

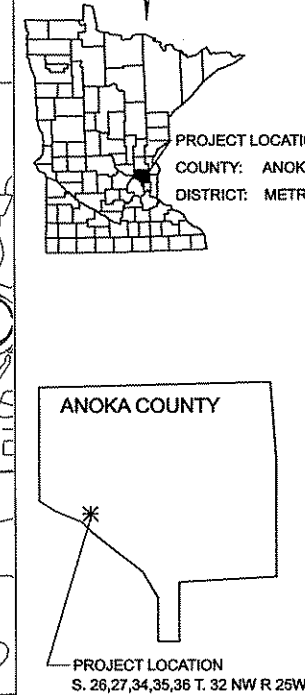
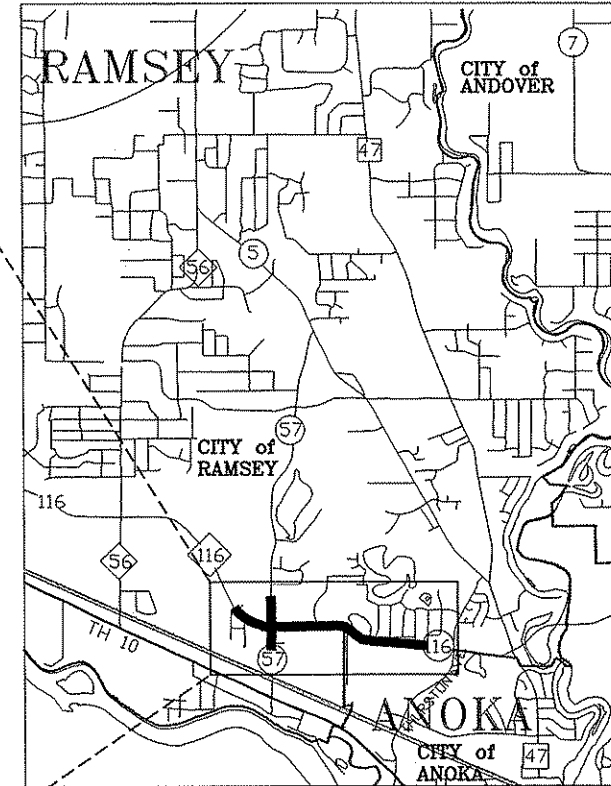
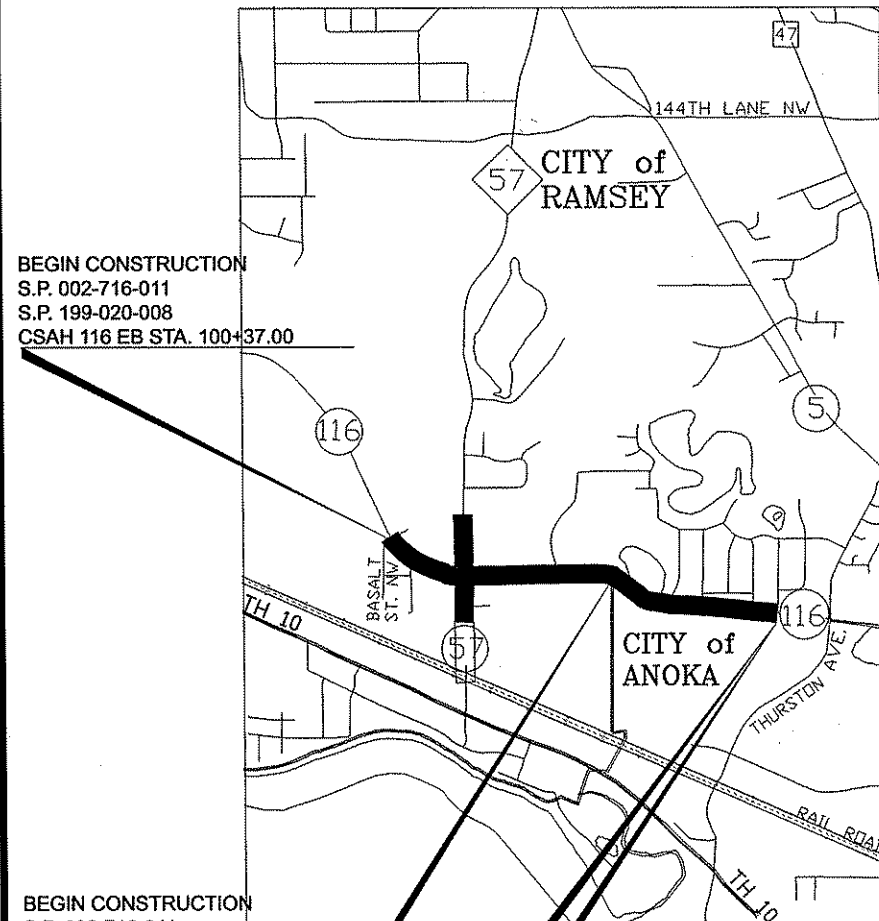
# MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING, DRAINAGE,  
CURB & GUTTER, RETAINING WALLS, AND SIGNAL SYSTEM

LOCATED ON C.S.A.H. 116 BETWEEN GERMANIUM ST. AND BASALT ST.  
STATE PROJ. NO. 002-716-011, 199-020-008

C.S.A.H. 116  
GROSS LENGTH 7,501.91 FEET 1.421 MILES  
BRIDGES-LENGTH 0.00 FEET 0.00 MILES  
EXCEPTIONS-LENGTH 0.00 FEET 0.00 MILES  
NET LENGTH 7,501.91 FEET 1.421 MILES  
LENGTH AND DESCRIPTION BASED ON E.B. ALIGNMENT

C.S.A.H. 57  
GROSS LENGTH 2,282.13 FEET 0.432 MILES  
BRIDGES-LENGTH 0.00 FEET 0.00 MILES  
EXCEPTIONS-LENGTH 69.00 FEET 0.013 MILES  
NET LENGTH 2,223.15 FEET 0.421 MILES  
LENGTH AND DESCRIPTION BASED ON N.B. ALIGNMENT



**GOVERNING SPECIFICATIONS**  
THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

**UTILITY NOTE:** THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

SHEET NO.	INDEX DESCRIPTION
1	TITLE SHEET
2 - 3	STATEMENT OF ESTIMATED QUANTITIES
4	STANDARD PLATES / INDEX OF TABULATIONS
5 - 7	EARTHWORK TABULATION AND SUMMARY
8 - 15	TABULATIONS
16 - 18	TYPICAL SECTIONS
19 - 24	DETOUR AND EXISTING SIGNING/STRIPING PLAN
25 - 77	CONSTRUCTION STAGING AND TRAFFIC CONTROL
78 - 83	ALIGNMENT TABULATION AND PLAN
84 - 88	INPLACE TOPOGRAPHY AND REMOVAL PLAN
89 - 97	CONSTRUCTION PLAN AND PROFILE
98 - 103	PROFILES
104 - 108	UTILITY PLAN
109 - 113	SUPERELEVATION PLAN
114 - 128	DRAINAGE PLAN
129 - 130	POND DETAILS
131 - 138	RETAINING WALL, GUARDRAIL, NOISE BARRIER PLANS
139 - 148	INTERSECTION DETAILS
149 - 160	EROSION CONTROL PLAN AND DETAILS
161 - 166	TURF ESTABLISHMENT
167 - 168	SWPPP NOTES
169 - 178	SIGNING AND STRIPING PLANS AND TABULATIONS
179 - 196	SIGNAL PLAN
197 - 204	CITY OF RAMSEY UTILITY PLAN
205 - 264	CROSS SECTIONS
W1 - W8	CITY OF ANOKA WATERMAIN PLAN

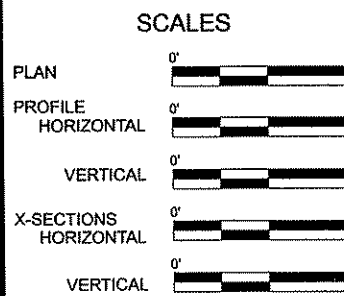
THIS PLAN CONTAINS 272 SHEETS

**PLAN SYMBOLS**

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

- LOWLAND
- TIMBER
- ORCHARD
- BRUSH
- NURSERY
- CATTLE GUARD
- 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 Terminal)
  - GAS MAIN
  - WATERMAIN
  - TELEPHONE CABLE IN CONDUIT
  - ELECTRIC CABLE IN CONDUIT
  - TELEPHONE MANHOLE
  - ELECTRIC MANHOLE
  - BURIED TELEPHONE CABLE
  - BURIED ELECTRIC CABLE
  - SEWER (Sanitary or Storm)
  - SEWER MANHOLE



BEGIN CONSTRUCTION  
S.P. 002-716-011  
CITY OF ANOKA  
CSAH 116 EB  
STA. 139+75.78

END CONSTRUCTION  
S.P. 002-716-011  
CITY OF ANOKA  
CSAH 116 EB  
STA. 175+38.91

**DESIGN DESIGNATION - BIKE PATH**  
DESIGN SPEED (MPH) 20  
BASED ON:  
4.5 FT HEIGHT OF EYE  
0.0 FT HEIGHT OF OBJECT

S.P. 002-716-011 DESIGN DESIGNATION CSAH 116

ESAL <sub>20</sub>	1,030,737
R VALUE	70
ADT (2011)	7,457
PROJ. ADT (2031)	11,932
PROJ. HCA DT (2031)	704
SOIL FACTOR	NA
10 TON DESIGN	

FUNCTIONAL CLASSIFICATION MINOR ARTERIAL

NO. OF TRAFFIC LANES	4	NO. OF PARKING LANES	0		
DESIGN SPEED	55 MPH	WEST OF SUNFISH LAKE BLVD			
DESIGN SPEED	50 MPH	EAST OF SUNFISH LAKE BLVD			
STOPPING SIGHT DISTANCE BASED ON:					
HEIGHT OF EYE	3.5'	HEIGHT OF OBJECT	2.0'		
DESIGN SPEED NOT ACHIEVED AT:					
STA.		TO STA.		MPH	

S.P. 002-716-011 DESIGN DESIGNATION CSAH 57

ESAL <sub>20</sub>	1,288,987
R VALUE	70
ADT (2011)	9,326
PROJ. ADT (2031)	14,921
PROJ. HCA DT (2031)	880
SOIL FACTOR	NA
10 TON DESIGN	

FUNCTIONAL CLASSIFICATION MINOR ARTERIAL

NO. OF TRAFFIC LANES	4	NO. OF PARKING LANES	0		
DESIGN SPEED	45 MPH	SOUTH OF BUNKER LAKE BLVD			
DESIGN SPEED	55 MPH	NORTH OF BUNKER LAKE BLVD			
STOPPING SIGHT DISTANCE BASED ON:					
HEIGHT OF EYE	3.5'	HEIGHT OF OBJECT	2.0'		
DESIGN SPEED NOT ACHIEVED AT:					
STA.		TO STA.		MPH	

Approved 4/21/20 11 *[Signature]*  
ANOKA COUNTY ENGINEER

Approved 4/20/20 11 *[Signature]*  
CITY OF ANOKA ENGINEER

Approved 4/21/20 11 *[Signature]*  
CITY OF RAMSEY ENGINEER

REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES/POLICY  
DISTRICT STATE AID ENGINEER

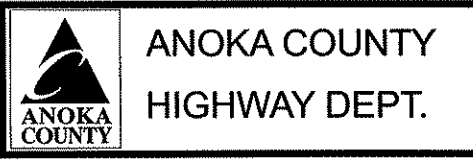
Approved for State Aid AND FEDERAL AID FUNDING  
STATE AID ENGINEER

1	4/12/11	BAV	JED	CAK	UPDATED PER MN/DOT, SHEET NUMBERS UPDATED
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-716-11\PLAN\0271611_TSH.DGN 04/15/2011 9:14:56 AM					

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.

PRINT NAME: CURT KOBLARSKY  
SIGNATURE: *[Signature]*  
DATE: 4-20-11 LICENSE NO. 24750

DRAWN BY: BAV DATE: 04/15/2011  
DESIGN BY: MN DATE: 04/15/2011  
CHECKED BY: CAK DATE: 04/15/2011



S.P. 002-716-011  
S.P. 199-020-008

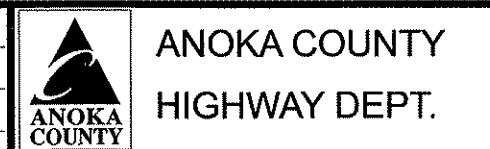
TITLE SHEET  
Sheet 1 of 264 Sheets

TAB	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT ESTIMATED QUANTITY	PARTICIPATING - FEDERAL FUNDS				NON-PARTICIPATING		
					SP 002-716-011 ANOKA COUNTY	CITY OF ANOKA	SP 199-020-008 CITY OF RAMSEY	SP 002-716-011 SP 199-020-008 STORM SEWER	SP 002-716-011 ANOKA COUNTY	CITY OF ANOKA	SP 199-020-008 CITY OF RAMSEY
					ROADWAY QUANTITIES ESTIMATED	ROADWAY QUANTITIES ESTIMATED	ROADWAY QUANTITIES ESTIMATED	ROADWAY QUANTITIES ESTIMATED	ROADWAY QUANTITIES ESTIMATED	ROADWAY QUANTITIES ESTIMATED	ROADWAY QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1	0.720		0.143	0.132		0.003	0.002
	2031.501	FIELD OFFICE TYPE D-MODIFIED	EACH	1	0.720		0.143	0.132		0.003	0.002
	2041.610	TRAINEES	HOUR	1,800	1,800						
A	2101.501	CLEARING	ACRE	2.25	2.25						
A	2101.502	CLEARING	TREE	237	237						
A	2101.506	GRUBBING	ACRE	2.25	2.25						
A	2101.507	GRUBBING	TREE	334	334						
G	2104.501	REMOVE PIPE CULVERTS	LIN FT	1,389	1,389						
JJ, PAGE 204	2104.501	REMOVE WATER MAIN	LIN FT	2,454	1,704		750				
C	2104.501	REMOVE CURB AND GUTTER	LIN FT	1,800	1,800						
D	2104.501	REMOVE BITUMINOUS CURB	LIN FT	89	89						
V	2104.503	REMOVE BITUMINOUS WALK	SQ FT	30,269	30,269						
E	2104.503	REMOVE CONCRETE MEDIAN	SQ FT	4,205	4,205						
F	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	635	635						
B	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	48,364	48,364						
G	2104.509	REMOVE PIPE APRON	EACH	16	16						
I	2104.509	REMOVE DRAINAGE FLUME	EACH	3	3						
F	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	132	132						
B,MM	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	6,282	6,282						
JJ	2104.523	SALVAGE HYDRANT AND ASSEMBLY	EACH	4	4						
JJ	2104.523	SALVAGE EXISTING VALVE	EACH	3	3						
W	2104.523	SALVAGE SIGN TYPE C	EACH	128	128						
W	2104.523	SALVAGE SIGN TYPE D	EACH	2	2						
W	2104.523	SALVAGE SIGN TYPE SPECIAL	EACH	22	22						
	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1	1						
	2105.501	COMMON EXCAVATION (EV) (P)	CU YD	52,744	52,744						
	2105.501	COMMON EXCAVATION (EV) (POND 2)	CU YD	11,595	11,595						
	2105.505	MUCK EXCAVATION	CU YD	10,211	10,211						
	2105.507	SUBGRADE EXCAVATION (EV) (P)	CU YD	21,807	21,807						
	2105.522	SELECT GRANULAR BORROW (LV)	CU YD	16,820	16,820						
PAGE 204	2105.601	DEWATERING FOR WATERMAIN	LUMP SUM	1			1				
	2130.501	WATER	M GALLONS	1,300	1,300						
X	2211.501	AGGREGATE BASE (CV) CLASS 5 (TEMPORARY)	TON	1,925	1,925						
X	2211.503	AGGREGATE BASE (CV) CLASS 5 (DRIVEWAYS)	CU YD	175	175						
X	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	14,758	12,018		2,740				
O	2232.501	MILL BITUMINOUS SURFACE (1.5")	SQ YD	811							811
MM	2350.501	TYPE LV 4 WEARING COURSE MIXTURE (TEMPORARY)	TON	437	437						
X	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	7,297	7,297						
X	2360.501	TYPE SP 12.5 WEARING COURSE MIX (2,B) (DRIVEWAYS)	TON	201	201						
L	2360.501	TYPE SP 12.5 WEARING COURSE MIX (2,B) (BITUMINOUS PATH)	TON	857	857						
X	2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,F)	TON	16,369	16,276						93
X	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	9,440	9,440						
X	2360.505	TYPE SP 12.5 BITUMINOUS MIXTURE FOR PATCHING	TON	74	74						
J	2411.618	MODULAR BLOCK RETAINING WALL	SQ FT	2,433	2,433						
Y	2422.618	WOOD NOISE BARRIER	SQ FT	7,392			7,392				
U	2451.513	FINE FILTER AGGREGATE (LV)	CU YD	38				38			
P	2501.511	15" RC PIPE CULVERT CLASS V	LIN FT	196	196						
S,P	2501.515	15" RC PIPE APRON	EACH	11	4			7			
S	2501.515	18" RC PIPE APRON	EACH	1				1			
S	2501.515	27" RC PIPE APRON	EACH	1				1			
S	2501.515	30" RC PIPE APRON	EACH	1				1			
S	2501.515	33" RC PIPE APRON	EACH	1				1			
S	2501.602	TRASH GUARD FOR 15" APRON	EACH	11	4			7			
S	2501.602	TRASH GUARD FOR 18" APRON	EACH	1				1			
S	2501.602	TRASH GUARD FOR 27" APRON	EACH	1				1			
S	2501.602	TRASH GUARD FOR 30" APRON	EACH	1				1			
S	2501.602	TRASH GUARD FOR 33" APRON	EACH	1				1			
U, PAGE 18	2502.541	3" PERF TP PIPE DRAIN	LIN FT	1,192				1,192			
S	2503.541	15" RC PIPE SEWER DES 3006 CLV	LIN FT	4,499				4,499			
S	2503.541	18" RC PIPE SEWER DES 3006 CLIII	LIN FT	1,199				1,199			
S	2503.541	21" RC PIPE SEWER DES 3006 CLIII	LIN FT	507				507			
S	2503.541	24" RC PIPE SEWER DES 3006 CLIII	LIN FT	591				591			
S	2503.541	27" RC PIPE SEWER DES 3006 CLIII	LIN FT	1,975				1,975			
S	2503.541	30" RC PIPE SEWER DES 3006 CLIII	LIN FT	871				871			
S	2503.541	33" RC PIPE SEWER DES 3006 CLIII	LIN FT	1,336				1,336			
S	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	3				3			
PAGE 204	2504.601	TEMPORARY WATER SERVICE	LUMP SUM	1			1				
JJ, PAGE 204	2504.602	CONNECT TO EXISTING WATERMAIN	EACH	8	2		6				
PAGE 204	2504.602	RELOCATE HYDRANT AND VALVE	EACH	6			6				
II	2504.602	ADJUST GATE VALVE	EACH	10	10						

1	4/12/11	BAV	JEO	CAK	UPDATED QUANTITIES
2	4/28/11	BAV	JEO	CAK	UPDATED CITY OF ANOKA WATER MAIN QUANTITIES
NO	DATE	BY	CHKD	APPR	REVISION
					04/28/2011 8:10:18 AM

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.  
 PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 4-26-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/26/2011  
 DESIGN BY: MN DATE: 04/26/2011  
 CHECKED BY: CAK DATE: 04/26/2011



S.P. 002-716-011  
 S.P. 199-020-008

TAB	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT ESTIMATED QUANTITY	PARTICIPATING - FEDERAL FUNDS				NON-PARTICIPATING		
					SP 002-716-011 ANOKA COUNTY ROADWAY QUANTITIES ESTIMATED	CITY OF ANOKA ROADWAY QUANTITIES ESTIMATED	SP 199-020-008 CITY OF RAMSEY ROADWAY QUANTITIES ESTIMATED	SP 002-716-011 SP 199-020-008 STORM SEWER QUANTITIES ESTIMATED	SP 002-716-011 ANOKA COUNTY ROADWAY QUANTITIES ESTIMATED	CITY OF ANOKA ROADWAY QUANTITIES ESTIMATED	SP 199-020-008 CITY OF RAMSEY ROADWAY QUANTITIES ESTIMATED
					JJ	2504.602	INSTALL SALVAGED HYDRANT/BOX/VALVE	EACH	4	4	
JJ	2504.602	6" GATE VALVE AND BOX	EACH	1	1						
PAGE 204	2504.602	8" GATE VALVE AND BOX	EACH	6			6				
PAGE 204	2504.602	12" GATE VALVE AND BOX	EACH	4			4				
JJ	2504.602	12" BUTTERFLY VALVE AND BOX	EACH	3	3						
PAGE 204	2504.602	16" BUTTERFLY VALVE	EACH	5			5				
PAGE 204	2504.602	16" X 8" WET TAP	EACH	1			1				
JJ, PAGE 204	2504.603	6" DIP WATERMAIN CLASS 53	LIN FT	126	36		90				
PAGE 204	2504.603	8" DIP WATERMAIN CLASS 52	LIN FT	800			800				
JJ, PAGE 204	2504.603	12" DIP WATERMAIN CLASS 52	LIN FT	1,888	1,546		342				
PAGE 204	2504.603	16" DIP WATERMAIN CLASS 52	LIN FT	750			750				
PAGE 204	2504.604	2" POLYSTYRENE INSULATION	SQ YD	3,200			3,200				
JJ, PAGE 204	2504.608	DUCTILE IRON FITTINGS	POUND	7,767	2,512		5,255				
S	2506.501	CONST. DRAINAGE STRUCTURE DESIGN F	LIN FT	16.8				16.8			
S	2506.501	CONST. DRAINAGE STRUCTURE DESIGN G	LIN FT	252.7				252.7			
S	2506.501	CONST. DRAINAGE STRUCTURE DESIGN H	LIN FT	156.5				156.5			
S	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	143.7				143.7			
S	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 54-4020	LIN FT	91.6				91.6			
S	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 60-4020	LIN FT	27.9				27.9			
S	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 66-4020	LIN FT	26.6				26.6			
S	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 72-4020	LIN FT	5.7				5.7			
M,II	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	17.3	17.3						
S	2506.516	CASTING ASSEMBLY	EACH	172				172			
M,II	2506.522	ADJUST FRAME AND RING CASTING	EACH	12	12						
S,P	2511.501	RANDOM RIPRAP CLASS II	CU YD	46	6			40			
S	2511.515	GEOTEXTILE FILTER TYPE IV	SQ YD	118				118			
N	2531.501	4" CONCRETE WALK	SQ FT	80,102	80,102						
N	2531.501	CONCRETE CURB & GUTTER DESIGN B418	LIN FT	15,234	15,234						
N	2521.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	16,255	8,128		6,449		1,678		
N	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	431	431						
N	2531.602	CONCRETE MEDIAN NOSE	SQ FT	162	162						
T	2531.604	DRAINAGE FLUME	SQ YD	10	10						
N	2531.618	TRUNCATED DOMES	SQ FT	72	72						
N	2531.618	PEDESTRIAN CURB RAMP	SQ FT	432	432						
K	2540.602	INSTALL MAILBOX SUPPORT	EACH	5	5						
Z	2554.501	TRAFFIC BARRIER DESIGN B8338	LIN FT	287	287						
Z	2554.509	GUIDE POST TYPE B	EACH	2	2						
	2554.523	END TREATMENT - FLARED TERMINAL	EACH	2	2						
H	2557.501	WIRE FENCE 60-9322	LIN FT	1,356	1,356						
	2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.720		0.143	0.132		0.003	0.002
	2563.610	POLICE OFFICER	HOUR	30	30						
	2564.531	SIGN PANELS TYPE C	SQ FT	942	942						
	2564.531	SIGN PANELS TYPE D	SQ FT	8	8						
	2564.550	DELINEATOR TYPE X4-13	EACH	26	26						
	2564.552	HAZARD MARKER X4-2	EACH	10	10						
	2564.553	CLEARANCE MARKER X4-4	EACH	2	2						
	2565.511	TRAFFIC CONTROL SIGNAL SYSTEM	SIG SYS	1			1				
	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1			1				
	2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	1			1				
Q	2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN FT	9,292	9,292						
Q	2573.505	FLOTATION SILT CURTAIN	LIN FT	977	977						
S	2573.530	STORM DRAIN INLET PROTECTION	EACH	160	160						
	2573.550	EROSION CONTROL SUPERVISOR	LUMP SUM	1	1						
Q	2575.501	SEEDING	ACRE	5.0	5.0						
Q	2575.502	SEED MIXTURE 310	POUND	167	167						
Q	2575.502	SEED MIXTURE 350	POUND	251	251						
P,Q,S	2575.505	SODDING TYPE SALT RESISTANT	SQ YD	23,000	23,000						
Q	2575.511	MULCH MATERIAL TYPE 1	TON	5.9	5.9						
Q	2575.519	DISK ANCHORING	ACRE	4.1	4.1						
Q	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	12,079	12,079						
Q	2575.532	FERTILIZER TYPE 3	POUND	1,653	1,653						
Q	2575.532	FERTILIZER TYPE 4	POUND	750	750						
Q	2575.571	RAPID STABILIZATION METHOD 3	MGAL	5	5						
R	2582.501	PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	EACH	8	8						
R	2582.501	PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	EACH	8	8						
R	2582.502	4" SOLID LINE WHITE - EPOXY	LIN FT	23,570	23,570						
R	2582.502	4" BROKEN LINE WHITE - EPOXY	LIN FT	2,970	2,970						
R	2582.502	4" SOLID LINE YELLOW - EPOXY	LIN FT	18,020	18,020						
R	2582.502	4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN FT	2,420	2,420						
R	2582.503	CROSSWALK MARKING - WHITE PREFORMED THERMOPLASTIC	SQ FT	1,134	1,134						
R	2582.618	24" STOP LINE WHITE - PREFORMED THERMOPLASTIC	SQ FT	414	414						
R	2582.618	24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC	SQ FT	454	454						

1	4/12/11	BAV	JEO	CAK	UPDATED QUANTITIES
2	4/26/11	BAV	JEO	CAK	UPDATED CITY OF ANOKA WATER MAIN QUANTITIES
NO	DATE	BY	CKD	APPR	REVISION
					04/28/2011

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.

PRINT NAME: CURT KOBIARCSIK

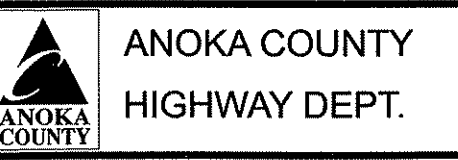
SIGNATURE: *Curt Kobiarcsik*

DATE: 4-26-11 LICENSE NO. 24756

DRAWN BY BAV DATE 04/26/2011

DESIGN BY MN DATE 04/28/2011

CHECKED BY CAK DATE 04/26/2011



S.P. 002-716-011

S.P. 199-020-008

### STANDARD PLATES

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133C	RIPRAP AT RCP OUTLETS
3145F	CONCRETE PIPE TIES
4005L	MANHOLE OR CATCH BASIN
4006L	MANHOLE OR CATCH BASIN
4010H	CONCRETE SHORT CONE AND ADJUSTING RING
4011E	PRECAST CONCRETE BASE COVER
4018A	MANHOLE OR CATCH BASIN REDUCER CONE SECTION
4020J	MANHOLE OR CATCH BASIN COVER
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108F	ADJUSTING RINGS FOR CATCH BASIN OR MANHOLES
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) - CASTING NO. 715 AND 716
4125D	CATCH BASIN FRAME CASTING - CASTING NO. 806
4132F	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE) - CASTING NO. 805
4134A	CURB BOX CASTING FOR CATCH BASIN - CASTING NO. 825
4143E	STOOL GRATE AND CONCRETE FRAME - CASTING NO. 730
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816
4180J	MANHOLE OR CATCH BASIN STEP
7035M	CONCRETE WALK AND CURB RETURNS AND ENTRANCES
7036G	PEDESTRAIN CURB RAMP
7038A	DETECTABLE WARNING SURFACE
7065C	BITUMINOUS CURB
7100H	CONCRETE CURB AND GUTTER
7109C	MEDIAN NOSE AND ISLAND
7111J	INSTALLATION OF CATCH BASIN CASTINGS
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8110E	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8112F	PEDESTAL FOUNDATION (TRAFFIC CONTROL SIGNALS)
8114A	PVC HANDHOLE/PULLBOX
8118D	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8121F	TRANSFORMER BASE AND POLE BASE PLATE
8123F	POLE AND MAST ARM
8126I	POLE FOUNDATION (PA90 AND PA100)
8150C	INSTALLATION OF CULVERT MARKERS
8307R	W-BEAM GUARDRAIL & END ANCHORAGES
8337B	TEMPORARY PRECAST PORTABLE BARRIERS (TYPE F)
9102D	TURF ESTABLISHMENT AREAS
9322K	CHAIN LINK FENCE
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

### INDEX OF TABULATION CHARTS

CHART	SHEET	DESCRIPTION
A	8,9	CLEAR AND GRUB
B	9	REMOVE BITUMINOUS PAVEMENT
C	9	REMOVE CONCRETE CURB AND GUTTER
D	9	REMOVE BITUMINOUS CURB
E	9	REMOVE CONCRETE MEDIAN
F	9	REMOVE CONCRETE DRIVEWAY PAVEMENT
G	9	REMOVE EXISTING STORM SEWER & CULVERTS
H	9	FENCING
I	9	REMOVE DRAINAGE FLUME
J	10	CONSTRUCT RETAINING WALL
K	10	INSTALL MAILBOX SUPPORT
L	10	CONSTRUCT BITUMINOUS TRAIL
M	11	SANITARY/STORM SEWER ADJUSTMENTS
N	10	CONCRETE CURB AND GUTTER, CONCRETE MEDIAN
O	11	MILL BIT. SURFACE (1.5")
P	10	CULVERT TABULATION
Q	12	TURF ESTABLISHMENT AND EROSION CONTROL
R	11	PERMANENT PAVEMENT MARKINGS
S	97	DRAINAGE TABULATION
T	10	DRAINAGE FLUME
U	97	SUBSURFACE DRAINAGE
V	11	REMOVE BITUMINOUS WALK
W	15	SALVAGE SIGNS
X	11	BASE AND BITUMINOUS SUMMARY
Y	11	CONSTRUCT WOOD NOISE BARRIER
Z	10	TRAFFIC BARRIER DESIGN 88338
AA	12	CENTERPOINT ENERGY - GAS
BB	13	ANOKA MUNICIPAL UTILITY - OVERHEAD
CC	12	PRIVATE UTILITY OWNERS
DD	14	CONNEXUS ENERGY - UNDERGROUND
EE	13	ANOKA MUNICIPAL UTILITY - UNDERGROUND
FF	14	CONNEXUS ENERGY - OVERHEAD
GG	14	QWEST CORPORATION - TELEPHONE
HH	13	COMCAST - OVERHEAD
II, PAGE 204	13, 204	WATER MAIN (CITY OF RAMSEY)
JJ	13	WATERMAIN (CITY OF ANOKA)
KK	13	COMCAST - UNDERGROUND
LL	14	SHAL NETWORKS
MM	11	TEMPORARY BITUMINOUS PAVEMENT

### BASIS FOR ESTIMATED QUANTITIES

BITUMINOUS MIXTURES (ROADWAY AND TRAIL); 115 LB / SY / IN
BITUMINOUS MATERIAL FOR TACK COAT; 0.05 GAL / SY
SEED MIXTURE NO. 350 84.5 LB / ACRE
SEED MIXTURE NO. 310 (WET) 82 LB / ACRE
COMMERCIAL FERTILIZER 22-5-10 350 LB / ACRE
TYPE I MULCH 2 TON / ACRE
COMMERCIAL FERTILIZER TYPE 4, 18-1-8 150 LB / ACRE
RAPID STABILIZATION METHOD 3 6 M GALLONS/ACRE

1	4/12/11	BAV	JEO	CAK	UPDATED TAB INDEX
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-716-11\Plan\0271611_TAB.dgn					

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.

PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

C.S.A.H 116/57  
 TAB SHEETS

Sheet 4 of 264 Sheets

STATION CSAH 116/CSAH 57	EXCAVATION TOTALS			EMBANKMENT VOLUMES				
	COMMON	SUBGRADE	MUCK	TOPSOIL	GRANULAR	SELECT GRANULAR	AGGREGATE SUBBASE	AGGREGATE SHOULDER
	CY	CY	CY	CY	CY	CY	CY	CY
100+00.00	0	0	0	0	0	0	0	0
100+50.00	42	78	0	2	1	78	42	3
101+00.00	273	87	0	40	58	87	51	3
101+50.00	810	98	0	91	139	98	57	3
102+00.00	1130	101	0	104	157	102	55	3
102+50.00	856	105	0	88	133	107	58	3
103+00.00	342	109	0	57	93	112	60	2
103+50.00	92	111	0	35	57	117	64	2
104+00.00	52	104	0	28	57	122	68	3
104+50.00	39	77	0	26	73	127	71	3
105+00.00	39	39	0	26	116	133	73	3
105+50.00	48	13	0	31	225	138	74	2
106+00.00	54	3	0	30	213	150	80	2
106+26.80	41	0	0	7	180	86	46	0
106+50.00	37	0	0	7	209	75	39	0
107+00.00	61	0	0	35	462	160	81	1
107+50.00	62	0	0	33	507	159	78	0
108+00.00	93	1	0	32	405	159	78	0
108+50.00	155	10	0	40	328	159	74	0
109+00.00	153	43	0	35	251	159	71	0
109+50.00	115	91	0	23	159	159	73	0
110+00.00	123	124	0	19	80	159	74	0
110+50.00	163	141	0	14	46	159	75	0
110+51.27	5	4	0	0	1	4	2	0
111+00.00	184	138	0	10	31	154	75	0
111+50.00	245	138	0	14	29	161	77	0
111+57.47	44	21	0	2	3	24	12	0
112+00.00	233	117	0	10	27	141	68	0
112+50.00	256	137	0	21	39	167	82	0
113+00.00	274	136	0	24	34	168	81	0
113+50.00	268	130	0	20	51	168	81	0
114+00.00	261	130	0	18	71	168	81	0
114+50.00	260	136	0	19	67	168	81	0
115+00.00	257	153	0	17	38	177	86	0
115+50.00	196	169	0	8	10	179	89	0
116+00.00	148	171	0	0	0	172	86	0
116+50.00	326	174	0	5	2	174	86	0
117+00.00	553	172	0	11	6	172	83	0
117+50.00	611	168	0	13	7	168	80	0
118+00.00	578	168	0	12	7	168	80	0
118+23.33	272	78	0	4	1	78	38	0
118+50.00	312	90	0	5	1	90	43	0
119+00.00	424	166	0	13	12	168	80	0
119+50.00	276	155	0	11	18	168	80	0
120+00.00	228	139	0	11	17	165	79	0
120+50.00	192	129	0	11	15	161	77	0
121+00.00	182	127	0	10	16	159	75	0
121+50.00	223	136	0	12	16	159	73	0
121+55.07	28	15	0	1	1	16	7	0
121+91.09	260	113	0	6	11	116	53	0
122+00.00	67	30	0	2	3	30	13	0
122+50.00	311	165	0	11	19	168	75	0
123+00.00	282	161	0	11	22	168	75	0
123+50.00	264	159	0	13	24	171	76	0
124+00.00	266	157	0	12	23	175	79	0
124+50.00	302	161	0	9	21	177	80	0
125+00.00	303	162	0	8	21	177	80	0
125+50.00	275	157	0	11	21	176	79	0
126+00.00	289	154	0	15	19	172	77	0
126+50.00	284	151	0	18	19	168	75	0
127+00.00	297	147	0	13	21	166	75	0
127+22.11	158	62	0	4	7	72	34	0
127+50.00	191	77	0	6	5	92	46	0
128+00.00	275	150	0	13	10	164	79	0

STATION CSAH 116/CSAH 57	EXCAVATION TOTALS			EMBANKMENT VOLUMES				
	COMMON	SUBGRADE	MUCK	TOPSOIL	GRANULAR	SELECT GRANULAR	AGGREGATE SUBBASE	AGGREGATE SHOULDER
	CY	CY	CY	CY	CY	CY	CY	CY
128+50.00	262	155	0	12	14	159	76	0
129+00.00	282	152	0	13	13	159	76	0
129+50.00	333	150	0	15	9	159	76	0
130+00.00	413	154	0	18	7	159	76	0
130+50.00	588	161	0	13	6	161	78	0
131+00.00	694	166	0	11	7	166	80	0
131+50.00	691	168	0	15	10	168	79	0
132+00.00	735	168	0	14	14	168	77	0
132+50.00	775	168	0	15	18	168	76	0
133+00.00	970	168	0	27	20	168	75	0
133+50.00	868	168	0	28	20	168	75	0
134+00.00	495	162	0	19	85	167	75	0
134+50.00	390	144	287	23	144	514	73	0
135+00.00	351	125	528	26	148	852	71	0
135+50.00	314	116	489	25	172	858	70	0
136+00.00	283	113	507	27	184	896	71	0
136+50.00	278	128	538	30	161	909	71	0
137+00.00	245	130	531	26	125	855	71	0
137+50.00	202	120	251	19	134	484	71	0
138+00.00	240	127	0	17	129	159	72	0
138+50.00	293	130	0	16	88	159	72	0
139+00.00	343	137	0	17	63	159	72	0
139+28.16	200	84	0	10	22	69	40	0
139+50.00	139	66	0	7	15	69	31	0
140+00.00	295	141	0	17	57	159	72	0
140+50.00	262	132	0	19	84	159	72	0
141+00.00	178	107	0	18	88	159	72	0
141+30.99	73	45	0	27	60	98	44	0
141+50.00	34	17	0	19	43	60	27	0
142+00.00	68	14	0	28	236	159	72	0
142+50.00	112	0	225	51	306	545	72	0
143+00.00	152	0	519	73	263	997	72	0
143+50.00	149	4	593	73	253	1071	72	0
144+00.00	147	23	486	71	235	982	72	0
144+50.00	155	42	576	70	277	1103	72	0
145+00.00	169	47	854	67	380	1434	72	0
145+50.00	183	51	882	65	451	1491	72	0
146+00.00	194	55	742	63	469	1362	72	0
146+50.00	211	58	607	67	462	1234	72	0
147+00.00	229	59	527	69	403	1145	72	0
147+50.00	217	59	446	60	334	1088	72	0
148+00.00	248	60	412	53	311	1064	72	0
148+50.00	225	71	211	37	238	611	74	0
149+00.00	154	92	0	21	142	163	77	0
149+50.00	133	81	0	21	175	167	80	0
150+00.00	108	57	0	20	184	168	81	0
150+50.00	100	59	0	19	112	168	81	0
151+00.00	105	64	0	20	85	168	81	0
151+50.00	134	103	0	16	54	168	81	0
152+00.00	154	138	0	12	24	168	81	0
152+50.00	283	135	0	6	23	169	83	0
153+00.00	315	140	0	10	52	173	86	0
153+50.00	214	156	0	14	43	172	84	0
154+00.00	204	146	0	14	36	168	81	0
154+50.00	183	126	0	18	62	168	81	0
155+00.00	171	122	0	18	62	168	81	0
155+50.00	170	120	0	17	47	168	80	0
156+00.00	161	120	0	18	78	168	80	0
156+50.00	143	108	0	23	159	165	78	0
157+00.00	128	92	0	25	201	161	74	0
157+50.00	124	87	0	26	194	159	71	0
157+82.30	90	58	0	10	85	104	47	0
158+00.00	54	37	0	3	29	62	27	0

NO	DATE	BY	CHKD	APPR	REVISION	11:13:10 AM
NAME:	pt02-716-11\Fam0271611_TAB.dgn	02/23/2011				

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *[Handwritten Signature]*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011



ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

EARTHWORK SUMMARY

STATION CSAH 116/CSAH 57	EXCAVATION TOTALS			EMBANKMENT VOLUMES				
	COMMON	SUBGRADE	MUCK	TOPSOIL	GRANULAR	SELECT GRANULAR	AGGREGATE SUBBASE	AGGREGATE SHOULDER
	CY	CY	CY	CY	CY	CY	CY	CY
158+50.00	154	105	0	16	115	177	76	0
159+00.00	161	98	0	20	133	168	75	0
159+50.00	182	109	0	19	95	168	75	0
160+00.00	208	126	0	18	63	168	75	0
160+50.00	247	144	0	18	35	168	75	0
161+00.00	283	156	0	16	23	168	75	0
161+50.00	304	161	0	14	27	166	74	0
162+00.00	326	161	0	15	30	161	72	0
162+50.00	330	158	0	15	37	158	70	0
163+00.00	306	158	0	16	51	158	70	0
163+50.00	281	158	0	17	49	158	70	0
164+00.00	327	158	0	16	32	158	70	0
164+50.00	352	157	0	16	24	158	70	0
165+00.00	320	153	0	16	22	158	70	0
165+50.00	350	152	0	18	20	158	70	0
166+00.00	412	156	0	22	20	158	70	0
166+50.00	398	161	0	14	19	161	72	0
167+00.00	291	161	0	7	19	166	75	0
167+50.00	206	147	0	12	32	168	75	0
168+00.00	174	135	0	14	57	168	75	0
168+50.00	134	129	0	16	89	168	75	0
169+00.00	108	123	0	22	161	168	75	0
169+50.00	89	128	0	21	231	168	75	0
170+00.00	86	136	0	24	238	165	74	0
170+50.00	99	144	0	34	198	161	71	0
170+87.64	61	119	0	18	101	122	65	0
171+00.00	15	40	0	3	24	41	18	0
171+50.00	81	166	0	19	83	166	75	0
172+00.00	95	168	0	21	57	168	0	0
172+50.00	90	168	0	14	39	168	75	0
<b>SUBTOTAL CSAH 116</b>	38723	17259	10211	3469	15244	39529	10783	33

STATION MAGNESIUM ST.	EXCAVATION TOTALS			EMBANKMENT VOLUMES				
	COMMON	SUBGRADE	MUCK	TOPSOIL	GRANULAR	SELECT GRANULAR	AGGREGATE SUBBASE	AGGREGATE SHOULDER
	CY	CY	CY	CY	CY	CY	CY	CY
63+50.00	0	0	0	0	0	0	0	0
63+75.00	197	44	0	13	1	44	46	0
64+00.00	436	40	0	27	1	40	42	1
64+25.00	528	40	0	30	1	40	42	1
64+50.00	462	40	0	31	1	40	42	1
64+75.00	433	40	0	30	1	40	42	1
65+00.00	360	40	0	28	1	40	42	1
65+25.00	259	40	0	25	2	40	45	1
65+50.00	150	40	0	19	5	40	45	1
65+75.00	68	38	0	12	5	38	40	1
66+00.00	36	35	0	5	1	35	37	1
66+25.00	34	33	0	1	0	33	35	1
66+50.00	38	30	0	2	1	30	32	1
66+75.00	37	28	0	2	1	28	30	1
67+00.00	39	27	0	3	1	27	30	1
67+25.00	41	26	0	3	1	26	31	1
67+50.00	40	26	0	4	2	26	31	1
67+75.00	23	13	0	2	2	13	16	1
<b>SUBTOTAL MAG. ST.</b>	3201	580	0	237	27	580	628	16
<b>TOTAL MAG. ST.</b>	3201	580	0	237	27	580	628	16

STATION CSAH 116/CSAH 57	EXCAVATION TOTALS			EMBANKMENT VOLUMES				
	COMMON	SUBGRADE	MUCK	TOPSOIL	GRANULAR	SELECT GRANULAR	AGGREGATE SUBBASE	AGGREGATE SHOULDER
	CY	CY	CY	CY	CY	CY	CY	CY
200+00.00	0	0	0	0	0	0	0	0
200+50.00	0	0	0	0	0	0	0	0
201+00.00	0	0	0	0	0	0	0	0
201+50.00	0	0	0	0	0	0	0	0
202+00.00	0	0	0	0	0	0	0	0
202+50.00	0	0	0	0	0	0	0	0
203+00.00	0	0	0	0	0	0	0	0
203+50.00	0	0	0	0	0	0	0	0
204+00.00	54	79	0	3	8	79	38	0
204+18.91	55	60	0	2	7	60	30	0
204+25.05	21	20	0	0	5	20	10	0
204+50.00	68	88	0	2	19	90	45	0
205+00.00	112	164	0	14	42	185	90	0
205+39.96	91	110	0	14	56	137	66	0
205+50.00	17	27	0	3	12	35	17	0
206+00.00	67	121	0	16	72	176	85	0
206+50.00	57	90	0	14	114	177	85	0
207+00.00	47	74	0	9	109	177	85	0
207+03.86	4	5	0	1	7	14	7	0
207+50.00	55	49	0	9	101	164	79	0
208+00.00	59	25	0	11	141	177	85	0
208+50.00	45	15	0	11	150	177	85	0
209+00.00	36	62	0	6	75	169	85	0
210+50.00	858	425	0	21	10	508	254	0
211+00.00	615	177	0	16	6	177	85	0
211+50.00	697	177	0	18	6	177	85	0
212+00.00	725	177	0	18	6	177	85	0
212+02.95	49	10	0	1	0	10	5	0
212+50.00	712	162	0	11	5	162	79	0
213+00.00	463	166	0	15	11	168	81	0
213+39.29	246	119	0	8	22	132	64	0
213+50.00	57	30	0	3	9	36	18	0
214+00.00	216	144	0	15	41	168	81	0
214+12.27	44	37	0	3	9	41	20	0
214+50.00	123	102	0	9	51	126	61	0
215+00.00	143	113	0	18	103	159	76	0
215+50.00	132	103	0	20	105	147	71	0
216+00.00	126	96	0	22	101	140	67	0
216+50.00	115	98	0	17	73	138	70	2
217+00.00	107	104	0	13	52	137	82	3
217+50.00	102	96	0	16	55	121	80	3
218+00.00	92	87	0	19	55	106	70	3
218+50.00	80	91	0	18	40	104	68	3
219+00.00	65	94	0	14	26	103	65	3
219+21.47	25	40	0	5	15	44	27	1
219+50.00	33	52	0	6	20	57	34	1
220+00.00	58	91	0	13	24	97	58	3
220+50.00	55	93	0	13	18	97	56	3
221+00.00	75	95	0	14	27	97	53	3
<b>SUBTOTAL CSAH 57</b>	6801	3968	0	461	1808	5266	2687	28
<b>TOTAL 116/57</b>	45524	21227	10211	3930	17052	44795	13470	61

NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_TAB.dgn  
 02/23/2011  
 11:13:12 AM

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.  
 PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *[Signature]*  
 DATE: 2-24-11 LICENSE NO. 24758

DRAWN BY BAV DATE 02/23/2011  
 DESIGN BY MN DATE 02/23/2011  
 CHECKED BY CAK DATE 02/23/2011



ANOKA COUNTY  
 HIGHWAY DEPT.

S.P. 002-716-011  
 S.P. 199-020-008

EARTHWORK SUMMARY

EARTHWORK BALANCE		
EXCAVATION (CU.YD.)	EMBANKMENT (CU.YD.)	(+ EXCESS or (-) SHORTAGE (CU.YD.)
SUBGRADE 21,807 (EV) <span style="float: right;">①</span> COMMON 42,563 (EV) <span style="float: right;">②</span> TOPSOIL 10,181 (EV)	SUITABLE GRADING (CV) 17,079 SELECT GRANULAR (CV) 45,375 <span style="float: right;">③</span> TOPSOIL DRESSING (CV) 4,167 MUCK DISPOSAL (CV) 2,347	SELECT GRANULAR 130% -16,820 (LV) (SHORTAGE) <span style="float: right;">④</span> TOPSOIL 130% 4,764 (LV) (EXCESS) <span style="float: right;">⑥</span> MUCK 130% 7,160 (EV) (EXCESS)
COMMON EXCAVATION (BID ITEM) 52,744 MUCK EXCAVATION (BID ITEM) 10,211 <span style="float: right;">⑤</span> POND 2 EXCAVATION 11,595	64,370 = (CV) 49,515 10,181 = (CV) 7,832 10,211 = (EV) 10,211 11,595 = (EV) 11,595	
AVAILABLE	NEEDS	BALANCE

EARTHWORK SUMMARY							
	EXCAVATION (EV)				EMBANKMENT (CV)		
	SUITABLE (CY)	SUBGRADE (CY)	TOPSOIL (CY)	MUCK (CY)	SUITABLE (CY)	SELECT GRANULAR (CY)	TOPSOIL (CY)
SP. 02-716-11 CSAH 116	34,435	17,259	8,307	10,211	15,244	39,529	3,469
SP. 02-716-11 CSAH 57	5,404	3,968	1,397		1,808	5,266	461
S.P. 02-716-11 MAG. ST	2,724	580	477		27	580	237
<b>TOTAL</b>	<b>42,563</b>	<b>21,807</b>	<b>10,181</b>	<b>10,211</b>	<b>17,079</b>	<b>45,375</b>	<b>4,167</b>

- 1- IT IS ASSUMED FROM SOIL REPORTS THAT 49,515 CU.YD. (CV) COMMON AND SUBGRADE EXCAVATION WILL MEET REQUIREMENT OF SELECT GRANULAR. (SPEC. 3149.2B2).
- 2- INCLUDES 4,019 CUYD (EV) POND "1" EXCAVATION SUITABLE MATERIAL.
- 3- INCLUDES MUCK BACKFILL 16,313 CUYD (CV).
- 4- TO THE EXTENT POSSIBLE OR AT THE DIRECTION OF THE ENGINEER, WHERE THE ENGINEER DEEMS THE MATERIAL ACCEPTABLE, THE CONTRACTOR SHALL BE REQUIRED TO USE THE ON SITE EXCAVATED MATERIAL TO OFFSET THE SHORTAGE OF SELECT GRANULAR MATERIAL WITH NO ADDITIONAL COMPENSATION.
- 5- FOR POND 2 EXCAVATED MATERIAL, MATERIAL MAY BE USED FOR ROADWAY CONSTRUCTION IF DEEMED SUITABLE BY THE ENGINEER, WITH NO ADDITIONAL COMPENSATION THEREOF.
- 6- DOES NOT INCLUDE POND 2 EXCAVATED MATERIAL.

GENERAL NOTES:  
 SEE SOILS AND CONSTRUCTION NOTES FOR MATERIAL DEFINITIONS AND ADDITIONAL INFORMATION. ALL MATERIAL NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT LIMITS WITH NO DIRECT PAYMENT THEREFORE. THE MATERIAL QUANTITY IS BASED ON ESTIMATED QUANTITIES. DISPOSAL SHALL BE IN ACCORDANCE WITH SPEC. 2105 THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER BEFORE HAULING ANY MATERIAL OFF SITE.

NOTE: TEMPORARY WIDENING IN STAGE 1 REFLECTS THE ADDITIONAL EXCAVATION AND EMBANKMENT MATERIAL.

COMMON EXC. [(COMMON EXCAVATION 74,551 C.Y. (EV) - TOPSOIL 10,181 C.Y. (EV)) - 130% SHRINKAGE FACTOR] = 49,515 CUYD (CV) - [(EMBANKMENT SUITABLE 17079 C.Y. (CV) + SELECT GRANULAR 45,375 C.Y. (CV))] = 12,939 C.Y. (CV) x 130% SWELL FACTOR = -16,820 C.Y. (LV) (+) EXCESS, (-) BORROW

TOPSOIL [TOPSOIL EXCAVATION 10,181 C.Y. (EV) + 130% SHRINKAGE FACTOR = 7,832 C.Y. (CV)] - [TOPSOIL DRESSING 4,167 C.Y. (CV)] = 3,665 C.Y. (CV) x 130% SWOLLEN = 4,764 C.Y. (LV), (+) EXCESS, (-) BORROW

MUCK MUCK EXCAVATION 10,211 C.Y. (EV) - MUCK DISPOSAL 2,347 C.Y. (CV) x SWOLLEN FACTOR 130% = 7,160 C.Y. (EV) (+) EXCESS, (-) BORROW

### CONSTRUCTION NOTES

- |   |  |  |
|---|--|--|
| <ol style="list-style-type: none"> <li>1. SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF SLOPE DRESSING, DEBRIS, ORGANIC MATERIAL, MUCK AND OTHER UNSUITABLE MATERIAL.</li> <li>2. ITEMS REFERRED TO AS INCIDENTAL ON THIS PROJECT SHALL BE CONSIDERED INCIDENTAL WITH NO DIRECT COMPENSATION MADE THEREFORE.</li> <li>3. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B2, OR AS DIRECTED BY THE ENGINEER.</li> <li>4. BITUMINOUS AND CONCRETE ITEMS REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED OR DISPOSED OF OFF THE PROJECT, IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2104.3C3 WITH NO DIRECT COMPENSATION MADE THEREFORE.</li> <li>5. COMPACTION OF THE GRADING ITEMS OF THIS PROJECT, BOTH PERMANENT AND TEMPORARY, SHALL BE BY THE "SPECIFIED DENSITY METHOD", EXCEPT WHEN WITHIN 3 FEET OF THE WATER TABLE, THEN BY THE "QUALITY COMPACTION METHOD" OR AS DIRECTED BY THE ENGINEER.</li> <li>6. COMPACTION OF THE AGGREGATE BASE ITEMS OF THIS PROJECT, BOTH PERMANENT AND TEMPORARY, SHALL BE BY THE "SPECIFIED DENSITY METHOD" EXCEPT WHEN THE CONTRACTOR ELECTS TO USE RECYCLED MATERIALS FOR THE AGGREGATE BASE ITEMS, THEN THE "QUALITY COMPACTION METHOD" SHALL BE UTILIZED.</li> </ol> | <ol style="list-style-type: none"> <li>7. WHERE WIDENING ADJACENT TO EXISTING PAVEMENT, CUT VERTICALLY TO THE BOTTOM OF THE CLASS 5 AGGREGATE BASE AND THEN AT A 1V:1/2H SLOPE TO THE BOTTOM OF THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION (AS SHOWN ON THE TYPICAL SECTIONS AND THE CROSS SECTIONS). BACKFILL PROMPTLY TO AVOID UNDERMINING THE EXISTING PAVEMENT.</li> <li>8. PROVIDE 1:20 LONGITUDINAL TAPERS BETWEEN CHANGES IN SUBGRADE AND SUBCUT DEPTHS.</li> <li>9. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES AND WHERE CONCRETE CURBING ABUTS BITUMINOUS MIXTURES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.05 GAL./SQ. YD. BETWEEN BITUMINOUS LAYERS. APPLICATION RATES ARE APPLICABLE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY). ASPHALT EMULSIONS MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357.</li> <li>10. STRIP AND REUSE AS SLOPE DRESSING ALL EXISTING TOPSOIL, WHERE PRESENT, IN AREAS TO BE DISTURBED BY CONSTRUCTION. APPROXIMATE DIMENSIONS ENCOUNTERED ARE ASSUMED TO BE 0 INCHES MINIMUM TO 24 INCHES MAXIMUM, AND AVERAGE IS 3 INCHES. (CONTRACTOR TO VERIFY PRIOR TO PLACING BID)</li> </ol> | <ol style="list-style-type: none"> <li>11. PLACE A MINIMUM OF 4 INCHES OF SLOPE DRESSING ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. ALL EXCESS TOPSOIL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE THE RIGHT-OF-WAY.</li> <li>12. DITCH GRADE ELEVATIONS ON THE CROSS SECTIONS AND PROFILE DRAWINGS ARE AT THE BOTTOM OF TOPSOIL. ON ALL DRAWINGS WITH CONTOURS, THE ELEVATIONS ARE AT THE TOP OF TOPSOIL.</li> <li>13. DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS, AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.</li> <li>14. SOIL BORINGS ALONG THE PROJECT INDICATE THE EXISTING CSAH 57 AND CSAH 116 BITUMINOUS PAVEMENT AVERAGES 6 INCHES THICK. FOR INFORMATION ONLY. NO WARRANTY ON THIS INFORMATION. CONTRACTOR SHALL VERIFY PRIOR TO PLACING BID.</li> <li>15. ALL SILT FENCING AS SHOWN IN THE PLANS SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF GRADING OPERATIONS.</li> <li>16. EXPECT WET CONDITIONS IN THE MUCK EXCAVATION AREAS ON CSAH 116. CLEAN CRUSHED ROCK WILL LIKELY BE NECESSARY TO STABILIZE THE BOTTOM OF THE MUCK EXCAVATION FOR PLACEMENT OF FILL. DEWATERING WITH SUMP PUMPS CAN ALSO BE EXPECTED. THIS IS INCIDENTAL TO THE MUCK EXCAVATION AND BACKFILL.</li> </ol> |
|---|--|--|

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. PRINT NAME: CURT KOBILARCSIK SIGNATURE: <i>Curt Kobilarsik</i> DATE: 4-14-11 LICENSE NO. 24756	DRAWN BY: BAV DATE: _____ DESIGN BY: MN DATE: _____ CHECKED BY: CAK DATE: _____	 <b>ANOKA COUNTY</b> <b>HIGHWAY DEPT.</b>	S.P. 002-716-011 S.P. 199-020-008	<b>EARTH WORK SUMMARY</b>  Sheet <u>7</u> of <u>264</u> Sheets
NAME: p:\02-716-11\plan\0271611_EW_SUM.dgn						04/13/2011 8:39:35 AM				

CLEAR AND GRUB			A	
STATION	OFFSET		CLEAR EACH	GRUB EACH
CSAH 116				
101+46	93	RT LEB	1	1
101+56	93	RT LEB	1	1
101+75	44	RT LEB	1	1
106+41	50	LT LWB	1	1
106+60	35	RT LEB	1	1
107+45	28	RT LEB	1	1
109+58	30	RT LEB	1	1
109+63	29	RT LEB	1	1
109+69	30	RT LEB	1	1
109+80	26	RT LEB	1	1
109+89	29	RT LEB	1	1
109+95	26	RT LEB	1	1
109+95	29	RT LEB	1	1
115+20	31	RT LEB	1	1
115+21	42	RT LEB	1	1
117+84	30	RT LEB	1	1
118+38	42	LT LWB	1	1
118+62	44	LT LWB	1	1
119+54	45	LT LWB	1	1
119+73	41	LT LWB	1	1
119+93	37	LT LWB	1	1
120+79	46	LT LWB	1	1
125+72	42	RT LEB	1	1
125+76	23	RT LEB	1	1
125+78	23	RT LEB	1	1
125+83	22	RT LEB	1	1
126+30	22	RT LEB	1	1
126+33	22	RT LEB	1	1
126+43	37	RT LEB	1	1
126+73	40	RT LEB	1	1
127+82	22	RT LEB	1	1
127+89	20	RT LEB	1	1
127+92	11	RT LEB	1	1
128+12	19	RT LEB	1	1
128+13	11	RT LEB	1	1
128+13	18	RT LEB	1	1
128+15	17	RT LEB	1	1
128+15	17	RT LEB	1	1
128+20	12	RT LEB	1	1
128+23	17	RT LEB	1	1
128+26	16	RT LEB	1	1
128+33	14	RT LEB	1	1
128+38	12	RT LEB	1	1
128+45	11	RT LEB	1	1
128+46	14	RT LEB	1	1
128+55	12	RT LEB	1	1
128+56	32	RT LEB	1	1
128+62	11	RT LEB	1	1
128+71	17	RT LEB	1	1
128+71	17	RT LEB	1	1
128+71	15	RT LEB	1	1
128+71	19	RT LEB	1	1
128+72	15	RT LEB	1	1
128+73	19	RT LEB	1	1
128+83	13	RT LEB	1	1
128+83	23	RT LEB	1	1
128+88	18	RT LEB	1	1
128+91	12	RT LEB	1	1
128+95	11	RT LEB	1	1
128+98	11	RT LEB	1	1
129+16	15	RT LEB	1	1
129+16	17	RT LEB	1	1
129+29	10	RT LEB	1	1
129+44	11	RT LEB	1	1
129+44	17	RT LEB	1	1
129+61	21	RT LEB	3	1
SUBTOTAL (A)			62	66

CLEAR AND GRUB			A	
STATION	OFFSET		CLEAR EACH	GRUB EACH
129+68	31	RT LEB	1	1
129+84	25	RT LEB	1	1
129+86	20	RT LEB	1	1
129+90	27	RT LEB	1	1
129+93	12	RT LEB	1	1
129+99	16	RT LEB	1	1
128+47	35	LT LWB	1	1
128+50	28	LT LWB	1	1
128+53	29	LT LWB	1	1
128+53	35	LT LWB	1	1
128+59	33	LT LWB	1	1
128+63	31	LT LWB	1	1
128+63	32	LT LWB	1	1
128+67	32	LT LWB	1	1
128+76	34	LT LWB	1	1
128+95	36	LT LWB	1	1
129+26	32	LT LWB	1	1
129+49	27	LT LWB	1	1
129+53	34	LT LWB	1	1
129+58	35	LT LWB	1	1
129+62	34	LT LWB	1	1
129+66	33	LT LWB	1	1
129+66	30	LT LWB	1	1
129+70	29	LT LWB	1	1
129+73	34	LT LWB	1	1
129+78	33	LT LWB	1	1
130+48	27	LT LWB	1	1
130+55	30	LT LWB	1	1
130+61	44	LT LWB	1	1
130+71	45	LT LWB	1	1
130+73	27	LT LWB	1	1
130+75	31	LT LWB	1	1
130+75	26	LT LWB	1	1
130+82	29	LT LWB	1	1
130+94	46	LT LWB	1	1
130+90	13	RT LEB	1	1
131+00	30	LT LWB	1	1
131+02	49	LT LWB	1	1
131+13	39	LT LWB	1	1
131+16	39	LT LWB	1	1
131+19	39	LT LWB	1	1
131+37	48	LT LWB	1	1
131+97	49	LT LWB	1	1
132+17	48	LT LWB	1	1
132+24	50	LT LWB	1	1
132+65	45	LT LWB	1	1
132+75	46	LT LWB	1	1
132+76	46	LT LWB	1	1
132+92	49	LT LWB	1	1
132+97	21	RT LEB	1	1
132+98	18	RT LEB	1	1
133+00	22	RT LEB	1	1
133+05	26	RT LEB	1	1
133+11	23	RT LEB	1	1
133+15	45	LT LWB	1	1
133+47	49	LT LWB	1	1
133+50	37	RT LEB	1	1
133+54	46	LT LWB	1	1
133+64	48	LT LWB	1	1
133+65	48	LT LWB	1	1
133+67	48	LT LWB	1	1
133+66	22	RT LEB	1	1
133+68	35	RT LEB	1	1
133+87	37	RT LEB	1	1
133+94	35	RT LEB	1	1
134+22	35	RT LEB	1	1
134+55	34	RT LEB	1	1
SUBTOTAL (B)			58	67

CLEAR AND GRUB			A	
STATION	OFFSET		CLEAR EACH	GRUB EACH
135+04	35	LT LWB	1	1
135+27	32	RT LEB	1	1
135+72	33	RT LEB	1	1
136+05	36	RT LEB	1	1
136+43	36	RT LEB	1	1
136+72	38	LT LWB	1	1
136+76	35	RT LEB	1	1
136+96	20	RT LEB	1	1
137+01	35	RT LEB	1	1
137+02	33	RT LEB	1	1
137+02	35	RT LEB	1	1
137+11	29	RT LEB	1	1
137+13	30	RT LEB	1	1
137+16	40	LT LWB	1	1
137+27	12	RT LEB	1	1
137+49	15	RT LEB	1	1
137+58	14	RT LEB	1	1
137+58	14	RT LEB	1	1
137+60	15	RT LEB	1	1
137+61	13	RT LEB	1	1
137+61	14	RT LEB	1	1
137+64	15	RT LEB	1	1
137+64	16	RT LEB	1	1
137+75	12	RT LEB	1	1
137+76	12	RT LEB	1	1
137+84	7	RT LEB	1	1
138+43	20	RT LEB	1	1
138+43	29	RT LEB	1	1
138+49	21	RT LEB	1	1
138+59	24	RT LEB	1	1
138+61	24	RT LEB	1	1
138+77	21	RT LEB	1	1
138+77	29	RT LEB	1	1
138+85	21	RT LEB	1	1
139+42	12	RT LEB	1	1
139+43	10	RT LEB	1	1
139+47	4	LT LEB	1	1
139+70	30	RT LEB	1	1
140+51	17	LT LEB	1	1
140+53	18	LT LEB	1	1
140+74	13	LT LEB	1	1
140+91	22	LT LEB	1	1
141+02	18	LT LEB	1	1
141+21	17	LT LEB	1	1
141+49	20	LT LEB	1	1
141+68	19	LT LEB	1	1
142+21	14	RT LEB	1	1
142+35	25	RT LEB	1	1
142+53	18	LT LEB	1	1
145+53	23	LT LEB	1	1
145+54	22	LT LEB	1	1
145+67	23	LT LEB	1	1
146+42	11	LT LEB	1	1
146+42	15	LT LEB	1	1
146+56	22	LT LEB	1	1
146+59	22	LT LEB	5	1
147+16	17	LT LEB	1	1
147+47	13	LT LEB	1	1
147+47	11	LT LEB	1	1
152+13	4	LT LEB	1	1
152+14	2	LT LEB	1	1
152+14	1	LT LEB	1	1
152+31	2	RT LEB	1	1
152+33	3	RT LEB	1	1
151+98	55	LT LWB	1	1
152+02	54	LT LWB	1	1
152+21	54	LT LWB	1	1
152+21	148	LT LWB	1	1
SUBTOTAL (C)			72	68

CLEAR AND GRUB			A	
STATION	OFFSET		CLEAR EACH	GRUB EACH
152+22	54	LT LWB	1	1
152+24	54	LT LWB	1	1
152+37	56	LT LWB	1	1
152+45	58	LT LWB	1	1
152+47	190	LT LWB	1	1
152+51	56	LT LWB	1	1
152+84	3	LT LEB	1	1
152+99	4	LT LEB	1	1
153+22	10	RT LEB	1	1
153+37	2	LT LEB	1	1
153+85	9	RT LEB	1	1
153+97	9	RT LEB	1	1
154+00	7	RT LEB	1	1
154+07	10	RT LEB	1	1
154+12	6	RT LEB	1	1
154+20	8	RT LEB	1	1
154+27	9	RT LEB	1	1
154+28	8	RT LEB	1	1
154+39	5	RT LEB	1	1
154+47	11	RT LEB	1	1
154+47	9	RT LEB	1	1
154+52	48	LT LWB	1	1
154+78	8	RT LEB	1	1
154+80	45	LT LWB	1	1
154+81	41	LT LWB	1	1
154+82	40	LT LWB	1	1
154+82	9	RT LEB	1	1
154+84	11	RT LEB	1	1
154+98	6	RT LEB	1	1
155+08	16	RT LEB	1	1
155+11	14	RT LEB	1	1
155+20	13	RT LEB	1	1
155+35	7	RT LEB	1	1
159+98	49	LT LWB	1	1
160+05	48	LT LWB	1	1
160+27	47	LT LWB	1	1
160+33	47	LT LWB	1	1
160+34	46	LT LWB	1	1
160+55	36	LT LWB	1	1
160+55	37	LT LWB	1	1
160+56	37	LT LWB	1	1
160+78	49	LT LWB	1	1
160+79	53	LT LWB	1	1
161+10	36	RT LEB	1	1
161+14	45	LT LWB	1	1
161+20	50	LT LWB	1	1
161+32	45	LT LWB	1	1
161+71	35	LT LWB	1	1
161+76	36	LT LWB	1	1
162+42	34	LT LWB	1	1
162+54	36	LT LWB	1	1
162+91	47	LT LWB	1	1
163+24	41	LT LWB	1	1
163+35	39	LT LWB	1	1
164+10	49	LT LWB	1	1
164+11	37	LT LWB	1	1
164+12	36	LT LWB	1	1
164+25	32	LT LWB	1	1
164+28	36	LT LWB	1	1
164+32	40	LT LWB	1	1
164+37	45	LT LWB	1	1
164+45	48	LT LWB	1	1
164+50	49	LT LWB	1	1
164+51	36	LT LWB	1	1
164+53	30	LT LWB	1	1
164+73	33	LT LWB	1	1
164+87	44	LT LWB	1	1
164+97	26	LT LWB	1	1
SUBTOTAL (D)			34	68

CLEAR AND GRUB			A	
STATION	OFFSET		CLEAR EACH	GRUB EACH
164+98	25	LT LWB	1	1
165+05	25</			



CLEAR AND GRUB (AC)					A
BEGIN	END	LOCATION	CLEAR ACRE	GRUB ACRE	
CSAH 116					
101+88	103+19	RT LEB	0.30	0.30	
137+99	138+25	RT LEB	0.05	0.05	
139+87	142+00	RT LEB	0.30	0.30	
141+82	147+97	RT LEB	1.10	1.10	
155+21	159+63	RT LEB	0.40	0.40	
161+10	164+32	RT LEB	0.10	0.10	
<b>TOTAL</b>			2.25	2.25	

REMOVE CONCRETE CURB AND GUTTER							C
STATION		LOCATION		DESCRIPTION		CONC	
START	END					LIN FT	
<b>CSAH 116</b>							
106+06	106+61	39	163	RT LEB	AZURITE ST	139	
106+42	106+91	39	143	RT LEB	AZURITE ST	118	
110+34	110+38	26	48	RT LEB	SIGN ZONE ENT	23	
110+66	110+70	27	56	RT LEB	SIGN ZONE ENT	30	
121+42	121+42	18	75	LT LWB	WOLFRAM ST	56	
121+71	121+71	19	75	LT LWB	WOLFRAM ST	56	
127+02	127+02	24	157	RT LEB	UNITY ST	107	
127+41	127+41	23	157	RT LEB	UNITY ST	110	
130+00	130+00	41	133	LT LWB	TUNGSTEN ST	78	
130+28	130+28	40	136	LT LWB	TUNGSTEN ST	81	
169+66	172+54	21	14	LT LEB	116 MEDIAN	288	
169+33	172+22	19	14	RT LWB	116 MEDIAN	288	
<b>SUBTOTAL</b>						1374	
<b>CSAH 57</b>							
199+87	202+65	14	26	LT LNB	CSAH 57	279	
204+40	204+40	36	124	RT LNB	SUNFISH LK CT	96	
205+27	205+27	37	48	LT LSB	SIGN ZONE ENT	12	
205+51	205+51	35	49	LT LSB	SIGN ZONE ENT	13	
213+96	213+96	39	45	LT LSB	LIFE FITNESS ENT	6	
214+28	214+28	39	45	LT LSB	LIFE FITNESS ENT	6	
219+07	219+07	41	44	RT LNB	142ND LANE	7	
219+35	219+35	41	44	RT LNB	142ND LANE	7	
<b>SUBTOTAL</b>						426	
<b>TOTAL</b>						1800	

REMOVE EXISTING STORM SEWER & CULVERTS										G
STATION		OFFSET				ALIGNMENT	PIPE APRON	PIPE CULVERT	REMARKS	
START	END	START	END			EACH	LIN FT			
<b>CSAH 116</b>										
101+30	101+30	31	RT	57	LT	LEB	2	88		
104+55	104+98	26	RT	27	RT	LEB		45		
105+28	105+30	22	RT	61	LT	LEB	1	82		
105+71	106+57	24	LT	23	LT	LWB	2	86		
110+25	110+72	17	RT	19	RT	LEB	2	48		
111+05	111+56	23	LT	29	LT	LWB		50		
118+13	118+69	20	LT	20	RT	LEB		56		
121+27	121+86	4	LT	4	LT	LWB	1	59		
124+33	124+78	16	RT	15	RT	LEB	1	45		
129+85	130+45	12	LT	12	LT	LWB		61		
133+18	133+48	17	LT	18	LT	LWB		30		
138+81	139+11	0	RT	3	LT	LEB		31		
140+94	141+24	55	LT	51	LT	LWB		35		
145+78		10	RT			LWB				
146+05	146+10	23	RT	56	LT	LWB		79		
148+29	149+18	8	LT	3	LT	LEB	1	88		
151+23	151+81	19	LT	17	LT	LEB		56		
152+88	153+18	45	LT	43	LT	LWB		31		
168+95	169+22	23	LT	23	LT	LWB		27		
<b>SUBTOTAL</b>							10	997		
<b>CSAH 57</b>										
204+90	205+57	22	LT	21	LT	LSB	2	67		
206+70	207+24	16	RT	15	RT	LNB		54		
211+82	212+40	18	RT	17	RT	LNB		58		
212+04	212+45	21	LT	20	LT	LSB		41		
213+80	214+39	23	LT	22	LT	LSB	2	59		
218+87	219+50	27	RT	27	RT	LNB		63		
220+69	221+19	30	LT	32	LT	LSB	2	50		
<b>SUBTOTAL</b>							6	392		
<b>TOTAL</b>							16	1389		

REMOVE BITUMINOUS PAVEMENT					B
STATION		LOCATION	DESCRIPTION	REMOVE BIT	SAW BIT
START	END			SQ YD	LIN FT
<b>CSAH 116</b>					
100+37	115+44		MAINLINE	7909	123
104+48	105+01	RT EB	P.D.P.	160	62
105+71	106+53	LT WB	GMI	211	32
105+77	106+64	RT EB	AZURITE ST	720	37
110+14	110+89	RT EB	SIGN ZONE LOT	250	34
111+06	111+61	LT WB	FITNESS CENTER	94	
121+17	121+98	LT WB	WOLFRAM ST	334	29
124+22	124+87	RT EB	S & A PARTNERS	209	29
126+80	127+63	RT EB	UNITY ST	651	39
129+72	130+57	LT WB	TUNGSTEN ST	464	28
141+02	141+19	LT WB	5959	69	19
150+22	151+72	RT EB	1140	570	157
150+92	151+56	LT WB	MAGNESIUM ST	1147	23
152+91	153+20	LT WB	5759	31	11
155+00	155+39	LT WB	5759	75	11
157+14	157+92	LT WB	KRYPTON ST	291	24
166+09	166+94	LT WB	IODINE ST	463	25
168+78	169+25	LT WB	5519	232	35
170+14	170+94	LT WB	GERMANIUM ST	250	31
115+92	130+52		MAINLINE	5287	
130+52	151+52		MAINLINE	6932	
151+52	173+36		MAINLINE	8565	160
153+67	153+80	RT LEB	BIT PATH	27	7
172+22	175+07	LWB	TURN LANE	267	296
		LT/RT LWB	TEMP. PAVEMENT	1893	
<b>SUBTOTAL</b>				37103	1212
<b>CSAH 57</b>					
203+76	209+48		MAINLINE	3370	595
209+48	221+29		MAINLINE	5322	
203+89	204+57	LT SB	140 <sup>TH</sup> CT NW	150	85
203+69	204+69	RT NB	SUNFISH LK CT	471	106
205+06	205+74	LT SB	SIGN ZONE	151	23
206+80	207+30	RT NB	MATRIX T & D INC.	146	50
211+99	212+48	LT SB	FITNESS CENTER	152	50
213+82	214+40	LT SB	LIFE FITNESS	181	32
218+83	219+60	RT NB	142ND LANE	172	29
		RT LNB	TEMP. PAVEMENT	1145	
<b>SUBTOTAL</b>				11261	970
<b>TOTAL</b>				48364	2182

REMOVE BITUMINOUS CURB					D
STATION		LOCATION	DESCRIPTION	BIT	
START	END			LIN FT	
<b>CSAH 116</b>					
110+16	110+34	2	25	RT LEB	PARKING LOT ENT
110+67	110+84	2	26	RT LEB	PARKING LOT ENT
<b>SUBTOTAL</b>					61
<b>CSAH 57</b>					
205+22	205+27	16	15	LT LSB	PARKING LOT ENT
205+51	205+56	16	15	LT LSB	PARKING LOT ENT
207+17	207+25	32	42	RT LNB	PARKING LOT RAD
<b>SUBTOTAL</b>					28
<b>TOTAL</b>					89

REMOVE CONCRETE MEDIAN					E
STATION		LOCATION	DESCRIPTION	BIT	
START	END			SQ FT	
<b>CSAH 116</b>					
169+66	172+54	21	LT	LEB	116 MEDIAN
<b>SUBTOTAL</b>					3121
<b>CSAH 57</b>					
199+87	202+65	14	LT	LNB	57 MEDIAN
<b>SUBTOTAL</b>					1084
<b>TOTAL</b>					4205

REMOVE CONCRETE DRIVEWAY PAVEMENT						F
STATION		LOCATION	DESCRIPTION	REMOVE	SAWCUT	
START	END			SQ YD	LIN FT	
<b>CSAH 116</b>						
117+61	118+26	LT	WB	CASEY'S DRIVEWAY	307	65
<b>SUBTOTAL</b>					307	65
<b>CSAH 57</b>						
211+81	212+35	RT	NB	CASEY'S DRIVEWAY	328	67
<b>SUBTOTAL</b>					328	67
<b>TOTAL</b>					635	132

REMOVE DRAINAGE FLUME				I
STATION	OFFSET	BIT/CONC		
		EACH		
<b>CSAH 116</b>				
105+86	2'		LT WB	1
<b>SUBTOTAL</b>				1
<b>CSAH 57</b>				
205+21	31'		LT SB	1
206+79	8'		RT NB	1
<b>SUBTOTAL</b>				2
<b>TOTAL</b>				3

FENCING										H	
ADDRESS	STATION		ALIGN	LOCATION	REMOVE FENCE (SPEC 2104) (LIN FT)			WIRE FENCE	ELECTRIC		
	START	END			WOOD (A)	CHAIN (A)	PLASTIC (A)	DESIGN 60-9322	GROUND		
<b>CSAH 116</b>											
	108+90	110+32	LEB	36	RT	32	RT	161			
	110+70	112+02	LEB	32	RT	63	RT	156			
14059	116+30	117+30	LEB	41	RT	40	RT	100			
	118+10	118+11	LWB	105	LT	36	LT		69		
14180	118+79	119+34	LWB	36	LT	39	LT	56			
14170	120+05	120+64	LWB	39	LT	41	LT	59			
	121+81	128+12	LWB	55	LT	48	LT	644			
14155	130+47	133+00	LWB	42	LT	42	LT		253		
6190	130+83	132+22	LEB	9	RT	9	RT	139			
14155	130+88	132+65	LWB	44	LT	46	LT	177			
	142+00	151+00	LWB	36	LT	36	LT		888		2
5726	158+74	159+77	LWB	45	LT	47	LT	103			
<b>SUBTOTAL</b>					1036	559	69	1141			2
<b>CSAH 57</b>											
14059	207+30	208+64	LNB	39	RT	40	RT	134			
	211+51	211+99	LSB	35	LT	35	LT		48		
	212+48	212+96	LSB	36	LT	37	LT		48		
	212+26	212+26	LNB	41	RT	97	RT		56		
	212+77	213+32	LNB	51	RT	43	RT	56			
	214+09	214+64	LNB	52	RT	43	RT	56			
	215+38	215+93	LNB	52	RT	43	RT	56			
	216+93	217+63	LNB	45	RT	47	RT	70			</

CONSTRUCT RETAINING WALL							J
WALL	STATION		LOCATION	DESCRIPTION	LENGTH LIN FT	HEIGHT LIN FT	BLOCK SQ FT
	START	END					
A	106+95	109+05	35 RT EB 35 RT	CONCRETE BLOCK	214	2.0 TO 4.5	725
B	116+10	117+72	44 LT WB 43 LT	CONCRETE BLOCK	164	1.5 TO 2.0	305
C	130+47	133+00	47 LT WB 40 LT	CONCRETE BLOCK	255	3.5 TO 5.5	981
CSAH 57							
D	206+80	208+98	42 LT SB 40 LT	CONCRETE BLOCK	231	1.0 TO 3.0	422
TOTAL					864		2433

INSTALL MAILBOX SUPPORT					K
STATION	LOCATION	ADDRESS	SALVAGE MAILBOX SUPPORT	INSTALL MAILBOX SUPPORT	
			EACH	EACH	
139+00	LT LWB	6021	1	1	
141+00	LT LWB	5959	1	1	
155+10	LT LWB	5759	1	1	
169+00	LT LWB	5519	1	1	
173+75	LT LWB	5515	1	1	
PROJECT TOTALS			5	5	

CONSTRUCT BITUMINOUS TRAIL						L
STATION LEB/LNB	START	END	LOCATION	DESCRIPTION	AREA	BIT. WEAR SPWEB230B
					SQ YD	TON
CSAH 116						
105+77	114+66		NORTH SIDE	BASALT TO CSAH 57 (A)	725	94
115+86	117+78		NORTH SIDE	CSAH 57 TO SHELL ENT (A)	175	23
118+11	121+39		NORTH SIDE	SHELL ENT. TO WOLFRAM ST (A)	290	38
121+76	129+98		NORTH SIDE	WOLFRAM ST TO TUNGSTEN ST (A)	726	94
130+34	138+85		NORTH SIDE	TUNGSTEN ST - D/W	757	98
139+10	140+99		NORTH SIDE	D/W TO D/W	180	23
141+18	151+87		EAST SIDE	D/W - MAGNESIUM ST	941	122
152+45	157+29		NORTH SIDE	MAGNESIUM ST - KRYPTON ST	428	55
157+61	165+96		NORTH SIDE	KRYPTON ST TO IODINE ST	734	95
166+32	170+33		NORTH SIDE	IODINE ST TO GERMANIUM ST	353	46
170+73	175+39		NORTH SIDE	GERMANIUM ST TO EXIST	391	51
SUBTOTAL					5700	739
CSAH 57						
204+71	205+27		WEST SIDE	140TH COURT NW TO ENT.	67	9
205+51	209+00		WEST SIDE	ENT. TO 116	304	39
210+17	211+93		EAST SIDE	116 TO SHELL ENT	159	21
212+25	216+28		EAST SIDE	SHELL ENT TO END FULL CONST.	358	46
218+92	219+51		EAST SIDE	142ND LANE	27	3
SUBTOTAL					915	118
TOTAL					6615	857

(A) REPLACE EXISTING BITUMINOUS TRAIL BY ANOKA COUNTY  
 (B) AGGREGATE BASE CLASS 5 INCIDENTAL TO TRAIL CONSTRUCTION

CULVERT TABULATION											P
STATION	OFFSET		ALIGNMENT	INVERT UPSTREAM	INVERT DOWNSTREAM	FURNISH AND INSTALL					SODDING
	FROM	TO				FROM	TO	15" RCP PIPE	15" RCP APRON	RIPRAP CL II	
02-716-11											
146+53.90	146+59.01	91	LT 74	RT	LEB	852.55	854.08	141	2	3	9
168+77.00	169+31.76	51	LT 51	LT	LWB	862.30	862.03	55	2	3	9
TOTAL								196	4	6	18

CONCRETE CURB AND GUTTER, CONCRETE MEDIAN											N	
STATION TO STATION	LOCATION	DESCRIPTION	CONCRETE CURB & GUTTER DESIGN B-418	CONCRETE CURB & GUTTER DESIGN B-424	PEDESTRIAN CURB RAMP	TRUNCATED DOME	6" CONCRETE DRIVEWAY	4" CONCRETE MEDIAN	CONCRETE MEDIAN NOSE DES 7113			
			LIN FT	LIN FT	SQ FT	SQ FT	SQ YD	SQ FT	SQ FT	SQ FT		
C.S.A.H. 116												
106+72.57	114+76.23	RT LEB	SHOULDER		815							
116+67.74	126+76.97	RT LEB	SHOULDER		1005							
127+65.95	152+12.78	RT LEB	SHOULDER		2443							
153+16.21	173+35.86	RT LEB	SHOULDER		2020							
107+64.15	114+85.61	LT LEB	MEDIAN						4571	27		
116+57.12	127+13.06	LT LEB	MEDIAN	1056					10675	27		
127+85.63	152+12.37	LT LEB	MEDIAN	2423					28097	27		
117+74.68	118+14.78	LT LEB	DRIVEWAY				182					
153+16.50	172+54.24	LT LEB	MEDIAN	1934					24861	27		
105+95.58	114+30.56	LT LWB	SHOULDER		815							
116+20.37	121+16.65	LT LWB	SHOULDER		486							
121+95.14	129+75.72	LT LWB	SHOULDER		770			32	8			
130+53.68	151+60.82	LT LWB	SHOULDER		2110			32	8			
152+66.20	157+06.53	LT LWB	SHOULDER		435			32	8			
157+80.35	165+67.53	LT LWB	SHOULDER		780			32	8			
166+56.20	170+09.64	LT LWB	SHOULDER		354			32	8			
171+00.58	TIE IN	LT LWB	SHOULDER		407			32	8			
107+49.05	114+51.09	RT LWB	MEDIAN	708								
116+21.72	126+90.60	RT LWB	MEDIAN	1069								
127+49.51	151+73.57	RT LWB	MEDIAN	2428								
152+81.29	172+17.53	RT LWB	MEDIAN	1936								
90+38.41	91+64.32	LT AZURITE ST			108							
90+38.41	91+82.69	RT AZURITE ST			122							
10+20.70	10+74.97	LT WOLFRAM ST			72							
10+24.33	10+74.97	RT WOLFRAM ST			67							
70+80.04	71+77.23	LT UNITY ST			84							
70+80.04	71+82.13	RT UNITY ST			89							
20+18.35	21+07.30	LT TUNGSTEN ST			90							
20+22.67	21+07.30	RT TUNGSTEN ST			85							
62+14.81	62+44.81	LT MAGNESIUM ST			47							
62+16.16	62+50.64	RT MAGNESIUM ST			51							
63+32.90	63+62.90	LT MAGNESIUM ST			48							
62+38.56	65+69.60	RT MAGNESIUM ST			248							
30+20.31	30+49.70	LT KRYPTON ST			47							
30+24.70	30+49.70	RT KRYPTON ST			47							
40+21.89	41+00.00	LT IODINE ST			50							
40+23.10	41+00.00	RT IODINE ST			46							
50+23.81	50+46.76	LT GERMANIUM ST			48							
50+21.71	50+46.76	RT GERMANIUM ST			49							
SUBTOTAL					12267			192	48	182	68204	108
C.S.A.H. 57												
204+69.71	209+12.83	RT LNB	SHOULDER		474							
210+01.95	216+28.69	RT LNB	SHOULDER		594			80	8			
199+86.62	208+62.87	LT LNB	MEDIAN	886						7148	27	
210+38.67	217+24.00	LT LNB	MEDIAN	685						4751	27	
211+78.46	211+80.88	RT LNB	DRIVEWAY		45					250		
212+26.05	212+38.39	RT LNB	DRIVEWAY		66							
204+45.80	204+71.32	LT LSB	RADIUS		39							
204+71.32	209+15.46	LT LSB	SHOULDER		470			80	8			
210+03.20	216+28.66	LT LSB	SHOULDER		519			80	8			
213+09.11	213+76.95	LT LSB	DRIVEWAY		63							
213+76.95	214+46.77	LT LSB	DRIVEWAY		61							
201+62.84	208+62.40	RT LSB	MEDIAN	710								
210+38.64	217+24.00	RT LSB	MEDIAN	686								
80+17.41	80+80.85	LT SUNFISH LK CT			87							
SUBTOTAL					2967			240	24	250	11898	54
TOTAL					15234			432	72	431	80102	162


DRAINAGE FLUME				T
STATION	OFFSET	DESCRIPTION	CONC	
105+91.00	LWB 15' LT	CONCRETE FLUME	10	
TOTAL				10

TRAFFIC BARRIER DESIGN B8338						Z
ALIGNMENT	STATION TO STATION	OFFSET (1)	TRAFFIC BARRIER DESIGN B8338 (LIN FT)	END TREATMENT FLARED TERMINAL (EACH)	GUIDE POST (EACH)	
EB C.S.A.H. 116	106+79 - 109+66	20.0' RT	287	2	2	
PROJECT TOTAL			287	2	2	

(1) OFFSET IS TO FACE OF TRAFFIC BARRIER.

1	4/12/11	BAV	JEO	CAK	UPDATED CULVERT TAB & RETAINING WALL TAB		
NO	DATE	BY	CKD	APPR	REVISION		
NAME: P:102-716-11/Plan/0271611_TAB.dgn				04/13/2011		8:53:40 AM	

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.

PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE:   
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

C.S.A.H 116/57  
TAB SHEETS

PERMANENT PAVEMENT MARKINGS										R
4" SOLID LINE WHITE (EPOXY)	4" BROKEN LINE WHITE (EPOXY)	24" SOLID LINE WHITE (PREFORMED THERMOPLASTIC)	4" SOLID LINE YELLOW (EPOXY)	4" DOUBLE SOLID LINE YELLOW (EPOXY)	24" SOLID LINE YELLOW (PREFORMED THERMOPLASTIC)	CROSSWALK MARKING (PREFORMED THERMOPLASTIC)	PAVEMENT MESSAGE (LT ARROW) (PREFORMED THERMOPLASTIC)	PAVEMENT MESSAGE (RT ARROW) (PREFORMED THERMOPLASTIC)	PAVEMENT MESSAGE (ONLY) (PREFORMED THERMOPLASTIC)	
LIN FT	LIN FT	SQ FT	LIN FT	LIN FT	SQ FT	SQ FT	EACH	EACH	EACH	
23570	2970	414	18020	2420	454	1134	8	8		
<b>TOTAL</b>	<b>23570</b>	<b>2970</b>	<b>18020</b>	<b>2420</b>	<b>454</b>	<b>1134</b>	<b>8</b>	<b>8</b>	<b>0</b>	

TEMPORARY BITUMINOUS PAVEMENT							MM
CSAH 116							
STATION TO STATION	LOCATION	SQ FT	SQ YD	TON	SAWCUT		
100+12	106+12	LT LWB	4562	507	73	600	
106+12	112+78	LT LWB	4606	512	74	666	
112+78	114+97	LT LWB	1342	149	21	219	
161+00	165+91	LT LWB	2852	317	46	491	
166+46	167+50	LT LWB	607	67	10	104	
169+33	172+22	RT LWB	3067	341	49	289	
<b>SUBTOTAL</b>			<b>17036</b>	<b>1893</b>	<b>272</b>	<b>2369</b>	
CSAH 57							
204+97	208+97	RT LNB	2406	267	38	400	
209+94	219+00	RT LNB	5402	600	86	906	
219+49	223+74	RT LNB	2500	278	40	425	
<b>SUBTOTAL</b>			<b>10308</b>	<b>1145</b>	<b>165</b>	<b>1731</b>	
<b>TOTAL</b>			<b>27344</b>	<b>3038</b>	<b>437</b>	<b>4100</b>	

ALL PERMANENT PAVEMENT MARKINGS SHALL BE EPOXY UNLESS OTHERWISE NOTED.  
SEE TEMPORARY PAVEMENT MARKINGS FOR ALL MARKINGS RELATED TO STAGING.

- (1) MARKINGS SHALL BE POLY PREFORM
- (2) BROKEN LINES SHALL BE 10' SOLID WITH 40' GAP.

CONSTRUCT WOOD NOISE BARRIER					Y	MILL BIT. SURFACE (1.5")				O
STATION		LOCATION	HEIGHT	SQ FT		STATION	LOCATION	DESCRIPTION	MILL BIT SURFACE	
START	END		LN FT						SQ YD	
CSAH 116										
119+63.00	120+93.00	40 LT WB	9	1152		CSAH 116	MAGNESIUM ST. 12' LT TO 12' RT	SEE REM PLAN	811	
123+28.00	129+52.00	40 LT WB	10	6240						
<b>TOTAL</b>				<b>7392</b>		<b>TOTAL</b>				<b>811</b>

BASE AND BITUMINOUS SUMMARY												X
LOCATION	STATION	DESCRIPTION	AREA	AGGREGATE BASE CLASS 5	2360 TYPE SP 12.5 WEAR SPWEB340F (1)	2360 TYPE SP 12.5 NON-WEAR* SPWEB330B (1)	2357 BIT. TACK COAT (3)	OVERLAY 2360 TYPE SP 12.5 WEAR (3,F) (1)	TEMPORARY TYPE LV4 WEAR (2)	TEMPORARY AGGREGATE BASE CLASS 5 (4)	DRIVEWAYS	
											4" AGGREGATE BASE CLASS 5	TYPE SP 12.5 WEAR (2,B) (2)
			SQ YD	CU YD	TON	TON	GAL	TON	TON	TON	CU YD	TON
CSAH 116												
MAINLINE	101+00 - 106+07	LEB & LWB	3554	649	817	460	355		73	338		
MAINLINE	101+00 - 114+81	LEB & LWB	6989	1403	1607	904	699		95	441		
MAINLINE	114+81 - 152+00	LEB & LWB	28270	5919	6502	3657	2827					
MAINLINE	152+00 - 172+54	LEB & LWB	15742	3347	3621	2037	1574		105	483		
RT LEB	104+76	DRIVEWAY	133								15	17
LT LWB	106+16	DRIVEWAY	97								11	13
RT LEB	106+24	AZURITE ST	519	98	60	67	52					
RT LEB	110+52	LOT ENT	112								13	14
LT LWB	111+32	DRIVEWAY	114								13	15
LT LWB	121+55	WOLFRAM ST	197	40	23	25	20					
RT LEB	124+54	DRIVEWAY	74								8	10
RT LEB	127+22	UNITY ST	329	63	38	43	33					
LT LWB	130+16	TUNGSTEN ST	242	49	28	31	24					
LT LWB	138+98	DRIVEWAY	53								6	7
LT LWB	141+11	DRIVEWAY	74								8	10
RT LEB	152+59	MAGNESIUM ST	193	37	22	25	19					
LT LWB	152+20	MAGNESIUM ST	1596	280	184	206	160					
MAGN. ST	67+50	MAGNESIUM ST	811					93				
RT LEB	152+63	DRIVEWAY	367								41	47
LT LWB	155+18	DRIVEWAY	55								6	7
LT LWB	157+47	KRYPTON ST	246	46	28	32	25					
LT LWB	166+15	IODINE ST	264	49	30	34	26					
LT LWB	169+10	DRIVEWAY	148								17	19
LT LWB	170+56	GERMANIUM ST	202	38	23	26	20				3	3
LT LWB	173+63	DRIVEWAY	27									
<b>SUBTOTAL</b>			<b>60408</b>	<b>12018</b>	<b>12983</b>	<b>7547</b>	<b>5834</b>	<b>93</b>	<b>273</b>	<b>1262</b>	<b>142</b>	<b>162</b>
CSAH 57												
MAINLINE	203+76 - 209+16	LNB & LSB	5003	987	1151	647	500		38	178		
MAINLINE	210+00 - 220+14	LNB & LSB	8996	1641	2069	1164	900		126	485		
RT LNB	204+21	SUNFISH LK CT	323	58	37	42	32					
LT LSB	204+26	140TH CT	146	26	17	19	15					
LT LSB	205+39	DRIVEWAY	64								7	8
RT LNB	207+04	DRIVEWAY	62								7	8
LT LSB	213+39	LOT ENT	82								9	11
LT LSB	214+12	LOT ENT	90								10	12
RT LNB	219+21	142ND LN	164	27	19	21	16					
<b>SUBTOTAL</b>			<b>14930</b>	<b>2740</b>	<b>3293</b>	<b>1893</b>	<b>1463</b>		<b>164</b>	<b>664</b>	<b>34</b>	<b>39</b>
<b>TOTAL</b>			<b>75338</b>	<b>14758</b>	<b>16276</b>	<b>9440</b>	<b>7297</b>	<b>93</b>	<b>437</b>	<b>1925</b>	<b>175</b>	<b>201</b>

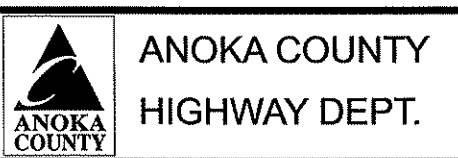
\* INCLUDING QUANTITY FOR ADDITIONAL 1/4 INCH TO DESIGN PAVEMENT THICKNESS.

- (1) SPEC. 2360 BITUMINOUS MIXTURES COMPUTED AT 115 POUNDS / SQ YD / INCH
- (2) SPEC. 2360 BITUMINOUS MIXTURES COMPUTED AT 115 POUNDS / SQ YD / INCH
- (3) BITUMINOUS MATERIAL FOR TACK COAT COMPUTED AT 0.05 GALLONS / SQ YD
- (4) AGGREGATE BASE COMPUTED AT 2 TONS / CU YD

NO	DATE	BY	CHKD	APPR	REVISION
1	4/12/11	BAV	JEO	CAK	UPDATED SANITARY/STORM ADJUSTMENTS

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.  
PRINT NAME: CURT KOBILARCSIK  
SIGNATURE: *Curt Kobilarsik*  
DATE: 4-11-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
DESIGN BY: MN DATE: 04/13/2011  
CHECKED BY: CAK DATE: 04/13/2011



S.P. 002-716-011  
S.P. 199-020-008

TURF ESTABLISHMENT AND EROSION CONTROL													Q	
LOCATION			SILT FENCE	FLOATING SILT CURTAIN	SEEDING	SEED MIXTURE		SODDING SALT RESISTANT	MULCH MATERIAL TYPE 1	DISK ANCHOR	EROSION CONTROL BLANKET (CAT. 3)	FERTILIZER TYPE 3 22-5-10	FERTILIZER TYPE 4 18-1-8	RAPID STABILIZATION METHOD 3
						310	350							
BEG. STA.	END STA.	ALI	LIN FT	LIN FT	ACRE	POUND	POUND	SQ YD	TON	ACRE	SQ YD	POUND	POUND	M GAL
C.S.A.H. 116														
100+51	106+00	EB	960								1657			
100+55	105+85	WB	609								1612			
109+07	110+23	EB	146											
112+00	115+00	EB	310											
124+75	126+88	EB	299											
118+11	121+29	WB	373											
133+05	138+22	WB	514											
139+00	141+08	EB	344											
141+20	150+83	WB	955											
141+91	147+91	EB	1403											
147+48	151+98	EB	615											
MAGNE. ST		CL	454											
MAGNE. ST		CL	116								992			
157+72	164+04	WB	659											
168+00	172+56	EB	456											
142+78	151+61	WB		977										
100+55	106+00	WB			0.41	34		0.81	0.41			61		
100+51	104+64	EB			0.48	40						92	72	
104+93	105+94	EB										34		
106+30	111+24	WB										89		
106+53	110+38	EB										106		
110+65	114+81	EB										50		
111+40	114+31	WB										42		
116+20	117+78	WB										21		
116+68	118+93	EB										18		
118+11	121+41	WB										31		
119+17	127+02	EB										60		
121+73	130+00	WB										102		
127+41	140+99	EB										147		
130+32	133+13	WB										32		
133+13	138+85	WB			0.24	20		349	0.48	0.24	1095	25	36	1.45
139+05	140+99	WB			0.05	4		124	0.10	0.05		9	8	
141+18	150+90	WB			0.18	15		601	0.36	0.18		43	27	1.07
150+90	151+90	WB			0.46	37		53				4	68	2.73
140+99	149+35	EB			2.38	90	108		2.56	2.38	1485		356	
149+35	152+42	EB			0.14		12		0.29	0.14			22	
152+46	157+36	WB						2,350			2039	170		
152+42	173+38	EB			0.56		47		1.12	0.56			84	
157+59	165+96	WB						2,006			950	145		
166+32	168+98	WB						433			129	31		
169+18	170+34	WB						286			229	21		
170+76	175+09	WB						596			209	43		
SUBTOTAL			8,214	977	4.90	167	242	18,176	5.73	3.96	10397	1314	734	5.25
C.S.A.H. 57														
204+39	206+92	NB						556				40		
204+45	205+28	SB						94				7		
205+70	209+16	SB						504				36		
206+92	209+16	NB						252				18		
210+00	211+93	NB						356				26		
210+00	213+22	SB			0.08		7		0.16	0.08			12	
212+25	216+29	NB						656				47		
213+57	213+96	SB			0.02		2		0.05	0.02			4	
214+28	222+69	SB	808					1,811			1266	131		
216+29	219+07	NB	270					298			310	22		
219+36	221+40	NB						162			106	12		
SUBTOTAL			1,078	0	0.11	0	9	4,687	0.21	0.11	1682	339	16	0.00
TOTAL			9,292	977	5.00	167	251	22,863	5.94	4.06	12,079	1,653	750	5.25

PRIVATE UTILITY OWNERS	CC
CITY OF RAMSEY 7550 SUNWOOD DR NW RAMSEY, MN 55303 CONTACT: BRIAN OLSON TEL: 763-427-5543	CENTERPOINT ENERGY 700 WEST LINDEN AVE P.O. BOX 1165 MINNAPOLIS, MN 55440-1165 CONTACT: STEVE GUHANICK TEL: 763-427-3456
CITY OF ANOKA 2015 FIRST AVENUE NORTH ANOKA, MN 55303 CONTACT: GREG LEE TEL: 763-576-2700	QWEST CORPORATION 425 MONROE ST ANOKA, MN 55303 CONTACT: BRUCE HOLLOWAY TEL: 763-712-5020
CONNEXUS ENERGY 14601 RAMSEY BLVD RAMSEY, MN 55303 CONTACT: TOM KELLER TEL: 763-323-4268	SHAL NETWORKS 9938 STATE HIGHWAY 55 NW PO BOX 340 ANNANDALE, MN 55302 CONTACT: CURTIS OLSON TEL: 320-274-1176
COMCAST CABLE 2611 FAIRVIEW AVE ROSEVILLE, MN 55113 CONTACT: DOUG ZAHN TEL: 651-493-5316	


CENTERPOINT ENERGY - GAS				AA
STATION		LOCATION	NOTES	SIZE & ITEM
BEGIN	END			
CSAH 116				
100+00	106+50	OFFSET FROM LEB	RELOCATE	8" ST
106+50	115+28	17 RT TO 27 RT	RELOCATE	8" ST
106+50	115+26	23 RT TO 29 RT	RELOCATE	4" PE
110+57	110+92	145 LT TO 5 RT	RELOCATE	2"
115+25	122+17	17 RT TO 4 RT	RELOCATE	6"ST
119+85	119+85	7 RT TO 80 RT	RELOCATE	2"
122+17	122+17	4 RT TO 77 LT	RELOCATE	2" TR
122+17	125+10	4 RT TO 6 RT	RELOCATE	6" ST
125+10	125+48	6 RT TO 125 RT	RELOCATE	2" TR
125+10	126+86	6 RT TO 7 RT	RELOCATE	6" ST
126+86	126+88	7 RT TO 21 RT	RELOCATE	2" TR
126+88	127+19	21 RT TO 25 RT	RELOCATE	2" TR
127+19	127+19	25 RT TO 139 RT	RELOCATE	2" TR
126+86	130+26	7 RT TO 1 RT	RELOCATE	6" ST
130+26	130+26	1 RT TO 173 LT	RELOCATE	2" PE
130+26	138+85	1 RT TO 6 LT	RELOCATE	6" ST
138+85	150+68	6 LT TO 32 LT	RELOCATE	6" ST
139+39	139+51	12 LT TO 150 LT	RELOCATE	2"
141+31	141+74	33 LT TO 187 LT	RELOCATE	2"
150+49	150+55	174 RT TO 29 LT	RELOCATE	2"
150+68	166+96	32 LT TO 2 RT	RELOCATE	6" ST
166+73	166+73	1 RT TO 322 LT	RELOCATE	3" PE
166+96	166+98	2 RT TO 18 RT	RELOCATE	6" ST
166+98	172+53	18 RT TO 22 RT	RELOCATE	6" ST
166+96	172+53	2 RT TO 7 LT	ABANDONED	
170+03	170+01	25 RT TO 134 LT	RELOCATE	2"
171+23	171+13	24 RT TO 85 LT	RELOCATE	2" PE
171+13	171+08	85 LT TO 85 LT	RELOCATE	2" PE
171+08	170+96	85 LT TO 223 LT	RELOCATE	2" PE
172+53	175+00	7 LT TO 12 LT	ABANDONED	
172+53	175+00	22 RT TO 18 RT	LEAVE AS IS	6" ST
173+63	173+92	20 LT TO 53 LT	LEAVE AS IS	
CSAH 57				
200+55	200+55	53 RT TO 70 LT	LEAVE AS IS	2"
200+55	209+21	70 LT TO 64 LT	RELOCATE	4" ST
203+90	203+90	43 LT TO 300 RT	LEAVE AS IS	2" TR
204+60	204+63	65 LT TO 298 LT	LEAVE AS IS	2"
209+21	209+21	64 LT TO RT	RELOCATE	4" ST
209+21	222+73	64 LT TO 51 LT	RELOCATE	4" PE
219+41	219+38	56 RT TO 53 LT	RELOCATE	2" TR

NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_TAB.dgn 11:13:13 AM 02/23/2011

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.

PRINT NAME: CURT KOBILARCSIK


SIGNATURE: 

DATE: 2-24-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 02/23/2011

DESIGN BY: MN DATE: 02/23/2011

CHECKED BY: CAK DATE: 02/23/2011

 ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

C.S.A.H 116/57  
TAB SHEETS  
Sheet 12 of 264 Sheets

WATER MAIN (CITY OF RAMSEY)								II
STATION	LOCATION	ITEM	ADJUST	ADJUST	RECONSTRUCT	EXISTING	PROPOSED	NOTE
			GATE	WATER	WATER			
			VALVE	MANHOLE	MANHOLE	CASTING	CASTING	
			EACH	EACH	LIN FT			
CSAH 116								
100+59	25 LT LWB	GATE VALVE	1					
103+90	55 LT LWB	HYDRANT						
104+15	53 LT LWB	GATE VALVE						
104+46	51 LT LWB	GATE VALVE						
108+90	31 LT LWB	HYDRANT						(A)
112+35	18 LT LWB	GATE VALVE	1					
114+45	19 RT LEB	GATE VALVE						(A)
114+89	23 LT LWB	GATE VALVE						(A)
114+89	32 RT LEB	HYDRANT						(A)
116+35	37 RT LEB	HYDRANT						(A)
116+35	33 RT LEB	GATE VALVE						(A)
121+70	6 LT LWB	GATE VALVE	1					
127+00	12 LT LWB	GATE VALVE	1					
127+45	22 RT LEB	GATE VALVE						(A)
127+47	22 RT LEB	HYDRANT						(A)
128+30	11 LT LWB	GATE VALVE						(A)
129+94	41 LT LWB	HYDRANT						(A)
129+97	41 LT LWB	GATE VALVE						(A)
130+09	14 LT LWB	GATE VALVE	1					
133+32	45 RT LEB	HYDRANT						
133+32	48 RT LEB	GATE VALVE						
138+46	19 LT LWB	GATE VALVE						(A)
151+06	53 LT LWB	GATE VALVE						(A)
151+45	67 LT LWB	GATE VALVE						(A)
151+47	67 LT LWB	HYDRANT						(A)
157+61	47 LT LWB	GATE VALVE	1					
166+20	12 LT LWB	GATE VALVE						(A)
166+26	17 LT LWB	GATE VALVE	1					
166+32	36 LT LWB	HYDRANT						(A)
170+68	30 LT LWB	GATE VALVE	1					
SUBTOTAL CSAH 116			8					
CSAH 57								
200+44	28 RT LNB	HYDRANT						
200+44	7 RT LNB	GATE VALVE						
204+28	26 RT LNB	GATE VALVE	1					
213+74	43 LT LSB	HYDRANT						
213+74	40 LT LSB	GATE VALVE						
216+36	22 LT LSB	WATER MANHOLE			2.84	883.47	886.31	
217+93	42 LT LSB	HYDRANT						
217+93	40 LT LSB	WATER MANHOLE						
217+98	21 LT LSB	WATER MANHOLE				882.00	883.88	
220+90	40 LT LSB	GATE VALVE	1					
222+62	38 LT LSB	WATER MANHOLE						(B)
222+62	38 LT LSB	GATE VALVE						(B)
222+72	45 LT LSB	HYDRANT						(B)
SUBTOTAL CSAH 57			2	1	2.84			
PROJECT TOTAL			10	1	2.84			

**NOTES:**

(A) FOR MORE INFORMATION GO TO CITY OF RAMSEY WATER MAIN PLAN. NOTED ITEMS TABULATED ON PAGE 204 AND INCLUDED IN ESTIMATED QUANTITY  
 (B) DONE BY OTHERS

ANOKA MUNICIPAL UTILITY - OVERHEAD				BB
STATION	OFFSET	INPLACE ITEM		NOTES
CSAH 116				
149+29	28	RT LEB	POWER POLE	RELOCATE
150+40	0	LT LEB	POWER POLE	RELOCATE
152+18	13	LT LEB	POWER POLE	RELOCATE
153+83	9	LT LEB	POWER POLE	RELOCATE
153+74	63	LT LWB	POWER POLE	LEAVE
155+37	71	LT LWB	POWER POLE	LEAVE
155+67	6	LT LEB	POWER POLE	RELOCATE
158+81	59	LT LWB	POWER POLE	LEAVE
160+50	54	LT LWB	POWER POLE	LEAVE
162+12	50	LT LWB	POWER POLE	LEAVE
163+86	44	LT LWB	POWER POLE	LEAVE
165+13	44	LT LWB	POWER POLE	LEAVE
166+42	45	LT LWB	POWER POLE	LEAVE
166+62	46	RT LEB	POWER POLE	LEAVE
168+24	40	LT LWB	POWER POLE	LEAVE
170+07	39	LT LWB	POWER POLE	RELOCATE
171+55	41	LT LWB	POWER POLE	LEAVE
172+75	41	LT LWB	POWER POLE	LEAVE

ANOKA MUNICIPAL UTILITY - UNDERGROUND				EE
STATION	OFFSET FROM LEB	INPLACE ITEM		NOTES
BEGIN	END			
CSAH 116				
140+44	149+13	213	RT TO 81	BURIED RELOCATE
141+41	149+28	452	RT TO 138	BURIED LEAVE
149+13	149+27	81	RT TO 21	BURIED RELOCATE
149+28	149+30	138	RT TO 27	BURIED RELOCATE
149+39	160+12	18	RT TO 26	BURIED RELOCATE
153+83	153+83	11	RT TO	BURIED RELOCATE
154+19		25	LT	SPLICE BOX RELOCATE
155+75	155+75	16	RT TO LT	BURIED RELOCATE
160+12	106+12	26	RT TO RT	BURIED LEAVE
166+62	166+50	46	RT TO 85	BURIED LEAVE

WATERMAIN (CITY OF ANOKA)				JJ
SPEC	DESCRIPTION	UNIT	ESTIMATED QUANTITY	
CSAH 116				
2104.501	REMOVE WATER MAIN	LIN FT	1704	
2104.509	SALVAGE HYDRANT AND ASSEMBLY	EACH	4	
2104.509	SALVAGE EXISTING VALVE	EACH	3	
2503.608	DUCTILE IRON FITTINGS	POUND	2512	
2504.602	6" GATE VALVE AND BOX	EACH	1	
2504.602	12" BUTTERFLY VALVE AND BOX	EACH	3	
2504.602	CONNECT TO EXISTING WATER MAIN	EACH	2	
2504.602	INSTALL SALVAGED HYDRANT/BOX AND VALVE	EACH	4	
2504.603	6" WATER MAIN-DUCTILE IRON	LIN FT	36	
2504.603	12" WATER MAIN-DUCTILE IRON	LIN FT	1546	

NOTE: SEE CITY OF ANOKA WATER MAIN PLAN FOR LOCATIONS AND DETAILS

COMCAST - UNDERGROUND				KK
STATION	LOCATION	INPLACE ITEM		NOTES
BEGIN	END			
CSAH 116				
OFFSET FROM LEB				
112+87	79	LT		SPLICE BOX RELOCATE
115+14	121+61	61	LT TO 64	LT BURIED RELOCATE
118+85	49	LT		SPLICE BOX RELOCATE
121+61	64	LT		SPLICE BOX RELOCATE
121+61	121+61	64	LT TO LT	BURIED RELOCATE
127+67	127+67	70	LT TO RT	BURIED RELOCATE
130+20	130+73	100	LT TO 71	LT BURIED RELOCATE
130+20	130+20	100	LT TO LT	BURIED LEAVE
136+40	139+08	64	LT TO 62	LT BURIED RELOCATE
139+08	139+15	62	LT TO 3	LT BURIED RELOCATE
139+15	151+56	3	LT TO 2	LT BURIED RELOCATE
147+86	21	RT		SPLICE BOX RELOCATE
150+15	44	RT		SPLICE BOX RELOCATE
151+56	151+91	2	LT TO 109	LT BURIED RELOCATE
151+91	109	LT		SPLICE BOX LEAVE
151+91	109	LT TO LT		BURIED RELOCATE
151+91	155+67	109	LT TO 80	LT BURIED RELOCATE
151+91	155+79	109	LT TO 88	LT BURIED RELOCATE
170+91	171+15	368	LT TO 89	LT BURIED RELOCATE
171+15	172+21	89	LT TO 90	LT BURIED RELOCATE
CSAH 57				
OFFSET FROM LNB				
204+66	92	LT		SPLICE BOX LEAVE
204+66	209+99	76	LT TO 73	LT BURIED RELOCATE
204+66	208+86	88	LT TO 86	LT BURIED RELOCATE
205+86	37	RT		SPLICE BOX RELOCATE
208+86	208+86	86	LT TO LT	BURIED LEAVE
209+83	212+80	33	RT TO 12	RT BURIED RELOCATE
212+80	212+80	12	RT TO 65	LT BURIED RELOCATE
219+43	219+43	58	LT TO RT	BURIED RELOCATE

COMCAST - OVERHEAD				HH
STATION	OFFSET	INPLACE ITEM		NOTES
CSAH 116				
119+35	18'	LT LWB	AERIAL	RELOCATE
121+25	20'	LT LWB	AERIAL	RELOCATE
123+61	22'	LT LWB	AERIAL	RELOCATE
125+84	25'	LT LWB	AERIAL	RELOCATE
127+31	27'	LT LWB	AERIAL	RELOCATE
128+13	28'	LT LWB	AERIAL	RELOCATE
132+70	30'	LT LWB	AERIAL	RELOCATE
136+03	21'	LT LWB	AERIAL	RELOCATE
155+37	71'	LT LWB	AERIAL	LEAVE
158+81	59'	LT LWB	AERIAL	LEAVE
160+50	54'	LT LWB	AERIAL	LEAVE
162+12	50'	LT LWB	AERIAL	LEAVE
163+86	44'	LT LWB	AERIAL	LEAVE
165+13	44'	LT LWB	AERIAL	LEAVE
166+42	45'	LT LWB	AERIAL	LEAVE
168+24	40'	LT LWB	AERIAL	LEAVE
170+07	39'	LT LWB	AERIAL	RELOCATE
171+55	41'	LT LWB	AERIAL	LEAVE
CSAH 57				
212+94	22'	LT LSB	AERIAL	RELOCATE
213+14	21'	LT LSB	AERIAL	RELOCATE
213+61	22'	LT LSB	AERIAL	RELOCATE
216+48	23'	LT LSB	AERIAL	RELOCATE
217+88	28'	LT LSB	AERIAL	LEAVE
219+52	32'	LT LSB	AERIAL	LEAVE
220+50	26'	LT LSB	AERIAL	LEAVE
222+36	30'	LT LSB	AERIAL	RELOCATE

1	4/12/11	BAV	JEO	CAK	UPDATED WATER MAIN (RAMSEY) & WATER MAIN (ANOKA)
NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\02-716-11\Plan0271811_TAB.dgn	04/13/2011	8:57:17 AM			

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.  
 PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *[Signature]*  
 DATE: 4-14-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



**ANOKA COUNTY  
HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

C.S.A.H 116/57  
 TAB SHEETS

CONNEXUS ENERGY - UNDERGROUND					DD	
STATION		OFFSET FROM LEB		INPLACE ITEM	NOTES	
BEGIN	END					
CSAH 116						
110+69	111+18	147	LT TO 72 LT	BURIED	RELOCATE	
113+10	113+64	58	RT TO 76 LT	BURIED	RELOCATE	
117+75	118+15	56	LT TO 257 LT	BURIED	RELOCATE	
124+32	124+89	66	LT TO 111 RT	BURIED	RELOCATE	
125+82	126+41	108	LT TO 8 RT	BURIED	RELOCATE	
126+41	127+01	8	RT TO 7 RT	BURIED	RELOCATE	
127+01	127+01	7	RT TO RT	BURIED	RELOCATE	
127+43	127+43	26	LT TO RT	BURIED	RELOCATE	
127+43	130+56	26	LT TO 26 LT	BURIED	RELOCATE	
130+56	130+56	26	LT TO LT	BURIED	RELOCATE	
142+39	151+77	24	LT TO 24 LT	BURIED	RELOCATE	
151+77	151+92	24	LT TO 110 LT	BURIED	RELOCATE	

CONNEXUS ENERGY - OVERHEAD				FF		
STATION		OFFSET		INPLACE ITEM	NOTES	
BEGIN	END					
CSAH 116						
102+86		30	RT LEB	POWER POLE	LEAVE	
105+84		23	LT LWB	POWER POLE	RELOCATE	
108+38		35	LT LWB	POWER POLE	RELOCATE	
108+81		34	RT LEB	POWER POLE	RELOCATE	
110+75		27	RT LEB	POWER POLE	LEAVE	
110+93		29	LT LWB	POWER POLE	RELOCATE	
111+21		22	RT LEB	POWER POLE	RELOCATE	
113+10		58	RT LEB	SPLICE BOX	LEAVE	
113+32		33	LT LWB	POWER POLE	RELOCATE	
115+86		11	LT LWB	POWER POLE	RELOCATE	
116+25		41	RT LEB	POWER POLE	RELOCATE	
117+39		13	LT LWB	POWER POLE	RELOCATE	
118+87		36	RT LEB	SPLICE BOX	LEAVE	
119+31		20	LT LWB	SPLICE BOX	RELOCATE	
119+35		18	LT LWB	POWER POLE	RELOCATE	
121+25		20	LT LWB	POWER POLE	RELOCATE	
121+77		34	RT LEB	POWER POLE	LEAVE	
123+61		22	LT LWB	POWER POLE	RELOCATE	
125+84		25	LT LWB	POWER POLE	LEAVE	
126+87		26	LT LWB	SPLICE BOX	RELOCATE	
127+31		27	LT LWB	POWER POLE	RELOCATE	
127+52		11	RT LEB	LIGHT POLE	RELOCATE	
128+13		28	LT LWB	POWER POLE	RELOCATE	
130+37		28	LT LWB	LIGHT POLE	RELOCATE	
130+87		29	RT LEB	POWER POLE	LEAVE	
132+70		30	LT LWB	POWER POLE	RELOCATE	
136+03		21	LT LWB	POWER POLE	RELOCATE	
139+37		10	LT LEB	POWER POLE	RELOCATE	
141+45		22	LT LEB	POWER POLE	RELOCATE	
142+39		24	LT LEB	POWER POLE	RELOCATE	
151+58		67	LT LWB	POWER POLE	RELOCATE	
CSAH 57						
200+46		32	RT LNB	POWER POLE	LEAVE	
202+99		29	RT LNB	POWER POLE	LEAVE	
203+79		30	RT LNB	POWER POLE	LEAVE	
205+83		32	RT LNB	SPLICE BOX	RELOCATE	
205+96		29	RT LNB	POWER POLE	RELOCATE	
208+53		31	RT LNB	SPLICE BOX	RELOCATE	
208+60		30	RT LNB	SPLICE BOX	RELOCATE	
212+91		39	RT LNB	POWER POLE	RELOCATE	
212+94		22	LT LSB	POWER POLE	RELOCATE	
213+14		21	LT LSB	POWER POLE	RELOCATE	
213+61		22	LT LSB	POWER POLE	RELOCATE	
216+48		22	LT LSB	POWER POLE	RELOCATE	
217+53		67	LT LSB	SPLICE BOX	LEAVE	
217+88		24	LT LSB	POWER POLE	LEAVE	
219+52		25	LT LSB	POWER POLE	LEAVE	
220+50		26	LT LSB	POWER POLE	LEAVE	
222+36		30	LT LSB	POWER POLE	RELOCATE	

QWEST CORPORATION - TELEPHONE					GG	
STATION		OFFSET FROM LEB		INPLACE ITEM	NOTES	
BEGIN	END					
CSAH 116						
100+55.08	106+59	43	RT TO 34 RT	BURIED	RELOCATE	
106+59	134+99	44	RT TO 6 RT	BURIED	RELOCATE	
106+59		36	RT	SPLICE BOX	LEAVE	
108+56	115+11	77	LT TO 86 RT	BURIED	RELOCATE	
110+80	114+89	92	LT TO 98 LT	BURIED	RELOCATE	
116+22		48	LT	SPLICE BOX	RELOCATE	
116+30		33	RT	MANHOLE TELEPHONE	RELOCATE	
117+90		37	RT	SPLICE BOX	LEAVE	
118+49	118+53		LT TO 121 LT	BURIED	LEAVE	
118+50		78	LT	SPLICE BOX	RELOCATE	
118+53	118+79	71	LT TO 65 LT	BURIED	RELOCATE	
118+79	118+83	65	LT TO 31 RT	BURIED	RELOCATE	
118+83		31	RT	SPLICE BOX	LEAVE	
123+51	123+51	79	LT TO LT	BURIED	RELOCATE	
123+51	127+29	79	LT TO 84 LT	BURIED	RELOCATE	
125+02	127+29	61	RT TO 59 RT	BURIED	LEAVE	
125+21		26	RT	SPLICE BOX	RELOCATE	
126+29	126+29	84	LT TO 59 RT	BURIED	RELOCATE	
126+34	126+34	16	RT TO 84 LT	BURIED	RELOCATE	
126+34	130+17	84	LT TO 88 LT	BURIED	RELOCATE	
128+11		4	RT	SPLICE BOX	RELOCATE	
128+11	129+35	4	RT TO 15 RT	BURIED	RELOCATE	
129+35	129+35	15	RT TO 30 RT	BURIED	RELOCATE	
130+17	130+17	88	LT TO LT	BURIED	LEAVE	
132+21		5	RT	SPLICE BOX	RELOCATE	
139+37		10	LT	SPLICE BOX	RELOCATE	
139+57		73	LT	SPLICE BOX	RELOCATE	
149+38		4	LT	SPLICE BOX	RELOCATE	
149+38	151+91	4	LT TO 29 LT	BURIED	RELOCATE	
149+38	166+70	4	LT TO 31 RT	BURIED	RELOCATE	
151+91	151+94	29	LT TO 105 LT	BURIED	RELOCATE	
151+94		105	LT	SPLICE BOX	LEAVE	
152+85		29	LT	SPLICE BOX	RELOCATE	
166+70	166+70	76	LT TO LT	BURIED		
166+75	171+11	74	LT TO 84 LT	BURIED	RELOCATE	
166+75	168+56	74	LT TO 77 LT	BURIED	RELOCATE	
166+75	166+81	74	LT TO 47 RT	BURIED	RELOCATE	
166+81	172+54	47	RT TO 59 RT	BURIED	LEAVE	
166+81		21	RT	SPLICE BOX	RELOCATE	
166+88	171+06	86	LT TO 102 LT	BURIED	LEAVE	
168+56	168+56	77	LT TO 88 LT	BURIED	RELOCATE	
168+57		74	LT	SPLICE BOX	RELOCATE	
171+09		96	LT	SPLICE BOX	RELOCATE	
171+11	171+11	84	LT TO 121 LT	BURIED	RELOCATE	
171+11		87	LT	SPLICE BOX	RELOCATE	

QWEST CORPORATION - TELEPHONE					GG	
STATION		OFFSET FROM LEB		INPLACE ITEM	NOTES	
BEGIN	END					
173+10		34	RT	SPLICE BOX	LEAVE	
CSAH 57						
200+00	209+02	6	RT TO 39 RT	FIBER OPTIC CABLE		
200+00	209+02	30	RT TO 40 RT	FIBER OPTIC CABLE		
200+45		36	RT	SPLICE BOX	LEAVE	
200+74		29	RT	MANHOLE TELEPHONE	LEAVE	
201+07		84	LT	SPLICE BOX	LEAVE	
201+08	201+08	84	LT TO 30 RT	FIBER OPTIC CABLE	LEAVE	
201+08	201+08	84	LT TO 30 RT	FIBER OPTIC CABLE	LEAVE	
201+78	202+00	1	LT TO 85 LT	FIBER OPTIC CABLE	LEAVE	
202+00		85	LT	SPLICE BOX	LEAVE	
202+45		36	RT	SPLICE BOX	LEAVE	
202+46		82	LT	SPLICE BOX	LEAVE	
203+93	203+93	26	RT TO RT	FIBER OPTIC CABLE	LEAVE	
203+97	204+24	77	LT TO 134 LT	FIBER OPTIC CABLE	LEAVE	
204+47	204+47	25	RT TO RT	FIBER OPTIC CABLE	RELOCATE	
208+05		24	RT	MANHOLE TELEPHONE	RELOCATE	
208+06	208+07	24	RT TO 68 LT	FIBER OPTIC CABLE	RELOCATE	
208+53		33	RT	SPLICE BOX	LEAVE	
208+54		67	LT	SPLICE BOX	LEAVE	
208+54	208+53	66	LT TO 33 RT	BURIED	RELOCATE	
208+54	209+02	66	LT TO 65 LT	BURIED	RELOCATE	
209+01		39	RT	MANHOLE TELEPHONE	RELOCATE	
209+03		67	LT	SPLICE BOX	RELOCATE	
209+02	219+02	39	RT TO 21 RT	BURIED	RELOCATE	
209+15	210+24	76	LT TO 75 LT	BURIED	RELOCATE	
210+37	220+14	96	LT TO 89 LT	BURIED	RELOCATE	
218+32		21	RT	MANHOLE TELEPHONE	RELOCATE	
218+72		74	LT	SPLICE BOX	LEAVE	
218+72	218+72	74	LT TO LT	BURIED	LEAVE	
218+72	220+14	74	LT TO 72 LT	BURIED	LEAVE	
219+02	220+14	46	RT TO 46 RT	BURIED	LEAVE	
219+45	219+61	48	RT TO 73 LT	BURIED	LEAVE	
219+49		195	RT	SPLICE BOX	LEAVE	
219+51		44	RT	SPLICE BOX	LEAVE	
219+61		73	LT	SPLICE BOX	LEAVE	
220+37		46	RT	SPLICE BOX	LEAVE	

SHAL NETWORKS				LL		
STATION		OFFSET FROM LEB		INPLACE ITEM	NOTES	
BEGIN	END					
CSAH 116						
100+01	114+04	23	RT TO 13 RT	FIBER	RELOCATE	
105+65		27	RT	SPLICE BOX	RELOCATE	
114+04	116+03	13	RT TO 31 RT	FIBER	RELOCATE	
115+11		23	RT	SPLICE BOX	RELOCATE	
116+03	127+55	31	RT TO 8 RT	FIBER	RELOCATE	
116+30		33		MANHOLE	RELOCATE	
127+55	130+64	66	LT TO 3 LT	FIBER	RELOCATE	
130+64	138+19	3	LT TO 7 LT	FIBER	RELOCATE	
138+19	141+45	7	LT TO 39 LT	FIBER	RELOCATE	
138+21		3	RT	SPLICE BOX	RELOCATE	
141+45	146+18	39	LT TO 38 LT	FIBER	RELOCATE	
146+18	152+05	38	LT TO 37 LT	FIBER	RELOCATE	
152+05		37	LT	SPLICE BOX	RELOCATE	
152+05	162+22	37	LT TO 10 LT	FIBER	RELOCATE	
162+22	166+43	10	LT TO 4 LT	FIBER	RELOCATE	
166+43	166+44	4	LT TO 21 RT	FIBER	RELOCATE	
166+44	173+09	21	RT TO 33 RT	FIBER	RELOCATE	

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Fram0271611\_TAB.dgn

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.  
 PRINT NAME: CURT KOBILARCSEK  
 SIGNATURE: *Curt Kobilarcsek*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011



ANOKA COUNTY  
 HIGHWAY DEPT.

S.P. 002-716-011  
 S.P. 199-020-008

C.S.A.H 116/57  
 TAB SHEETS

SALVAGE SIGNS								W
STATION (LWB) CSAH 116	ADDRESS/ DESCRIPTION (NOTES)	SALVAGE	SALVAGE	SALVAGE	TEMPORARY	SIGN NUMBER	NOTES	
		SIGN TYPE C	SIGN TYPE D	SIGN TYPE SPECIAL	SIGN TYPE SPECIAL RELOCATE (1)			
CSAH 116								
100+50	RT	1				R1-1		
100+50	RT	1				X4-13		
102+82	RT	1				R3-X1		
105+67	RT			1	1	STREET SIGN		
105+67	RT			1	1	STREET SIGN		
106+41	RT	1				R1-1		
106+41	RT	1				X4-13		
107+77	RT	1				W3-1		
109+59	RT	1				M2-1A		
109+59	RT	1				M1-6		
109+98	RT	1				X4-5		
110+52	RT	1				R1-1		
110+93	LT	1				R2-1		
112+32	RT	1				R3-X1		
112+51	LT	1				X4-13		
113+96	LT	1				M3-4A		
113+96	LT	1				M1-6		
114+87	LT	1				R1-1		
114+87	LT	1				R1-4		
114+87	RT	1				R1-1		
114+87	RT	1				R1-4		
114+87	RT	1				M1-6		
114+87	RT	1				M6-4A		
114+93	LT			1	1	STREET SIGN		
114+93	LT			1	1	STREET SIGN		
115+91	LT	1				R1-1		
115+91	LT	1				R1-4		
115+91	LT	1				M1-6		
115+91	LT	1				M6-4A		
115+91	RT	1				R1-1		
115+91	RT	1				R1-4		
116+60	RT	1				M3-2A		
116+60	RT	1				M1-6		
117+27	RT	1				R2-1		
117+74	LT	1				R1-1		
117+74	LT	1				X4-13		
118+33	LT	1				R3-X1		
118+81	RT	1				X4-13		
120+55	LT	1				M2-1A		
120+55	LT	1				M1-6		
121+30	LT	1				R1-1		
121+30	LT	1				X4-13		
121+84	LT			1	1	STREET SIGN		
121+84	LT			1	1	STREET SIGN		
122+06	LT	1				W3-1		
127+15	RT	1				R1-1		
127+15	RT	1				X4-13		

SALVAGE SIGNS								W
STATION (LWB) CSAH 116	ADDRESS/ DESCRIPTION (NOTES)	SALVAGE	SALVAGE	SALVAGE	TEMPORARY	SIGN NUMBER	NOTES	
		SIGN TYPE C	SIGN TYPE D	SIGN TYPE SPECIAL	SIGN TYPE SPECIAL RELOCATE (1)			
CSAH 116								
127+22	RT			1	1	STREET SIGN		
127+22	RT			1	1	STREET SIGN		
130+50	LT			1	1	STREET SIGN		
133+64	RT	1				W1-4R		
142+26	LT		1			I2-3		
142+26	RT		1			I2-3		
150+99	LT	1				R1-1		
150+99	LT	1				X4-13		
151+45	LT			1	1	STREET SIGN		
151+45	LT			1	1	STREET SIGN		
156+48	RT	1				W14-3		
156+62	LT	1				W1-2R		
156+62	LT	1				W13-1		
157+15	LT			1	1	STREET SIGN		
157+15	LT			1	1	STREET SIGN		
157+27	LT	1				R1-1		
157+27	LT	1				X4-13		
158+39	RT	1				R2-1		
161+21	LT	1				W14-3		
161+21	LT	1				R2-1		
165+78	LT			1	1	STREET SIGN		
165+78	LT			1	1	STREET SIGN		
165+87	LT	1				R1-1		
165+87	LT	1				X4-13		
169+36	RT	1				R4-7		
169+36	RT	1				X4-2		
169+36	RT	1				R3-4		
170+27	LT	1				R1-1		
170+27	LT	1				R6-1R		
170+52	MEDIAN	1				R6-1R		
170+52	RT	1				W3-3		
170+82	LT			1	1	STREET SIGN		
170+82	LT			1	1	STREET SIGN		
171+04	MEDIAN	1				R5-1		
171+69	LT	1				R3-X1		
175+24	LT	1				W4-2L		
178+32	LT	1				W9-1		
TOTAL		69	2	18	18			

SALVAGE SIGNS								W
STATION (LWB) CR 57	ADDRESS/ DESCRIPTION (NOTES)	SALVAGE	SALVAGE	SALVAGE	TEMPORARY	SIGN NUMBER	NOTES	
		SIGN TYPE C	SIGN TYPE D	SIGN TYPE SPECIAL	SIGN TYPE SPECIAL RELOCATE (1)			
CSAH 57								
198+00	MEDIAN	1				W9-1		
198+00	MEDIAN	1				W20-100p		
198+00	RT	1				W9-1		
198+00	RT	1				W20-100p		
201+48	MEDIAN	1				W3-1		
201+48	MEDIAN	1				W9-1		
201+48	MEDIAN	1				W20-100p		
201+48	RT	1				W3-1		
202+51	MEDIAN	1				R3-4		
202+51	MEDIAN	1				R4-7		
202+51	MEDIAN	1				X4-2		
203+72	RT	1				X4-5		
203+76	LT	1				X4-5		
203+88	LT	1				R1-1		
203+88	LT	1				X4-13		
204+45	RT	1				R1-1		
204+45	RT	1				X4-13		
204+52	LT			1	1	STREET SIGN		
204+52	LT			1	1	STREET SIGN		
204+85	RT	1				R3-7		
205+06	LT	1				R1-1		
205+06	LT	1				X4-13		
206+53	RT	1				R3-X1		
206+53	LT	1				R2-1		
207+10	RT	1				R1-1		
207+88	RT	1				R3-7		
208+80	RT	1				R1-1		
208+80	RT	1				R1-4		
208+80	RT	1				X4-13		
208+80	RT	1				M1-6		
208+80	RT	1				M6-4A		
208+80	RT	1				X4-13		
208+82	LT	1				R1-1		
208+82	LT	1				R1-4		
208+82	LT	1				X4-13		
208+82	LT	1				M3-3A		
208+82	LT	1				M1-6		
209+88	LT	1				R1-1		
209+88	LT	1				R1-4		
209+88	LT	1				X4-13		
209+88	LT	1				M1-6		
209+88	LT	1				M6-4A		
209+88	RT	1				R1-1		
209+88	RT	1				R1-4		
209+88	RT	1				X4-13		
209+88	RT	1				M1-6		
209+88	RT	1				M3-1A		
212+26	RT	1				R1-1		
212+26	RT	1				X4-13		
213+20	LT	1				M1-6		
215+72	RT	1				W3-1		
218+93	RT			1	1	STREET SIGN		
218+93	RT			1	1	STREET SIGN		
219+36	RT	1				R1-1		
219+36	RT	1				X4-13		
220+69	LT	1				R1-1		
220+69	LT	1				X4-13		
222+90	LT	1				W14-3		
TOTAL		59	0	4	4			

CONSTRUCTION NOTES:  
1. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER. RELOCATION INCIDENTAL TO TRAFFIC CONTROL.

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_TAB.dgn					

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.  
PRINT NAME: CURT KOBILARCSIK  
SIGNATURE: *Curt Kobilarsik*  
DATE: 2-24-11 LICENSE NO. 24756

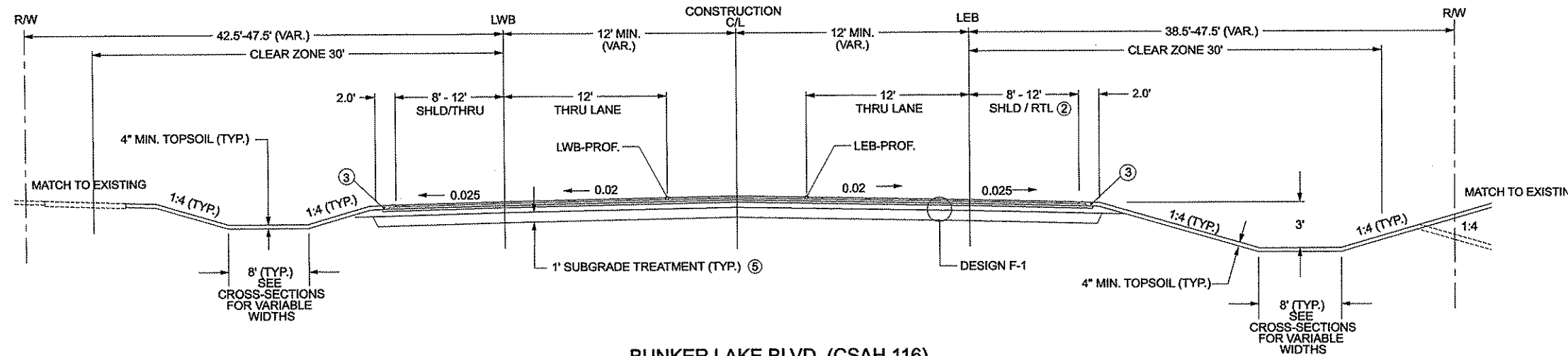
DRAWN BY: BAV DATE: 02/23/2011  
DESIGN BY: MN DATE: 02/23/2011  
CHECKED BY: CAK DATE: 02/23/2011



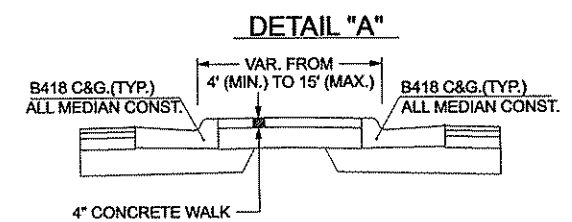
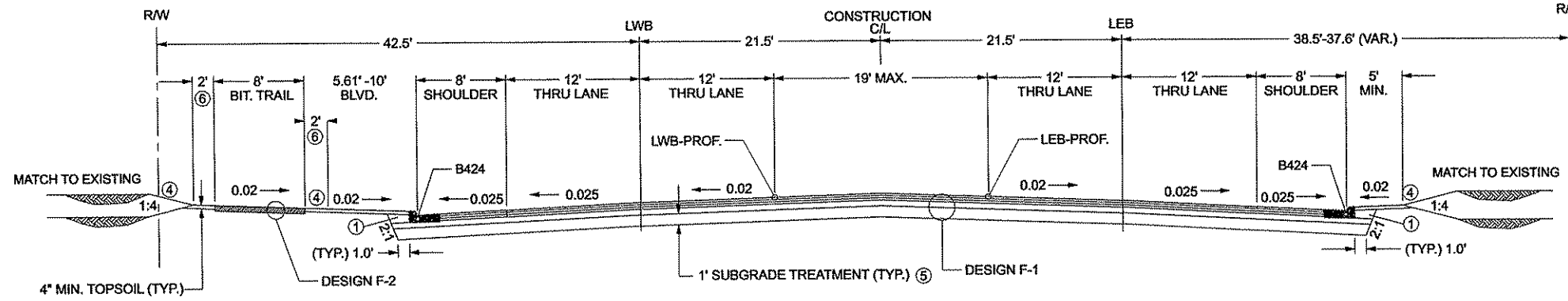
S.P. 002-716-011  
S.P. 199-020-008

C.S.A.H 116/57  
TAB SHEETS  
Sheet 15 of 264 Sheets

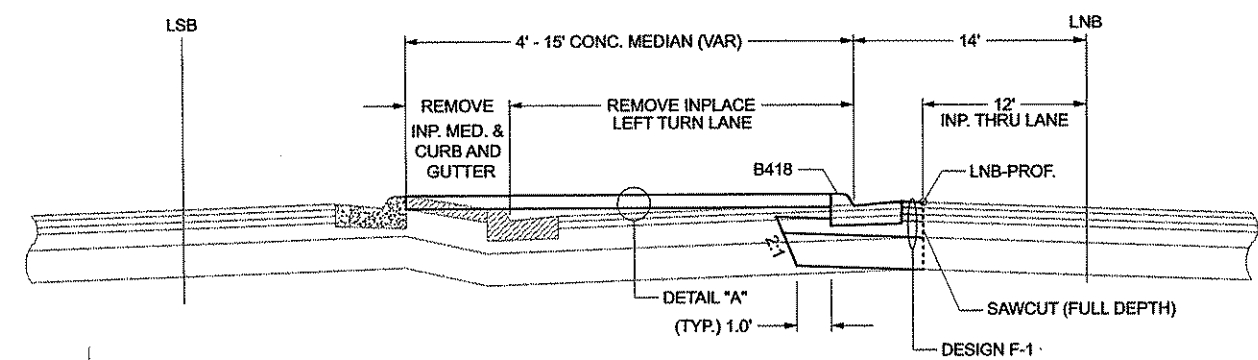
**BUNKER LAKE BLVD. (CSAH 116)**  
(LEB STA. 100+31.00 TO STA. 106+06.47)



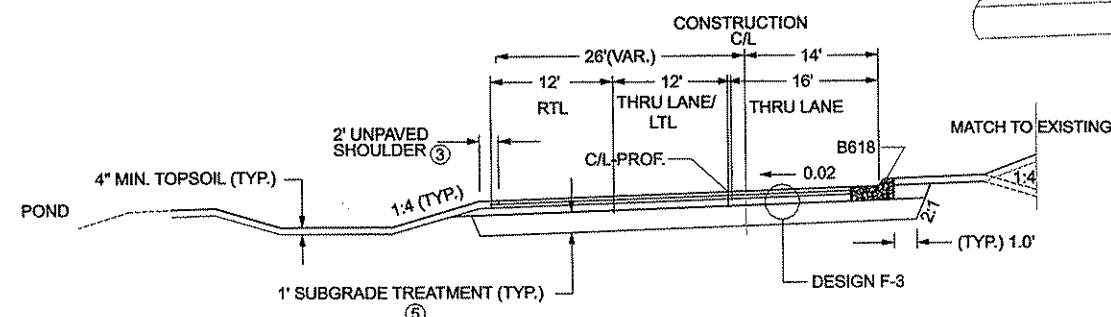
**BUNKER LAKE BLVD. (CSAH 116)**  
LEB STA 106+06.47 TO STA 107+64.11



**SUNFISH LAKE BLVD. (CSAH 57)**  
TYPICAL LEFT TURN LANE REMOVAL (LNB)  
STA 199+86.62 TO STA 203+75.00



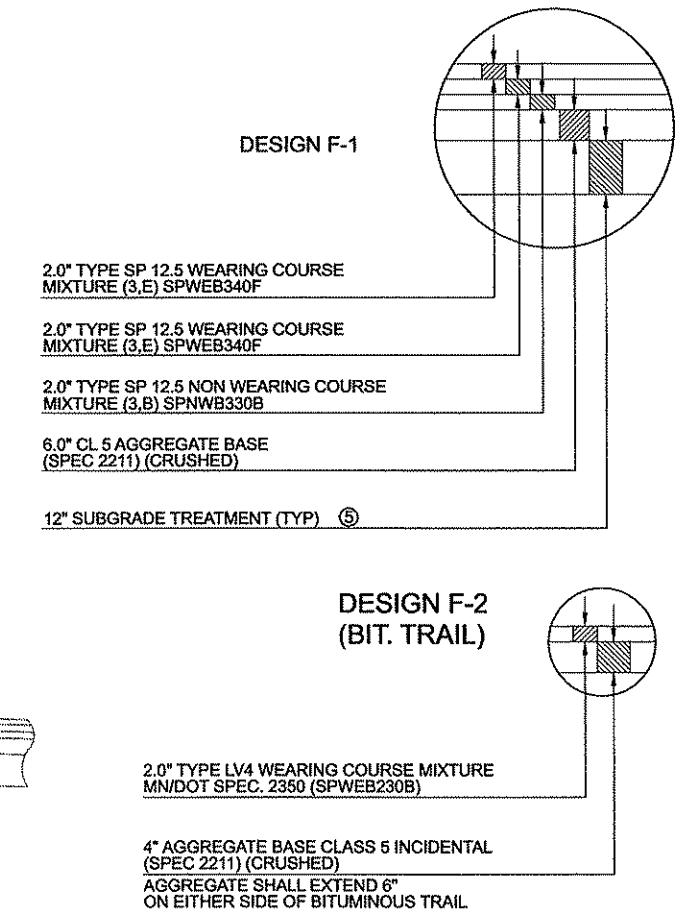
**MAGNESIUM ST. NW.**



**NOTES**

- ① BACKFILL WITH SUITABLE MATERIAL.
- ② SEE CHART FOR TURN LANE LOCATIONS (PAGE 18).
- ③ AGGREGATE SHOULDERING ACCOUNTED FOR IN THE PLAN QUANTITY FOR AGGREGATE BASE, CLASS 5.
- ④ 4" TOPSOIL & SOD ON ALL DISTURBED AREAS UNLESS OTHERWISE NOTED IN TURF ESTABLISHMENT PLAN.
- ⑤ MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 1' PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.
- ⑥ TRAIL 2' CLEAR ZONE

ALL CROSS SLOPES EXPRESSED IN FT/FT.  
ALL SECTIONS ARE SHOWN FOR NORMAL CROWN AND CROSS SLOPE. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLAN.



NOT TO SCALE

1	4/12/11	BAV	JEO	CAK	UPDATED PER MN/DOT
NO	DATE	BY	CKD	APPR	REVISION
					04/18/2011
NAME: p:\02-716-11\plan\0271611_TYP.dgn					3:24:01 PM

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.  
PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarcsik*  
DATE: 4-20-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/18/2011  
DESIGN BY: MN DATE: 04/18/2011  
CHECKED BY: CAK DATE: 04/18/2011



**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
S.P. 199-020-008

**PROPOSED**  
**TYPICAL SECTIONS**

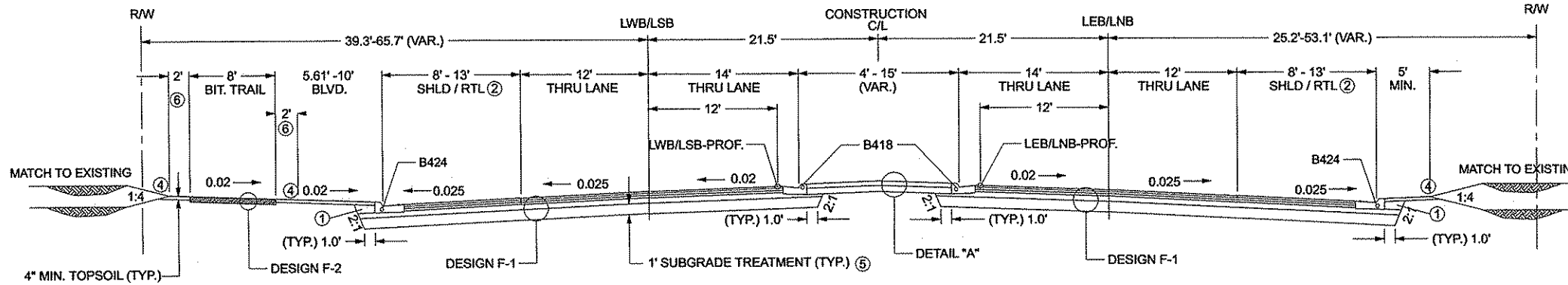


**BUNKER LAKE BLVD. (CSAH 116)**

LEB STA 107+64.11 TO STA 110+75.27  
LEB STA 121+97.04 TO STA 149+12.28  
LEB STA 157+87.86 TO STA 172+53.69

**SUNFISH LAKE BLVD. (CSAH 57)**

LNB STA 203+75.00 TO STA 204+00.00



**NOTES**

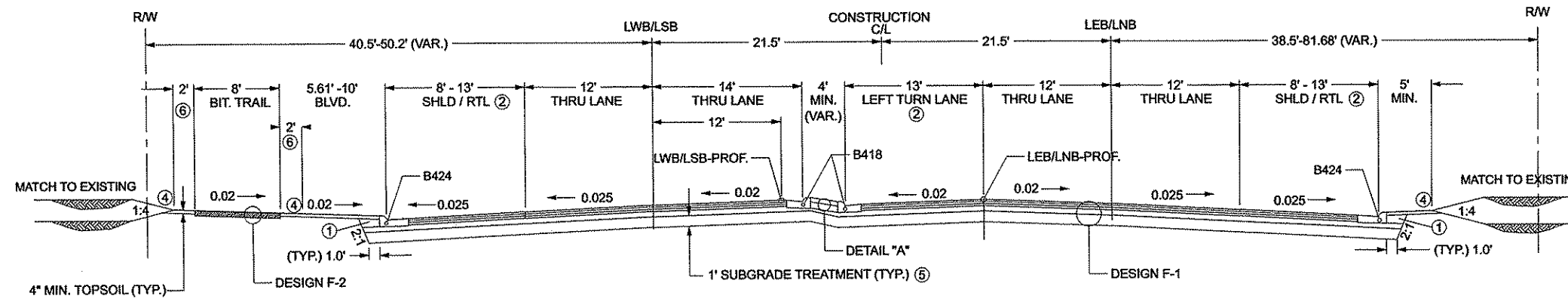
- ① BACKFILL WITH SUITABLE MATERIAL.
  - ② SEE CHART FOR TURN LANE LOCATIONS (PAGE 18).
  - ③ AGGREGATE SHOULDERING ACCOUNTED FOR IN THE PLAN QUANTITY FOR AGGREGATE BASE, CLASS 5.
  - ④ 4" TOPSOIL & SOD ON ALL DISTURBED AREAS UNLESS OTHERWISE NOTED IN TURF ESTABLISHMENT PLAN.
  - ⑤ MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 1' PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.
  - ⑥ TRAIL 2' CLEAR ZONE
- ALL CROSS SLOPES EXPRESSED IN FT/FT.
- ALL SECTIONS ARE SHOWN FOR NORMAL CROWN AND CROSS SLOPE. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLAN.

**BUNKER LAKE BLVD. (CSAH 116)**

LEB STA 110+75.27 TO STA 114+80.91  
LEB STA 149+12.28 TO STA 152+12.78

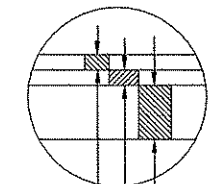
**SUNFISH LAKE BLVD. (CSAH 57)**

LNB STA 204+00.00 TO STA 208+74.57



**TYPICAL CITY OF RAMSEY STREET SECTION**

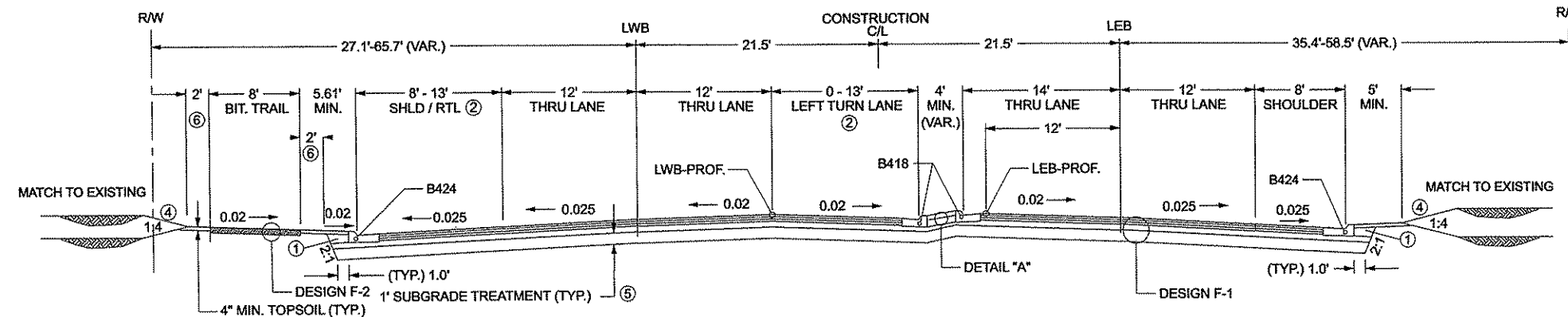
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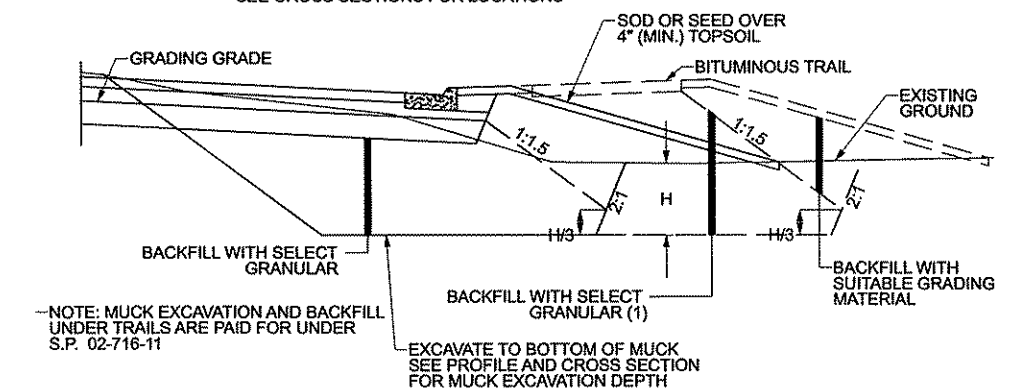
- 2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (2,F) SPWEB340F
- 2.0" TYPE SP 12.5 NON-WEARING COURSE MIXTURE (2,B) SPWEB330B
- 5.0" AGGREGATE BASE, CLASS 5 (MNDOT SPEC. 2211)

**BUNKER LAKE BLVD. (CSAH 116)**

LEB STA 116+20.43 TO STA 120+21.78  
LEB STA 152+70.29 TO STA 157+87.86



**TYPICAL MUCK EXCAVATION DETAIL**  
SEE CROSS SECTIONS FOR LOCATIONS



NOTE: MUCK EXCAVATION AND BACKFILL UNDER TRAILS ARE PAID FOR UNDER S.P. 02-716-11

NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_TYP.dgn  
04/18/2011 3:24:03 PM

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.

PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarsik*  
DATE: 4-20-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/18/2011  
DESIGN BY: MN DATE: 04/18/2011  
CHECKED BY: CAK DATE: 04/18/2011

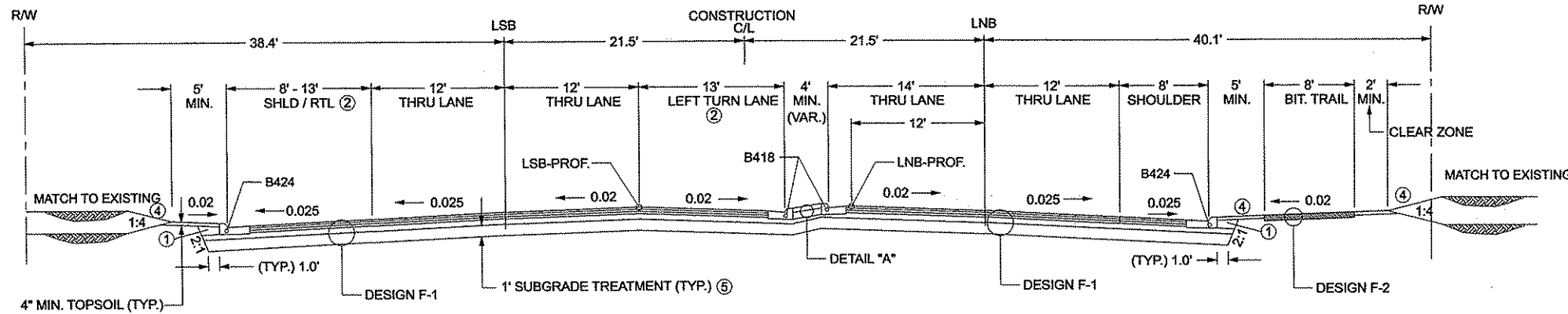


**ANOKA COUNTY  
HIGHWAY DEPT.**

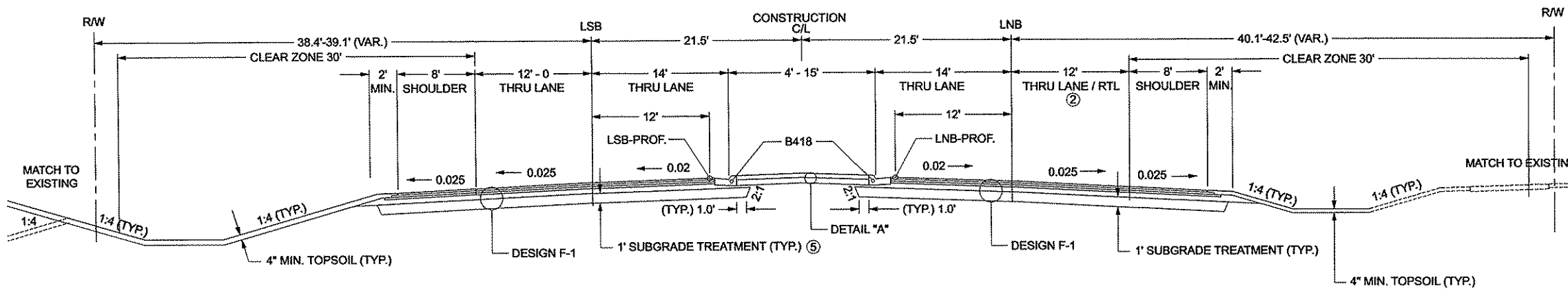
S.P. 002-716-011  
S.P. 199-020-008

**PROPOSED  
TYPICAL SECTIONS**

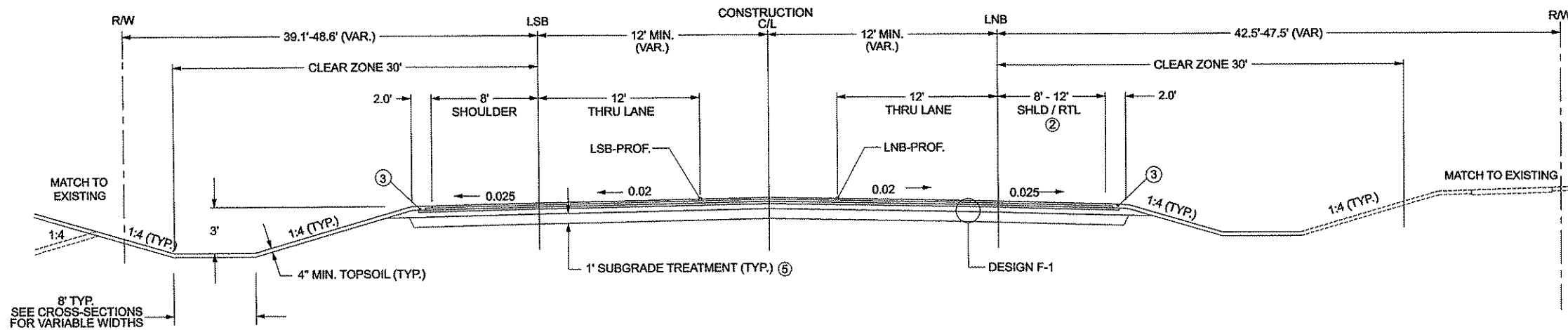
SUNFISH LAKE BLVD. (CSAH 57)  
LNB STA 210+38.52 TO STA 216+28.69



SUNFISH LAKE BLVD. (CSAH 57)  
LEB STA 216+28.69 TO STA 217+24.00



SUNFISH LAKE BLVD. (CSAH 57)  
LEB STA 217+24.00 TO STA 222+68.75

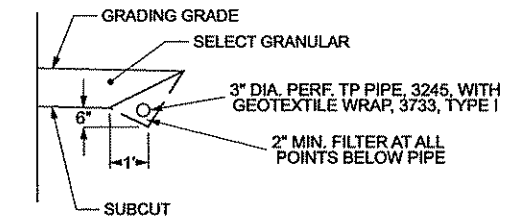


NOTES

- ① BACKFILL WITH SUITABLE MATERIAL.
  - ② SEE CHART FOR TURN LANE LOCATIONS (PAGE 18).
  - ③ AGGREGATE SHOULDERING ACCOUNTED FOR IN THE PLAN QUANTITY FOR AGGREGATE BASE, CLASS 5.
  - ④ 4" TOPSOIL & SOD ON ALL DISTURBED AREAS UNLESS OTHERWISE NOTED IN TURF ESTABLISHMENT PLAN.
  - ⑤ MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 1' PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.
  - ⑥ TRAIL 2' CLEAR ZONE
- ALL CROSS SLOPES EXPRESSED IN FT/FT.
- ALL SECTIONS ARE SHOWN FOR NORMAL CROWN AND CROSS SLOPE. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLAN.

SUBSURFACE DRAIN DETAIL

SEE DRAINAGE PLANS FOR LOCATIONS



TURN LANE LOCATIONS

BEGIN STA.	END STA.	ALIGN	LOCATION	DESCRIPTION	TAPER
109+08.70	114+81.05	LEB	LT	LT TURN LANE	1:15
111+09.52	114+76.23	LEB	RT	RT TURN LANE	1:15
116+12.72	121+86.78	LWB	RT	LT TURN LANE	1:15
116+25.40	119+96.22	LWB	LT	RT TURN LANE	1:15
122+00.03	125+75.09	LWB	LT	RT TURN LANE	1:15
123+01.89	126+76.97	LEB	RT	RT TURN LANE	1:15
127+44.51	132+09.44	LWB	RT	LT TURN LANE	1:15
130+58.46	134+33.41	LWB	LT	RT TURN LANE	1:15
147+47.60	152+12.37	LEB	LT	LT TURN LANE	1:15
148+39.66	152+12.78	LEB	RT	RT TURN LANE	1:15
152+80.29	156+45.29	LWB	LT	RT TURN LANE	1:15
152+89.29	157+45.84	LWB	RT	LT TURN LANE	1:15
157+84.43	161+62.86	LWB	LT	RT TURN LANE	1:15
166+56.20	170+00.57	LWB	LT	RT TURN LANE	1:15
170+96.08	175+07.18	LWB	LT	RT TURN LANE	1:15
202+97.77	208+62.87	LNB	LT	LT TURN LANE	1:15
204+71.32	208+65.21	LSB	LT	RT TURN LANE	1:15
204+87.93	208+62.87	LNB	RT	RT TURN LANE	1:15
210+38.61	216+03.61	LSB	RT	LT TURN LANE	1:15
210+53.12	215+19.56	LSB	LT	RT TURN LANE	1:15

NOT TO SCALE

3 OF 3

1	4/12/11	BAV	JEO	CAK	UPDATED PER MN/DOT
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_TYP.dgn					

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.

PRINT NAME: CURT KOBILARCSIK

SIGNATURE: *Curt Kobilarscik*

DATE: 4-20-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/19/2011

DESIGN BY: MN DATE: 04/19/2011

CHECKED BY: CAK DATE: 04/19/2011

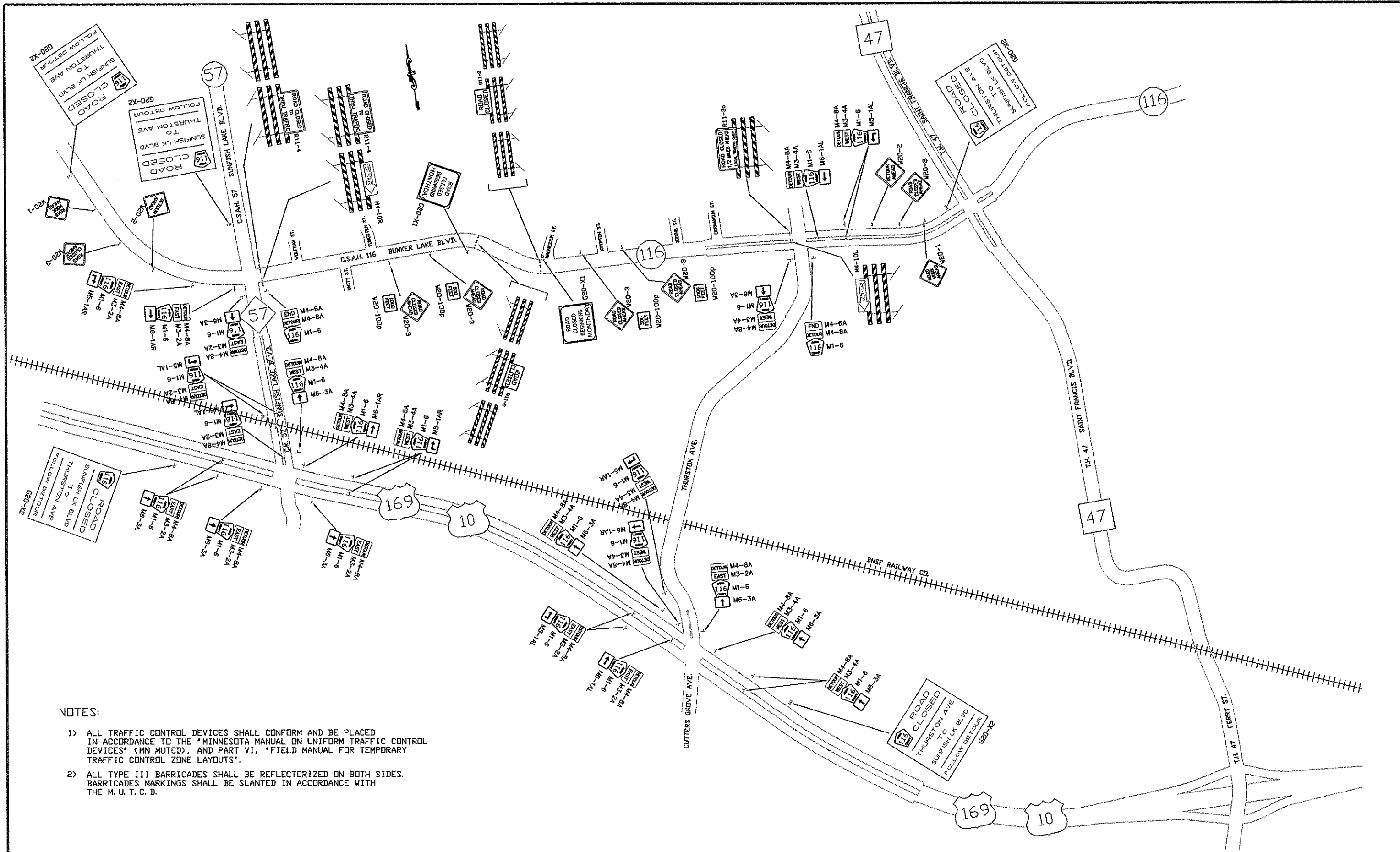


ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

PROPOSED  
TYPICAL SECTIONS

Sheet 18 of 264 Sheets



**NOTES:**

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\Bases\TRAFFIC\02-716-11\_detour.dwg, 02/23/2011 1:40:23 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE 02/23/10  
 DESIGN BY: S.T. DATE 02/23/10  
 CHECKED BY: R.B. DATE 02/24/10



**ANOKA COUNTY  
 HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

02-716-11  
 DETOUR  
 Sheet 19 of 264 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY	M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
W20-1	48' x 48'		• 2	TYPE III	8 FOOT		• 3
W20-2	48' x 48'		• 2	TYPE III	8 FOOT		• 2
W20-3	48' x 48'		• 6				
W20-100P	42' x 24'		• 2				
M4-10L	48' x 18'		• 1	G20-X2	132' x 108'		• 3
TYPE III	8 FOOT						
M4-10R	48' x 18'		• 1	G20-X2	132' x 108'		• 2
TYPE III	8 FOOT						
R11-2	48' x 30'		• 2	G20-X1	54' x 48'		• 2
TYPE III	8 FOOT						
R11-3	60' x 30'		• 1	M4-8	24' x 12'		• 6
TYPE III	8 FOOT						
R11-4	60' x 30'		• 1	M4-8	24' x 12'		• 3
TYPE III	8 FOOT						
R11-4	60' x 30'		• 1	M3-4A	24' x 12'		• 6
TYPE III	8 FOOT						
				M4-6A	24' x 12'		
				M4-8	24' x 12'		
				M1-6	24' x 24'		• 2

\* SIGN TO BE PLACED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. USE FOLLOW DETOUR PANEL UPON CLOSURE.

\* SIGN TO BE PLACED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. USE FOLLOW DETOUR PANEL UPON CLOSURE.

\* SIGN TO BE PLACED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. SIGNS TO BE REMOVED AT TIME OF DETOUR INSTALLATION.

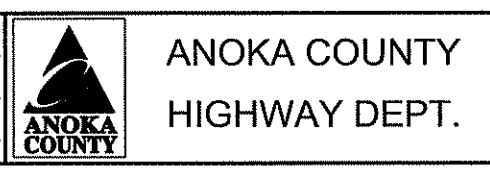
- NOTES:
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
  - ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.

NO	DATE	BY	CKD	APPR	REVISION

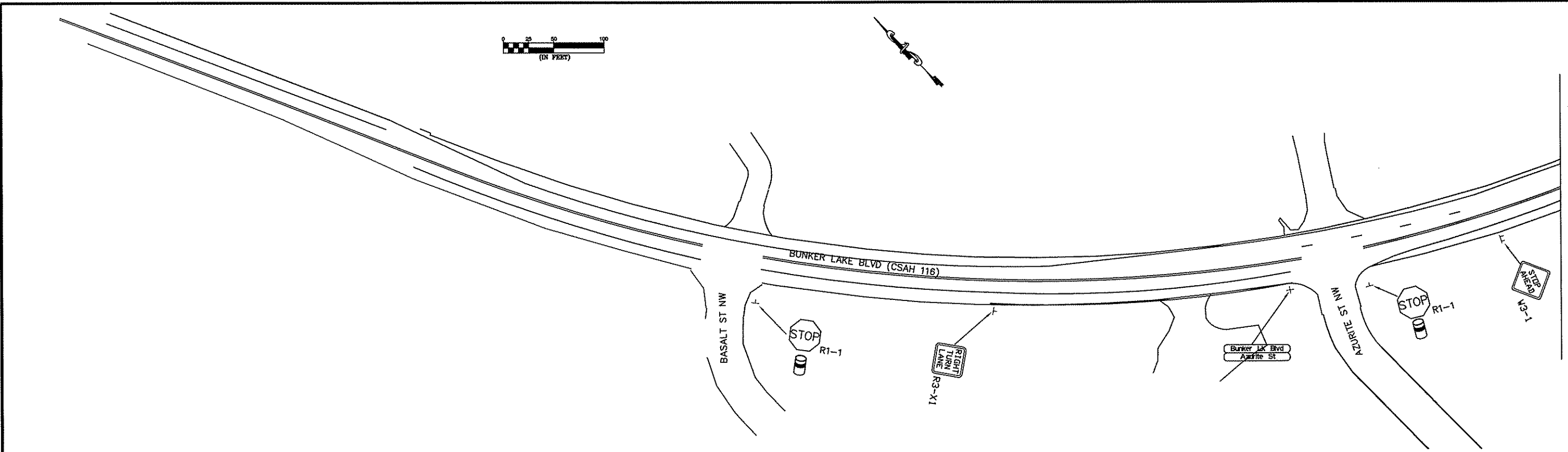
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE:   
 DATE: 2-24-11 REG. NO. 24756

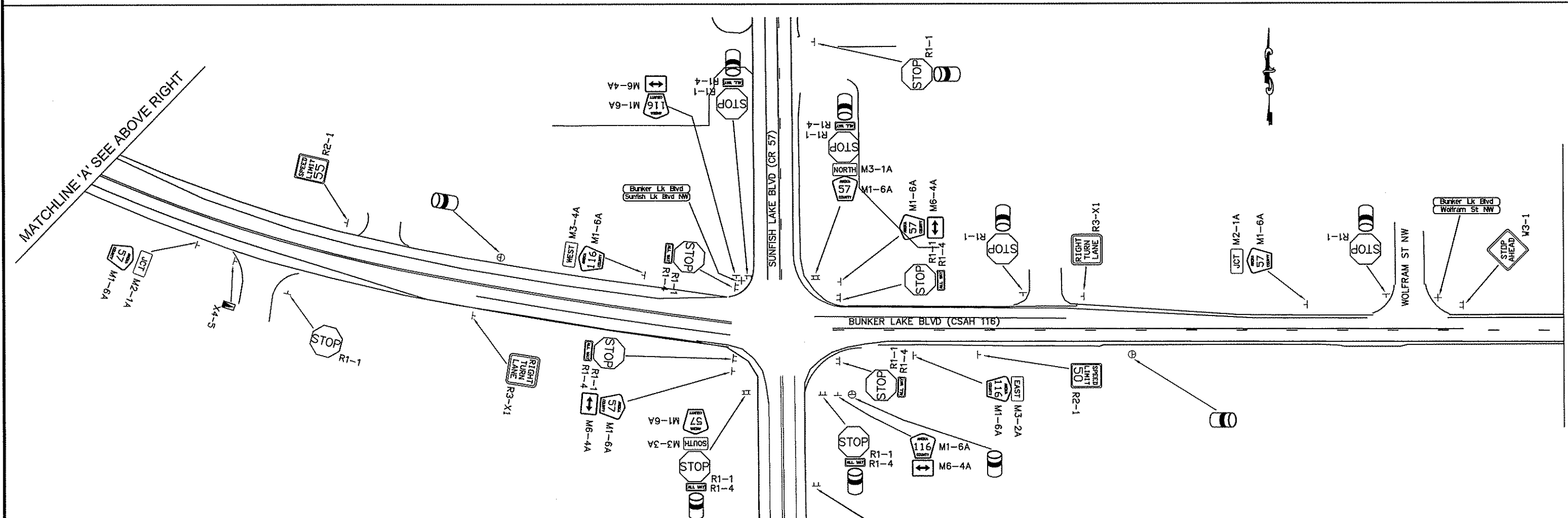
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S.P. 002-716-011  
 S.P. 199-020-008



MATCHLINE 'A' SEE BELOW LEFT



MATCHLINE 'A' SEE ABOVE RIGHT

MATCHLINE 'B' SEE SHEET 22 OF 264

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.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt A. Kobilarsik*  
 DATE: 7-24-11 REG. NO. 24756

ANOKA COUNTY HIGHWAY DEPT.

DRAWN BY: S.T. DATE: 07/04/10  
 DESIGN BY: S.T. DATE: 07/04/10  
 CHECKED BY: R.B. DATE: 07/13/10

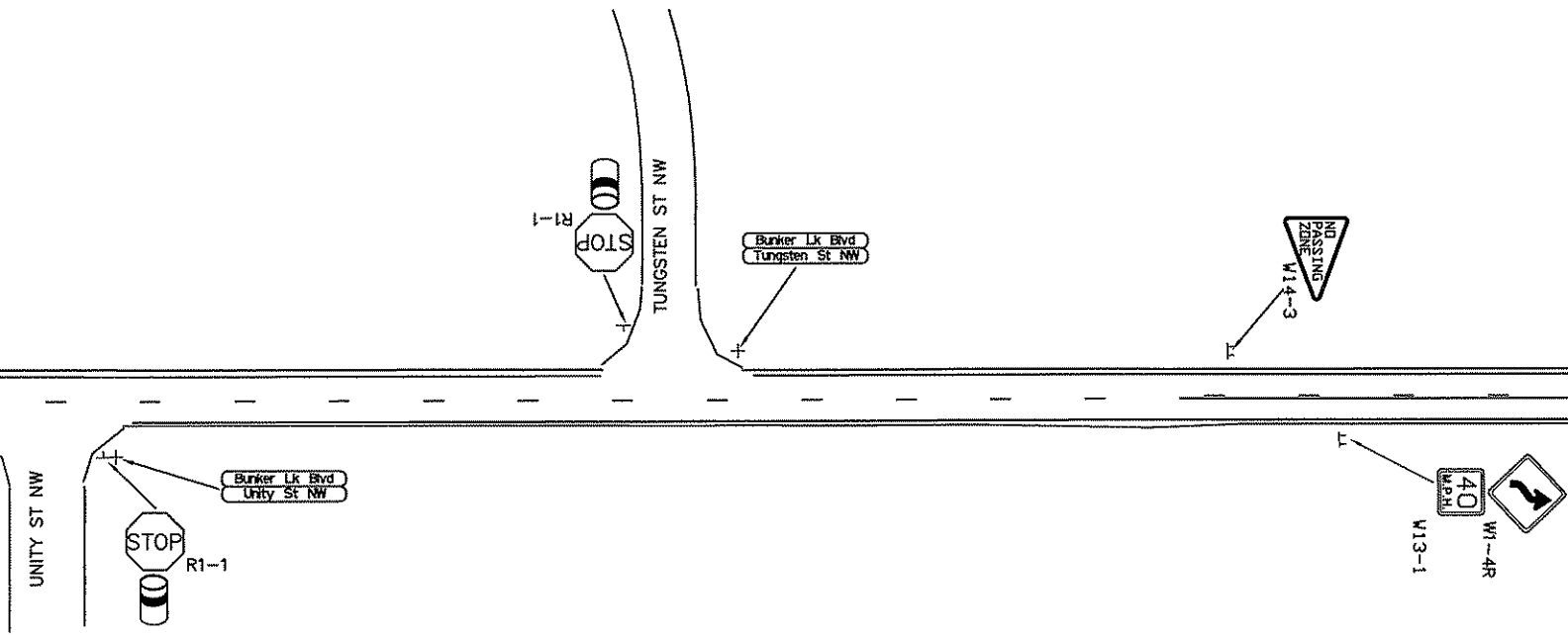
S.P. 002-716-011  
 S.P. 199-020-008

EXISTING SIGNING AND STRIPING  
 C.S.A.H. 116  
 Sheet 21 of 264 Sheets



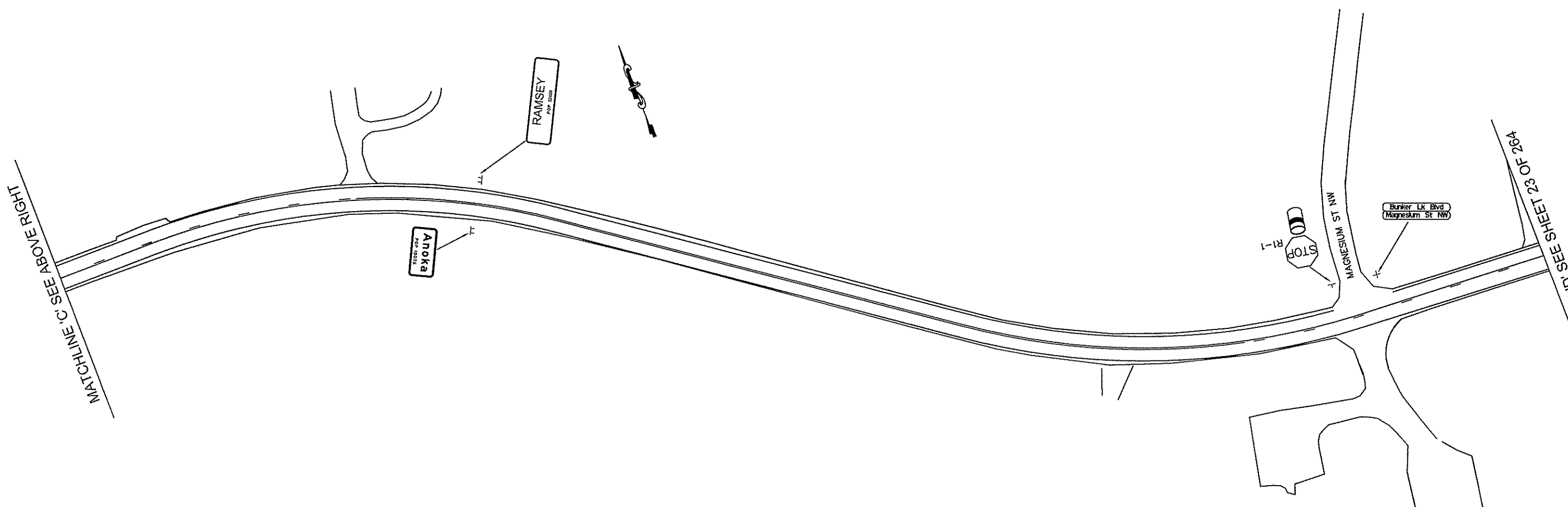
MATCHLINE 'B' SEE SHEET 21 OF 264

MATCHLINE 'C' SEE BELOW LEFT



MATCHLINE 'C' SEE ABOVE RIGHT

MATCHLINE 'D' SEE SHEET 23 OF 264



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.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 REG. NO. 24756

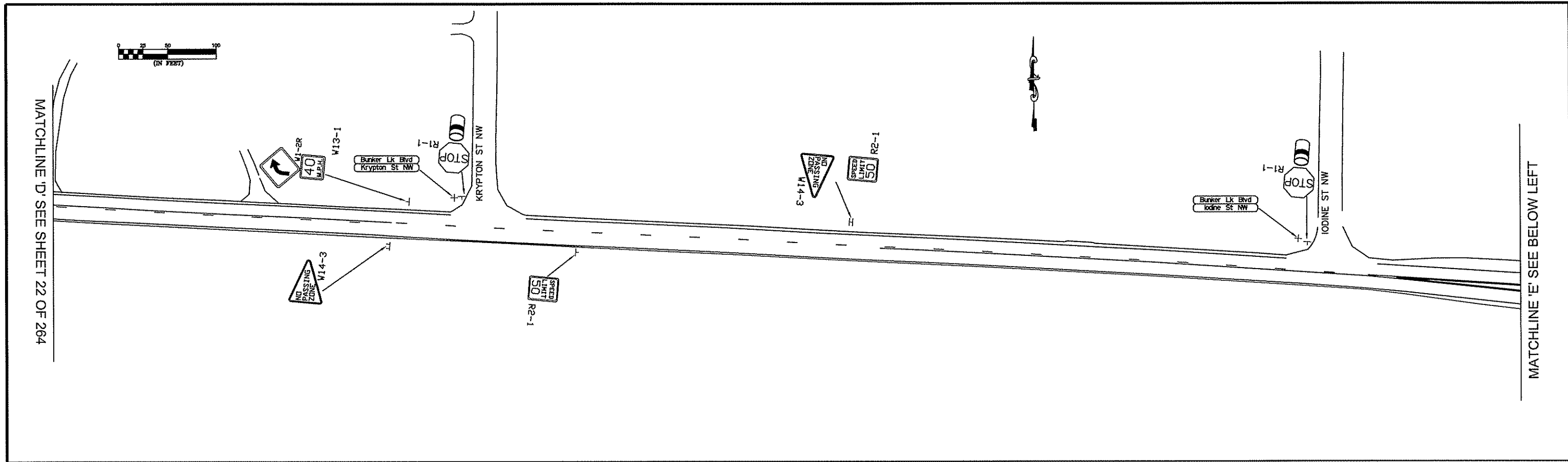
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ANOKA COUNTY  
 HIGHWAY DEPT.

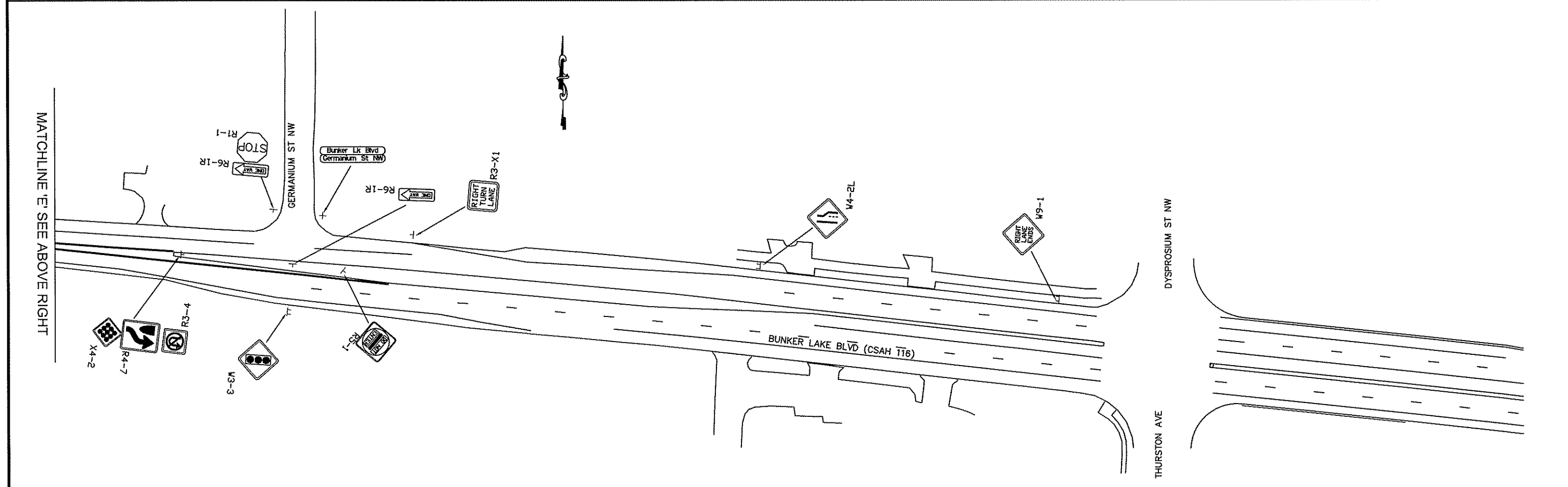
S.P. 002-716-011  
 S.P. 199-020-008

EXISTING SIGNING  
 AND STRIPING  
 C.S.A.H. 116  
 Sheet 22 of 264 Sheets



MATCHLINE 'D' SEE SHEET 22 OF 264

MATCHLINE 'E' SEE BELOW LEFT



MATCHLINE 'E' SEE ABOVE RIGHT

NO	DATE	BY	CKD	APPR	REVISION

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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.

PRINT NAME: CURT A. KOBILARCSIK

SIGNATURE: *Curt Kobilarsik*


DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE 07/04/10

DESIGN BY: S.T. DATE 07/04/10

CHECKED BY: R.B. DATE 07/13/10

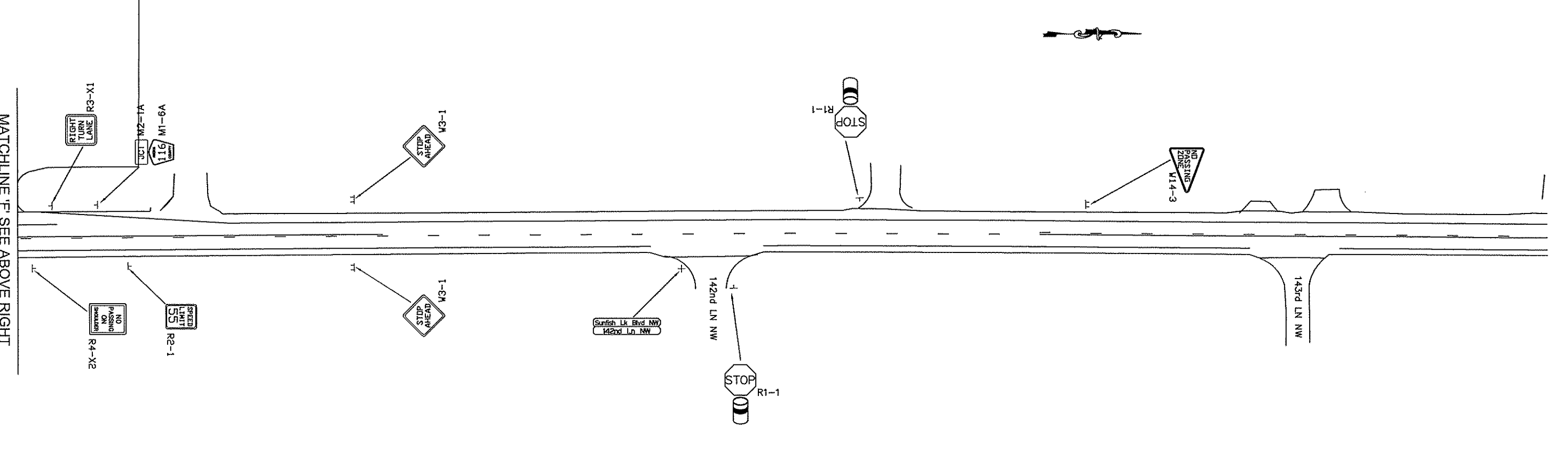
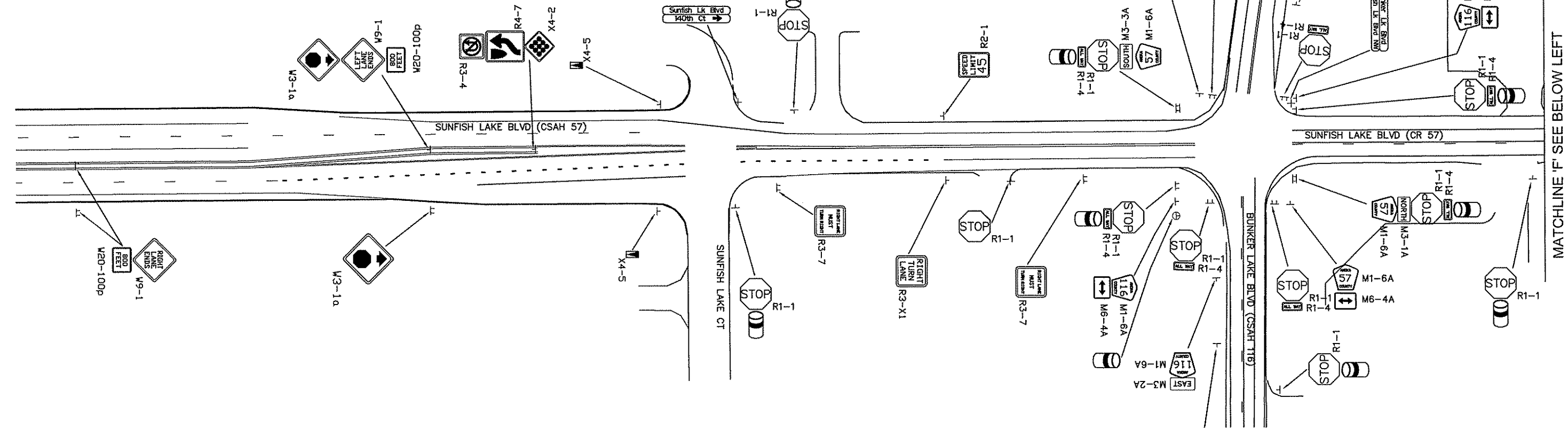
**ANOKA COUNTY**  
HIGHWAY DEPT.



