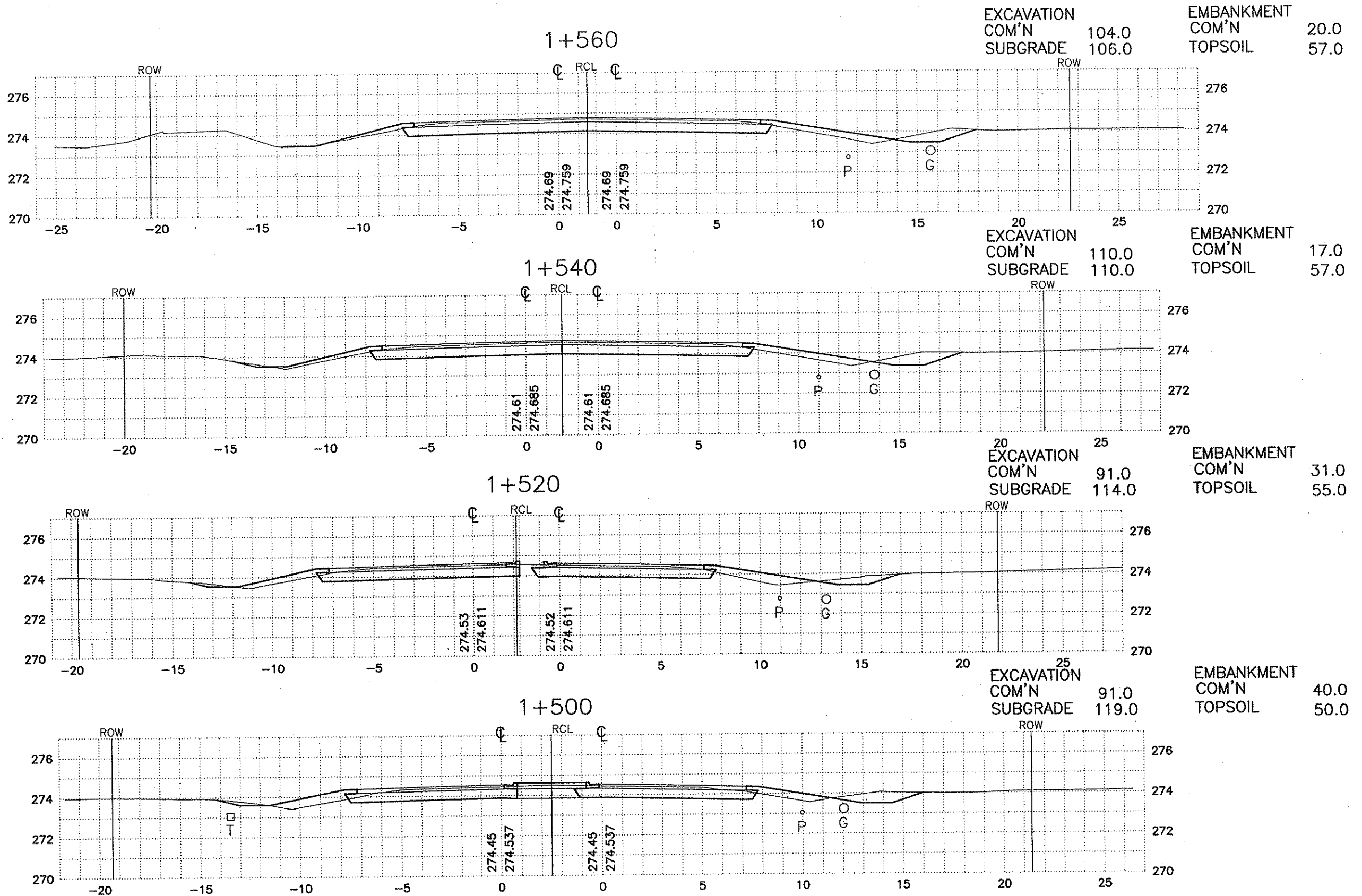
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 C.R. 18 (CROSSTOWN BLVD. N.W.)



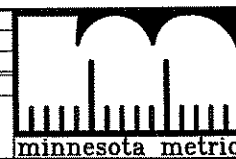
ANOKA COUNTY
HIGHWAY DEPT.

CROSS SECTIONS
 STA. 1+455.42 TO STA. 1+480
 Sheet 40 of 76 Sheets

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NO	DATE	BY	CKD	APPR	REVISION



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 DATE _____ REG. NO. 10169

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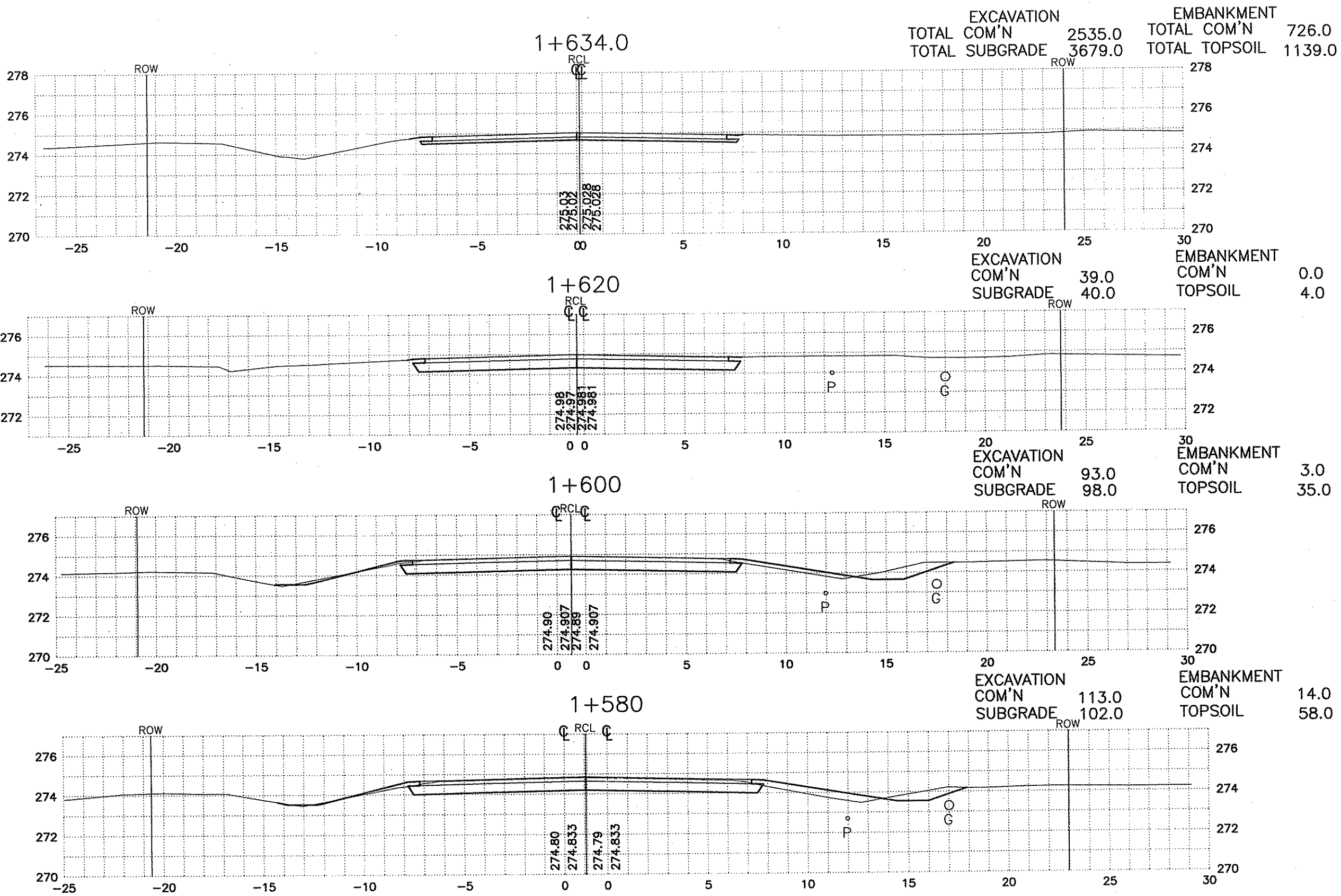
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 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
 HIGHWAY DEPT.

CROSS SECTIONS
 STA. 1+500 TO STA. 1+560
 Sheet 41 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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 DATE _____ REG. NO. 10169

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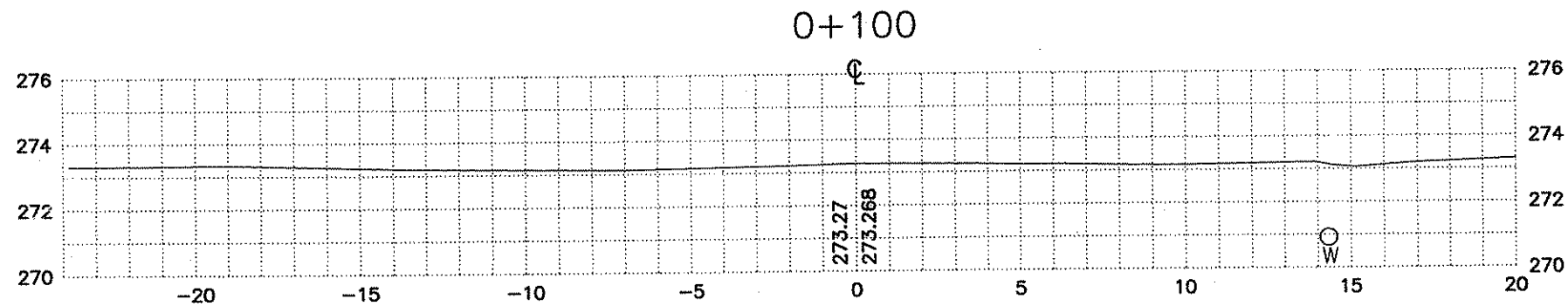
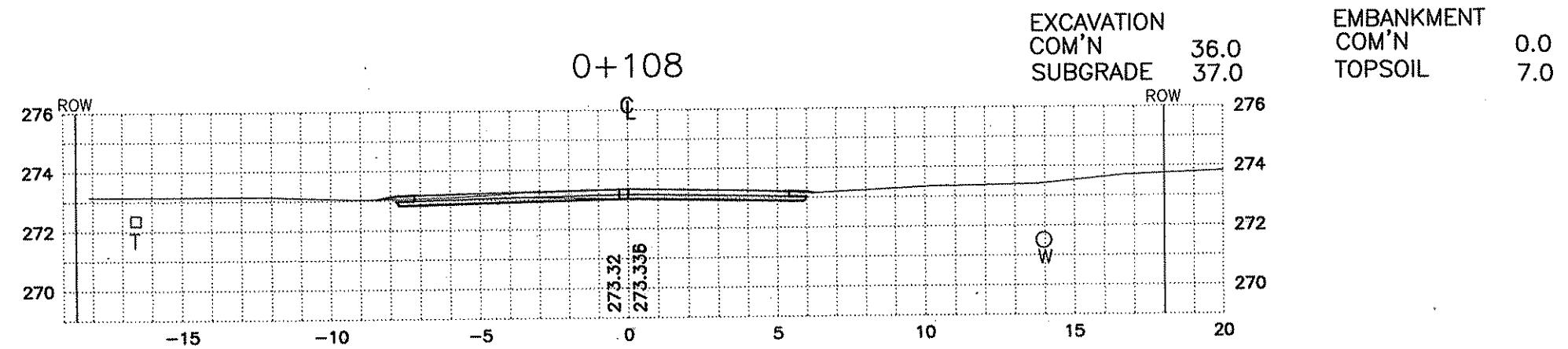
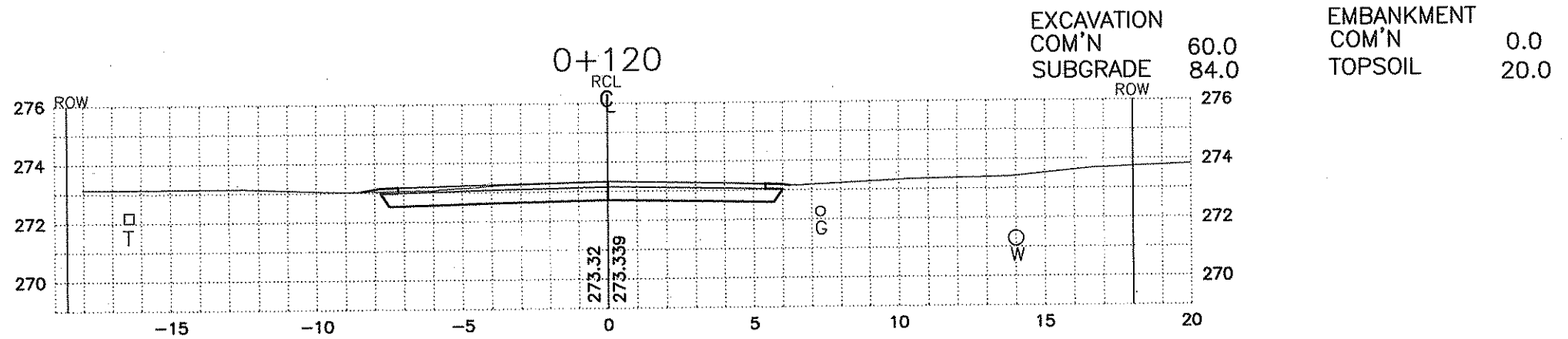
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
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CROSS SECTIONS
 STA. 1+580 TO STA. 1+632.64
 Sheet 42 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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 DATE _____ REG. NO. 10169

DRAWN BY SRH DATE _____
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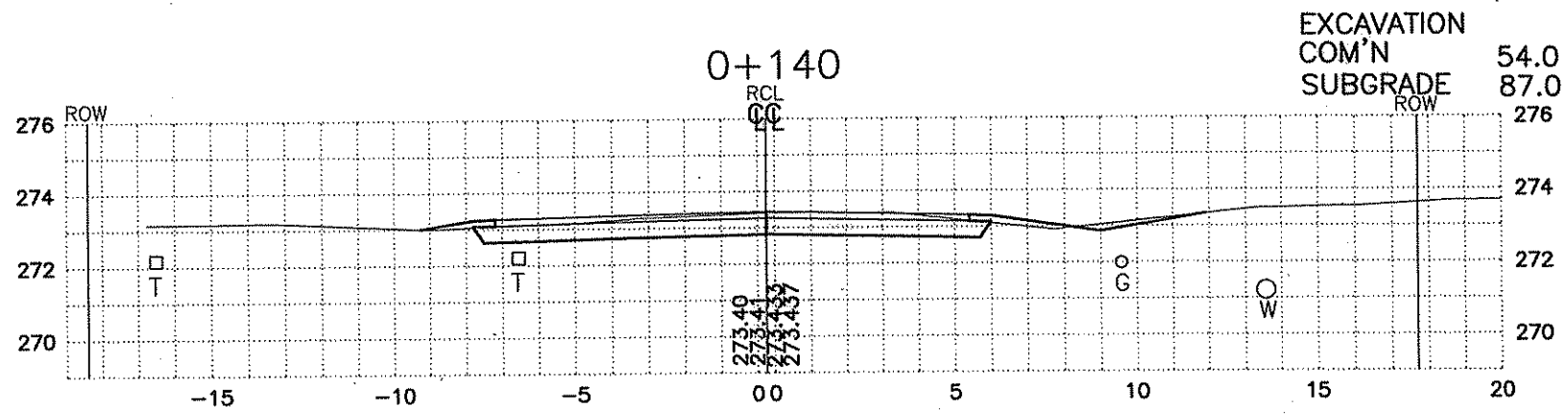
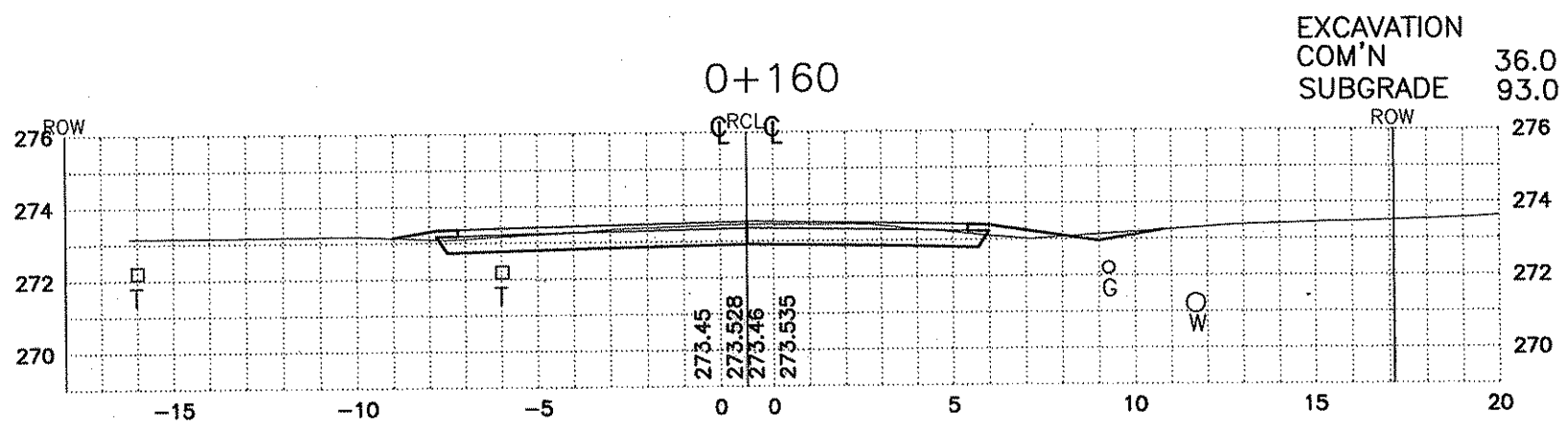
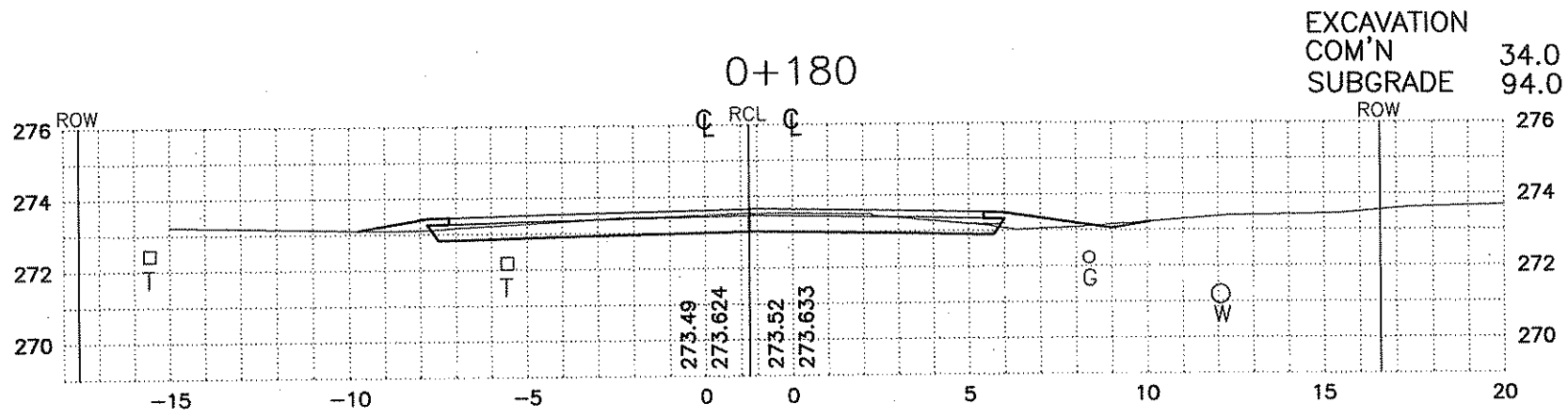
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 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

CROSS SECTIONS
 STA. 0+100 TO STA. 0+120
 Sheet 43 of 76 Sheets

PARSONS TRANSPORTATION GROUP
 DIR & FILENAME: R:\642632.Anoka-Tsig\PlanSheets\Site-D\Layout\Plan set\18-xs-10-EB.dwg 4-12-02 9:59:07 am EST



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 DATE _____ REG. NO. 10169

DRAWN BY: SRH DATE _____
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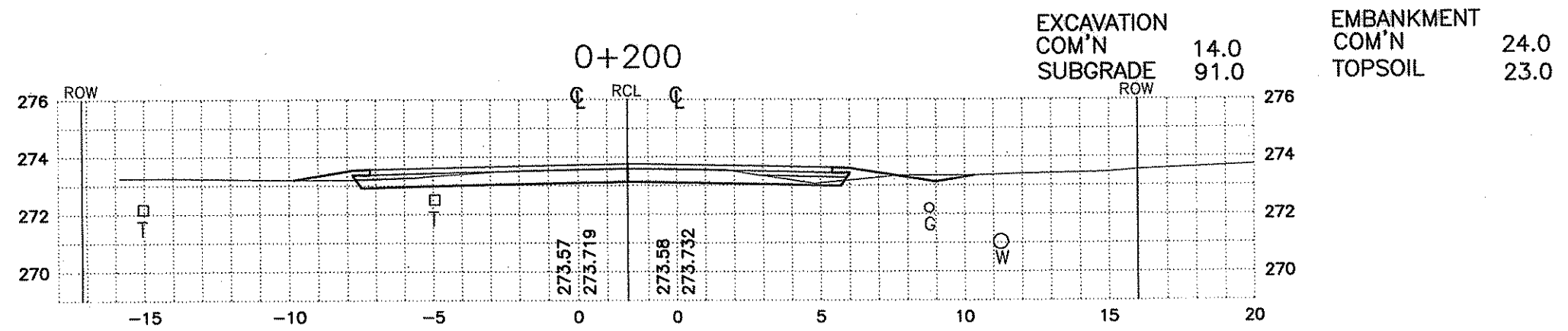
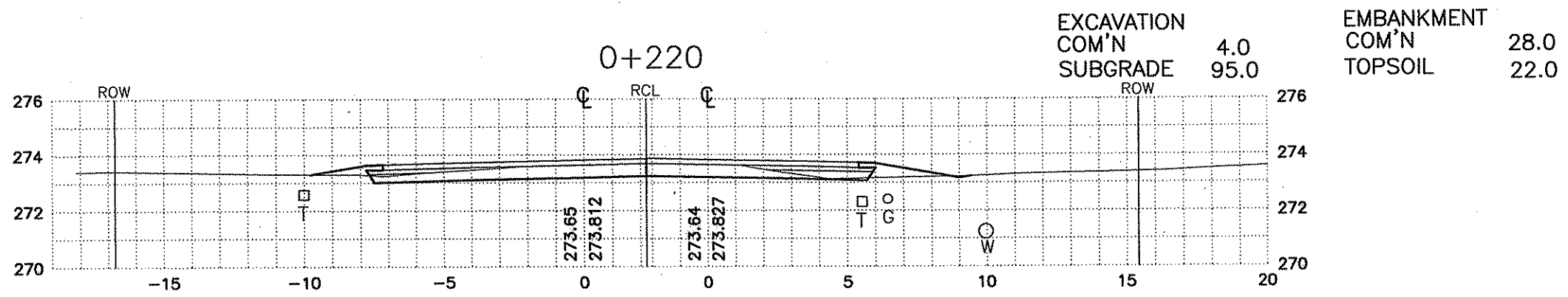
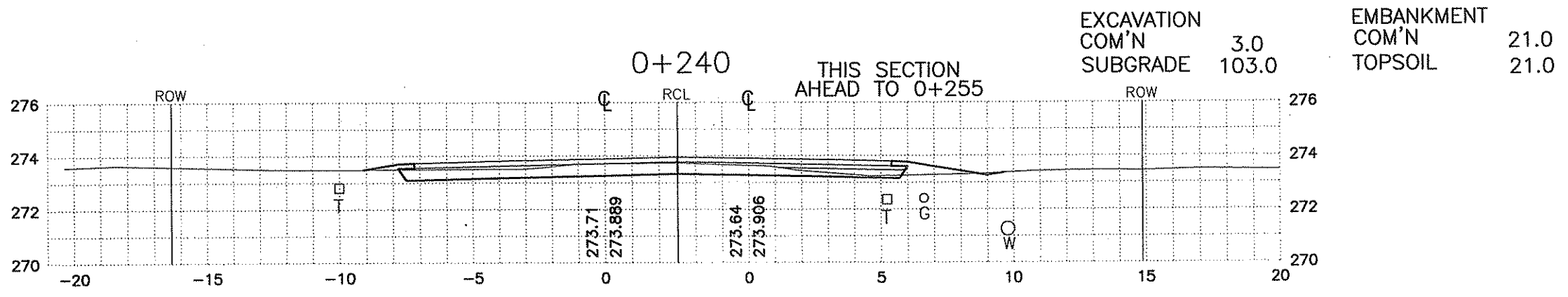
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



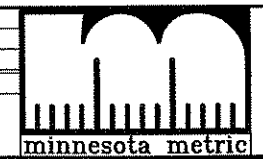
ANOKA COUNTY
HIGHWAY DEPT.