S.P. 002-716-011  
S.P. 199-020-008

EXISTING SIGNING AND STRIPING  
C.S.A.H. 116

Sheet 23 of 264 Sheets



MATCHLINE 'F' SEE ABOVE RIGHT

MATCHLINE 'F' SEE BELOW LEFT

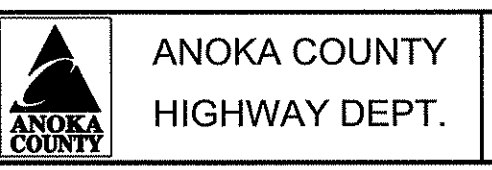
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 7-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE: 07/04/10  
 DESIGN BY: S.T. DATE: 07/04/10  
 CHECKED BY: R.B. DATE: 07/13/10



S.P. 002-716-011  
 S.P. 199-020-008

EXISTING SIGNING AND STRIPING  
 C.S.A.H. 57

Sheet 24 of 264 Sheets

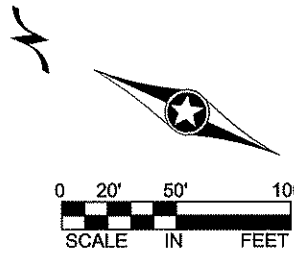
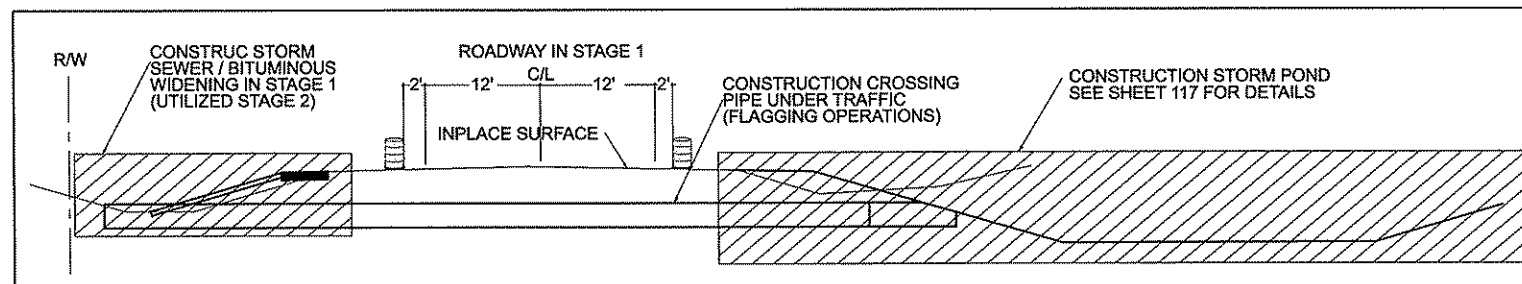
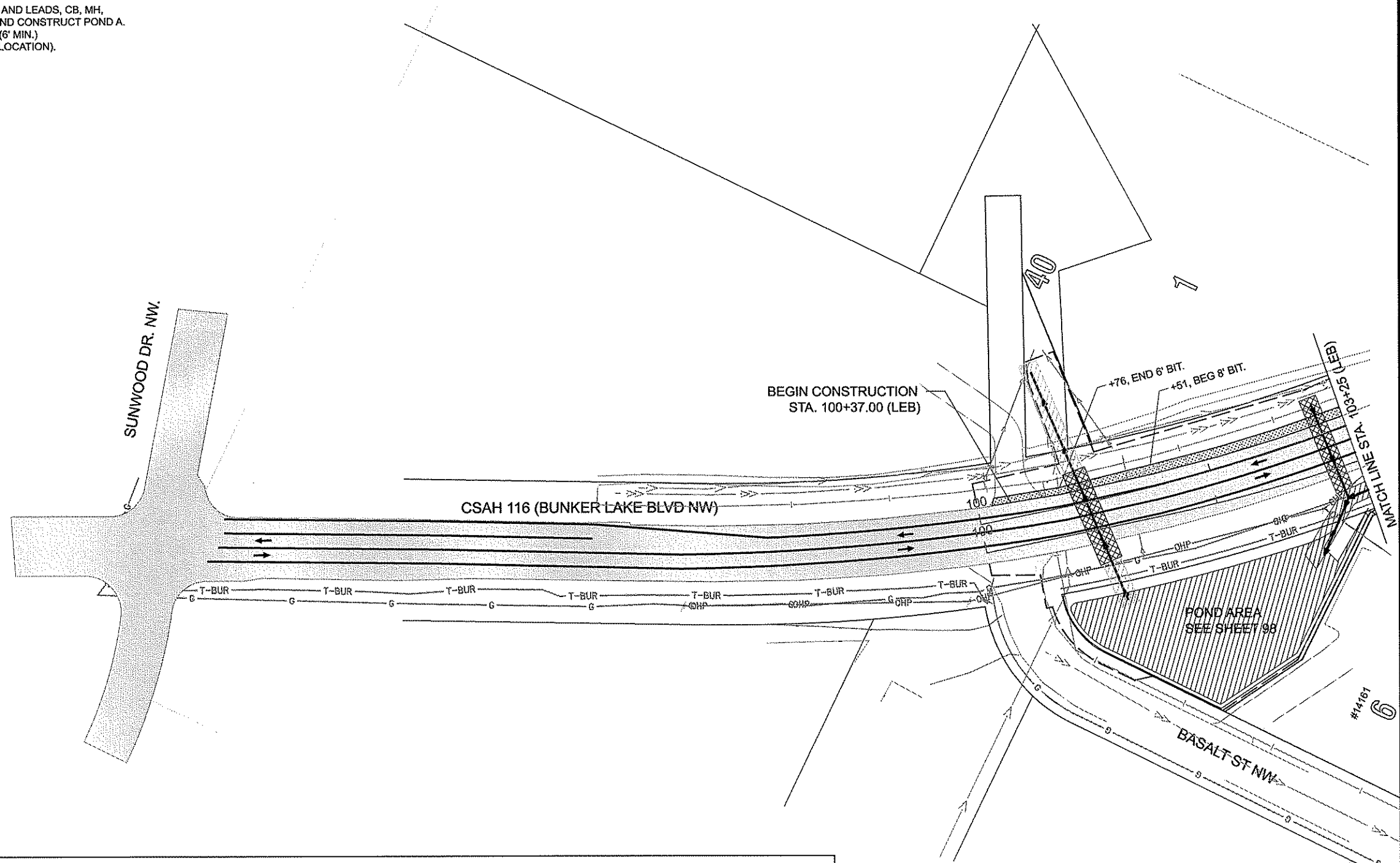


LEGEND	
	EXISTING BITUMINOUS SURFACE
	CONSTRUCT STORM SEWER
	CONSTRUCTION AREA
	CONSTRUCTION UNDER TRAFFIC
	TEMPORARY PAVEMENT
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN

STAGE 1 NOTE:  
SHIFT CSAH 116 TRAFFIC TO THE SOUTH SIDE OF CSAH 116 AND  
SHIFT CSAH 57 TRAFFIC TO THE WEST SIDE OF CSAH 57.

STAGE 1 CONSTRUCTION:  
CONSTRUCT PARTIAL STORM SEWER MAIN AND LEADS, CB, MH,  
SPECIAL DITCH, TEMPORARY BIT. FLUME AND CONSTRUCT POND A.  
CONSTRUCT TEMPORARY WIDENING. 6'-8". (6' MIN.)  
(SEE TRAFFIC STAGE 1 PLAN SHEETS FOR LOCATION).

PERMANENT CONSTRUCTION UNDER TRAFFIC IN THIS STAGE.  
THE CONTRACTOR SHALL PROVIDE FOR FLAGGING OPERATIONS,  
AS DIRECTED BY THE ENGINEER, PER THE "FIELD MANUAL FOR  
TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".  
LUMP SUM BID FOR TRAFFIC CONTROL.



NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:102-716-11\plan\0271811_STG1_1.dgn					
DATE: 02/23/2011 9:26:03 AM					

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.  
PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarcsik*  
DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
DESIGN BY: MN DATE: 02/23/2011  
CHECKED BY: CAK DATE: 02/23/2011

ANOKA COUNTY  
HIGHWAY DEPT.

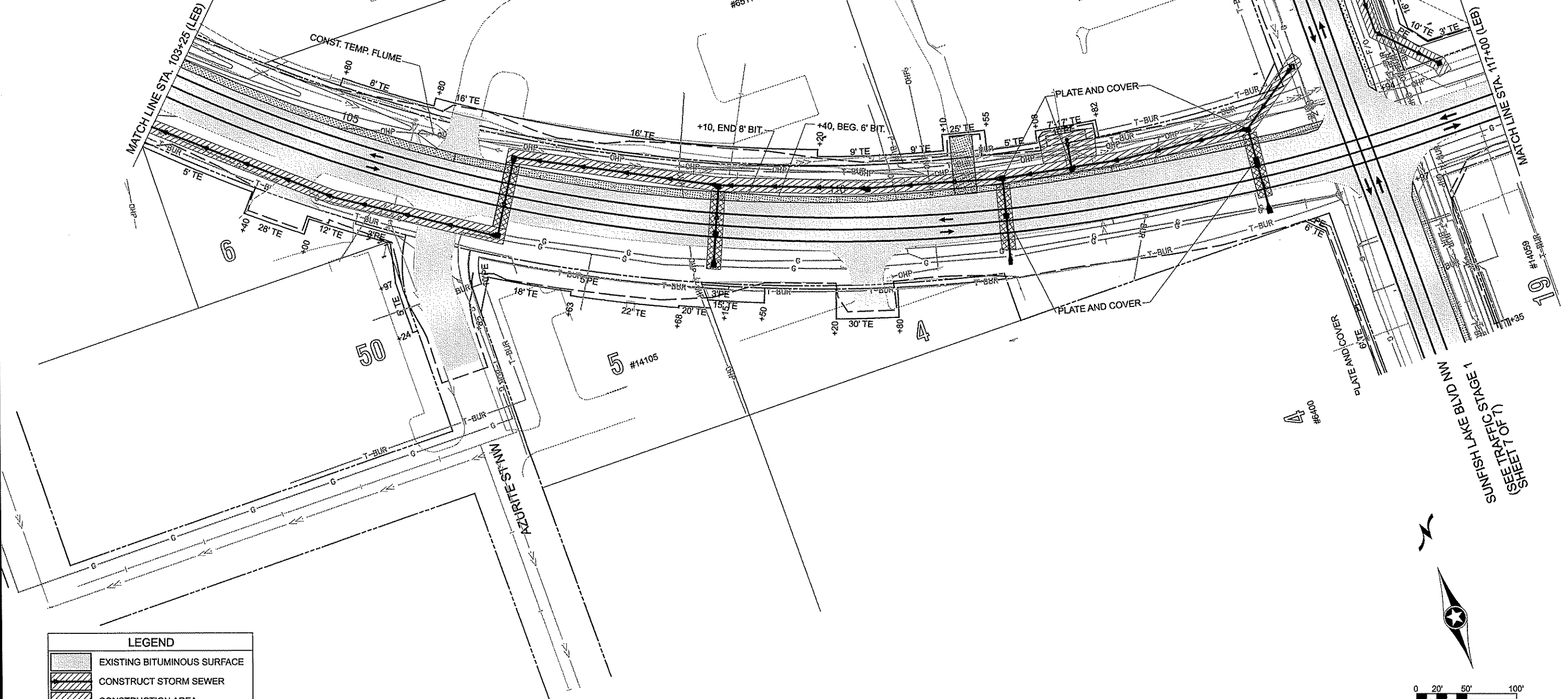
S.P. 002-716-011  
S.P. 199-020-008

CONSTRUCTION STAGE 1  
C.S.A.H.116  
STA 100+00.00 TO 103+25.00  
Sheet 25 of 264 Sheets

CSAH 116 (BUNKER LAKE BLVD NW)

STAGE 1 NOTE:  
SHIFT CSAH 116 TRAFFIC TO THE SOUTH SIDE OF CSAH 116 AND  
SHIFT CSAH 57 TRAFFIC TO THE WEST SIDE OF CSAH 57.

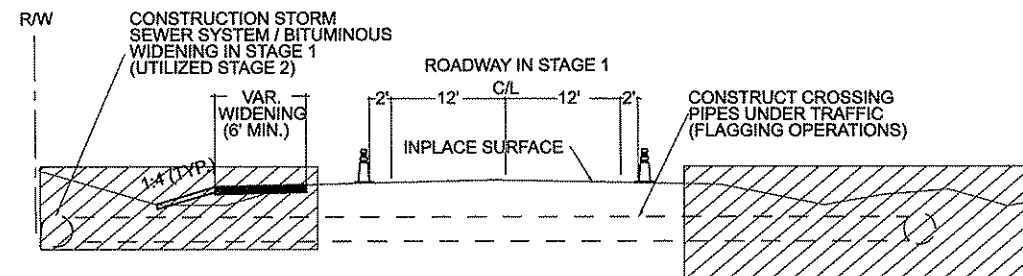
STAGE 1 CONSTRUCTION:  
CONSTRUCT TEMPORARY WIDENING. (6' MIN.)  
(SEE TRAFFIC STAGE 1 PLAN SHEETS FOR LOCATION).  
CONSTRUCT PARTIAL STORM SEWER MAIN AND LEADS, CB, MH. AND  
CONSTRUCT POND A.



LEGEND	
	EXISTING BITUMINOUS SURFACE
	CONSTRUCT STORM SEWER
	CONSTRUCTION AREA
	CONSTRUCTION UNDER TRAFFIC
	TEMPORARY PAVEMENT
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN

PERMANENT CONSTRUCTION UNDER TRAFFIC IN THIS STAGE. THE CONTRACTOR SHALL PROVIDE FOR FLAGGING OPERATIONS, AS DIRECTED BY THE ENGINEER, PER THE "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS". LUMP SUM BID FOR TRAFFIC CONTROL.

STAGE 1 NOTE:  
MOVE THE TRAFFIC TO THE SOUTH OF BUNKER LAKE BLVD TO CONSTRUCT MAIN LINE STORM SEWER, THE CROSSING R.C. PIPE AND THE TEMPORARY PAVEMENT TO BE UTILIZED IN STAGE 2. (SEE TRAFFIC STAGE 1 PLAN SHEETS FOR LOCATION)



NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_STG1_2.dgn					

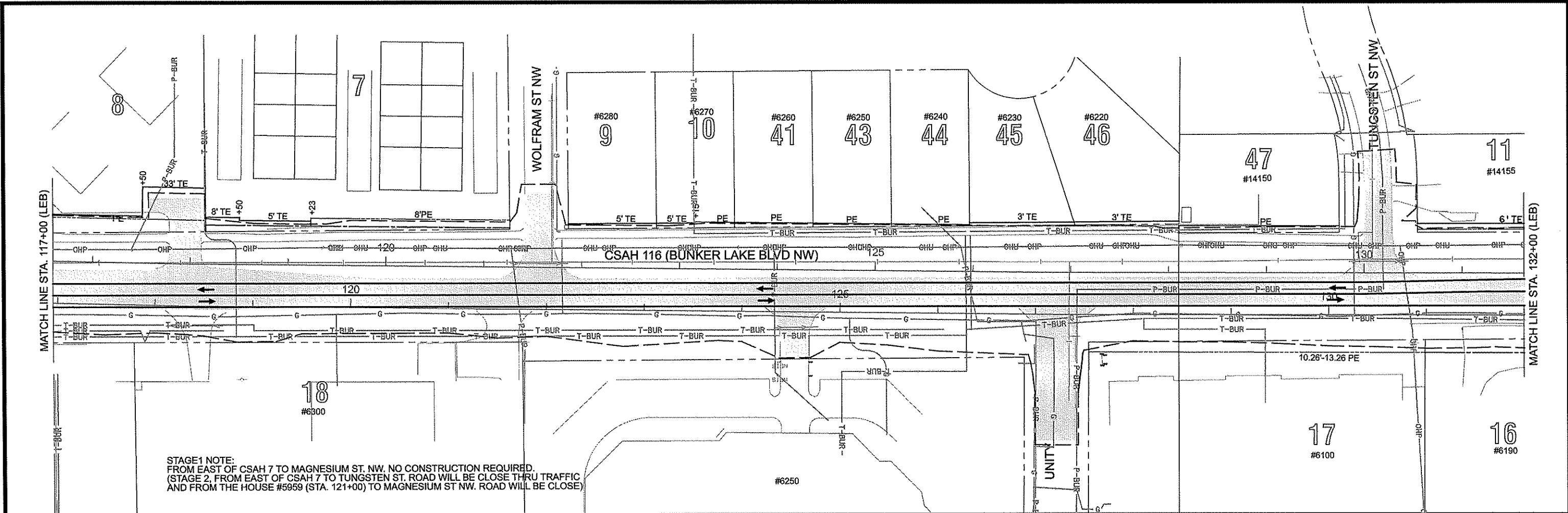
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
PRINT NAME: CURT KOBILARCSIK  
SIGNATURE: *Curt Kobilarsik*  
DATE: 2-24-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 02/24/2011  
DESIGN BY: MN DATE: 02/24/2011  
CHECKED BY: CAK DATE: 02/24/2011

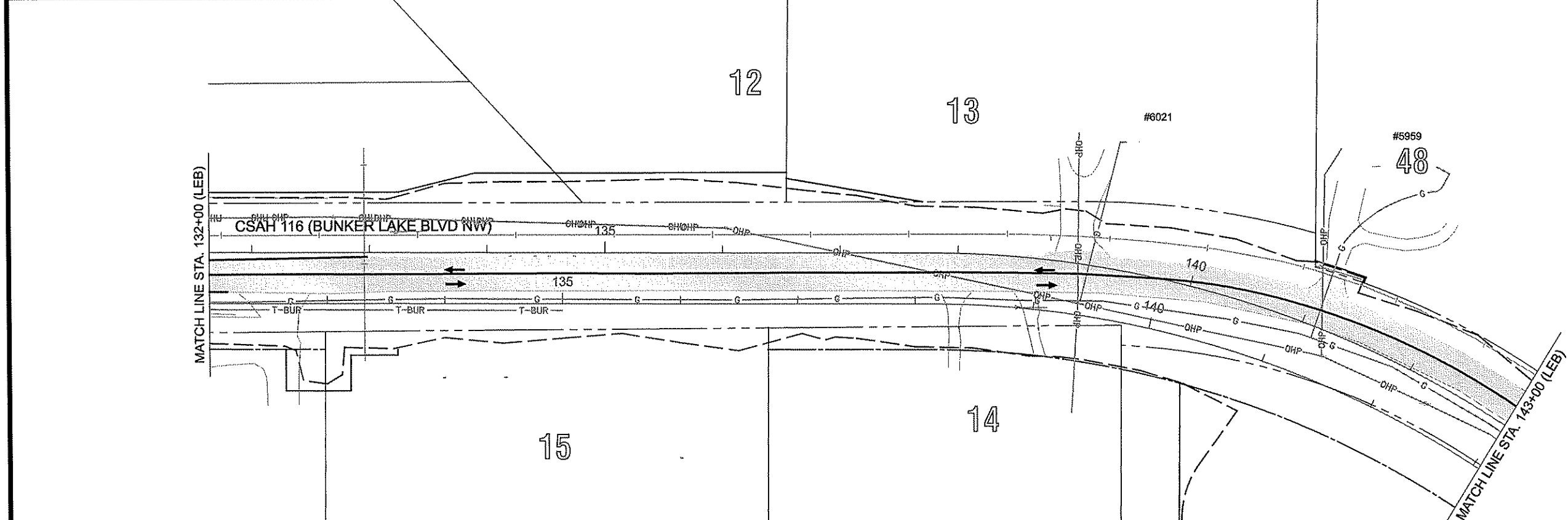
ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

CONSTRUCTION STAGE 1  
C.S.A.H. 116  
STA 103+25.00 TO 117+00.00  
Sheet 26 of 264 Sheets



STAGE1 NOTE:  
 FROM EAST OF CSAH 7 TO MAGNESIUM ST. NW. NO CONSTRUCTION REQUIRED.  
 (STAGE 2, FROM EAST OF CSAH 7 TO TUNGSTEN ST. ROAD WILL BE CLOSE THRU TRAFFIC  
 AND FROM THE HOUSE #5959 (STA. 121+00) TO MAGNESIUM ST NW. ROAD WILL BE CLOSE)



**LEGEND**

- EXISTING BITUMINOUS SURFACE
- CONSTRUCT STORM SEWER
- CONSTRUCTION AREA
- CONSTRUCTION UNDER TRAFFIC
- TEMPORARY PAVEMENT
- TRAFFIC FLOW IN THIS STAGE
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN

N

0 20' 50' 100'  
SCALE IN FEET

3 OF 7

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG1\_3.dgn      02/24/2011      10:55:54 AM

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.

PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11      LICENSE NO. 24758

DRAWN BY: BAV      DATE: 02/24/2011  
 DESIGN BY: MN      DATE: 02/24/2011  
 CHECKED BY: CAK      DATE: 02/24/2011

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

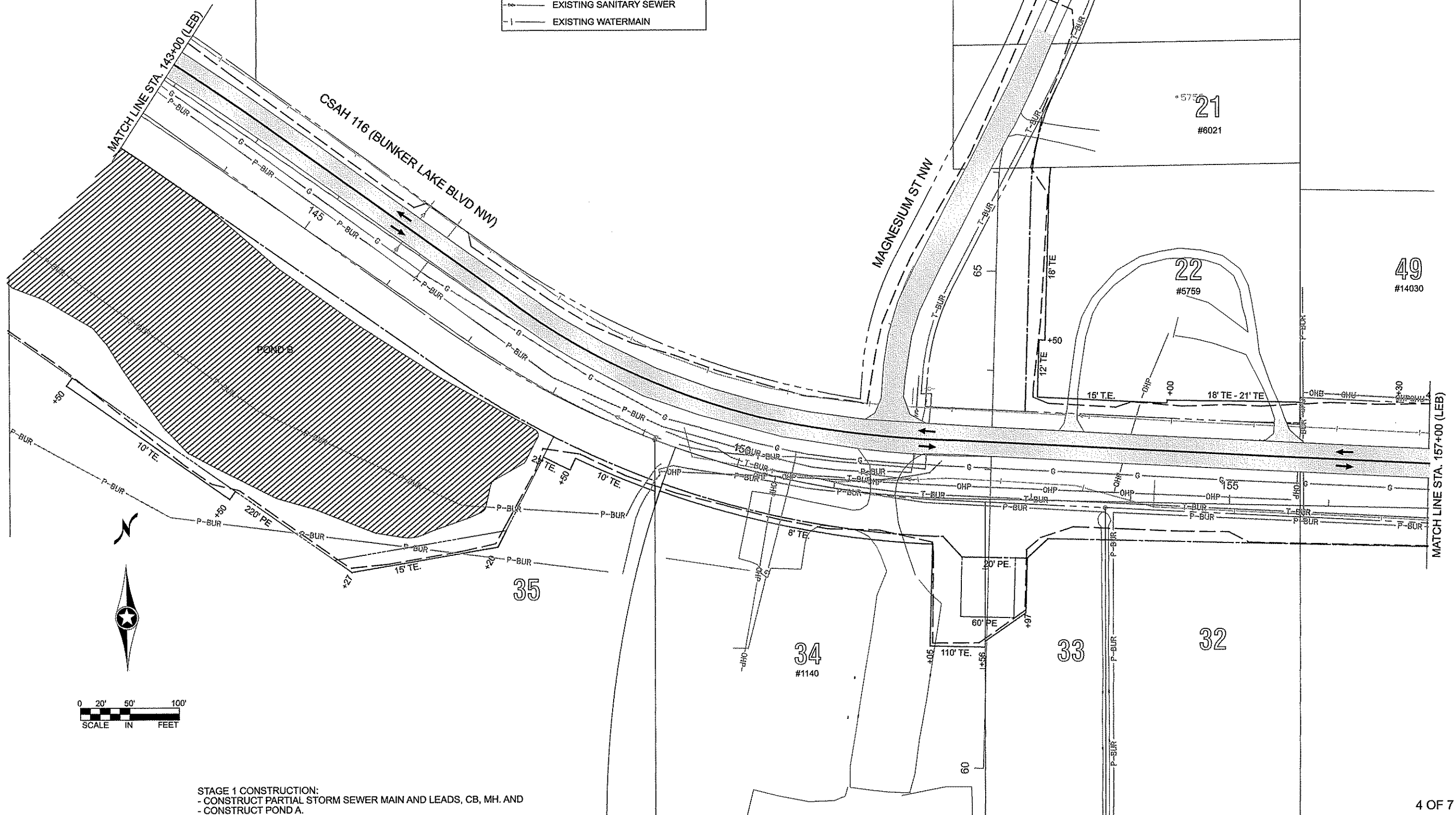
S.P. 002-716-011  
 S.P. 199-020-008

**CONSTRUCTION STAGE 1**  
**C.S.A.H. 116**  
 STA 117+00.00 TO 143+00.00  
 Sheet 27 of 264 Sheets

STAGE 1 NOTE:  
 MOVE THE TRAFFIC TO THE SOUTH OF BUNKER LAKE BLVD  
 TO CONSTRUCT MAIN LINE STORM SEWER, THE CROSSING R.C. PIPE  
 AND THE TEMPORARY PAVEMENT TO BE UTILIZED IN STAGE 2.  
 (SEE TRAFFIC STAGE 1 PLAN SHEETS FOR LOCATION)

FROM EAST OF CSAH 7 TO MAGNESIUM ST. NW. NO CONSTRUCTION REQUIRED.  
 (STAGE 2, FROM EAST OF CSAH 7 TO TUNGSTEN ST. ROAD WILL BE CLOSE THRU TRAFFIC  
 AND FROM THE HOUSE #5959 (STA. 121+00) TO MAGNESIUM ST NW. ROAD WILL BE CLOSE)

LEGEND	
	EXISTING BITUMINOUS SURFACE
	CONSTRUCT STORM SEWER
	CONSTRUCTION AREA
	CONSTRUCTION UNDER TRAFFIC
	TEMPORARY PAVEMENT
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN



STAGE 1 CONSTRUCTION:  
 - CONSTRUCT PARTIAL STORM SEWER MAIN AND LEADS, CB, MH. AND  
 - CONSTRUCT POND A.

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG1\_4.dgn      02/23/2011      9:26:27 AM

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.  
 PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11      LICENSE NO. 24756

DRAWN BY: BAV      DATE: 02/23/2011  
 DESIGN BY: MN      DATE: 02/23/2011  
 CHECKED BY: CAK      DATE: 02/23/2011



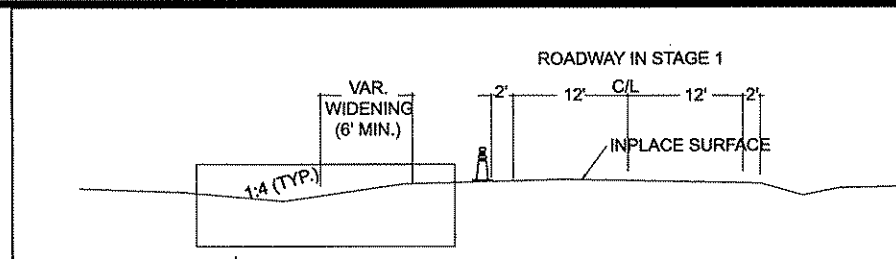
**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION STAGE 1  
 C.S.A.H. 116  
 STA 143+00.00 TO 157+00.00  
 Sheet 28 of 264 Sheets

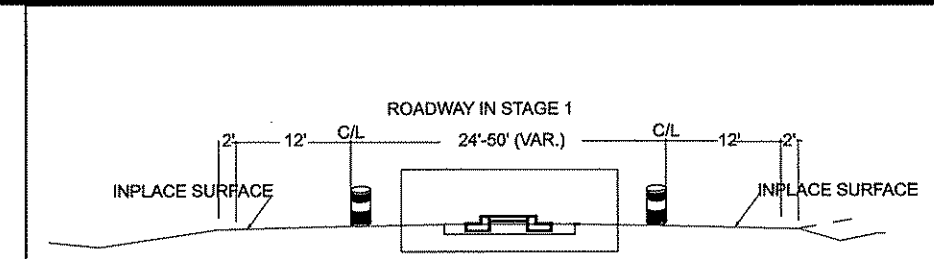
STAGE 1 NOTE:  
 SHIFT CSAH 116 TRAFFIC TO THE SOUTH SIDE OF THE CSAH 116 AND  
 SHIFT CSAH 57 TRAFFIC TO THE WEST SIDE OF CSAH 116.

STAGE 1 CONSTRUCTION:  
 - REMOVE PARTIAL OF EXISTING MEDIAN AND REPLACING TEMPORARY SURFACE.  
 - CONSTRUCT TEMPORARY WIDENING. (6' MIN.)  
 (SEE TRAFFIC STAGE 1 PLAN SHEETS FOR LOCATION).  
 - CONSTRUCT PARTIAL STORM SEWER MAIN AND LEADS, CB, MH. AND  
 - CONSTRUCT POND A.



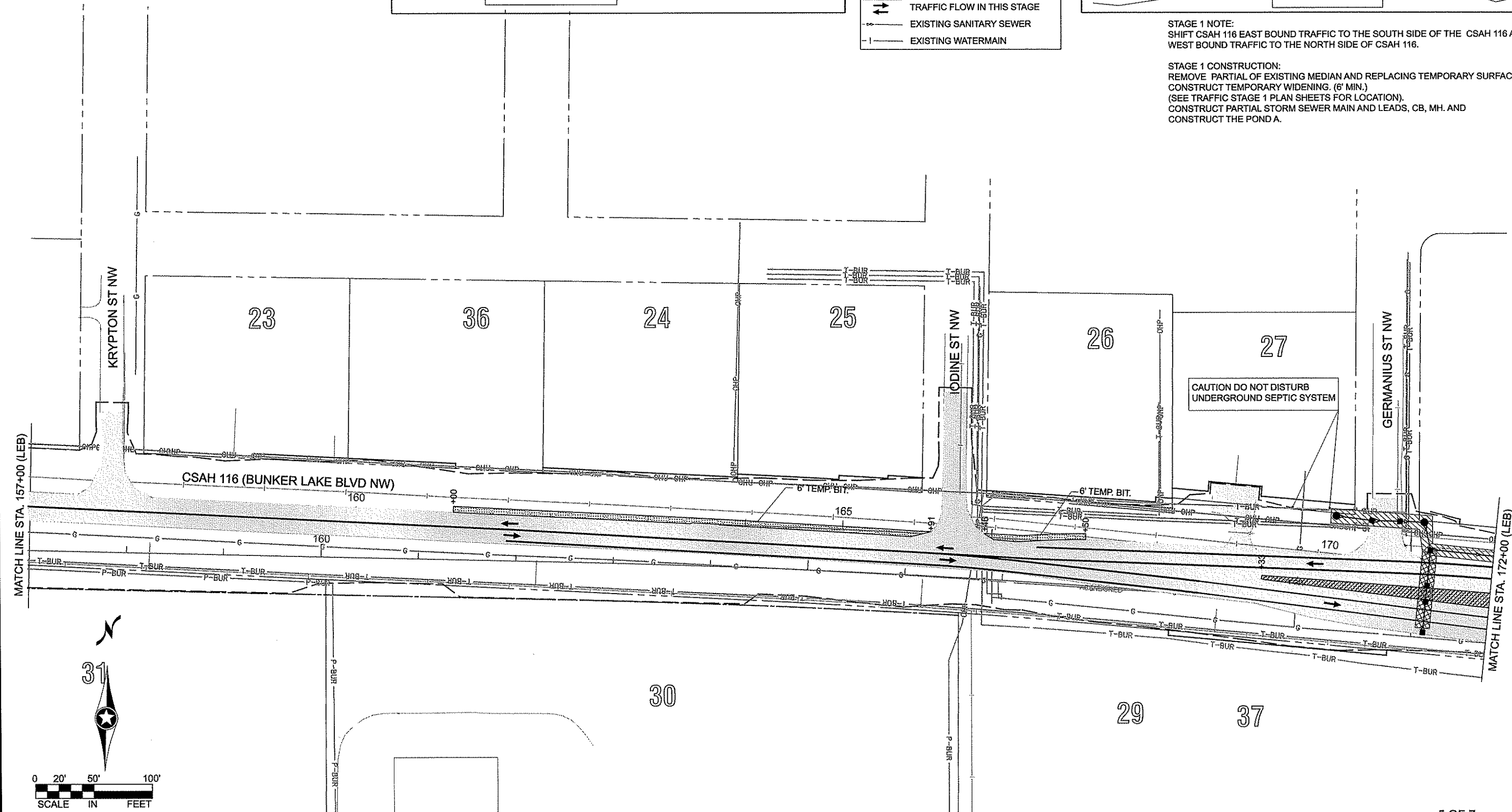
**LEGEND**

- EXISTING BITUMINOUS SURFACE
- CONSTRUCT STORM SEWER
- CONSTRUCTION AREA
- CONSTRUCTION UNDER TRAFFIC
- TEMPORARY PAVEMENT
- TRAFFIC FLOW IN THIS STAGE
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN



STAGE 1 NOTE:  
 SHIFT CSAH 116 EAST BOUND TRAFFIC TO THE SOUTH SIDE OF THE CSAH 116 AND  
 WEST BOUND TRAFFIC TO THE NORTH SIDE OF CSAH 116.

STAGE 1 CONSTRUCTION:  
 REMOVE PARTIAL OF EXISTING MEDIAN AND REPLACING TEMPORARY SURFACE.  
 CONSTRUCT TEMPORARY WIDENING. (6' MIN.)  
 (SEE TRAFFIC STAGE 1 PLAN SHEETS FOR LOCATION).  
 CONSTRUCT PARTIAL STORM SEWER MAIN AND LEADS, CB, MH. AND  
 CONSTRUCT THE POND A.



NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_STG1_5.dgn					

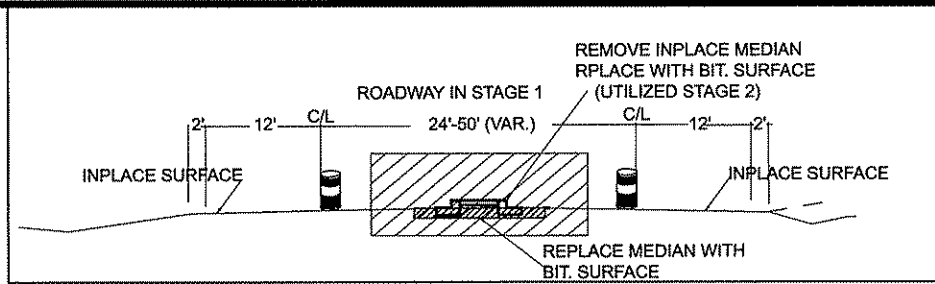
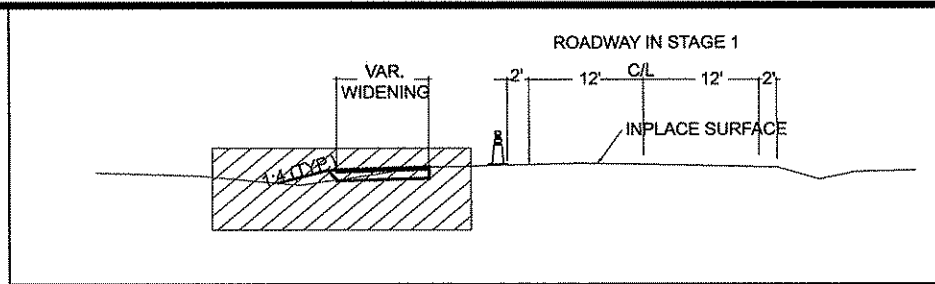
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

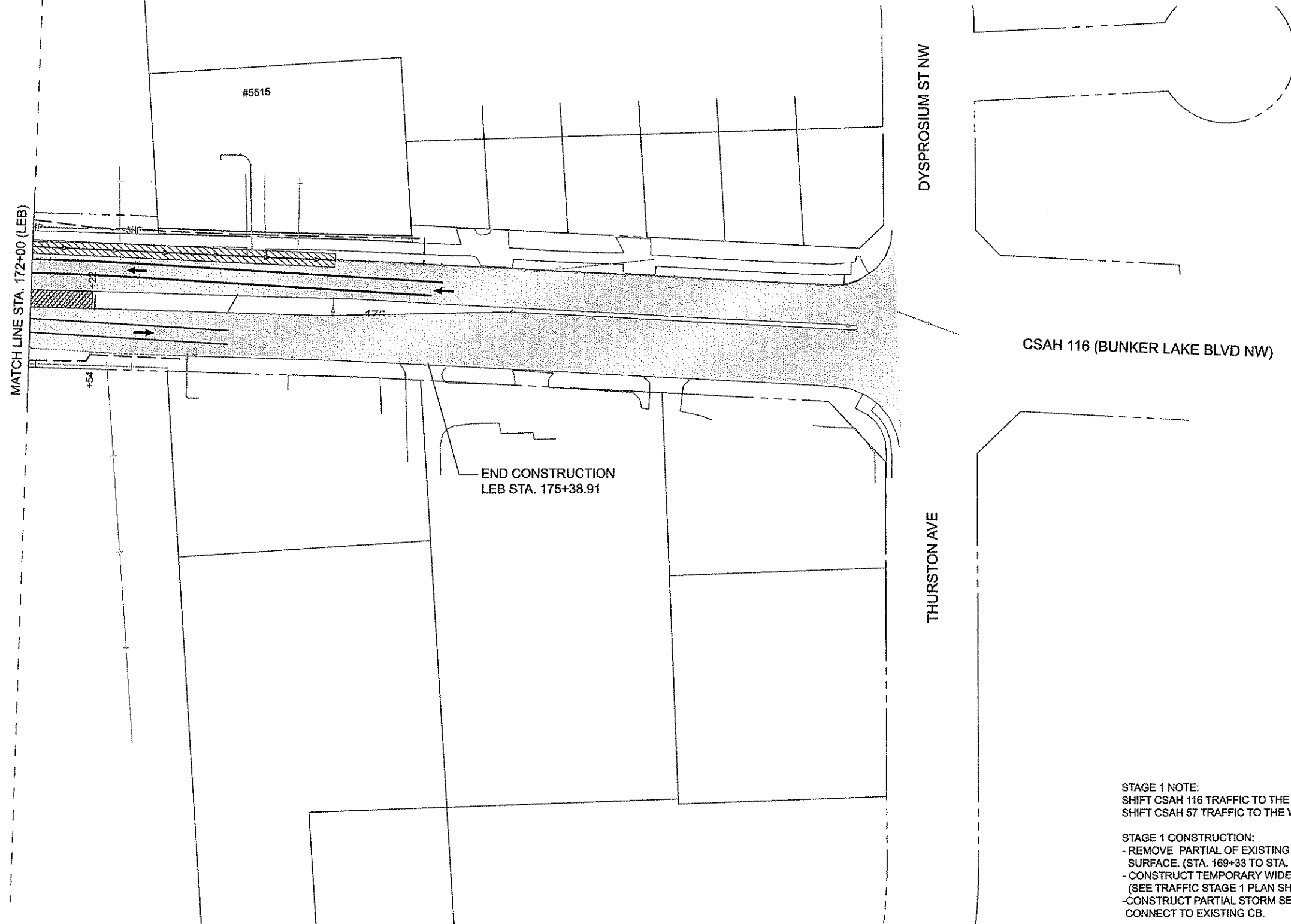
CONSTRUCTION STAGE 1  
 C.S.A.H. 116  
 STA 157+00.00 TO 172+00.00  
 Sheet 29 of 264 Sheets



LEGEND	
	EXISTING BITUMINOUS SURFACE
	CONSTRUCT STORM SEWER
	CONSTRUCTION AREA
	CONSTRUCTION UNDER TRAFFIC
	TEMPORARY PAVEMENT
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN

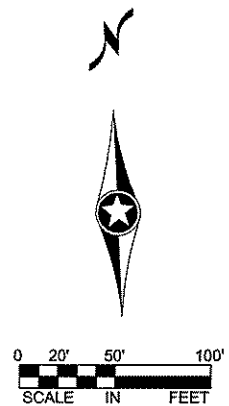
STAGE 1 NOTE:

- A- TEMPORARY WIDENING. (SEE TRAFFIC STAGE 1 PLAN SHEETS FOR LOCATION).
- B- CONSTRUCT PARTIAL STORM SEWER SYSTEM.
- C- CONSTRUCT SPECIAL DITCH.
- D- CONSTRUCT THE POND.



STAGE 1 NOTE:  
SHIFT CSAH 116 TRAFFIC TO THE SOUTH SIDE OF THE CSAH 116 AND SHIFT CSAH 57 TRAFFIC TO THE WEST SIDE OF CSAH 57.

- STAGE 1 CONSTRUCTION:
- REMOVE PARTIAL OF EXISTING MEDIAN AND REPLACING TEMPORARY SURFACE. (STA. 169+33 TO STA. 172+22)
  - CONSTRUCT TEMPORARY WIDENING. (6' MIN.) (SEE TRAFFIC STAGE 1 PLAN SHEETS FOR LOCATION).
  - CONSTRUCT PARTIAL STORM SEWER MAIN AND LEADS, CB, MH. AND CONNECT TO EXISTING CB.



NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_STG1_6.dgn					

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.  
 PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 LICENSE NO. 24759

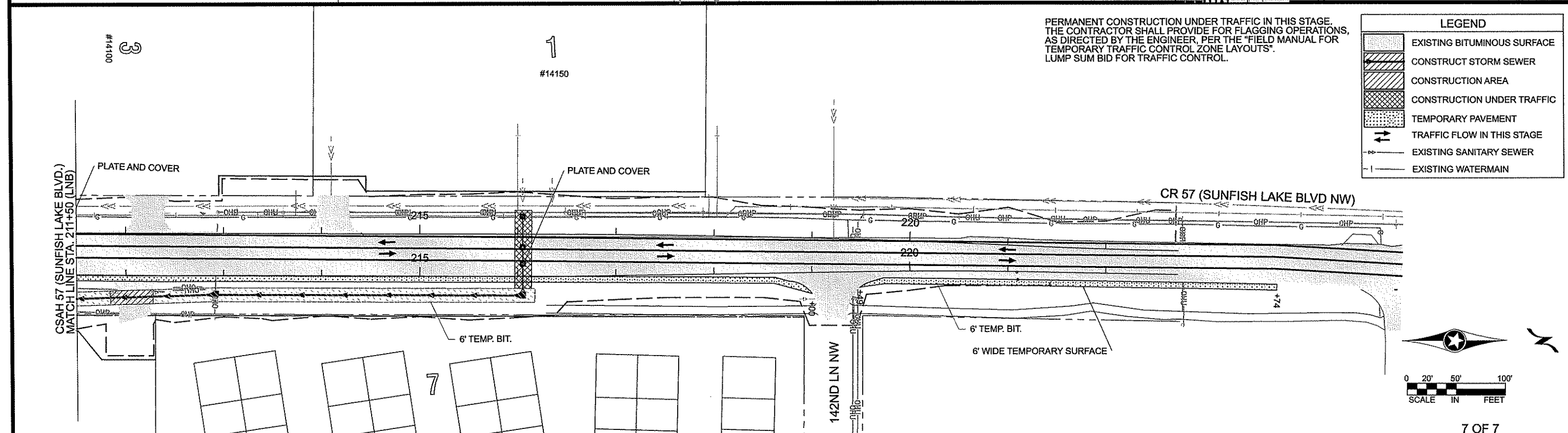
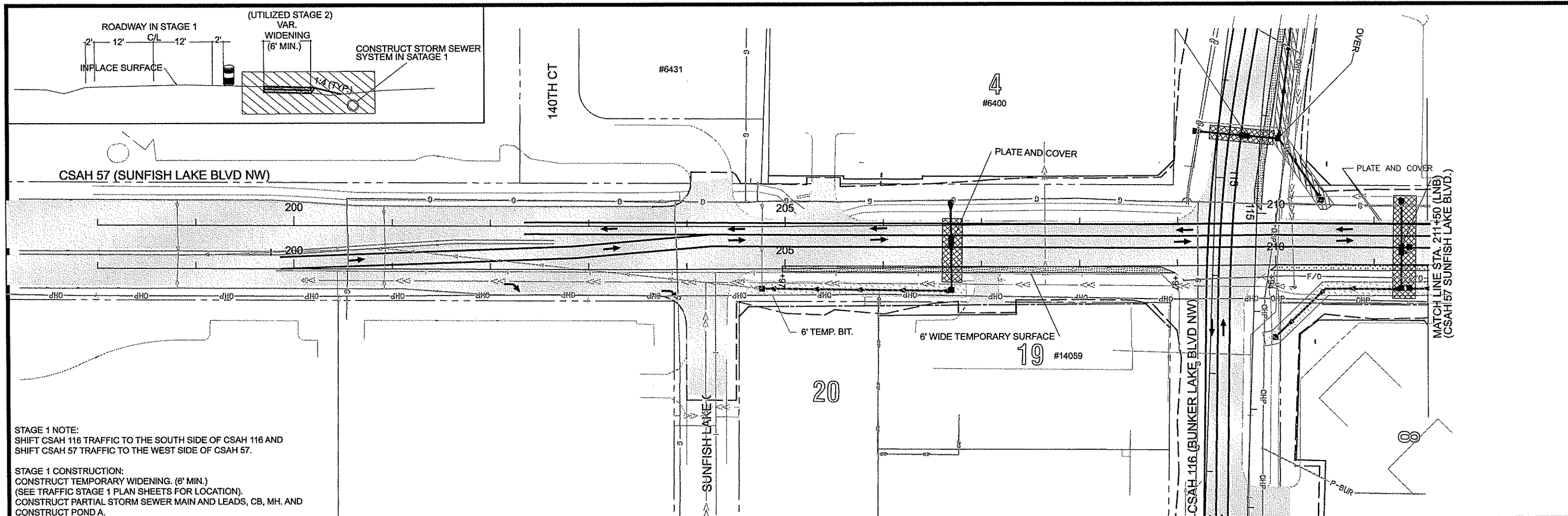
DRAWN BY BAV DATE 02/23/2011  
 DESIGN BY MN DATE 02/23/2011  
 CHECKED BY CAK DATE 02/23/2011



ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

CONSTRUCTION STAGE 1  
C.S.A.H. 116  
STA 172+00.00 TO 175+38.90  
Sheet 30 of 264 Sheets



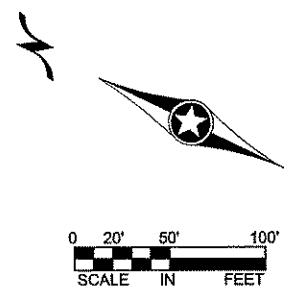
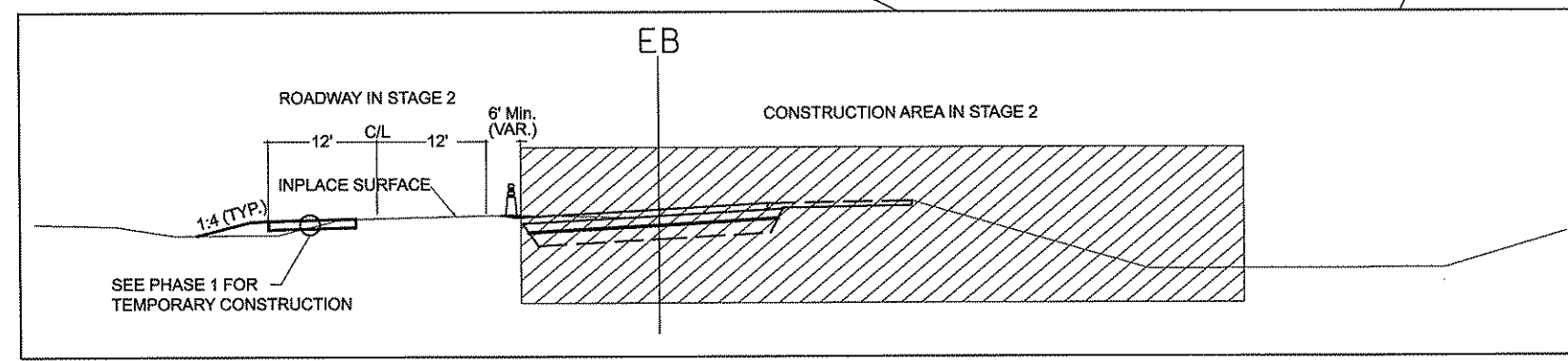
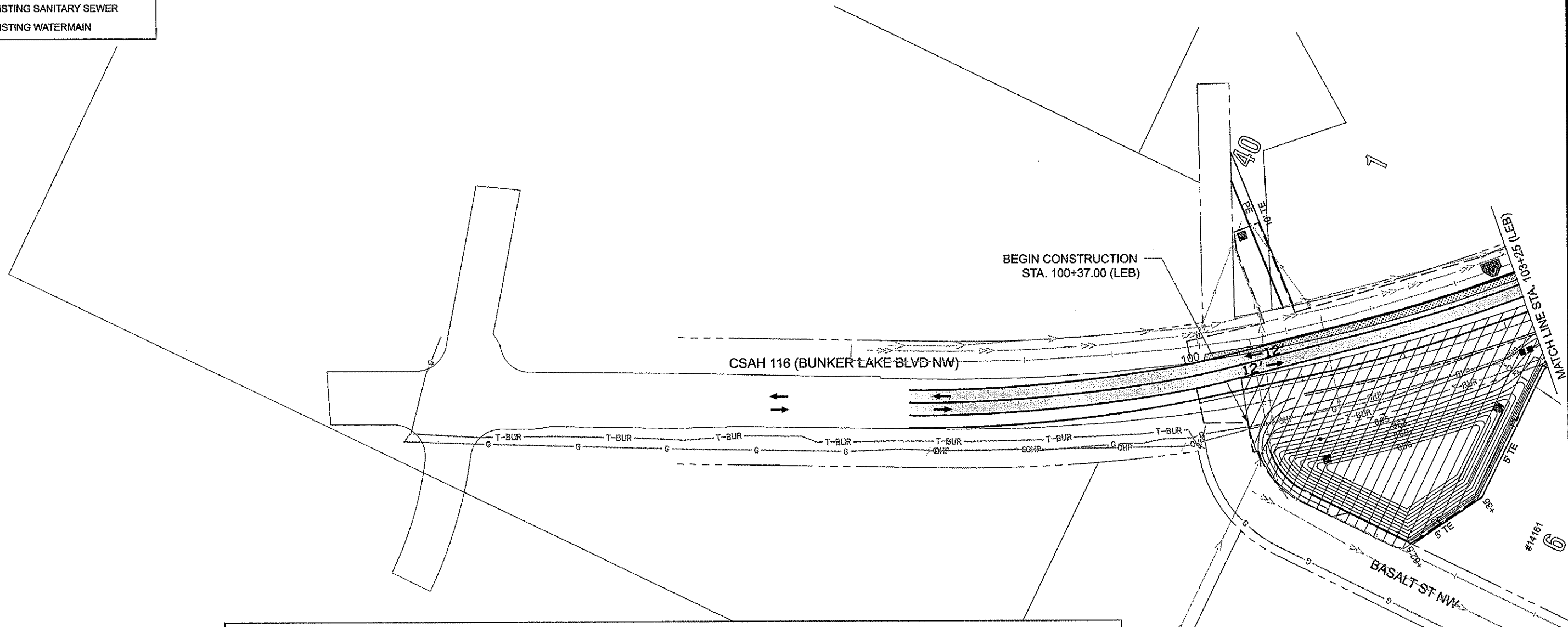
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CURT KOBIARCSIK SIGNATURE: <i>Curt Kobilarcsik</i> DATE: 2-24-11 LICENSE NO. 24756					DRAWN BY: BAV DATE: 02/24/2011 DESIGN BY: MN DATE: 02/24/2011 CHECKED BY: CAK DATE: 02/24/2011		ANOKA COUNTY HIGHWAY DEPT.		S.P. 002-716-011 S.P. 199-020-008		CONSTRUCTION STAGE 1 C.S.A.H. 57 STA 198+00.00 TO 221+28.82 Sheet 31 of 264 Sheets	
NO	DATE	BY	CKD	APPR	REVISION							
					02/24/2011	10:56:10 AM						

NAME: p:\02-716-11\plan\0271611\_STG1\_7.dgn

LEGEND	
	CONSTRUCTION UNDER TRAFFIC
	TEMPORARY PAVEMENT
	CONSTRUCTION AREA
	CONSTRUCTION CONCRETE C&G
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN

STAGE 2 NOTE:  
 SHIFT CSAH 116 TRAFFIC TO THE NORTH SIDE OF CSAH 116 AND  
 SHIFT CSAH 57 TRAFFIC TO THE WEST SIDE OF CSAH 57.  
 CSAH 116 FROM EAST OF CSAH 57 TO TUNGSTEN ST. WILL BE CLOSED TO THRU TRAFFIC AND OPEN TO LOCAL TRAFFIC ONLY.  
 CSAH 116 FROM TUNGSTEN ST. TO MAGNESIUM ST. WILL BE CLOSED FOR MUCKING AND ROAD CONSTRUCTION AND TRAFFIC ON  
 CSAH 116 DIRECTED BY DETOUR.

STAGE 2 CONSTRUCTION:  
 CONSTRUCT EAST BOUND LANES OF CSAH 116 AND SOUTH BOUND LANES OF CSAH 57, BASE, BITUMINOUS, CURB & GUTTER  
 AND PARTIAL MEDIAN CURB, MUCKING, POND-B AND STORM SEWER MAIN, LEADS, AND CB. (SEE THE TRAFFIC STAGE 2 PLAN FOR LOCATIONS)



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG2\_1.dgn      02/23/2011      9:26:54 AM

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PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11      LICENSE NO. 24756

DRAWN BY: BAV      DATE: 02/23/2011  
 DESIGN BY: MN      DATE: 02/23/2011  
 CHECKED BY: CAK      DATE: 02/23/2011

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

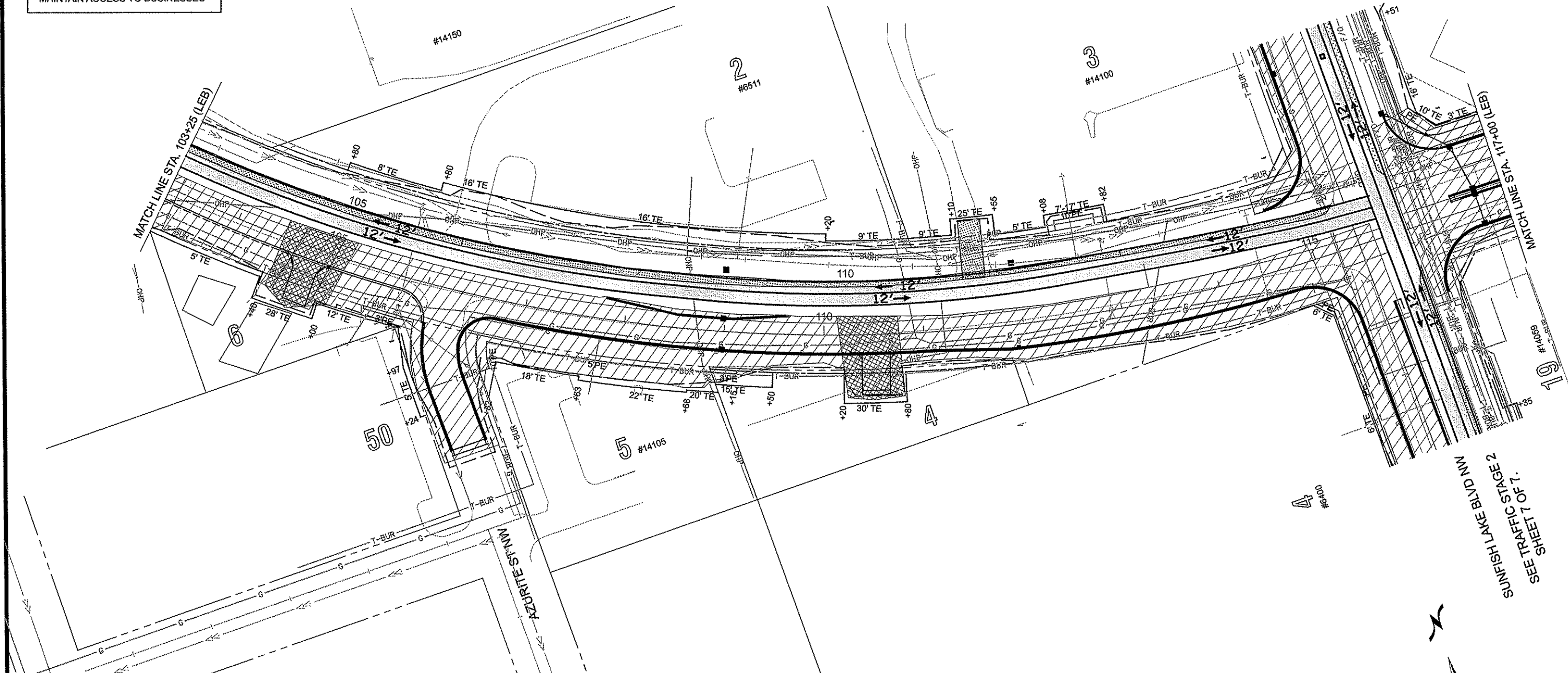
S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION STAGE 2  
 C.S.A.H.116  
 STA 100+00.00 TO 103+25.00  
 Sheet 32 of 264 Sheets



MAINTAIN ACCESS TO BUSINESSES

CSAH 116 (BUNKER LAKE BLVD NW)

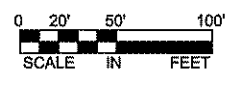
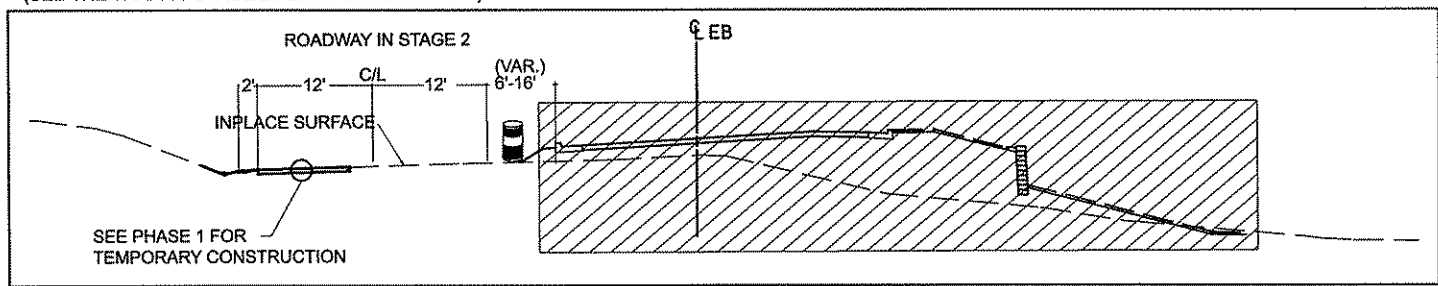


**STAGE 2 NOTE:**  
 SHIFT CSAH 116 TRAFFIC TO THE NORTH SIDE OF CSAH 116 AND CSAH 57 TRAFFIC TO THE WEST SIDE OF CSAH 57.  
 CSAH 116 FROM EAST OF CSAH 57 TO TUNGSTEN ST. WILL BE CLOSED TO THRU TRAFFIC AND OPEN TO LOCAL TRAFFIC ONLY.  
 CSAH 116 FROM TUNGSTEN ST. TO MAGNESIUM ST. TO BE CLOSED FOR MUCKING AND ROAD CONSTRUCTION AND TRAFFIC ON  
 CSAH 116 DIRECTED BY DETOUR.

**STAGE 2 CONSTRUCTION:**  
 CONSTRUCT EAST BOUND LANES OF CSAH 116 AND SOUTH BOUND LANES OF CSAH 57, BASE, BITUMINOUS, CURB & GUTTER  
 AND PARTIAL MEDIAN CURB, MUCKING, POND-B AND STORM SEWER MAIN, LEADS, CB. AND RETAINING WALL, GUARDRAIL.  
 (SEE THE TRAFFIC STAGE 2 PLAN FOR LOCATIONS)

LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION UNDER TRAFFIC
	CONCRETE CURB & GUTTER
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN

PERMANENT CONSTRUCTION UNDER TRAFFIC THIS STAGE.  
 THE CONTRACTOR SHALL PROVIDE FOR FLAGGING OPERATIONS,  
 AS DIRECTED BY THE ENGINEER, PER THE "FIELD MANUAL FOR  
 TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".  
 LUMP SUM BID FOR TRAFFIC CONTROL.



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plant\0271611\_STG2\_2.dgn  
 02/24/2011 10:56:16 AM

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.  
 PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 LICENSE NO. 24758

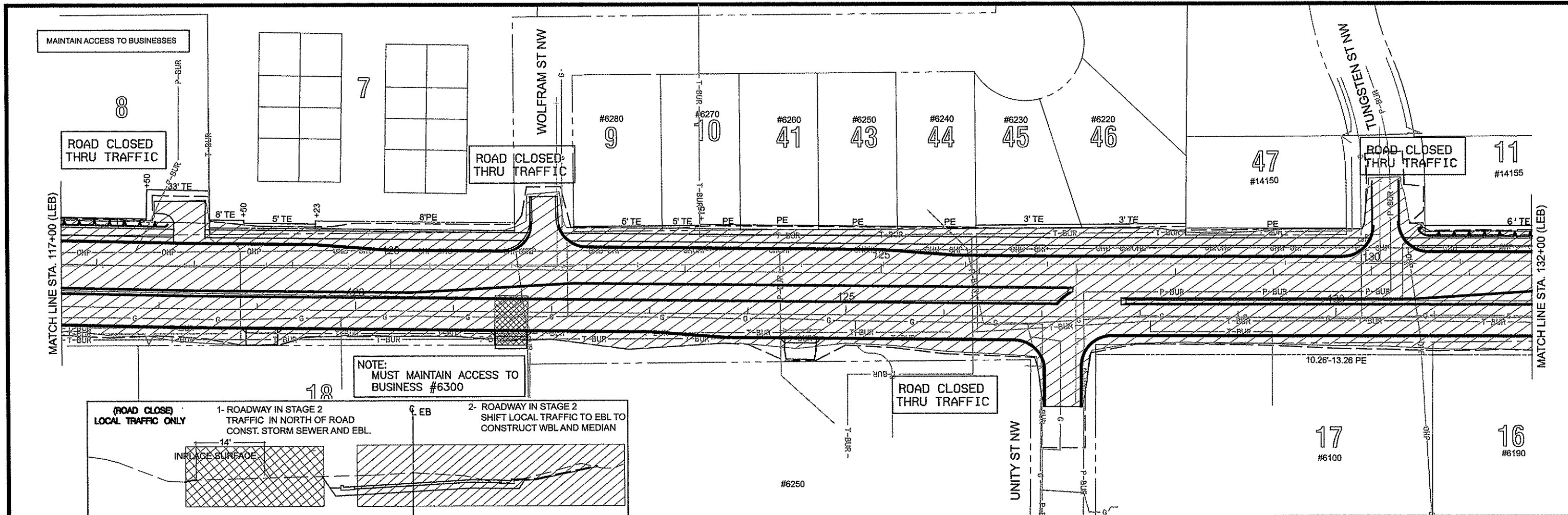
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 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011



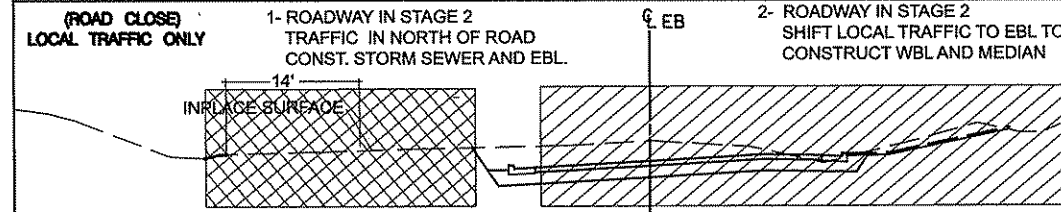
**ANOKA COUNTY  
 HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

**CONSTRUCTION STAGE 2  
 C.S.A.H. 116**  
 STA 103+25.00 TO 117+00.00  
 Sheet 33 of 264 Sheets



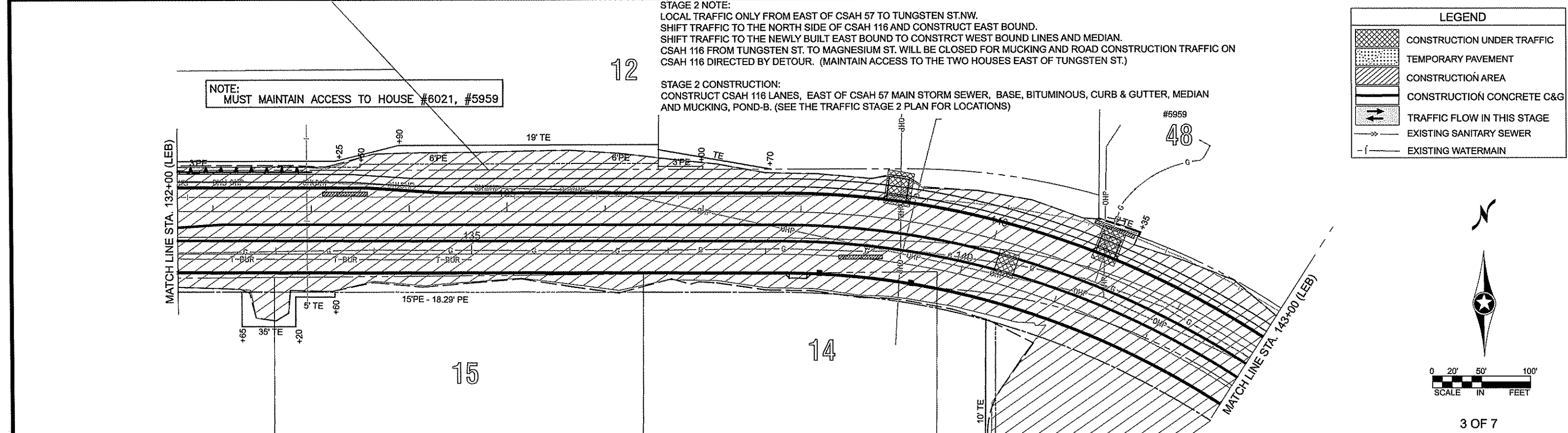
NOTE:  
MUST MAINTAIN ACCESS TO  
BUSINESS #6300



STAGE 2 NOTE:  
LOCAL TRAFFIC ONLY FROM EAST OF CSAH 57 TO TUNGSTEN ST. NW.  
SHIFT TRAFFIC TO THE NORTH SIDE OF CSAH 116 AND CONSTRUCT EAST BOUND.  
SHIFT TRAFFIC TO THE NEWLY BUILT EAST BOUND TO CONSTRUCT WEST BOUND LINES AND MEDIAN.  
CSAH 116 FROM TUNGSTEN ST. TO MAGNESIUM ST. WILL BE CLOSED FOR MUCKING AND ROAD CONSTRUCTION TRAFFIC ON CSAH 116 DIRECTED BY DETOUR. (MAINTAIN ACCESS TO THE TWO HOUSES EAST OF TUNGSTEN ST.)

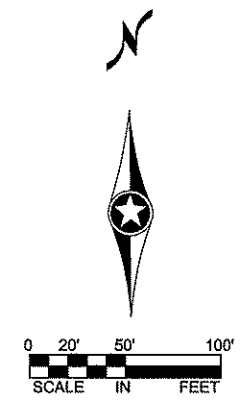
STAGE 2 CONSTRUCTION:  
CONSTRUCT CSAH 116 LANES, EAST OF CSAH 57 MAIN STORM SEWER, BASE, BITUMINOUS, CURB & GUTTER, MEDIAN AND MUCKING, POND-B. (SEE THE TRAFFIC STAGE 2 PLAN FOR LOCATIONS)

NOTE:  
MUST MAINTAIN ACCESS TO HOUSE #6021, #5959



**LEGEND**

- CONSTRUCTION UNDER TRAFFIC
- TEMPORARY PAVEMENT
- CONSTRUCTION AREA
- CONSTRUCTION CONCRETE C&G
- TRAFFIC FLOW IN THIS STAGE
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN



3 OF 7

NO	DATE	BY	CKD	APPR	REVISION	

NAME: p:\02-716-11\plan\0271611\_STG2\_3.dgn  
02/24/2011 10:56:23 AM

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.

PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarcsik*  
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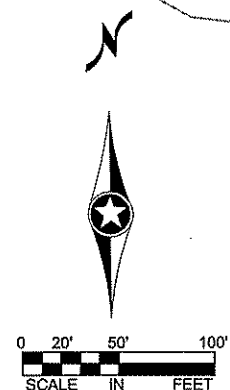
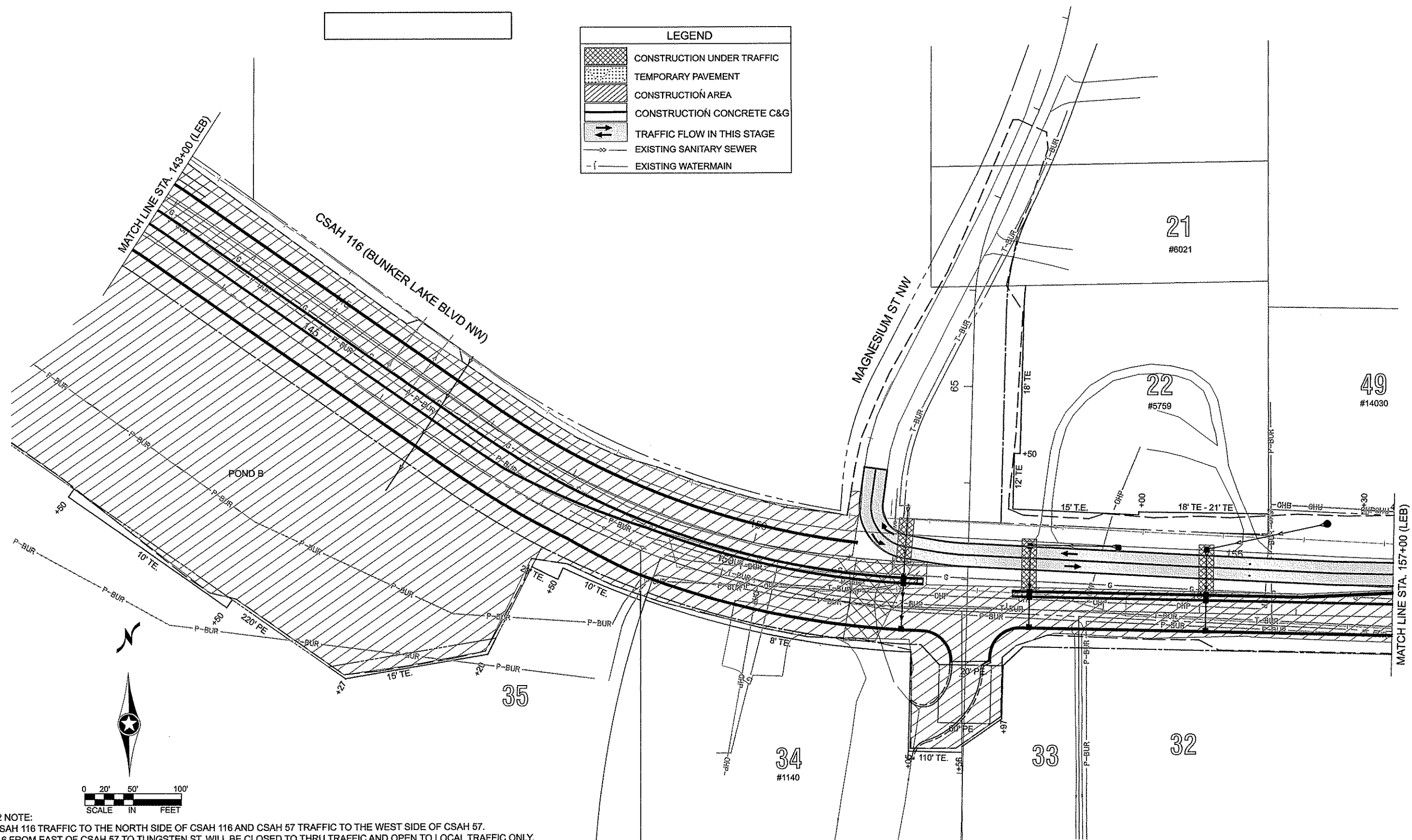
**ANOKA COUNTY**  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

CONSTRUCTION STAGE 2  
C.S.A.H. 116  
STA 117+00.00 TO 143+00.00  
Sheet 34 of 264 Sheets

**LEGEND**

- CONSTRUCTION UNDER TRAFFIC
- TEMPORARY PAVEMENT
- CONSTRUCTION AREA
- CONSTRUCTION CONCRETE C&G
- TRAFFIC FLOW IN THIS STAGE
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN



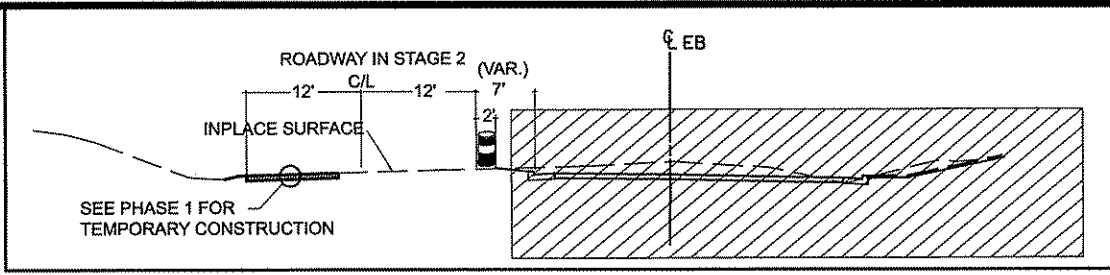
**STAGE 2 NOTE:**  
 SHIFT CSAH 116 TRAFFIC TO THE NORTH SIDE OF CSAH 116 AND CSAH 57 TRAFFIC TO THE WEST SIDE OF CSAH 57.  
 CSAH 116 FROM EAST OF CSAH 57 TO TUNGSTEN ST. WILL BE CLOSED TO THRU TRAFFIC AND OPEN TO LOCAL TRAFFIC ONLY.  
 CSAH 116 FROM TUNGSTEN ST. TO MAGNESIUM ST. WILL BE CLOSED FOR MUCKING AND ROAD CONSTRUCTION AND TRAFFIC ON  
 CSAH 116 DIRECTED BY DETOUR.

**STAGE 2 CONSTRUCTION:**  
 CONSTRUCT EAST BOUND LANES OF CSAH 116 AND SOUTH BOUND LANES OF CSAH 57, BASE, BITUMINOUS, CURB & GUTTER  
 AND PARTIAL MEDIAN CURB, MUCKING, POND-B AND STORM SEWER MAIN, LEADS, AND CB. (SEE THE TRAFFIC STAGE 2 PLAN FOR LOCATIONS)

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO</th> <th>DATE</th> <th>BY</th> <th>CHKD</th> <th>APPR</th> <th>REVISION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>NAME: p:\02-716-11\plan\0271611_STG2_4.dgn</p>	NO	DATE	BY	CHKD	APPR	REVISION							<p>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.</p> <p>PRINT NAME: CURT KOBIARCSIK</p> <p>SIGNATURE: <i>Curt Kobiarcsik</i></p> <p>DATE: 2-24-11 LICENSE NO. 24756</p>	<p>DRAWN BY: BAV DATE: 02/23/2011</p> <p>DESIGN BY: MN DATE: 02/23/2011</p> <p>CHECKED BY: CAK DATE: 02/23/2011</p>	<p><b>ANOKA COUNTY</b> HIGHWAY DEPT.</p>	<p>S.P. 002-716-011 S.P. 199-020-008</p>	<p><b>CONSTRUCTION STAGE 2</b> C.S.A.H. 116 STA 143+00.00 TO 157+00.00</p> <p>Sheet 35 of 264 Sheets</p>
NO	DATE	BY	CHKD	APPR	REVISION												

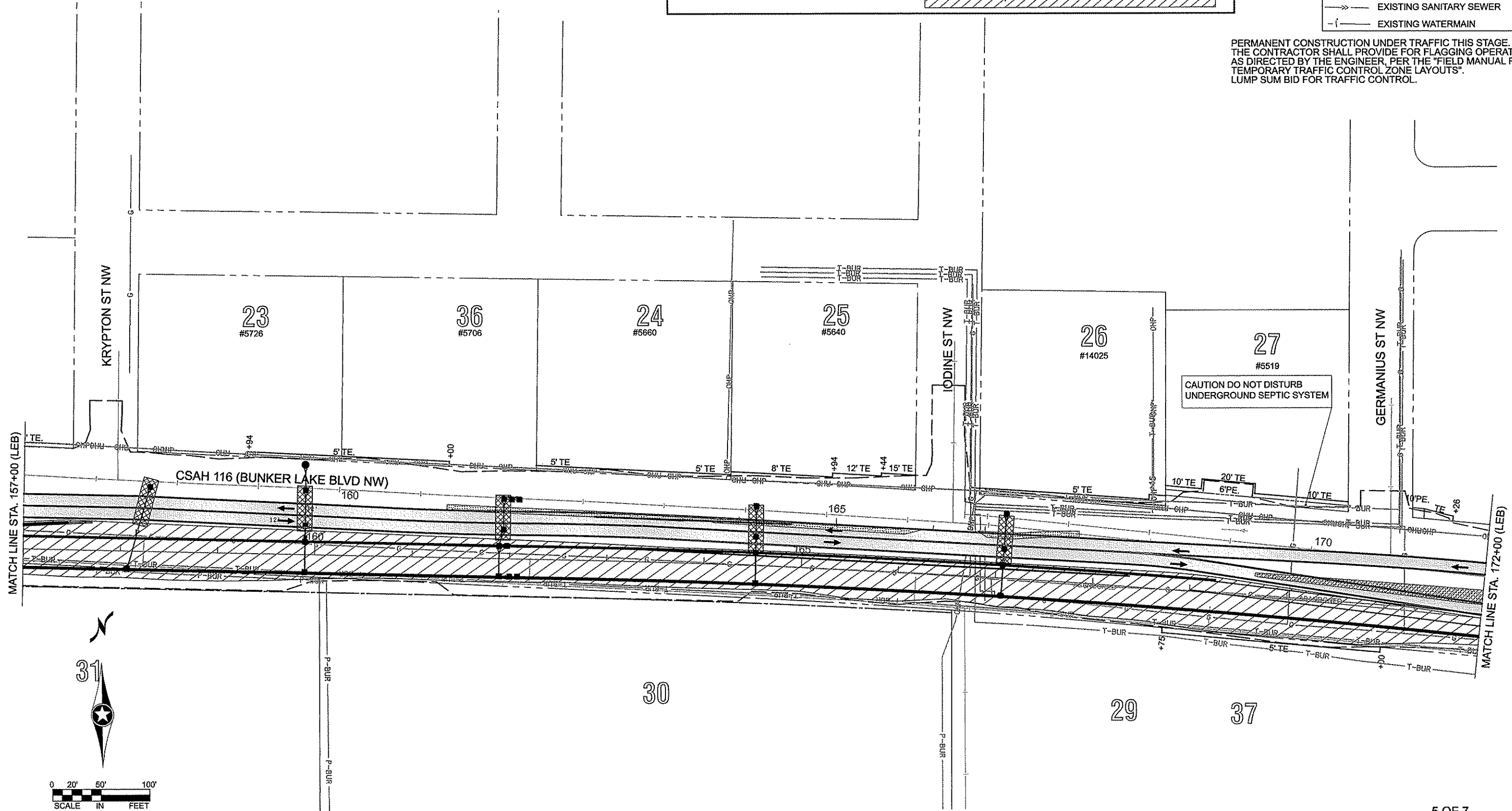
STAGE 2 NOTE:  
 SHIFT CSAH 116 TRAFFIC TO THE NORTH SIDE OF CSAH 116 AND CSAH 57 TRAFFIC TO THE WEST SIDE OF CSAH 57.  
 CSAH 116 FROM EAST OF CSAH 57 TO TUNGSTEN ST. WILL BE CLOSED TO THRU TRAFFIC AND OPEN TO LOCAL TRAFFIC ONLY.  
 CSAH 116 FROM TUNGSTEN ST. TO MAGNESIUM ST. WILL BE CLOSED FOR MUCKING AND ROAD CONSTRUCTION AND TRAFFIC ON CSAH 116 DIRECTED BY DETOUR.

STAGE 2 CONSTRUCTION:  
 CONSTRUCT EAST BOUND LANES OF CSAH 116 AND SOUTH BOUND LANES OF CSAH 57, BASE, BITUMINOUS, CURB & GUTTER AND PARTIAL MEDIAN CURB, MUCKING, POND-B AND STORM SEWER MAIN, LEADS, AND CB. (SEE THE TRAFFIC STAGE 2 PLAN FOR LOCATIONS)



LEGEND	
	CONSTRUCTION UNDER TRAFFIC
	TEMPORARY PAVEMENT
	CONSTRUCTION AREA
	CONSTRUCTION CONCRETE C&G
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN

PERMANENT CONSTRUCTION UNDER TRAFFIC THIS STAGE. THE CONTRACTOR SHALL PROVIDE FOR FLAGGING OPERATIONS, AS DIRECTED BY THE ENGINEER, PER THE "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS". LUMP SUM BID FOR TRAFFIC CONTROL.

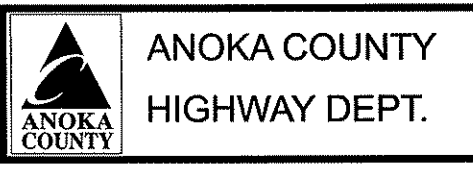


NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG2\_5.dgn      02/24/2011      10:56:30 AM

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.  
 PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11      LICENSE NO. 24768

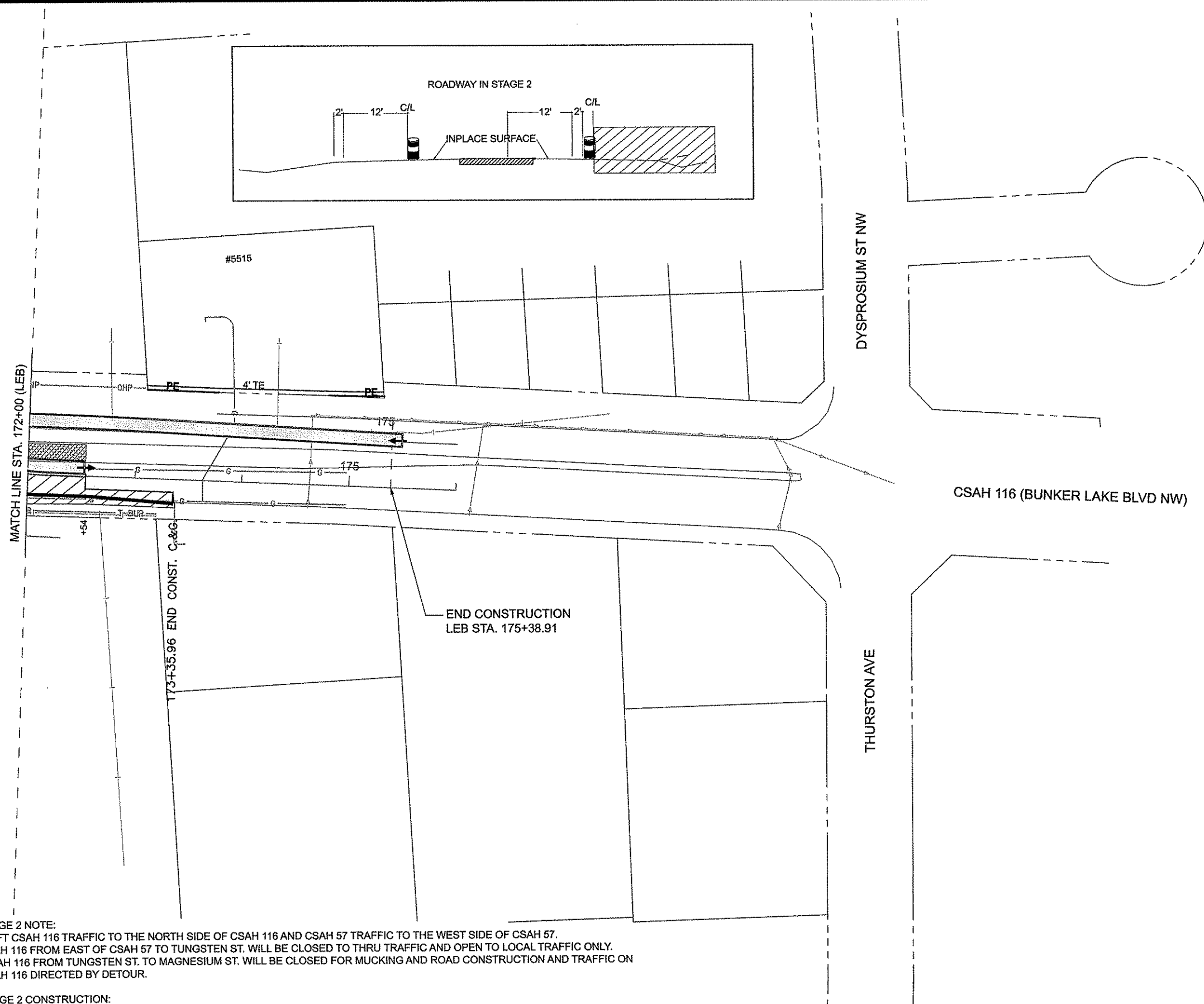
DRAWN BY: BAV      DATE: 02/24/2011  
 DESIGN BY: MN      DATE: 02/24/2011  
 CHECKED BY: CAK      DATE: 02/24/2011



S.P. 002-716-011  
 S.P. 199-020-008

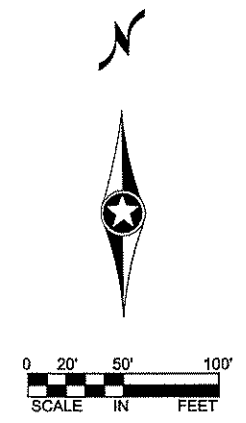
CONSTRUCTION STAGE 2  
 C.S.A.H. 116  
 STA 157+00.00 TO 172+00.00  
 Sheet 36 of 264 Sheets

LEGEND	
	CONSTRUCTION UNDER TRAFFIC
	TEMPORARY PAVEMENT
	CONSTRUCTION AREA
	CONSTRUCTION CONCRETE C&G
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN



STAGE 2 NOTE:  
 SHIFT CSAH 116 TRAFFIC TO THE NORTH SIDE OF CSAH 116 AND CSAH 57 TRAFFIC TO THE WEST SIDE OF CSAH 57.  
 CSAH 116 FROM EAST OF CSAH 57 TO TUNGSTEN ST. WILL BE CLOSED TO THRU TRAFFIC AND OPEN TO LOCAL TRAFFIC ONLY.  
 CSAH 116 FROM TUNGSTEN ST. TO MAGNESIUM ST. WILL BE CLOSED FOR MUCKING AND ROAD CONSTRUCTION AND TRAFFIC ON  
 CSAH 116 DIRECTED BY DETOUR.

STAGE 2 CONSTRUCTION:  
 CONSTRUCT EAST BOUND LANES OF CSAH 116 AND SOUTH BOUND LANES OF CSAH 57, BASE, BITUMINOUS, CURB & GUTTER  
 AND PARTIAL MEDIAN CURB, MUCKING, POND-B AND STORM SEWER MAIN, LEADS, AND CB. (SEE THE TRAFFIC STAGE 2 PLAN FOR LOCATIONS)



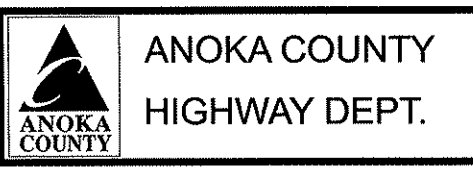
NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG2\_6.dgn 02/23/2011 9:27:29 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

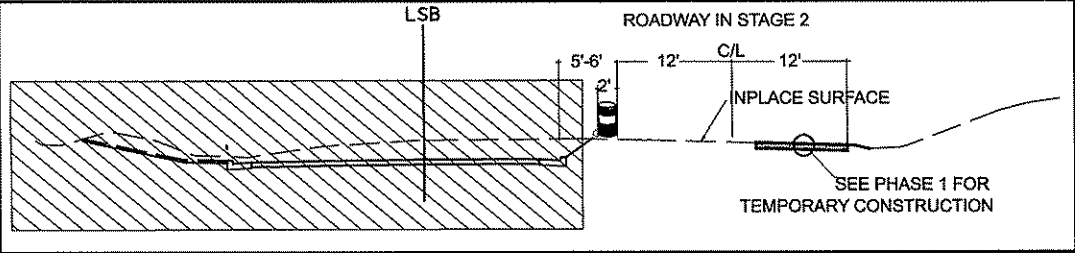
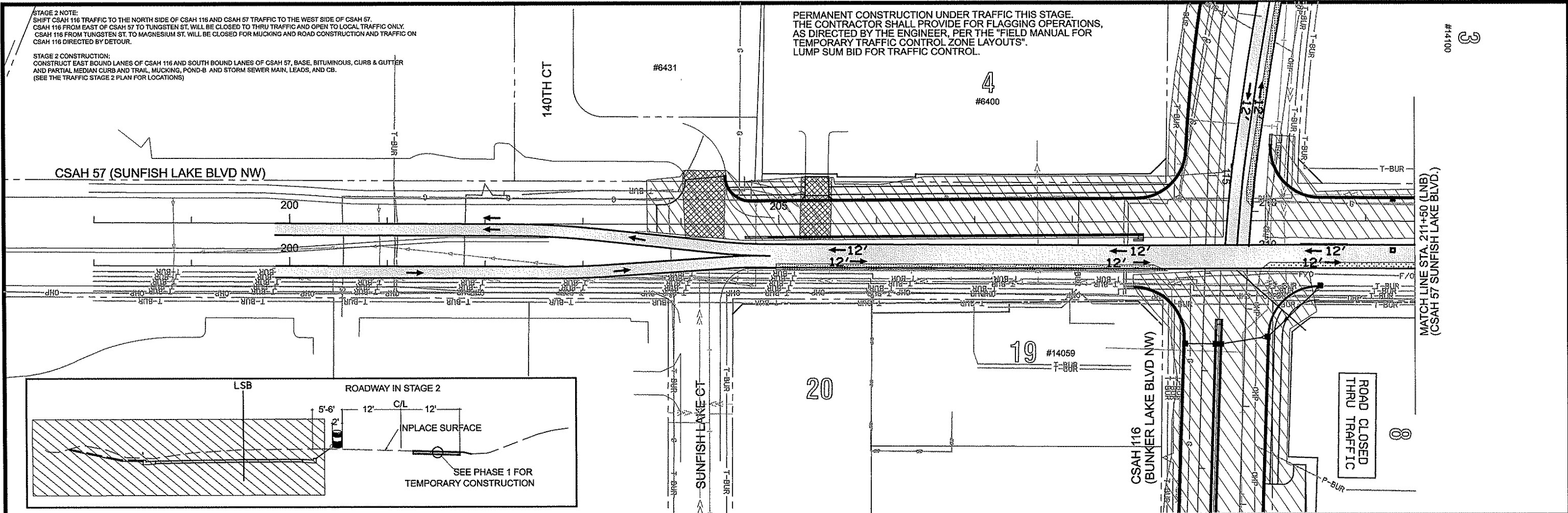
CONSTRUCTION STAGE 2  
 C.S.A.H. 116  
 STA 172+00.00 TO XX+XX.XX  
 Sheet 37 of 264 Sheets

STAGE 2 NOTE:  
 SHIFT CSAH 116 TRAFFIC TO THE NORTH SIDE OF CSAH 116 AND CSAH 57 TRAFFIC TO THE WEST SIDE OF CSAH 57.  
 CSAH 116 FROM EAST OF CSAH 57 TO TUNGSTEN ST. WILL BE CLOSED TO THRU TRAFFIC AND OPEN TO LOCAL TRAFFIC ONLY.  
 CSAH 116 FROM TUNGSTEN ST. TO MAGNESIUM ST. WILL BE CLOSED FOR MUCKING AND ROAD CONSTRUCTION AND TRAFFIC ON  
 CSAH 116 DIRECTED BY DETOUR.

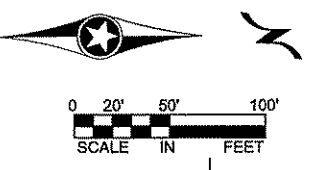
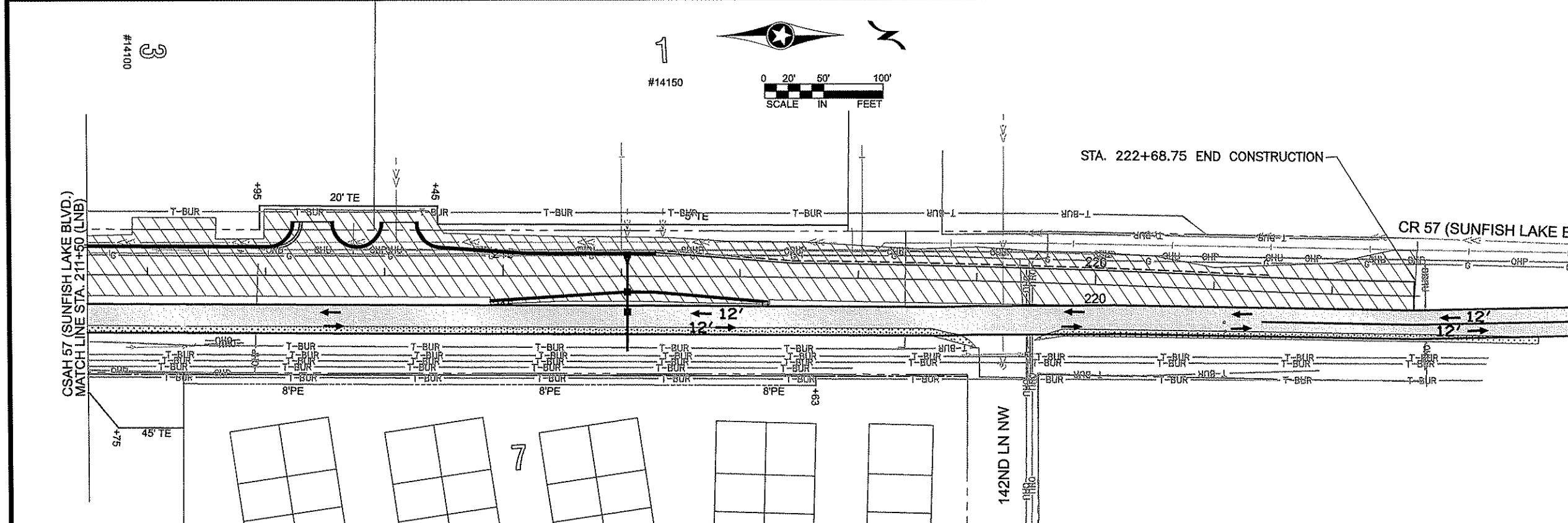
STAGE 2 CONSTRUCTION:  
 CONSTRUCT EAST BOUND LANES OF CSAH 116 AND SOUTH BOUND LANES OF CSAH 57, BASE, BITUMINOUS, CURB & GUTTER  
 AND PARTIAL MEDIAN CURB AND TRAIL, MUCKING, POND-B AND STORM SEWER MAIN, LEADS, AND CB.  
 (SEE THE TRAFFIC STAGE 2 PLAN FOR LOCATIONS)

PERMANENT CONSTRUCTION UNDER TRAFFIC THIS STAGE.  
 THE CONTRACTOR SHALL PROVIDE FOR FLAGGING OPERATIONS,  
 AS DIRECTED BY THE ENGINEER, PER THE "FIELD MANUAL FOR  
 TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".  
 LUMP SUM BID FOR TRAFFIC CONTROL.

#14100  
 3



LEGEND	
	CONSTRUCTION UNDER TRAFFIC
	TEMPORARY PAVEMENT
	CONSTRUCTION AREA
	CONSTRUCTION CONCRETE C&G
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN



7 OF 7

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG2\_7.dgn 02/24/2011 10:56:36 AM

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.

PRINT NAME: CURT KOBLARCSIK

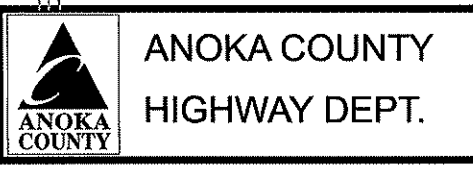
SIGNATURE: *Curt Koblarcsik*

DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/24/2011







DESIGN BY: MN DATE: 02/24/2011

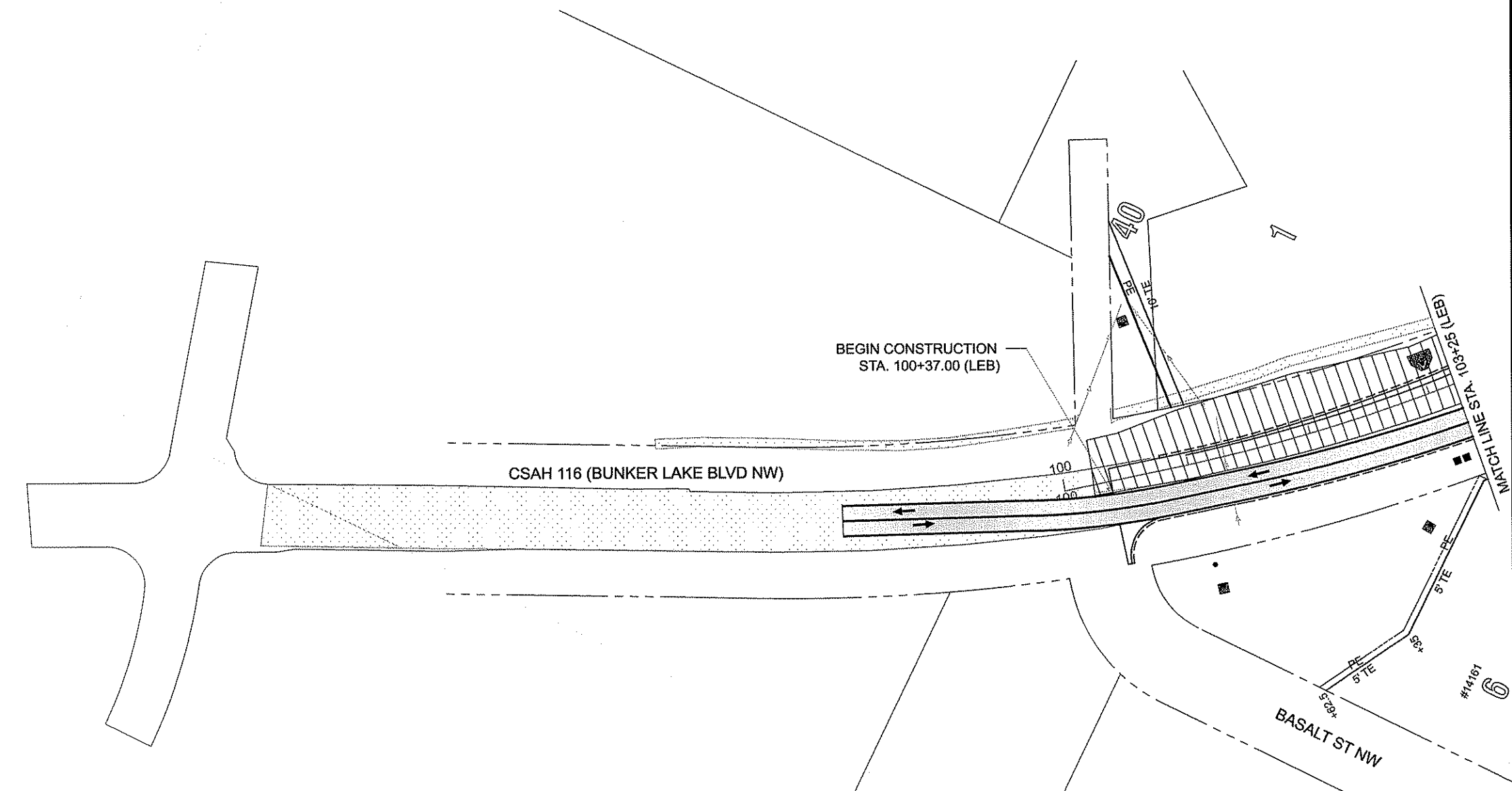
CHECKED BY: CAK DATE: 02/24/2011



S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION STAGE 2  
 C.S.A.H. 57  
 STA 198+00.00 TO 221+29.20  
 Sheet 38 of 264 Sheets

LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION UNDER TRAFFIC
	CONCRETE CURB & GUTTER
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN



STAGE 3 NOTE:  
 SHIFT CSAH 116/57 TRAFFIC ON TO NEWLY CONSTRUCTED EAST/SOUTH BOUND LANES OF CSAH 116/57.  
 MAINTAIN ONE LANE OF TRAFFIC EACH DIRECTION ON CSAH 116/57.

STAGE 3 CONSTRUCTION:  
 CONSTRUCT WEST/ NORTH BOUND LANES OF CSAH116/ 57, BASE, BITUMINOUS, CURB & GUTTER AND MEDIAN CURB,  
 BITUMINOUS TRAIL AND SOME STORM SEWER LEADS. (SEE THE TRAFFIC STAGE 3 PLAN FOR LOCATIONS)

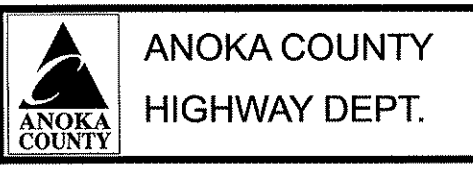
NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG3\_1.dgn      02/23/2011      9:27:43 AM

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.

PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 2-24-11      LICENSE NO.: 24756

DRAWN BY: BAV      DATE: 02/23/2011  
 DESIGN BY: MN      DATE: 02/23/2011  
 CHECKED BY: CAK      DATE: 02/23/2011

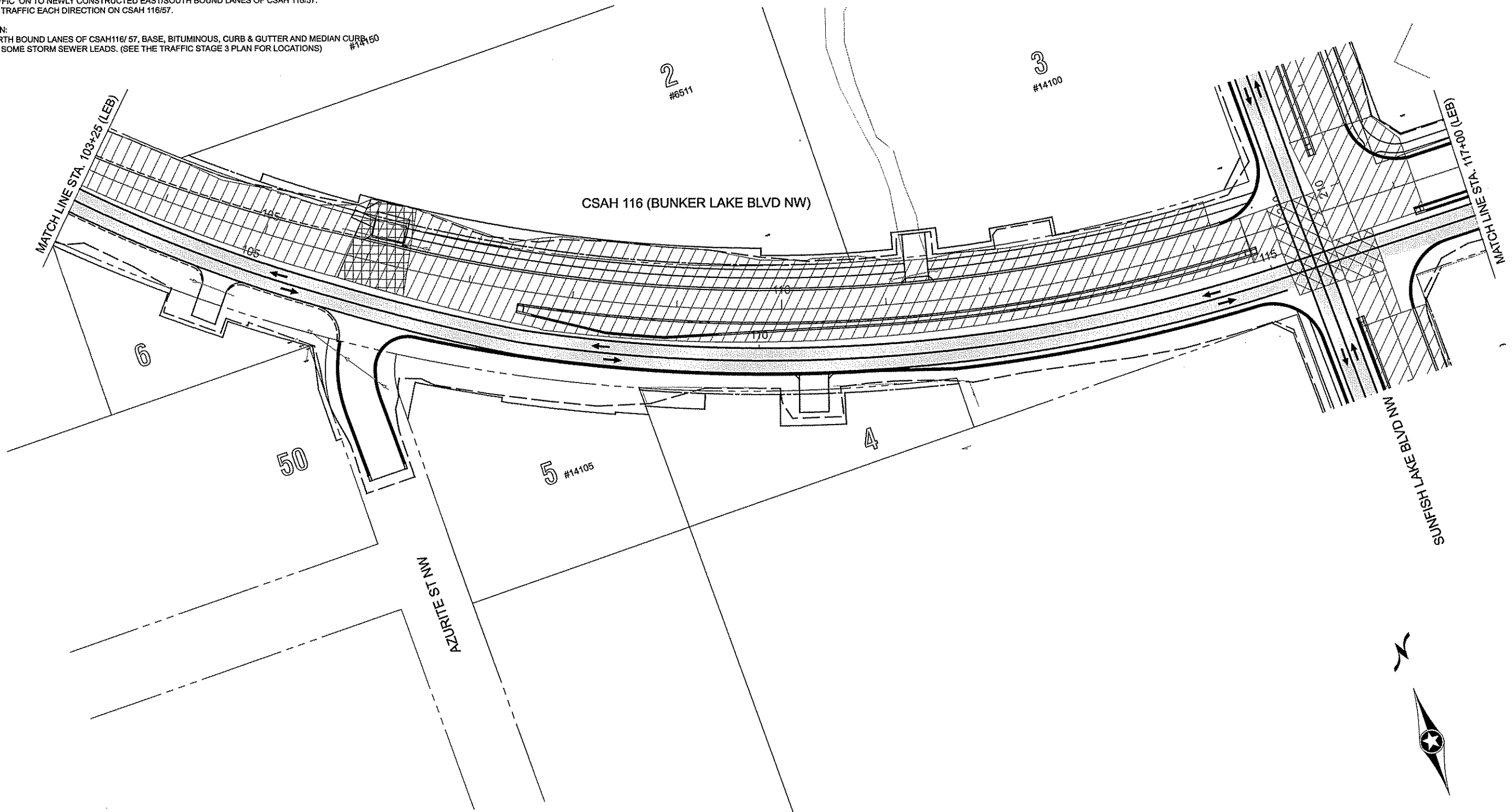


S.P. 002-716-011  
 S.P. 199-020-008

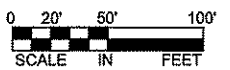
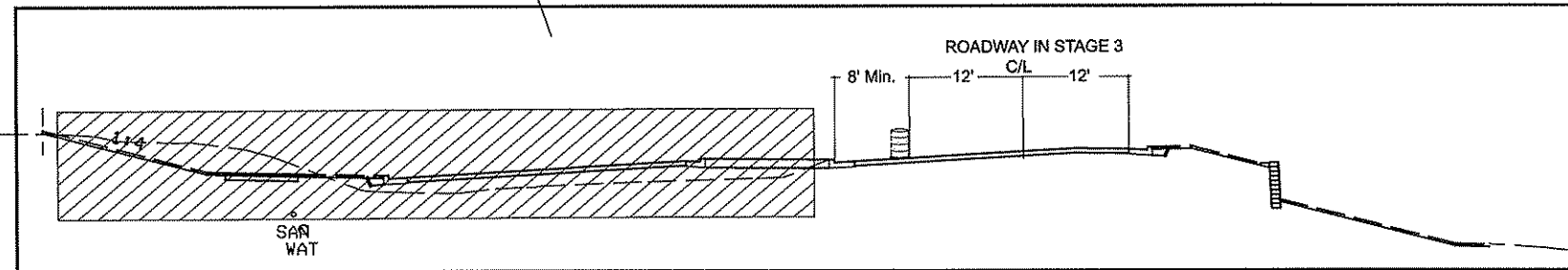
CONSTRUCTION STAGE 3  
 C.S.A.H.116  
 STA 100+00.00 TO 103+25.00  
 Sheet 39 of 264 Sheets

STAGE 3 NOTE:  
 SHIFT CSAH 116/57 TRAFFIC ON TO NEWLY CONSTRUCTED EAST/SOUTH BOUND LANES OF CSAH 116/57.  
 MAINTAIN ONE LANE OF TRAFFIC EACH DIRECTION ON CSAH 116/57.

STAGE 3 CONSTRUCTION:  
 CONSTRUCT WEST/NORTH BOUND LANES OF CSAH116/ 57, BASE, BITUMINOUS, CURB & GUTTER AND MEDIAN CURB AND  
 BITUMINOUS TRAIL AND SOME STORM SEWER LEADS. (SEE THE TRAFFIC STAGE 3 PLAN FOR LOCATIONS)



LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION UNDER TRAFFIC
	CONCRETE CURB & GUTTER
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN



2 OF 7

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG3\_2.dgn 02/24/2011 10:56:41 AM

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.

PRINT NAME: CURT KOSILARCSIK  
 SIGNATURE: *Curt Kosilarsik*  
 DATE: 2-24-11 LICENSE NO. 24758

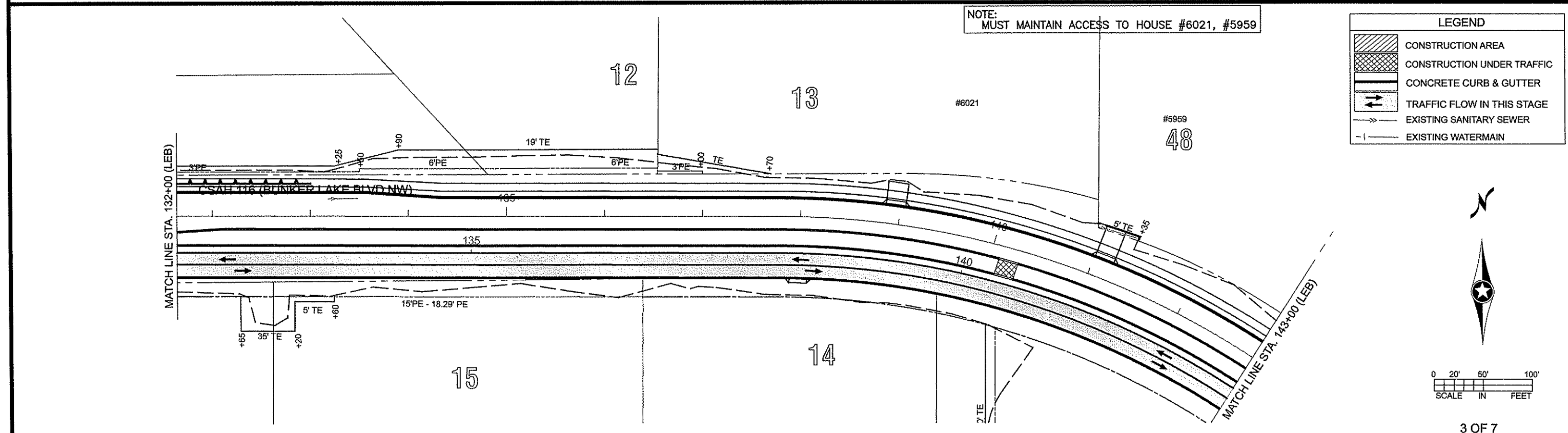
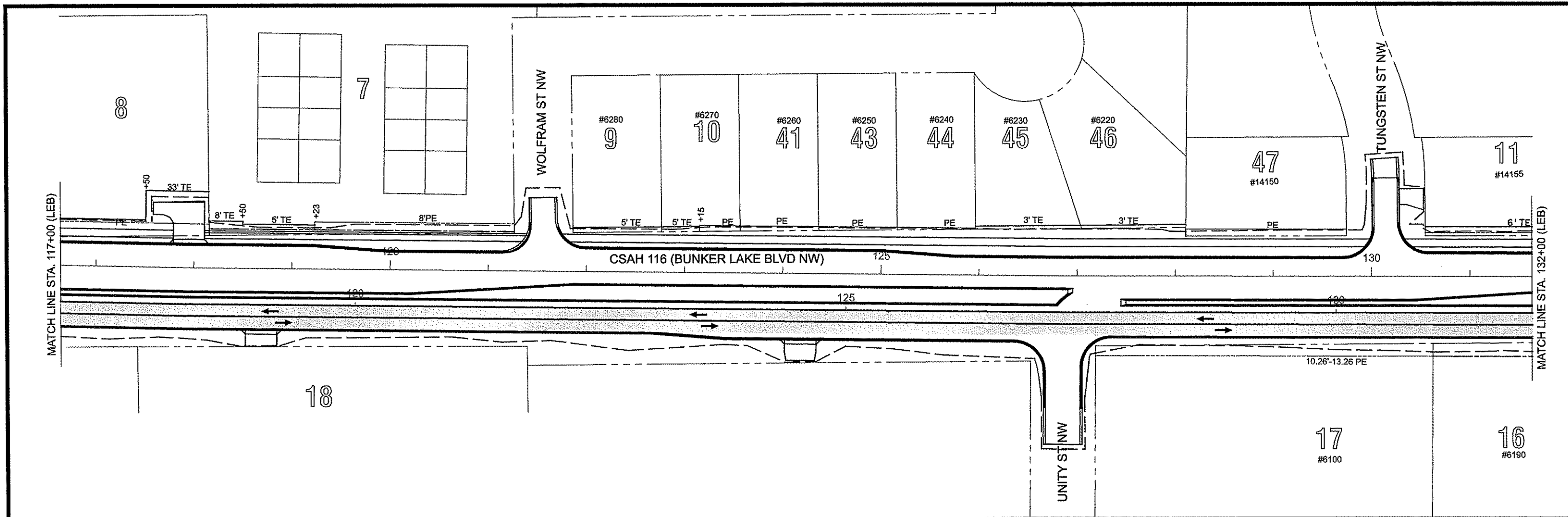
DRAWN BY: BAY DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011

ANOKA COUNTY  
 HIGHWAY DEPT.

S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION STAGE 3  
 C.S.A.H. 116  
 STA 103+25.00 TO 117+00.00  
 Sheet 40 of 264 Sheets

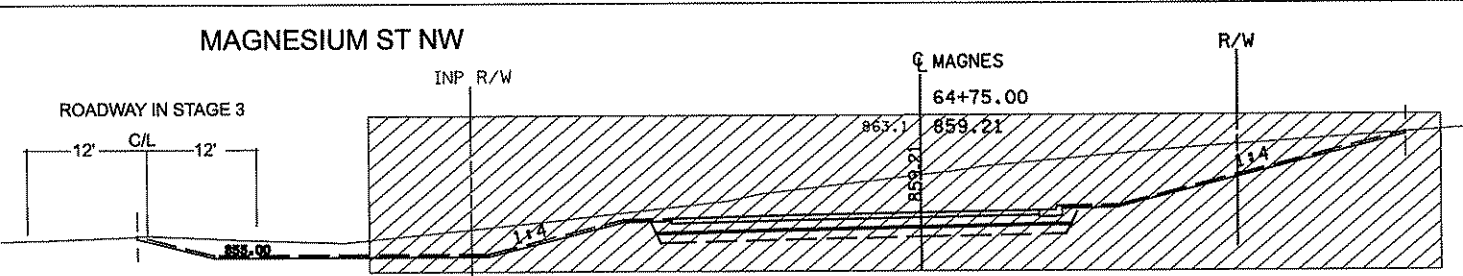
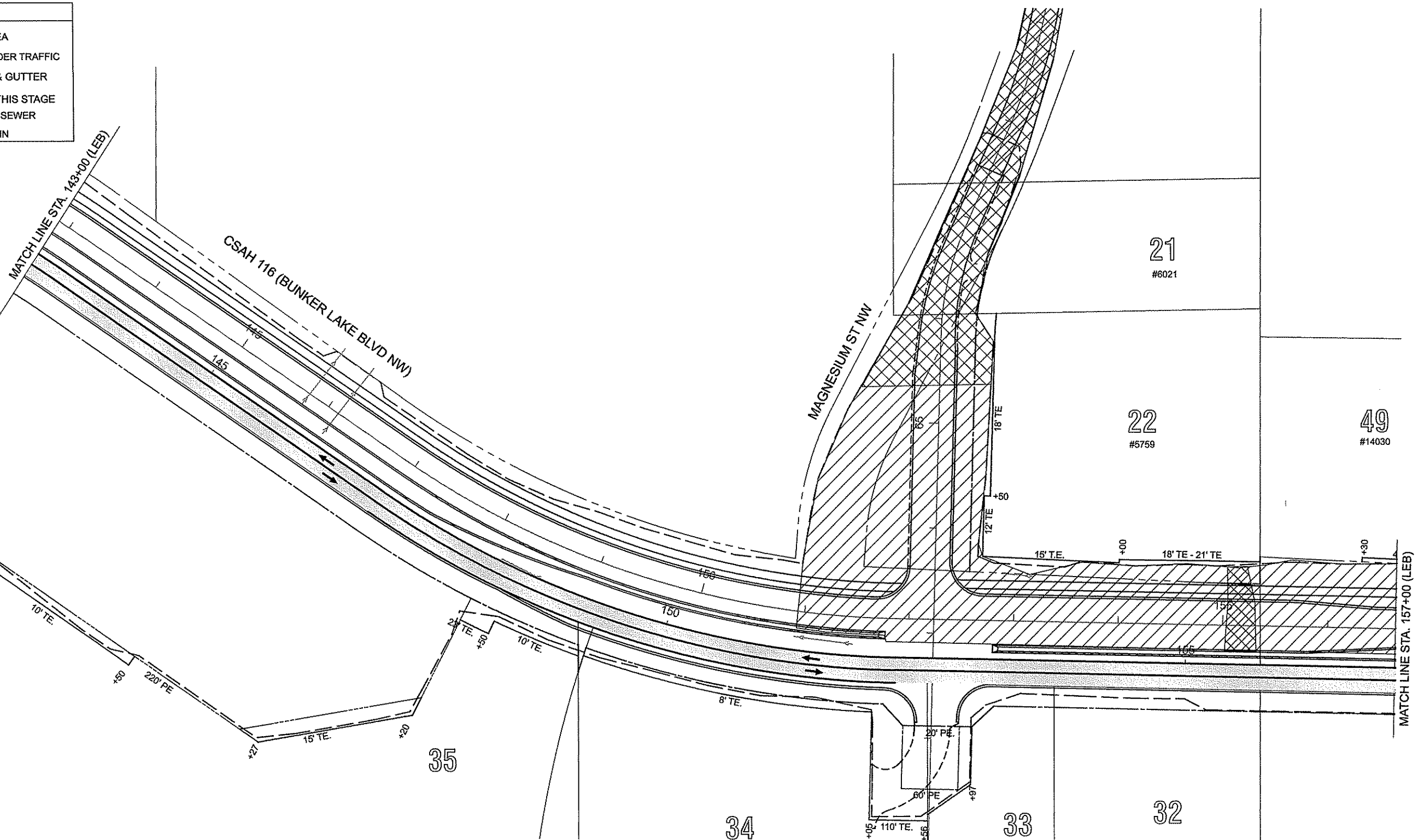
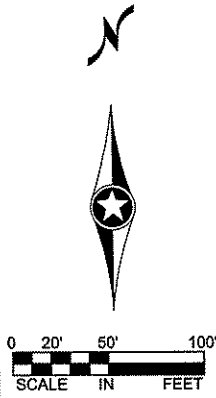




I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CURT KOBIARCSIK SIGNATURE: <i>Curt Kobilarcsik</i> DATE: 2-24-11 LICENSE NO. 24786					ANOKA COUNTY HIGHWAY DEPT.		S.P. 002-716-011 S.P. 199-020-008		CONSTRUCTION STAGE 3 C.S.A.H. 116 STA 117+00.00 TO 143+00.00 Sheet 41 of 264 Sheets	
NO	DATE	BY	CKD	APPR	REVISION					
					02/24/2011	10:56:45 AM				

NAME: p:102-716-11\plan\0271611\_STG3\_3.dgn

LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION UNDER TRAFFIC
	CONCRETE CURB & GUTTER
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN



4 OF 7

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_STG3_4.dgn					02/24/2011
					3:12:11 PM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011

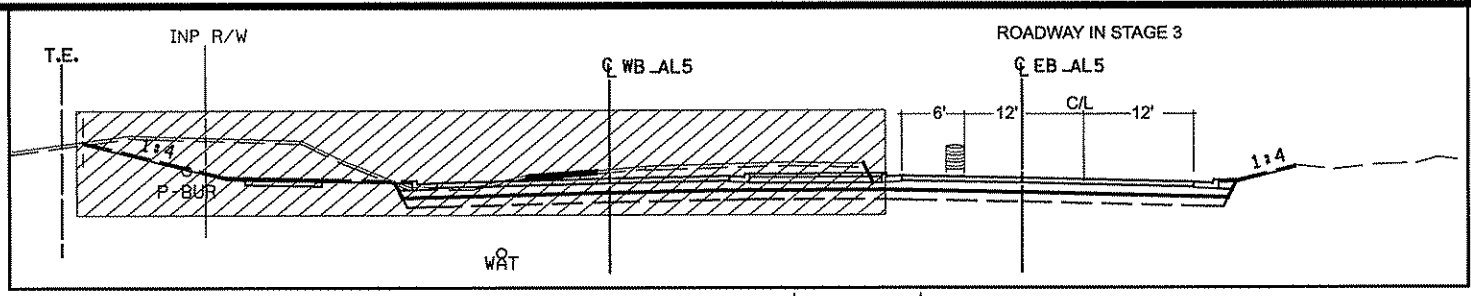


S.P. 002-716-011  
 S.P. 199-020-008

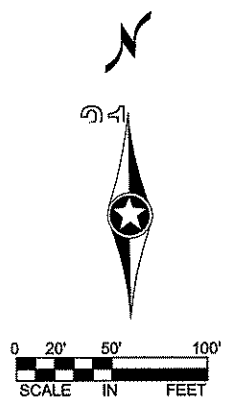
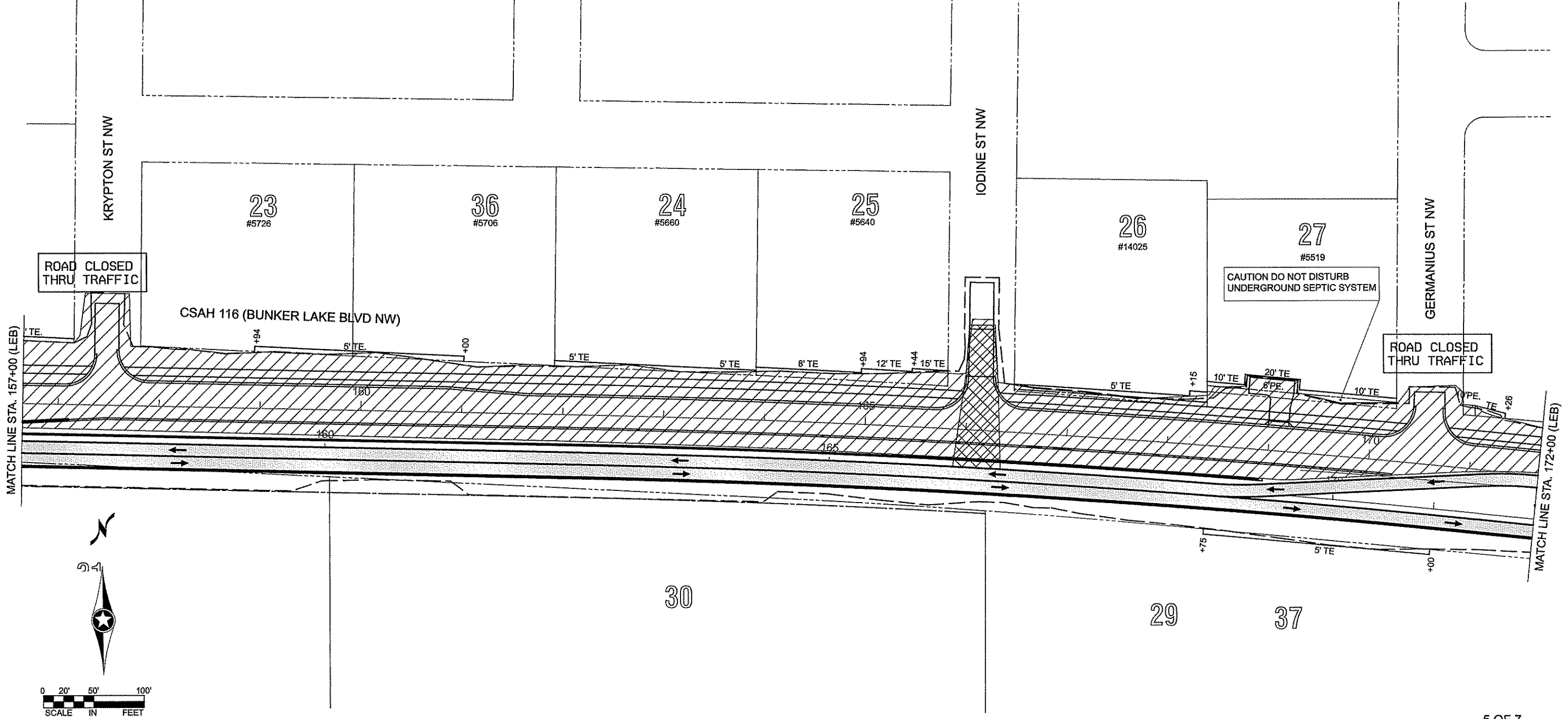
CONSTRUCTION STAGE 3  
 C.S.A.H. 116  
 STA 143+00.00 TO 157+00.00  
 Sheet 42 of 264 Sheets

STAGE 3 NOTE:  
 SHIFT CSAH 116/57 TRAFFIC ON TO NEWLY CONSTRUCTED EAST/SOUTH BOUND LANES OF CSAH 116/57.  
 MAINTAIN ONE LANE OF TRAFFIC EACH DIRECTION ON CSAH 116/57.

STAGE 3 CONSTRUCTION:  
 CONSTRUCT WEST/ NORTH BOUND LANES OF CSAH116/ 57, BASE, BITUMINOUS, CURB & GUTTER AND MEDIAN CURB,  
 BITUMINOUS TRAIL AND SOME STORM SEWER LEADS. (SEE THE TRAFFIC STAGE 3 PLAN FOR LOCATIONS)



LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION UNDER TRAFFIC
	CONCRETE CURB & GUTTER
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG3\_5.dgn      02/24/2011      10:56:50 AM

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.







PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 2-24-11      LICENSE NO. 24756

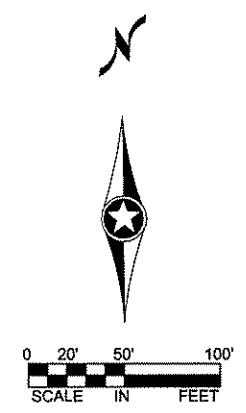
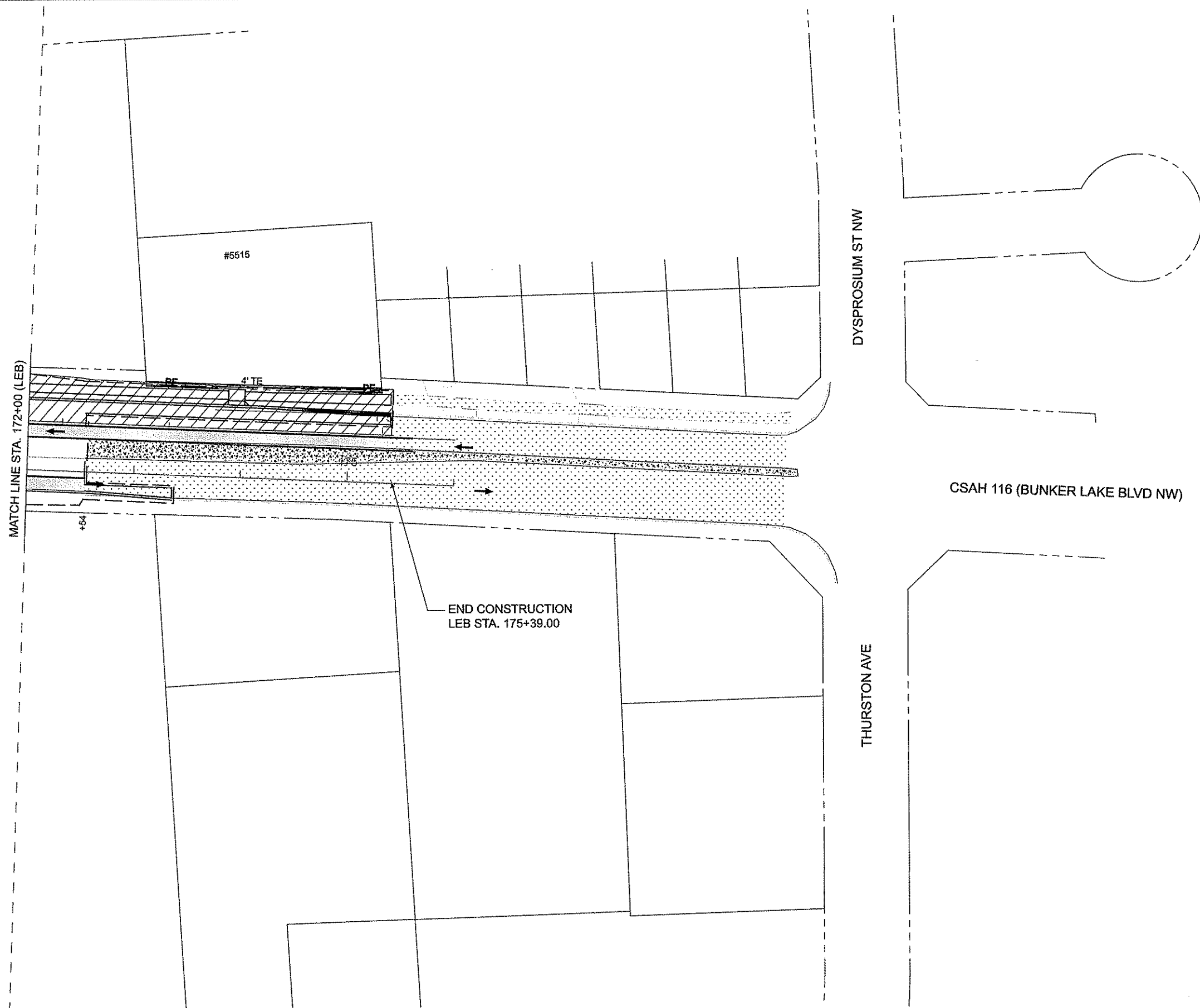
DRAWN BY: BAV      DATE: 02/24/2011  
 DESIGN BY: MN      DATE: 02/24/2011  
 CHECKED BY: CAK      DATE: 02/24/2011

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION STAGE 3  
 C.S.A.H. 116  
 STA 157+00.00 TO 172+00.00  
 Sheet 43 of 264 Sheets

LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION UNDER TRAFFIC
	CONCRETE CURB & GUTTER
	TRAFFIC FLOW IN THIS STAGE
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN



6 OF 7

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG3\_6.dgn      02/23/2011      9:28:12 AM

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.

PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarcsik*  
DATE: 2-24-11      LICENSE NO. 24756

DRAWN BY: BAY      DATE: 02/23/2011  
DESIGN BY: MN      DATE: 02/23/2011  
CHECKED BY: CAK      DATE: 02/23/2011

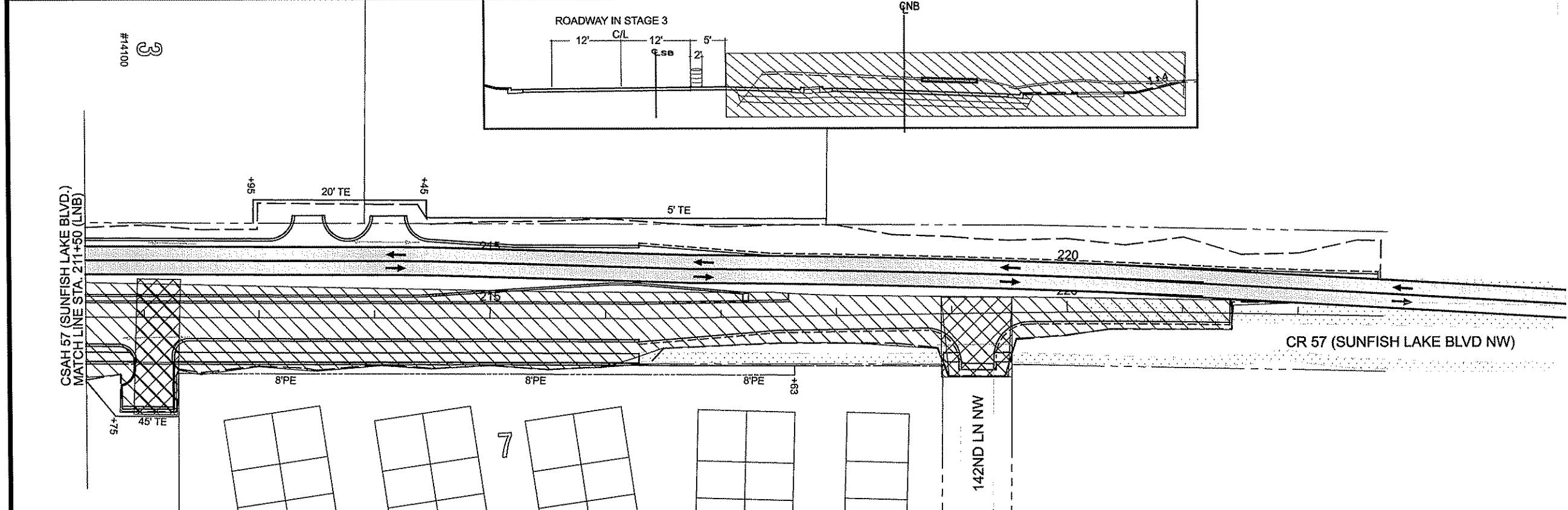
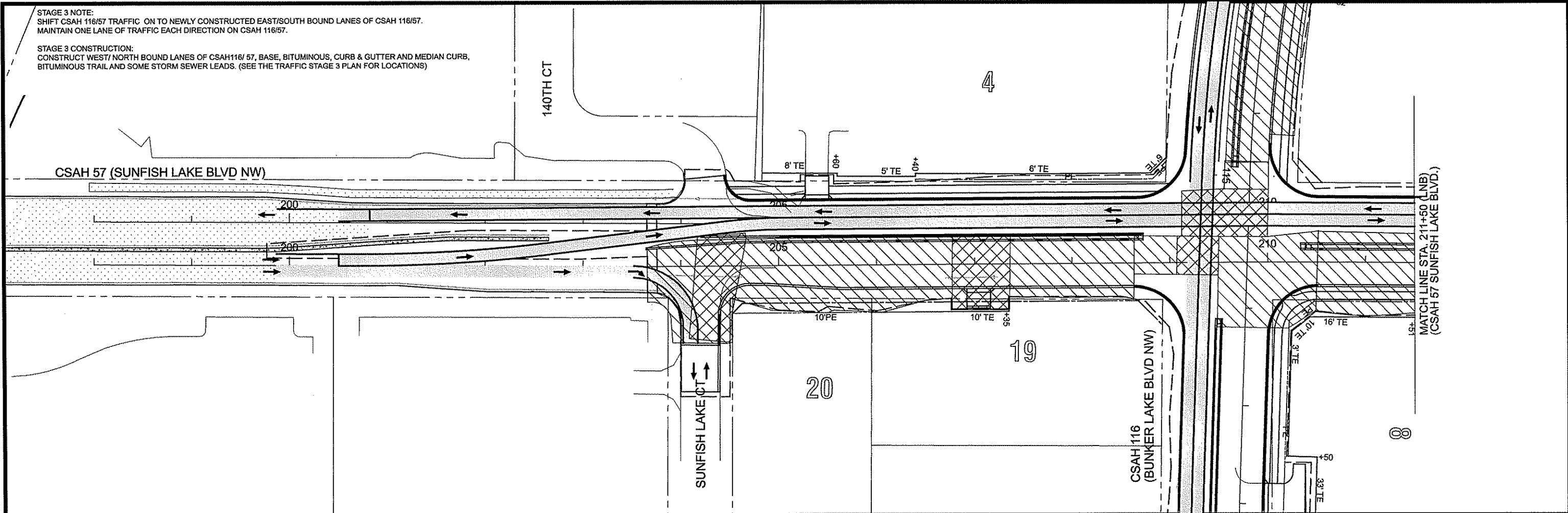


S.P. 002-716-011  
S.P. 199-020-008

CONSTRUCTION STAGE 3  
C.S.A.H. 116  
STA 172+00.00 TO 175+38.90  
Sheet 44 of 264 Sheets

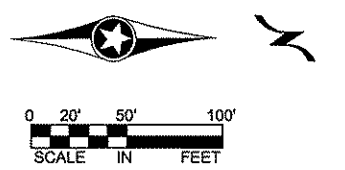
STAGE 3 NOTE:  
 SHIFT CSAH 116/57 TRAFFIC ON TO NEWLY CONSTRUCTED EAST/SOUTH BOUND LANES OF CSAH 116/57.  
 MAINTAIN ONE LANE OF TRAFFIC EACH DIRECTION ON CSAH 116/57.

STAGE 3 CONSTRUCTION:  
 CONSTRUCT WEST/ NORTH BOUND LANES OF CSAH116/ 57, BASE, BITUMINOUS, CURB & GUTTER AND MEDIAN CURB,  
 BITUMINOUS TRAILAND SOME STORM SEWER LEADS. (SEE THE TRAFFIC STAGE 3 PLAN FOR LOCATIONS)



**LEGEND**

- CONSTRUCTION AREA
- CONSTRUCTION UNDER TRAFFIC
- CONCRETE CURB & GUTTER
- TRAFFIC FLOW IN THIS STAGE
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN



7 OF 7

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG3\_7.dgn  
 02/24/2011 10:56:55 AM

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.




PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 2-24-11 LICENSE NO.: 24756

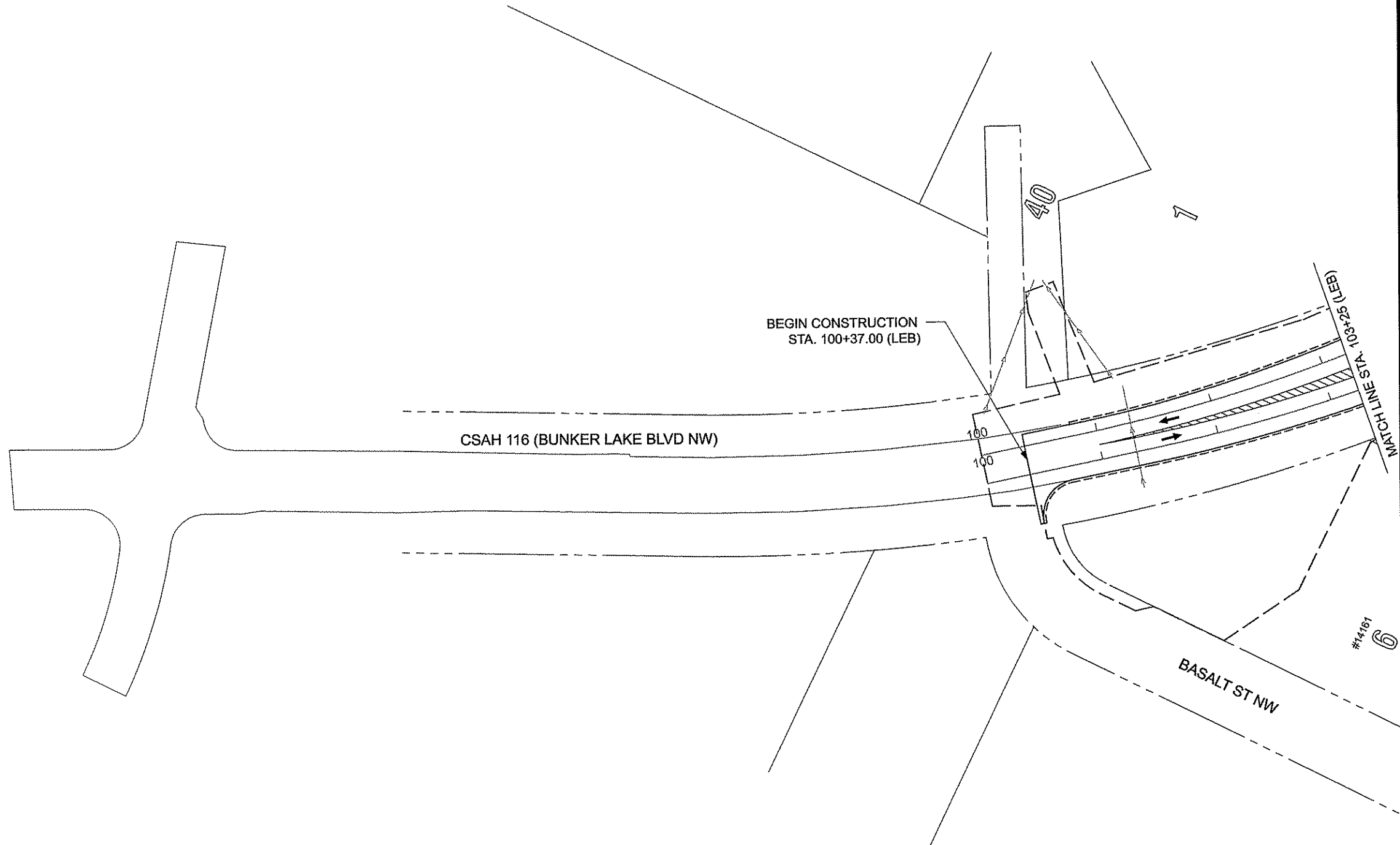
DRAWN BY: BAW DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION STAGE 3  
 C.S.A.H. 57  
 STA 198+00.00 TO 221+28.82  
 Sheet 45 of 264 Sheets

LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION CONCRETE C&G
	TRAFFIC FLOW IN THIS STAGE



STAGE 4 NOTE:  
 SHIFT CSAH 116 EAST TRAFFIC TO SOUTH AND WEST TRAFFIC TO THE NORTH SIDE OF THE CSAH 116 AND NORTH TRAFFIC TO EAST AND SOUTH TRAFFIC TO THE WEST SIDE OF THE CSAH 57.

STAGE 4 CONSTRUCTION:  
 CSAH 116 END OF PROJECT REMOVE TEMPORARY BIT SURFACE, CONSTRUCT CONC CURB AND GUTTER MEDIAN TO MATCH INPLACE MEDIAN. (CSAH 116 LEB STA. 162+48.00 TO ST. 172+53.70)  
 CSAH 57 BEGINNING OF PROJECT REMOVE OLD L.T.L. SURFACE, CONSTRUCT CONC CURB AND GUTTER MEDIAN TO MATCH INPLACE MEDIAN TO THE NEWLY CONSTRUCT MEDIAN. (CSAH 57 STA. 199+86.40 TO STA. 204+81.60)

NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_STG4_1.dgn					

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.

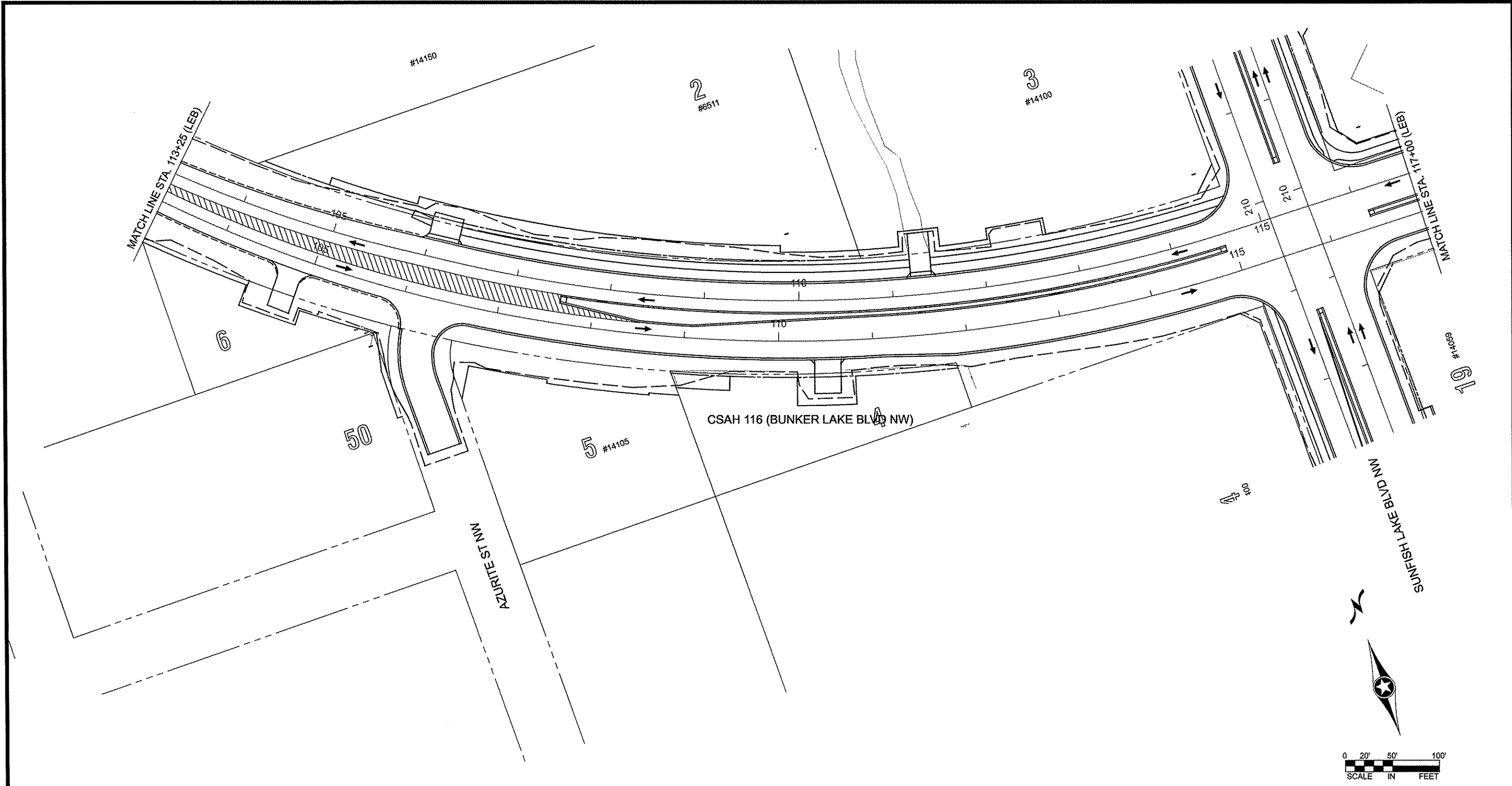
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION STAGE 4  
 C.S.A.H.116  
 STA 100+00.00 TO 103+25.00  
 Sheet 46 of 264 Sheets



LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION CONCRETE C&G
	TRAFFIC FLOW IN THIS STAGE

NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG4\_2.dgn      02/24/2011      10:56:59 AM

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.

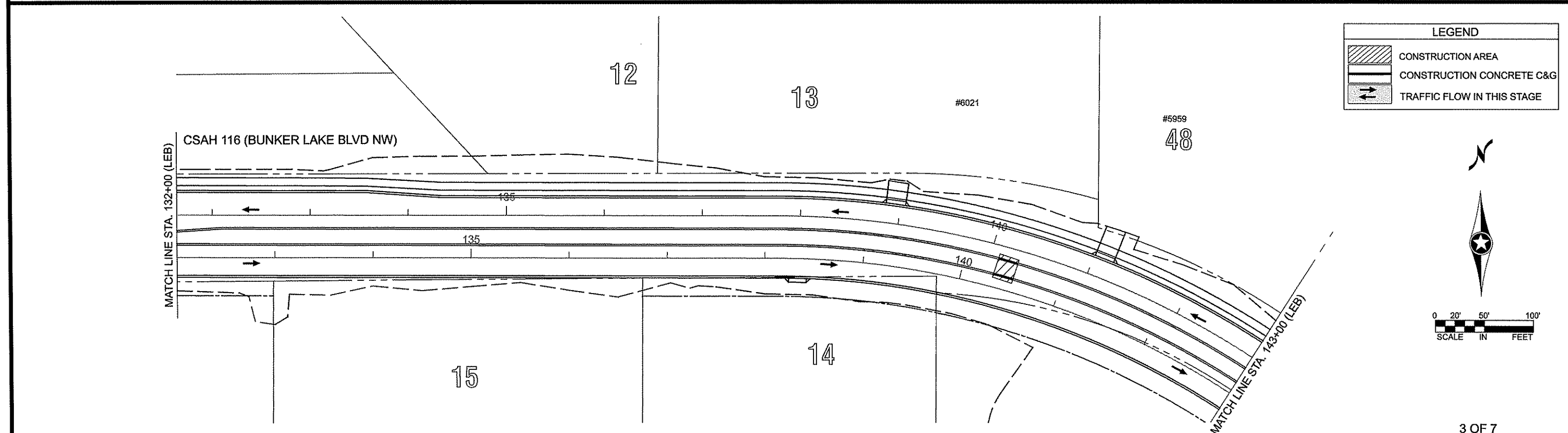
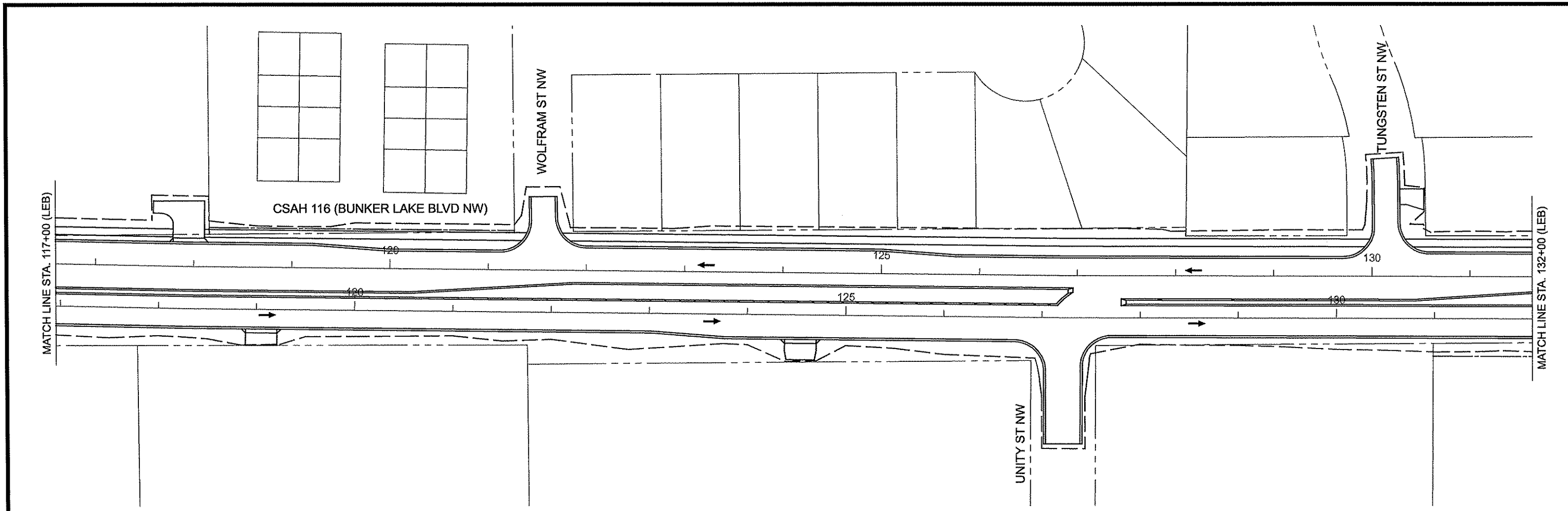
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE:   
 DATE: 2-24-11      LICENSE NO. 24756

DRAWN BY: BAV      DATE: 02/24/2011  
 DESIGN BY: MN      DATE: 02/24/2011  
 CHECKED BY: CAK      DATE: 02/24/2011






S.P. 002-716-011  
 S.P. 199-020-008



CONSTRUCTION STAGE 4  
 C.S.A.H. 116  
 STA 113+25.00 TO 117+00.00  
 Sheet 47 of 264 Sheets



**LEGEND**

-  CONSTRUCTION AREA
-  CONSTRUCTION CONCRETE C&G
-  TRAFFIC FLOW IN THIS STAGE

N

0 20' 50' 100'  
SCALE IN FEET

3 OF 7


NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_STG4_3.dgn					

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.

PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 LICENSE NO. 24766

DRAWN BY: BAY DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011




**ANOKA COUNTY**  
**HIGHWAY DEPT.**

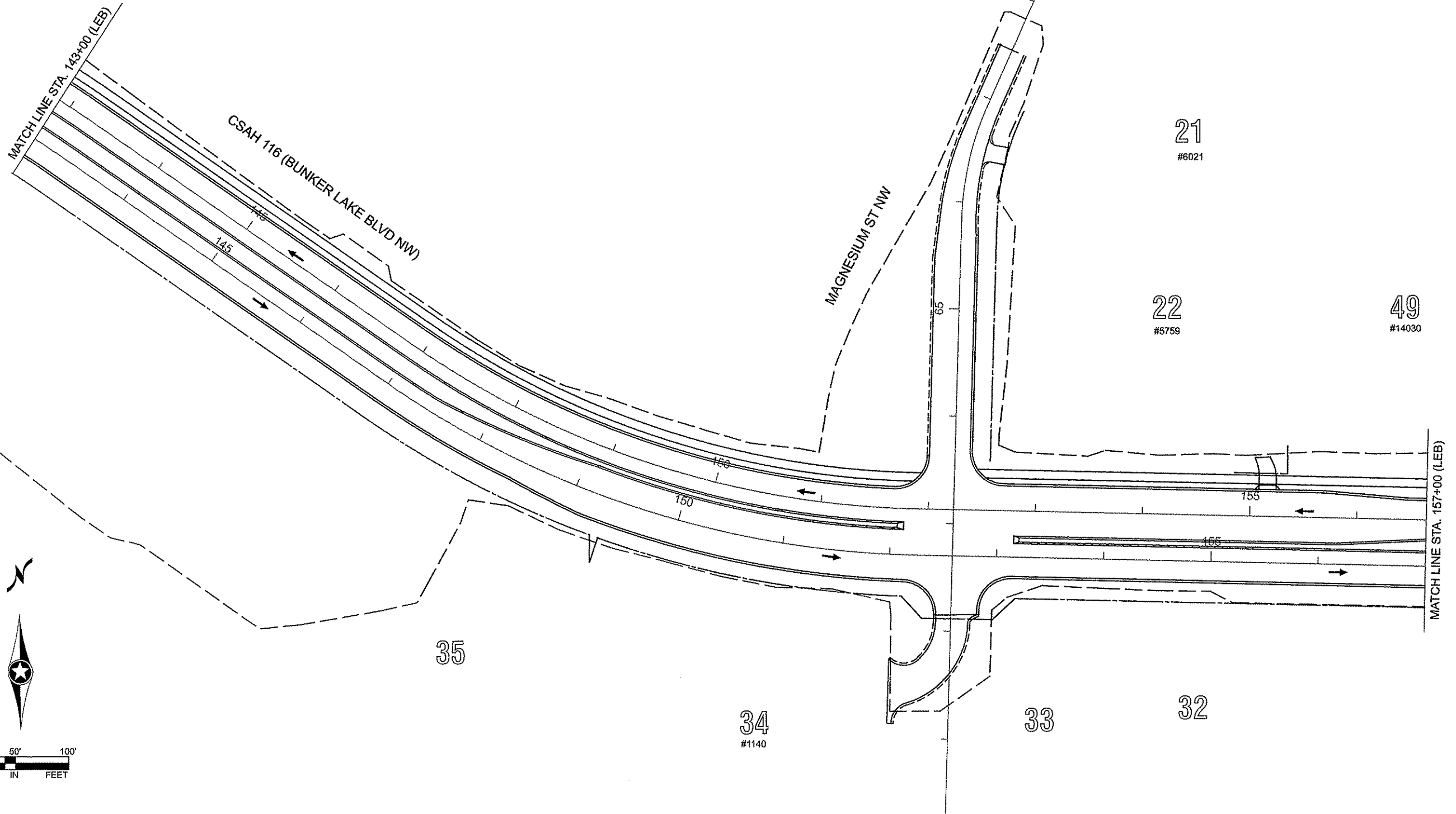


S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION STAGE 4  
 C.S.A.H. 116  
 STA 117+00.00 TO 143+00.00  
 Sheet 48 of 264 Sheets



LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION CONCRETE C&G
	TRAFFIC FLOW IN THIS STAGE



NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG4\_4.dgn      02/23/2011      9:28:34 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11      LICENSE NO. 24756

DRAWN BY: BAV      DATE: 02/23/2011  
 DESIGN BY: MN      DATE: 02/23/2011  
 CHECKED BY: CAK      DATE: 02/23/2011






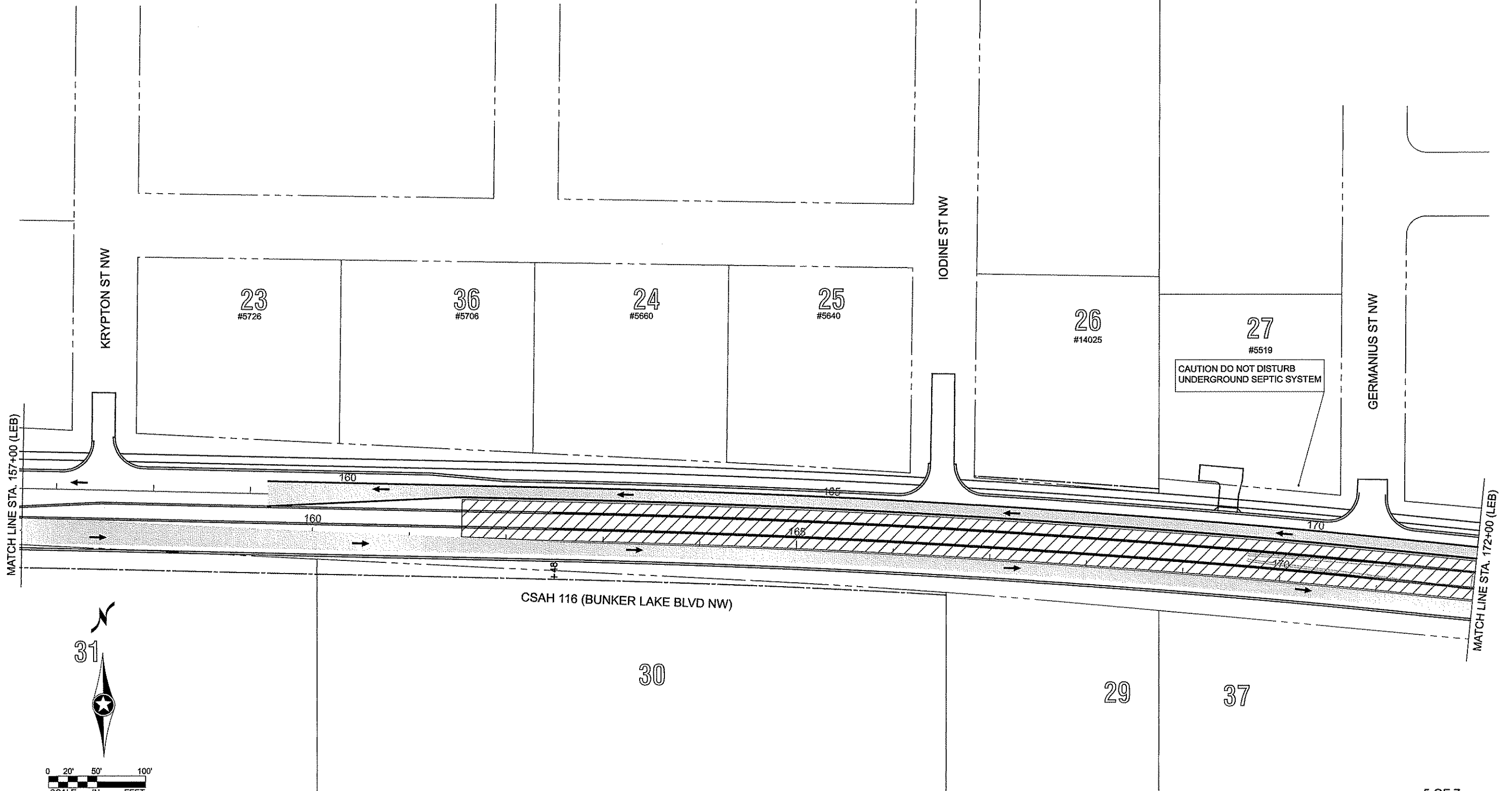
S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION STAGE 4  
 C.S.A.H. 116  
 STA 143+00.00 TO 157+00.00  
 Sheet 49 of 264 Sheets

STAGE 4 NOTE:  
 SHIFT CSAH 116 EAST TRAFFIC TO SOUTH AND WEST TRAFFIC TO THE NORTH SIDE OF THE CSAH 116 AND  
 NORTH TRAFFIC TO EAST AND SOUTH TRAFFIC TO THE WEST SIDE OF THE CSAH 57.

STAGE 4 CONSTRUCTION:  
 CSAH 116 END OF PROJECT REMOVE TEMPORARY BIT SURFACE, CONSTRUCT CONC CURB AND GUTTER  
 MEDIAN TO MATCH INPLACE MEDIAN. (CSAH 116 LEB STA. 162+48.00 TO ST. 172+53.70)  
 CSAH 57 BEGINING OF PROJECT REMOVE OLD L.T.L. SURFACE, CONSTRUCT CONC CURB AND GUTTER  
 MEDIAN TO MATCH INPLACE MEDIAN TO THE NEWLY CONSTRUCT MEDIAN. (CSAH 57 STA. 199+86.40 TO STA. 204+81.60)

LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION CONCRETE C&G
	TRAFFIC FLOW IN THIS STAGE



5 OF 7


NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG4\_5.dgn      02/24/2011      10:57:07 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11      LICENSE NO. 24756

DRAWN BY: BAV      DATE: 02/24/2011  
 DESIGN BY: MN      DATE: 02/24/2011  
 CHECKED BY: CAK      DATE: 02/24/2011






**ANOKA COUNTY**  
**HIGHWAY DEPT.**

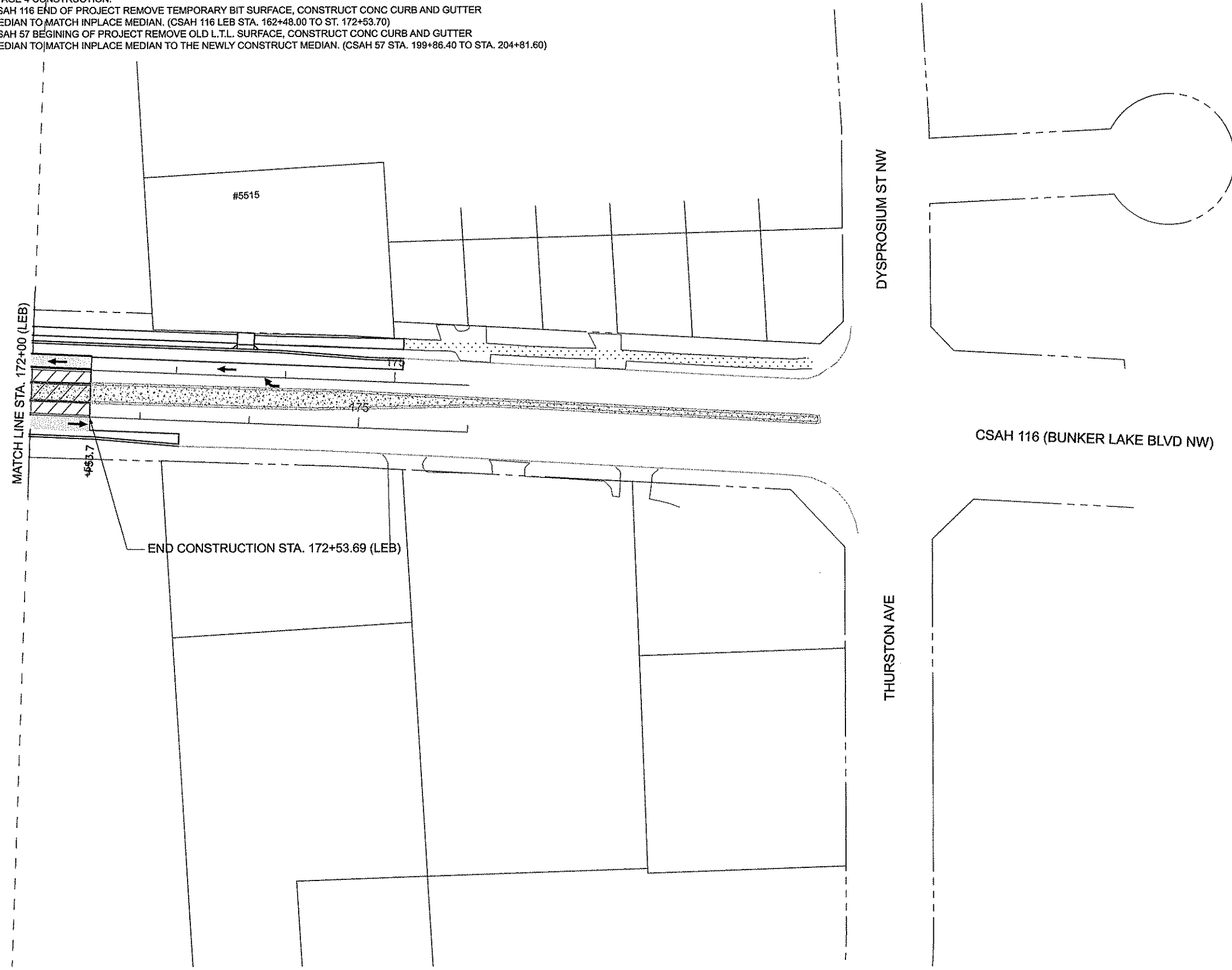
S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION STAGE 4  
 C.S.A.H. 116  
 STA 157+00.00 TO 172+00.00  
 Sheet 50 of 264 Sheets

STAGE 4 NOTE:  
 SHIFT CSAH 116 EAST TRAFFIC TO SOUTH AND WEST TRAFFIC TO THE NORTH SIDE OF THE CSAH 116 AND  
 NORTH TRAFFIC TO EAST AND SOUTH TRAFFIC TO THE WEST SIDE OF THE CSAH 57.

STAGE 4 CONSTRUCTION:  
 CSAH 116 END OF PROJECT REMOVE TEMPORARY BIT SURFACE, CONSTRUCT CONC CURB AND GUTTER  
 MEDIAN TO MATCH INPLACE MEDIAN. (CSAH 116 LEB STA. 162+48.00 TO ST. 172+53.70)  
 CSAH 57 BEGINING OF PROJECT REMOVE OLD L.T.L. SURFACE, CONSTRUCT CONC CURB AND GUTTER  
 MEDIAN TO MATCH INPLACE MEDIAN TO THE NEWLY CONSTRUCT MEDIAN. (CSAH 57 STA. 199+86.40 TO STA. 204+81.60)

LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION CONCRETE C&G
	TRAFFIC FLOW IN THIS STAGE



SCALE IN FEET


NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_STG4\_6.dgn      02/23/2011      9:28:43 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11      LICENSE NO. 24756

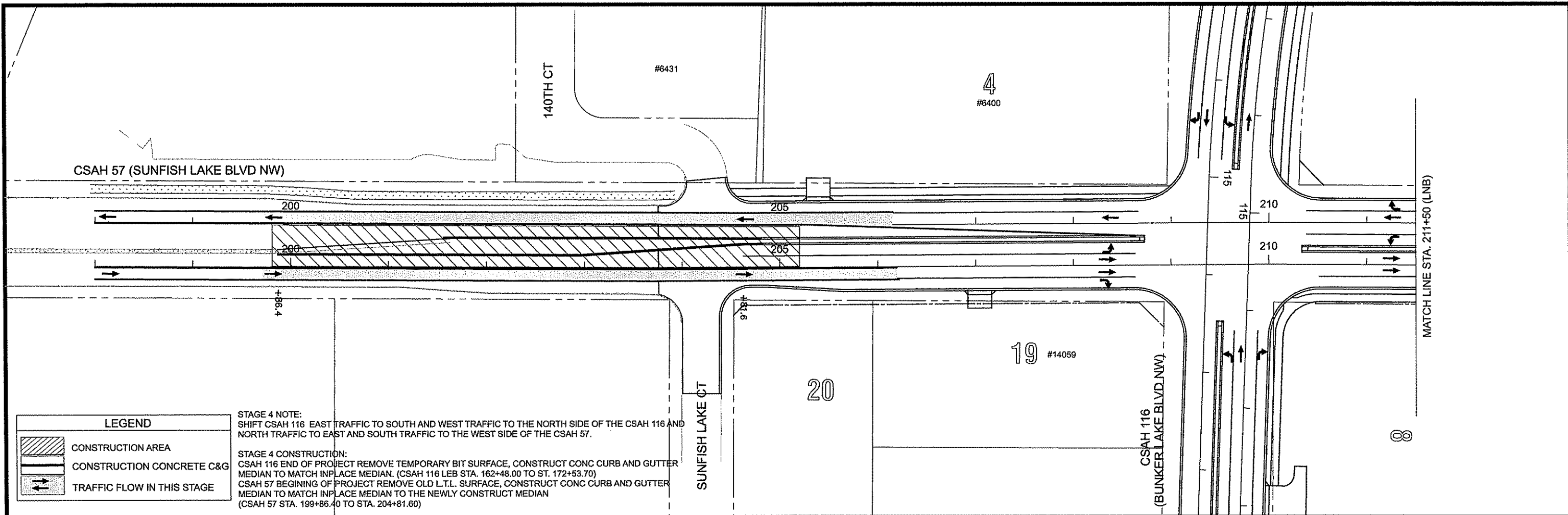
DRAWN BY: BAV      DATE: 02/23/2011  
 DESIGN BY: MN      DATE: 02/23/2011  
 CHECKED BY: CAK      DATE: 02/23/2011



**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

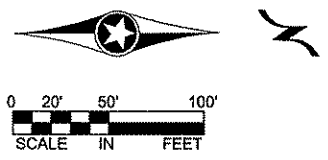
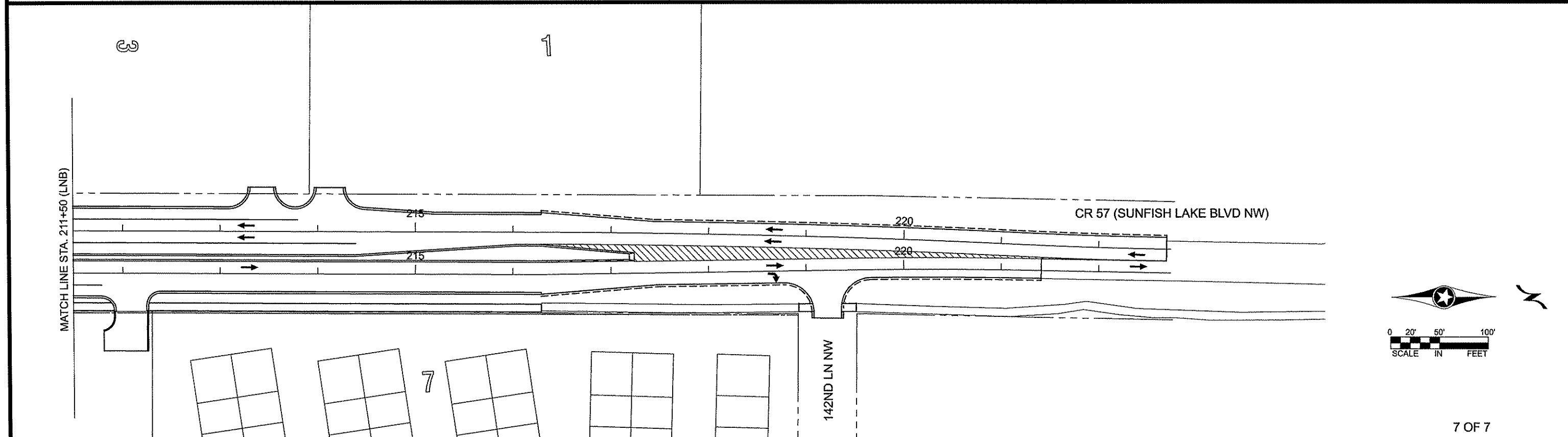
CONSTRUCTION STAGE 4  
 C.S.A.H. 116  
 STA 172+00.00 TO 175+38.90  
 Sheet 51 of 264 Sheets



LEGEND	
	CONSTRUCTION AREA
	CONSTRUCTION CONCRETE C&G
	TRAFFIC FLOW IN THIS STAGE

STAGE 4 NOTE:  
SHIFT CSAH 116 EAST TRAFFIC TO SOUTH AND WEST TRAFFIC TO THE NORTH SIDE OF THE CSAH 116 AND NORTH TRAFFIC TO EAST AND SOUTH TRAFFIC TO THE WEST SIDE OF THE CSAH 57.

STAGE 4 CONSTRUCTION:  
CSAH 116 END OF PROJECT REMOVE TEMPORARY BIT SURFACE, CONSTRUCT CONC CURB AND GUTTER MEDIAN TO MATCH INPLACE MEDIAN. (CSAH 116 LEB STA. 162+48.00 TO ST. 172+53.70)  
CSAH 57 BEGINNING OF PROJECT REMOVE OLD L.T.L. SURFACE, CONSTRUCT CONC CURB AND GUTTER MEDIAN TO MATCH INPLACE MEDIAN TO THE NEWLY CONSTRUCT MEDIAN (CSAH 57 STA. 199+86.40 TO STA. 204+81.60)



7 OF 7

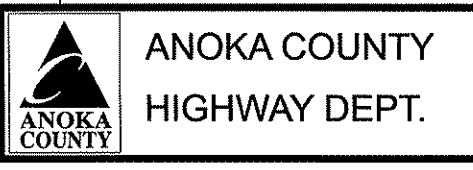
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

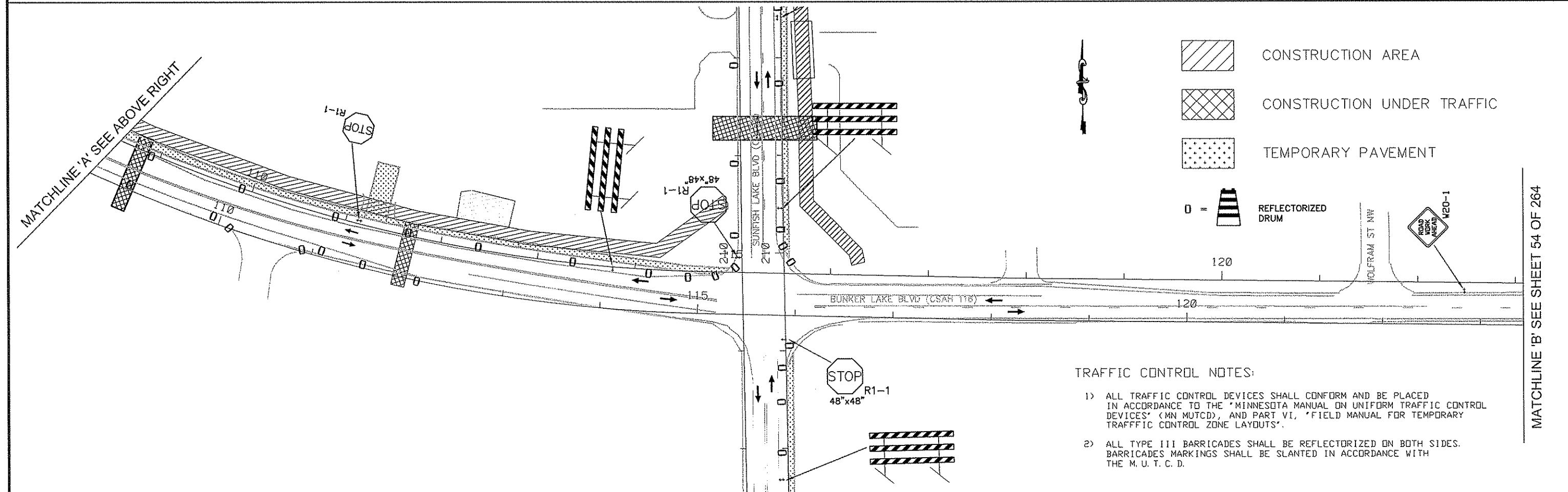
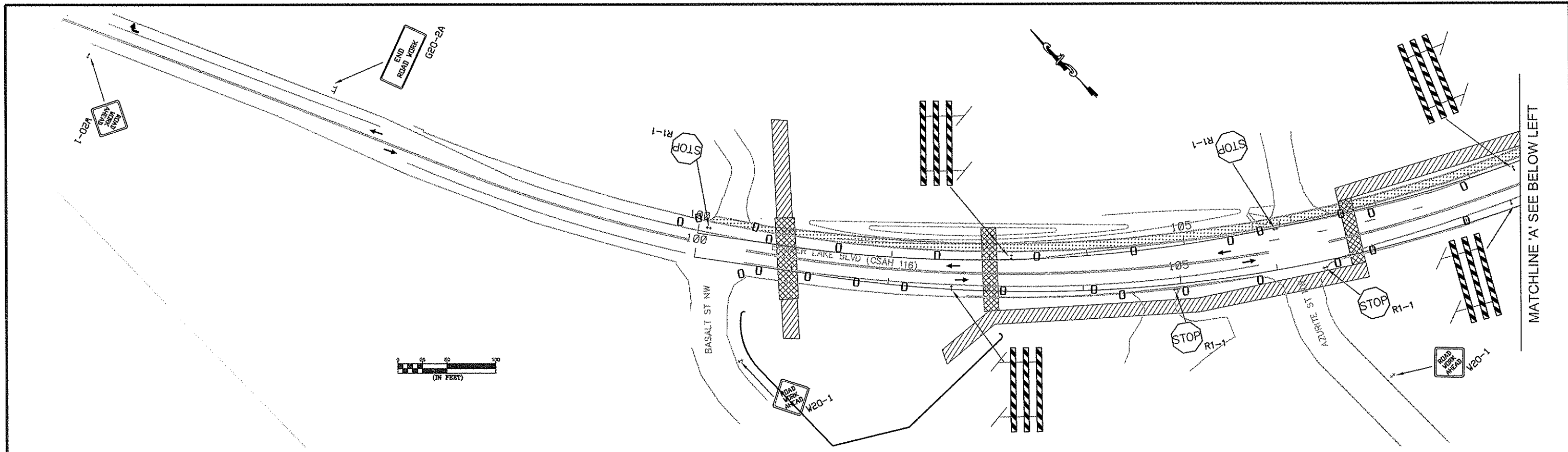
PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarcsik*  
DATE: 2.24.11      LICENSE NO. 24768

DRAWN BY: BAV      DATE: 02/24/2011  
DESIGN BY: MN      DATE: 02/24/2011  
CHECKED BY: CAK      DATE: 02/24/2011



S.P. 002-716-011  
S.P. 199-020-008

CONSTRUCTION STAGE 4  
C.S.A.H. 57  
STA 198+00.00 TO 221+28.82  
Sheet 52 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\Baset\TRAFFIC\0271611\_STG1\_sign&stripe.dwg, 02/23/2011 1:41:02 PM

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

PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE 12/10/10  
 DESIGN BY: S.T. DATE 12/10/10  
 CHECKED BY: J.R. DATE 12/15/10

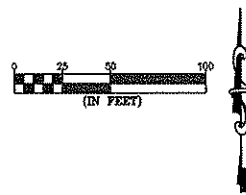




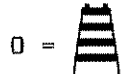
**ANOKA COUNTY  
HIGHWAY DEPT.**

S.P. 002-716-011  
S.P. 199-020-008

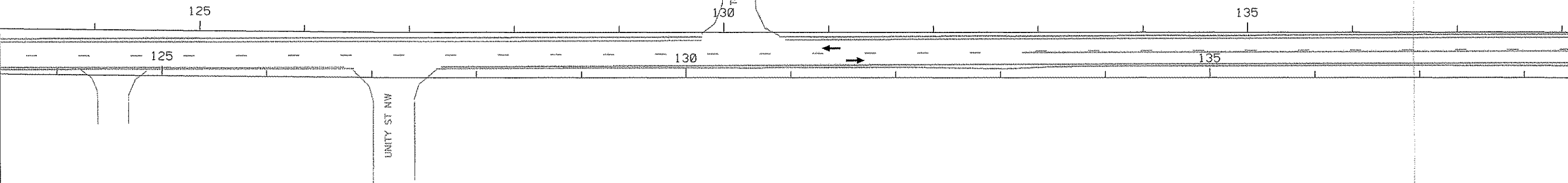
STAGE 1  
TRAFFIC CONTROL  
C.S.A.H. 116

Sheet 53 of 264 Sheets



-  CONSTRUCTION AREA
-  CONSTRUCTION UNDER TRAFFIC
-  TEMPORARY PAVEMENT
-  REFLECTORIZED DRUM

MATCHLINE 'B' SEE SHEET 53 OF 264

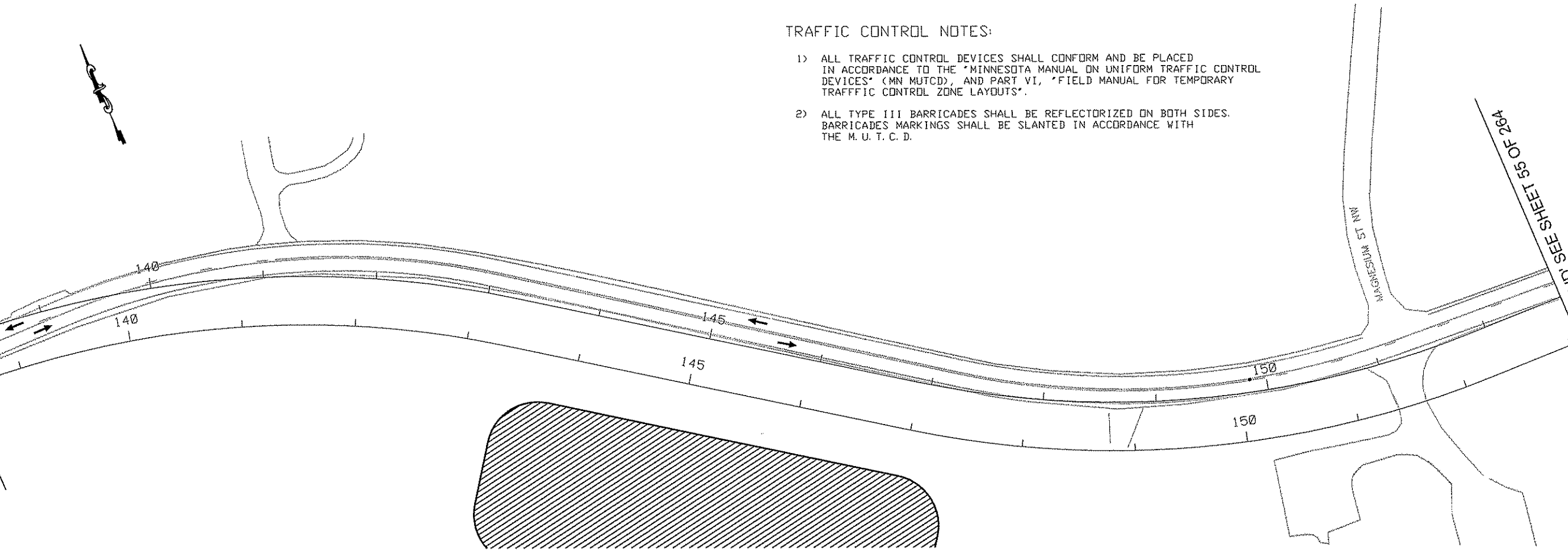


MATCHLINE 'C' SEE BELOW LEFT

TRAFFIC CONTROL NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.

MATCHLINE 'C' SEE ABOVE RIGHT



MATCHLINE 'D' SEE SHEET 55 OF 264

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\Baset\TRAFFIC\0271611\_STG1\_sign&stripe.dwg, 02/23/2011 1:41:09 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

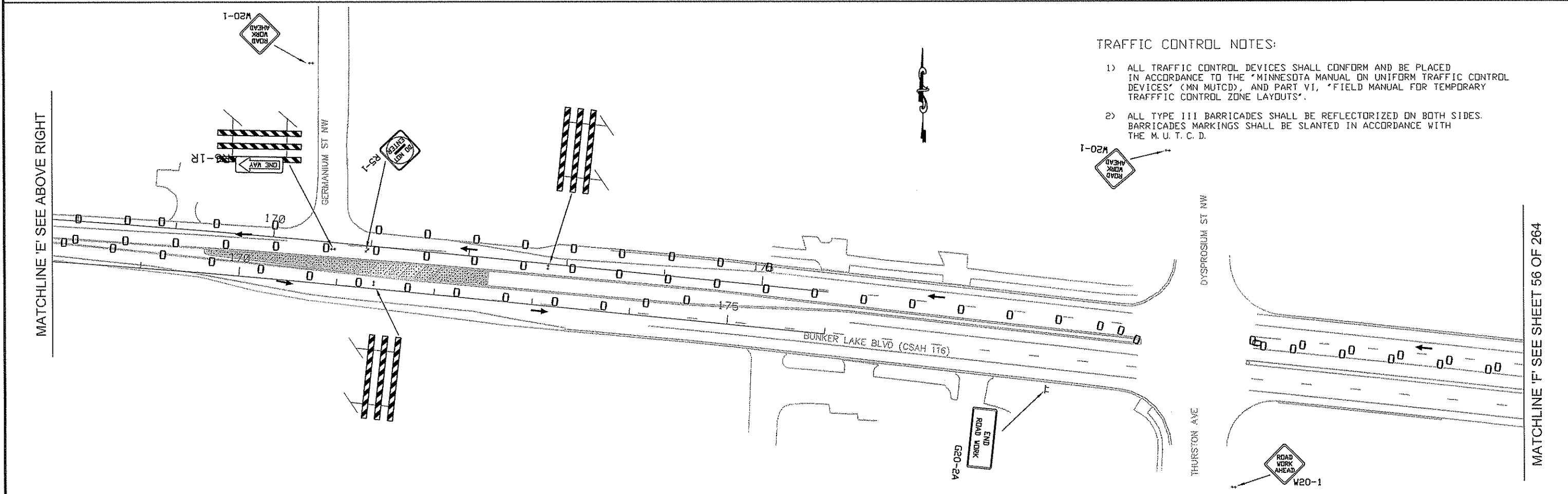
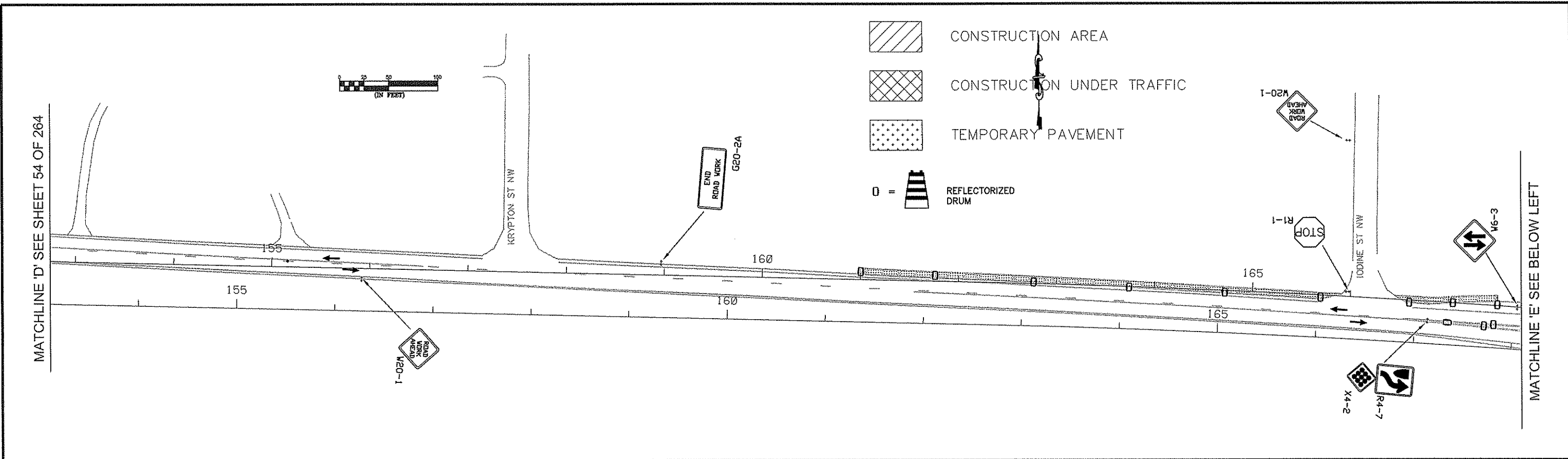
DRAWN BY: S.T. DATE 12/10/10  
 DESIGN BY: S.T. DATE 12/10/10  
 CHECKED BY: J.R. DATE 12/15/10



ANOKA COUNTY  
 HIGHWAY DEPT.