CROSS SECTIONS
 STA. 0+180 TO STA. 0+140
 Sheet 44 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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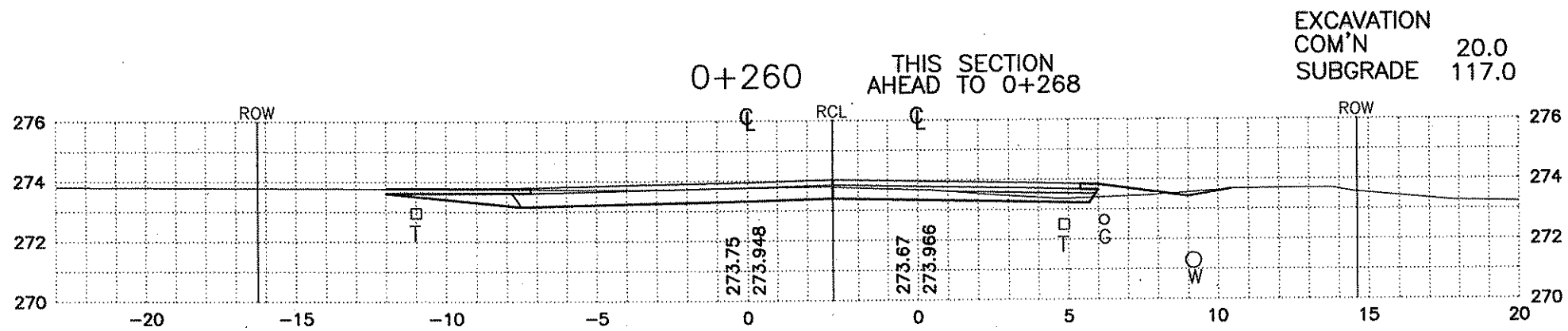
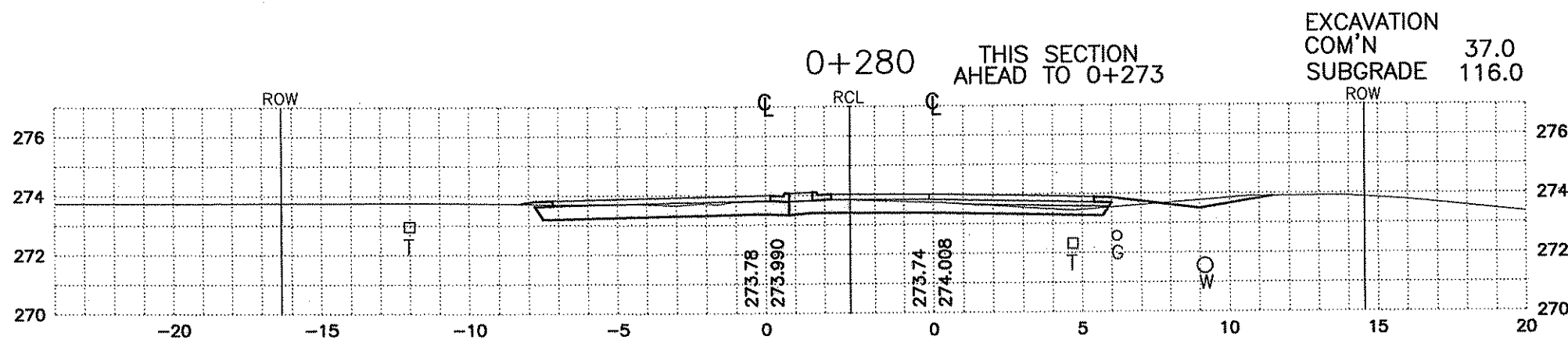
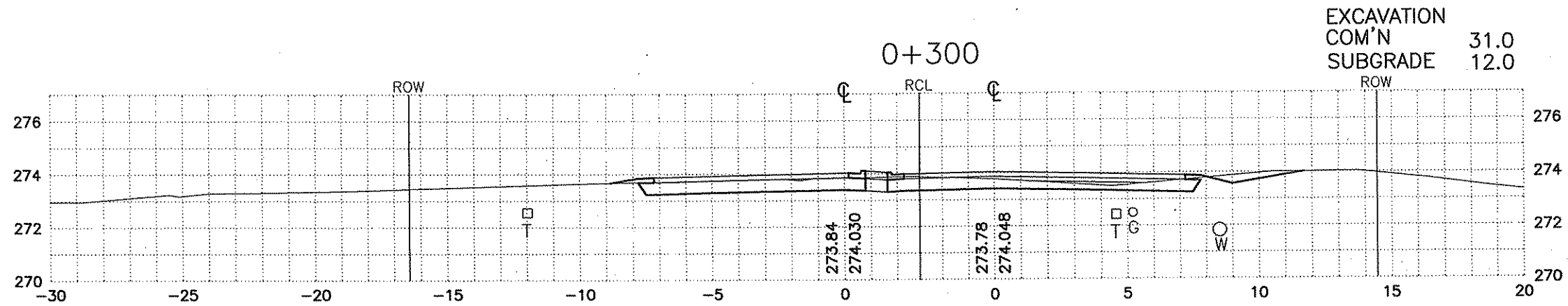
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
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CROSS SECTIONS
 STA. 0+200 TO STA. 0+240
 Sheet 45 of 76 Sheets

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STATE PROJECT NO. 02-678-13
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 STATE PROJECT NO. 198-131-02
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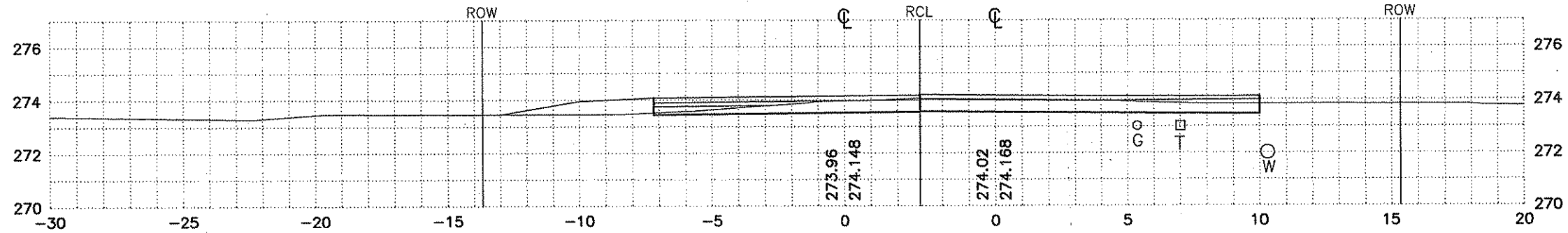


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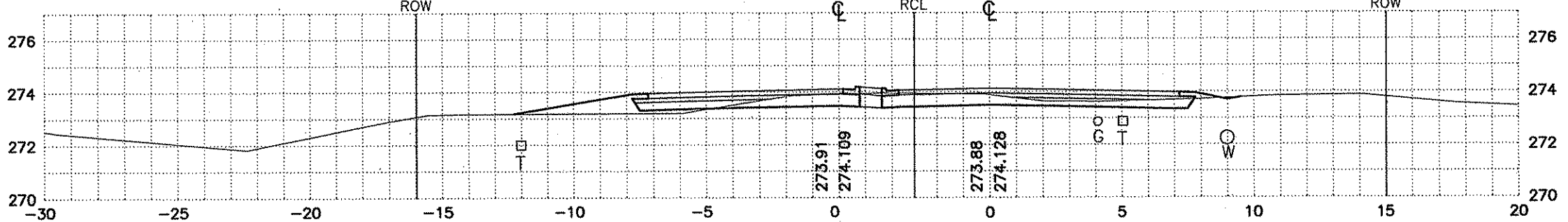
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 Sheet 46 of 76 Sheets

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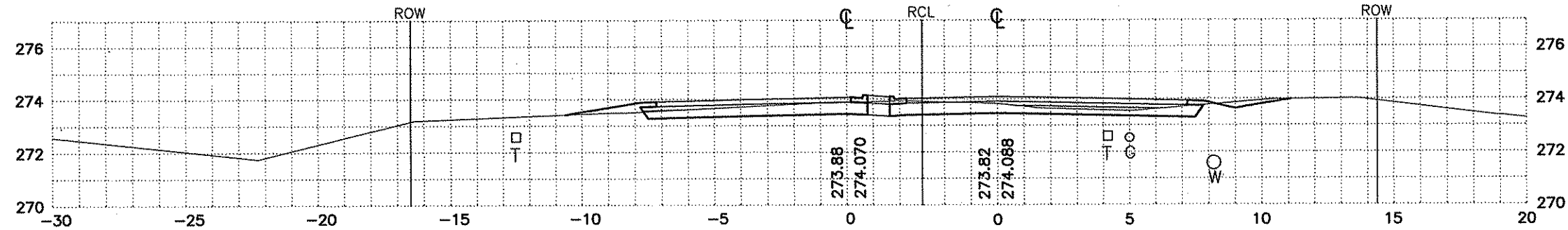
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 0+358.981 0+360



0+339.537 0+340 THIS SECTION AHEAD TO 0+350 EXCAVATION COM'N 23.0 EMBANKMENT COM'N 77.0
 SUBGRADE 205.0 TOPSOIL 22.0

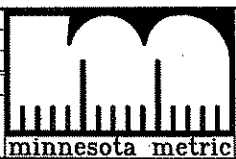


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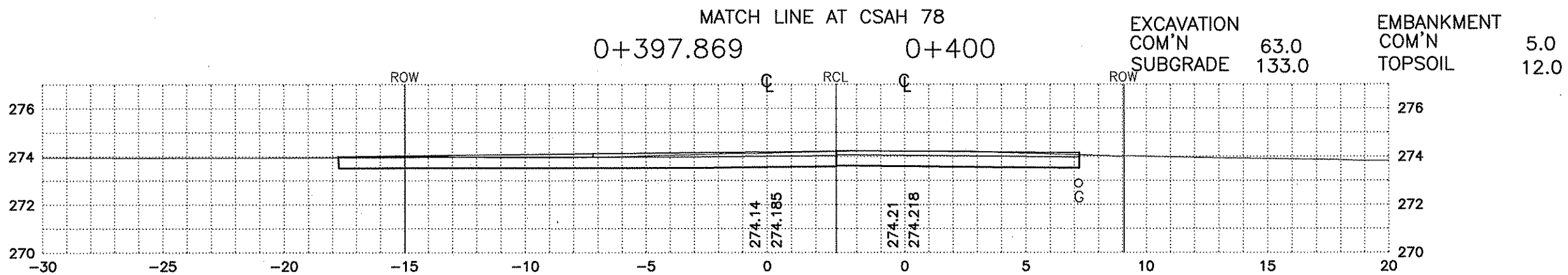
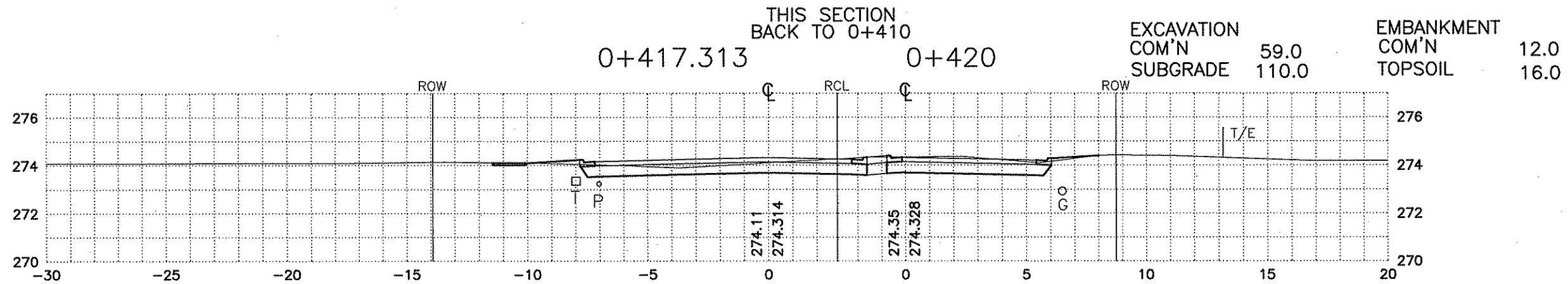
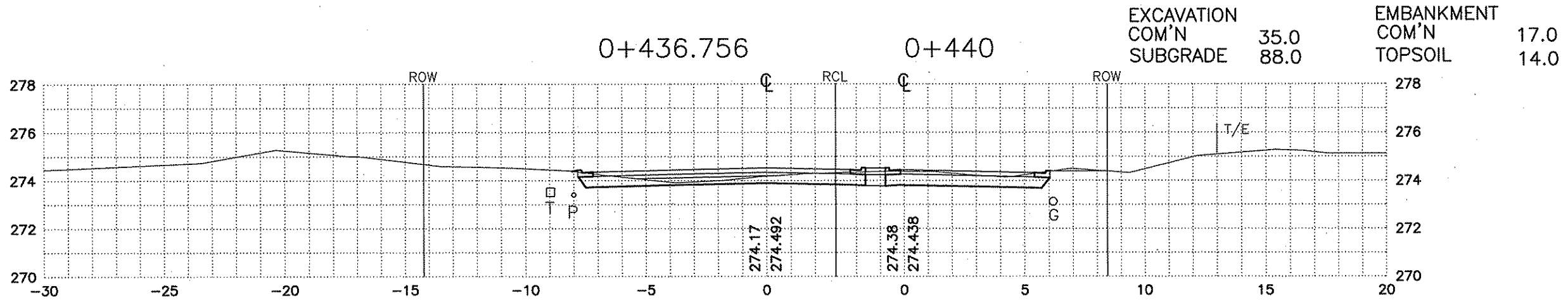
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
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CROSS SECTIONS
 STA. 0+320 TO STA. 0+360
 Sheet 47 of 76 Sheets

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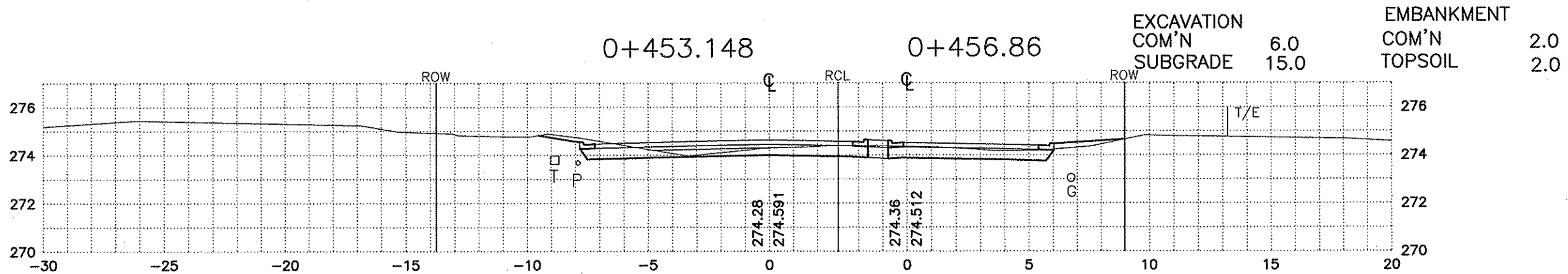
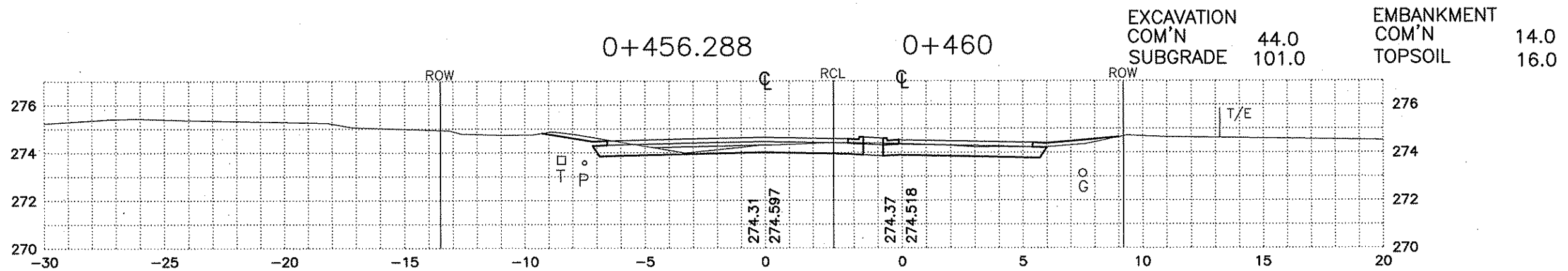
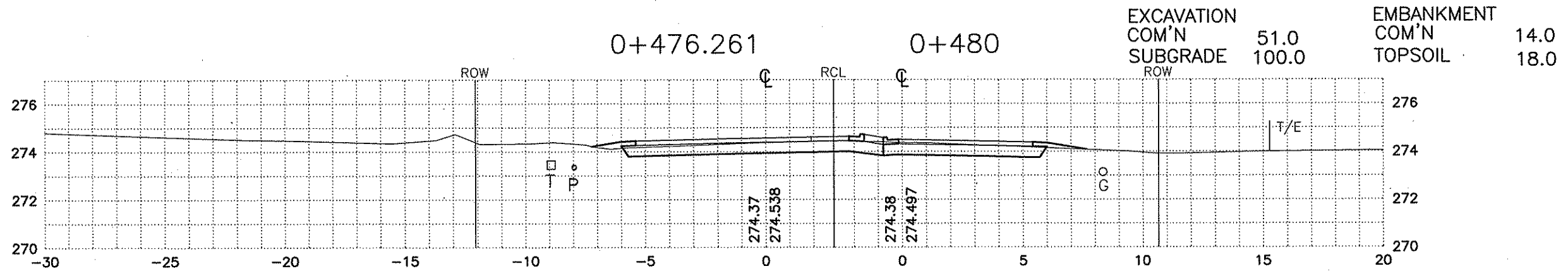
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 STATE PROJECT NO. 198-020-18
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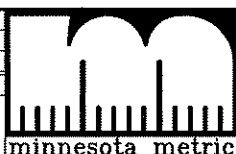
CROSS SECTIONS
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 Sheet 48 of 76 Sheets

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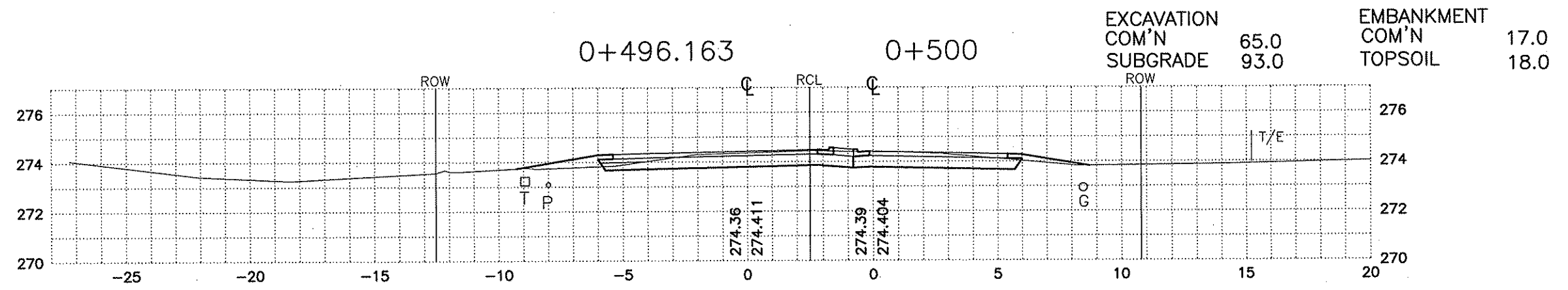
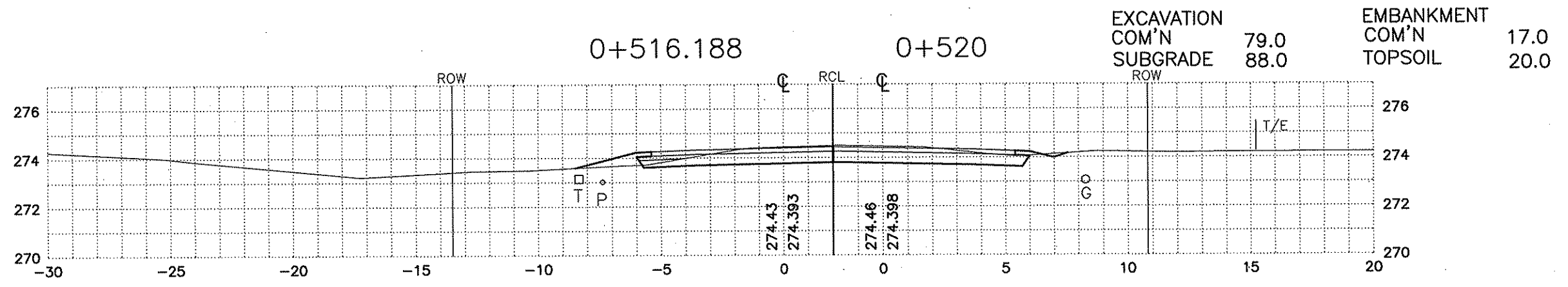
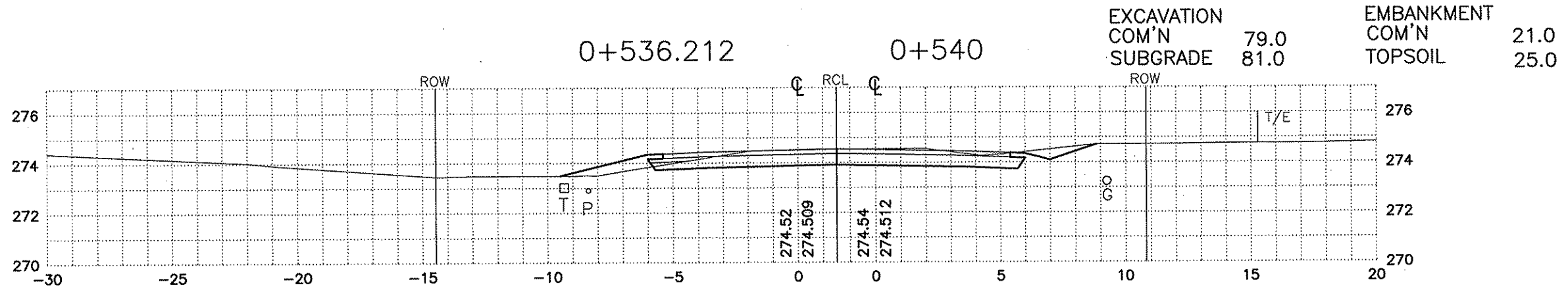
STATE PROJECT NO. 02-678-13
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 C.S.A.H. 78 (HANSON BLVD.) @
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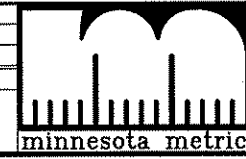
CROSS SECTIONS
 STA. 0+453.14 TO STA. 0+480
 Sheet 49 of 76 Sheets

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 DATE _____ REG. NO. 10169

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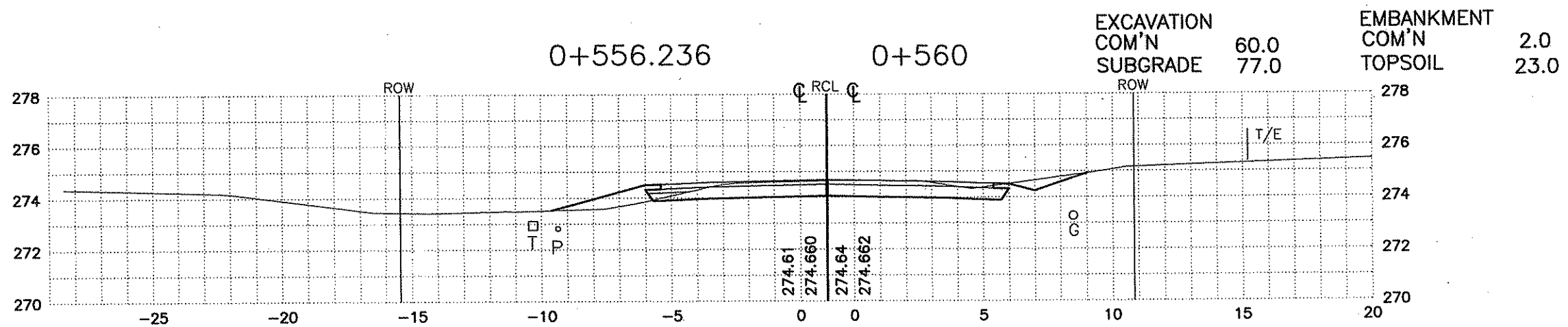
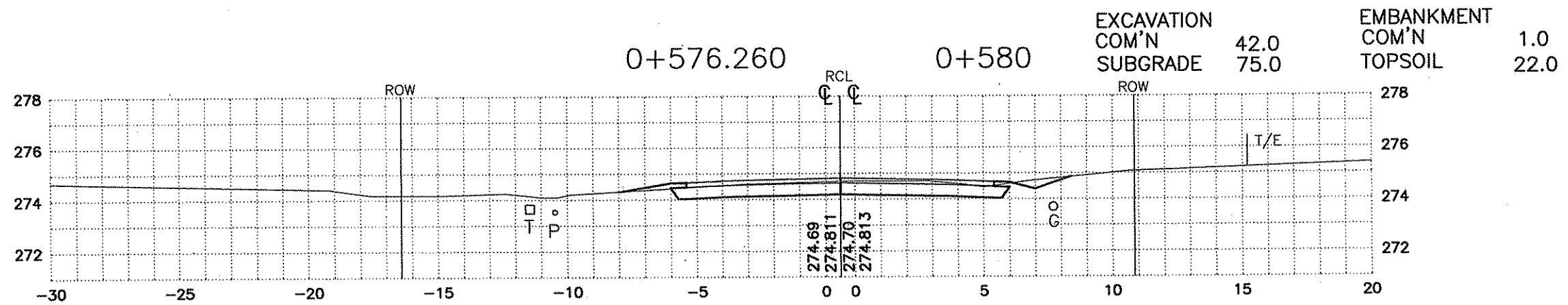
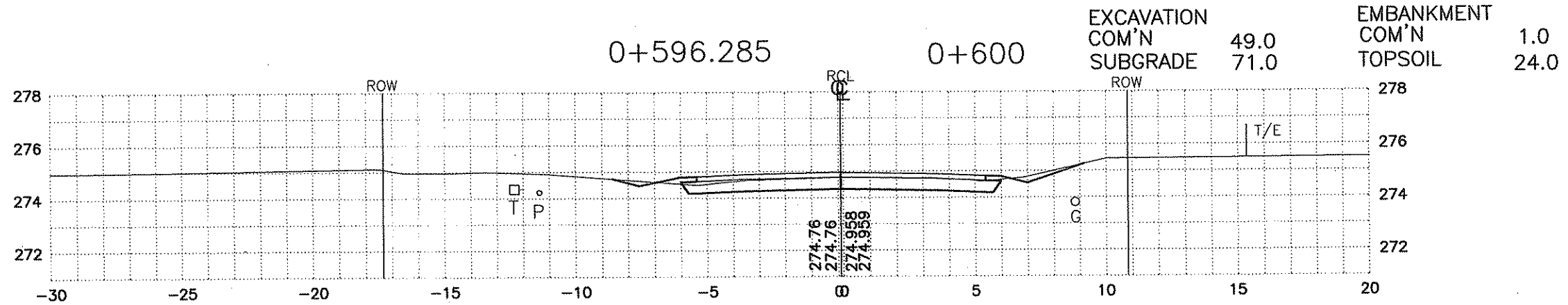
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 STATE PROJECT NO. 198-020-18
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CROSS SECTIONS
 STA. 0+496.16 TO STA. 0+540
 Sheet 50 of 76 Sheets

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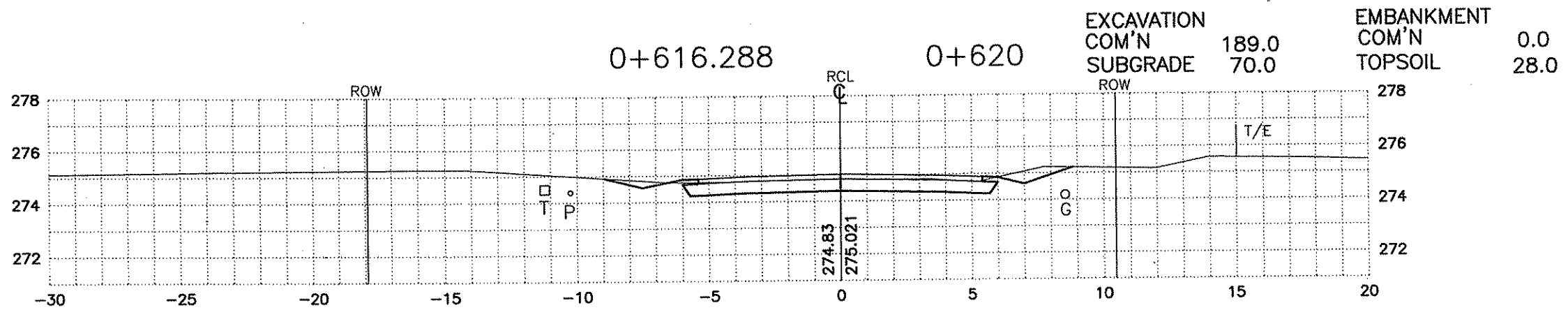
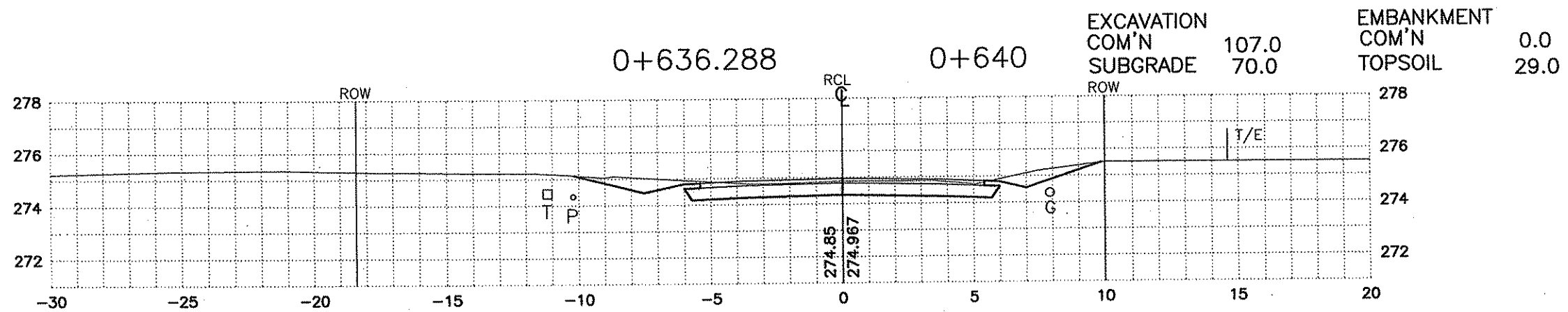
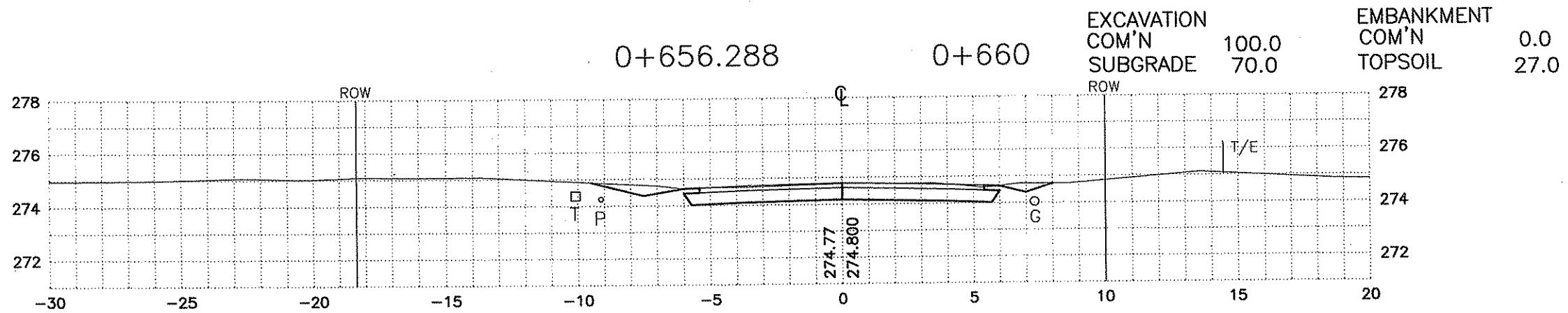
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ANOKA COUNTY
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CROSS SECTIONS
 STA. 0+556.23 TO STA. 0+600
 Sheet 51 of 76 Sheets

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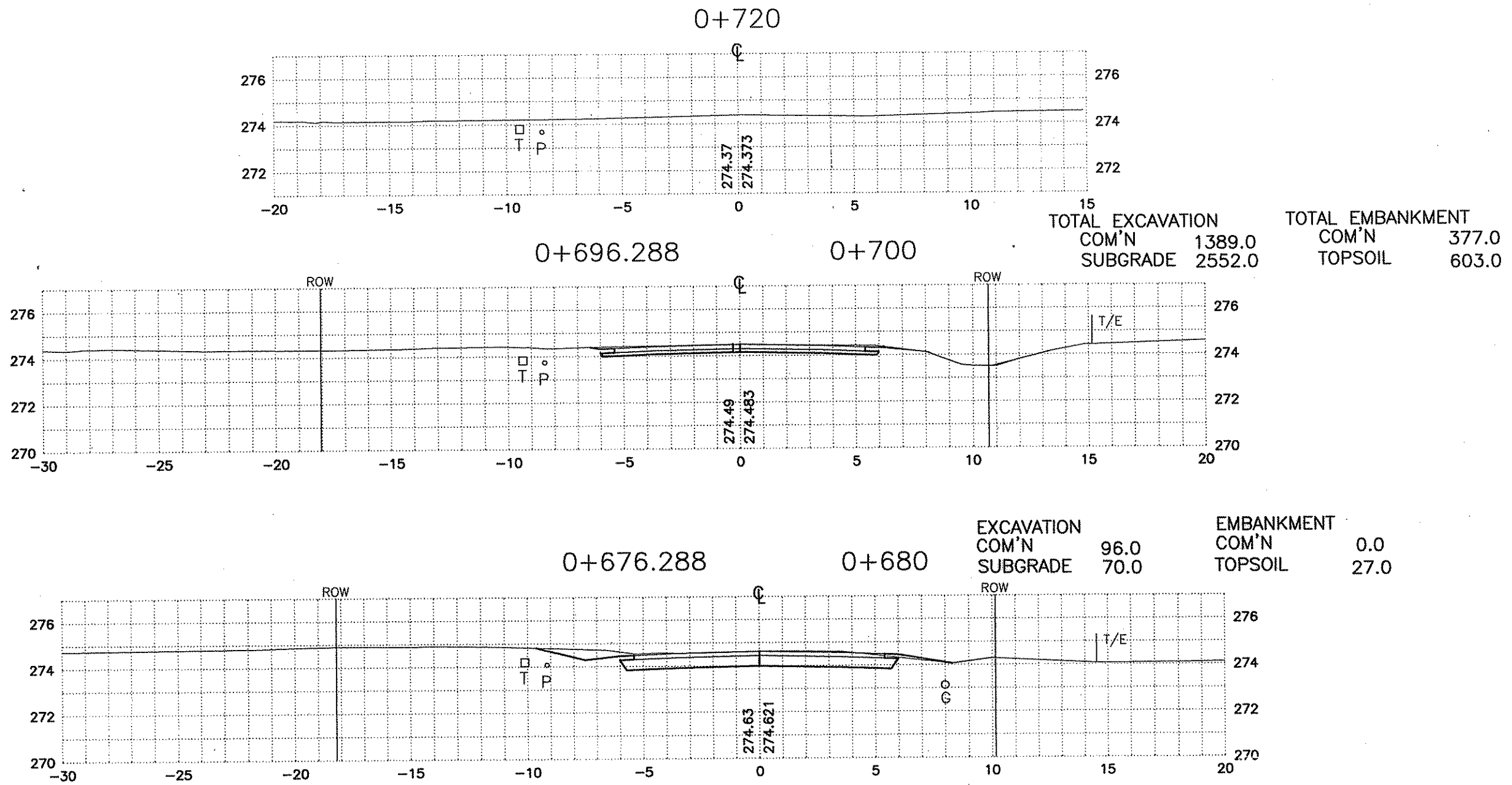
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
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ANOKA COUNTY
HIGHWAY DEPT.

CROSS SECTIONS
 STA. 0+616 TO STA. 0+660
 Sheet 52 of 76 Sheets

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 DATE _____ REG. NO. 10159

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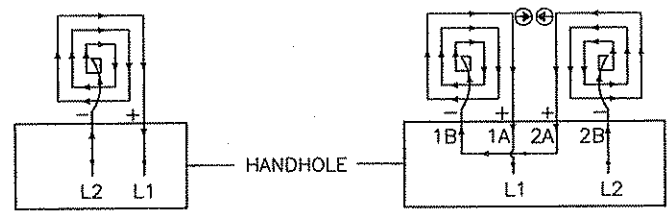
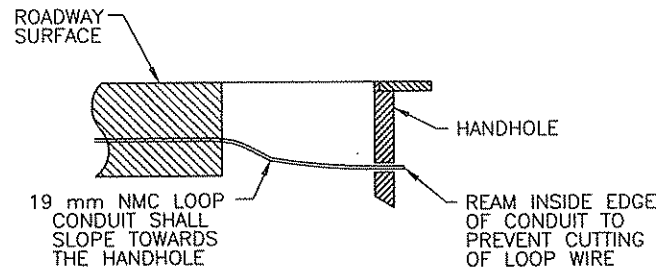
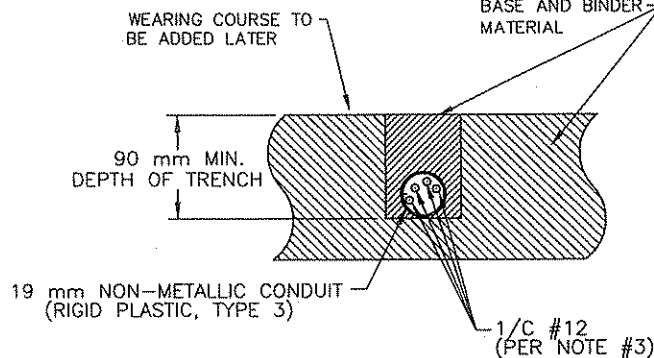
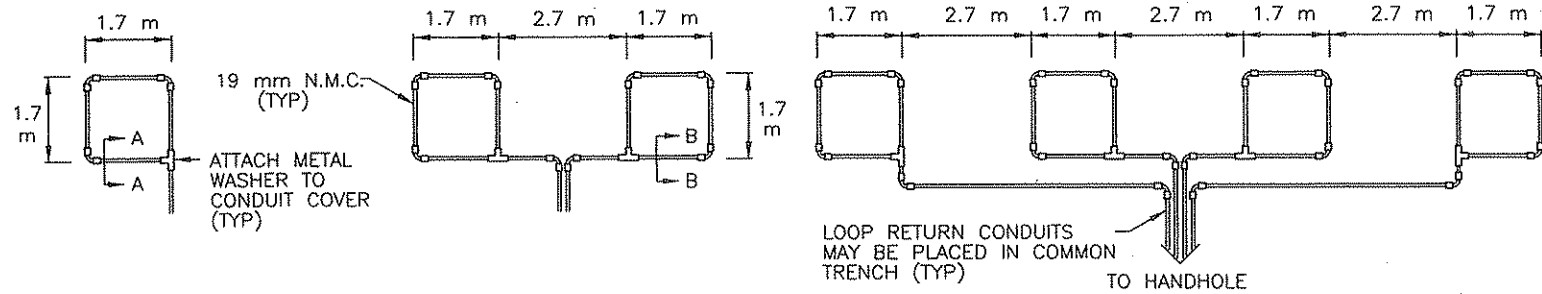
STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

CROSS SECTIONS
 STA. 0+676.288 TO STA. 0+720
 Sheet 53 of 76 Sheets

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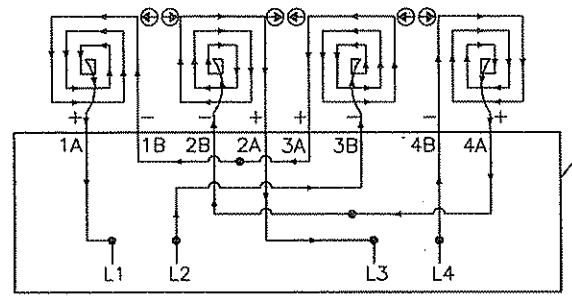


LOOP DETECTOR DETAIL 'A'
(LOOP PHASING FOR SINGLE CONNECTION)

LOOP CONNECTIONS SHALL BE LABELED AND SPICED IN THE HANDHOLE AS FOLLOWS:

- L1 TO 1A
- 1B TO 2A
- 2B TO L2

LOOP DETECTOR DETAIL 'B'
(LOOP PHASING FOR SERIES CONNECTION)

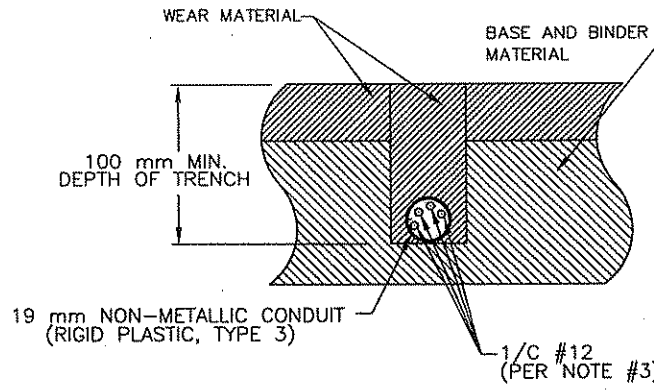


LOOP CONNECTIONS SHALL BE LABELED AND SPICED IN THE HANDHOLE AS FOLLOWS:

- L1 TO 1A
- 1B TO 3A
- 3B TO L2
- L3 TO 2A
- 2B TO 4A
- 4B TO L4

ALL SPICES SHALL BE LOCATED IN THE HANDHOLE. ALL CONDUCTORS SHALL BE TAGGED IN THE HANDHOLE (1A, 1B, ETC.).

LOOP DETECTOR DETAIL 'C'
(LOOP PHASING FOR TWO DOUBLE-LOOP DETECTORS EACH WITH SERIES CONNECTION)



SECTION B-B
DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY

- LOOP DETECTOR WIRING**
- ① ALL CORNERS SHALL BE 90° CONDUIT BENDS.
 - ② CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
 - ③ LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
 - ④ LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER 0.3 METER (1 FOOT) THROUGH THE CONDUIT TO THE HANDHOLE.
 - ⑤ NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
 - ⑥ LOOPS 1.7 m x 1.7 m THRU 1.7 m x 4.3 m SHALL HAVE (4) TURNS.
 - ⑦ LOOPS 1.7 m x 4.6 m AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's	(A)
SIGNAL BASE NO.	(1)
SIGNAL FACE NO.	(M)
LUMINAIRE NO.	(L)
CONTROLLER AND CABINET	(C)
CONTROLLER AND CABINET - IN PLACE	(C)
HANDHOLE	(H)
HANDHOLE - IN PLACE	(H)
RIGID STEEL CONDUIT (RSC)	(RSC)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(RSC)
SIGNAL FACE WITH BACKGROUND SHIELD	(S)
SIGNAL FACE W/O BACKGROUND SHIELD	(S)
SIGNAL FACE - IN PLACE	(S)
PEDESTRIAN INDICATORS	(P)
PEDESTRIAN INDICATORS - IN PLACE	(P)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(P)
PEDESTRIAN PUSH BUTTON STATION	(P)
TRAFFIC SIGNAL PEDESTAL	(T)
TRAFFIC SIGNAL PEDESTAL - INPLACE	(T)
TRAFFIC SIGNAL POLE AND MAST ARM	(T)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(T)
STREET LIGHT POLE AND LUMINAIRE	(S)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(S)
MAST ARM AND LUMINAIRE	(S)
MAST ARM AND LUMINAIRE - INPLACE	(S)
WOOD POLE	(W)
WOOD POLE - IN PLACE	(W)
SOURCE OF POWER	(S)
RAILROAD SIGNAL - IN PLACE	(R)
RIGHT OF WAY LINE	(R)
CENTERLINE	(C)
EDGE OF ROADWAY	(E)
SHOULDERLINE	(S)
CURB LINE	(C)
STOP BAR	(S)
EMERGENCY VEHICLE PREEMPT DETECTOR	(#)

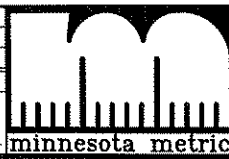
ABBREVIATIONS

3-1(EG)	SIGNAL HEAD PHASE "3" - NO "1"	P2-1(EG)	PEDESTRIAN INDICATION PHASE "2" - NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE "2" - NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQQ	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

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
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

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DATE 9/16/02 REG. NO. 45802

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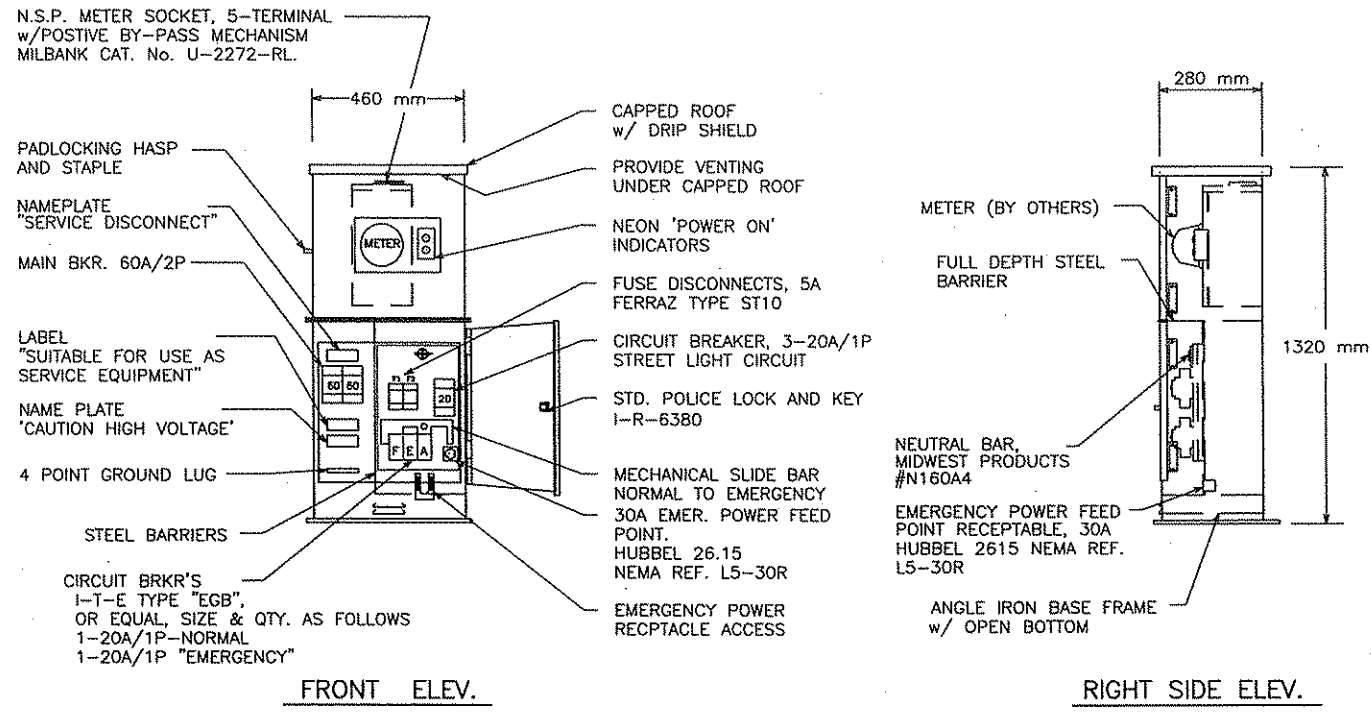
STATE PROJECT NO. 02-678-13
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 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



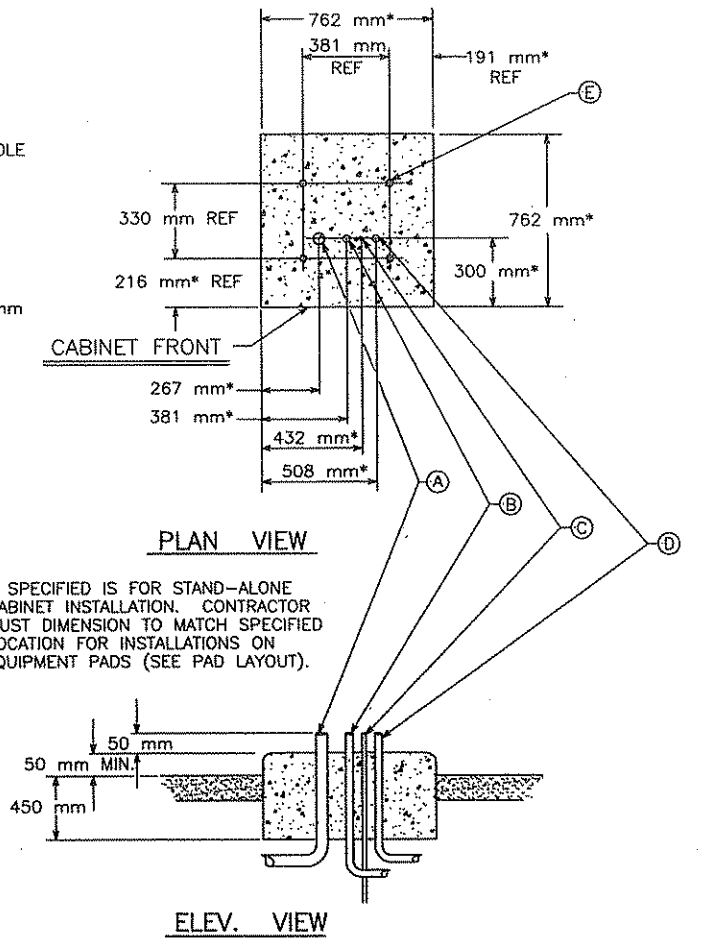
ANOKA COUNTY
HIGHWAY DEPT.

TRAFFIC SIGNAL SYSTEM
 DETAILS AND STANDARD PLATES
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD.)
 Sheet 54 of 76 Sheets

SIGNAL SERVICE CABINET



SERVICE CABINET FOUNDATION

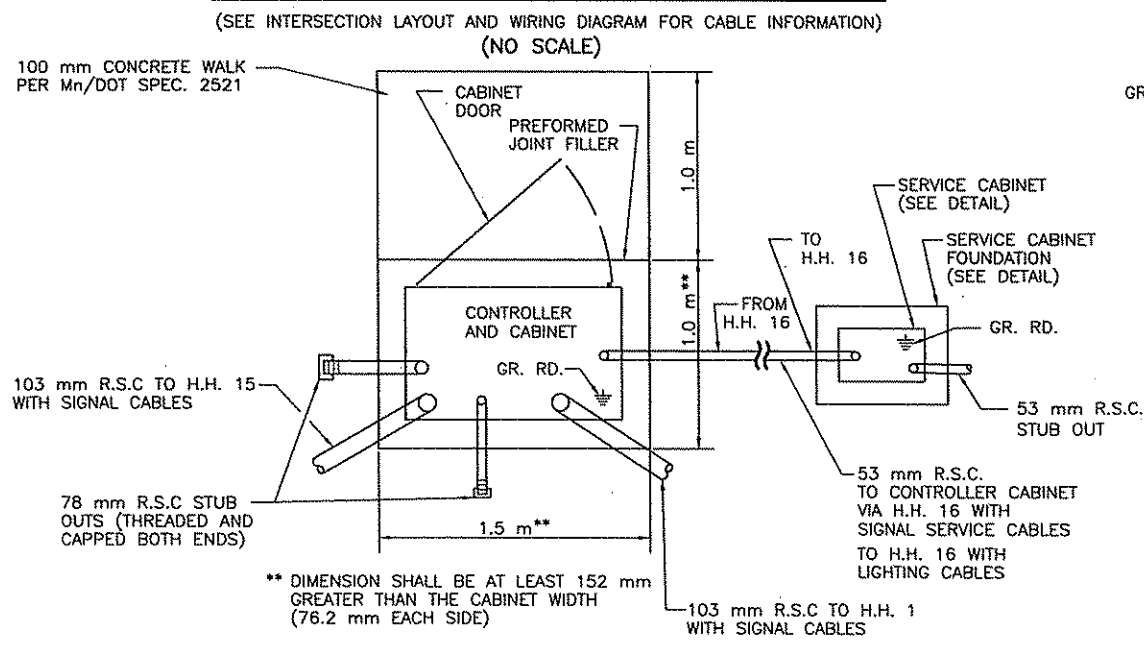


CONSTRUCTION NOTES

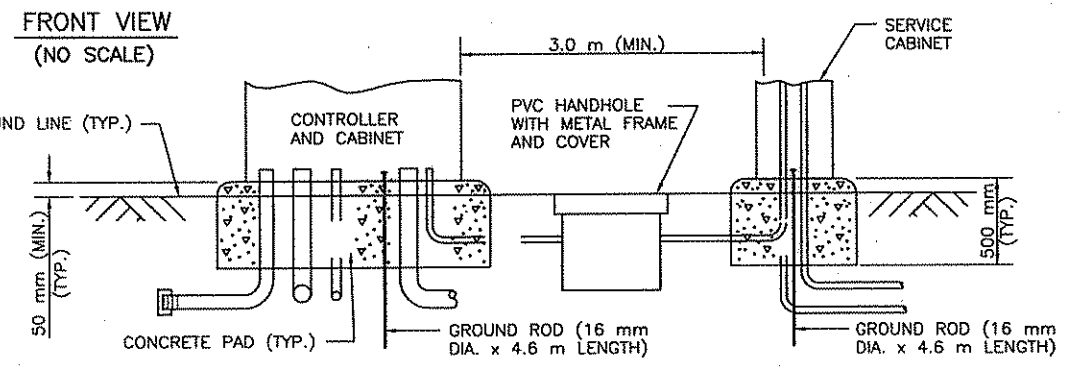
- ENCLOSURE SHALL BE FABRICATED FROM 1/8" ALUMINUM FOR OUTDOOR WEATHER PROOF SERVICE.
- DOORS TO BE GASKETED, ALL HINGES, PINS AND LOCKS TO BE OF NON CORRODING CONSTRUCTION.
- CABINET SHALL HAVE A BASE GASKET.
- ENCLOSURE SHALL BE 'UL' APPROVED

- (A) 53 mm RSC TO STUB OUT (TRANSFORMER AND PAD TO BE F. & I. BY CONNEXUS ENERGY)
- (B) 35 mm RSC TO HANDHOLE 17
- (C) GROUNDING ROD
- (D) 35 mm RSC TO HANDHOLE 1 (FOR INTERSECTION LIGHTING)
- (E) ANCHOR BOLT LOCATIONS (4 REQUIRED)

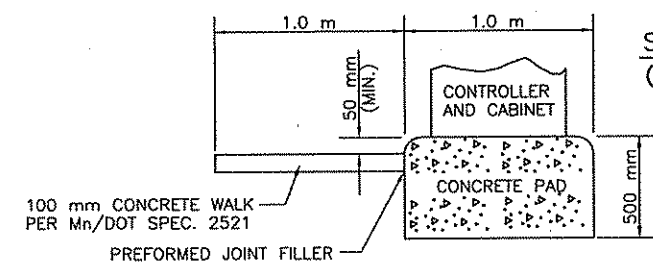
EQUIPMENT PAD LAYOUT - PLAN VIEW



FRONT VIEW (NO SCALE)



SIDE VIEW (NO SCALE)



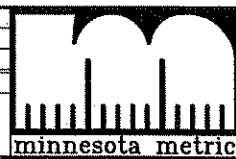
CONSTRUCTION NOTES :

- ① SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- ② THE UPPER EDGES OF THE EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERRED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
- ③ THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
- ④ ALL CONDUITS SHALL PROJECT A MINIMUM OF 50 mm ABOVE THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET COMPONENTS OR FUNCTION (SUPPORTING MEMBERS, ETC.).
- ⑤ ALL CONCRETE CONSTRUCTION (EQUIPMENT PAD AND SIDEWALK AREAS) SHALL BE MIX 3A32 OR APPROVED EQUAL.
- ⑥ THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- ⑦ CONCRETE PAD TO BE CONSTRUCTED IN ACCORDANCE WITH Mn/DOT M8119C.