S.P. 002-716-011  
 S.P. 199-020-008

STAGE 1  
 TRAFFIC CONTROL  
 C.S.A.H. 116  
 Sheet 54 of 264 Sheets



- TRAFFIC CONTROL NOTES:
- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
  - 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.

NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\02-716-11\Baser\TRAFFIC\0271611_STG1_sign&stripe.dwg, 02/23/2011 1:41:14 PM					

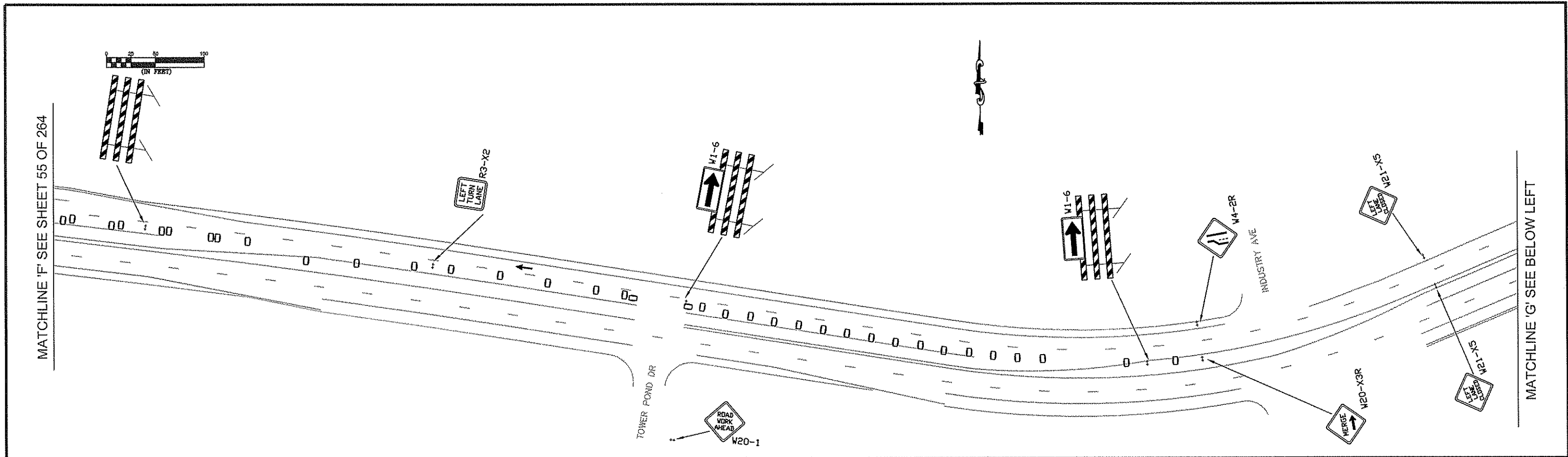
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE 12/10/10  
 DESIGN BY: S.T. DATE 12/10/10  
 CHECKED BY: J.R. DATE 12/15/10

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008



MATCHLINE 'G' SEE ABOVE RIGHT

MATCHLINE 'F' SEE SHEET 55 OF 264

CONSTRUCTION AREA

CONSTRUCTION UNDER TRAFFIC

TEMPORARY PAVEMENT

REFLECTORIZED DRUM

TRAFFIC CONTROL NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.

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 REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT A. KOBILARCSIK

SIGNATURE: *Curt Kobilarcsik*

DATE: 2-24-11 REG. NO. 24756

ANOKA COUNTY  
HIGHWAY DEPT.

DRAWN BY: S.T. DATE 12/10/10

DESIGN BY: S.T. DATE 12/10/10

CHECKED BY: J.R. DATE 12/15/10

S.P. 002-716-011  
S.P. 199-020-008

STAGE 1  
TRAFFIC CONTROL  
C.S.A.H. 116

Sheet 56 of 264 Sheets

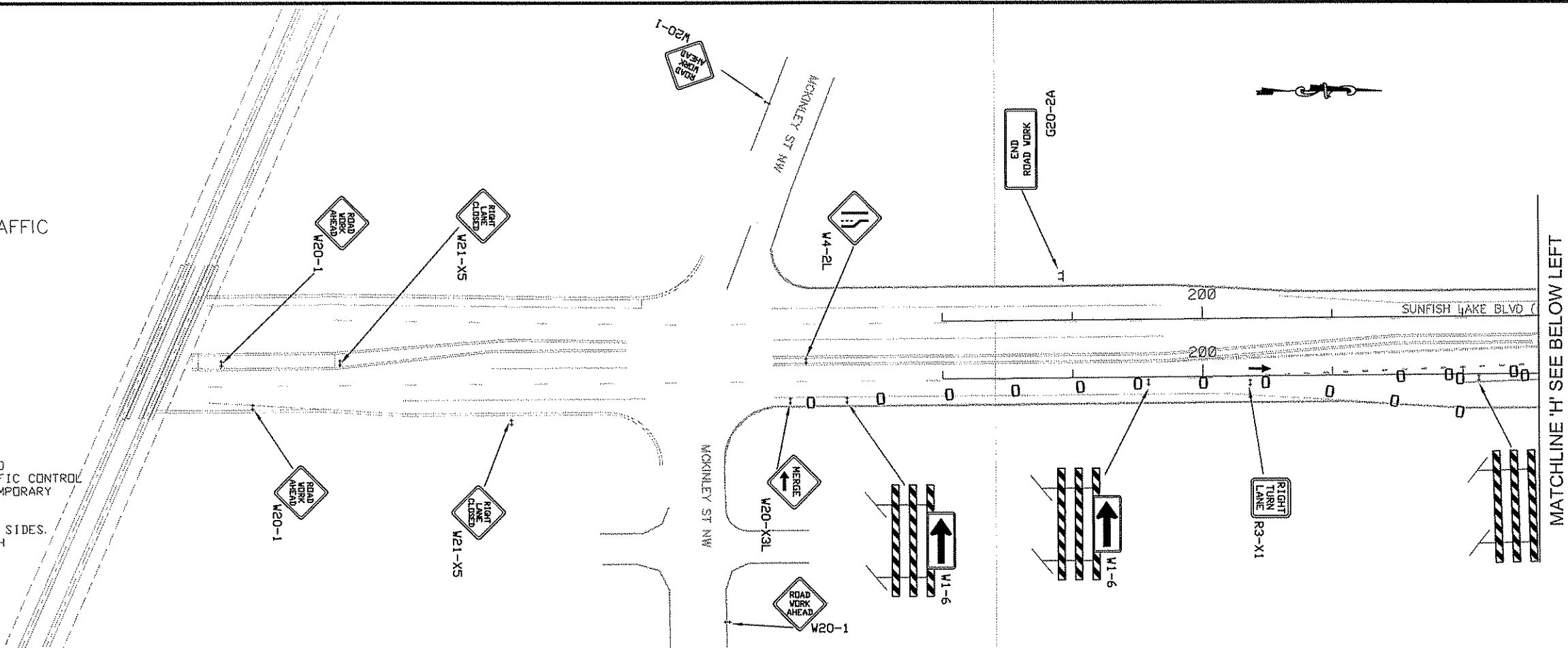




-  CONSTRUCTION AREA
-  CONSTRUCTION UNDER TRAFFIC
-  TEMPORARY PAVEMENT
-  REFLECTORIZED DRUM

**TRAFFIC CONTROL NOTES:**

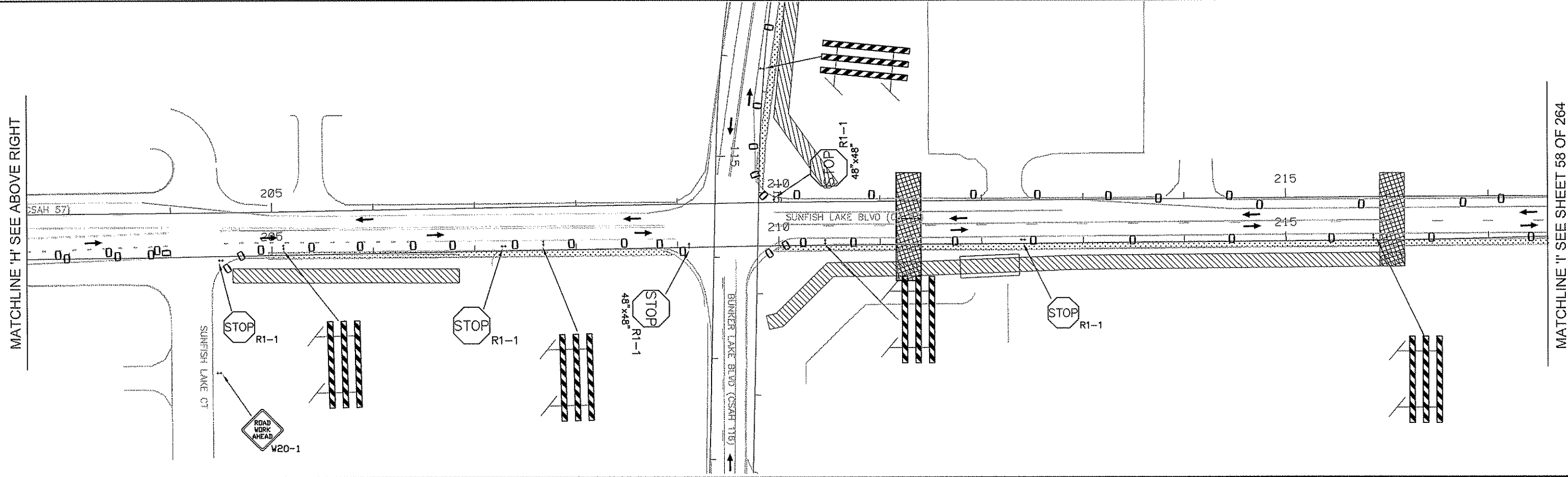
- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE 'MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MN MUTCD), AND PART VI, 'FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS'.
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.



MATCHLINE 'H' SEE BELOW LEFT

MATCHLINE 'H' SEE ABOVE RIGHT

MATCHLINE 'I' SEE SHEET 58 OF 264



NO	DATE	BY	CKD	APPR	REVISION


NAME: P:\02-716-11\Baseline\TRAFFIC\0271611\_STG1\_sign&stripe.dwg, 02/23/2011 1:41:24 PM

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

PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE 12/10/10  
 DESIGN BY: S.T. DATE 12/10/10  
 CHECKED BY: J.R. DATE 12/15/10

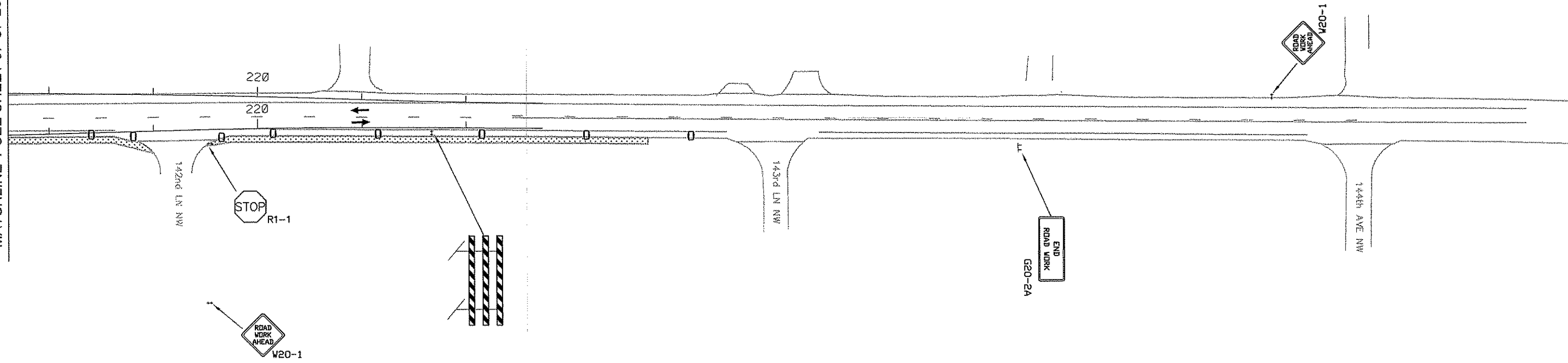
**ANOKA COUNTY**  
**HIGHWAY DEPT.**

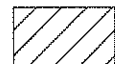





S.P. 002-716-011  
 S.P. 199-020-008



MATCHLINE "I" SEE SHEET 57 OF 264



-  CONSTRUCTION AREA
-  CONSTRUCTION UNDER TRAFFIC
-  TEMPORARY PAVEMENT
-  REFLECTORIZED DRUM

TRAFFIC CONTROL NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.

NO	DATE	BY	CHKD	APPR	REVISION


NAME: P:\02-716-11\Baset\TRAFFIC\0271611\_STG1\_sign&stripe.dwg, 02/23/2011 1:41:28 PM

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

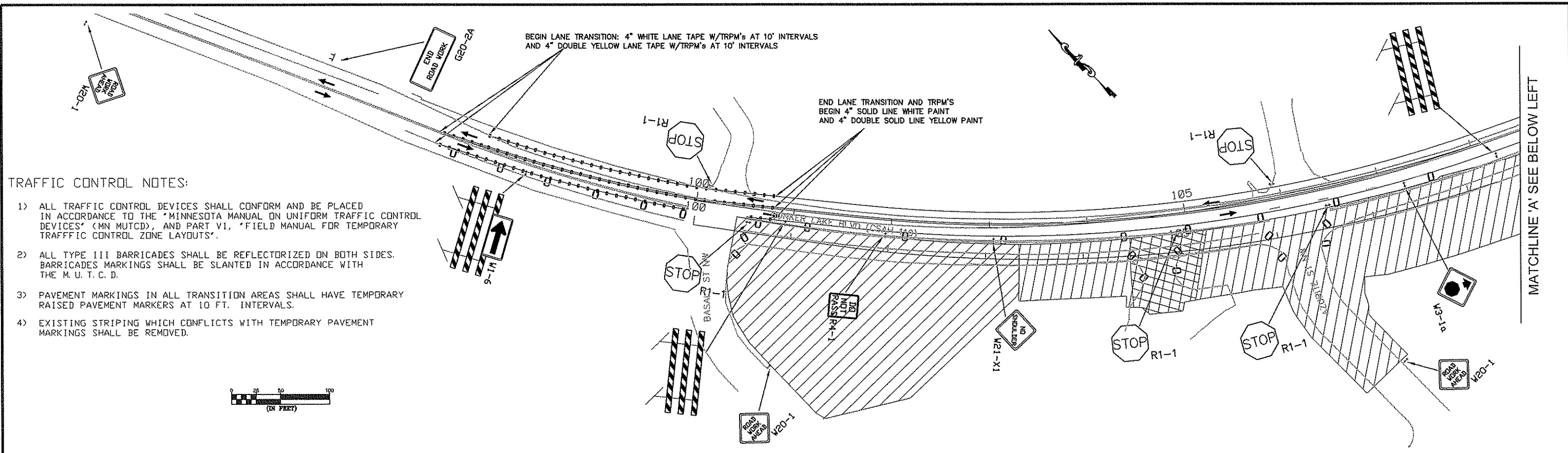
PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.I. DATE 12/10/10  
 DESIGN BY: S.I. DATE 12/10/10  
 CHECKED BY: J.R. DATE 12/15/10

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

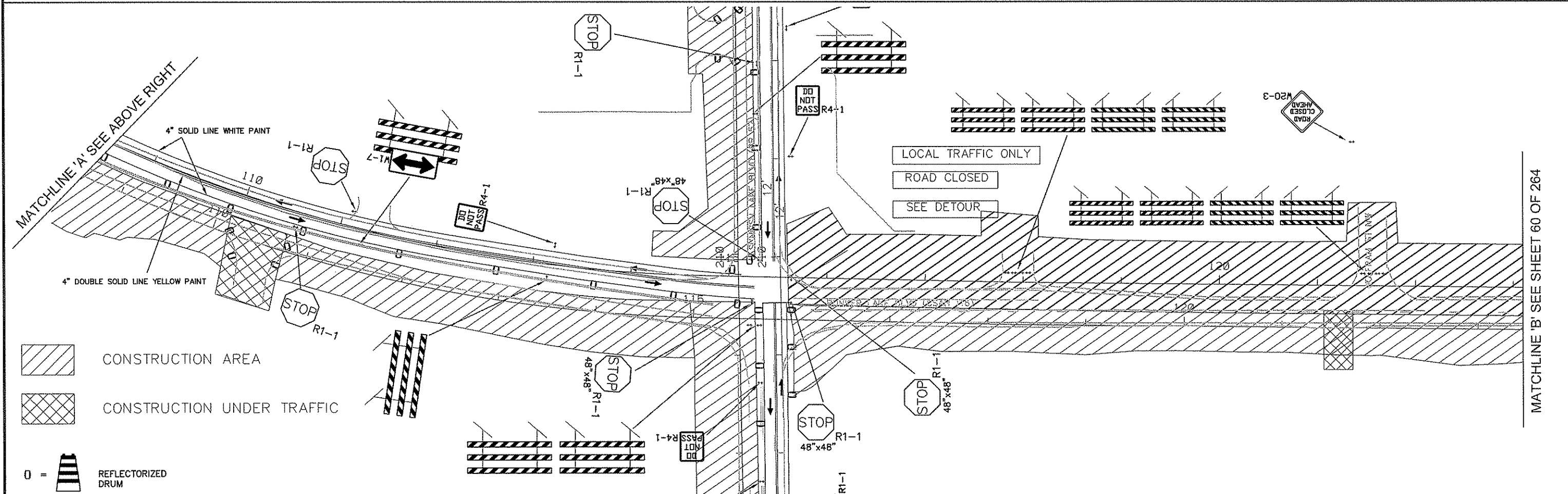


S.P. 002-716-011  
 S.P. 199-020-008



**TRAFFIC CONTROL NOTES:**

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 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 TRANSITION AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10 FT. INTERVALS.
- 4) EXISTING STRIPING WHICH CONFLICTS WITH TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED.



- CONSTRUCTION AREA
- CONSTRUCTION UNDER TRAFFIC
- REFLECTORIZED DRUM

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-716-11\Basetraffic\0271611_STG2_sign&stripe.dwg, 02/23/2011 1:41:36 PM					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 REG. NO. 24756

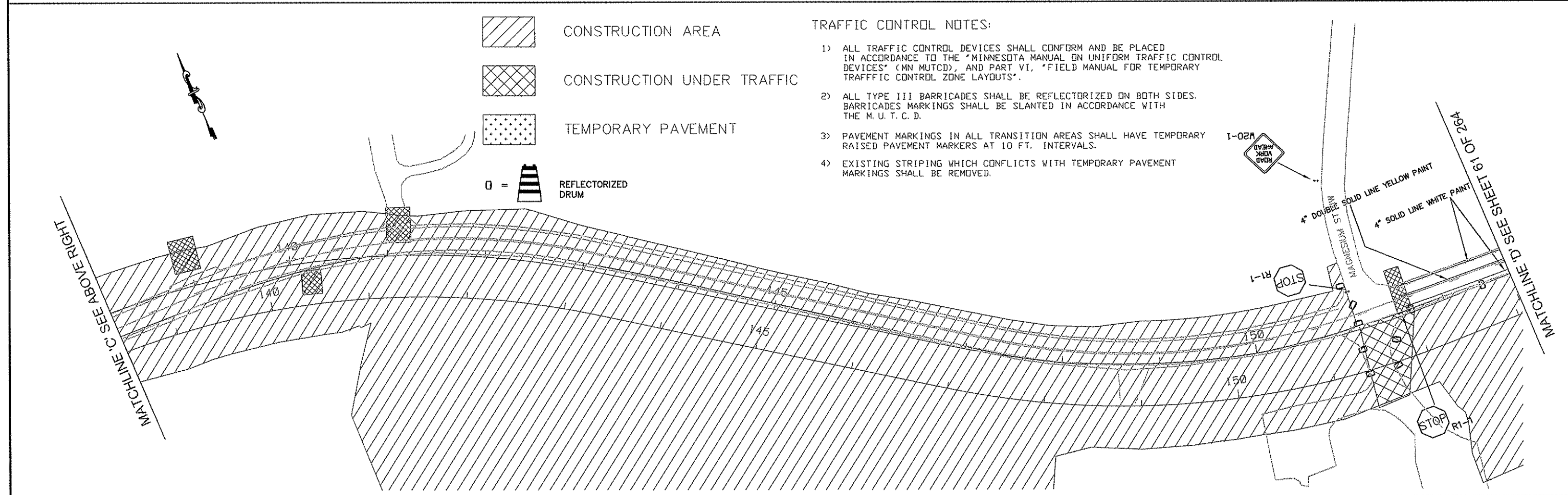
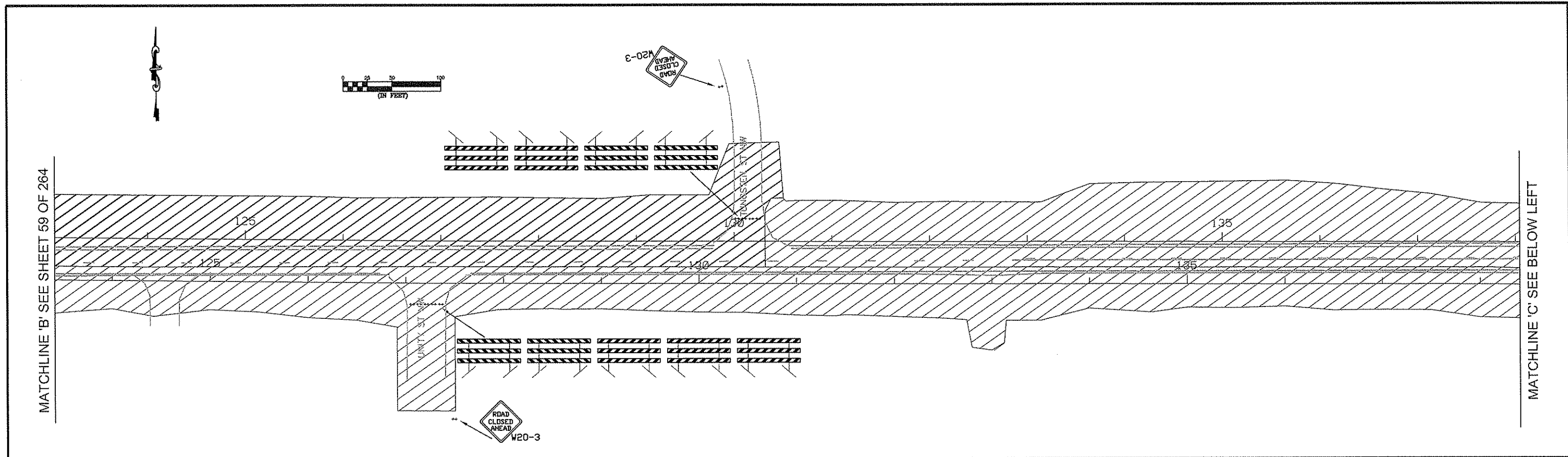
ANOKA COUNTY  
 HIGHWAY DEPT.

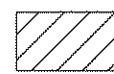

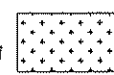
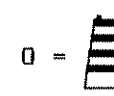
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 DESIGN BY: S.T. DATE: 12/10/10  
 CHECKED BY: J.R. DATE: 12/15/10

S.P. 002-716-011  
 S.P. 199-020-008

STAGE 2  
 TRAFFIC CONTROL  
 C.S.A.H. 116

Sheet 59 of 264 Sheets



-  CONSTRUCTION AREA
-  CONSTRUCTION UNDER TRAFFIC
-  TEMPORARY PAVEMENT
-  REFLECTORIZED DRUM

- TRAFFIC CONTROL NOTES:
- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
  - 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.
  - 3) PAVEMENT MARKINGS IN ALL TRANSITION AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10 FT. INTERVALS.
  - 4) EXISTING STRIPING WHICH CONFLICTS WITH TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED.

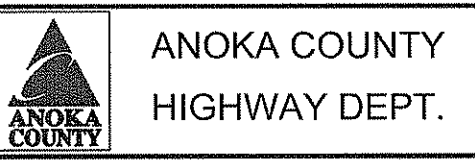
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\Basetraffic\0271611\_STG2\_sign&stripe.dwg, 02/23/2011 1:41:44 PM

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

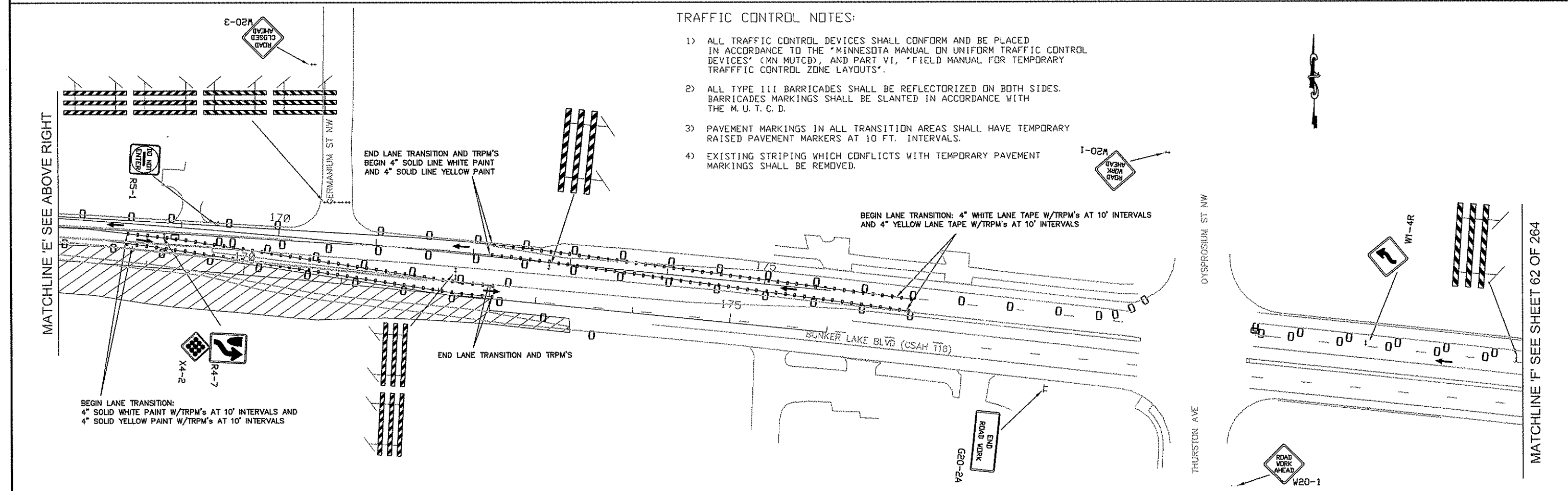
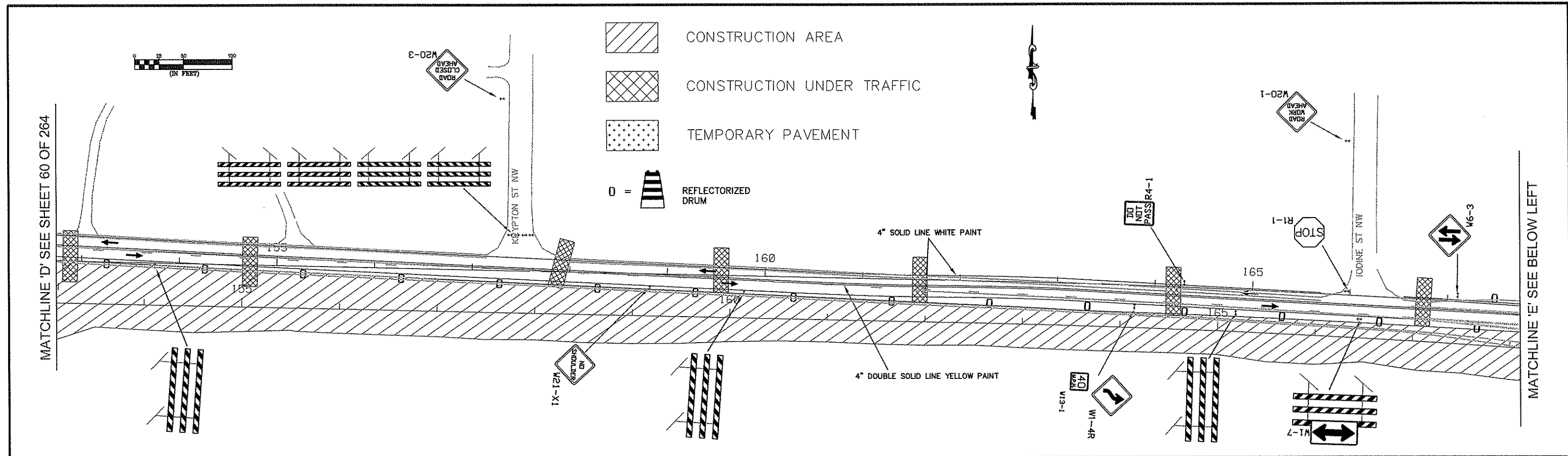
PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE 12/10/10  
 DESIGN BY: S.T. DATE 12/10/10  
 CHECKED BY: J.R. DATE 12/15/10



S.P. 002-716-011  
 S.P. 199-020-008

STAGE 2  
 TRAFFIC CONTROL  
 C.S.A.H. 116  
 Sheet 60 of 264 Sheets



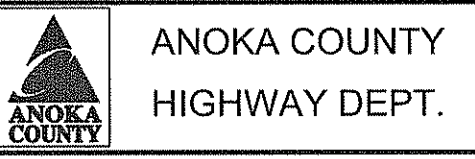
**TRAFFIC CONTROL NOTES:**

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NO	DATE	BY	CKD	APPR	REVISION

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DRAWN BY: S.T. DATE 12/10/10  
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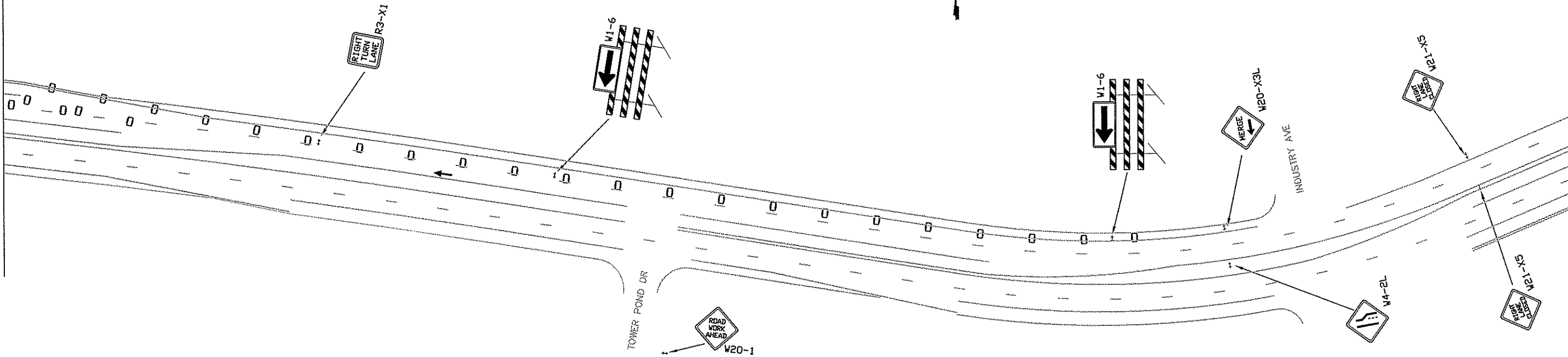


S.P. 002-716-011  
 S.P. 199-020-008

STAGE 2  
 TRAFFIC CONTROL  
 C.S.A.H. 116  
 Sheet 61 of 264 Sheets

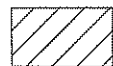
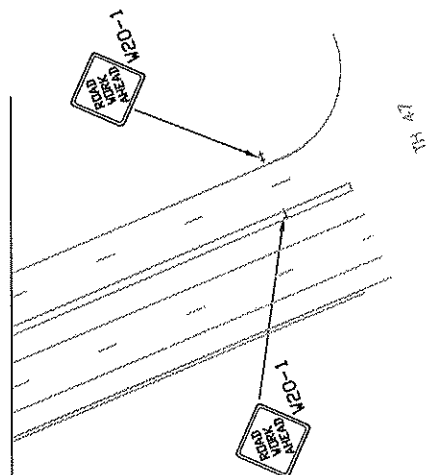


MATCHLINE 'F' SEE SHEET 61 OF 264



MATCHLINE 'G' SEE BELOW LEFT

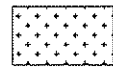
MATCHLINE 'G' SEE ABOVE RIGHT



CONSTRUCTION AREA



CONSTRUCTION UNDER TRAFFIC



TEMPORARY PAVEMENT



REFLECTORIZED DRUM

TRAFFIC CONTROL NOTES:

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NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-716-11\Basel\TRAFFIC\0271611_STG2_sign&stripe.dwg, 02/23/2011 1:41:54 PM					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

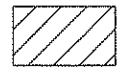
DRAWN BY: S.T. DATE 12/10/10  
 DESIGN BY: S.T. DATE 12/10/10  
 CHECKED BY: J.R. DATE 12/15/10



ANOKA COUNTY  
 HIGHWAY DEPT.

S.P. 002-716-011  
 S.P. 199-020-008

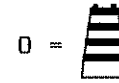
STAGE 2  
 TRAFFIC CONTROL  
 C.S.A.H. 116  
 Sheet 62 of 264 Sheets



CONSTRUCTION AREA



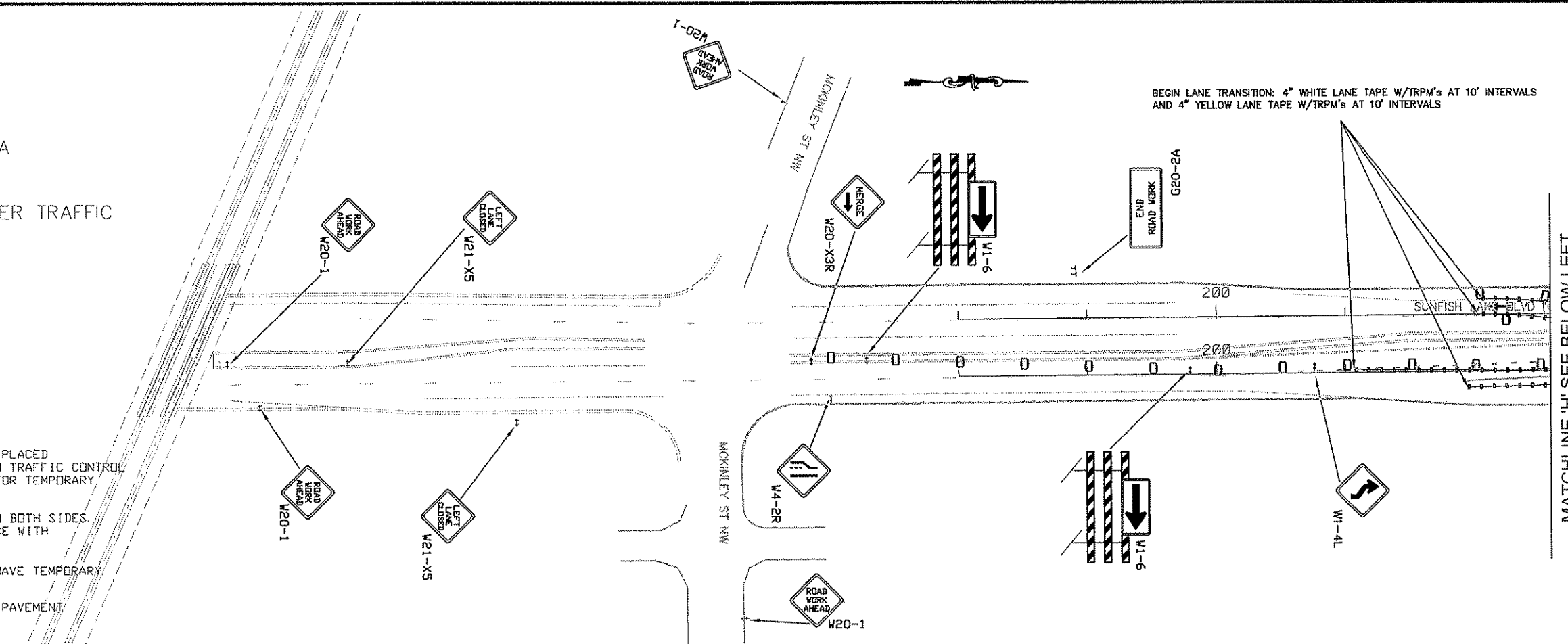
CONSTRUCTION UNDER TRAFFIC



REFLECTORIZED DRUM

TRAFFIC CONTROL NOTES:

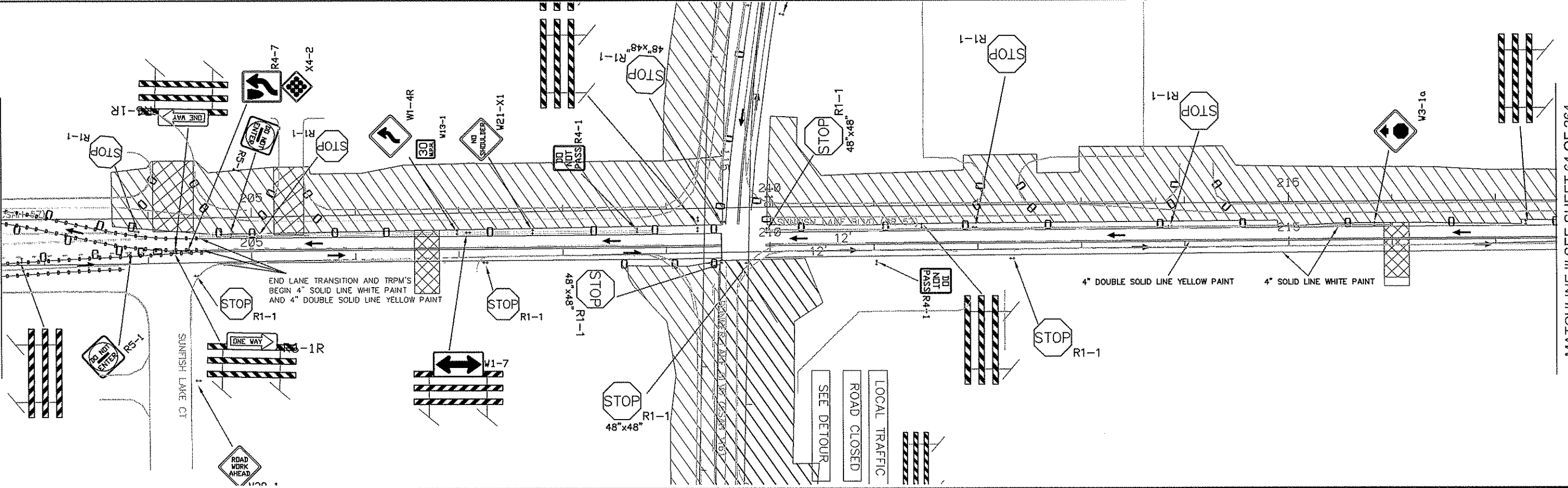
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BEGIN LANE TRANSITION: 4" WHITE LANE TAPE W/TRPM'S AT 10' INTERVALS AND 4" YELLOW LANE TAPE W/TRPM'S AT 10' INTERVALS

MATCHLINE 'H' SEE BELOW LEFT

MATCHLINE 'H' SEE ABOVE RIGHT



END LANE TRANSITION AND TRPM'S BEGIN 4" SOLID LINE WHITE PAINT AND 4" DOUBLE SOLID LINE YELLOW PAINT

4" DOUBLE SOLID LINE YELLOW PAINT 4" SOLID LINE WHITE PAINT

MATCHLINE 'I' SEE SHEET 64 OF 264

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\Baseline\TRAFFIC\0271611\_STG2\_sign&stripe.dwg, 02/23/2011 1:41:59 PM

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

PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 REG. NO. 24756

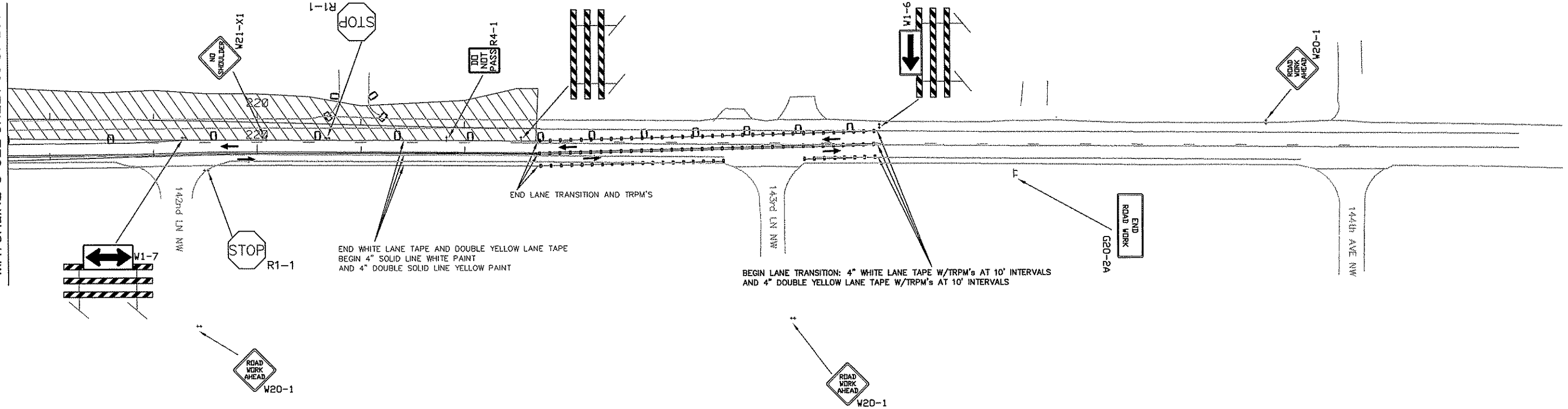
DRAWN BY: S.T. DATE 12/10/10  
 DESIGN BY: S.T. DATE 12/10/10  
 CHECKED BY: J.R. DATE 12/15/10




**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008



MATCHLINE 'C' SEE SHEET 63 OF 264



-  CONSTRUCTION AREA
-  CONSTRUCTION UNDER TRAFFIC
-  REFLECTORIZED DRUM

TRAFFIC CONTROL NOTES:

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NO	DATE	BY	CKD	APPR	REVISION


NAME: P:\02-716-11\Basel\TRAFFIC\0271611\_STG2\_sign&stripe.dwg, 02/23/2011 1:42:04 PM

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

PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

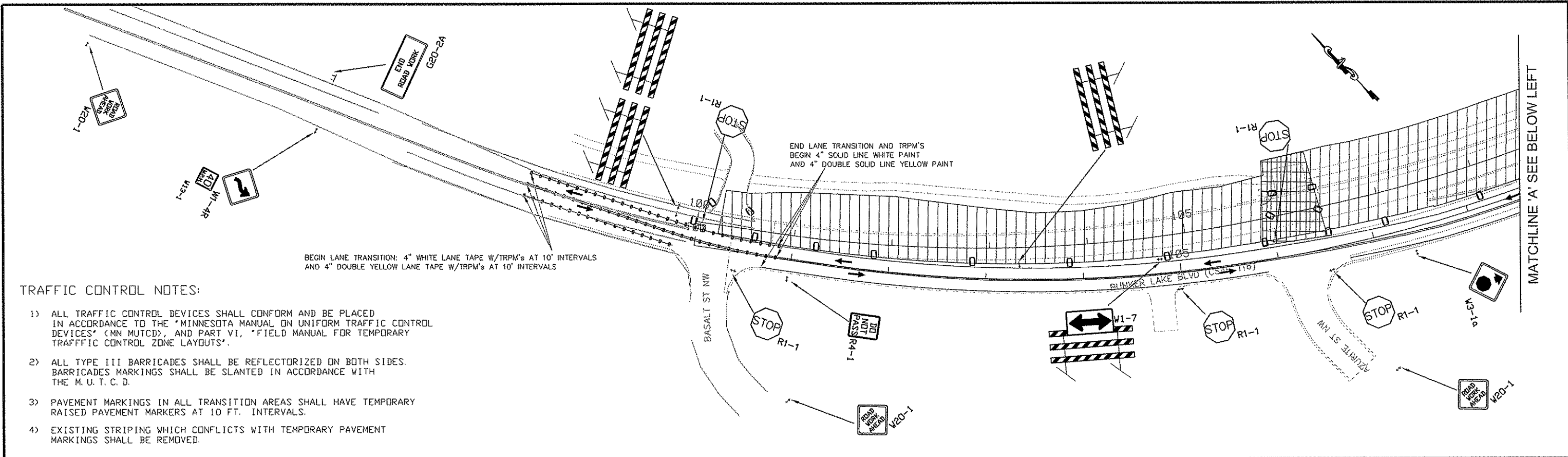
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**ANOKA COUNTY**  
**HIGHWAY DEPT.**



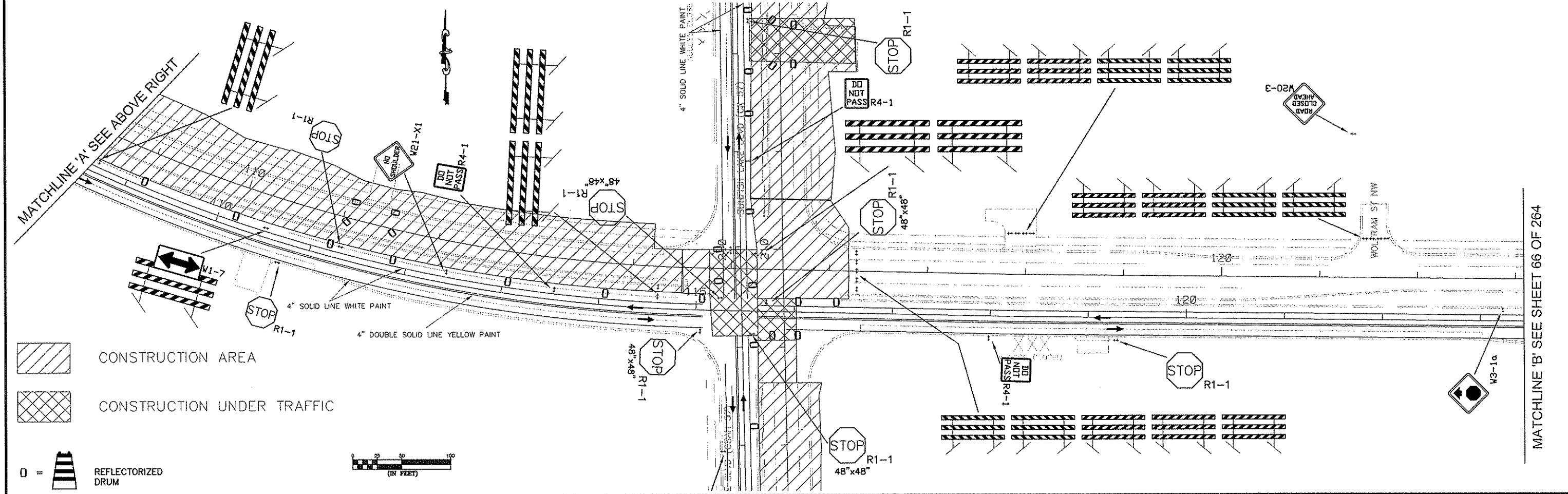
S.P. 002-716-011  
 S.P. 199-020-008

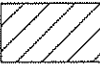





**TRAFFIC CONTROL NOTES:**

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 CONSTRUCTION AREA  
 CONSTRUCTION UNDER TRAFFIC

 REFLECTORIZED DRUM



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\BASE\TRAFFIC\0271611\_STG3\_sign&stripe.dwg, 02/23/2011 1:42:11 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 REG. NO. 24756

ANOKA COUNTY  
 HIGHWAY DEPT.



S.P. 002-716-011  
 S.P. 199-020-008

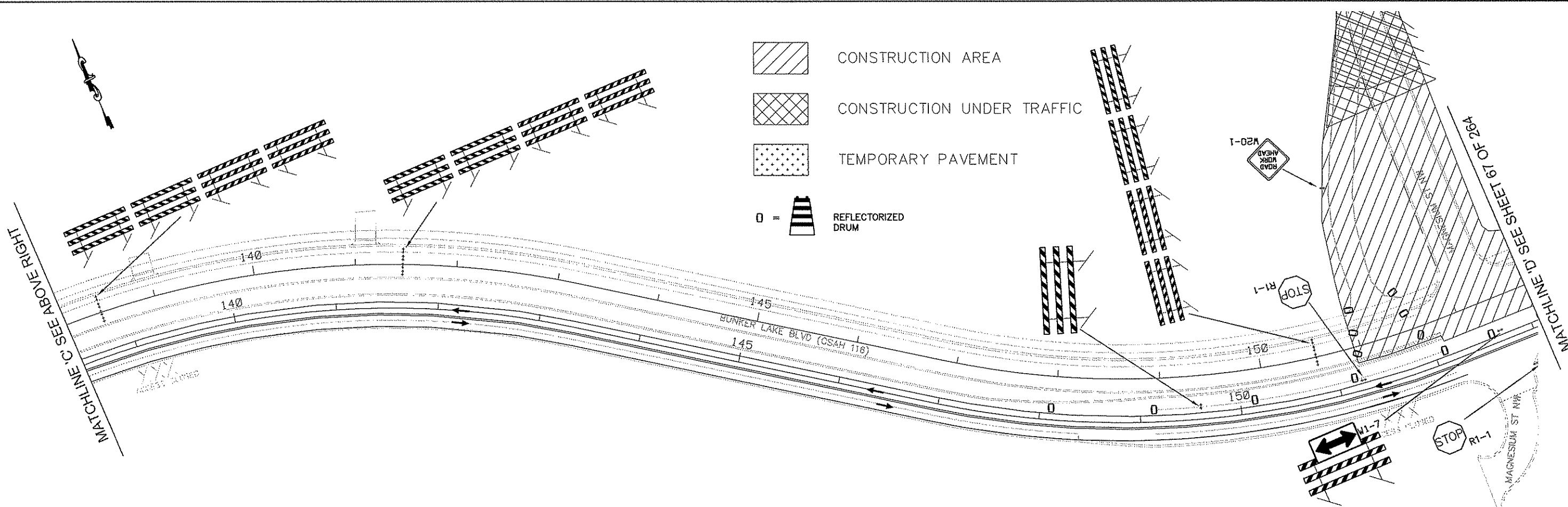
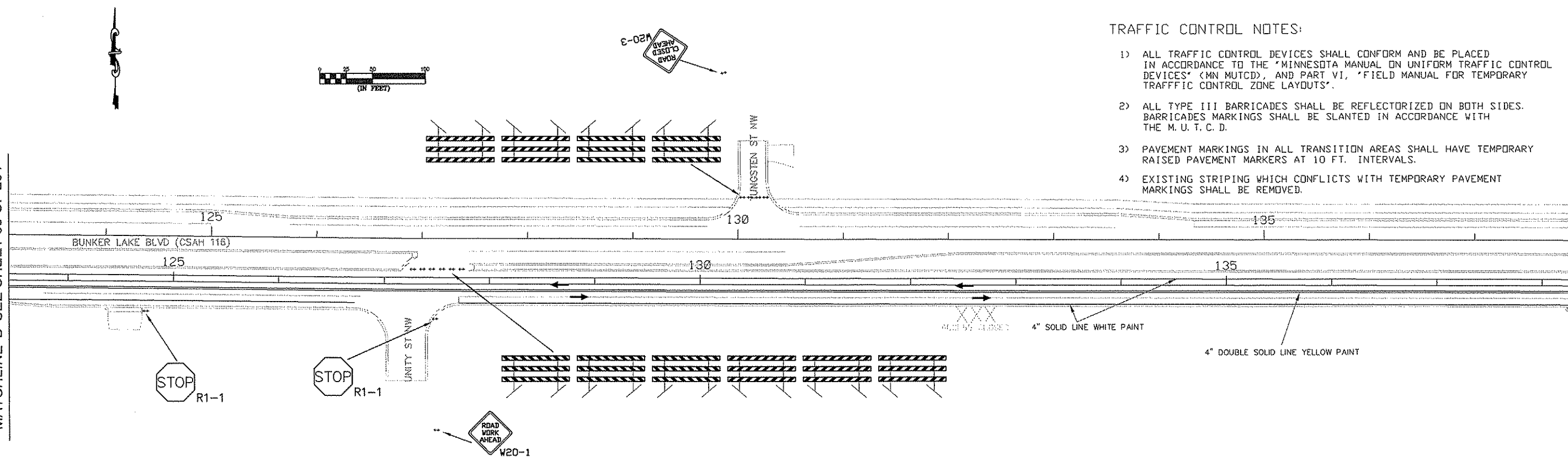
STAGE 3  
 TRAFFIC CONTROL  
 C.S.A.H. 116  
 Sheet 65 of 264 Sheets

TRAFFIC CONTROL NOTES:

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MATCHLINE 'B' SEE SHEET 65 OF 264

MATCHLINE 'C' SEE BELOW LEFT



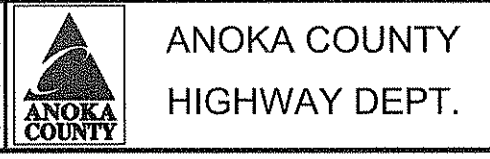
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

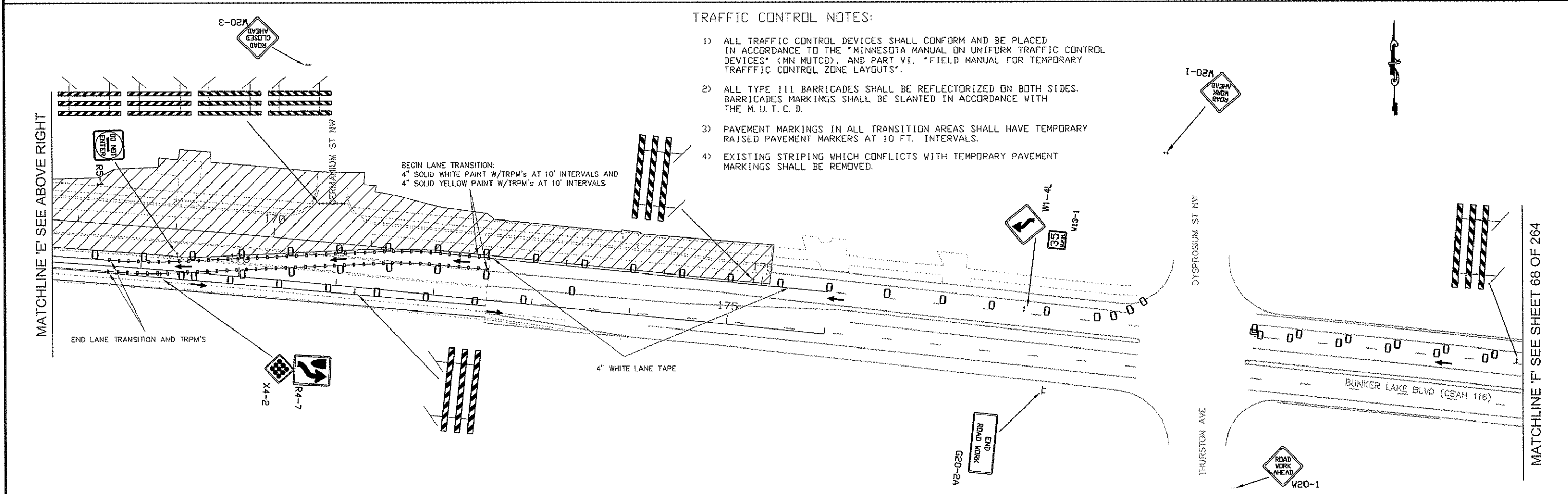
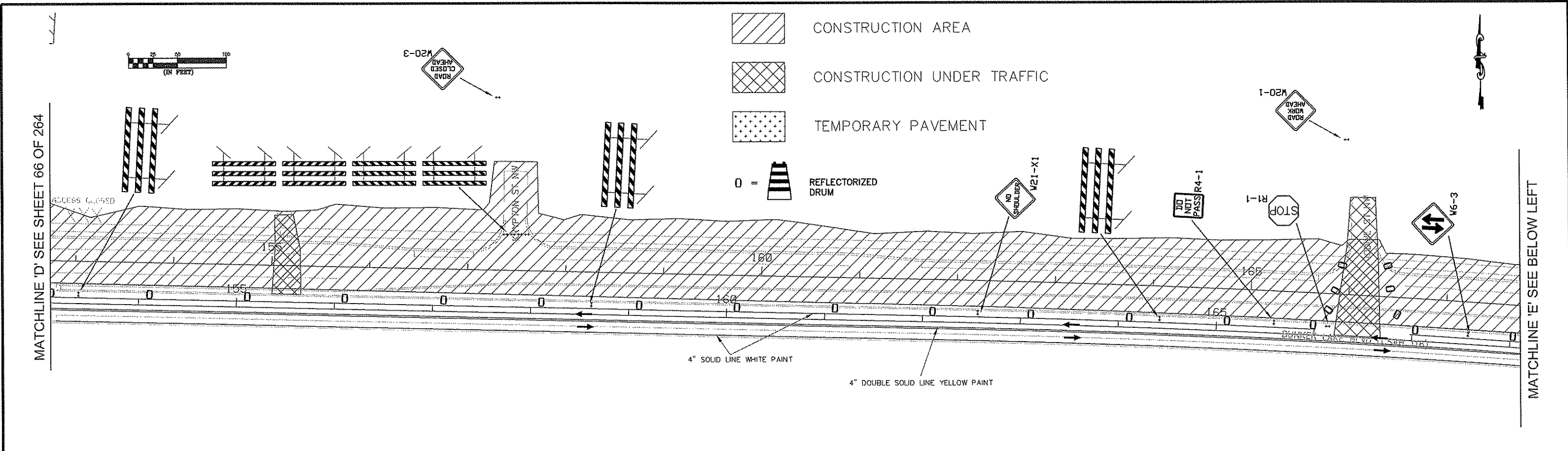
DRAWN BY: S.T. DATE 12/10/10  
 DESIGN BY: S.T. DATE 12/10/10  
 CHECKED BY: J.R. DATE 12/15/10



S.P. 002-716-011  
 S.P. 199-020-008

STAGE 3  
 TRAFFIC CONTROL  
 C.S.A.H. 116

Sheet 66 of 264 Sheets



TRAFFIC CONTROL NOTES:

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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:02-716-11\Base\TRAFFIC\0271611\_STG3\_sign&stripe.dwg, 02/23/2011 1:42:24 PM

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

PRINT NAME: CURT A. KOBILARCSIK

SIGNATURE: *Curt Kobilarcsik*

DATE: 2-24-11 REG. NO. 24756

ANOKA COUNTY HIGHWAY DEPT.

DRAWN BY: S.T. DATE: 12/10/10

DESIGN BY: S.T. DATE: 12/10/10

CHECKED BY: J.R. DATE: 12/15/10

S.P. 002-716-011

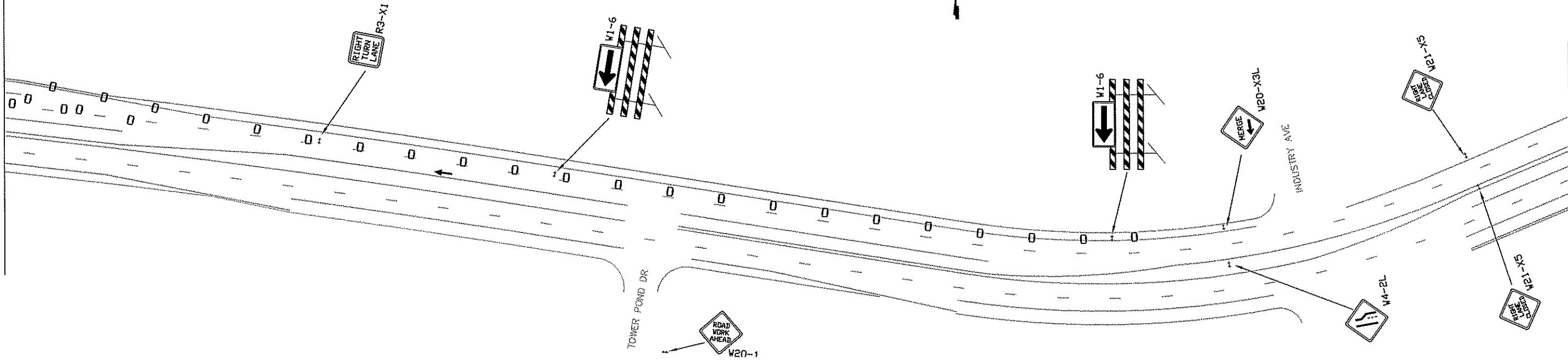
S.P. 199-020-008

STAGE 3 TRAFFIC CONTROL C.S.A.H. 116

Sheet 67 of 264 Sheets

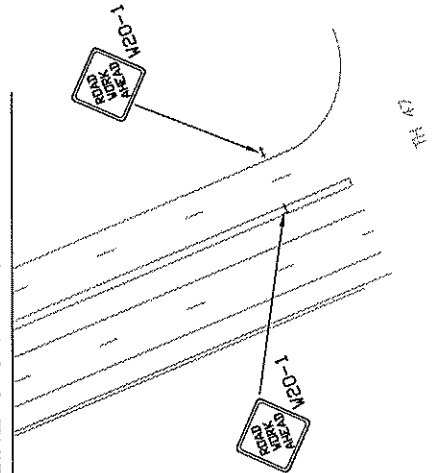


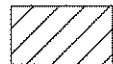

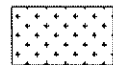

MATCHLINE 'F' SEE SHEET 67 OF 264



MATCHLINE 'G' SEE BELOW LEFT

MATCHLINE 'G' SEE ABOVE RIGHT



-  CONSTRUCTION AREA
-  CONSTRUCTION UNDER TRAFFIC
-  TEMPORARY PAVEMENT
-  REFLECTORIZED DRUM

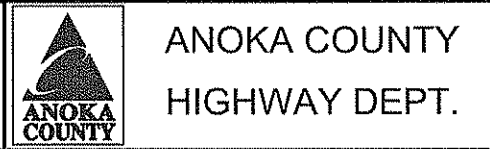
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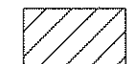
NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE: 12/10/10  
 DESIGN BY: S.T. DATE: 12/10/10  
 CHECKED BY: J.R. DATE: 12/15/10



S.P. 002-716-011  
 S.P. 199-020-008



CONSTRUCTION AREA



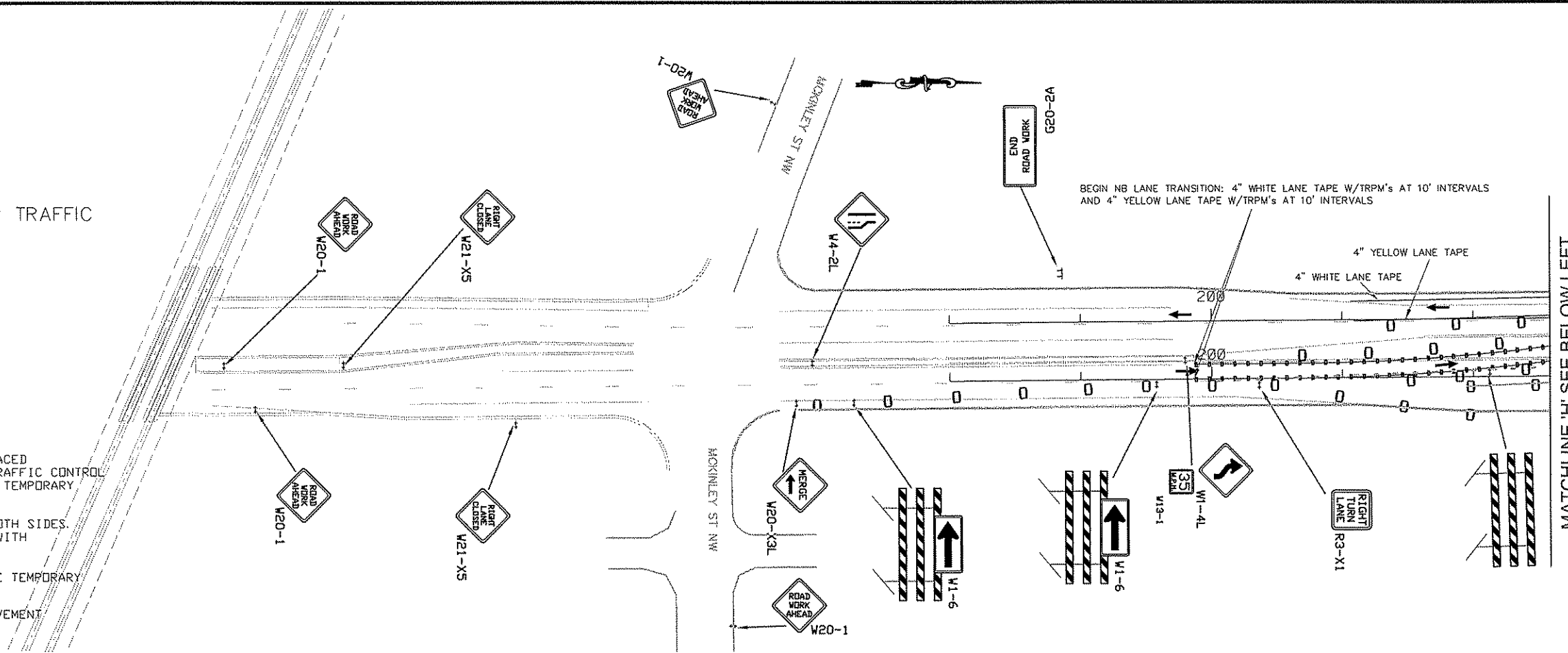
CONSTRUCTION UNDER TRAFFIC



REFLECTORIZED DRUM

TRAFFIC CONTROL NOTES:

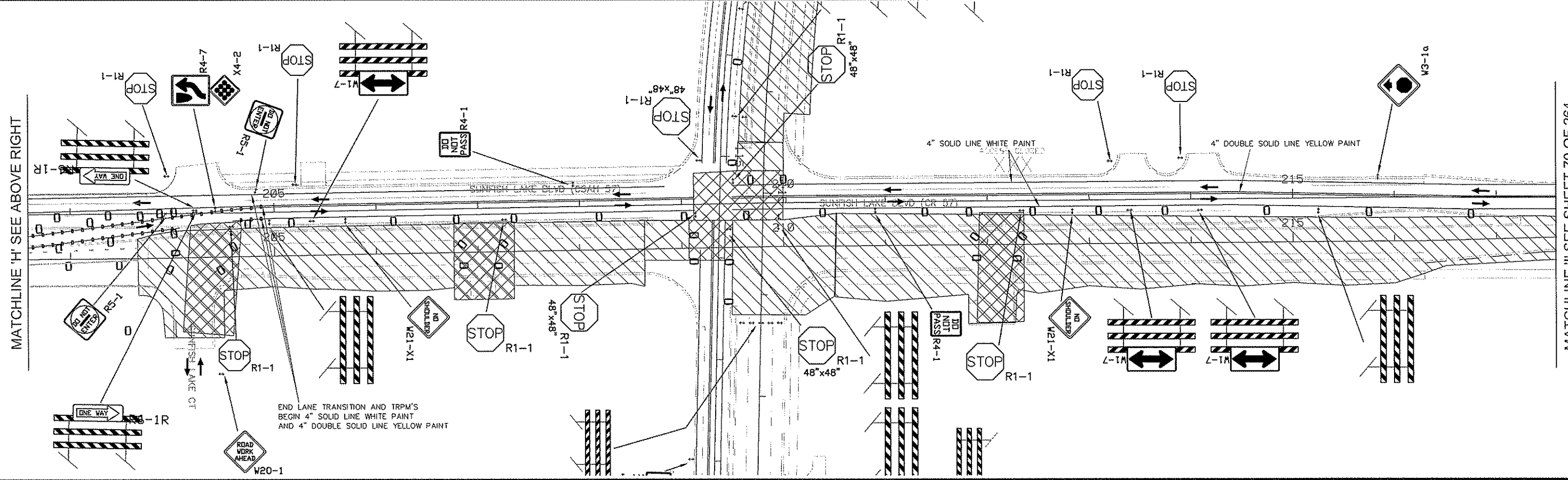
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MATCHLINE 'H' SEE BELOW LEFT

MATCHLINE 'H' SEE ABOVE RIGHT

MATCHLINE 'I' SEE SHEET 70 OF 264



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\Bases\TRAFFIC\0271611\_STG3\_sign&stripe.dwg, 02/23/2011 1:42:35 PM

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

PRINT NAME: CURT A. KOBILARCSIK

SIGNATURE: *Curt Kobilarcsik*

DATE: 2-24-11 REG. NO. 24756

ANOKA COUNTY HIGHWAY DEPT.

DRAWN BY: S.T. DATE: 12/10/10

DESIGN BY: S.T. DATE: 12/10/10

CHECKED BY: J.R. DATE: 12/15/10

S.P. 002-716-011  
S.P. 199-020-008

MATCHLINE "I" SEE SHEET 69 OF 264

END LANE TRANSITION AND TRPM'S  
BEGIN 4" SOLID LINE WHITE PAINT  
AND 4" DOUBLE SOLID LINE YELLOW PAINT

ACCESS CLOSED  
XXXX

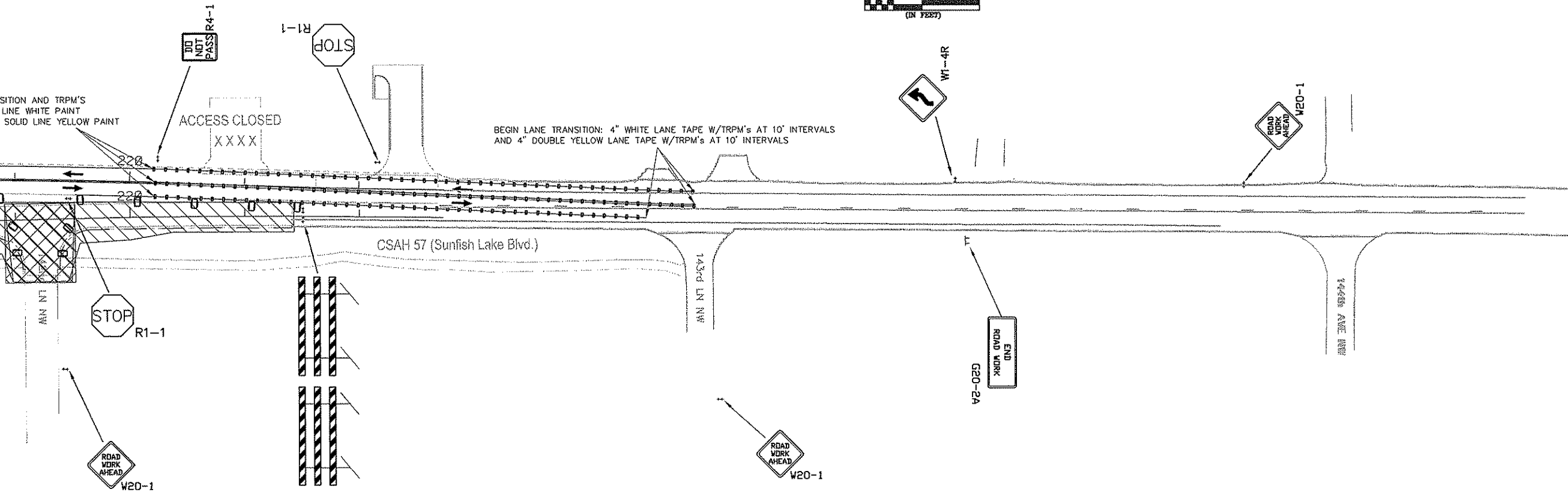
BEGIN LANE TRANSITION: 4" WHITE LANE TAPE W/TRPM'S AT 10' INTERVALS  
AND 4" DOUBLE YELLOW LANE TAPE W/TRPM'S AT 10' INTERVALS

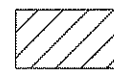
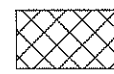

CSAH 57 (Sunfish Lake Blvd.)

143rd LN NW

144th AVE NW

G20-2A



-  CONSTRUCTION AREA
-  CONSTRUCTION UNDER TRAFFIC
-  REFLECTORIZED DRUM

TRAFFIC CONTROL NOTES:

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- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.
- 3) PAVEMENT MARKINGS IN ALL TRANSITION AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10 FT. INTERVALS.
- 4) EXISTING STRIPING WHICH CONFLICTS WITH TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED.

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 REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

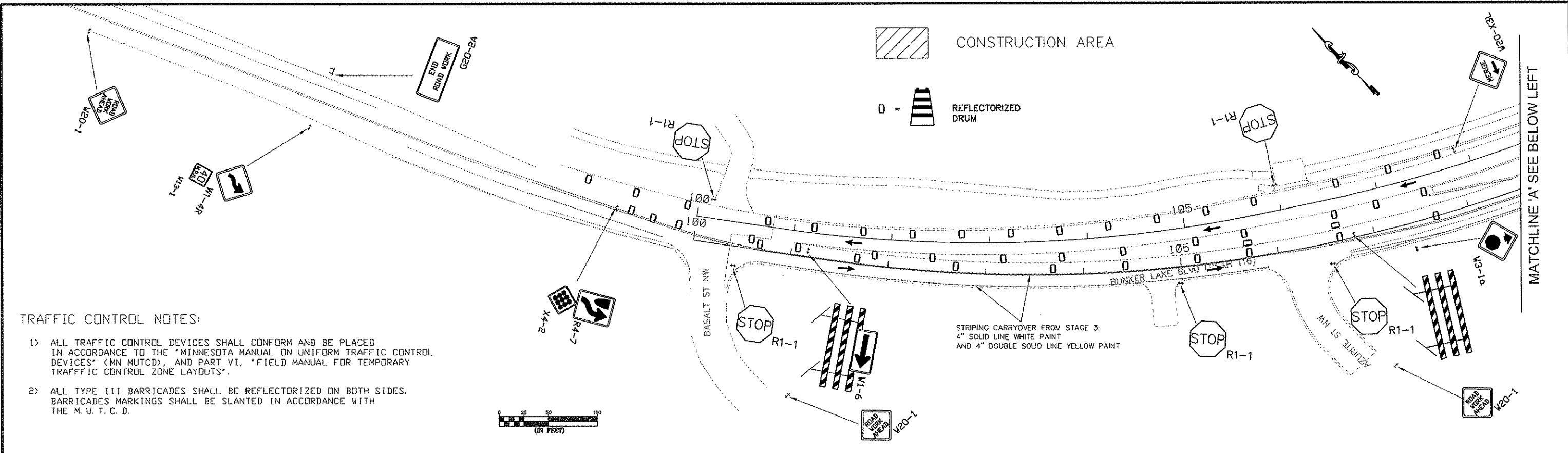
DRAWN BY: S.T. DATE: 12/10/10  
 DESIGN BY: S.T. DATE: 12/10/10  
 CHECKED BY: J.R. DATE: 12/15/10

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

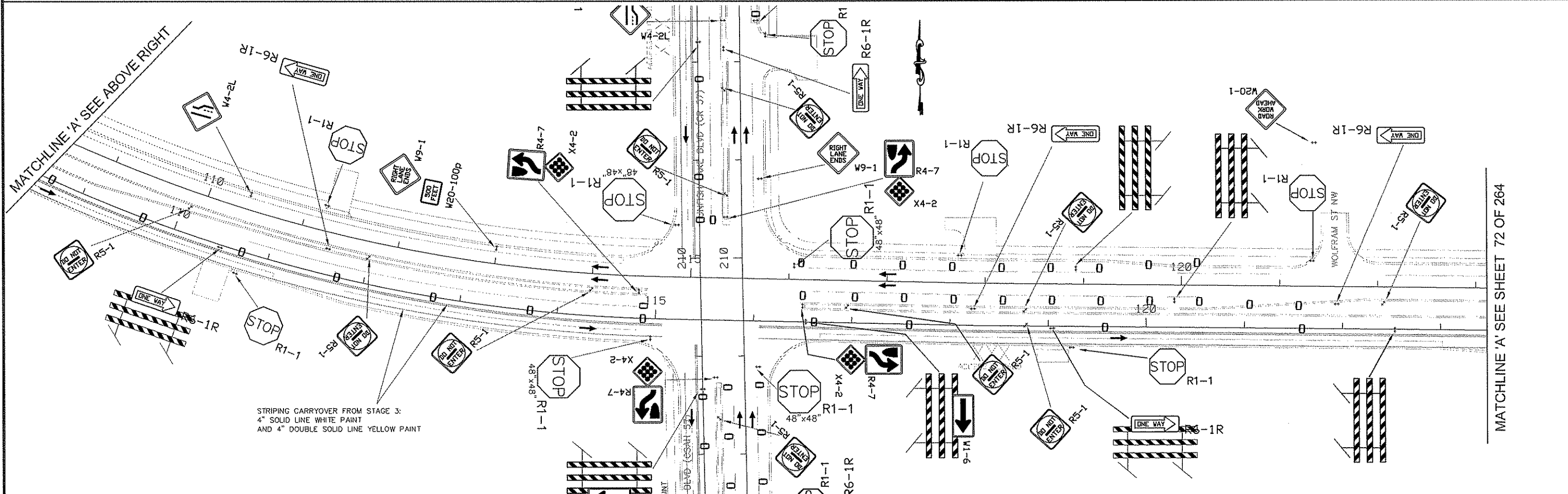
STAGE 3  
 TRAFFIC CONTROL  
 C.S.A.H. 57

Sheet 70 of 264 Sheets



**TRAFFIC CONTROL NOTES:**

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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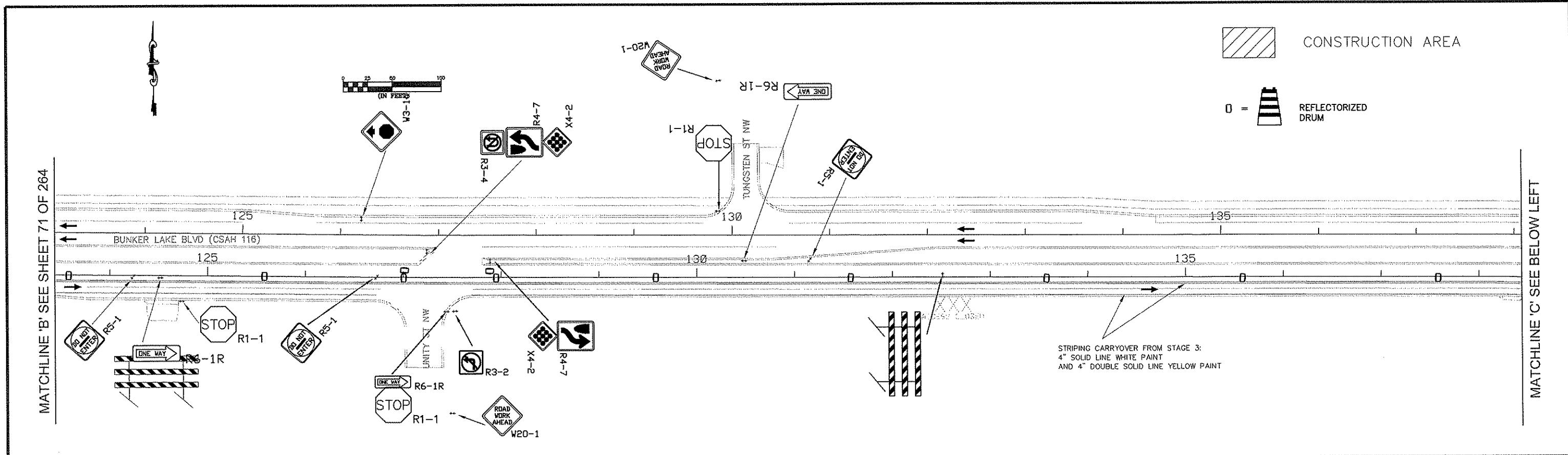
NO	DATE	BY	CKD	APPR	REVISION

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

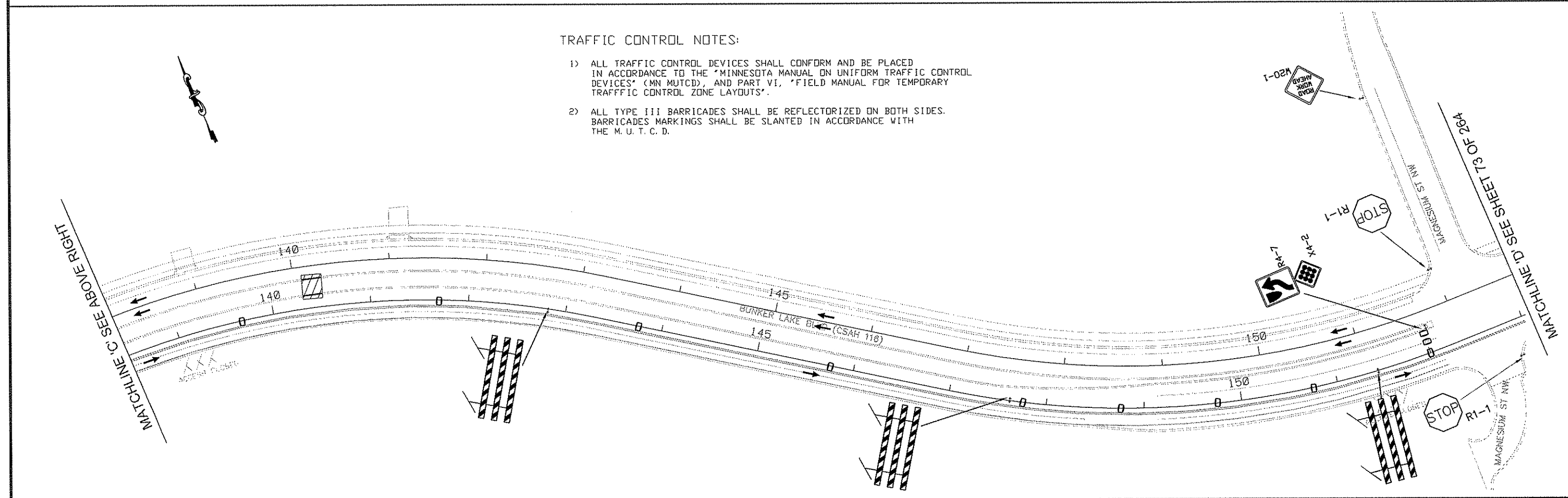
S.P. 002-716-011  
 S.P. 199-020-008

STAGE 4  
 TRAFFIC CONTROL  
 C.S.A.H. 116  
 Sheet 71 of 264 Sheets



TRAFFIC CONTROL NOTES:

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NO	DATE	BY	CHKD	APPR	REVISION

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

PRINT NAME: CURT A. KOBILARCSIK

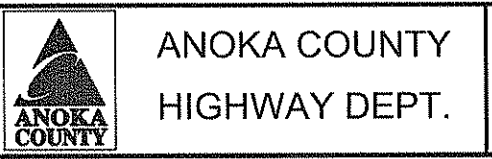
SIGNATURE: *Curt Kobilarsik*

DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE 12/10/10

DESIGN BY: S.T. DATE 12/10/10

CHECKED BY: J.R. DATE 12/15/10



S.P. 002-716-011

S.P. 199-020-008

STAGE 4  
TRAFFIC CONTROL  
C.S.A.H. 116

Sheet 72 of 264 Sheets

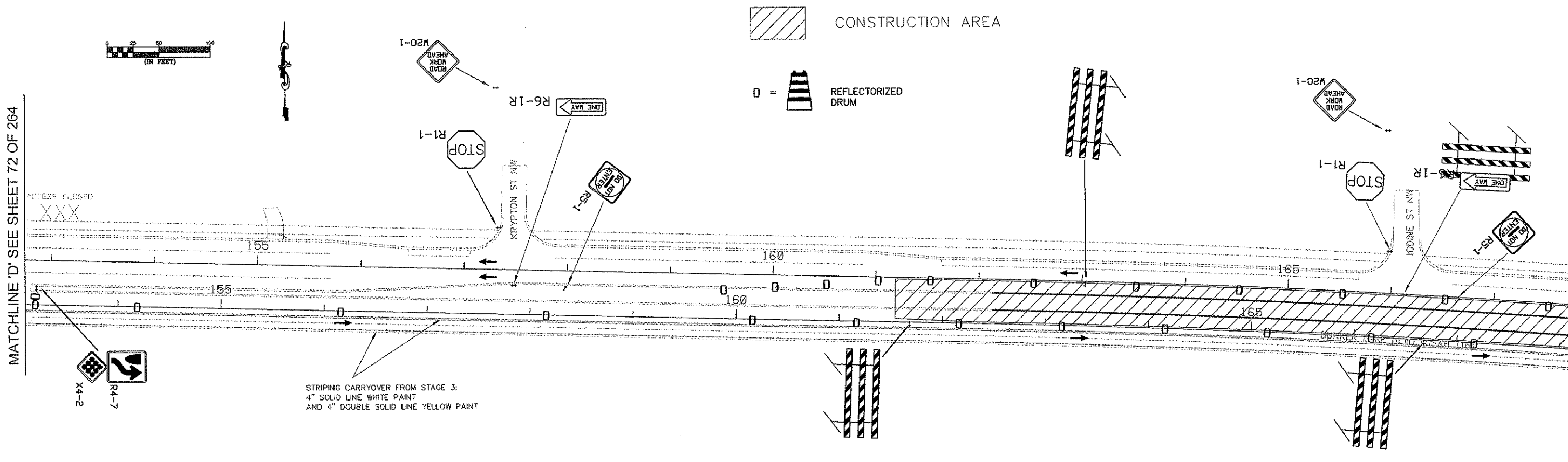


CONSTRUCTION AREA

REFLECTORIZED DRUM

MATCHLINE 'D' SEE SHEET 72 OF 264

MATCHLINE 'E' SEE BELOW LEFT

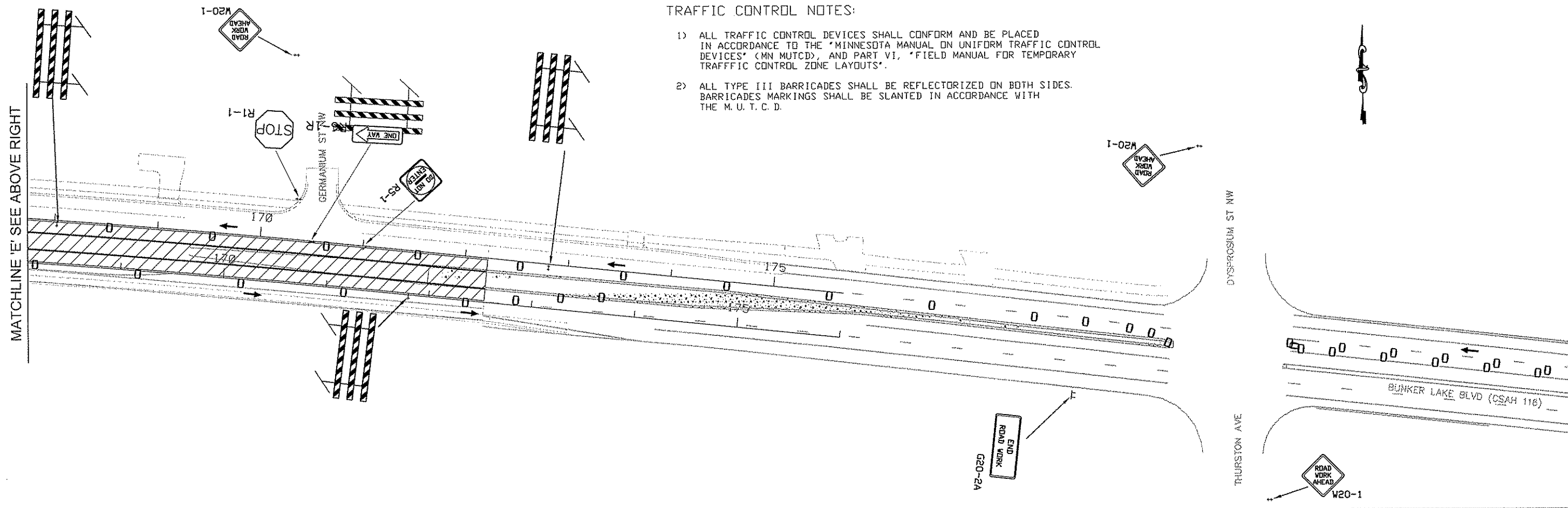


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MATCHLINE 'E' SEE ABOVE RIGHT

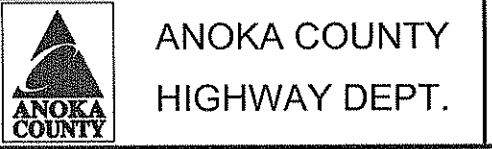
MATCHLINE 'F' SEE SHEET 74 OF 264



NO	DATE	BY	CKD	APPR	REVISION

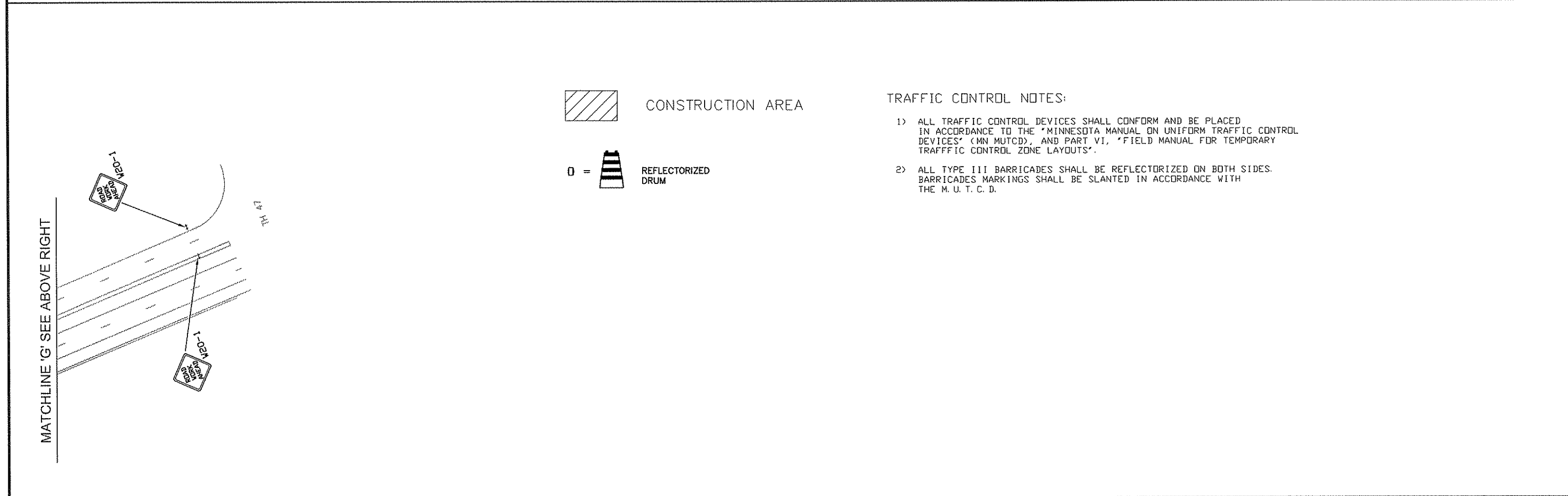
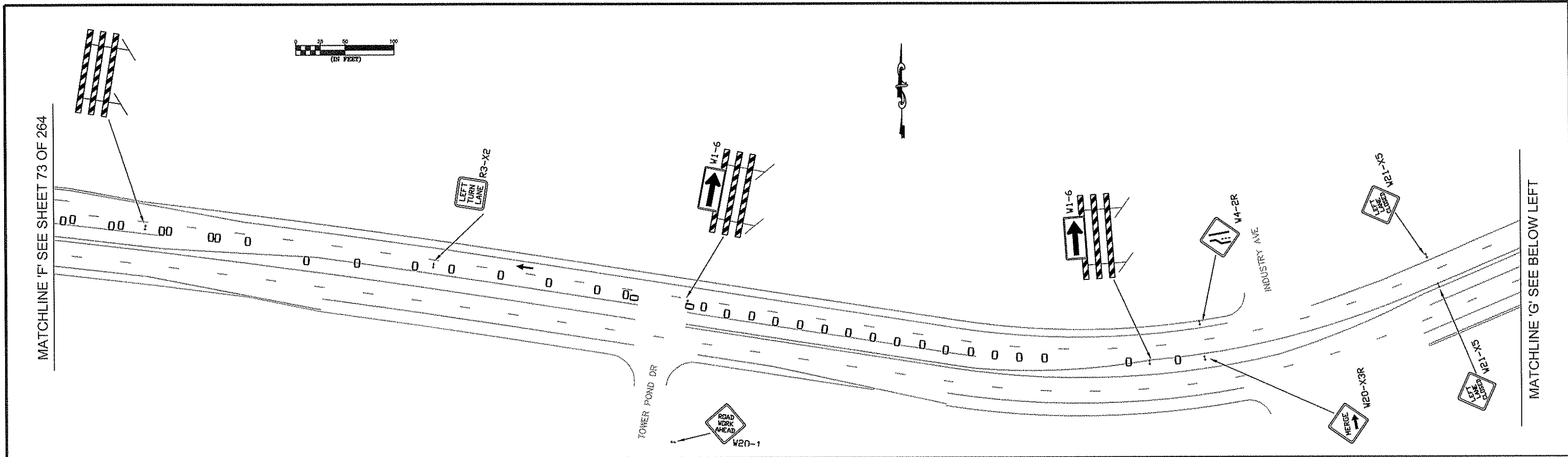
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
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S.P. 002-716-011  
 S.P. 199-020-008

STAGE 4  
 TRAFFIC CONTROL  
 C.S.A.H. 116  
 Sheet 73 of 264 Sheets

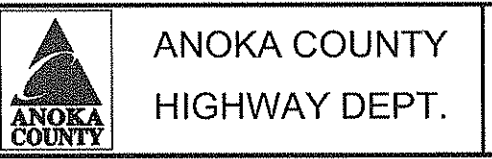


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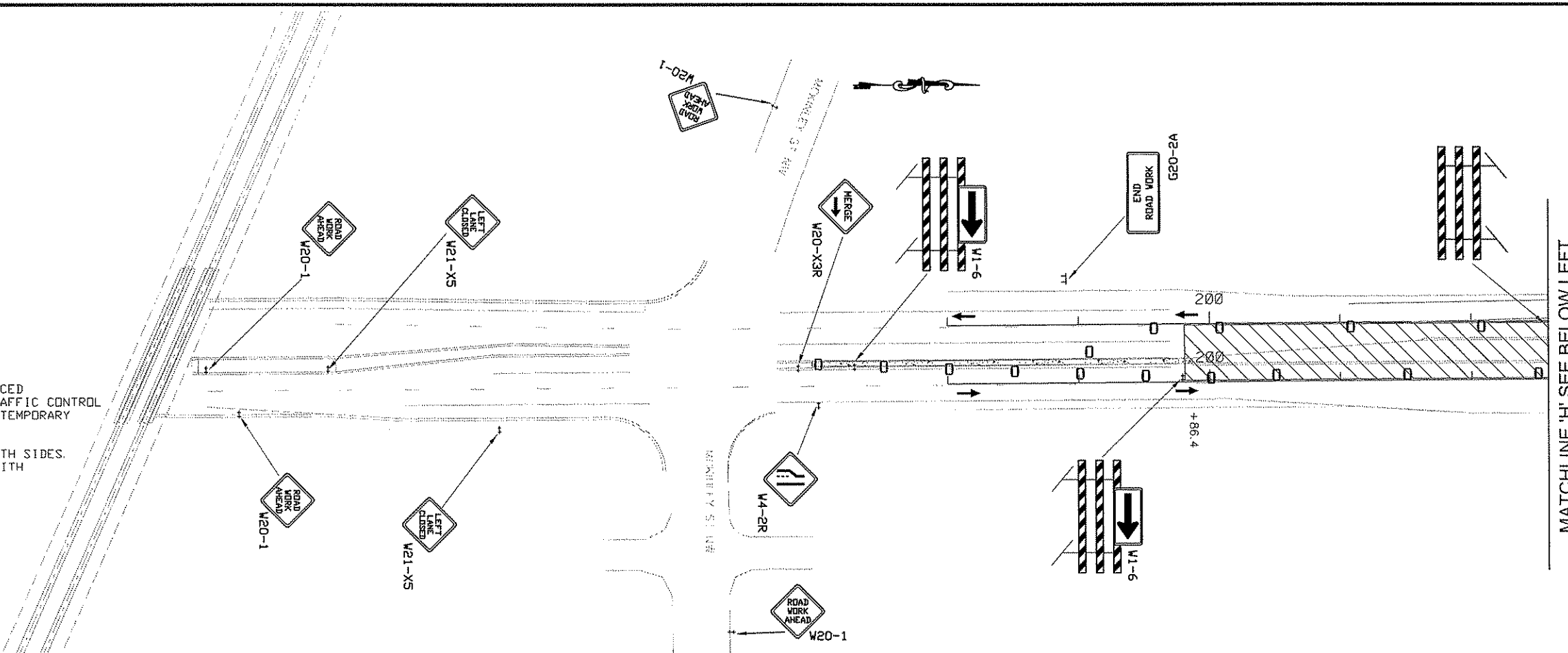


CONSTRUCTION AREA

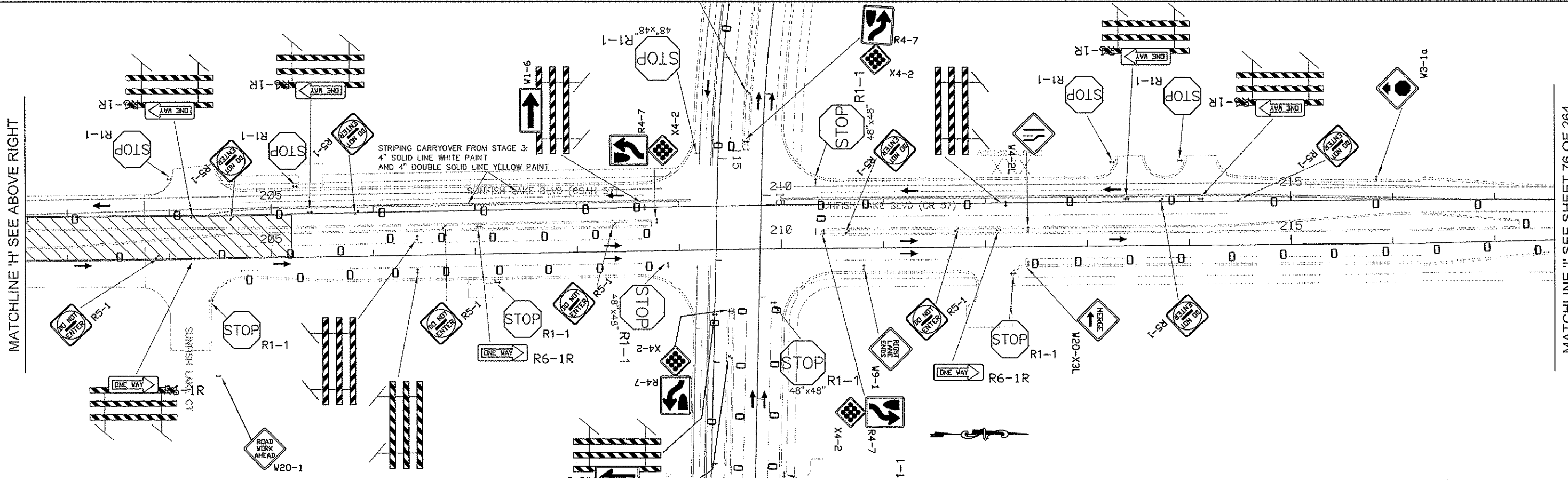
REFLECTORIZED DRUM

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MATCHLINE 'H' SEE BELOW LEFT



MATCHLINE 'H' SEE ABOVE RIGHT

MATCHLINE 'I' SEE SHEET 76 OF 264

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-716-11\Baset\TRAFFIC\0271611_STG4_sign&stripe.dwg, 02/23/2011 1:43:09 PM					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
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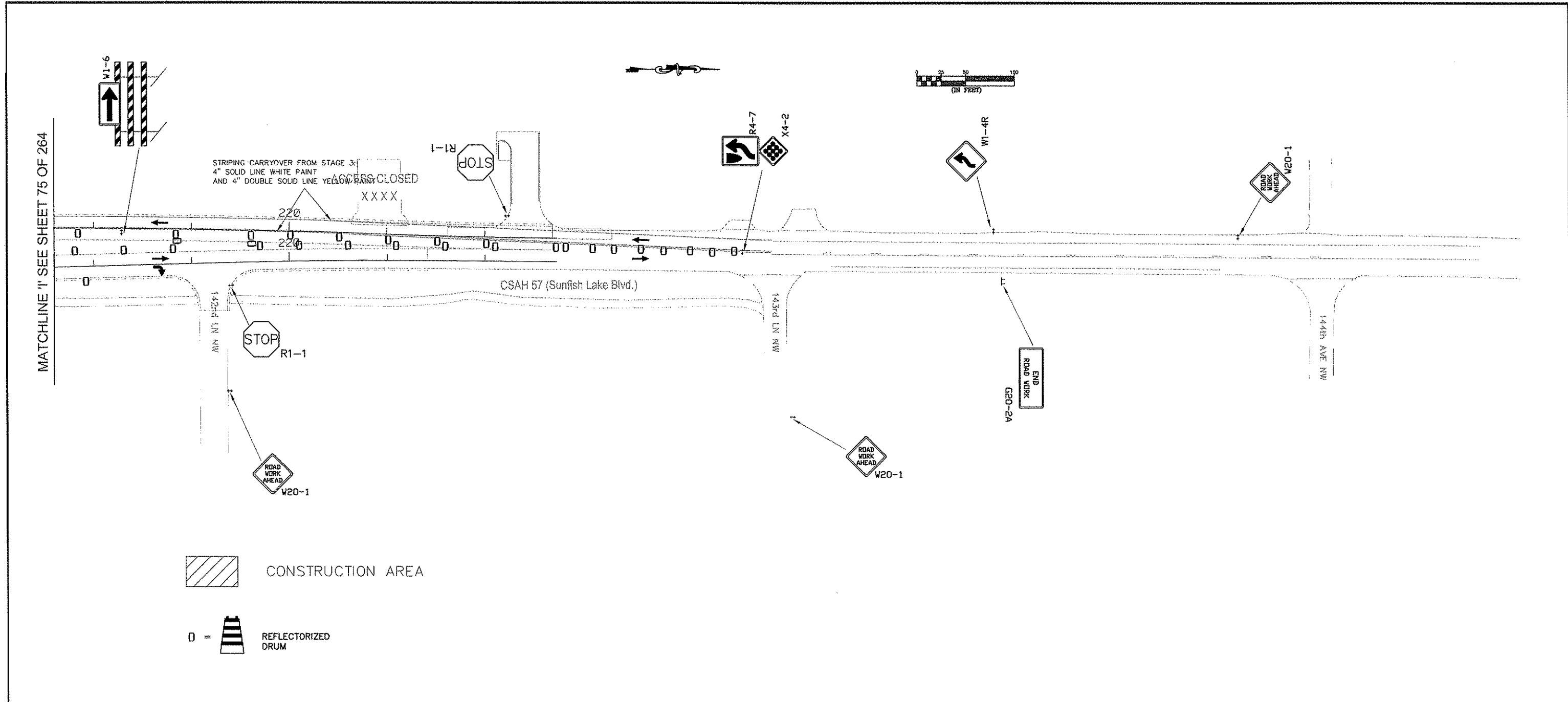
DRAWN BY: S.T. DATE 12/10/10  
 DESIGN BY: S.T. DATE 12/10/10  
 CHECKED BY: J.R. DATE 12/15/10



**ANOKA COUNTY  
HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

STAGE 4  
 TRAFFIC CONTROL  
 C.S.A.H. 57  
 Sheet 75 of 264 Sheets



MATCHLINE 'I' SEE SHEET 75 OF 264

STRIPING CARRYOVER FROM STAGE 3:  
4" SOLID LINE WHITE PAINT  
AND 4" DOUBLE SOLID LINE YELLOW PAINT

ACCESS CLOSED  
XXXX

 CONSTRUCTION AREA

 REFLECTORIZED DRUM


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 ANOKA COUNTY  
 HIGHWAY DEPT.

S.P. 002-716-011  
 S.P. 199-020-008

STAGE 4  
 TRAFFIC CONTROL  
 C.S.A.H. 57  
 Sheet 76 of 264 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4
R1-1	48" x 48"	STOP	2	4	4	4
R1-1	30" x 30"	STOP	10	19	22	27
R3-4	24" x 24"	NO U-TURN	0	0	0	1
R3-X1	30" x 30"	RIGHT TURN LANE	1	1	2	0
R3-X2	30" x 30"	LEFT TURN LANE	1	0	0	1
R4-1	24" x 30"	DO NOT PASS	0	6	7	0
R5-1	30" x 30"	DO NOT ENTER	1	3	3	22
R6-1R	36" x 12"	ONE WAY	0	0	0	1
R6-1R	48" x 18"	ONE WAY	0	0	0	7
R4-7	24" x 30"	RIGHT TURN	1	2	2	10
X4-11	18" x 18"	RAISED PAVEMENT MARKERS	1	2	2	10
W1-4R	48" x 48"	RIGHT TURN	0	3	2	2
W1-4L	48" x 48"	LEFT TURN	0	1	2	0
W3-1	48" x 48"	STOP	0	2	3	3
W4-2L	36" x 36"	LANE CLOSED	0	0	0	2
W4-2L	48" x 48"	LANE CLOSED	1	1	2	0
W4-2R	48" x 48"	LANE CLOSED	1	1	0	2
W6-3	48" x 48"	LANE CLOSED	1	1	1	0

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4
W9-1	36" x 36"	RIGHT LANE ENDS	0	0	0	2
W20-100b	30" x 24"	500 FEET	0	0	0	1
W13-1	24" x 24"	30 M.P.H.	0	1	0	0
		XX M.P.H.	0	0	2	0
		35 M.P.H.	0	1	1	1
		40 M.P.H.	0	1	1	1
W20-1	48" x 48"	ROAD WORK AHEAD	19	18	19	23
W20-3	48" x 48"	ROAD CLOSED AHEAD	0	5	4	0
W20-X3L	36" x 36"	MERGE	0	0	0	2
W20-X3L	48" x 48"	MERGE	1	1	2	0
W20-X3R	48" x 48"	MERGE	1	1	0	2
W21-X1	48" x 48"	NO SHOULDER	0	4	4	0
W21-X5L	48" x 48"	LEFT LANE CLOSED	2	2	0	4
W21-X5R	48" x 48"	RIGHT LANE CLOSED	2	2	4	0
W1-7	48" x 24"	ONE WAY	0	4	6	0
TYPE III	8 FOOT	BARRICADE	2	4	4	0
W1-6	48" x 24"	ONE WAY	2	4	4	0
TYPE III	8 FOOT	BARRICADE	2	4	4	0

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4
W1-6	48" x 24"	ONE WAY	2	2	0	8
TYPE III	8 FOOT	BARRICADE	2	2	0	8
R6-1R	48" x 18"	ONE WAY	1	2	2	10
TYPE III		BARRICADE	1	2	2	10
TYPE III	8 FOOT	BARRICADE	11	25	37	2
TYPE III	8 FOOT	BARRICADE	3	16	26	17
G20-2a	48" x 24"	END ROAD WORK	5	4	4	4
REFLECTORIZED REBOUNDABLE DRUM		DRUM	221	241	224	283

TRAFFIC CONTROL DEVICE & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	REFLECTORIZED REBOUNDABLE DRUM
	SOLID LINE PAVEMENT MARKING WITH TRPM'S SPACED AT 10' INTERVALS (TEMPORARY RAISED PAVEMENT MARKERS)

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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-111\BASE\TRAFFIC\STGQTY.dwg, 02/23/2011 1:43:20 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
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 DATE: 2-24-11 REG. NO. 24756

DRAWN BY: ST DATE 12/10/10  
 DESIGN BY: ST DATE 12/10/10  
 CHECKED BY: JR DATE 12/15/10



ANOKA COUNTY  
 HIGHWAY DEPT.

S.P. 002-716-011  
 S.P. 199-020-008


STAGING  
 SIGNING QUANTITIES

ALIGNMENT TABULATION											
POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N		
<b>EB C.S.A.H. 116 &lt;EB_AL6&gt;</b>											
6000	POT	EB C.S.A.H. 116	100+00.000						456,747.3806	170,494.0729	
6001	POT		101+00.000						456,808.2567	170,414.7374	
	PC		101+38.833						456,831.8965	170,383.9293	S 37° 29' 59.76" E
EB_AL6-1	PI		103+92.445	19° 51' 02.22" LT	3° 57' 11.54"	1,449.350'	253.612'	502.140'	456,986.2854	170,182.7254	PI
	CC								457,981.7442	171,266.2364	
	PCC		106+40.973						457,199.8232	170,045.9024	S 57° 21' 01.97" E
	PC		106+40.973						457,199.8232	170,045.9024	S 57° 21' 01.97" E
EB_AL6-2	PI		110+85.173	31° 21' 30.06" LT	3° 37' 14.11"	1,582.500'	444.200'	866.112'	457,573.8340	169,806.2575	PI
	CC								458,053.5784	171,378.3469	
	PT		115+07.085						458,017.9213	169,796.2487	S 88° 42' 32.03" E
6002	POT		118+27.670						458,338.4252	169,789.0252	
6003	POT		127+24.532						459,235.2312	169,779.0380	
	PC		138+13.544						460,324.2406	169,776.4142	S 89° 51' 43.04" E
EB_AL6-3	PI		140+80.829	34° 54' 42.16" RT	6° 44' 26.45"	850.000'	267.284'	517.926'	460,591.5240	169,775.7702	PI
	CC								460,322.1926	168,926.4167	
	PT		143+31.470						460,810.3371	169,622.2723	S 54° 57' 00.88" E
	PC		146+97.230						461,109.7677	169,412.2209	S 54° 57' 00.88" E
EB_AL6-4	PI		149+67.885	33° 43' 21.07" LT	6° 24' 57.96"	893.000'	270.655'	525.592'	461,331.3402	169,256.7873	PI
	CC								461,622.6066	170,143.2786	
	PT		152+22.822						461,601.9224	169,250.5182	S 88° 40' 21.94" E
	PC		162+48.400						462,627.2254	169,226.7631	S 88° 40' 21.94" E
EB_AL6-5	PI		166+97.030	4° 29' 02.65" RT	0° 30' 00.02"	11,459.000'	448.630'	896.802'	463,075.7349	169,216.3717	PI
	CC								462,361.8051	157,770.8375	
	PT		171+45.202						463,522.0591	169,170.9467	S 84° 11' 19.29" E
6004	POT		176+00.000						463,974.5198	169,124.8972	

ALIGNMENT TABULATION											
POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N		
<b>WB C.S.A.H. 116 &lt;WB_AL6&gt;</b>											
7000	POT	WB C.S.A.H. 116	100+00.000						456,766.8260	170,508.9939	
	PC		101+00.004						456,827.7046	170,429.6552	S 38° 07' 31.54" E
WB_AL6-1	PI		103+41.007	19° 13' 30.30" LT	4° 01' 35.07"	1,423.000'	241.003'	477.475'	456,976.4961	170,240.0677	PI
	CC								457,947.1233	171,308.1942	
	PT		105+77.479						457,179.4173	170,110.0471	S 57° 21' 01.84" E
	PC		106+29.265						457,223.0208	170,082.1084	S 57° 21' 01.84" E
WB_AL6-2	PI		110+61.396	31° 21' 30.19" LT	3° 43' 18.17"	1,539.500'	432.131'	842.579'	457,586.8692	169,848.9746	PI
	CC								458,053.5784	171,378.3469	
	PT		114+71.845						458,018.8902	169,839.2378	S 88° 42' 32.03" E
7001	POT		117+92.185						458,339.1491	169,832.0198	
7002	POT		126+88.614						459,235.5224	169,822.0374	
	PC		137+77.439						460,324.3442	169,819.4141	S 89° 51' 43.04" E
WB_AL6-3	PI		140+58.244	34° 54' 42.16" RT	6° 24' 57.96"	893.000'	280.806'	544.127'	460,605.1489	169,818.7375	PI
	CC								460,322.1926	168,926.4167	
	PT		143+21.565						460,835.0315	169,657.4744	S 54° 57' 00.88" E
	PC		146+87.325						461,134.4621	169,447.4230	S 54° 57' 00.88" E
WB_AL6-4	PI		149+44.947	33° 43' 21.07" LT	6° 44' 26.45"	850.000'	257.622'	500.284'	461,345.3654	169,299.4739	PI
	CC								461,622.6066	170,143.2786	
	PT		151+87.609						461,602.9183	169,293.5067	S 88° 40' 21.94" E
	PC		162+13.187						462,628.2214	169,269.7516	S 88° 40' 21.94" E
WB_AL6-5	PI		166+63.500	4° 29' 02.65" RT	0° 29' 53.30"	11,502.000'	450.313'	900.167'	463,078.4139	169,259.3212	PI
	CC								462,361.8051	157,770.8375	
	PT		171+13.354						463,526.4130	169,213.7258	S 84° 11' 19.29" E
7003	POT		175+67.928						463,978.6511	169,167.6989	

ALIGNMENT TABULATION											
POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
<b>NB C.S.A.H. 57 &lt;NB57_AL3&gt;</b>											
19800	POT	NB C.S.A.H. 57	198+00.000						458,115.2418	168,658.5211	
19801	POT		203+69.915						458,110.8837	169,228.4197	
19802	POT		210+00.000						458,099.4936	169,858.4018	
19803	POT		216+28.689						458,094.6383	170,487.0719	
	PC		219+48.732						458,086.3492	170,807.0079	N 1° 29' 02.84" W
NB57_AL3-1	PI		220+44.473	1° 54' 52.19" RT	0° 59' 59.73"	5,730.000'	95.741'	191.464'	458,083.8695	170,902.7165	PI
	CC								463,814.4270	170,955.4144	
	PT		221+40.196						458,084.5886	170,998.4546	N 0° 25' 49.35" E
19804	POT		222+73.355						458,085.5889	171,131.6099	

ALIGNMENT TABULATION											
POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
<b>SB C.S.A.H. 57 &lt;SB57_AL3&gt;</b>											
19900	POT	SB C.S.A.H. 57	198+00.000						458,071.2429	168,658.2021	
19901	POT		204+65.538						458,066.1536	169,323.7211	
19902	POT		209+99.752						458,056.4966	169,857.8471	
	PC		216+28.665						458,051.6395	170,486.7413	N 0° 26' 32.98" W
SB57_AL3-1	PI		218+73.087	2° 26' 38.00" RT	0° 30' 00.02"	11,459.000'	244.423'	488.771'	458,049.7519	170,731.1566	PI
	CC								469,510.2978	170,575.2383	
	PRC		221+17.436						458,058.2880	170,975.4301	N 2° 00' 05.01" E
	PRC		221+17.436						458,058.2880	170,975.4301	N 2° 00' 05.01" E
SB57_AL3-2	PI		221+95.637	1° 33' 49.75" LT	0° 59' 59.73"	5,730.000'	78.202'	156.393'	458,061.0191	171,053.5839	PI
	CC								452,331.7834	171,175.5434	
	PT		222+73.829						458,061.6164	171,131.7831	N 0° 26' 15.27" E

NO DATE BY CKD APPR NAME: p:\02-716-11\Plan\0271611_ALI_PLAN1.dgn		REVISION 02/23/2011 9:28:50 AM		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. PRINT NAME: CURT KOBLARCSIK SIGNATURE: <i>Curt Koblarsik</i> DATE: 2-24-11 LICENSE NO.: 24756		DRAWN BY: BAV DATE: 02/23/2011 DESIGN BY: MN DATE: 02/23/2011 CHECKED BY: CAK DATE: 02/23/2011		 <b>ANOKA COUNTY HIGHWAY DEPT.</b>		S.P. 002-716-011 S.P. 199-020-008		ALIGNMENT TABULATION Sheet 78 of 264 Sheets	
--	--	-----------------------------------	--	--	--	--	--	---	--	--------------------------------------	--	--	--

BEGIN CONSTRUCTION  
STA. 100+00 (LEB)

PT. #7000 WB POT. 1.  
PT. #6000 EB POT. 100+00.00

WB PC. 101+00.00  
PT. #6001 EB POT. 101+00.00  
EB PC. 101+38.83

CURVE WB\_AL6-1  
PI 103+41.01  
X 456,976.496  
Y 170,240.068  
Δ 19° 13' 30.30" (LT)  
D 4° 01' 35.07"  
T 241.00'  
L 477.47'  
R 1,423.00'  
PC 101+00.00  
PT 105+77.48

CURVE EB\_AL6-1  
PI 103+92.44  
X 456,986.285  
Y 170,182.725  
Δ 19° 51' 02.22" (LT)  
D 3° 57' 11.54"  
T 253.61'  
L 502.14'  
R 1,449.35'  
PC 101+38.83  
PT 106+40.97

WB PT. 105+77.48  
WB PC. 106+29.27  
EB PCC. 106+40.97

CURVE WB\_AL6-2  
PI 110+61.40  
X 457,586.869  
Y 169,848.975  
Δ 31° 21' 30.19" (LT)  
D 3° 43' 18.17"  
T 432.13'  
L 842.58'  
R 1,539.50'  
PC 106+29.27  
PT 114+71.84

CURVE EB\_AL6-2  
PI 110+85.17  
X 457,573.834  
Y 169,806.257  
Δ 31° 21' 30.06" (LT)  
D 3° 37' 14.11"  
T 444.20'  
L 866.11'  
R 1,582.50'  
PC 106+40.97  
PT 115+07.09



☉ AZURITE ST

☉ WB CSAH 116

☉ EB CSAH 116

☉ SB CSAH 57

☉ NB CSAH 57

PT. #19803 NB  
SB PC. 216+28.66

PT. #19802 NB POT. 210+00.00  
PT. #199021 SB POT. 209+99.75

WB PT. 114+71.84  
EB PT. 115+07.09

MATCH LINE STA. 117+00 (LEB)

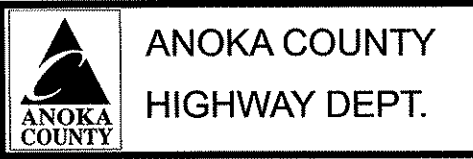
NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_ALI\_PLAN2.dgn 02/23/2011 9:28:55 AM

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.

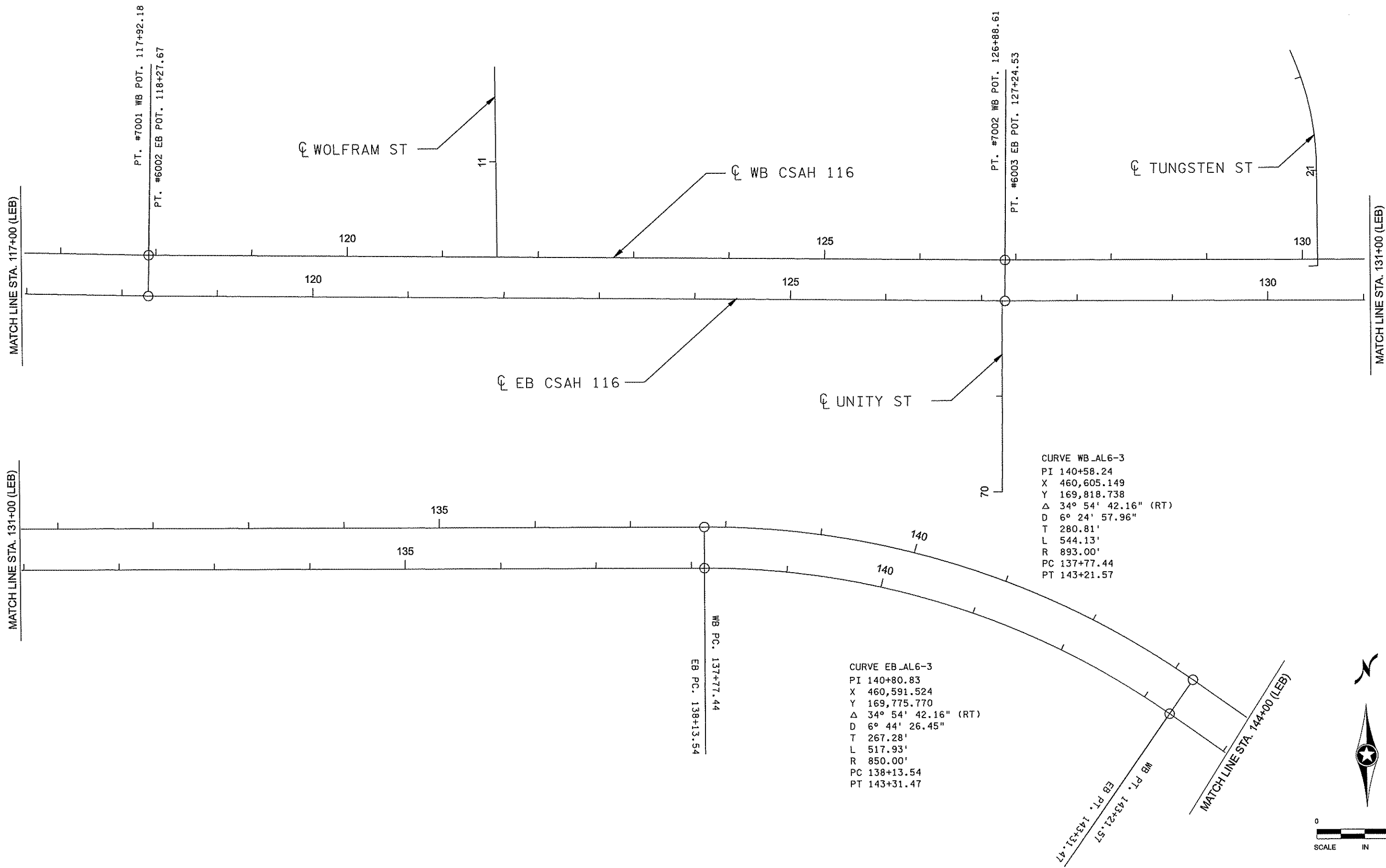
PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarcsik*  
DATE: 2-24-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 02/23/2011  
DESIGN BY: MN DATE: 02/23/2011  
CHECKED BY: CAK DATE: 02/23/2011



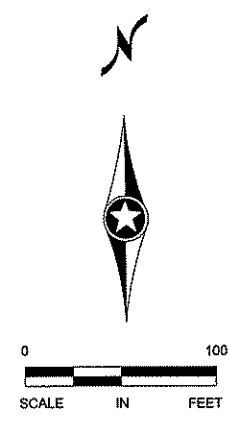
S.P. 002-716-011  
S.P. 199-020-008

CSAH 116 ALIGNMENT PLAN  
STA 100+00.00 TO 117+00.00  
Sheet 79 of 264 Sheets



CURVE WB\_AL6-3  
 PI 140+58.24  
 X 460,605.149  
 Y 169,818.738  
 $\Delta$  34° 54' 42.16" (RT)  
 D 6° 24' 57.96"  
 T 280.81'  
 L 544.13'  
 R 893.00'  
 PC 137+77.44  
 PT 143+21.57

CURVE EB\_AL6-3  
 PI 140+80.83  
 X 460,591.524  
 Y 169,775.770  
 $\Delta$  34° 54' 42.16" (RT)  
 D 6° 44' 26.45"  
 T 267.28'  
 L 517.93'  
 R 850.00'  
 PC 138+13.54  
 PT 143+31.47



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_ALI\_PLAN3.dgn      02/23/2011      9:28:58 AM

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.

PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11      LICENSE NO. 24756

DRAWN BY: BAV      DATE 02/23/2011  
 DESIGN BY: MN      DATE 02/23/2011  
 CHECKED BY: CAK      DATE 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

CSAH 116 ALIGNMENT PLAN  
 STA 117+00.00 TO 144+00.00  
 Sheet 80 of 264 Sheets



MATCH LINE STA. 144+00 (LEB)

145  
145

WB PC. 146+87.33  
EB PC. 146+97.23

CURVE WB\_AL6-4  
PI 149+44.95  
X 461,345.365  
Y 169,299.474  
Δ 33° 43' 21.07" (LT)  
D 6° 44' 26.45"  
T 257.62'  
L 500.28'  
R 850.00'  
PC 146+87.33  
PT 151+87.61

CURVE EB\_AL6-4  
PI 149+67.88  
X 461,331.340  
Y 169,256.787  
Δ 33° 43' 21.07" (LT)  
D 6° 24' 57.96"  
T 270.65'  
L 525.59'  
R 893.00'  
PC 146+97.23  
PT 152+22.82

WB PT. 151+87.61  
EB PT. 152+22.82

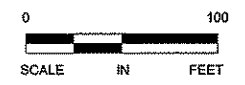
☉ MAGNESIUM ST

☉ KRYPTON ST

☉ WB CSAH 116

☉ EB CSAH 116

MATCH LINE STA. 159+00 (LEB)



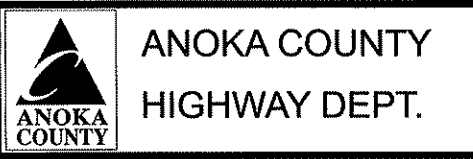
NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_ALI\_PLAN4.dgn 02/23/2011 9:29:01 AM

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.

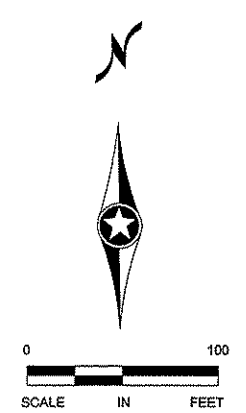
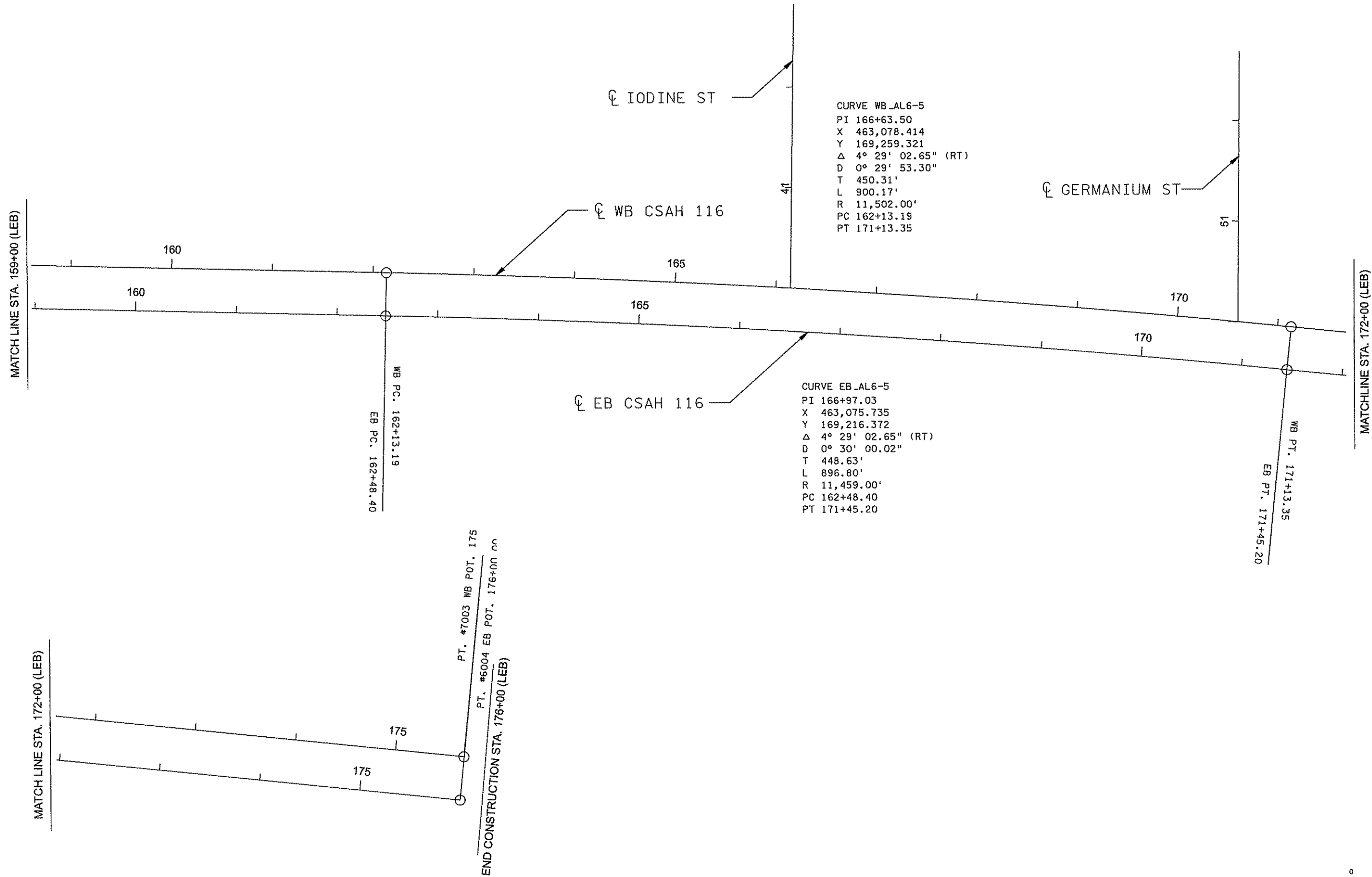
PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobilarcsik*  
DATE: 2-24-11 LICENSE NO. 24766

DRAWN BY: BAV DATE: 02/23/2011  
DESIGN BY: MN DATE: 02/23/2011  
CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
S.P. 199-020-008

CSAH 116 ALIGNMENT PLAN  
STA 144+00.00 TO 159+00.00  
Sheet 81 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_ALI\_PLAN5.dgn  
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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.

PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

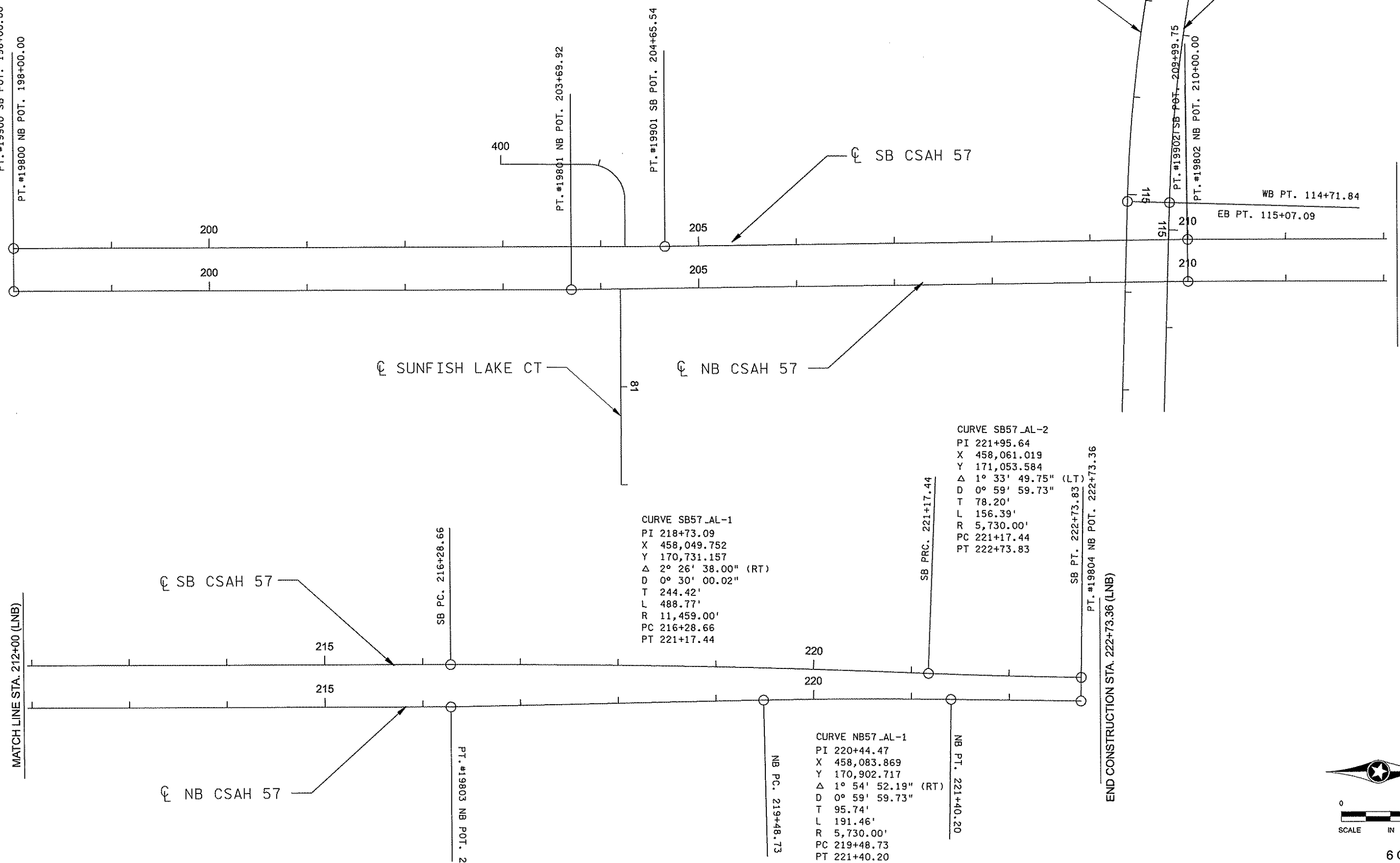
CSAH 116 ALIGNMENT PLAN  
 STA 159+00.00 TO 176+00.00  
 Sheet 82 of 264 Sheets

BEGIN CONSTRUCTION STA. 198+00 (LNB)  
 PT. #19900 SB POT. 198+00.00  
 PT. #19800 NB POT. 198+00.00

MATCH LINE STA. 212+00 (LNB)

MATCH LINE STA. 212+00 (LNB)

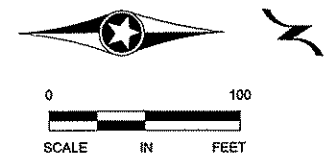
END CONSTRUCTION STA. 222+73.36 (LNB)



CURVE SB57\_AL-1  
 PI 218+73.09  
 X 458,049.752  
 Y 170,731.157  
 $\Delta$  2° 26' 38.00" (RT)  
 D 0° 30' 00.02"  
 T 244.42'  
 L 488.77'  
 R 11,459.00'  
 PC 216+28.66  
 PT 221+17.44

CURVE SB57\_AL-2  
 PI 221+95.64  
 X 458,061.019  
 Y 171,053.584  
 $\Delta$  1° 33' 49.75" (LT)  
 D 0° 59' 59.73"  
 T 78.20'  
 L 156.39'  
 R 5,730.00'  
 PC 221+17.44  
 PT 222+73.83

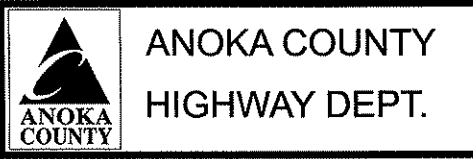
CURVE NB57\_AL-1  
 PI 220+44.47  
 X 458,083.869  
 Y 170,902.717  
 $\Delta$  1° 54' 52.19" (RT)  
 D 0° 59' 59.73"  
 T 95.74'  
 L 191.46'  
 R 5,730.00'  
 PC 219+48.73  
 PT 221+40.20



NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_ALL_PLAN6.dgn					

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.  
 PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

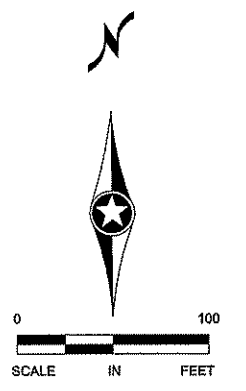
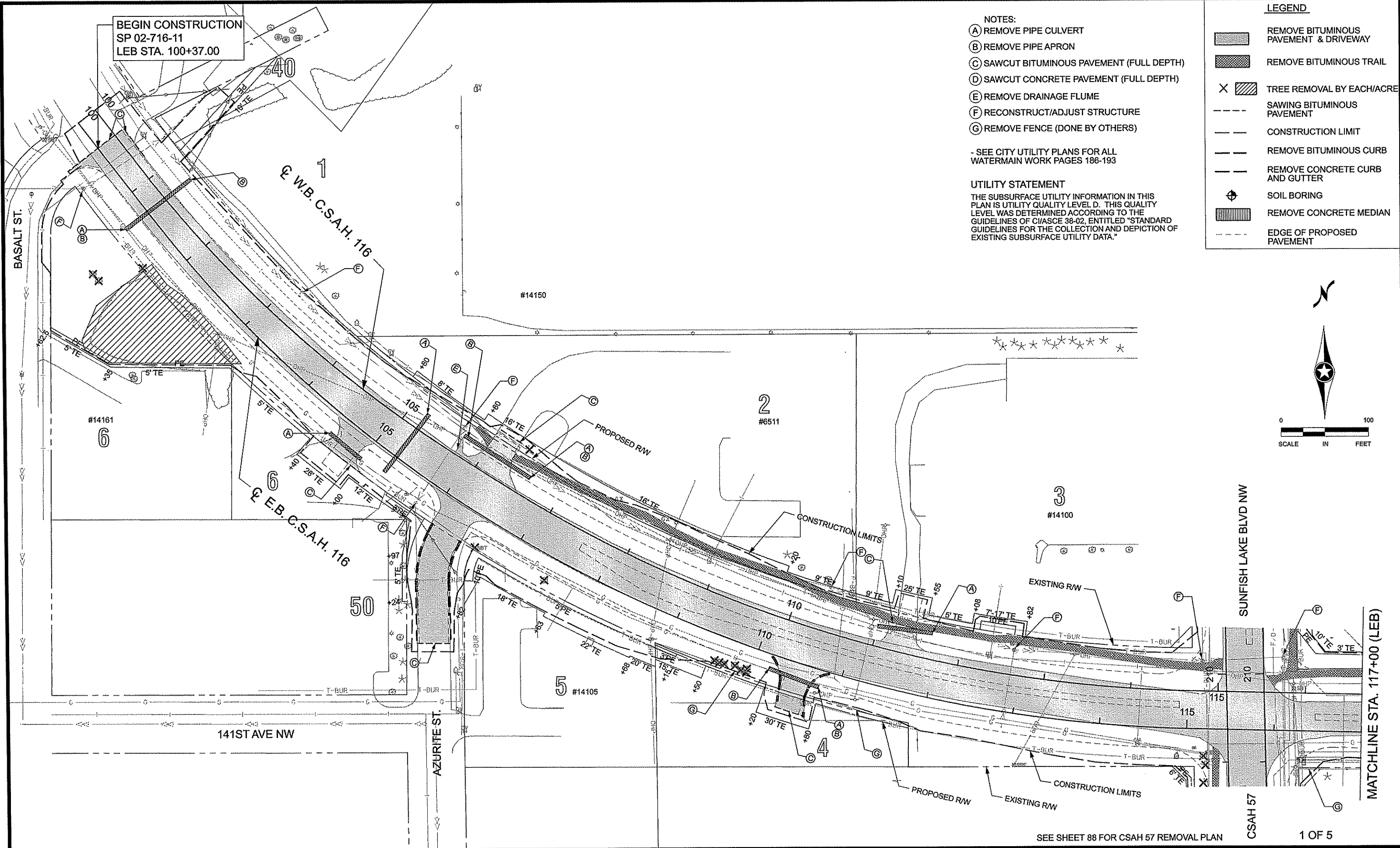
CSAH 57 ALIGNMENT PLAN  
 STA 198+00.00 TO 222+73.36  
 Sheet 83 of 264 Sheets

BEGIN CONSTRUCTION  
SP 02-716-11  
LEB STA. 100+37.00

- NOTES:
- (A) REMOVE PIPE CULVERT
  - (B) REMOVE PIPE APRON
  - (C) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
  - (D) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
  - (E) REMOVE DRAINAGE FLUME
  - (F) RECONSTRUCT/ADJUST STRUCTURE
  - (G) REMOVE FENCE (DONE BY OTHERS)
- SEE CITY UTILITY PLANS FOR ALL WATERMAIN WORK PAGES 186-193

UTILITY STATEMENT  
THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

- LEGEND
- [Hatched Box] REMOVE BITUMINOUS PAVEMENT & DRIVEWAY
  - [Dotted Box] REMOVE BITUMINOUS TRAIL
  - [X in Box] TREE REMOVAL BY EACH/ACRE
  - [Dashed Line] SAWING BITUMINOUS PAVEMENT
  - [Long Dash Line] CONSTRUCTION LIMIT
  - [Short Dash Line] REMOVE BITUMINOUS CURB
  - [Dash-Dash Line] REMOVE CONCRETE CURB AND GUTTER
  - [Circle with Star] SOIL BORING
  - [Hatched Box] REMOVE CONCRETE MEDIAN
  - [Dotted Line] EDGE OF PROPOSED PAVEMENT



SEE SHEET 88 FOR CSAH 57 REMOVAL PLAN

1 OF 5

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:02-716-11\Plant\0271611_RM1.dgn					

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.

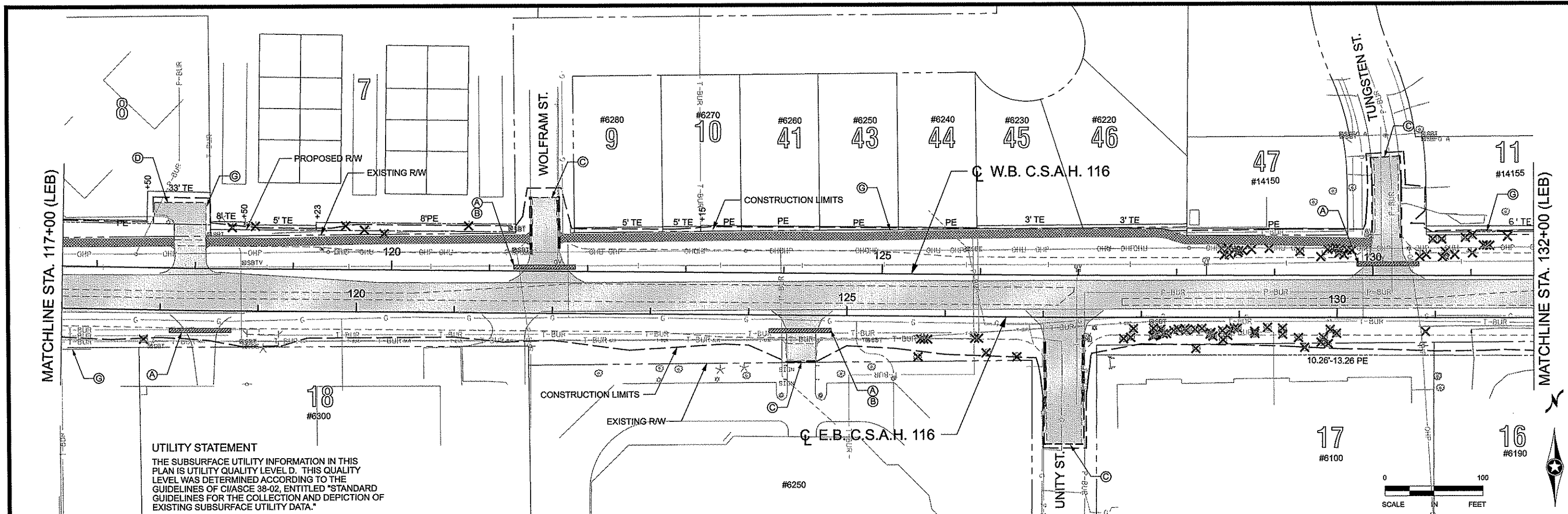
PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarcsik*  
DATE: 2-29-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/24/2011  
DESIGN BY: MN DATE: 02/24/2011  
CHECKED BY: CAK DATE: 02/24/2011

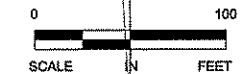


S.P. 002-716-011  
S.P. 199-020-008

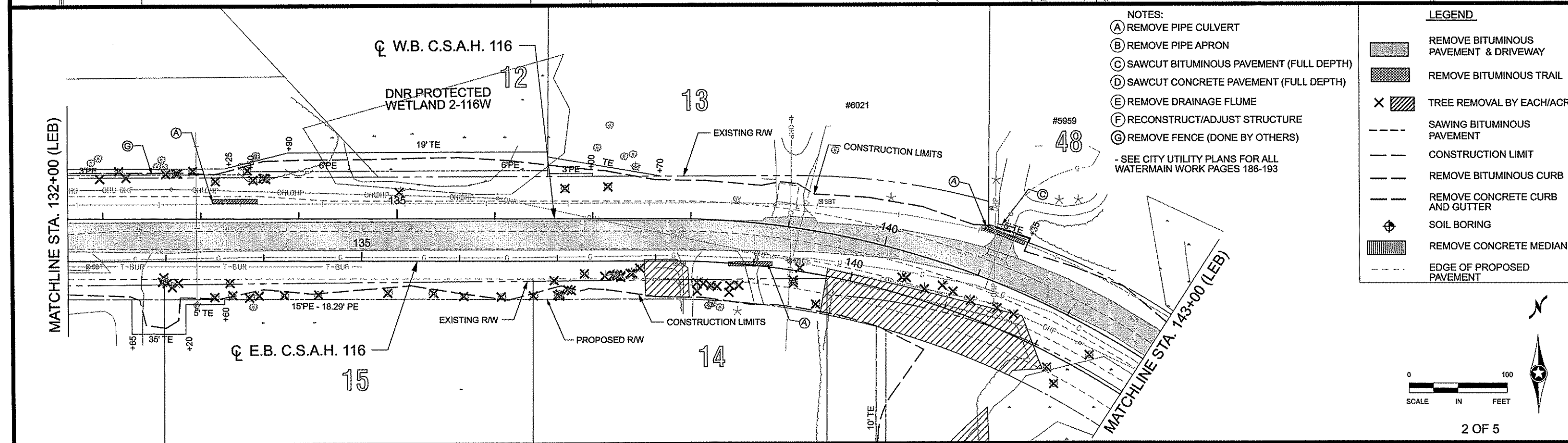
REMOVAL PLAN  
C.S.A.H.116  
STA 100+37.00 TO 117+00.00  
Sheet 84 of 264 Sheets



**UTILITY STATEMENT**  
 THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

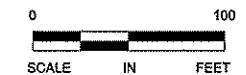


16  
#6190



- NOTES:**
- (A) REMOVE PIPE CULVERT
  - (B) REMOVE PIPE APRON
  - (C) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
  - (D) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
  - (E) REMOVE DRAINAGE FLUME
  - (F) RECONSTRUCT/ADJUST STRUCTURE
  - (G) REMOVE FENCE (DONE BY OTHERS)
- SEE CITY UTILITY PLANS FOR ALL WATERMAIN WORK PAGES 186-193

- LEGEND**
- [Pattern] REMOVE BITUMINOUS PAVEMENT & DRIVEWAY
  - [Pattern] REMOVE BITUMINOUS TRAIL
  - [Symbol] TREE REMOVAL BY EACH/ACRE
  - [Symbol] SAWING BITUMINOUS PAVEMENT
  - [Symbol] CONSTRUCTION LIMIT
  - [Symbol] REMOVE BITUMINOUS CURB
  - [Symbol] REMOVE CONCRETE CURB AND GUTTER
  - [Symbol] SOIL BORING
  - [Symbol] REMOVE CONCRETE MEDIAN
  - [Symbol] EDGE OF PROPOSED PAVEMENT



NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_RM2.dgn  
 02/24/2011 10:42:19 AM

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.

PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 2-24-11 LICENSE NO.: 24766

DRAWN BY: BAV DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

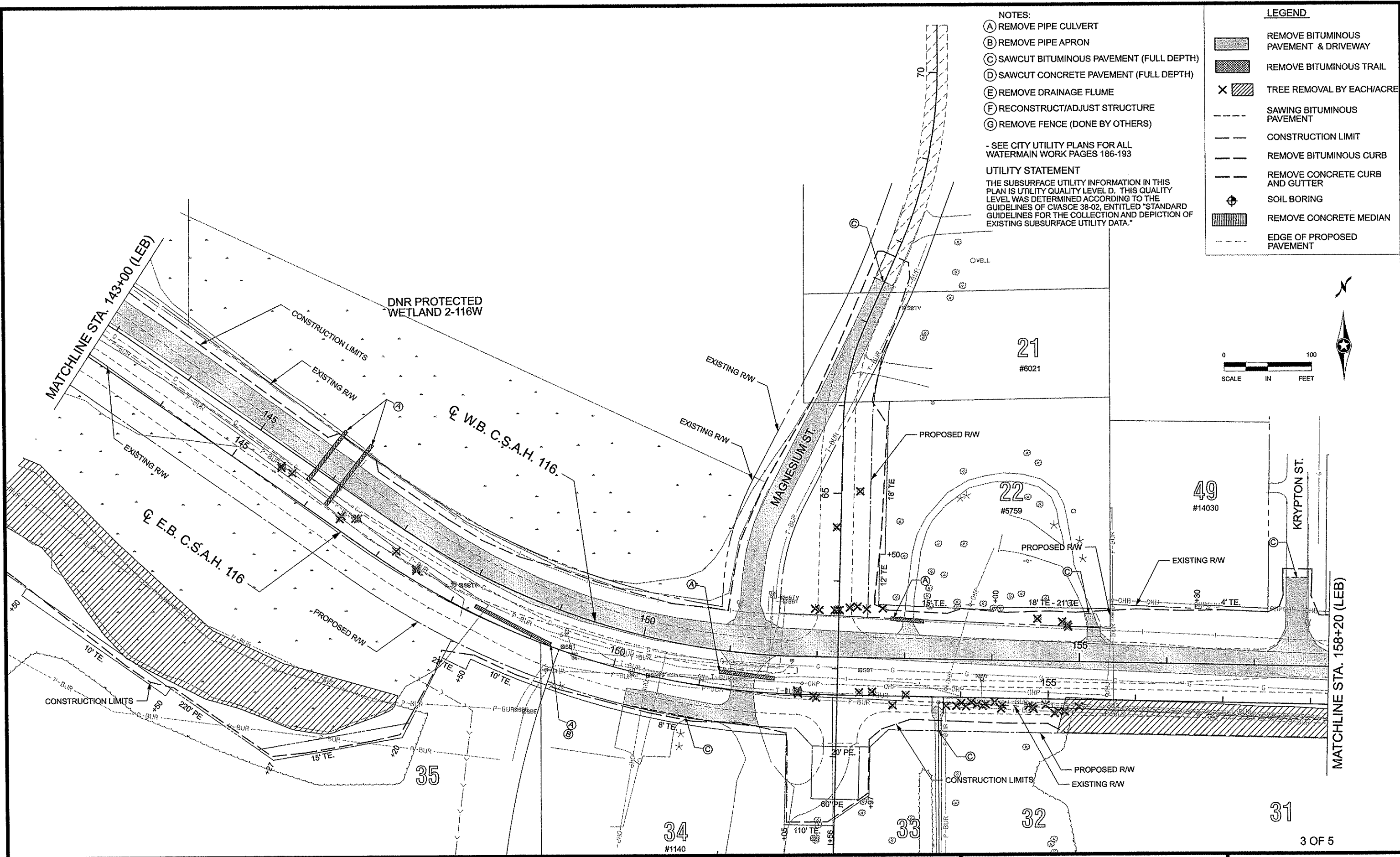
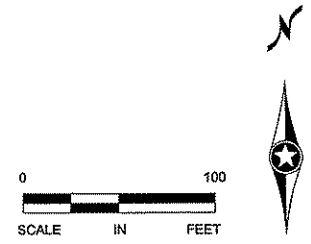
S.P. 002-716-011  
 S.P. 199-020-008

**REMOVAL PLAN**  
**C.S.A.H. 116**  
 STA 117+00.00 TO 143+00.00  
 Sheet 85 of 264 Sheets

- NOTES:
- (A) REMOVE PIPE CULVERT
  - (B) REMOVE PIPE APRON
  - (C) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
  - (D) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
  - (E) REMOVE DRAINAGE FLUME
  - (F) RECONSTRUCT/ADJUST STRUCTURE
  - (G) REMOVE FENCE (DONE BY OTHERS)
- SEE CITY UTILITY PLANS FOR ALL WATERMAIN WORK PAGES 186-193

UTILITY STATEMENT  
 THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

- LEGEND
- REMOVE BITUMINOUS PAVEMENT & DRIVEWAY
  - REMOVE BITUMINOUS TRAIL
  - TREE REMOVAL BY EACH/ACRE
  - SAWING BITUMINOUS PAVEMENT
  - CONSTRUCTION LIMIT
  - REMOVE BITUMINOUS CURB
  - REMOVE CONCRETE CURB AND GUTTER
  - SOIL BORING
  - REMOVE CONCRETE MEDIAN
  - EDGE OF PROPOSED PAVEMENT



NO	DATE	BY	CRD	APPR	REVISION
NAME: p:102-716-111\Plan\0271611_RM3.dgn					

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.

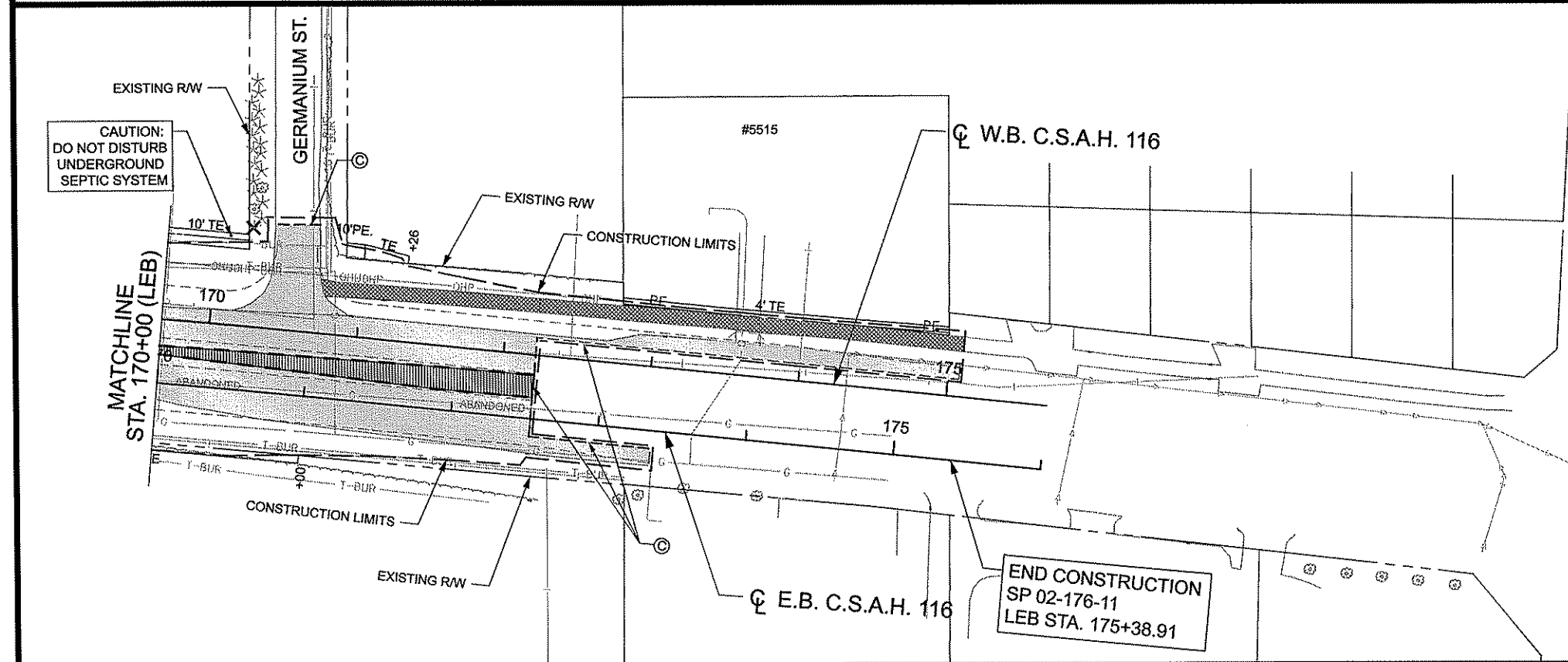
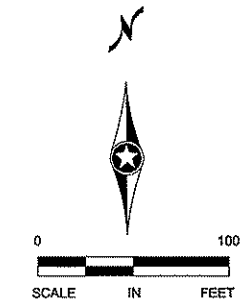
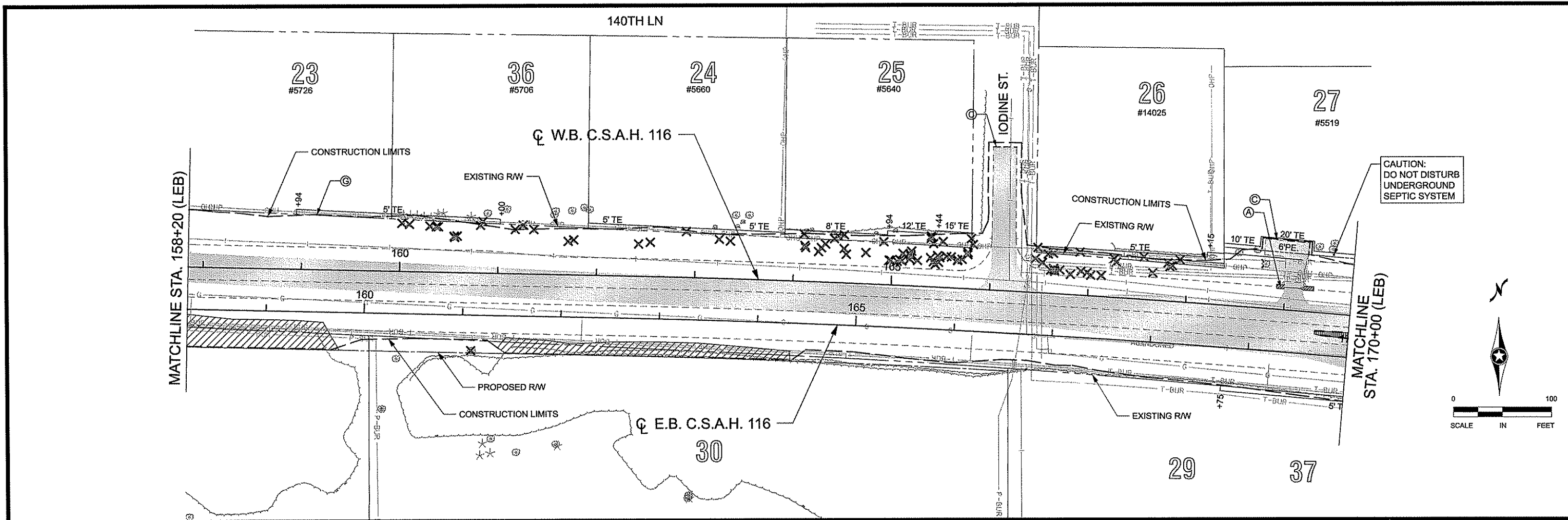
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011



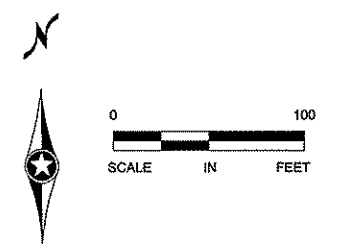
S.P. 002-716-011  
 S.P. 199-020-008

REMOVAL PLAN  
 C.S.A.H. 116  
 STA 143+00.00 TO 158+20.00  
 Sheet 86 of 264 Sheets



- NOTES:**
- (A) REMOVE PIPE CULVERT
  - (B) REMOVE PIPE APRON
  - (C) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
  - (D) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
  - (E) REMOVE DRAINAGE FLUME
  - (F) RECONSTRUCT/ADJUST STRUCTURE
  - (G) REMOVE FENCE (DONE BY OTHERS)
- SEE CITY UTILITY PLANS FOR ALL WATERMAIN WORK PAGES 186-193
- UTILITY STATEMENT**  
 THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

- LEGEND**
- [Hatched Box] REMOVE BITUMINOUS PAVEMENT & DRIVEWAY
  - [Cross-hatched Box] REMOVE BITUMINOUS TRAIL
  - [X in Box] TREE REMOVAL BY EACH/ACRE
  - [Dashed Line] SAWING BITUMINOUS PAVEMENT
  - [Long Dash Line] CONSTRUCTION LIMIT
  - [Short Dash Line] REMOVE BITUMINOUS CURB
  - [Dash-Dot Line] REMOVE CONCRETE CURB AND GUTTER
  - [Circle with Cross] SOIL BORING
  - [Hatched Box] REMOVE CONCRETE MEDIAN
  - [Dotted Line] EDGE OF PROPOSED PAVEMENT



4 OF 5

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_RM4.dgn					

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.

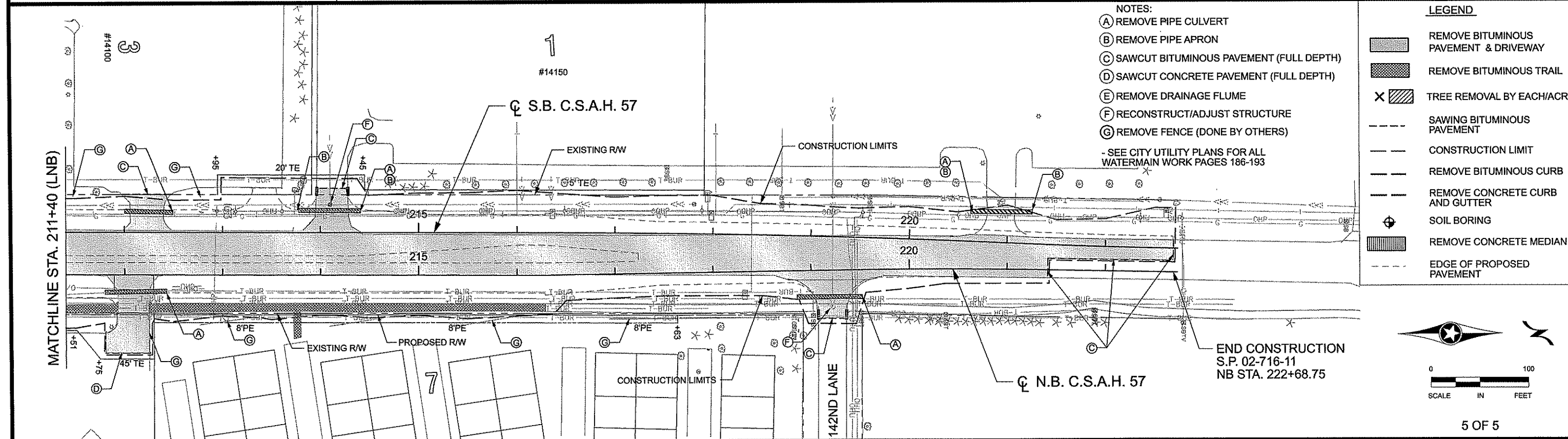
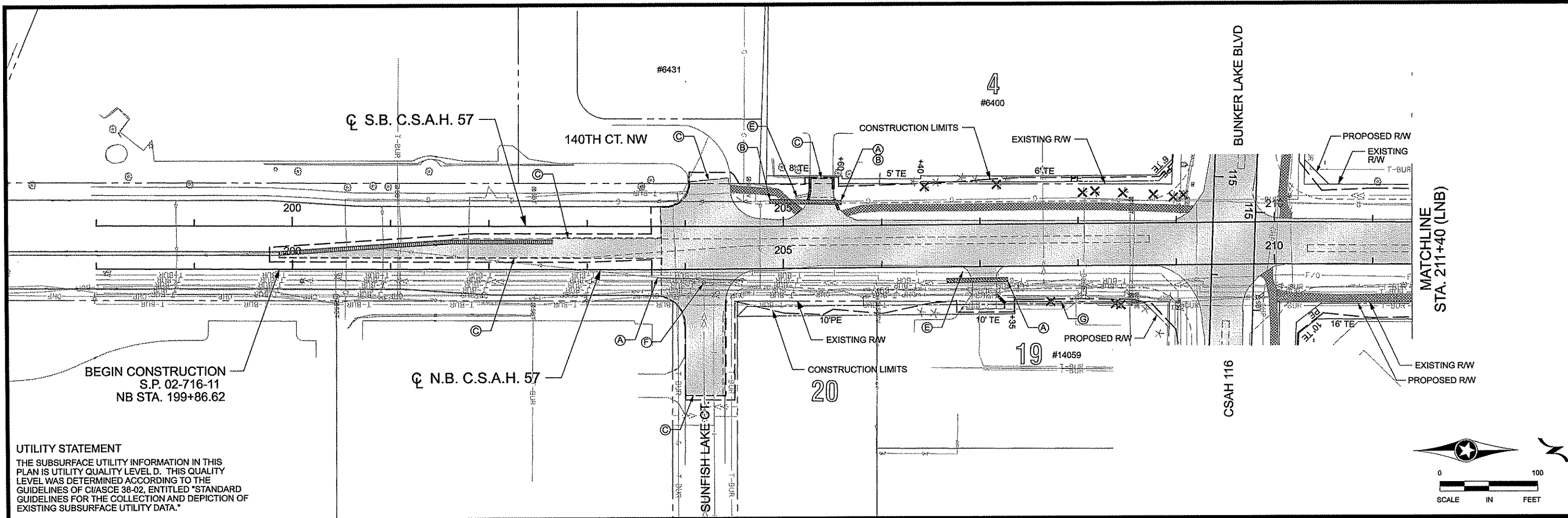
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011



S.P. 002-716-011  
 S.P. 199-020-008

REMOVAL PLAN  
 C.S.A.H. 116  
 STA 158+20.00 TO 175+38.91  
 Sheet 87 of 264 Sheets



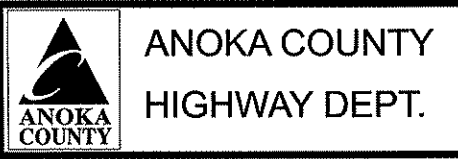
NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_RM5.dgn  
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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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011



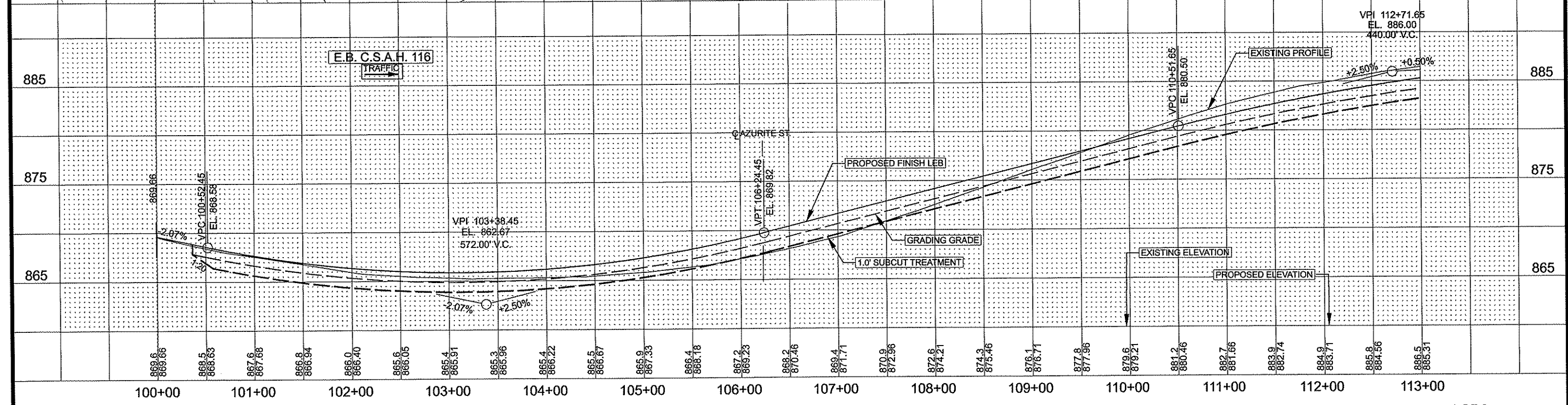
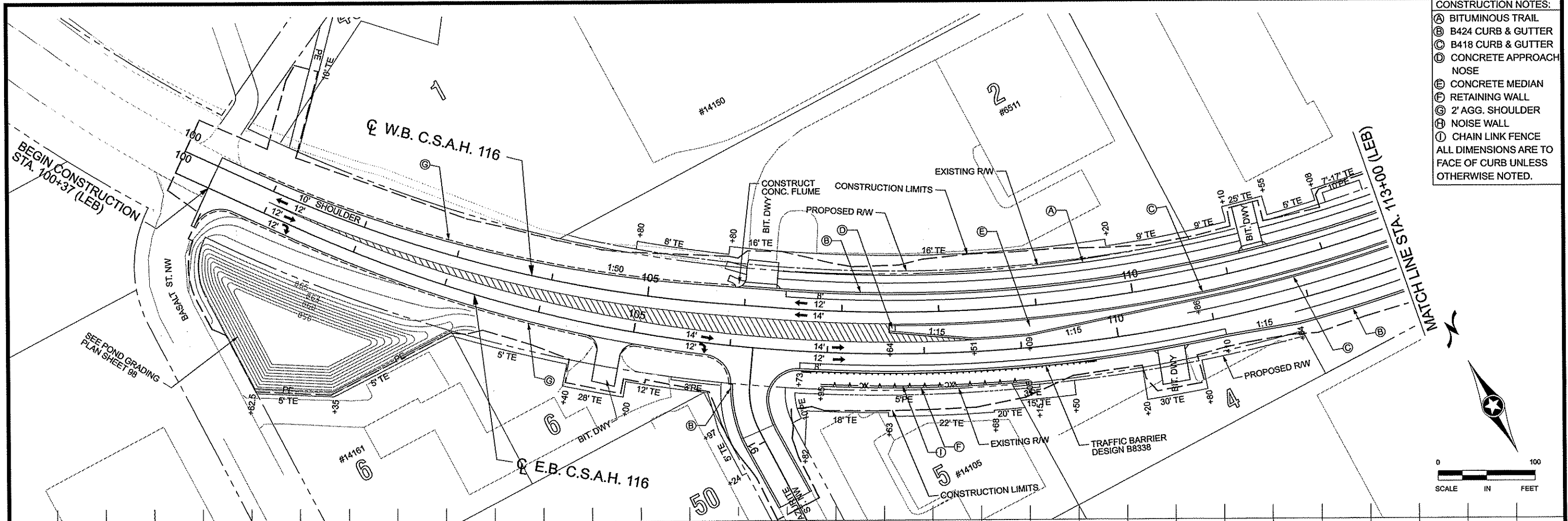
S.P. 002-716-011  
 S.P. 199-020-008

**REMOVAL PLAN**  
**C.S.A.H. 57**  
 STA 199+86.62 TO 222+68.75  
 Sheet 88 of 264 Sheets



CONSTRUCTION NOTES:

- (A) BITUMINOUS TRAIL
  - (B) B424 CURB & GUTTER
  - (C) B418 CURB & GUTTER
  - (D) CONCRETE APPROACH NOSE
  - (E) CONCRETE MEDIAN
  - (F) RETAINING WALL
  - (G) 2' AGG. SHOULDER
  - (H) NOISE WALL
  - (I) CHAIN LINK FENCE
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

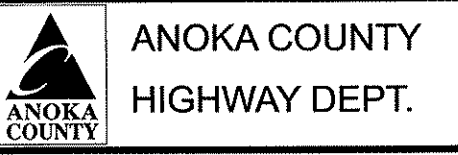


1	4/12/11	BAV	JEO	CAK	ADDED FENCE NOTE
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_PP1.dgn					

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 4-14-11 LICENSE NO. 24756

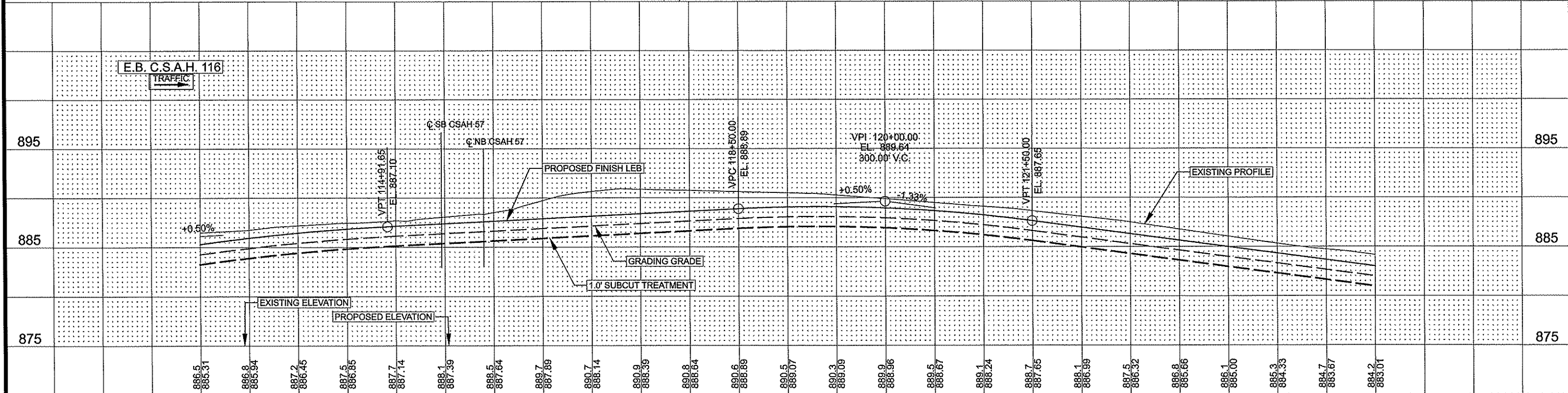
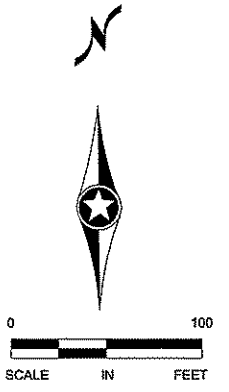
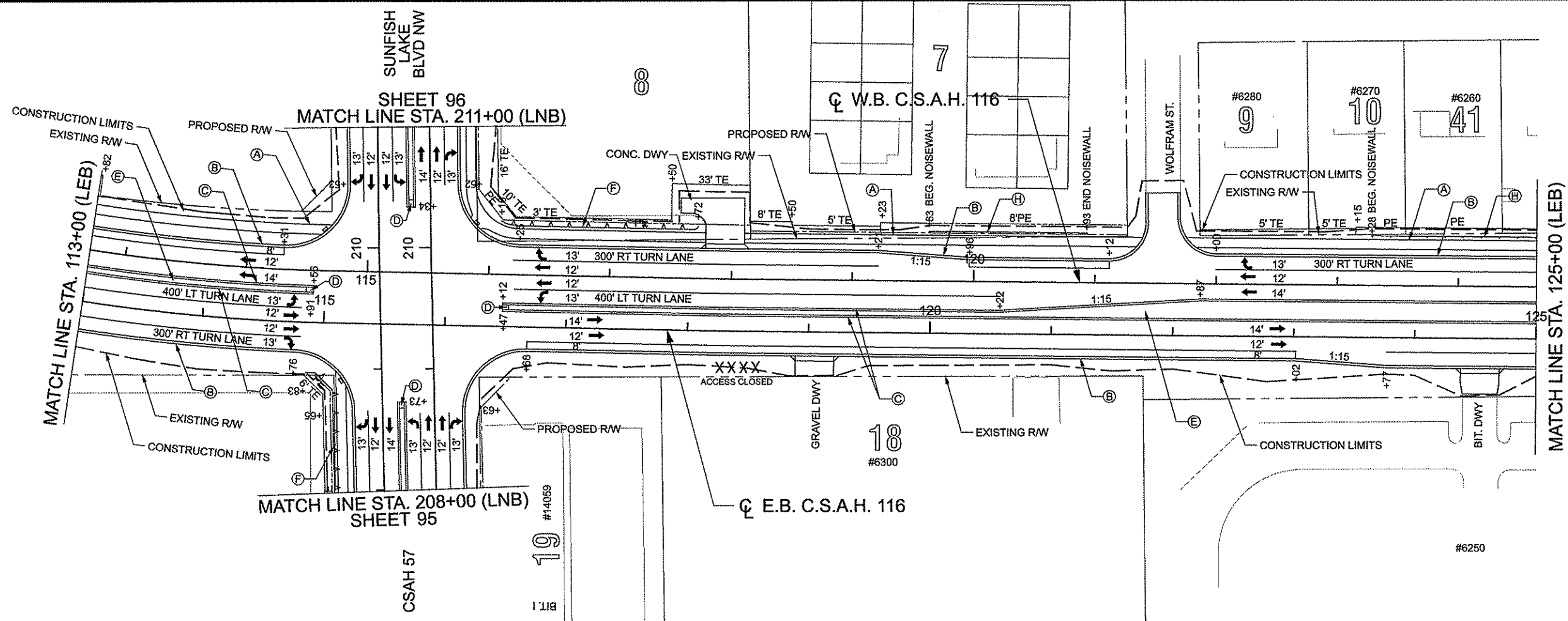
DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION PLAN AND PROFILE  
 STA 100+37.00 TO 113+00.00  
 Sheet 89 of 264 Sheets

- CONSTRUCTION NOTES:**
- (A) BITUMINOUS TRAIL
  - (B) B424 CURB & GUTTER
  - (C) B418 CURB & GUTTER
  - (D) CONCRETE APPROACH NOSE
  - (E) CONCRETE MEDIAN
  - (F) RETAINING WALL
  - (G) 2' AGG. SHOULDER
  - (H) NOISE WALL
  - (I) CHAIN LINK FENCE
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.



886.5	885.31	886.8	885.94	887.2	886.45	887.5	886.85	887.7	887.14	888.1	887.39	888.5	887.64	889.7	887.89	890.7	888.14	890.9	888.39	890.8	888.64	890.6	888.89	890.5	889.07	890.3	889.09	889.9	888.96	889.5	888.67	889.1	888.24	888.7	887.65	888.1	886.99	887.5	886.32	886.8	885.66	886.1	885.00	885.3	884.33	884.7	883.67	884.2	883.01
113+00	114+00	115+00	116+00	117+00	118+00	119+00	120+00	121+00	122+00	123+00	124+00	125+00																																					

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_PP2.dgn					02/23/2011
					9:31:53 AM

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.

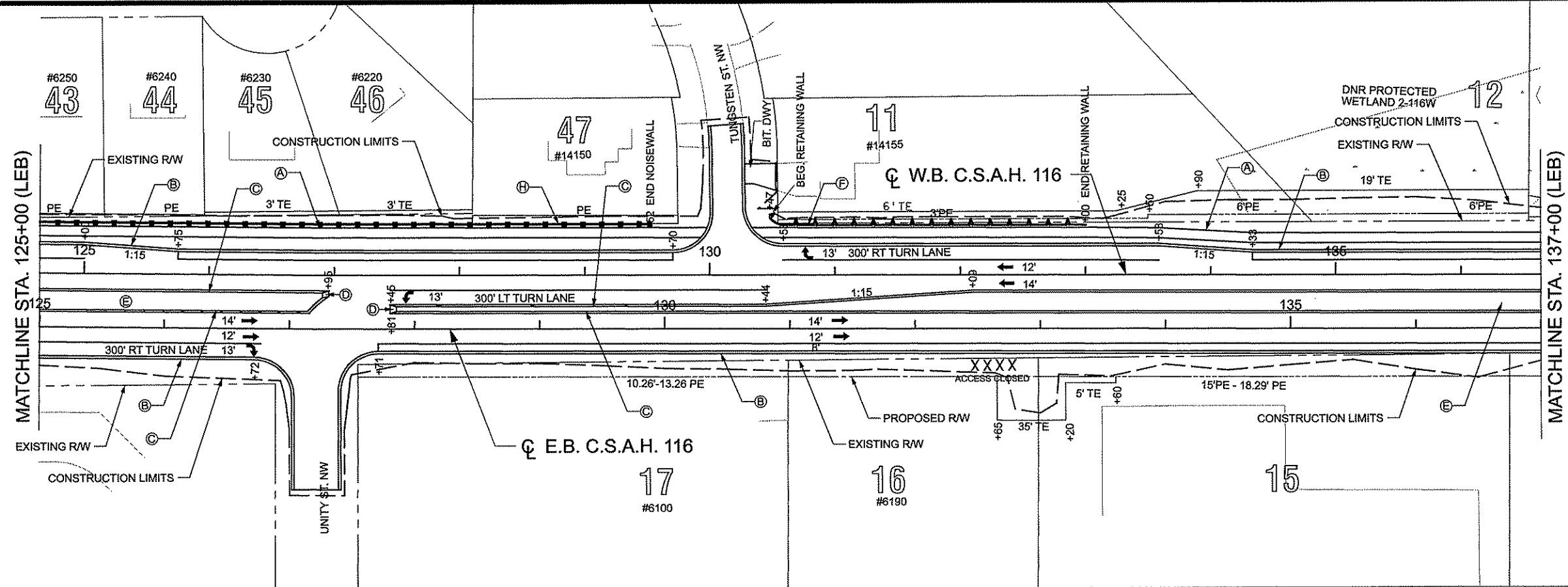
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAW DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011

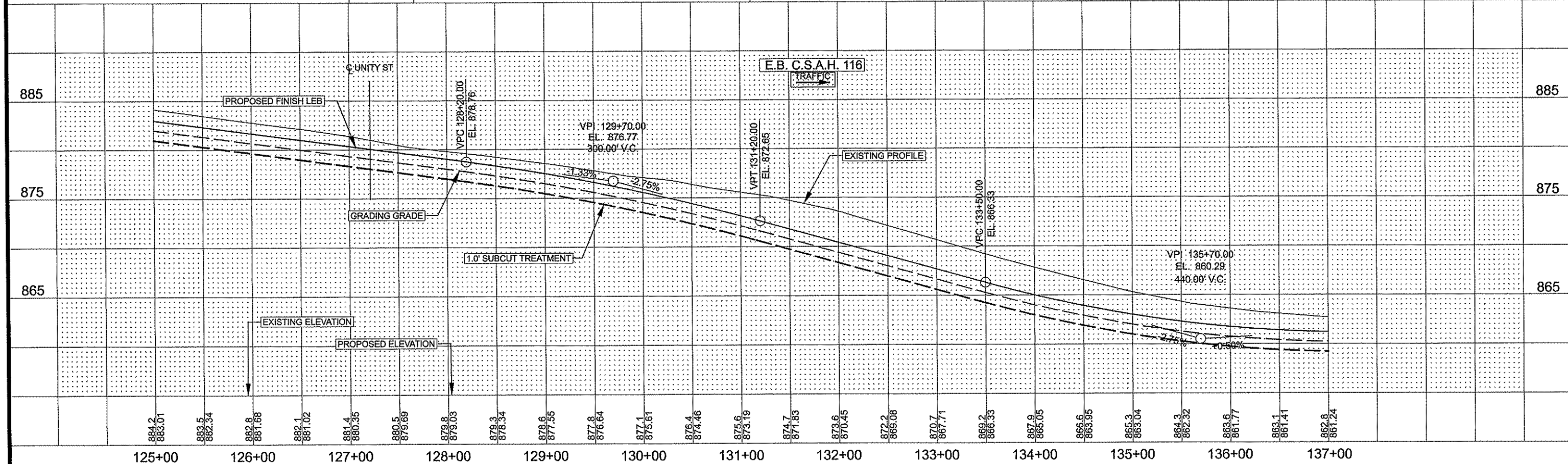


S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION PLAN AND PROFILE  
 STA 113+00.00 TO 125+00.00  
 Sheet 90 of 264 Sheets



- CONSTRUCTION NOTES:**
- (A) BITUMINOUS TRAIL
  - (B) B424 CURB & GUTTER
  - (C) B418 CURB & GUTTER
  - (D) CONCRETE APPROACH NOSE
  - (E) CONCRETE MEDIAN
  - (F) RETAINING WALL
  - (G) 2' AGG. SHOULDER
  - (H) NOISE WALL
  - (I) CHAIN LINK FENCE
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.