PARSONS TRANSPORTATION GROUP DIR & FILENAME: R:\642632\Anoka-131g\PlanSheets\Site-D\Layout\Plan set\7818TRDET2.dwg 4-11-02 12:05:49 pm EST

NO	DATE	BY	CKD	APPR	REVISION

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PARSONS TRANSPORTATION GROUP INC.
111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
Phone: (612)332-0421 • Fax: (612)332-6750



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[Signature]
DATE 7/16/02 REG. NO. 25302

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DESIGN BY DRA DATE 12/01
CHECKED BY IPM DATE 12/01

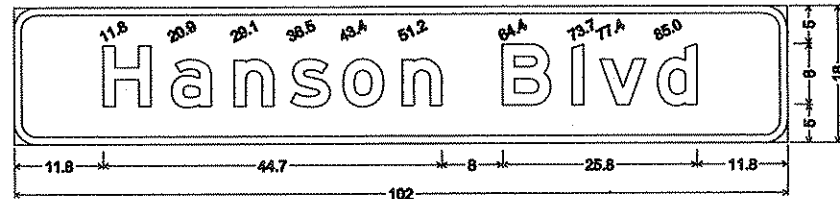
STATE PROJECT NO. 02-678-13
STATE PROJECT NO. 198-020-18
STATE PROJECT NO. 198-131-02
C.S.A.H. 78 (HANSON BLVD.) @
C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

TRAFFIC SIGNAL SYSTEM
CABINET AND PAD DETAILS
C.S.A.H. 78 (HANSON BLVD.) @
C.R. 18 (CROSSTOWN BLVD.)
Sheet 55 of 76 Sheets

NOTE: ALL DIMENSIONS OF DETAILED SIGN PANELS ARE IN INCHES.



102" x 18", 3.0" RADIUS, 1.0" BORDER, WHITE ON GREEN
 "HANSON BLVD" : 8"-6" SERIES E-MOD

D-1, D-2



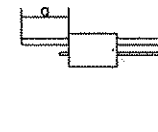
114" x 18", 3.0" RADIUS, 1.0" BORDER, WHITE ON GREEN
 "CROSSTOWN BLVD" : 8"-6" SERIES E-MOD

D-3, D-4

TYPE "D" SIGNS -- FURNISH AND INSTALL

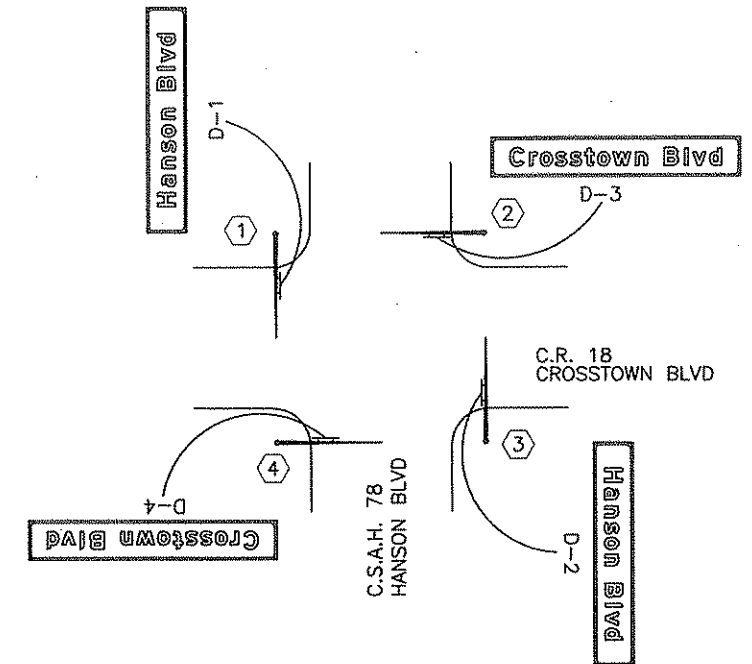
SIGN PANEL	SIZE (inches)	SIZE (m)	NO. REQ.	NO. POSTS PER SIGN	POST SPACING (mm)	AREA PER SIGN (sq. m.)	POLE NO.	DIM. "a"
D-1	102x18	2.55x0.46	1	3	1145	1.17	1	6.5 m
D-2	102x18	2.55x0.46	1	3	1145	1.17	3	6.5 m
D-3	114x18	2.90x0.46	1	3	1145	1.32	2	6.8 m
D-4	114x18	2.90x0.46	1	3	1145	1.32	4	6.8 m

MAST ARM MOUNTED SIGNING

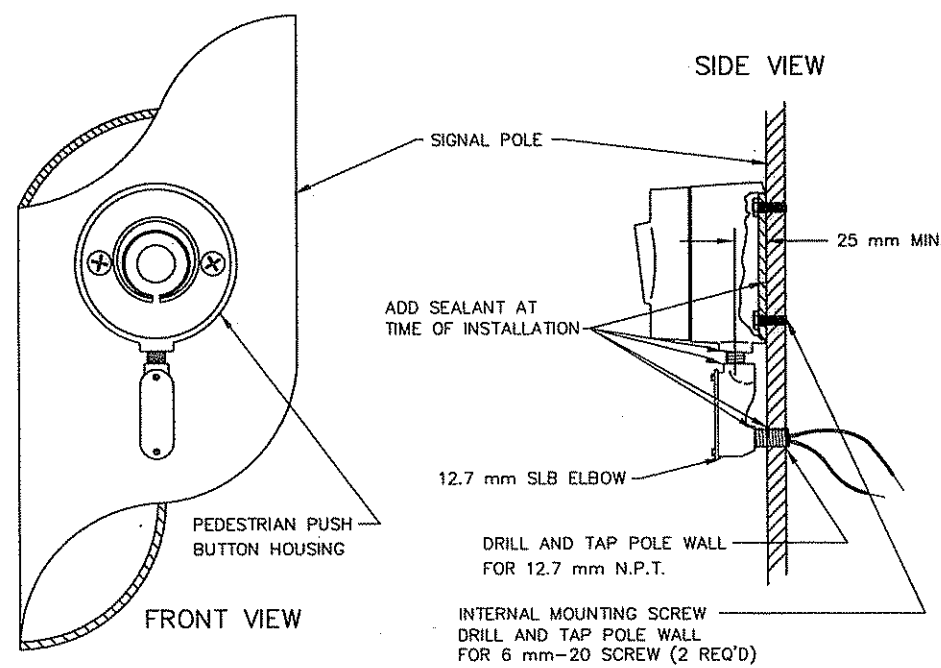


NOTES:

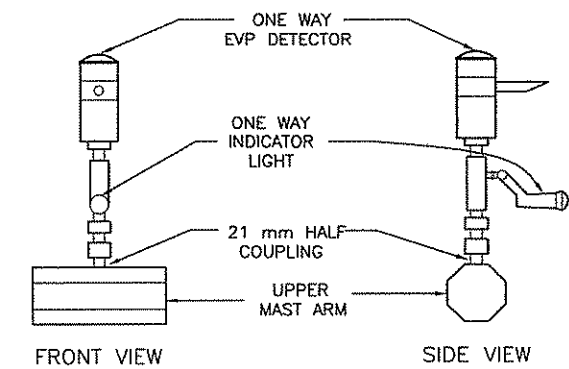
- 1) TYPE "D" SIGN COLOR--WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
- 2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- 3) FOR STRUCTURAL DETAILS, TYPE "C" AND "D" SIGNS, SEE DETAILS AND STANDARD SIGNS MANUAL.
- 4) FOR TYPE "D" STRINGER AND PANEL--JOINT DETAIL, SEE DETAILS AND STANDARD SIGNS MANUAL.



MAST ARM POLE PEDESTRIAN PUSH BUTTON DETAIL



EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



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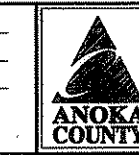


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[Signature]
 DATE 4/16/02 REG. NO. 25302

DRAWN BY: LEW DATE 12/01
 DESIGN BY: DRA DATE 12/01
 CHECKED BY: TPM DATE 12/01

STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
 HIGHWAY DEPT.

TRAFFIC SIGNAL SYSTEM
 DETAILS AND SIGNING
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD.)
 Sheet 56 of 76 Sheets

NOTES :

- ① LOCATIONS OF POLES, EQUIPMENT PAD, LOOP DETECTORS AND HANDHOLES WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ② SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- ③ LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 19 mm N.M.C. (SEE SPECIAL PROVISIONS AND DETAILS.)
- ④ NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS PER Mn/DOT STANDARD PLATE NO. M8114.
- ⑤ EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
- ⑥ ALL VEHICLE SIGNAL INDICATIONS AND ALL PEDESTRIAN INDICATIONS SHALL BE L.E.D. TYPE. (SEE SPECIAL PROVISIONS.)
- ⑦ EACH PEDESTRIAN INDICATION SHALL BE A SINGLE SECTION HAND / WALKING PERSON INDICATION. (SEE SPECIAL PROVISIONS.)
- ⑧ SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGN PANELS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

- (A) EQUIPMENT PAD (SEE DETAIL)**
 INSTALL CONTROLLER AND CABINET (TO BE FURNISHED BY ANOKA COUNTY)
 CONTROLLER CABINET TO SERVICE CABINET VIA H.H. 16 :
 53 mm R.S.C. (METERED SIGNAL SERVICE)
 2-1/C #4
 1-1/C #6 BARE GROUND
 CONTR. CABINET TO H.H. 1 :
 103 mm R.S.C.
 5-12/C #12
 5-3/C #12
 6-2/C #14
 2-3/C #20
 CONTR. CABINET TO H.H. 15 :
 103 mm R.S.C.
 5-12/C #12
 5-3/C #12
 6-2/C #14
 2-3/C #20

- (C) SOURCE OF POWER**
 EXISTING TRANSFORMER
 (CONNECTION TO BE MADE BY CONNEXUS ENERGY)
 EXTEND INTO H.H. 17:
 53 mm R.S.C.
 3-1/C #4 (POWER FEED)

- (1) PA90 POLE FOUNDATION**
 TYPE PA90-A-10.7
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 4.0 m
 1-TYPE 10B POLE MOUNTED AT 0'
 1-TYPE 10B POLE MOUNTED AT 270'
 2-PEDESTRIAN PUSH BUTTONS
 1-SIGN (R6-1L) ONE WAY
 1-SIGN (R6-1R) ONE WAY
 EXTEND INTO HH 1:
 78 mm RSC
 3-12/C #12
 2-3/C #12
 1-3/C #20

- (1) PA90 POLE FOUNDATION**
 TYPE PA90-A-10.7
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 4.0 m
 1-TYPE 10B POLE MOUNTED AT 0'
 1-TYPE 10B POLE MOUNTED AT 270'
 2-PEDESTRIAN PUSH BUTTONS
 1-SIGN (R6-1L) ONE WAY
 1-SIGN (R6-1R) ONE WAY
 EXTEND INTO HH 1:
 78 mm RSC
 3-12/C #12
 2-3/C #12
 1-3/C #20

- (1) PA90 POLE FOUNDATION**
 TYPE PA90-A-10.7
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 4.0 m
 1-TYPE 10B POLE MOUNTED AT 0'
 1-TYPE 10B POLE MOUNTED AT 270'
 2-PEDESTRIAN PUSH BUTTONS
 1-SIGN (R6-1L) ONE WAY
 1-SIGN (R6-1R) ONE WAY
 EXTEND INTO HH 1:
 78 mm RSC
 3-12/C #12
 2-3/C #12
 1-3/C #20

- (2) PA100 POLE FOUNDATION**
 TYPE PA100-A-15.2-D12.2-2.7 (DAVIT AT 350')
 LUMINAIRE --- 200 WATT H.P.S. WITH PEC
 AND CHECK SWITCH
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 3.6 m
 1-TYPE 10B POLE MOUNTED AT 0'
 1-TYPE 10A POLE MOUNTED AT 180'
 1-TYPE 10B POLE MOUNTED AT 270'
 2-PEDESTRIAN PUSH BUTTONS
 1-SIGN (R6-1L) ONE WAY
 1-SIGN (R6-1R) ONE WAY
 EXTEND INTO HH 5:
 78 mm RSC
 2-12/C #12
 3-3/C #12
 1-3/C #12 (LUM.)
 1-3/C #20

- (2) PA100 POLE FOUNDATION**
 TYPE PA100-A-15.2-D12.2-2.7 (DAVIT AT 350')
 LUMINAIRE --- 200 WATT H.P.S. WITH PEC
 AND CHECK SWITCH
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 3.6 m
 1-TYPE 10B POLE MOUNTED AT 0'
 1-TYPE 10A POLE MOUNTED AT 180'
 1-TYPE 10B POLE MOUNTED AT 270'
 2-PEDESTRIAN PUSH BUTTONS
 1-SIGN (R6-1L) ONE WAY
 1-SIGN (R6-1R) ONE WAY
 EXTEND INTO HH 5:
 78 mm RSC
 2-12/C #12
 3-3/C #12
 1-3/C #12 (LUM.)
 1-3/C #20

- (3) PA90 POLE FOUNDATION**
 TYPE PA90-A-10.7
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 4.0 m
 1-TYPE 10B POLE MOUNTED AT 0'
 1-TYPE 10B POLE MOUNTED AT 270'
 2-PEDESTRIAN PUSH BUTTONS
 1-SIGN (R6-1L) ONE WAY
 1-SIGN (R6-1R) ONE WAY
 EXTEND INTO HH 9:
 78 mm RSC
 3-12/C #12
 2-3/C #12
 1-3/C #20

- (4) PA100 POLE FOUNDATION**
 TYPE PA100-A-13.7-D12.2-2.7 (DAVIT AT 350')
 LUMINAIRE --- 200 WATT H.P.S. WITH PEC
 AND CHECK SWITCH
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 3.6 m
 1-TYPE 10B POLE MOUNTED AT 0'
 1-TYPE 10B POLE MOUNTED AT 270'
 2-PEDESTRIAN PUSH BUTTONS
 1-SIGN (R6-1L) ONE WAY
 1-SIGN (R6-1R) ONE WAY
 EXTEND INTO HH 12:
 78 mm R.S.C.
 2-12/C #12
 3-3/C #12
 1-3/C #12 (LUM.)
 1-3/C #20

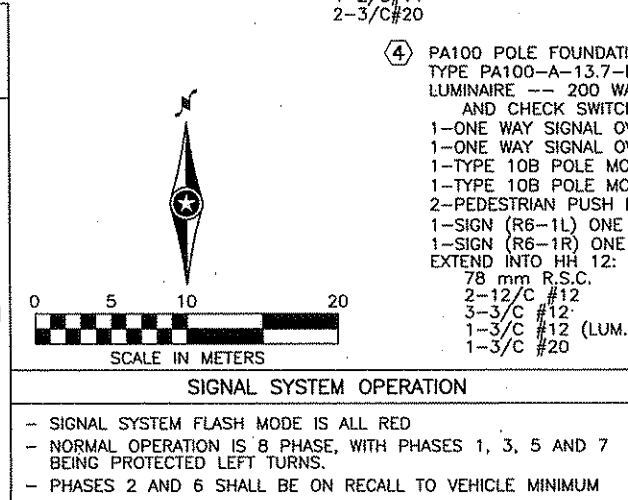
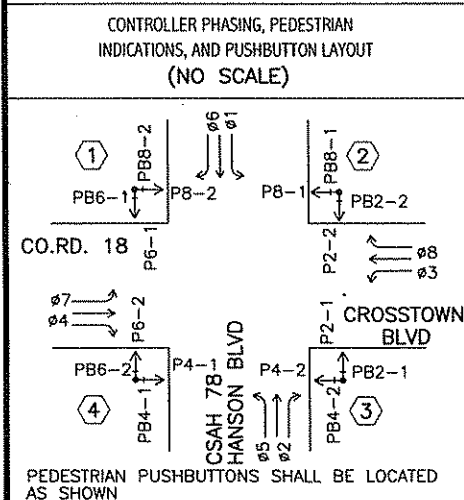
- (B) SERVICE CABINET (SEE DETAIL)**
 CABINET FOUNDATION (SEE DETAIL)
 SERVICE CABINET TO S.O.P. VIA H.H. 17 :
 53 mm R.S.C. (POWER FEED)
 3-1/C #4 (CONNECTION AT S.O.P. BY CONNEXUS)
 SERVICE CABINET TO CONTROLLER CABINET VIA H.H. 16 :
 53 mm R.S.C. (METERED SIGNAL SERVICE)
 3-1/C #6
 2-3/C #12 (LUM.)

LOOP DETECTORS (ALL NMC TYPE)			
NUMBER	SIZE (m)	FUNCTION	LOCATION m*
D1-1	2-1.7x1.7	1	3.0, 12.0
D2-1	1.7x1.7	1	145.0
D3-1	2-1.7x1.7	1	3.0, 12.0
D4-1	1.7x1.7	3	92.0
D4-2	2-1.7x1.7	2	0, 2.75
D4-3	2-1.7x1.7	5	-1.5, 1.2
D5-1	2-1.7x1.7	1	3.0, 12.0
D6-1	1.7x1.7	1	145.0
D7-1	2-1.7x1.7	1	3.0, 12.0
D8-1	1.7x1.7	3	122
D8-2	2-1.7x1.7	2	0, 2.75
D8-3	2-1.7x1.7	5	-1.5, 1.2

* LOCATION IS DISTANCE FROM STOP BAR TO FRONT OF DETECTOR

- LOOP DETECTOR FUNCTION CODES:
 1) CALL AND EXTEND
 2) CALL ONLY
 3) EXTEND ONLY
 4) CALL ONLY - DENSITY
 5) DELAYED CALL ONLY
 6) DELAYED CALL ONLY - DENSITY
 7) DELAYED CALL - IMMEDIATE EXTEND
 8) CARRY OVER (STRETCH)
 9) ADVISORY DETECTOR

SIGNAL FACES (ALL INDICATIONS SHALL BE 300 mm LED)						
FACE	RED	YELLOW	GREEN	RLTA	YLTA	GLTA
1-1						
1-2						
2-1	•	•	•			
2-2	•	•	•			
3-1						
3-2						
4-1	•	•	•			
4-2	•	•	•			
5-1						
5-2						
6-1	•	•	•			
6-2	•	•	•			
7-1						
7-2						
8-1	•	•	•			
8-2	•	•	•			
8-3	•	•	•			



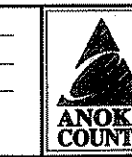
NO	DATE	BY	CKD	APPR	REVISION



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 DATE 9/16/02 REG. NO. 25302

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STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)

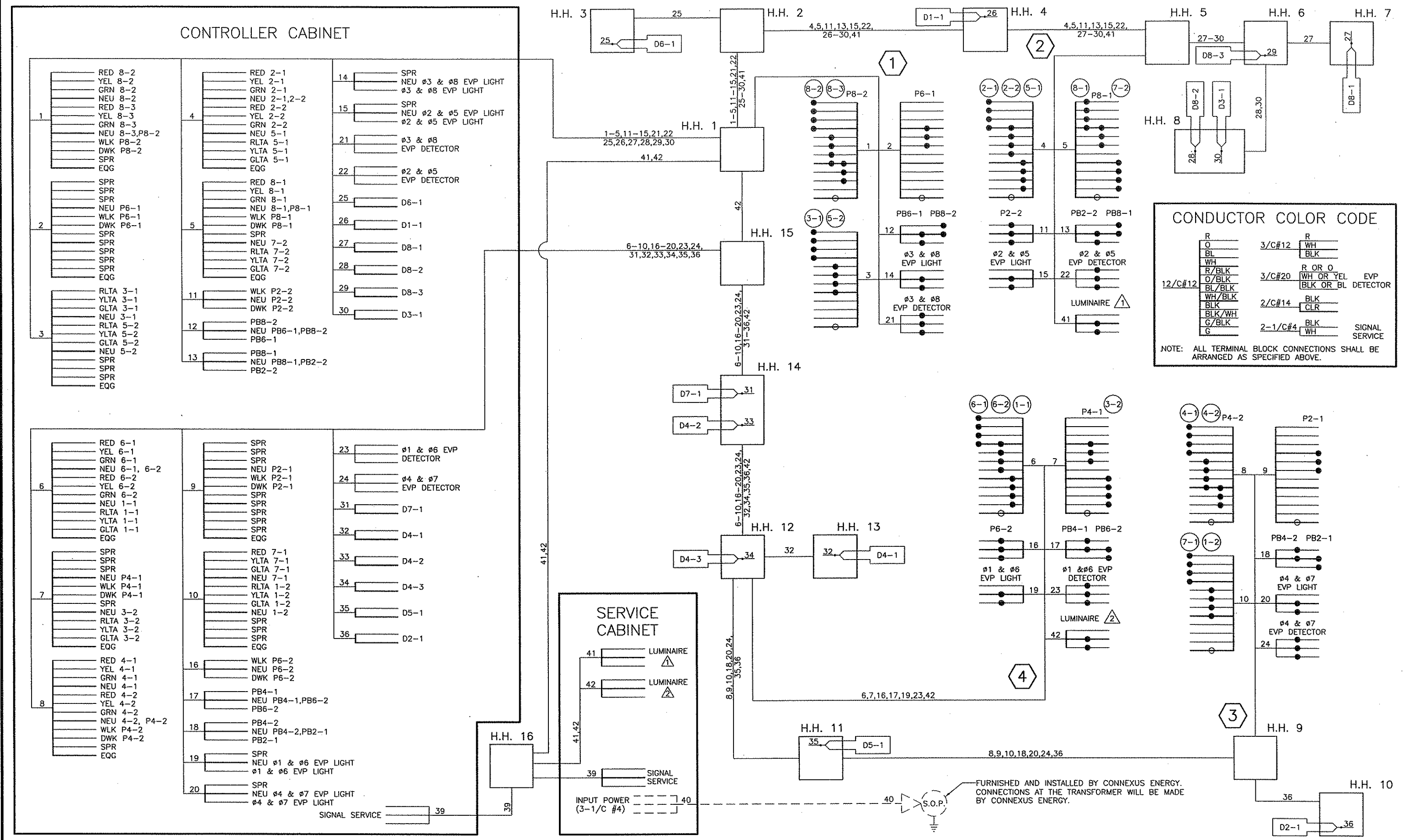


ANOKA COUNTY
 HIGHWAY DEPT.

TRAFFIC SIGNAL SYSTEM
 INTERSECTION LAYOUT
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD.)
 Sheet 57 of 76 Sheets

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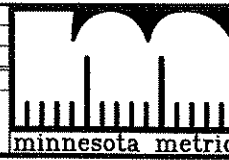


CONDUCTOR COLOR CODE

R	3/C#12	R	
O		WH	
BL		BLK	
WH		R OR O	
R/BLK	3/C#20	WH OR YEL	EVP
O/BLK		BLK OR BL	DETECTOR
BL/BLK			
WH/BLK	2/C#14	BLK	
BLK		CLR	
BLK/WH			
G/BLK	2-1/C#4	BLK	SIGNAL
G		WH	SERVICE

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

NO	DATE	BY	CKD	APPR	REVISION



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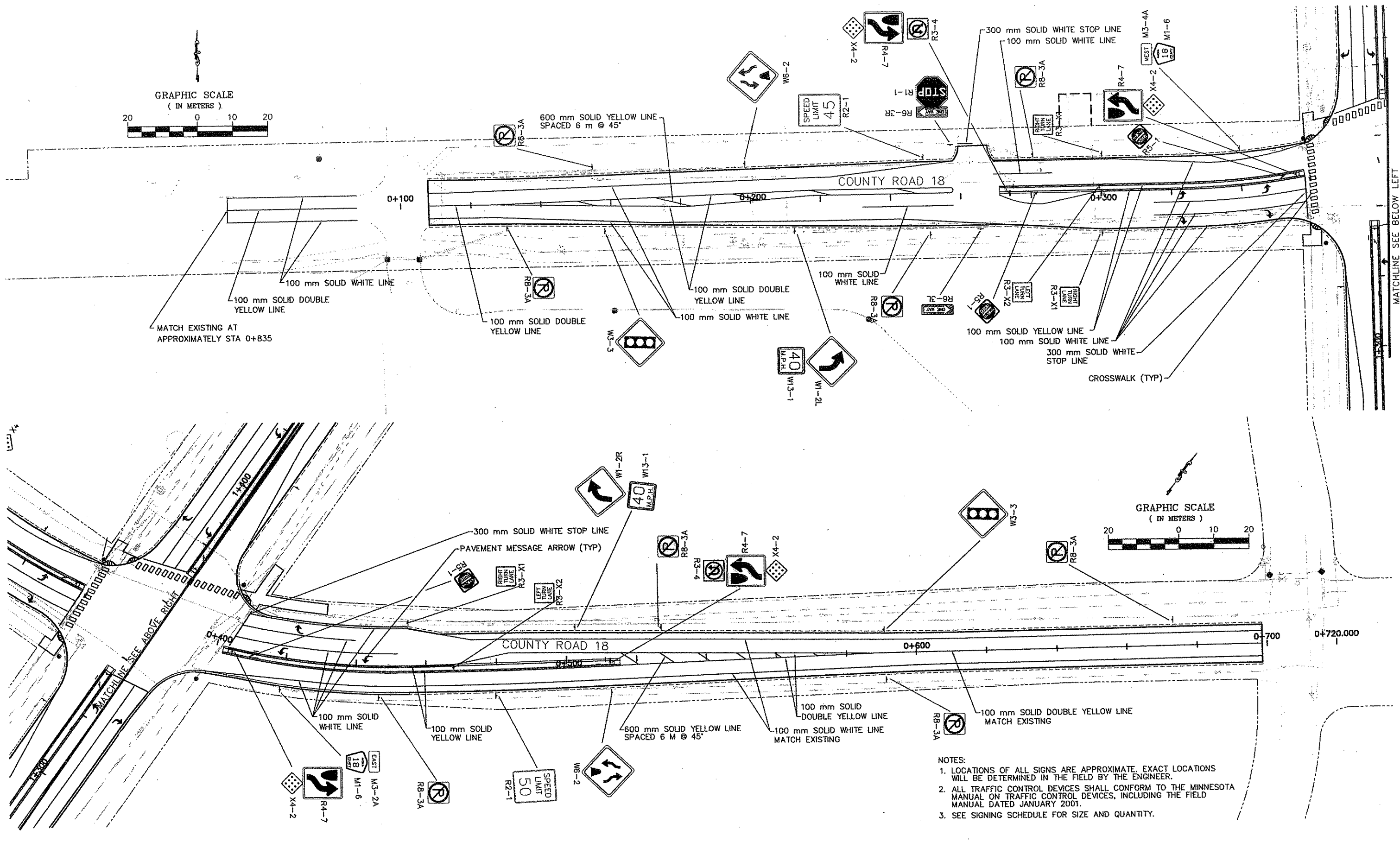
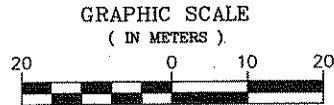
STATE PROJECT NO. 02-678-13
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 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



**ANOKA COUNTY
HIGHWAY DEPT.**

TRAFFIC SIGNAL SYSTEM
FIELD WIRING DIAGRAM
C.S.A.H. 78 (HANSON BLVD.) @
C.R. 18 (CROSSTOWN BLVD.)
Sheet 58 of 76 Sheets

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 DIR & FILENAME: R:\642632.Anoka-Tsig\PlanSheets\Site-D\Layout\Plan_set\7818sgn.dwg 4-14-02 3:58:51 pm EST



- NOTES:
1. LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY 2001.
 3. SEE SIGNING SCHEDULE FOR SIZE AND QUANTITY.

NO	DATE	BY	CKD	APPR	REVISION

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 PARSONS TRANSPORTATION GROUP INC.
 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
 Phone: (612)332-0421 • Fax: (612)332-6180



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 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
 HIGHWAY DEPT.

PERMANENT SIGNING AND STRIPING PLAN
 CO. RD. 18 (CROSSTOWN BLVD.)
 Sheet 60 of 76 Sheets

PARSONS TRANSPORTATION GROUP
DIR & FILENAME: R:\642632.Anoka-Tsg\PlanSheets\Site-D\Layout\Plan set\ 7818sgn.dwg 4-14-02 3:58:51 pm EST

PERMANENT STRIPING QUANTITIES				
TYPE	UNIT	QUANTITY	UNIT	QUANTITY
100 mm SOLID WHITE	LIN m	4200	LIN FT	13,780
300 mm SOLID WHITE	LIN m	50	LIN FT	165
100 mm SOLID YELLOW	LIN m	1620	LIN FT	5315
100 mm SOLID DOUBLE YELLOW	LIN m	895	LIN FT	2,935
600 mm SOLID YELLOW	LIN m	110	LIN FT	365
PAVEMENT MESSAGE ARROW (LEFT)	EACH	9	EACH	9
PAVEMENT MESSAGE ARROW (RIGHT)	EACH	8	EACH	8
CROSS WALK	SQ m	55	SQ FT	560

M.M.U.T.C.D. SIGN NUMBER	PANEL SIZE		PANEL AREA		QUANTITY GROUND POST MOUNT INSTALLATIONS	QUANTITY ISLAND MOUNT INSTALLATIONS	SIGN PANEL	# POSTS/INSTALLATION		MOUNTING HEIGHT		TOTAL PANEL AREA
	INCHES	mm	SQ. FT.	m ²				FT.	m	FT.	m	
R1-1	30" X 30"	762 X 762	6.25	0.581	3	0		2	7.0	2.1 m	1.743	
R2-1(45)	24" X 30"	610 X 762	5.00	0.465	2	0		2	7.0	2.1 m	0.465	
R2-1(50)	24" X 30"	610 X 762	5.00	0.465	2	0		2	7.0	2.1 m	0.465	
R2-1(55)	24" X 30"	610 X 762	5.00	0.465	2	0		2	7.0	2.1 m	0.930	
R3-X1	30" X 30"	762 X 762	6.25	0.581	7	0		1	7.0	2.1 m	4.067	
R3-X2	30" X 30"	762 X 762	6.25	0.581	0	4		1	7.0	2.1 m	2.324	
R3-2	24" X 24"	610 X 610	4.00	0.372	0	2		1	7.0	2.1 m	0.744	
R3-4	24" X 24"	610 X 610	4.00	0.372	0	4(2)		1	7.0	2.1 m	1.488	
R5-1	30" X 30"	762 X 762	6.25	0.581	0	7		1	7.0	2.1 m	4.067	
R4-7	24" X 30"	610 X 762	5.00	0.465	0	9		1	7.0	2.1 m	4.185	
X4-2	18" X 18"	455 X 455	-	(1)	0	10			7.0	2.1 m	(1)	
R6-1R	36" X 12"	914 X 305	3.00	0.279	4(3)	0		0	7.0	2.1 m	1.953	
R6-1R	36" X 12"	914 X 305	3.00	0.279	3(4)	0		1	7.0	2.1 m		
R6-1L	36" X 12"	914 X 305	3.00	0.279	4(3)	0		0	7.0	2.1 m	1.116	
R6-1L	36" X 12"	914 X 305	3.00	0.279	0	0		0	7.0	2.1 m		
W1-2L	36" X 36"	914 X 914	9.00	0.835	2	0		2	7.0	2.1 m	2.414	
W1-2R	36" X 36"	914 X 914	9.00	0.835	2	0						
W13-1	24" X 24"	610 X 610	4.00	0.372	0	0						
W6-2	36" X 36"	914 X 914	9.00	0.835	4	0		2	7.0	2.1 m	3.340	
W3-3	36" X 36"	914 X 914	9.00	0.835	4	0		2	7.0	2.1 m	3.340	
M6-1	24" X 24"	610 X 610	4.00	0.372	4	-		1	7.0	2.1 m	1.488	
M3-1A	12" X 24"	305 X 610	2.00	0.186	1	-		1	7.0	2.1 m	0.186	
M3-2A	12" X 24"	305 X 610	2.00	0.186	1	-		1	7.0	2.1 m	0.186	
M3-3A	12" X 24"	305 X 610	2.00	0.186	1	-		1	7.0	2.1 m	0.186	
M3-4A	12" X 24"	305 X 610	2.00	0.186	1	-		1	7.0	2.1 m	0.186	
RB-3a	24" X 24"	610 X 610	4.00	0.372	8	-		1	7.0	2.1 m	2.976	
TOTAL											37.849	

- (1) PAID FOR UNDER 2564.602 (HAZARD MARKER X4-2) BY THE EACH
- (2) MOUNTED ON BACK OF R4-7 AND X4-2 SIGNS
- (3) MOUNTED ON TRAFFIC SIGNAL MAST ARM POLE
- (4) TWO SIGNS MOUNTED ON R1-1 POSTS

NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

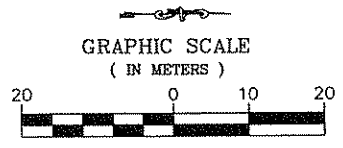
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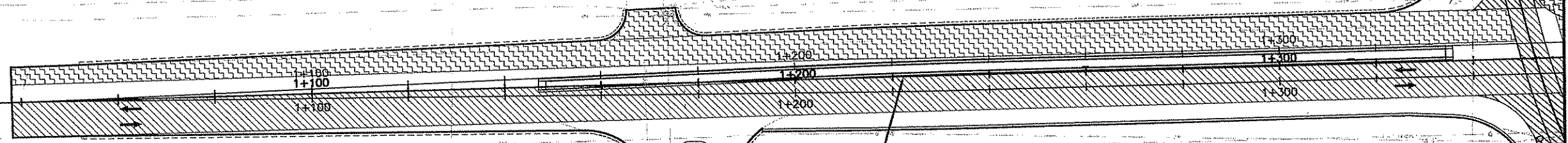
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)

ANOKA COUNTY
 HIGHWAY DEPT.

PERMANENT SIGNING
 AND STRIPING PLAN
 Sheet 61 of 76 Sheets



1+000



(1) SHIFT TRAFFIC TO NB LANE AND SHOULDER. SALVAGE SOUTHBOUND SHOULDER PAVEMENT SECTION. CONSTRUCT PORTION OF SOUTHBOUND SUBBASE AND WIDENING ADJACENT TO INPLACE PAVEMENT. PROVIDE PERMANENT BITUMINOUS BASE TO MATCH EXISTING PAVEMENT FOR TEMPORARY DRIVING SURFACE IN STAGE 2. MAINTAIN CR 18 TRAFFIC ACROSS CSAH 78

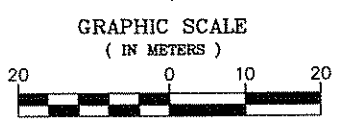
MATCHLINE SEE ABOVE RIGHT

MATCHLINE SEE BELOW LEFT

L78

LEGEND

- TRAFFIC LANES
- PERMANENT CONSTRUCTION
- CONSTRUCT PERMANENT BITUMINOUS BASE



1+700
1+700
1+700
1+745.054
1+745.000
1+745.054

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NO	DATE	BY	CKD	APPR	REVISION



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
James Kuntz
 DATE 4-15-02 REG. NO. 10169

DRAWN BY SRH DATE
 DESIGN BY JCK DATE
 CHECKED BY JAG DATE

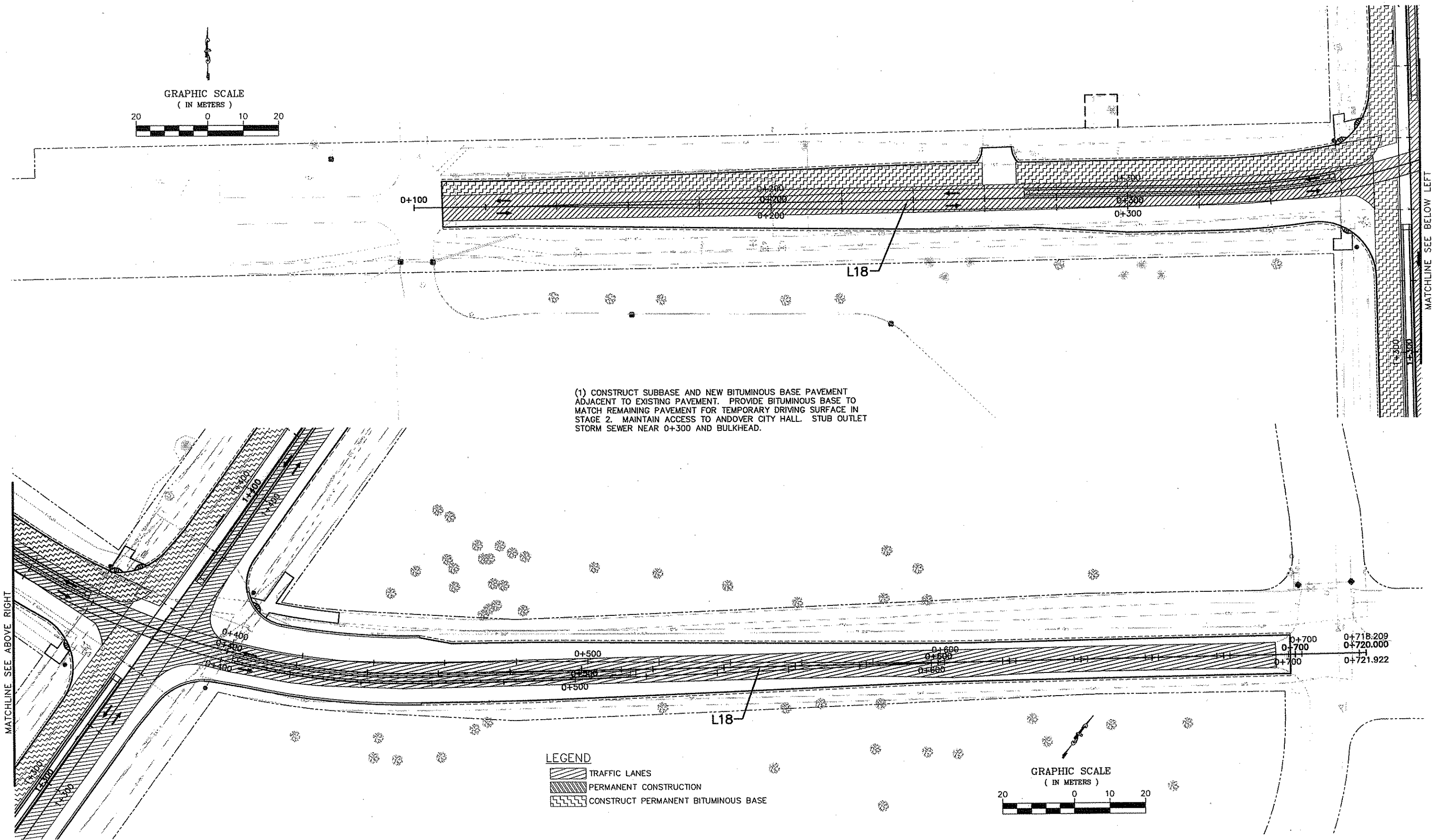
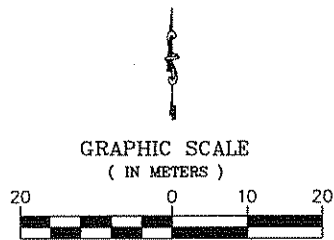
STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



**ANOKA COUNTY
 HIGHWAY DEPT.**

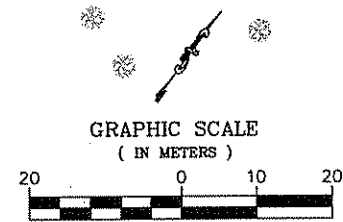
CONSTRUCTION STAGING
 STAGE 1
 C.S.A.H. 78 (HANSON BLVD.)
 Sheet 62 of 76 Sheets

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(1) CONSTRUCT SUBBASE AND NEW BITUMINOUS BASE PAVEMENT ADJACENT TO EXISTING PAVEMENT. PROVIDE BITUMINOUS BASE TO MATCH REMAINING PAVEMENT FOR TEMPORARY DRIVING SURFACE IN STAGE 2. MAINTAIN ACCESS TO ANDOVER CITY HALL. STUB OUTLET STORM SEWER NEAR 0+300 AND BULKHEAD.

- LEGEND**
- TRAFFIC LANES
 - PERMANENT CONSTRUCTION
 - CONSTRUCT PERMANENT BITUMINOUS BASE



MATCHLINE SEE ABOVE RIGHT

MATCHLINE SEE BELOW LEFT

NO	DATE	BY	CKD	APPR	REVISION



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James C. Knutson
 DATE 4-15-02 REG. NO. 10169

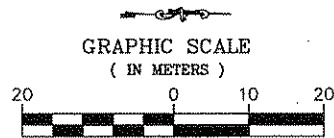
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STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)

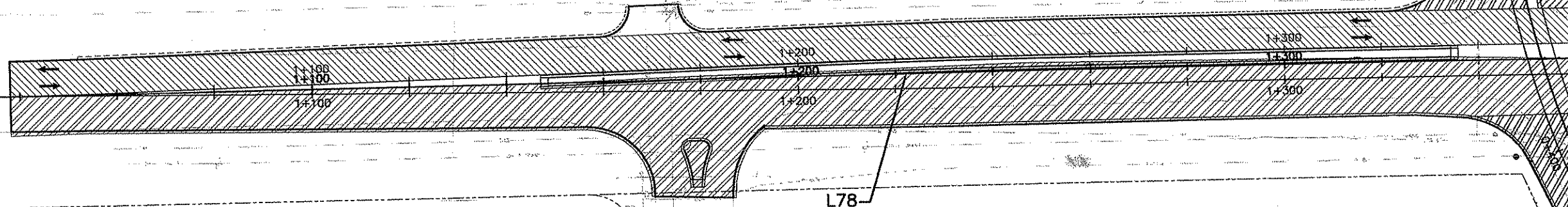


**ANOKA COUNTY
 HIGHWAY DEPT.**

**CONSTRUCTION STAGING
 STAGE 1**
 CO. RD. 18 (CROSTOWN BLVD.)
 Sheet 63 of 76 Sheets



1+000



(1) SHIFT TRAFFIC TO EXISTING SOUTH BOUND AND PERMANENT BITUMINOUS BASE SURFACE. CLOSE 150TH LANE NW. CONSTRUCT ALL NORTH BOUND PAVEMENT AND NB CURB AND GUTTER IN THE MEDIAN SOUTH OF CR18. CONSTRUCT STORMSEWER AT 1+260 TO 1+315 WITH STUBS TO CONNECT SB CATCH BASINGS IN STAGE 3. CONSTRUCT THE SOUTHBOUND LEFT TURN LANE AND NORTHBOUND MEDIAN CURB AND GUTTER NORTH OF CR 18 AND CONSTRUCT ALL STORMSEWER AT 1+388 AND 1+460

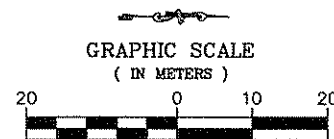
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L78

LEGEND

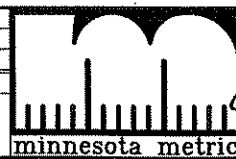
- TRAFFIC LANES
- PERMANENT CONSTRUCTION
- CONSTRUCT PERMANENT BITUMINOUS BASE



1+700
1+700
1+745.054
1+745.000
1+745.054

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NO	DATE	BY	CKD	APPR	REVISION



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James C. Kuntow 4-15-02
 DATE 4-15-02 REG. NO. 10169

DRAWN BY SRH DATE _____
 DESIGN BY JCK DATE _____
 CHECKED BY JAG DATE _____

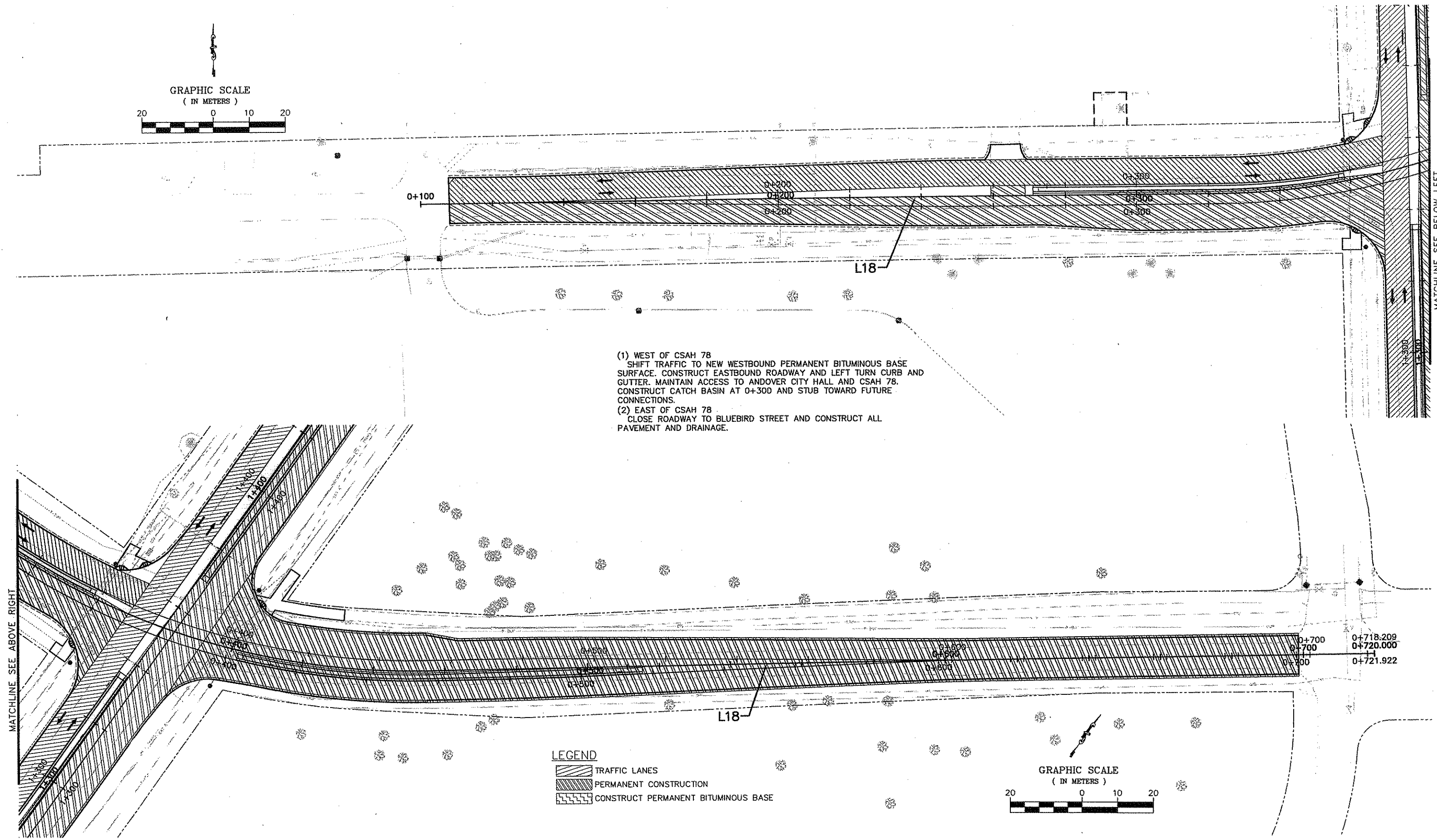
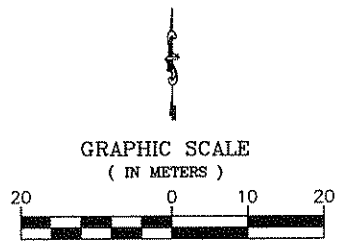
STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

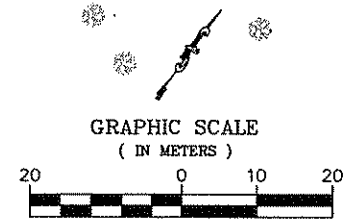
CONSTRUCTION STAGING
 STAGE 2
 C.S.A.H. 78 (HANSON BLVD.)
 Sheet 64 of 76 Sheets

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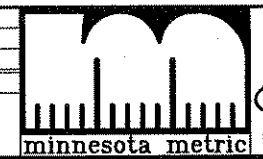
(1) WEST OF CSAH 78
 SHIFT TRAFFIC TO NEW WESTBOUND PERMANENT BITUMINOUS BASE SURFACE. CONSTRUCT EASTBOUND ROADWAY AND LEFT TURN CURB AND GUTTER. MAINTAIN ACCESS TO ANDOVER CITY HALL AND CSAH 78. CONSTRUCT CATCH BASIN AT 0+300 AND STUB TOWARD FUTURE CONNECTIONS.
 (2) EAST OF CSAH 78
 CLOSE ROADWAY TO BLUEBIRD STREET AND CONSTRUCT ALL PAVEMENT AND DRAINAGE.

LEGEND
 TRAFFIC LANES
 PERMANENT CONSTRUCTION
 CONSTRUCT PERMANENT BITUMINOUS BASE



NO	DATE	BY	CKD	APPR	REVISION

PARSONS
 PARSONS TRANSPORTATION GROUP INC.
 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
 Phone: (612)332-0421 • Fax: (612)332-6160



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James E. Knutson
 DATE 4-15-02 REG. NO. 10169

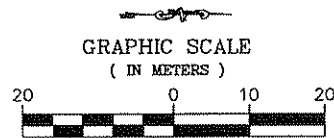
DRAWN BY SRH DATE _____
 DESIGN BY JCK DATE _____
 CHECKED BY JAG DATE _____

STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) ©
 C.R. 18 (CROSSTOWN BLVD. N.W.)

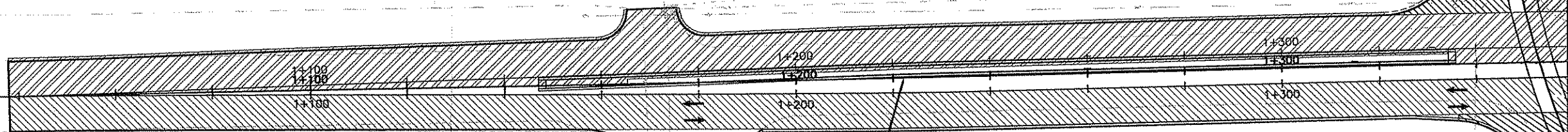


ANOKA COUNTY
HIGHWAY DEPT.

CONSTRUCTION STAGING
 STAGE 2
 CO. RD. 18 (CROSSTOWN BLVD.)
 Sheet 65 of 76 Sheets



1+000



(1) SHIFT TRAFFIC TO NEW NORTHBOUND ROADWAY. CONSTRUCT SOUTHBOUND ROADWAY AND DRAINAGE AT 1+260 AND 1+330 WITH REMAINDER OF CURB AND GUTTER AND CONCRETE WALK IN MEDIAN.