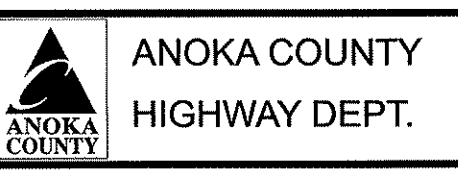
NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_PP3.dgn      02/24/2011      10:42:43 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *[Signature]*  
 DATE: 2-24-11      LICENSE NO.: 24756

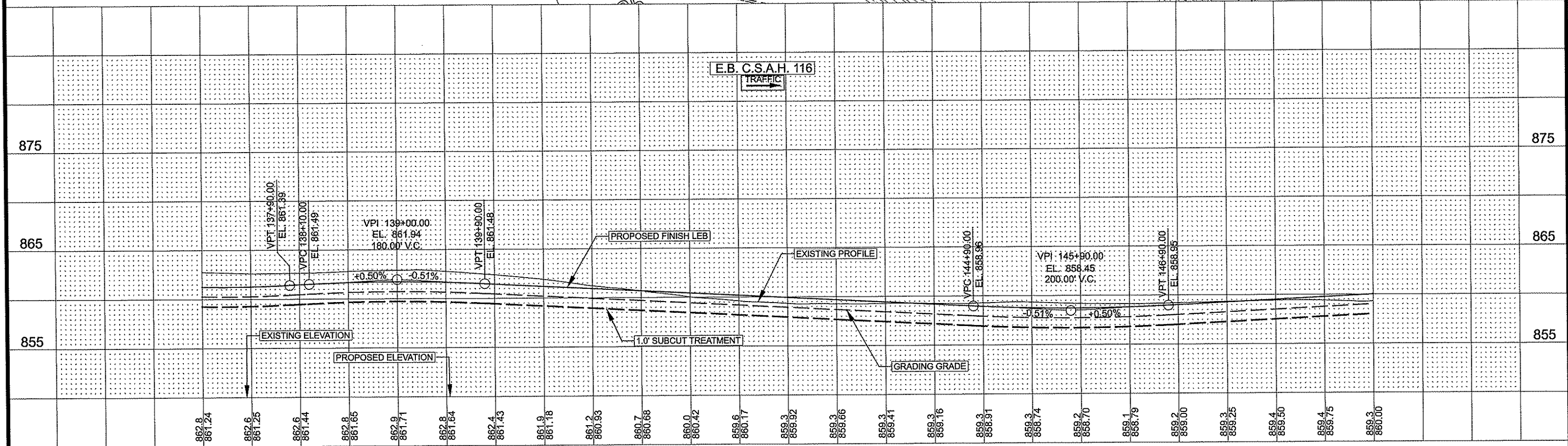
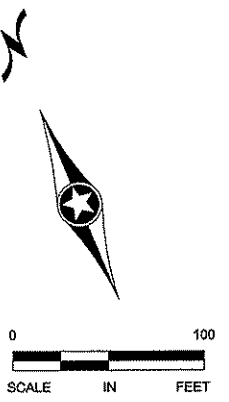
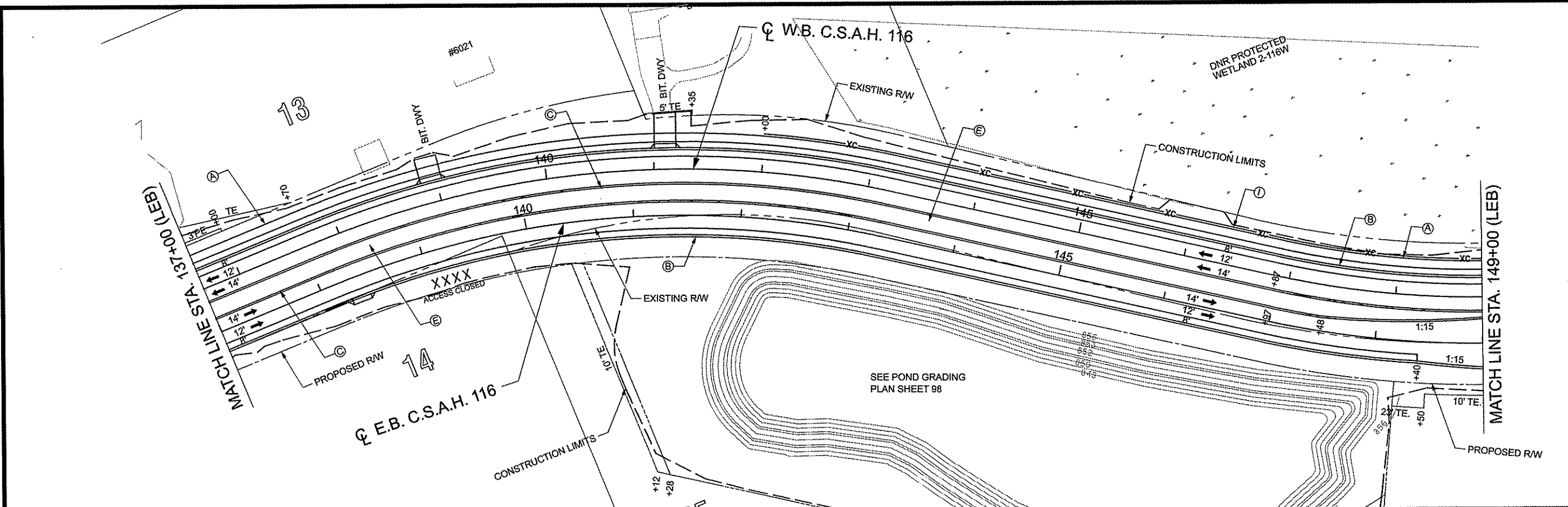
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 DESIGN BY: JMN      DATE: 02/24/2011  
 CHECKED BY: CAK      DATE: 02/24/2011



S.P. 002-716-011  
 S.P. 199-020-008

**CONSTRUCTION PLAN AND PROFILE**  
 STA 125+00.00 TO 137+00.00  
 Sheet 91 of 264 Sheets

- CONSTRUCTION NOTES:**
- (A) BITUMINOUS TRAIL
  - (B) B424 CURB & GUTTER
  - (C) B418 CURB & GUTTER
  - (D) CONCRETE APPROACH NOSE
  - (E) CONCRETE MEDIAN
  - (F) RETAINING WALL
  - (G) 2' AGG. SHOULDER
  - (H) NOISE WALL
  - (I) CHAIN LINK FENCE
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.



862.8	861.24	862.6	861.25	862.6	861.44	862.8	861.65	862.9	861.71	862.8	861.64	862.4	861.43	861.9	861.18	861.2	860.93	860.7	860.68	860.0	860.42	859.6	860.17	859.3	859.92	859.3	859.66	859.3	859.41	859.3	859.16	859.3	859.91	859.3	858.74	859.2	858.70	859.1	858.79	859.2	859.00	859.3	859.25	859.4	859.60	859.4	858.75	859.3	860.00
137+00	138+00	139+00	140+00	141+00	142+00	143+00	144+00	145+00	146+00	147+00	148+00	149+00																																					

4 OF 8

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_PP4.dgn  
 02/23/2011 9:32:03 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11 LICENSE NO. 24756

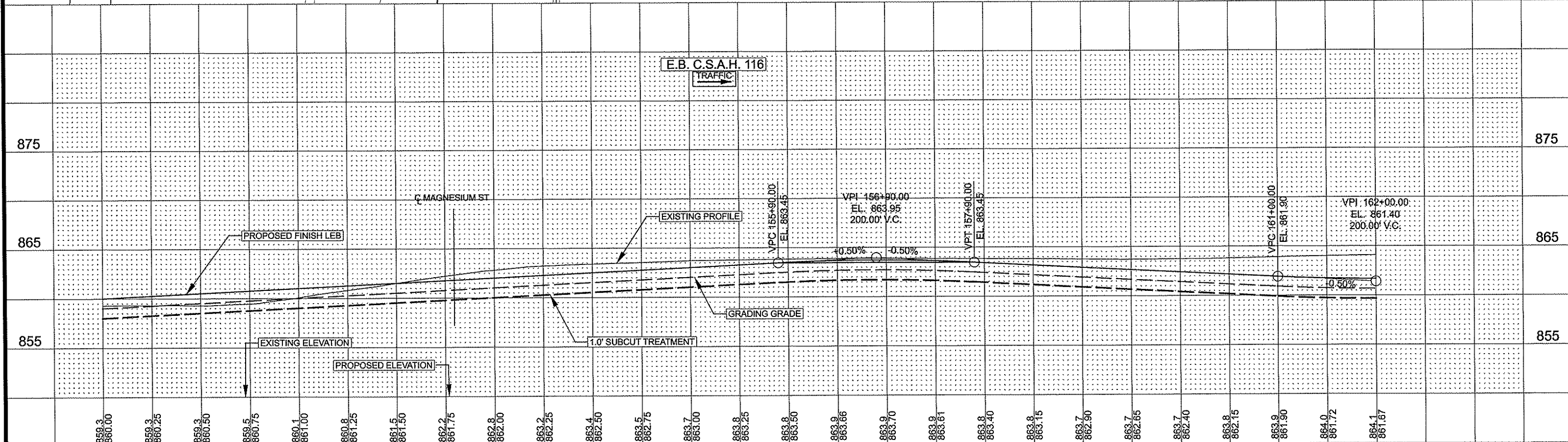
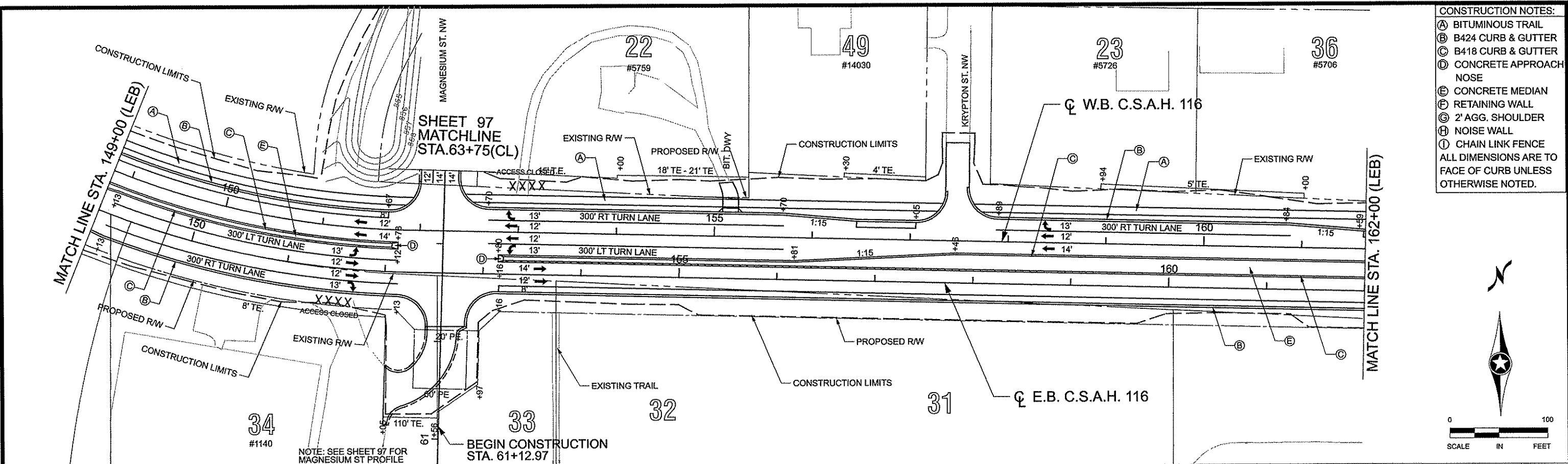
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 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

**CONSTRUCTION PLAN AND PROFILE**  
 STA 137+00.00 TO 149+00.00  
 Sheet 92 of 264 Sheets

- CONSTRUCTION NOTES:**
- (A) BITUMINOUS TRAIL
  - (B) B424 CURB & GUTTER
  - (C) B418 CURB & GUTTER
  - (D) CONCRETE APPROACH NOSE
  - (E) CONCRETE MEDIAN
  - (F) RETAINING WALL
  - (G) 2' AGG. SHOULDER
  - (H) NOISE WALL
  - (I) CHAIN LINK FENCE
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.



859.3 860.00	859.3 860.25	859.3 860.50	859.5 860.75	860.1 861.00	860.8 861.25	861.5 861.50	862.2 861.75	862.8 862.00	863.2 862.25	863.4 862.50	863.5 862.75	863.7 863.00	863.8 863.25	863.8 863.50	863.9 863.66	863.9 863.70	863.9 863.61	863.8 863.40	863.8 863.15	863.7 862.90	863.7 862.65	863.7 862.40	863.9 862.15	863.9 861.90	864.0 861.72	864.1 861.87
149+00	150+00	151+00	152+00	153+00	154+00	155+00	156+00	157+00	158+00	159+00	160+00	161+00	162+00													

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_PP5.dgn					

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11 LICENSE NO. 24796

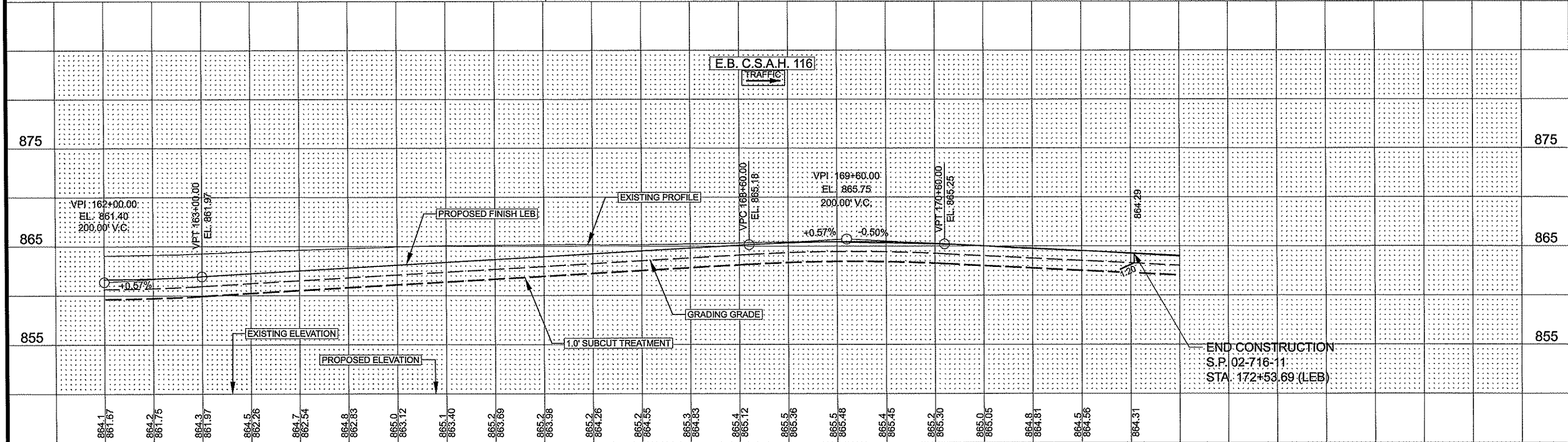
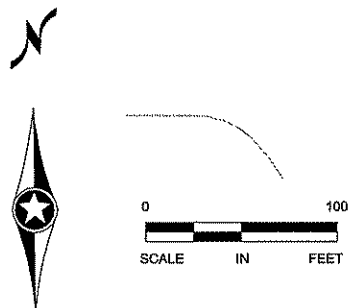
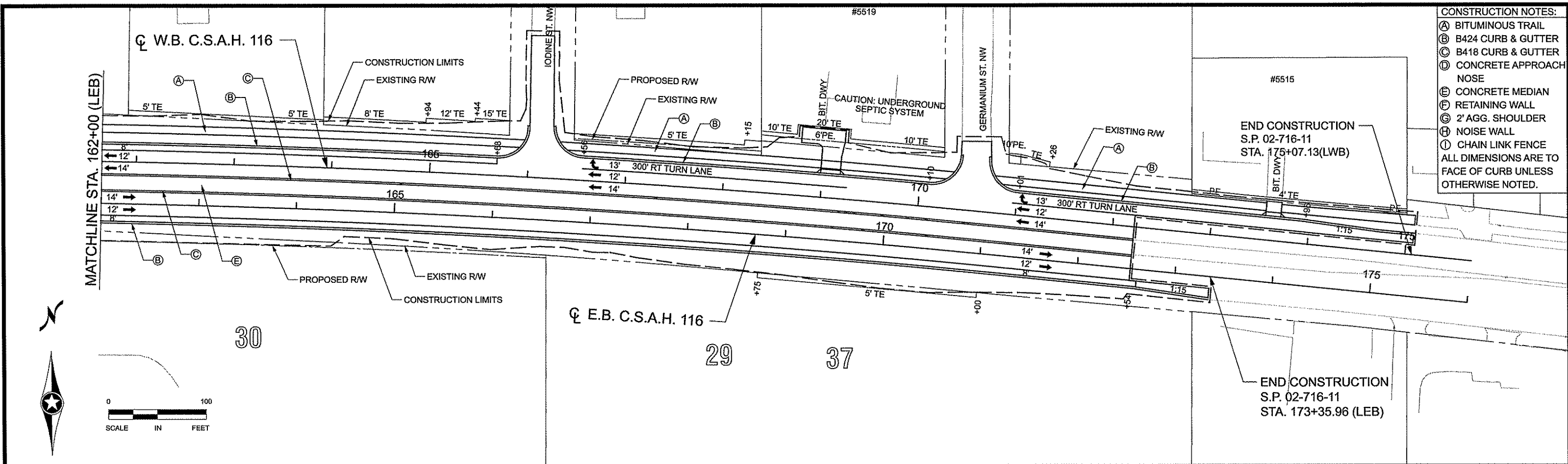
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 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: GAK DATE: 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

CONSTRUCTION PLAN AND PROFILE  
 STA 149+00.00 TO 162+00.00  
 Sheet 93 of 264 Sheets

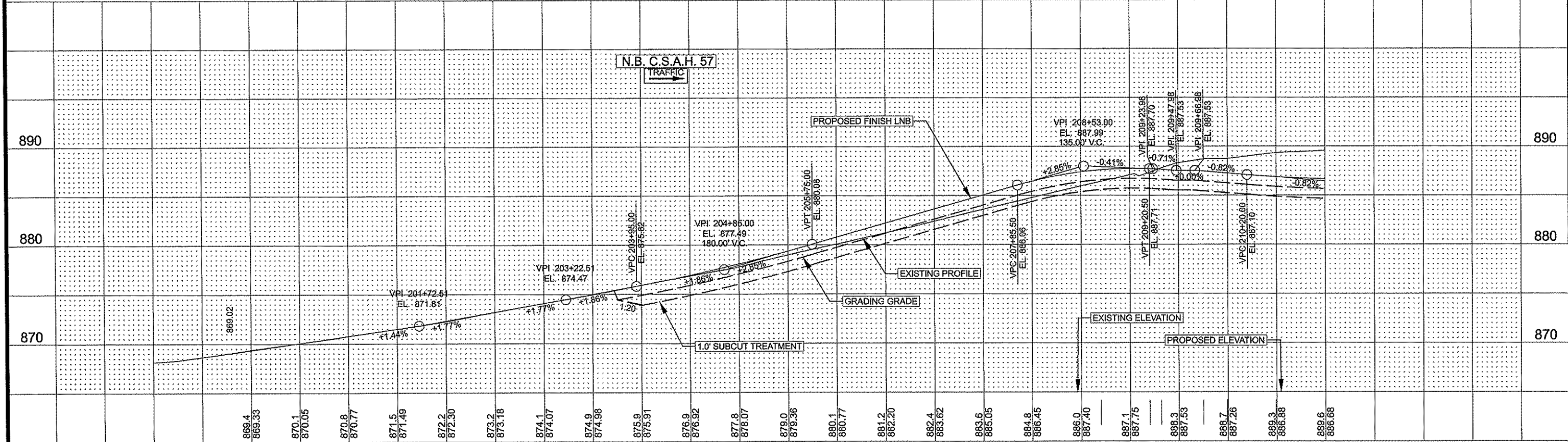
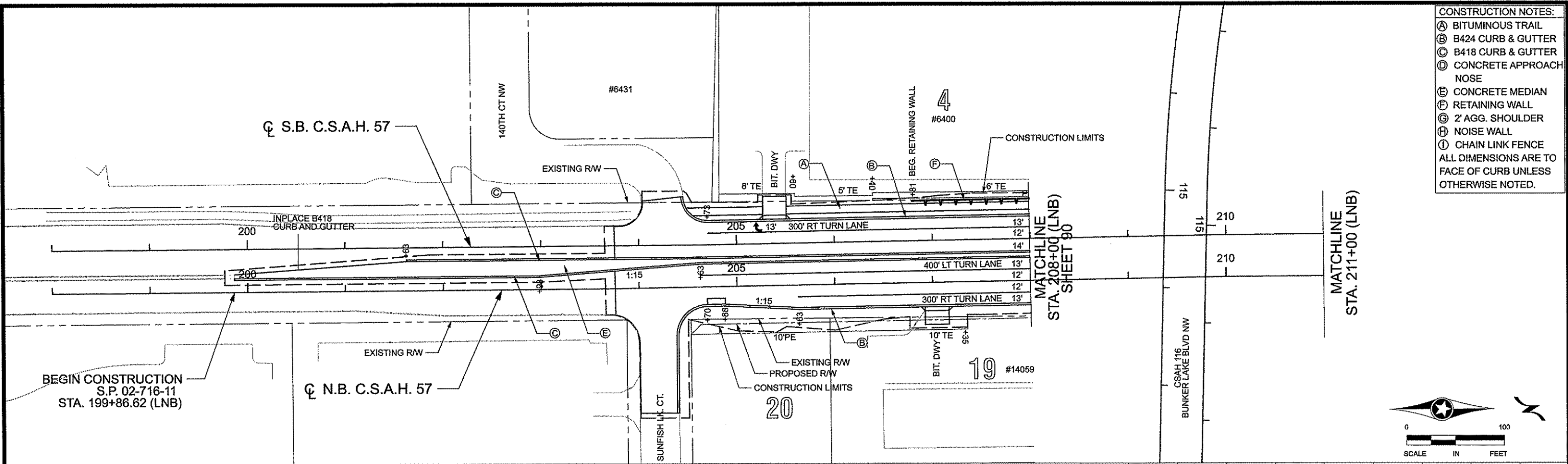
- CONSTRUCTION NOTES:**
- (A) BITUMINOUS TRAIL
  - (B) B424 CURB & GUTTER
  - (C) B418 CURB & GUTTER
  - (D) CONCRETE APPROACH NOSE
  - (E) CONCRETE MEDIAN
  - (F) RETAINING WALL
  - (G) 2' AGG. SHOULDER
  - (H) NOISE WALL
  - (I) CHAIN LINK FENCE
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.



864.1	861.87	864.2	861.75	864.3	861.97	864.5	862.26	864.7	862.54	864.8	862.83	865.0	863.12	865.1	863.40	865.2	863.69	865.2	864.26	865.2	864.55	865.3	864.83	865.4	865.12	865.5	865.36	865.5	865.48	865.4	866.45	865.2	865.30	865.0	865.05	864.8	864.81	864.5	864.56	864.31				
162+00	163+00	164+00	165+00	166+00	167+00	168+00	169+00	170+00	171+00	172+00																																		

<p>NO DATE BY CKD APPR</p> <p>REVISION</p> <p>2/24/2011</p> <p>10:42:48 AM</p>	<p>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.</p> <p>PRINT NAME: CURT KOBLARCSIK</p> <p>SIGNATURE: <i>Curt Koblarsik</i></p> <p>DATE: 2-24-11 LICENSE NO.: 24756</p>	<p>DRAWN BY: BAV DATE: 02/24/2011</p> <p>DESIGN BY: MN DATE: 02/24/2011</p> <p>CHECKED BY: CAK DATE: 02/24/2011</p>	<p><b>ANOKA COUNTY</b> HIGHWAY DEPT.</p>	<p>S.P. 002-716-011</p> <p>S.P. 199-020-008</p>	<p><b>CONSTRUCTION</b> <b>PLAN AND PROFILE</b></p> <p>STA. 162+00.00 TO 175+35.96</p> <p>Sheet 94 of 264 Sheets</p>
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- CONSTRUCTION NOTES:**
- (A) BITUMINOUS TRAIL
  - (B) B424 CURB & GUTTER
  - (C) B418 CURB & GUTTER
  - (D) CONCRETE APPROACH NOSE
  - (E) CONCRETE MEDIAN
  - (F) RETAINING WALL
  - (G) 2' AGG. SHOULDER
  - (H) NOISE WALL
  - (I) CHAIN LINK FENCE
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.



869.4	869.33	870.1	870.05	870.8	870.77	871.5	871.49	872.2	872.30	873.2	873.18	874.1	874.07	874.9	874.98	875.9	875.91	876.9	876.92	877.8	878.07	879.0	879.36	880.1	880.77	881.2	882.20	882.4	883.62	883.6	885.05	884.8	886.45	886.0	887.40	887.1	887.75	888.3	887.53	888.7	887.26	889.3	886.88	889.6	886.68				
200+00	201+00	202+00	203+00	204+00	205+00	206+00	207+00	208+00	209+00	210+00	211+00																																						

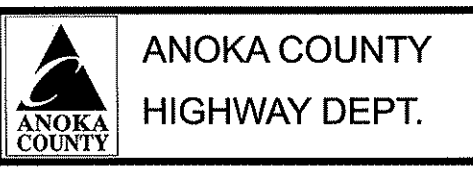
NO	DATE	BY	CKD	APPR	REVISION

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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.

PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 2-24-11 LICENSE NO.: 24756

DRAWN BY: BAV DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011

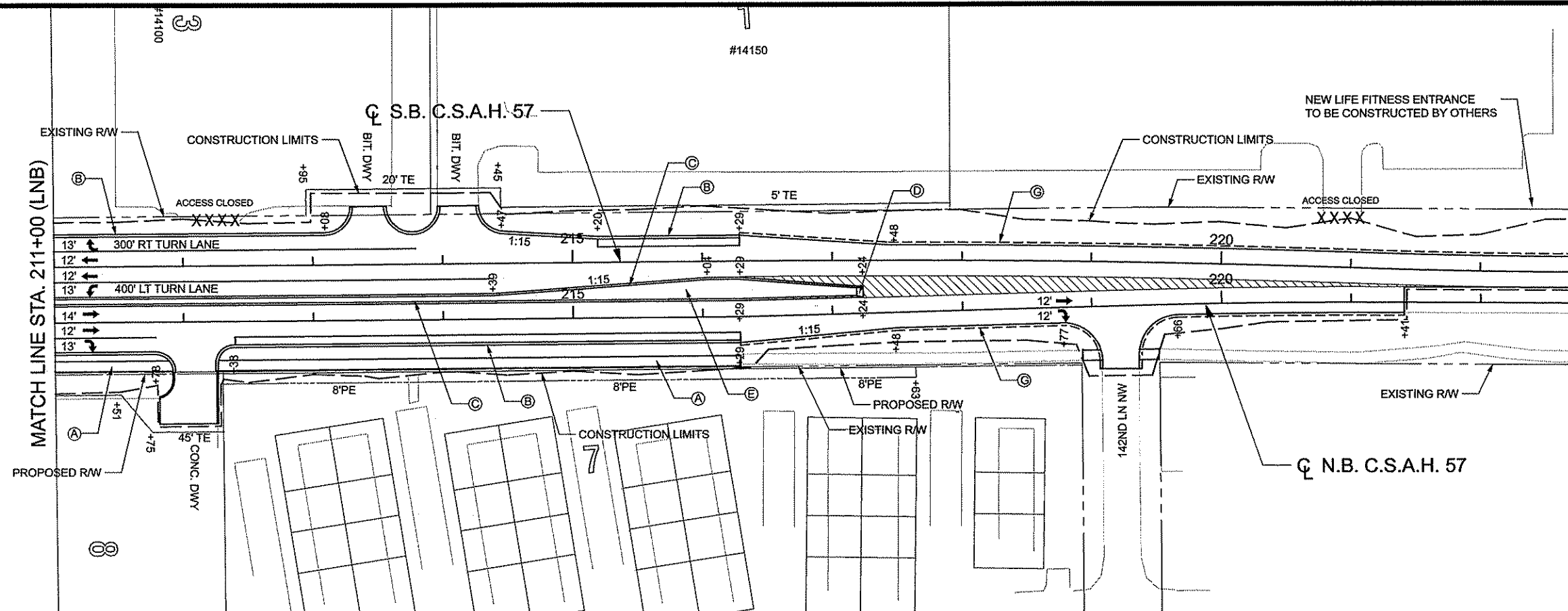


S.P. 002-716-011  
 S.P. 199-020-008

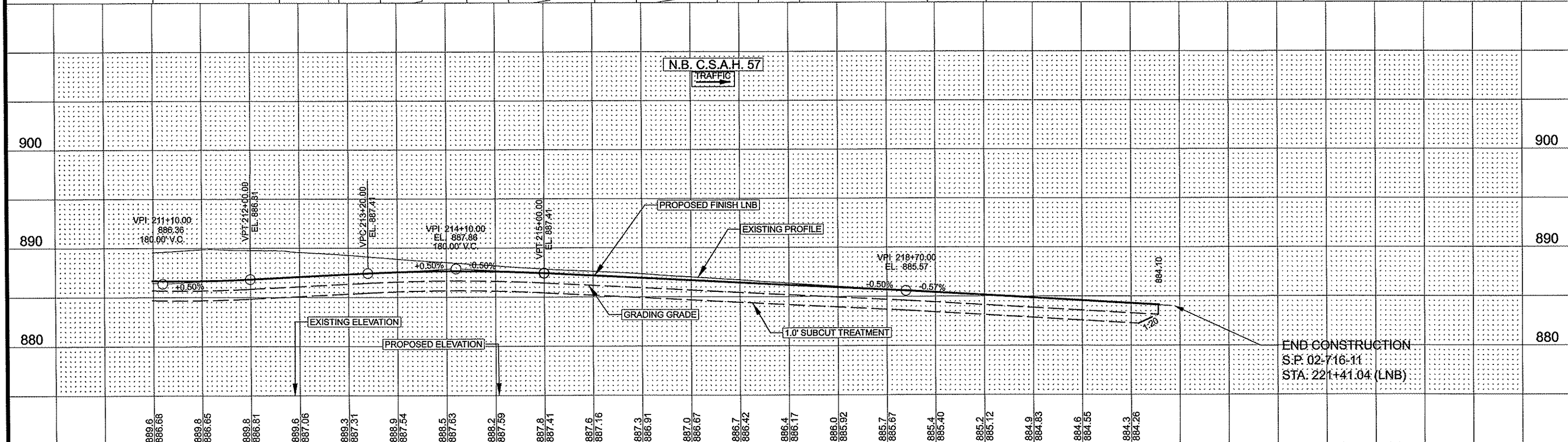
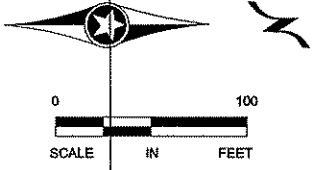
CONSTRUCTION PLAN AND PROFILE  
 STA 199+86.62 TO 211+00.00  
 Sheet 95 of 264 Sheets

CONSTRUCTION NOTES:

- (A) BITUMINOUS TRAIL
  - (B) B424 CURB & GUTTER
  - (C) B418 CURB & GUTTER
  - (D) CONCRETE APPROACH NOSE
  - (E) CONCRETE MEDIAN
  - (F) RETAINING WALL
  - (G) 2' AGG. SHOULDER
  - (H) NOISE WALL
  - (I) CHAIN LINK FENCE
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.



END CONSTRUCTION  
S.P. 02-716-11  
STA. 222+68.75 (LNB)



END CONSTRUCTION  
S.P. 02-716-11  
STA. 221+41.04 (LNB)

889.6	886.68	889.8	886.65	889.8	886.81	889.6	887.06	889.3	887.31	888.9	887.54	888.5	887.63	888.2	887.59	887.8	887.41	887.6	887.16	887.3	886.91	887.0	886.67	886.7	886.42	886.4	886.17	886.0	885.92	885.7	885.67	885.4	885.40	885.2	885.12	884.9	884.83	884.6	884.55	884.3	884.26
211+00	212+00	213+00	214+00	215+00	216+00	217+00	218+00	219+00	220+00	221+00																															

1	4/12/11	BAV	JEO	CAK	ADDED LIFE FITNESS ENTRANCE TEXT
NO	DATE	BY	CKD	APPR	REVISION
					04/13/2011 8:39:47 AM

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.

PRINT NAME: CURT KOBLARCSIK  
SIGNATURE: *Curt Koblarczik*  
DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
DESIGN BY: MN DATE: 04/13/2011  
CHECKED BY: CAK DATE: 04/13/2011



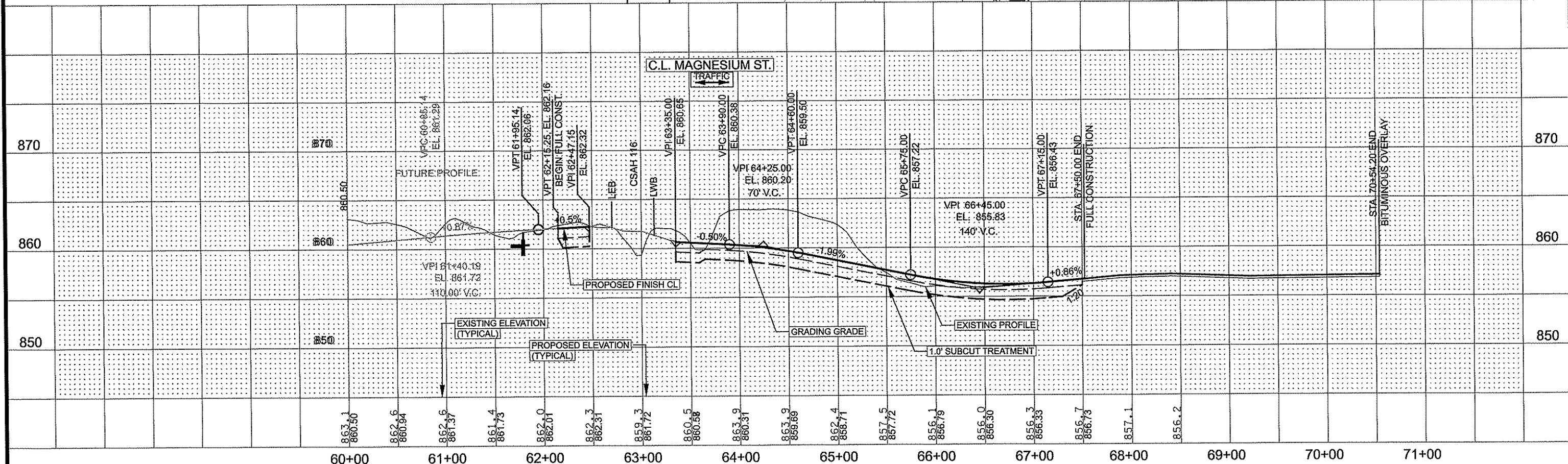
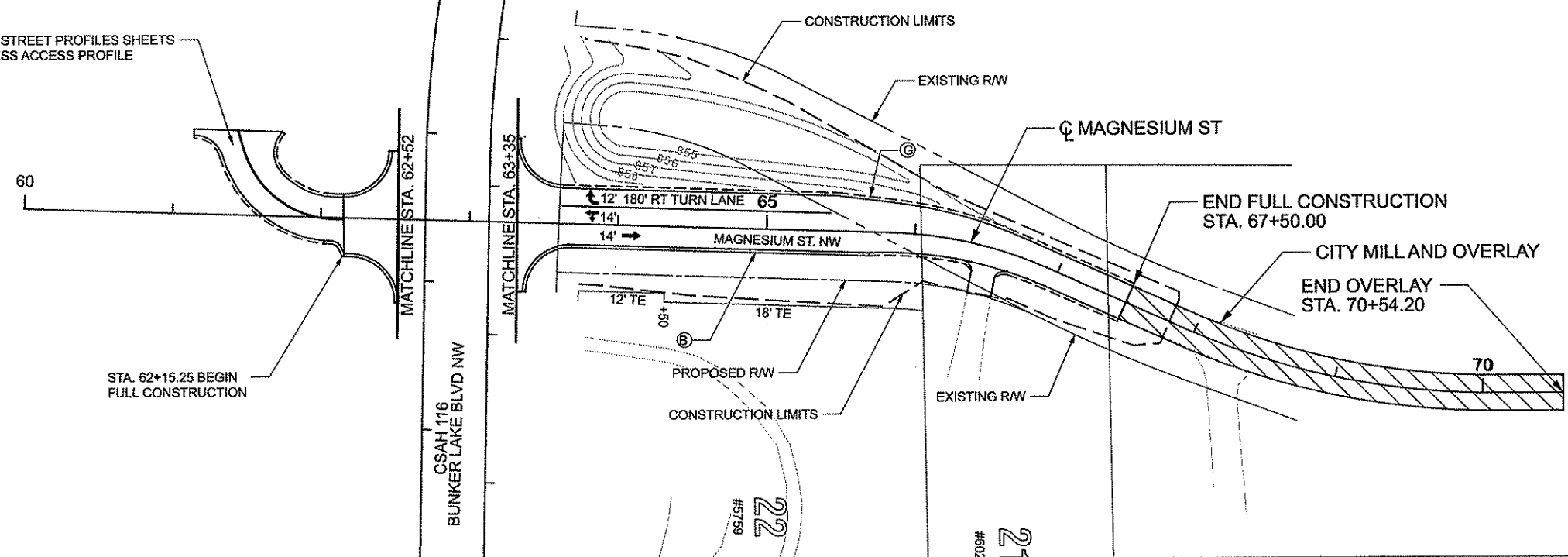
S.P. 002-716-011  
S.P. 199-020-008

CONSTRUCTION PLAN AND PROFILE  
CSAH 57  
STA 211+00.00 TO 222+68.75  
Sheet 96 of 264 Sheets



- CONSTRUCTION NOTES:**
- (A) BITUMINOUS TRAIL
  - (B) B424 CURB & GUTTER
  - (C) B418 CURB & GUTTER
  - (D) CONCRETE APPROACH NOSE
  - (E) CONCRETE MEDIAN
  - (F) RETAINING WALL
  - (G) 2' AGG. SHOULDER
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

SEE CROSS STREET PROFILES SHEETS FOR BUSINESS ACCESS PROFILE



NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_PP\_MAGNES.dgn 02/23/2011 9:32:29 AM

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.

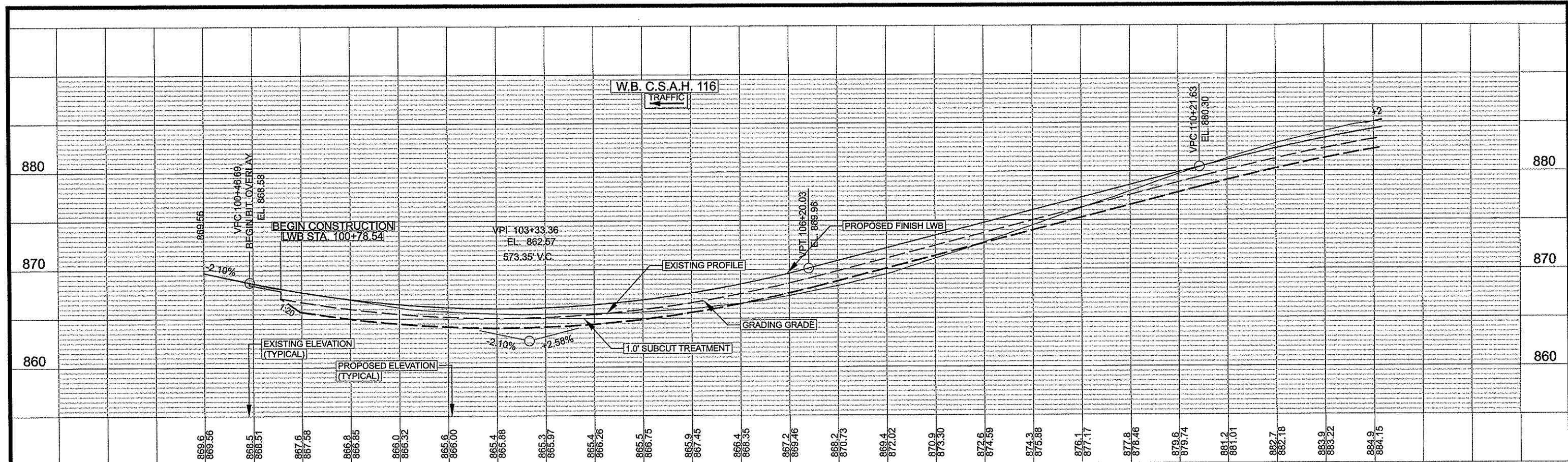
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarsik*  
 DATE: 2-24-11 LICENSE NO. 24796

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011

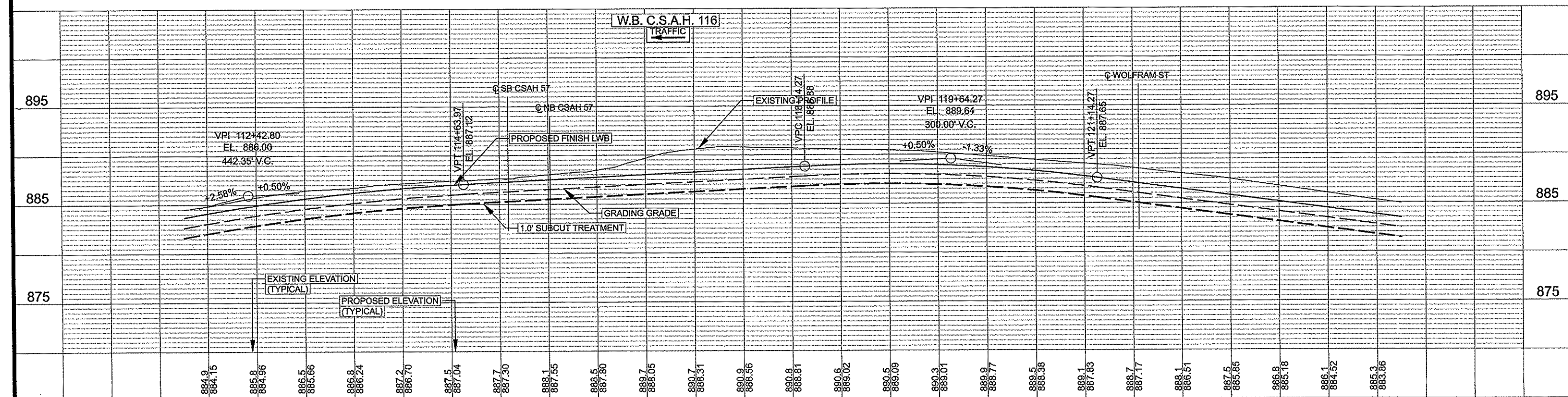


S.P. 002-716-011  
 S.P. 199-020-008

**CONSTRUCTION  
PLAN AND PROFILE**  
 STA 61+00.00 TO 70+50.00  
 Sheet 97 of 264 Sheets



100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00



112+00 113+00 114+00 115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00

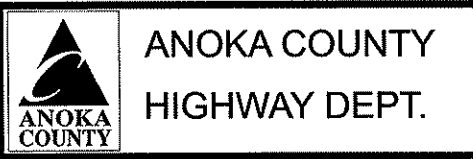
NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_PRWB1.dgn  
 02/23/2011 9:32:34 AM

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.

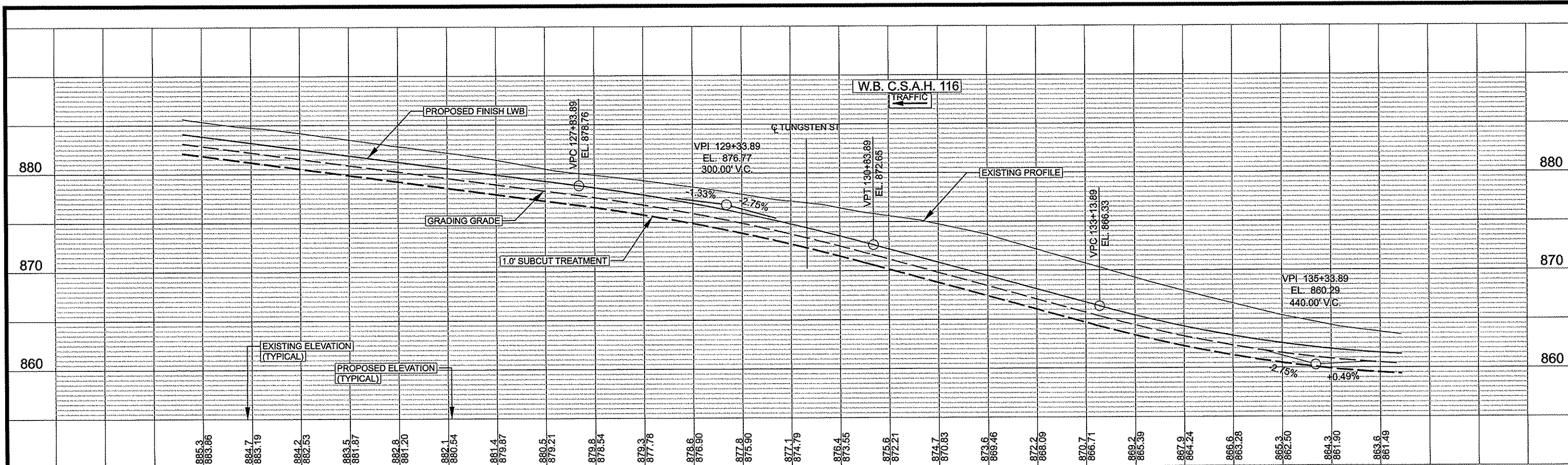
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAX DATE: 02/23/2011

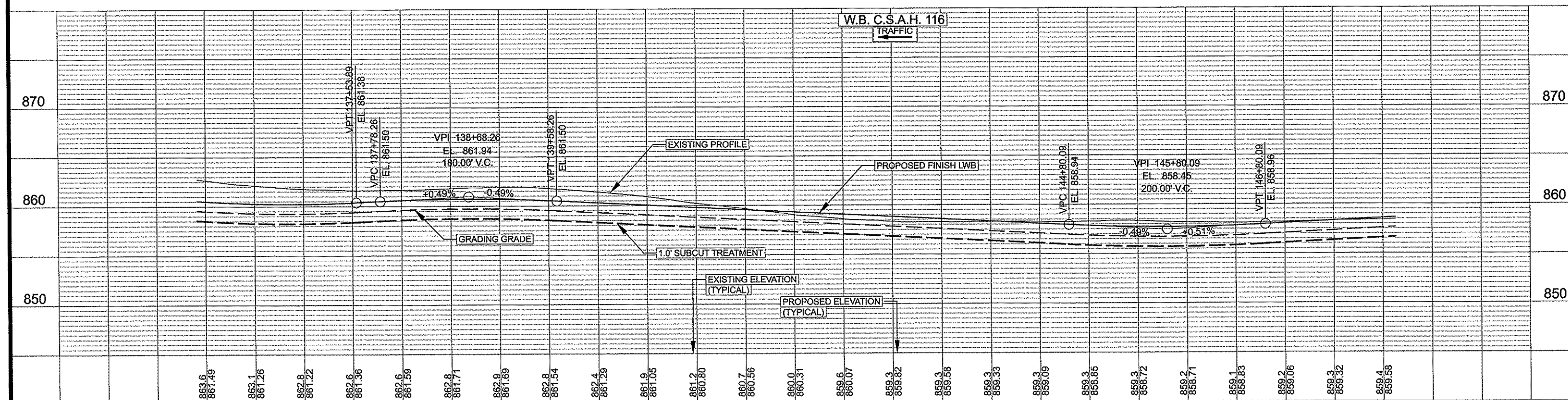


S.P. 002-716-011  
 S.P. 199-020-008

PROFILE 116 LWB  
 STA 100+00.00 TO 124+00.00  
 Sheet 98 of 264 Sheets



124+00 125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00



136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00

2 OF 4

NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_PRWB2.dgn  
02/23/2011 9:32:38 AM

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.

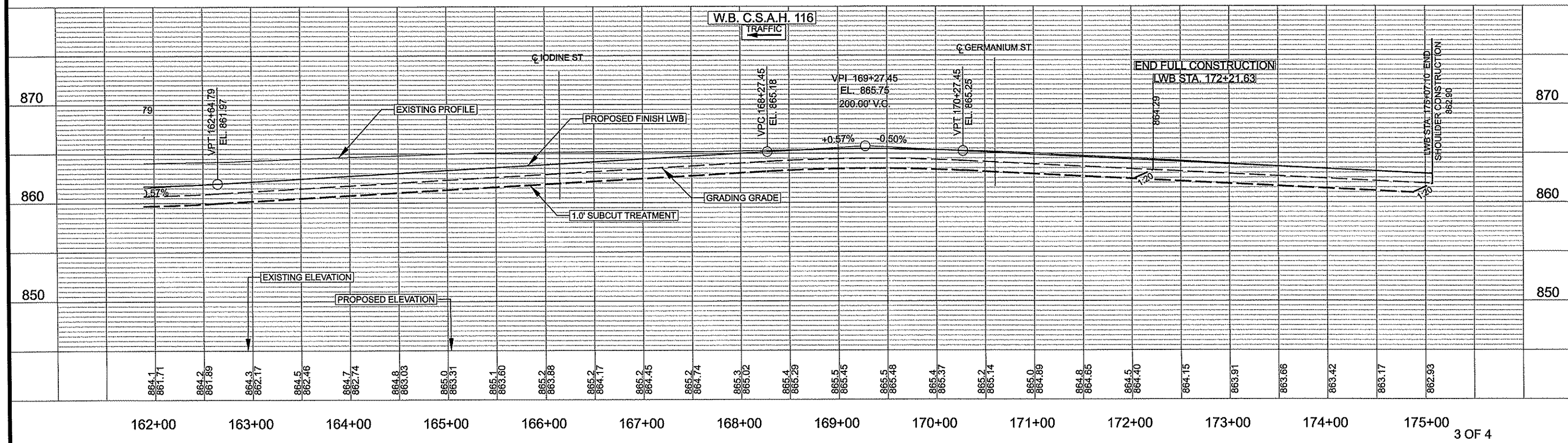
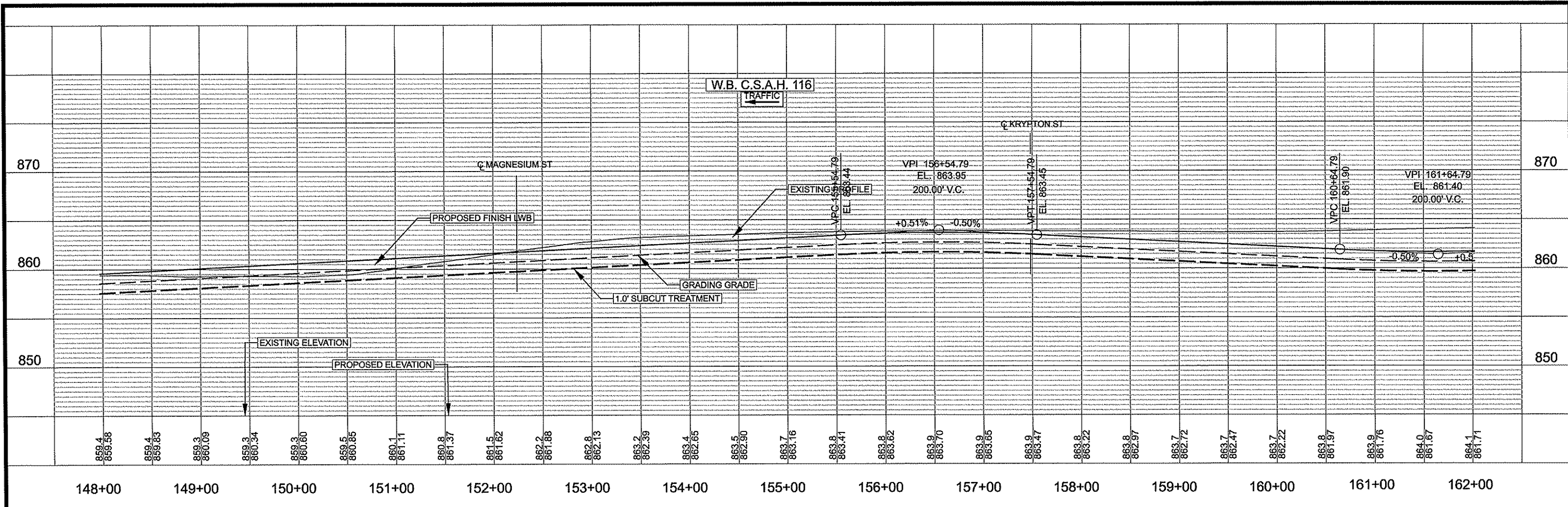
PRINT NAME: CURT KOBILARCSIK  
SIGNATURE: *Curt Kobilarsik*  
DATE: 2.24.11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
DESIGN BY: MN DATE: 02/23/2011  
CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
S.P. 199-020-008

PROFILE 116 LWB  
STA 124+00.00 TO 148+00.00  
Sheet 99 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_PRWB3.dgn					
02/24/2011 11:03:20 AM					

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.

PRINT NAME: CURT KOBLARCSIK

SIGNATURE: *Curt Koblarscik*

DATE: 2-24-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 02/24/2011

DESIGN BY: MN DATE: 02/24/2011

CHECKED BY: CAK DATE: 02/24/2011



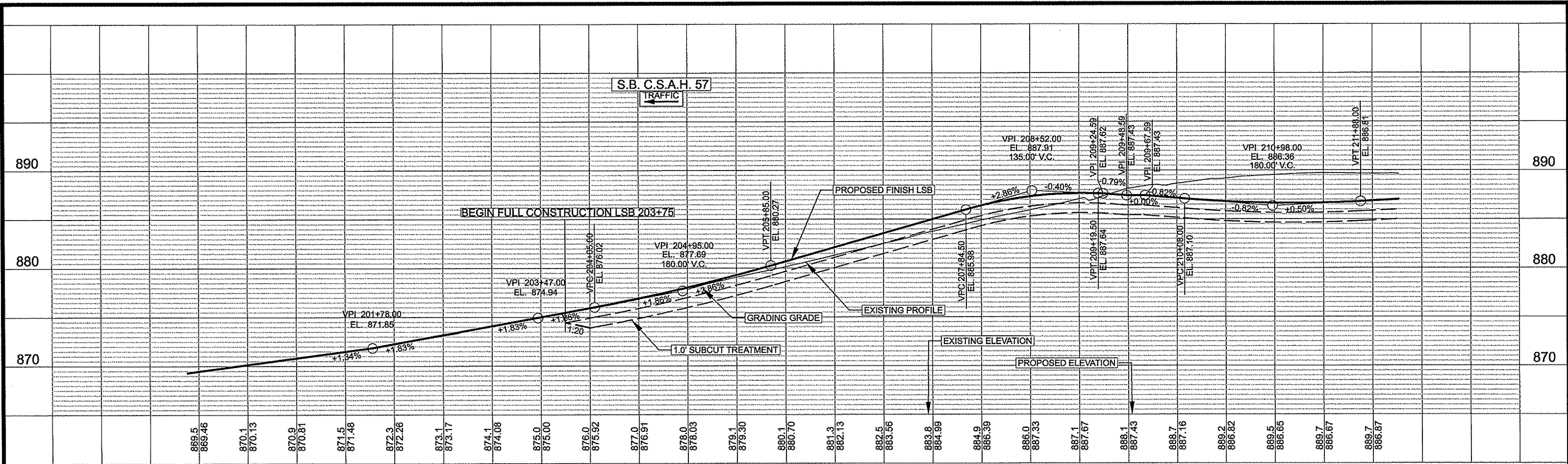
S.P. 002-716-011

S.P. 199-020-008

PROFILE 116 LWB

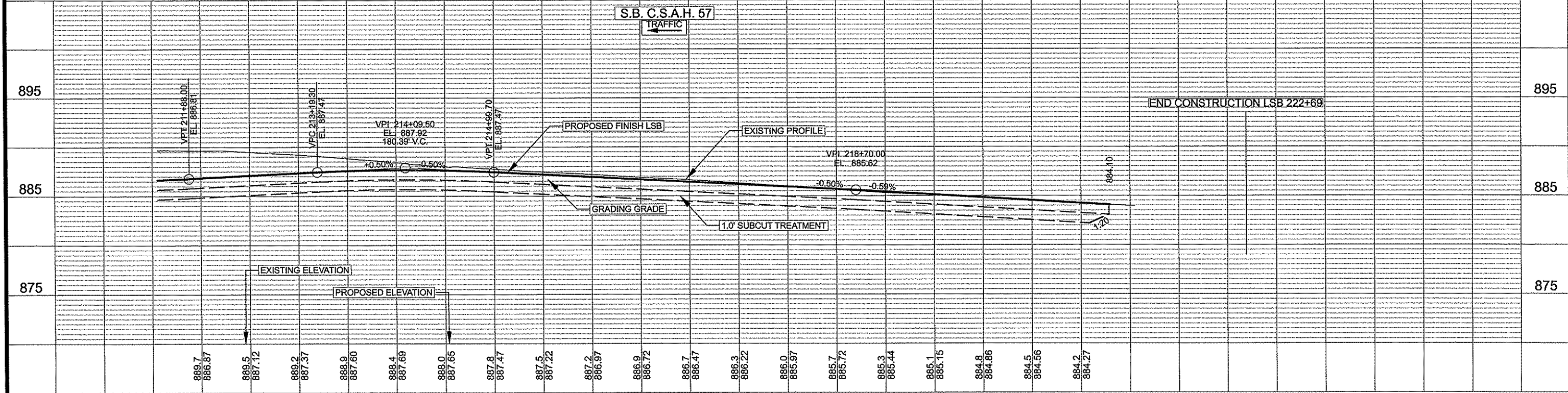
STA 148+00.00 TO 172+53.69

Sheet 100 of 264 Sheets



890  
880  
870

200+00 201+00 202+00 203+00 204+00 205+00 206+00 207+00 208+00 209+00 210+00 211+00 212+00



895  
885  
875

212+00 213+00 214+00 215+00 216+00 217+00 218+00 219+00 220+00 221+00

NO	DATE	BY	CKD	APPR	REVISION

NAME: p102-716-11\plan0271611\_PR57SB.dgn  
02/24/2011 11:03:25 AM

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.

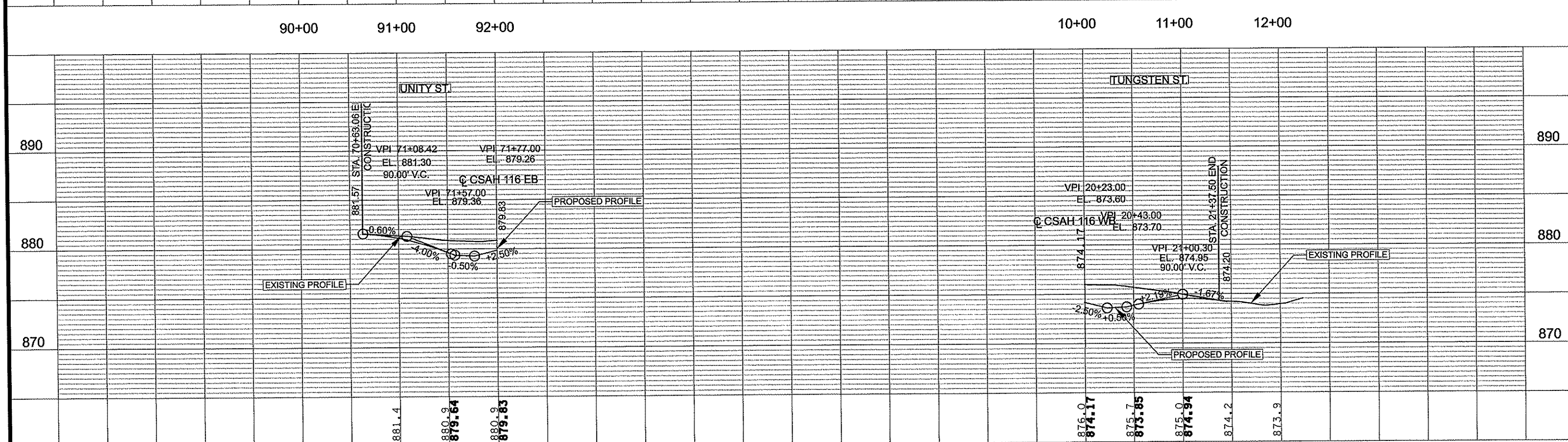
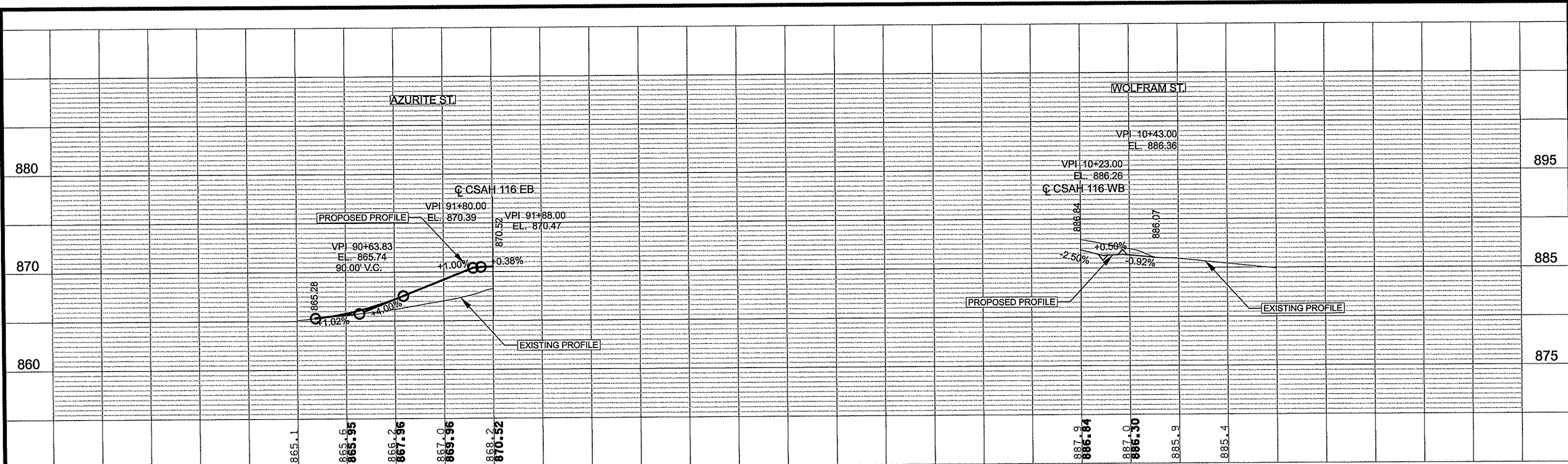
PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarsik*  
DATE: 2-24-11 LICENSE NO.: 24756

DRAWN BY: BAV DATE: 02/24/2011  
DESIGN BY: MN DATE: 02/24/2011  
CHECKED BY: CAK DATE: 02/24/2011



S.P. 002-716-011  
S.P. 199-020-008

PROFILE 57 LSB  
STA 200+00.00 TO 220+13.68  
Sheet 101 of 264 Sheets



90+00 91+00 92+00 10+00 11+00 12+00

70+00 71+00 72+00 20+00 21+00 22+00

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\Plan\0271611\_PR\_XST.dgn

02/24/2011 10:32:59 AM

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.

PRINT NAME: CURT KOBILARCSIK

SIGNATURE: *Curt Kobilarsik*

DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/24/2011

DESIGN BY: MN DATE: 02/24/2011

CHECKED BY: CAK DATE: 02/24/2011

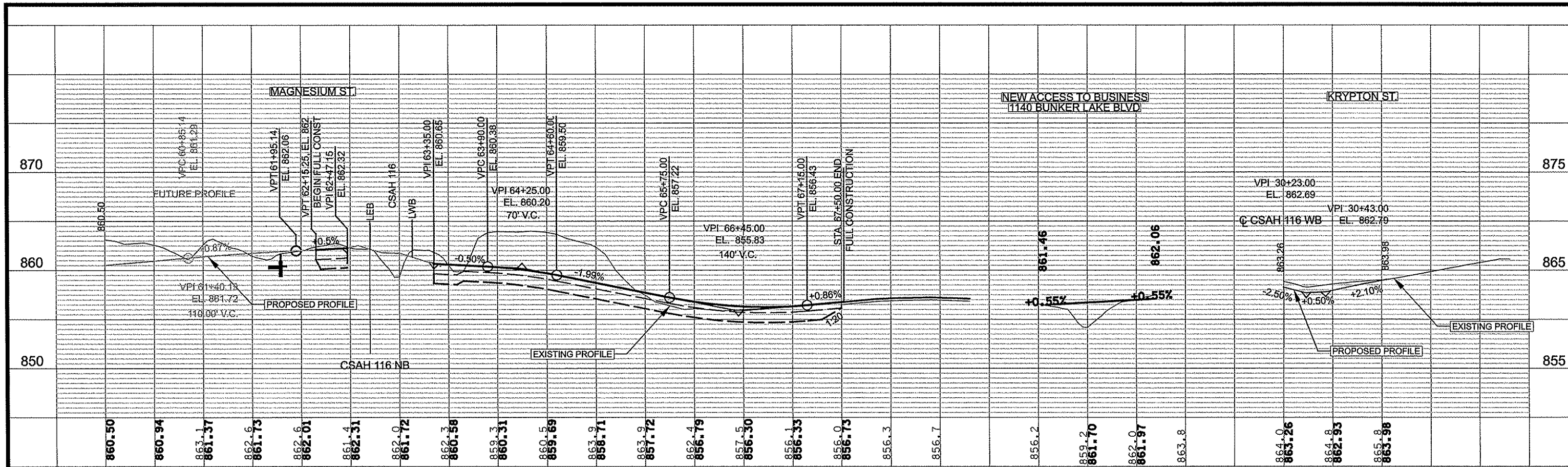


S.P. 002-716-011

S.P. 199-020-008

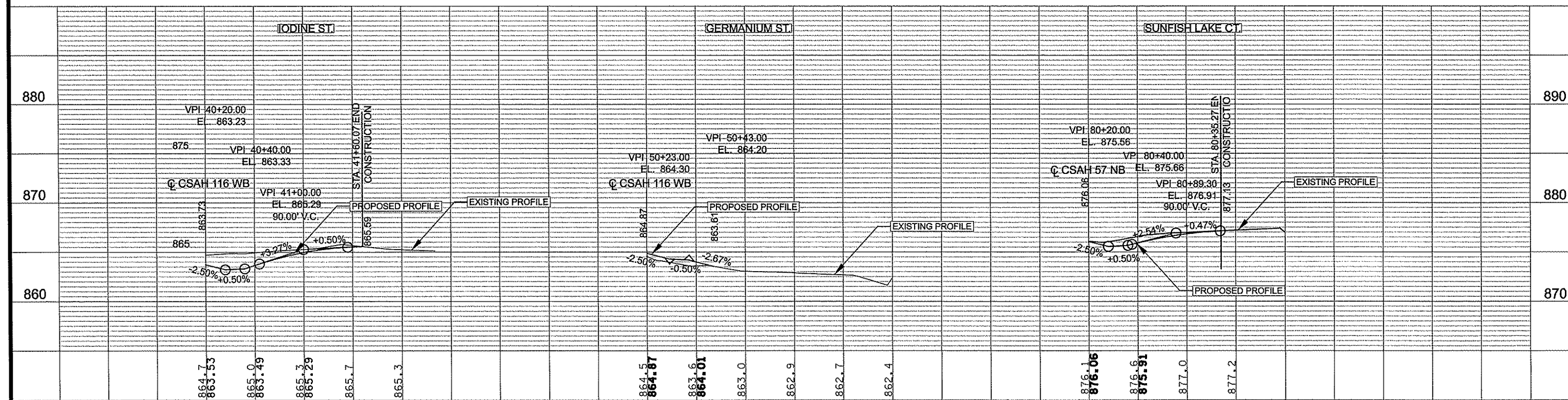
CROSS STREET PROFILES

Sheet 102 of 264 Sheets



870  
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850  
860.50  
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861.73  
862.01  
861.4  
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862.4  
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856.2  
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861.70  
862.0  
861.97  
863.8  
864.0  
863.26  
864.8  
862.93  
865.8  
863.98

60+00 61+00 62+00 63+00 64+00 65+00 66+00 67+00 68+00 1+00 2+00 30+00 31+00 32+00



880  
870  
860  
864.7  
863.53  
865.0  
863.49  
865.3  
865.29  
865.7  
865.3  
864.5  
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863.6  
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863.0  
862.9  
862.7  
862.4  
876.1  
876.06  
876.6  
875.91  
877.0  
877.2

40+00 41+00 42+00 50+00 51+00 52+00 80+00 81+00

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:102-716-11\Plan0271611_PR_XST.dgn					

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.

PRINT NAME: CURT KOBIARCSIK

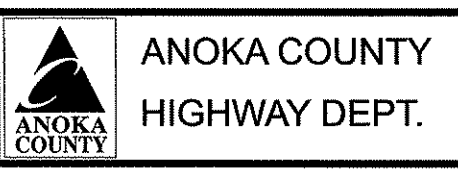
SIGNATURE: *Curt Kobiarsik*

DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/24/2011

DESIGN BY: MN DATE: 02/24/2011

CHECKED BY: CAK DATE: 02/24/2011

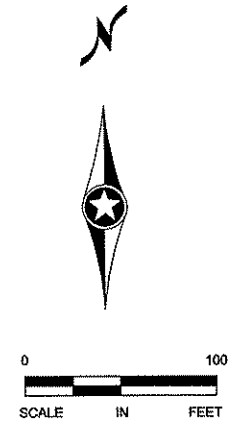


S.P. 002-716-011  
S.P. 199-020-008

BEGIN CONSTRUCTION  
 SP 02-716-11  
 LEB STA. 100+37.00

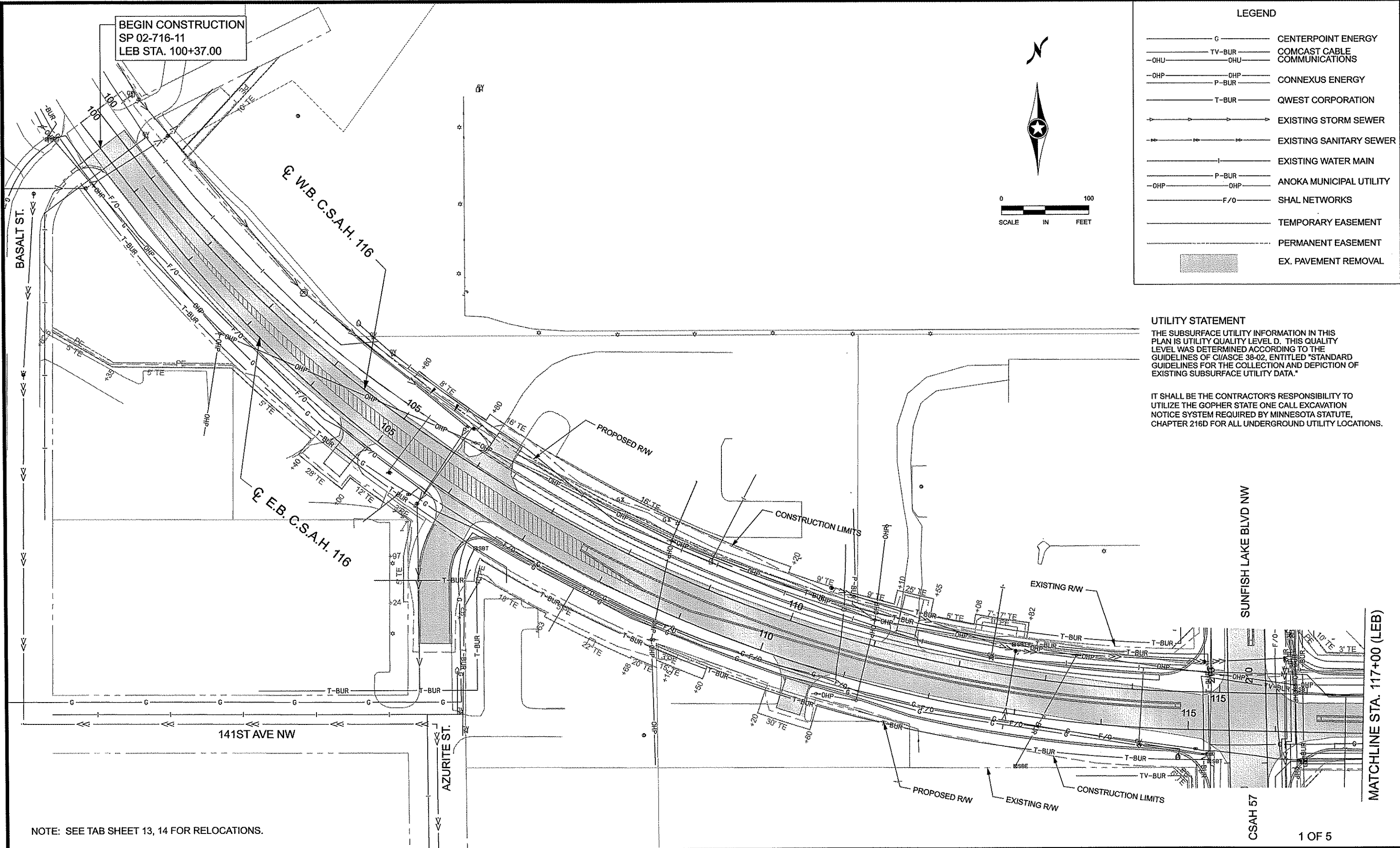
**LEGEND**

- G — CENTERPOINT ENERGY
- TV-BUR — COMCAST CABLE
- OHU — OHU — COMMUNICATIONS
- OHP — OHP — CONNEXUS ENERGY
- P-BUR — P-BUR — CONNEXUS ENERGY
- T-BUR — T-BUR — QWEST CORPORATION
- >>> —>>> EXISTING STORM SEWER
- >>> —>>> EXISTING SANITARY SEWER
- |—|— EXISTING WATER MAIN
- P-BUR — ANOKA MUNICIPAL UTILITY
- OHP — OHP — ANOKA MUNICIPAL UTILITY
- F/O — F/O — SHAL NETWORKS
- — — — — TEMPORARY EASEMENT
- — — — — PERMANENT EASEMENT
- ▨ — — — — — EX. PAVEMENT REMOVAL



**UTILITY STATEMENT**  
 THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.



NOTE: SEE TAB SHEET 13, 14 FOR RELOCATIONS.

1	4/12/11	BAV	JEO	CAK	UPDATED GOPHER STATE ONE CALL NOTE PER MN/DOT
NO	DATE	BY	CKD	APPR	REVISION
					04/13/2011 8:39:53 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarsik*  
 DATE: 4-14-11 LICENSE NO. 24756

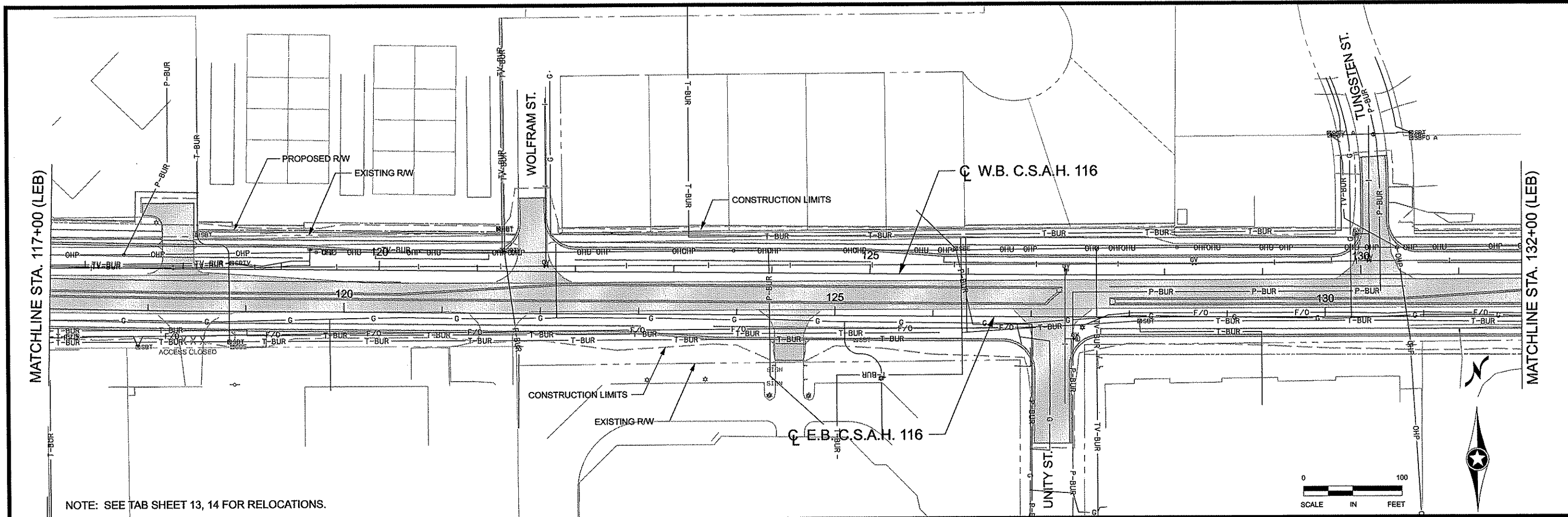
DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

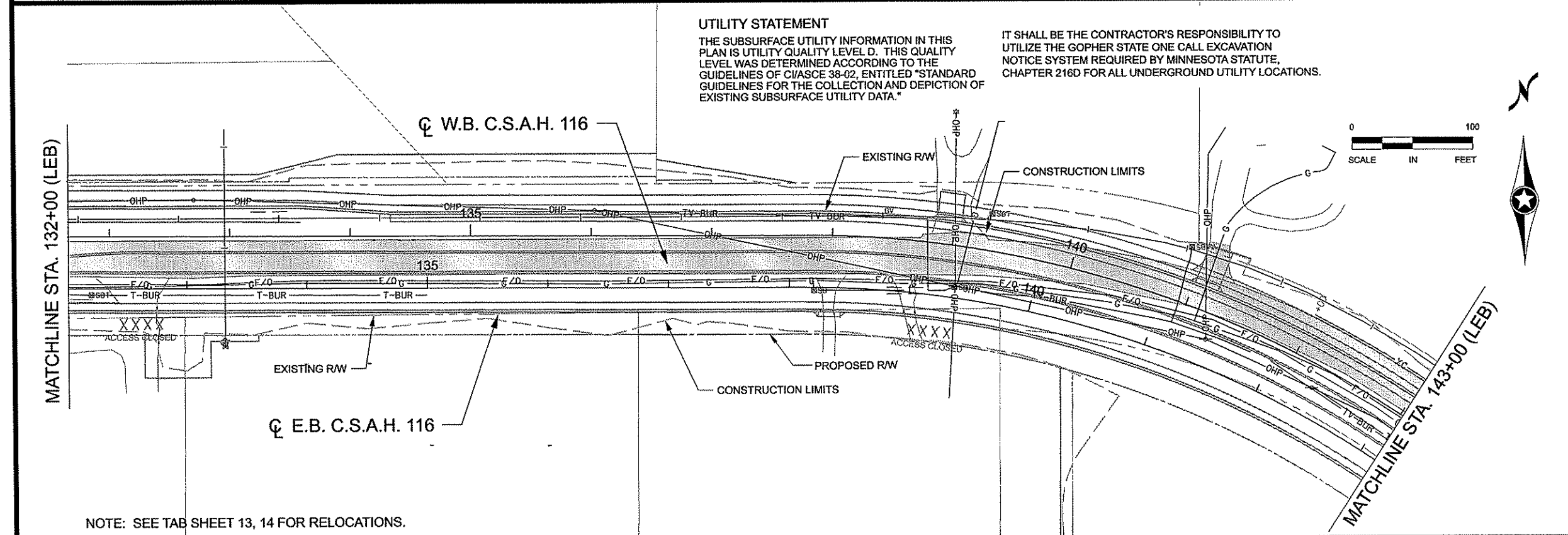
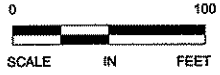
S.P. 002-716-011  
 S.P. 199-020-008

**EXISTING UTILITY PLAN**  
 STA 100+37.00 TO 117+00.00  
 Sheet 104 of 264 Sheets





NOTE: SEE TAB SHEET 13, 14 FOR RELOCATIONS.



NOTE: SEE TAB SHEET 13, 14 FOR RELOCATIONS.

**UTILITY STATEMENT**

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.

**LEGEND**

- G — CENTERPOINT ENERGY
- TV-BUR — COMCAST CABLE COMMUNICATIONS
- O-HU — O-HU
- OHP — OHP
- P-BUR — CONNEXUS ENERGY
- T-BUR — QWEST CORPORATION
- >>>>— EXISTING STORM SEWER
- >>>>— EXISTING SANITARY SEWER
- |— EXISTING WATER MAIN
- OHP — P-BUR — ANOKA MUNICIPAL UTILITY
- OHP — F/O — SHAL NETWORKS
- |— TEMPORARY EASEMENT
- |— PERMANENT EASEMENT
- EX. PAVEMENT REMOVAL

1	4/12/11	BAV	JEO	CAK	UPDATED GOPHER STATE ONE CALL NOTE PER MNDOT
NO	DATE	BY	CHKD	APPR	REVISION
					04/13/2011 8:39:59 AM

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.  
 PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarsik*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011

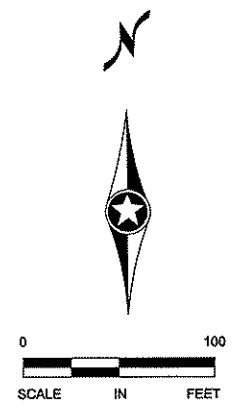


S.P. 002-716-011  
 S.P. 199-020-008

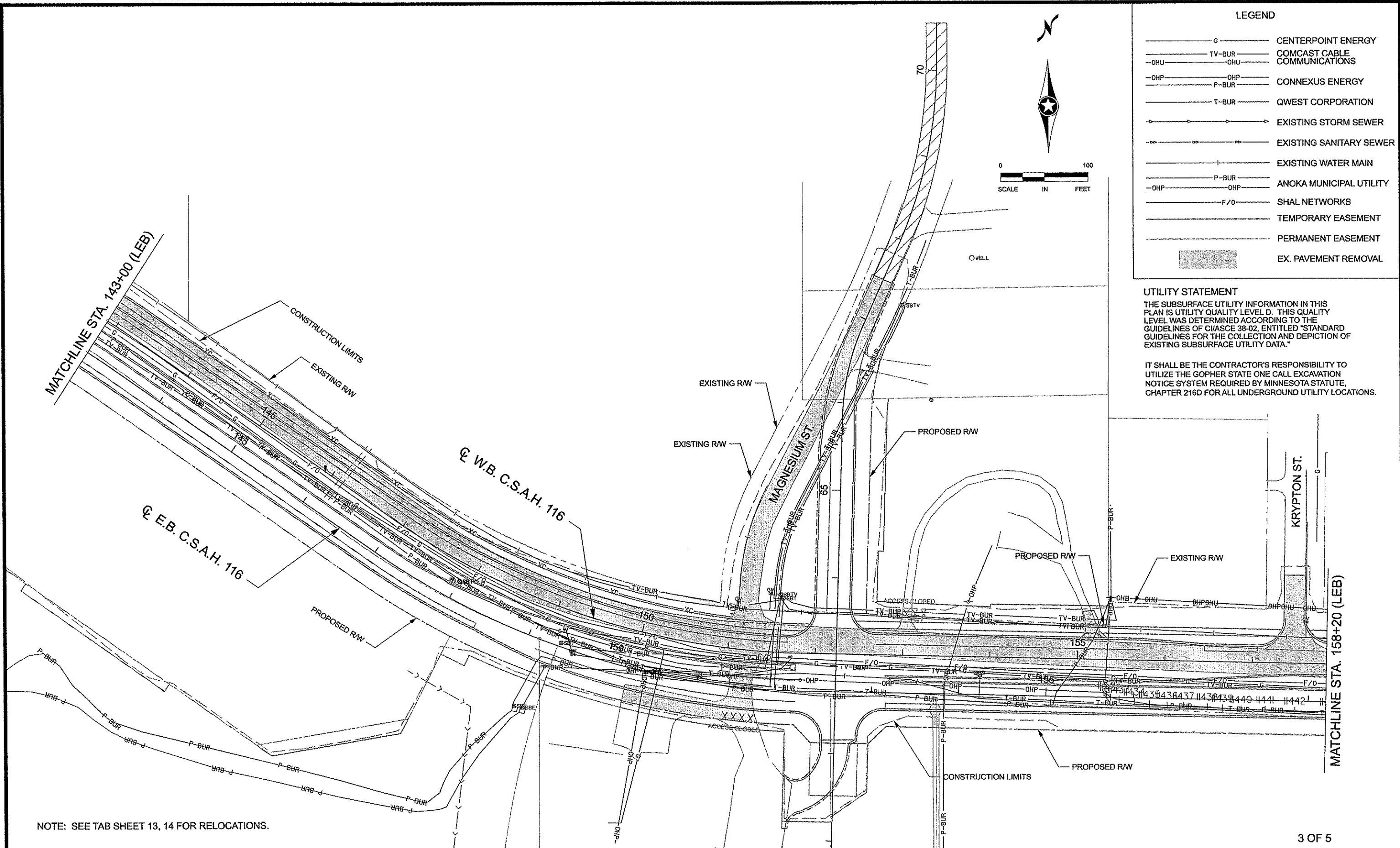
EXISTING UTILITY PLAN  
 STA 117+00.00 TO 143+00.00  
 Sheet 105 of 264 Sheets

LEGEND

- G — CENTERPOINT ENERGY
- TV-BUR — COMCAST CABLE COMMUNICATIONS
- OHU — OHU — CONNEXUS ENERGY
- OHP — OHP — QWEST CORPORATION
- P-BUR — P-BUR — ANOKA MUNICIPAL UTILITY
- T-BUR — T-BUR — SHAL NETWORKS
- F/O — F/O — TEMPORARY EASEMENT
- PERMANENT EASEMENT
- EX. PAVEMENT REMOVAL



**UTILITY STATEMENT**  
 THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."  
 IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.



NOTE: SEE TAB SHEET 13, 14 FOR RELOCATIONS.

1	4/12/11	BAV	JEO	CAK	UPDATED GOPHER STATE ONE CALL NOTE PER MN/DOT
NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_UT3.dgn					04/13/2011 8:40:05 AM

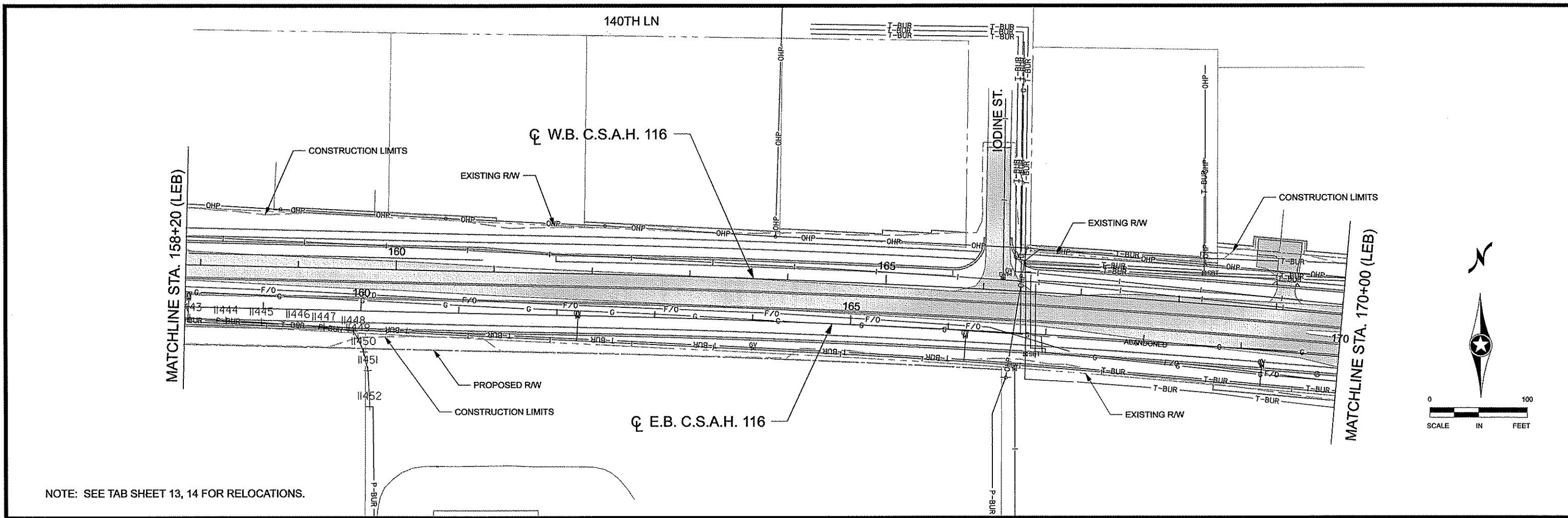
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT KOBIJARCSIK  
 SIGNATURE: *Curt Kobjarcsik*  
 DATE: 4-14-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011

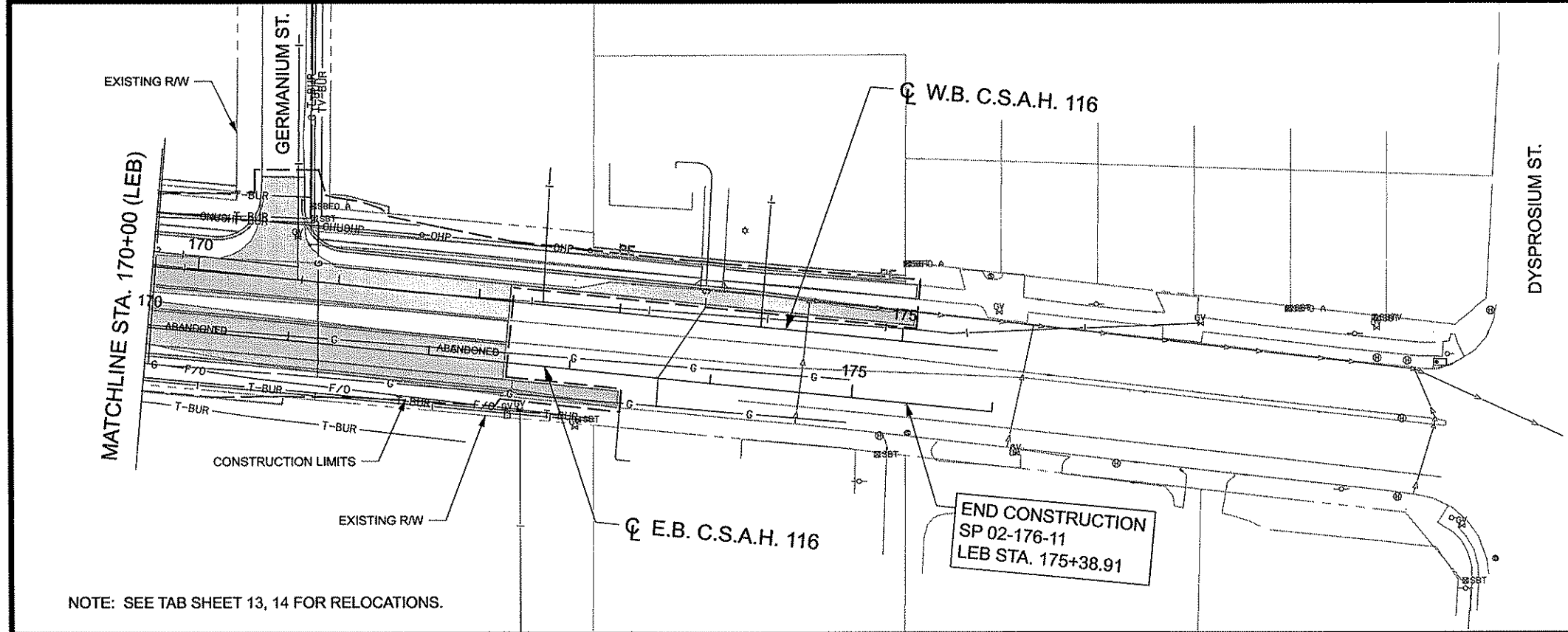
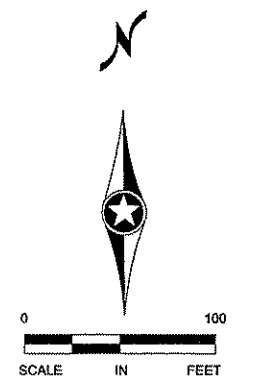


S.P. 002-716-011  
 S.P. 199-020-008

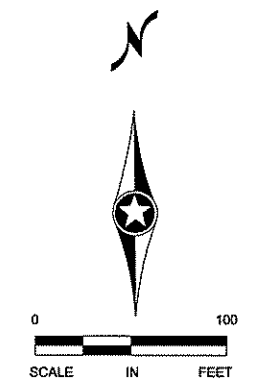
EXISTING UTILITY PLAN  
 STA 143+00.00 TO 158+20.00  
 Sheet 106 of 264 Sheets



NOTE: SEE TAB SHEET 13, 14 FOR RELOCATIONS.



NOTE: SEE TAB SHEET 13, 14 FOR RELOCATIONS.



**LEGEND**

— G —	CENTERPOINT ENERGY
— TV-BUR —	COMCAST CABLE COMMUNICATIONS
— OHU —	OHU
— OHP —	OHP
— P-BUR —	CONNEXUS ENERGY
— T-BUR —	QWEST CORPORATION
→	EXISTING STORM SEWER
→	EXISTING SANITARY SEWER
— I —	EXISTING WATER MAIN
— P-BUR —	ANOKA MUNICIPAL UTILITY
— OHU —	OHU
— F/O —	SHAL NETWORKS
—	TEMPORARY EASEMENT
—	PERMANENT EASEMENT
■	EX. PAVEMENT REMOVAL

**UTILITY STATEMENT**

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

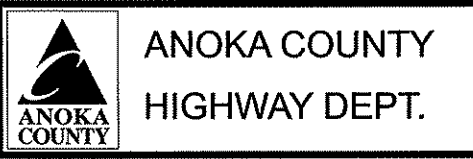
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.

1	4/12/11	BAV	JEO	CAK	UPDATED GOPHER STATE ONE CALL NOTE PER MN/DOT
NO	DATE	BY	CKD	APPR	REVISION
					04/13/2011
NAME: p:\02-716-11\Plan\0271611_UT4.dgn					8:40:11 AM

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.

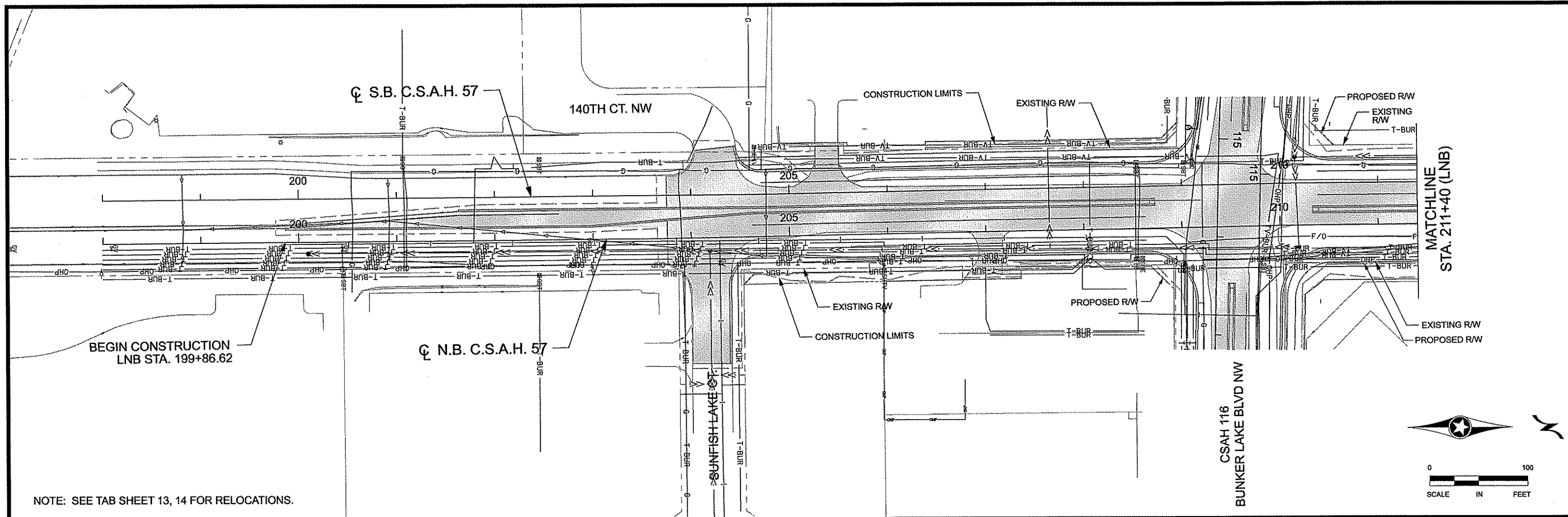
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011

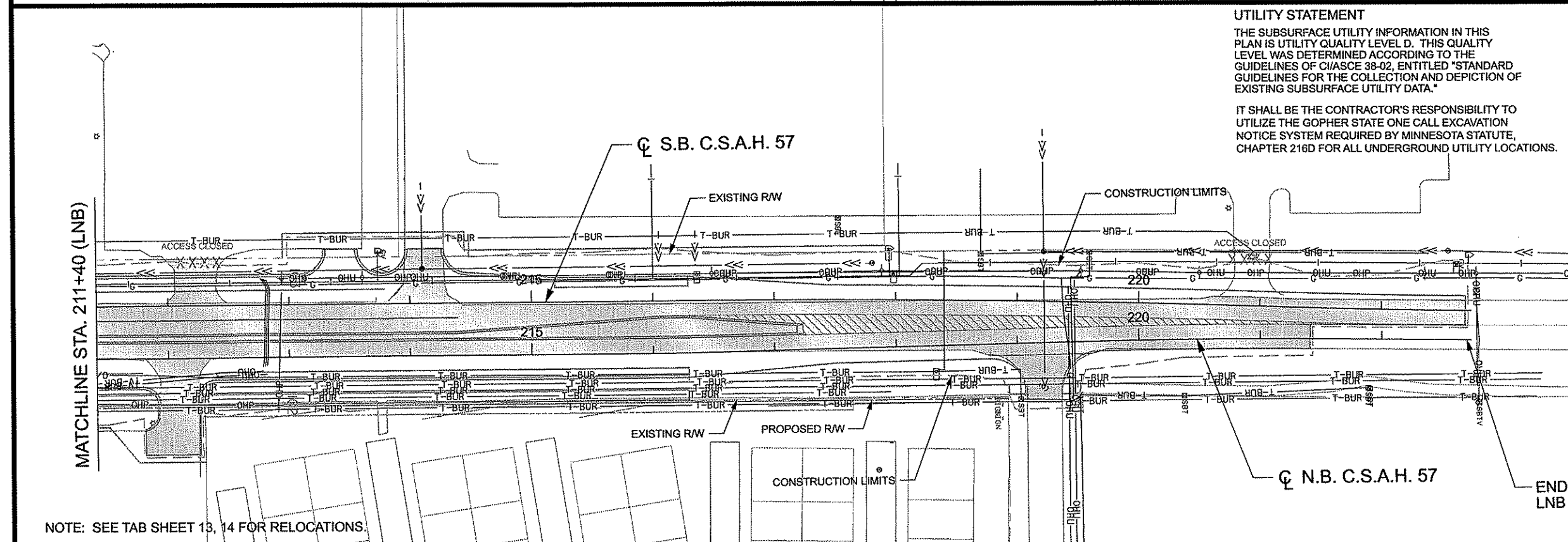
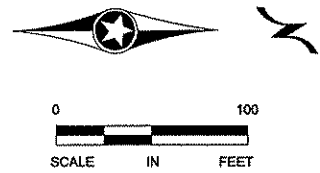


S.P. 002-716-011  
 S.P. 199-020-008

EXISTING UTILITY PLAN  
 STA 158+20.00 TO 175+38.91  
 Sheet 107 of 264 Sheets



NOTE: SEE TAB SHEET 13, 14 FOR RELOCATIONS.



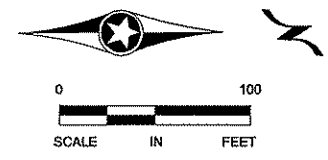
**UTILITY STATEMENT**

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CHASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.

**LEGEND**

- G CENTERPOINT ENERGY
- TV-BUR COMCAST CABLE COMMUNICATIONS
- OHU -OHU
- OHP -OHP
- P-BUR CONNEXUS ENERGY
- T-BUR QWEST CORPORATION
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- P-BUR -OHP ANOKA MUNICIPAL UTILITY
- F/O SHAL NETWORKS
- TEMPORARY EASEMENT
- PERMANENT EASEMENT
- EXISTING PAVEMENT REMOVAL



NOTE: SEE TAB SHEET 13, 14 FOR RELOCATIONS.

1	4/12/11	BAV	JEO	CAK	UPDATED GOPHER STATE ONE CALL NOTE PER MN/DOT
NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_UT5.dgn 04/13/2011 8:40:17 AM					

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarsik*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



S.P. 002-716-011  
 S.P. 199-020-008

EXISTING UTILITY PLAN  
 STA 199+86.62 TO 222+68.75  
 Sheet 108 of 264 Sheets

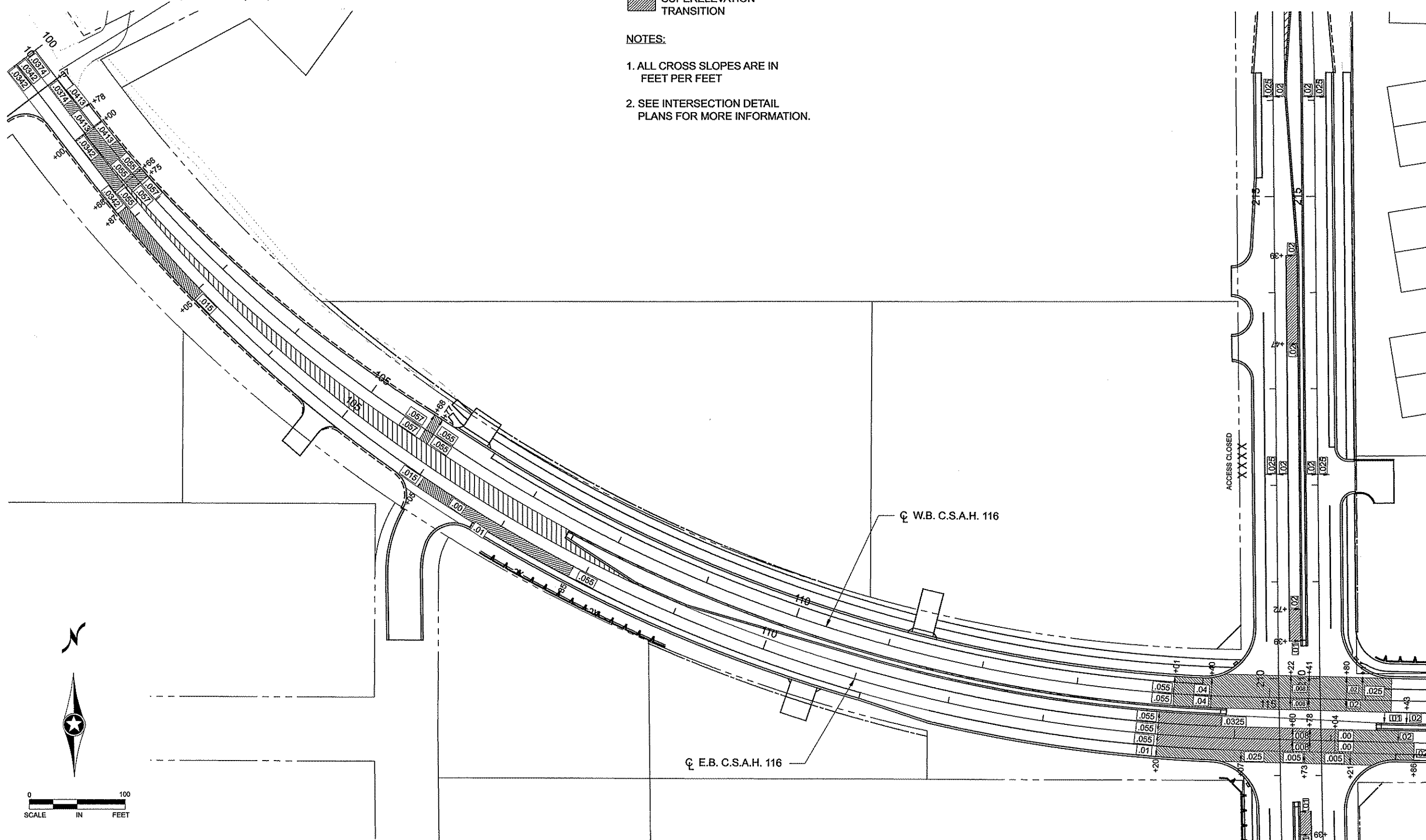
LEGEND

 SUPERELEVATION  
TRANSITION

NOTES:

1. ALL CROSS SLOPES ARE IN FEET PER FEET
2. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION.

BEGIN CONSTRUCTION  
STA. 100+37 (LEB)




MATCH LINE STA. 117+00 (LEB)

1	4/12/11	BAV	JEO	CAK	UPDATED SUPERELEVATION PER MN/DOT
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_SE1.dgn					04/13/2011 9:04:12 AM

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.

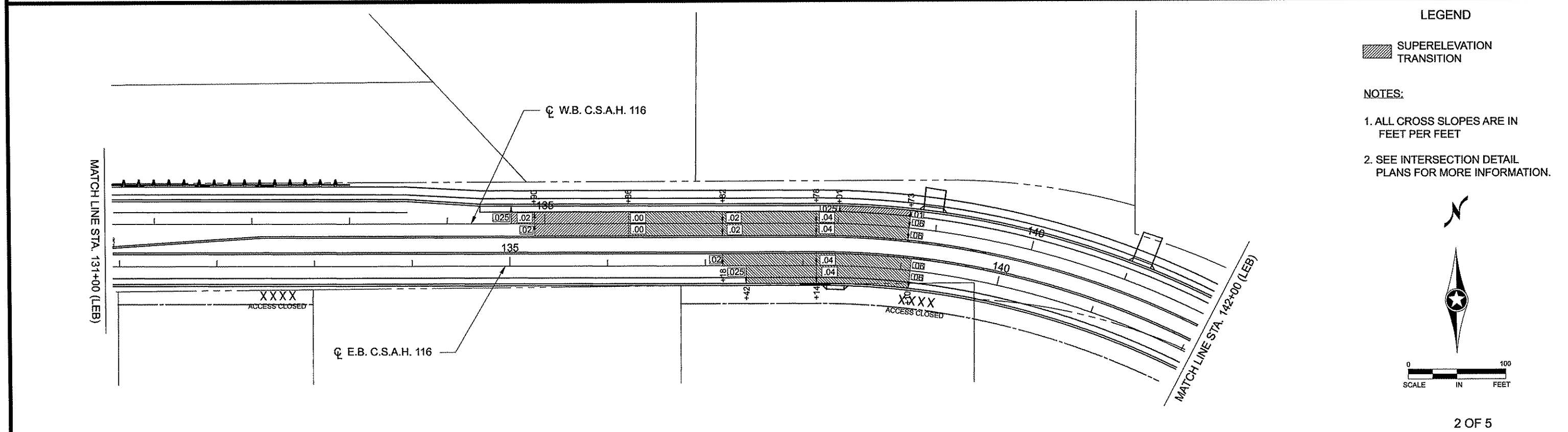
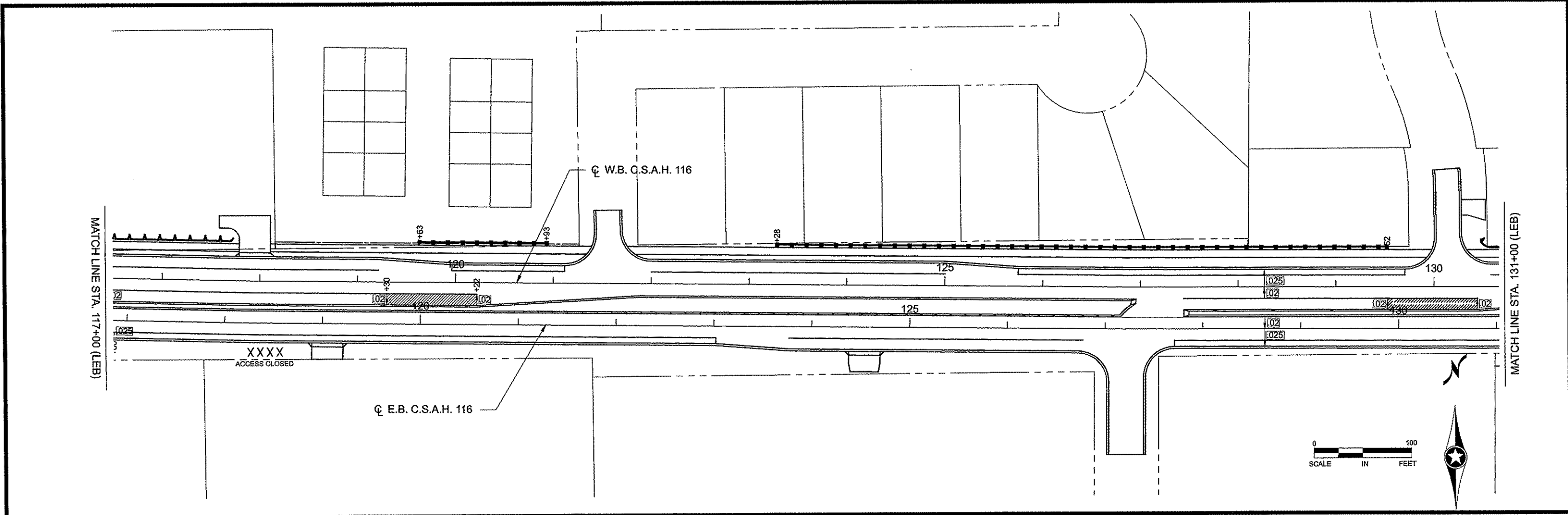
PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarcsik*  
DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
DESIGN BY: MN DATE: 04/13/2011  
CHECKED BY: CAK DATE: 04/13/2011

 ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

SUPERELEVATION  
STA 100+37.00 TO 117+00.00  
Sheet 109 of 264 Sheets



LEGEND

▨ SUPERELEVATION TRANSITION

NOTES:

- 1. ALL CROSS SLOPES ARE IN FEET PER FOOT
- 2. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION.

NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_SE2.dgn 02/24/2011 10:50:23 AM					

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.

PRINT NAME: CURT KOBILARCSIK

SIGNATURE: *Curt Kobilarsik*

DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/24/2011

DESIGN BY: MN DATE: 02/24/2011

CHECKED BY: CAK DATE: 02/24/2011



S.P. 002-716-011  
S.P. 199-020-008

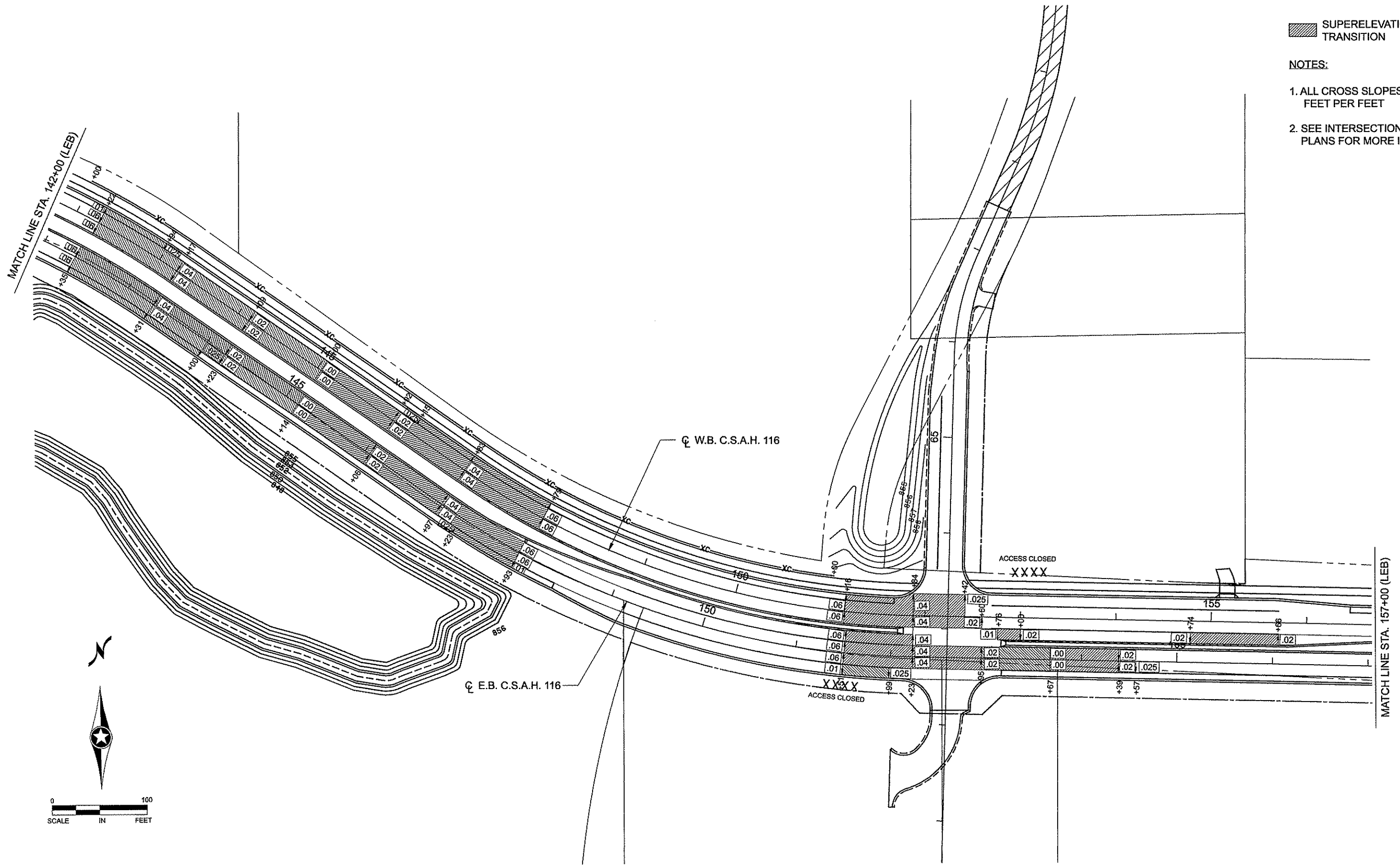
SUPERELEVATION  
STA 117+00.00 TO 142+00.00  
Sheet 110 of 264 Sheets

LEGEND

 SUPERELEVATION  
TRANSITION

NOTES:

1. ALL CROSS SLOPES ARE IN FEET PER FEET
2. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION.



MATCH LINE STA. 157+00 (LEB)

MATCH LINE STA. 142+00 (LEB)

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_SE3.dgn					

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.

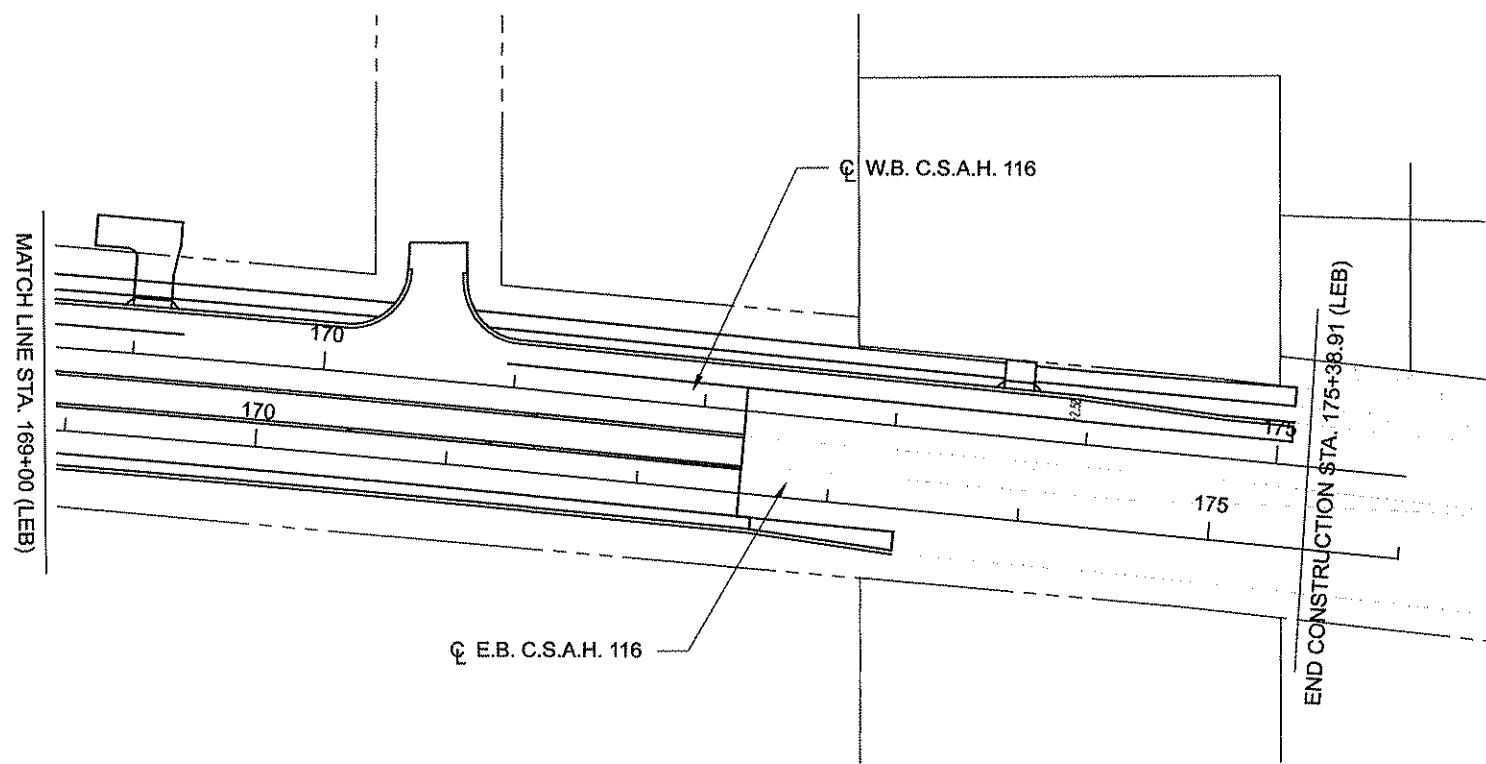
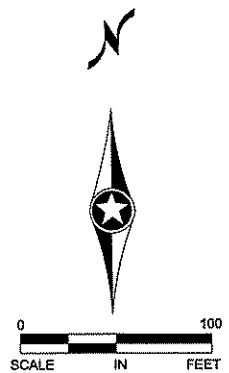
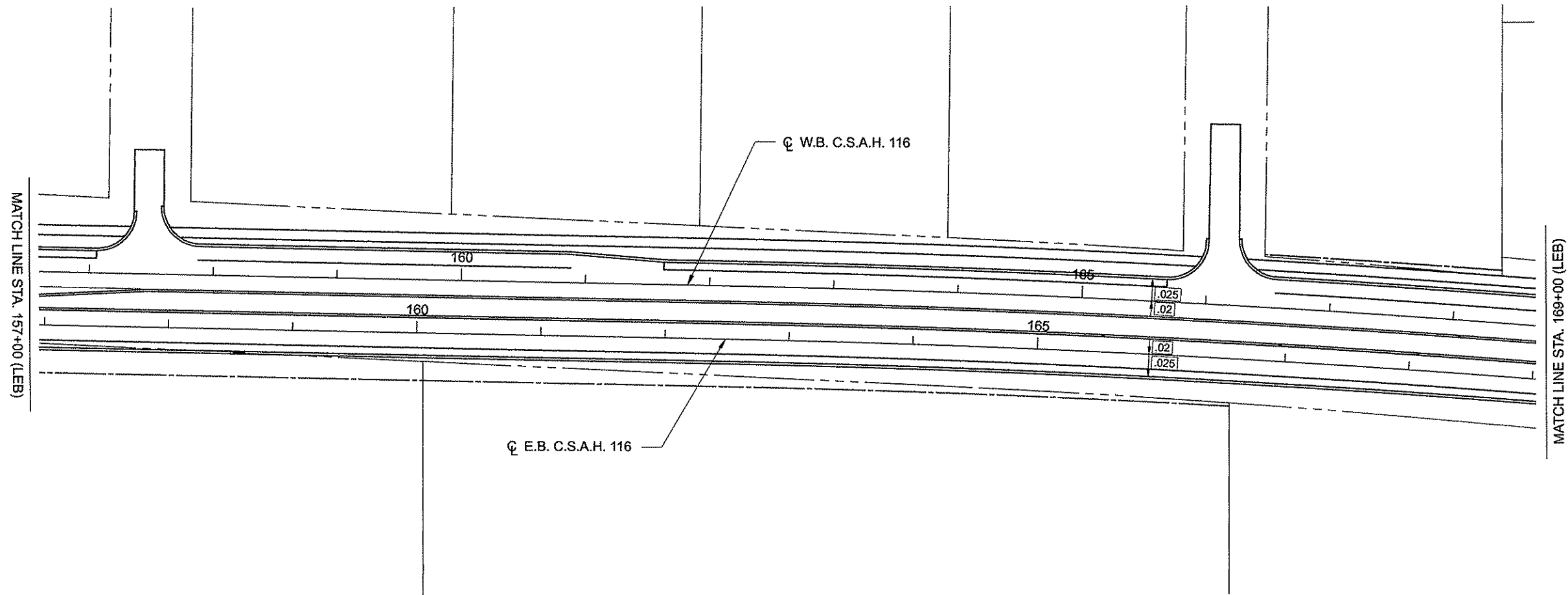
PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY BAV DATE 02/24/2011  
 DESIGN BY MN DATE 02/24/2011  
 CHECKED BY CAK DATE 02/24/2011

 **ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

**SUPERELEVATION**  
 STA 142+00.00 TO 157+00.00  
 Sheet 111 of 264 Sheets

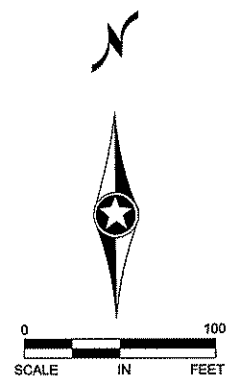


LEGEND

SUPERELEVATION TRANSITION

NOTES:

1. ALL CROSS SLOPES ARE IN FEET PER FOOT
2. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_SE4.dgn 10:50:26 AM 02/24/2011

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011

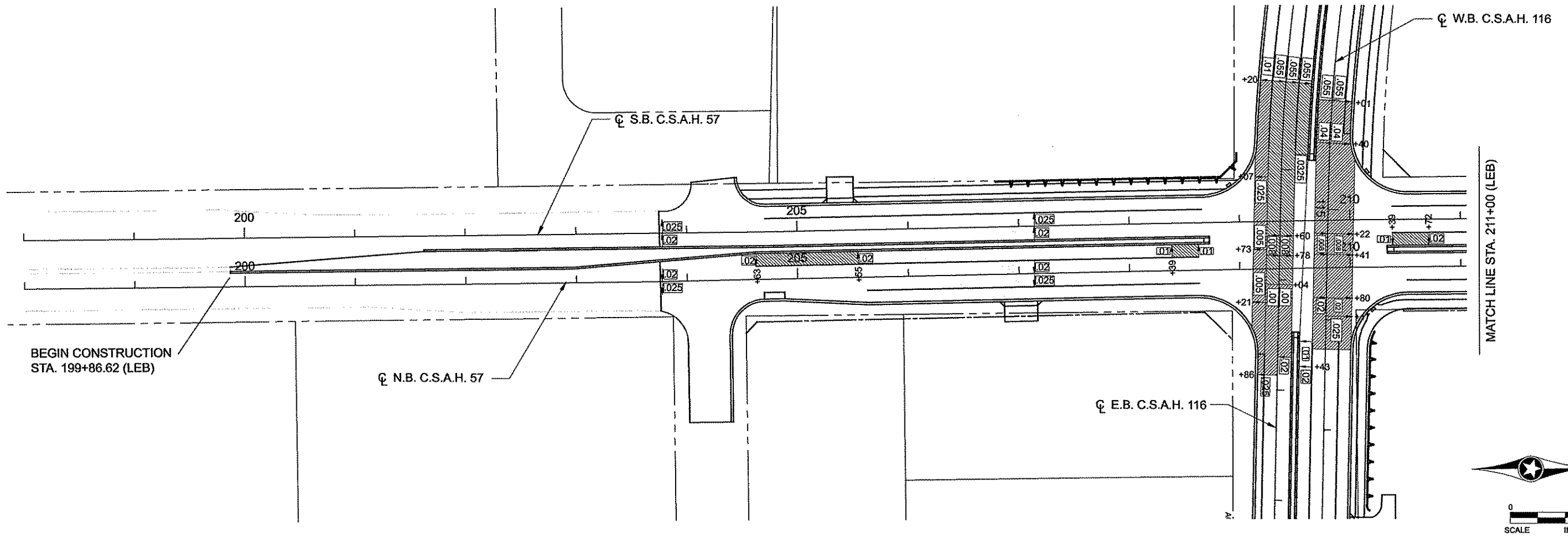


ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

SUPERELEVATION  
STA 157+00.00 TO 175+38.91  
Sheet 112 of 264 Sheets





MATCH LINE STA. 211+00 (LEB)

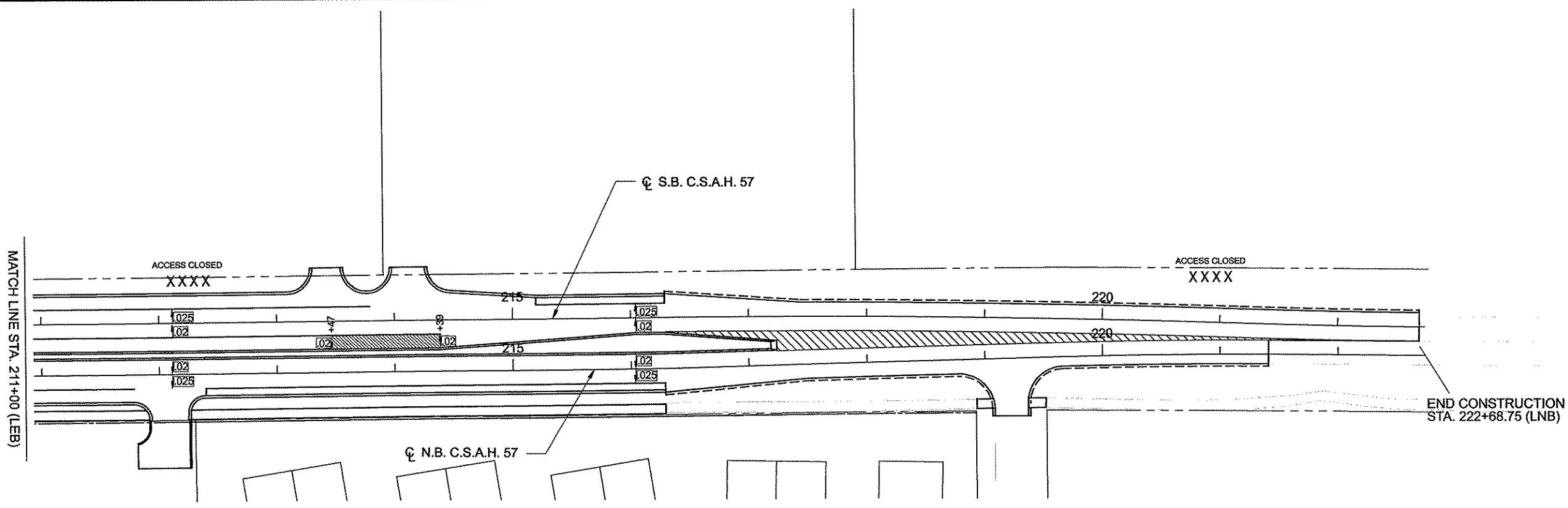
BEGIN CONSTRUCTION STA. 199+86.62 (LEB)

LEGEND

SUPERELEVATION TRANSITION

NOTES:

1. ALL CROSS SLOPES ARE IN FEET PER FOOT
2. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION



MATCH LINE STA. 211+00 (LEB)

END CONSTRUCTION STA. 222+68.75 (LNB)

NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:02-716-11\plan\0271611\_SE5.dgn 04/18/2011 3:24:07 PM

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.

PRINT NAME: CURT KOBIARCSIK

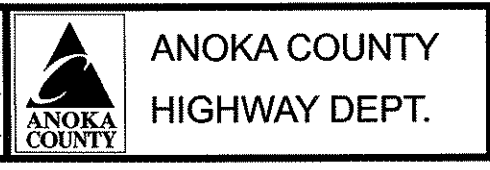
SIGNATURE: *Curt Kobiarsik*

DATE: 4-20-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 04/18/2011

DESIGN BY: MN DATE: 04/18/2011

CHECKED BY: CAK DATE: 04/18/2011



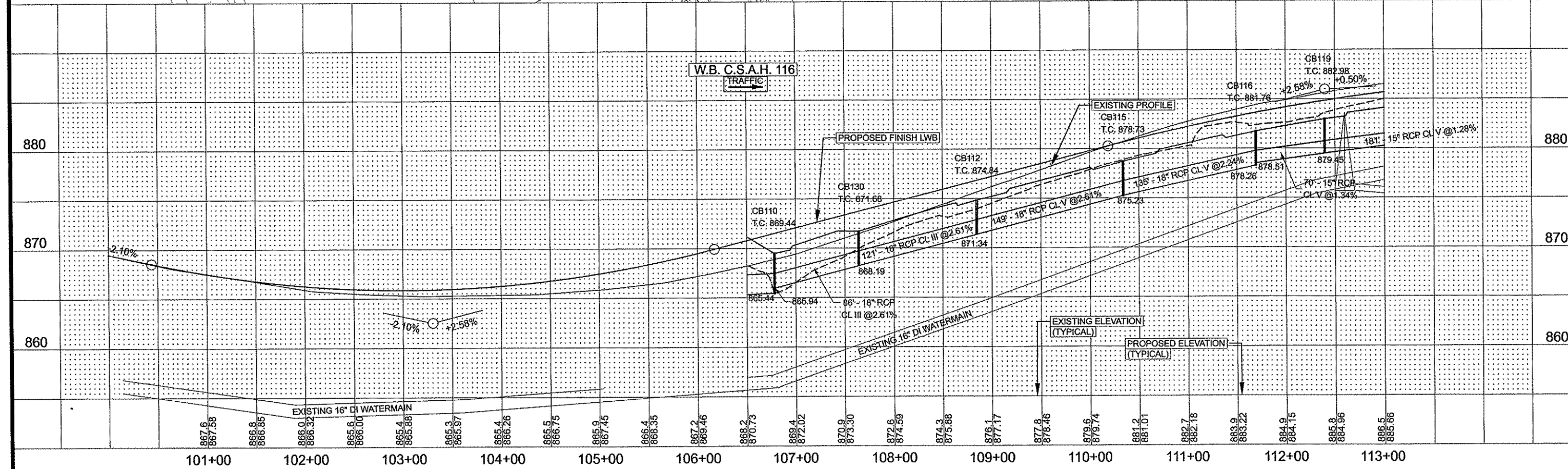
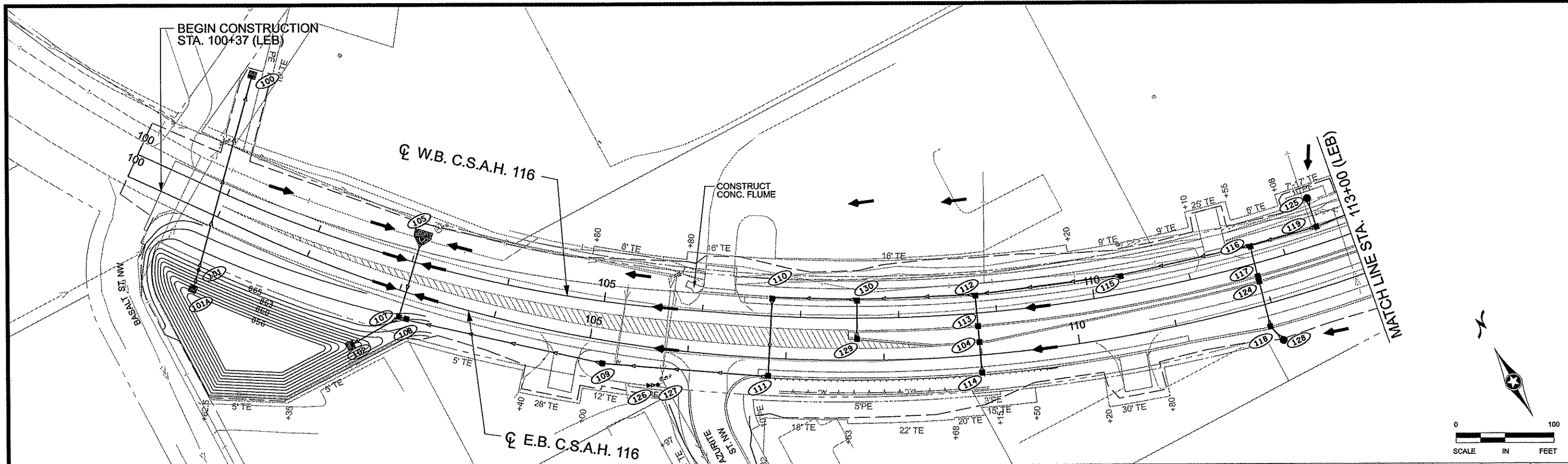
S.P. 002-716-011

S.P. 199-020-008

SUPERELEVATION

STA 199+86.62 TO 222+68.75

Sheet 113 of 264 Sheets



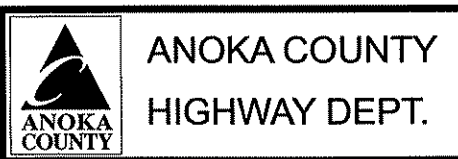
1 OF 8

1	4/12/11	BAV	JEO	CAK	UPDATED STRUCTURE NUMBER
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.

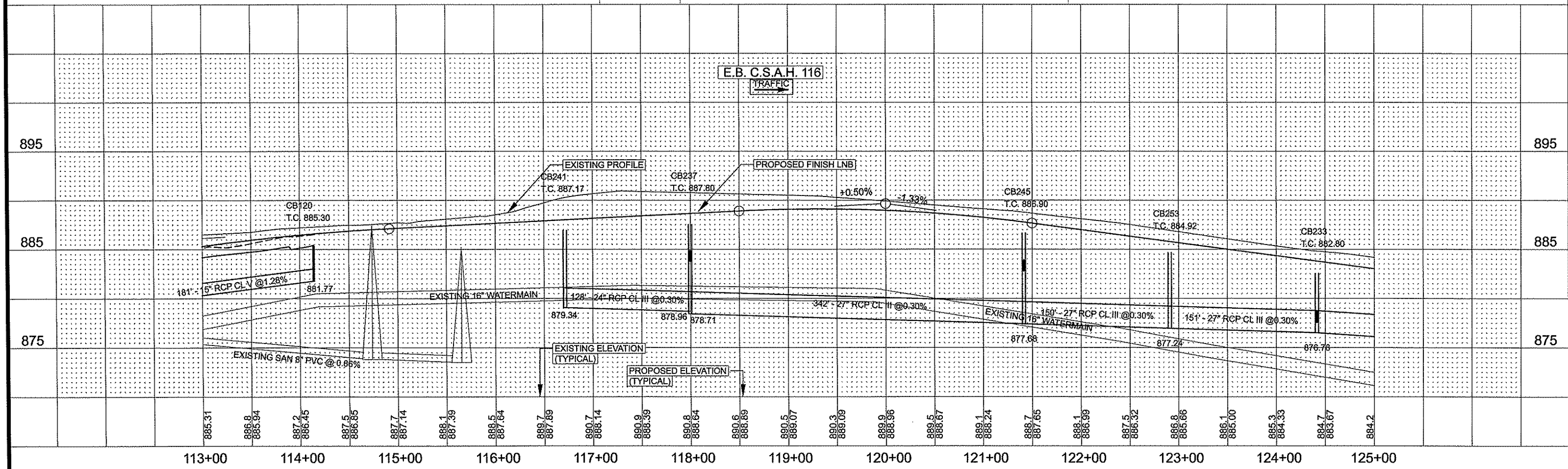
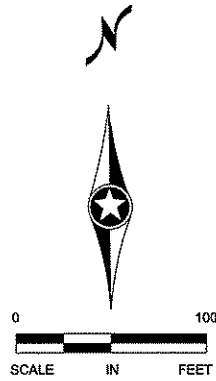
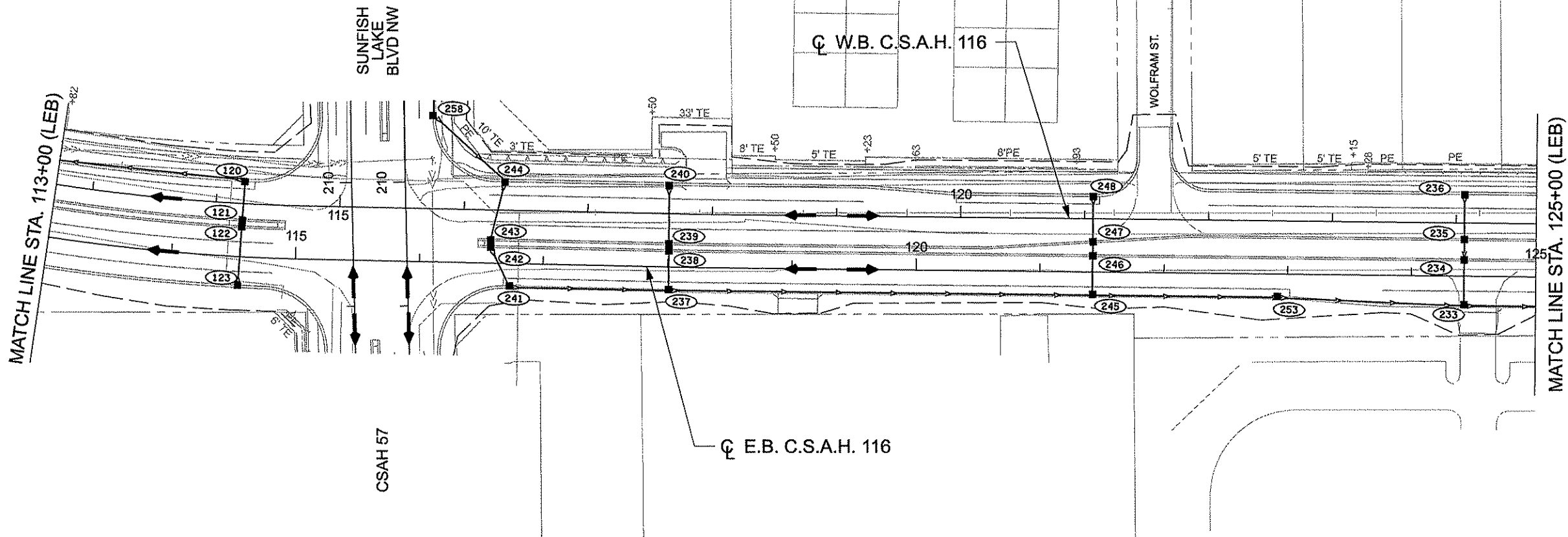
PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 4-14-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



S.P. 002-716-011  
 S.P. 199-020-008

DRAINAGE PLAN  
 STA 100+00.00 TO 113+00.00  
 Sheet 114 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_DR\_P2.dgn

02/23/2011 11:13:42 AM

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.

PRINT NAME: CURT KOBIARCSIK

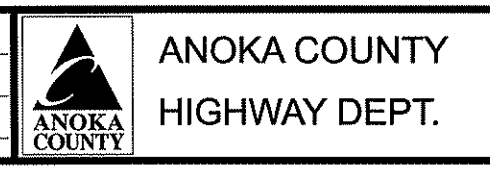
SIGNATURE: *Curt Kobiarcsik*

DATE: 2-24-11 LICENSE NO. 24796

DRAWN BY: BAV DATE: 02/23/2011

DESIGN BY: MN DATE: 02/23/2011

CHECKED BY: CAK DATE: 02/23/2011



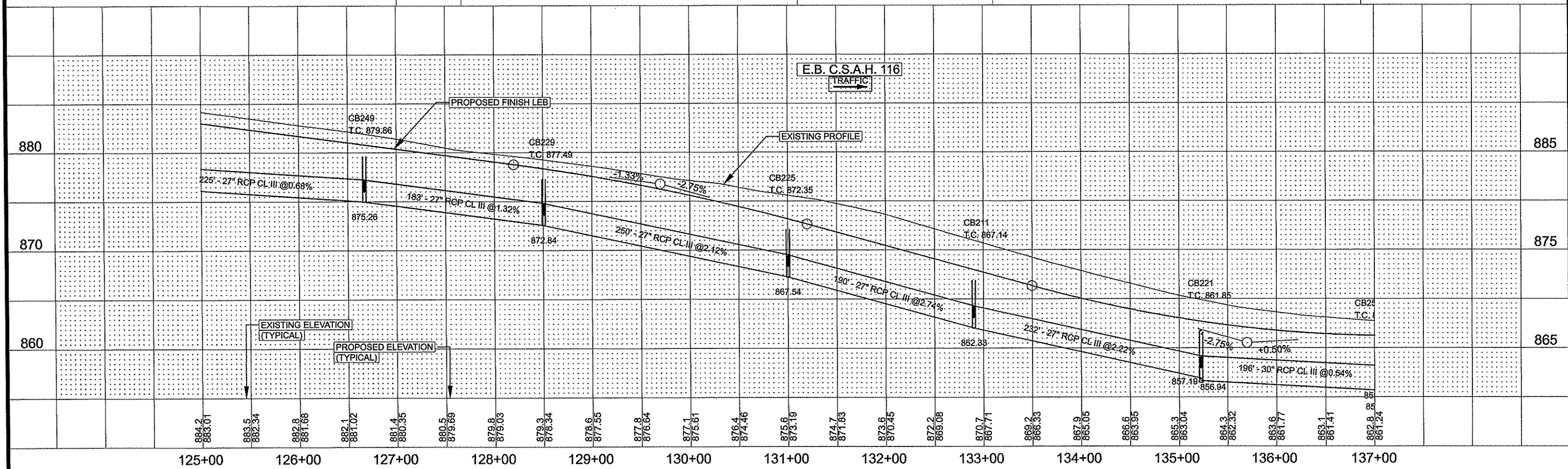
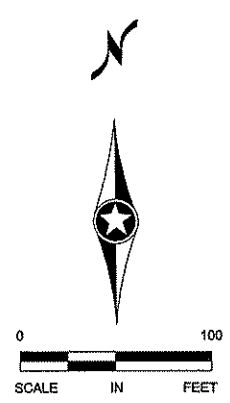
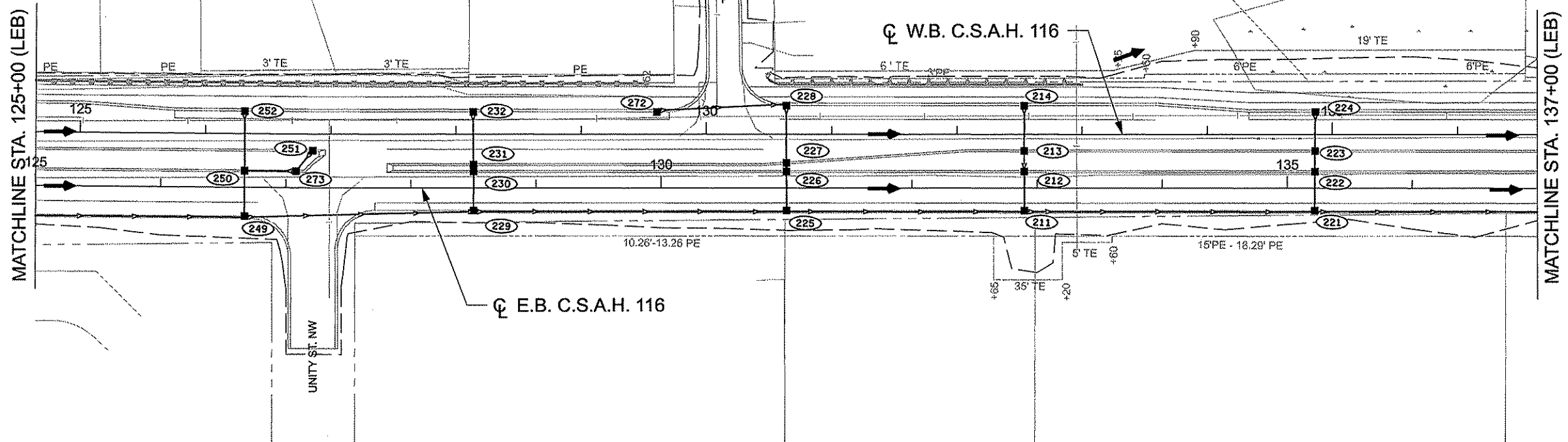
S.P. 002-716-011

S.P. 199-020-008

DRAINAGE PLAN

STA 113+00.00 TO 125+00.00

Sheet 115 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:102-716-11\plan\0271611\_DR\_P3.dgn  
 02/24/2011 10:43:31 AM

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.

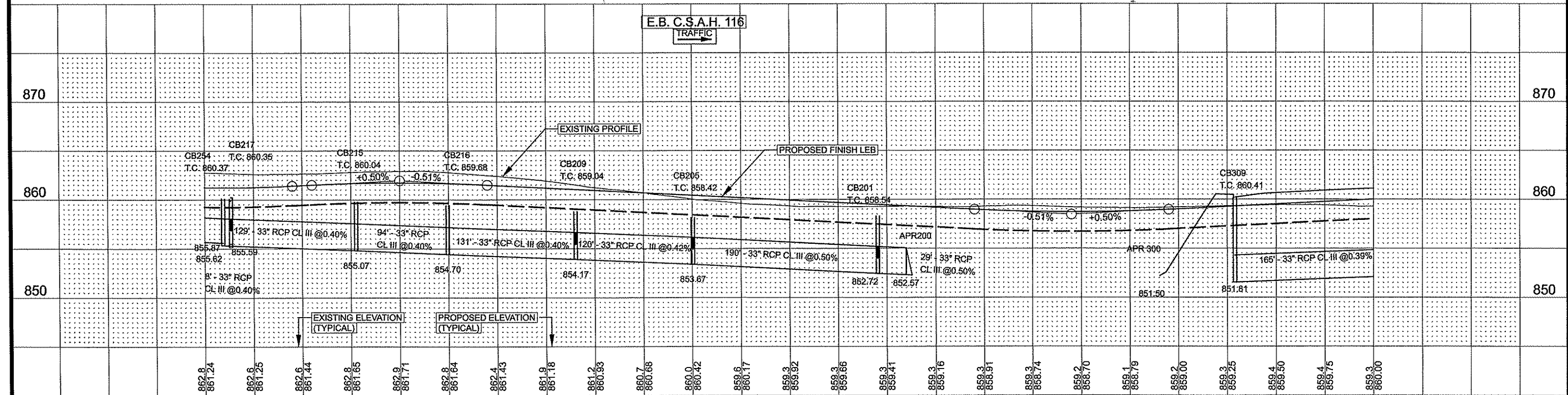
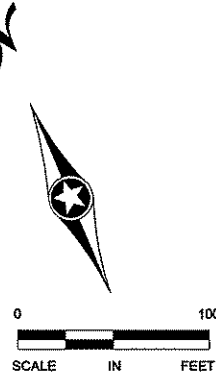
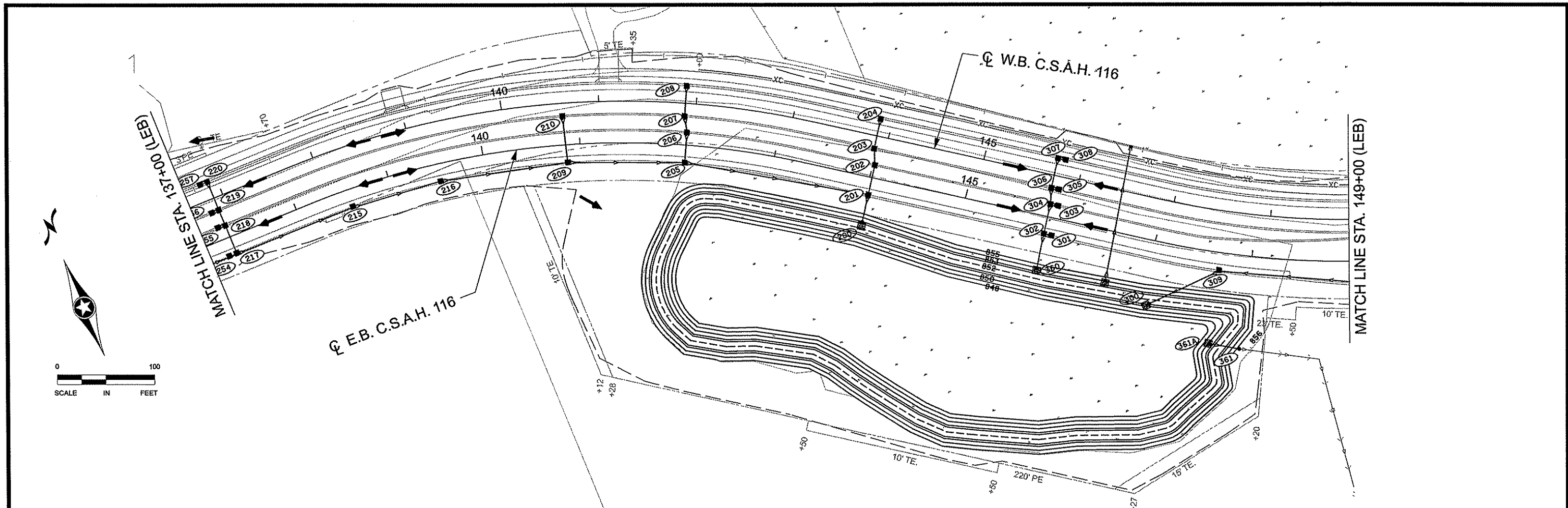
PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *[Signature]*  
 DATE: 2-24-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011



S.P. 002-716-011  
 S.P. 199-020-008

DRAINAGE PLAN  
 STA 125+00.00 TO 137+00.00  
 Sheet 116 of 264 Sheets



862.8	861.24	862.6	861.25	862.6	861.44	862.8	861.85	862.9	861.71	862.8	861.84	862.4	861.43	861.9	861.18	861.2	860.93	860.7	860.66	860.0	860.42	859.6	860.17	859.3	859.92	859.3	859.86	859.3	859.41	859.3	859.16	859.3	858.91	859.3	858.74	859.2	858.70	859.1	858.79	859.2	859.00	859.3	859.25	859.4	858.50	859.4	859.75	859.3	860.00		
137+00	138+00	139+00	140+00	141+00	142+00	143+00	144+00	145+00	146+00	147+00	148+00	149+00																																							

4 OF 8

1	4/12/11	BAV	JEO	CAK	UPDATED STRUCTURE NUMBER
NO	DATE	BY	CKD	APPR	REVISION
					04/13/2011
NAME: P:\02-716-11\Plan\0271611_DR_F4.dgn					8:50:08 AM

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.

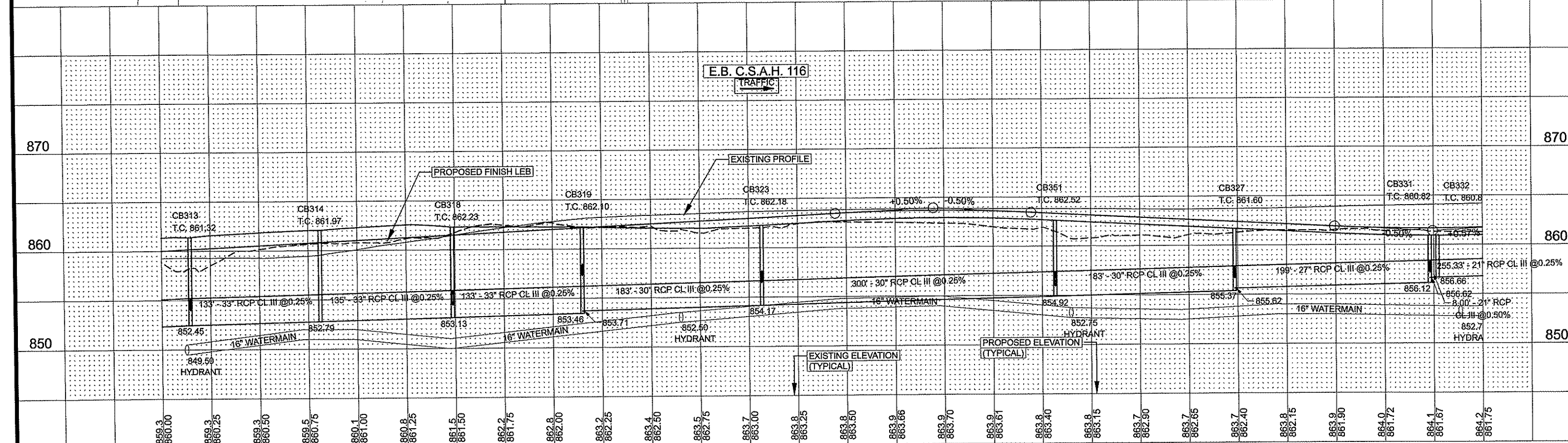
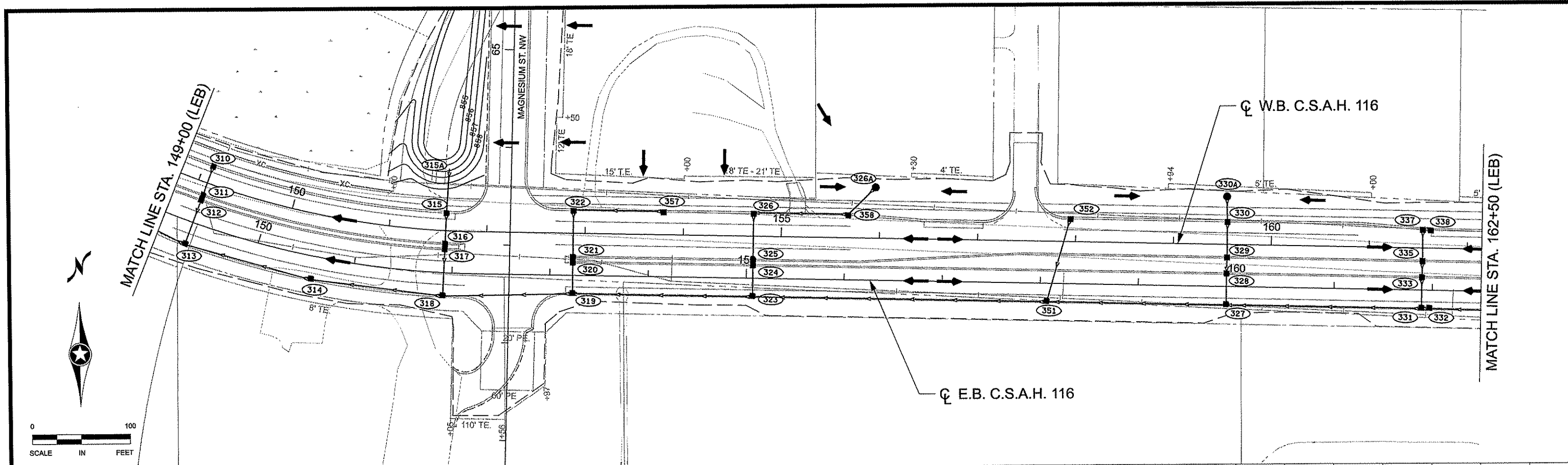
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 9-14-11 LICENSE NO. 24750

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



S.P. 002-716-011  
 S.P. 199-020-008

DRAINAGE PLAN  
 STA 137+00.00 TO 149+00.00  
 Sheet 117 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:02-716-11\plan\0271611\_DR\_P5.dgn 02/23/2011 11:13:58 AM

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.

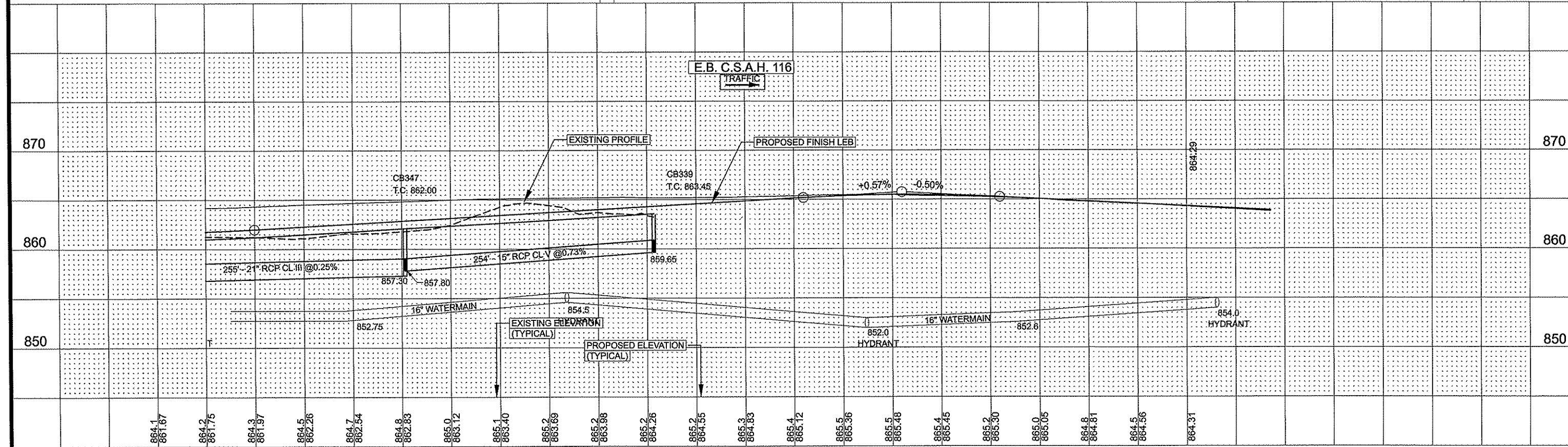
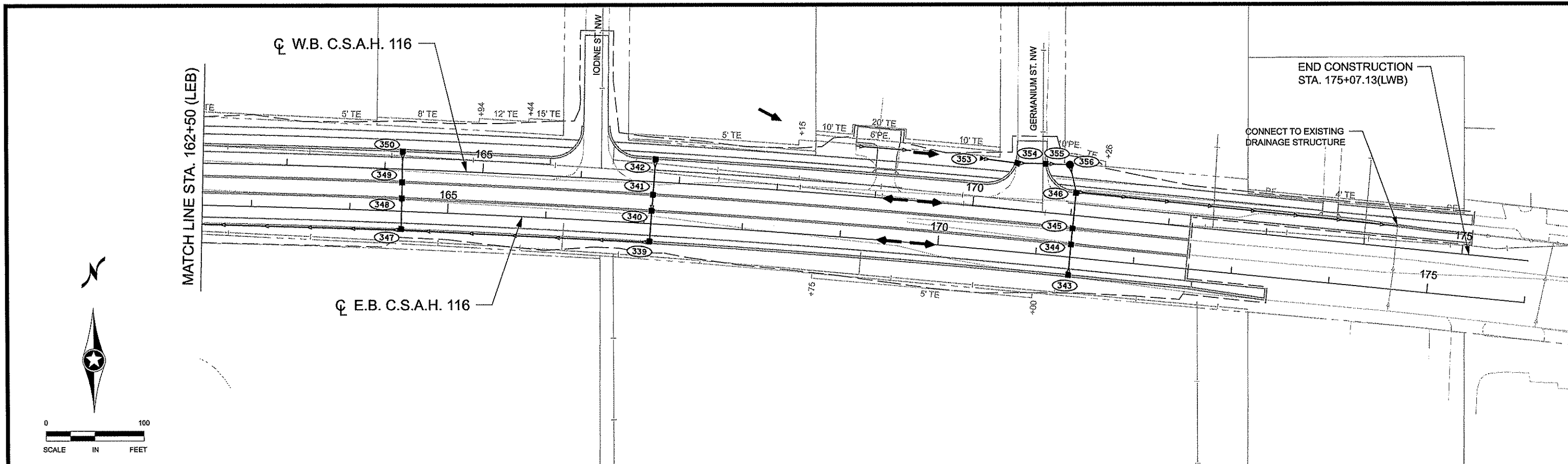
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011



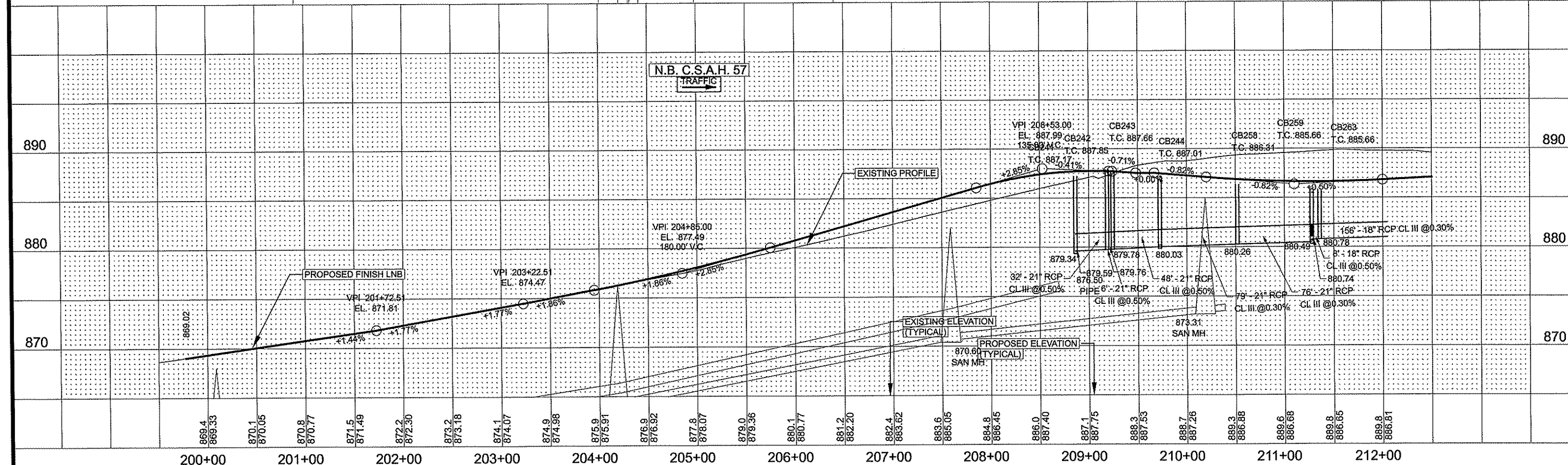
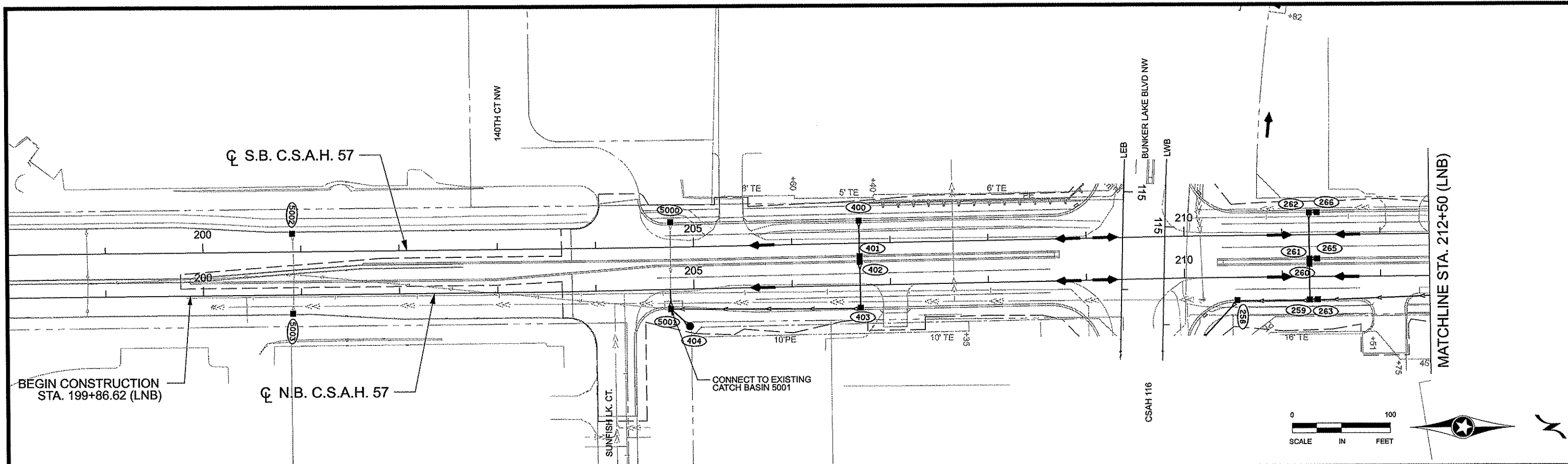
S.P. 002-716-011  
 S.P. 199-020-008

DRAINAGE PLAN  
 STA 149+00.00 TO 162+00.00  
 Sheet 118 of 264 Sheets



864.1	861.67	864.2	861.75	864.3	861.87	864.5	862.26	864.7	862.54	864.8	862.83	865.0	863.12	865.1	863.40	865.2	863.69	865.2	863.98	865.2	864.26	865.2	864.55	865.3	864.83	865.4	865.12	865.5	865.36	865.5	865.48	865.4	865.45	865.2	865.30	865.0	865.05	864.8	864.81	864.5	864.56	864.31			
162+00	163+00	164+00	165+00	166+00	167+00	168+00	169+00	170+00	171+00	172+00																																			

NO DATE BY CKD APPR REVISION NAME: p:102-716-11\plan10271611_DR_P8.dgn 02/24/2011 10:43:36 AM					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. PRINT NAME: CURT KOBIARCSIK SIGNATURE: <i>Curt Kobiarcsik</i> DATE: 2-24-11 LICENSE NO. 24756					DRAWN BY: BAV DATE: 02/24/2011 DESIGN BY: MN DATE: 02/24/2011 CHECKED BY: CAK DATE: 02/24/2011					ANOKA COUNTY HIGHWAY DEPT. S.P. 002-716-011 S.P. 199-020-008					DRAINAGE PLAN STA 162+00.00 TO 175+38.91 Sheet 119 of 264 Sheets				
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_DR\_P7.dgn  
 02/24/2011 10:43:41 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11 LICENSE NO. 24756

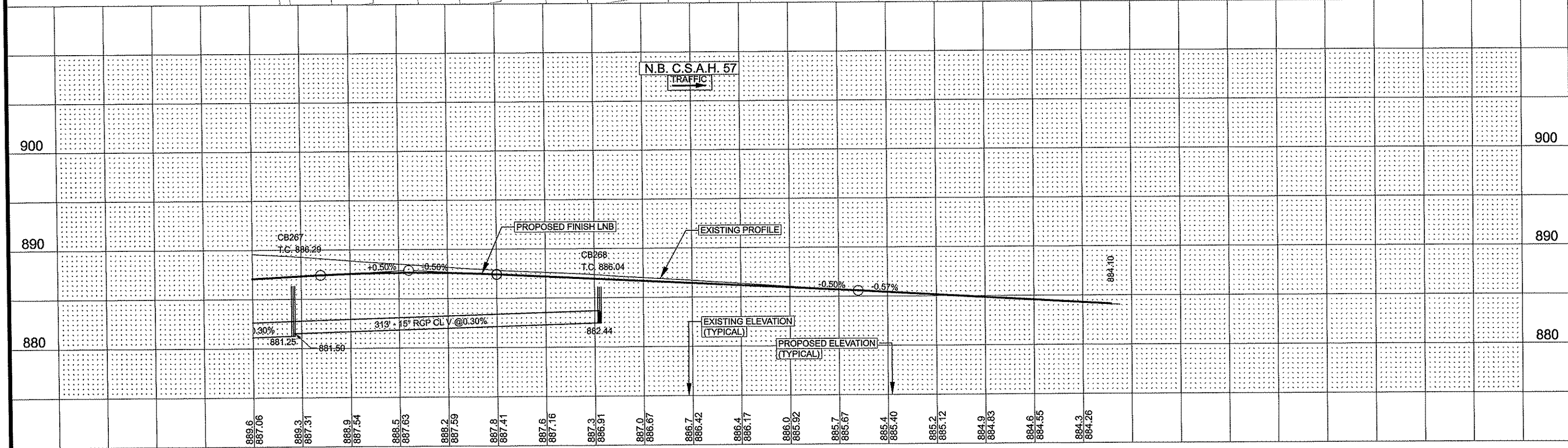
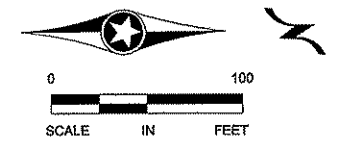
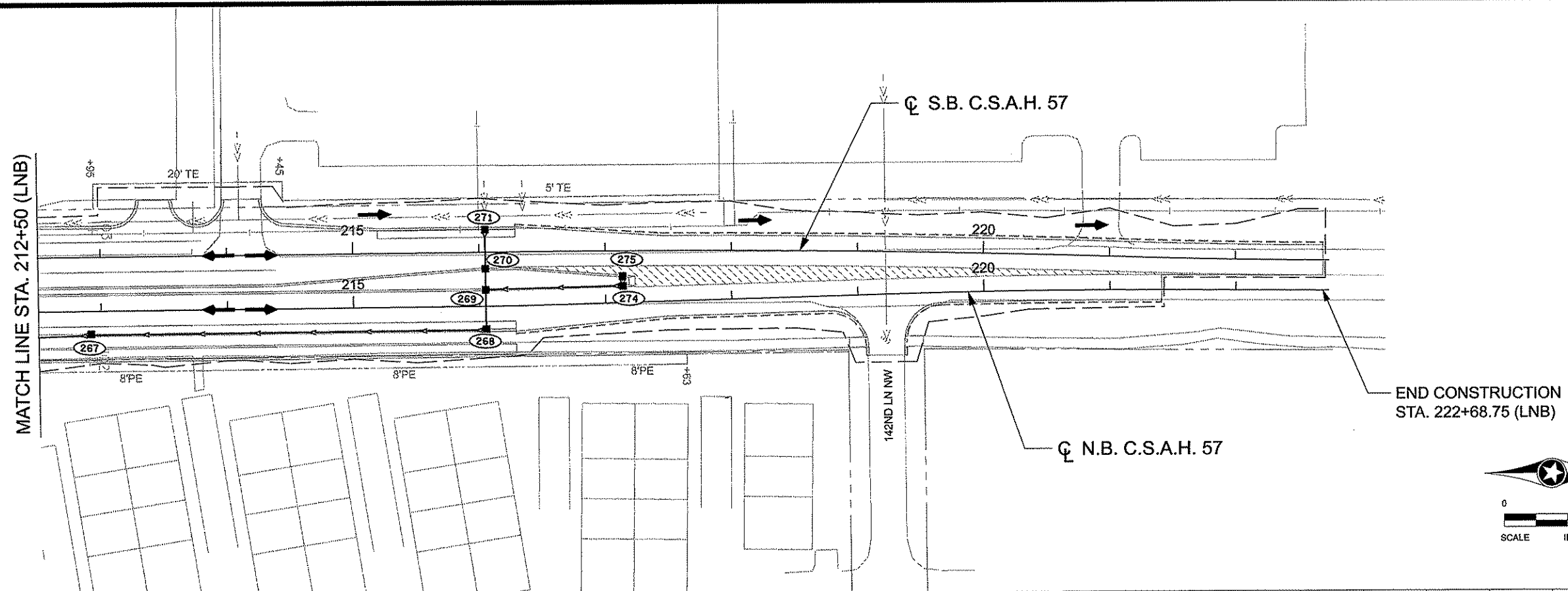
DRAWN BY: BAV DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011



S.P. 002-716-011  
 S.P. 199-020-008

DRAINAGE PLAN  
 STA 199+86.62 TO 212+50.00  
 Sheet 120 of 264 Sheets





N.B. C.S.A.H. 57  
TRAFFIC

PROPOSED FINISH LNB

EXISTING PROFILE

EXISTING ELEVATION (TYPICAL)

PROPOSED ELEVATION (TYPICAL)

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:02-716-11\plan\0271611\_DR\_P8.dgn  
02/23/2011 11:14:12 AM

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.

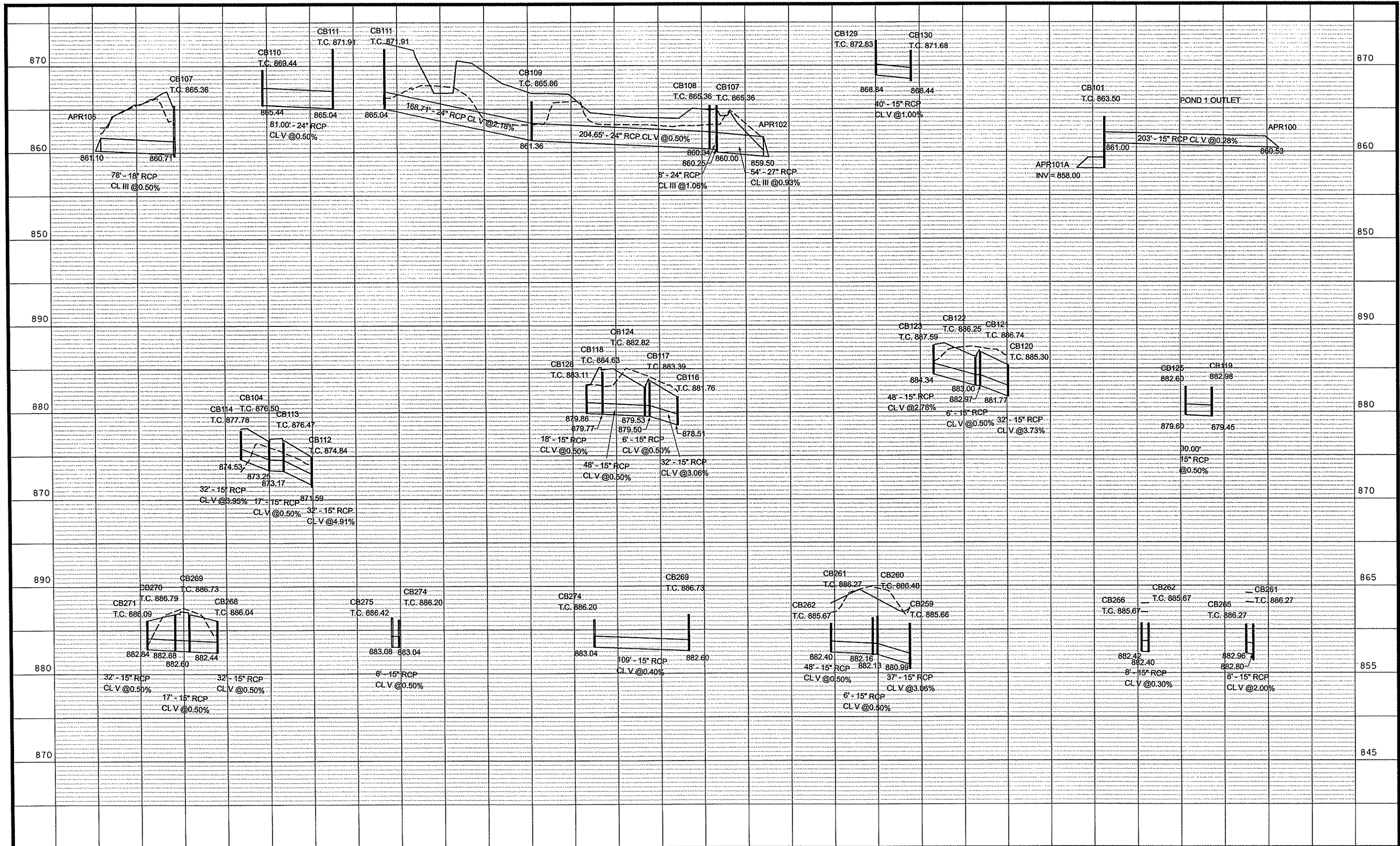
PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarsik*  
DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAY DATE: 02/23/2011  
DESIGN BY: MN DATE: 02/23/2011  
CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
S.P. 199-020-008

DRAINAGE PLAN  
STA 212+00.00 TO 222+68.75  
Sheet 121 of 264 Sheets

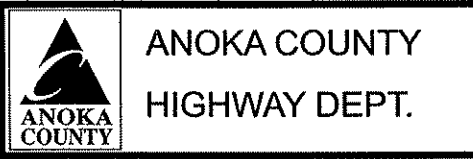


1	4/12/11	BAV	JEO	CAK	STORM LEADS UPDATED
NO	DATE	BY	CHKD	APPR	REVISION
					04/13/2011 8:40:23 AM

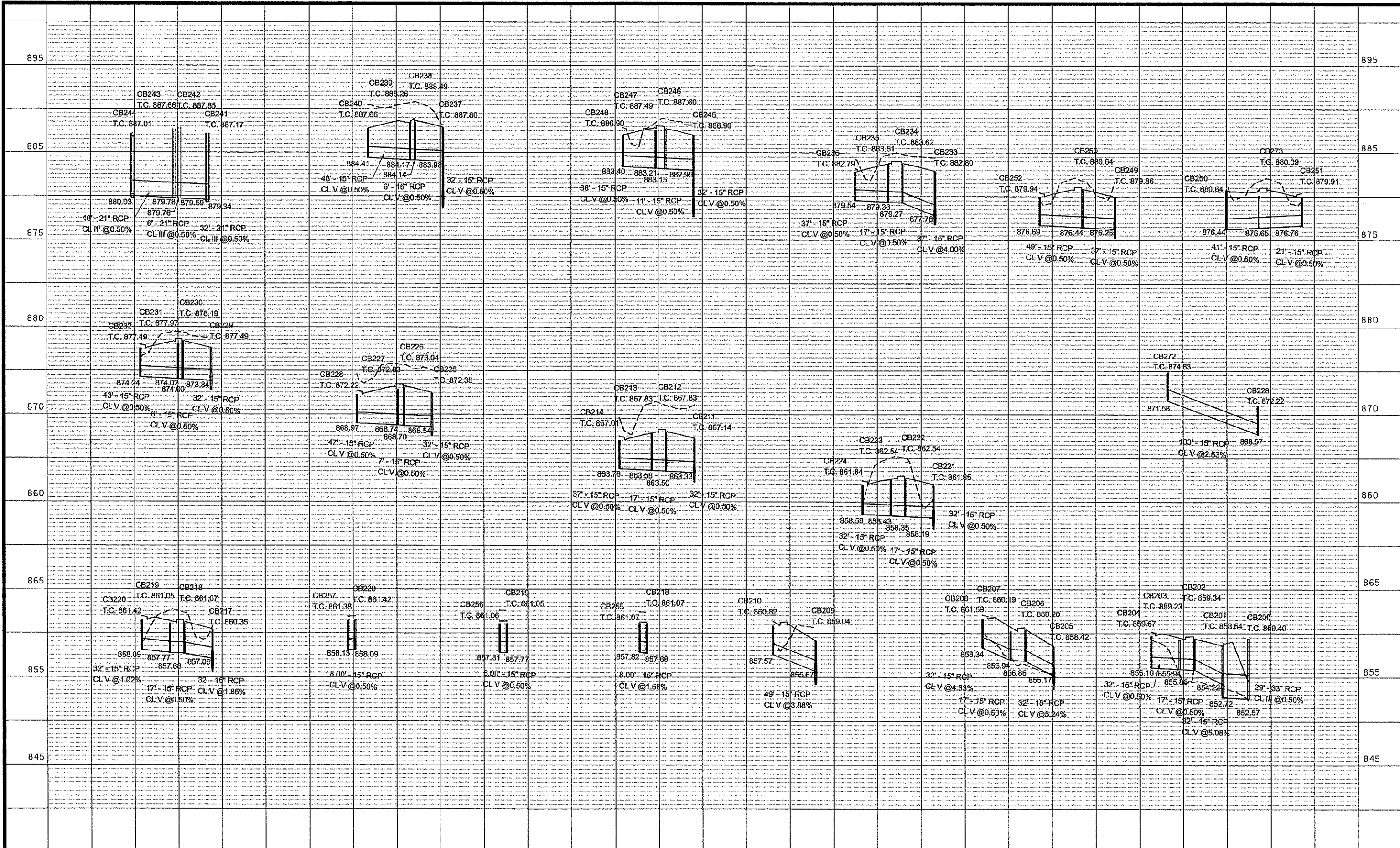
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: \_\_\_\_\_  
 DESIGN BY: MN DATE: \_\_\_\_\_  
 CHECKED BY: CAK DATE: \_\_\_\_\_



S.P. 002-716-011  
 S.P. 199-020-008



1	4/12/11	BAV	JEO	CAK	STORM LEADS UPDATED
NO	DATE	BY	CKD	APPR	REVISION
NAME: p102-716-111Plan0271611_DR_LEADS.dgn	04/13/2011				8:40:22 AM

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.

PRINT NAME: CURT KOBIARCSEK

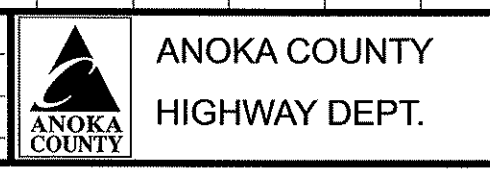
SIGNATURE: *Curt Kobilarcsek*

DATE: 4-14-11 LICENSE NO. 24756

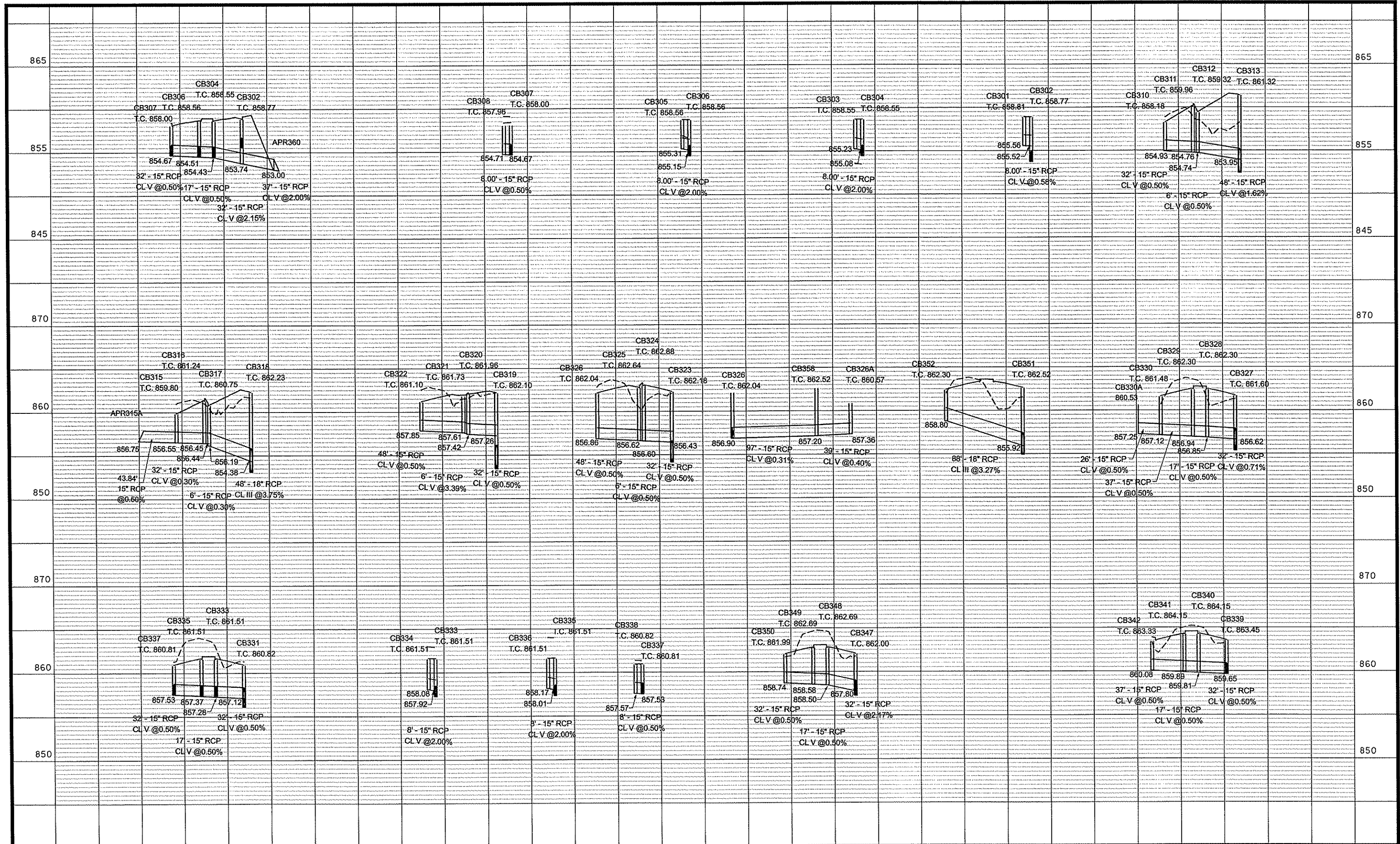
DRAWN BY: BAV DATE: \_\_\_\_\_

DESIGN BY: MN DATE: \_\_\_\_\_

CHECKED BY: CAK DATE: \_\_\_\_\_



S.P. 002-716-011  
S.P. 199-020-008

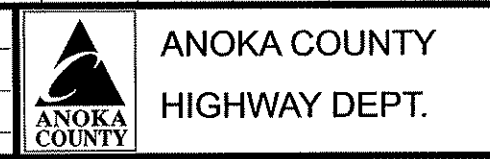


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NO	DATE	BY	CKD	APPR	REVISION
					04/13/2011
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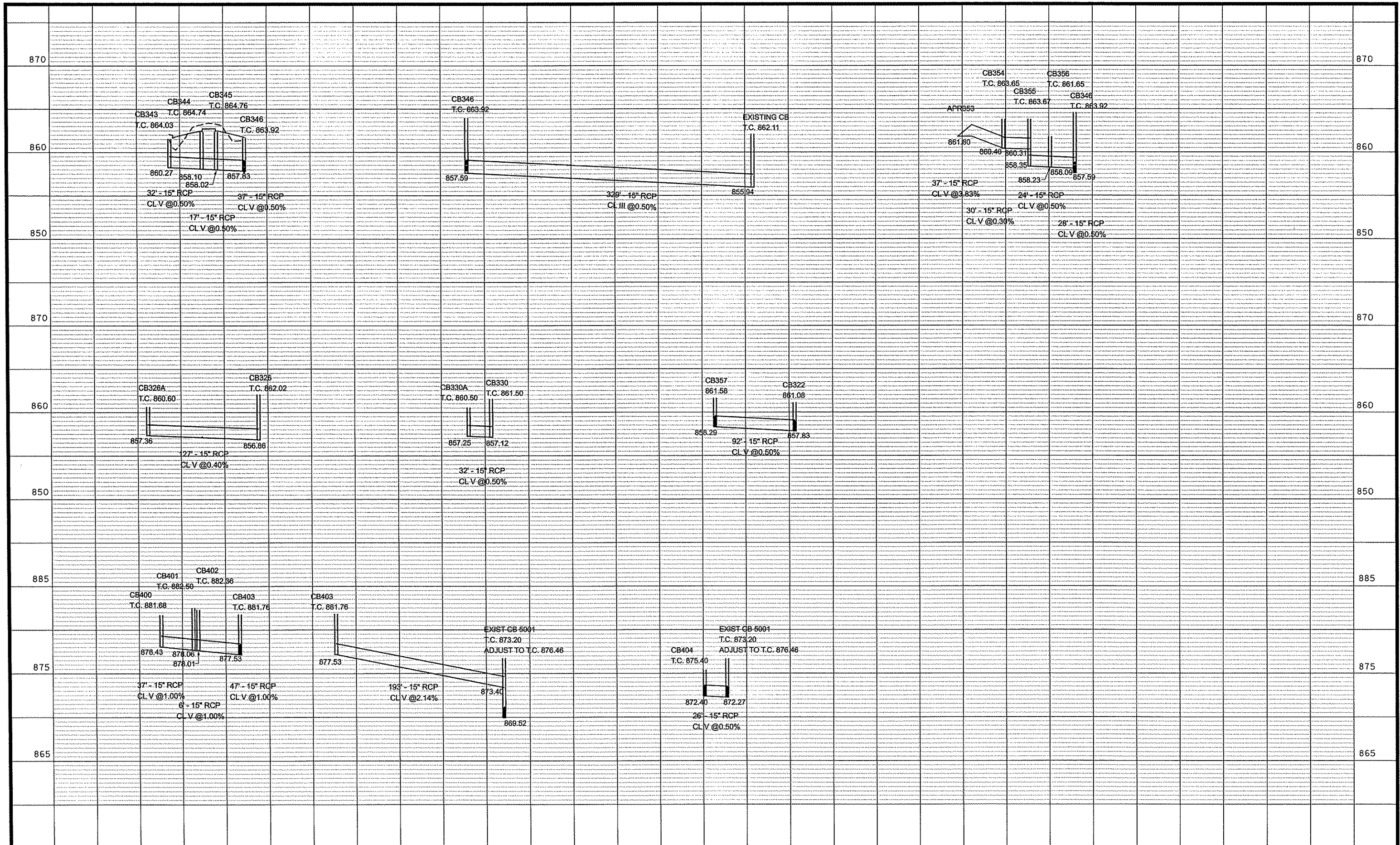
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: \_\_\_\_\_  
 DESIGN BY: MN DATE: \_\_\_\_\_  
 CHECKED BY: CAK DATE: \_\_\_\_\_



S.P. 002-716-011  
 S.P. 199-020-008

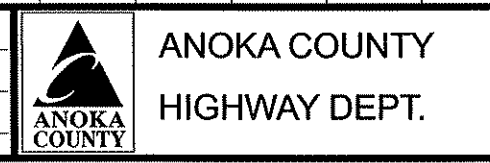


1	4/12/11	BAV	JEO	CAK	STORM LEADS UPDATED
NO	DATE	BY	CKD	APPR	REVISION
					04/13/2011
NAME: p:\02-716-11\Plan\0271611_OR_LEADS.dgn					8:40:31 AM

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.

PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: \_\_\_\_\_  
 DESIGN BY: MN DATE: \_\_\_\_\_  
 CHECKED BY: CAK DATE: \_\_\_\_\_



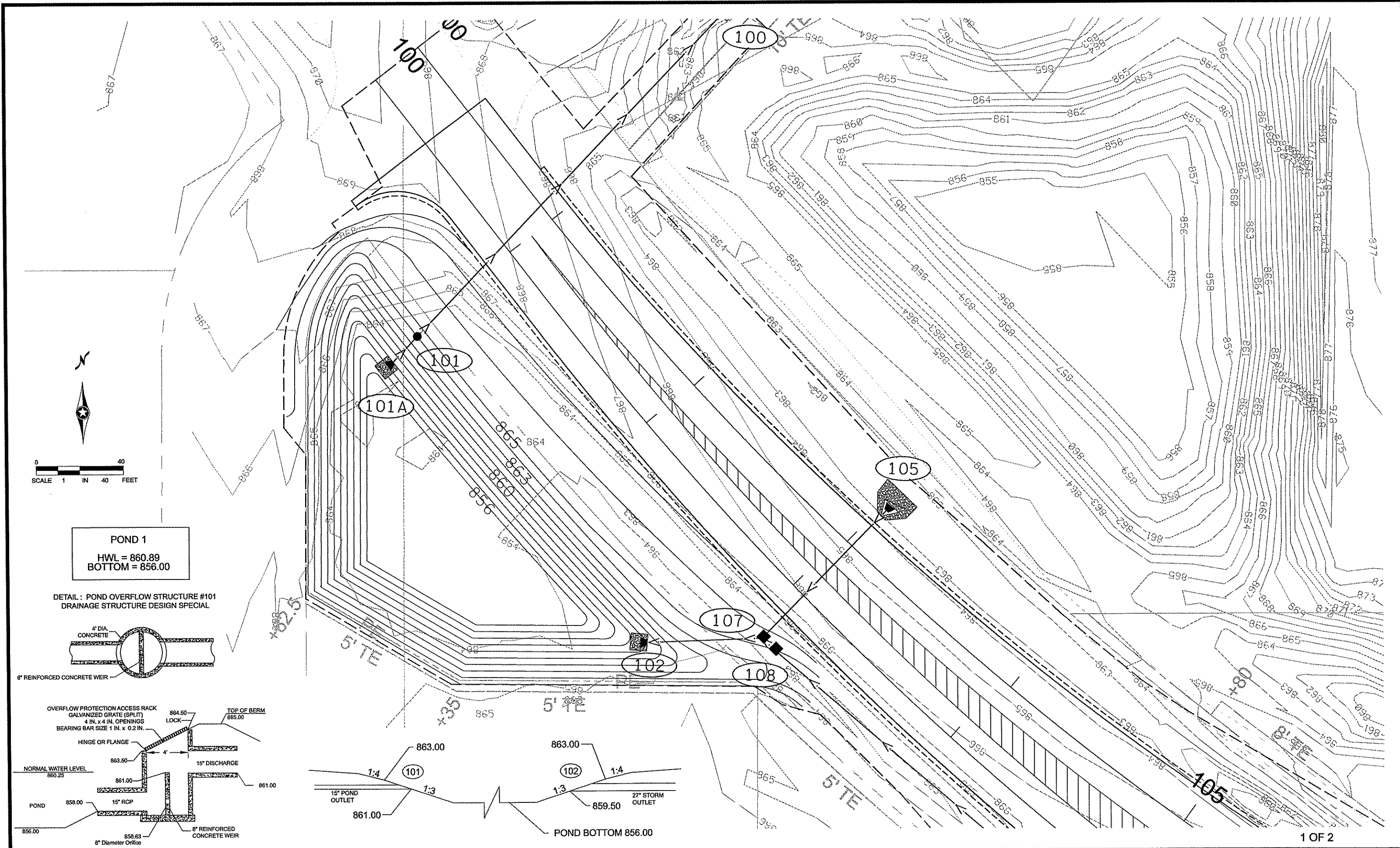
S.P. 002-716-011  
 S.P. 199-020-008





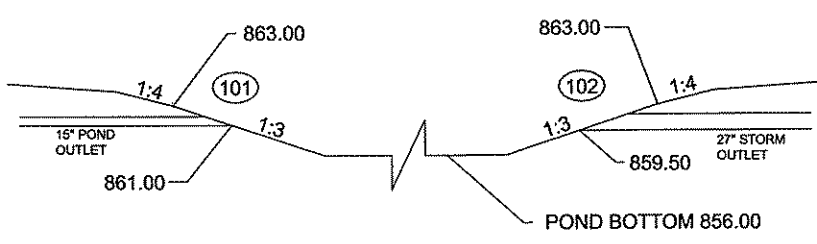
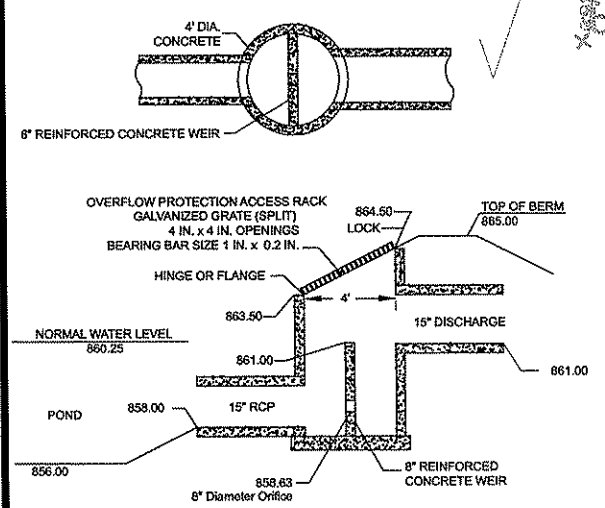






**POND 1**  
 HWL = 860.89  
 BOTTOM = 856.00

DETAIL: POND OVERFLOW STRUCTURE #101  
 DRAINAGE STRUCTURE DESIGN SPECIAL



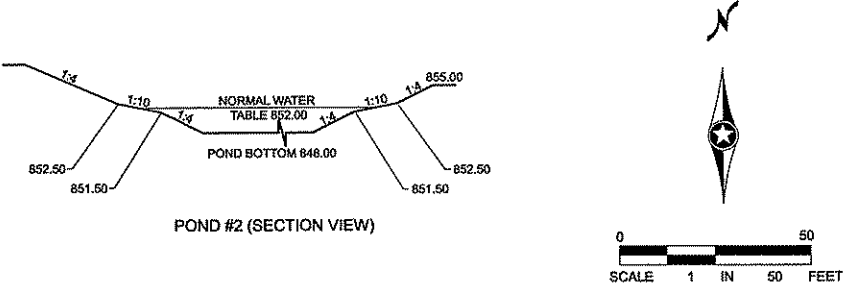
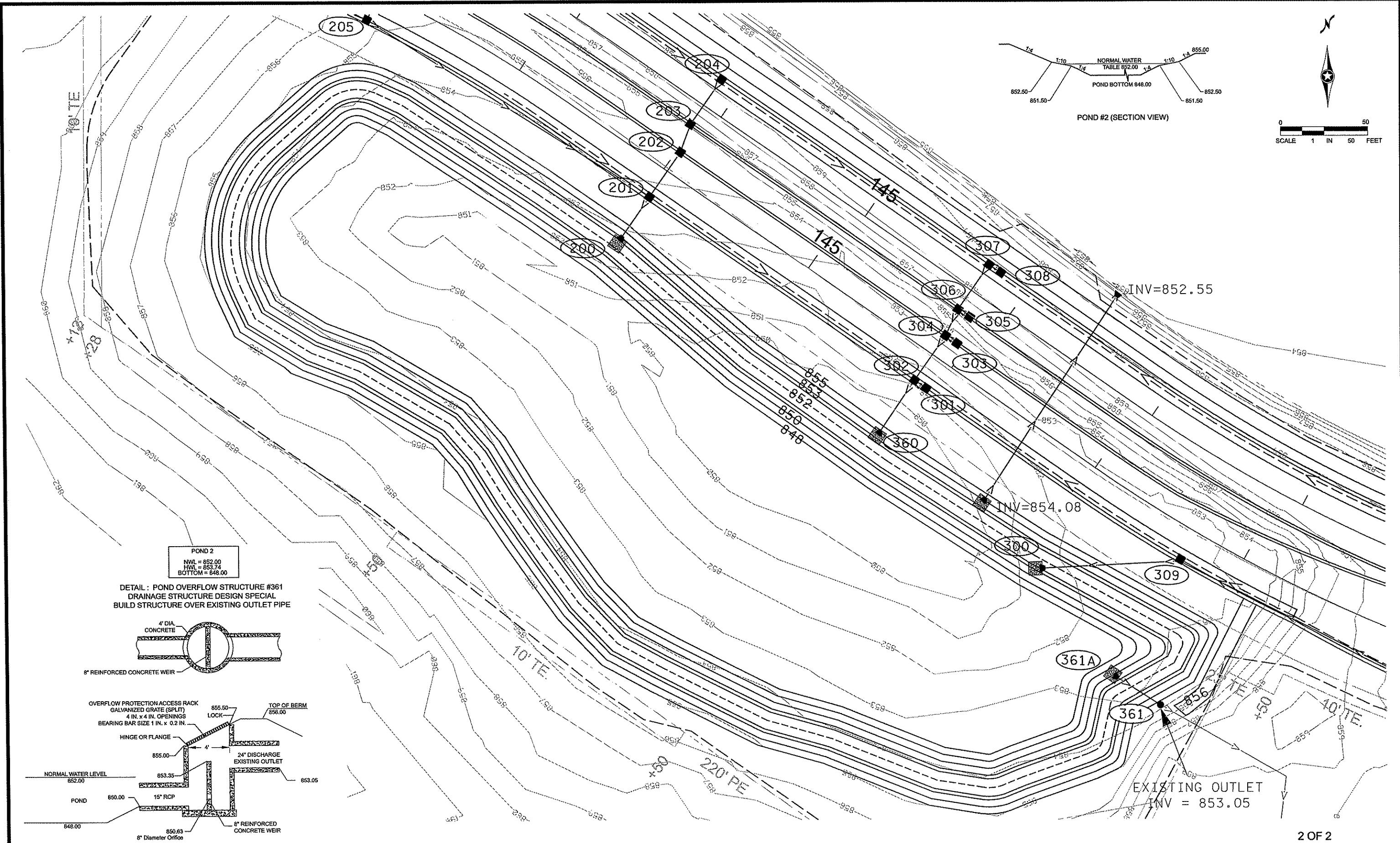
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NO	DATE	BY	CKD	APPR	REVISION
NAME: p:02-716-11\Plan\0271611_POND1.dgn					

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.  
 PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 4-14-11 LICENSE NO. 24708

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011

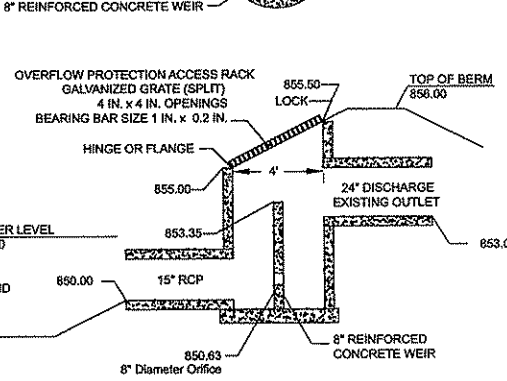
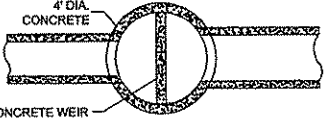
**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008



POND 2  
 NWL = 852.00  
 HWL = 853.74  
 BOTTOM = 848.00

DETAIL: POND OVERFLOW STRUCTURE #361  
 DRAINAGE STRUCTURE DESIGN SPECIAL  
 BUILD STRUCTURE OVER EXISTING OUTLET PIPE



2 OF 2

1	4/12/11	BAV	JEO	CAK	UPDATED POND DETAIL
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_POND2.dgn 04/13/2011 8:40:38 AM					

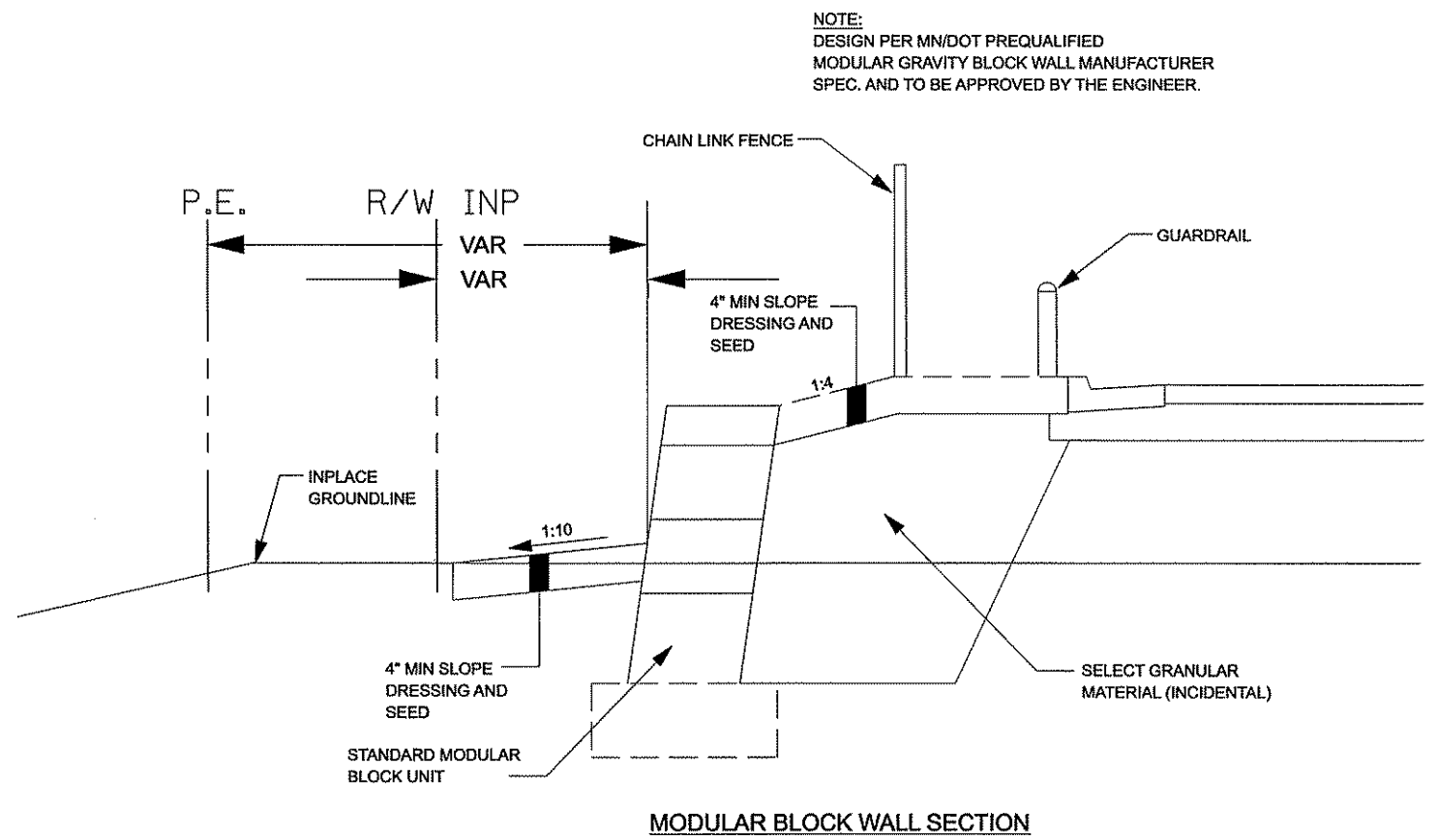
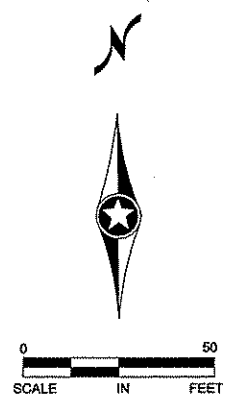
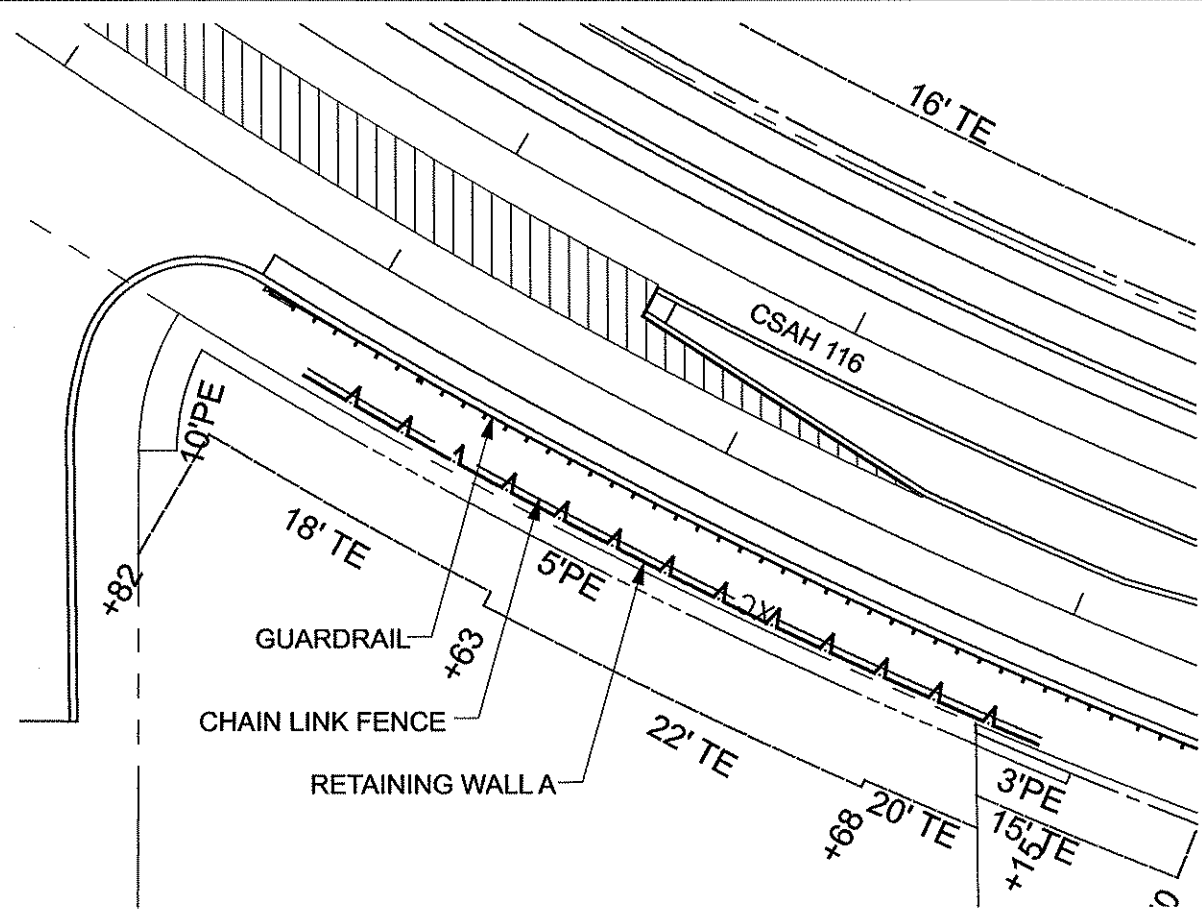
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



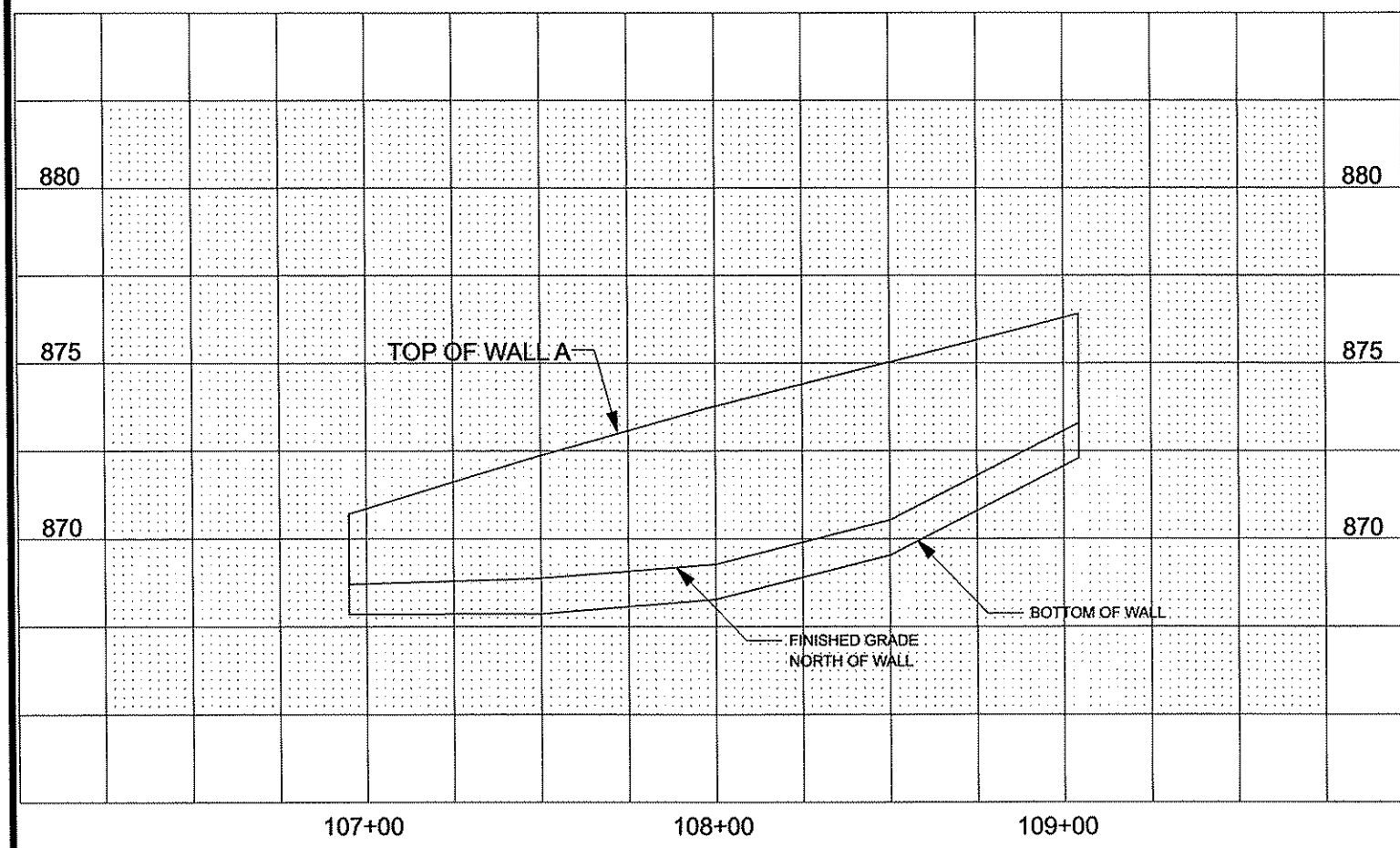
S.P. 002-716-011  
 S.P. 199-020-008

POND 2 DETAIL  
 Sheet 130 of 264 Sheets



NOTE:  
 DESIGN PER MN/DOT PREQUALIFIED  
 MODULAR GRAVITY BLOCK WALL MANUFACTURER  
 SPEC. AND TO BE APPROVED BY THE ENGINEER.

MODULAR BLOCK WALL SECTION



MODULAR BLOCK WALL DATA - WALL A						
STATION	OFFSET	ALIGN	FINISHED GRADE (FRONT FACE)	TOP OF WALL	BOTTOM OF WALL	HEIGHT
106+95.00	35.50	LEB	868.85	870.85	867.85	3.00'
107+00.00	35.51	LEB	868.85	870.85	867.85	3.00'
107+50.00	35.43	LEB	868.86	872.36	867.86	4.50'
108+00.00	35.37	LEB	869.27	873.77	868.27	5.50'
108+50.00	35.43	LEB	870.52	875.02	869.52	5.50'
109+00.00	35.51	LEB	873.28	876.28	872.28	4.00'
109+05.00	35.51	LEB	873.28	876.28	872.28	4.00'

1	4/12/11	BAV	JEO	CAK	UPDATED NOTE PER MN/DOT
NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_RETWALLA.dgn					04/13/2011 8:40:42 AM

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.  
 PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 4-14-11 LICENSE NO. 24756

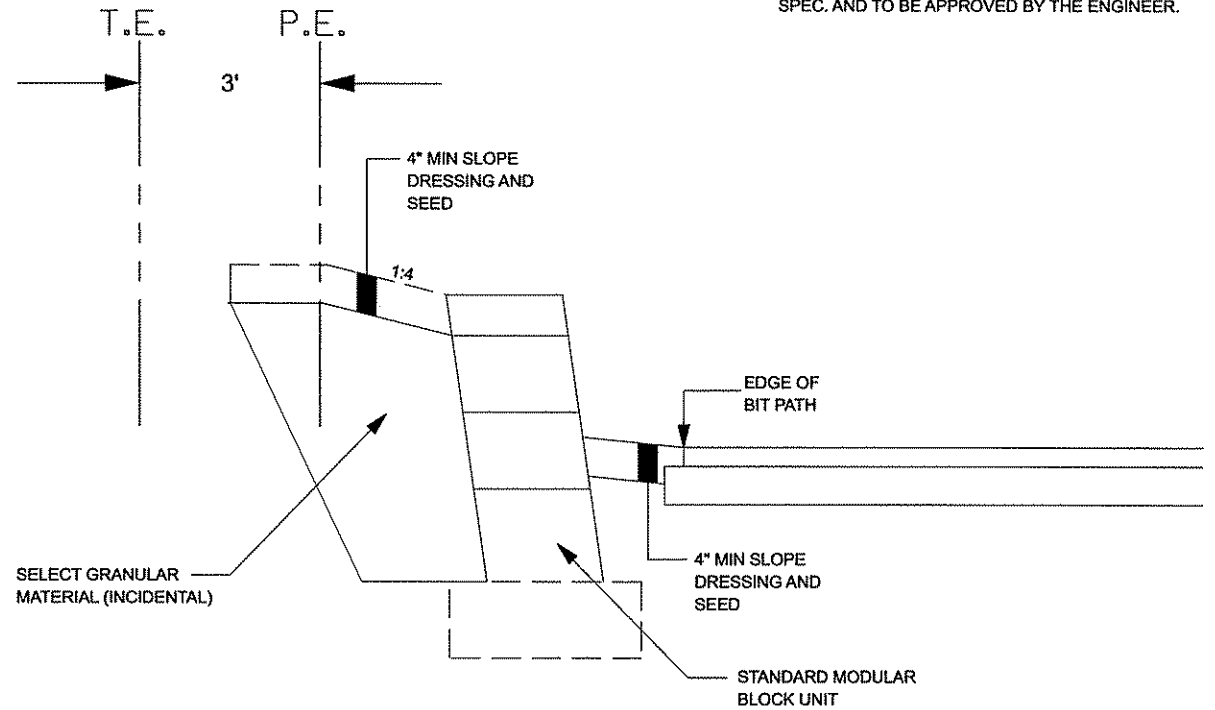
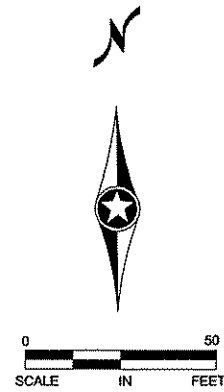
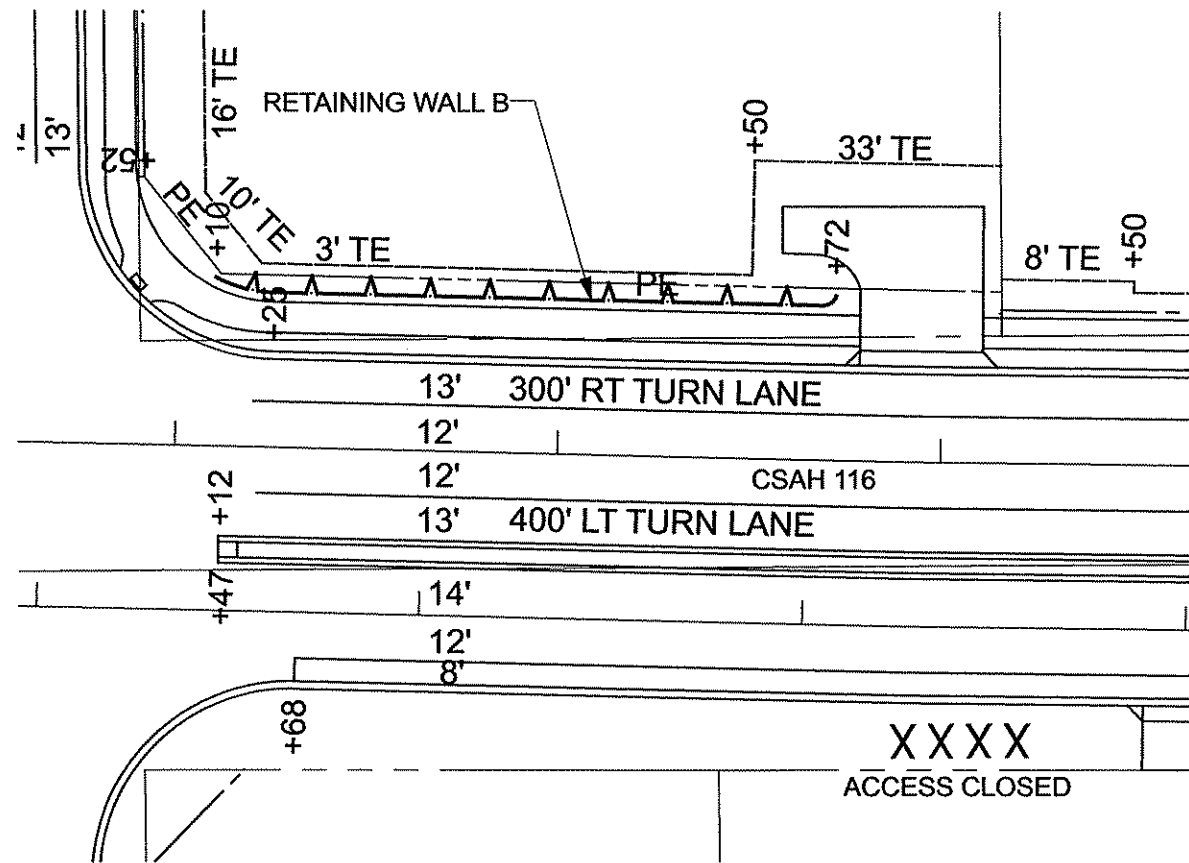
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 CHECKED BY: CAK DATE: 04/13/2011



ANOKA COUNTY  
 HIGHWAY DEPT.

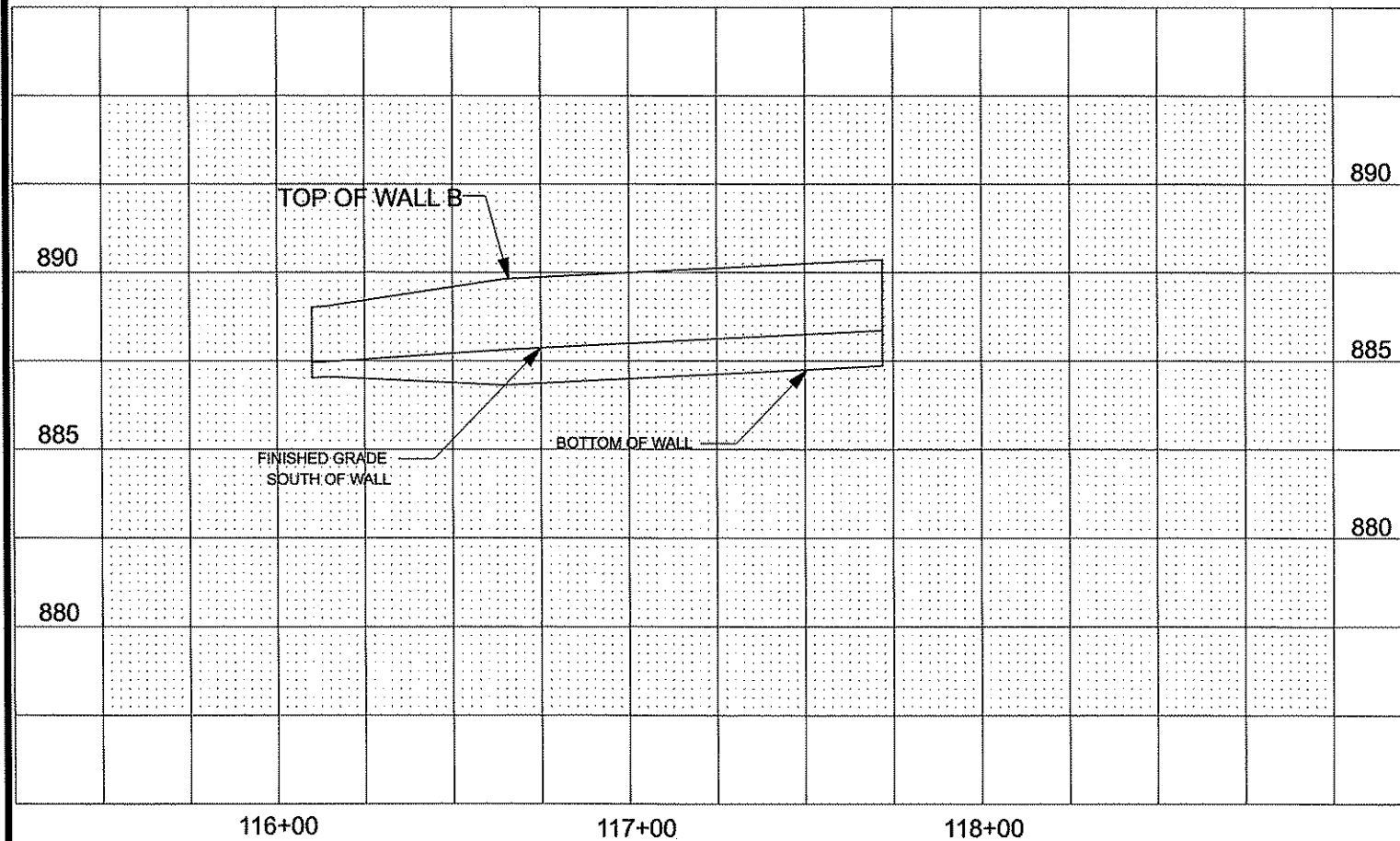
S.P. 002-716-011  
 S.P. 199-020-008

RETAINING WALL DETAILS  
 WALL A



NOTE:  
DESIGN PER MN/DOT PREQUALIFIED  
MODULAR GRAVITY BLOCK WALL MANUFACTURER  
SPEC. AND TO BE APPROVED BY THE ENGINEER.

MODULAR BLOCK WALL SECTION



MODULAR BLOCK WALL DATA - WALL B						
STATION	OFFSET	ALIGN	FINISHED GRADE (FRONT FACE)	TOP OF WALL	BOTTOM OF WALL	HEIGHT
116+10.00	-47.00	LWB	887.44	889.01	887.01	2.00'
116+14.76	-40.00	LWB	887.47	889.04	887.04	2.00'
116+64.76	-40.00	LWB	887.81	889.81	886.81	3.00'
117+14.76	-40.00	LWB	888.07	890.07	887.07	3.00'
117+64.76	-40.00	LWB	888.32	890.32	887.32	3.00'
117+72.00	-40.00	LWB	888.36	890.36	887.36	3.00'

1	4/12/11	BAV	JEO	CAK	UPDATED NOTE PER MN/DOT
NO	DATE	BY	CHKD	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.  
 PRINT NAME: CURT KOHLARCSIK  
 SIGNATURE: *Curt Kohlarscik*  
 DATE: 4-14-11 LICENSE NO. 24756

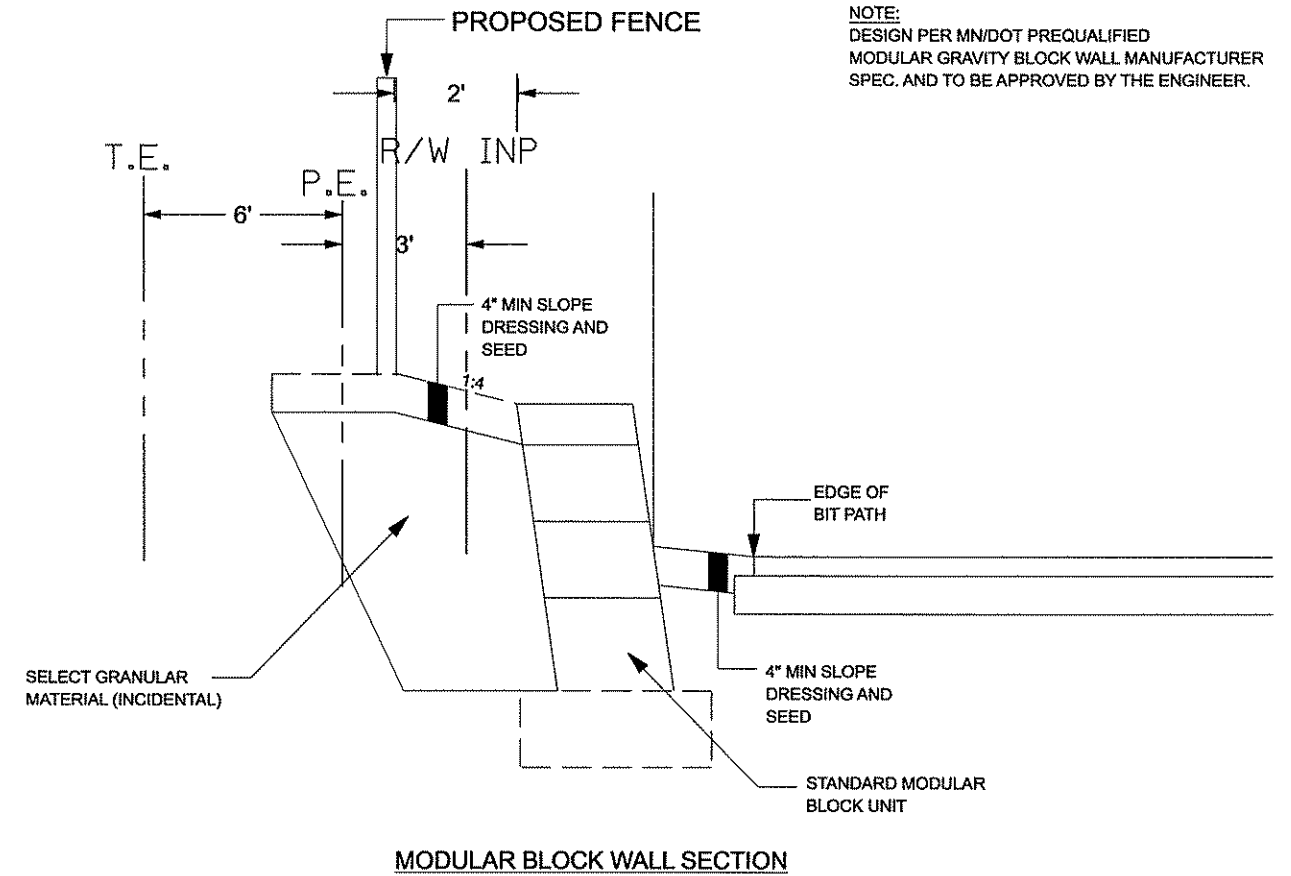
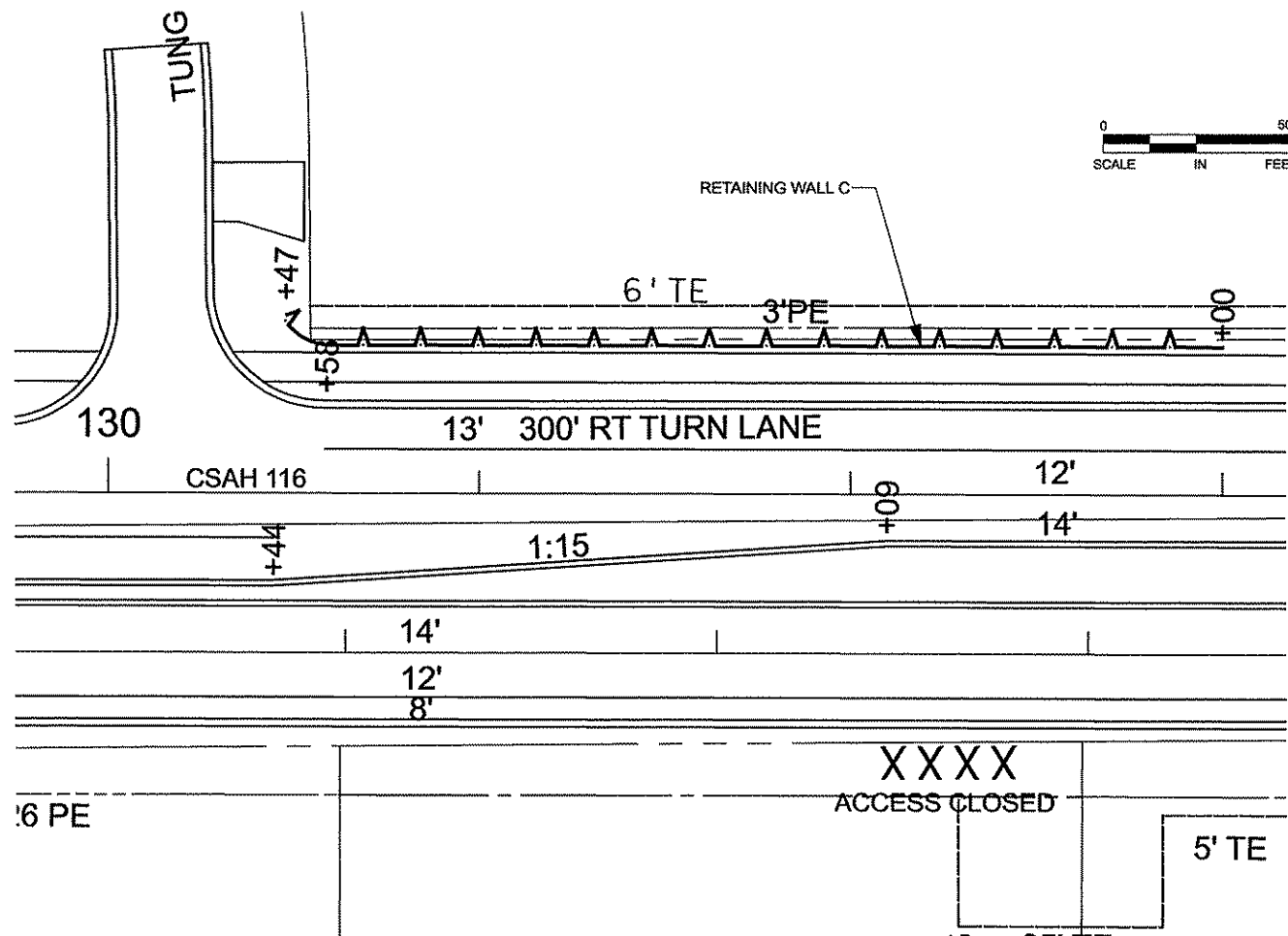
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 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



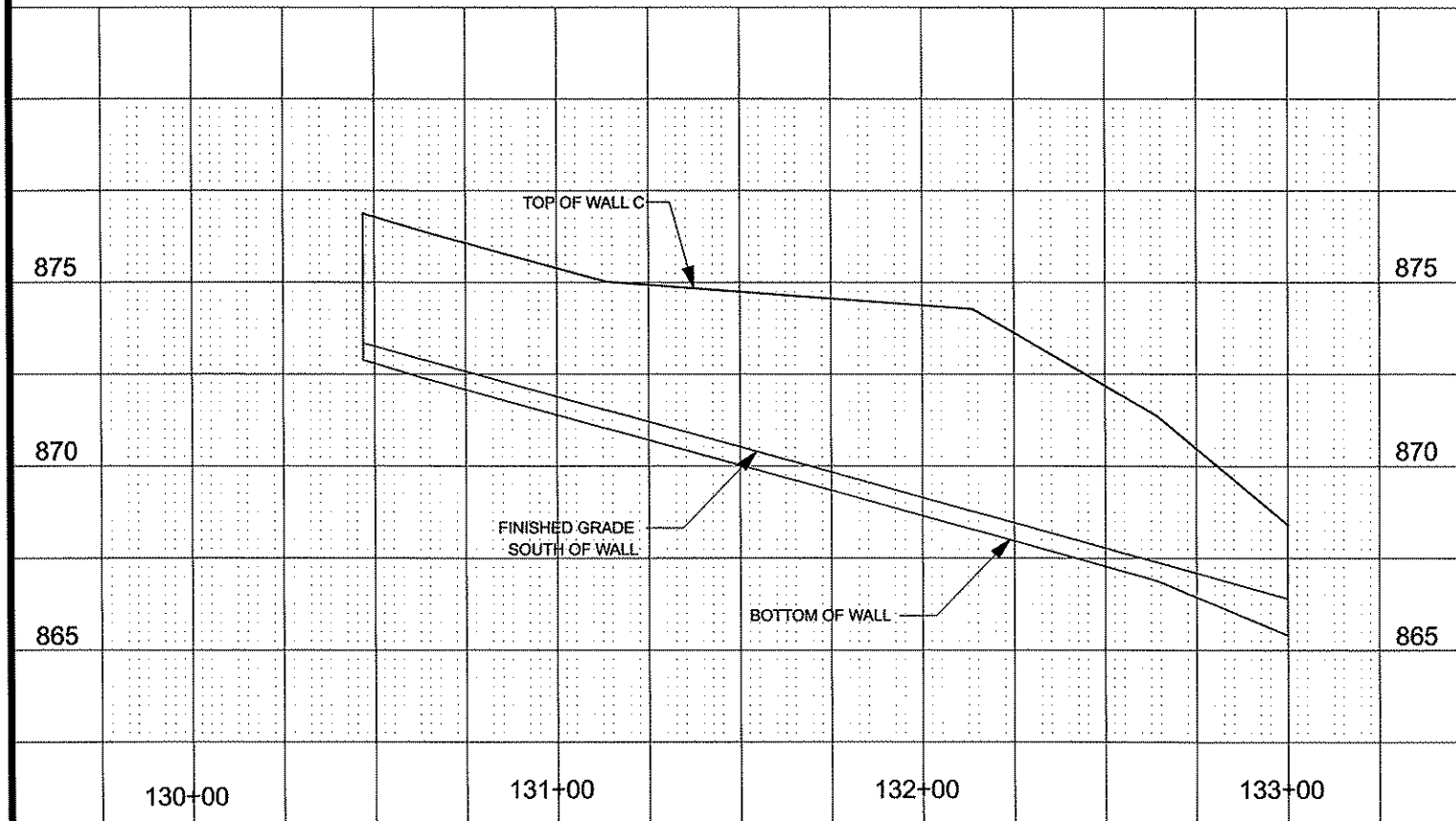
ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

RETAINING WALL DETAILS  
WALL B



NOTE:  
DESIGN PER MN/DOT PREQUALIFIED  
MODULAR GRAVITY BLOCK WALL MANUFACTURER  
SPEC. AND TO BE APPROVED BY THE ENGINEER.



MODULAR BLOCK WALL DATA - WALL C						
STATION	OFFSET	ALIGN	FINISHED GRADE (FRONT FACE)	TOP OF WALL	BOTTOM OF WALL	HEIGHT
130+47.00	47.00	LWB	873.34	876.88	872.88	4.00'
130+63.89	40.00	LWB	872.88	876.38	872.38	4.00'
131+13.89	40.00	LWB	871.51	875.01	871.01	4.00'
131+63.89	40.00	LWB	870.14	874.64	869.64	5.00'
132+13.89	40.00	LWB	868.76	874.27	868.27	6.00'
132+63.89	40.00	LWB	867.39	871.39	866.89	4.50'
133+00.00	40.00	LWB	866.40	868.40	865.40	3.00'

1	4/12/11	BAV	JEO	CAK	UPDATED NOTE PER MN/DOT
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_RETWALLC.dgn					04/13/2011 8:40:52 AM

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.  
 PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 4-14-11 LICENSE NO. 24758

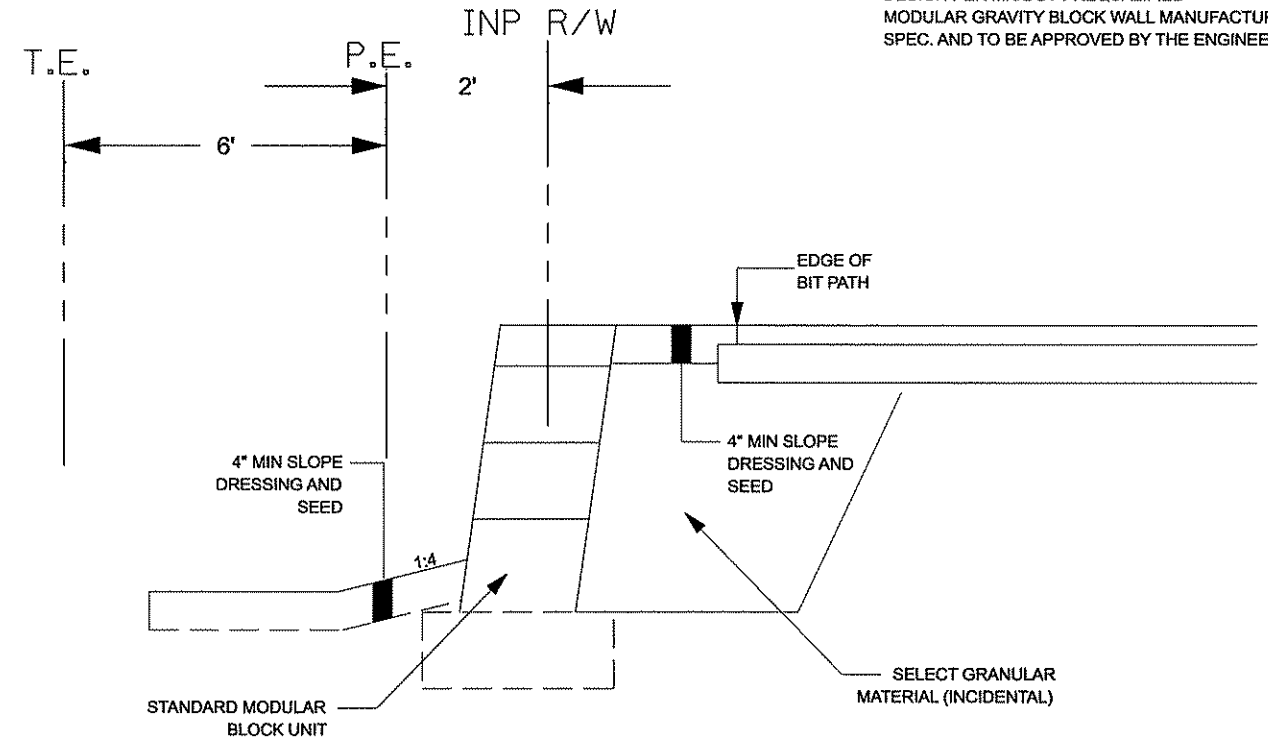
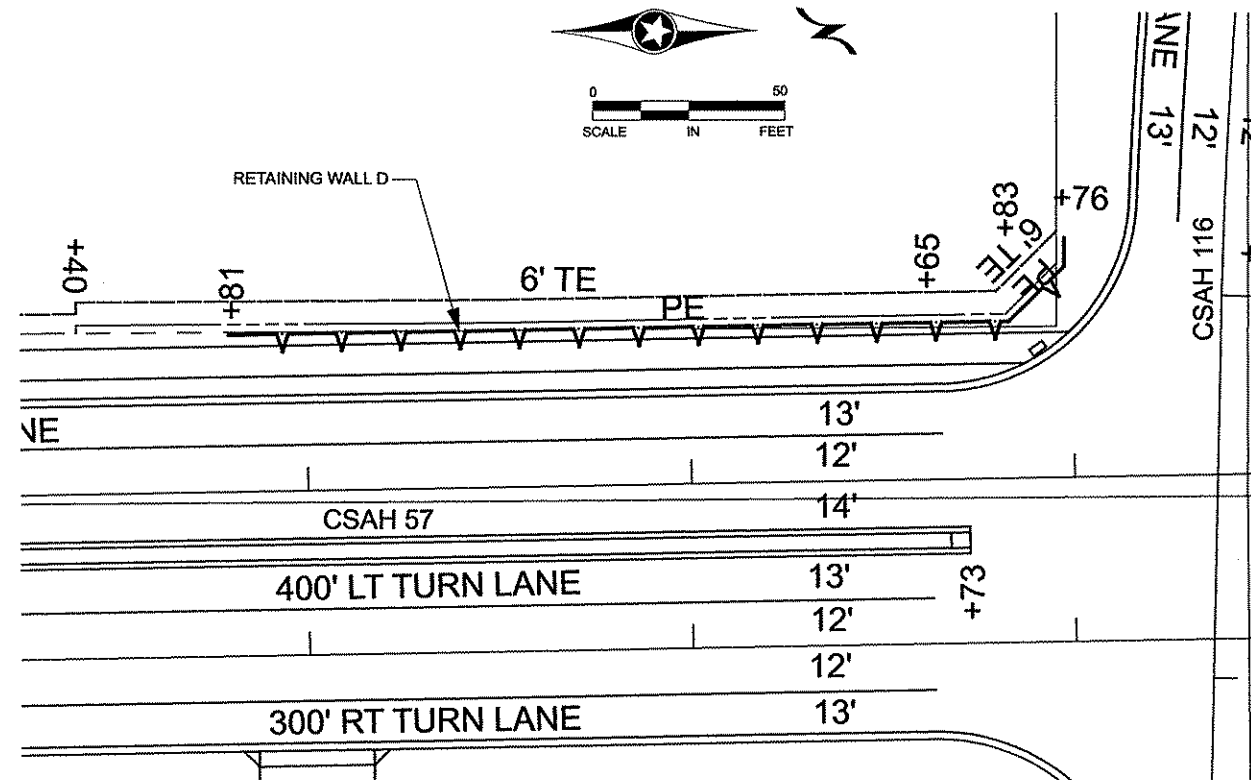
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ANOKA COUNTY  
HIGHWAY DEPT.

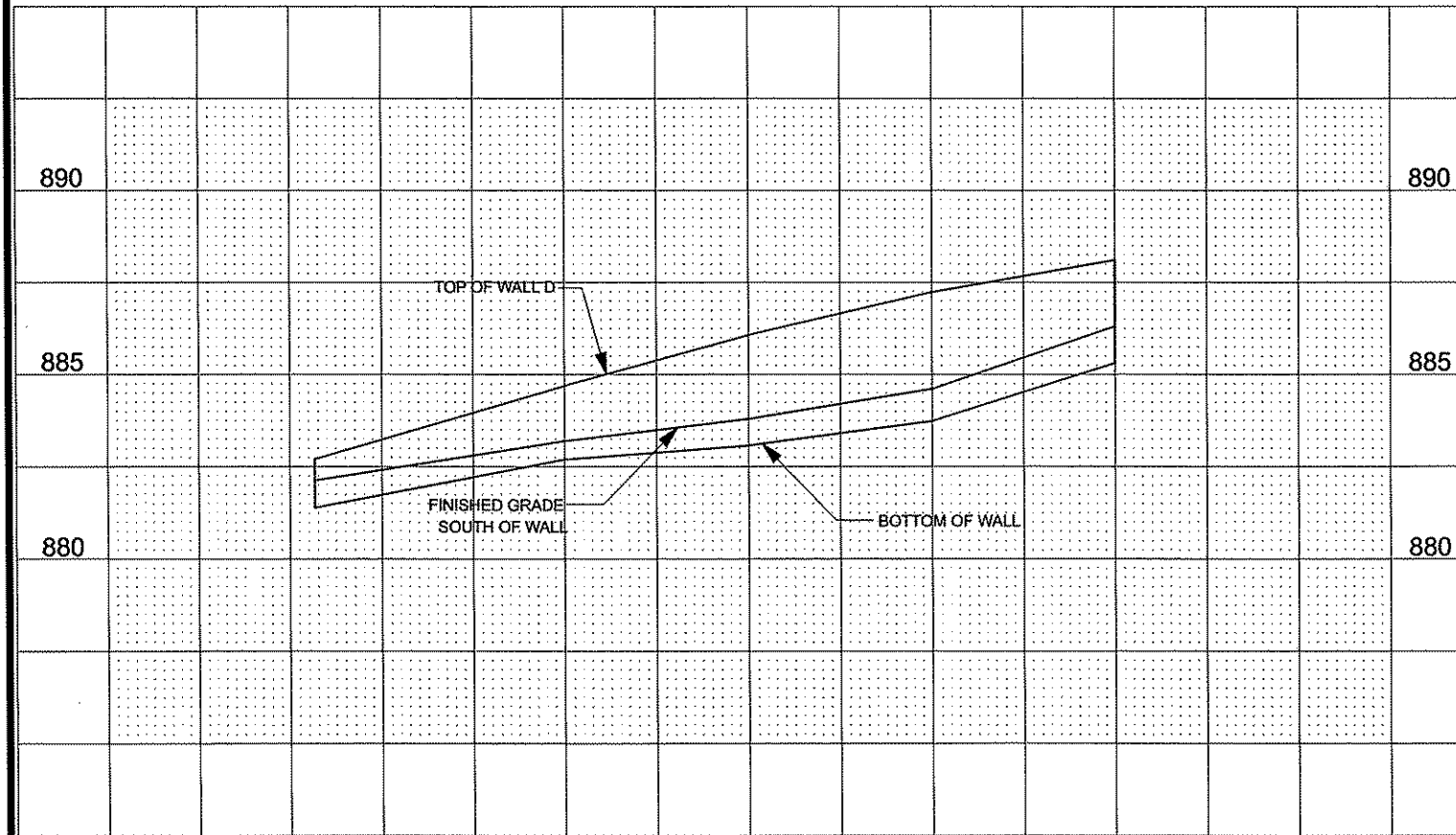
S.P. 002-716-011  
S.P. 199-020-008

RETAINING WALL DETAILS  
WALL C



NOTE:  
DESIGN PER MN/DOT PREQUALIFIED  
MODULAR GRAVITY BLOCK WALL MANUFACTURER  
SPEC. AND TO BE APPROVED BY THE ENGINEER.

MODULAR BLOCK WALL SECTION



STATION	OFFSET	ALIGN	FINISHED GRADE	TOP OF WALL	BOTTOM OF WALL	HEIGHT
206+81.00	-41.00	LSB	882.13	882.70	881.38	1.32'
207+00.00	-41.00	LSB	882.41	883.23	881.73	1.50'
207+50.00	-41.00	LSB	883.18	884.68	882.68	2.00'
208+00.00	-41.00	LSB	883.79	886.07	883.07	3.00'
208+50.00	-41.00	LSB	884.60	887.23	883.73	3.50'
208+98.00	-41.00	LSB	886.30	888.10	885.30	2.80'

1	4/12/11	BAV	JEO	CAK	UPDATED NOTE PER MN/DOT
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_RETWALLD.dgn					04/13/2011 8:40:59 AM

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.

PRINT NAME: CURT KOBIARCSIK

SIGNATURE: *Curt Kobiarcsik*

DATE: 4-14-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 04/13/2011

DESIGN BY: MN DATE: 04/13/2011

CHECKED BY: CAK DATE: 04/13/2011

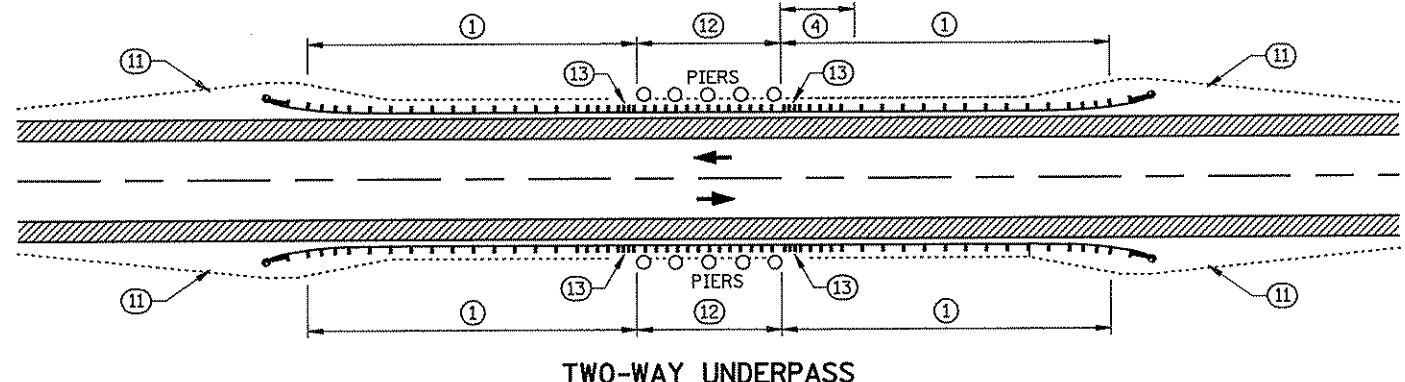
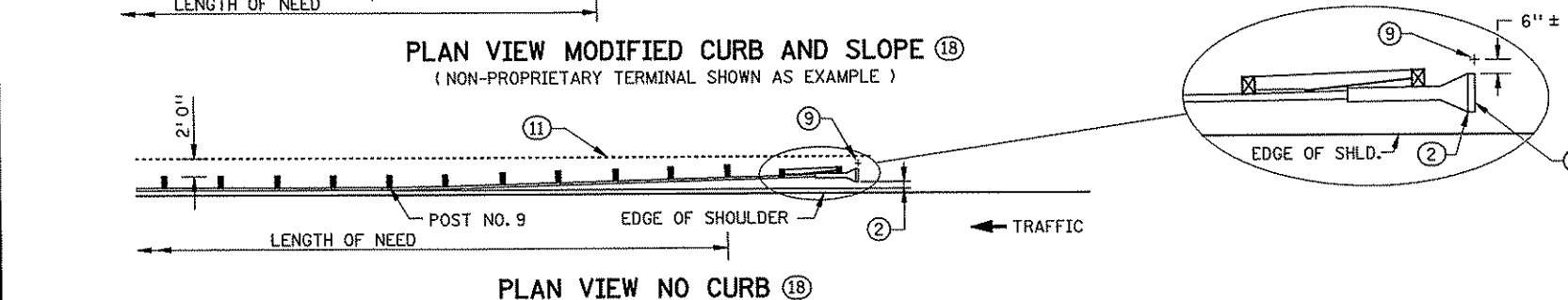
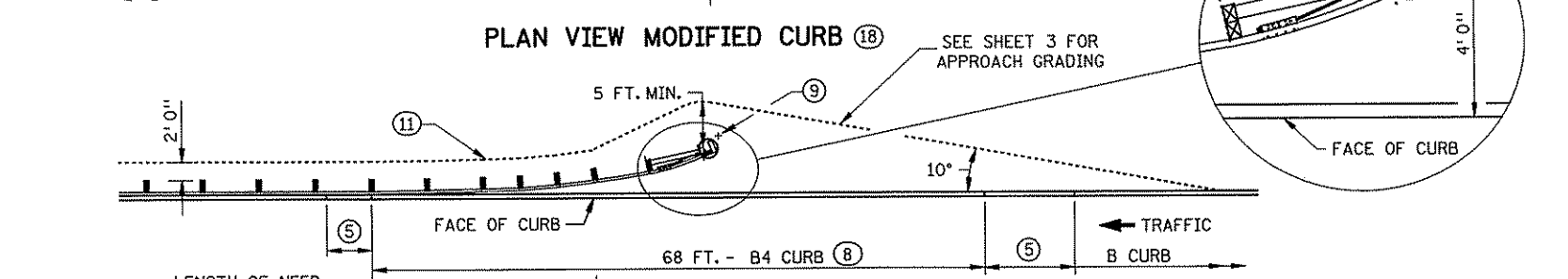
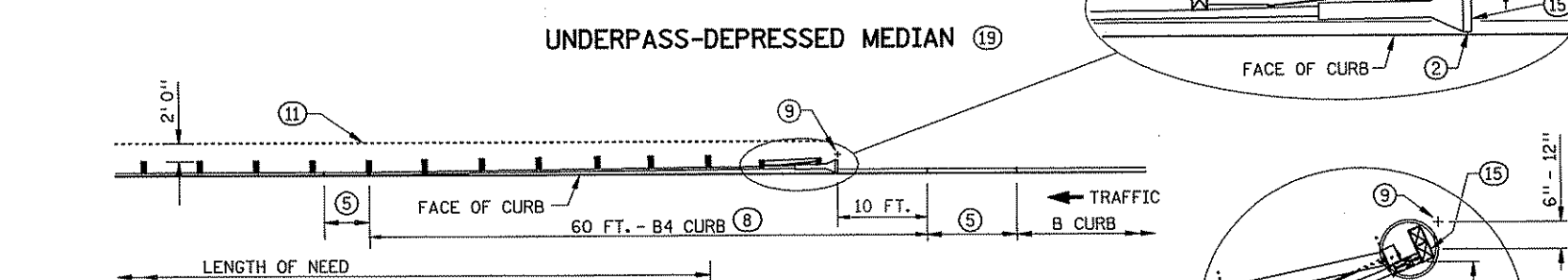
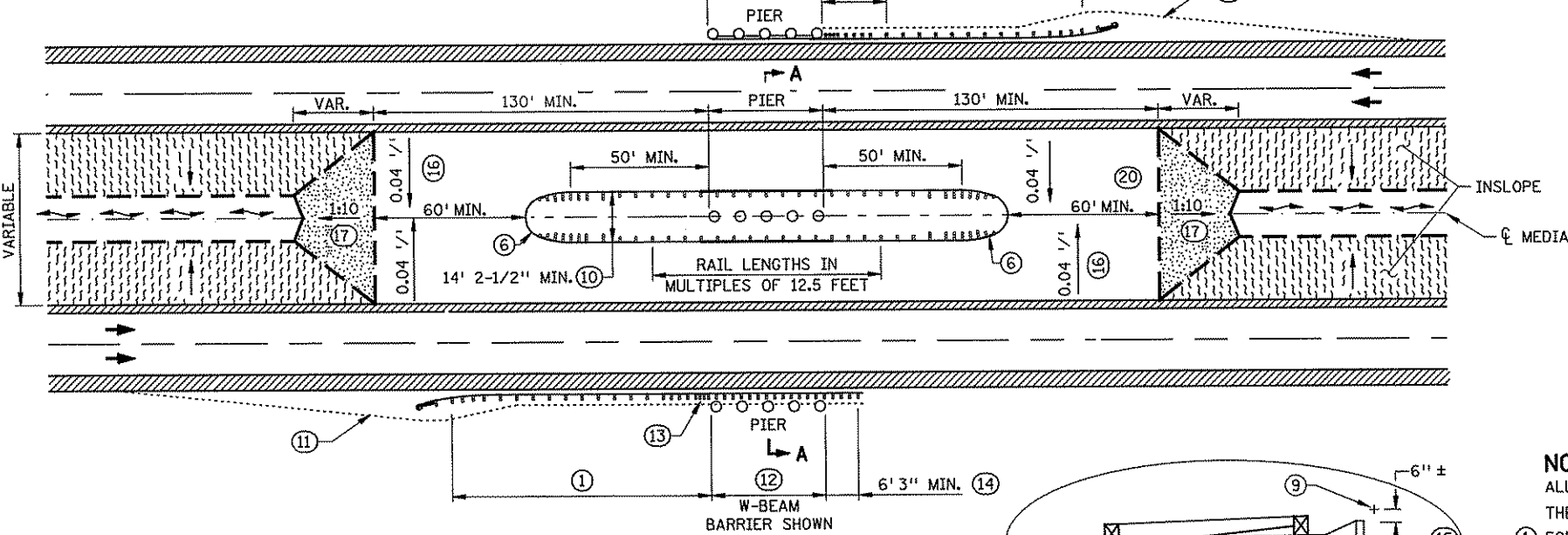
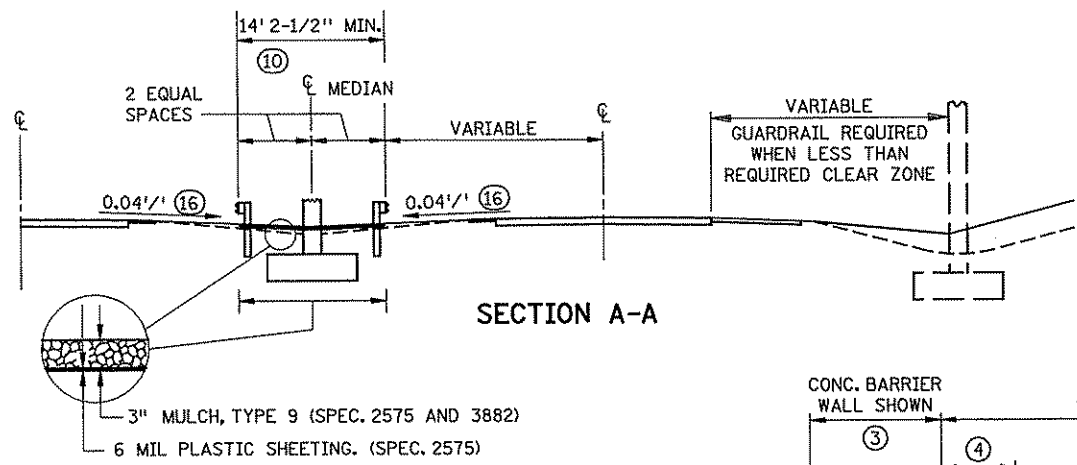


ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

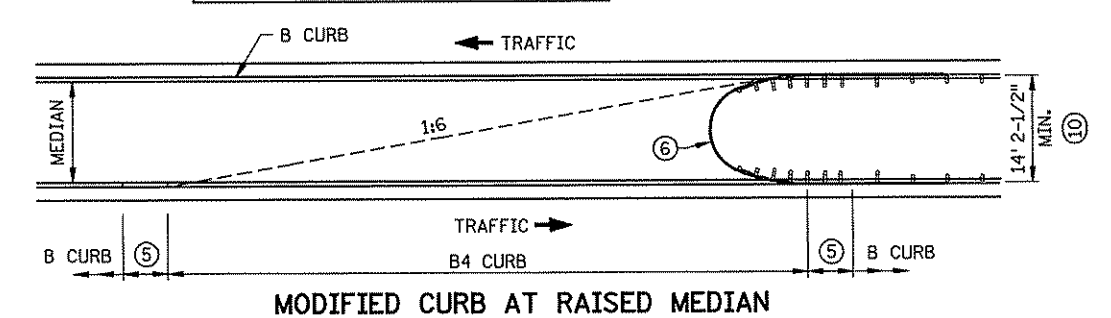
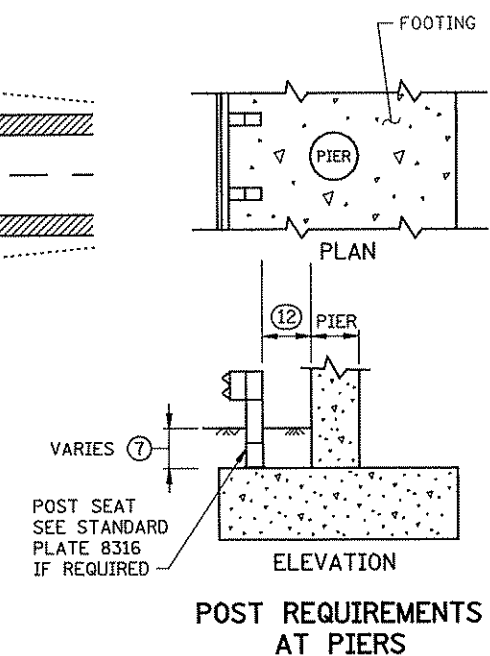
RETAINING WALL DETAILS  
WALL D

PLOTTED/REVISED:  
 \$\$\$DATE\$\$\$



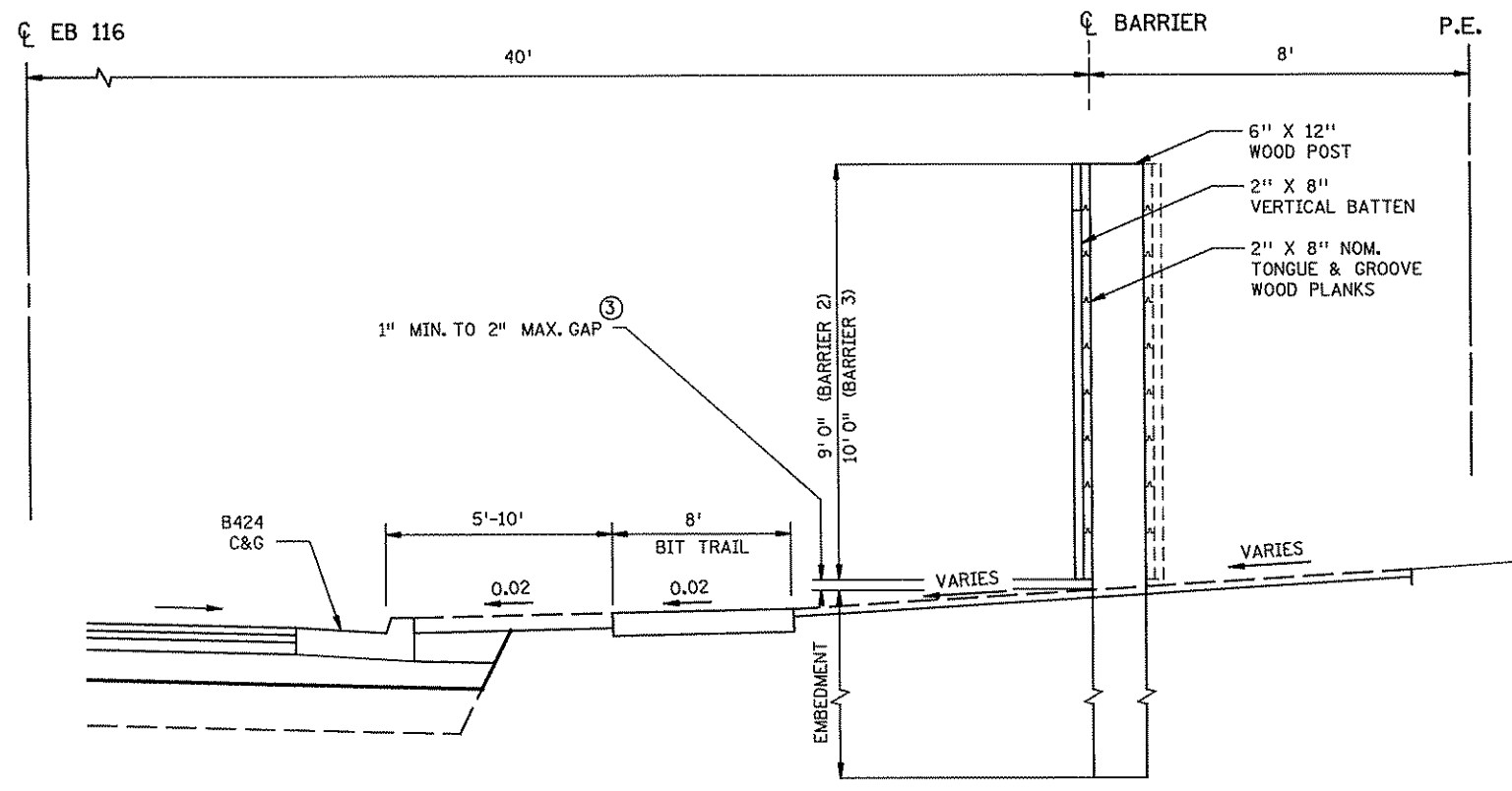
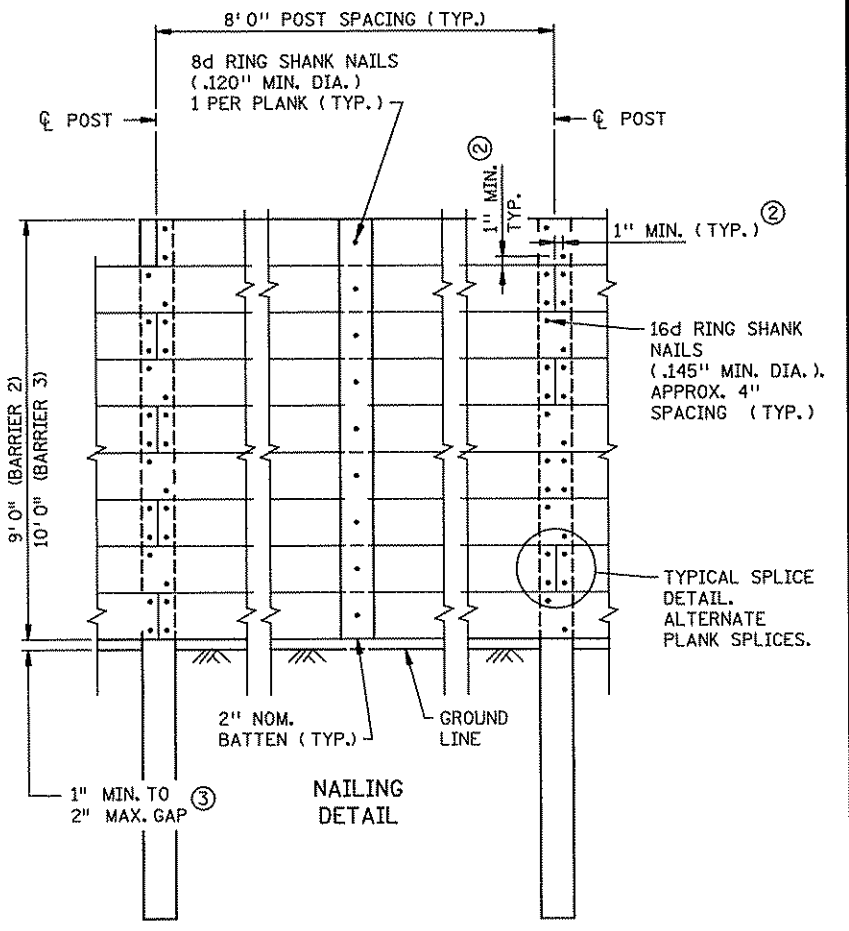
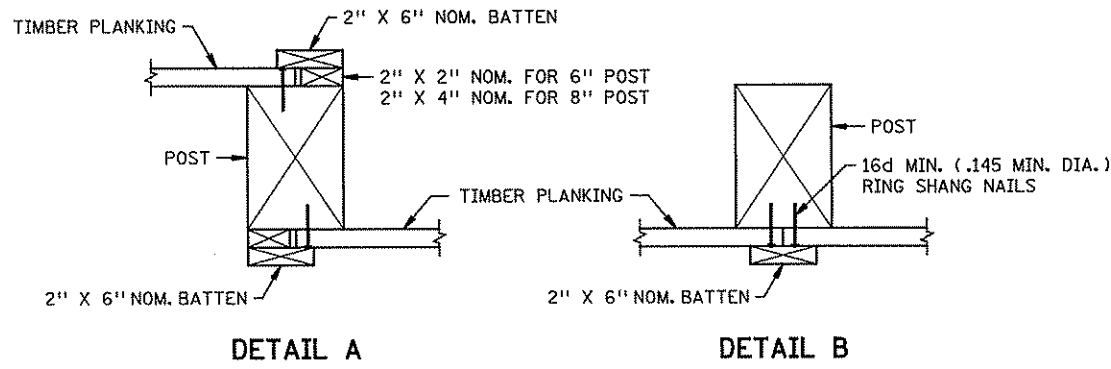
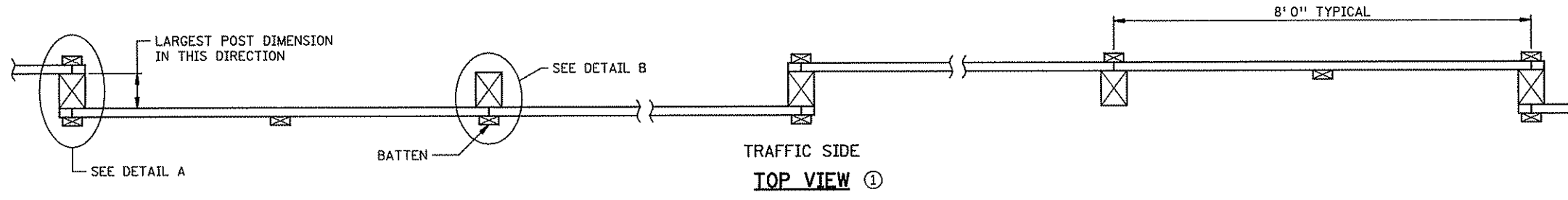
ESTIMATED DESIGN DEFLECTION TABLE FOR DESIGN B W-BEAM GUARDRAIL

6' 3" POST SPACING	3' 0"
6' 3" POST SPACING WITH DOUBLE NESTED RAIL	2' 8"
MODIFIED 3' 1-1/2" POST SPACING	2' 3"
MODIFIED POST SPACING WITH DOUBLE NESTED RAIL	2' 0"



- NOTES:**
- ALL GUARDRAIL POSTS SHALL BE 6 FT. 3 IN. CENTER TO CENTER (DESIGN B), EXCEPT WHERE NOTED.
  - THE LATEST APPROVED VERSION OF STANDARD PLATES SHOWN OR AS INDICATED IN THE PLANS SHALL APPLY.
  - FOR REQUIRED LENGTH OF INSTALLATION SEE ROAD DESIGN MANUAL CHAPTER 10.
  - THE LAST 50 FT. OF TANGENT TERMINALS MAY BE FLARED AT 1:50 TAPER.
  - CONC. BARRIER WALL BETWEEN PIER COLUMNS MAY BE USED, STD. PLAN 5-297.610. SEE SHEET NO. \_\_\_ FOR WALL DETAILS. CONNECT GUARDRAIL TO BARRIER WALL ANCHORAGE PLATE, SEE SHEET NO. \_\_\_ FOR DETAILS.
  - AN APPROVED TRANSITION MUST BE USED.
  - 10 FT. CURB TRANSITION, USE IF ADJACENT CURB IS GREATER THAN 4 INCHES.
  - THRIE BEAM BULLNOSE. SEE SHEET NO. \_\_\_ FOR DETAILS.
  - IF EMBEDMENT IS GREATER THAN 3 FT. 0 IN., OR IF EMBEDMENT IS 2 FT. 6 IN. TO 3 FT. 0 IN. AND ADJACENT POSTS ARE EMBEDDED 3 FT. 0 IN. OR MORE, POST SEAT IS NOT REQUIRED.
  - FOR CURB 6 IN. OR HIGHER, MILL TO 3 IN. HEIGHT.
  - SNOWPLOW MARKER (X4-5) WITH A 2 LB./FT. DELINEATOR POST 8 FT. LONG (SPEC. 3401) DRIVEN INTO THE GROUND. EXTEND 3 FT. ABOVE TERMINAL. THE MARKER IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.
  - MEASUREMENT IS FROM BACK OF RAIL TO BACK OF RAIL.
  - 1:10 OR FLATTER SLOPE P.I..
  - SEE ESTIMATED DESIGN DEFLECTION TABLE FOR DESIGN B W-BEAM GUARDRAIL.
  - WHEN CLOSE POST SPACING OR DOUBLE NESTED RAIL IS USED, THIS POST SPACING SHOULD EXTEND A MINIMUM OF 12 FT. IN THE DIRECTION OF APPROACHING TRAFFIC.
  - THE ANCHOR ASSEMBLY MUST BE LOCATED DOWNSTREAM OF THE HAZARD.
  - MARK THE APPROACH END OF PLATE BEAM GUARDRAIL INSTALLATIONS WITH A STRIPED OBJECT MARKER SIZED TO FIT THE END TERMINAL, HAVING ALTERNATING BLACK AND REFLECTIVE YELLOW (WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING) STRIPES SLOPED DOWNWARD AT A 45 DEGREE ANGLE TOWARD THE SIDE ON WHICH TRAFFIC PASSES. FOR FLAT END TREATMENTS THE OBJECT MARKER SHALL FIT INSIDE THE RECESSED AREA. FOR ROUNDED END TREATMENTS THE OBJECT MARKER SHALL WRAP AROUND THE CIRCULAR END AND BE MOUNTED SO THE TOP OF THE OBJECT MARKER LINES UP WITH THE TOP OF THE END TREATMENT.
  - 0.04 FT./FT. CROSS SLOPE TYPICAL. 0.10 FT./FT. CROSS SLOPE MAXIMUM.
  - 1:10 SLOPE OR FLATTER.
  - USE ONLY FOR RETROFITS WITH SITE RESTRICTIONS. FOR RETROFITS WITHOUT SITE RESTRICTIONS AND NEW CONSTRUCTION, SEE SHEET 3.
  - MEDIAN GRADING DETAIL SHOWN APPLIES TO THRIE-BEAM BULLNOSE ONLY.
  - DRAINAGE DETAILS SHOWN ON GRADING PLAN.

FILE NAME: \$\$\$USER\$NAME\$\$\$  
 \$\$\$PATH & FILENAME\$\$\$



**NOTES:**

- EMBEDMENT LENGTH IS BASED ON THE WATER TABLE BEING BELOW THE EMBEDMENT DEPTH. OTHER CONDITIONS REQUIRE A SPECIAL DESIGN.
  - SOIL TREATMENT AND BACKFILL SHALL CONFORM TO SPEC. 2451.
  - GALVANIZE NAILS PER SPEC. 3392. NAILING REQUIREMENTS SHOWN ARE BASED ON FULL HEAD NAILS AND ENTIRE LENGTH OF SHANK BEING DEFORMED. SEE SPECIAL PROVISIONS FOR POWER NAIL ALTERNATE.
  - SEE SPEC. 2554 FOR ADDITIONAL CONST. INFORMATION, UNLESS OTHERWISE NOTED.
  - POSTS SHALL BE STANDARD ROUGH SAWN DIMENSIONS AS SHOWN
- ① 48" BETWEEN PLANKING SIDE REVERSALS.  
 ② 1" MIN. DISTANCE FROM EDGE OR END OF PLANK.  
 ③ ALLOW DRAINAGE TO FLOW UNDER BARRIER.

**DESIGN CRITERIA:**

φ = 30° ( GRANULAR )  
 WIND LOAD = 23 P.S.F.  
 $f_b$  = 4000 P.S.I. CONCRETE POSTS.  
 $f_b$  = 1400 P.S.I. WOOD PLANKING.  
 $f_b$  = 1200 P.S.I. ALL OTHER WOOD MEMBERS.  
 STRESS LEVEL SYMBOL  
 PER AITC-117-(LATEST ADDITION):  
 24F = 2400 PSI ALLOWABLE BENDING STRESS  
 20F = 2000 PSI ALLOWABLE BENDING STRESS

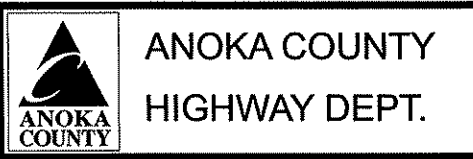
NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_NW.dgn  
 02/23/2011 9:46:43 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11 LICENSE NO. 24768

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

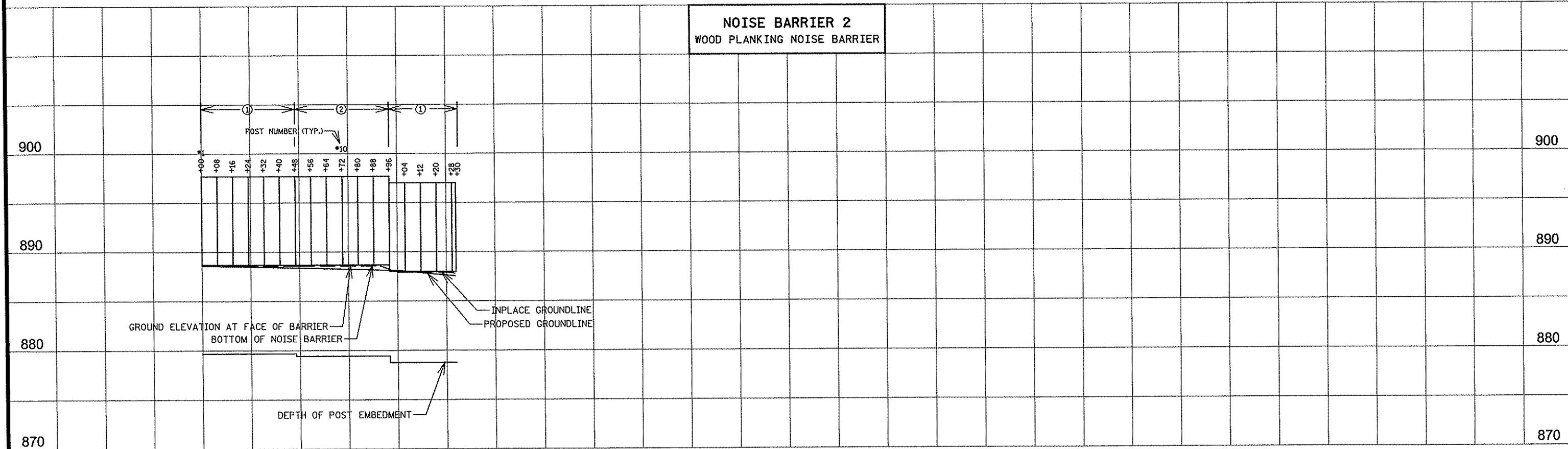
NOISE BARRIER PLANS  
 Sheet 136 of 264 Sheets



### NOISE BARRIER 2

POST NO.	WALL STATION	GROUND ELEV.	TOP OF PLANKING ELEV.	PLANKING AREA (SQ FT)	POST LENGTH (FT)	ACTUAL POST EMBED. (LIN FT)	BOTTOM OF EMBED. ELEV.
1	10+00	888.55	897.67	72	18	8.88	879.67
2	10+08	888.55	897.67	72	18	8.88	879.67
3	10+16	888.55	897.67	72	18	8.88	879.67
4	10+24	888.55	897.67	72	18	8.88	879.67
5	10+32	888.55	897.67	72	18	8.88	879.67
6	10+40	888.55	897.67	72	18	8.88	879.67
7	10+48	888.55	897.67	72	18	8.88	879.67
8	10+56	888.55	897.67	72	18	8.88	879.67
9	10+64	888.55	897.67	72	18	8.88	879.67
10	10+72	888.55	897.67	72	18	8.88	879.67
11	10+80	888.55	897.67	72	18	8.88	879.67
12	10+88	888.55	897.67	72	18	8.88	879.67
13	10+96	888.55	897.67	72	18	8.88	879.67
14	11+04	887.63	896.75	72	18	8.88	878.75
15	11+12	887.63	896.75	72	18	8.88	878.75
16	11+20	887.63	896.75	72	18	8.88	878.75
17	11+28	887.63	896.75	72	18	8.88	878.75
NOISE BARRIER 2 TOTALS				1152	306		

- ① PLANKING ON HIGHWAY SIDE.
- ② PLANKING ON RESIDENTIAL SIDE.



10+00      10+50      11+00      11+50

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:102-716-11\plan\0271611\_NW.dgn      02/23/2011      9:48:42 AM

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.

PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarczik*  
 DATE: 2-24-11      LICENSE NO. 24788

DRAWN BY: BAY      DATE: 02/23/2011  
 DESIGN BY: MN      DATE: 02/23/2011  
 CHECKED BY: GAK      DATE: 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

NOISE BARRIER 2  
 CSAH 116

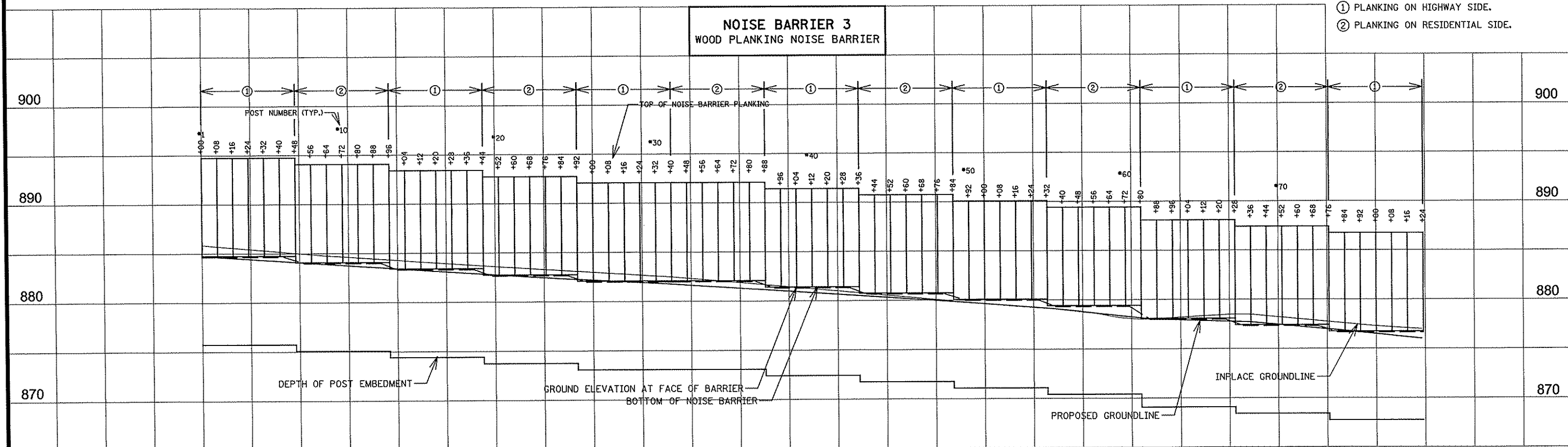
STA 119+63 TO 120+93

Sheet 137 of 264 Sheets

NOISE BARRIER 3							
POST NO.	WALL STATION	GROUND ELEV.	TOP OF PLANKING ELEV.	PLANKING AREA (SQ FT)	POST LENGTH (FT)	ACTUAL POST EMBED. (LIN FT)	BOTTOM OF EMBED. ELEV.
1	100+00	884.62	894.74	80	19	8.88	875.74
2	100+08	884.62	894.74	80	19	8.88	875.74
3	100+16	884.62	894.74	80	19	8.88	875.74
4	100+24	884.62	894.74	80	19	8.88	875.74
5	100+32	884.62	894.74	80	19	8.88	875.74
6	100+40	884.62	894.74	80	19	8.88	875.74
7	100+48	884.62	894.74	80	19	8.88	875.74
8	100+56	883.95	894.07	80	19	8.88	875.07
9	100+64	883.95	894.07	80	19	8.88	875.07
10	100+72	883.95	894.07	80	19	8.88	875.07
11	100+80	883.95	894.07	80	19	8.88	875.07
12	100+88	883.95	894.07	80	19	8.88	875.07
13	100+96	883.95	894.07	80	19	8.88	875.07
14	101+04	883.29	893.41	80	19	8.88	874.41
15	101+12	883.29	893.41	80	19	8.88	874.41
16	101+20	883.29	893.41	80	19	8.88	874.41
17	101+28	883.29	893.41	80	19	8.88	874.41
18	101+36	883.29	893.41	80	19	8.88	874.41
19	101+44	883.29	893.41	80	19	8.88	874.41
20	101+52	882.62	892.74	80	19	8.88	873.74
21	101+60	882.62	892.74	80	19	8.88	873.74
22	101+68	882.62	892.74	80	19	8.88	873.74
23	101+76	882.62	892.74	80	19	8.88	873.74
24	101+84	882.62	892.74	80	19	8.88	873.74
25	101+92	882.62	892.74	80	19	8.88	873.74
26	102+00	881.95	892.07	80	19	8.88	873.07
27	102+08	881.95	892.07	80	19	8.88	873.07

NOISE BARRIER 3							
POST NO.	WALL STATION	GROUND ELEV.	TOP OF PLANKING ELEV.	PLANKING AREA (SQ FT)	POST LENGTH (FT)	ACTUAL POST EMBED. (LIN FT)	BOTTOM OF EMBED. ELEV.
28	102+16	881.95	892.07	80	19	8.88	873.07
29	102+24	881.95	892.07	80	19	8.88	873.07
30	102+32	881.95	892.07	80	19	8.88	873.07
31	102+40	881.95	892.07	80	18	7.88	874.07
32	102+48	881.95	892.07	80	18	7.88	874.07
33	102+56	881.95	892.07	80	18	7.88	874.07
34	102+64	881.95	892.07	80	18	7.88	874.07
35	102+72	881.95	892.07	80	18	7.88	874.07
36	102+80	881.95	892.07	80	18	7.88	874.07
37	102+88	881.95	892.07	80	18	7.88	874.07
38	102+96	881.28	891.40	80	18	7.88	873.40
39	103+04	881.28	891.40	80	18	7.88	873.40
40	103+12	881.28	891.40	80	18	7.88	873.40
41	103+20	881.28	891.40	80	18	7.88	873.40
42	103+28	881.28	891.40	80	18	7.88	873.40
43	103+36	881.28	891.40	80	18	7.88	873.40
44	103+44	880.61	890.73	80	18	7.88	872.73
45	103+52	880.61	890.73	80	18	7.88	872.73
46	103+60	880.61	890.73	80	18	7.88	872.73
47	103+68	880.61	890.73	80	18	7.88	872.73
48	103+76	880.61	890.73	80	18	7.88	872.73
49	103+84	880.61	890.73	80	18	7.88	872.73
50	103+92	879.94	890.06	80	18	7.88	872.06
51	104+00	879.94	890.06	80	18	7.88	872.06
52	104+08	879.94	890.06	80	18	7.88	872.06
53	104+16	879.94	890.06	80	18	7.88	872.06
54	104+24	879.94	890.06	80	18	7.88	872.06

NOISE BARRIER 3							
POST NO.	WALL STATION	GROUND ELEV.	TOP OF PLANKING ELEV.	PLANKING AREA (SQ FT)	POST LENGTH (FT)	ACTUAL POST EMBED. (LIN FT)	BOTTOM OF EMBED. ELEV.
55	104+32	879.94	890.06	80	18	7.88	872.06
56	104+40	879.27	889.39	80	19	8.88	870.39
57	104+48	879.27	889.39	80	19	8.88	870.39
58	104+56	879.27	889.39	80	19	8.88	870.39
59	104+64	879.27	889.39	80	19	8.88	870.39
60	104+72	879.27	889.39	80	19	8.88	870.39
61	104+80	879.27	889.39	80	19	8.88	870.39
62	104+88	877.94	888.06	80	19	8.88	869.06
63	104+96	877.94	888.06	80	19	8.88	869.06
64	105+04	877.94	888.06	80	19	8.88	869.06
65	105+12	877.94	888.06	80	19	8.88	869.06
66	105+20	877.94	888.06	80	19	8.88	869.06
67	105+28	877.94	888.06	80	19	8.88	869.06
68	105+36	877.27	887.39	80	19	8.88	868.39
69	105+44	877.27	887.39	80	19	8.88	868.39
70	105+52	877.27	887.39	80	19	8.88	868.39
71	105+60	877.27	887.39	80	19	8.88	868.39
72	105+68	877.27	887.39	80	19	8.88	868.39
73	105+76	877.27	887.39	80	19	8.88	868.39
74	105+84	876.60	886.72	80	19	8.88	867.72
75	105+92	876.60	886.72	80	19	8.88	867.72
76	106+00	876.60	886.72	80	19	8.88	867.72
77	106+08	876.60	886.72	80	19	8.88	867.72
78	106+16	876.60	886.72	80	19	8.88	867.72
79	106+24	876.60	886.72	80	19	8.88	867.72
NOISE BARRIER 3 TOTALS				6240	1476		



100+00    100+50    101+00    101+50    102+00    102+50    103+00    103+50    104+00    104+50    105+00    105+50    106+00

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:102-716-11\plan\0271611\_NW.dgn    02/23/2011    9:46:41 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 2-24-11    LICENSE NO. 24756

DRAWN BY: BAV    DATE: 02/23/2011  
 DESIGN BY: MN    DATE: 02/23/2011  
 CHECKED BY: CAK    DATE: 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

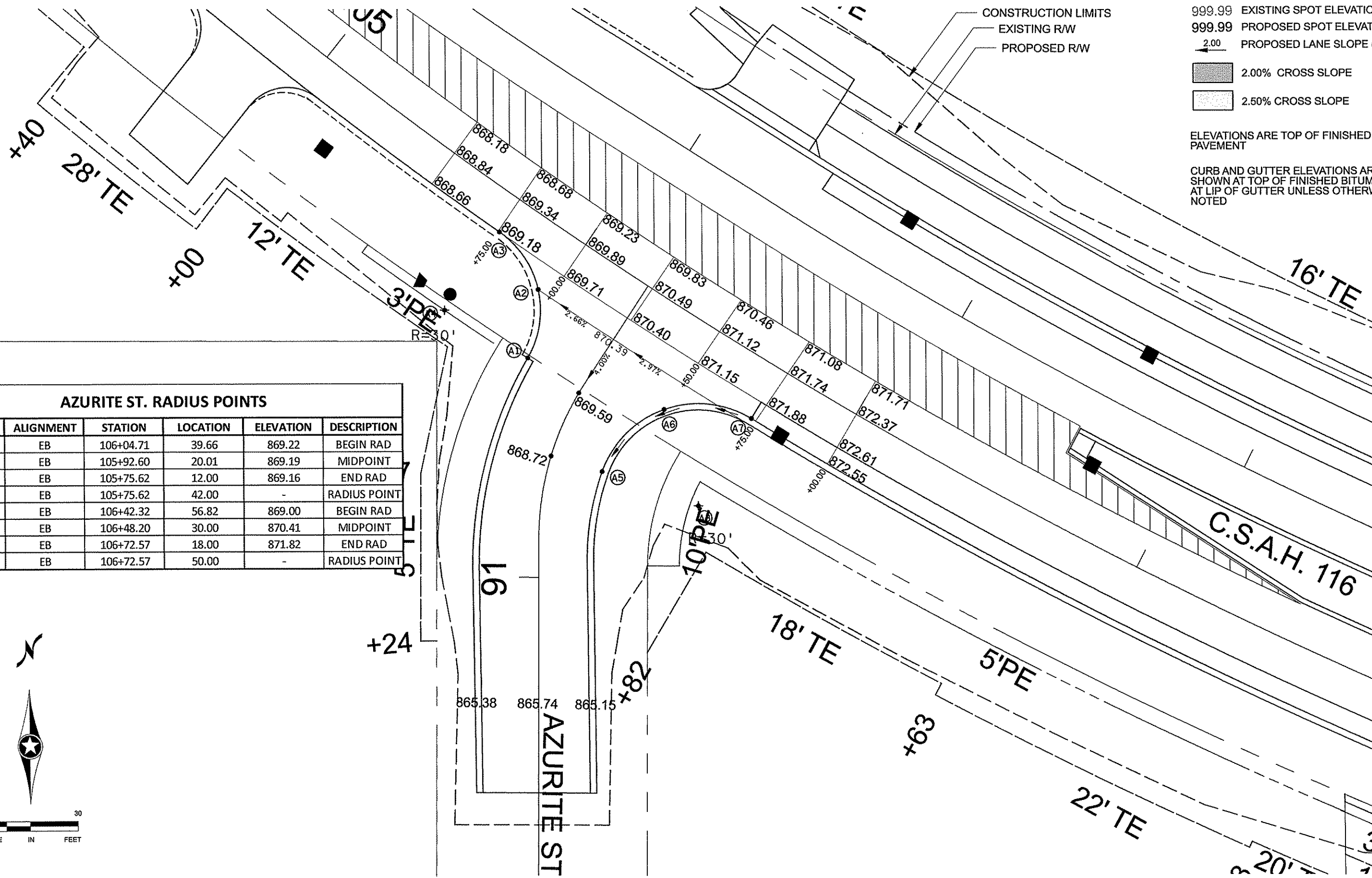
NOISE BARRIER 3  
 CSAH 116  
 STA 123+28 TO 129+52  
 Sheet 138 of 264 Sheets

**LEGEND**

- 999.99 EXISTING SPOT ELEVATION
- 999.99 PROPOSED SPOT ELEVATION
- 2.00 PROPOSED LANE SLOPE (%)
- 2.00% CROSS SLOPE
- 2.50% CROSS SLOPE

ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



**AZURITE ST. RADIUS POINTS**

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
A1	EB	106+04.71	39.66	869.22	BEGIN RAD
A2	EB	105+92.60	20.01	869.19	MIDPOINT
A3	EB	105+75.62	12.00	869.16	END RAD
A4	EB	105+75.62	42.00	-	RADIUS POINT
A5	EB	106+42.32	56.82	869.00	BEGIN RAD
A6	EB	106+48.20	30.00	870.41	MIDPOINT
A7	EB	106+72.57	18.00	871.82	END RAD
A8	EB	106+72.57	50.00	-	RADIUS POINT

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_IN1.dgn  
02/24/2011 10:43:45 AM

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.

PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarsik*  
DATE: 2-24-11 LICENSE NO. 24758

DRAWN BY: BAY DATE: 02/24/2011  
DESIGN BY: MN DATE: 02/24/2011  
CHECKED BY: CAK DATE: 02/24/2011

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
S.P. 199-020-008

INTERSECTION DETAIL  
AZURITE ST.

Sheet 139 of 264 Sheets

**C.S.A.H. 116/C.S.A.H. 57 RADIUS POINTS**

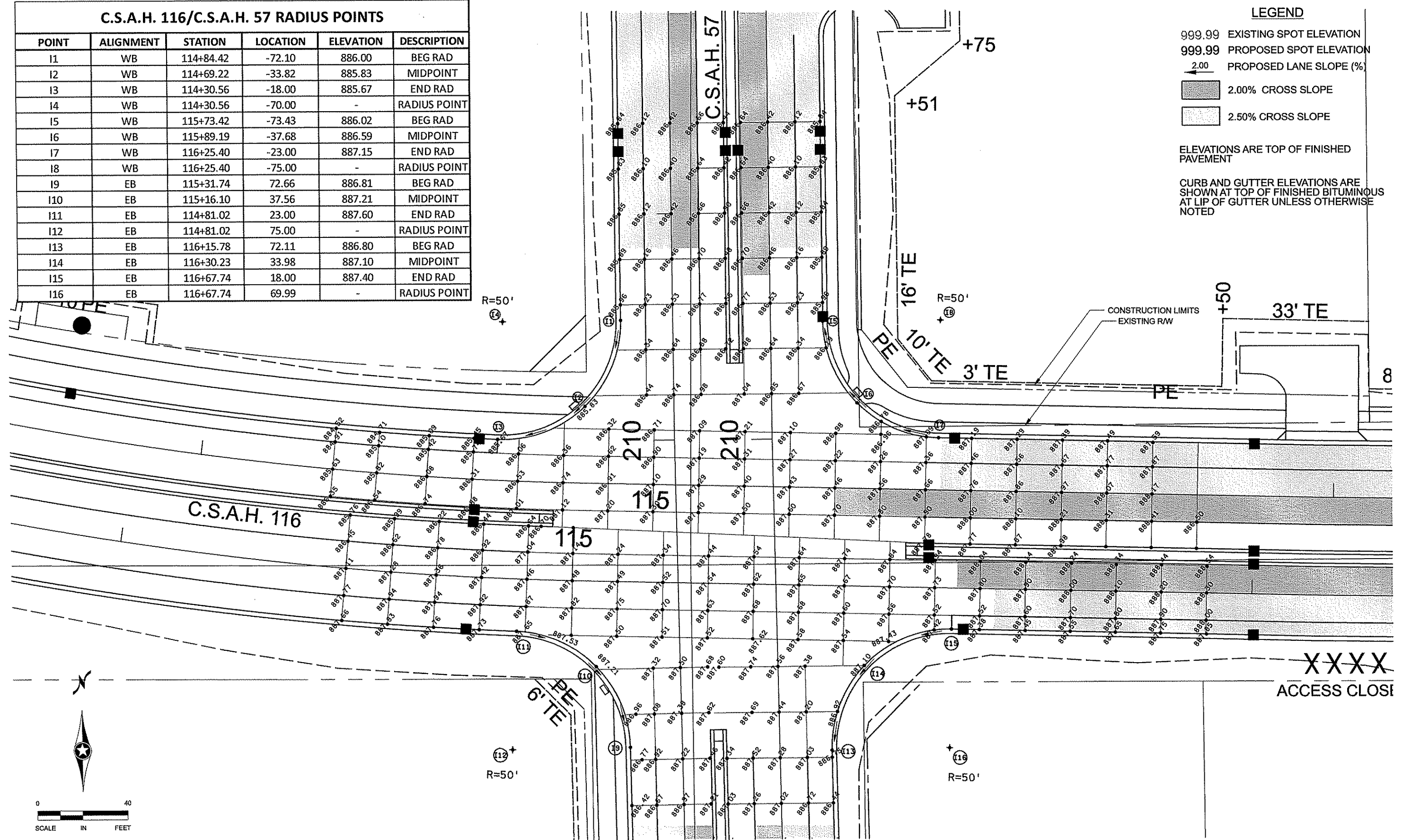
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
I1	WB	114+84.42	-72.10	886.00	BEG RAD
I2	WB	114+69.22	-33.82	885.83	MIDPOINT
I3	WB	114+30.56	-18.00	885.67	END RAD
I4	WB	114+30.56	-70.00	-	RADIUS POINT
I5	WB	115+73.42	-73.43	886.02	BEG RAD
I6	WB	115+89.19	-37.68	886.59	MIDPOINT
I7	WB	116+25.40	-23.00	887.15	END RAD
I8	WB	116+25.40	-75.00	-	RADIUS POINT
I9	EB	115+31.74	72.66	886.81	BEG RAD
I10	EB	115+16.10	37.56	887.21	MIDPOINT
I11	EB	114+81.02	23.00	887.60	END RAD
I12	EB	114+81.02	75.00	-	RADIUS POINT
I13	EB	116+15.78	72.11	886.80	BEG RAD
I14	EB	116+30.23	33.98	887.10	MIDPOINT
I15	EB	116+67.74	18.00	887.40	END RAD
I16	EB	116+67.74	69.99	-	RADIUS POINT

**LEGEND**

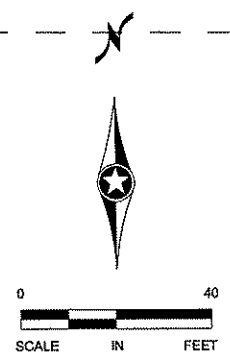
- 999.99 EXISTING SPOT ELEVATION
- 999.99 PROPOSED SPOT ELEVATION
- 2.00 PROPOSED LANE SLOPE (%)
- 2.00% CROSS SLOPE
- 2.50% CROSS SLOPE

ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



**XXXX**  
ACCESS CLOSED



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_IN2.dgn      02/23/2011      9:46:58 AM

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.

PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarsik*  
DATE: 2-24-11      LICENSE NO. 24758

DRAWN BY: BAV      DATE: 02/23/2011  
DESIGN BY: MN      DATE: 02/23/2011  
CHECKED BY: GAK      DATE: 02/23/2011



S.P. 002-716-011  
S.P. 199-020-008



INTERSECTION DETAIL  
C.S.A.H. 116/C.S.A.H. 57  
Sheet 140 of 264 Sheets

**WOLFRAM ST. RADIUS POINTS**

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
W1	WB	121+43.55	-50.57	886.68	BEGIN RAD
W2	WB	121+34.39	-27.58	886.81	MIDPOINT
W3	WB	121+11.56	-18.00	886.93	END RAD
W4	WB	121+11.56	-50.00	-	RADIUS POINT
W5	WB	121+68.04	-54.32	886.67	BEGIN RAD
W6	WB	121+77.29	-31.78	886.19	MIDPOINT
W7	WB	122+00.00	-23.00	885.70	END RAD
W8	WB	122+00.00	-55.00	-	RADIUS POINT

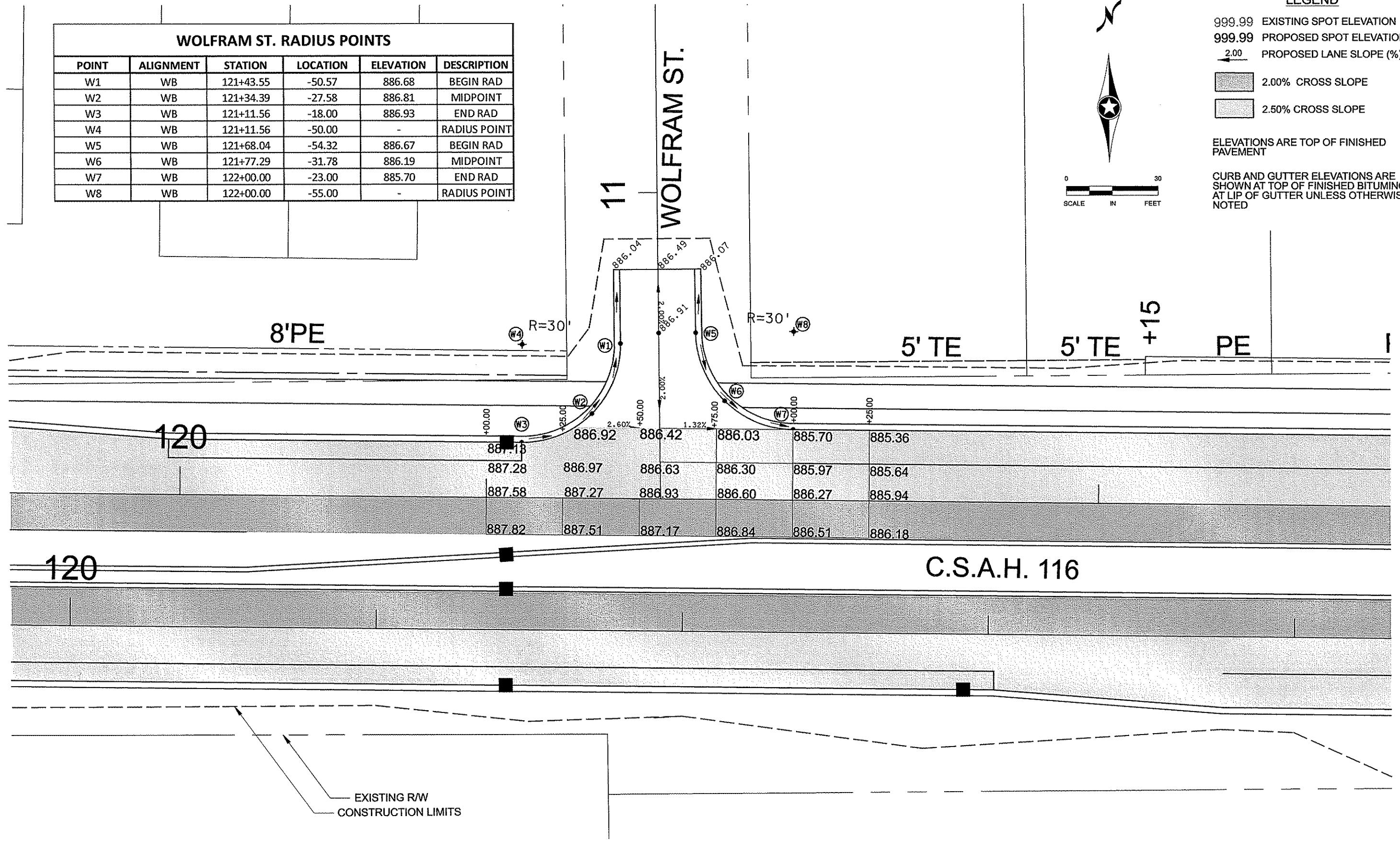
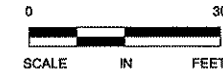
**LEGEND**

- 999.99 EXISTING SPOT ELEVATION
- 999.99 PROPOSED SPOT ELEVATION
- 2.00 PROPOSED LANE SLOPE (%)

-  2.00% CROSS SLOPE
-  2.50% CROSS SLOPE

ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_IN3.dgn      02/23/2011      9:47:02 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarsik*  
 DATE: 2-24-11      LICENSE NO. 24756

DRAWN BY: BAW      DATE: 02/23/2011  
 DESIGN BY: MN      DATE: 02/23/2011  
 CHECKED BY: GAK      DATE: 02/23/2011

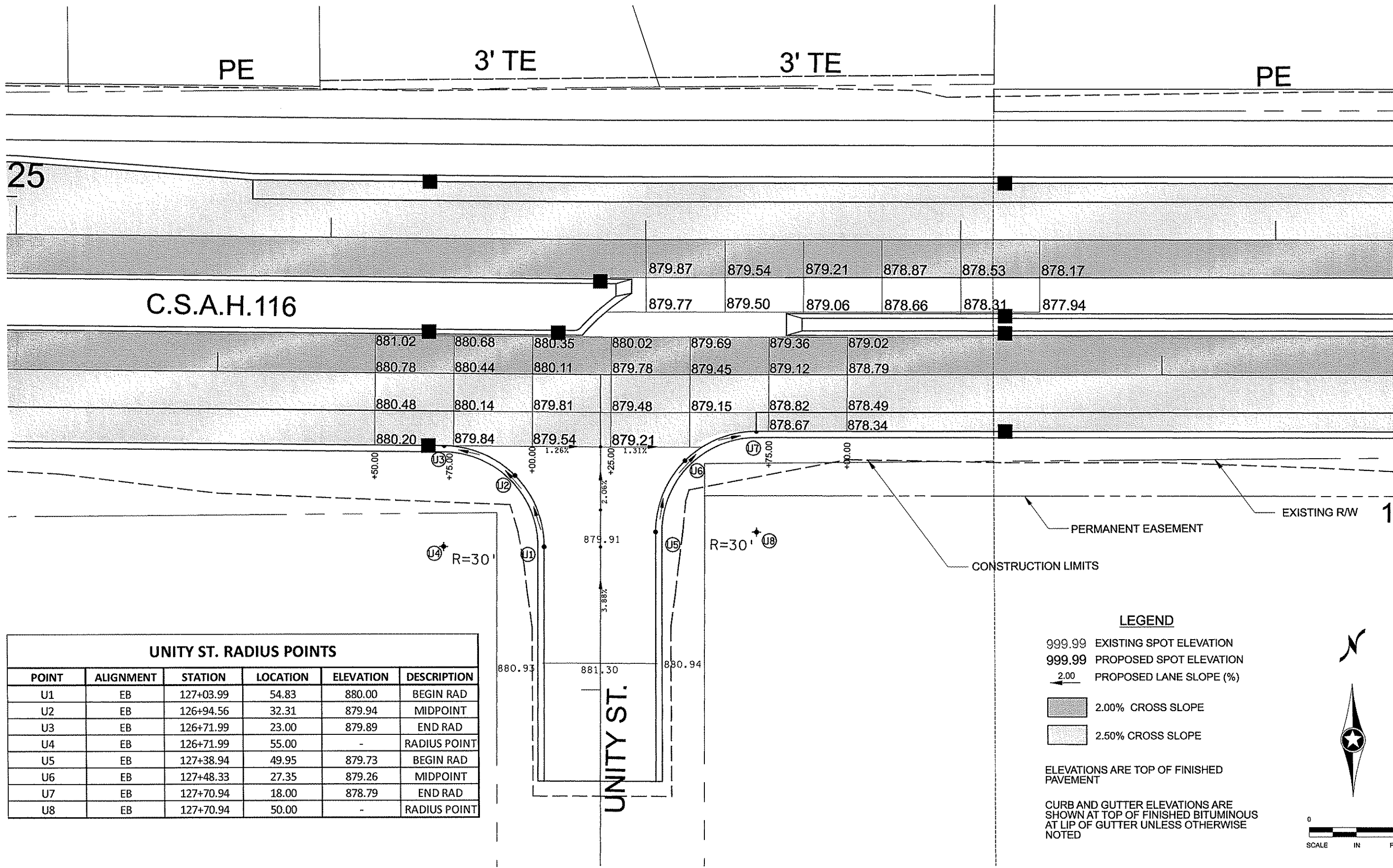


**ANOKA COUNTY  
HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

**INTERSECTION DETAIL  
WOLFRAM ST.**

Sheet 141 of 264 Sheets



C.S.A.H.116

UNITY ST.

UNITY ST. RADIUS POINTS

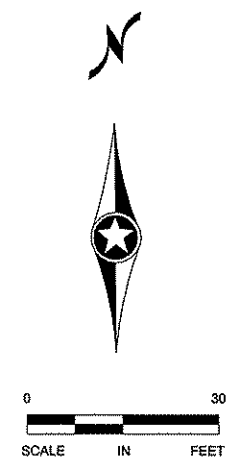
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
U1	EB	127+03.99	54.83	880.00	BEGIN RAD
U2	EB	126+94.56	32.31	879.94	MIDPOINT
U3	EB	126+71.99	23.00	879.89	END RAD
U4	EB	126+71.99	55.00	-	RADIUS POINT
U5	EB	127+38.94	49.95	879.73	BEGIN RAD
U6	EB	127+48.33	27.35	879.26	MIDPOINT
U7	EB	127+70.94	18.00	878.79	END RAD
U8	EB	127+70.94	50.00	-	RADIUS POINT

LEGEND

- 999.99 EXISTING SPOT ELEVATION
- 999.99 PROPOSED SPOT ELEVATION
- 2.00 PROPOSED LANE SLOPE (%)
- 2.00% CROSS SLOPE
- 2.50% CROSS SLOPE

ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_IN4.dgn 02/24/2011 10:43:52 AM

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.

PRINT NAME: CURT KOBLAROSIK

SIGNATURE: *Curt Koblarosik*

DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/24/2011

DESIGN BY: MN DATE: 02/24/2011

CHECKED BY: CAK DATE: 02/24/2011

ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

INTERSECTION DETAIL  
UNITY ST.

Sheet 142 of 264 Sheets

TUNGSTEN ST. RADIUS POINTS					
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
T1	WB	130+02.50	-50.28	874.84	BEGIN RAD
T2	WB	129+93.23	-27.47	874.74	MIDPOINT
T3	WB	129+70.50	-18.00	874.64	END RAD
T4	WB	129+70.50	-50.00	-	RAD POINT
T5	WB	130+26.46	-54.72	874.12	BEGIN RAD
T6	WB	130+35.93	-32.27	873.37	MIDPOINT
T7	WB	130+58.46	-23.00	872.63	END RAD
T8	WB	130+58.46	-55.00	-	RAD POINT

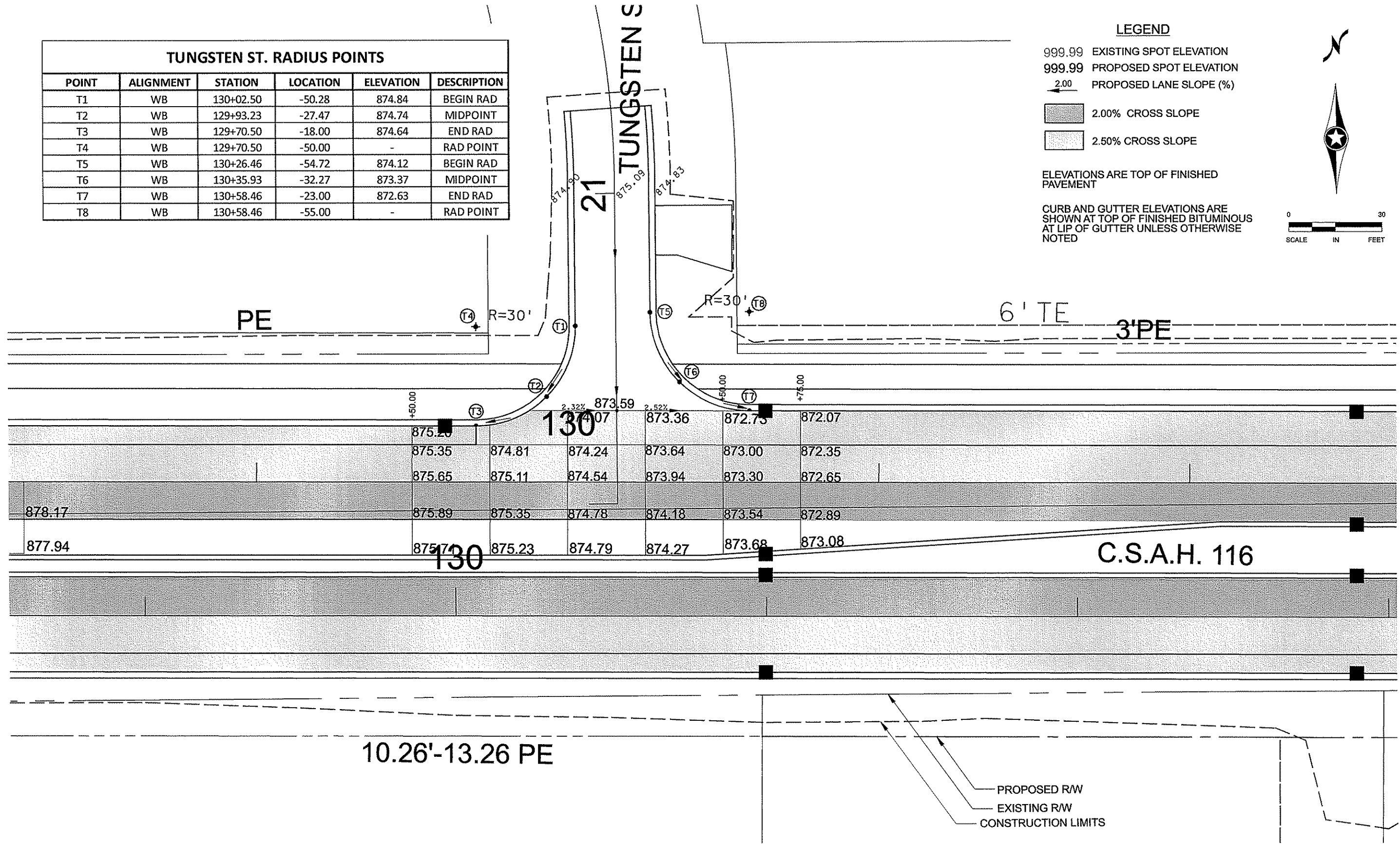
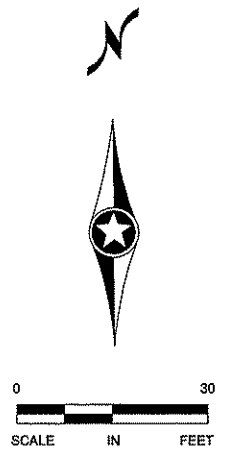
**LEGEND**

999.99 EXISTING SPOT ELEVATION  
 999.99 PROPOSED SPOT ELEVATION  
 2.00 PROPOSED LANE SLOPE (%)

2.00% CROSS SLOPE  
 2.50% CROSS SLOPE

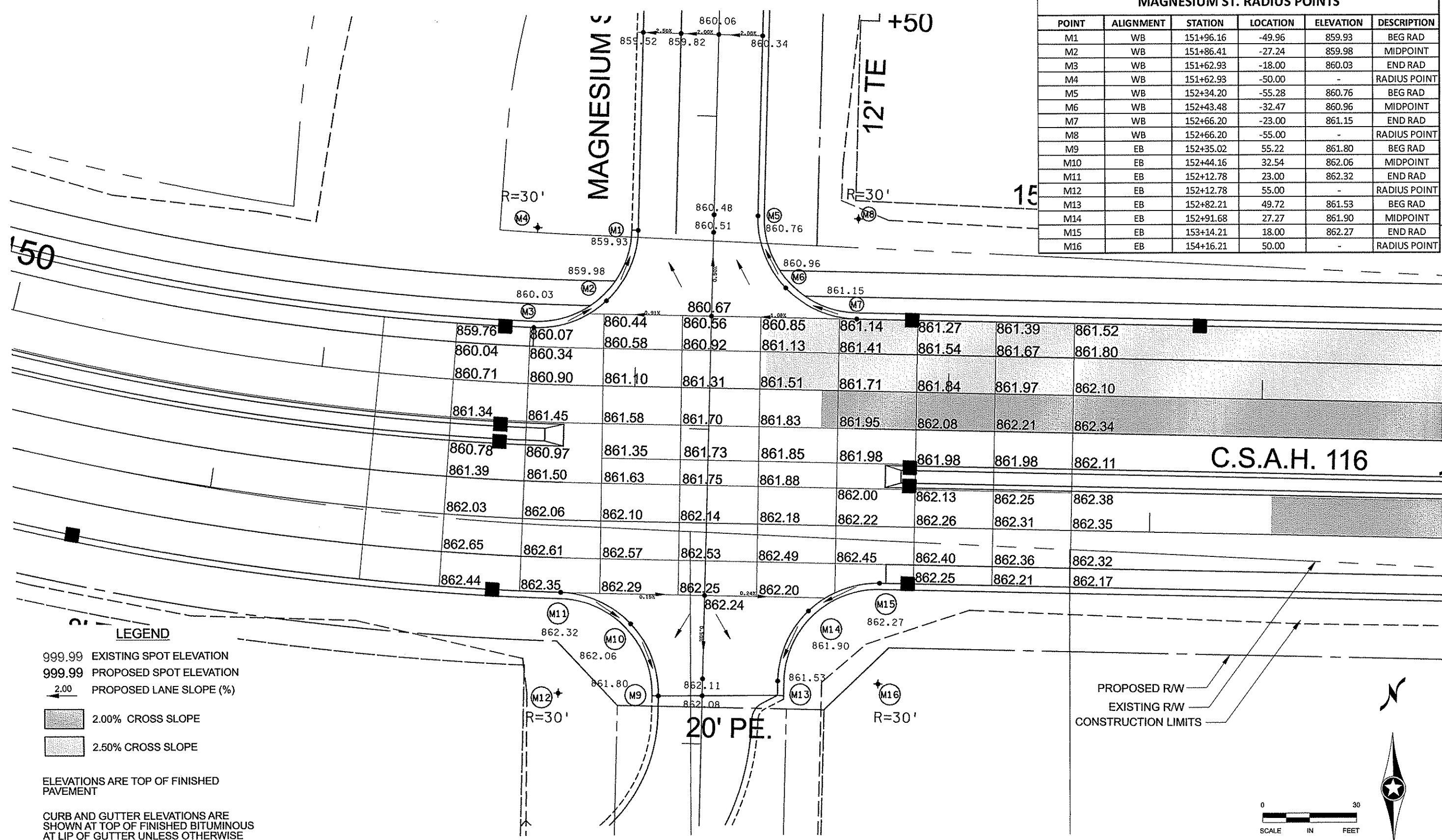
ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



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. PRINT NAME: CURT KOBIARCSIK SIGNATURE: <i>Curt Kobiarcsik</i> DATE: 2-24-11 LICENSE NO. 24758					DRAWN BY: BAV DATE: 02/24/2011 DESIGN BY: MN DATE: 02/24/2011 CHECKED BY: CAK DATE: 02/24/2011		<b>ANOKA COUNTY</b> <b>HIGHWAY DEPT.</b>		S.P. 002-716-011 S.P. 199-020-008		<b>INTERSECTION DETAIL</b> <b>TUNGSTEN ST.</b>	
NO	DATE	BY	CKD	APPR	REVISION	NAME: p:\02-716-11\Plan\0271611_INS.dgn 02/24/2011 10:43:56 AM						
						Sheet 143 of 264 Sheets						

MAGNESIUM ST. RADIUS POINTS					
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
M1	WB	151+96.16	-49.96	859.93	BEG RAD
M2	WB	151+86.41	-27.24	859.98	MIDPOINT
M3	WB	151+62.93	-18.00	860.03	END RAD
M4	WB	151+62.93	-50.00	-	RADIUS POINT
M5	WB	152+34.20	-55.28	860.76	BEG RAD
M6	WB	152+43.48	-32.47	860.96	MIDPOINT
M7	WB	152+66.20	-23.00	861.15	END RAD
M8	WB	152+66.20	-55.00	-	RADIUS POINT
M9	EB	152+35.02	55.22	861.80	BEG RAD
M10	EB	152+44.16	32.54	862.06	MIDPOINT
M11	EB	152+12.78	23.00	862.32	END RAD
M12	EB	152+12.78	55.00	-	RADIUS POINT
M13	EB	152+82.21	49.72	861.53	BEG RAD
M14	EB	152+91.68	27.27	861.90	MIDPOINT
M15	EB	153+14.21	18.00	862.27	END RAD
M16	EB	154+16.21	50.00	-	RADIUS POINT



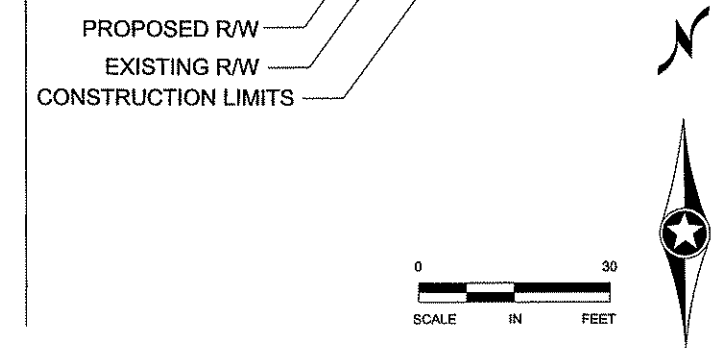
**LEGEND**

999.99 EXISTING SPOT ELEVATION  
 999.99 PROPOSED SPOT ELEVATION  
 2.00 PROPOSED LANE SLOPE (%)

2.00% CROSS SLOPE  
 2.50% CROSS SLOPE

ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_in6.dgn  
 02/23/2011 9:47:17 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011

**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

INTERSECTION DETAIL  
 MAGNESIUM ST.

Sheet 144 of 264 Sheets



**KRYPTON ST. RADIUS POINTS**

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
K1	WB	157+37.57	-50.26	862.81	BEGIN RADIUS
K2	WB	157+28.30	-27.47	862.88	MIDPOINT
K3	WB	157+05.58	-18.00	862.94	END RADIUS
K4	WB	157+05.58	-50.00	-	RADIUS POINT
K5	WB	157+57.39	-54.74	862.84	BEGIN RADIUS
K6	WB	157+66.86	-32.28	862.64	MIDPOINT
K7	WB	157+89.39	-23.00	862.45	END RADIUS
K8	WB	157+89.39	-55.00	-	RADIUS POINT

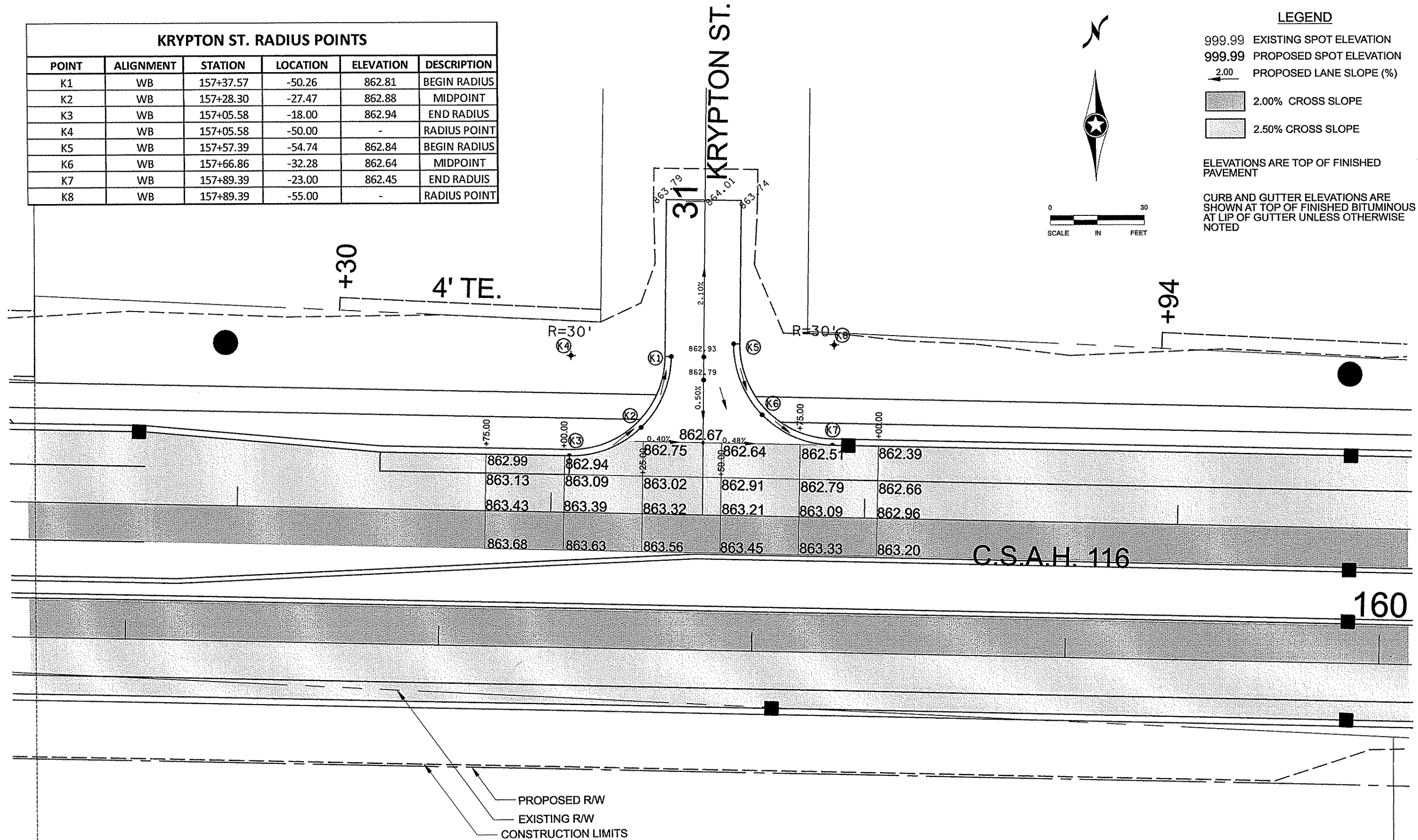
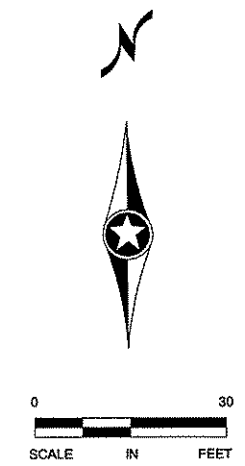
**LEGEND**

999.99 EXISTING SPOT ELEVATION  
 999.99 PROPOSED SPOT ELEVATION  
 2.00 PROPOSED LANE SLOPE (%)

2.00% CROSS SLOPE  
 2.50% CROSS SLOPE

ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



PROPOSED R/W  
 EXISTING R/W  
 CONSTRUCTION LIMITS

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. PRINT NAME: CURT KOBIARCSIK SIGNATURE: <i>Curt Kobiarcsik</i> DATE: 2-24-11 LICENSE NO. 24758					DRAWN BY: BAV DATE: 02/24/2011 DESIGN BY: MN DATE: 02/24/2011 CHECKED BY: CAK DATE: 02/24/2011		ANOKA COUNTY HIGHWAY DEPT.		S.P. 002-716-011 S.P. 199-020-008		INTERSECTION DETAIL KRYPTON ST.	
NO	DATE	BY	CKD	APPR	REVISION	NAME: p:\02-716-11\Plan\0271611_IN7.dgn 02/24/2011 3:12:19 PM						

GERMANIUM ST. RADIUS POINTS					
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
G1	WB	170+41.47	-56.01	863.6	BEGIN RADIUS
G2	WB	170+32.55	-32.74	864.21	MIDPOINT
G3	WB	170+09.64	-23.00	864.64	END RADIUS
G4	WB	170+09.64	-55.00	-	RADIUS POINT
G5	WB	170+68.93	-51.80	863.72	BEGIN RADIUS
G6	WB	170+79.22	-31.29	864.05	MIDPOINT
G7	WB	171+00.58	-23.00	864.12	END RADIUS
G8	WB	171+00.58	-55.00	-	RADIUS POINT

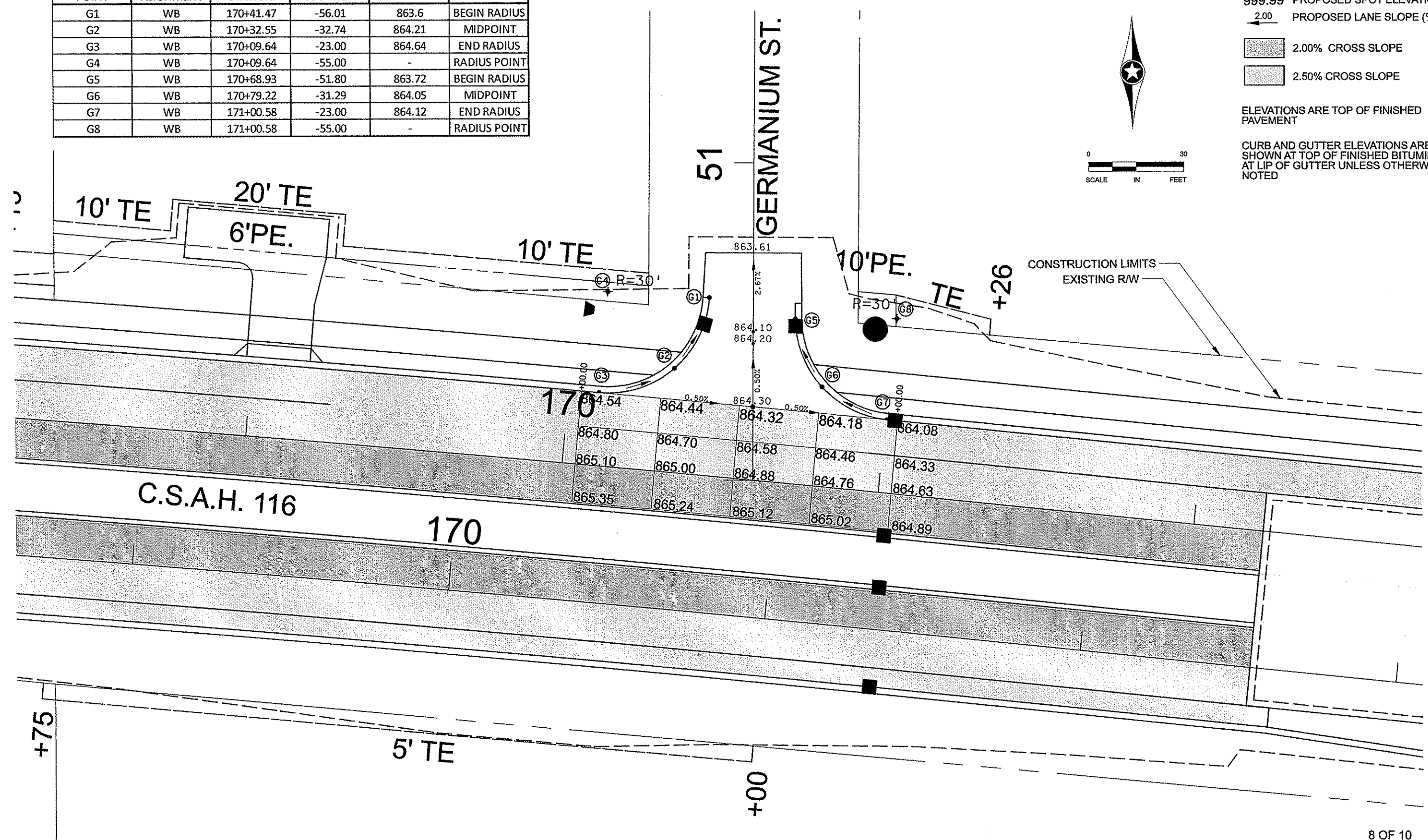
**LEGEND**

999.99 EXISTING SPOT ELEVATION  
 999.99 PROPOSED SPOT ELEVATION  
 2.00 PROPOSED LANE SLOPE (%)

2.00% CROSS SLOPE  
 2.50% CROSS SLOPE

ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:102-716-11\Plan10271611\_IN8.dgn  
 02/23/2011 8:47:24 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 02/23/2011  
 DESIGN BY: MN DATE: 02/23/2011  
 CHECKED BY: CAK DATE: 02/23/2011

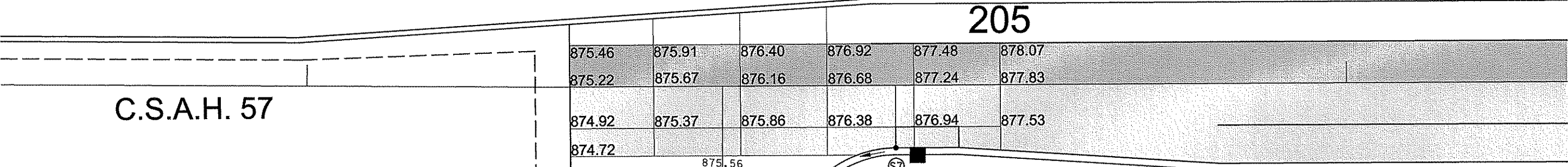
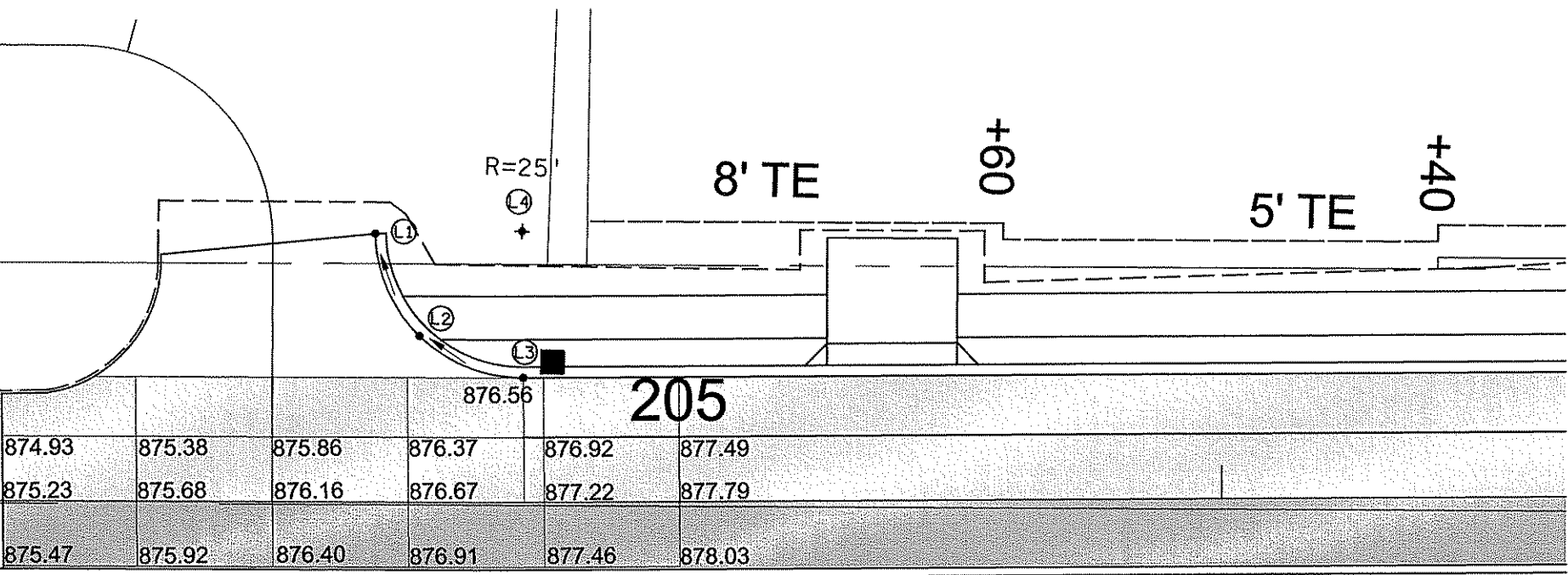


S.P. 002-716-011  
 S.P. 199-020-008

INTERSECTION DETAIL  
 GERMANIUM ST.

Sheet 146 of 264 Sheets

140TH LANE RADIUS POINTS					
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
L1	SB	204+43.80	-49.54	874.54	BEGIN RAD
L2	SB	204+51.99	-30.69	875.55	MIDPOINT
L3	SB	204+71.32	-23.00	876.56	END RAD
L4	SB	204+71.32	-50.00	-	RADIUS POINT



C.S.A.H. 57

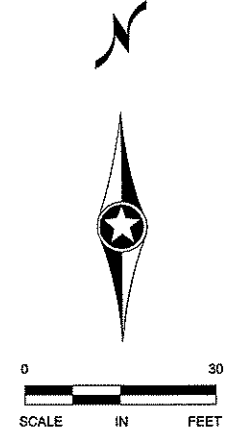
SUNFISH LA

SUNFISH LK CT RADIUS POINTS					
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
S1	NB	203+99.63	56.32	876.75	BEGIN RADIUS
S2	NB	203+92.98	37.27	875.86	MIDPOINT
S3	NB	203+75.77	26.74	874.97	END RADIUS
S4	NB	203+69.92	56.11	-	RADIUS POINT
S5	NB	204+37.71	49.63	876.56	BEGIN RADIUS
S6	NB	204+47.22	27.24	876.51	MIDPOINT
S7	NB	204+69.71	18.00	876.46	END RADIUS
S8	NB	204+69.71	50.00	-	RADIUS POINT

PROPOSED RW  
EXISTING RW  
CONSTRUCTION LIMITS

**LEGEND**

- 999.99 EXISTING SPOT ELEVATION
- 999.99 PROPOSED SPOT ELEVATION
- 2.00 PROPOSED LANE SLOPE (%)
- 2.00% CROSS SLOPE
- 2.50% CROSS SLOPE
- ELEVATIONS ARE TOP OF FINISHED PAVEMENT
- CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_IN9.dgn      02/24/2011      10:44:06 AM

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.

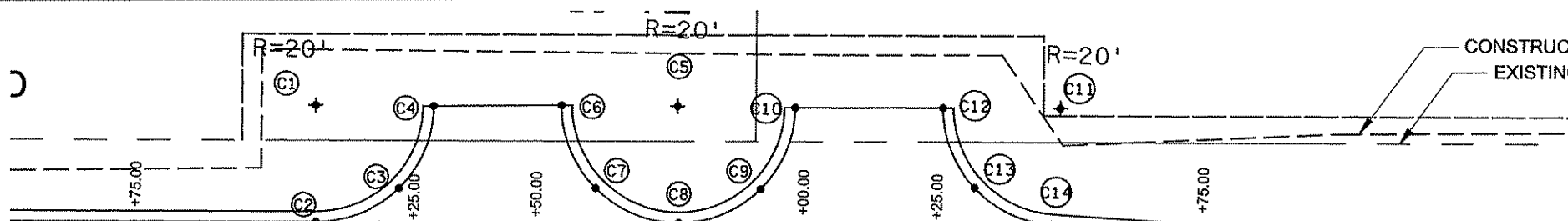
PRINT NAME: CURY KOBILARCSIK  
SIGNATURE: *[Signature]*  
DATE: 2-24-11      LICENSE NO.: 24768

DRAWN BY: BAV      DATE: 02/24/2011  
DESIGN BY: MN      DATE: 02/24/2011  
CHECKED BY: CAK      DATE: 02/24/2011

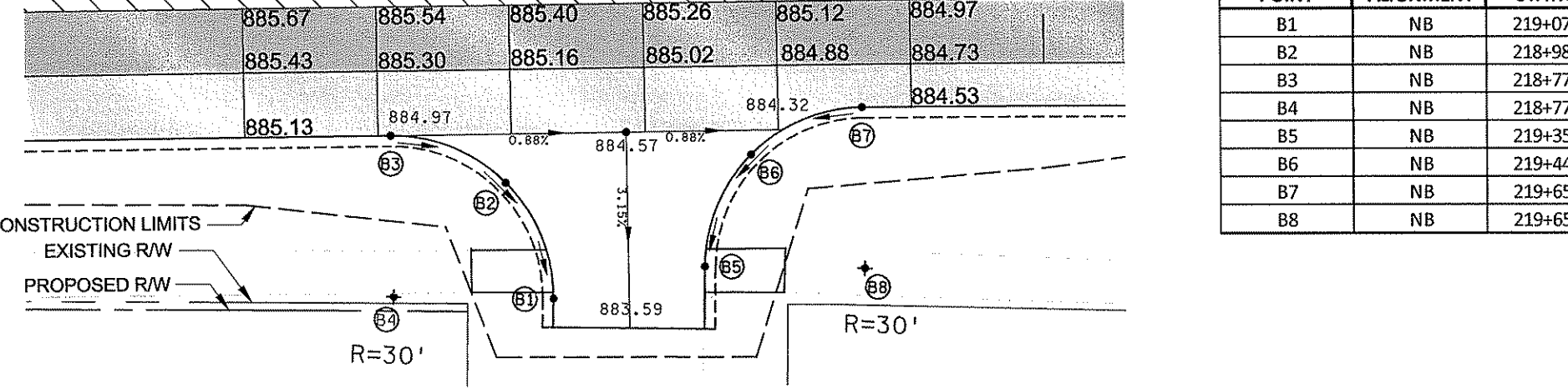
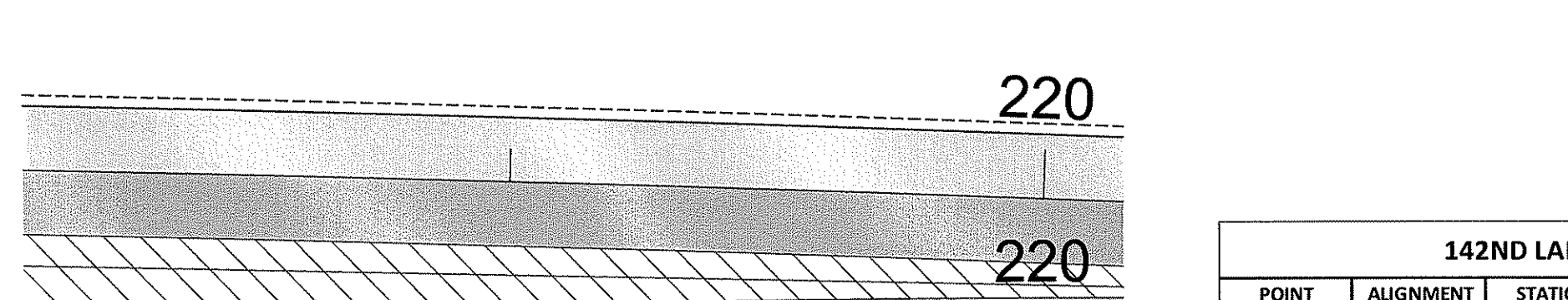
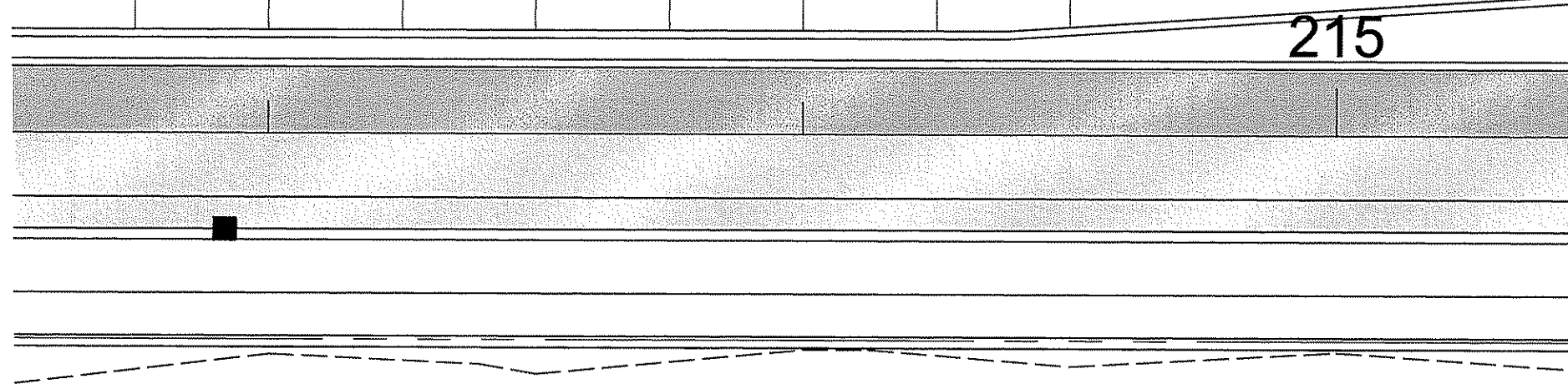
**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
S.P. 199-020-008

INTERSECTION DETAIL  
140TH CT NW, SUNFISH LAKE CT  
Sheet 147 of 264 Sheets

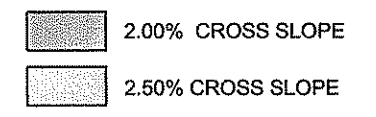


886.71	886.83	886.96	887.06	887.12	886.88	887.15	887.15	887.11	887.04
887.01	887.13	887.26	887.36	887.42	887.45	887.45	887.41	887.34	
887.25	887.37	887.50	887.60	887.66	887.69	887.69	887.65	887.58	



**LEGEND**

- 999.99 EXISTING SPOT ELEVATION
- 999.99 PROPOSED SPOT ELEVATION
- 2.00 PROPOSED LANE SLOPE (%)



ELEVATIONS ARE TOP OF FINISHED PAVEMENT

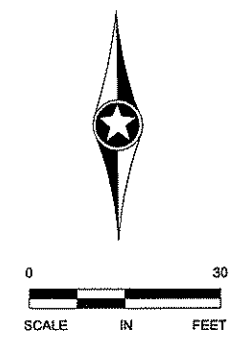
CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED

**LIFE FITNESS ENTRANCE**

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
C1	SB	213+08.77	45.00	-	RADIUS POINT
C2	SB	213+08.77	23.00	886.61	BEGIN RADIUS
C3	SB	213+24.29	29.41	886.27	MIDPOINT
C4	SB	213+30.77	44.89	885.93	END RADIUS
C5	SB	213+76.46	45.01	-	RADIUS POINT
C6	SB	213+54.77	45.11	885.48	BEGIN RADIUS
C7	SB	213+61.11	29.54	886.16	MIDPOINT
C8	SB	213+76.63	23.00	886.85	END RADIUS
C9	SB	213+92.00	29.43	886.26	MIDPOINT
C10	SB	213+98.46	44.78	885.67	BEGIN RADIUS
C11	SB	214+48.10	44.82	-	RADIUS POINT
C12	SB	214+26.10	44.82	885.52	BEGIN RADIUS
C13	SB	214+32.03	29.79	886.19	MIDPOINT
C14	SB	214+46.63	22.86	886.85	END RADIUS

**142ND LANE RADIUS POINTS**

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
B1	NB	219+07.33	42.78	883.31	BEGIN RAD
B2	NB	218+98.83	21.06	884.14	MIDPOINT
B3	NB	218+77.34	12.00	884.97	END RAD
B4	NB	218+77.34	42.00	-	RADIUS POINT
B5	NB	219+35.76	37.22	883.41	BEGIN RAD
B6	NB	219+44.82	16.51	883.80	MIDPOINT
B7	NB	219+65.75	8.00	884.69	END RAD
B8	NB	219+65.75	38.00	-	RADIUS POINT



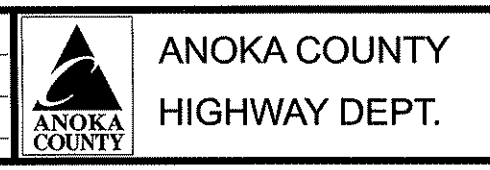
NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-111\Plan\0271611\_IN10.dgn  
02/23/2011 9:46:53 AM

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.

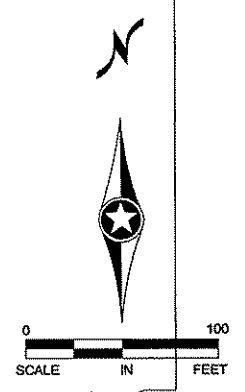
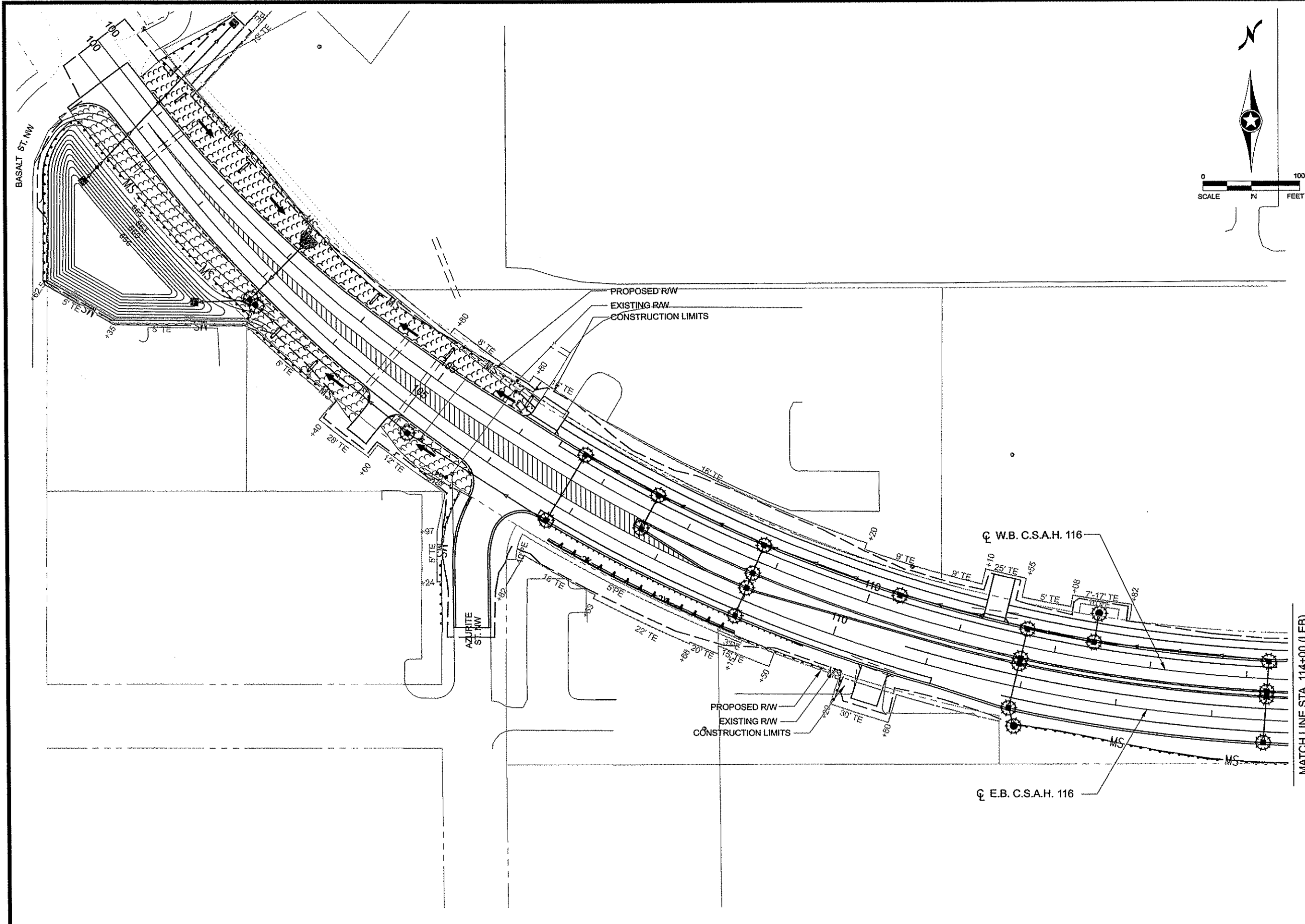
PRINT NAME: CURT KOBLARCSIK  
SIGNATURE: *Curt Koblarcsik*  
DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 02/23/2011  
DESIGN BY: MN DATE: 02/23/2011  
CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
S.P. 199-020-008

INTERSECTION DETAILS  
LIFE FITNESS ENT., 142ND LANE  
Sheet 148 of 264 Sheets



LEGEND	
■	PROPOSED CATCH BASIN
□	INPLACE CATCH BASIN
●	PROPOSED MANHOLE
○	INPLACE MANHOLE
▲	PROPOSED APRON
▽	INPLACE APRON
—●—	PROPOSED STORM SEWER
- - -●- - -	INPLACE STORM SEWER
- - -	INPLACE CULVERT
—	PROPOSED CULVERT
—MS—	SILT FENCE TYPE MACHINE SLICED
	4' FLOTATION SILT CURTAIN
○○○	RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
⊙	SOD APRON INLET OR OUTLET
⊙	INLET PROTECTION
—	TEMPORARY DITCH CHECK TYPE 2
—	WETLAND BOUNDARIES
→	SURFACE FLOW ARROW
	EROSION CONTROL BLANKET CATEGORY 3
	MULCH W/ DISK ANCHORING
—	EXISTING WETLAND

- NOTES
- 1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.
  - 2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.
  - 3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR  $\frac{1}{3}$  OF SILT FENCE HEIGHT.
  - 4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.
  - 5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL. REMOVAL IS INCIDENTAL TO SILT FENCE. NO DIRECT COMPENSATION WILL BE GIVEN.
  - 6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.

MATCH LINE STA. 114+00 (LEB)

1	4/12/11	BAV	JEO	CAK	UPDATED INLET PROTECTION
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_EC1.dgn					

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.

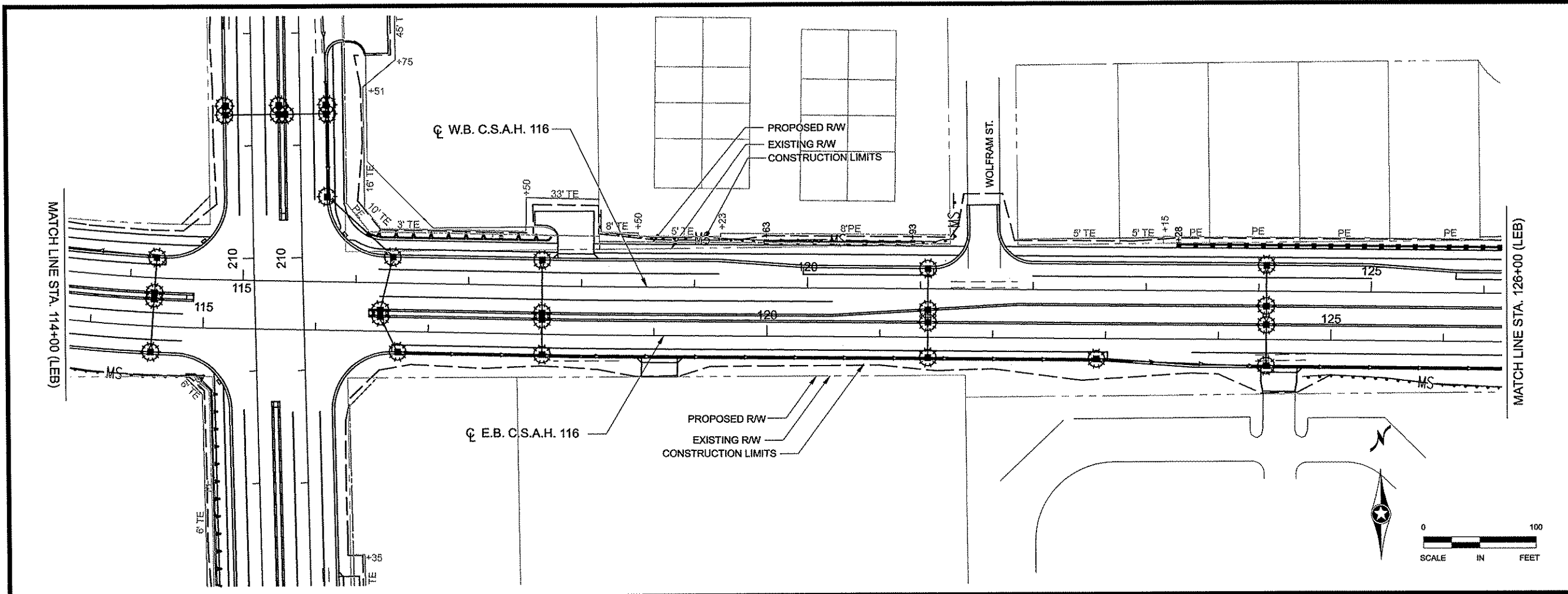
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *[Signature]*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



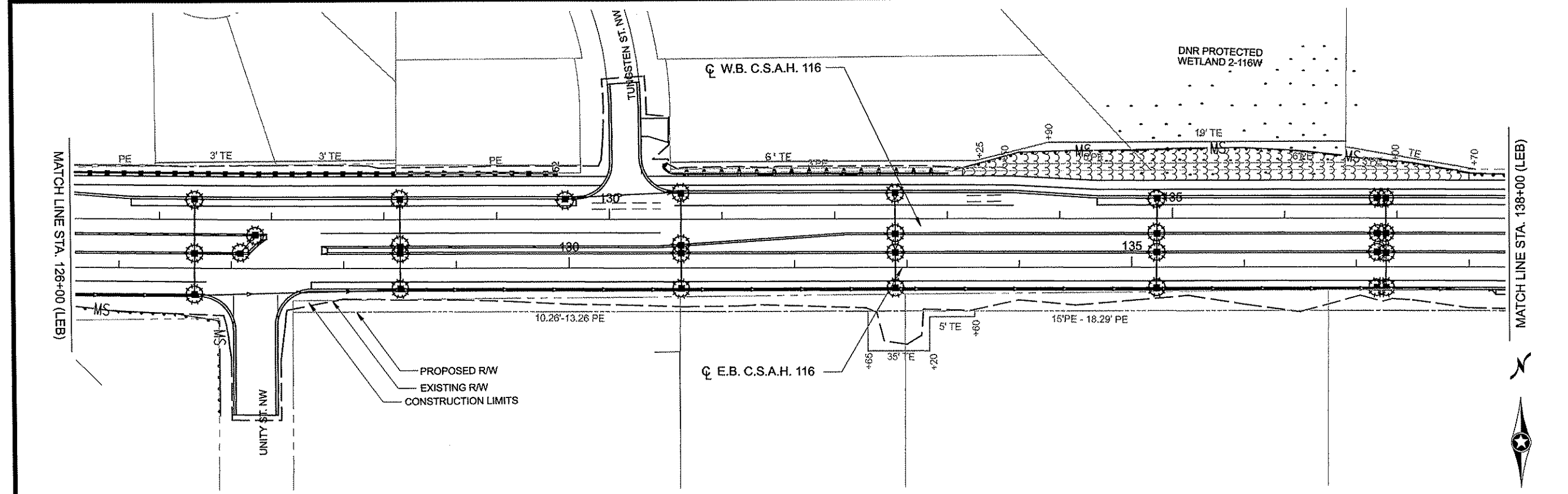
S.P. 002-716-011  
 S.P. 199-020-008

EROSION CONTROL  
 STA 100+37.00 TO 114+00.00  
 Sheet 149 of 264 Sheets



**LEGEND**

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- ▲ PROPOSED APRON
- ▽ INPLACE APRON
- PROPOSED STORM SEWER
- - - INPLACE STORM SEWER
- - - INPLACE CULVERT
- PROPOSED CULVERT
- MS SILT FENCE TYPE MACHINE SLICED
- 4' FLOTATION SILT CURTAIN
- RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- ⊙ SOD APRON INLET OR OUTLET
- ⊙ INLET PROTECTION
- TEMPORARY DITCH CHECK TYPE 2
- WETLAND BOUNDARIES
- SURFACE FLOW ARROW
- EROSION CONTROL BLANKET CATEGORY 3
- MULCH W/ DISK ANCHORING
- EXISTING WETLAND



**NOTES**

- 1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.
- 2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.
- 3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR  $\frac{1}{3}$  OF SILT FENCE HEIGHT.
- 4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.
- 5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL. REMOVAL IS INCIDENTAL TO SILT FENCE. NO DIRECT COMPENSATION WILL BE GIVEN.
- 6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.

0 100  
SCALE IN FEET

1	4/12/11	BAV	JEO	CAK	UPDATED INLET PROTECTION
NO	DATE	BY	CKD	APPR	REVISION
					04/13/2011 8:41:13 AM

NAME: p:\02-716-11\Plant\0271611\_EC2.dgn

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.

PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *Curt Kobiarcsik*  
DATE: 4-14-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 04/13/2011  
DESIGN BY: MN DATE: 04/13/2011  
CHECKED BY: CAK DATE: 04/13/2011

**ANOKA COUNTY HIGHWAY DEPT.**

S.P. 002-716-011  
S.P. 199-020-008

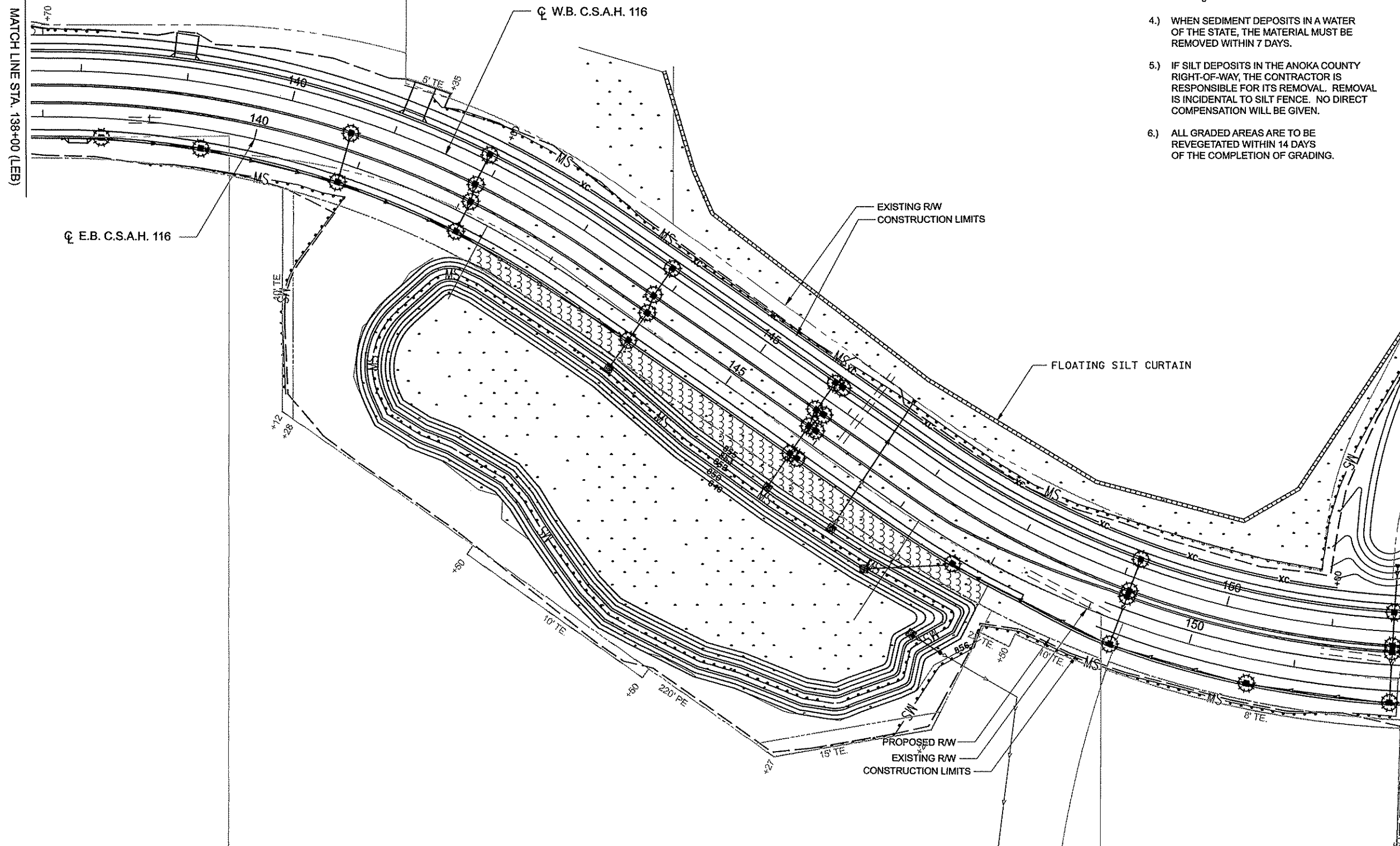
**EROSION CONTROL**  
STA 114+00.00 TO 138+00.00  
Sheet 150 of 264 Sheets

NOTES

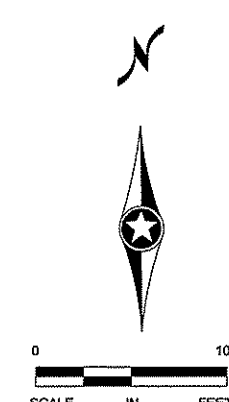
- 1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.
- 2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.
- 3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR  $\frac{1}{3}$  OF SILT FENCE HEIGHT.
- 4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.
- 5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL. REMOVAL IS INCIDENTAL TO SILT FENCE. NO DIRECT COMPENSATION WILL BE GIVEN.
- 6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.

LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- ▲ PROPOSED APRON
- ▷ INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- === PROPOSED CULVERT
- MS SILT FENCE TYPE MACHINE SLICED
- 4' FLOTATION SILT CURTAIN
- RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- ⊙ SOD APRON INLET OR OUTLET
- ⊙ INLET PROTECTION
- ▬ TEMPORARY DITCH CHECK TYPE 2
- WETLAND BOUNDARIES
- SURFACE FLOW ARROW
- 333 EROSION CONTROL BLANKET CATEGORY 3
- MULCH W/ DISK ANCHORING
- EXISTING WETLAND



MATCH LINE STA. 152+00 (LEB)



1	4/12/11	BAV	JEO	CAK	UPDATED INLET PROTECTION
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\Plan\0271611_EC3.dgn					04/13/2011 8:41:17 AM

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.

PRINT NAME: CURT KOBIARCSIK

SIGNATURE: *Curt Kobilarcsik*

DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011

DESIGN BY: MN DATE: 04/13/2011

CHECKED BY: CAK DATE: 04/13/2011



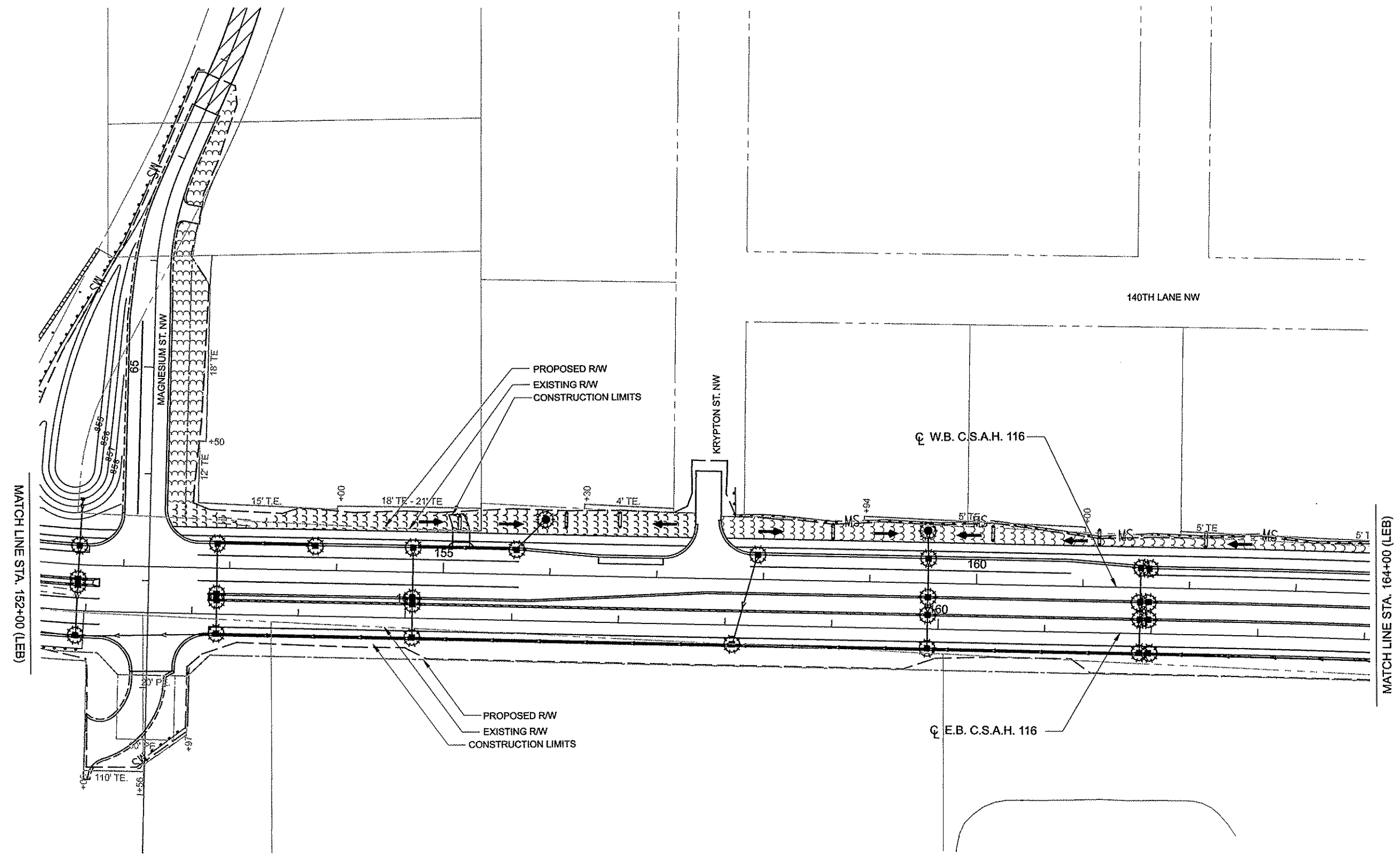
ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

EROSION CONTROL  
STA 138+00.00 TO 152+00.00  
Sheet 151 of 264 Sheets

LEGEND	
■	PROPOSED CATCH BASIN
□	INPLACE CATCH BASIN
●	PROPOSED MANHOLE
○	INPLACE MANHOLE
▲	PROPOSED APRON
▽	INPLACE APRON
→	PROPOSED STORM SEWER
→	INPLACE STORM SEWER
---	INPLACE CULVERT
---	PROPOSED CULVERT
—MC—	SILT FENCE TYPE MACHINE SLICED
	4' FLOTATION SILT CURTAIN
○○○	RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
⊙	SOD APRON INLET OR OUTLET
⊙	INLET PROTECTION
—	TEMPORARY DITCH CHECK TYPE 2
—	WETLAND BOUNDARIES
→	SURFACE FLOW ARROW
	EROSION CONTROL BLANKET CATEGORY 3
	MULCH W/ DISK ANCHORING
—	EXISTING WETLAND

- NOTES
- 1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.
  - 2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.
  - 3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR  $\frac{1}{3}$  OF SILT FENCE HEIGHT.
  - 4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.
  - 5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL. REMOVAL IS INCIDENTAL TO SILT FENCE. NO DIRECT COMPENSATION WILL BE GIVEN.
  - 6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.



1	4/12/11	BAV	JEO	CAK	UPDATED INLET PROTECTION
NO	DATE	BY	CKD	APPR	REVISION
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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.

PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 4-14-11 LICENSE NO. 24766

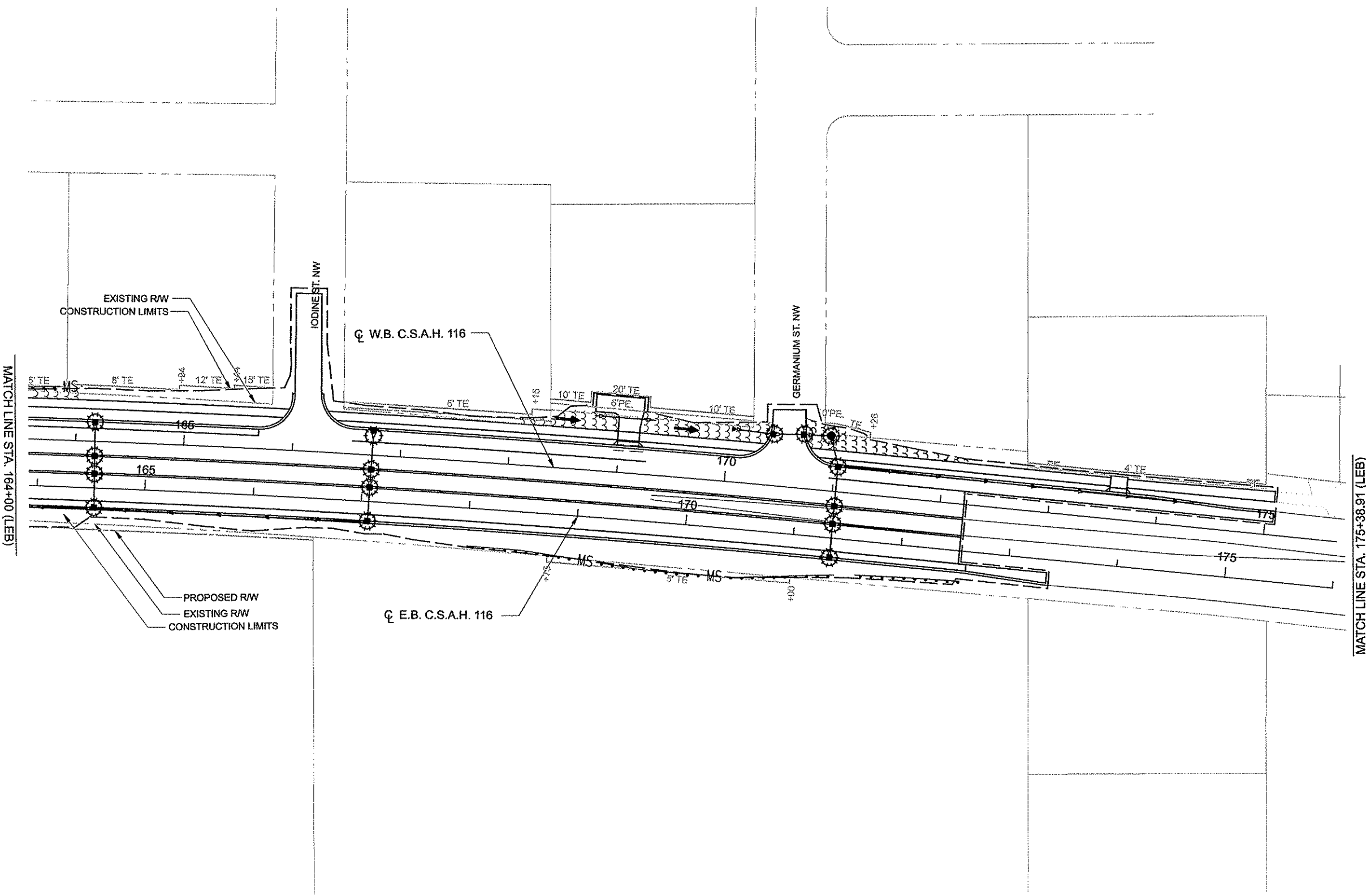
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S.P. 002-716-011  
 S.P. 199-020-008

EROSION CONTROL  
 STA 152+00.00 TO 164+00.00  
 Sheet 152 of 264 Sheets



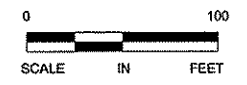


MATCH LINE STA. 164+00 (LEB)

MATCH LINE STA. 175+38.91 (LEB)

LEGEND	
■	PROPOSED CATCH BASIN
□	INPLACE CATCH BASIN
●	PROPOSED MANHOLE
○	INPLACE MANHOLE
▶	PROPOSED APRON
▷	INPLACE APRON
—▶	PROPOSED STORM SEWER
- - -▶	INPLACE STORM SEWER
==	INPLACE CULVERT
==	PROPOSED CULVERT
—MC—	SILT FENCE TYPE MACHINE SLICED
	4' FLOTATION SILT CURTAIN
○○○	RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
⊙	SOD APRON INLET OR OUTLET
⊙	INLET PROTECTION
—	TEMPORARY DITCH CHECK TYPE 2
—	WETLAND BOUNDARIES
→	SURFACE FLOW ARROW
	EROSION CONTROL BLANKET CATEGORY 3
	MULCH W/ DISK ANCHORING
—	EXISTING WETLAND

- NOTES
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  - 2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.
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  - 6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.



5 OF 6

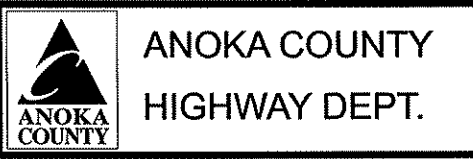
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NAME: p:\02-716-11\Plan\0271611\_EC5.dgn 04/13/2011 8:41:25 AM

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.