L78

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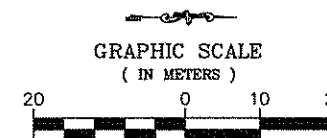
L78

1+700
1+700
1+700

1+745.054
1+745.000
1+745.054

LEGEND

- TRAFFIC LANES
- PERMANENT CONSTRUCTION
- CONSTRUCT PERMANENT BITUMINOUS BASE



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PARSONS TRANSPORTATION GROUP INC.
111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
Phone: (612)332-6421 • Fax: (612)332-6189



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James O. Hunter
DATE 4-15-02 REG. NO. 10189

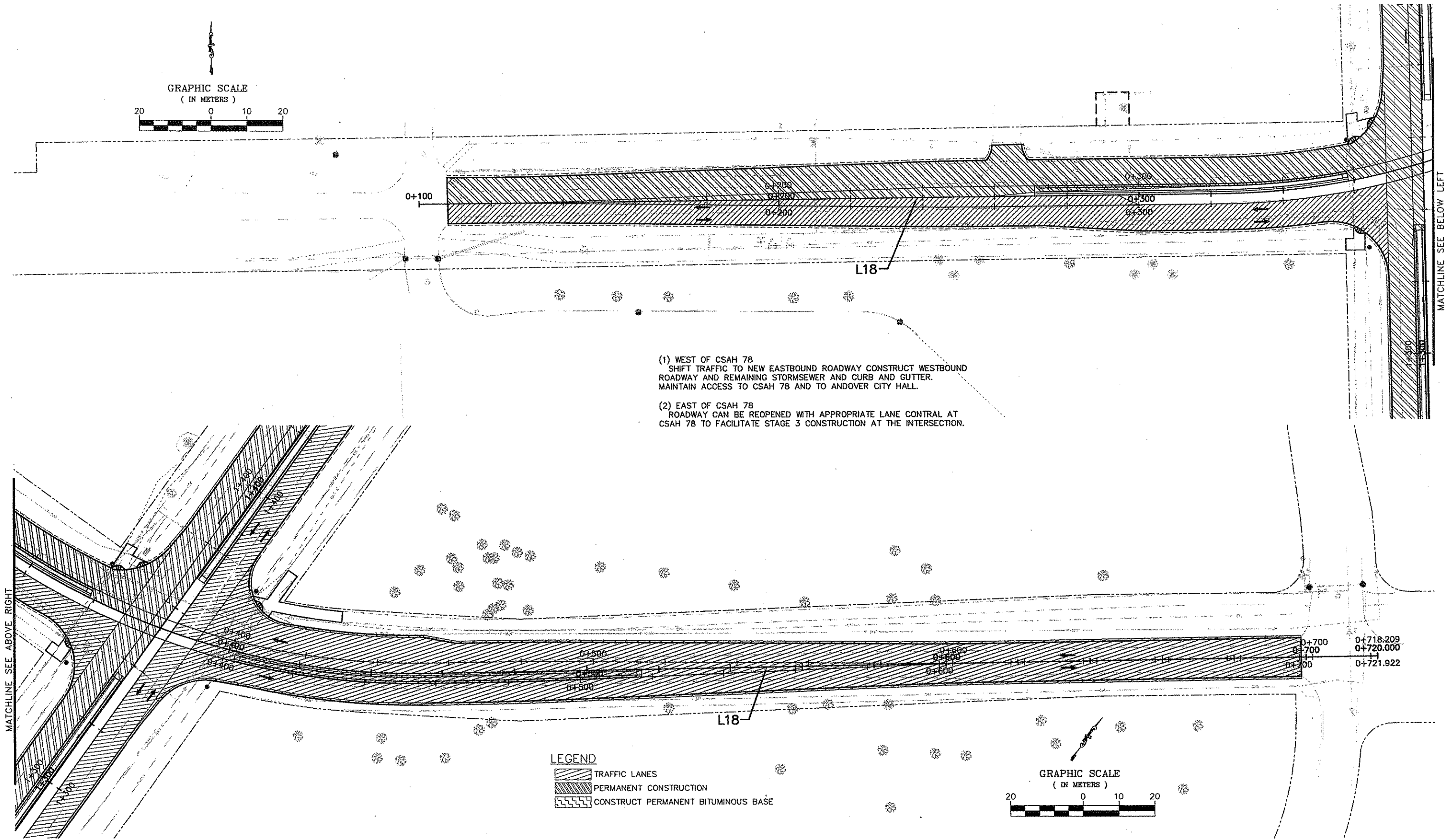
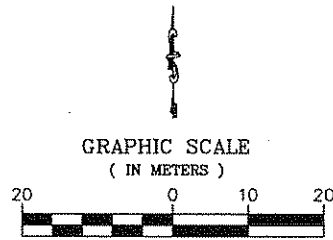
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DESIGN BY JCK DATE _____
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STATE PROJECT NO. 02-678-13
STATE PROJECT NO. 198-020-18
STATE PROJECT NO. 198-131-02
C.S.A.H. 78 (HANSON BLVD.) @
C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

CONSTRUCTION STAGING
STAGE 3
C.S.A.H. 78 (HANSON BLVD.)
Sheet 66 of 76 Sheets

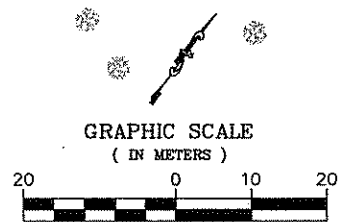


(1) WEST OF CSAH 78
SHIFT TRAFFIC TO NEW EASTBOUND ROADWAY CONSTRUCT WESTBOUND ROADWAY AND REMAINING STORMSEWER AND CURB AND GUTTER. MAINTAIN ACCESS TO CSAH 78 AND TO ANDOVER CITY HALL.

(2) EAST OF CSAH 78
ROADWAY CAN BE REOPENED WITH APPROPRIATE LANE CONTROL AT CSAH 78 TO FACILITATE STAGE 3 CONSTRUCTION AT THE INTERSECTION.

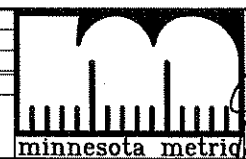
LEGEND

- TRAFFIC LANES
- PERMANENT CONSTRUCTION
- CONSTRUCT PERMANENT BITUMINOUS BASE



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NO	DATE	BY	CKD	APPR	REVISION
PARSONS PARSONS TRANSPORTATION GROUP INC. 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA Phone: (612)332-0421 • Fax: (612)332-6180					



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James Chynoweth
DATE 4-15-02 REG. NO. 10169

DRAWN BY SRH DATE _____
DESIGN BY JCK DATE _____
CHECKED BY JAG DATE _____

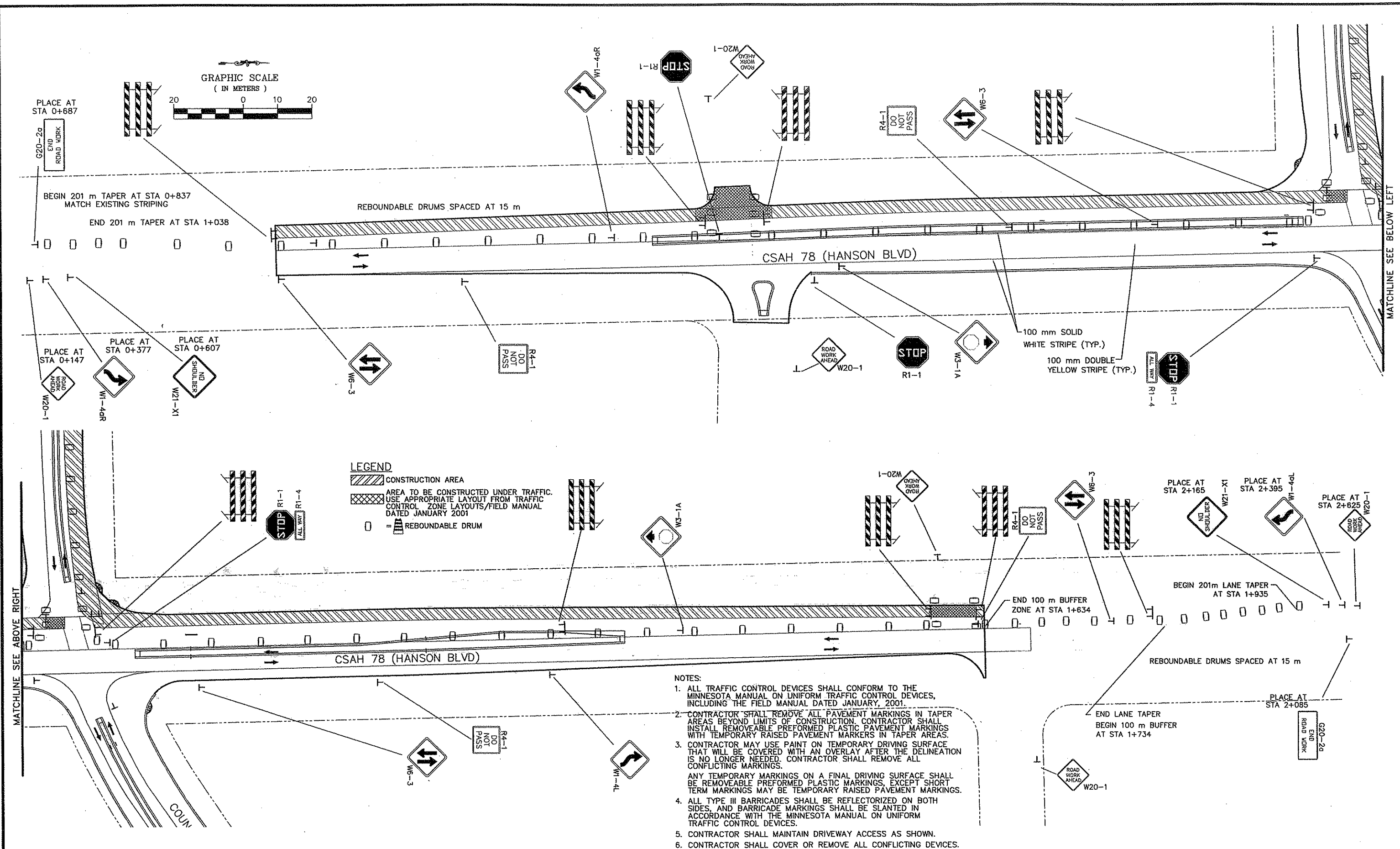
STATE PROJECT NO. 02-678-13
STATE PROJECT NO. 198-020-18
STATE PROJECT NO. 198-131-02
C.S.A.H. 78 (HANSON BLVD.) @
C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

CONSTRUCTION STAGING
STAGE 3
CO. RD. 18 (CROSTOWN BLVD.)
Sheet 67 of 76 Sheets

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LEGEND

- CONSTRUCTION AREA
- AREA TO BE CONSTRUCTED UNDER TRAFFIC. USE APPROPRIATE LAYOUT FROM TRAFFIC CONTROL ZONE LAYOUTS/FIELD MANUAL DATED JANUARY 2001
- REBOUNDABLE DRUM

- NOTES:**
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2001.
 2. CONTRACTOR SHALL REMOVE ALL PAVEMENT MARKINGS IN TAPER AREAS BEYOND LIMITS OF CONSTRUCTION. CONTRACTOR SHALL INSTALL REMOVEABLE PREFORMED PLASTIC PAVEMENT MARKINGS WITH TEMPORARY RAISED PAVEMENT MARKERS IN TAPER AREAS.
 3. CONTRACTOR MAY USE PAINT ON TEMPORARY DRIVING SURFACE THAT WILL BE COVERED WITH AN OVERLAY AFTER THE DELINEATION IS NO LONGER NEEDED. CONTRACTOR SHALL REMOVE ALL CONFLICTING MARKINGS.
 ANY TEMPORARY MARKINGS ON A FINAL DRIVING SURFACE SHALL BE REMOVEABLE PREFORMED PLASTIC MARKINGS, EXCEPT SHORT TERM MARKINGS MAY BE TEMPORARY RAISED PAVEMENT MARKINGS.
 4. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 5. CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AS SHOWN.
 6. CONTRACTOR SHALL COVER OR REMOVE ALL CONFLICTING DEVICES.

NO	DATE	BY	CHKD	APPR	REVISION

PARSONS
 PARSONS TRANSPORTATION GROUP INC.
 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
 Phone: (612)332-0421 • Fax: (612)332-6160



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[Signature]
 DATE 4/16/02 REG. NO. 25302

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 DESIGN BY: DRA DATE: _____
 CHECKED BY: JPM DATE: _____

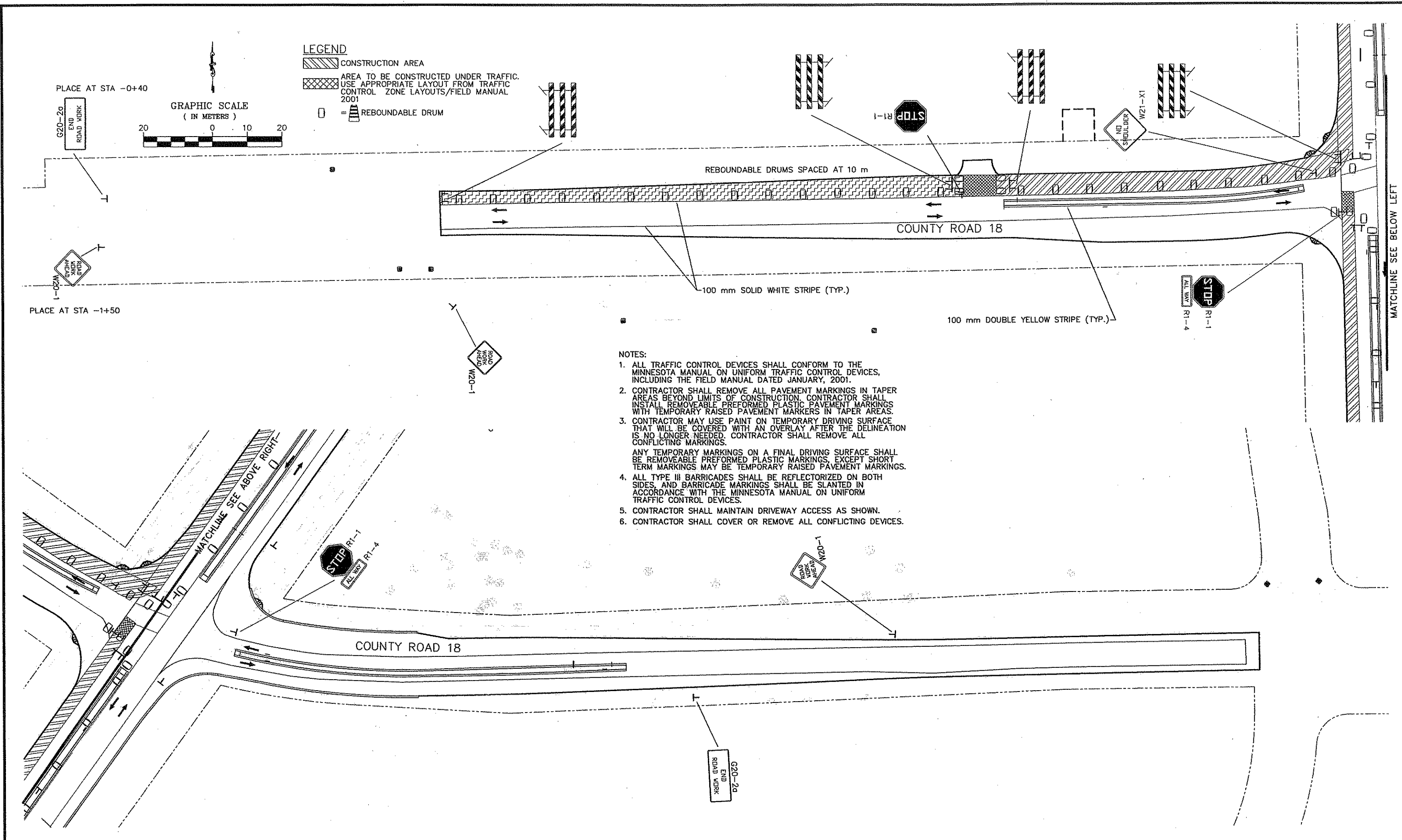
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

TRAFFIC CONTROL PLAN
 STAGE 1
 C.S.A.H. 78 (HANSON BLVD.)
 Sheet 68 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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- NOTES:
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2001.
 2. CONTRACTOR SHALL REMOVE ALL PAVEMENT MARKINGS IN TAPER AREAS BEYOND LIMITS OF CONSTRUCTION. CONTRACTOR SHALL INSTALL REMOVEABLE PREFORMED PLASTIC PAVEMENT MARKINGS WITH TEMPORARY RAISED PAVEMENT MARKERS IN TAPER AREAS.
 3. CONTRACTOR MAY USE PAINT ON TEMPORARY DRIVING SURFACE THAT WILL BE COVERED WITH AN OVERLAY AFTER THE DELINEATION IS NO LONGER NEEDED. CONTRACTOR SHALL REMOVE ALL CONFLICTING MARKINGS.
 ANY TEMPORARY MARKINGS ON A FINAL DRIVING SURFACE SHALL BE REMOVEABLE PREFORMED PLASTIC MARKINGS, EXCEPT SHORT TERM MARKINGS MAY BE TEMPORARY RAISED PAVEMENT MARKINGS.
 4. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 5. CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AS SHOWN.
 6. CONTRACTOR SHALL COVER OR REMOVE ALL CONFLICTING DEVICES.

NO	DATE	BY	CKD	APPR	REVISION

PARSONS
 PARSONS TRANSPORTATION GROUP INC.
 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
 Phone: (612)332-6421 • Fax: (612)332-6180

minnesota metric

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[Signature]
 DATE 7/19/02 REG. NO. 25302

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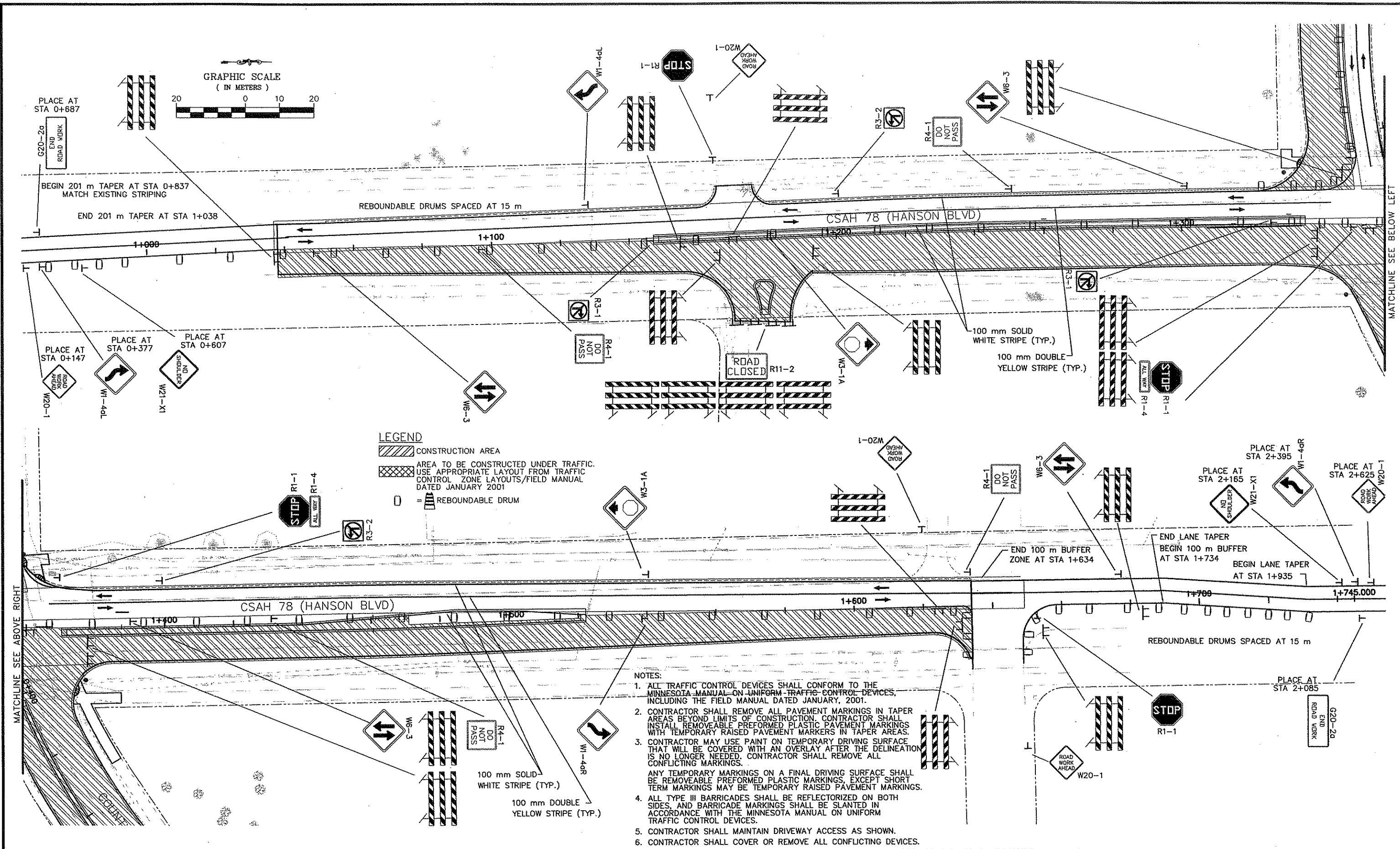
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 STATE PROJECT NO. 198-020-18
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 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

TRAFFIC CONTROL PLAN
 STAGE 1
 CO. RD. 18 (CROSTOWN BLVD.)
 Sheet 69 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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NO	DATE	BY	CKD	APPR	REVISION

PARSONS
 PARSONS TRANSPORTATION GROUP INC.
 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
 Phone: (612)332-2421 • Fax: (612)332-6169

mm
 minnesota metric

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

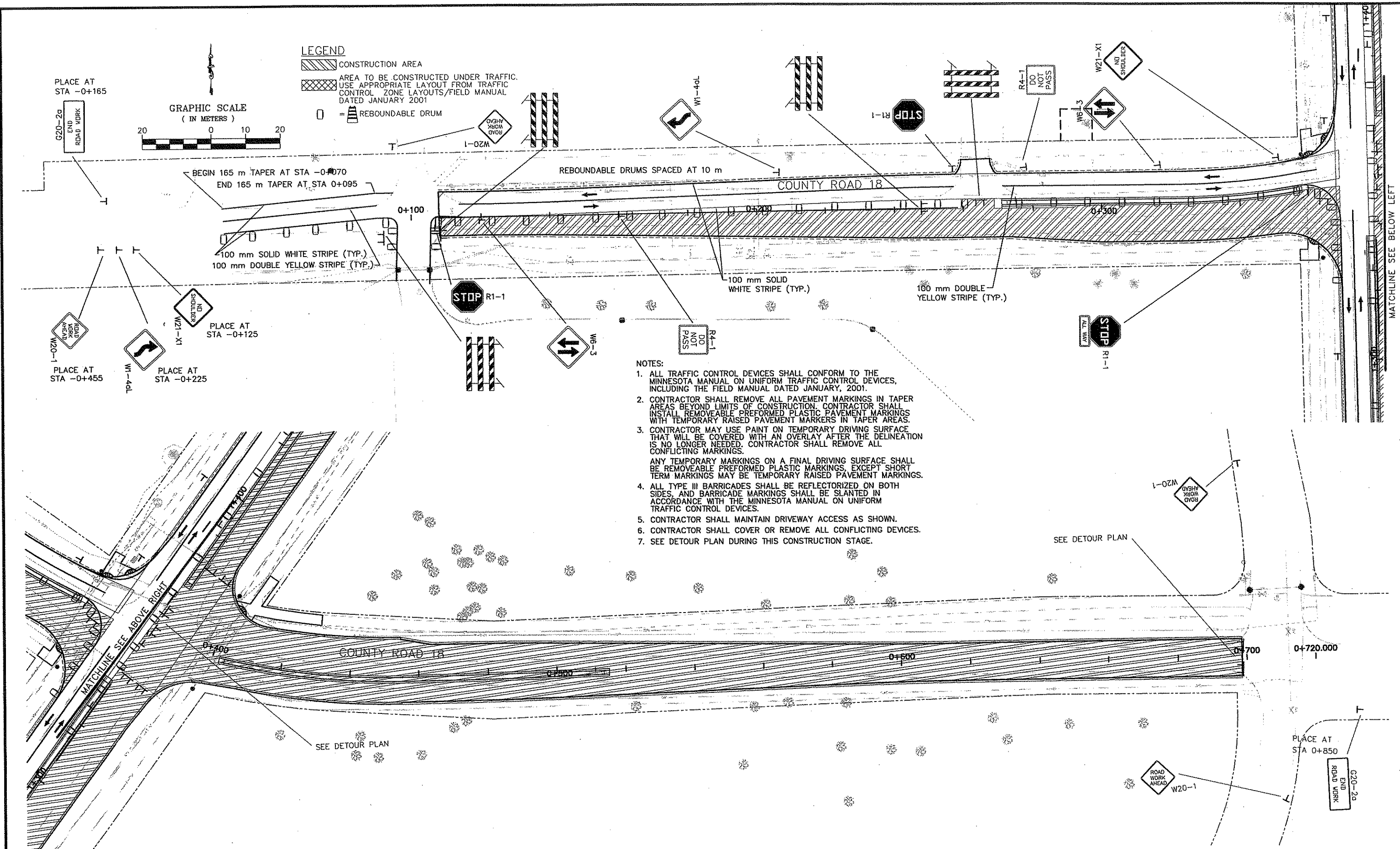
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 DATE 4/16/02 REG NO 25302

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 DESIGN BY: DRA DATE: _____
 CHECKED BY: TPM DATE: _____

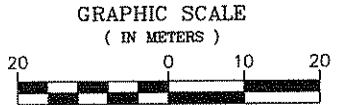
STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)

ANOKA COUNTY
 HIGHWAY DEPT.

TRAFFIC CONTROL PLAN
 STAGE 2
 C.S.A.H. 78 (HANSON BLVD.)
 Sheet 70 of 76 Sheets



LEGEND
 [Hatched Box] CONSTRUCTION AREA
 [Cross-hatched Box] AREA TO BE CONSTRUCTED UNDER TRAFFIC. USE APPROPRIATE LAYOUT FROM TRAFFIC CONTROL ZONE LAYOUTS/FIELD MANUAL DATED JANUARY 2001
 [Drum Symbol] REBOUNDABLE DRUM



- NOTES:**
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2001.
 2. CONTRACTOR SHALL REMOVE ALL PAVEMENT MARKINGS IN TAPER AREAS BEYOND LIMITS OF CONSTRUCTION. CONTRACTOR SHALL INSTALL REMOVEABLE PREFORMED PLASTIC PAVEMENT MARKINGS WITH TEMPORARY RAISED PAVEMENT MARKERS IN TAPER AREAS.
 3. CONTRACTOR MAY USE PAINT ON TEMPORARY DRIVING SURFACE THAT WILL BE COVERED WITH AN OVERLAY AFTER THE DELINEATION IS NO LONGER NEEDED. CONTRACTOR SHALL REMOVE ALL CONFLICTING MARKINGS.
 ANY TEMPORARY MARKINGS ON A FINAL DRIVING SURFACE SHALL BE REMOVEABLE PREFORMED PLASTIC MARKINGS, EXCEPT SHORT TERM MARKINGS MAY BE TEMPORARY RAISED PAVEMENT MARKINGS.
 4. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 5. CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AS SHOWN.
 6. CONTRACTOR SHALL COVER OR REMOVE ALL CONFLICTING DEVICES.
 7. SEE DETOUR PLAN DURING THIS CONSTRUCTION STAGE.