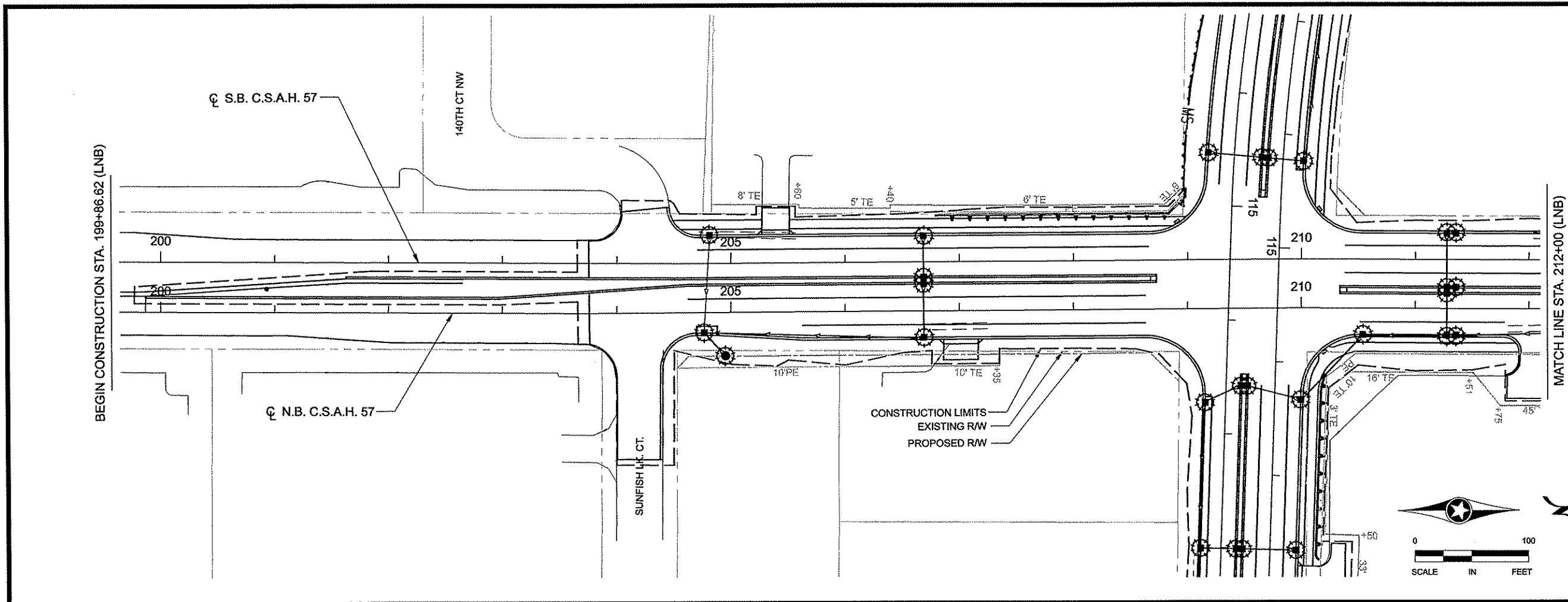
PRINT NAME: CURT KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 4-14-11 LICENSE NO. 24768

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



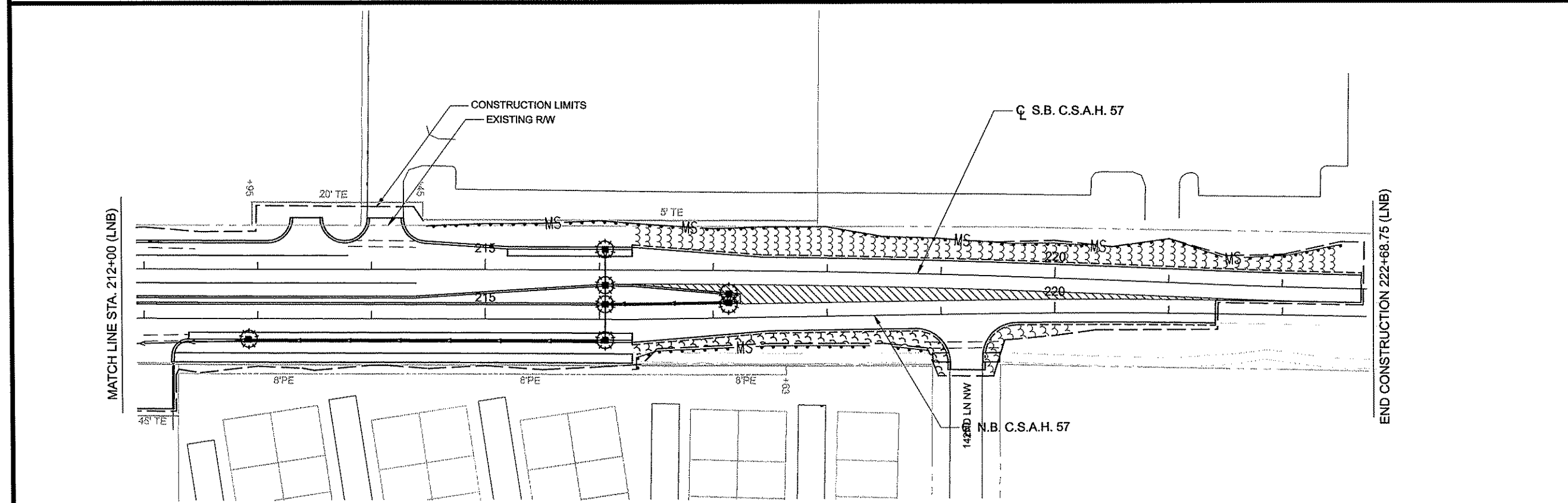
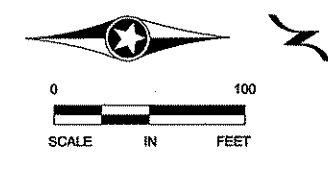
S.P. 002-716-011  
 S.P. 199-020-008

EROSION CONTROL  
 STA 164+00.00 TO 175+38.91  
 Sheet 153 of 264 Sheets



### LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- ▲ PROPOSED APRON
- ▷ INPLACE APRON
- PROPOSED STORM SEWER
- - - INPLACE STORM SEWER
- - - INPLACE CULVERT
- PROPOSED CULVERT
- MS SILT FENCE TYPE MACHINE SLICED
- 4' FLOTATION SILT CURTAIN
- RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- ⊙ SOD APRON INLET OR OUTLET
- ⊙ INLET PROTECTION
- ▭ TEMPORARY DITCH CHECK TYPE 2
- WETLAND BOUNDARIES
- ➔ SURFACE FLOW ARROW
- EROSION CONTROL BLANKET CATEGORY 3
- MULCH W/ DISK ANCHORING
- EXISTING WETLAND



### NOTES

- 1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.
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1	4/12/11	BAV	JEO	CAK	UPDATED INLET PROTECTION
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_EC6.dgn					04/13/2011 8:41:30 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 4-14-11 LICENSE NO. 24766

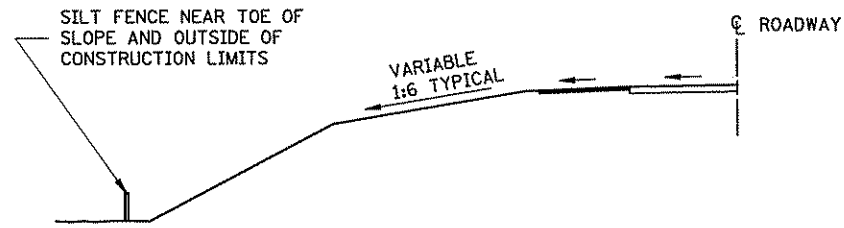
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 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011

**ANOKA COUNTY HIGHWAY DEPT.**

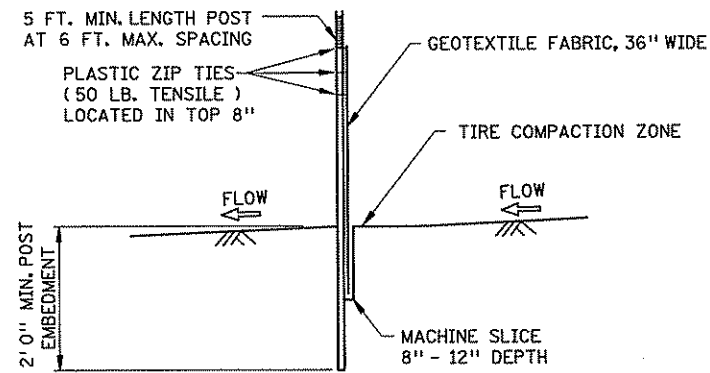
S.P. 002-716-011  
 S.P. 199-020-008

**EROSION CONTROL**  
 STA 199+86.62 TO 222+68.75  
 Sheet 154 of 264 Sheets

PLOTTED/REVISED: 04/14/2011

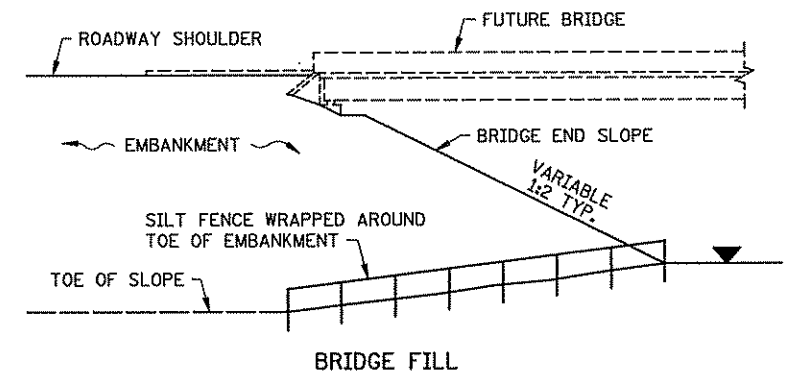


**LOCATION OF SILT FENCE AT TOE OF ROADWAY EMBANKMENT**

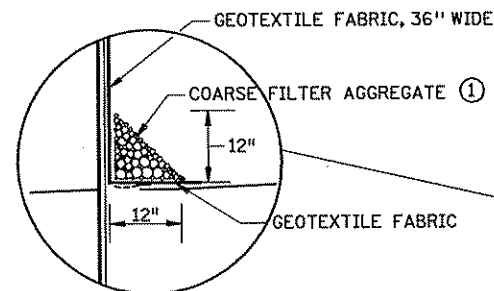


**SILT FENCE, MACHINE SLICED**

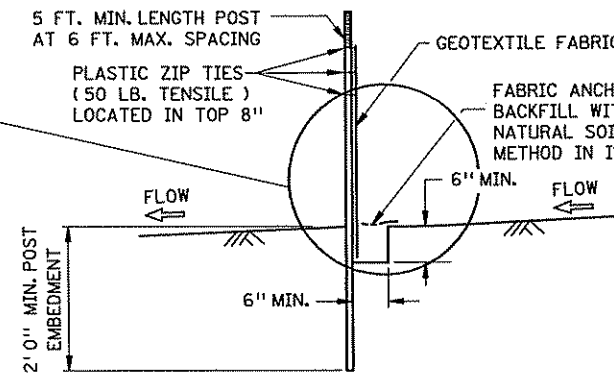
**DESIGN GUIDELINES:**  
TO PROTECT AREAS FROM SHEET FLOW.  
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



**DESIGN GUIDELINES:**  
WATER COURSE FLOW VELOCITY: STAGNANT  
CONTRIBUTING SLOPE AREA: 1/2 ACRE

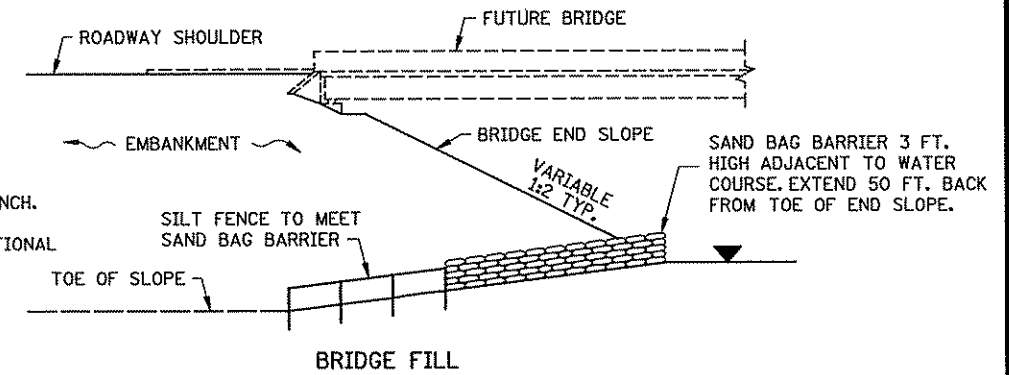


**OPTIONAL METHOD FOR SILT FENCE, HEAVY DUTY**

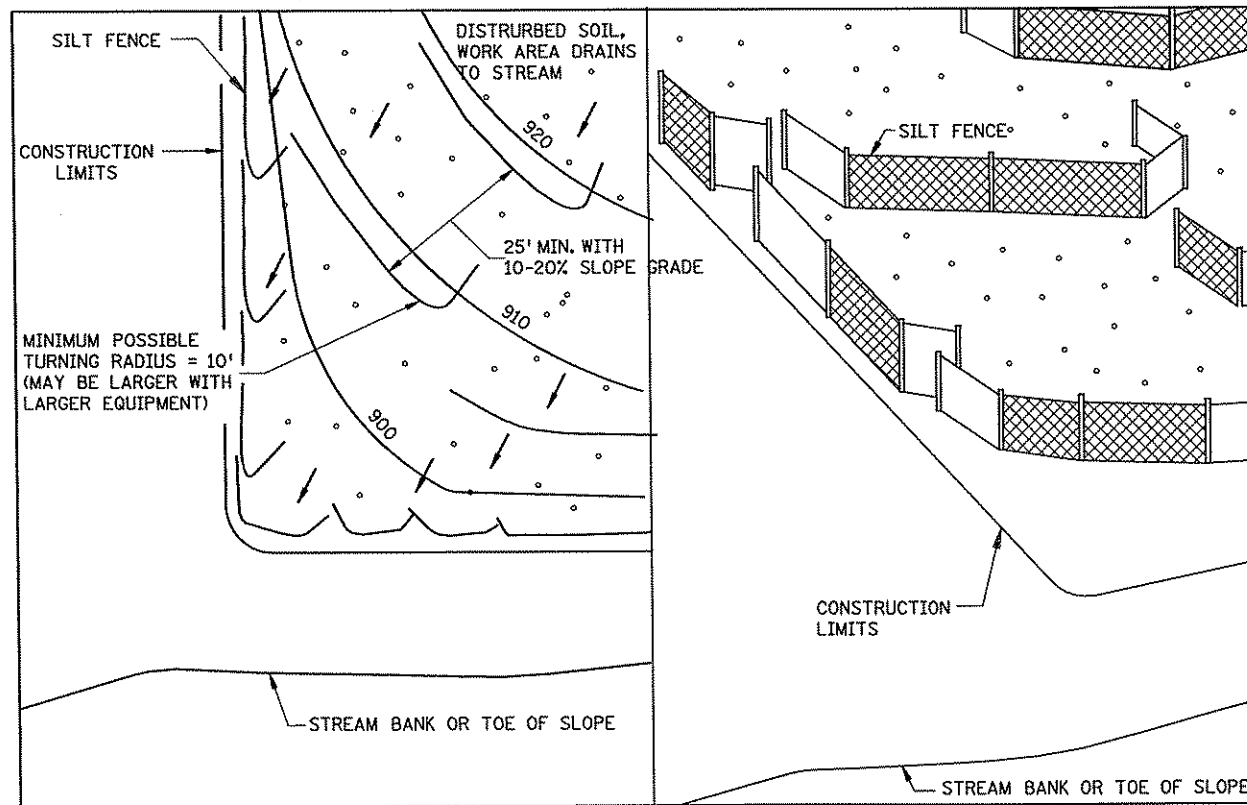


**SILT FENCE, HEAVY DUTY (HAND INSTALLED)**

**DESIGN GUIDELINES:**  
TO PROTECT AREAS FROM SHEET FLOW.  
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



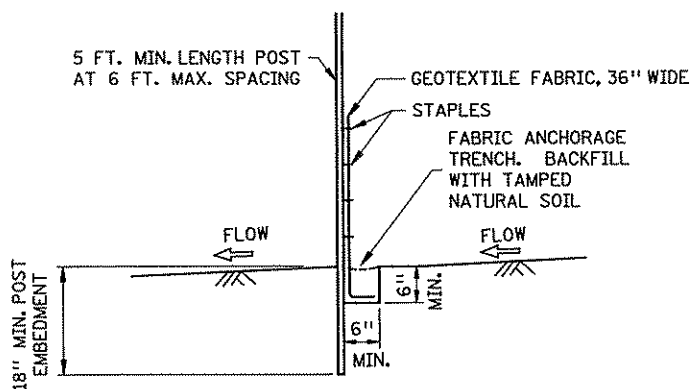
**DESIGN GUIDELINES:**  
WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.  
CONTRIBUTING SLOPE AREA: 1 ACRE



PLAN VIEW

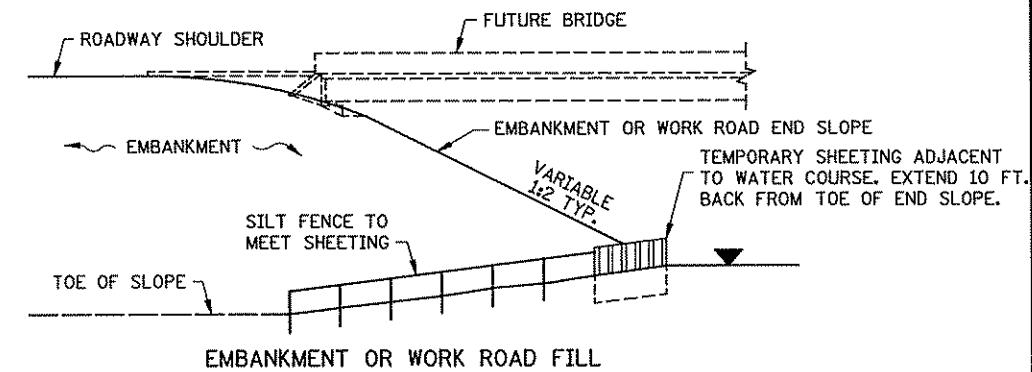
SIDE VIEW

**SILT FENCE, J-HOOK INSTALLATION**



**SILT FENCE, PREASSEMBLED**

**DESIGN GUIDELINES:**  
TO PROTECT AREAS FROM SHEET FLOW.  
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



**SILT FENCE AT BRIDGE EMBANKMENT ADJACENT TO WATER**

**DESIGN GUIDELINES:**  
WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.  
CONTRIBUTING SLOPE AREA: 3 ACRES

**NOTES:**

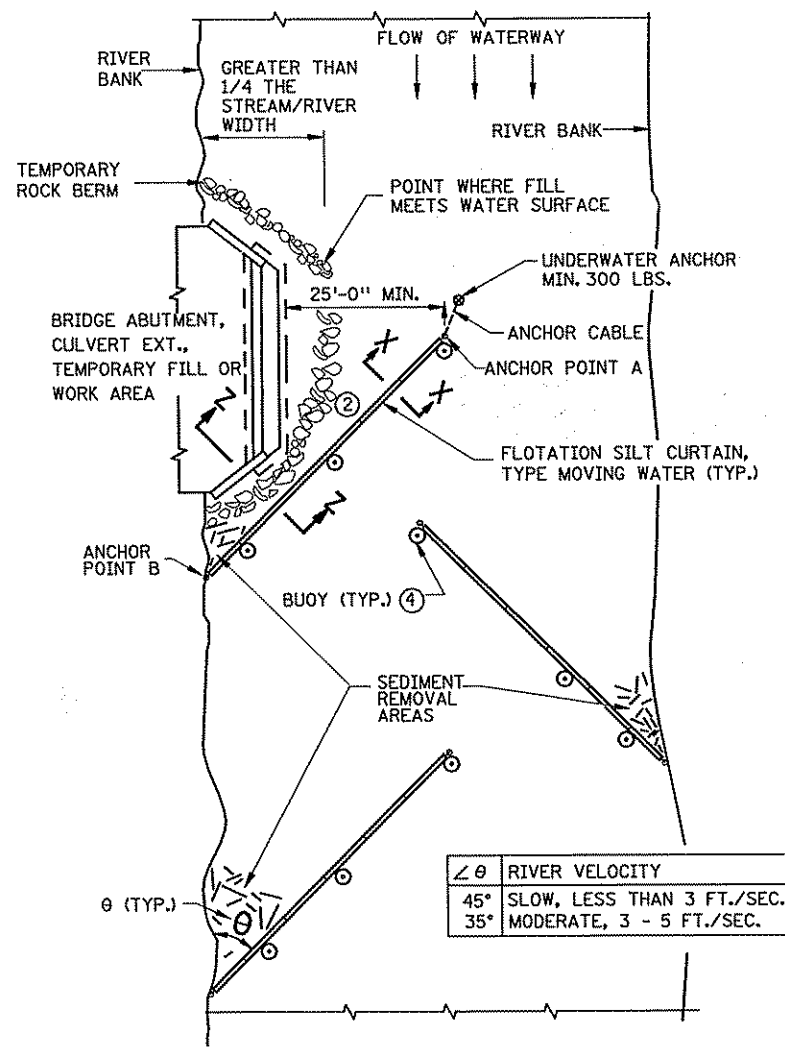
SEE SPECS. 2573, 3149 & 3886.

① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.

FILE NAME: D:\02-716-11\plan\5-297.408.1.spr.dgn

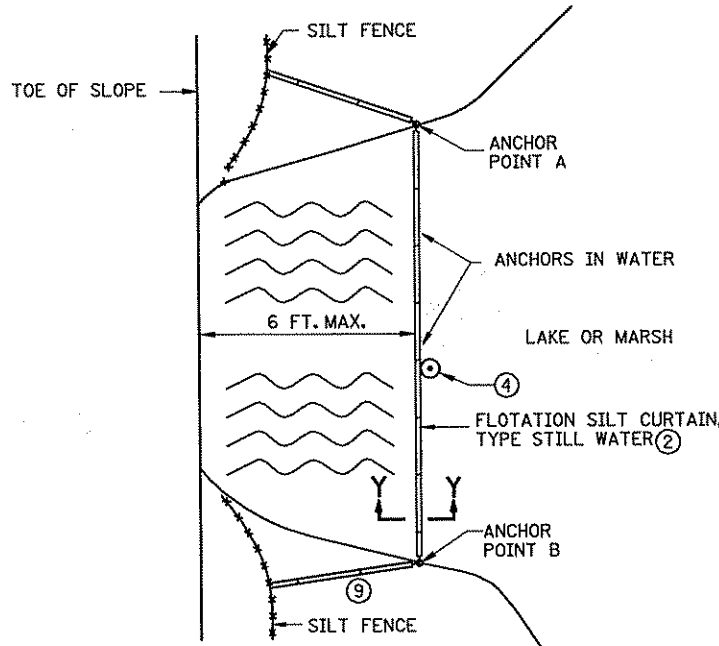
S.P. 002-716-011 S.P. 199-020-011	STANDARD SHEET NO. 5-297.408 (1 OF 2)	TITLE: <b>TEMPORARY SEDIMENT CONTROL SILT FENCE</b>
	STANDARD APPROVED: SEPTEMBER 27, 2006	
<b>SHEET NO. 155 OF 264 SHEETS</b>		

PLOTTED/REVISED:  
04/14/2011

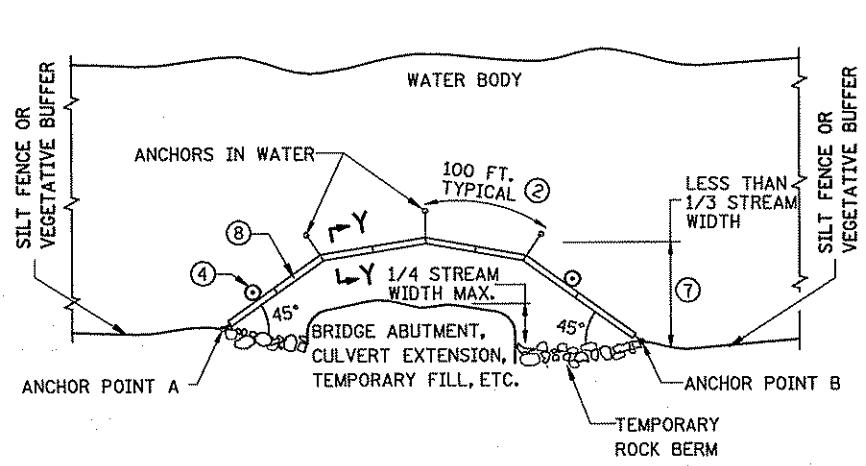


$\angle \theta$	RIVER VELOCITY
45°	SLOW, LESS THAN 3 FT./SEC.
35°	MODERATE, 3 - 5 FT./SEC.

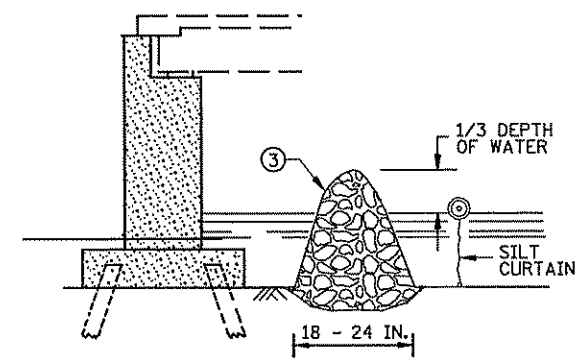
PLAN VIEW (TYPE: MOVING WATER)



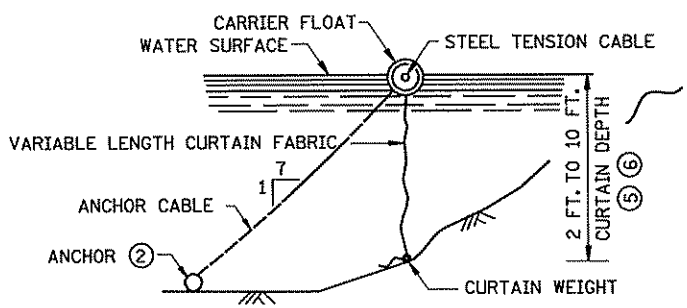
PLAN VIEW (TYPE: STILL WATER)



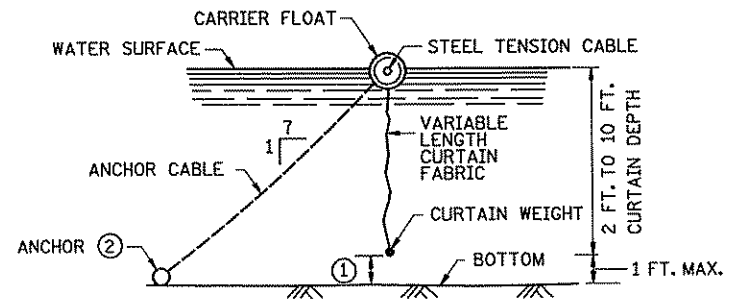
PLAN VIEW (TYPE: WORK AREA)



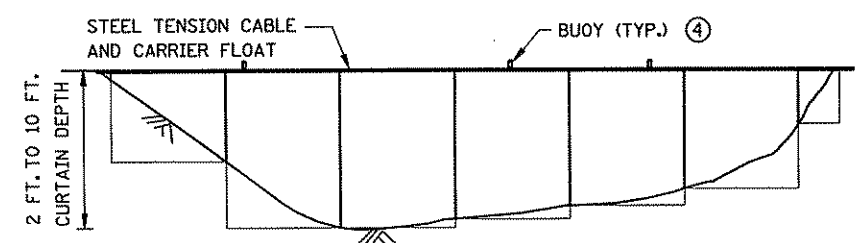
SECTION Z-Z TEMPORARY ROCK BERM FOR SEDIMENT CONTROL



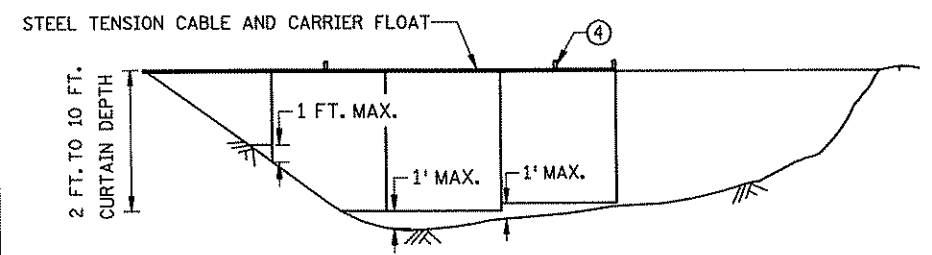
SECTION Y-Y



SECTION X-X



FLOTATION SILT CURTAIN - TYPE: WORK AREA AND STILL WATER  
FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS



FLOTATION SILT CURTAIN - TYPE: MOVING WATER  
USE FOR SMALLER RIVERS WITH SLOW AND MODERATE VELOCITIES

**DESIGN GUIDELINES: MOVING WATER**  
WHEN TEMPORARY FILL ENCLOSES MORE THAN 1/4 BUT LESS THAN 1/3 WIDTH OF THE STREAM.  
MINIMUM WATER DEPTH: 3 FT.  
MAXIMUM WATER DEPTH: 11 FT.  
MAXIMUM WATER VELOCITY: 5 FT./SEC.

**DESIGN GUIDELINES: WORK AREA**  
WHEN TEMPORARY FILL ENCLOSES LESS THAN 1/4 OF THE WIDTH OF STREAM.  
MINIMUM WATER DEPTH: 10 FT.  
MAXIMUM WATER VELOCITY: 5 FT./SEC.

**DESIGN GUIDELINES: STILL WATER**  
MINIMUM WATER DEPTH: 0 FT.  
MAXIMUM WATER DEPTH: 10 FT.

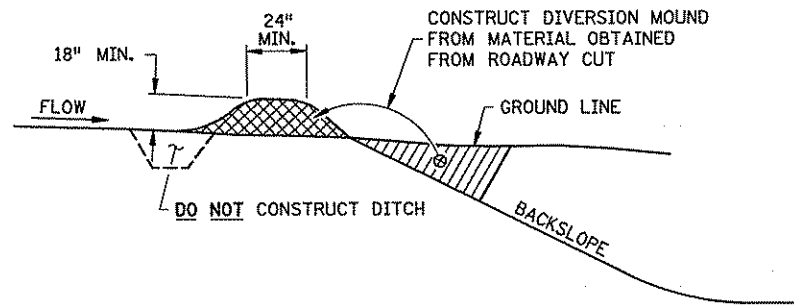
**NOTES:**

- SEE SPECS. 2573 & 3887.
- ① CURTAIN EXTENDS TO 1 FT. MAXIMUM FROM BOTTOM OF WATER BODY.
- ② FOR ANCHOR AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.
- ③ IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT THE BRIDGE, A TEMPORARY ROCK BERM WILL BE USED TO PROVIDE ADDITIONAL PROTECTION. THE TEMPORARY ROCK BERM IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.
- ④ ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.
- ⑤ WATER DEPTH CAN BE 0 TO 10 FEET, 0 TO 11 FEET FOR TYPE MOVING WATER.
- ⑥ SILT CURTAIN HEIGHT INCLUDES MAXIMUM WAVE HEIGHT FOR WATER BODY.
- ⑦ KEEP AS CLOSE TO WORK AREA AS POSSIBLE.
- ⑧ SILT CURTAIN, ROCK BERM OR SHEET PILE AS REQUIRED TO CONTROL THE INFILTRATION OF SILT.
- ⑨ IF 6 INCHES OR LESS OF WATER, USE BALE BARRIERS, SEE SHEET 2.

FILE NAME:  
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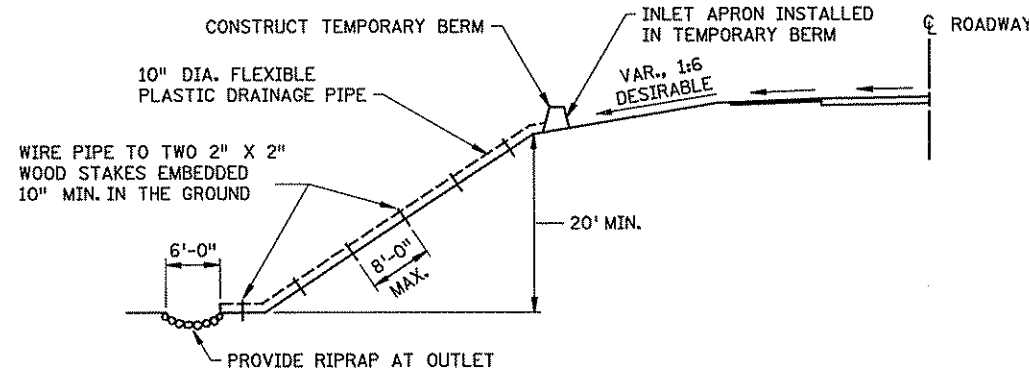
S.P. 002-716-011 S.P. 199-020-008	STANDARD SHEET NO. 5-297.405 (1 OF 4)	TITLE TEMPORARY SEDIMENT CONTROL SILT CURTAIN
	STANDARD APPROVED: SEPTEMBER 27, 2006	
		SHEET NO.1560F 264 SHEETS

PLOTTED/REVISED: 04/14/2011



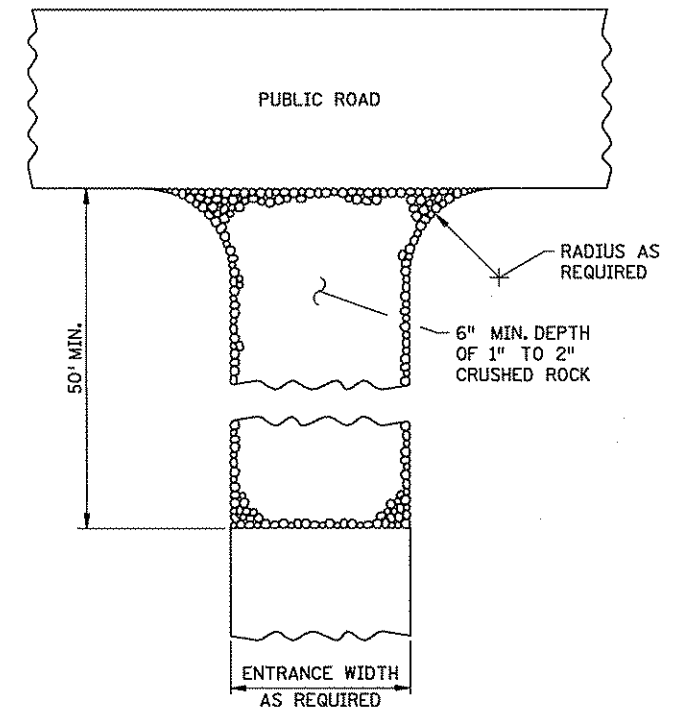
**DIVERSION MOUND**

**DESIGN GUIDELINES:**  
 STORM FREQUENCY: 10 YEAR - 24 HOUR  
 MAXIMUM DRAINAGE AREA: 5 ACRES  
 MAXIMUM DIVERSION: GRADE 5%

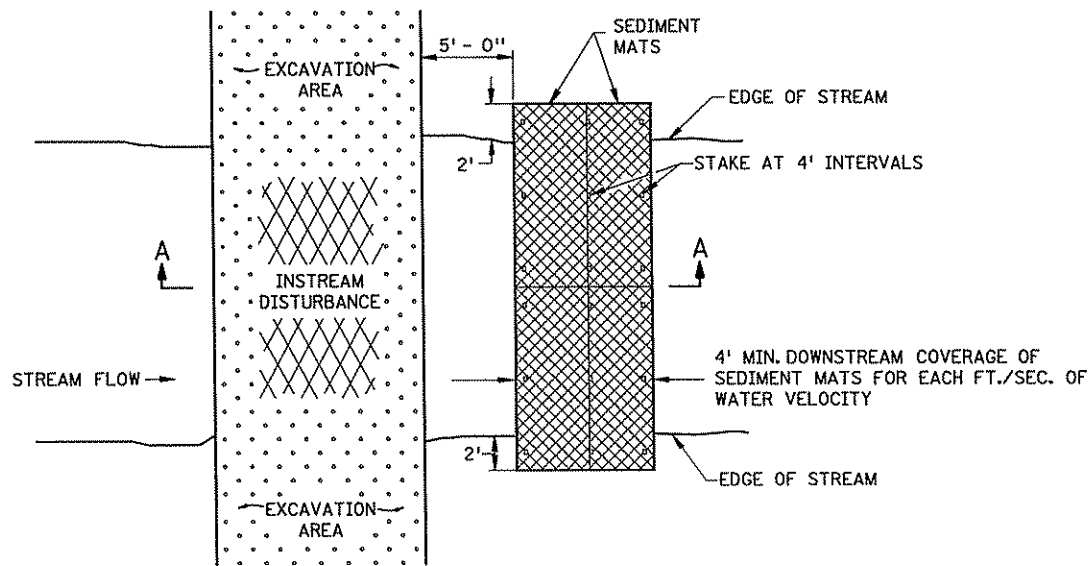


**TEMPORARY DOWN DRAIN ON FILL SLOPE**

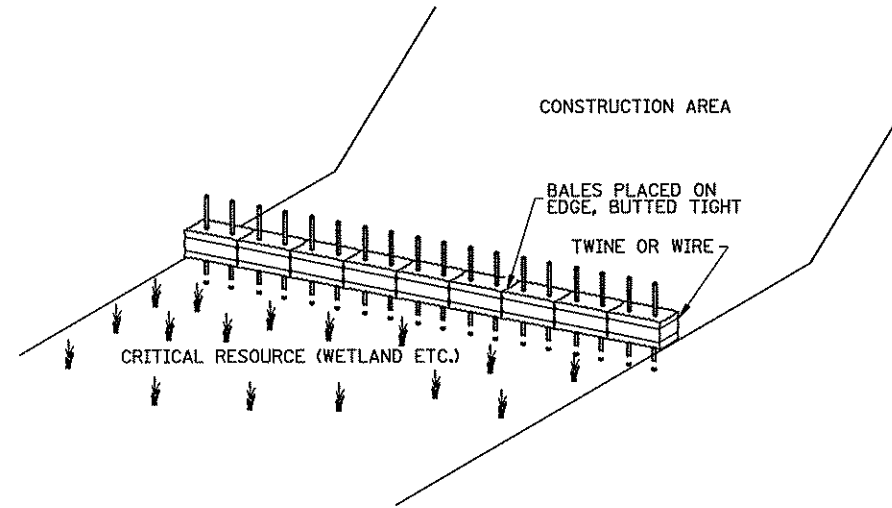
**DESIGN GUIDELINES:**  
 STORM FREQUENCY: 2 YEAR - 24 HOUR  
 MAXIMUM DRAINAGE AREA: 3 ACRES



**ROCK CONSTRUCTION ENTRANCE ①**

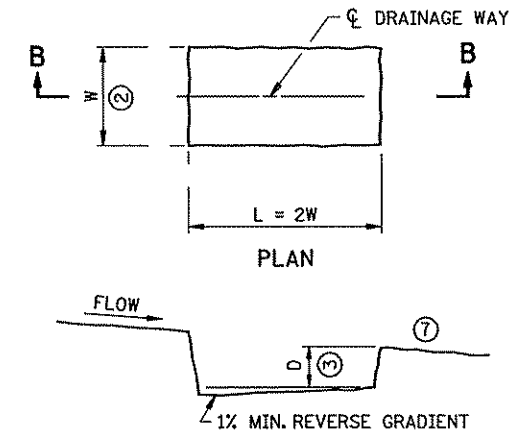


**PLAN VIEW**

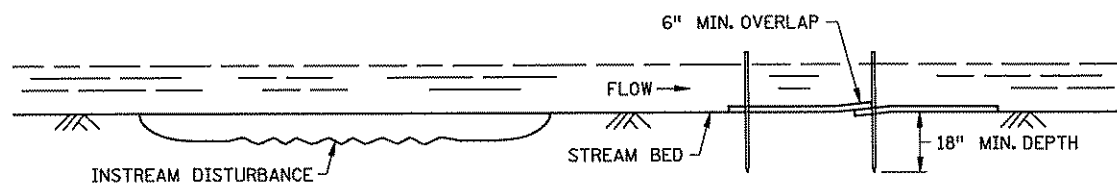


**BALE BARRIERS**

TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS



**SECTION B-B  
SEDIMENT TRAP DETAIL**

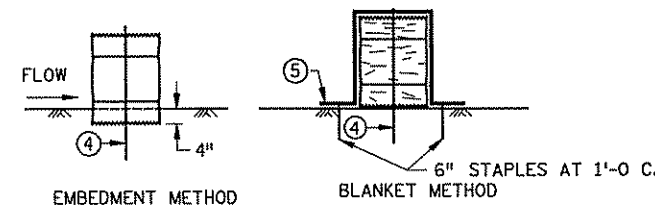


**SECTION A-A**

**SEDIMENT MAT ⑥**

TYPICAL STREAM BED INSTALLATION

**DESIGN GUIDELINES:**  
 MAXIMUM FLOW VELOCITY: 5 FT./SEC.  
 MAXIMUM FLOW DEPTH: 2 FT.



**BALE BARRIER DETAIL**

APPROX. BALE SIZE: 14" X 18" X 36" LONG

**NOTES:**

SEE SPECS. 2573, 3892, & 3894.

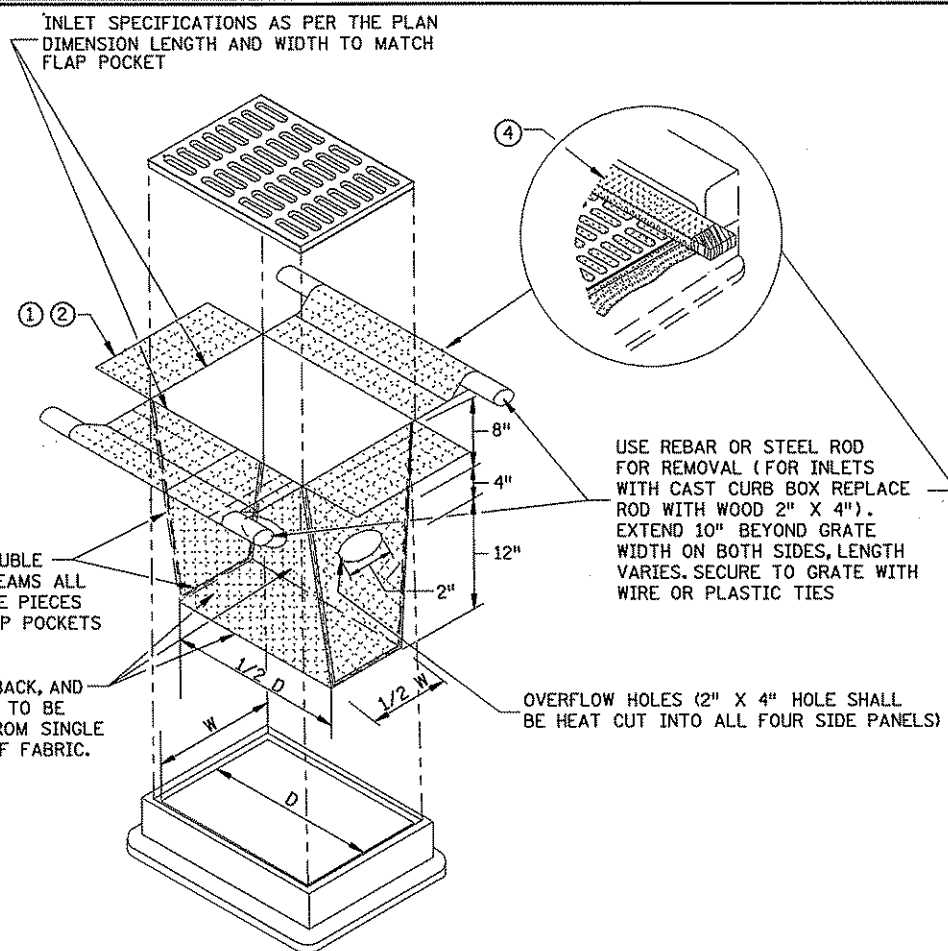
- ① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE TRUCKS ENTER MAIN ROAD. KEEPING MUD OFF THE ROAD WILL PREVENT AUTO DAMAGE AND KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS. GEOTEXTILE MAY BE PLACED UNDER THE ROCK TO KEEP ROCKS SEPARATE FROM SOIL.
- ② W = 10 FT. MIN., 20 FT. MAX.
- ③ D = 2 FT.
- ④ TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE EMBEDDED 10 INCHES MINIMUM IN THE GROUND.
- ⑤ PLACE A CATEGORY 3 EROSION CONTROL BLANKET, 6 FT. WIDE MINIMUM, OVER THE BALE INSTEAD OF TRENCHING.
- ⑥ THIS DETAIL MAY NOT BE ACCEPTABLE FOR WORK ON PUBLIC WATERS, SEE GENERAL PUBLIC WATERS PERMIT (GP) 2004-0001.
- ⑦ LOCATION OF DOWNSTREAM TEMPORARY SEDIMENT CONTROL DEVICE.

FILE NAME: p:\02-716-11\plan\5-297.405.2.spn.dgn

S.P. 002-716-011 S.P. 199-020-008	STANDARD SHEET NO. 5-297.405 ( 2 of 4 )	TITLE:
	STANDARD APPROVED: SEPTEMBER 27, 2006	TEMPORARY SEDIMENT CONTROL MISCELLANEOUS DETAILS
SHEET NO. 157 OF 264 SHEETS		

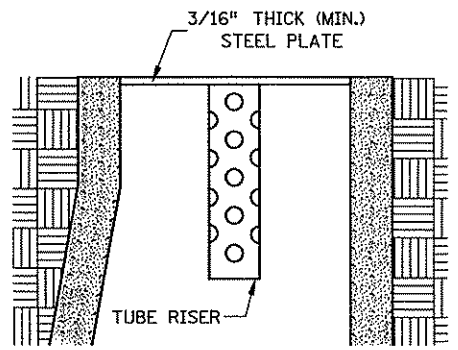
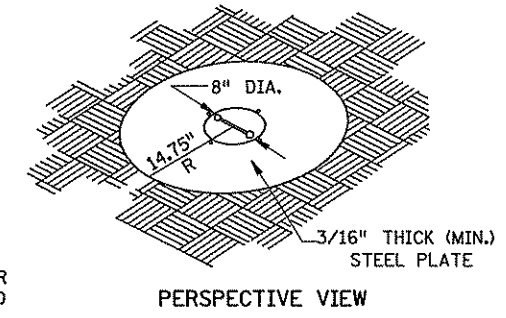
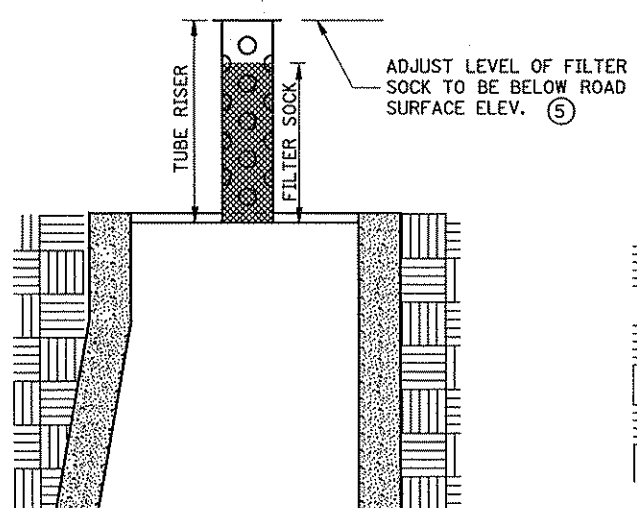
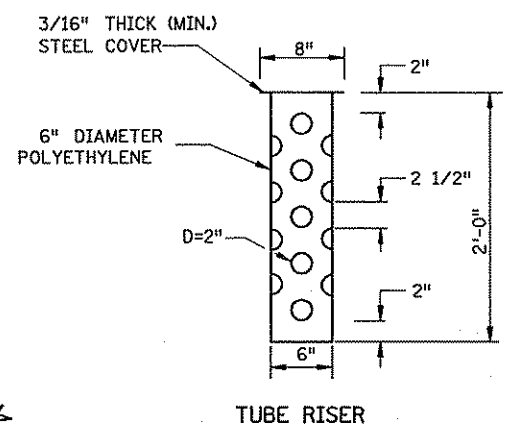
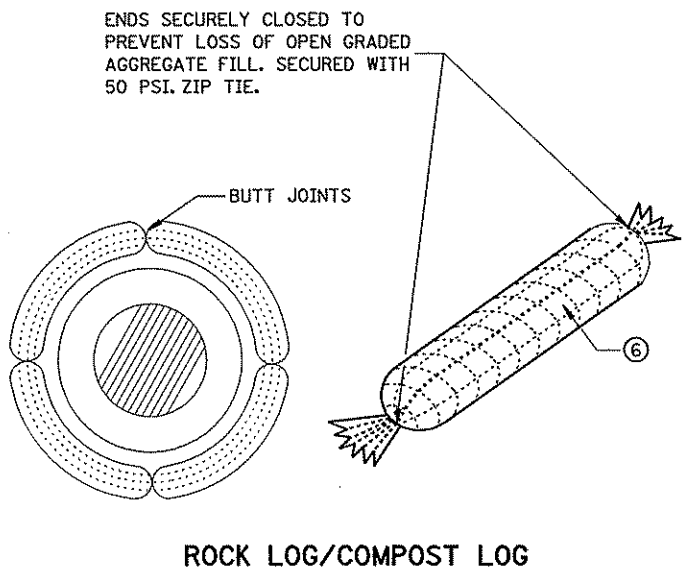
PLOTTED/REVISED: 04/14/2011

FILE NAME: D:\02-716-11\plan\5-297.405-4\_spn.dgn

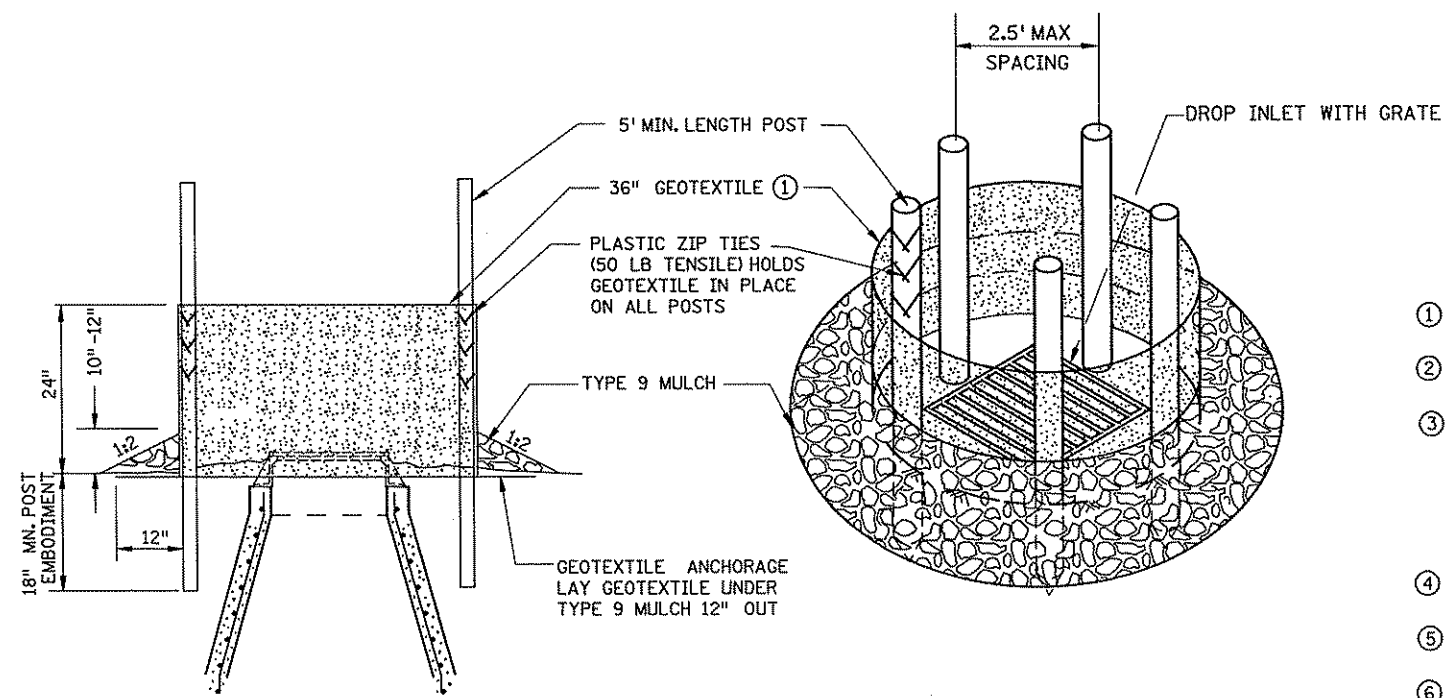


**FILTER BAG INSERT ③**

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)

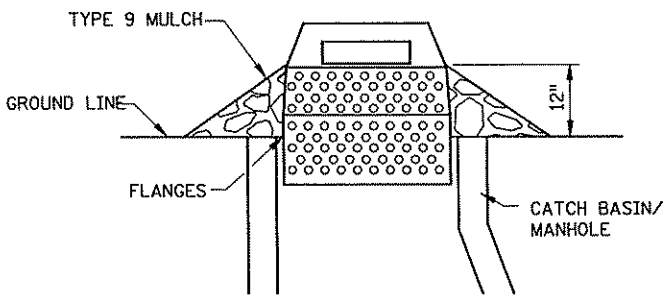


**POP-UP HEAD**



**NOTES:**

- SEE SPECS. 2573, 3137, 3886 & 3891.
- MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:  
DO NOT INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.



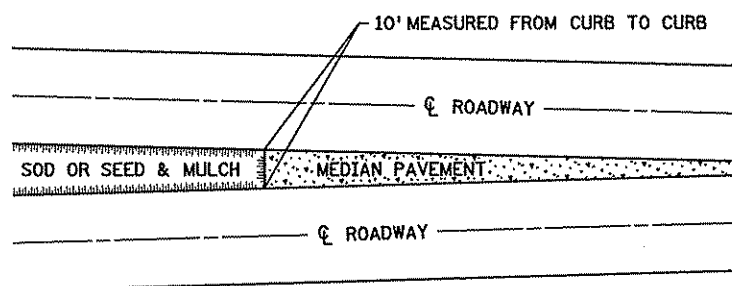
**SEDIMENT CONTROL INLET HAT**

NOTE:  
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.

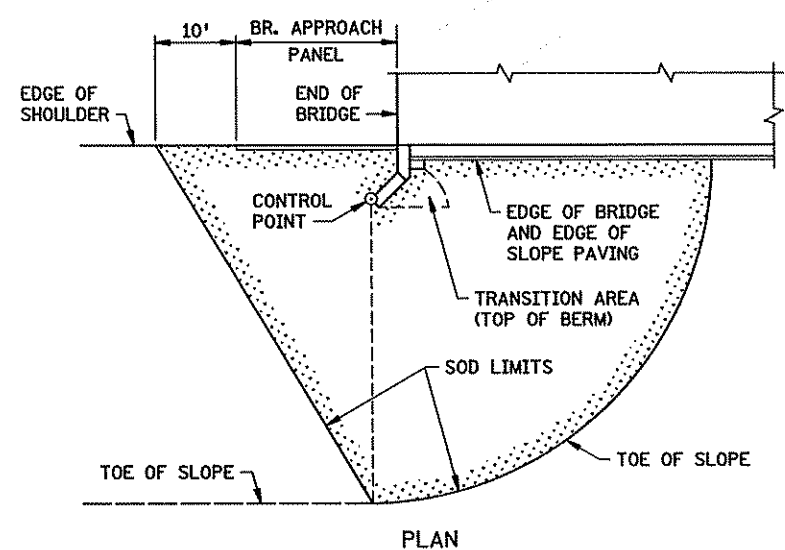
**SILT FENCE RING AND ROCK FILTER BERM**  
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

S.P. 002-716-011 S.P. 199-020-008	STANDARD SHEET NO. 297.405 (4 OF 4)	TITLE: <b>TEMPORARY SEDIMENT CONTROL STORM DRAIN INLET PROTECTION</b>
	STANDARD APPROVED: SEPTEMBER 27, 2006	
<b>SHEET NO. 158 OF 264 SHEETS</b>		

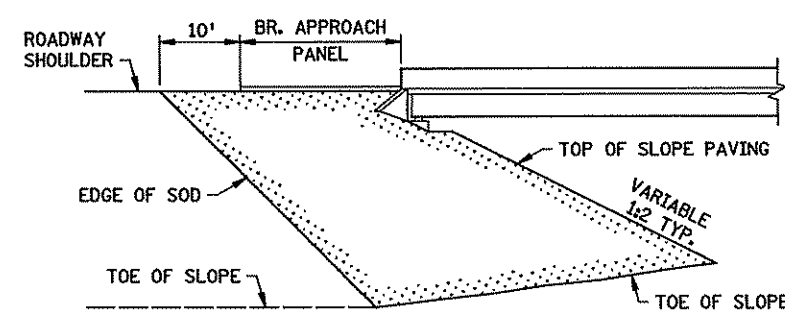
PLOTTED/REVISED: 04/14/2011



SODDING LIMITS AT GORE AREA

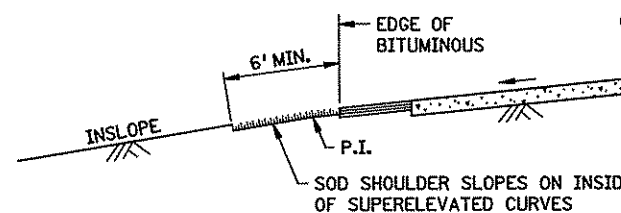


PLAN

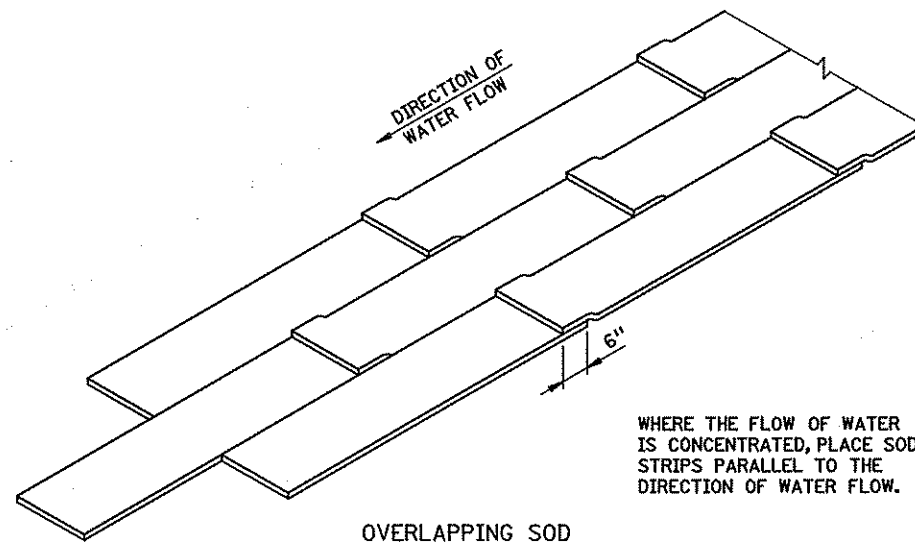


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

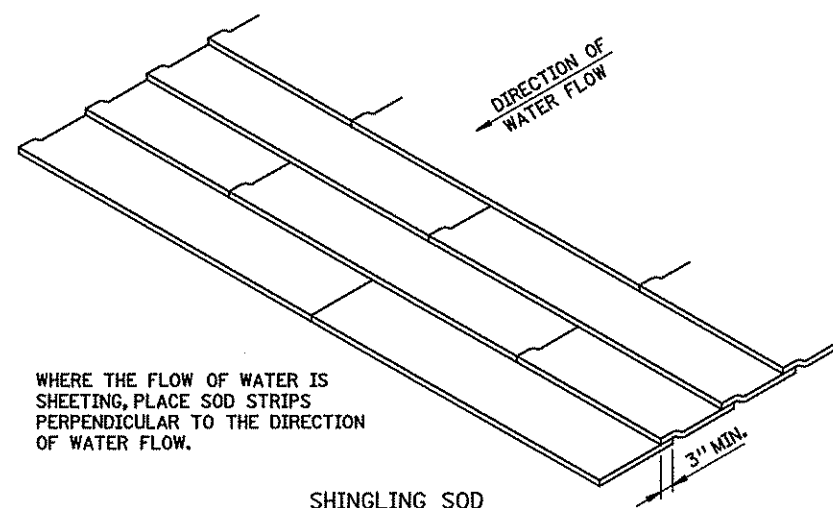


SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

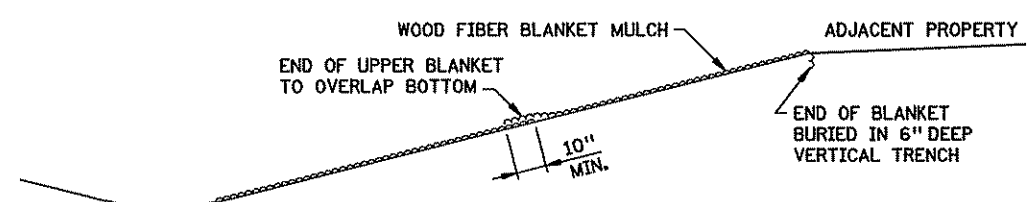
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.



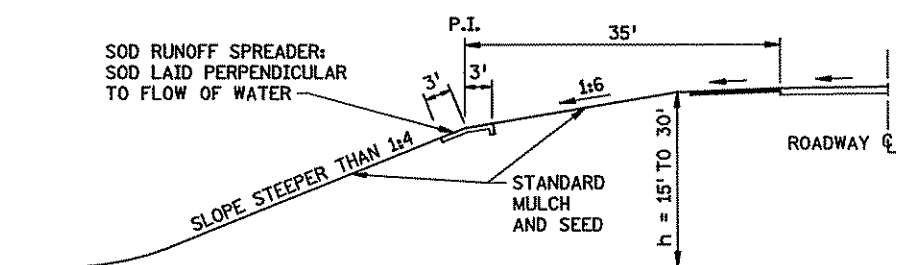
SHINGLING SOD

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

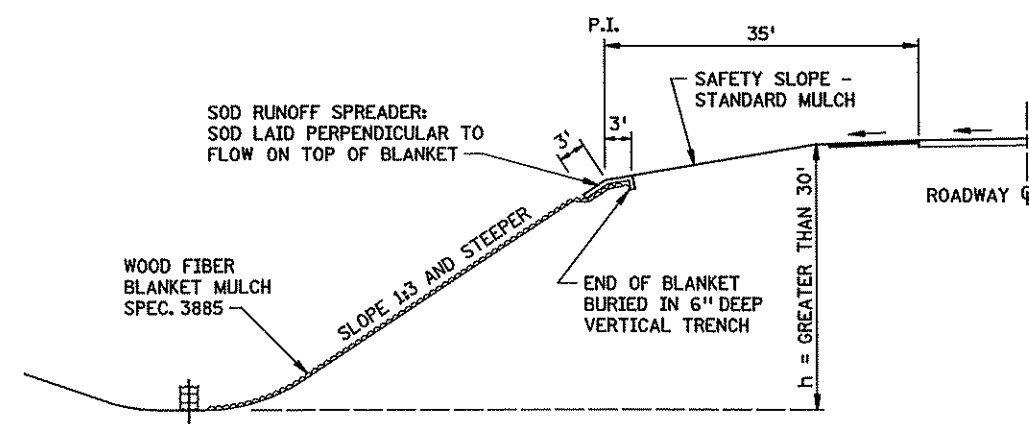
SPECIAL SOD PLACEMENT TECHNIQUES



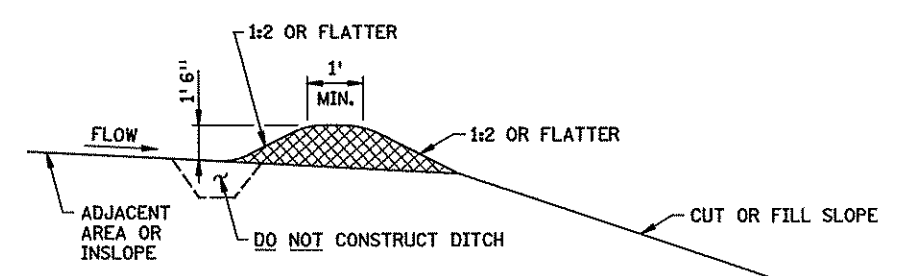
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)

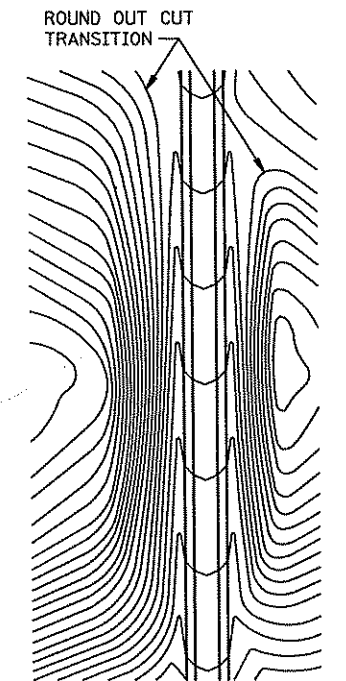


PERMANENT SLOPE PROTECTION DIKE

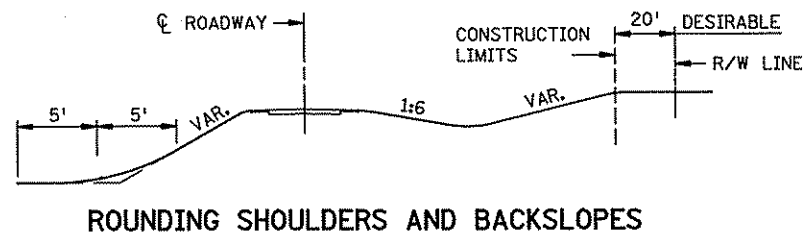
FILE NAME: p:\02-716-11\plan\5-297.406\_spn.dgn

S.P. 02-716-11 S.P. 199-020-008	STANDARD SHEET NO. 5-297.406	TITLE: <b>PERMANENT EROSION CONTROL</b> ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
	STANDARD APPROVED: JANUARY 31, 1985	
	REVISION DATE 10-26-2000	
SHEET NO. 159 OF 264 SHEETS		

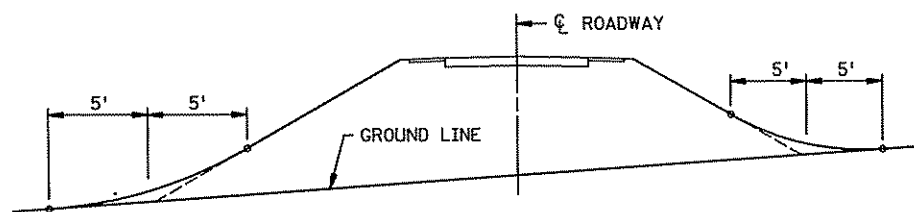
PLOTTED/REVISED: 04/14/2011



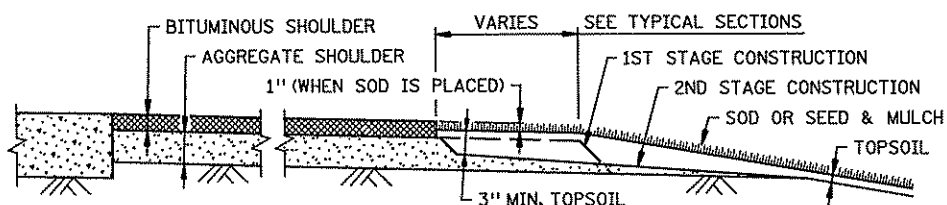
CONTOURING ROAD CUTS



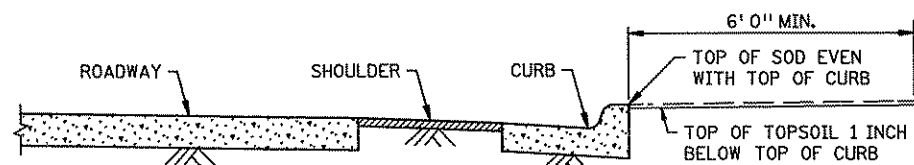
ROUNDING SHOULDERS AND BACKSLOPES



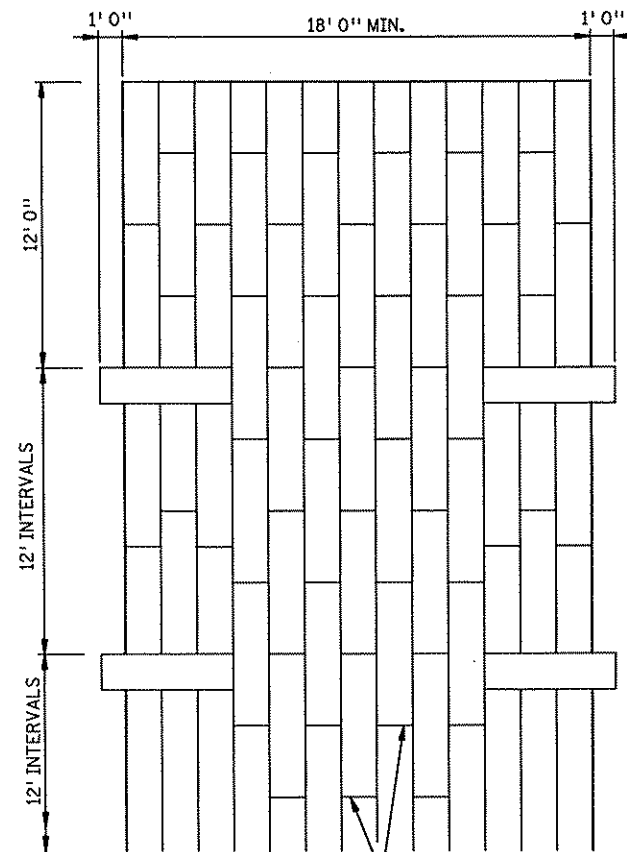
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



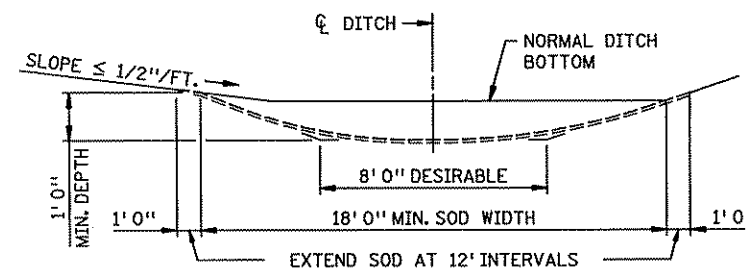
SHAPING AND TOPSOILING INSLOPES



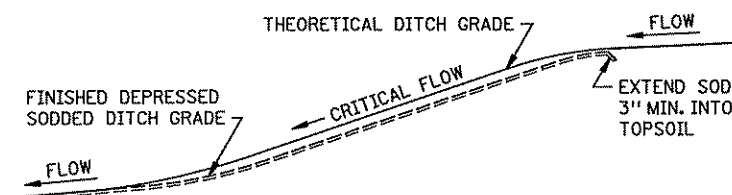
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



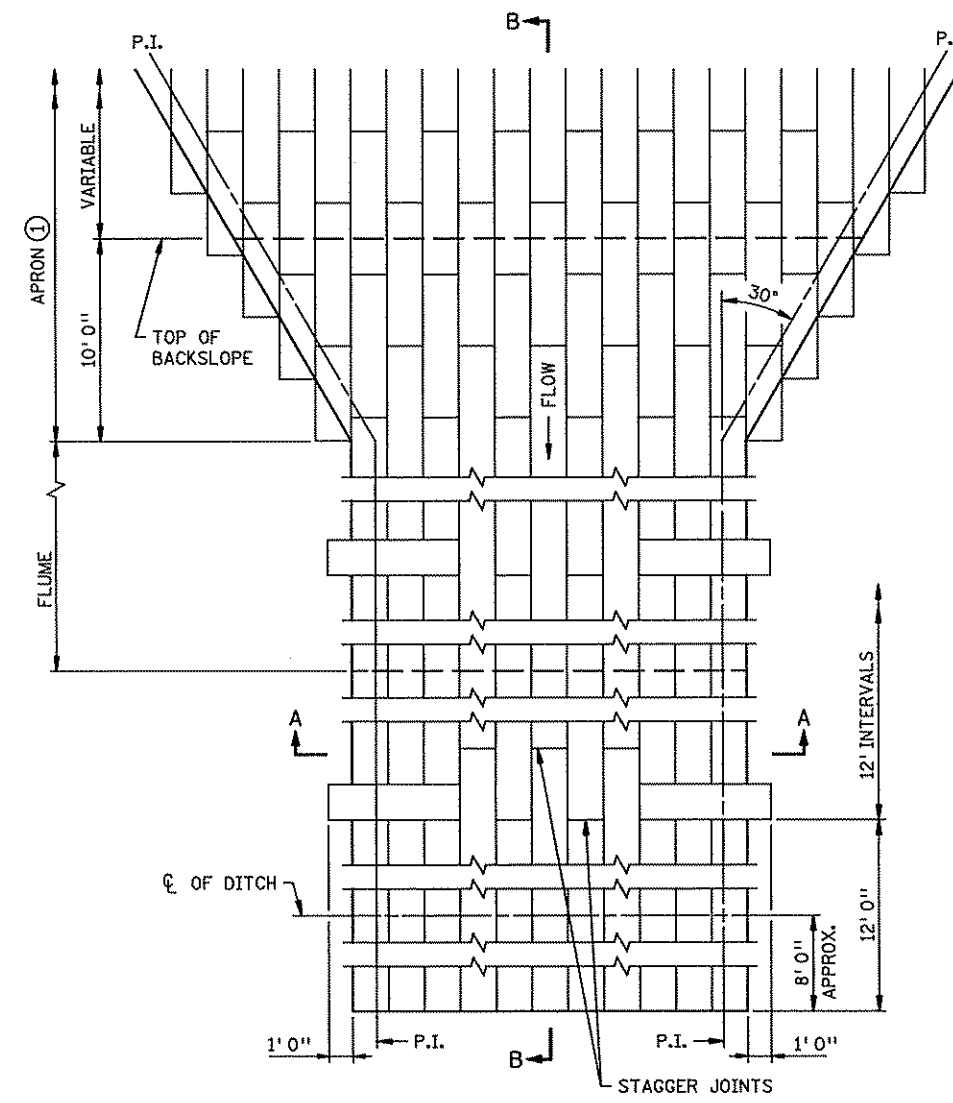
SODDED DITCH CROSS SECTION  
PLAN VIEW



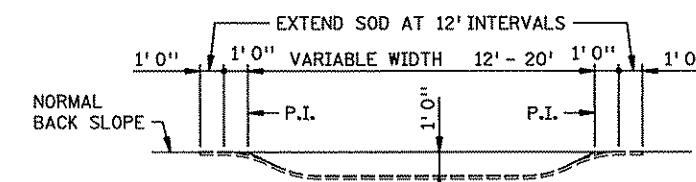
SODDED DITCH CROSS SECTION  
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.),  
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



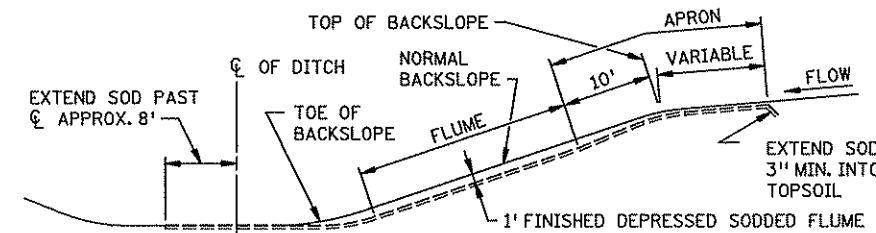
SODDED DITCH DETAILS



SODDED FLUME DETAILS  
PLAN VIEW



SODDED FLUME DETAILS  
SECTION A-A



SODDED FLUME DETAILS  
SECTION B-B

**NOTES:**  
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.  
① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.




S.P. 002-716-011  
S.P. 199-020-008

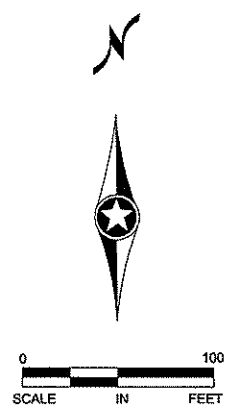
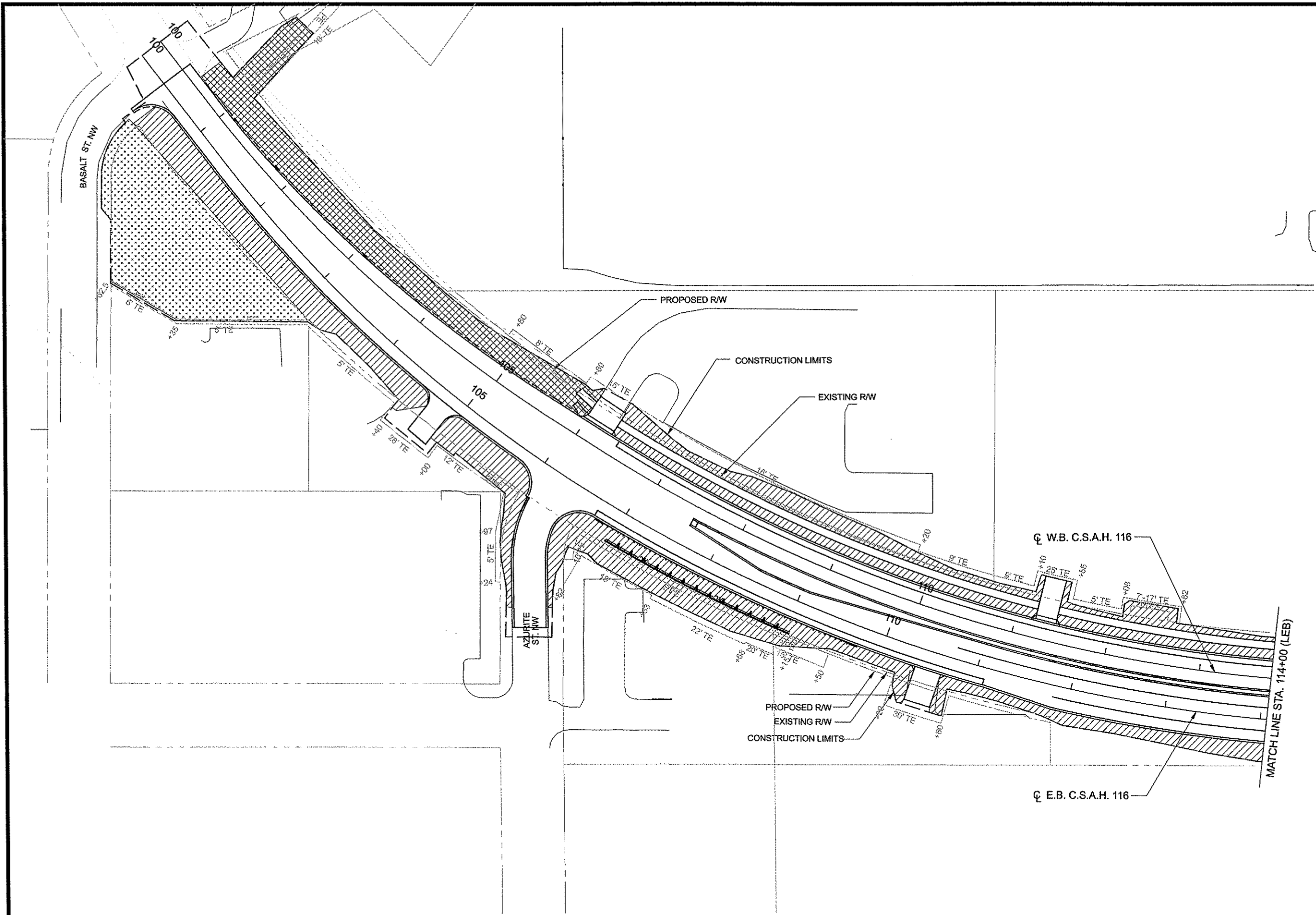
STANDARD SHEET NO.  
5-297.404  
STANDARD APPROVED:  
NOVEMBER 20, 2002

TITLE:  
**PERMANENT EROSION CONTROL**  
ALONG ROADWAYS, DITCHES AND FLUMES

FILE NAME: p:\02-716-11\plan\5-297.404\_spn.dgn



LEGEND	
	SODDING TYPE SALT RESISTANT 22-5-10 TYPE 3 FERTILIZER
	SEEDING MIX 310 18-1-8 TYPE 4 FERTILIZER
	SEEDING MIX 350 18-1-8 TYPE 4 FERTILIZER



1 OF 6

1	4/12/11	BAV	JEO	CAK	UPDATED SHEET LAYOUT
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_TE1.dgn					04/13/2011 8:41:34 AM

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.

PRINT NAME: CURT KOBLARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011






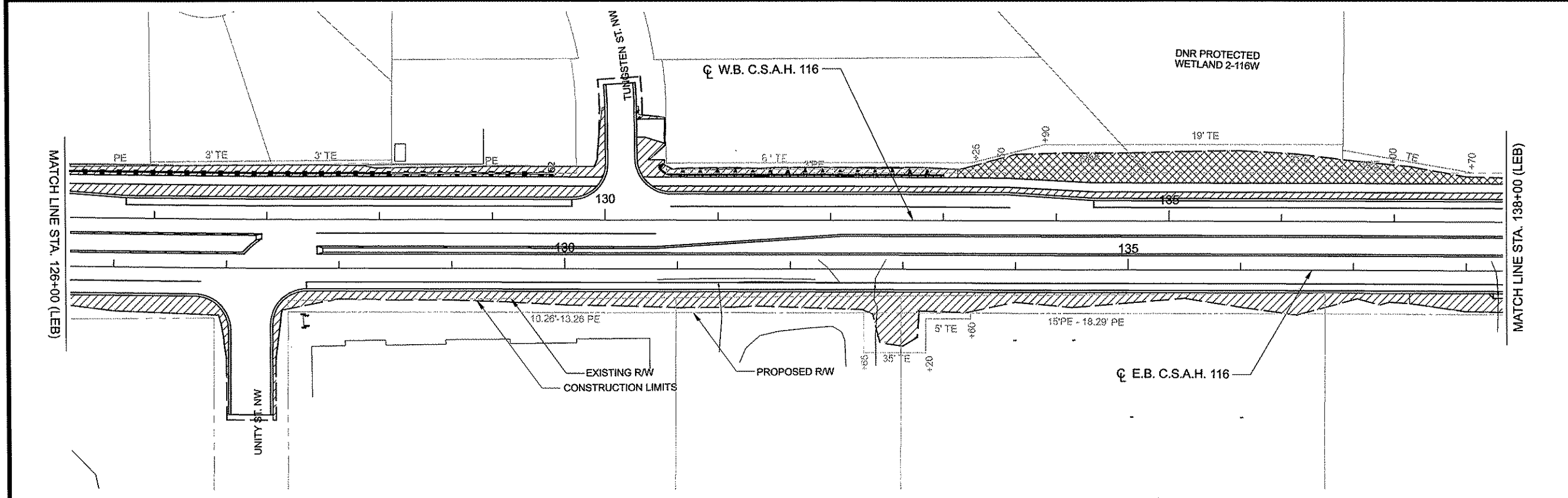
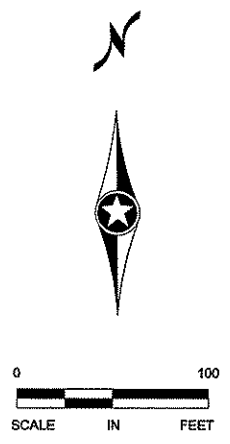
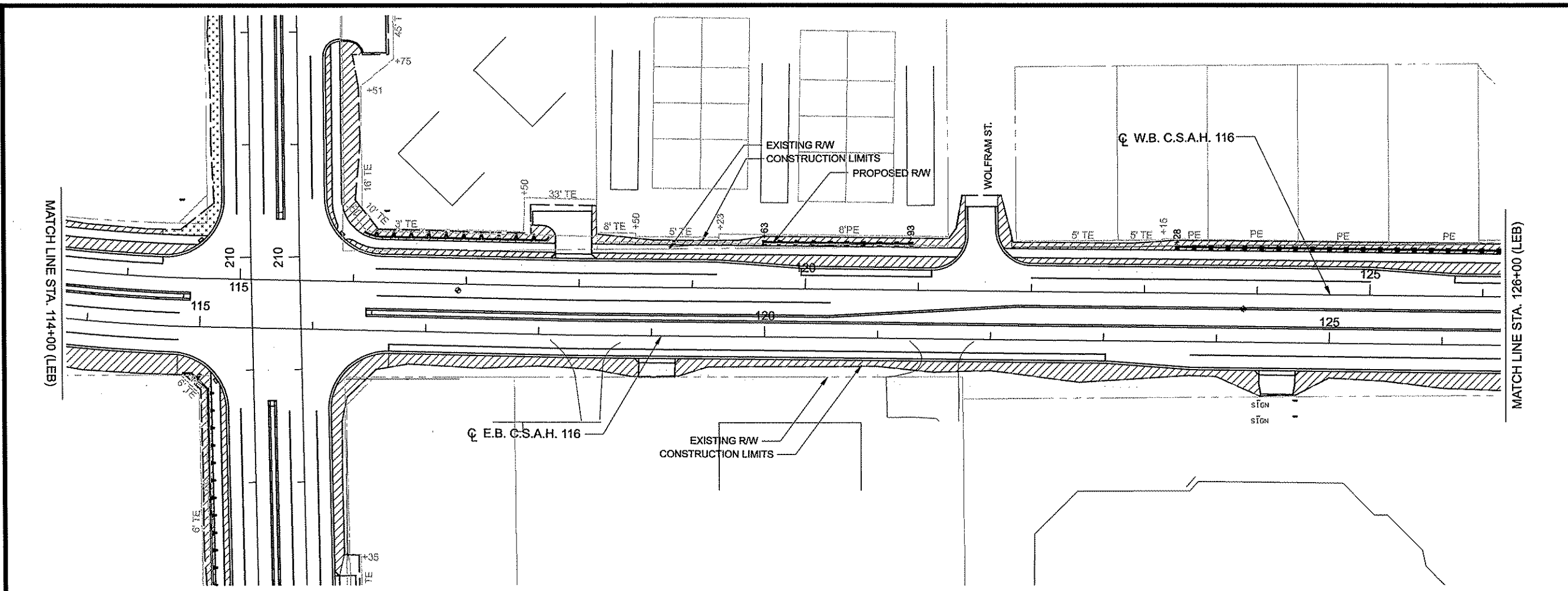
**ANOKA COUNTY  
HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

**TURF ESTABLISHMENT**  
 STA 100+37.00 TO 114+00.00  
 Sheet 161 of 264 Sheets

**LEGEND**

	SODDING TYPE SALT RESISTANT 22-5-10 TYPE 3 FERTILIZER
	SEEDING MIX 310 18-1-8 TYPE 4 FERTILIZER
	SEEDING MIX 350 18-1-8 TYPE 4 FERTILIZER



2 OF 6

1	4/12/11	BAV	JEO	CAK	UPDATED HATCHING
NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_TE2.dgn					04/13/2011 8:41:38 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 4-14-11 LICENSE NO. 24758

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011


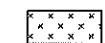



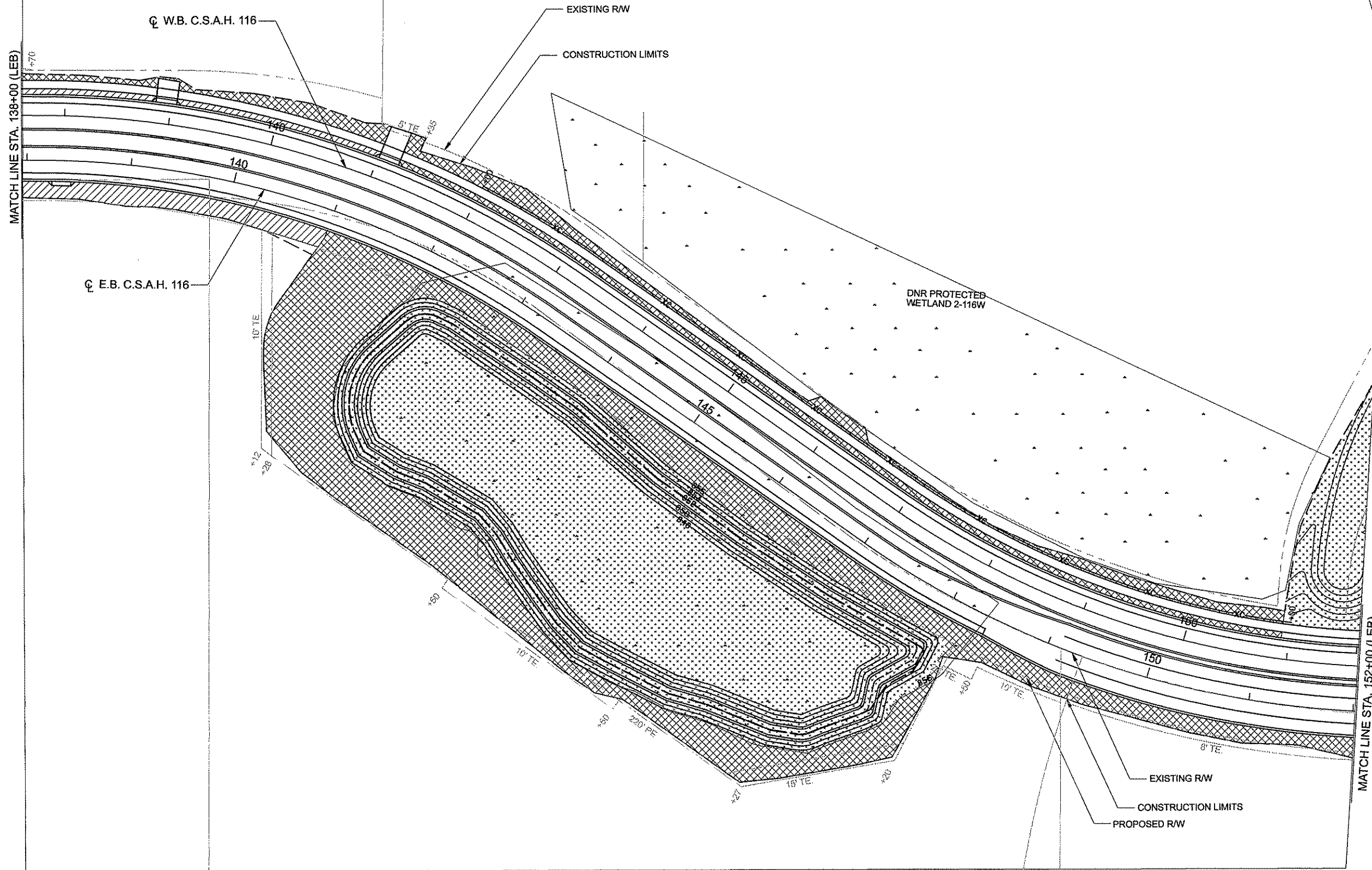
**ANOKA COUNTY  
HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

**TURF ESTABLISHMENT**  
 STA 114+00.00 TO 138+00.00  
 Sheet 162 of 264 Sheets

LEGEND

-  SODDING TYPE SALT RESISTANT  
22-5-10 TYPE 3 FERTILIZER
-  SEEDING MIX 310  
18-1-8 TYPE 4 FERTILIZER
-  SEEDING MIX 350  
18-1-8 TYPE 4 FERTILIZER



3 OF 6

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_TE3.dgn					

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.

PRINT NAME: CURT KOBIARCSIK

SIGNATURE: *Curt Kobiarcsik*

DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAY DATE: 02/23/2011

DESIGN BY: MN DATE: 02/23/2011




CHECKED BY: SAK DATE: 02/23/2011

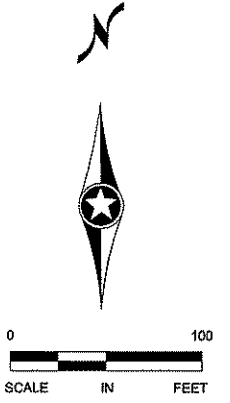
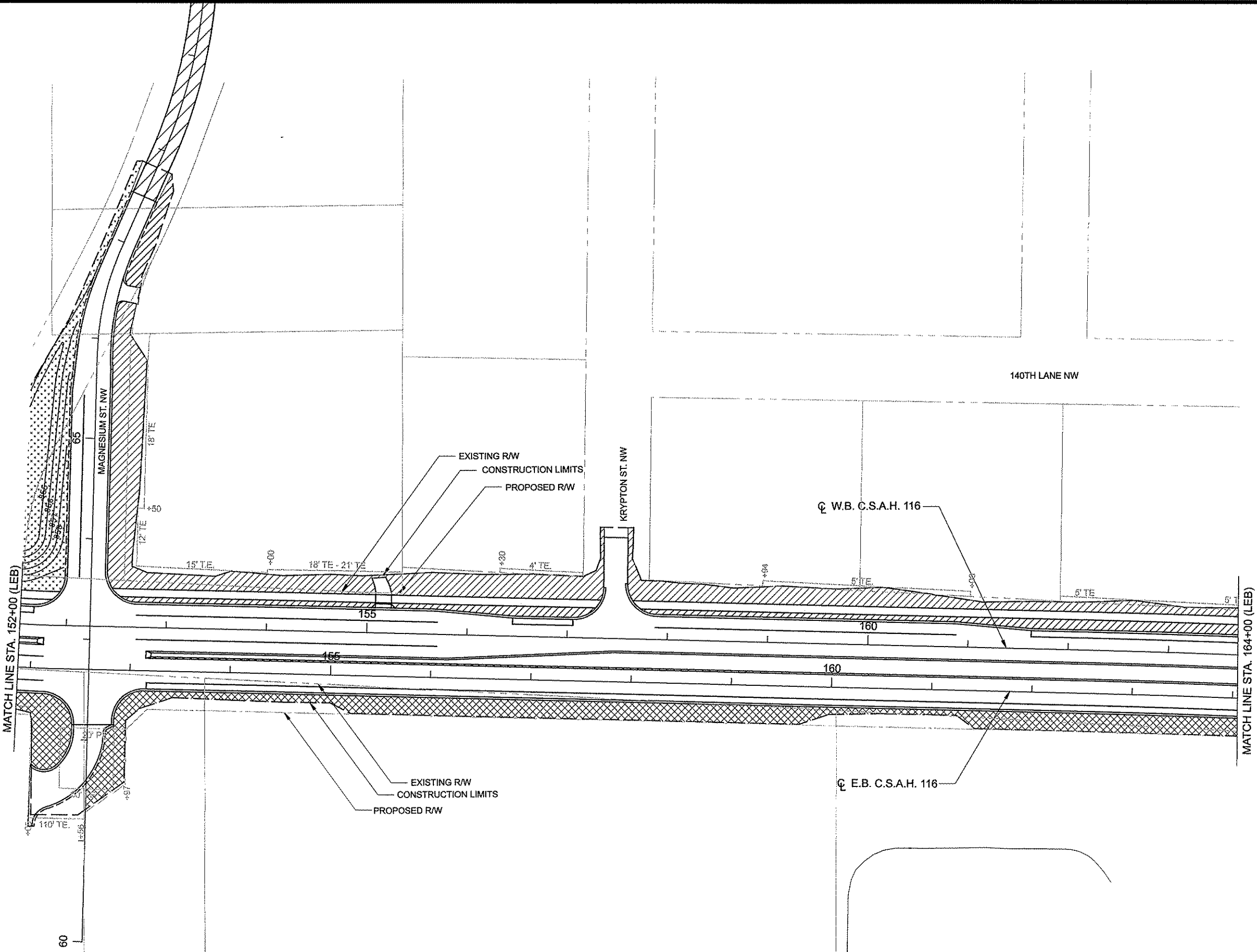


ANOKA COUNTY  
HIGHWAY DEPT.

S.P. 002-716-011  
S.P. 199-020-008

TURF ESTABLISHMENT  
STA 138+00.00 TO 152+00.00  
Sheet 163 of 264 Sheets

LEGEND	
	SODDING TYPE SALT RESISTANT 22-5-10 TYPE 3 FERTILIZER
	SEEDING MIX 310 18-1-8 TYPE 4 FERTILIZER
	SEEDING MIX 350 18-1-8 TYPE 4 FERTILIZER



4 OF 6

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_TE4.dgn					

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarsik*  
 DATE: 2-24-11 LICENSE NO. 24758




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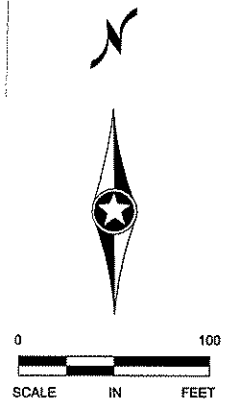
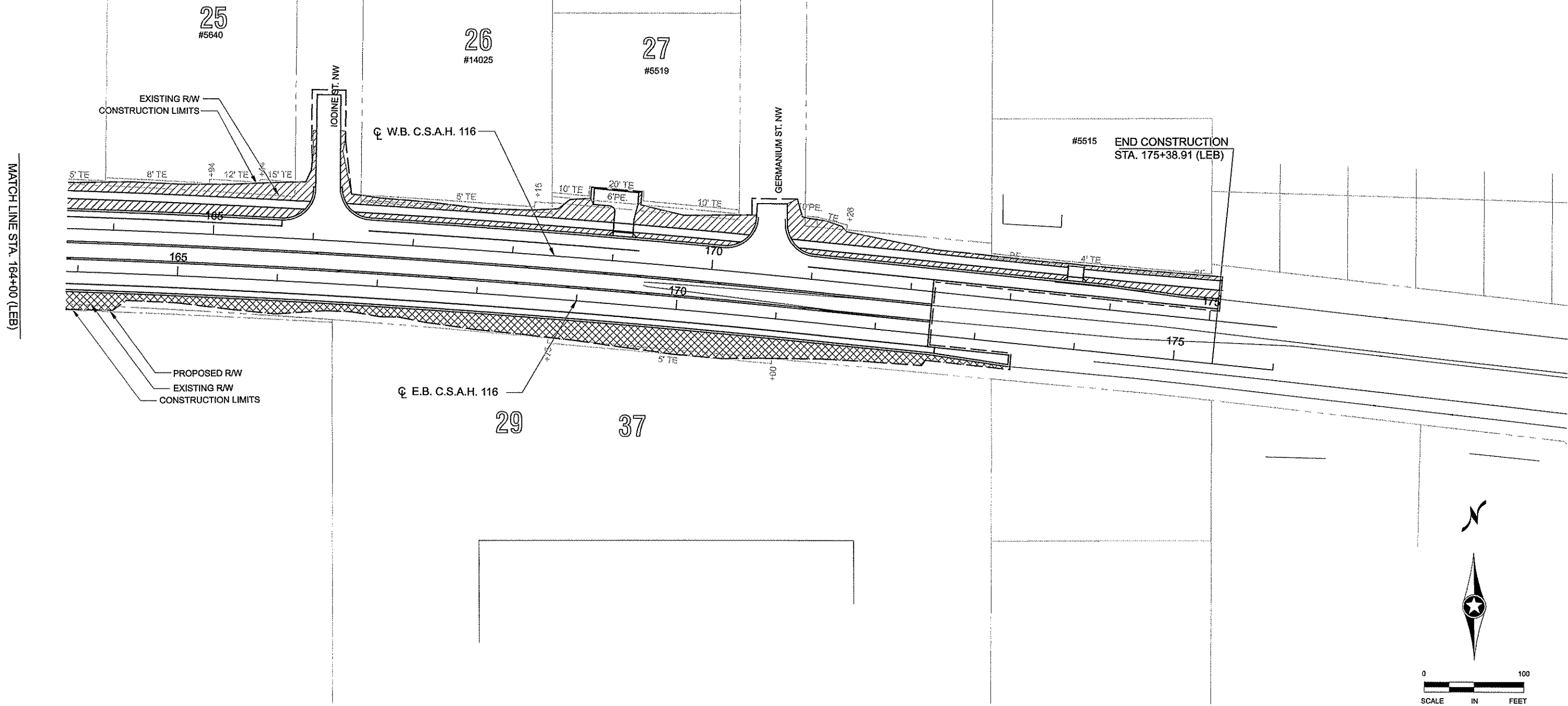


**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

**TURF ESTABLISHMENT**  
 STA 152+00.00 TO 164+00.00  
 Sheet 164 of 264 Sheets

LEGEND	
	SODDING TYPE SALT RESISTANT 22-5-10 TYPE 3 FERTILIZER
	SEEDING MIX 310 18-1-8 TYPE 4 FERTILIZER
	SEEDING MIX 350 18-1-8 TYPE 4 FERTILIZER



5 OF 6

NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_TE5.dgn					

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.

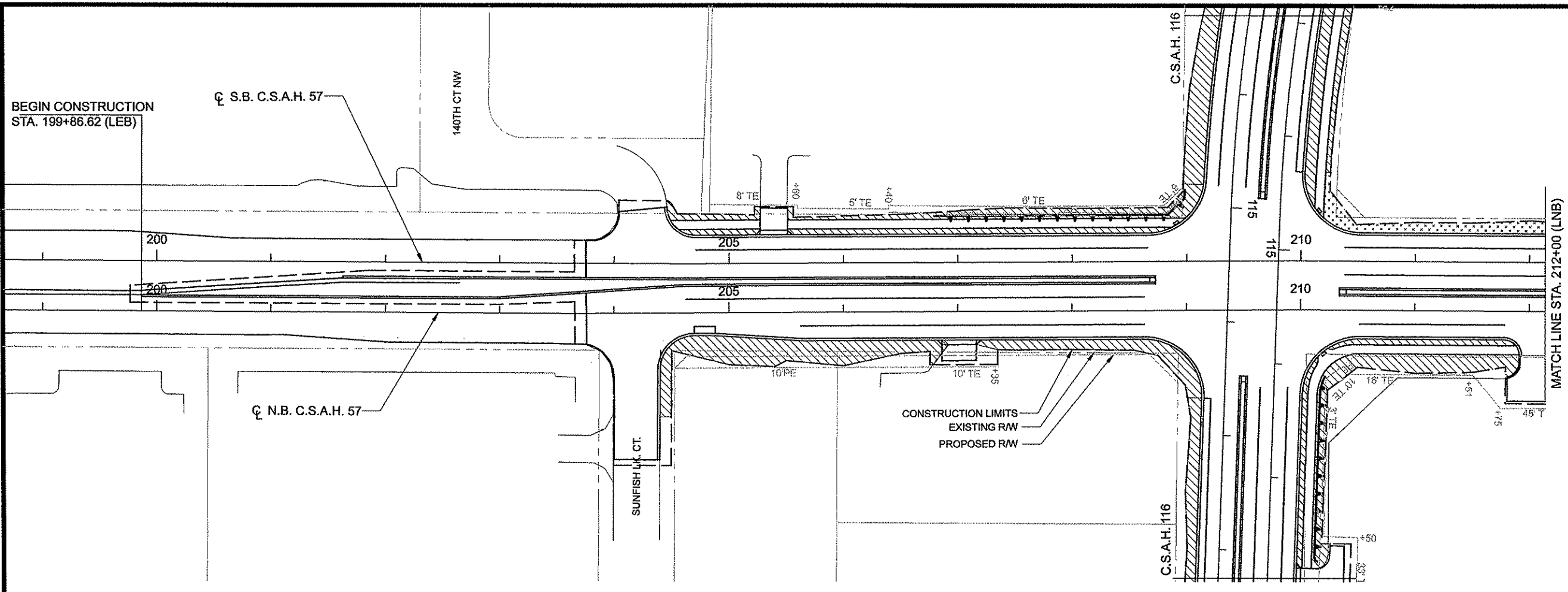
PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarsik*  
 DATE: 2-24-11 LICENSE NO. 24756

DRAWN BY: BAY DATE: 02/24/2011  
 DESIGN BY: MN DATE: 02/24/2011  
 CHECKED BY: CAK DATE: 02/24/2011

 ANOKA COUNTY  
HIGHWAY DEPT.

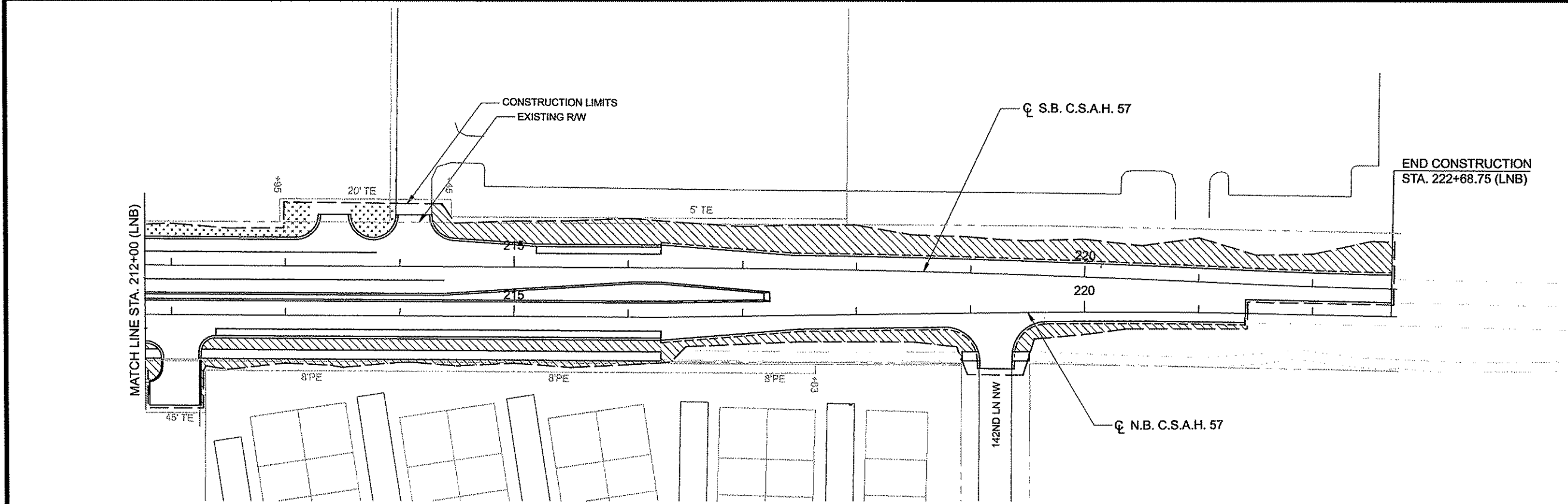
S.P. 002-716-011  
 S.P. 199-020-008

TURF ESTABLISHMENT  
 STA 164+00.00 TO 175+38.91  
 Sheet 165 of 264 Sheets



**LEGEND**

	SODDING TYPE SALT RESISTANT 22-5-10 TYPE 3 FERTILIZER
	SEEDING MIX 310 18-1-8 TYPE 4 FERTILIZER
	SEEDING MIX 350 18-1-8 TYPE 4 FERTILIZER



1	4/12/11	BAV	JEO	CAK	UPDATED SHEET LAYOUT
NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:\02-716-11\plan\0271611_TE6.dgn					04/13/2011 8:41:42 AM

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.

PRINT NAME: CURT KOBIARCSIK  
 SIGNATURE: *Curt Kobiarcsik*  
 DATE: 4-14-11 LICENSE NO. 24756

DRAWN BY: BAV DATE: 04/13/2011  
 DESIGN BY: MN DATE: 04/13/2011  
 CHECKED BY: CAK DATE: 04/13/2011



**ANOKA COUNTY  
HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

**TURF ESTABLISHMENT**  
 STA 199+86.62 TO 222+68.75  
 Sheet 166 of 264 Sheets

# STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Project Description

SP 02-716-11 consists of grading, bituminous surfacing, and storm sewer modifications. This project is located in the cities of Ramsey and Anoka in Anoka County. Construction activities include excavation and grading for an eastward expansion of CSAH 116 as well as a traffic signal installation at the intersection of CSAH 116 and CSAH 57. The main receiving water from this project will be the Mississippi River.

Site Maps

In addition to what is located within this plan, existing and proposed site maps have been created and kept on file with the Anoka County Highway Department. The site maps are roll maps that show project limits, alignment, soil types, existing and proposed contours, drainage areas, storm sewer locations, flow arrows, and impervious surface. If applicable, impaired waters and wetlands are also shown.

Environmentally Sensitive Areas

Wetlands are impacted within the project limits, however none has been identified as Impaired or Special Waters, thus no wetlands have been identified as Environmentally Sensitive.

Outstanding Resource Value Waters

There are no outstanding resource value waters within the project limits.

Calcareous Fens

There are no calcareous fens within the project limits

TMDL Implementation Plans Containing Storm Water Requirements

No TMDL Implementation Plans currently exist for the receiving waters on this project.

Land Feature Changes

Total Project Area Disturbed:	31.8 acres
Total Existing Impervious Surface:	10.6 acres
Total Existing Pervious Surface:	21.2 acres
Total Proposed Impervious Surface:	20 acres
Total Proposed Pervious Surface:	11.8 acres

Timing of BMP Installation

The erosion prevention and sediment control BMP's shall be installed as necessary to minimize erosion from disturbed surfaces and capture sediment on site, and shall meet the NPDES Permit Part IV Construction Activity Requirements. All silt fence used for containment shall be installed prior to grading operations.

Drainage Calculations

Computations are kept on file with the Anoka County Highway Department. Changes in the field should be discussed with the Project Manager and noted in the Contractor's log.

Project Contacts

The Project Engineer and the Contractor are responsible for implementation of the SWPPP and the installation, inspection, and maintenance of the erosion prevention and sediment control BMPs before and during construction. Anoka County and the Cities of Ramsey and Anoka are responsible for long term operation and maintenance of the permanent storm water management system.

Anoka County Project Manager:  
Douglas W Fischer, PE  
Anoka County Engineer  
1440 Bunker Lake Boulevard NW  
Andover, MN 55304  
(763) 862-4200

MPCA 24 HOUR EMERGENCY NOTIFICATION:

651-649-5451  
800-422-0798

Construction Notes

Construction shall be governed by MN/DOT Spec Book and the special provisions. The contractor shall keep the inspection and maintenance log.

Description	Plan Sheet Title	Location
Temporary Erosion Control	Erosion Control Plan	Sheet No. 114 - 125
Permanent Erosion Control	Erosion Control Plan & Turf Establishment Plan	Sheet No. 114 - 125
		& 126 - 131
Direction of Flow	Erosion Control Plan	Sheet No. 114 - 125
Final Stabilization	Turf Establishment Plan	Sheet No. 126 - 131
Drainage Structures	Drainage Plan	Sheet No. 83 - 94
Drainage Tabulation	Drainage Tabulation	Sheet No. 95 - 97
Drainage Profile Sheets	Drainage Plan	Sheet No. 83 - 94
Erosion Control Details	Erosion Control Plan	Sheet No. 114 - 125
Turf Establishment / Erosion	Erosion Control Plan & Turf Establishment Plan	Sheet No. 114 - 125
		& 126 - 131

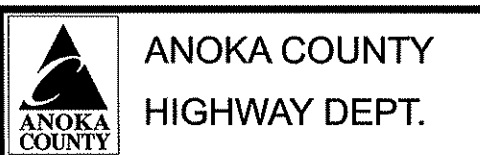
NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\plan\0271611\_SWPPP.dgn 02/23/2011 9:48:44 AM

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.

PRINT NAME: CURT KOBIARCSIK  
SIGNATURE: *[Signature]*  
DATE: 2-24-11 LICENSE NO. 24768

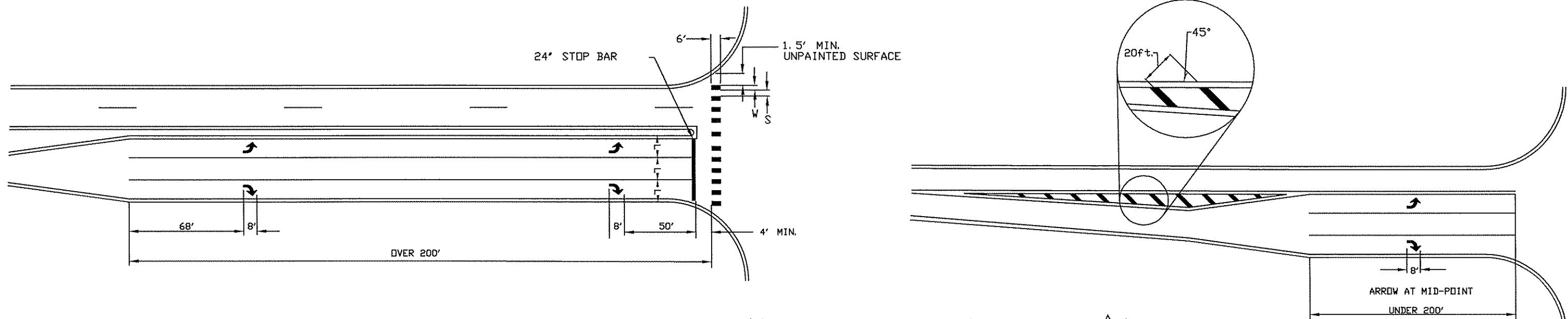
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DESIGN BY: MN DATE: 02/23/2011  
CHECKED BY: CAK DATE: 02/23/2011



S.P. 002-716-011  
S.P. 199-020-008

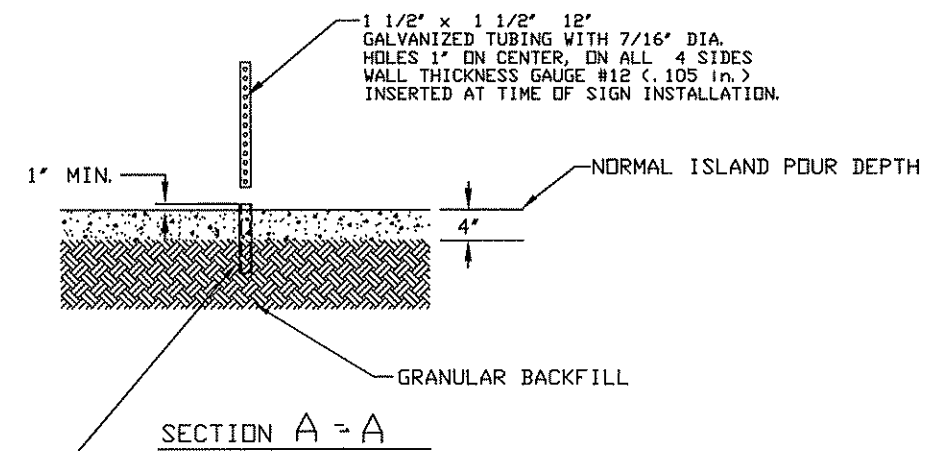
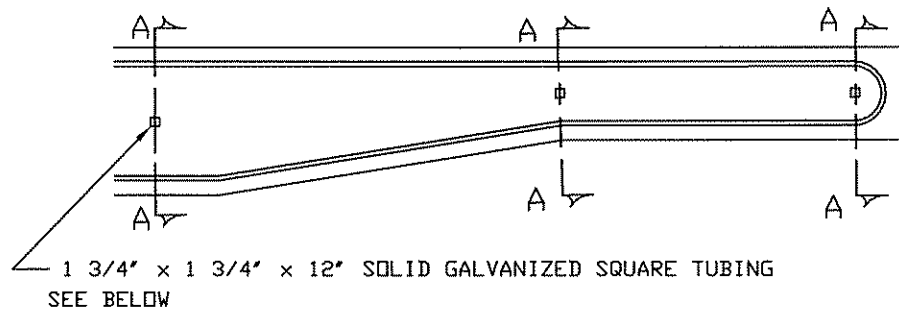






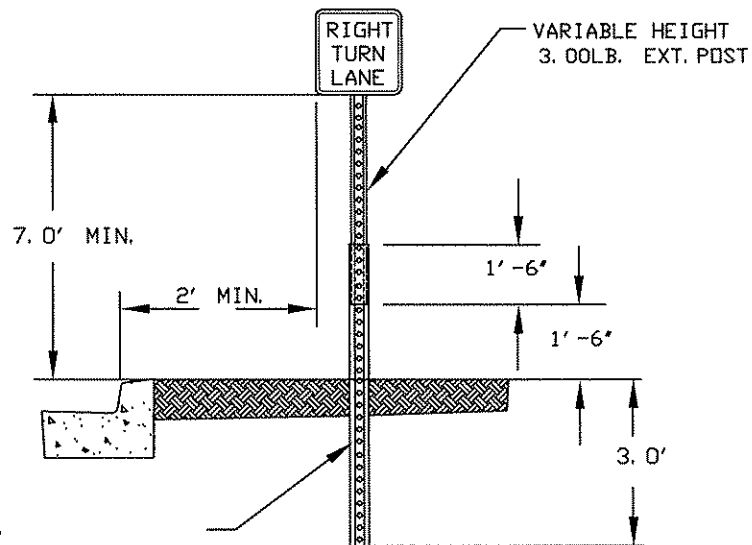
< L >	< W >	< S >
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

- NOTES: CROSSWALKS:
- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
  - 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
  - 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
  - 4.) A MIN. OF 1.5' CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
  - 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' INSIDE LANE.

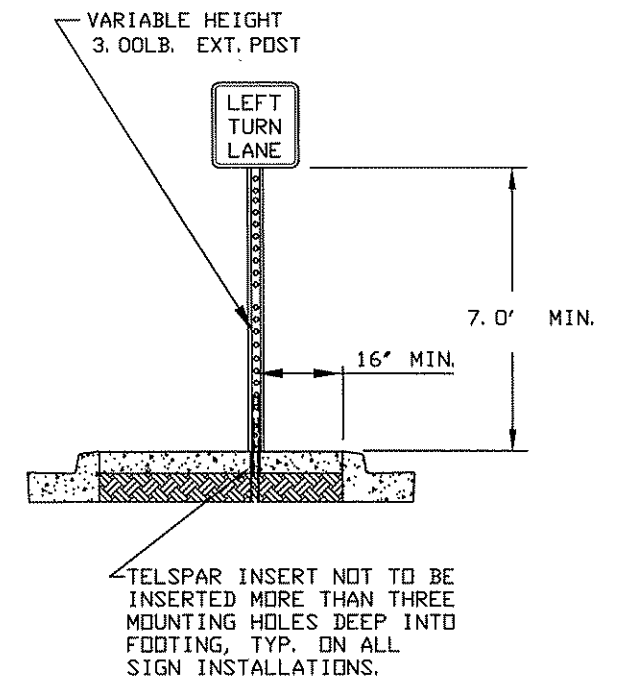


INSTALL 1 3/4" x 1 3/4" x 12" SOLID WALL GALVANIZED SQUARE TUBING BEFORE CONCRETE POUR. HAMMER INTO GROUND SO THAT 1" OF TUBE IS ABOVE GROUND. RE-PLUMB AT TIME OF POUR.

GROUND POST MOUNT SIGN INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN INSTALLATION TYPICAL



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\BASE\TRAFFIC\SIGN&STRIP\DETAILS.dwg, 02/23/2011 1:43:25 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-10 REG. NO. 24756

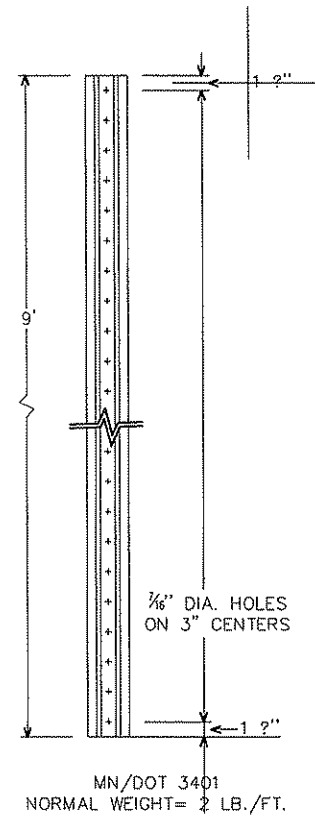
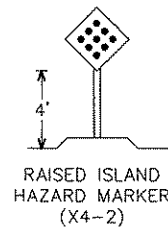
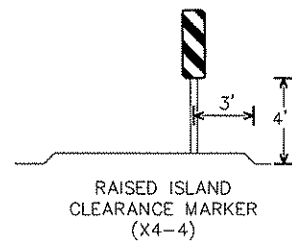
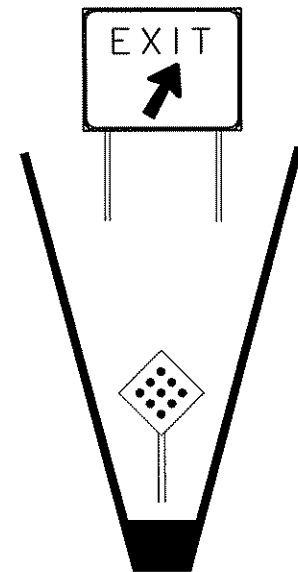
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 CHECKED BY: RB DATE 09/27/10



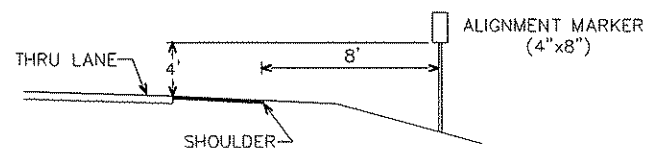
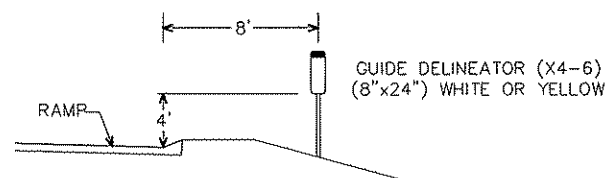
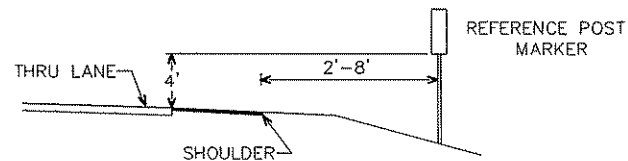
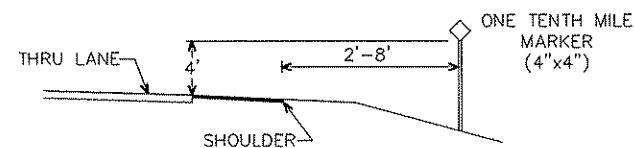
ANOKA COUNTY  
 HIGHWAY DEPT.

S.P. 002-716-011  
 S.P. 199-020-008

SIGNING/  
 STRIPING DETAILS



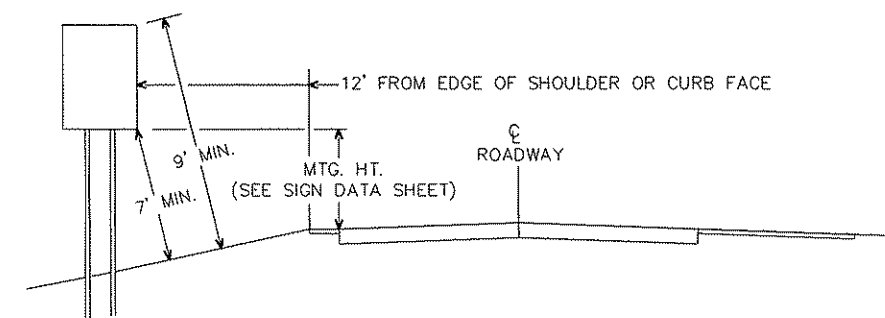
DELINEATOR POST



TYPICAL PLACEMENT

DELINEATORS AND MARKERS

RURAL ROADSIDE PLACEMENT



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\Baset\TRAFFIC\SIGN&STRIPE\_DETAILS.dwg, 02/23/2011 1:43:28 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 REG. NO. 24756

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 CHECKED BY: RB DATE 09/27/10

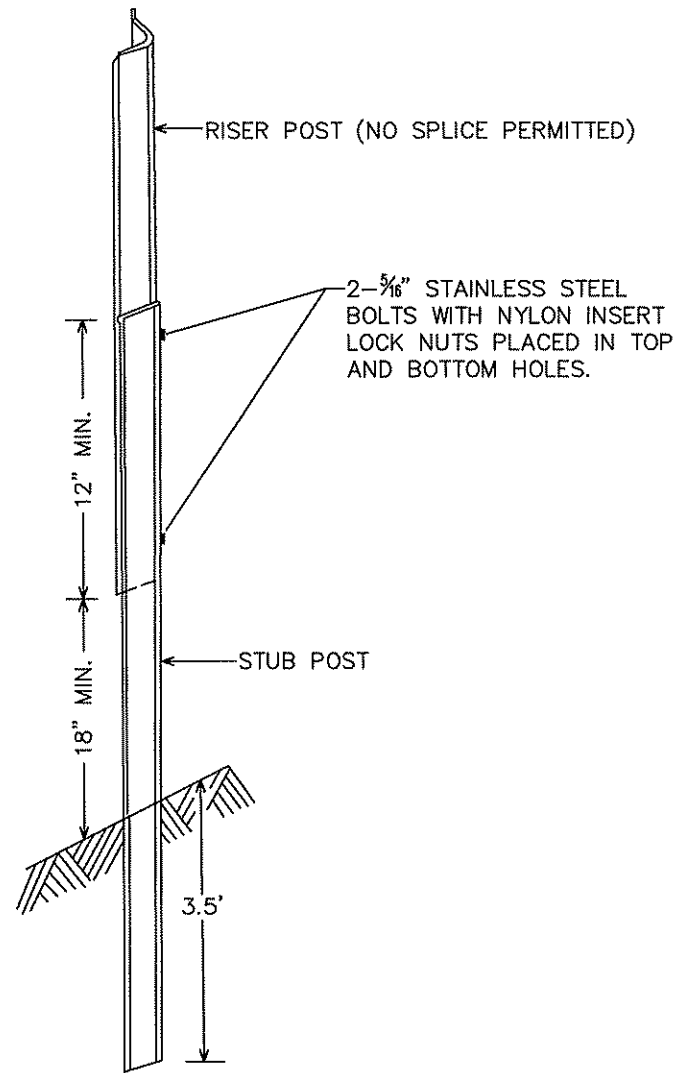


ANOKA COUNTY  
HIGHWAY DEPT.

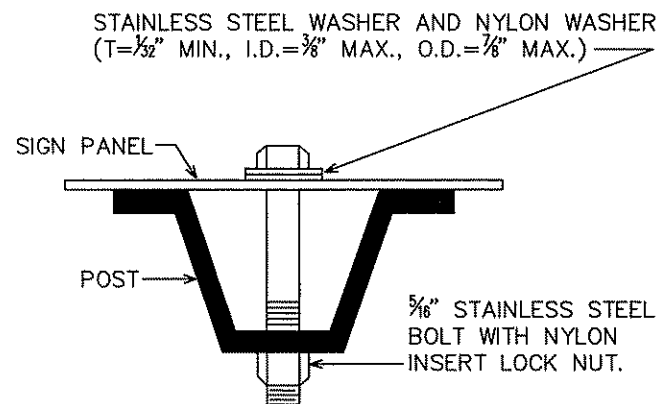
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S.P. 199-020-008

SIGNING/  
STRIPING DETAILS

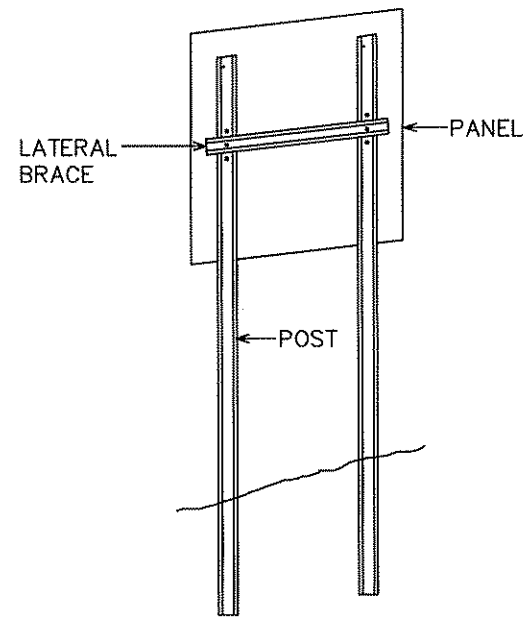
TYPE C & D POST



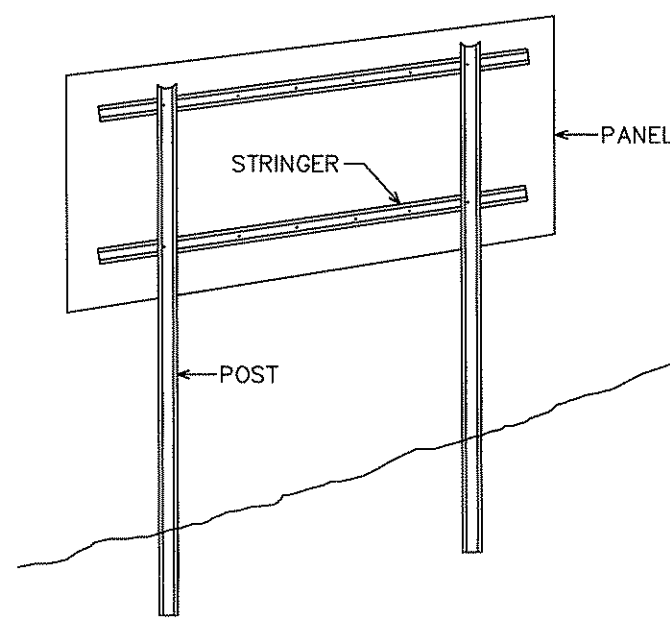
U POST SPLICE



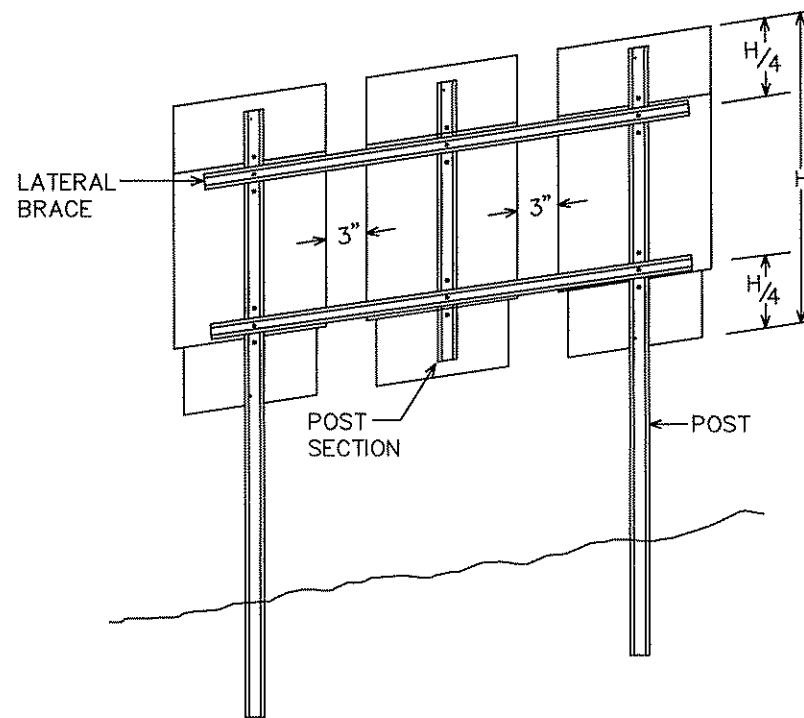
U POST MOUNTING  
TYPE C SIGNS



TYPICAL TYPE C INSTALLATION



TYPICAL TYPE D INSTALLATION



MODIFIED TYPE C INSTALLATION

NOTES:

1. USE 3 LB/FT STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE D SIGN POSTS LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH THE TYPE D STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCH CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
6. USE STAINLESS STEEL 5/16" BOLTS, WASHERS AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 3'.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED.
11. 2 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 SINGLE POST TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS.
13. WHERE 3 OR MORE TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND POST SECTION AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN MODIFIED TYPE C INSTALLATION.

TYPE C & D SIGN  
STRUCTURAL DETAILS

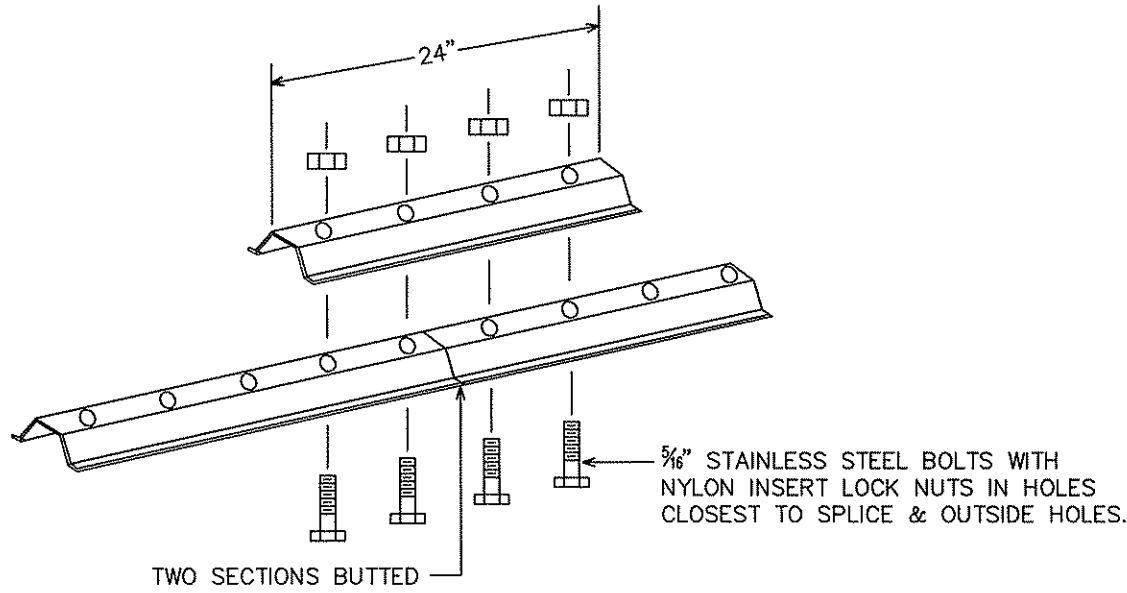
Sheet 1 of 3

PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

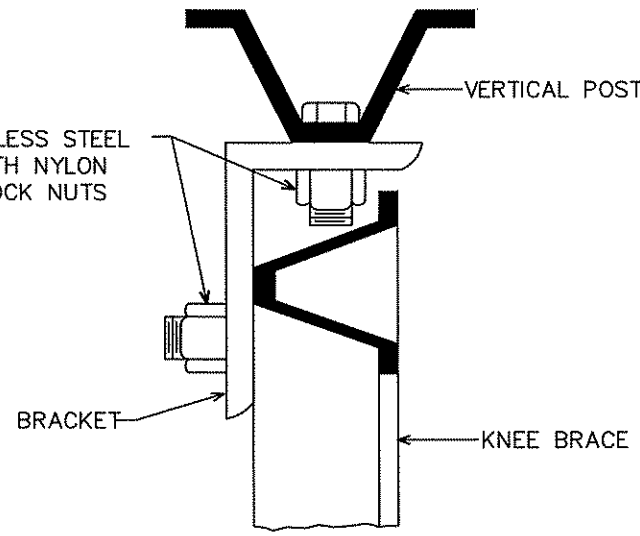
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PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

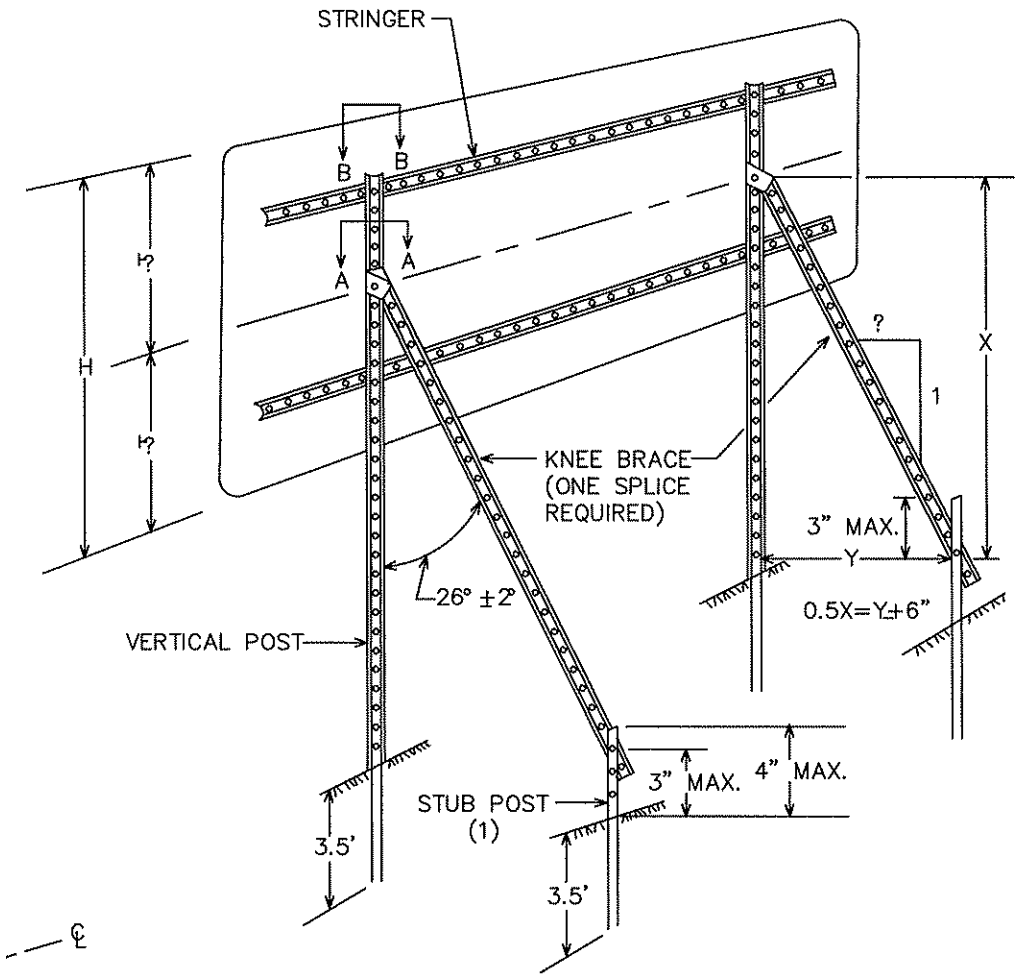
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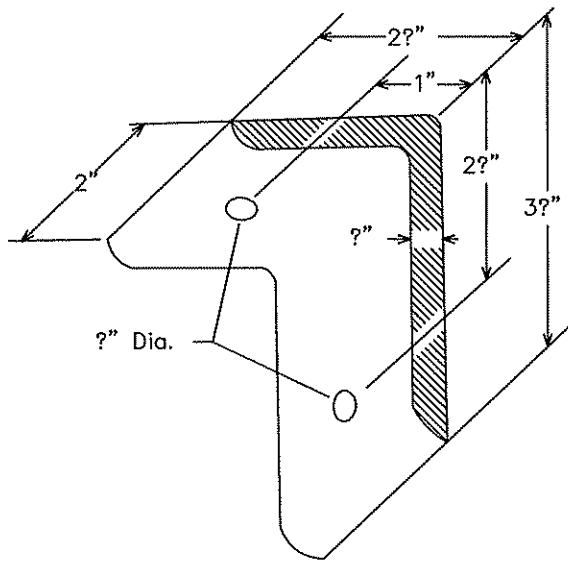
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

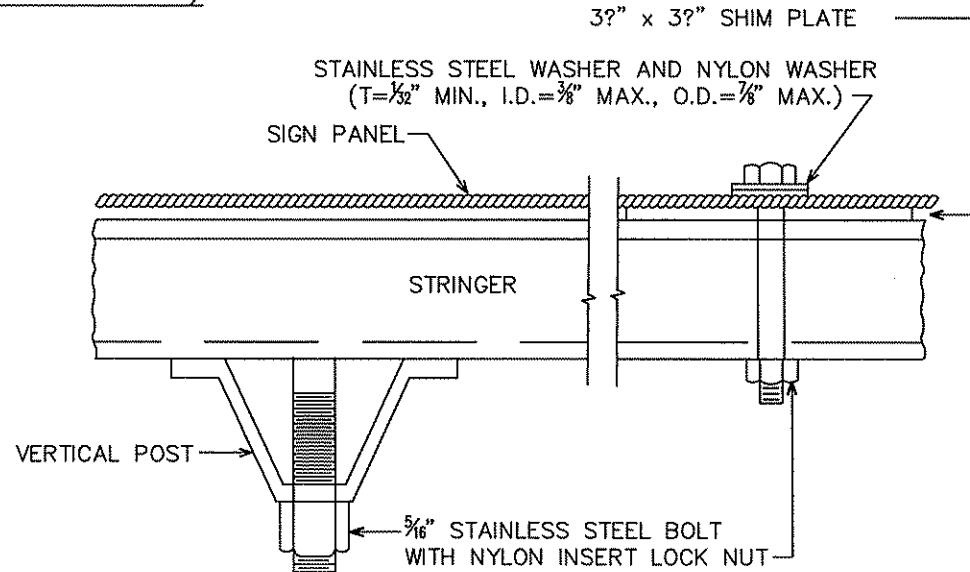


TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS

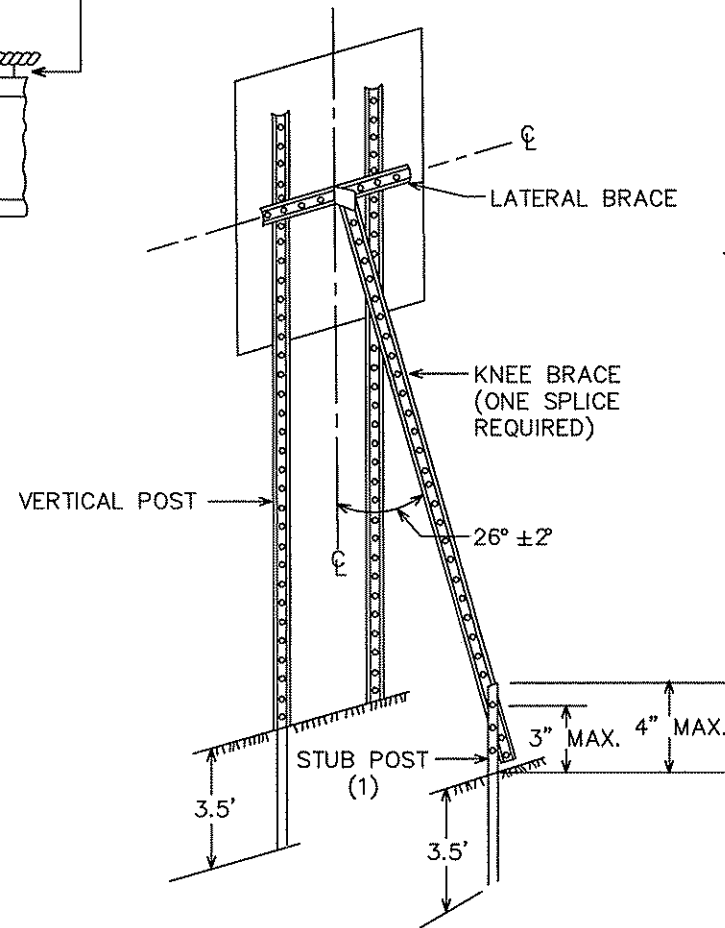


A-FRAME BRACKET

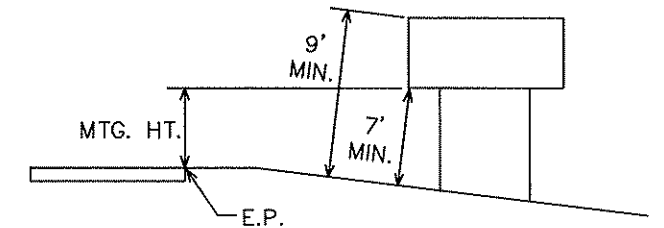
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



TYPICAL "A-FRAME" INSTALLATION TYPE "C" SIGNS



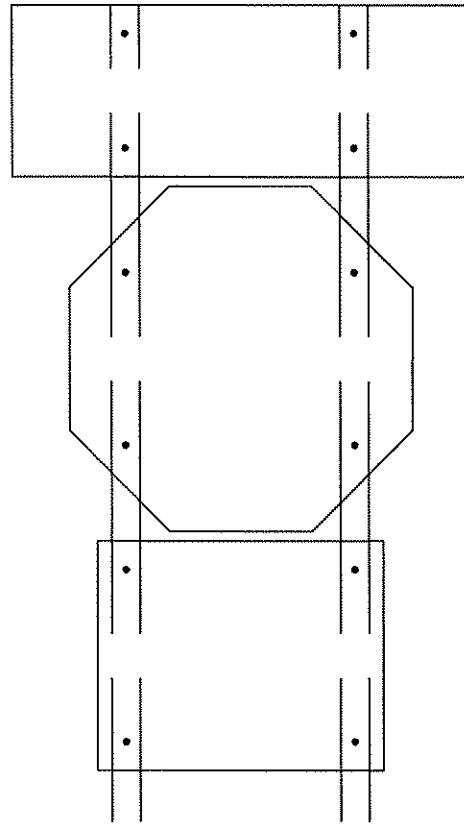
TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST. ATTACH STUB POST AND KNEE BRACE BACK TO BACK.

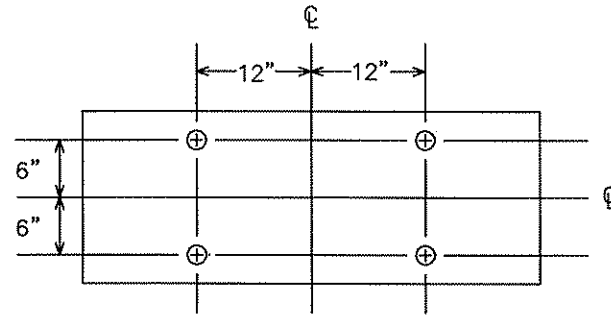
TYPE C & D SIGN

STRUCTURAL DETAILS

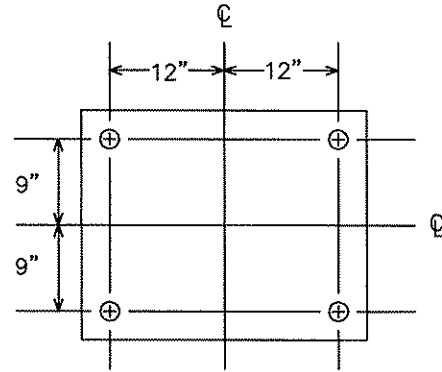
Sheet 2 of 3



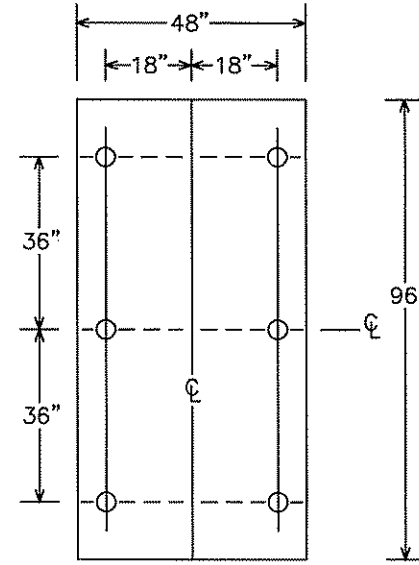
R6-1, R1-1 & (R6-3 OR R6-3a)  
MOUNTING



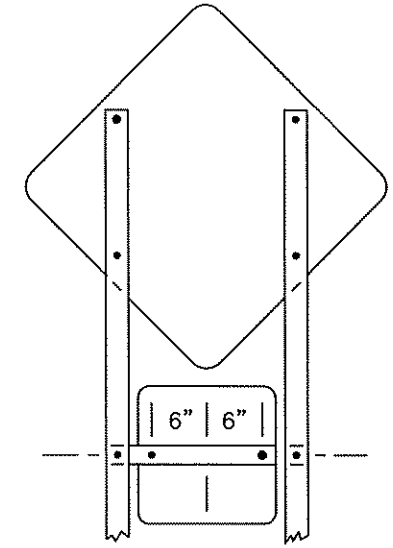
PUNCHING FOR R6-1(48"x18")



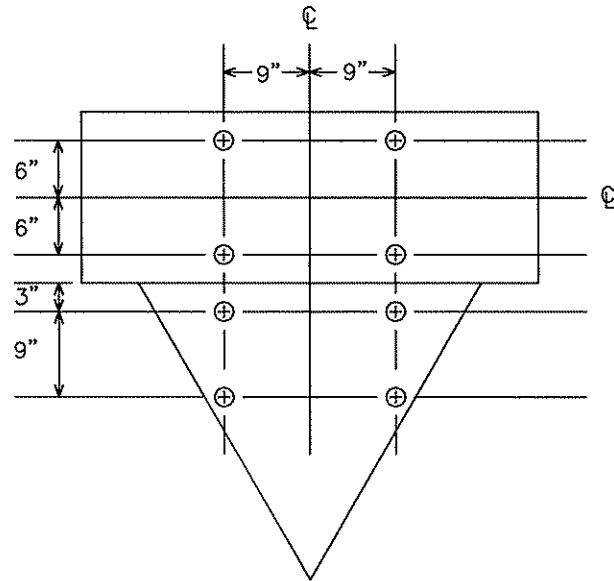
PUNCHING FOR R6-3 OR R6-3a(30"x24")



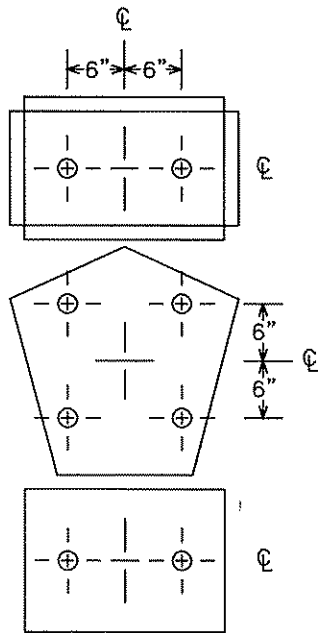
PUNCHING FOR R2-4b  
SPEED LIMIT



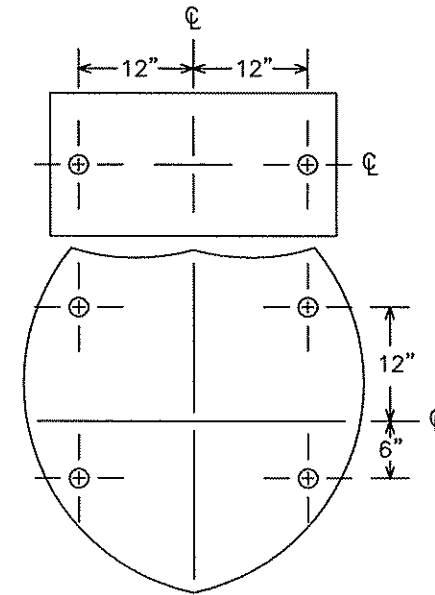
(W1-1, W1-2, W1-3, W1-4 OR W1-5) & W13-1  
MOUNTING



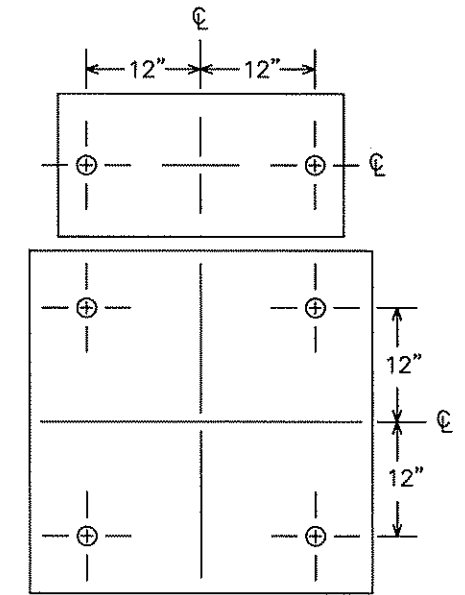
PUNCHING FOR R6-1(48"x18")  
& R1-2(36"x36"x36")



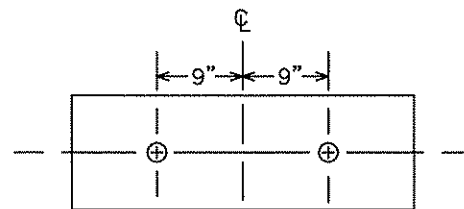
M2-1A [21"x15"] OR  
(M3-1A, M3-2A, M3-3A OR M3-4A) [24"x12"] AND  
M1-6 [24"x24"] AND  
(M5-1A, M5-2A, M6-1A, M6-2A, M6-3A M6-4A, M6-5A OR M6-6A) [21"x15"]  
PUNCHING



(M3-1A, M3-2A, M3-3A OR M3-4A) [30"x15"] AND  
M1-1 [45"x36" OR 36"x36"]  
PUNCHING



(M3-1, M3-1A, M3-2, M3-2A, M3-3, M3-3A M3-4 OR  
M3-4A) [30"x15"] AND (M1-4 OR M1-5A) [36"x36"]  
PUNCHING



PUNCHING FOR R6-1(36"x12")

TYPE C & D SIGN  
STRUCTURAL DETAILS

Sheet 3 of 3

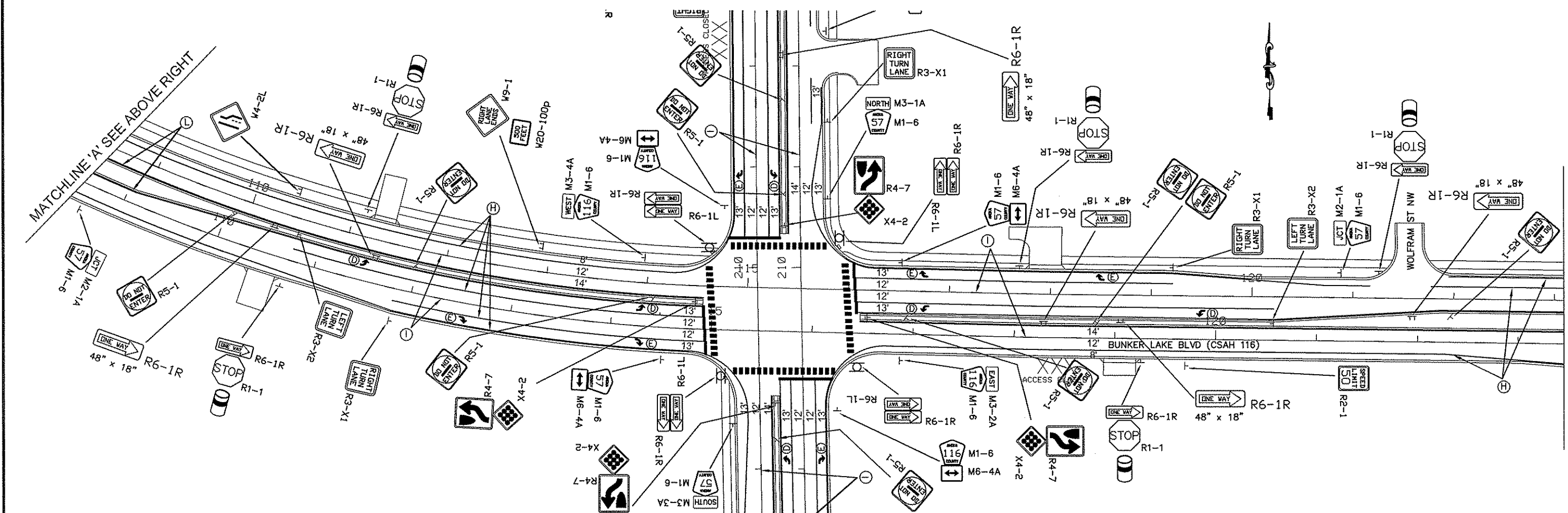


NOTES:

- 1.) LOCATIONS OF 'NO PASSING ZONES' ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD.
- 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

NOTES:

- (A) INSTALL SALVAGED SIGN.
- (B) REMOVE EXISTING SIGN WHICH CONFLICTS WITH PROPOSED SIGNING & STRIPING.
- (C) FURNISH & INSTALL SIGN USING EXISTING SIGN POST.
- (D) PAVEMENT MESSAGE (LEFT ARROW) 8'-0" PREFORMED THERMOPLASTIC.
- (E) PAVEMENT MESSAGE (RIGHT ARROW) 8'-0" PREFORMED THERMOPLASTIC.
- (F) 24" SOLID LINE WHITE PREFORMED THERMOPLASTIC.
- (G) ZEBRA CROSSWALK PREFORMED THERMOPLASTIC (3'X6' WITH 3' SPACING).
- (H) 4" SOLID LINE WHITE - EPOXY.
- (I) 4" BROKEN LINE WHITE - EPOXY.
- (J) 24" SOLID LINE YELLOW (45 DEGREES AT 20 FOOT SPACING) - PREFORMED THERMOPLASTIC
- (K) 4" SOLID DOUBLE LINE YELLOW - EPOXY.
- (L) 4" SOLID LINE YELLOW - EPOXY.
- (M) REMOVE 8" BROKEN LINE WHITE
- (N) REMOVE 4" SOLID LINE WHITE



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 REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarcsik*  
 DATE: 2-24-11 REG. NO. 24756

ANOKA COUNTY  
 HIGHWAY DEPT.

DRAWN BY: S.T. DATE 06/07/10  
 DESIGN BY: S.T. DATE 06/07/10  
 CHECKED BY: R.B. DATE 09/28/10

S.P. 002-716-011  
 S.P. 199-020-008

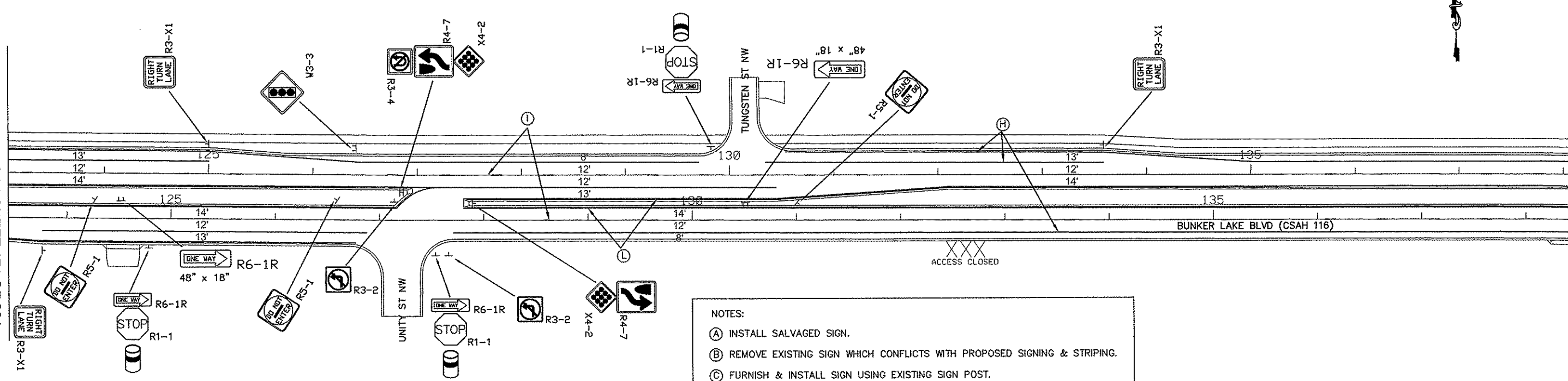
PERMANENT SIGNING  
 AND STRIPING  
 C.S.A.H. 116

Sheet 174 of 264 Sheets



MATCHLINE 'B' SEE SHEET 174 OF 264

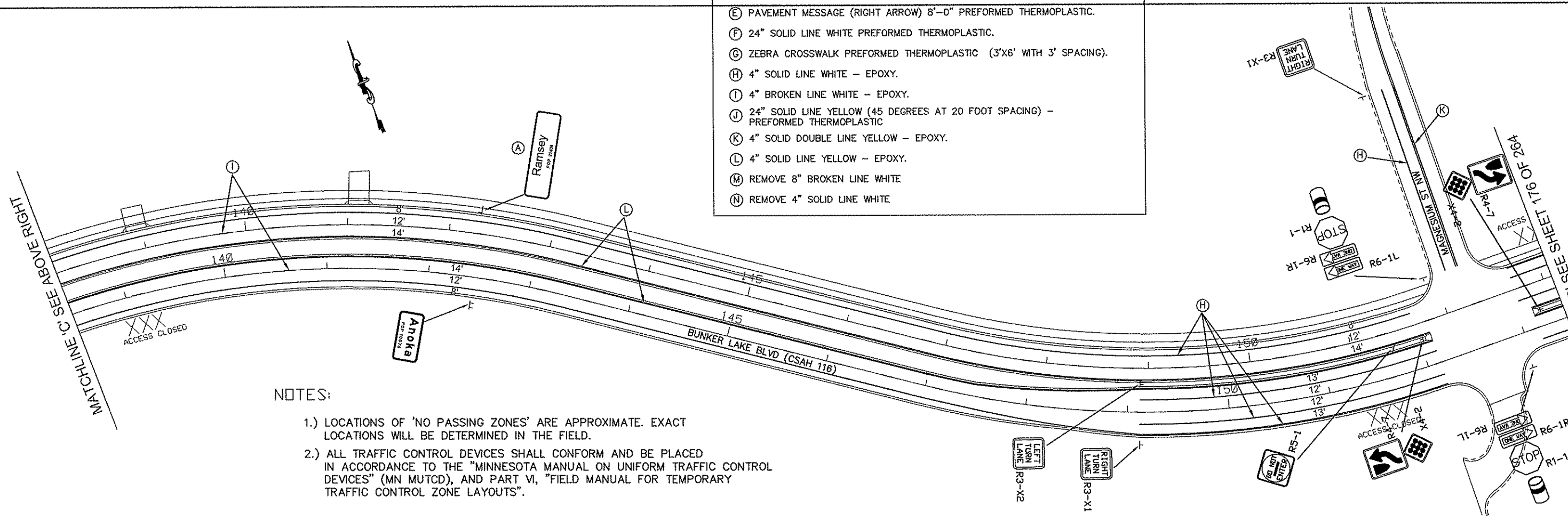
MATCHLINE 'C' SEE BELOW LEFT



- NOTES:
- (A) INSTALL SALVAGED SIGN.
  - (B) REMOVE EXISTING SIGN WHICH CONFLICTS WITH PROPOSED SIGNING & STRIPING.
  - (C) FURNISH & INSTALL SIGN USING EXISTING SIGN POST.
  - (D) PAVEMENT MESSAGE (LEFT ARROW) 8'-0" PREFORMED THERMOPLASTIC.
  - (E) PAVEMENT MESSAGE (RIGHT ARROW) 8'-0" PREFORMED THERMOPLASTIC.
  - (F) 24" SOLID LINE WHITE PREFORMED THERMOPLASTIC.
  - (G) ZEBRA CROSSWALK PREFORMED THERMOPLASTIC (3'X6' WITH 3' SPACING).
  - (H) 4" SOLID LINE WHITE - EPOXY.
  - (I) 4" BROKEN LINE WHITE - EPOXY.
  - (J) 24" SOLID LINE YELLOW (45 DEGREES AT 20 FOOT SPACING) - PREFORMED THERMOPLASTIC
  - (K) 4" SOLID DOUBLE LINE YELLOW - EPOXY.
  - (L) 4" SOLID LINE YELLOW - EPOXY.
  - (M) REMOVE 8" BROKEN LINE WHITE
  - (N) REMOVE 4" SOLID LINE WHITE

MATCHLINE 'C' SEE ABOVE RIGHT

MATCHLINE 'D' SEE SHEET 171 OF 264



- NOTES:
- 1.) LOCATIONS OF 'NO PASSING ZONES' ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD.
  - 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:02-716-111Base\TRAFFIC\0271611\_proposedsigning&striping.dwg, 02/23/2011 1:44:00 PM

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

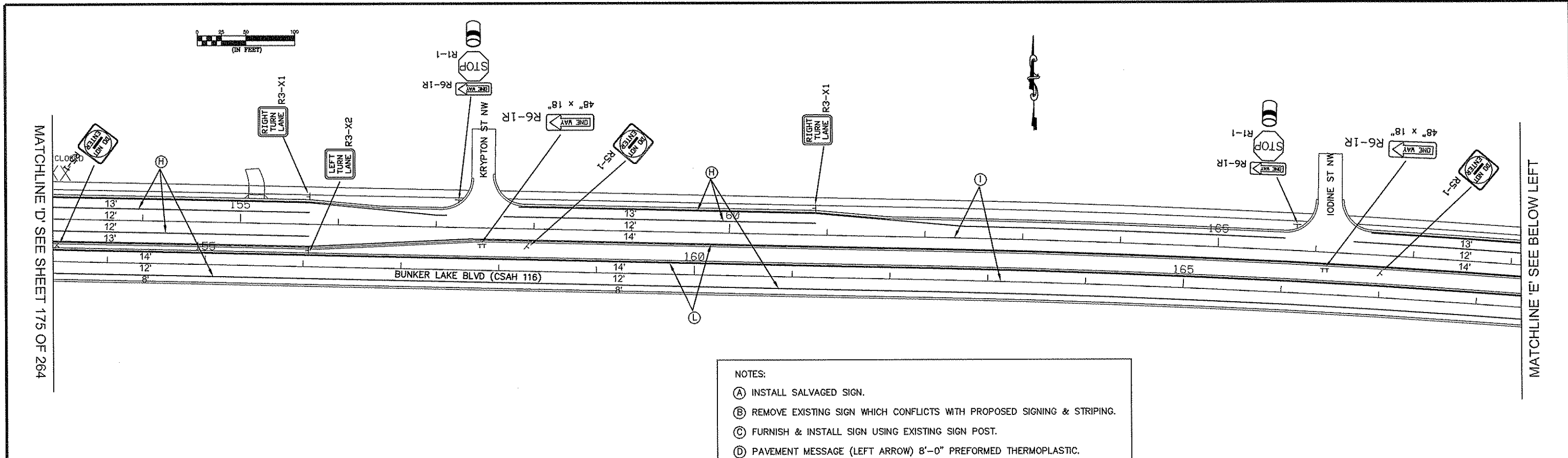
PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt A. Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE 06/07/10  
 DESIGN BY: S.T. DATE 06/07/10  
 CHECKED BY: R.B. DATE 09/28/10

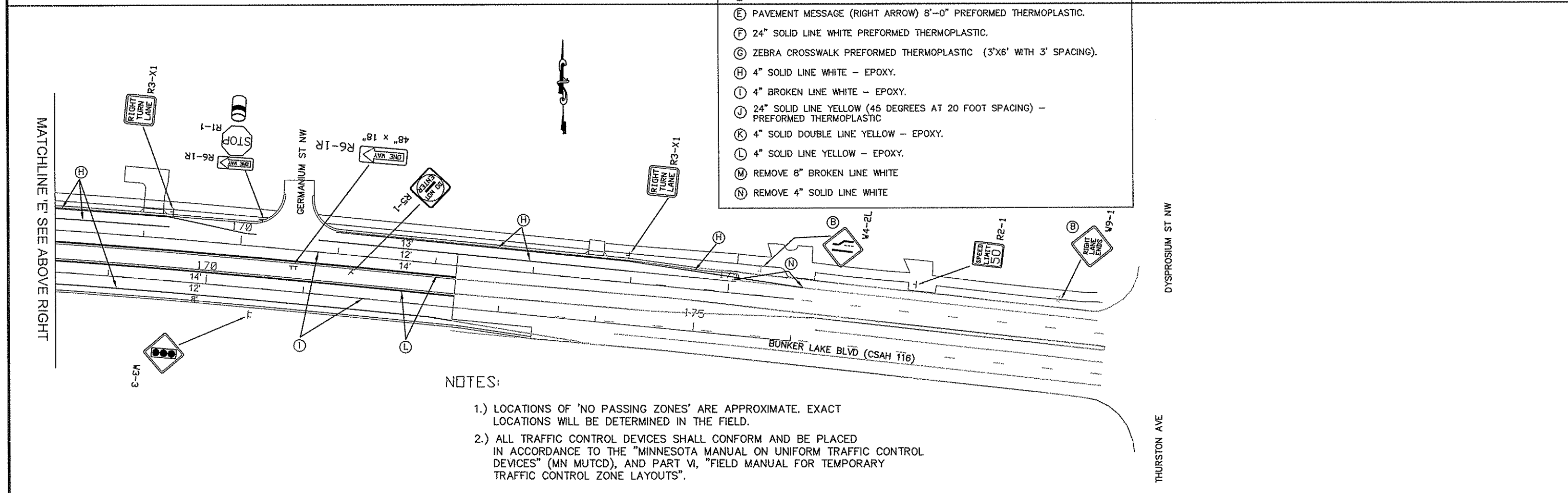


S.P. 002-716-011  
 S.P. 199-020-008

PERMANENT SIGNING AND STRIPING  
 C.S.A.H. 116  
 Sheet 175 of 264 Sheets



- NOTES:
- (A) INSTALL SALVAGED SIGN.
  - (B) REMOVE EXISTING SIGN WHICH CONFLICTS WITH PROPOSED SIGNING & STRIPING.
  - (C) FURNISH & INSTALL SIGN USING EXISTING SIGN POST.
  - (D) PAVEMENT MESSAGE (LEFT ARROW) 8'-0" PREFORMED THERMOPLASTIC.
  - (E) PAVEMENT MESSAGE (RIGHT ARROW) 8'-0" PREFORMED THERMOPLASTIC.
  - (F) 24" SOLID LINE WHITE PREFORMED THERMOPLASTIC.
  - (G) ZEBRA CROSSWALK PREFORMED THERMOPLASTIC (3'X6' WITH 3' SPACING).
  - (H) 4" SOLID LINE WHITE - EPOXY.
  - (I) 4" BROKEN LINE WHITE - EPOXY.
  - (J) 24" SOLID LINE YELLOW (45 DEGREES AT 20 FOOT SPACING) - PREFORMED THERMOPLASTIC
  - (K) 4" SOLID DOUBLE LINE YELLOW - EPOXY.
  - (L) 4" SOLID LINE YELLOW - EPOXY.
  - (M) REMOVE 8" BROKEN LINE WHITE
  - (N) REMOVE 4" SOLID LINE WHITE

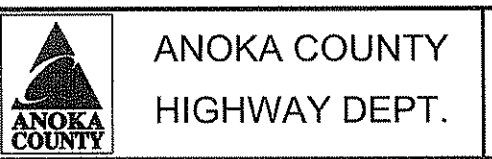


- NOTES:
- 1.) LOCATIONS OF 'NO PASSING ZONES' ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD.
  - 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

NO	DATE	BY	CKD	APPR	REVISION

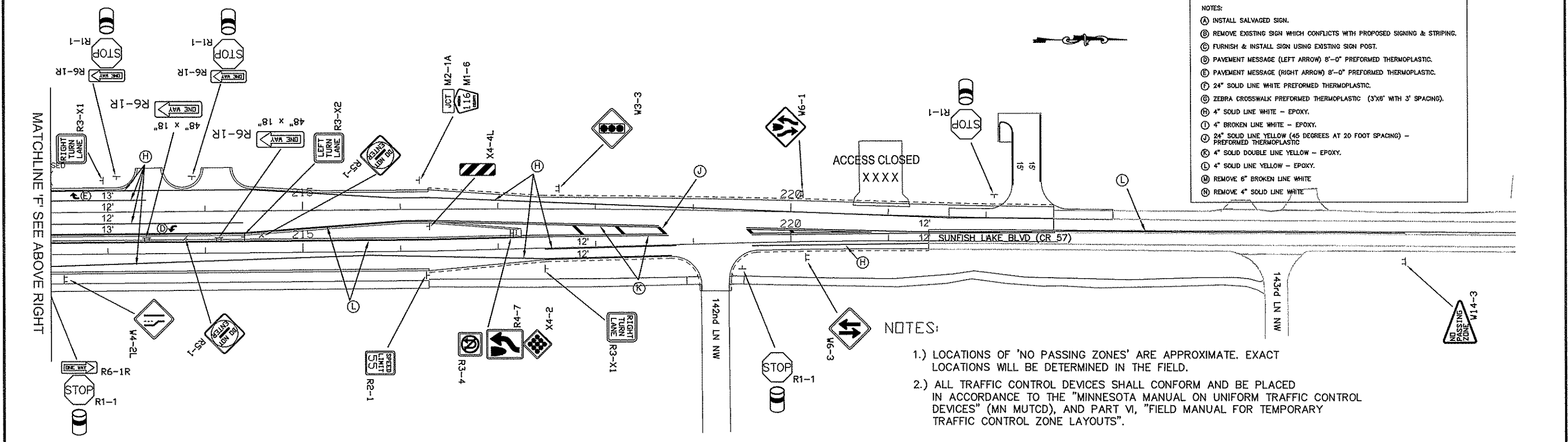
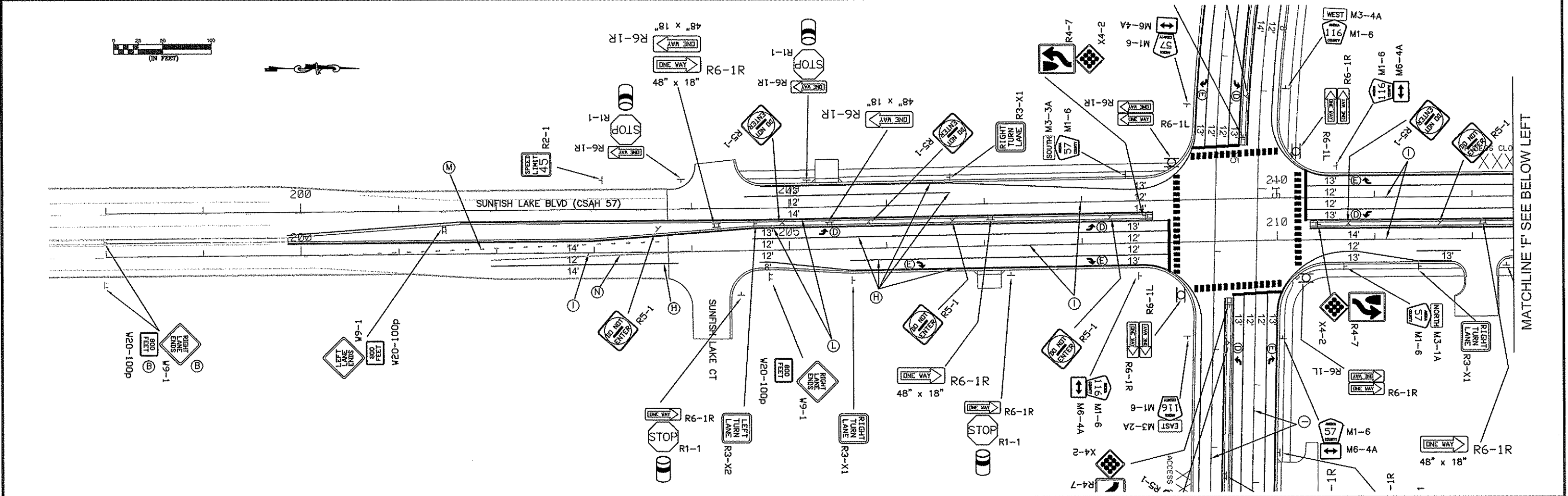
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-24-11 REG. NO. 24756

DRAWN BY: S.T. DATE 06/07/10  
 DESIGN BY: S.T. DATE 06/07/10  
 CHECKED BY: R.B. DATE 09/28/10



S.P. 002-716-011  
 S.P. 199-020-008





- NOTES:
- (A) INSTALL SALVAGED SIGN.
  - (B) REMOVE EXISTING SIGN WHICH CONFLICTS WITH PROPOSED SIGNING & STRIPING.
  - (C) FURNISH & INSTALL SIGN USING EXISTING SIGN POST.
  - (D) PAVEMENT MESSAGE (LEFT ARROW) 8'-0" PREFORMED THERMOPLASTIC.
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  - (G) ZEBRA CROSSWALK PREFORMED THERMOPLASTIC (3'x6' WITH 3' SPACING).
  - (H) 4" SOLID LINE WHITE - EPOXY.
  - (I) 4" BROKEN LINE WHITE - EPOXY.
  - (J) 24" SOLID LINE YELLOW (45 DEGREES AT 20 FOOT SPACING) - PREFORMED THERMOPLASTIC.
  - (K) 4" SOLID DOUBLE LINE YELLOW - EPOXY.
  - (L) 4" SOLID LINE YELLOW - EPOXY.
  - (M) REMOVE 6" BROKEN LINE WHITE.
  - (N) REMOVE 4" SOLID LINE WHITE.

NOTES:

- 1.) LOCATIONS OF 'NO PASSING ZONES' ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD.
- 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

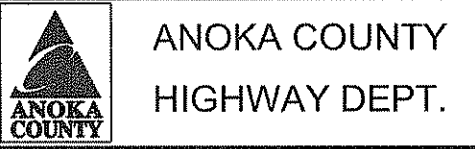
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-716-11\BASE\TRAFFIC\0271611\_proposedsigning&striping.dwg, 02/23/2011 1:44:10 PM

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

PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 2-29-11 REG. NO. 24756

DRAWN BY: S.T. DATE 06/07/10  
 DESIGN BY: S.T. DATE 06/07/10  
 CHECKED BY: R.B. DATE 09/28/10



S.P. 002-716-011  
 S.P. 199-020-008

SIGN PANELS TYPE C								SIGN PANELS TYPE C & D / Delineators and Object Markers								SIGN PANELS TYPE C								
M. U. T. C. D. CODE	SIZE	PANEL AREA FT. <sup>2</sup>	INSERT	No. of ISLAND MOUNT INSTALL	No. GROUND POST MOUNT INSTALL	No. POST	MOUNTING HEIGHT FT. (#9)	M. U. T. C. D. CODE	SIZE	PANEL AREA FT. <sup>2</sup>	INSERT	No. of ISLAND MOUNT INSTALL	No. GROUND POST MOUNT INSTALL	No. POST	MOUNTING HEIGHT FT. (#9)	M. U. T. C. D. CODE	SIZE	PANEL AREA FT. <sup>2</sup>	INSERT	No. of ISLAND MOUNT INSTALL	No. GROUND POST MOUNT INSTALL	No. POST	MOUNTING HEIGHT FT. (#9)	
R1-1	30' x 30'	6.25	STOP	0	26	1	7.0'	W3-3	36' x 36'	9.00		0	4	2	7.0'	M2-1A	21' x 15'	2.18	JCT	0	1	#7		
R2-1	24' x 30'	5.00	SPEED LIMIT 55	0	2	1	7.0'	W4-2L	36' x 36'	9.00		0	2	2	7.0'	M3-2A	24' x 12'	2.00	EAST	0	1	#7		
R2-1	24' x 30'	5.00	SPEED LIMIT 50	0	2	1	7.0'	W6-1	36' x 36'	9.00		0	2	2	7.0'	M3-4A	24' x 12'	2.00	WEST	0	1	#7		
R2-1	24' x 30'	5.00	SPEED LIMIT 45	0	1	1	7.0'	W6-3	36' x 36'	9.00		0	2	2	7.0'	M1-6A	24' x 24'	4.00		0	5	1	7.0'	
R3-2	24' x 24'	4.00		1	1	1	7.0'	W9-1R	36' x 36'	9.00		0	2	2		M6-4A	21' x 15'	2.18		0	2	#8		
R3-4	24' x 24'	4.00		3	0	#1		W20-100p	30' x 24'	5.00		0	1	#4	4.0'	M2-1A	21' x 15'	2.18	JCT	0	2	#7		
R3-X1	30' x 30'	6.25	RIGHT TURN LANE	0	17	1	7.0'	W20-100p	30' x 24'	5.00		0	1	#4	4.0'	M3-1A	24' x 12'	2.00	NORTH	0	1	#7		
R3-X2	30' x 30'	6.25	LEFT TURN LANE	6	0	1	7.0'	W9-1L	36' x 36'	9.00		0	1	2		M3-3A	24' x 12'	2.00	SOUTH	0	1	#7		
R4-7	24' x 30'	5.00		10	0	1	7.0'	W20-100p	30' x 24'	5.00		0	1	#4	4.0'	M1-6A	24' x 24'	4.00		0	6	1	7.0'	
R5-1	30' x 30'	6.25	DO NOT ENTER	23	0	1	7.0'	W20-X3L	36' x 36'	9.00		0	1	2	7.0'	M6-4A	21' x 15'	2.18		0	2	#8		
R6-1R	36' x 12'	3.00	ONE WAY	0	23	#2 #3	7.0'	W14-3	36' x 48' x 48'	6.00		0	1	2	7.0'									
R6-1L	36' x 12'	3.00	ONE WAY	0	6	#2 #3 #10		X4-2	18' x 18'	2.25		10	0	#5	4.0'									
R6-1R	48' x 18'	6.00	ONE WAY	16	0	2	7.0'	X4-4L	12' x 36'	3.00		2	0	1	4.0'									
								DELINEATOR X4-13	8" DIA x 12'	2.10		0	26	#6	4.0'									
								I2-3	48' x 24'	8.00	Anoka POP 18076	0	1	2	7.0'									

**SPECIFIC NOTES:**

- #1 MOUNTED BACK TO BACK w/R4-7
- #2 (19) MOUNTED ABOVE R1-1
- #3 SIGNAL POLE MOUNT (4) R6-1R/ (4) R6-1L
- #4 MOUNTED BELOW W9-1
- #5 MOUNTED BELOW R4-7
- #6 MOUNTED BELOW R1-1
- #7 MOUNTED ABOVE M1-6A
- #8 MOUNTED BELOW M1-6A
- #9 MOUNTING HEIGHT IS MINIMUM SEE SHEET XX FOR TYPICAL MOUNTING
- #10 (2) MOUNTED BACK TO BACK w/R6-1R

**GENERAL NOTES:**

- 1.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2.) POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
- 3.) SEE SHEETS XX-XX FOR STRUCTURAL DETAILS.
- 4.) SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.

**LEGEND OF SYMBOLS**

CONTROLLER AND SERVICE EQUIP. NO's	(A)
SIGNAL BASE NO.	(1)
SIGNAL FACE NO.	(2)
LUMINAIRE NO.	(3)
CONTROLLER AND CABINET	(4)
CONTROLLER AND CABINET - IN PLACE	(5)
HANDHOLE	(6)
HANDHOLE - IN PLACE	(7)
RIGID STEEL CONDUIT (RSC)	(8)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(9)
SIGNAL FACE WITH BACKGROUND SHIELD	(10)
SIGNAL FACE W/O BACKGROUND SHIELD	(11)
SIGNAL FACE - IN PLACE	(12)
PEDESTRIAN INDICATORS	(13)
PEDESTRIAN INDICATORS - IN PLACE	(14)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(15)
PEDESTRIAN PUSH BUTTON STATION	(16)
TRAFFIC SIGNAL PEDESTAL	(17)
TRAFFIC SIGNAL PEDESTAL - INPLACE	(18)
TRAFFIC SIGNAL POLE AND MAST ARM	(19)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(20)
STREET LIGHT POLE AND LUMINAIRE	(21)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(22)
MAST ARM AND LUMINAIRE	(23)
MAST ARM AND LUMINAIRE - INPLACE	(24)
WOOD POLE	(25)
WOOD POLE - IN PLACE	(26)
SOURCE OF POWER	(27)
RAILROAD SIGNAL - IN PLACE	(28)
RIGHT OF WAY LINE	(29)
CENTERLINE	(30)
EDGE OF ROADWAY	(31)
SHOULDERLINE	(32)
CURB LINE	(33)
STOP BAR	(34)
EMERGENCY VEHICLE PREEMPTION DETECTOR	(35)

**ABBREVIATIONS**

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

ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITY
2565	TRAFFIC CONTROL SIGNAL SYSTEM	SIG. SYS.	1
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1
2565	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	1
2565	SIGNAL SERVICE CABINET	EACH	1

**TRAFFIC SIGNAL STANDARD PLATES**

THESE TRAFFIC SIGNAL STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:

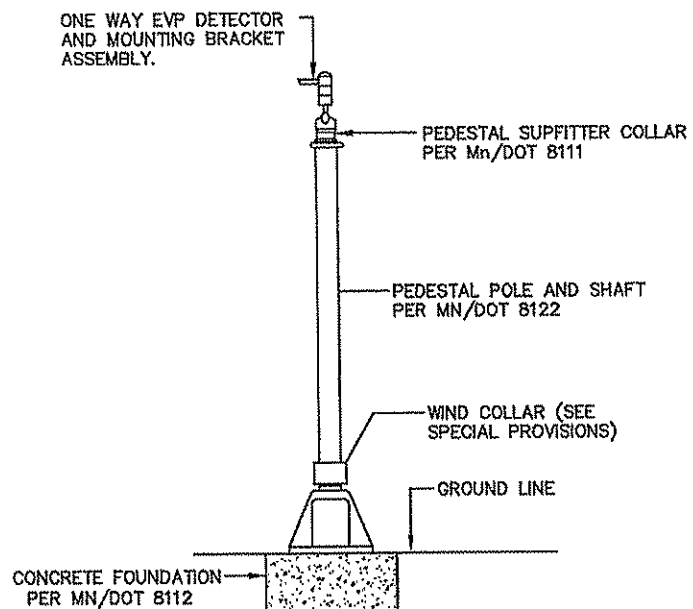
PLATE NO.	DESCRIPTION
* 8000 I	STANDARD BARRICADES
8110 E	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
* 8111 E	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
* 8112 F	PEDESTAL FOUNDATION
* 8114 A	PVC HANDHOLE/PULLBOX
* 8118 D	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 N	P85 POLE FOUNDATION
* 8121 F	TRANSFORMER BASE AND POLE BASE PLATE
* 8122 E	PEDESTAL AND PEDESTAL BASE
* 8123 F	POLE AND MAST ARM
* 8126 I	P890 AND PA100 POLE FOUNDATION

\* - APPLIES TO THIS PROJECT

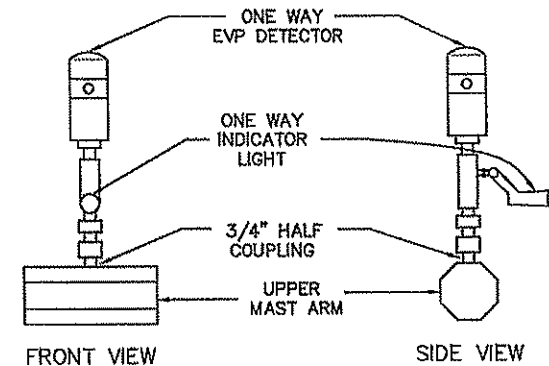
**CONDUCTOR COLOR CODE**

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

**PEDESTAL POLE MOUNTED EVP DETECTOR DETAIL**



**EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM**



S.P. 002-716-011  
S.P. 199-020-008

DRAWN BY: JMG  
DESIGNER: JMG  
CHECKED BY: JMG

NO.	BY	DATE

REVISIONS

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.