NO	DATE	BY	CKD	APPR	REVISION

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 PARSONS TRANSPORTATION GROUP INC.
 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
 Phone: (612)332-0421 • Fax: (612)332-6190



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[Signature]
 DATE 4/16/02 REG. NO. 25302

DRAWN BY LEW DATE
 DESIGN BY DRA DATE
 CHECKED BY IPM DATE

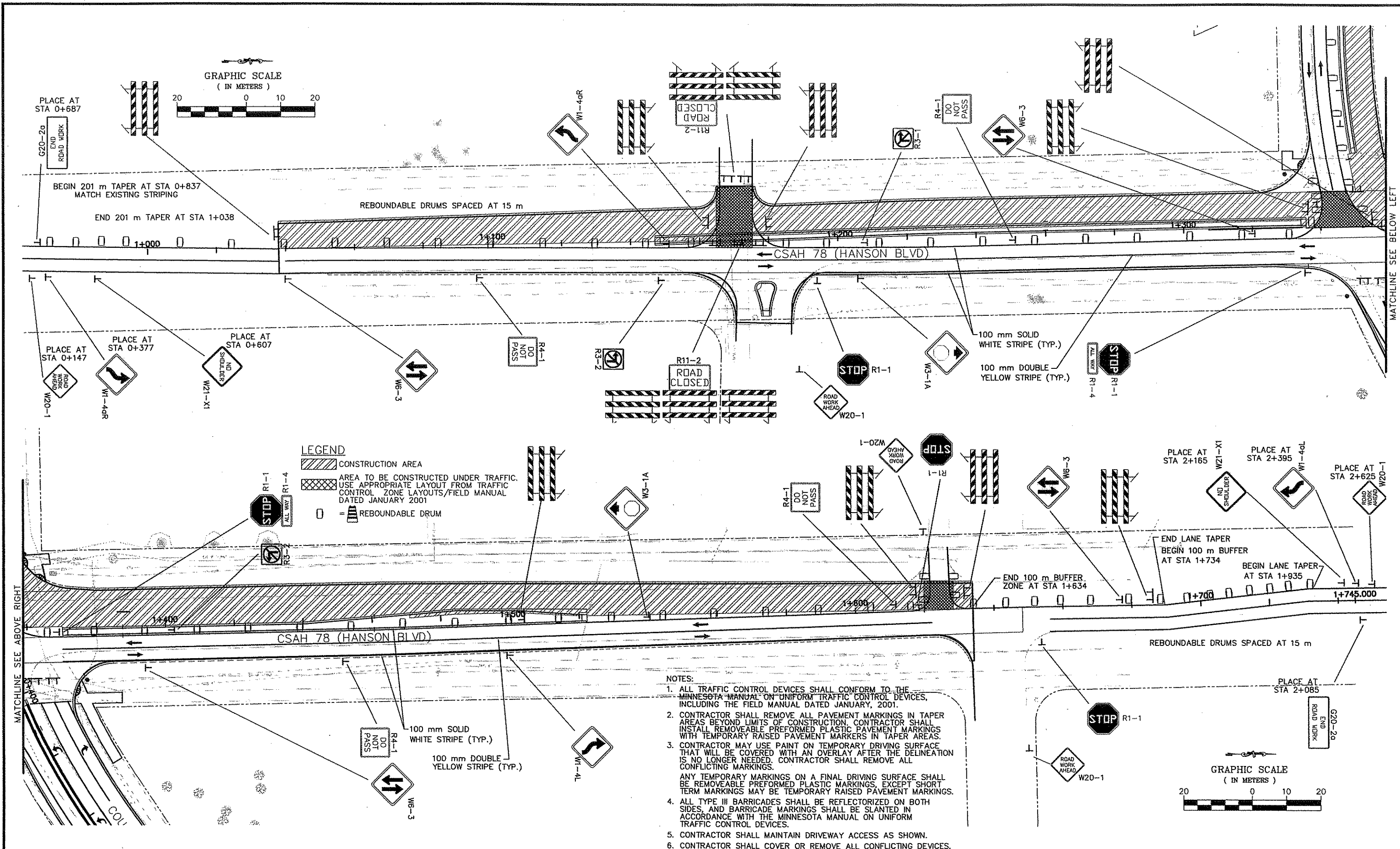
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 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) ©
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
 HIGHWAY DEPT.

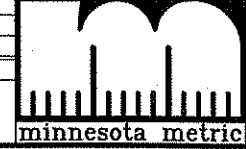
TRAFFIC CONTROL PLAN
 STAGE 2
 CO. RD. 18 (CROSSTOWN BLVD.)
 Sheet 71 of 76 Sheets

PARSONS TRANSPORTATION GROUP
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- NOTES:**
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2001.
 2. CONTRACTOR SHALL REMOVE ALL PAVEMENT MARKINGS IN TAPER AREAS BEYOND LIMITS OF CONSTRUCTION. CONTRACTOR SHALL INSTALL REMOVEABLE PREFORMED PLASTIC MARKINGS WITH TEMPORARY RAISED PAVEMENT MARKERS IN TAPER AREAS.
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 5. CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AS SHOWN.
 6. CONTRACTOR SHALL COVER OR REMOVE ALL CONFLICTING DEVICES.

NO	DATE	BY	CKD	APPR	REVISION
 PARSONS TRANSPORTATION GROUP INC. 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA Phone: (612)332-9421 • Fax: (612)332-6180					



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 DATE 7/16/02 REG. NO. 25302

DRAWN BY: LEW DATE: _____
 DESIGN BY: DRA DATE: _____
 CHECKED BY: TPM DATE: _____

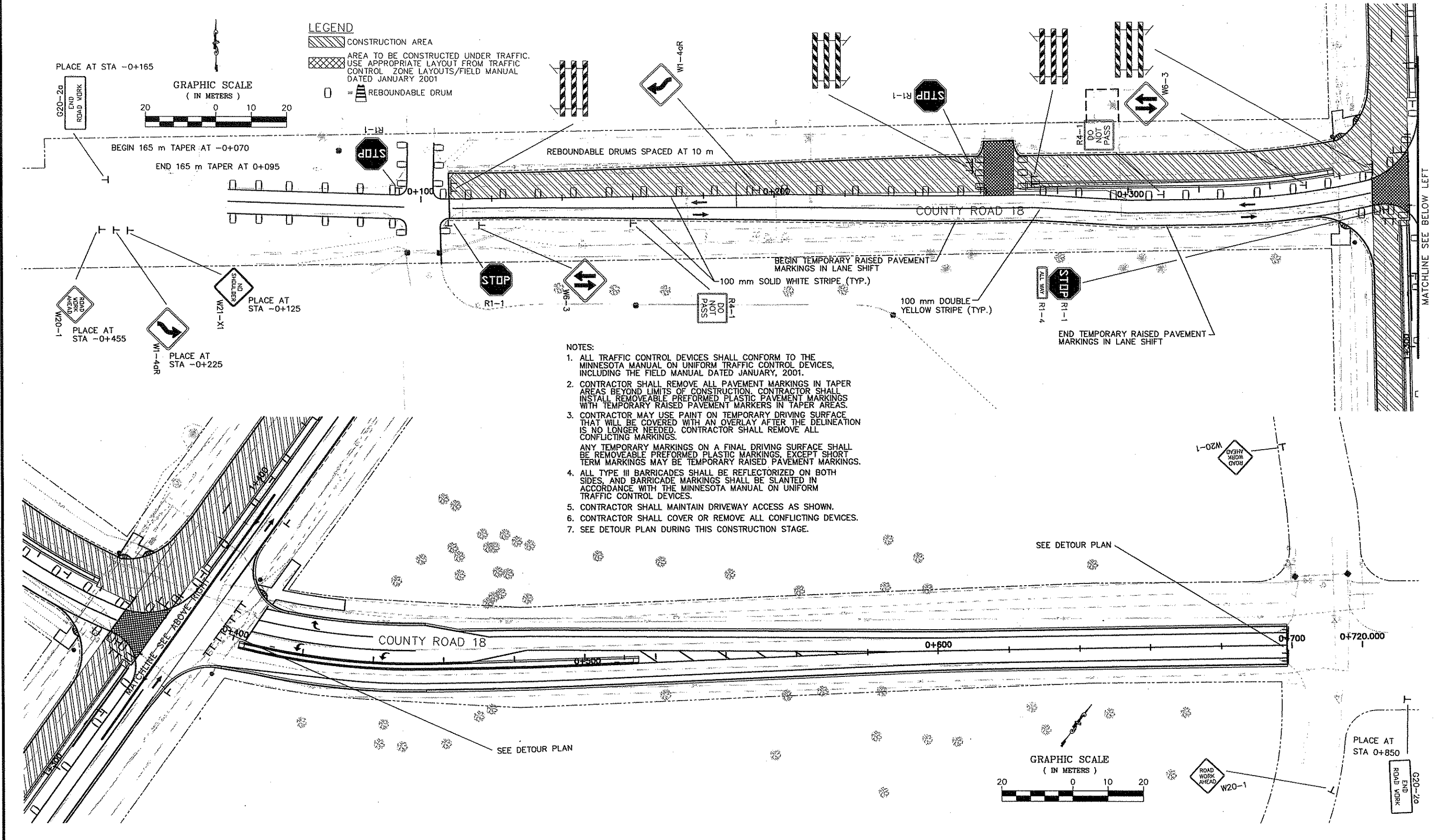
STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



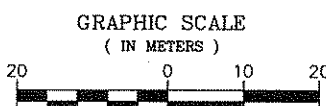
ANOKA COUNTY
HIGHWAY DEPT.

TRAFFIC CONTROL PLAN
 STAGE 3
 C.S.A.H. 78 (HANSON BLVD.)
 Sheet 72 of 76 Sheets

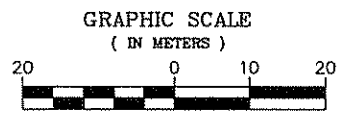
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LEGEND
 [Hatched Area] CONSTRUCTION AREA
 [Cross-hatched Area] AREA TO BE CONSTRUCTED UNDER TRAFFIC. USE APPROPRIATE LAYOUT FROM TRAFFIC CONTROL ZONE LAYOUTS/FIELD MANUAL DATED JANUARY 2001
 [Square with 'R'] REBOUNDABLE DRUM

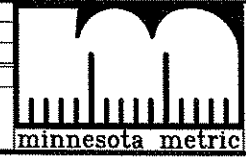


- NOTES:**
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2001.
 2. CONTRACTOR SHALL REMOVE ALL PAVEMENT MARKINGS IN TAPER AREAS BEYOND LIMITS OF CONSTRUCTION. CONTRACTOR SHALL INSTALL REMOVEABLE PREFORMED PLASTIC PAVEMENT MARKINGS WITH TEMPORARY RAISED PAVEMENT MARKERS IN TAPER AREAS.
 3. CONTRACTOR MAY USE PAINT ON TEMPORARY DRIVING SURFACE THAT WILL BE COVERED WITH AN OVERLAY AFTER THE DELINEATION IS NO LONGER NEEDED. CONTRACTOR SHALL REMOVE ALL CONFLICTING MARKINGS.
 ANY TEMPORARY MARKINGS ON A FINAL DRIVING SURFACE SHALL BE REMOVEABLE PREFORMED PLASTIC MARKINGS. EXCEPT SHORT TERM MARKINGS MAY BE TEMPORARY RAISED PAVEMENT MARKINGS.
 4. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 5. CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AS SHOWN.
 6. CONTRACTOR SHALL COVER OR REMOVE ALL CONFLICTING DEVICES.
 7. SEE DETOUR PLAN DURING THIS CONSTRUCTION STAGE.



NO	DATE	BY	CKD	APPR	REVISION

PARSONS
 PARSONS TRANSPORTATION GROUP INC.
 111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
 Phone: (612)332-0421 • Fax: (612)332-6180



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 [Signature]
 DATE 4/16/02 REG. NO. 25302

DRAWN BY: LEW DATE: _____
 DESIGN BY: DRA DATE: _____
 CHECKED BY: TPM DATE: _____

STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

TRAFFIC CONTROL PLAN
 STAGE 3
 CO. RD. 18 (CROSSTOWN BLVD.)
 Sheet 73 of 76 Sheets

M.U.T.C.D. CODE	PANEL SIZE		SIGN PANEL	STAGE		
	INCHES	mm		STAGE I QTY.	STAGE II QTY.	STAGE III QTY.
W20-1	48" X 48"	1220 X 1220		9	9	8
W1-4L	48" X 48"	1220 X 1220		2	4	2
W1-4R	48" X 48"	1220 X 1220		2	2	4
W3-1A	48" X 48"	1220 X 1220		2	2	2
W21-X1	48" X 48"	1220 X 1220		3	4	3
W20-1	48" X 48"	1220 X 1220		0	0	0
W20-100P	24" X 18"	610 X 455		0	0	0
R4-1	30" X 30"	762 X 762		4	6	6
R3-1	24" X 24"	610 X 610		1	1	2
R3-2	24" X 24"	610 X 610		1	1	2
W6-3	48" X 48"	1220 X 1220		4	6	6

- (1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2001.
- (2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.
- (3) PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3 m INTERVALS. CONTRACTOR SHALL INSTALL REMOVEABLE PREFORMED PLASTIC MARKINGS IN TAPER AREA AND REMOVE ALL CONFLICTING MARKINGS.

M.U.T.C.D. CODE	PANEL SIZE		SIGN PANEL	STAGE		
	INCHES	mm		STAGE I QTY.	STAGE II QTY.	STAGE III QTY.
R11-2	24" X 36"	610 X 914		0	1	2
TYPE III	8 FT.			13	22	18
R1-1	30" X 30"	762 X 762		7	7	9
R1-4	36" X 12"	914 X 305		4	3	3
G20-2o	48" X 24"	1220 X 610		4	4	4
REBOUNDABLE DRUM REFLECTORIZED				135	150	175

STAGE	INSTALL 100 mm PAINT (m)			INSTALL 100 mm LANE TAPE (m)			INSTALL TRPMS (EACH)	
	YELLOW	WHITE	DBL YELLOW	YELLOW	WHITE	DBL YELLOW	YELLOW	WHITE
I	0	1500	750	0	1000	500	270	270
II	0	2000	1000	0	1000	500	490	490
III	0	2000	1000	0	1000	500	580	580
TOTAL	0	5500	2750	0	3000	1500	1340	1340

NO	DATE	BY	CKD	APPR	REVISION



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 DATE 4/16/02 REG. NO. 25302

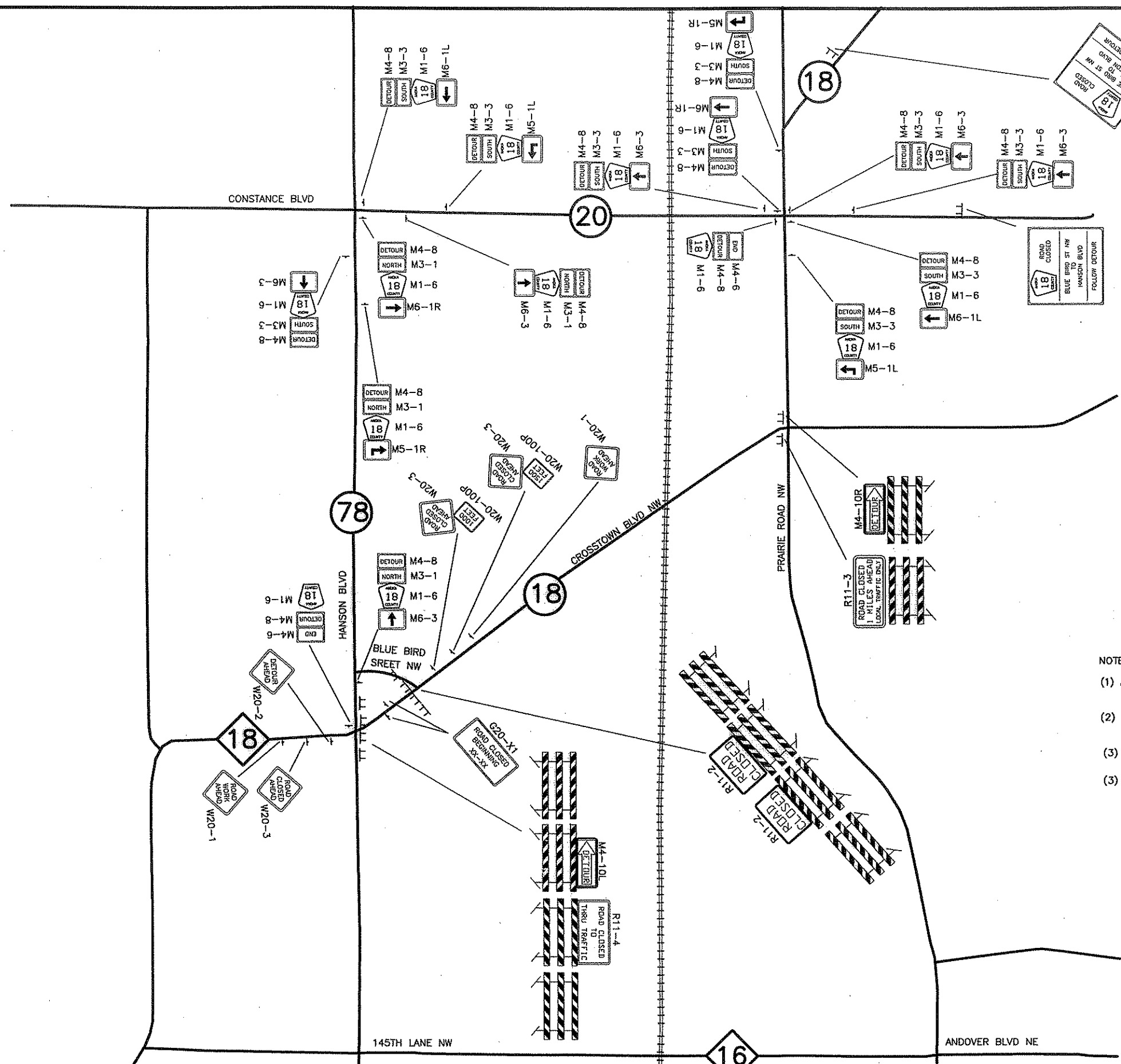
DRAWN BY: LEW DATE: _____
 DESIGN BY: DRA DATE: _____
 CHECKED BY: TPM DATE: _____

STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
 HIGHWAY DEPT.

TRAFFIC CONTROL
 SIGNING TABULATION
 Sheet 74 of 76 Sheets



- NOTES:
- (1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2001.
 - (2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.
 - (3) THE CONTRACTOR SHALL PROVIDE FULL DETOUR BEFORE BEGINNING CONSTRUCTION STAGING 2 AND 3.
 - (3) "ROAD CLOSED BEGINNING" SIGN (G20-X1) TO BE INSTALLED IN ADVANCE OF CLOSURE, AS DIRECTED BY THE ENGINEER.

NO	DATE	BY	CKD	APPR	REVISION



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

[Signature]
 DATE 4/16/02 REG. NO. 25302

DRAWN BY LEW DATE 12/01
 DESIGN BY DRA DATE 12/01
 CHECKED BY TPM DATE 12/01

STATE PROJECT NO. 02-678-13
 STATE PROJECT NO. 198-020-18
 STATE PROJECT NO. 198-131-02
 C.S.A.H. 78 (HANSON BLVD.) @
 C.R. 18 (CROSTOWN BLVD. N.W.)



ANOKA COUNTY
 HIGHWAY DEPT.

DETOUR PLAN
 Sheet 75 of 76 Sheets

PARSONS TRANSPORTATION GROUP
DIR & FILENAME: R:\62632.Anoka-Tsig\PlanSheets\Site-D\Layout\Plan set\7818DETOUR.dwg 4-11-02 12:04:54 pm EST

M.U.T.C.D. CODE	PANEL SIZE		PANEL AREA		QUANTITY GROUND MOUNT INSTALLATIONS	QUANTITY ISLAND MOUNT INSTALLATIONS	SIGN PANEL	# POSTS/INSTALLATION	MOUNTING HEIGHT		TOTAL PANEL AREA
	INCHES	mm	SQ. FT.	m ²					FT.	m	
M4-8 M3-3 M1-6	24" X 12" 24" X 12" 24" X 24"	610 X 305 610 X 305 610 X 610	2.00 2.00 4.00	0.186 0.186 0.372				1	7.0	2.1 m	1.302 1.302 2.604
M6-3 M5-1L M6-1L M5-1R M6-1R	21" X 15" 21" X 15" 21" X 15" 21" X 15" 21" X 15"	534 X 381 534 X 381 534 X 381 534 X 381 534 X 381	2.19 2.19 2.19 2.19 2.19	0.203 0.203 0.203 0.203 0.203	4 2 2 1 1	0 0 0 0 0					0.812 0.406 0.406 0.203 0.203
M4-8 M3-1 M1-6	24" X 12" 24" X 12" 24" X 24"	610 X 305 610 X 305 610 X 610	2.00 2.00 4.00	0.186 0.186 0.372				1	7.0	2.1 m	1.116 1.116 2.232
M6-3 M5-1R M6-1R	21" X 15" 21" X 15" 21" X 15"	534 X 381 534 X 381 534 X 381	2.19 2.19 2.19	0.203 0.203 0.203	2 1 1	0 0 0					0.406 0.203 0.203
M4-6 M4-8 M1-6	24" X 12" 24" X 12" 24" X 24"	610 X 305 610 X 305 610 X 610	2.00 2.00 4.00	0.186 0.186 0.372	2	0		1	7.0	2.1 m	0.372 0.372 0.744
G20-X2	96" X 84"	2440 X 2130	56.00	5.200	2	0		3	7.0	2.1 m	10.4
G20-X1	48" X 60"	1220 X 1525	20.00	1.860	2	0		2	7.0	2.1 m	3.720
M4-10L TYPE III	48" X 18" 8 FOOT	1220 X 455 2440	6.00	0.555	1	0		0	7.0	2.1 m	0.555
M4-10R TYPE III	48" X 18" 8 FOOT	1220 X 455 2440	6.00	0.555	1	0		0	7.0	2.1 m	0.555
SUBTOTAL											34.229

M.U.T.C.D. CODE	PANEL SIZE		PANEL AREA		QUANTITY GROUND MOUNT INSTALLATIONS	QUANTITY ISLAND MOUNT INSTALLATIONS	SIGN PANEL	# POSTS/INSTALLATION	MOUNTING HEIGHT		TOTAL PANEL AREA
	INCHES	mm	SQ. FT.	m ²					FT.	m	
R11-4 TYPE III	60" X 30" 8 FOOT	1525 X 762 2440	12.50	1.162	1	0		0	7.0	2.1 m	1.162
R11-3 TYPE III	60" X 30" 8 FOOT	1525 X 762 2440	12.50	1.162	1	0		0	7.0	2.1 m	1.162
R11-2 TYPE III	48" X 30" 8 FOOT	1220 X 762 2440	10.00	0.930	1	0		0	7.0	2.1 m	0.930
W20-1	48" X 48"	1220 X 1220	16.00	1.488	2	0		2	7.0	2.1 m	2.976
W20-2	48" X 48"	1220 X 1220	16.00	1.488	2	0		2	7.0	2.1 m	2.976
W20-3	48" X 48"	1220 X 1220	16.00	1.488	3	0		2	7.0	2.1 m	4.464
W20-100P	36" X 24"	914 X 610	6.00	0.558	0	0		0			0.558
W20-100P	36" X 24"	914 X 610	6.00	0.558	0	0		0			0.558
TYPE III	8 FOOT	2440									
SUBTOTAL											14.776
TOTAL											46.037

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- (2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.

NO	DATE	BY	CKD	APPR	REVISION

PARSONS
PARSONS TRANSPORTATION GROUP INC.
111 Third Avenue South, Suite 350 • Minneapolis, Minnesota 55401 USA
Phone: (612)332-0421 • Fax: (612)332-6180

minnesota metric

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[Signature]
DATE 4/16/02 REG. NO. 25302

DRAWN BY LEW DATE 12/01
DESIGN BY DRA DATE 12/01
CHECKED BY JPM DATE 12/01

STATE PROJECT NO. 02-678-13
STATE PROJECT NO. 198-020-18
STATE PROJECT NO. 198-131-02
C.S.A.H. 78 (HANSON BLVD.) @
C.R. 18 (CROSSTOWN BLVD. N.W.)



ANOKA COUNTY
HIGHWAY DEPT.