*JMG*  
Date: April 8, 2011

Name: John M. Gray, PE  
Lic. No. 22457



PHONE: (651) 490-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110

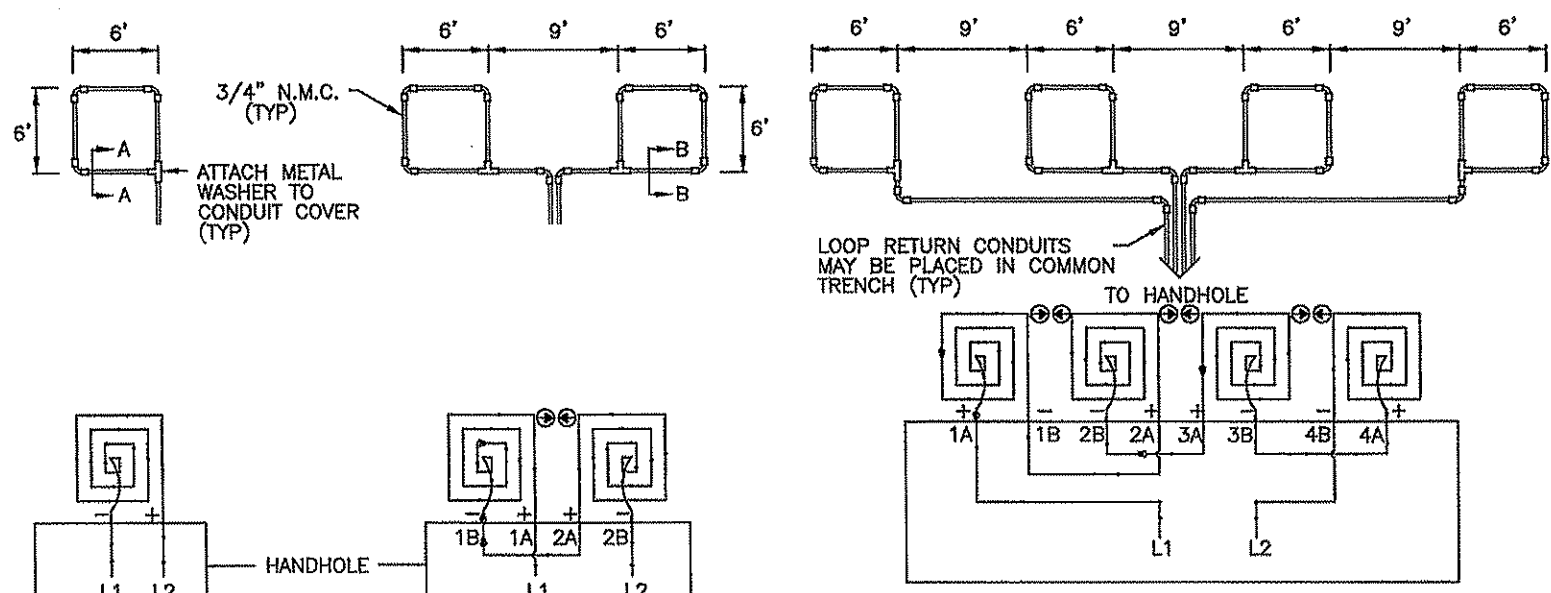
**ANOKA COUNTY,  
MINNESOTA  
CITY OF RAMSEY**

**TRAFFIC SIGNAL SYSTEM  
DETAILS + STANDARD PLATES  
CSAH 116 (BUNKER LAKE BLVD)  
AT CSAH 57 (SUNFISH LAKE BLVD)**

FILE NO.  
ANOKC 110096  
SHEET  
SG1 OF SG18

179  
264

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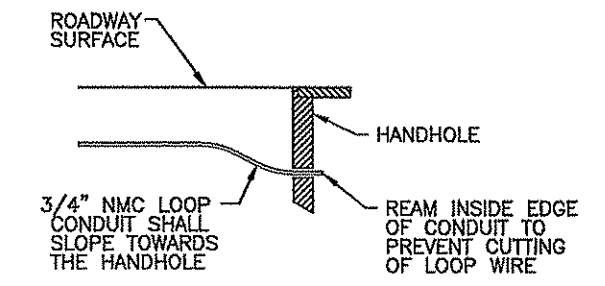
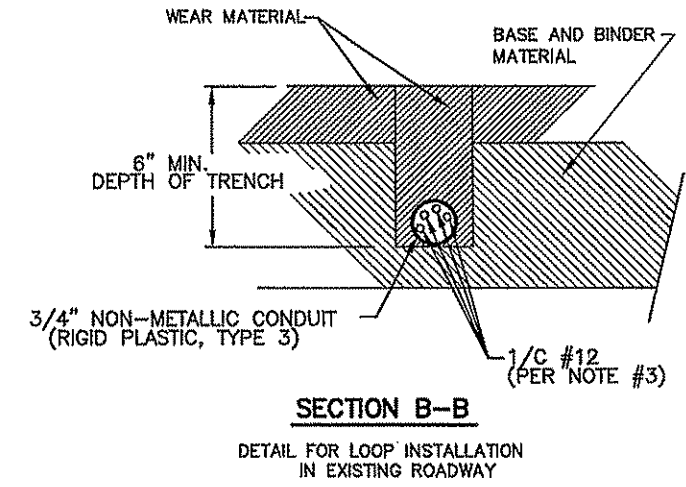
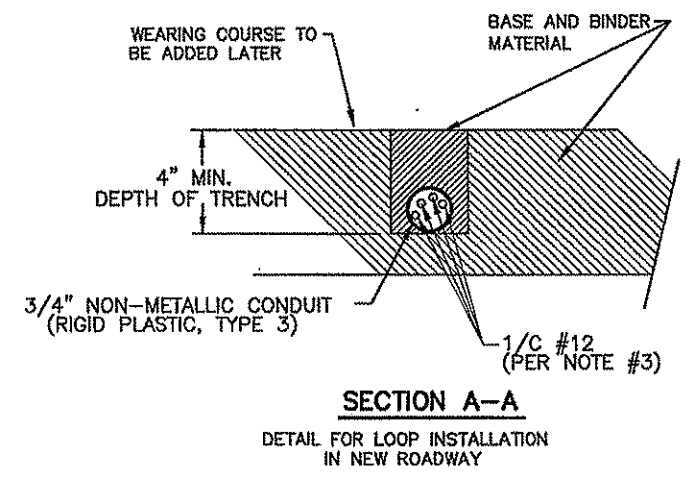
**LOOP DETECTOR DETAIL 'A'**  
(LOOP PHASING FOR SINGLE CONNECTION)

LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:  
L1 TO 1A  
L2 TO 2A

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

LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:  
L1 TO 1A 3B TO 4A  
L2 TO 2A 4B TO L2  
2B TO 3A

**LOOP DETECTOR DETAIL 'C'**  
(LOOP PHASING FOR SERIES CONNECTION)

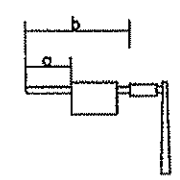


- LOOP DETECTOR WIRING**
- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
  - 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
  - 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
  - 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
  - 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
  - 6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
  - 7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

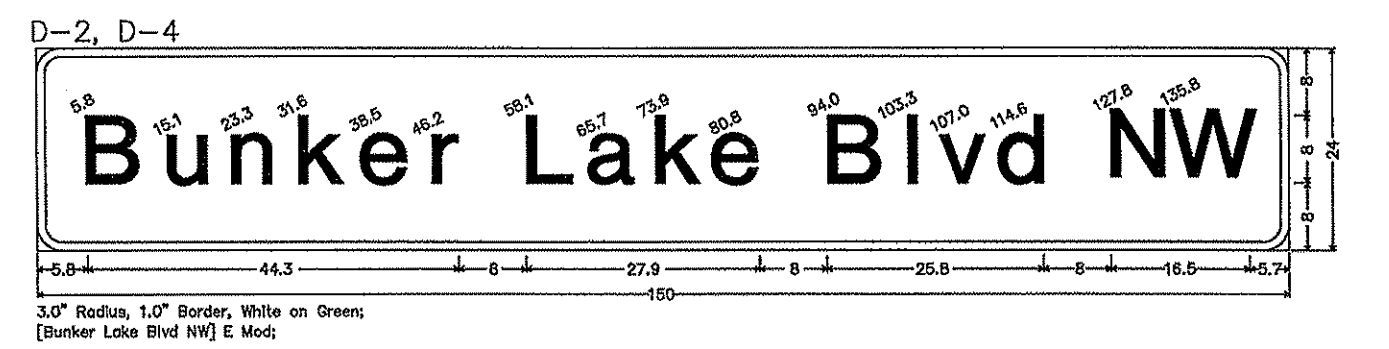
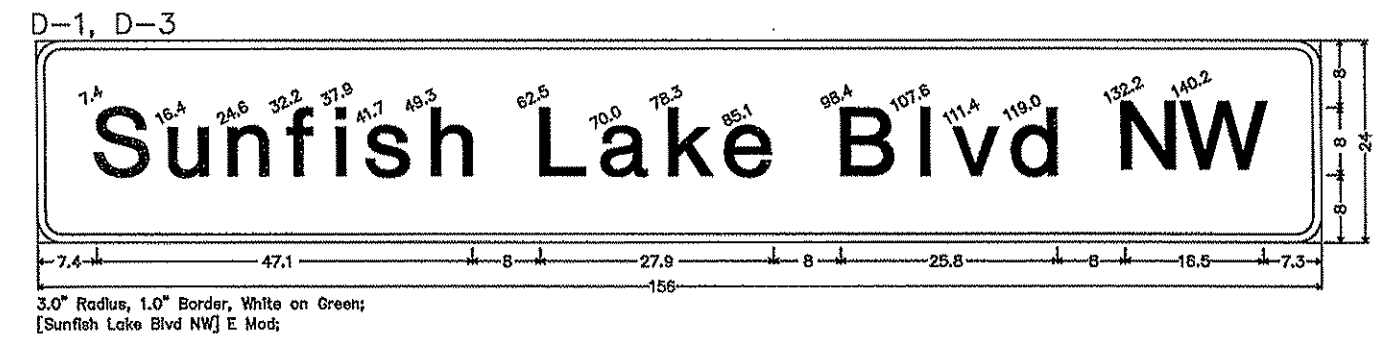
MAST ARM MOUNTED SIGNS								
SIGN PANELS - TYPE D								
SIGN PANEL	SIZE (In.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	POLE NO.	a	b
D-1	156x24	1	5	-	26.00	1	28'	-
D-2	150x24	1	5	-	25.00	2	28'	-
D-3	156x24	1	5	-	26.00	3	28'	-
D-4	150x24	1	5	-	25.00	4	28'	-
TOTAL QUANTITIES		4			102.00			

(\*\*) = SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE SPECIAL PROVISIONS AND STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 7/06/07) FOR BRACKET SPACING REQUIREMENTS.

MAST ARM POLE MOUNTED SIGNS								
SIGN PANELS - TYPE C								
SIGN PANEL	SIZE (In.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	POLE NO.	a	b
R6-1L	36x12	4	①	-	3.00	1,2,3,4	-	-
R6-1R	36x12	4	①	-	3.00	1,2,3,4	-	-
TOTAL QUANTITIES		8			24.00			



- GENERAL SIGNING NOTES:**
- 1) COLOR FOR ALL TYPE D SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
  - 2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
  - 3) FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 7/06/07), AND SPECIAL PROVISIONS.
  - 4) SEE STANDARD SIGNS MANUAL FOR DETAILED DRAWINGS OF TYPE C SIGN PANELS.
  - 5) FURNISHING AND INSTALLING TYPE C AND D SIGNS SHALL BE INCLUDED UNDER ITEM NO. 2565 (TRAFFIC CONTROL SIGNAL SYSTEM). SEE SPECIAL PROVISIONS.
  - 6) ALL NEW TYPE C AND D SIGN PANELS SHALL BE FABRICATED USING HP SHEETING. SEE SPECIAL PROVISIONS.
  - 7) ① = INSTALL SIGN PANEL ON TRAFFIC SIGNAL POLE.



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DRAWN BY: JMG			
DESIGNER: JMG			
CHECKED BY: JMG			
DESIGN TEAM	NO.	BY	DATE

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.

Date: April 5, 2011 Name: John M. Gray, PE Lic. No. 22497

SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM LOOP DETECTOR + SIGNING DETAILS CSAH 116 (BUNKER LAKE BLVD) AT CSAH 57 (SUNFISH LAKE BLVD)

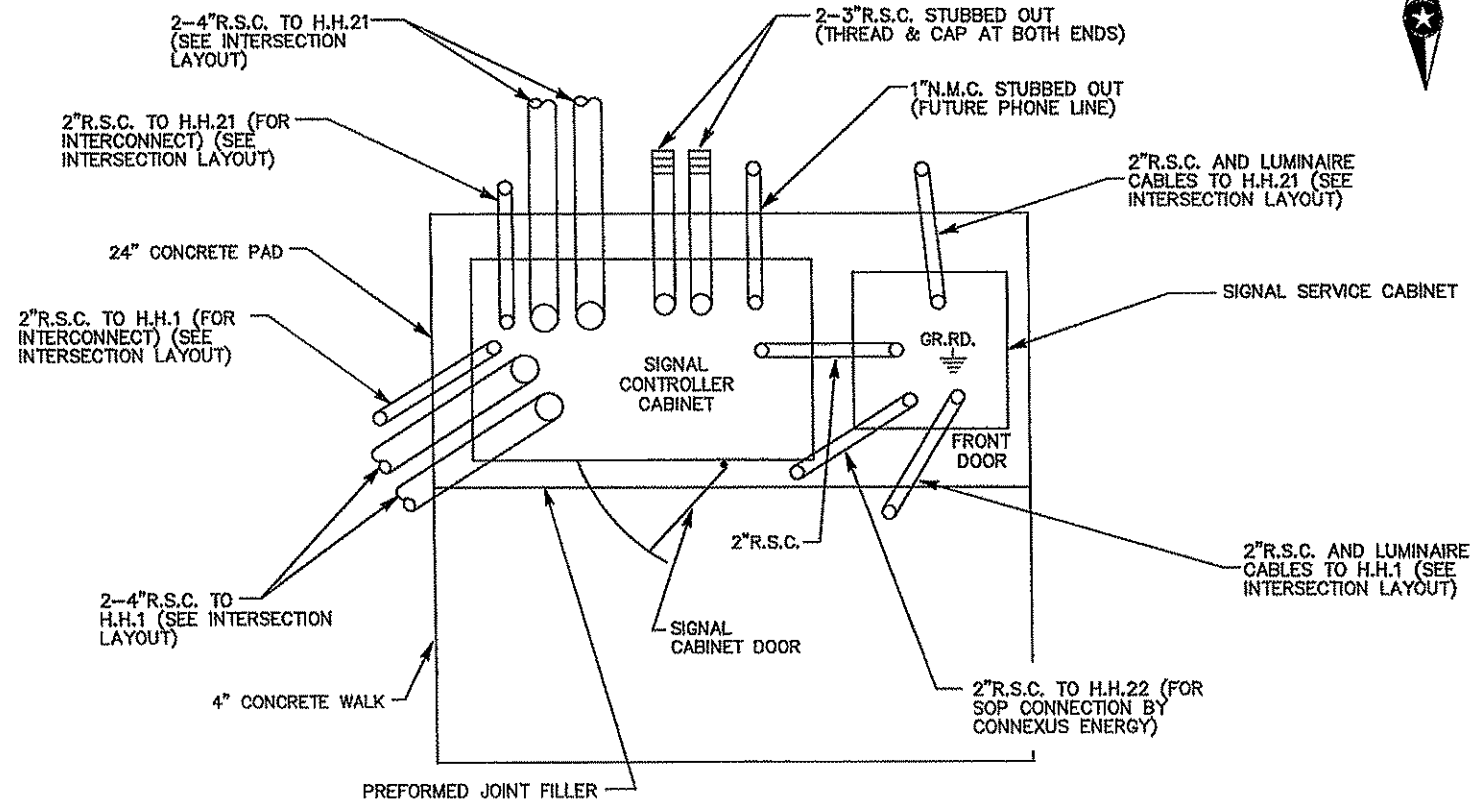
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S.P. 002-716-011 S.P. 199-020-008

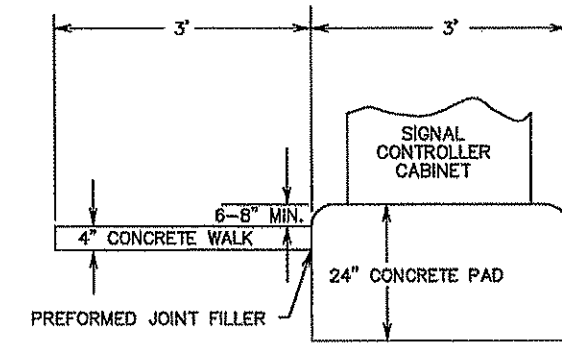
# TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

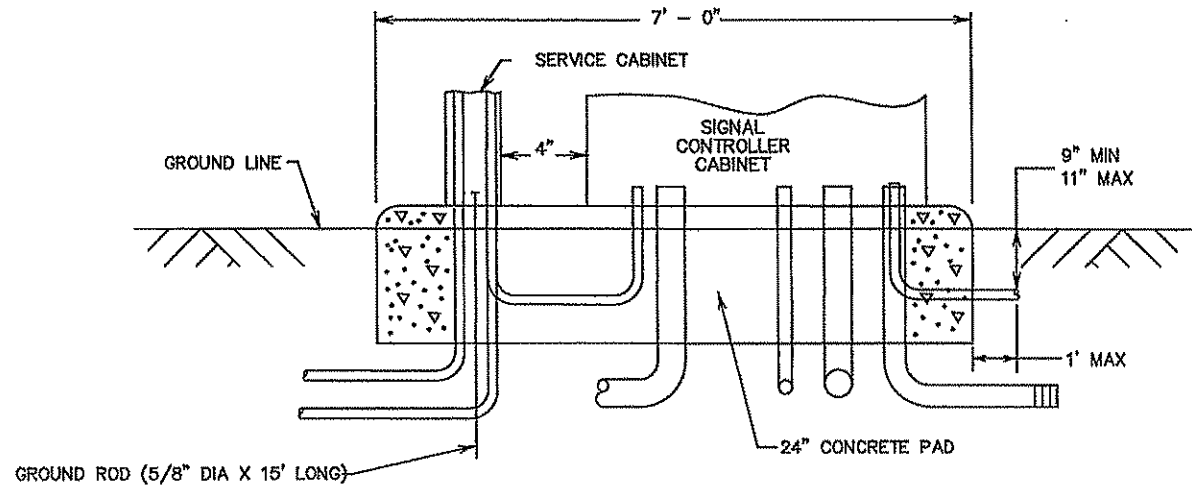
## PLAN VIEW NORTHDALE BOULEVARD AT RIVERDALE STATION



## SIDE VIEW



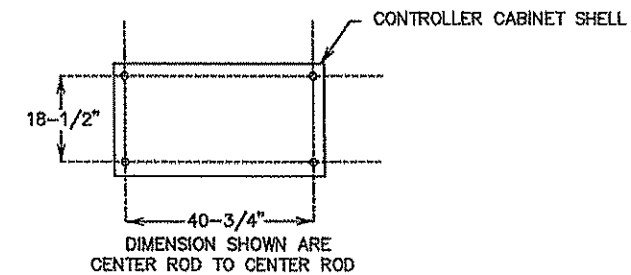
## FRONT VIEW



### NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE COUNTY FURNISHED CONTROLLER AND CABINET SHALL BE FURNISHED BY THE COUNTY AND INSTALLED BY THE CONTRACTOR.
2. THE UPPER PART OF THE EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERED 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. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
7. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
8. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
9. CONTRACTOR SHALL PROVIDE MINIMUM 4-INCH CLEARANCE BETWEEN CONTROLLER AND SERVICE CABINETS ON THE EQUIPMENT PAD FOUNDATION AS SHOWN.

### CONTROLLER CABINET TYPE "P" & "R" BOLT PATTERN



S:\V\A\ANOKA\CONTR\SIG\ALS\57-116\0271611\_SIGDETALS.DWG

DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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.

*John M. Gray*  
Name: John M. Gray, PE  
Date: April 5, 2011  
Lic. No. 22457

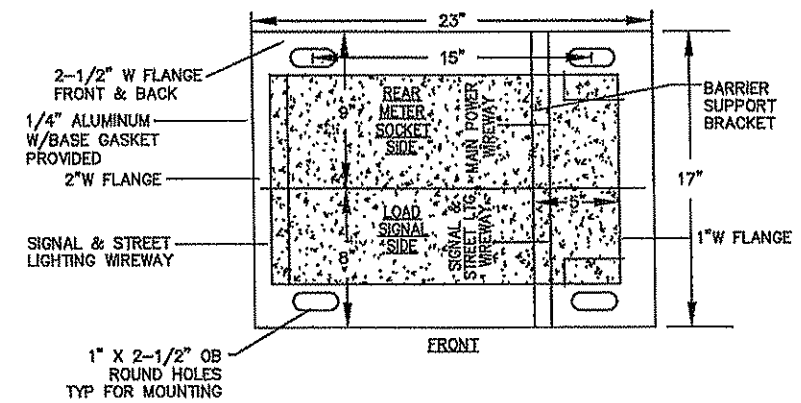
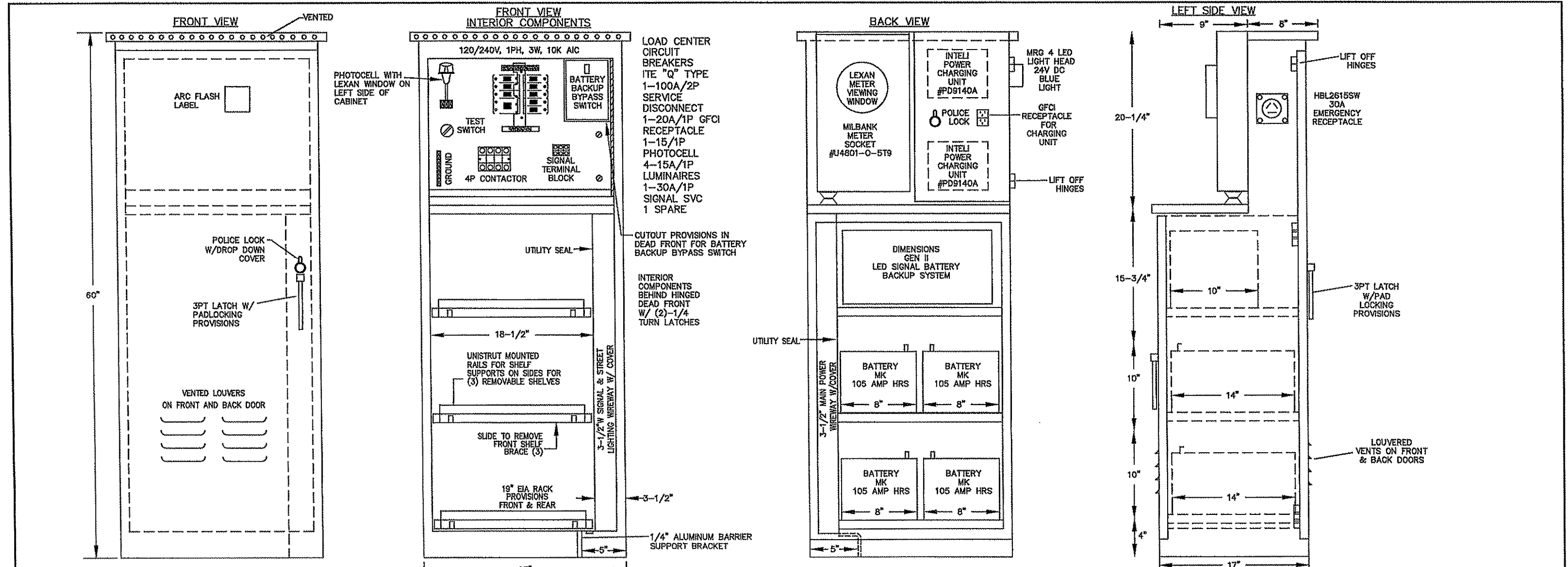
**SEH**  
PHONE: (651) 490-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110

**ANOKA COUNTY,  
MINNESOTA  
CITY OF RAMSEY**

**TRAFFIC SIGNAL SYSTEM  
EQUIPMENT PAD DETAILS  
CSAH 116 (BUNKER LAKE BLVD)  
AT CSAH 57 (SUNFISH LAKE BLVD)**

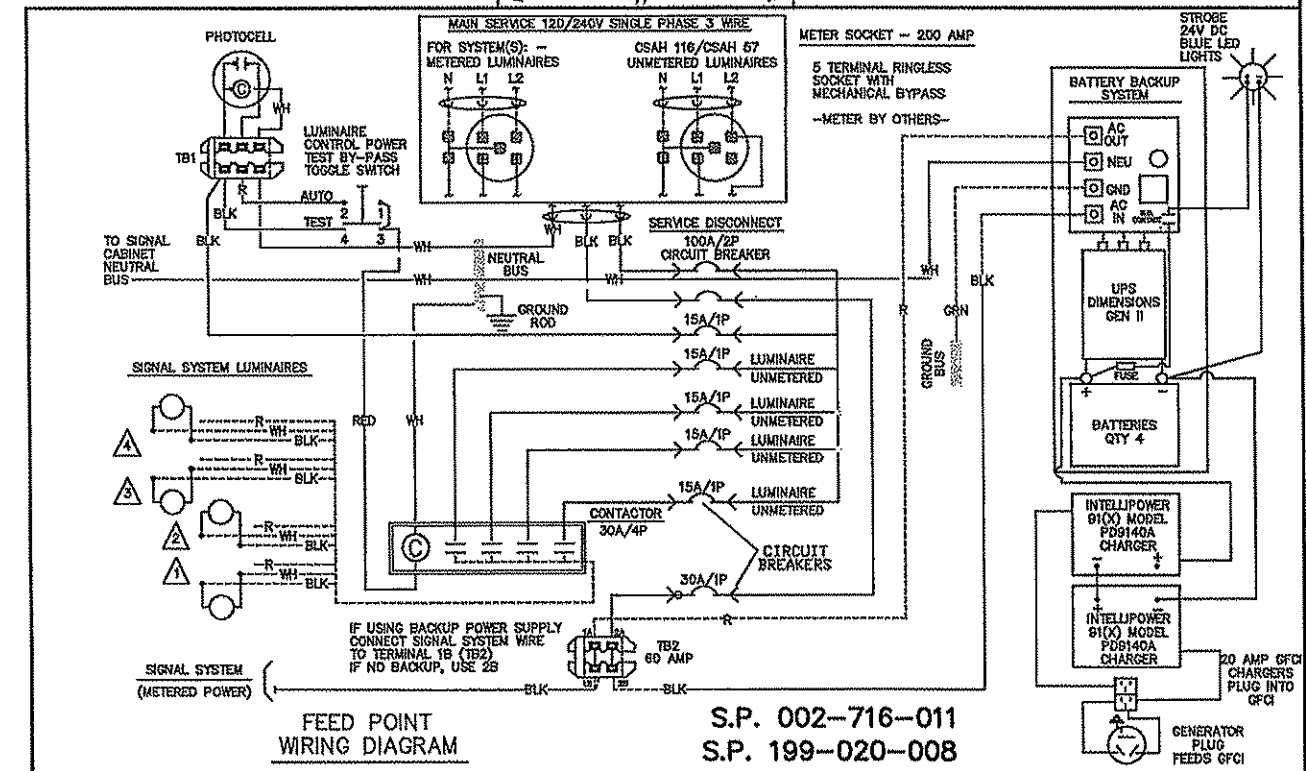
FILE NO. ANOKC 110096  
SHEET S63 OF S618  
**181**  
**264**

S.P. 002-716-011  
S.P. 199-020-008



**CABINET CONSTRUCTION**  
 -NEMA 3R  
 -1/8" ALUMINUM 5052-H32  
 -ANODIZED 30 MINUTE CLEAR  
 -NEOPRENE GASKETED DOORS  
 -NON-CORRODING HARDWARE  
 -ETL LISTED IN ACCORDANCE W/UL508A

SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES REGARDING SEPARATE PAY ITEM FOR FURNISHING & INSTALLING NEW BATTERY BACK-UP SIGNAL SERVICE CABINET.



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 DESIGNER: JMG  
 CHECKED BY: JMG

DESIGN TEAM	NO.	BY	DATE	REVISIONS

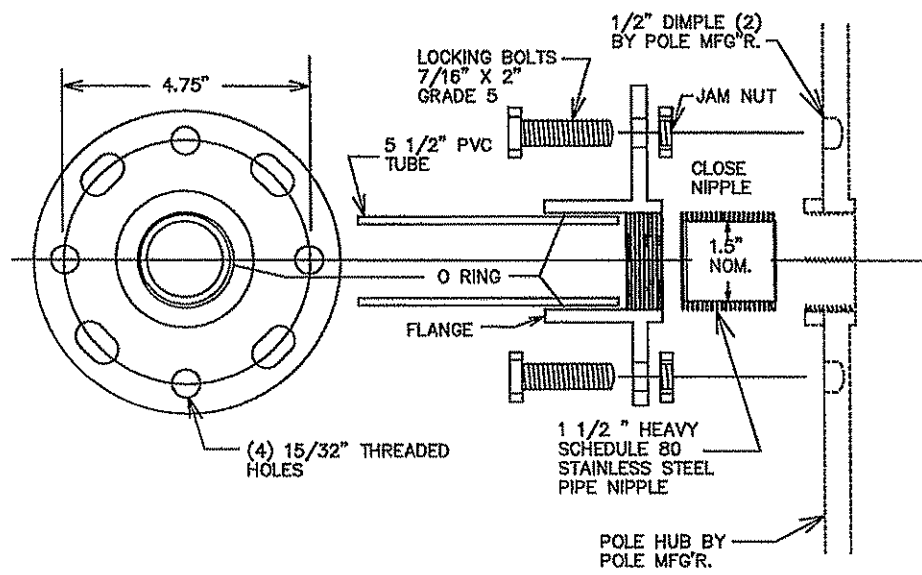
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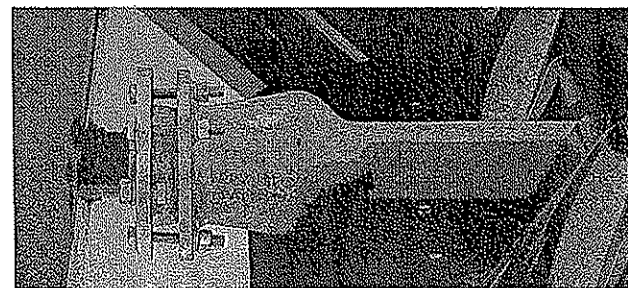
ANOKA COUNTY, MINNESOTA  
 CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM  
 SERVICE CABINET DETAILS  
 CSAH 116 (BUNKER LAKE BLVD)  
 AT CSAH 57 (SUNFISH LAKE BLVD)

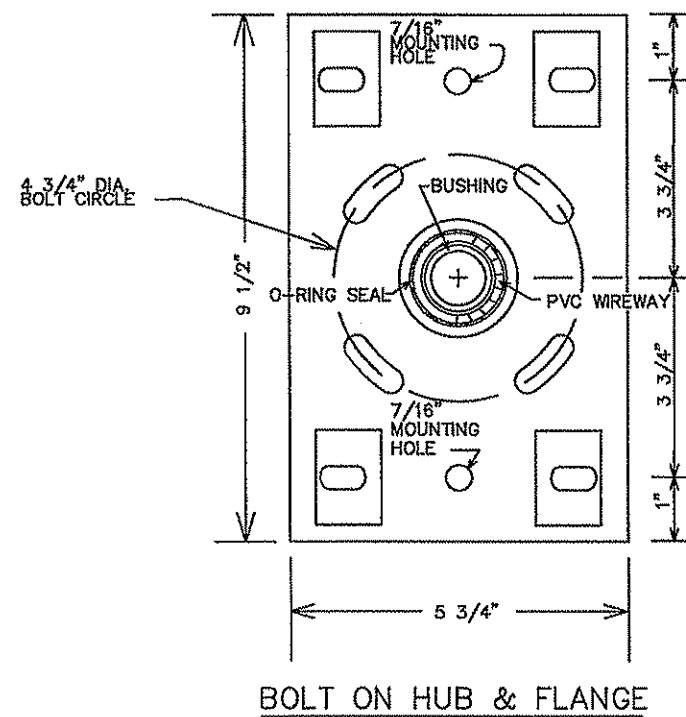
FILE NO. ANOKC 110096  
 SHEET SG4 OF SG18  
 182  
 264



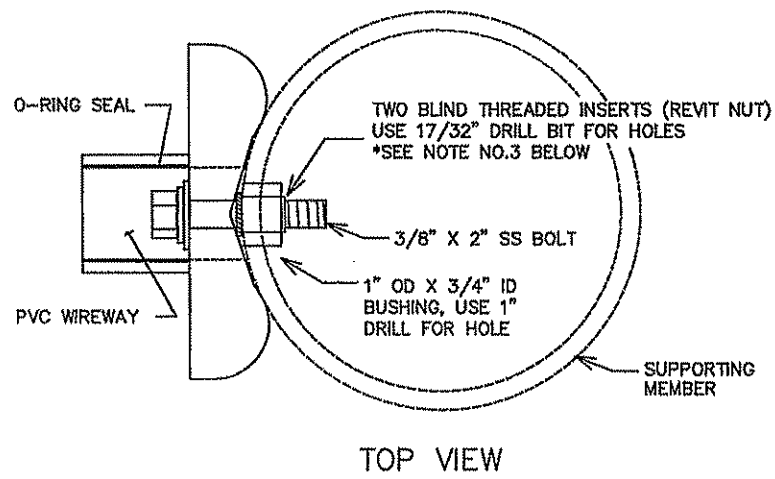
**THREADED HUB AND FLANGE POLE ADAPTOR**



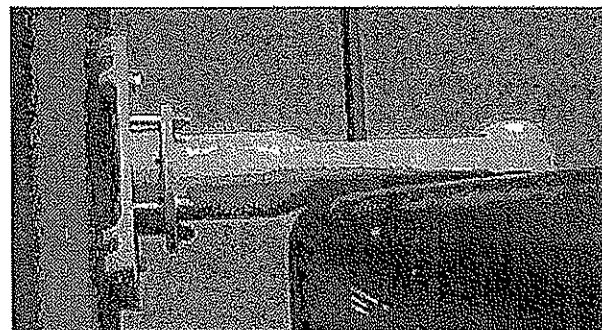
- NOTE:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
  2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 & 5 SECTION POLY HEADS.
  3. SEE STANDARD PLATE NUMBER B123 FOR ADDITIONAL SIGNAL POLE DETAILS.



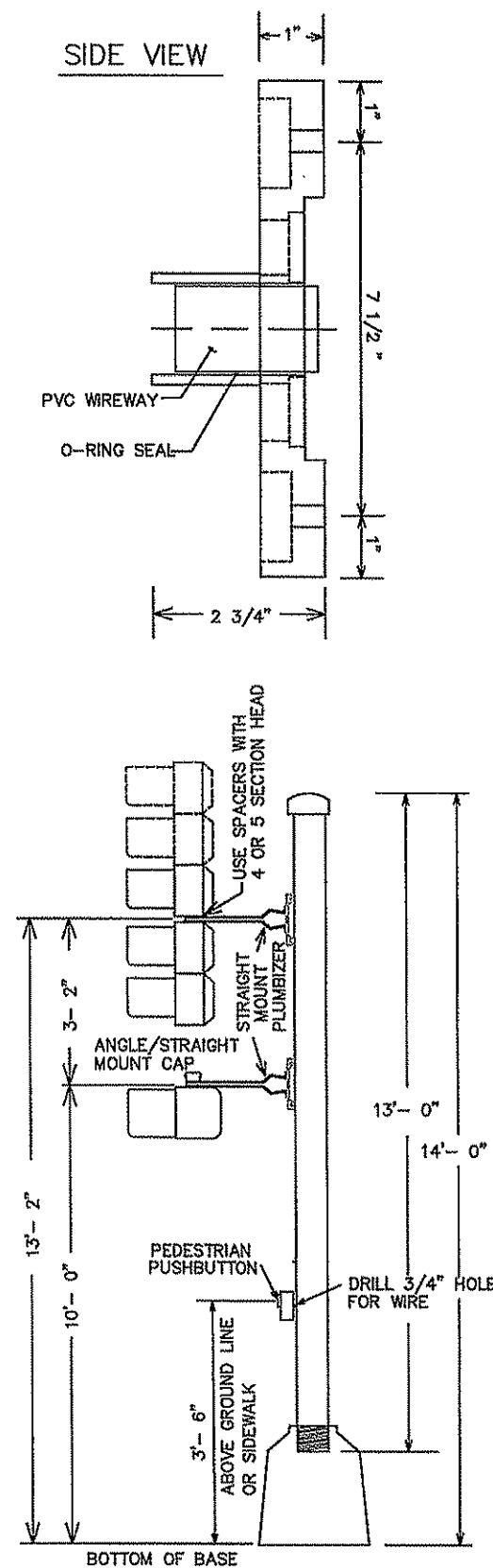
**BOLT ON HUB & FLANGE**



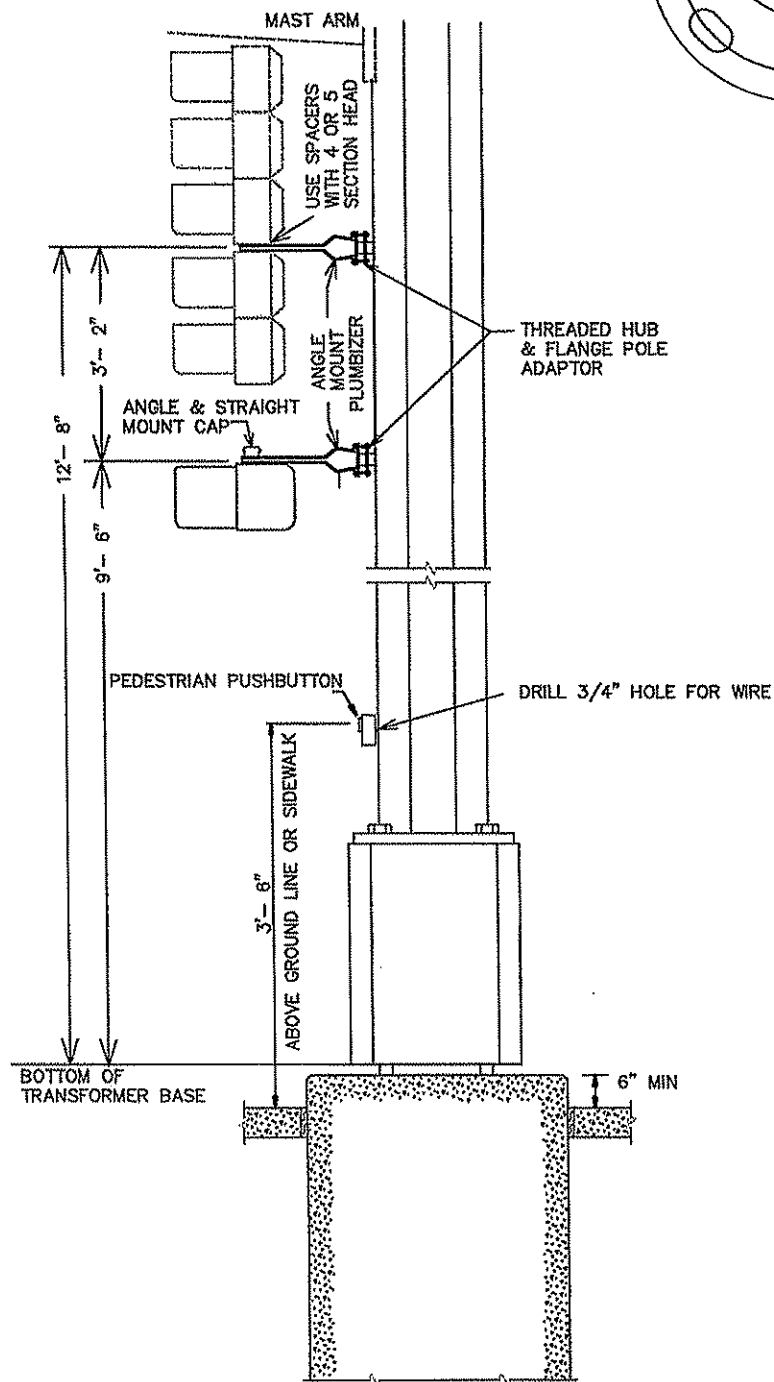
**TOP VIEW**



- NOTE:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
  2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 & 5 SECTION POLY HEADS.
  3. BLIND THREADED INSERTS (RIVET NUT) MUST BE INSTALLED USING MANUFACTURER'S SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
  4. SEE STANDARD PLATE NUMBER B122 FOR ADDITIONAL PEDESTAL POLE DETAILS.



**TYPICAL PEDESTAL MOUNTING**  
NOT TO SCALE



**TYPICAL SIGNAL POLE MOUNTING**  
NOT TO SCALE

S:\MVA\ANOKA\COMMON SIGNALS\97-116\071811\_SIGDETAILS.DWG

DRAWN BY: JMG  
DESIGNER: JMG  
CHECKED BY: JMG

DESIGN TEAM	NO.	BY	DATE	REVISIONS

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*John M. Gray*  
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PHONE: (651) 490-2000  
3635 VADNAIS CENTER DR.  
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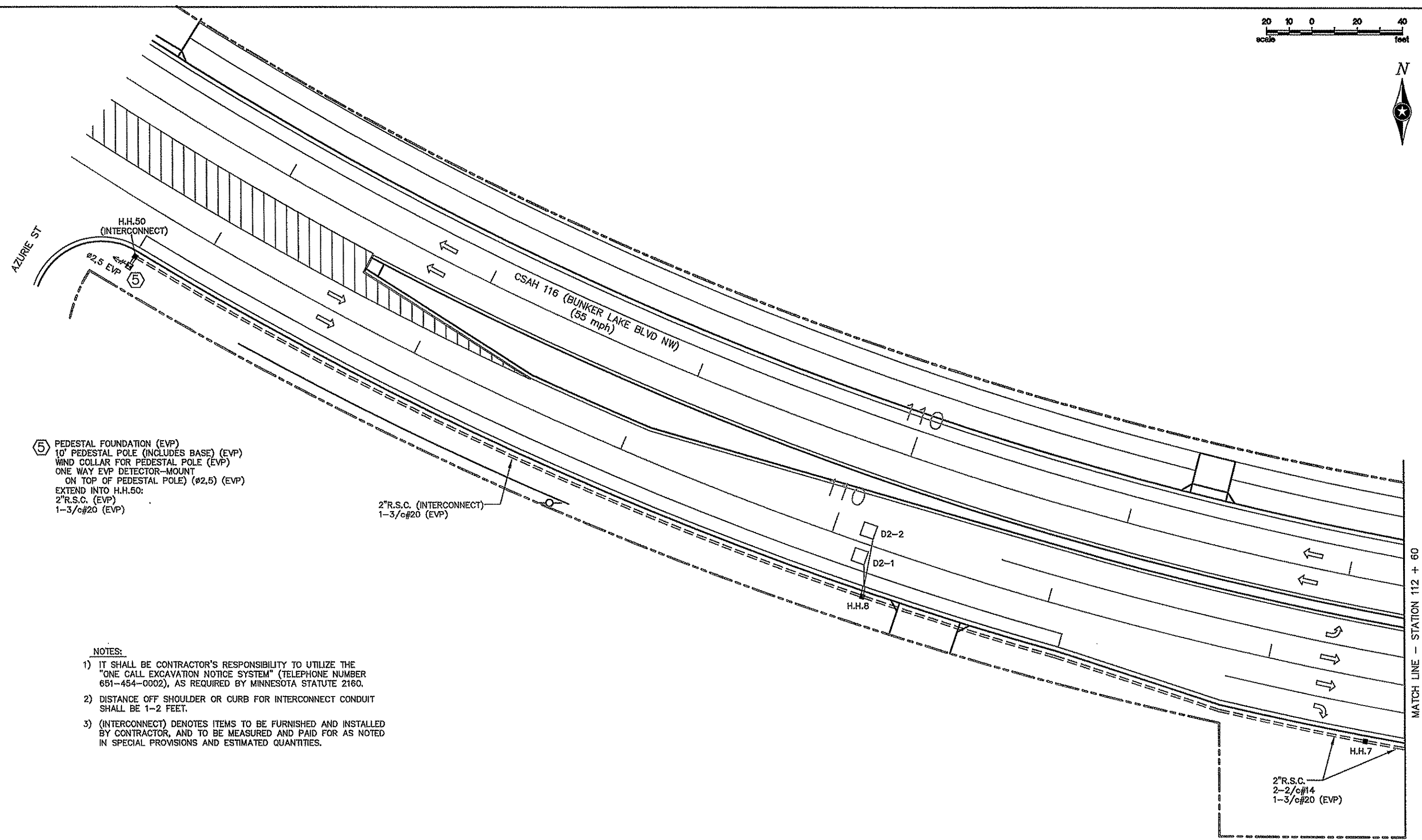
**ANOKA COUNTY,  
MINNESOTA  
CITY OF RAMSEY**

**TRAFFIC SIGNAL SYSTEM  
POLE MOUNT DETAILS  
CSAH 116 (BUNKER LAKE BLVD)  
AT CSAH 57 (SUNFISH LAKE BLVD)**

FILE NO.  
ANOKC 110096  
SHEET  
565 OF 568

**183**  
**264**

S.P. 002-716-011  
S.P. 199-020-008



- ⑤ PEDESTAL FOUNDATION (EVP)
- 10' PEDESTAL POLE (INCLUDES BASE) (EVP)
- WIND COLLAR FOR PEDESTAL POLE (EVP)
- ONE WAY EVP DETECTOR-MOUNT ON TOP OF PEDESTAL POLE (Ø2,5) (EVP)
- EXTEND INTO H.H.50:
- 2"R.S.C. (EVP)
- 1-3/c#20 (EVP)

**NOTES:**

- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
- 3) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR, AND TO BE MEASURED AND PAID FOR AS NOTED IN SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.

MATCH LINE - STATION 112 + 60

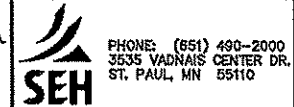
S.P. 002-716-011  
S.P. 199-020-008

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DESIGNER: JMG			
CHECKED BY: JMG			
DESIGN TEAM	NO.	BY	DATE
			REVISIONS

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Date: April 5, 2011 Name: John M. Gray, PE L.No. 22457



**ANOKA COUNTY, MINNESOTA**  
CITY OF RAMSEY

**TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT**  
CSAH 116 (BUNKER LAKE BLVD) AT CSAH 57 (SUNFISH LAKE BLVD)

FILE NO. ANOKC 110096  
SHEET 264 OF 264

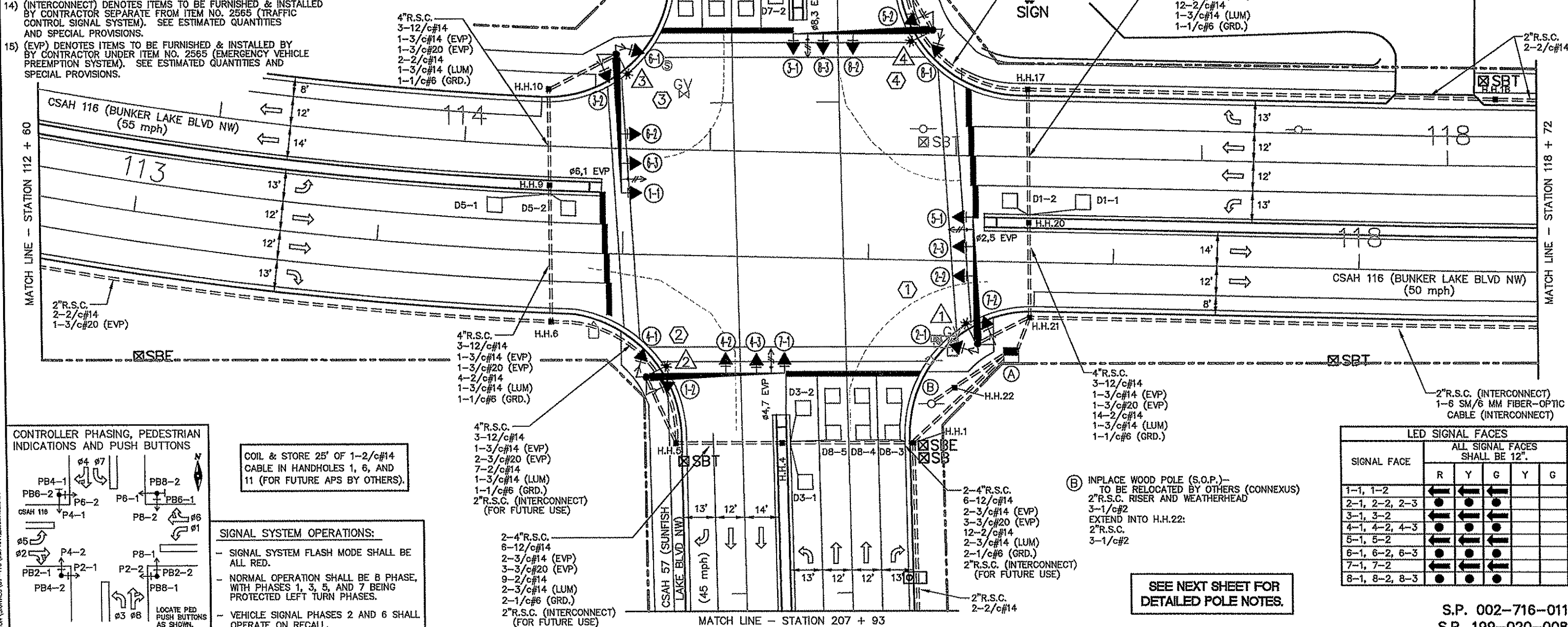


**NOTES:**

- 1) THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED IN FIELD BY ENGINEER.
- 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 3) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 4) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
- 5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION.
- 6) THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
- 7) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL).
- 8) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION "FILLED" COUNTDOWN TIMER HAND/WALKING PERSON INDICATION.
- 9) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
- 10) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 11) SEE DETAILS, SPECIAL PROVISIONS, AND STATEMENT OF ESTIMATED QUANTITIES REGARDING BATTERY BACK-UP SIGNAL SERVICE CABINET TO BE FURNISHED AND INSTALLED BY CONTRACTOR (SEPARATE FROM ITEM NO. 2565 FOR THIS SIGNAL SYSTEM).
- 12) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- 13) ALL VEHICLE AND PEDESTRIAN SIGNAL HOUSINGS, BACKGROUND SHIELDS, AND VISORS SHALL BE FABRICATED USING BLACK POLYCARBONATE MATERIALS. SEE SPECIAL PROVISIONS.
- 14) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR SEPARATE FROM ITEM NO. 2565 (TRAFFIC CONTROL SIGNAL SYSTEM). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 15) (EVP) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

N.M.C. LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	
D1-1	6x6	40'	1	
D1-2	6x6	10'	1	
D2-1	6x6	475'	1	
D2-2	6x6	475'	1	
D3-1	6x6	40'	1	
D3-2	6x6	10'	1	
D4-1	6x6	475'	3,8	
D4-2	6x6	475'	3,8	
D4-3	2-6x6	5' & 20'	7	
D4-4	2-6x6	5' & 20'	1	
D4-5	2-6x6	5' & 20'	1	
D5-1	6x6	40'	1	
D5-2	6x6	10'	1	
D6-1	6x6	400'	1	
D6-2	6x6	400'	1	
D7-1	6x6	40'	1	
D7-2	6x6	10'	1	
D8-1	6x6	300'	3,8	
D8-2	6x6	300'	3,8	
D8-3	2-6x6	5' & 20'	7	
D8-4	2-6x6	5' & 20'	1	
D8-5	2-6x6	5' & 20'	1	

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.



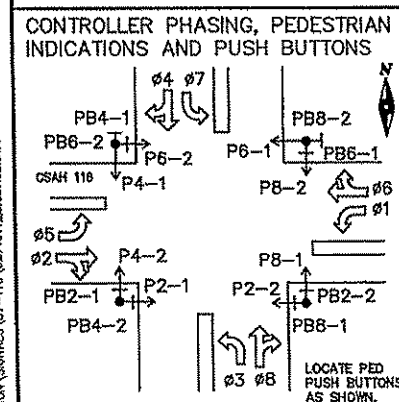
**LOOP DETECTORS FUNCTIONS:**

- 1) CALL AND EXTEND
- 3) EXTEND ONLY
- 7) DELAYED CALL, IMMEDIATE EXTEND
- 8) CARRY OVER (STRETCH)

**(A) INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)**

- BATTERY BACK-UP SIGNAL SERVICE CABINET
- BETWEEN CONTROLLER CABINET AND SERVICE CABINET:
- METERED SIGNAL SERVICE
- 2" R.S.C.
- 3-1/c#6
- CONTROLLER CABINET TO H.H.1:
- 4" R.S.C.
- 3-12/c#14
- 1-3/c#14 (EVP)
- 1-3/c#20 (EVP)
- 9-2/c#14
- CONTROLLER CABINET TO H.H.21:
- 4" R.S.C.
- 3-12/c#14
- 1-3/c#14 (EVP)
- 1-3/c#20 (EVP)
- 2-2/c#14
- CONTROLLER CABINET TO H.H.21:
- 2" R.S.C. (INTERCONNECT)
- 1-6 SM/6 MM FIBER OPTIC CABLE (INTERCONNECT)

- SERVICE CABINET TO H.H.1:
- 2" R.S.C.
- UNMETERED STREET LIGHT SERVICE
- 2-3/c#14 (LUM)
- 2-1/c#6 (GRD.)
- SERVICE CABINET TO H.H.21:
- 2" R.S.C.
- UNMETERED STREET LIGHT SERVICE
- 2-3/c#14 (LUM)
- 2-1/c#6 (GRD.)
- SERVICE CABINET TO H.H.22:
- 2" R.S.C.
- 3-1/c#2
- STUB OUT 1" R.S.C. FROM CONTROLLER CABINET (FOR FUTURE PHONE LINE BY OTHERS)
- STUB OUT 3" R.S.C. FROM CONTROLLER CABINET TO NORTH (THREAD AND CAP-FOR FUTURE USE)
- CONTROLLER CABINET TO H.H.1:
- 2" R.S.C. (INTERCONNECT)
- (FOR FUTURE INTERCONNECT BY OTHERS)



COIL & STORE 25' OF 1-2/c#14 CABLE IN HANDHOLES 1, 6, AND 11 (FOR FUTURE APS BY OTHERS).

**SIGNAL SYSTEM OPERATIONS:**

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE B PHASE, WITH PHASES 1, 3, 5, AND 7 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

LED SIGNAL FACES					
SIGNAL FACE	ALL SIGNAL FACES SHALL BE 12"				
	R	Y	G	Y	G
1-1, 1-2	●	●	●	●	●
2-1, 2-2, 2-3	●	●	●	●	●
3-1, 3-2	●	●	●	●	●
4-1, 4-2, 4-3	●	●	●	●	●
5-1, 5-2	●	●	●	●	●
6-1, 6-2, 6-3	●	●	●	●	●
7-1, 7-2	●	●	●	●	●
8-1, 8-2, 8-3	●	●	●	●	●

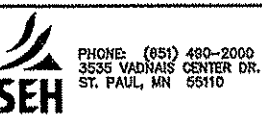
SEE NEXT SHEET FOR DETAILED POLE NOTES.

DRAWN BY:	JMG
DESIGNER:	JMG
CHECKED BY:	JMG

NO.	BY	DATE	REVISIONS

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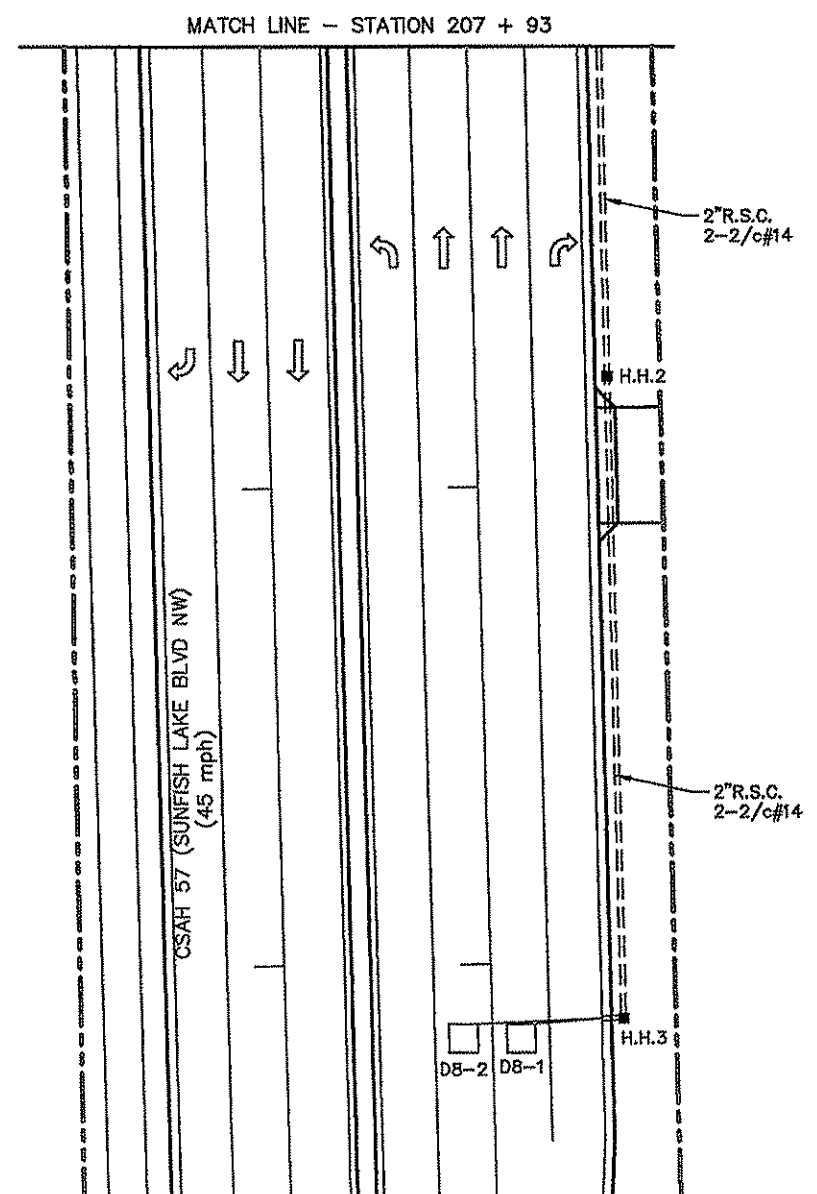
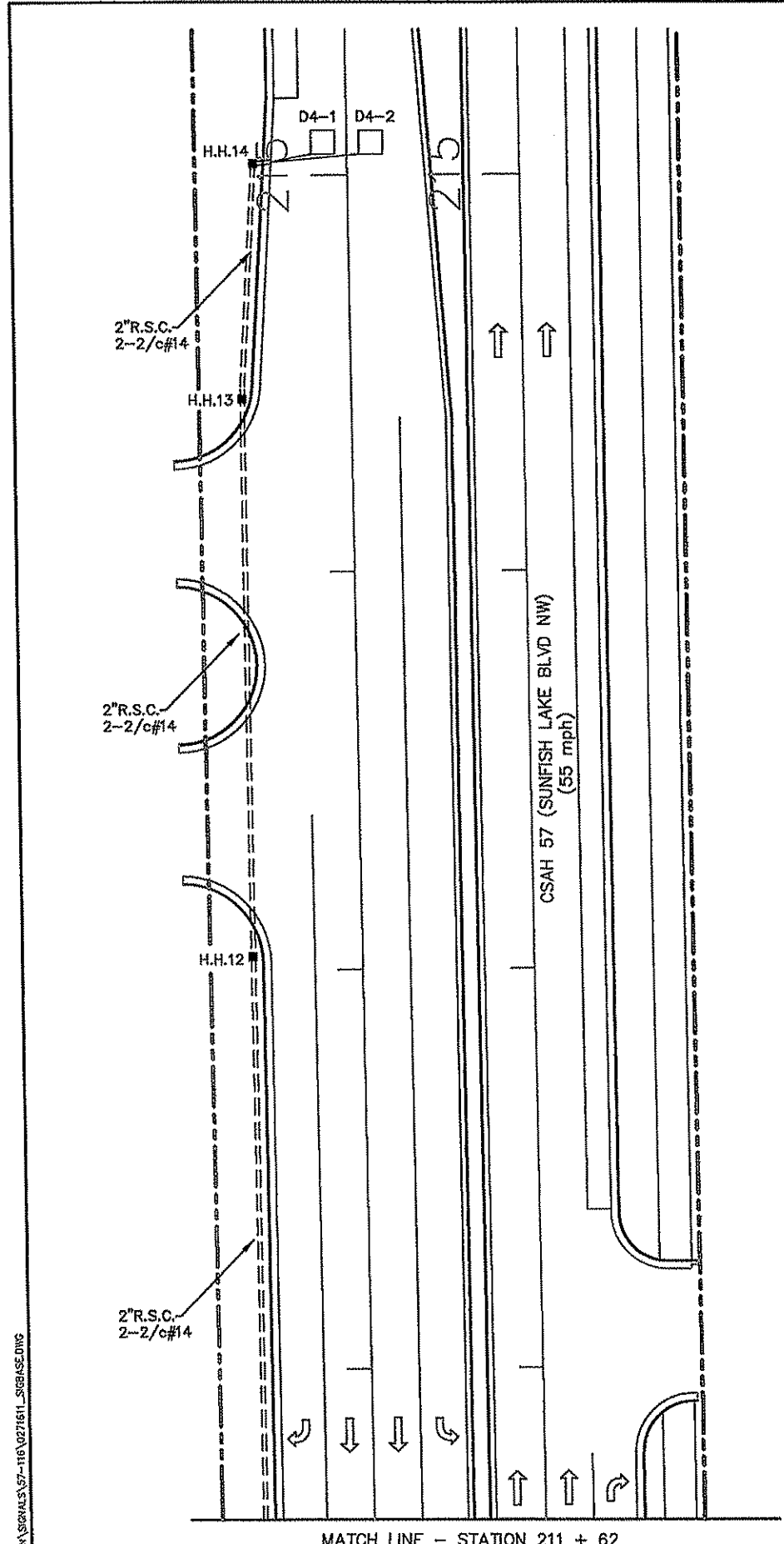


**ANOKA COUNTY, MINNESOTA**  
CITY OF RAMSEY

**TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT**  
CSAH 116 (BUNKER LAKE BLVD) AT CSAH 57 (SUNFISH LAKE BLVD)

FILE NO. ANOKC 110096 **185**  
SHEET 007 OF 0018 **264**

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- ① PA100 POLE FOUNDATION  
 TYPE PA100-A-50-D40-9 (DAVIT AT 350')  
 LUMINAIRE-250 W HPS  
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'  
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180'  
 2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90° & 180'  
 2-PEDESTRIAN PUSH BUTTONS  
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180'  
 TYPE D SIGN PANEL-OVERHEAD (D-1)  
 ONE WAY EVP DETECTOR AND LIGHT (Ø2,5) (EVP)  
 EXTEND INTO H.H.21:  
 3\"/>

- ② PA100 POLE FOUNDATION  
 TYPE PA100-A-55-D40-9 (DAVIT AT 350')  
 LUMINAIRE-250 W HPS  
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'  
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180'  
 2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90° & 180'  
 2-PEDESTRIAN PUSH BUTTONS  
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180'  
 TYPE D SIGN PANEL-OVERHEAD (D-2)  
 ONE WAY EVP DETECTOR AND LIGHT (Ø4,7) (EVP)  
 EXTEND INTO H.H.5:  
 3\"/>

- ③ PA100 POLE FOUNDATION  
 TYPE PA100-A-55-D40-9 (DAVIT AT 350')  
 LUMINAIRE-250 W HPS  
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'  
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180'  
 2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90° & 180'  
 2-PEDESTRIAN PUSH BUTTONS  
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180'  
 TYPE D SIGN PANEL-OVERHEAD (D-3)  
 ONE WAY EVP DETECTOR AND LIGHT (Ø6,1) (EVP)  
 EXTEND INTO H.H.10:  
 3\"/>

- ④ PA100 POLE FOUNDATION  
 TYPE PA100-A-55-D40-9 (DAVIT AT 350')  
 LUMINAIRE-250 W HPS  
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'  
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180'  
 2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90° & 180'  
 2-PEDESTRIAN PUSH BUTTONS  
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180'  
 TYPE D SIGN PANEL-OVERHEAD (D-4)  
 ONE WAY EVP DETECTOR AND LIGHT (Ø8,3) (EVP)  
 EXTEND INTO H.H.16:  
 3\"/>



MATCH LINE - STATION 211 + 62

S.P. 002-716-011  
 ANOK 199-020-008

DRAWN BY: JMG  
 DESIGNER: JMG  
 CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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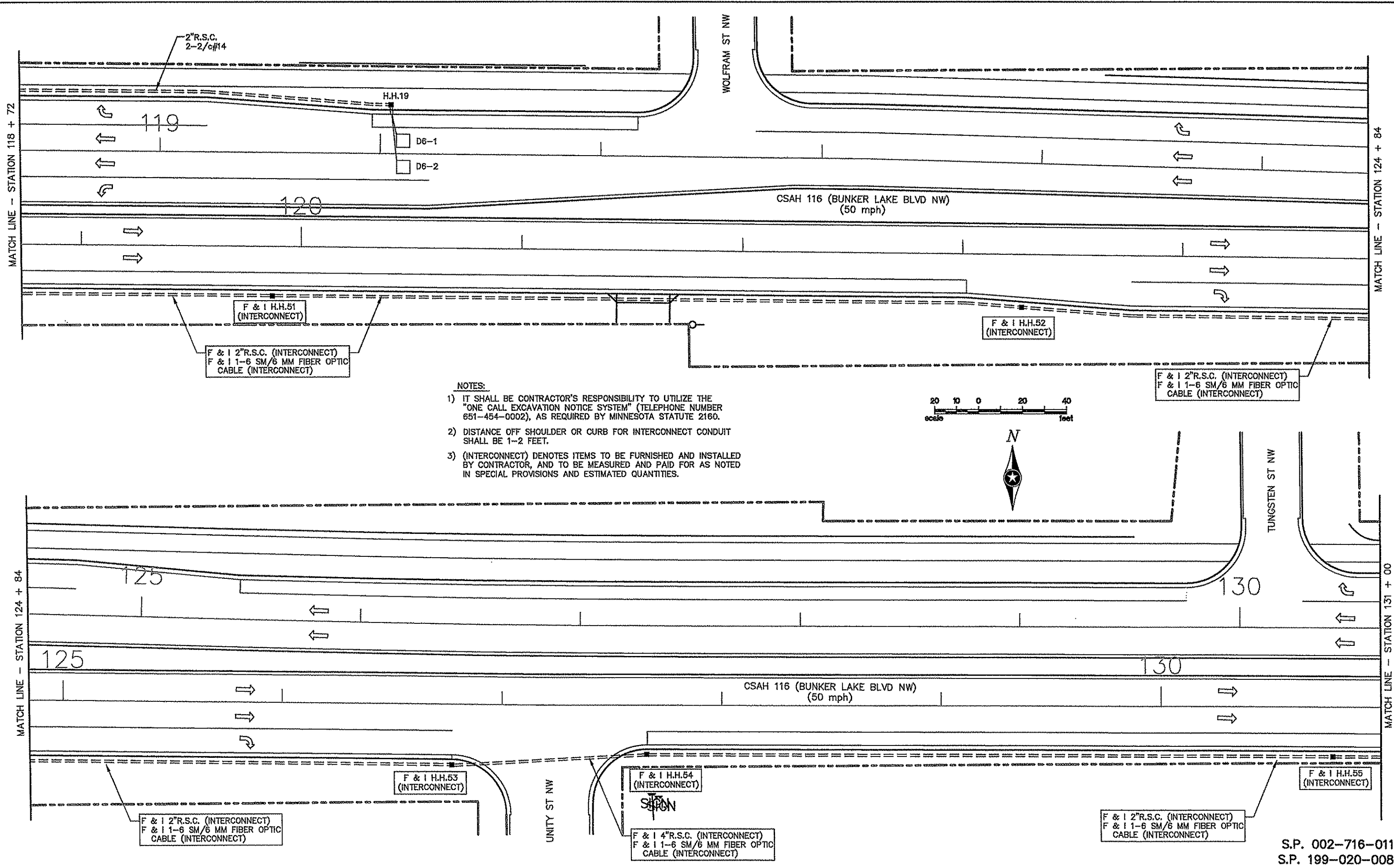
SEH  
 PHONE: (651) 490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

ANOKA COUNTY,  
 MINNESOTA  
 CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM  
 INTERSECTION LAYOUT  
 CSAH 116 (BUNKER LAKE BLVD)  
 AT CSAH 57 (SUNFISH LAKE BLVD)

FILE NO. ANOK 110096  
 SHEET 264  
 OF 264

S:\MVA\ANOKA\COMMON\SIGNALS\57-116\0271611\_SIGBASE.DWG



- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
  - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
  - 3) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR, AND TO BE MEASURED AND PAID FOR AS NOTED IN SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.



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DRAWN BY: JMG  
 DESIGNER: JMG  
 CHECKED BY: JMG

DESIGN TEAM	NO.	BY	DATE	REVISIONS

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.

*John M. Gray*  
 Name: John M. Gray, PE  
 Lic. No. 22457  
 Date: April 5, 2011

**SEH**  
 PHONE: (651) 490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

**ANOKA COUNTY, MINNESOTA**  
 CITY OF RAMSEY

**TRAFFIC SIGNAL SYSTEM + INTERCONNECT**  
 INTERSECTION LAYOUT  
 CSAH 116 (BUNKER LAKE BLVD)  
 AT CSAH 57 (SUNFISH LAKE BLVD)

S.P. 002-716-011  
 S.P. 199-020-008

FILE NO. ANOKC 110096  
 SHEET 509 OF 5018

**187**  
**264**





MATCH LINE - STATION 131 + 00

MATCH LINE - STATION 137 + 13

135

135

CSAH 116 (BUNKER LAKE BLVD NW)  
(50 mph)

F & I H.H.56  
(INTERCONNECT)

F & I H.H.57  
(INTERCONNECT)

F & I 2"R.S.C. (INTERCONNECT)  
F & I 1-6 SM/6 MM FIBER OPTIC  
CABLE (INTERCONNECT)

NOTES:

- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
- 3) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR, AND TO BE MEASURED AND PAID FOR AS NOTED IN SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.



MATCH LINE - STATION 137 + 13

CSAH 116 (BUNKER LAKE BLVD NW)  
(50 mph)

140

140

F & I H.H.58  
(INTERCONNECT)

F & I 2"R.S.C. (INTERCONNECT)  
F & I 1-6 SM/6 MM FIBER OPTIC  
CABLE (INTERCONNECT)

MATCH LINE - STATION 142 + 00

S.P. 002-716-011  
S.P. 199-020-008

DRAWN BY: JMG  
DESIGNER: JMG  
CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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*John M. Gray*  
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Date: April 5, 2011

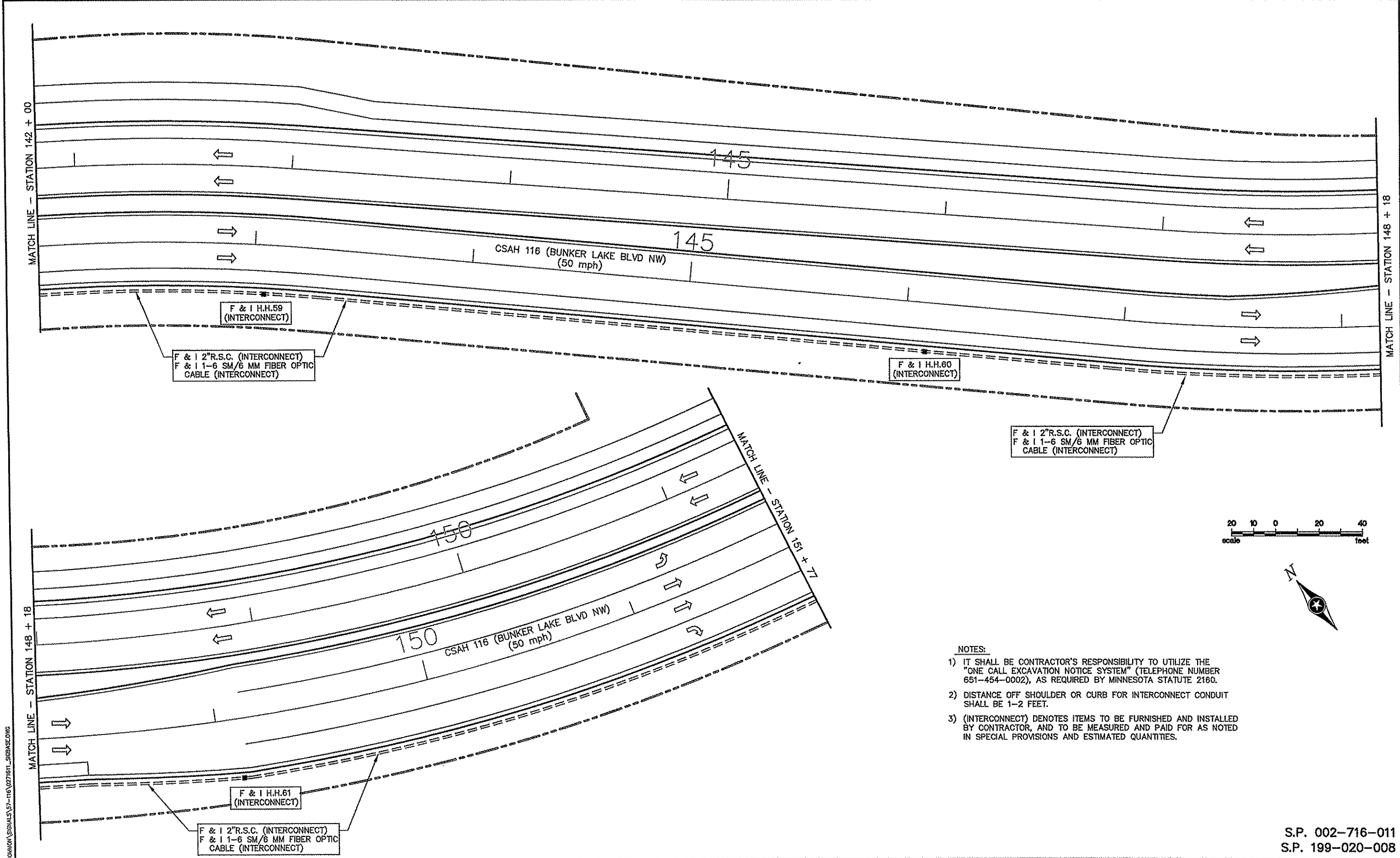
**SEH**  
PHONE: (851) 490-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110

**ANOKA COUNTY,  
MINNESOTA  
CITY OF RAMSEY**

**TRAFFIC SIGNAL INTERCONNECTION  
INTERSECTION LAYOUT  
CSAH 116 (BUNKER LAKE BLVD)  
CSAH 57 TO DYSPROSIUM/THURSTON**

FILE NO. ANOKC 110096  
SHEET SG12 OF SG18  
**190**  
**264**

S:\A\A\ANOKA\COMMON\SIGNALS\57-116\0271611\_50845E.DWG



- NOTES:
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
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S.P. 002-716-011  
S.P. 199-020-008

DRAWN BY:	JMG
DESIGNER:	JMG
CHECKED BY:	JMG
DESIGN TEAM	

NO.	BY	DATE	REVISIONS

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Date: April 5, 2011 Name: John M. Gray, PE Lico. No. 22457

**SEH**  
PHONE: (651) 490-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110

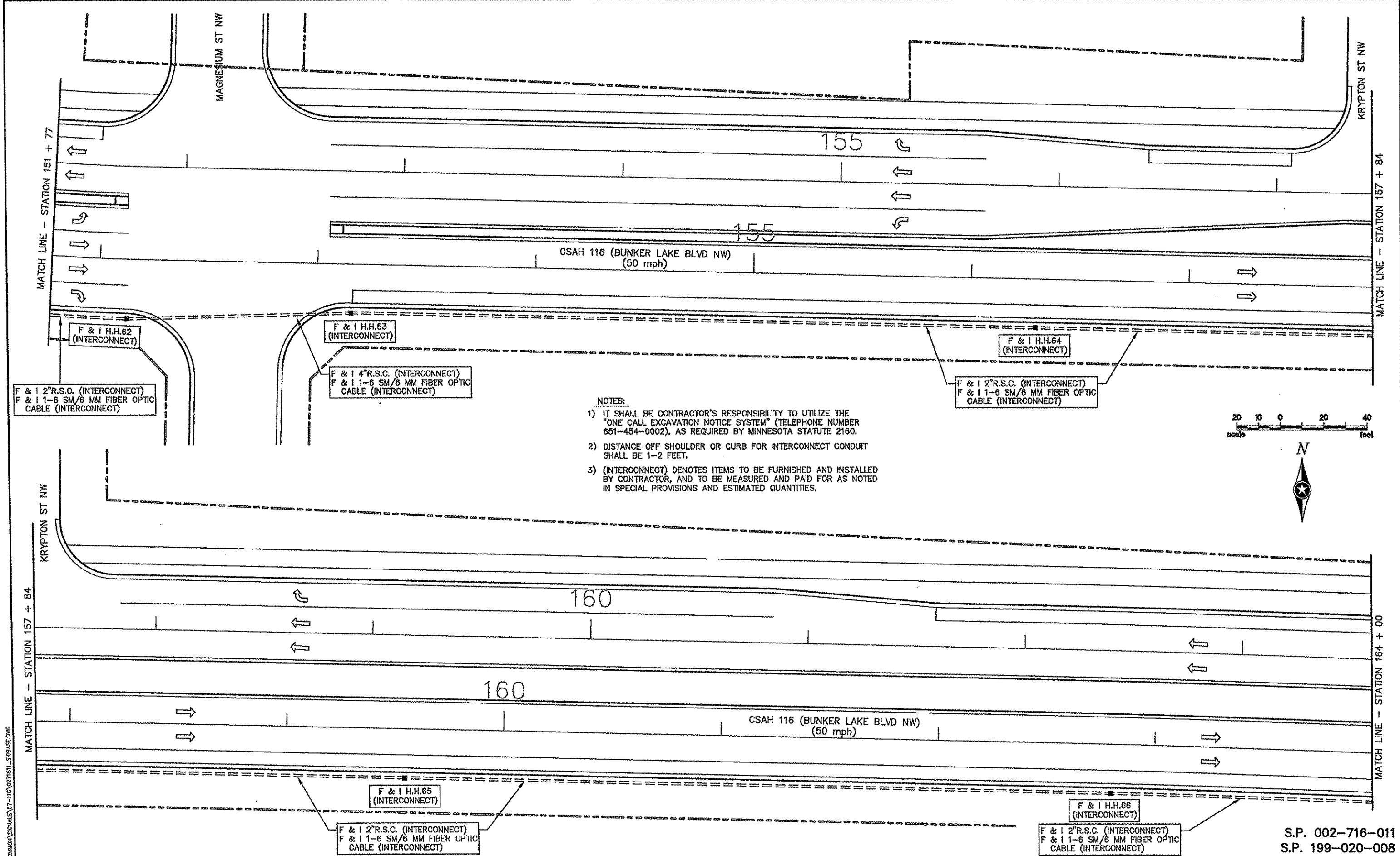
**ANOKA COUNTY, MINNESOTA**  
CITY OF RAMSEY

**TRAFFIC SIGNAL INTERCONNECTION INTERSECTION LAYOUT**  
CSAH 116 (BUNKER LAKE BLVD)  
(CSAH 57 TO DYSPROBIUM/THURSTON)

FILE NO. ANOKC 110096  
SHEET SG13 OF SG18

191  
264

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**NOTES:**

- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
- 3) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR, AND TO BE MEASURED AND PAID FOR AS NOTED IN SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.



DRAWN BY:	JMG
DESIGNER:	JMG
CHECKED BY:	JMG

NO.	BY	DATE	REVISIONS

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*John M. Gray*  
 Name: John M. Gray, PE  
 Date: April 5, 2011  
 Lic. No. 22457



**ANOKA COUNTY,  
MINNESOTA  
CITY OF RAMSEY**

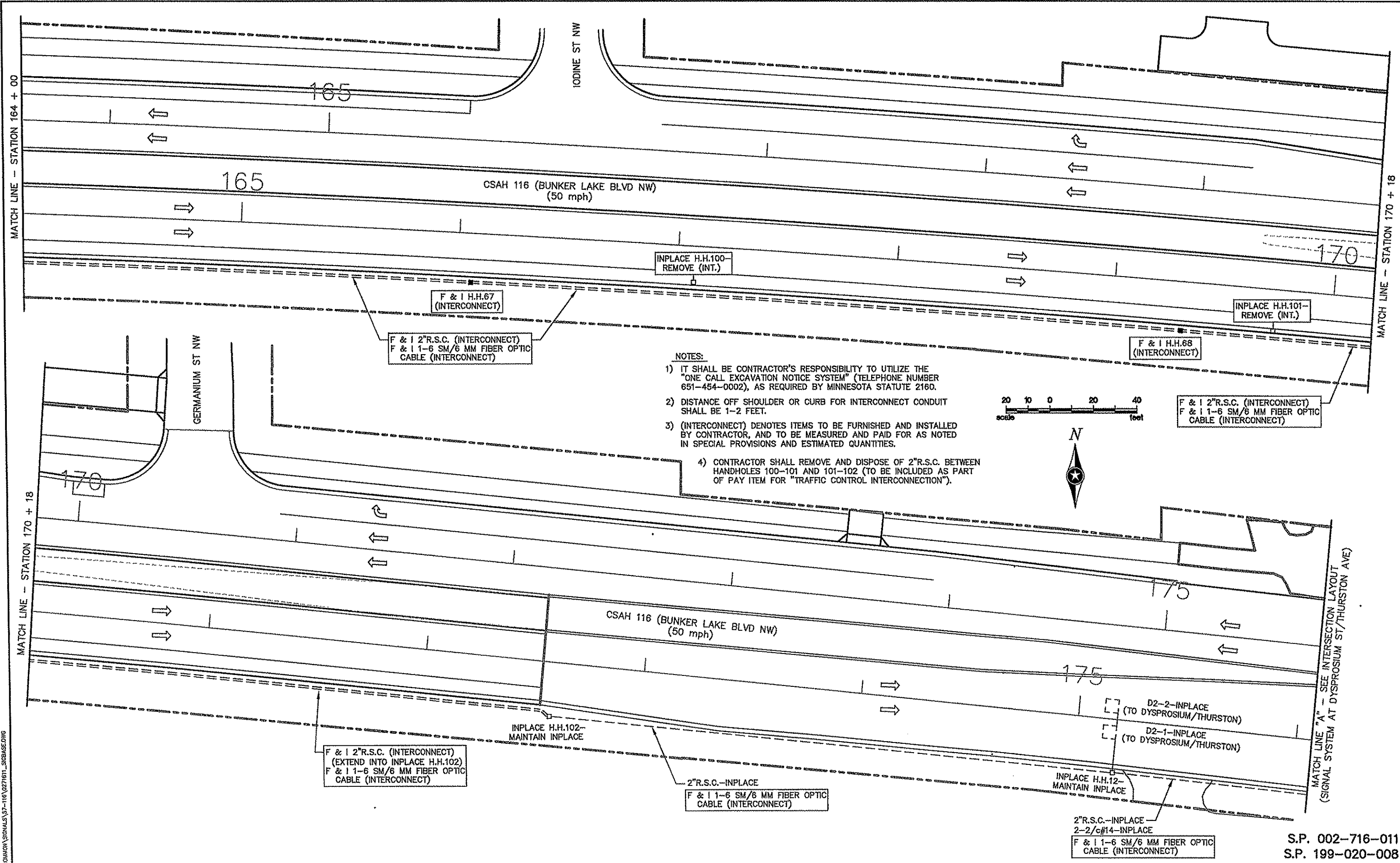
**TRAFFIC SIGNAL INTERCONNECTION  
INTERSECTION LAYOUT  
CSAH 116 (BUNKER LAKE BLVD)  
(CSAH 57 TO DYSPROSIUM/THURSTON)**

FILE NO.	ANOKC 110095	<b>192</b>
SHEET	SG14 OF SG18	

S.P. 002-716-011  
S.P. 199-020-008

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- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 216D.
  - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
  - 3) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR, AND TO BE MEASURED AND PAID FOR AS NOTED IN SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.
  - 4) CONTRACTOR SHALL REMOVE AND DISPOSE OF 2"R.S.C. BETWEEN HANDHOLES 100-101 AND 101-102 (TO BE INCLUDED AS PART OF PAY ITEM FOR "TRAFFIC CONTROL INTERCONNECTION").



MATCH LINE - STATION 164 + 00

MATCH LINE - STATION 170 + 18

MATCH LINE - STATION 170 + 18

MATCH LINE "A" - SEE INTERSECTION LAYOUT (SIGNAL SYSTEM AT DYSPROSIUM ST/THURSTON AVE)

DRAWN BY:	JMG		
DESIGNER:	JMG		
CHECKED BY:	JMG		
DESIGN TEAM	NO.	BY	DATE

NO.	BY	DATE

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.

*John M. Gray*  
 Name: John M. Gray, PE  
 Llc. No. 22457  
 Date: April 5, 2011

**SEH**  
 PHONE: (651) 490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

**ANOKA COUNTY, MINNESOTA**  
**CITY OF RAMSEY**

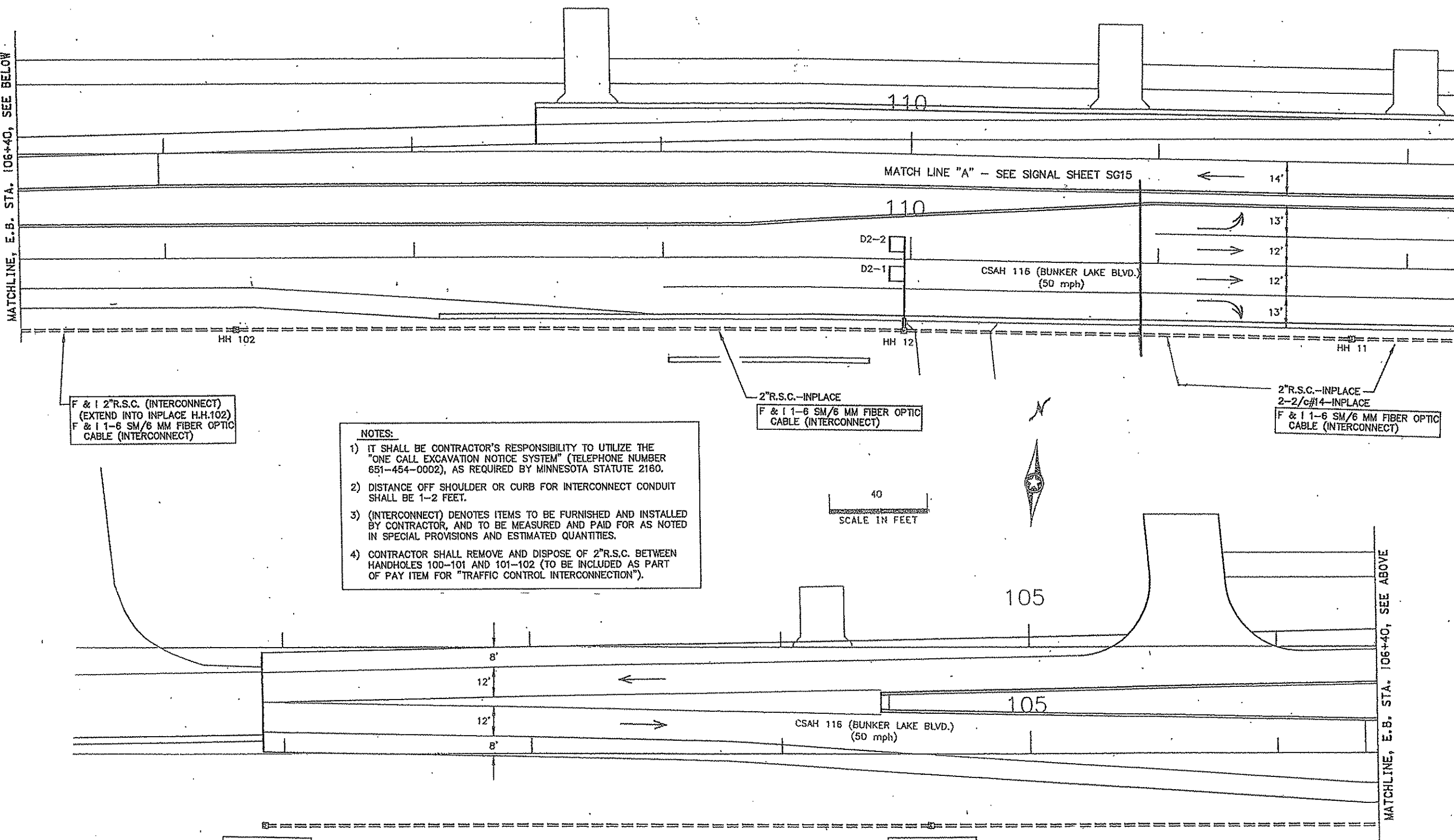
**TRAFFIC SIGNAL INTERCONNECTION INTERSECTION LAYOUT**  
**CSAH 116 (BUNKER LAKE BLVD)**  
**(CSAH 57 TO DYSPROSIUM/THURSTON)**

S.P. 002-716-011  
 S.P. 199-020-008

FILE NO. ANOKC 110096  
 SHEET 193  
 SG15 OF SG18  
 264

MATCHLINE, E.B. STA. 106+40, SEE BELOW

MATCHLINE "A" E.B. STA. 112+20, SEE SHEET SG17



F & 1 2"R.S.C. (INTERCONNECT)  
 (EXTEND INTO INPLACE H.H.102)  
 F & 1 1-6 SM/6 MM FIBER OPTIC  
 CABLE (INTERCONNECT)

2"R.S.C.-INPLACE  
 F & 1 1-6 SM/6 MM FIBER OPTIC  
 CABLE (INTERCONNECT)

2"R.S.C.-INPLACE  
 2-2/c#14-INPLACE  
 F & 1 1-6 SM/6 MM FIBER OPTIC  
 CABLE (INTERCONNECT)

- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
  - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
  - 3) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR, AND TO BE MEASURED AND PAID FOR AS NOTED IN SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.
  - 4) CONTRACTOR SHALL REMOVE AND DISPOSE OF 2"R.S.C. BETWEEN HANDHOLES 100-101 AND 101-102 (TO BE INCLUDED AS PART OF PAY ITEM FOR "TRAFFIC CONTROL INTERCONNECTION").

40  
 SCALE IN FEET

INPLACE H.H.100-  
 REMOVE (INT.)

INPLACE H.H.101-  
 REMOVE (INT.)

MATCHLINE, E.B. STA. 106+40, SEE ABOVE

S:\EV\ANOKA\CADWORK\SIGNALS\17-115\2271611\_SG19A.DWG

DRAWN BY: JMG  
 DESIGNER: JMG  
 CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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*John M. Gray*  
 Name: John M. Gray, PE  
 Lic. No. 22457  
 Date: April 5, 2011

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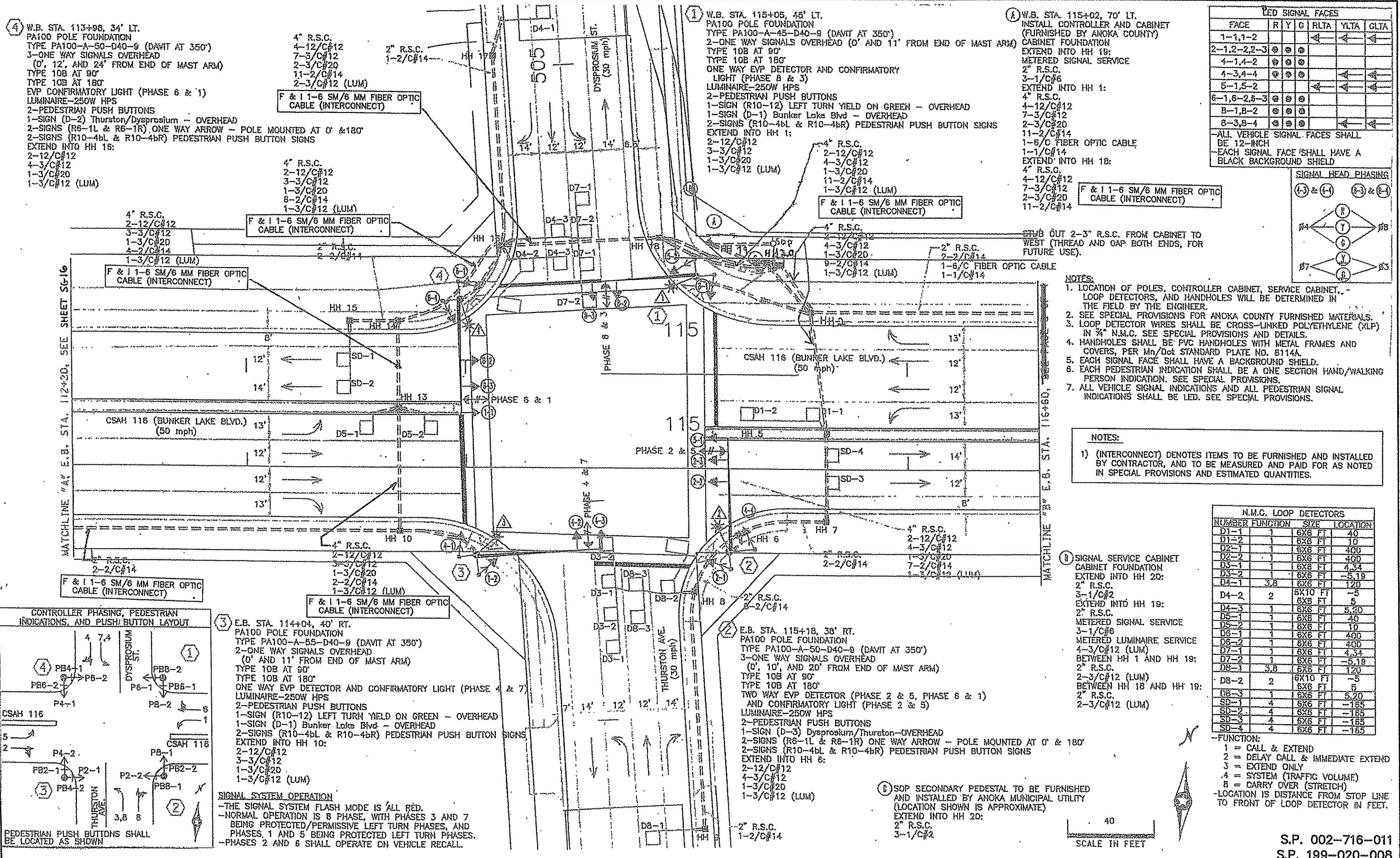
**ANOKA COUNTY,  
 MINNESOTA  
 CITY OF RAMSEY**

**INPLACE SIGNAL SYSTEM  
 INTERCONNECT PROVISIONS  
 CSAH 116 (BUNKER LAKE BLVD)  
 AT DYSPROSILUM ST/THURSTON AVE**

FILE NO.  
 ANOKC 110096  
 SHEET  
 SG16 OF SG18

**194**  
**264**

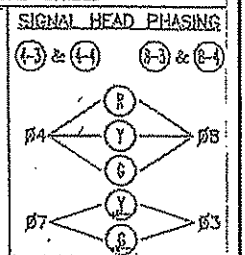
S.P. 002-716-011  
 S.P. 199-020-008



**LED SIGNAL FACES**

FACE	R	Y	G	RLTA	YLTA	GLTA
1-1,1-2				←	←	←
2-1,2-2-3	⊗	⊗	⊗			
4-1,4-2	⊗	⊗	⊗			
4-3,4-4	⊗	⊗	⊗			
5-1,5-2				←	←	←
6-1,6-2,5-3	⊗	⊗	⊗			
B-1,B-2	⊗	⊗	⊗			
6-3,8-4	⊗	⊗	⊗			

-ALL VEHICLE SIGNAL FACES SHALL BE 12-INCH  
-EACH SIGNAL FACE SHALL HAVE A BLACK BACKGROUND SHIELD



- NOTES:**
1. LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS, AND HANDHOLES WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  2. SEE SPECIAL PROVISIONS FOR ANOKA COUNTY FURNISHED MATERIALS.
  3. LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
  4. HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS, PER Mn/DOT STANDARD PLATE NO. S114A.
  5. EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
  6. EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
  7. ALL VEHICLE SIGNAL INDICATIONS AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.

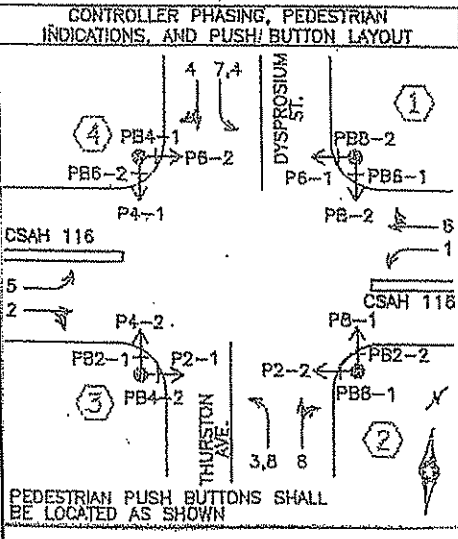
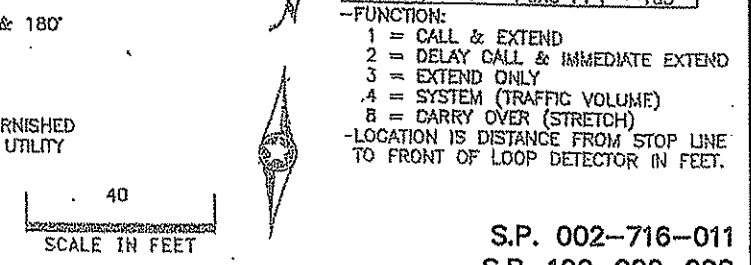
**NOTES:**

- 1) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR, AND TO BE MEASURED AND PAID FOR AS NOTED IN SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.

**N.M.C. LOOP DETECTORS**

NUMBER	FUNCTION	SIZE	LOCATION
D1-1	1	6X6 FT	40
D1-2	1	6X6 FT	10
D2-1	1	6X6 FT	400
D2-2	1	6X6 FT	400
D3-1	1	6X6 FT	4.34
D3-2	1	6X6 FT	-5.19
D4-1	3,8	6X6 FT	120
D4-2	2	6X10 FT	-5
D4-3	1	6X6 FT	5.20
D5-1	1	6X6 FT	40
D5-2	1	6X6 FT	10
D6-1	1	6X6 FT	400
D6-2	1	6X6 FT	400
D7-1	1	6X6 FT	4.34
D7-2	1	6X6 FT	-5.19
D8-1	3,8	6X6 FT	120
D8-2	2	6X10 FT	-5
D8-3	1	6X6 FT	5.20
SD-1	4	6X6 FT	-165
SD-2	4	6X6 FT	-165
SD-3	4	6X6 FT	-165
SD-4	4	6X6 FT	-165

- NOTES:**
- 1) SIGNAL SERVICE CABINET CABINET FOUNDATION EXTEND INTO HH 20: 2" R.S.C. METERED SIGNAL SERVICE 3-1/C#6 METERED LUMINAIRE SERVICE 4-3/C#12 (LUM) BETWEEN HH 1 AND HH 19: 2" R.S.C. 2-3/C#12 (LUM) BETWEEN HH 18 AND HH 19: 2" R.S.C. 2-3/C#12 (LUM)



**3) E.B. STA. 114+04, 40' RT. PA100 POLE FOUNDATION TYPE PA100-A-55-D40-9 (DAVIT AT 350') 2-ONE WAY SIGNALS OVERHEAD (0' AND 11' FROM END OF MAST ARM) TYPE 10B AT 90° TYPE 10B AT 180° ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4 & 7) LUMINAIRE-250W HPS 2-PEDESTRIAN PUSH BUTTONS 1-SIGN (R10-12) LEFT TURN YIELD ON GREEN - OVERHEAD 1-SIGN (D-1) Bunker Lake Blvd - OVERHEAD 2-SIGNS (R10-4bL & R10-4bR) PEDESTRIAN PUSH BUTTON SIGNS EXTEND INTO HH 10: 2-12/C#12 3-3/C#12 1-3/C#20 1-3/C#12 (LUM)**

**SIGNAL SYSTEM OPERATION**

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 3 AND 7 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES, AND PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.
- PHASES 2 AND 6 SHALL OPERATE ON VEHICLE RECALL.

DRAWN BY: JMG  
DESIGNER: JMG  
CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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.

*John M. Gray, P.E.*  
Name: John M. Gray, P.E.  
Date: April 5, 2011  
Lic. No. 22457

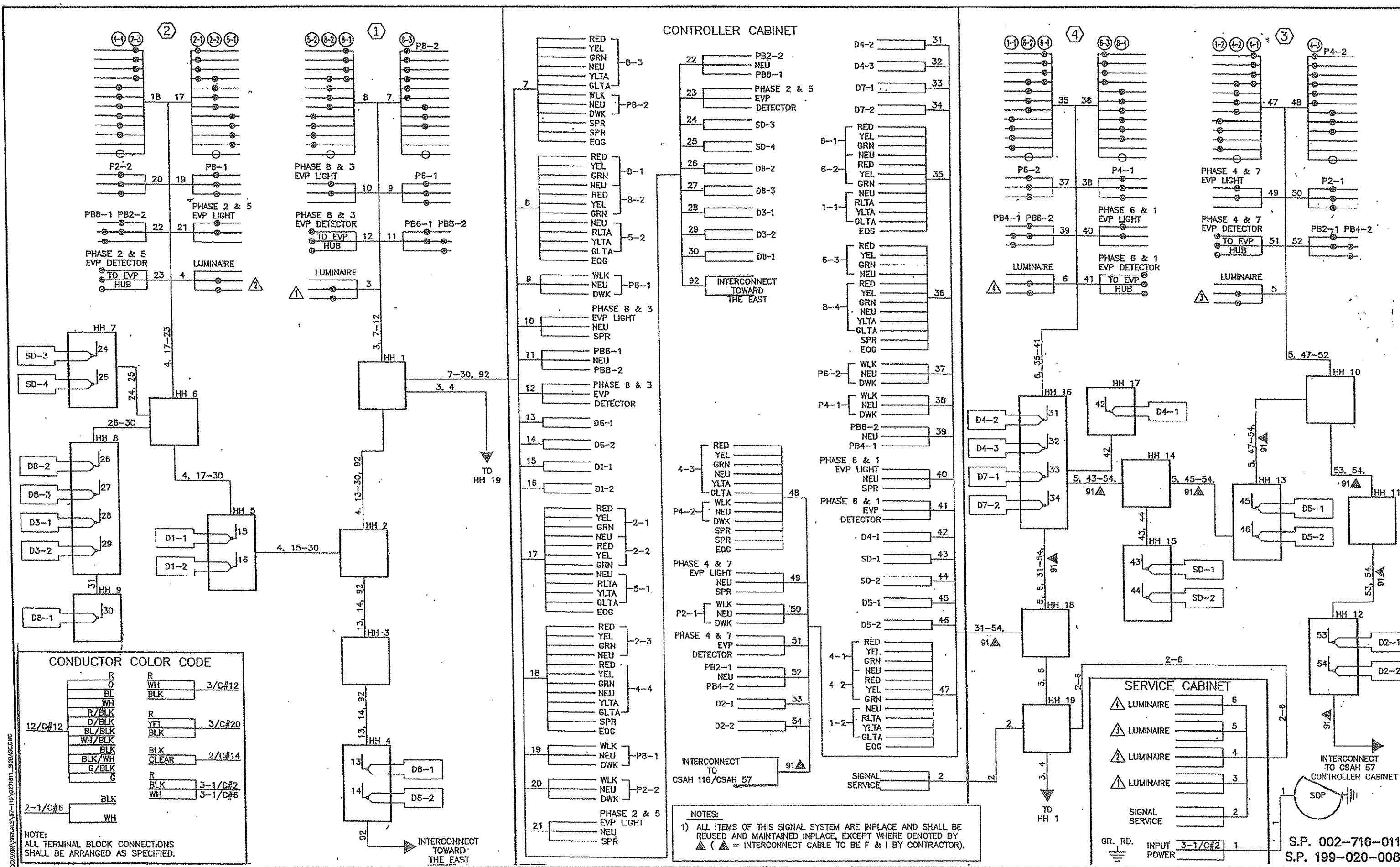
**SEH**  
PHONE: (651) 490-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110

**ANOKA COUNTY, MINNESOTA**  
CITY OF RAMSEY

**INPLACE SIGNAL SYSTEM INTERCONNECT PROVISIONS**  
CSAH 116 (BUNKER LAKE BLVD.) AT DYSPROSIUM ST./THURSTON AVE.

FILE NO. ANOKC 110096  
SHEET 264 OF 2618

S.P. 002-716-011  
S.P. 199-020-008



CONTROLLER CABINET

**CONDUCTOR COLOR CODE**

R	3/C#12
0	BLK
BL	WH
WH	BLK
R/BLK	3/C#20
D/BLK	YEL
BL/BLK	BLK
WH/BLK	BLK
BLK	BLK/CLEAR
BLK/WH	2/C#14
G/BLK	R
BLK	BLK
WH	3-1/C#2
	3-1/C#5
2-1/C#5	BLK
	WH

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

**NOTES:**  
 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE DENOTED BY (▲) (▲ = INTERCONNECT CABLE TO BE F & I BY CONTRACTOR).

DRAWN BY: JMG  
 DESIGNER: JMG  
 CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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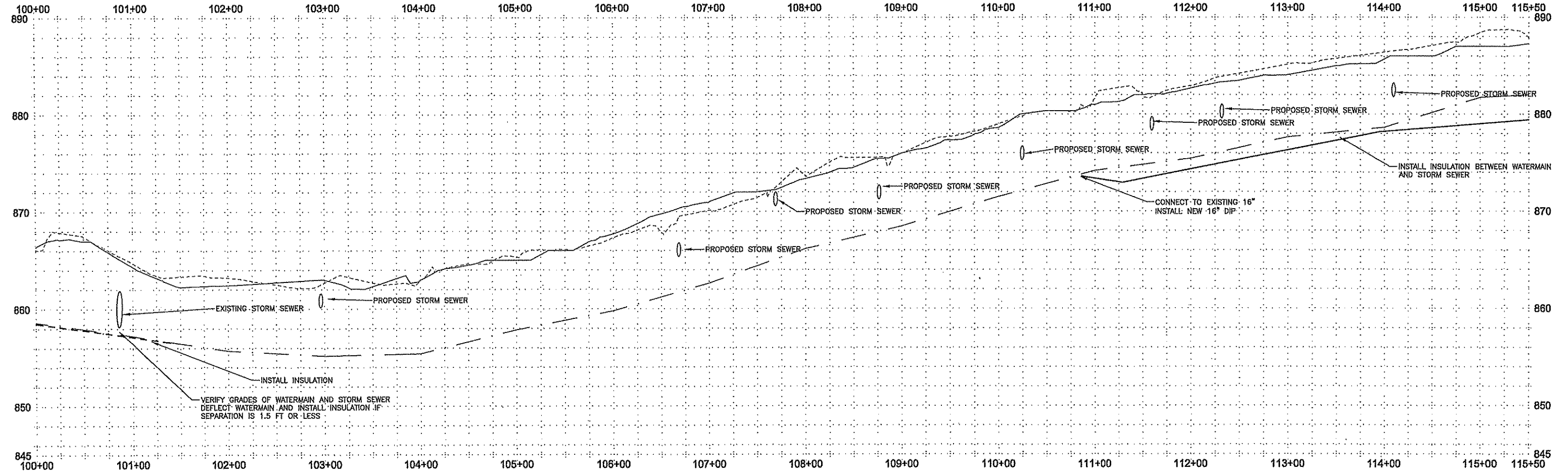
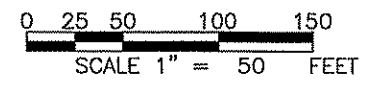
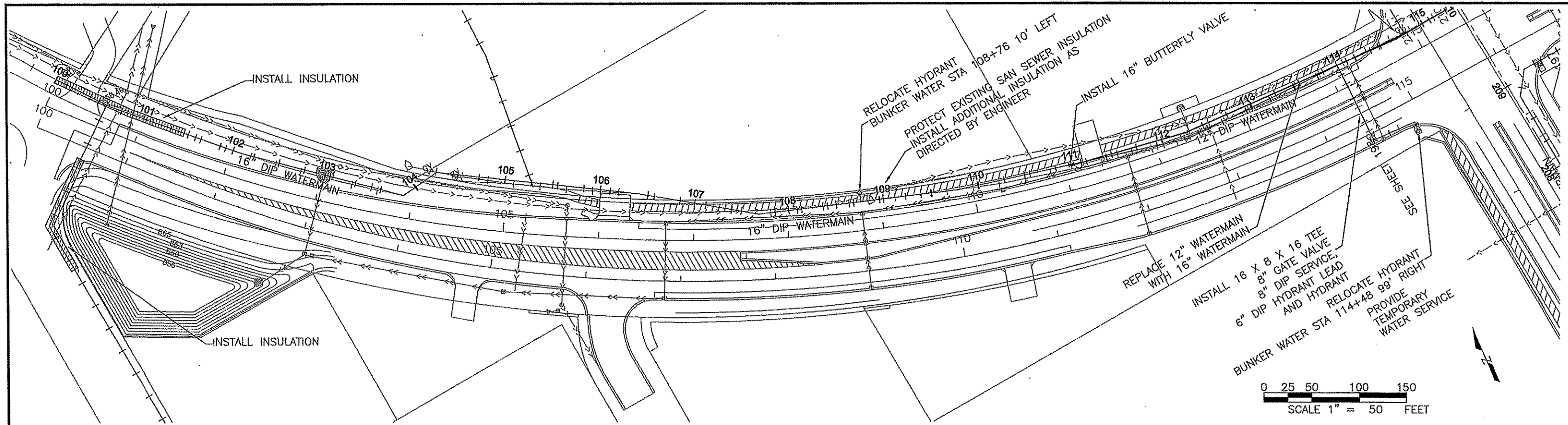
*John M. Gray, PE*  
 Name: John M. Gray, PE  
 Lf. No. 22457  
 Date: April 5, 2011

PHONE: (651) 490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

**ANOKA COUNTY, MINNESOTA**  
**CITY OF RAMSEY**

**INPLACE SIGNAL SYSTEM INTERCONNECT PROVISIONS**  
**CSAH 116 (BUNKER LAKE BLVD) AT DYSPROSIUM ST/THURSTON AVE.**

FILE NO. ANOKC 110096  
 SHEET 264 OF 268  
 S.P. 002-716-011  
 S.P. 199-020-008



REV. NO.	BY	DATE	REVISION

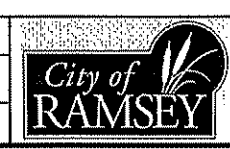
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

*Leonard L. Zinton*  
 LEONARD L. ZINTON  
 Date 4/5/11 Lic. No. 21112

DESIGNED BY:  
LLL

DRAWN BY:  
LLL DATE:  
4/5/11

CHECKED BY:  
LLL FILE NO.  
11-20

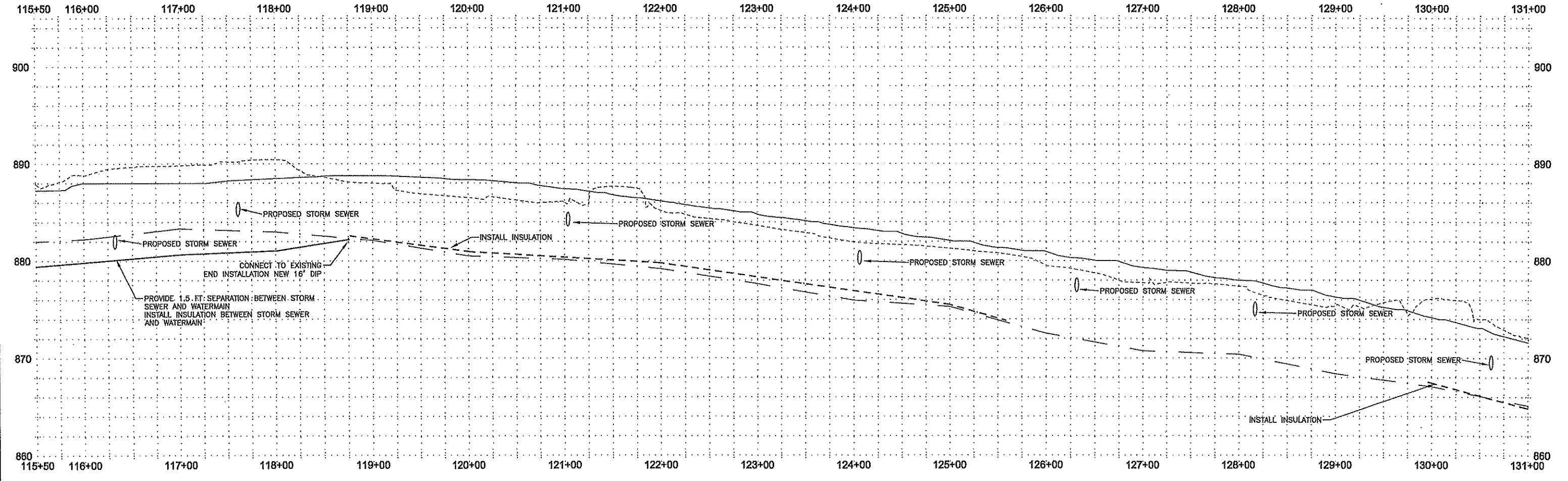
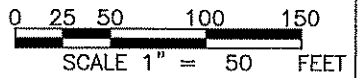
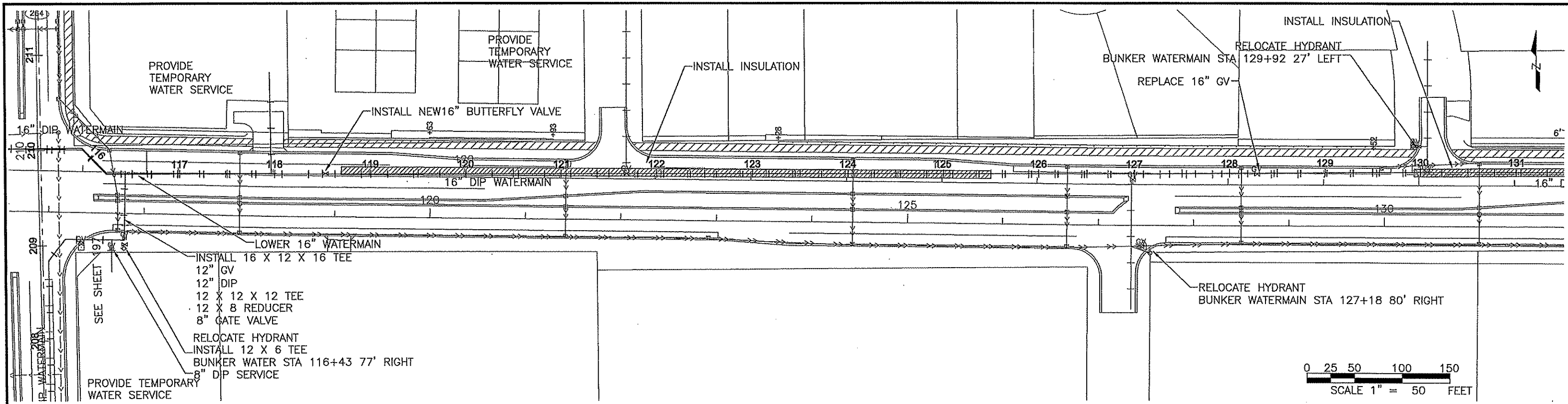



**CITY OF RAMSEY**  
 7550 SUNWOOD DRIVE  
 RAMSEY, MN 55303  
 (763) 427-1410 FAX (763) 433-9898

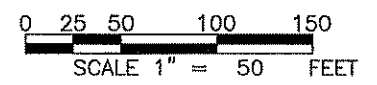
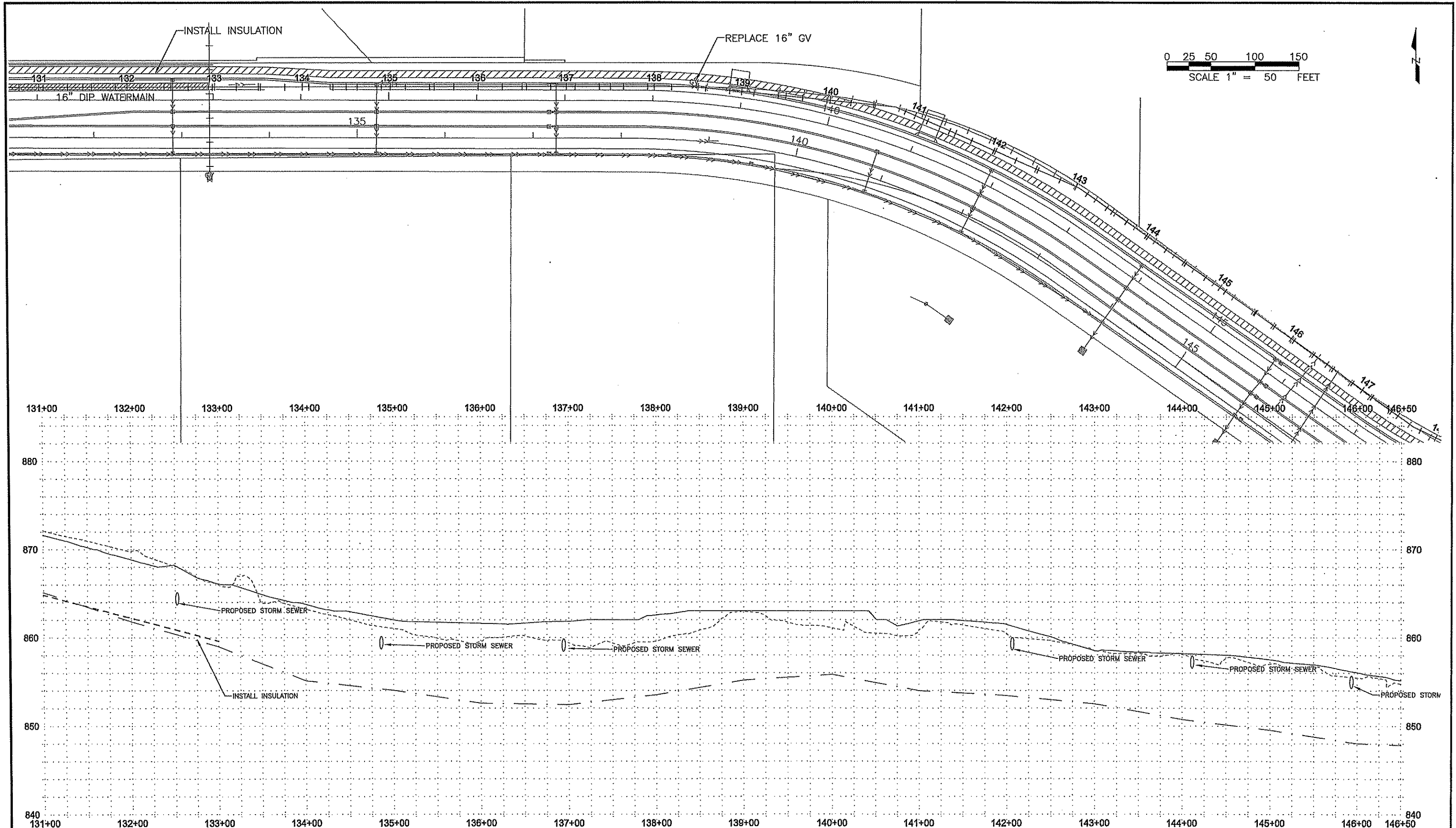
**BUNKERLAKE BLVD WATERMAIN**  
 STA 100+00 - 115+50 S.P.  
 002-716-011 S.P. 199-020-008

**BUNKER LAKE BLVD WATERMAIN**  
 RAMSEY CITY PROJECT NO. 11-20  
 CITY OF RAMSEY, MINNESOTA

SHEET  
197  
264  
SHEETS



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REV. NO.	BY	DATE	REVISION																	
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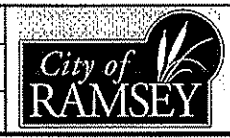
REV. NO.	BY	DATE	REVISION

I hereby certify that this plan, specification, or report 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.

*Leonard L. Minton*  
 LEONARD L. MINTON  
 Date 4/5/11 Lic. No. 21112

DESIGNED BY:  
 LLL  
 DRAWN BY:  
 LLL  
 CHECKED BY:  
 LLL

DATE:  
 4/5/11  
 FILE NO.  
 11-20

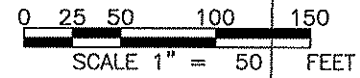
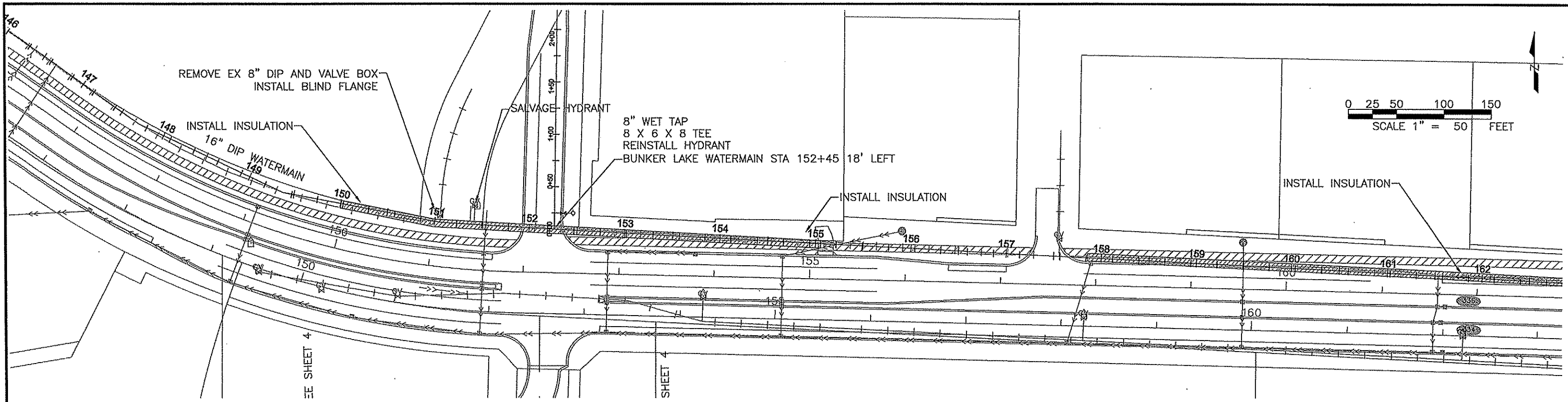


**CITY OF RAMSEY**  
 7550 SUNWOOD DRIVE  
 RAMSEY, MN 55303  
 (763) 427-1410 FAX (763) 433-9898

**BUNKERLAKE BLVD WATERMAIN**  
 STA 131+00 - 146+50 S.P.  
 002-716-011 S.P. 199-020-008

**BUNKER LAKE BLVD WATERMAIN**  
 RAMSEY CITY PROJECT NO. 11-20  
 CITY OF RAMSEY, MINNESOTA

SHEET  
 199  
 OF  
 264  
 SHEETS



146+50 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00 161+00 162+00

880 880

870 870

860 860

850 850

840 146+50 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00 161+00 162+00 840

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*Leonard W. Linton*  
 LEONARD W. LINTON  
 Date 4/5/11 Lic. No. 21112

DESIGNED BY:  
 LLL  
 DRAWN BY:  
 LLL  
 CHECKED BY:  
 LLL  
 DATE:  
 4/5/11  
 FILE NO.  
 11-20



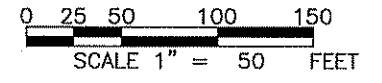
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**BUNKERLAKE BLVD WATERMAIN**  
 STA 146+50 - 162+00 S.P.  
 002-716-011 S.P. 199-020-008

**BUNKER LAKE BLVD WATERMAIN**  
 RAMSEY CITY PROJECT NO. 11-20  
 CITY OF RAMSEY, MINNESOTA

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 200  
 OF  
 264  
 SHEETS

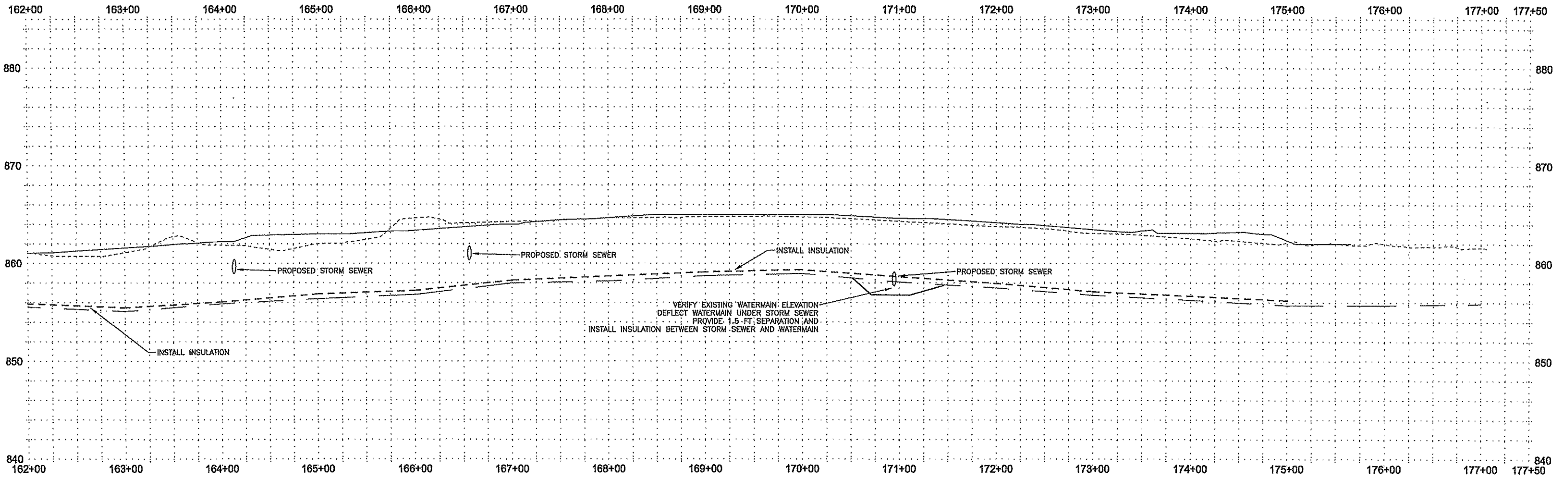




REPLACE 16" GV

RELOCATE HYDRANT  
BUNKER WATERMAIN STA 166+29 31' LEFT

16" DIP WATERMAIN



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*Leonard L. Linton*  
LEONARD L. LINTON  
Date 4/5/11 Lic. No. 21112

DESIGNED BY:  
LLL

DRAWN BY: DATE:  
LLL 4/5/11

CHECKED BY: FILE NO.  
LLL 11-20

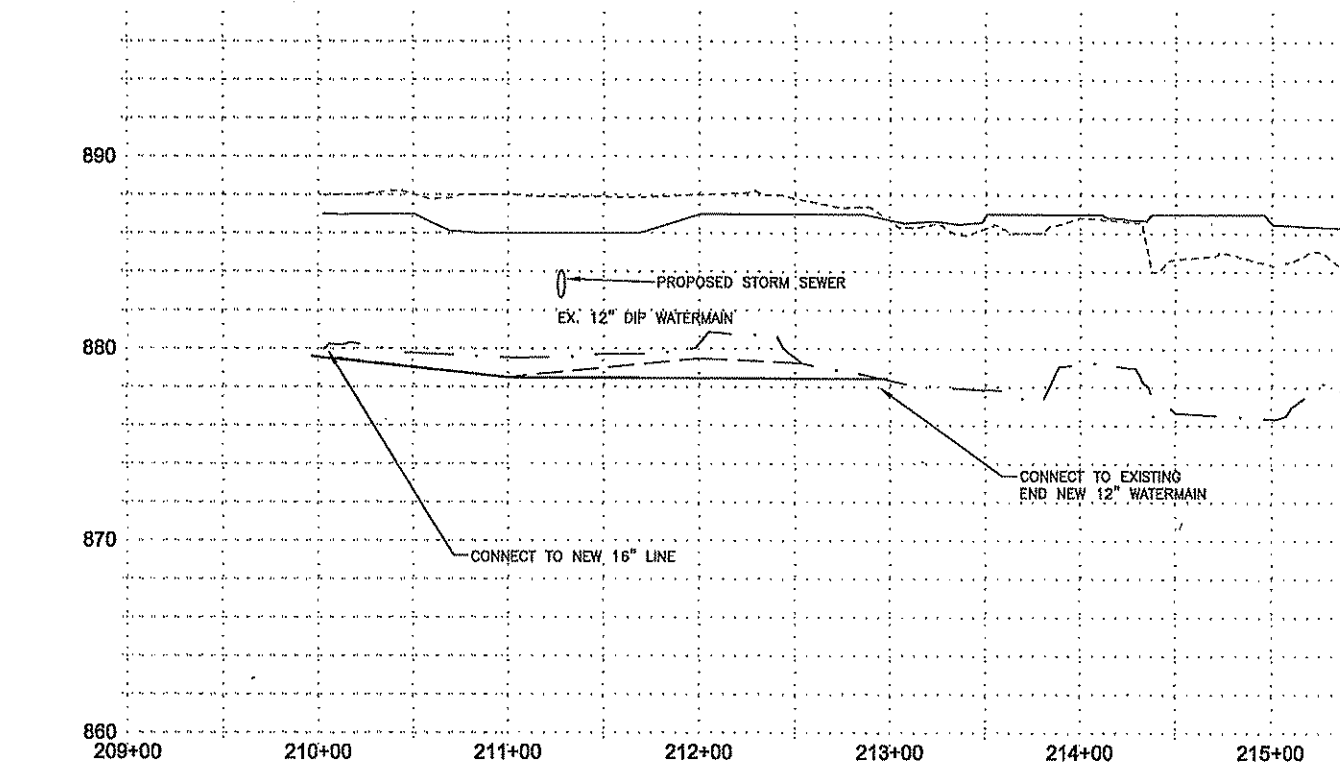
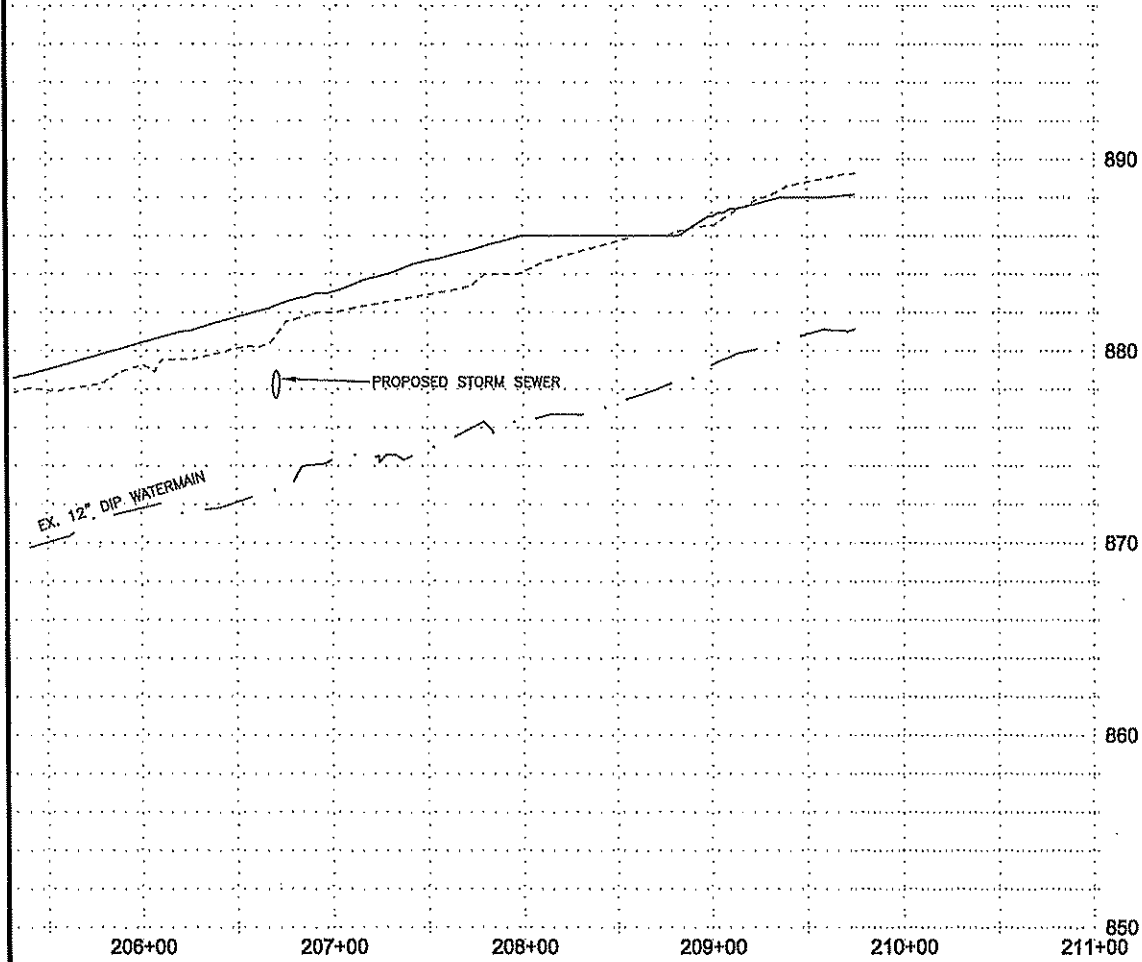
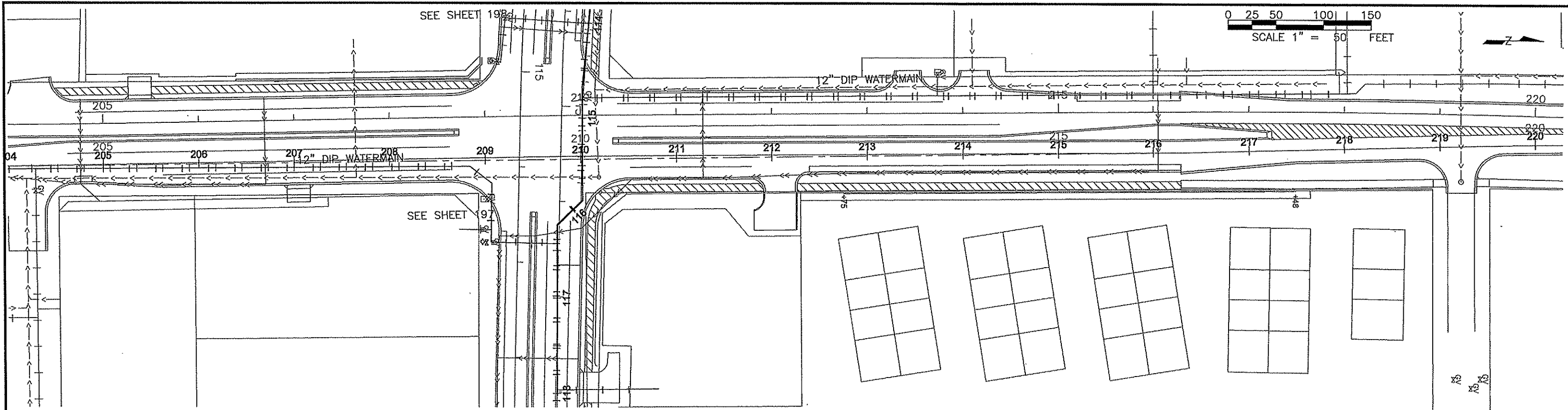


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**BUNKERLAKE BLVD WATERMAIN**  
STA 162+00 - 177+50 S.P.  
002-716-011 S.P. 199-020-008

**BUNKER LAKE BLVD WATERMAIN**  
RAMSEY CITY PROJECT NO. 11-20  
CITY OF RAMSEY, MINNESOTA

SHEET  
201  
OF  
264  
SHEETS



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*Leonard L. Pinton*  
 LEONARD L. PINTON  
 State 4/5/11 Lic. No. 21112

DESIGNED BY:  
 LLL

DRAWN BY:  
 LLL

CHECKED BY:  
 LLL

DATE:  
 4/5/11

FILE NO.  
 11-20

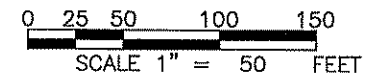


**CITY OF RAMSEY**  
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 (763) 427-1410 FAX (763) 433-9898

**SUNFISH LAKE BLVD WATERMAIN**  
 STA 206+00 - 215+00 S.P.  
 002-716-011 S.P. 199-020-008

**BUNKER LAKE BLVD WATERMAIN**  
 RAMSEY CITY PROJECT NO. 11-20  
 CITY OF RAMSEY, MINNESOTA

SHEET  
 202  
 OF  
 264  
 SHEETS



SEE SHEET 4

ND VALVE BOX  
BLIND FLANGE

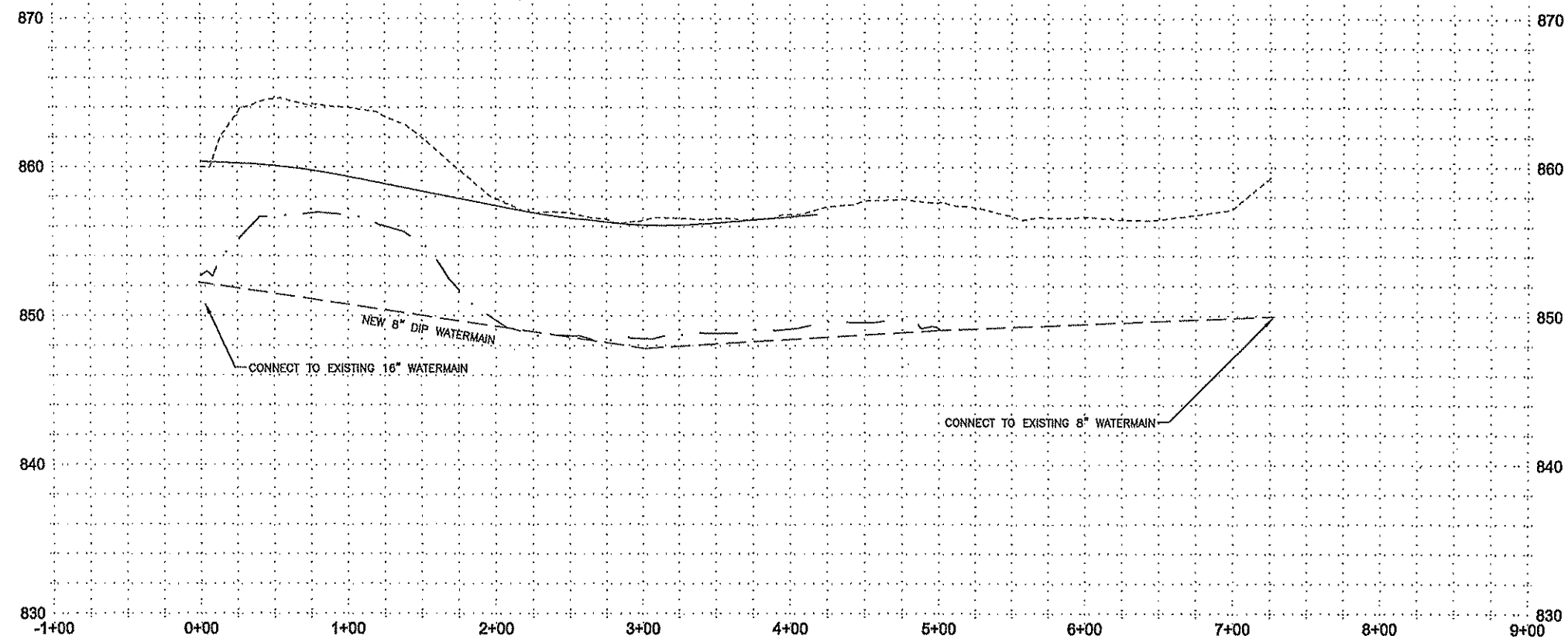
SEE SHEET 4

8" WET TAP  
8 X 6 X 8 TEE  
REINSTALL HYDRANT  
BUNKER LAKE WATERMAIN

SAVAGE  
HYDRANT

8" DIP WATERMAIN

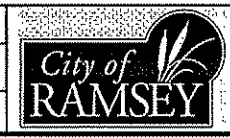
EXISTING 8" DIP WATERMAIN



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*Leonard L. Linton*  
 LEONARD L. LINTON  
 Date 4/5/11 Lic. No. 21112

DESIGNED BY:  
LLL  
 DRAWN BY:  
LLL  
 CHECKED BY:  
LLL  
 DATE:  
4/5/11  
 FILE NO.  
11-20

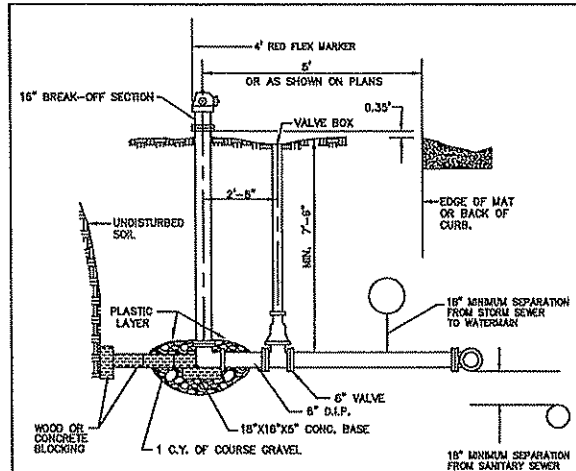


**CITY OF RAMSEY**  
 7550 SUNWOOD DRIVE  
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 (763) 427-1410 FAX (763) 433-9898

**MAGNESIUM STREET WATERMAIN**  
 STA 0+00 - 9+00 S.P. 002-716-011  
 S.P. 199-020-008

**BUNKER LAKE BLVD WATERMAIN**  
 RAMSEY CITY PROJECT NO. 11-20  
 CITY OF RAMSEY, MINNESOTA

SHEET  
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OF  
264  
SHEETS

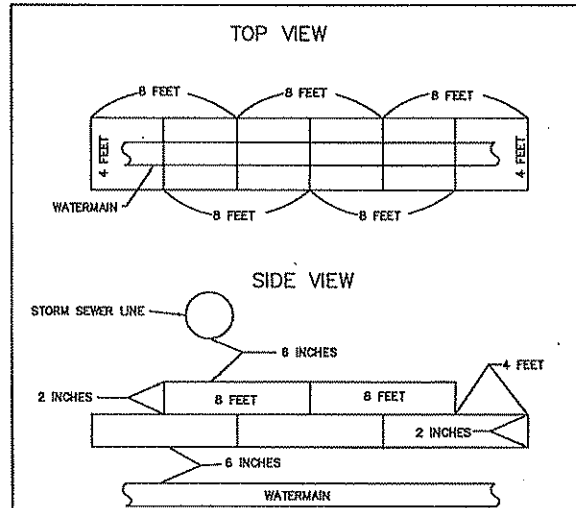


- NOTES:
- HYDRANTS TO BE ORDERED FOR 8"-0" BURY. IN AREAS OF EXTRA DEPTH ON THE WATERMAIN, HYDRANT EXTENSIONS MAY BE REQUIRED.
  - HYDRANT SHALL BE BLOCKED OR TIED TO THE TEE AT MAIN WITH 2-3/4" DIAMETER TEES. ALL TEES TO BE COAL TAR COATED AFTER INSTALLATION. RESTRAINED JOINT PIPE AND RETAINING GLANDS MAY BE USED.
  - TOP NUT OF HYDRANT 2.5' ABOVE TOP BACK OF CURB OR BITUMINOUS SURFACE
  - HYDRANTS BURIED BELOW WATER TABLE, DRAIN HOLES NEED TO BE PLUGGED AND HYDRANT MARKED BY PAINTING 6" CAP YELLOW
  - ALL VALVE BOXES SHALL HAVE A VALVE NUT EXTENSION TO WITHIN 1" OF FINISHED GRADE
  - BRUSH PAINT ALL HYDRANTS AFTER INSTALLATION IS COMPLETE

APPROVED DATE 4-2005

STANDARD DETAILS HYDRANT

CITY PLATE No. WAT-3



- NOTES:
- SHEETS ARE 2 INCHES BY 4 FEET BY 8 FEET
  - SURFACE PREPARATION SHALL BE SMOOTH AND ROCK FREE
  - JOINTS WILL BE OVERLAPPED BY 4 FEET
  - POLYSTYRENE INSULATION OR APPROVED EQUAL

APPROVED DATE 4/2004

STANDARD DETAILS UTILITY INSULATION

CITY PLATE No. WAT-5

NOTES:

- WATER VALVES SHALL BE OPERATED BY CITY STAFF. CONTRACTOR SHALL NOT OPERATE VALVES.
- NOTIFY CITY OF RAMSEY WATER DEPARTMENT 48 HOURS BEFORE COMMENCING WORK. CONTACT JOHN NELSON AT (763) 286-0296.
- ALL DIP WATERMAIN 8" AND LARGER SHALL BE CLASS 52, 6" AND SMALLER SHALL BE CLASS 53.
- ALL JOINTS SHALL HAVE MEGALUG GLANDS OR APPROVED EQUAL.
- MAINTAIN 7.5 FEET COVER OVER NEW WATERMAIN.
- EXISTING WATERMAIN WITH 5 FT TO 7.5 FEET OF COVER SHALL BE INSULATED. EXISTING WATERMAIN WITH LESS THAN 5 FT OF COVER SHALL BE REPLACED.
- CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICES AS NOTED ON PLAN.
- DEFLECT WATERMAIN UNDER STORM SEWER, PROVIDE 1.5FT SEPARATION AND INSTALL INSULATION BETWEEN STORM SEWER AND WATERMAIN.
- VALVE REPLACEMENT SHALL BE PERFORMED OVERNIGHT TO MINIMIZE SERVICE DISRUPTIONS TO ADJACENT BUSINESSES.
- WATERMAIN SHALL BE DISINFECTED AND TESTED PRIOR TO BEING PLACED IN SERVICE.

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
CR 116 (SP 02-716-11)			
2104.501	REMOVE EXISTING 12" DIP WATERMAIN	750	LF
2504.601/00040	TEMPORARY WATER SERVICE	1	LS
2504.602/00010	CONNECT TO EXISTING WATERMAIN	5	EA
2504.602/00022	RELOCATE HYDRANT & VALVE	5	EA
2504.602/00808	F & I 8" GATE VALVE AND BOX	6	EA
2504.602/00812	F & I 12" GATE VALVE AND BOX	4	EA
2504.602/00766	16" BUTTERFLY VALVE	5	EA
2504.603/01063	F & I 6" DIP WATERMAIN, CLASS 53	70	LF
2504.603/01082	F & I 8" DIP WATERMAIN, CLASS 52	100	LF
2504.603/01122	F & I 12" DIP WATERMAIN, CLASS 52	342	LF
2504.603/01182	F & I 16" DIP WATERMAIN, CLASS 52	750	LF
2504.604/00010	WATERMAIN INSULATION	3,200	SY
2504.608/00020	DUCTILE IRON FITTINGS	4,640	LB
MAGNESIUM STREET (IP 11-XX)			
2105.601/00010	DEWATERING FOR WATERMAIN	1	LS
2504.602/00010	CONNECT TO EXISTING WATERMAIN	1	EA
2504.602/00022	RELOCATE HYDRANT & VALVE	1	EA
2504.602/01183	16" X 8" WET TAP	1	EA
2504.603/01063	F & I 6" DIP WATERMAIN, CLASS 53	20	LF
2504.603/01082	F & I 8" DIP WATERMAIN, CLASS 52	700	LF
2504.608/00020	DUCTILE IRON FITTINGS	615	LB

REV. NO.	BY	DATE	REVISION

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*Leonard J. Linton*  
 LEONARD J. LINTON  
 Date 4/5/11 Lic. No. 21112

DESIGNED BY: LLL  
 DRAWN BY: LLL  
 CHECKED BY: LLL

DATE: 4/5/11  
 FILE NO. 11-20

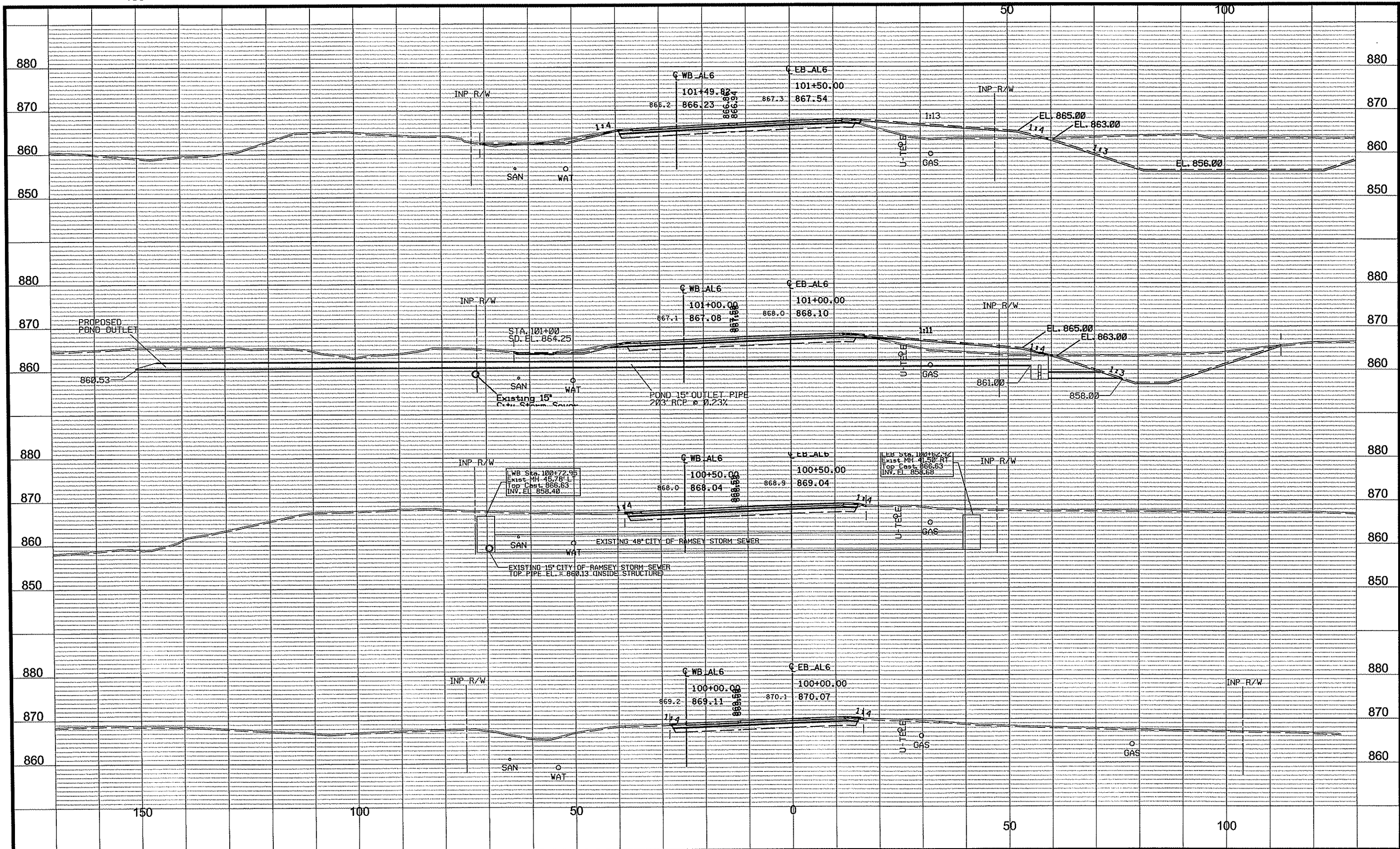


CITY OF RAMSEY  
 7550 SUNWOOD DRIVE  
 RAMSEY, MN 55303  
 (763) 427-1410 FAX (763) 433-9898

DETAILS, NOTES  
 AND TABULATIONS S.P. 002-716-011  
 S.P. 199-020-008

BUNKER LAKE BLVD WATERMAIN  
 RAMSEY CITY PROJECT NO. 11-20  
 CITY OF RAMSEY, MINNESOTA

SHEET 204 OF 264 SHEETS



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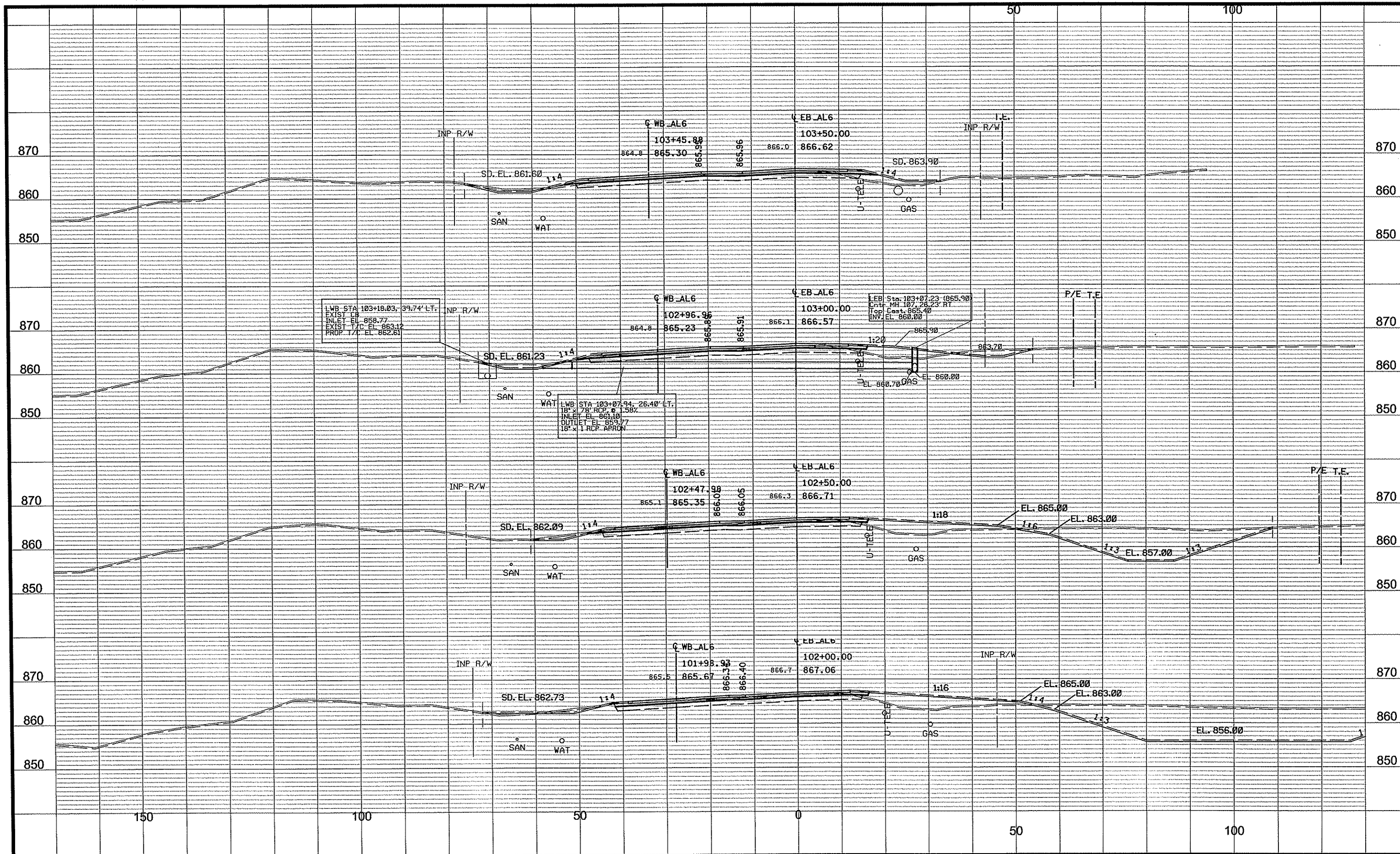
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 CHECKED BY: CAK DATE: 04/12/2011



S.P. 002-716-011  
 S.P. 199-020-008

CROSS SECTIONS  
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 Sheet 205 of 264 Sheets



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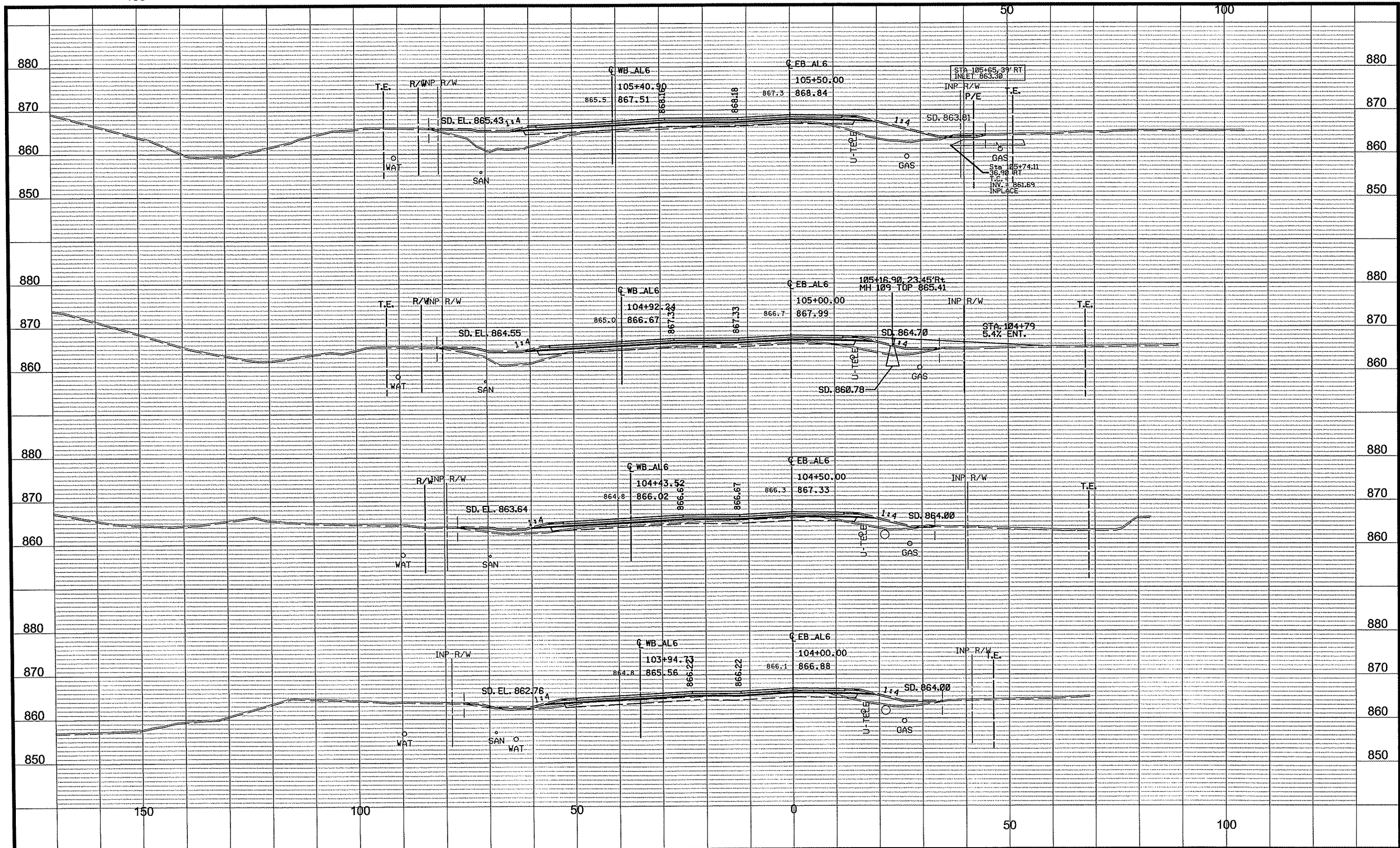
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S.P. 002-716-011  
 S.P. 199-020-008

CROSS SECTIONS  
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 Sheet 206 of 264 Sheets



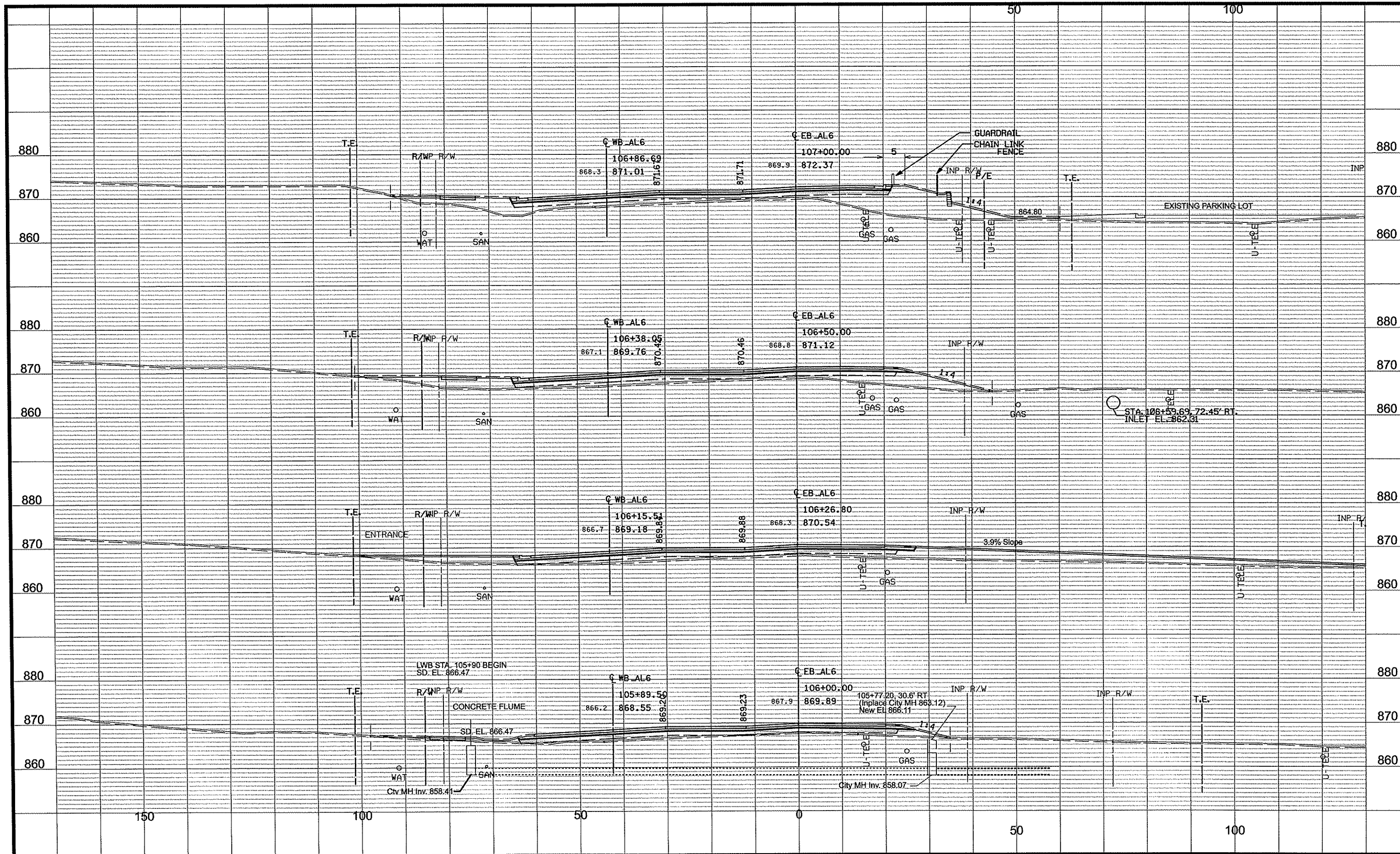
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S.P. 002-716-011  
 S.P. 199-020-008

CROSS SECTIONS  
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 Sheet 207 of 264 Sheets



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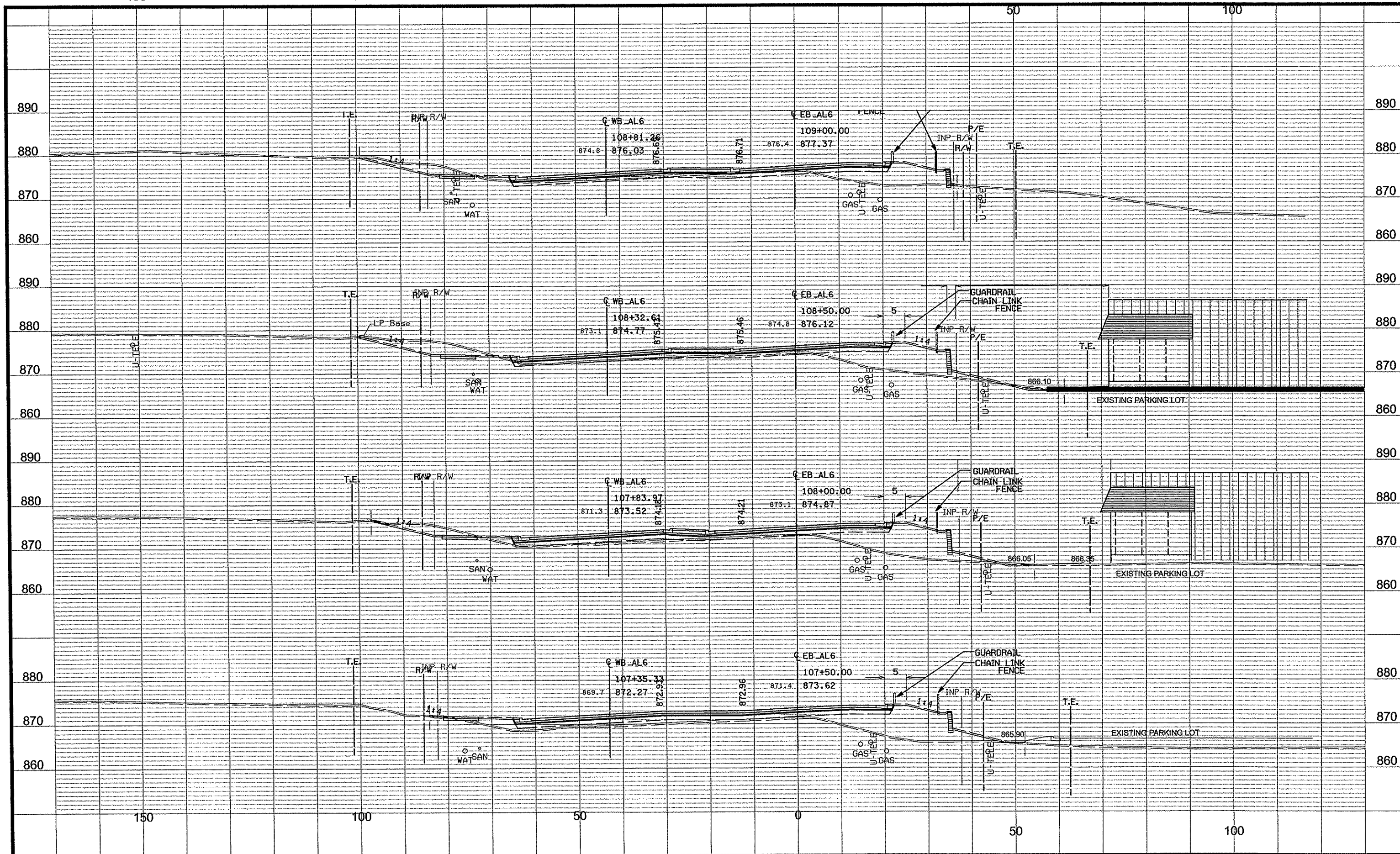
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 S.P. 199-020-008

CROSS SECTIONS  
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 Sheet 208 of 264 Sheets





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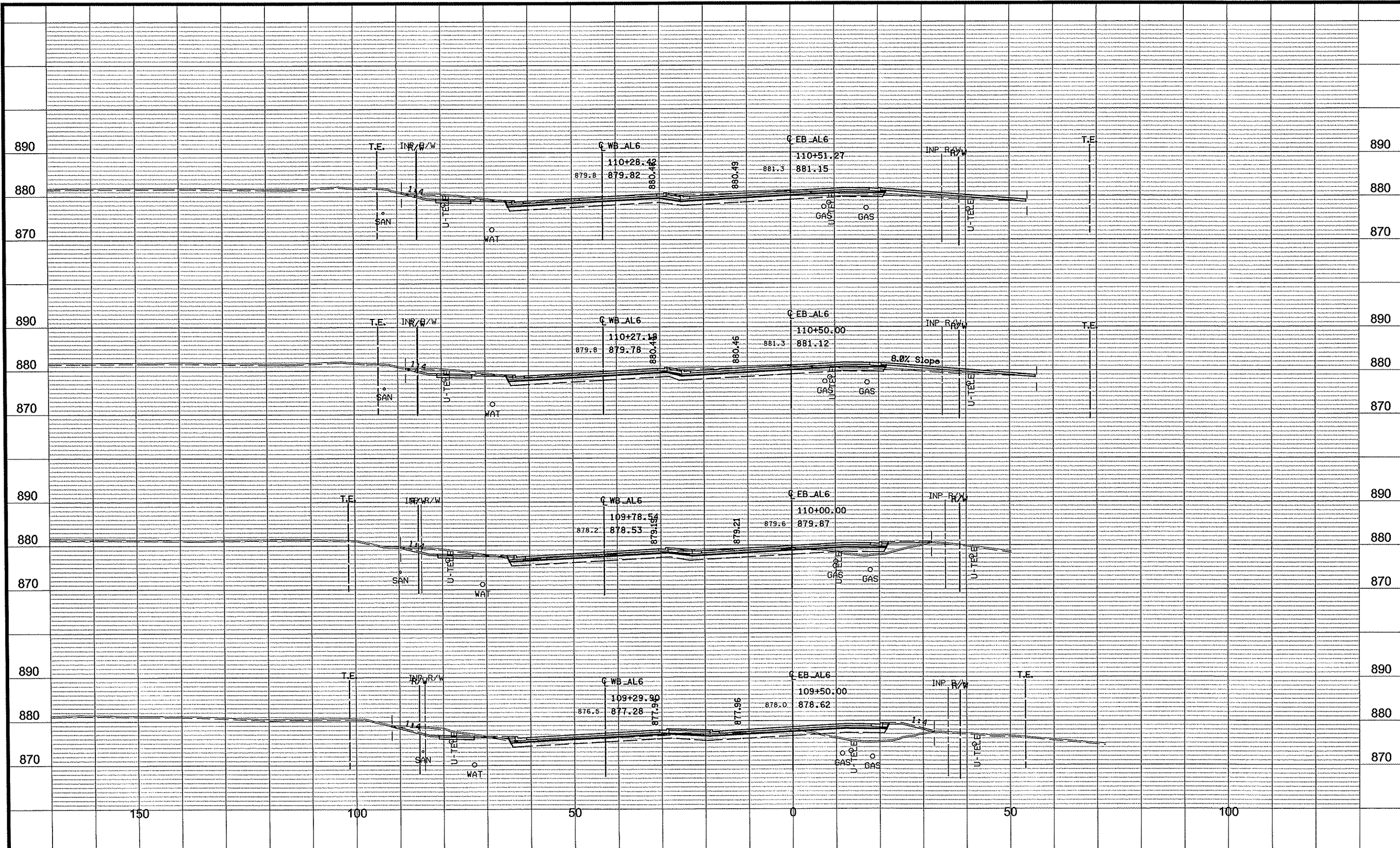
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 S.P. 199-020-008

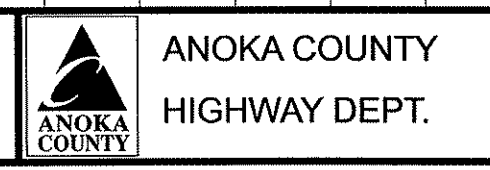
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 Sheet 209 of 264 Sheets



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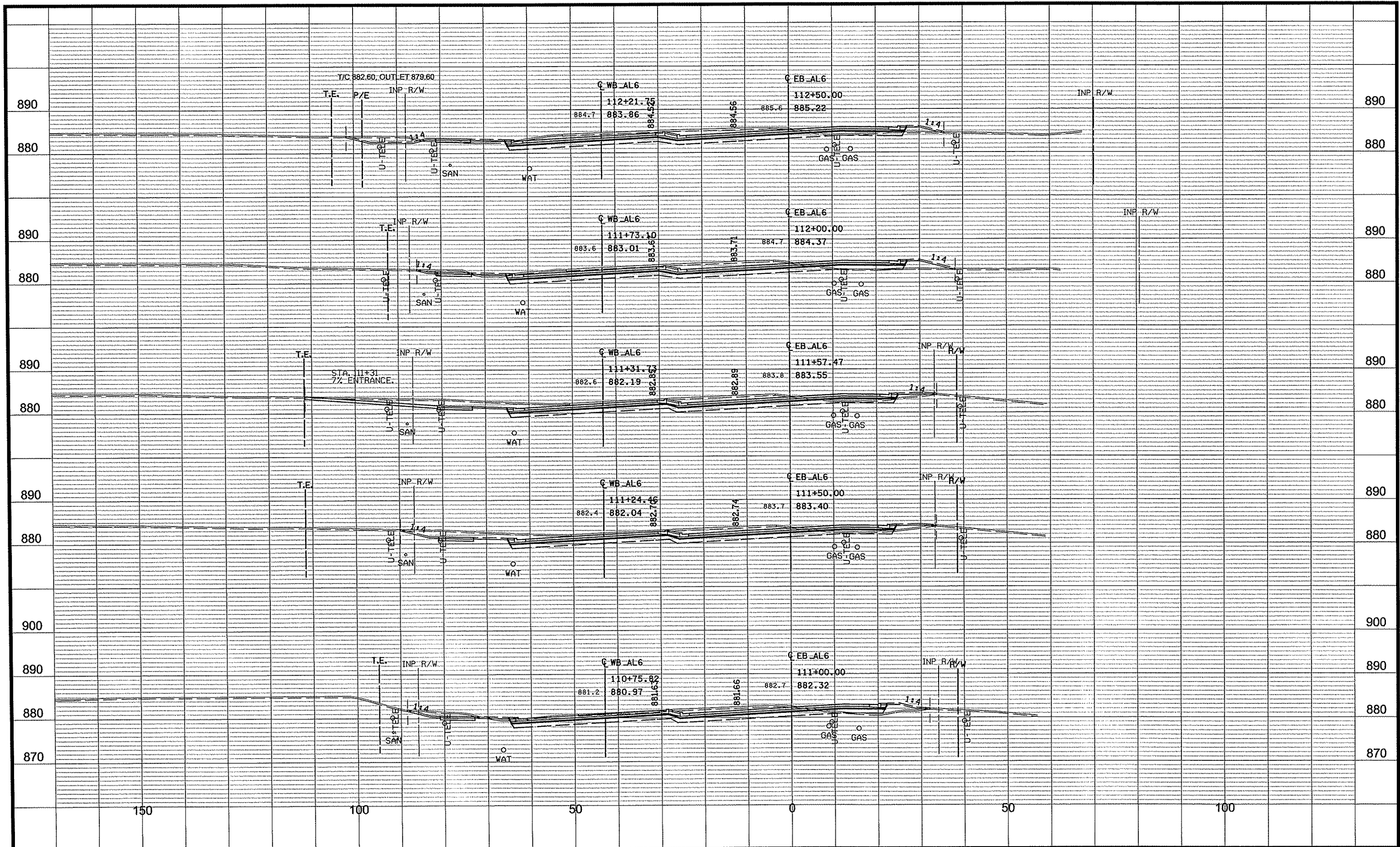
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 Sheet 210 of 264 Sheets



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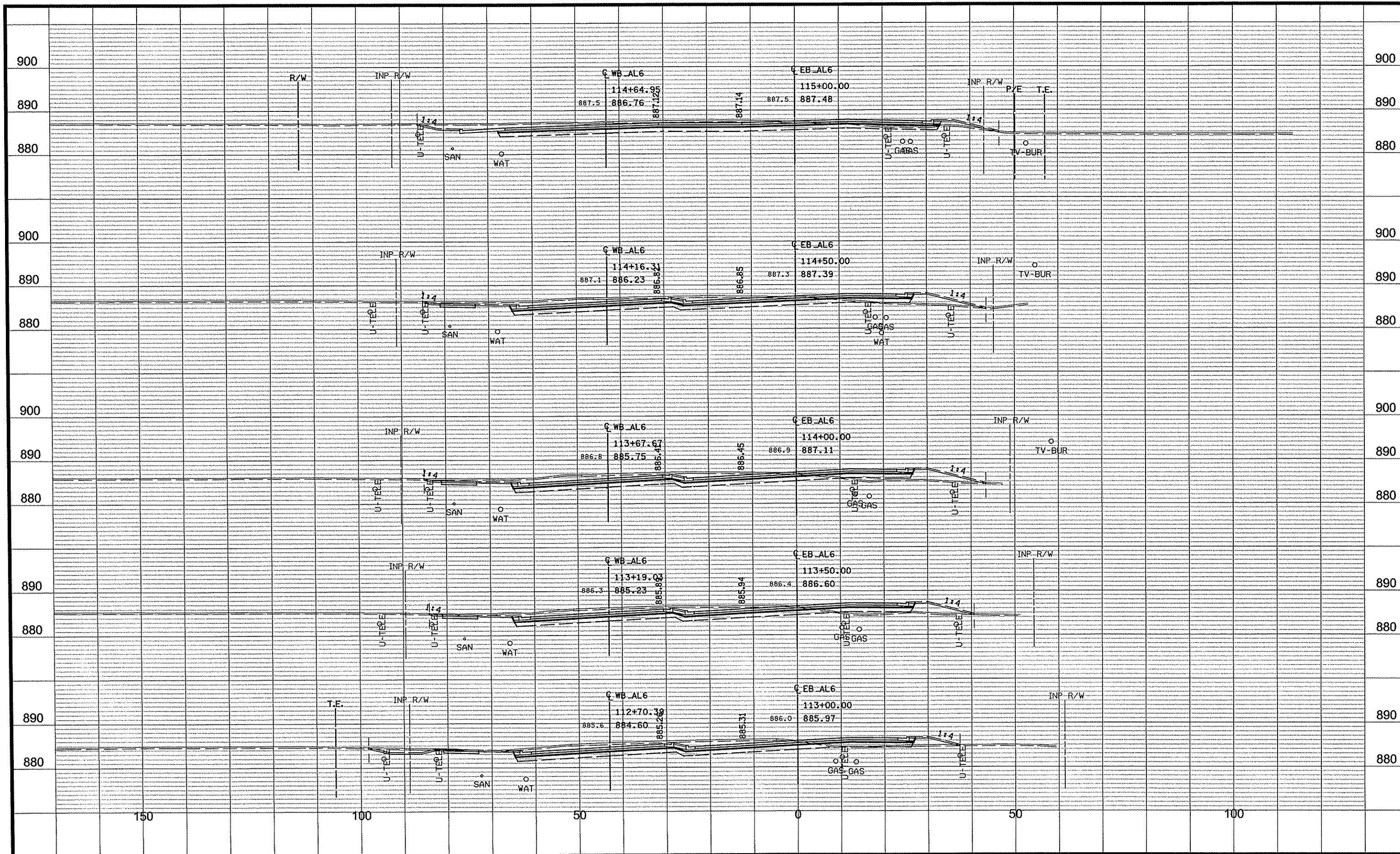
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**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

**CROSS SECTIONS**  
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 Sheet 211 of 264 Sheets



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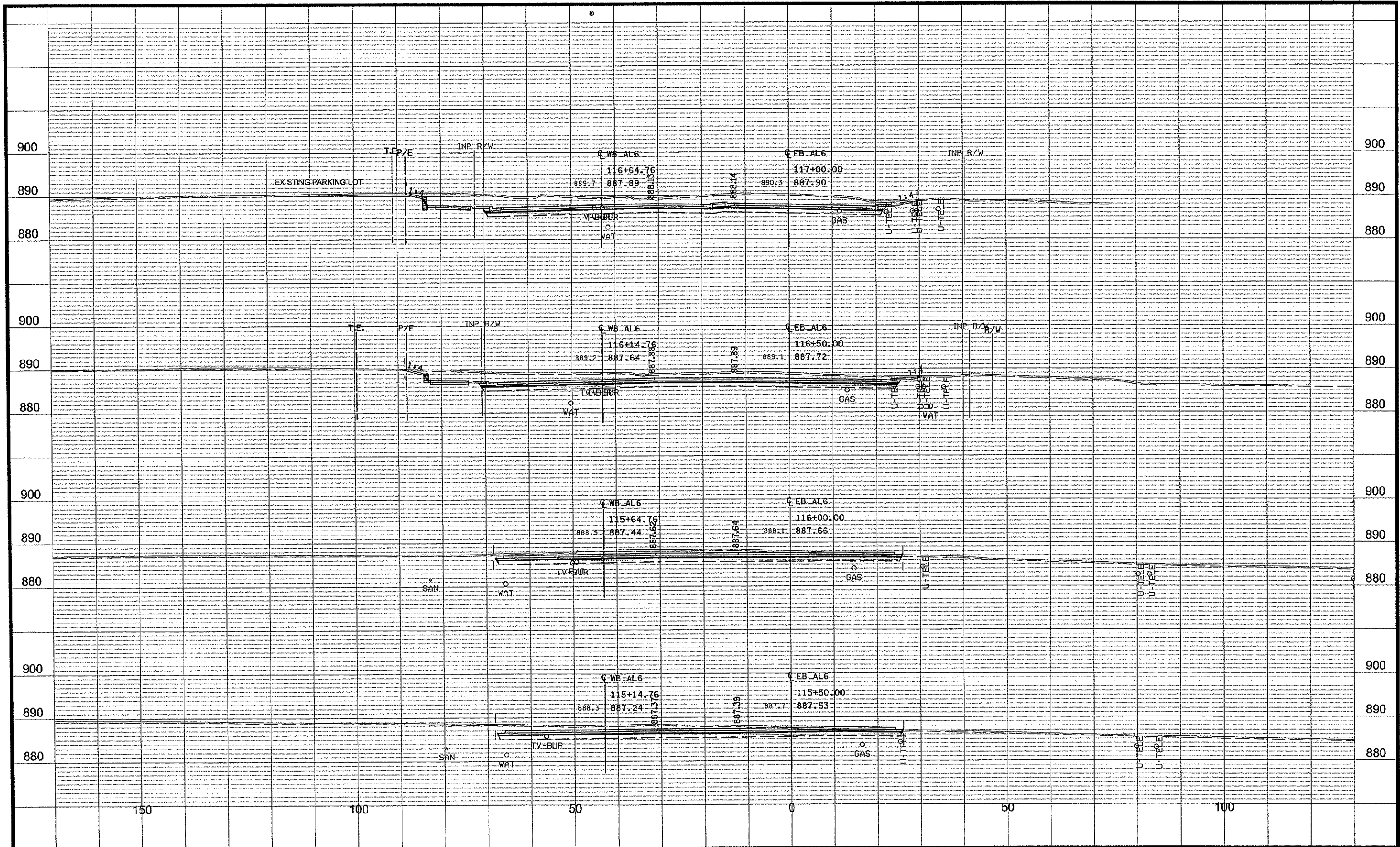
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 CHECKED BY CAK DATE 04/12/2011



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CROSS SECTIONS  
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 Sheet 212 of 264 Sheets



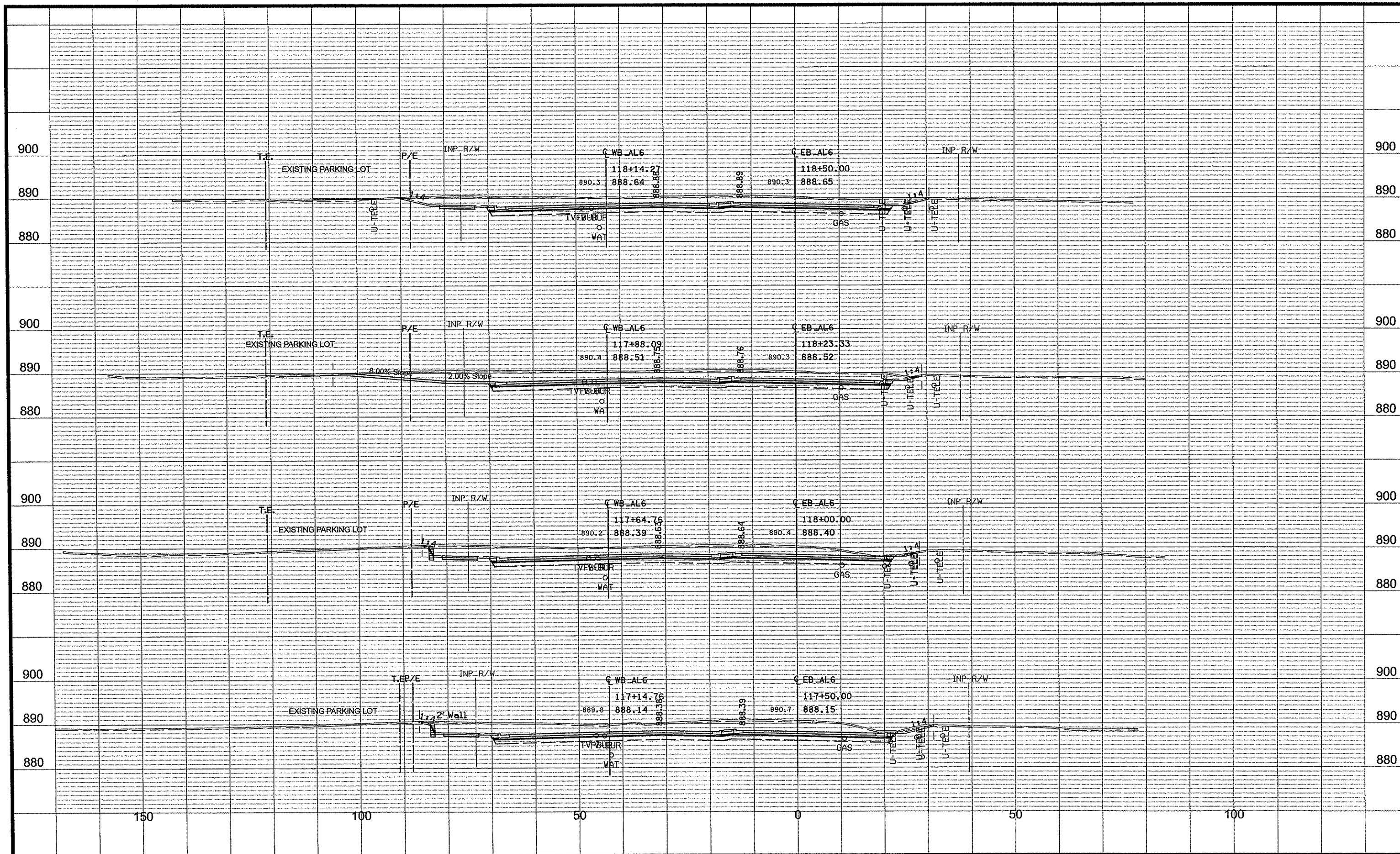
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S.P. 199-020-008

CROSS SECTIONS  
STA 115+50.00 TO 117+00.00  
Sheet 213 of 264 Sheets



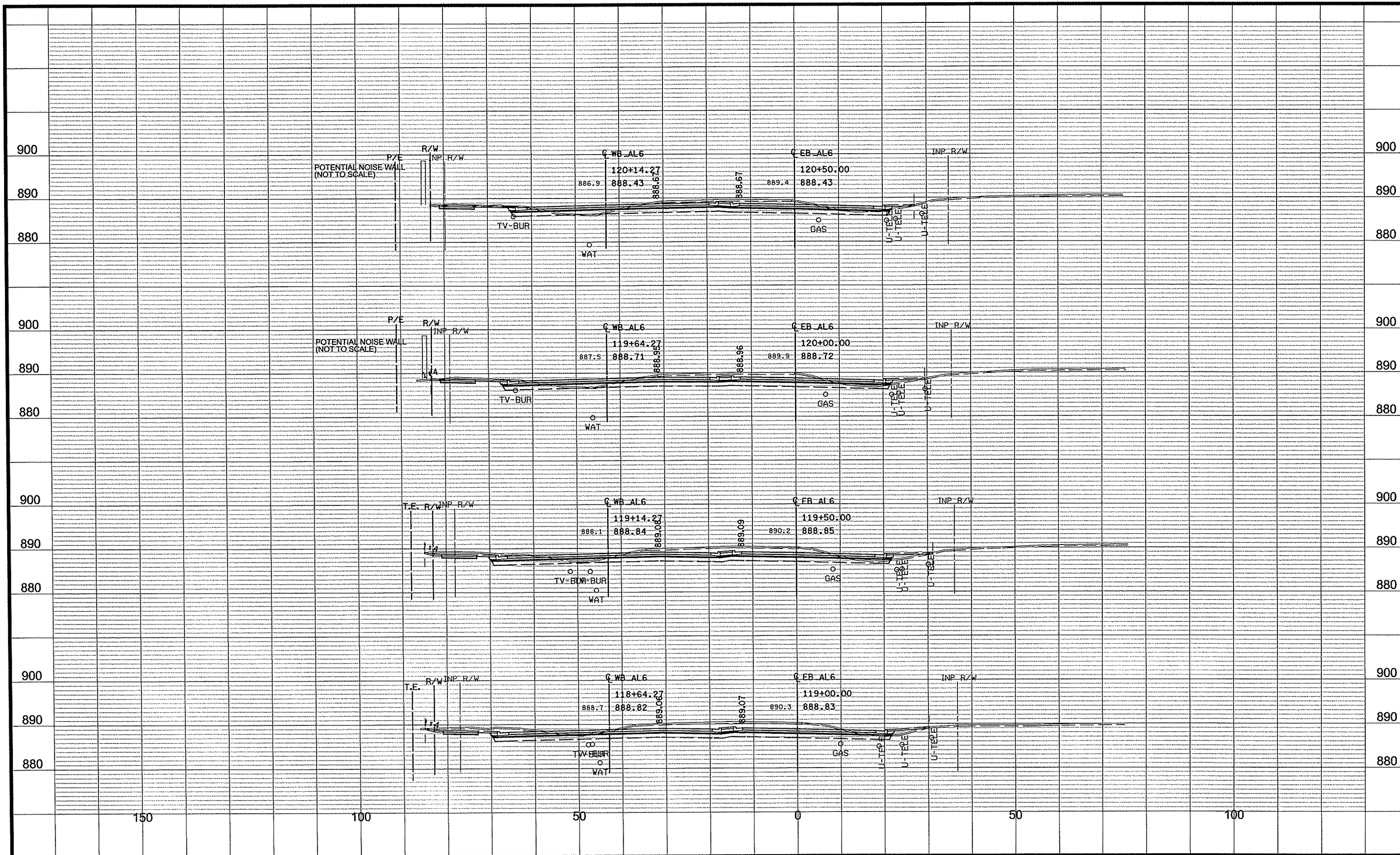
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CROSS SECTIONS  
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 Sheet 214 of 264 Sheets