DETOUR PLAN
Sheet 76 of 76 Sheets

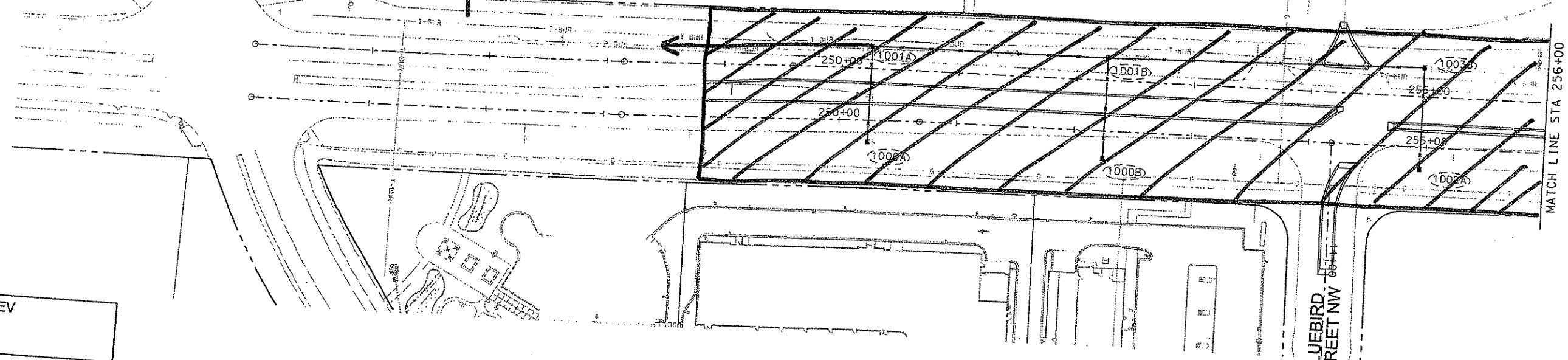
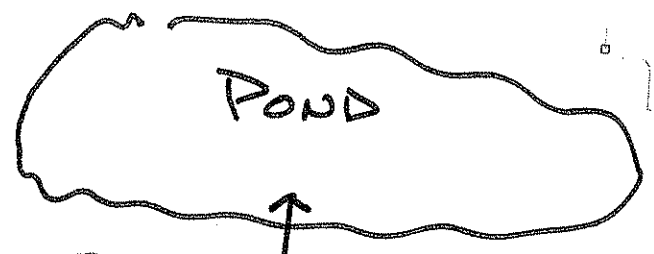
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CSAH 78 (Hanson Blvd)

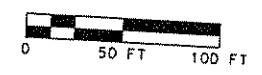
FUTURE



CROSTOWN
BLVD

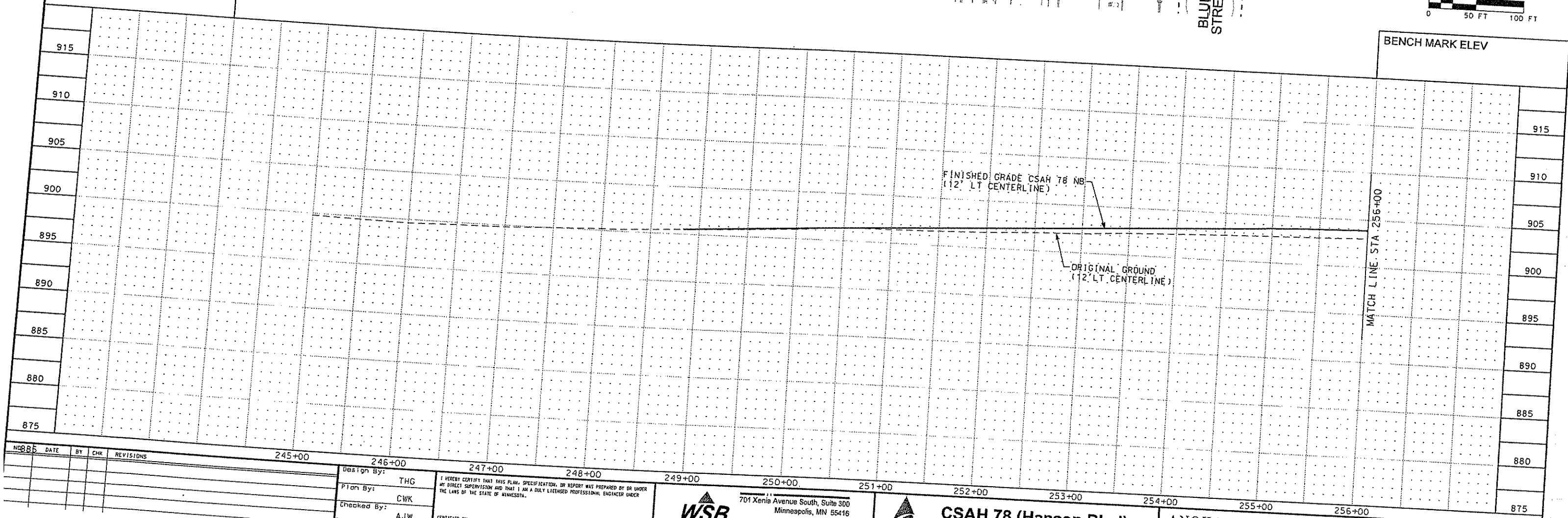


BLUEBIRD
STREET NW



BENCH MARK ELEV

BENCH MARK ELEV



NO.	DATE	BY	CHK	REVISIONS

Design By: THG
 Plan By: CWK
 Checked By: AJW
 Approved By: AJW

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: ANTHONY J. WINEFICKI, P.E.
 LICENSED PROFESSIONAL ENGINEER

WSB
 701 Xenia Avenue South, Suite 300
 Minneapolis, MN 55416
 www.wsbeng.com

CSAH 78 (Hanson Blvd)

ANOKA COUNTY HIGHWAY DEPARTMENT

HIGH PT
256+10

CSAH 78 (Hanson Blvd)

LOW PT
264+10

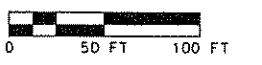
POND

POND

MATCH LINE STA 256+00

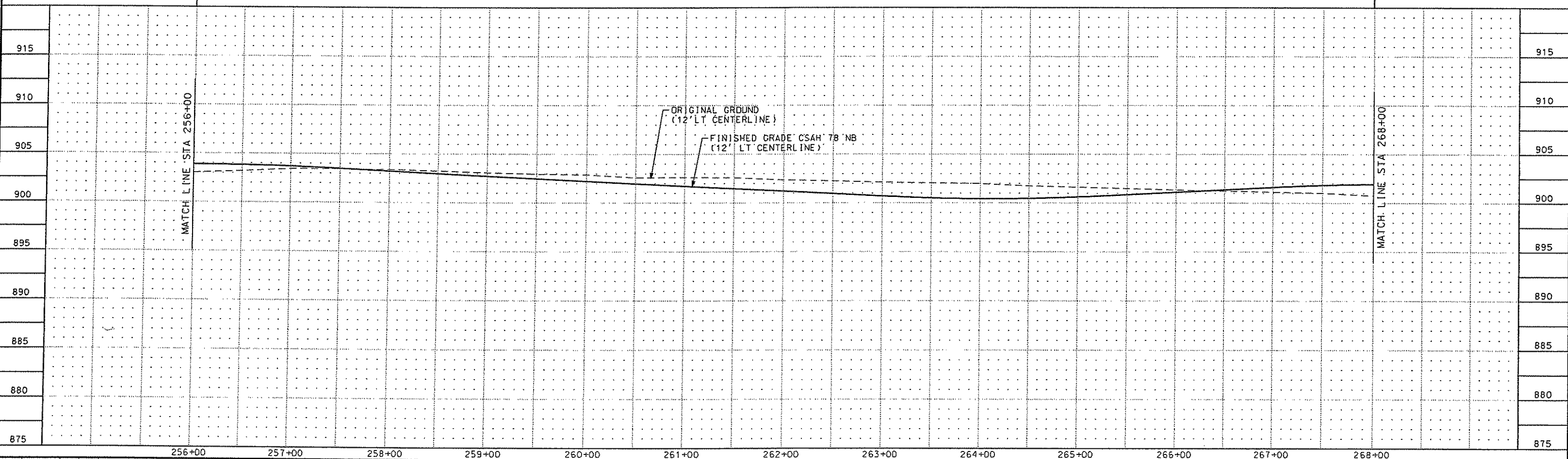
MATCH LINE STA 268+00

154th AVENUE NW



BENCH MARK ELEV

BENCH MARK ELEV



NO.	DATE	BY	CHK	REVISIONS

Design By: THG
 Plan By: CWK
 Checked By: AJW
 Approved By: AJW

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CERTIFIED BY: ANTHONY J. WIHIECKI, P.E.
 LICENSED PROFESSIONAL ENGINEER
 DATE: 7/29/05 L.I.C. NO: 23128

WSB
 & Associates, Inc.
 701 Xenia Avenue South, Suite 300
 Minneapolis, MN 55416
 www.wsbeng.com
 763-541-4800 Fax 763-541-1700
 INFRASTRUCTURE • ENGINEERING • PLANNING • CONSTRUCTION

ANOKA COUNTY
CSAH 78 (Hanson Blvd)
 City of Andover
 Anoka County, Minnesota

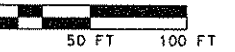
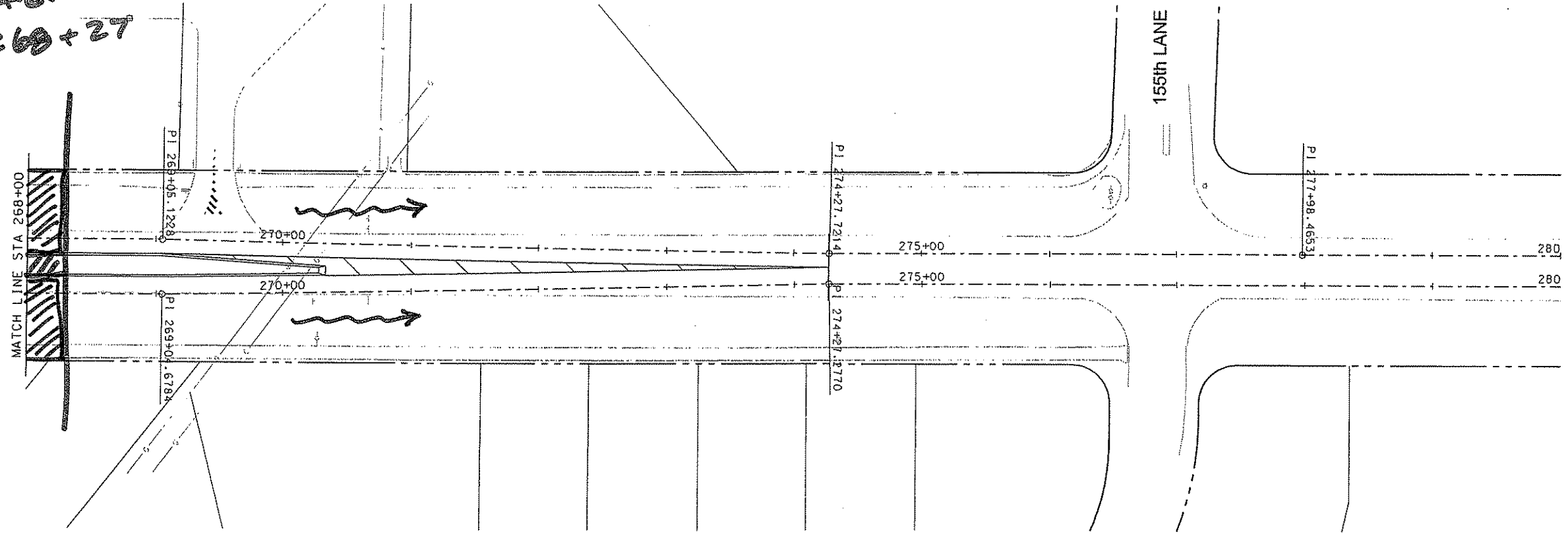
ANOKA COUNTY HIGHWAY DEPARTMENT
 STA 256+00 TO STA 268+00
FUTURE DRAINAGE PLAN

SHEET
 OF
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 SHEETS

Date Printed: \$DATES
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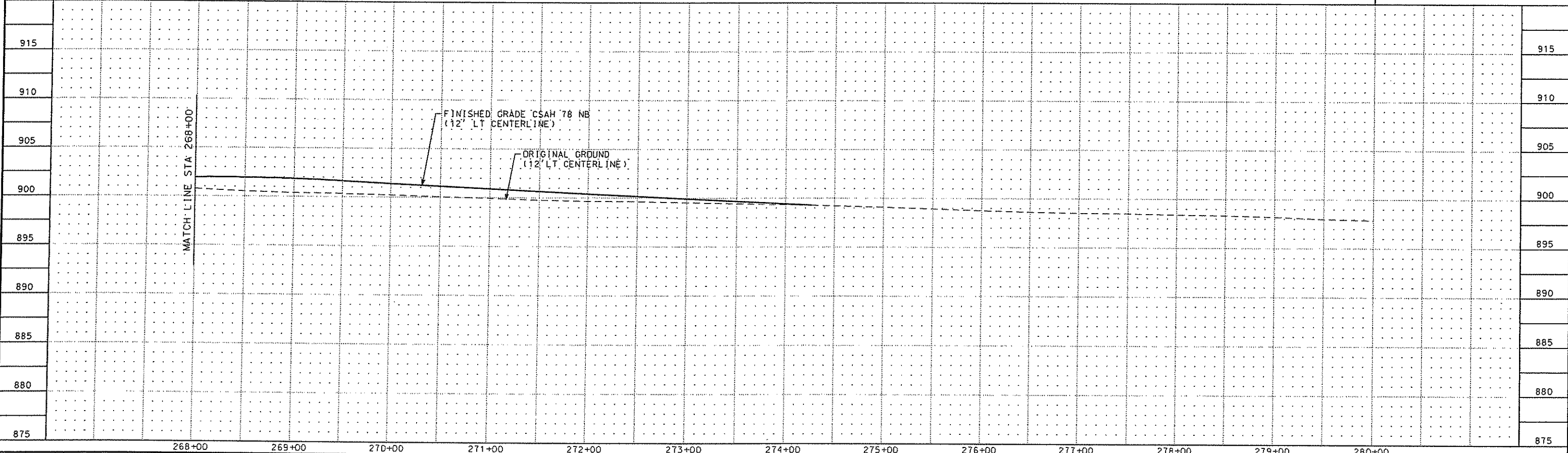
CSAH 78 (Hanson Blvd)

HIGH PT
268+27



BENCH MARK ELEV

BENCH MARK ELEV



NO.	DATE	BY	CHK	REVISIONS

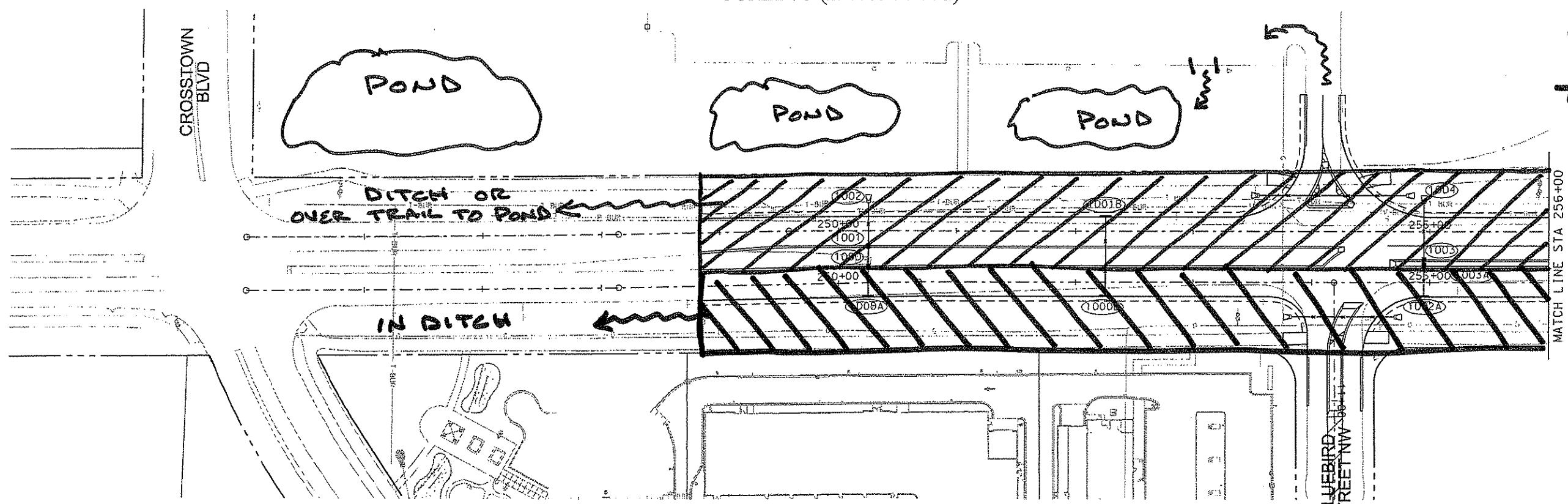
Design By:	THG	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. CERTIFIED BY LICENSED PROFESSIONAL ENGINEER - ANTHONY J. WINGERT, P.E. DATE: 7/29/05 L.I.C. NO: 2312B
Plan By:	CWK	
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Approved By:	AJW	

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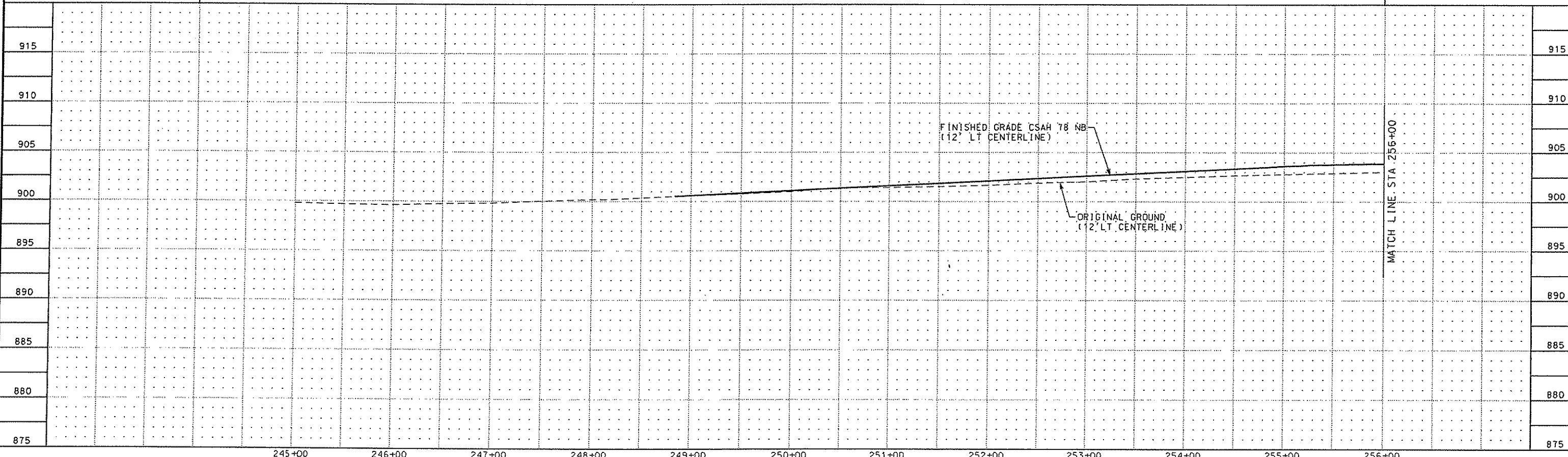
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CERTIFIED BY: ANTHONY J. WINTICK, P.E.
 LICENSED PROFESSIONAL ENGINEER - ANTHONY J. WINTICK, P.E.
 DATE: 7/29/05 L.I.C. NO: 23128

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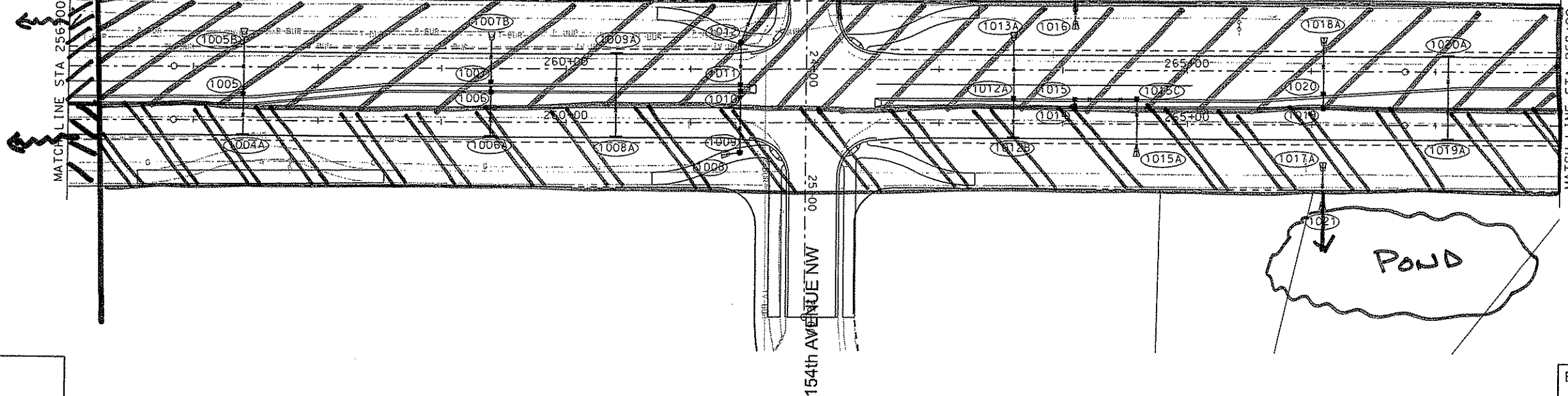
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256+10

CSAH 78 (Hanson Blvd)

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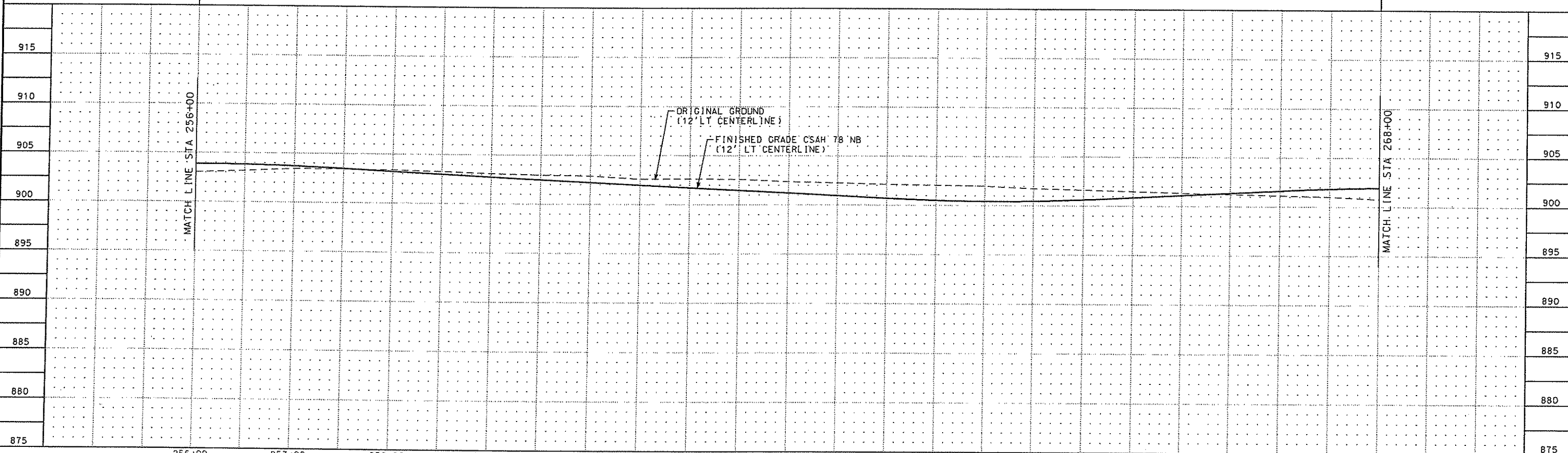
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 CERTIFIED BY: ANTHONY J. WINIECKI, P.E.
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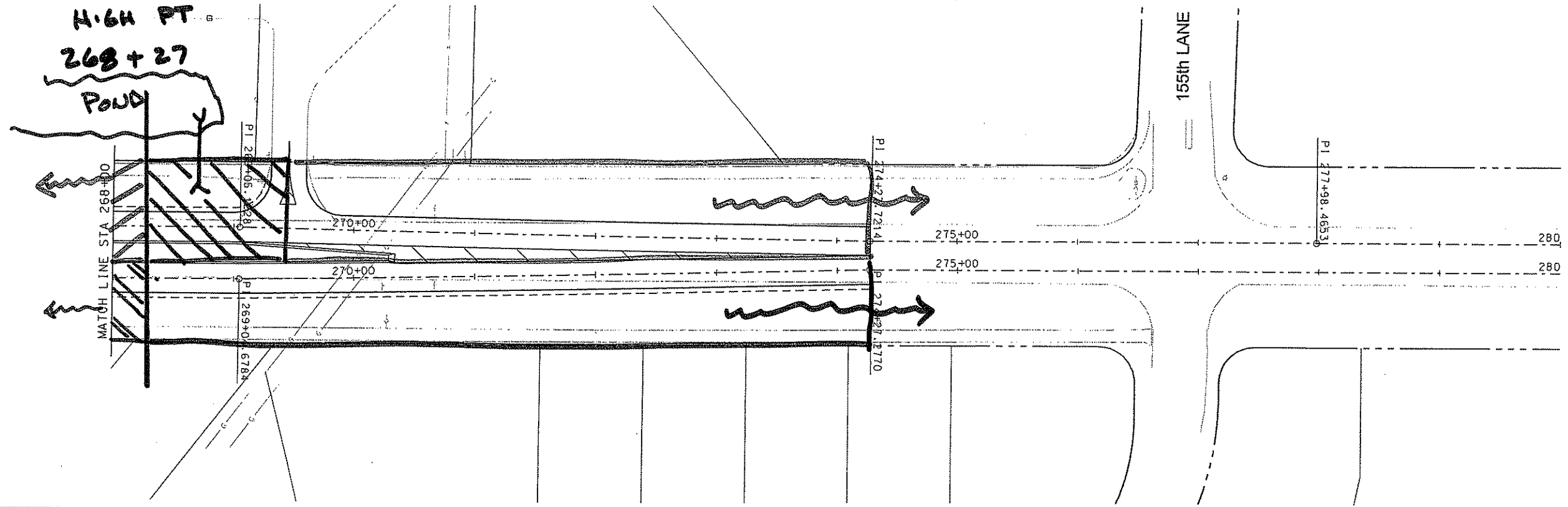
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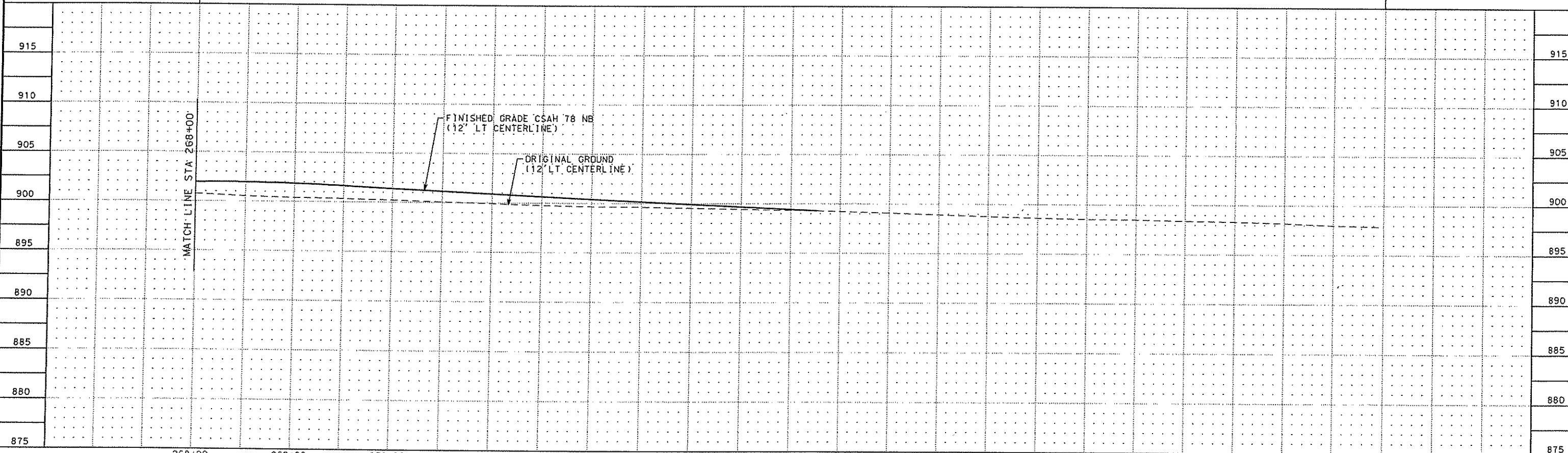
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HIGH PT.
268+27
POUND



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 LICENSED PROFESSIONAL ENGINEER - ANTHONY J. WINIECKI, P.E.
 DATE: 7/29/05 L.I.C. NO.: 23128

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