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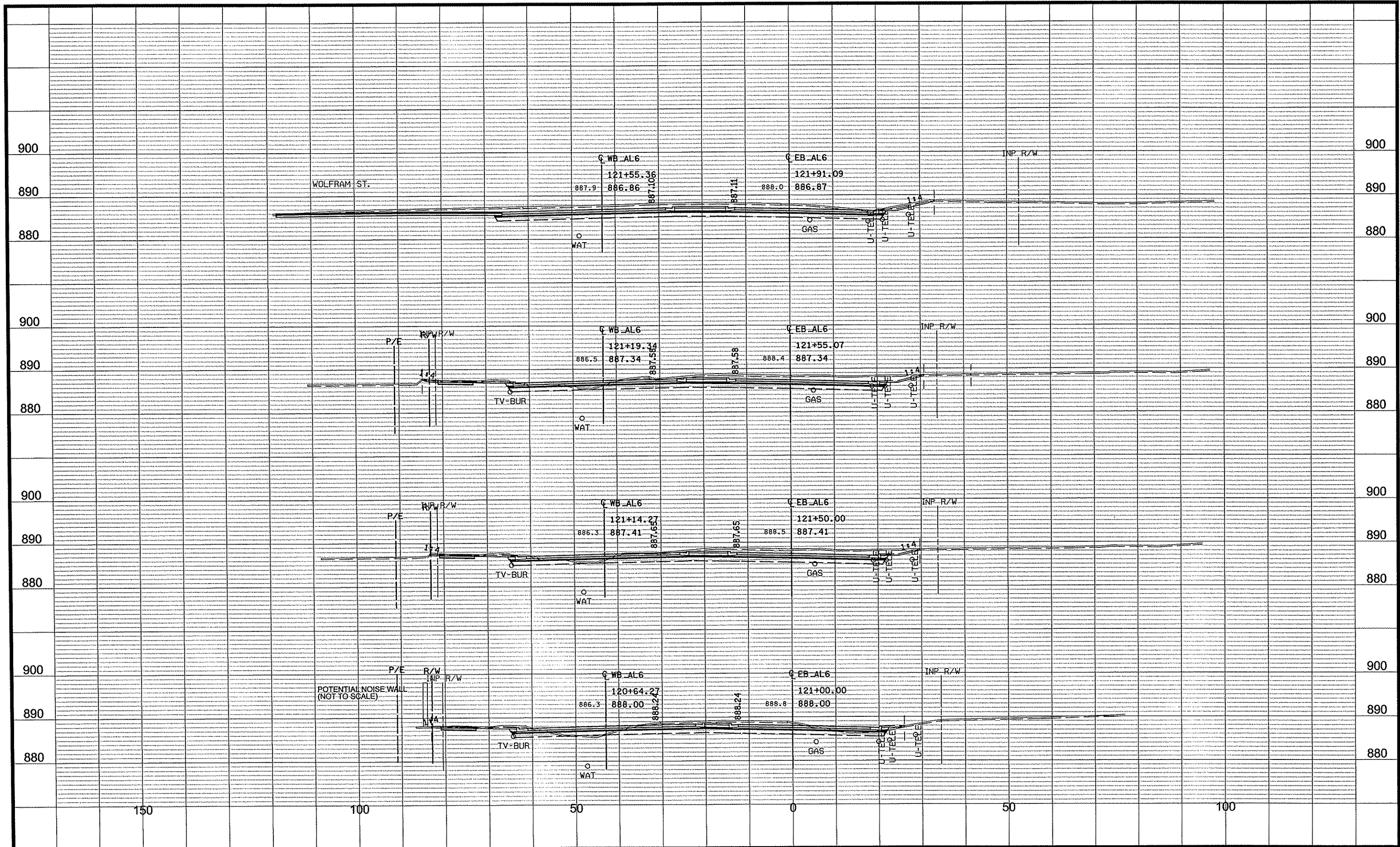
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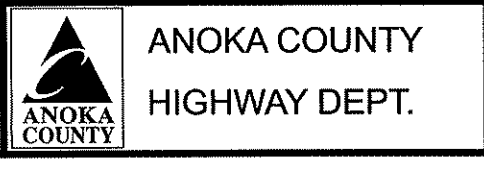
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 Sheet 215 of 264 Sheets



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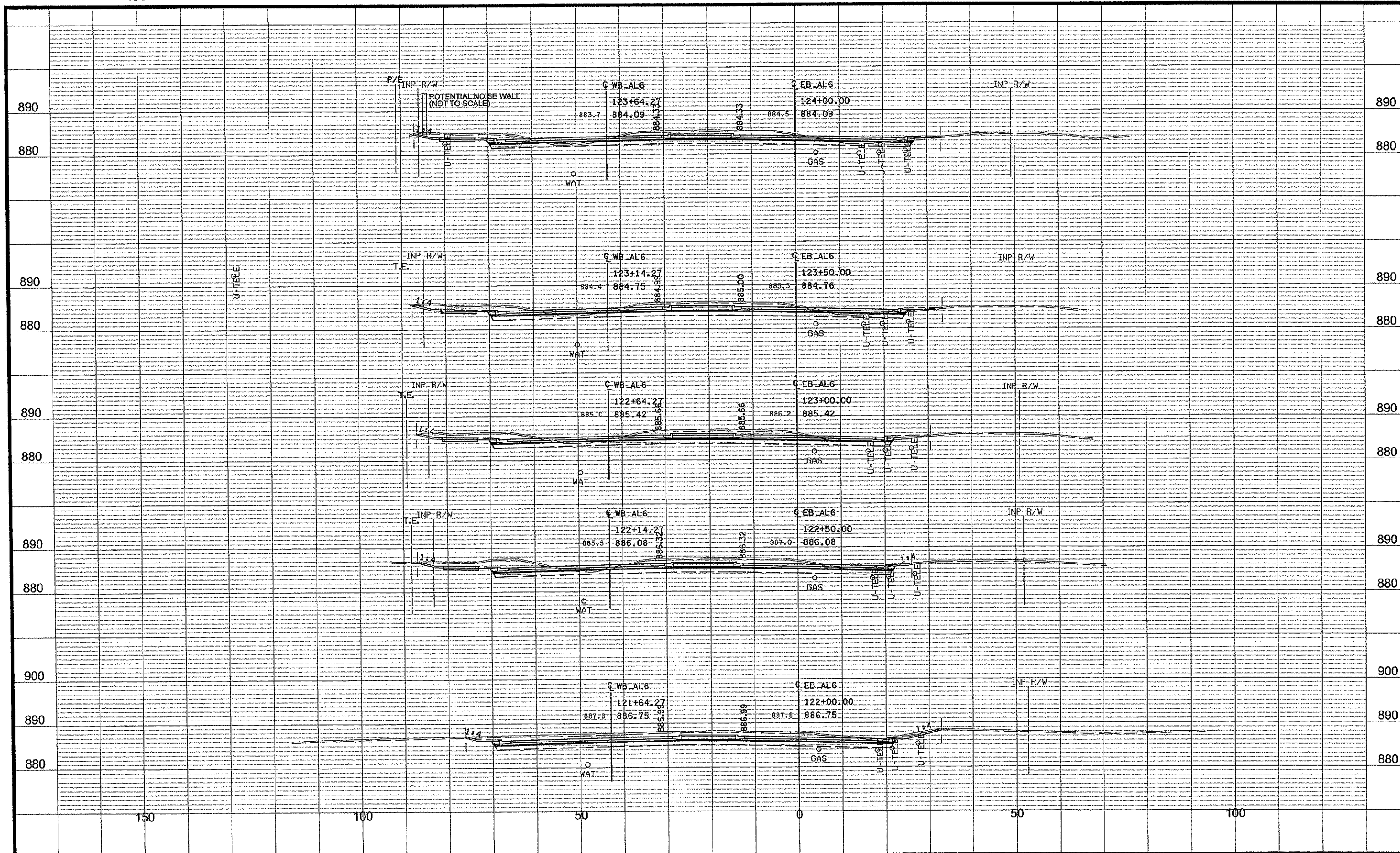
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S.P. 199-020-008

CROSS SECTIONS  
STA 121+00.00 TO 121+91.09  
Sheet 216 of 264 Sheets





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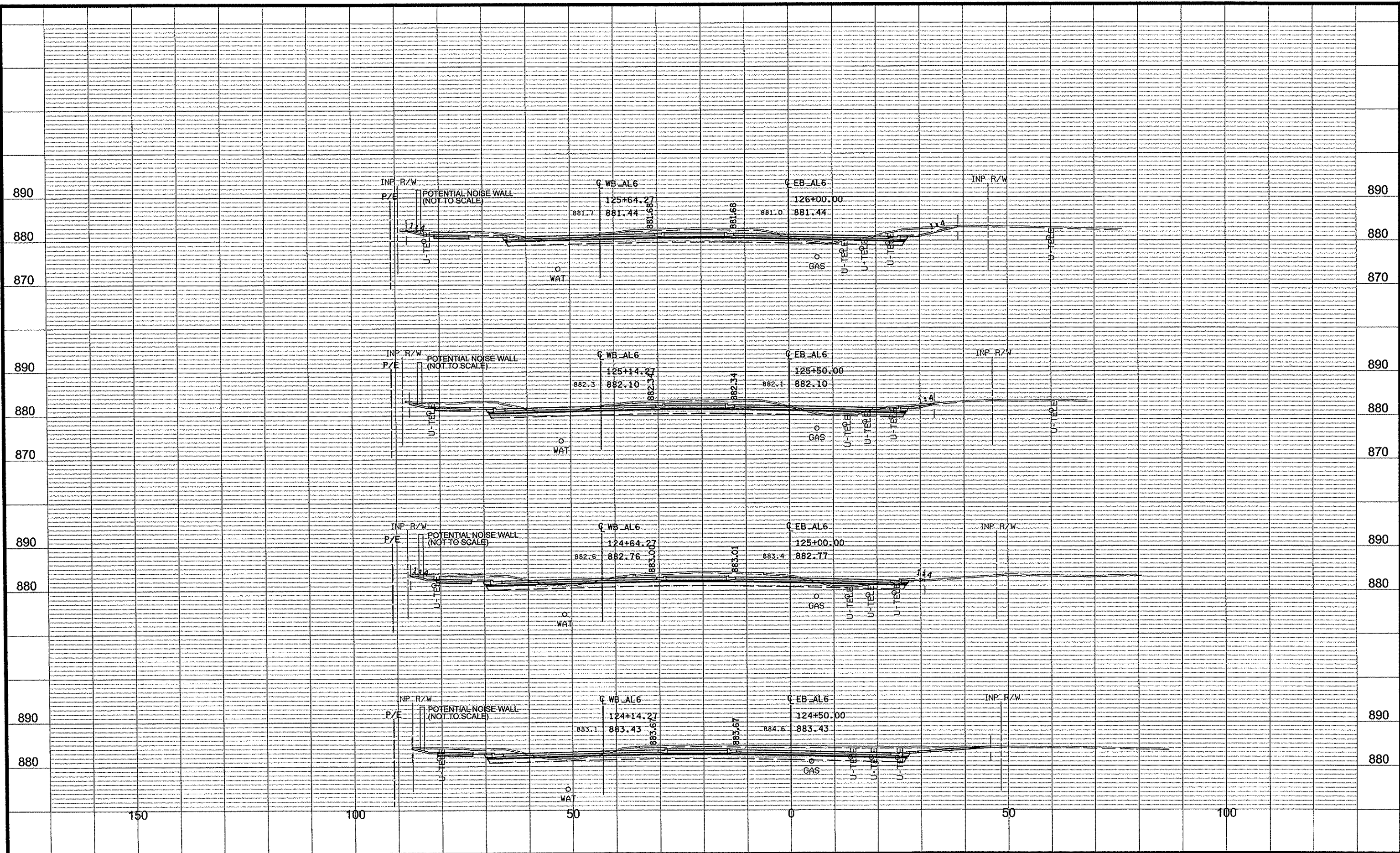
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**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

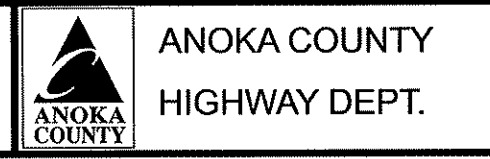
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 Sheet 217 of 264 Sheets



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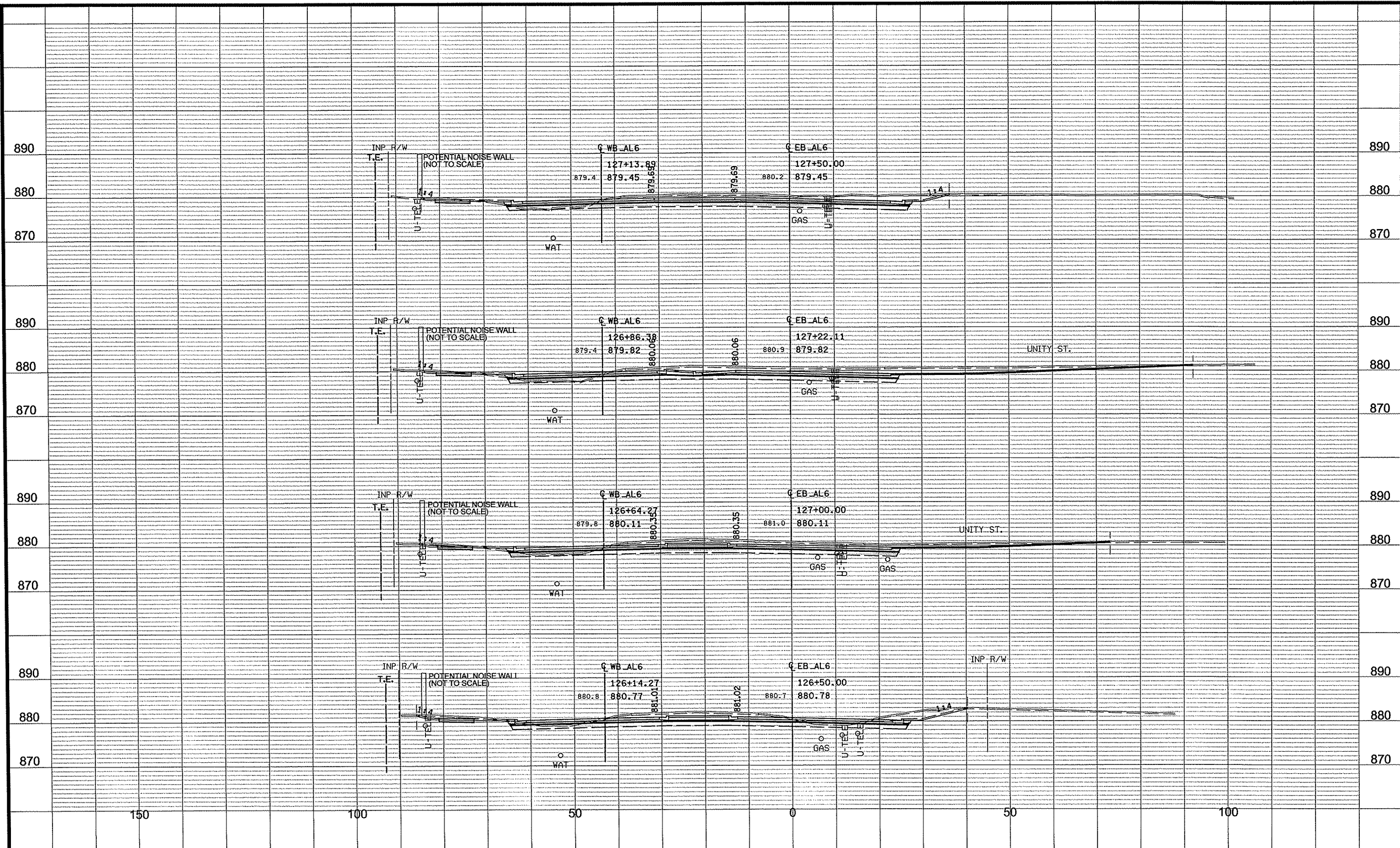
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 CHECKED BY CAK DATE 04/12/2011



S.P. 002-716-011  
 S.P. 199-020-008

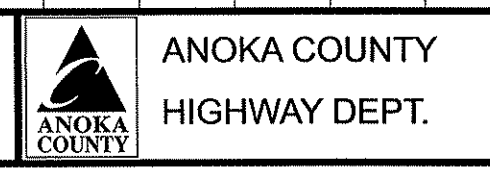
CROSS SECTIONS  
 STA 124+50.00 TO 126+00.00  
 Sheet 218 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

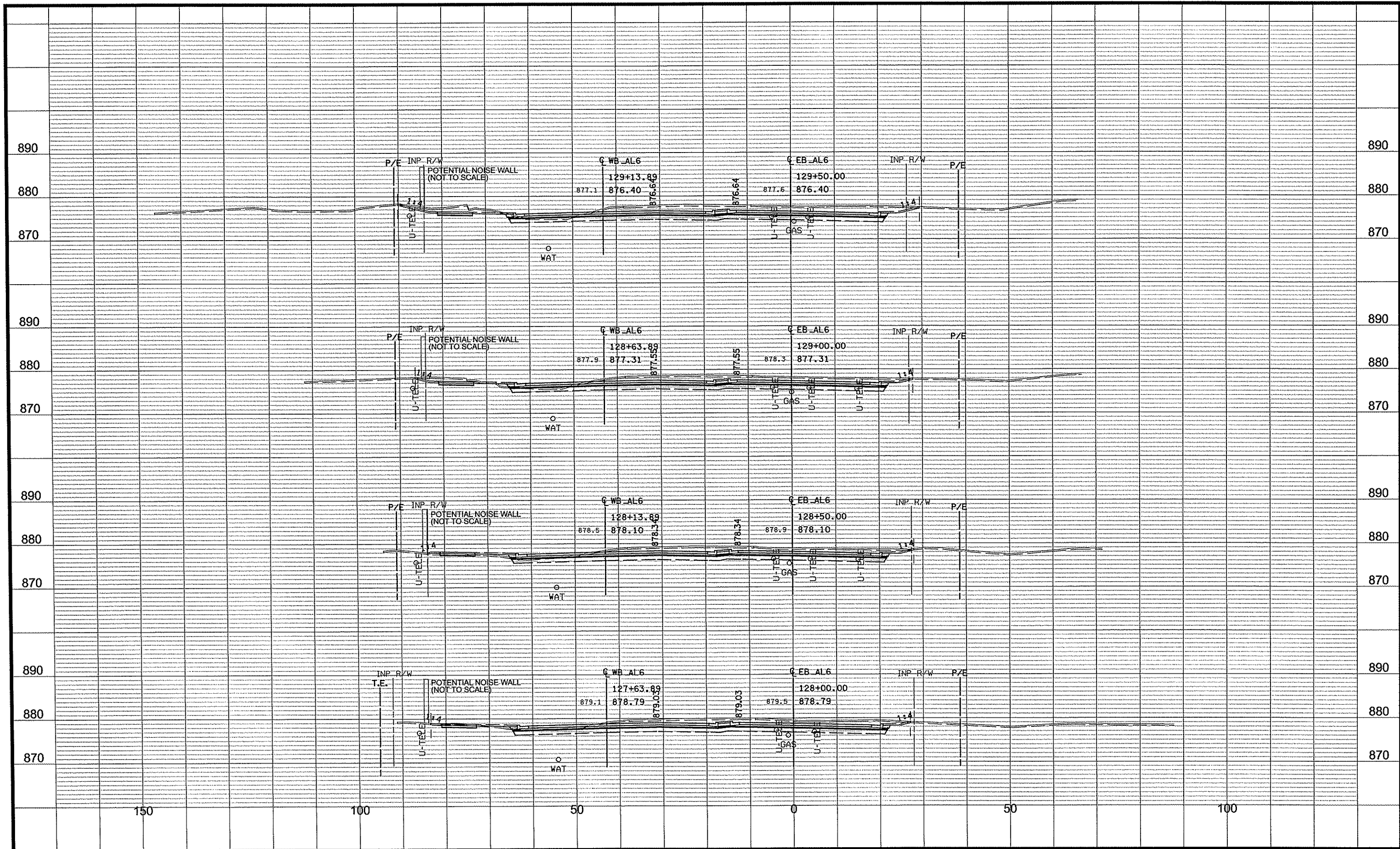
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DRAWN BY: BAV DATE: 04/12/2011  
 DESIGN BY: MN DATE: 04/12/2011  
 CHECKED BY: CAK DATE: 04/12/2011



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**CROSS SECTIONS**  
 STA 126+50.00 TO 127+50.00  
 Sheet 219 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION
					04/12/2011

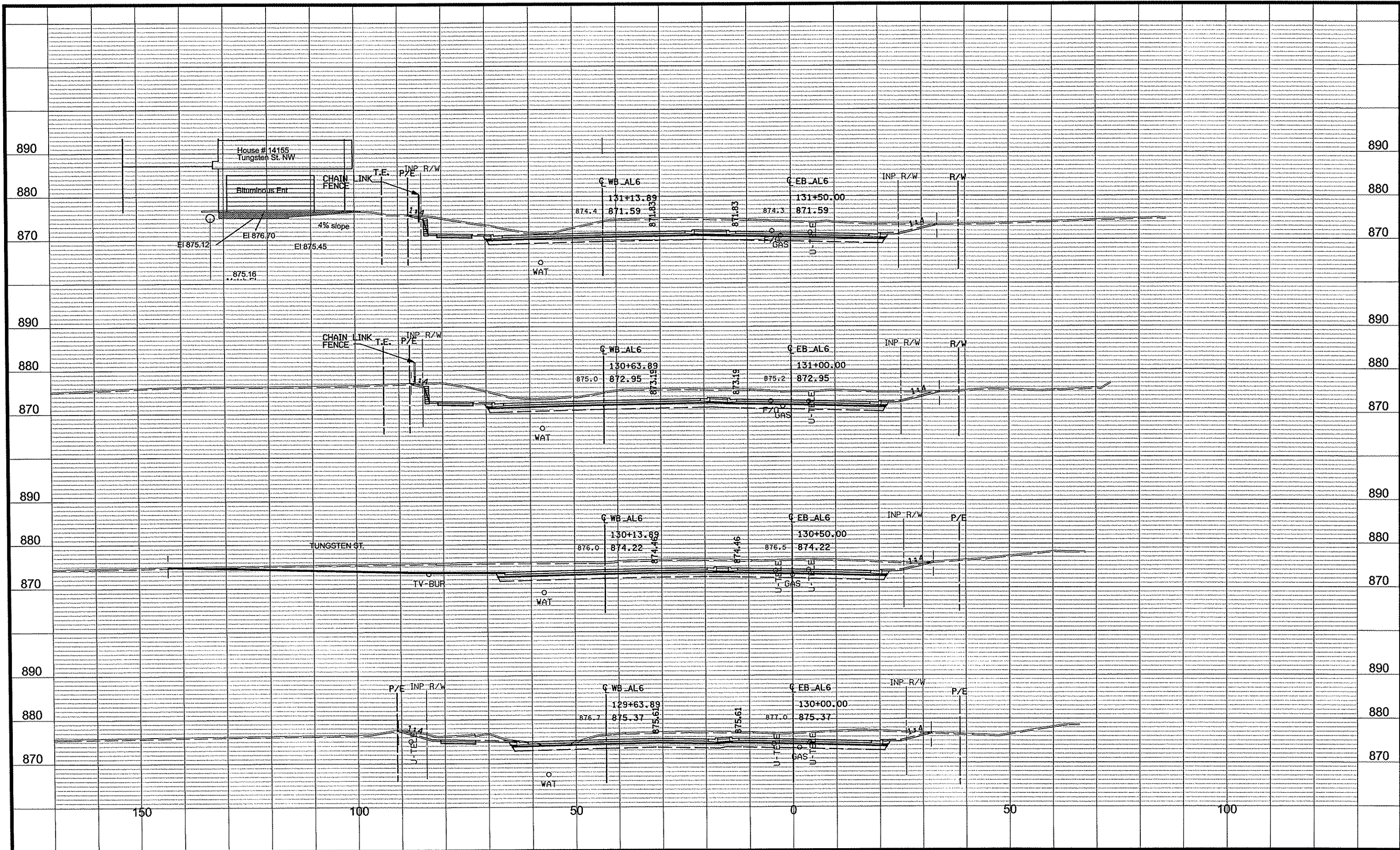
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DRAWN BY: BAV DATE: 04/12/2011  
 DESIGN BY: MN DATE: 04/12/2011  
 CHECKED BY: CAK DATE: 04/12/2011



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CROSS SECTIONS  
 STA 128+00.00 TO 129+50.00  
 Sheet 220 of 264 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

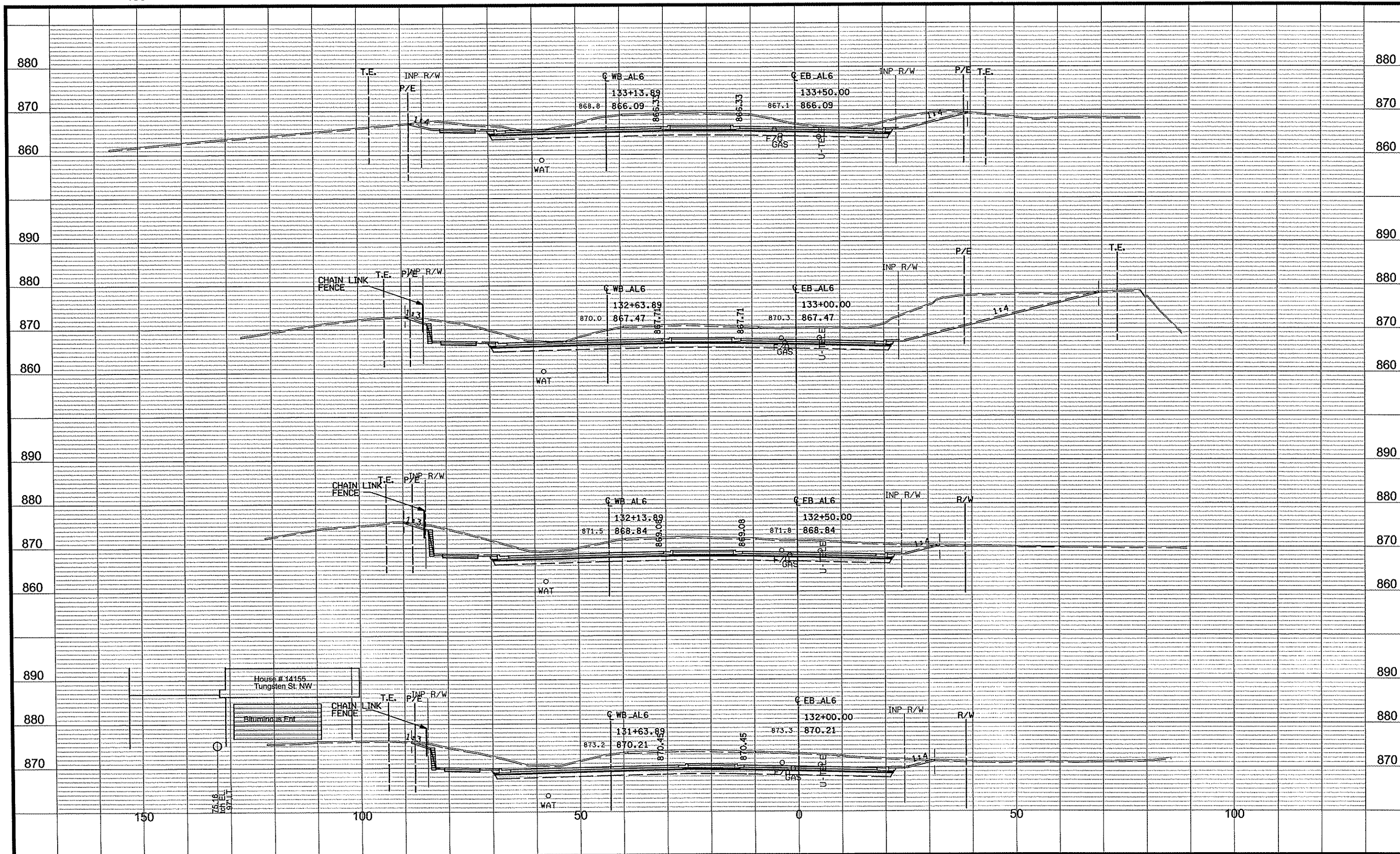
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 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



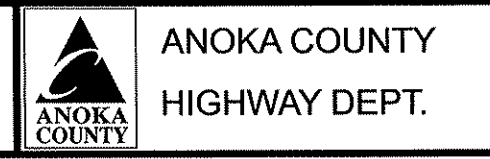
S.P. 002-716-011  
 S.P. 199-020-008

CROSS SECTIONS  
 STA 130+00.00 TO 131+50.00  
 Sheet 221 of 264 Sheets



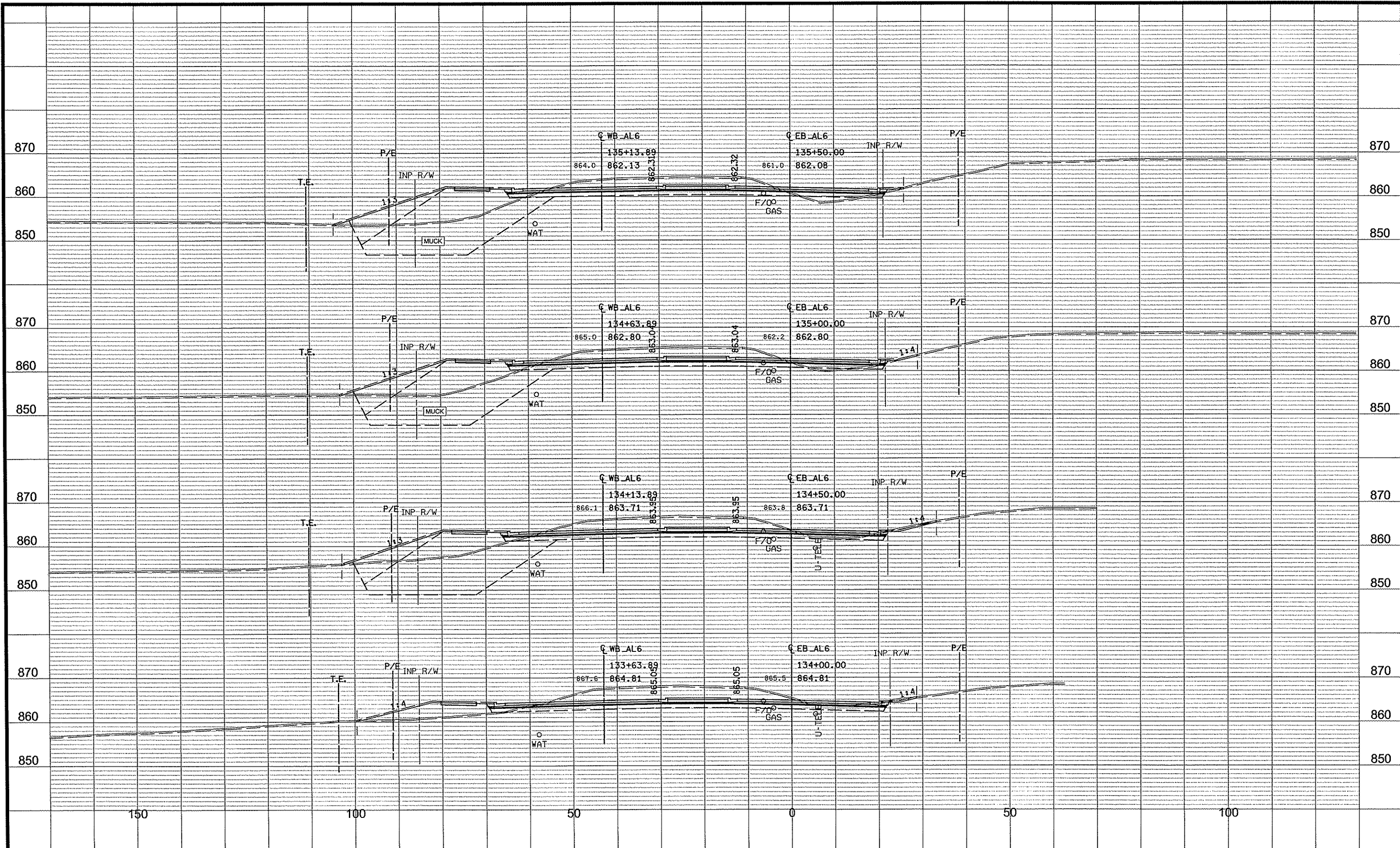
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DRAWN BY BAV DATE 04/12/2011  
 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



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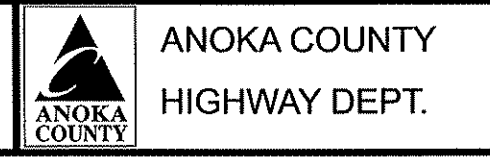
CROSS SECTIONS  
 STA 132+00.00 TO 133+50.00  
 Sheet 222 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

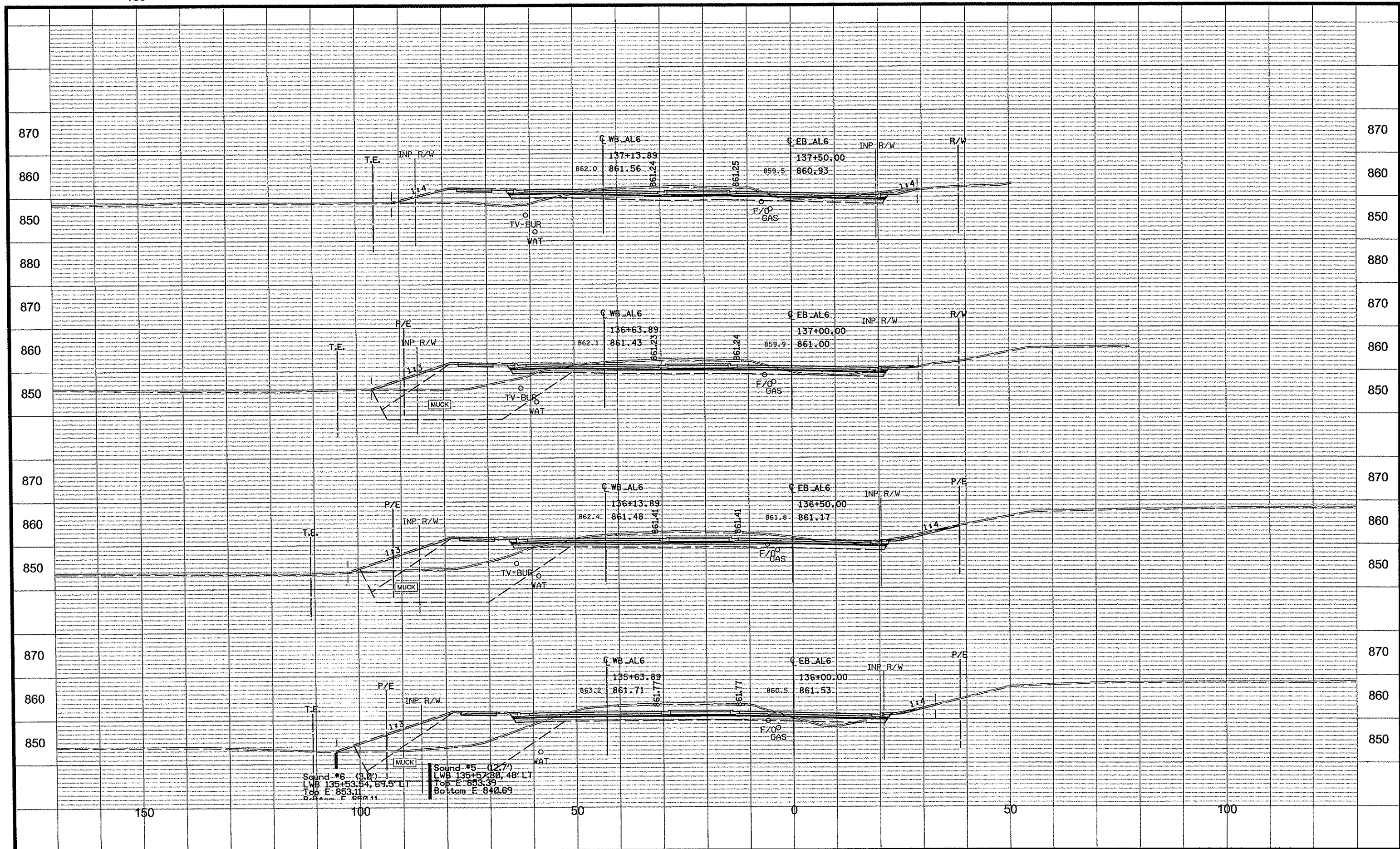
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 DESIGN BY: MN DATE: 04/12/2011  
 CHECKED BY: CAK DATE: 04/12/2011



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CROSS SECTIONS  
 STA 134+00.00 TO 135+50.00  
 Sheet 223 of 264 Sheets



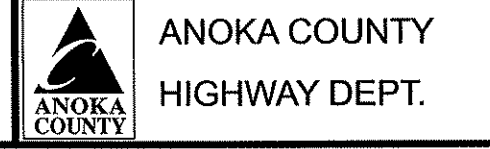
Sound #6 (3.0')  
 LWB 135+53.54, 69.5' LT  
 Top E 853.11  
 Bottom E 840.11

Sound #5 (12.7')  
 LWB 135+57.80, 48' LT  
 Top E 853.39  
 Bottom E 840.69

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_XSPLOT.dgn  
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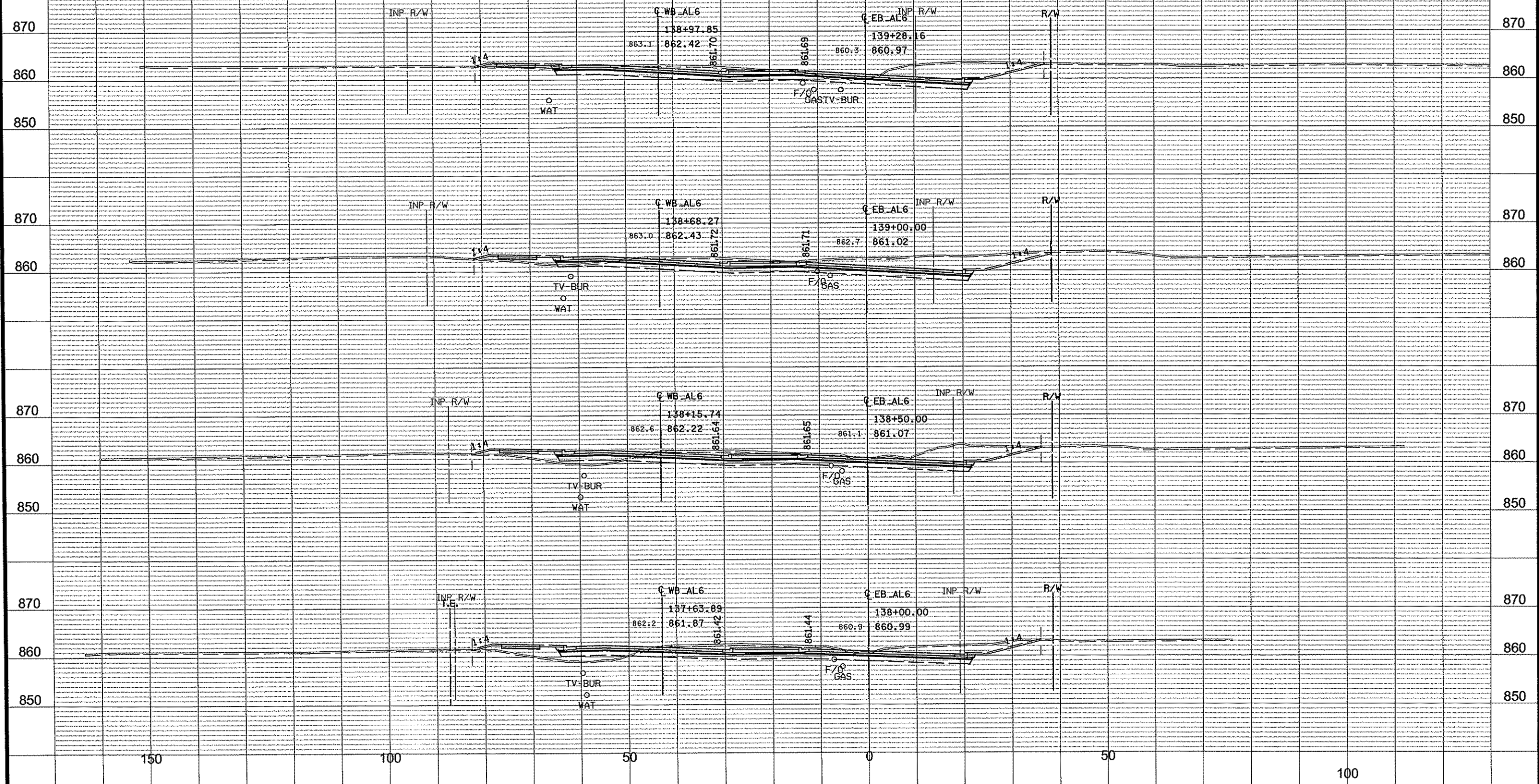
DRAWN BY: BAY DATE: 04/12/2011  
 DESIGN BY: MN DATE: 04/12/2011  
 CHECKED BY: CAK DATE: 04/12/2011



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CROSS SECTIONS  
 STA 136+00.00 TO 137+50.00  
 Sheet 224 of 264 Sheets





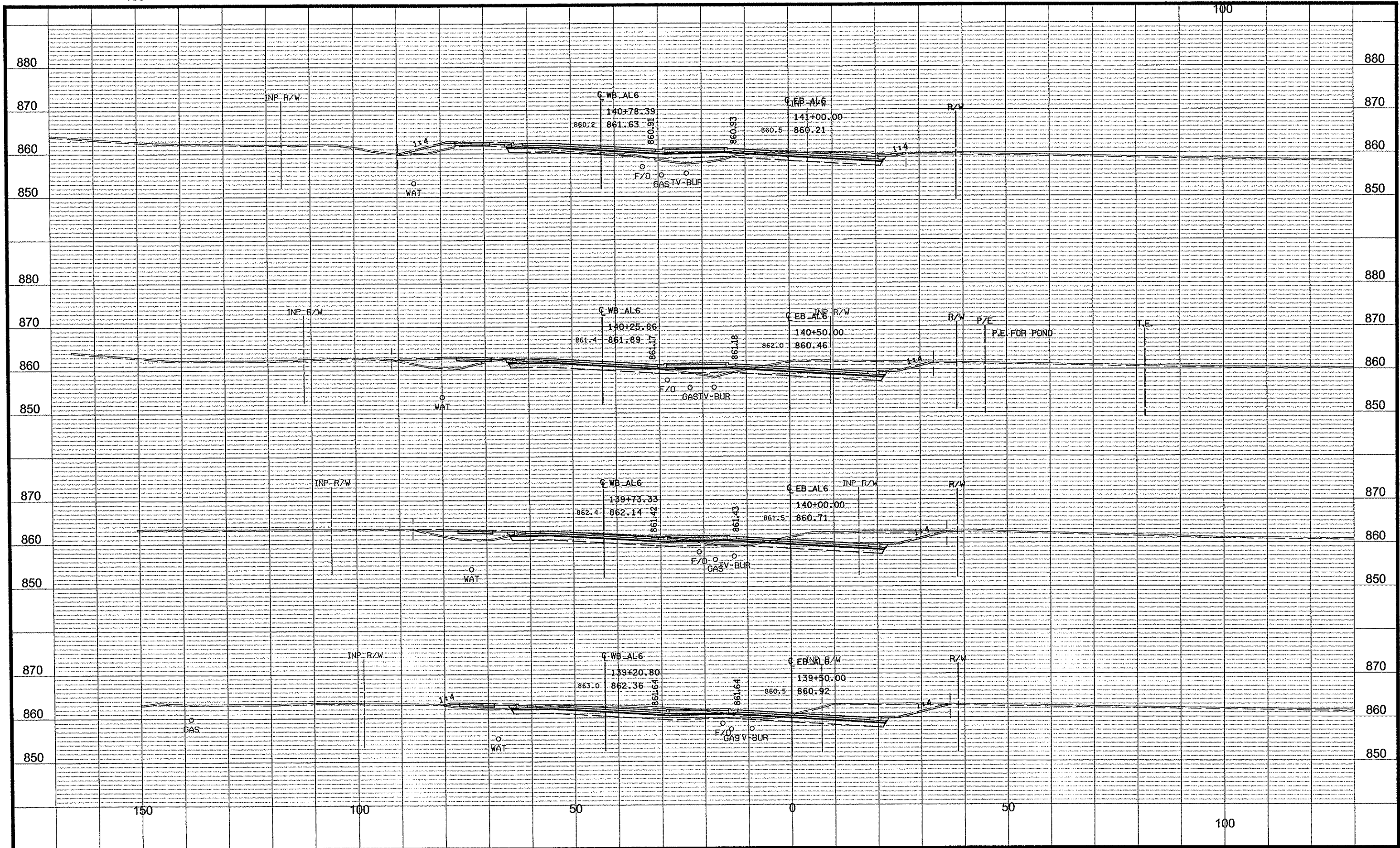
NO	DATE	BY	CKD	APPR	REVISION
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DRAWN BY BAV DATE 04/12/2011  
 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



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CROSS SECTIONS  
 STA 138+00.00 TO 139+28.16  
 Sheet 225 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

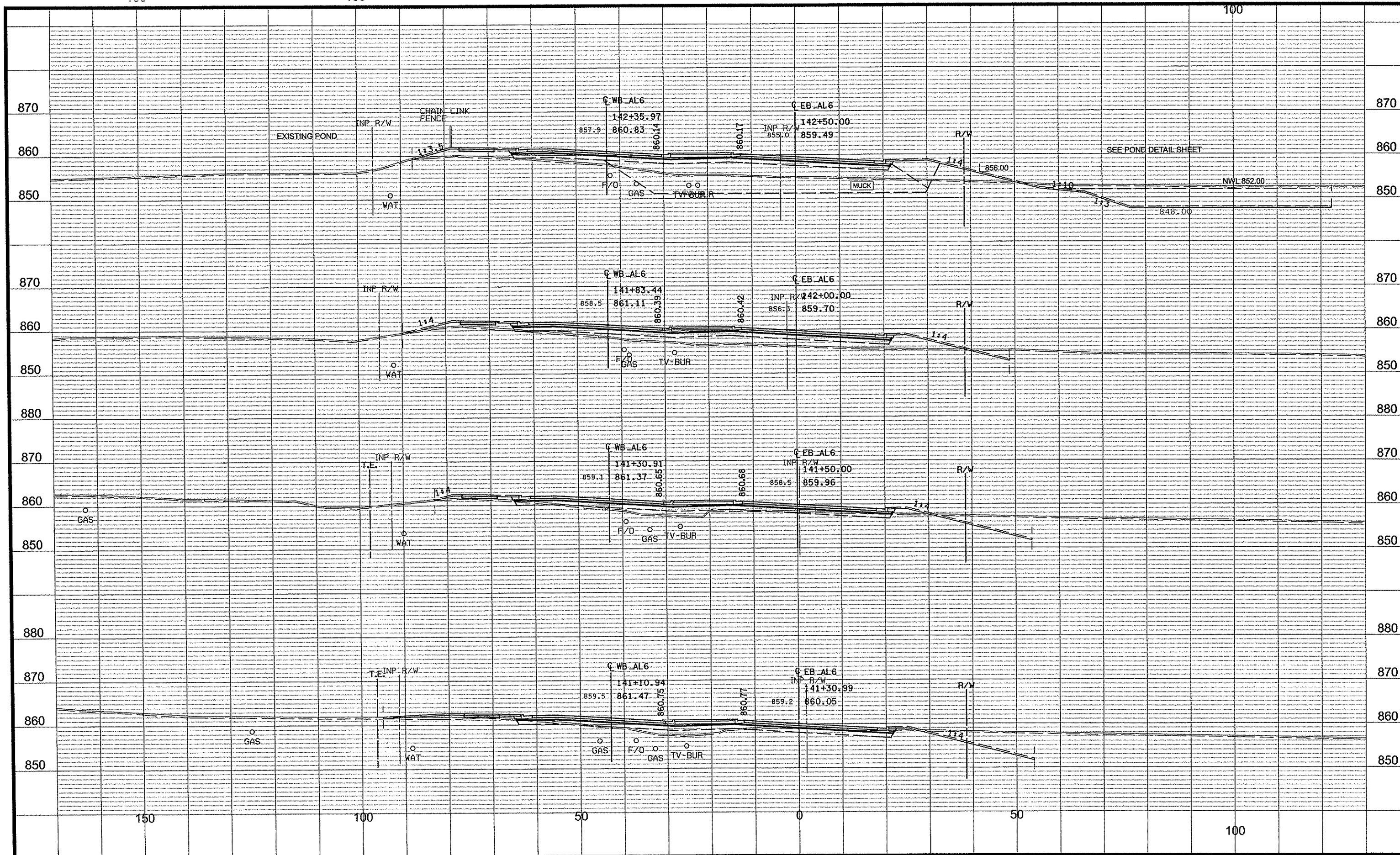
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 DESIGN BY: MN DATE: 04/12/2011  
 CHECKED BY: CAK DATE: 04/12/2011



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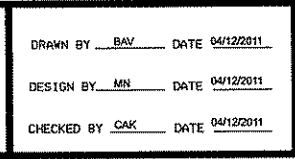
CROSS SECTIONS  
 STA 139+50.00 TO 141+00.00  
 Sheet 226 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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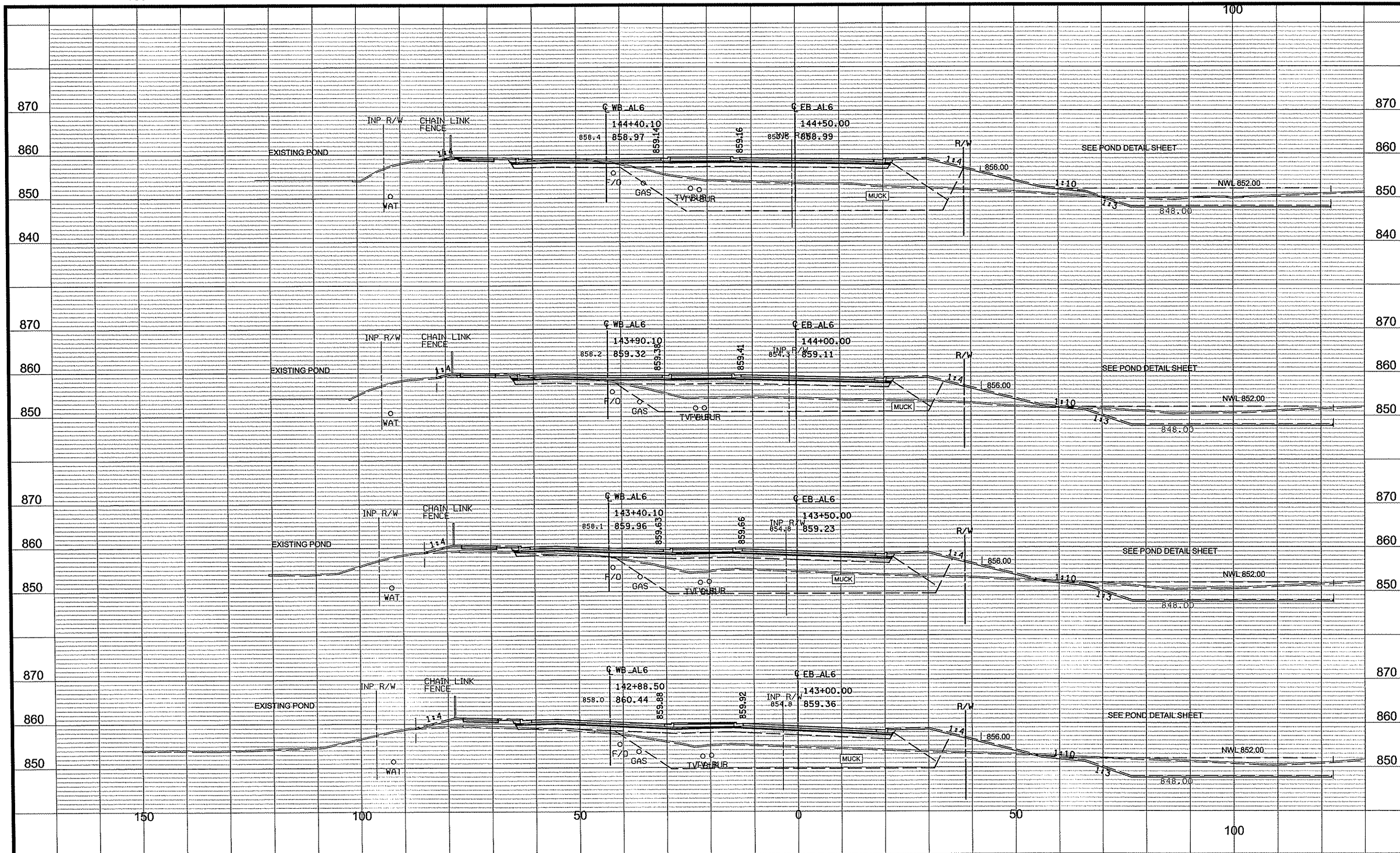
DRAWN BY	BAV	DATE	04/12/2011
DESIGN BY	MN	DATE	04/12/2011
CHECKED BY	GAK	DATE	04/12/2011



**ANOKA COUNTY  
HIGHWAY DEPT.**

S.P. 002-716-011  
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**CROSS SECTIONS**  
STA 141+30.99 TO 141+50.00  
Sheet 227 of 264 Sheets



NO	DATE	BY	CXD	APPR	REVISION
					04/12/2011

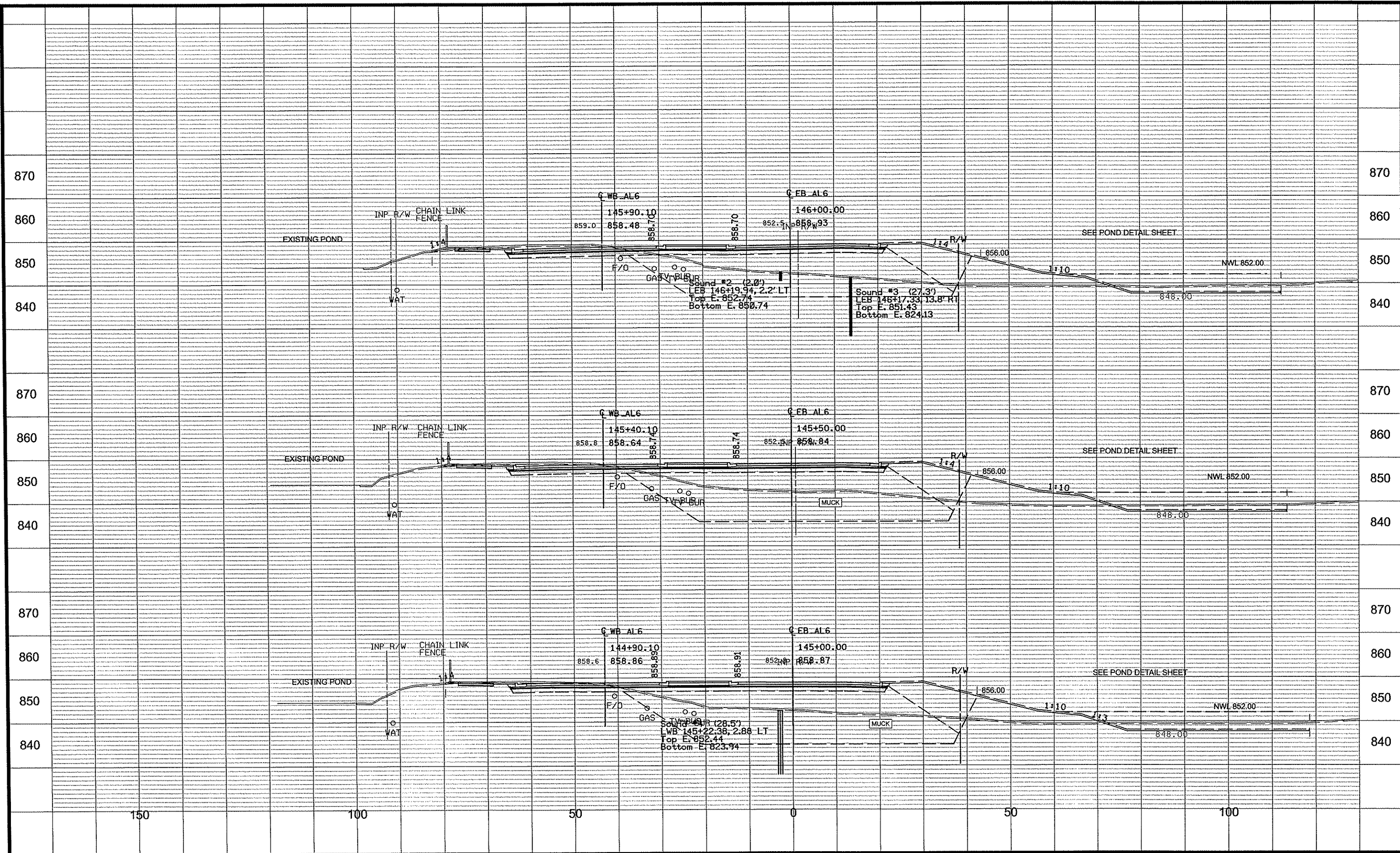
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DRAWN BY: BAV DATE: 04/12/2011  
 DESIGN BY: MN DATE: 04/12/2011  
 CHECKED BY: CAK DATE: 04/12/2011



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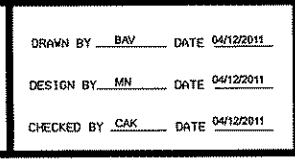
CROSS SECTIONS  
 STA 143+00.00 TO 144+50.00  
 Sheet 228 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: pt102-716-11\Plan10271611\_XSPLOT.dgn  
 04/12/2011 3:34:36 PM

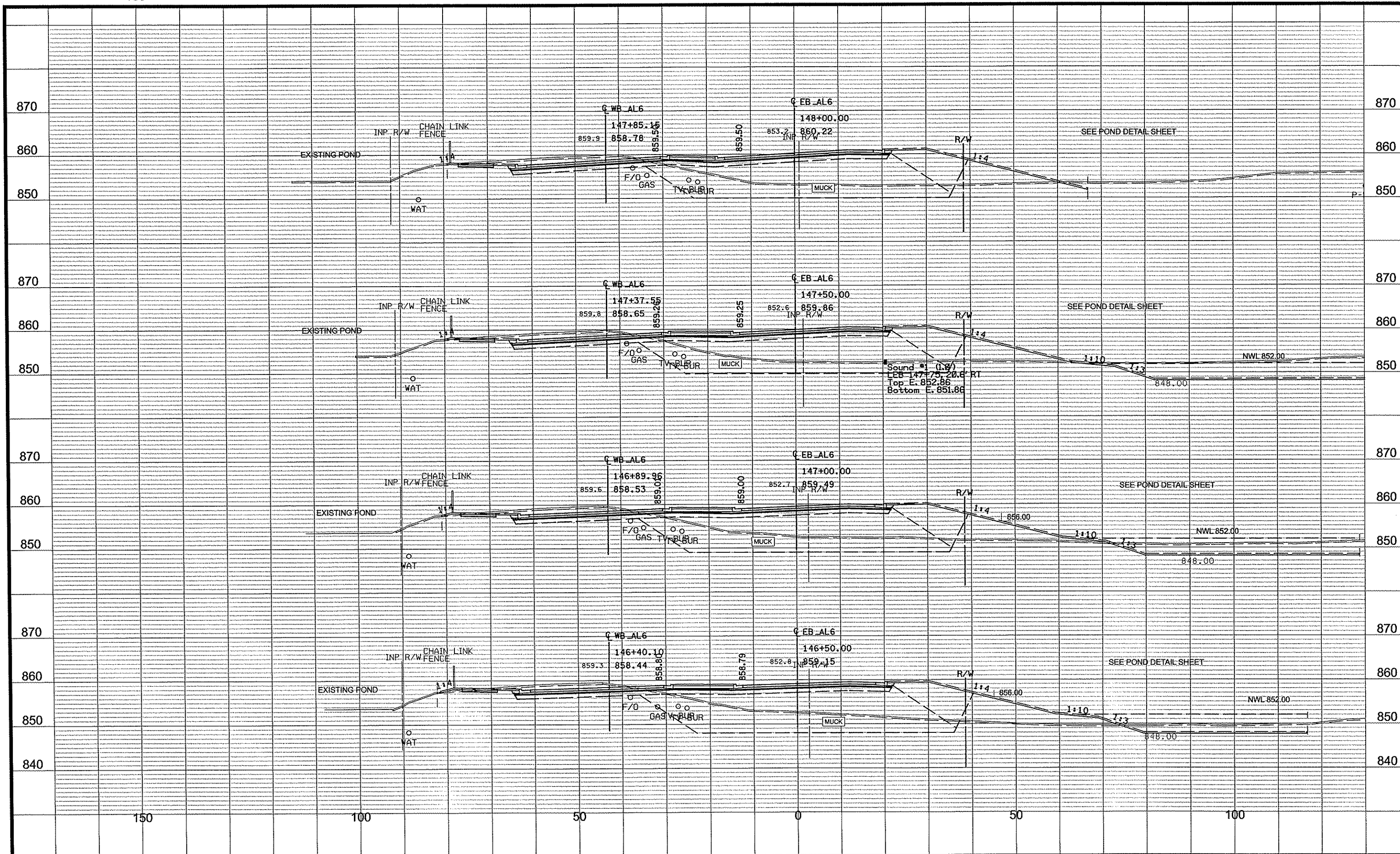
DRAWN BY	BAV	DATE	04/12/2011
DESIGN BY	MN	DATE	04/12/2011
CHECKED BY	CAK	DATE	04/12/2011



**ANOKA COUNTY**  
**HIGHWAY DEPT.**

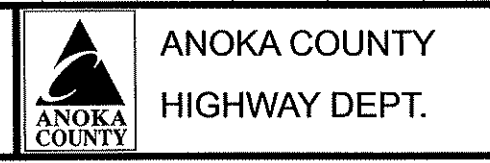
S.P. 002-716-011  
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**CROSS SECTIONS**  
 STA 145+00.00 TO 146+00.00  
 Sheet 229 of 264 Sheets



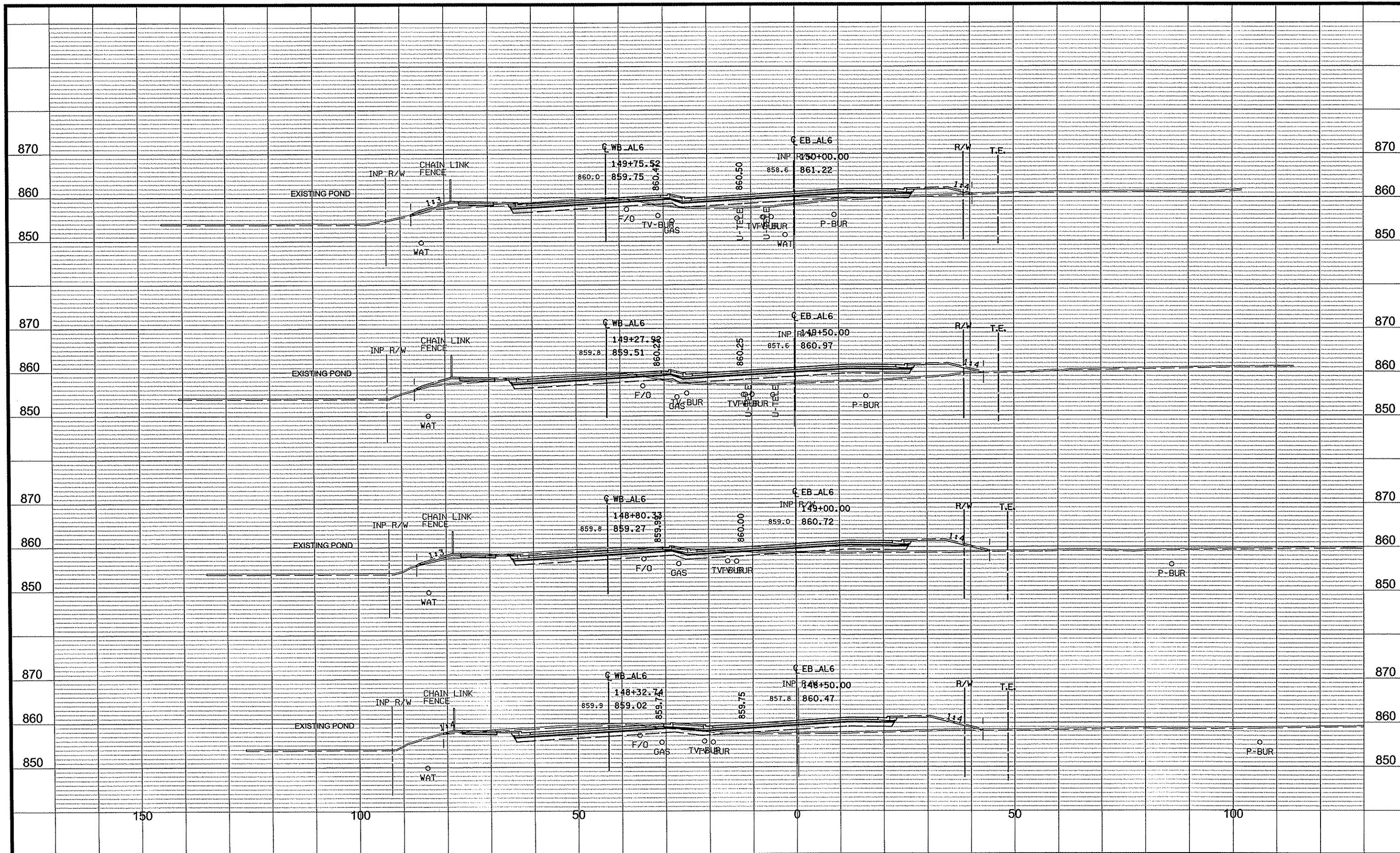
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3:34:37 PM					

DRAWN BY BW DATE 04/12/2011  
 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



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CROSS SECTIONS  
 STA 146+50.00 TO 148+00.00  
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NO	DATE	BY	CKD	APPR	REVISION	
					04/12/2011	3:34:38 PM

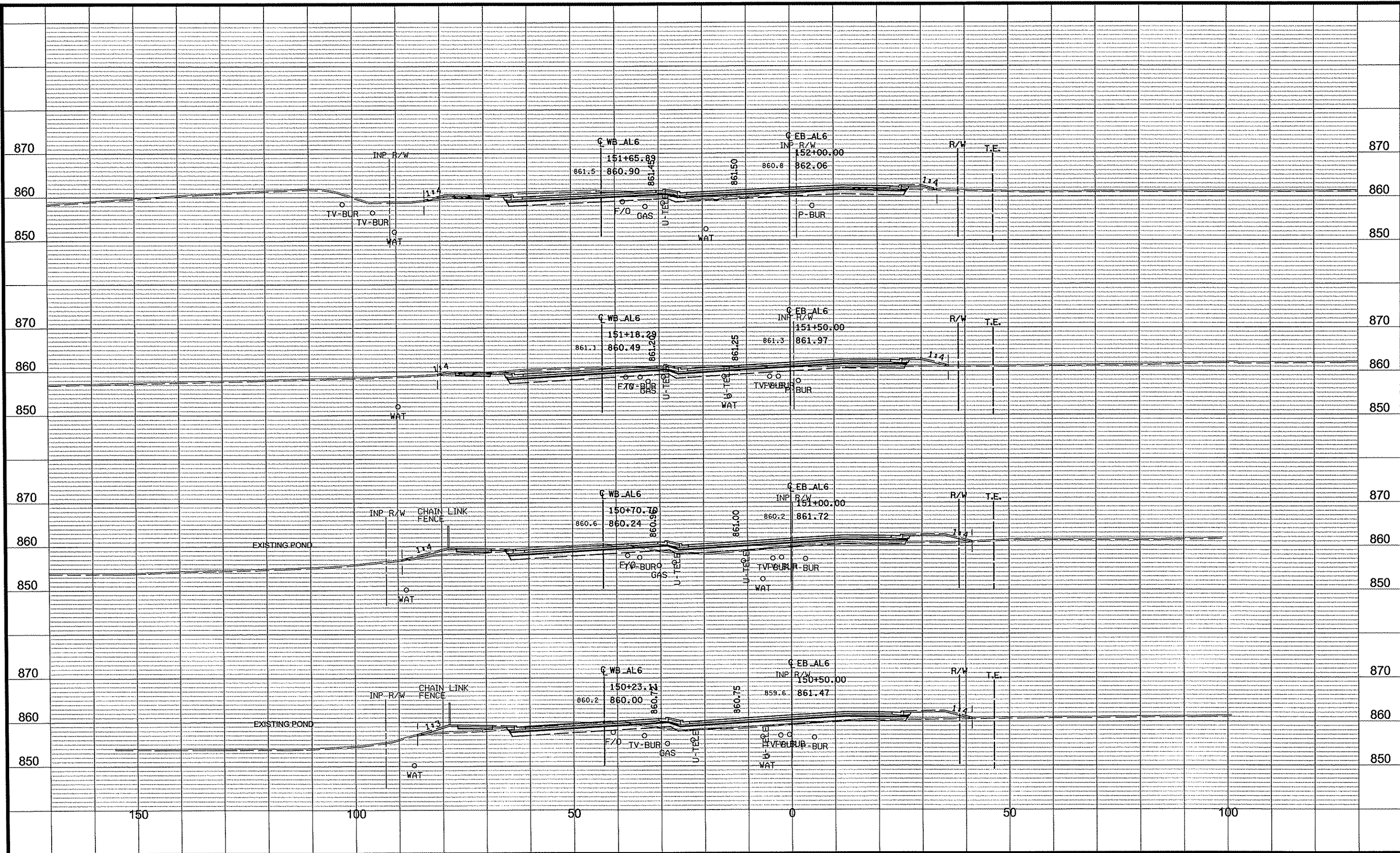
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DRAWN BY BIV DATE 04/12/2011  
 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



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**CROSS SECTIONS**  
 STA 148+50.00 TO 150+00.00  
 Sheet 231 of 264 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-716-11\Plan\0271611\_XSPLOT.dgn  
 04/12/2011 3:34:39 PM

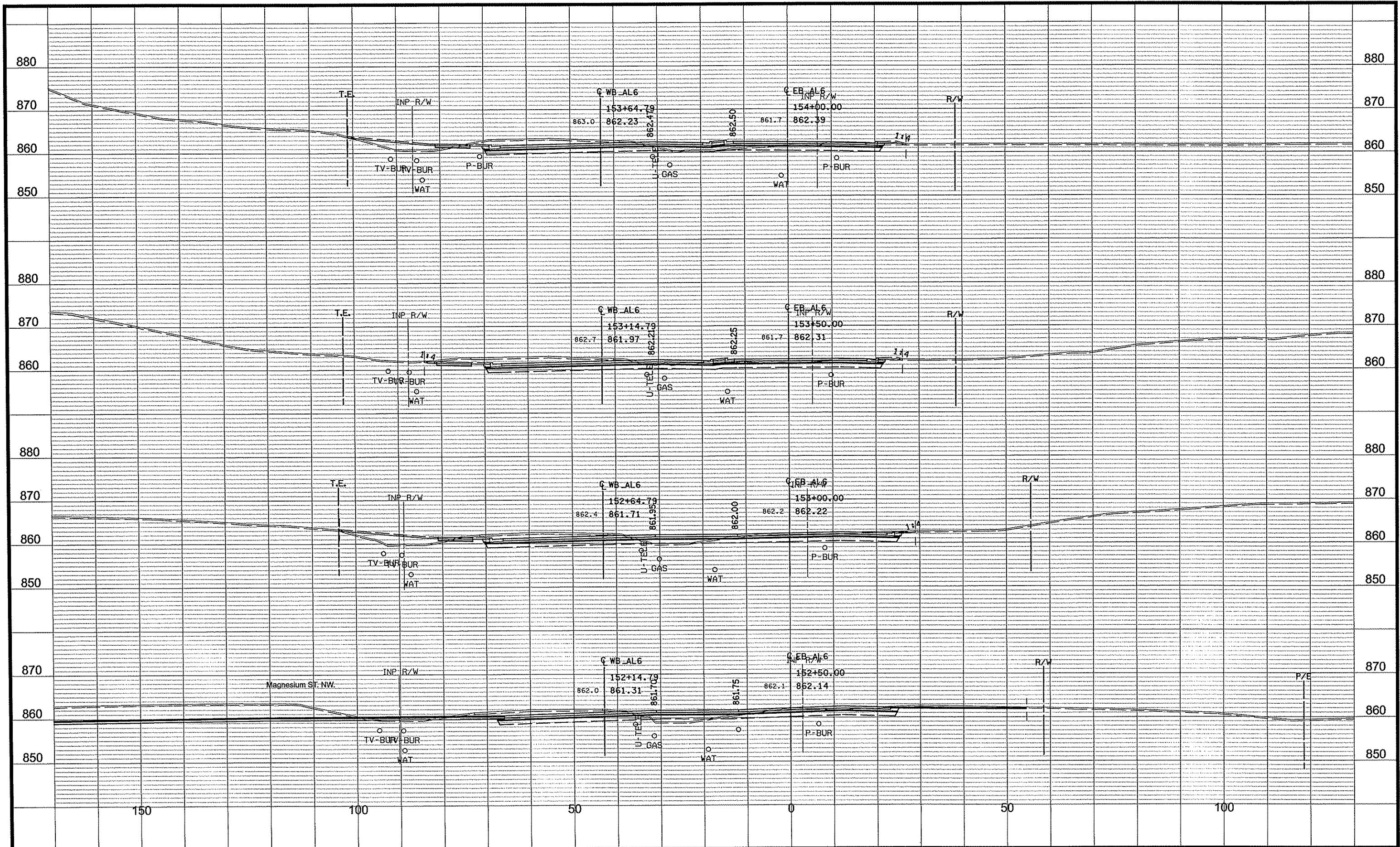
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 DESIGN BY: MN DATE: 04/12/2011  
 CHECKED BY: CAK DATE: 04/12/2011



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CROSS SECTIONS  
 STA 150+50.00 TO 152+00.00  
 Sheet 232 of 264 Sheets

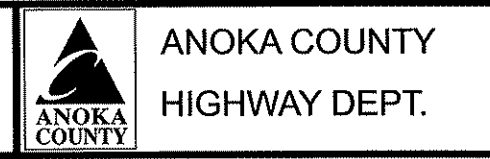




NO	DATE	BY	CKD	APPR	REVISION

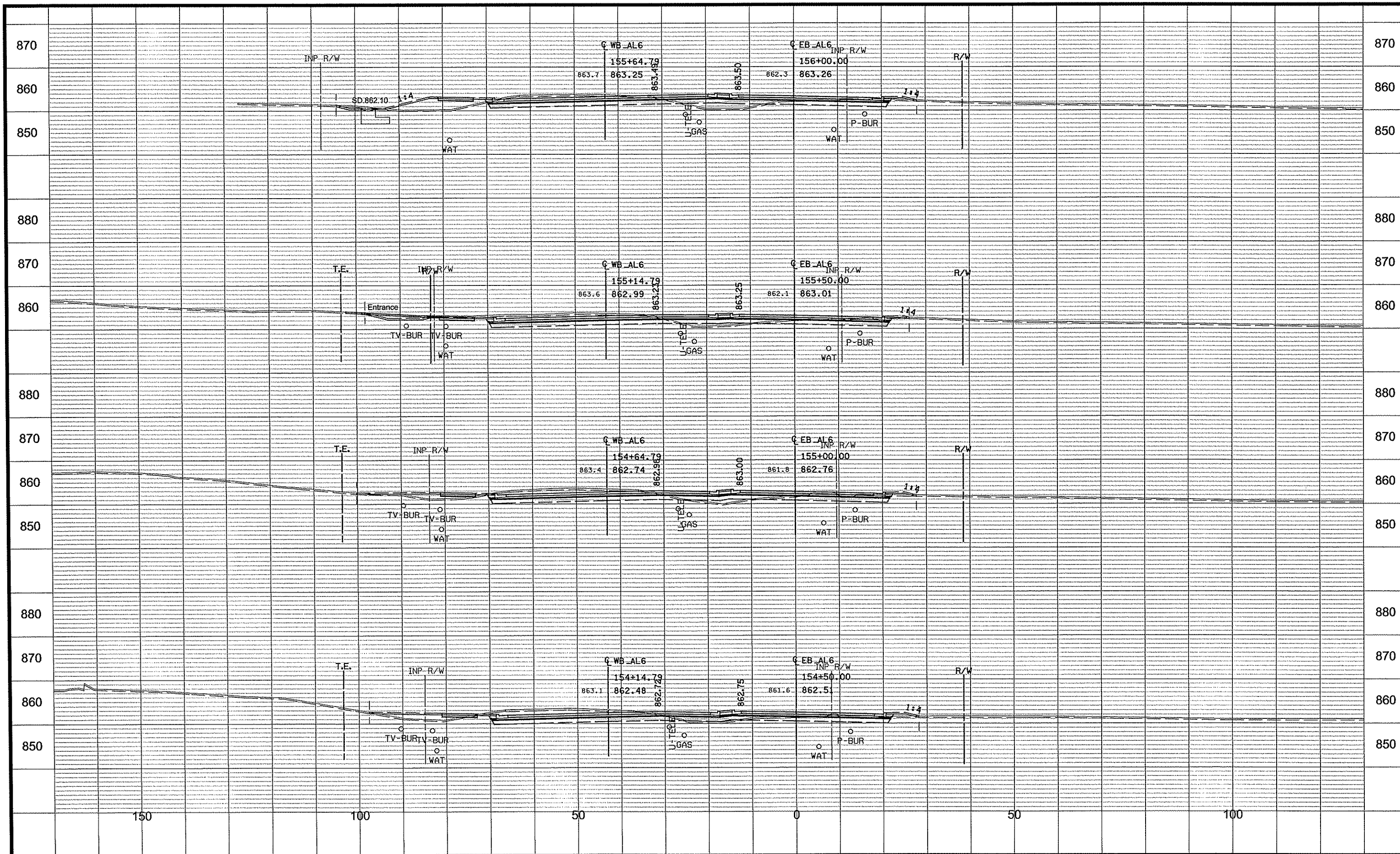
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DRAWN BY BAV DATE 04/12/2011  
 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



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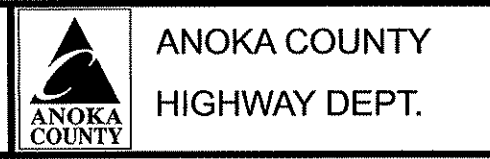
CROSS SECTIONS  
 STA 152+50.00 TO 154+00.00  
 Sheet 233 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

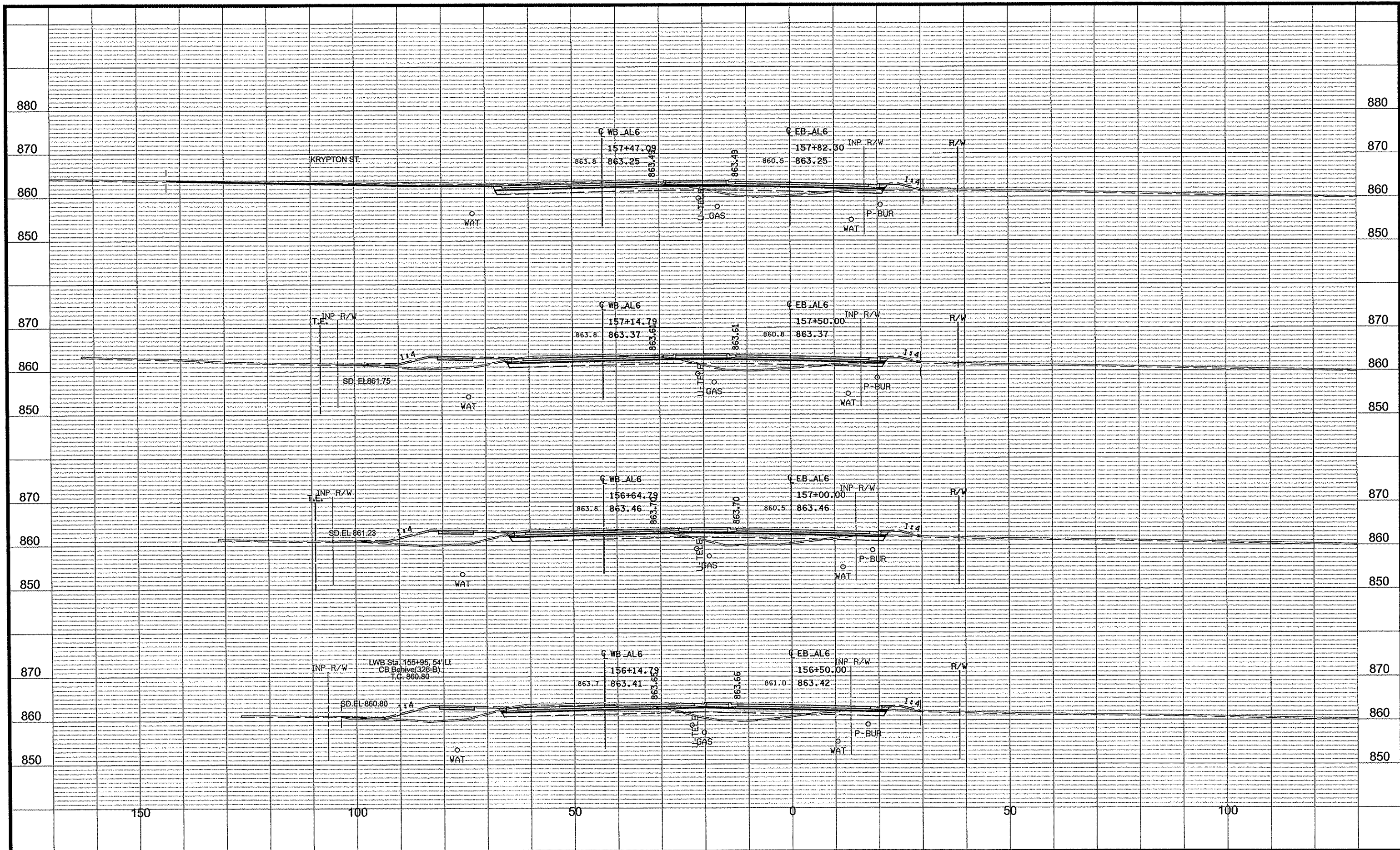
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DRAWN BY BAW DATE 04/12/2011  
 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



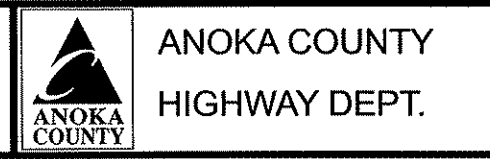
S.P. 002-716-011  
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CROSS SECTIONS  
 STA 154+50.00 TO 156+00.00  
 Sheet 234 of 264 Sheets



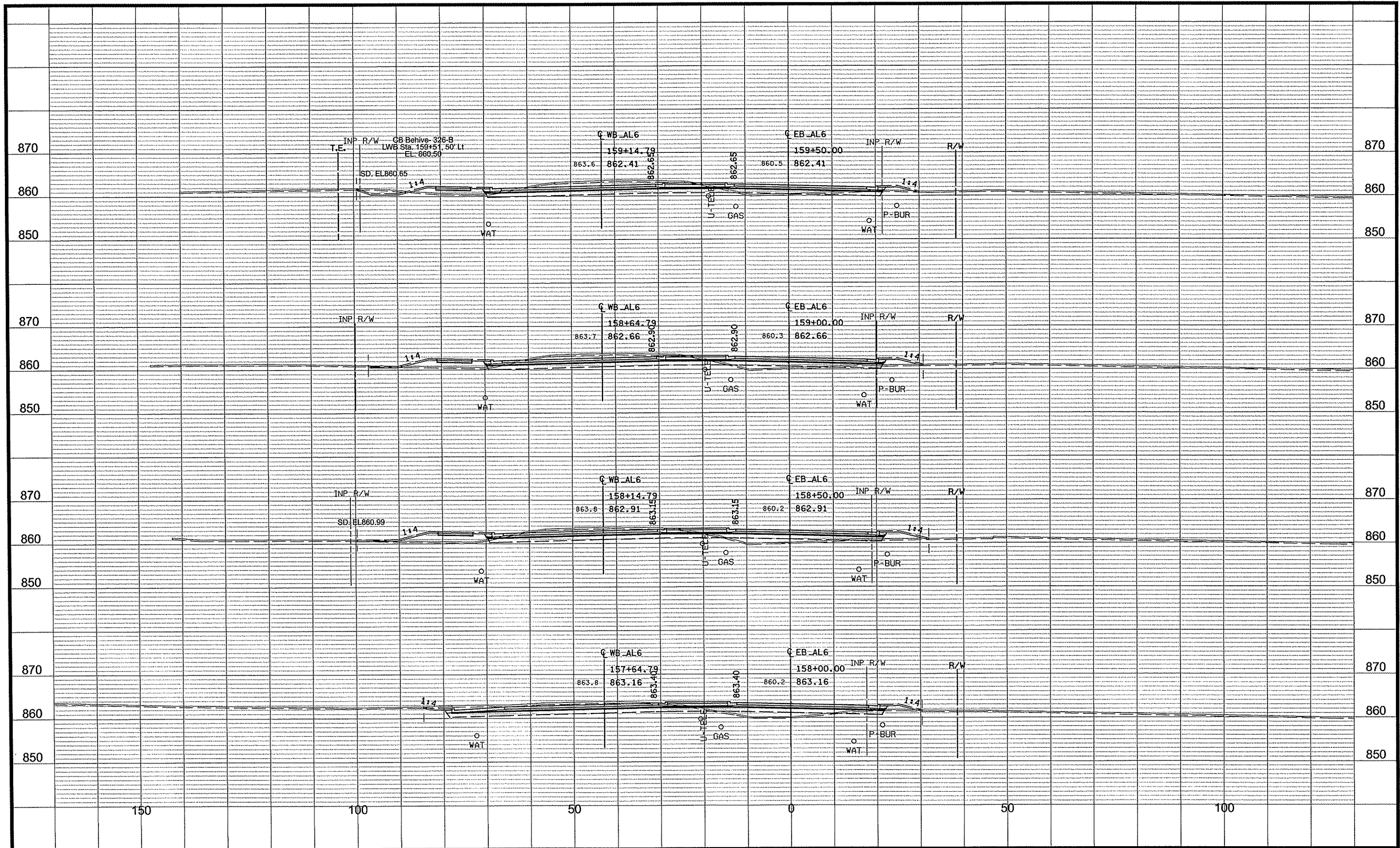
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DRAWN BY BAW DATE 04/12/2011  
 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



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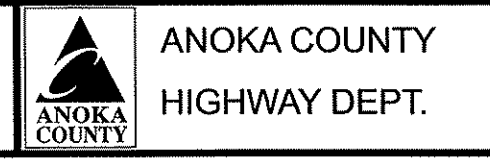
CROSS SECTIONS  
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 Sheet 235 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

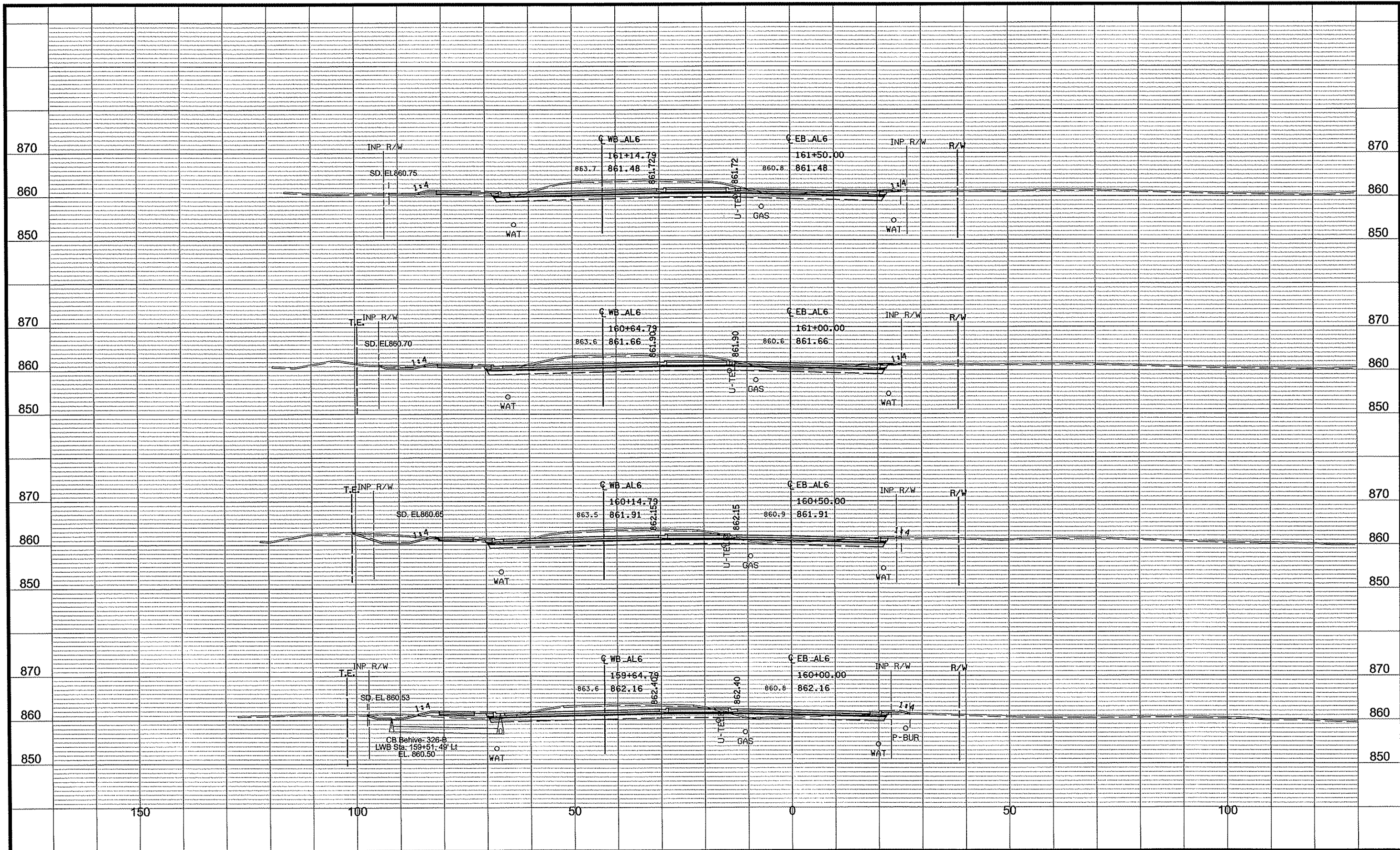
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DRAWN BY: BAV DATE: 04/12/2011  
 DESIGN BY: MN DATE: 04/12/2011  
 CHECKED BY: CAK DATE: 04/12/2011



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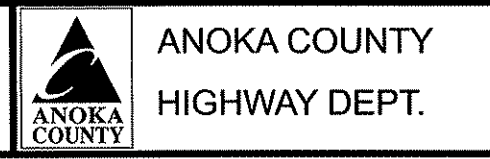
CROSS SECTIONS  
 STA 158+00.00 TO 159+50.00  
 Sheet 236 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

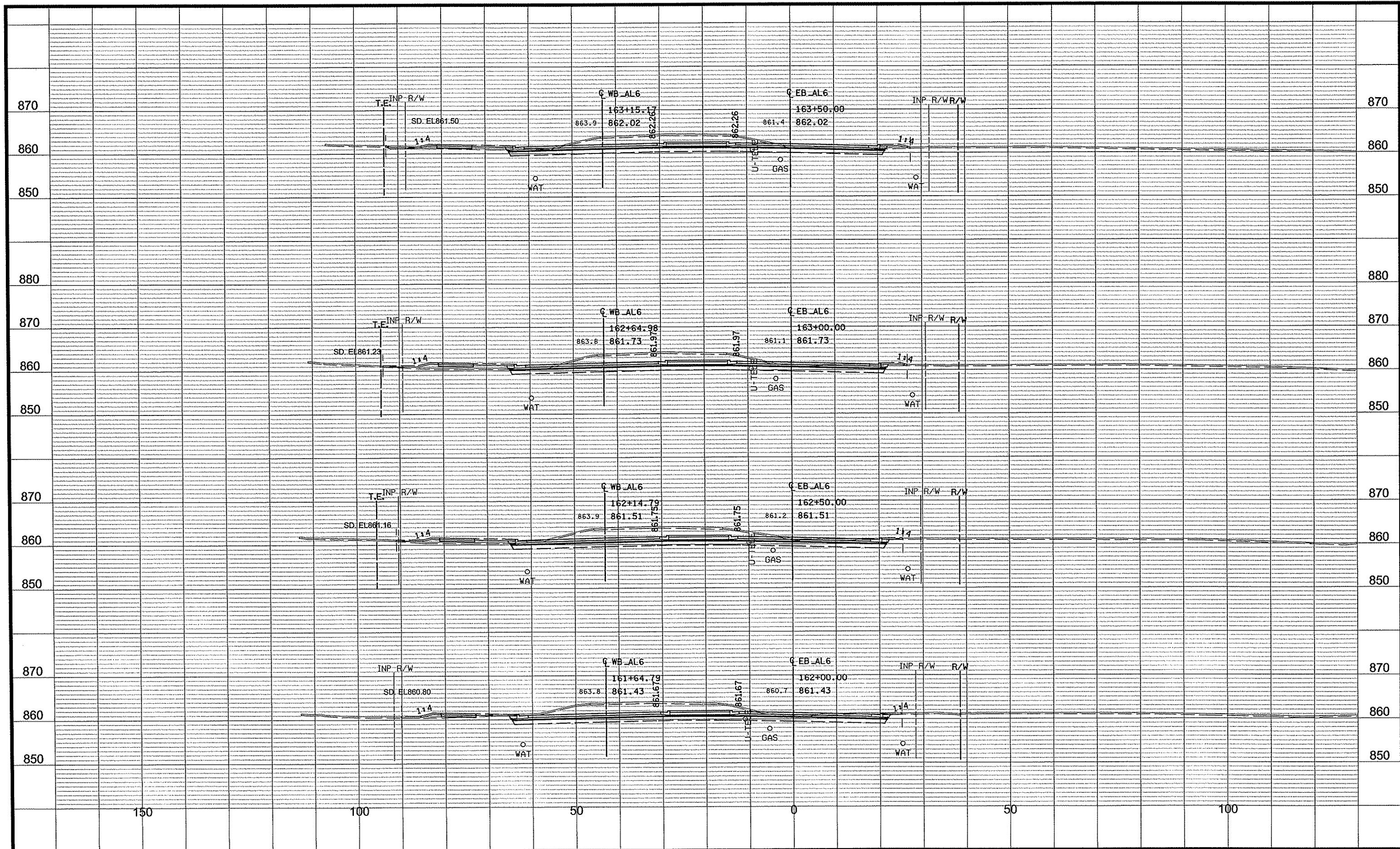
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DRAWN BY BAW DATE 04/12/2011  
 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



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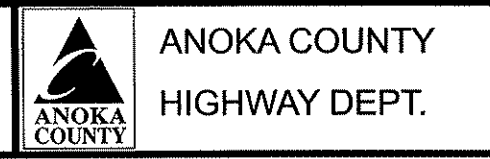
CROSS SECTIONS  
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 Sheet 237 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

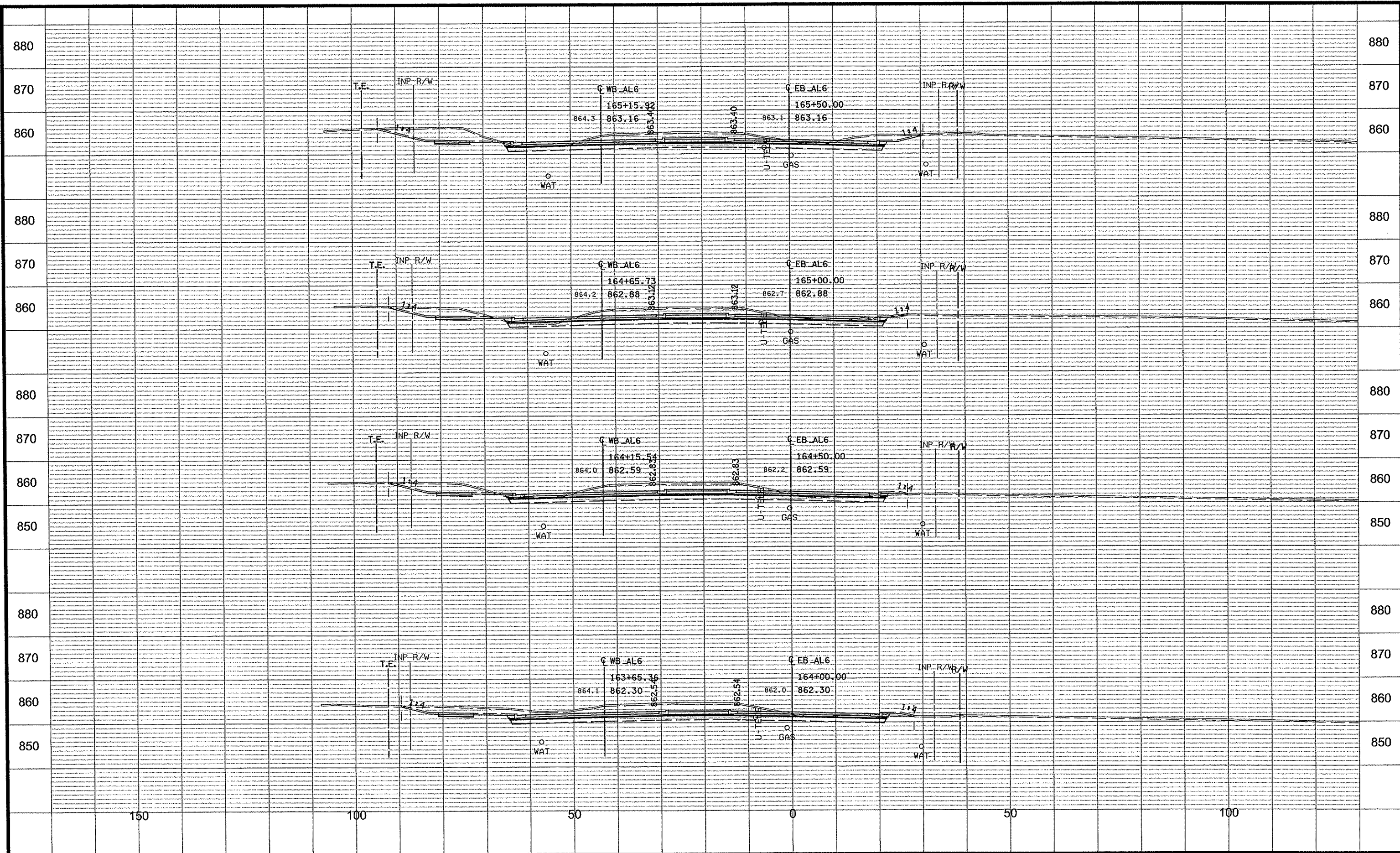
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DRAWN BY BAV DATE 04/12/2011  
 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



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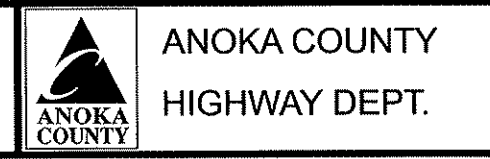
CROSS SECTIONS  
 STA 162+00.00 TO 163+50.00  
 Sheet 238 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION
					04/12/2011

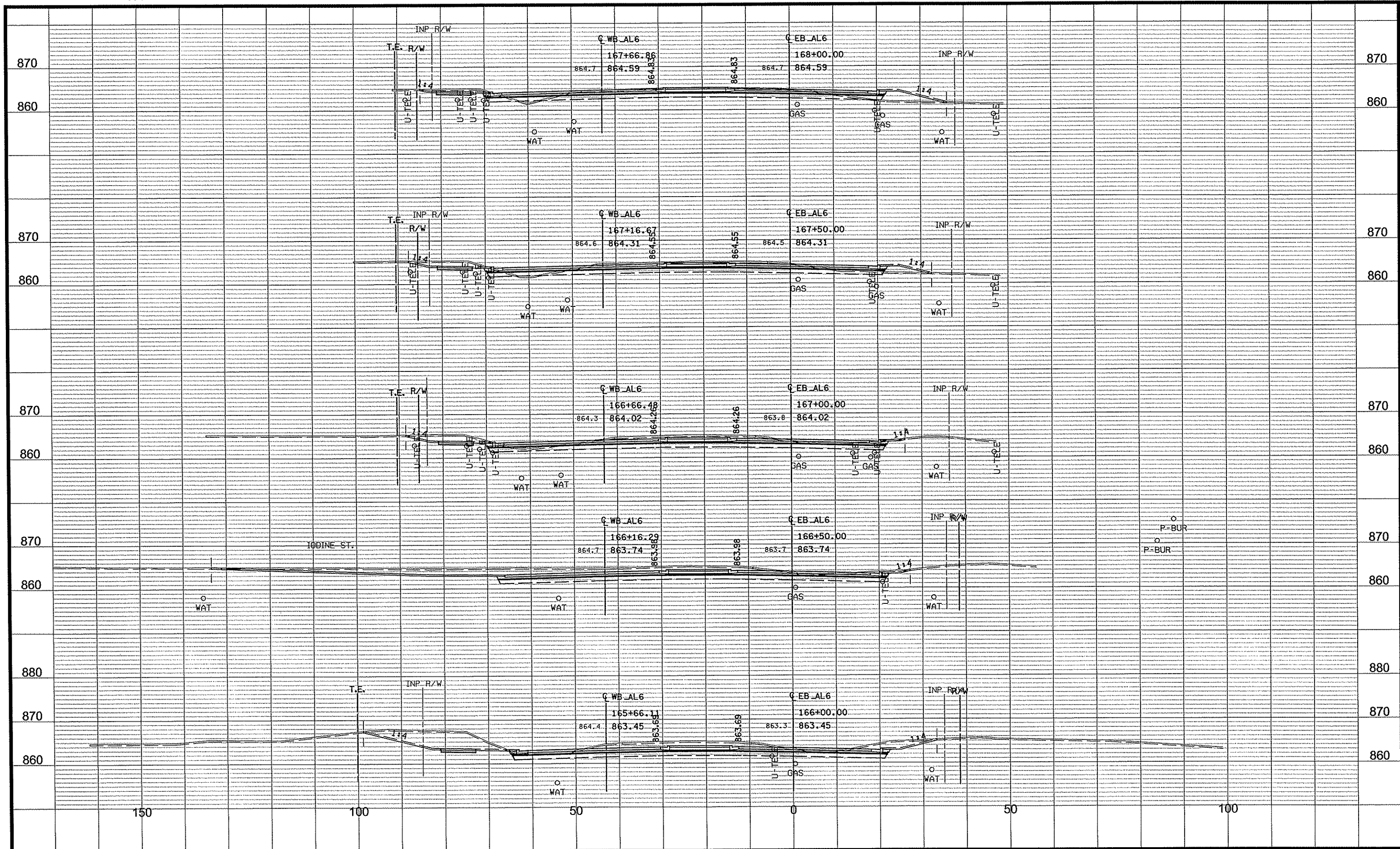
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 DESIGN BY: MN DATE: 04/12/2011  
 CHECKED BY: CAK DATE: 04/12/2011



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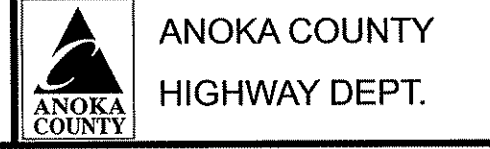
**CROSS SECTIONS**  
 STA 164+00.00 TO 165+50.00  
 Sheet 239 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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04/12/2011 3:34:46 PM

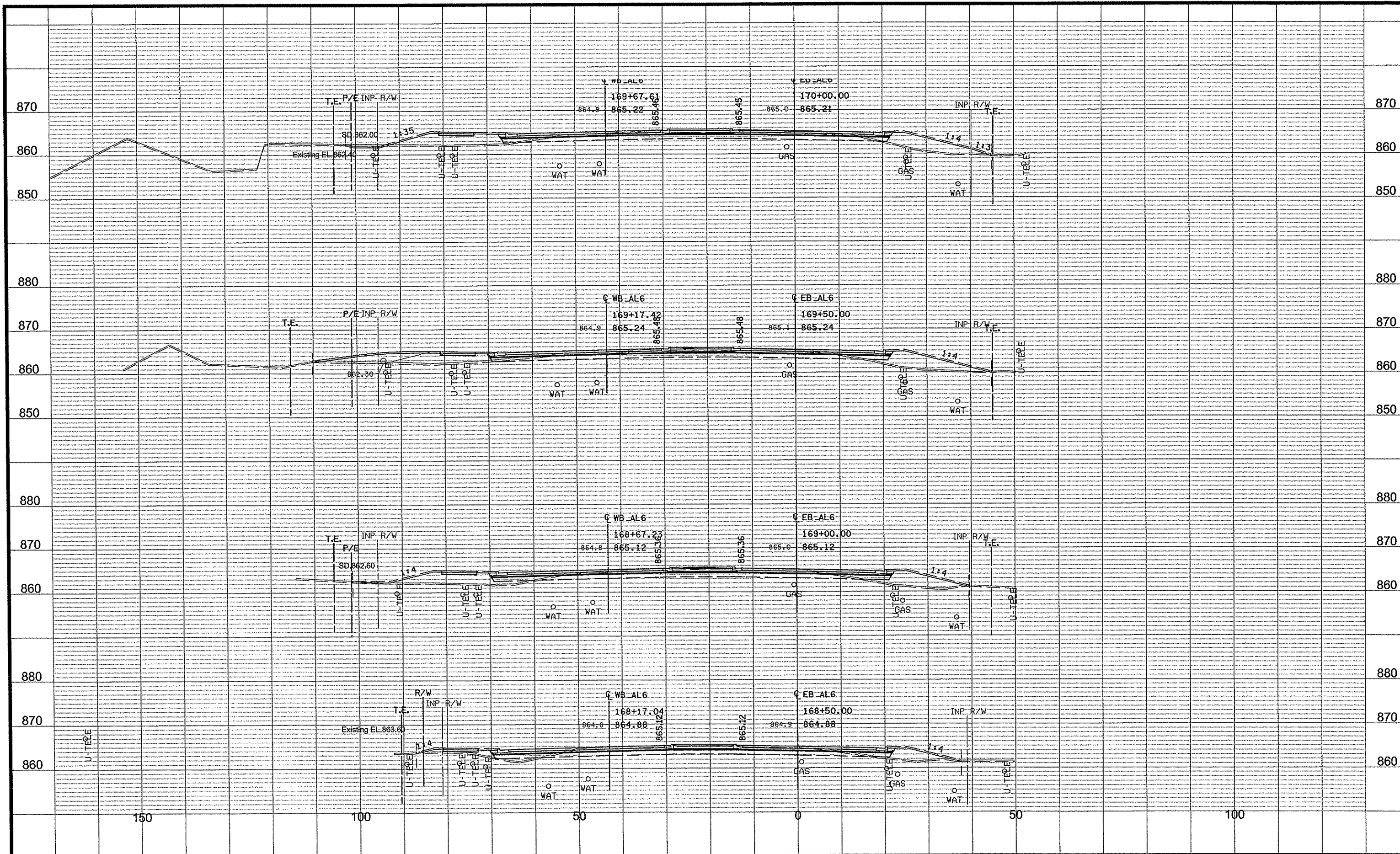
DRAWN BY BAW DATE 04/12/2011  
 DESIGN BY MN DATE 04/12/2011  
 CHECKED BY CAK DATE 04/12/2011



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CROSS SECTIONS  
 STA 166+00.00 TO 168+00.00  
 Sheet 240 of 264 Sheets

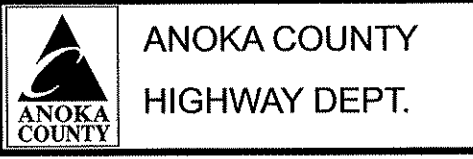




NO	DATE	BY	CKD	APPR	REVISION

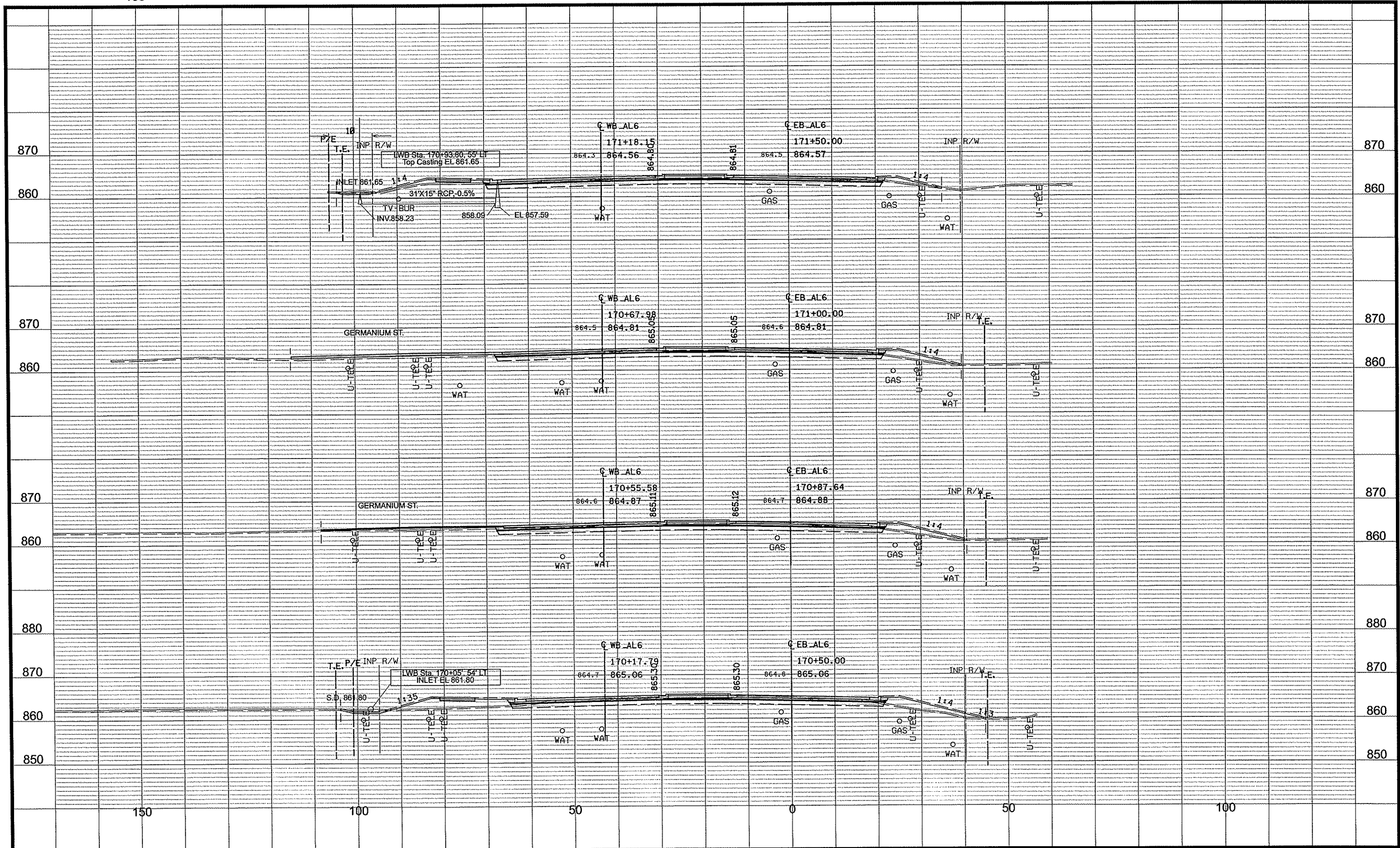
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S.P. 002-716-011  
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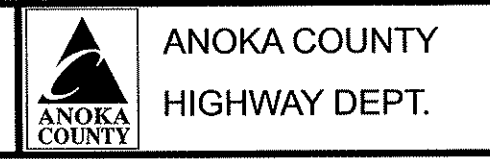
CROSS SECTIONS  
 STA 168+50.00 TO 170+00.00  
 Sheet 241 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

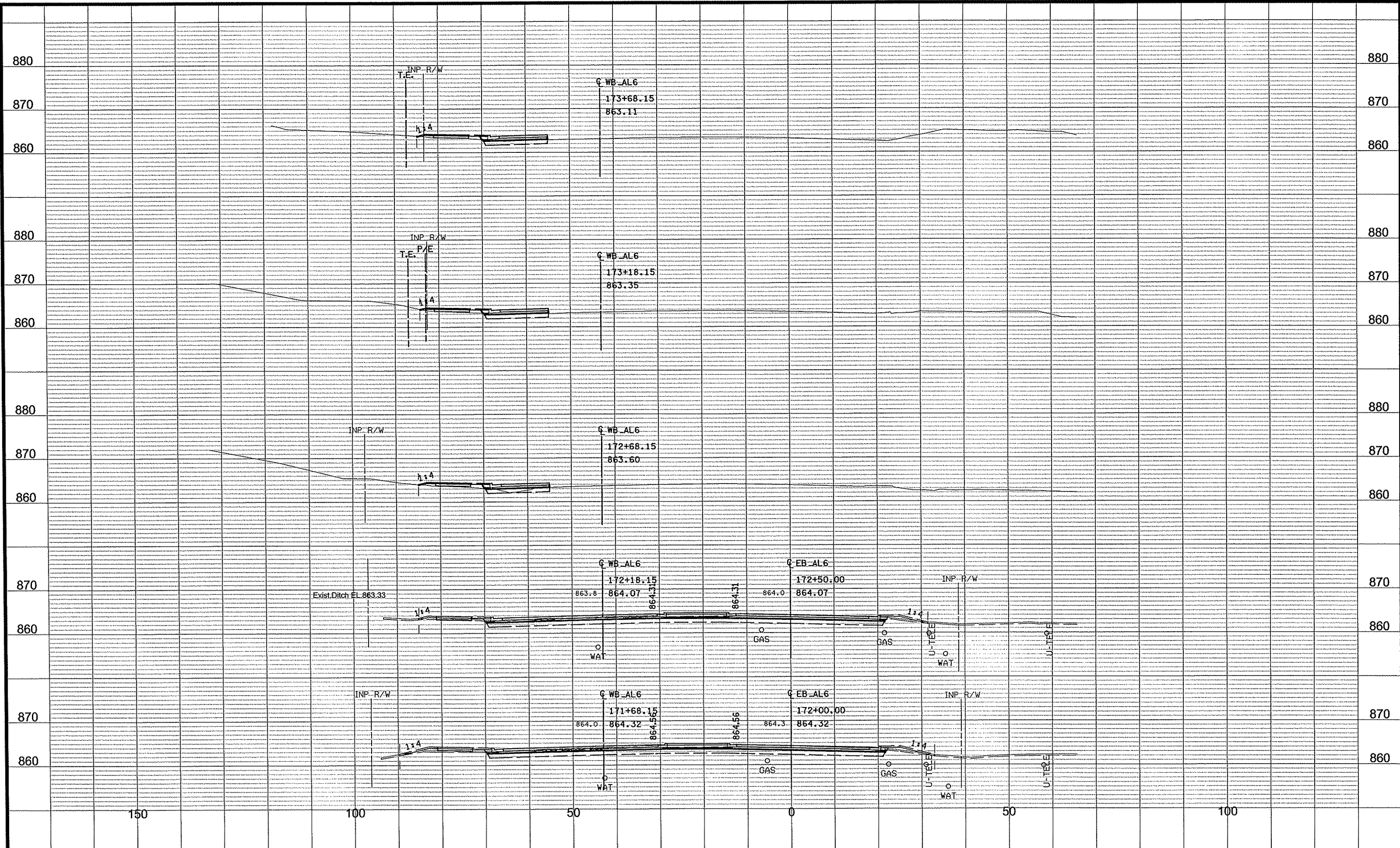
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 CHECKED BY: CAK DATE: 04/12/2011



S.P. 002-716-011  
 S.P. 199-020-008

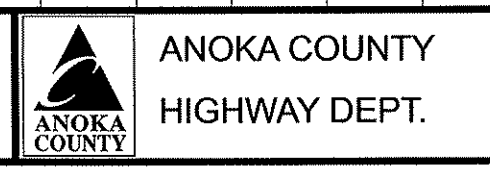
CROSS SECTIONS  
 STA 170+50.00 TO 171+50.00  
 Sheet 242 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

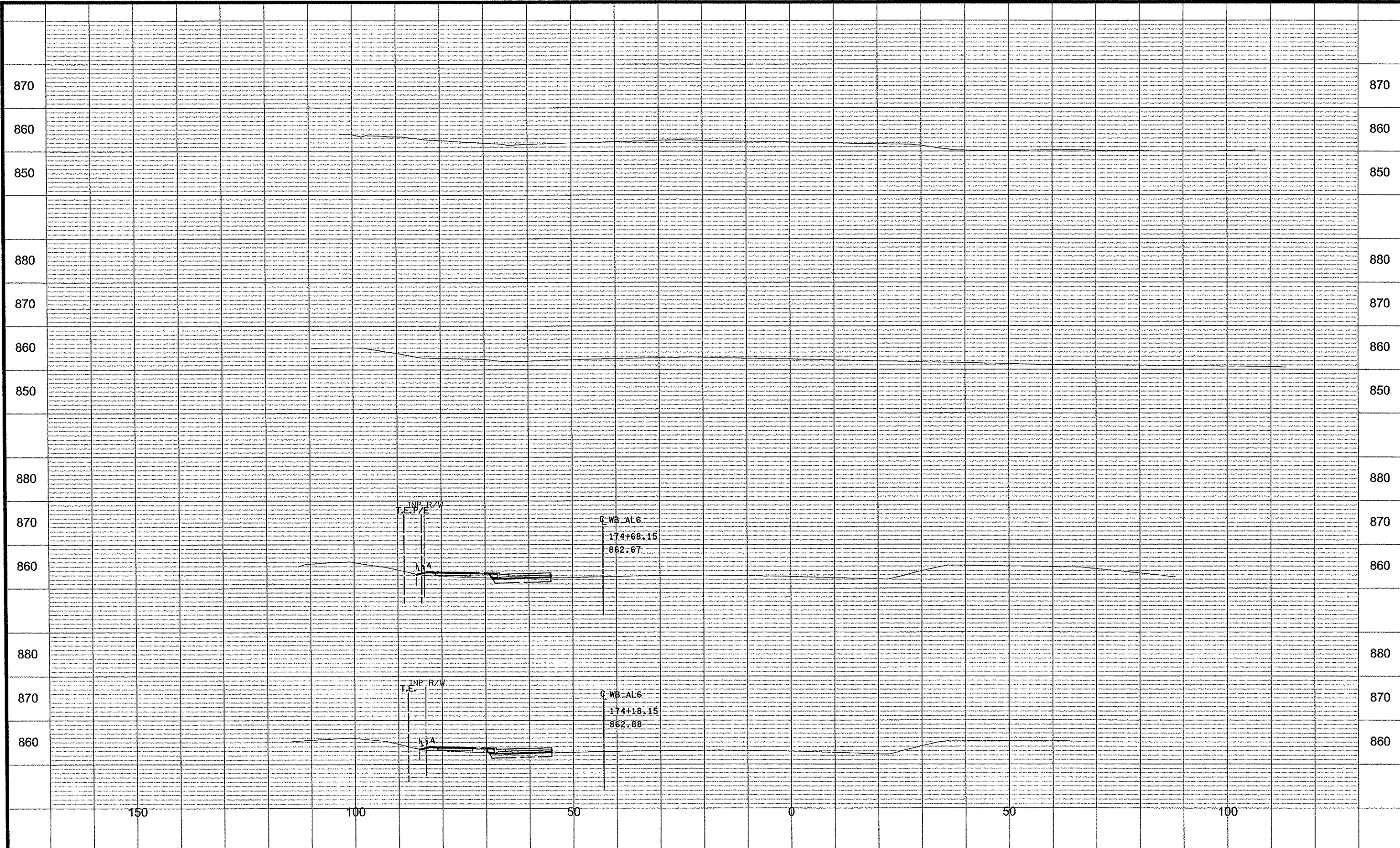
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 CHECKED BY: CAK DATE: 04/12/2011



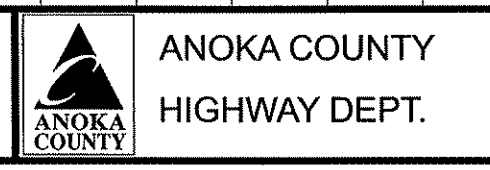
S.P. 002-716-011  
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CROSS SECTIONS  
 STA 172+00.00 TO 174+00.00  
 Sheet 243 of 264 Sheets



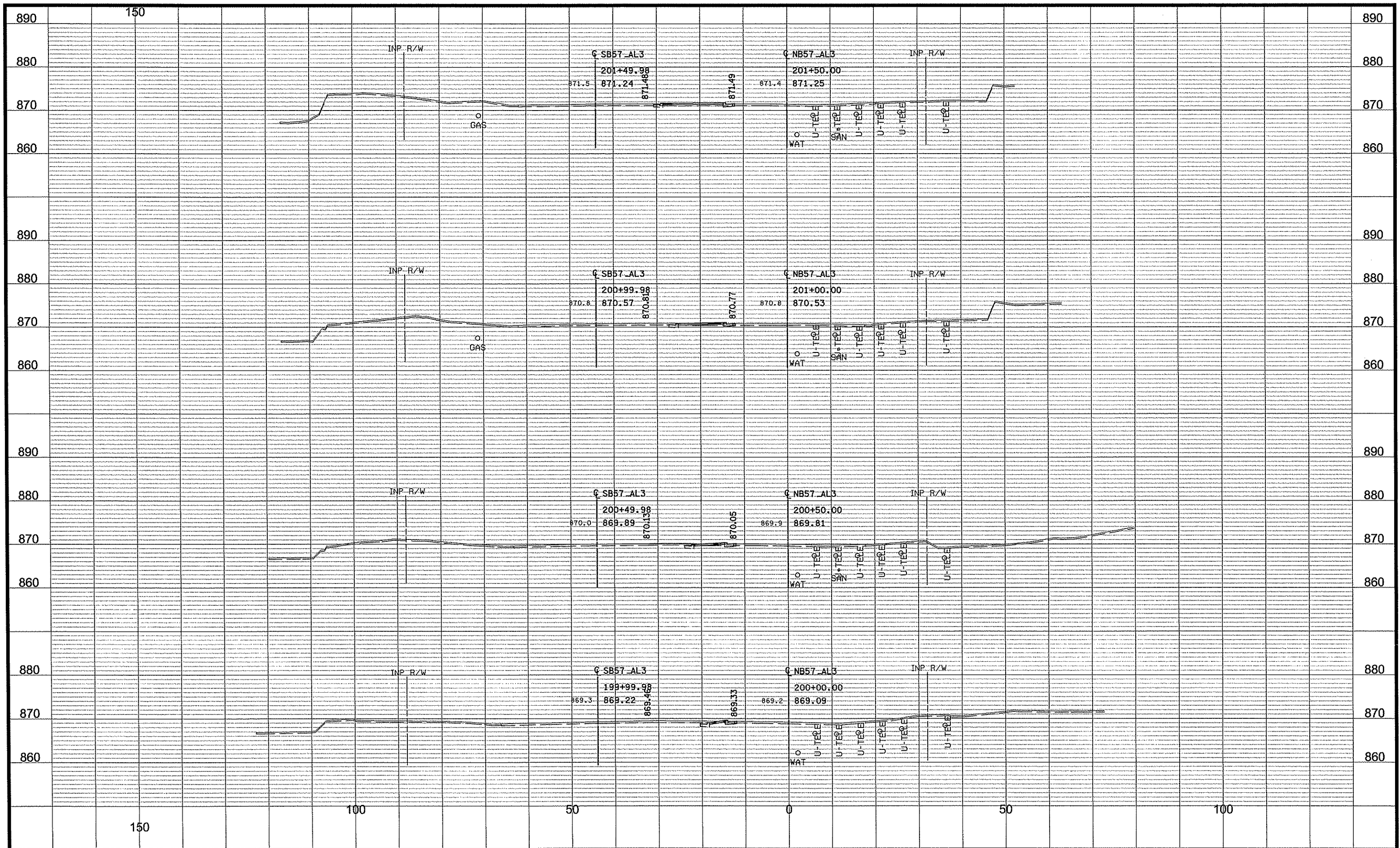
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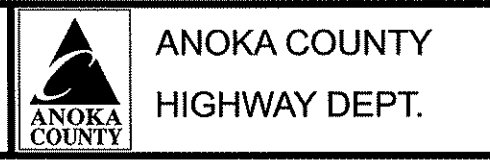
S.P. 002-716-011  
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CROSS SECTIONS  
 STA 174+50.00 TO 175+00.00  
 Sheet 244 of 264 Sheets



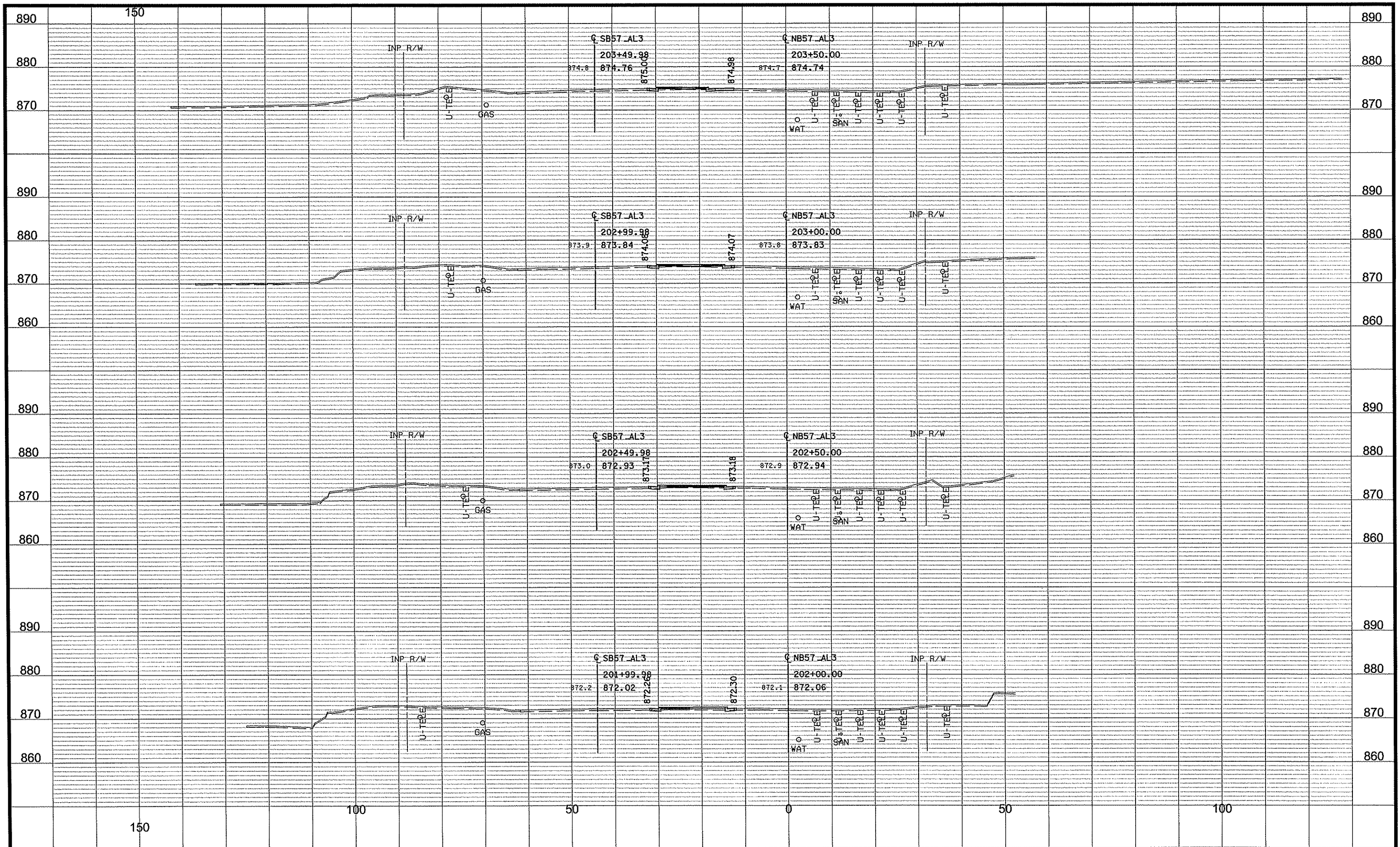
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DESIGN BY	MN	DATE	02/23/2011
CHECKED BY	CAK	DATE	02/23/2011



S.P. 002-716-011  
S.P. 199-020-008

CROSS SECTIONS  
STA 200+00.00 TO 201+50.00  
Sheet 245 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

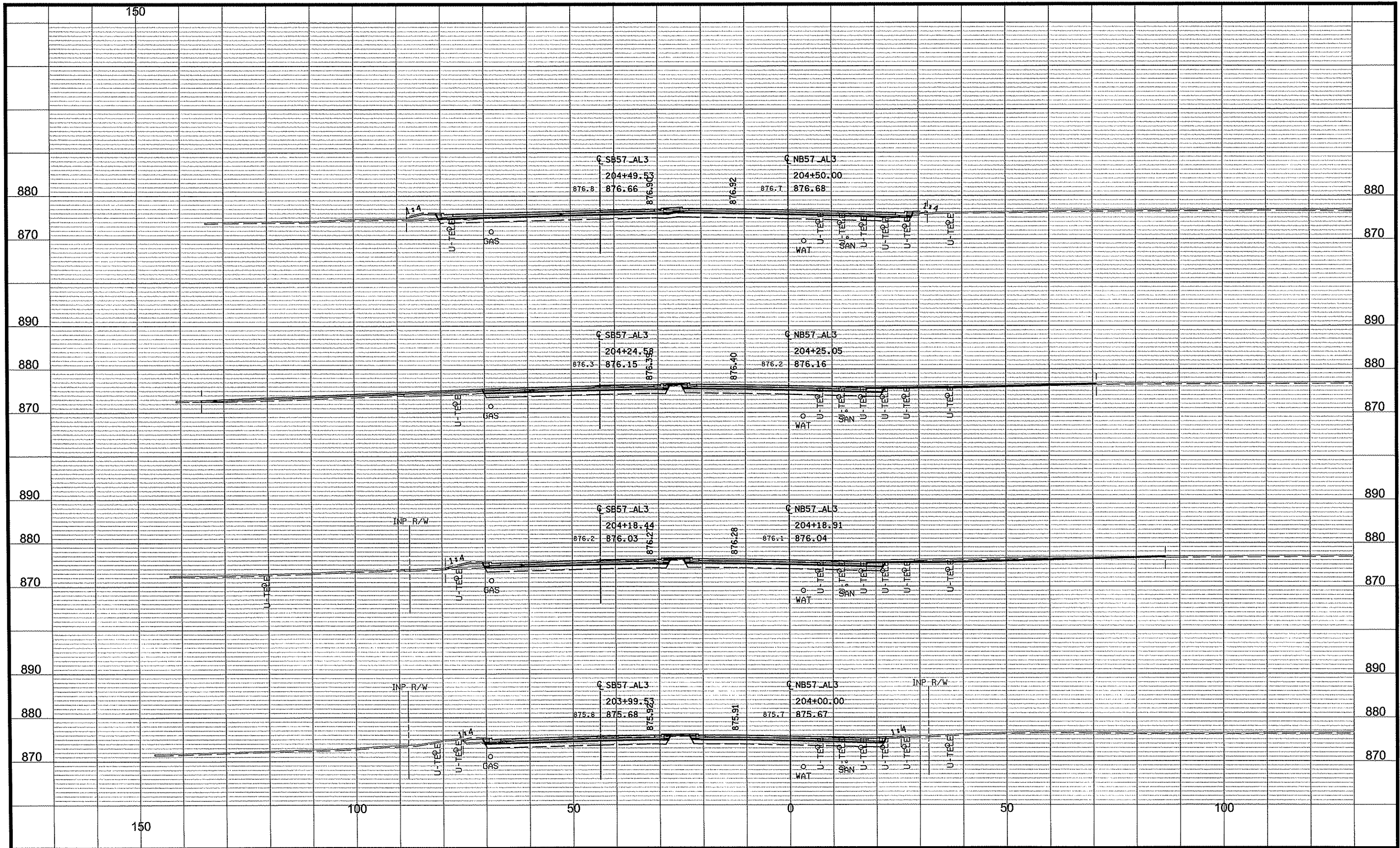
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 DESIGN BY MN DATE 02/23/2011  
 CHECKED BY CAX DATE 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

**CROSS SECTIONS**  
 STA 202+00.00 TO 203+50.00  
 Sheet 246 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION
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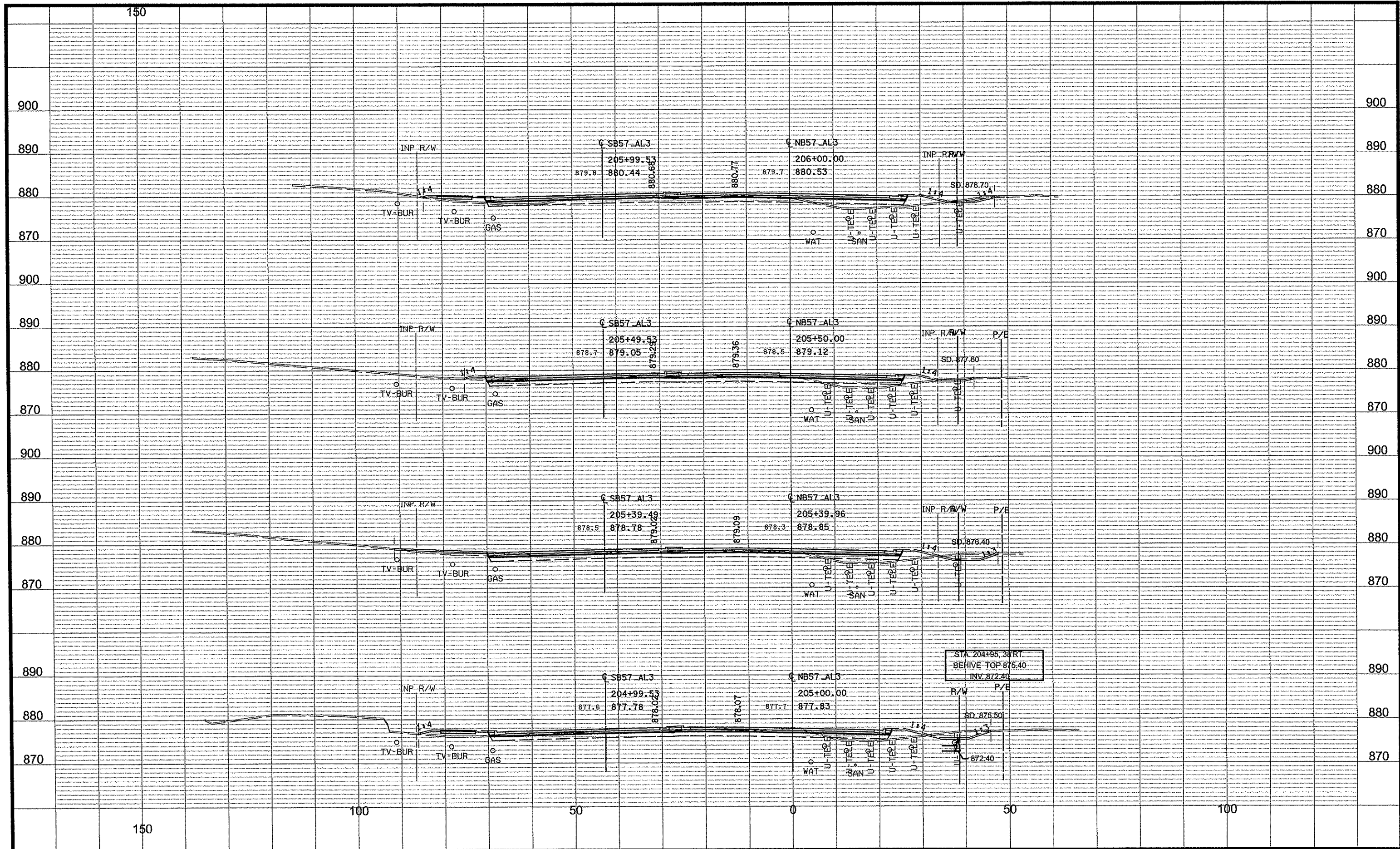
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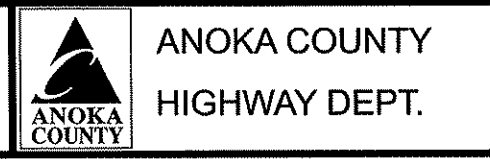
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 S.P. 199-020-008

CROSS SECTIONS  
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 Sheet 247 of 264 Sheets



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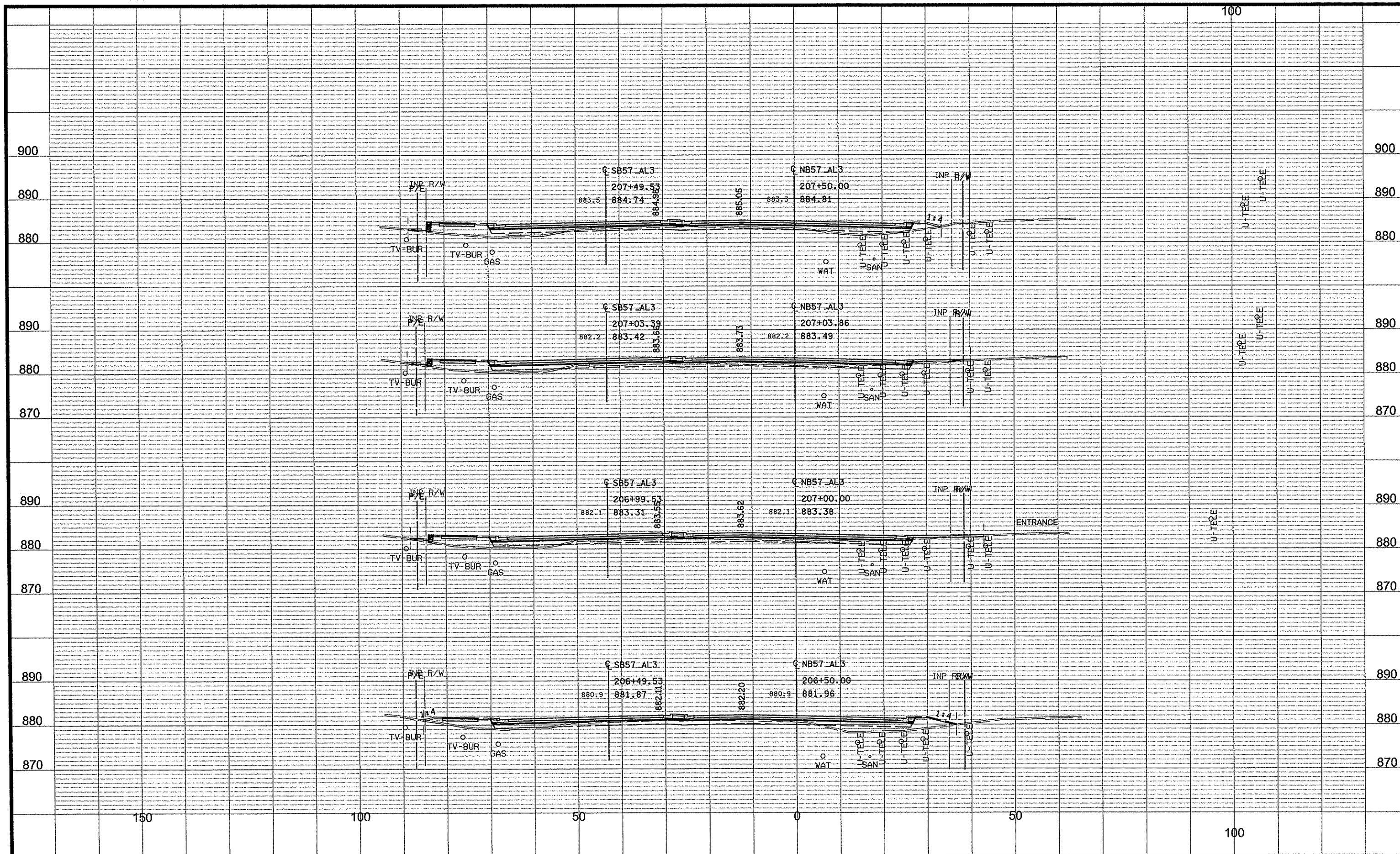
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 DESIGN BY MN DATE 02/23/2011  
 CHECKED BY CAK DATE 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

CROSS SECTIONS  
 STA 205+00.00 TO 206+00.00  
 Sheet 248 of 264 Sheets

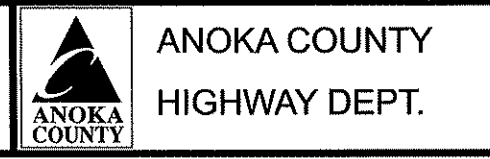




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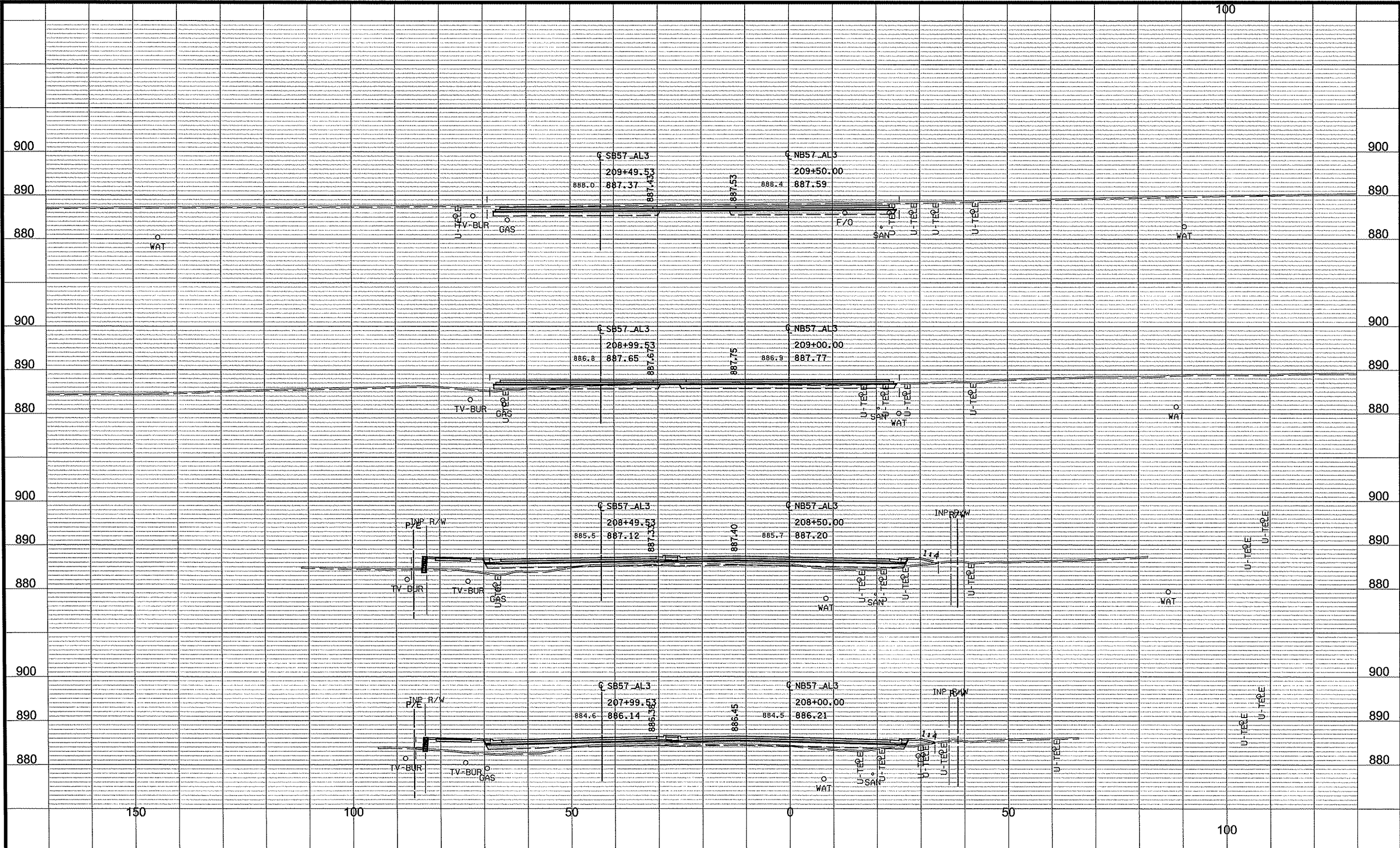
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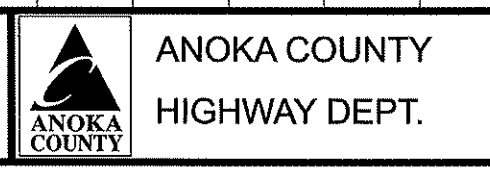
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 S.P. 199-020-008

CROSS SECTIONS  
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 Sheet 249 of 264 Sheets



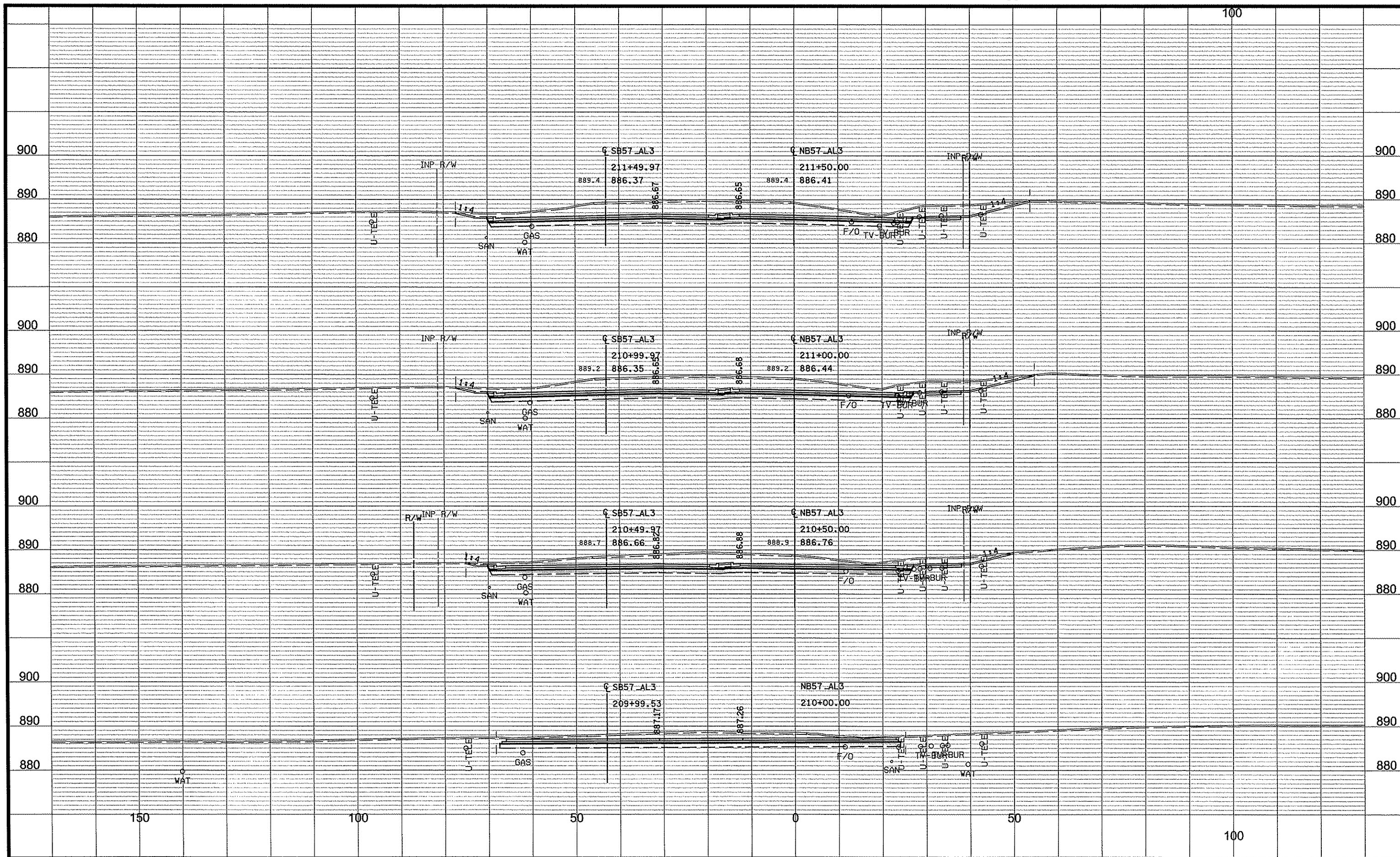
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CHECKED BY	CAK	DATE	02/23/2011



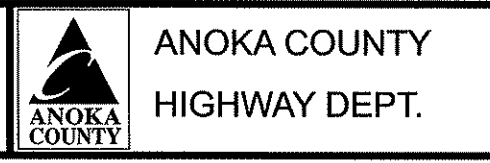
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S.P. 199-020-008

CROSS SECTIONS  
STA 208+00.00 TO 209+50.00  
Sheet 250 of 264 Sheets



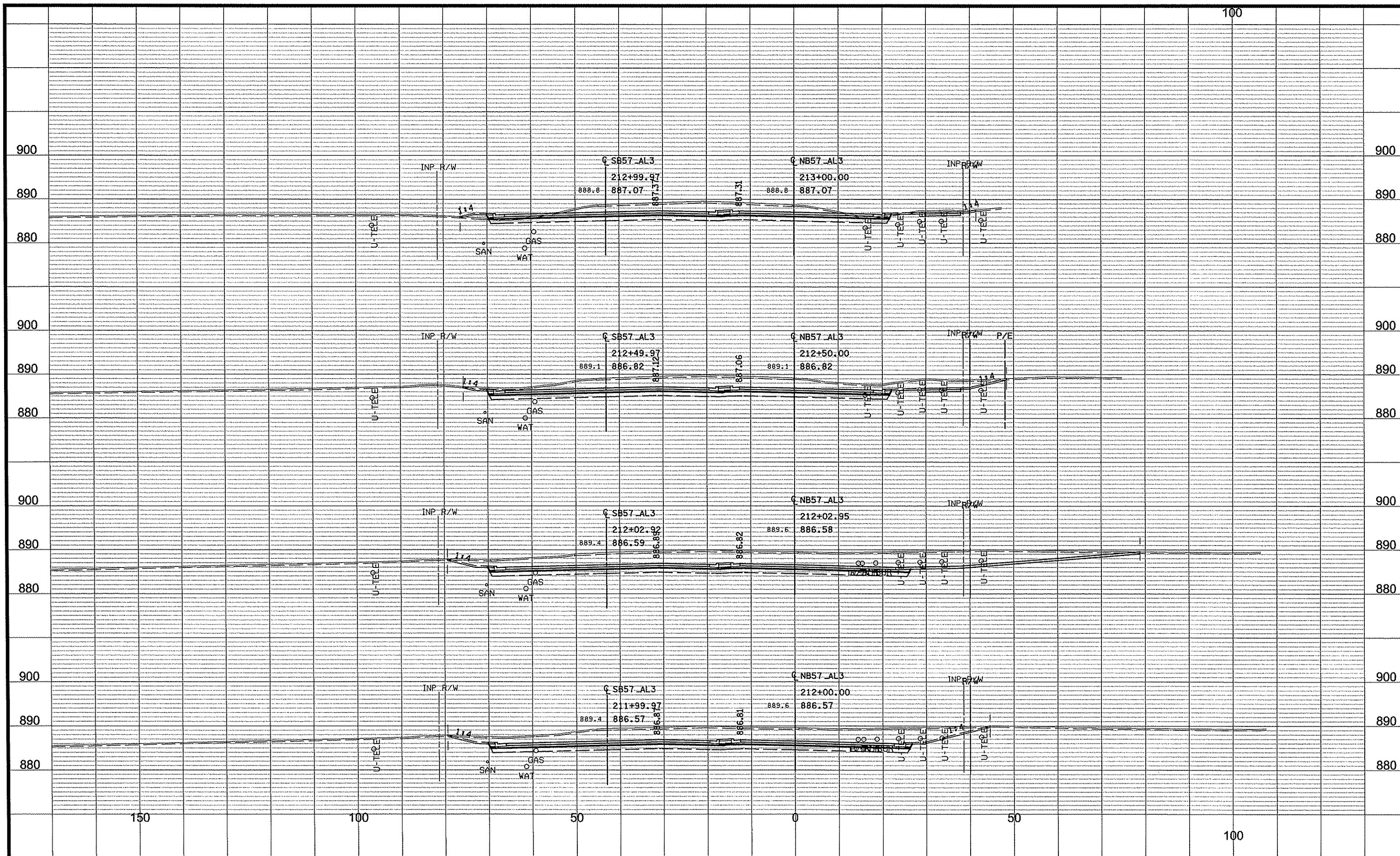
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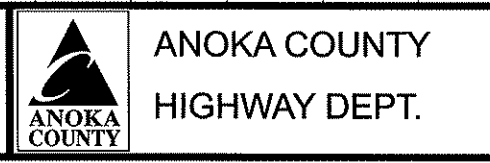
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 S.P. 199-020-008

CROSS SECTIONS  
 STA 210+00.00 TO 211+50.00  
 Sheet 251 of 264 Sheets



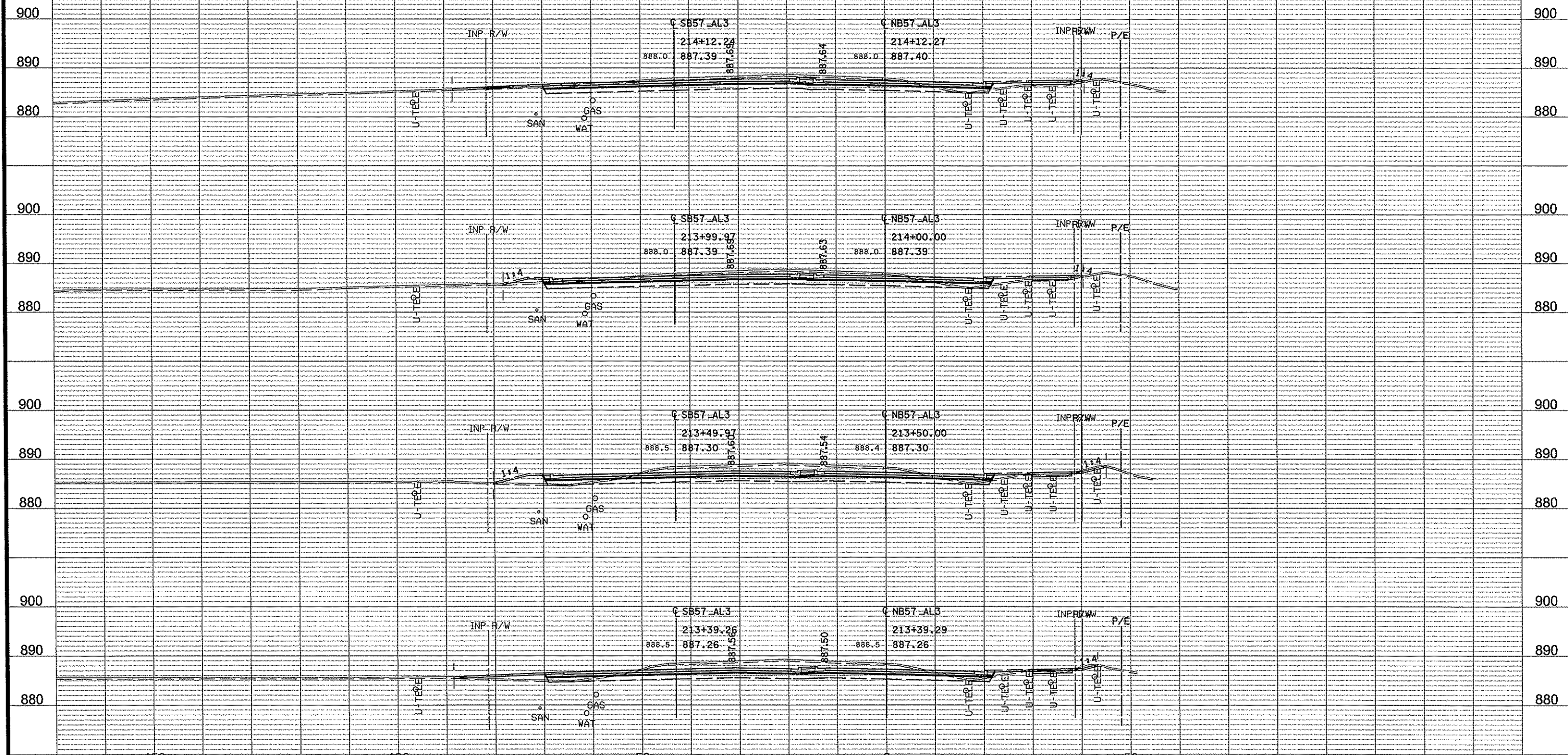
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S.P. 002-716-011  
 S.P. 199-020-008

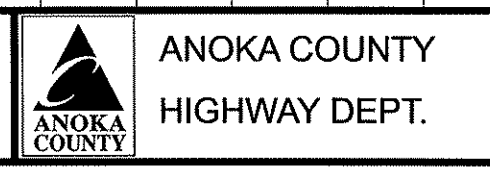
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 STA 212+00.00 TO 213+00.00  
 Sheet 252 of 264 Sheets



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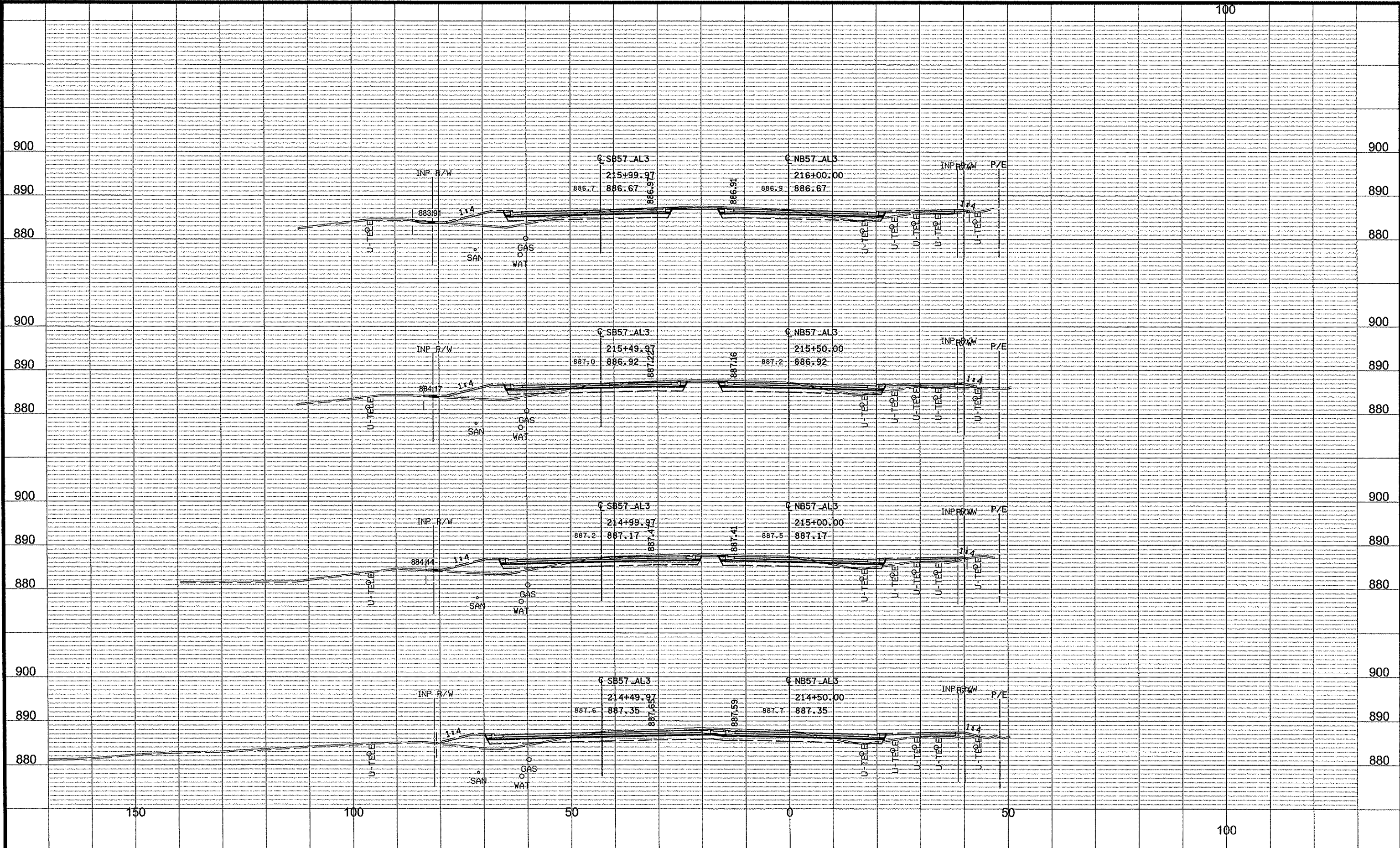
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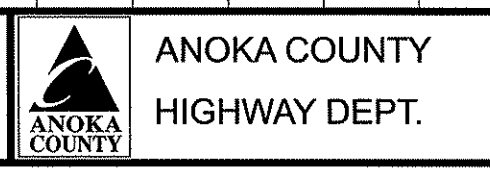
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 S.P. 199-020-008

CROSS SECTIONS  
 STA 213+39.29 TO 214+12.27  
 Sheet 253 of 264 Sheets



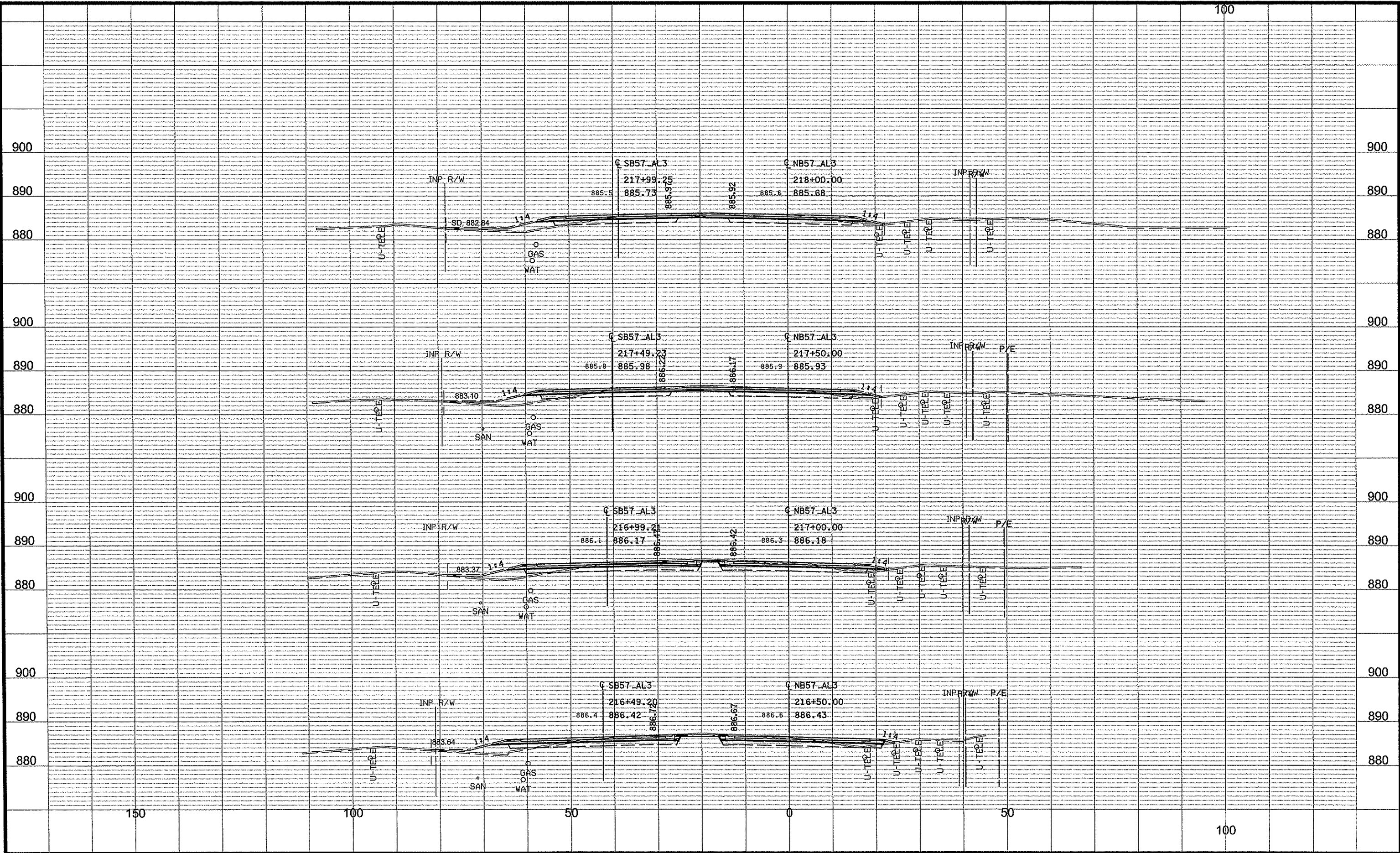
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 DESIGN BY MN DATE 02/23/2011  
 CHECKED BY CAK DATE 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

CROSS SECTIONS  
 STA 214+50.00 TO 216+00.00  
 Sheet 254 of 264 Sheets



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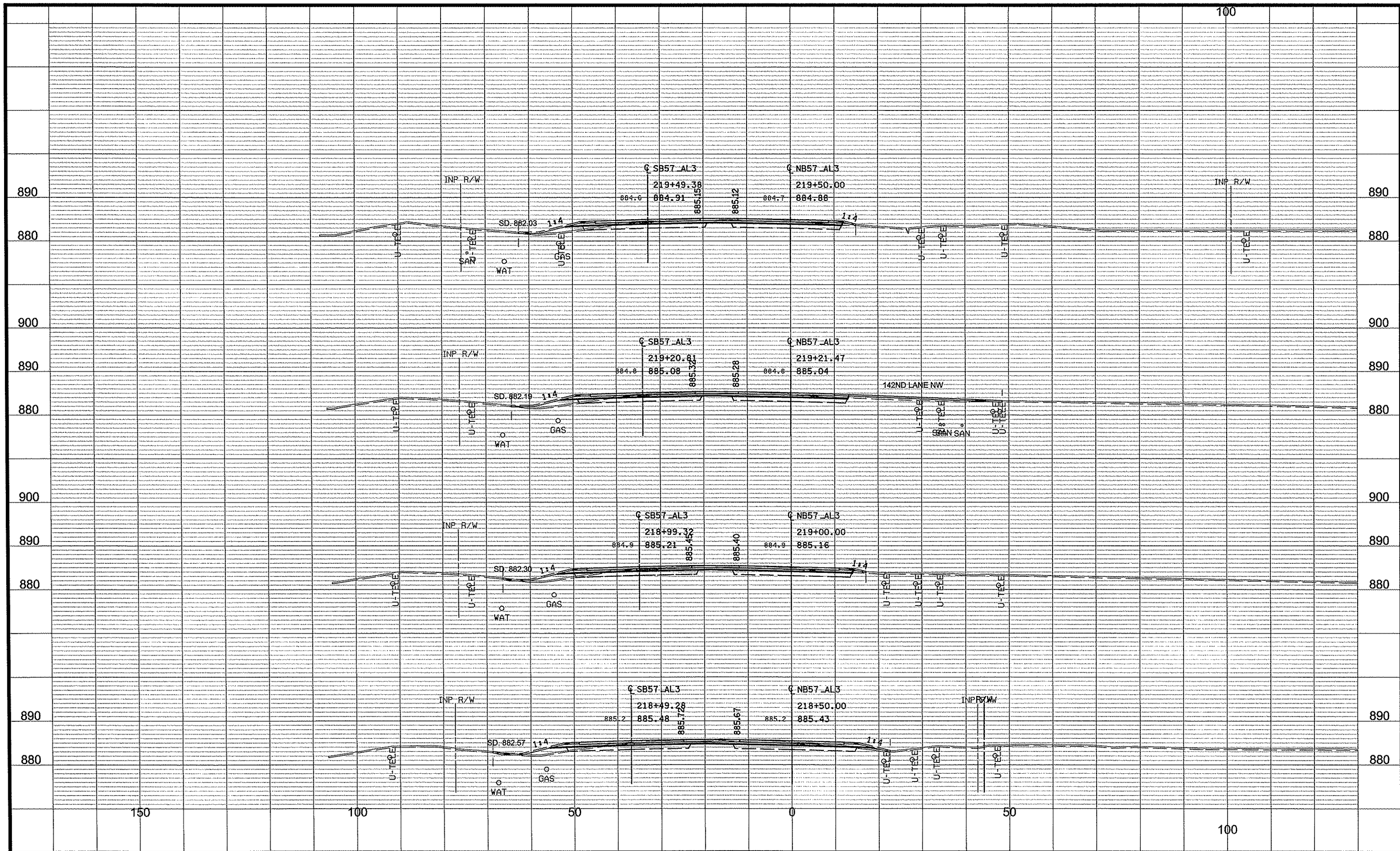
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 CHECKED BY CAK DATE 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

CROSS SECTIONS  
 STA 216+50.00 TO 218+00.00  
 Sheet 255 of 264 Sheets



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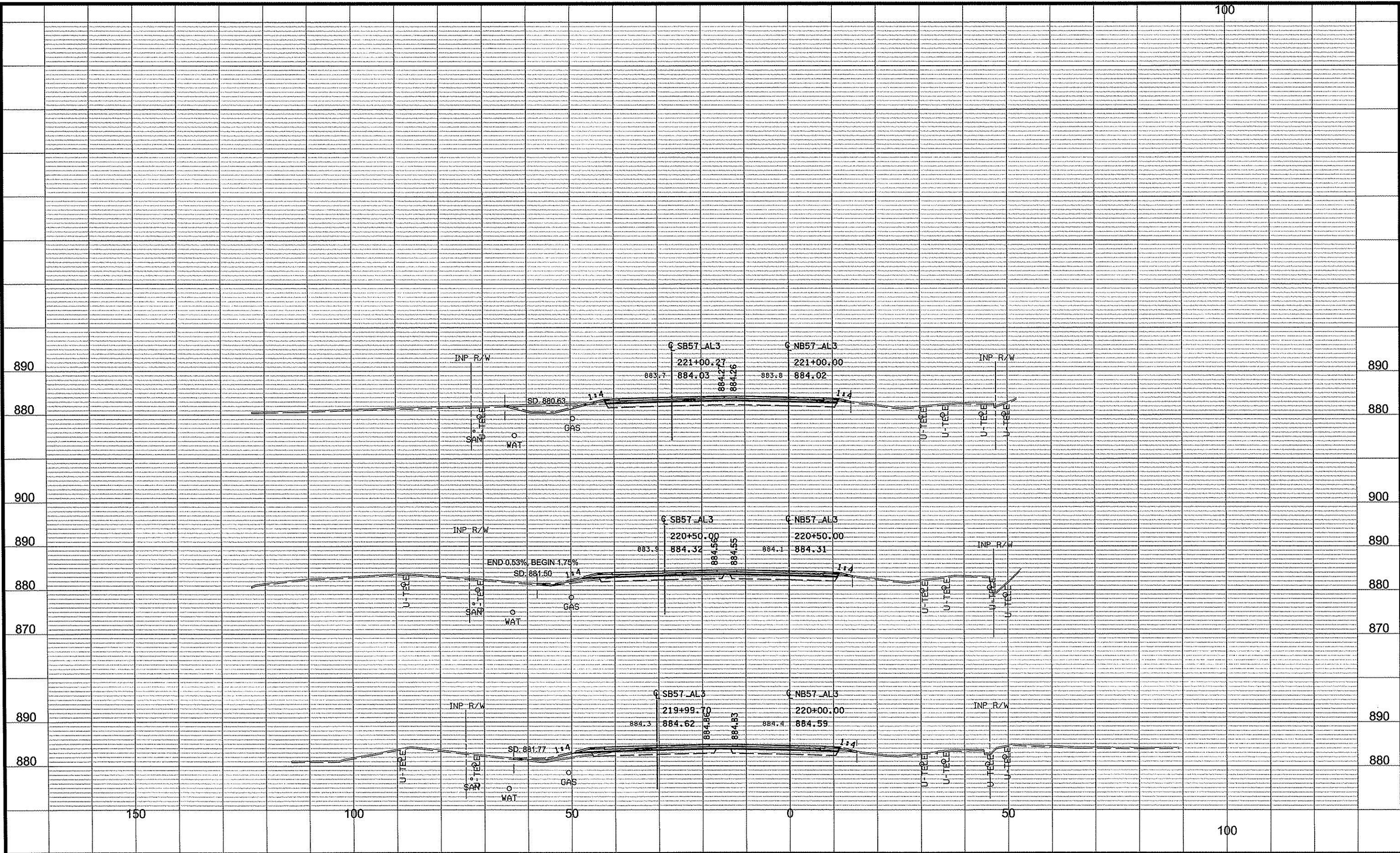
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 CHECKED BY CAK DATE 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

**CROSS SECTIONS**  
 STA 218+50.00 TO 219+50.00  
 Sheet 256 of 264 Sheets

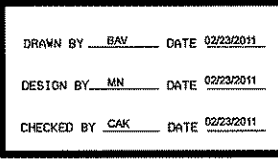




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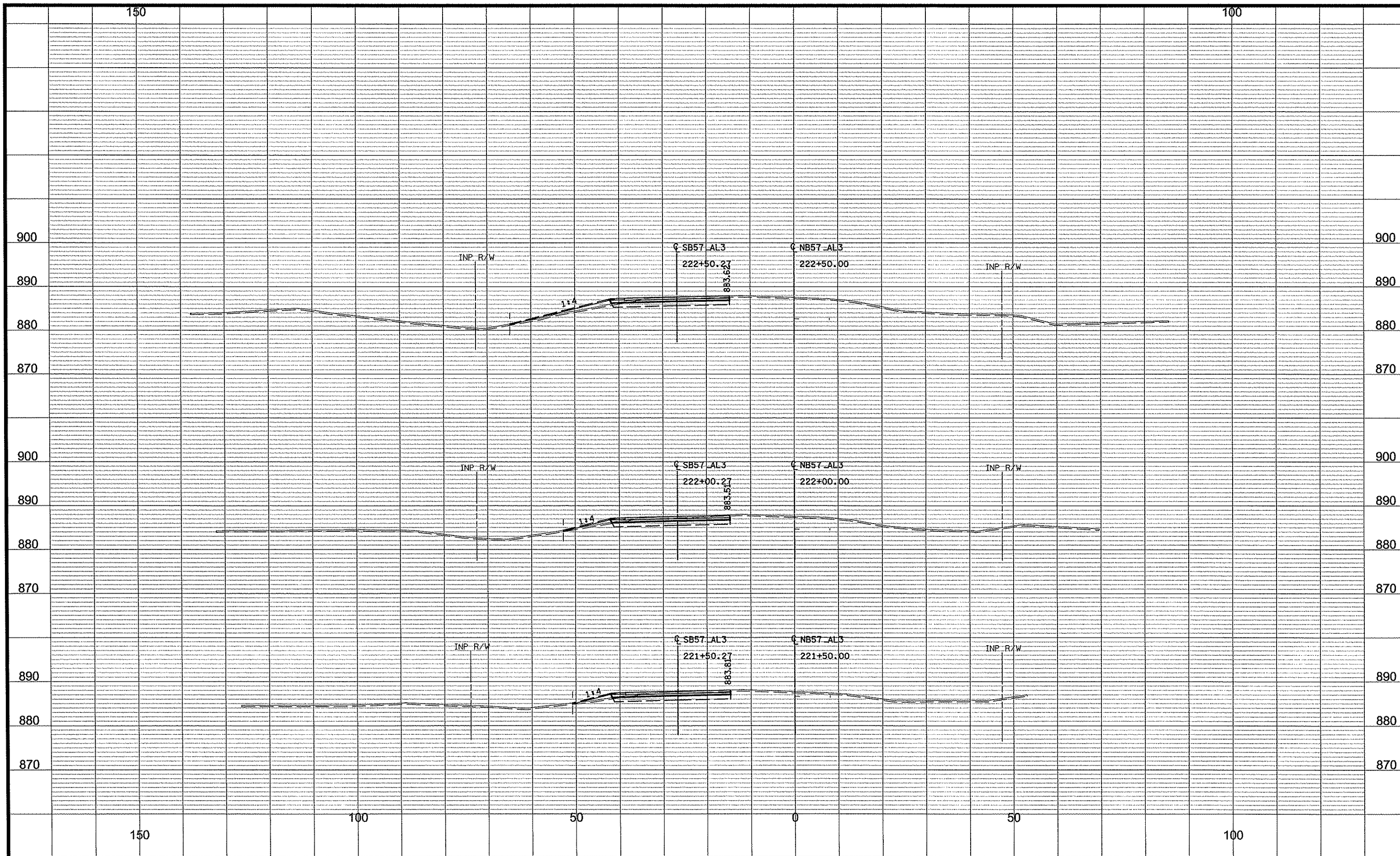
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 DESIGN BY MN DATE 02/23/2011  
 CHECKED BY CAK DATE 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

CROSS SECTIONS  
 STA 220+00.00 TO 221+00.00  
 Sheet 257 of 264 Sheets



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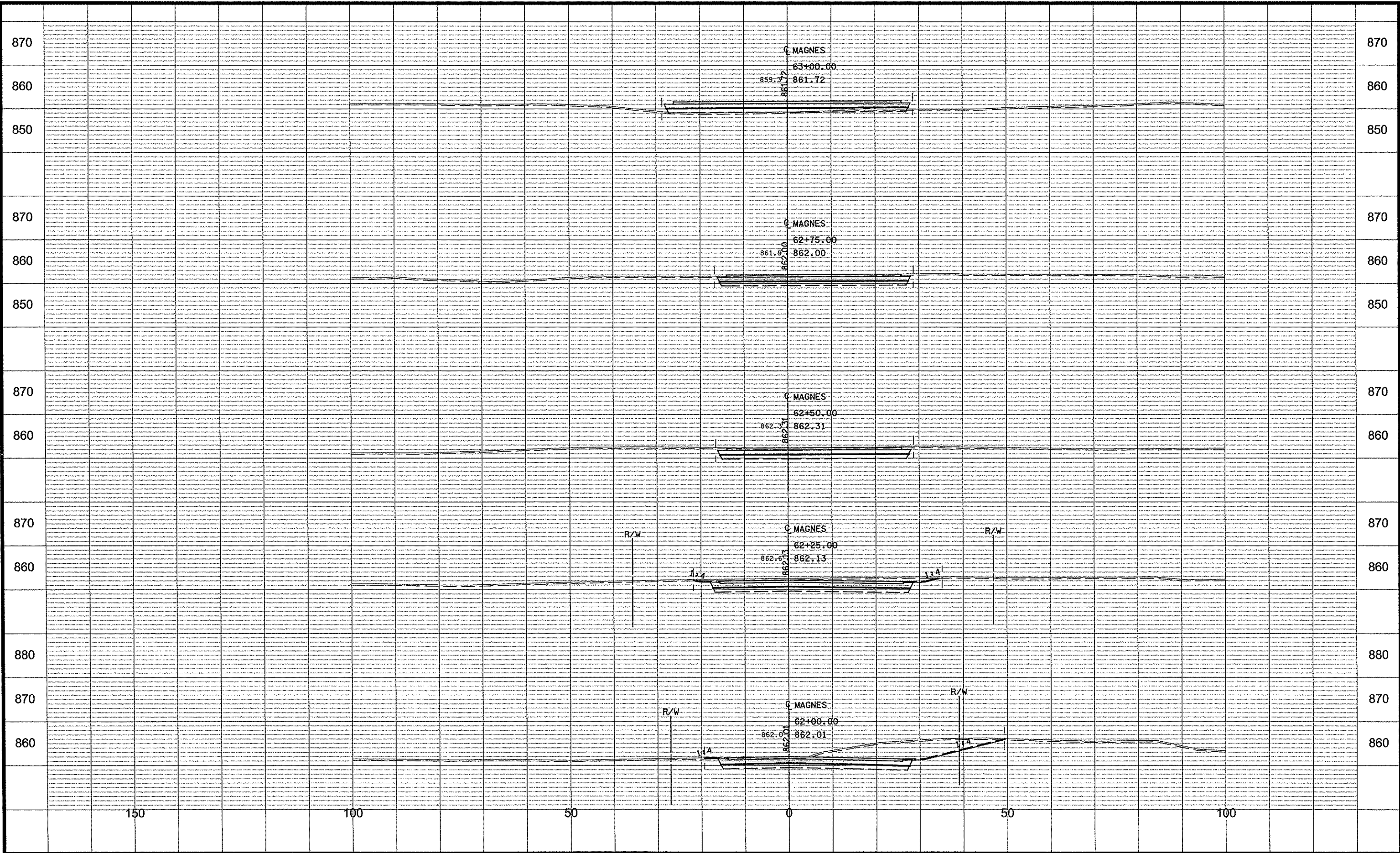
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 DESIGN BY MN DATE 02/23/2011  
 CHECKED BY CAK DATE 02/23/2011



**ANOKA COUNTY**  
**HIGHWAY DEPT.**

S.P. 002-716-011  
 S.P. 199-020-008

**CROSS SECTIONS**  
 STA 221+50.00 TO 222+50.00  
 Sheet 258 of 264 Sheets



NO	DATE	BY	CHKD	APPR	REVISION
					02/23/2011

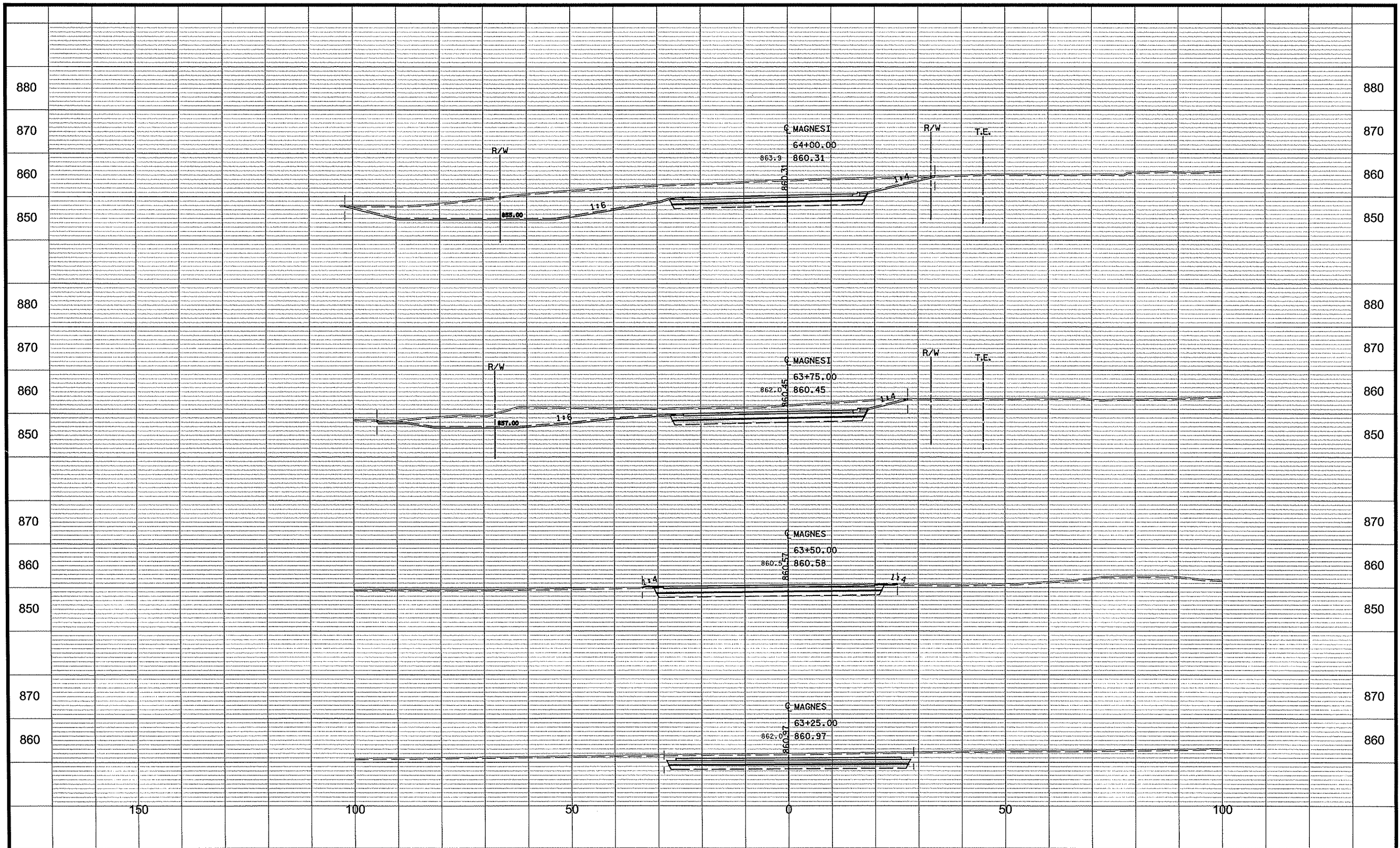
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 DESIGN BY MN DATE 02/23/2011  
 CHECKED BY CAK DATE 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

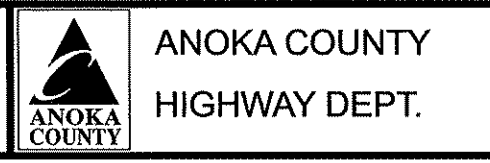
**CROSS SECTIONS  
MAGNESIUM ST.**  
 STA 62+00.00 TO 63+00.00  
 Sheet 259 of 264 Sheets



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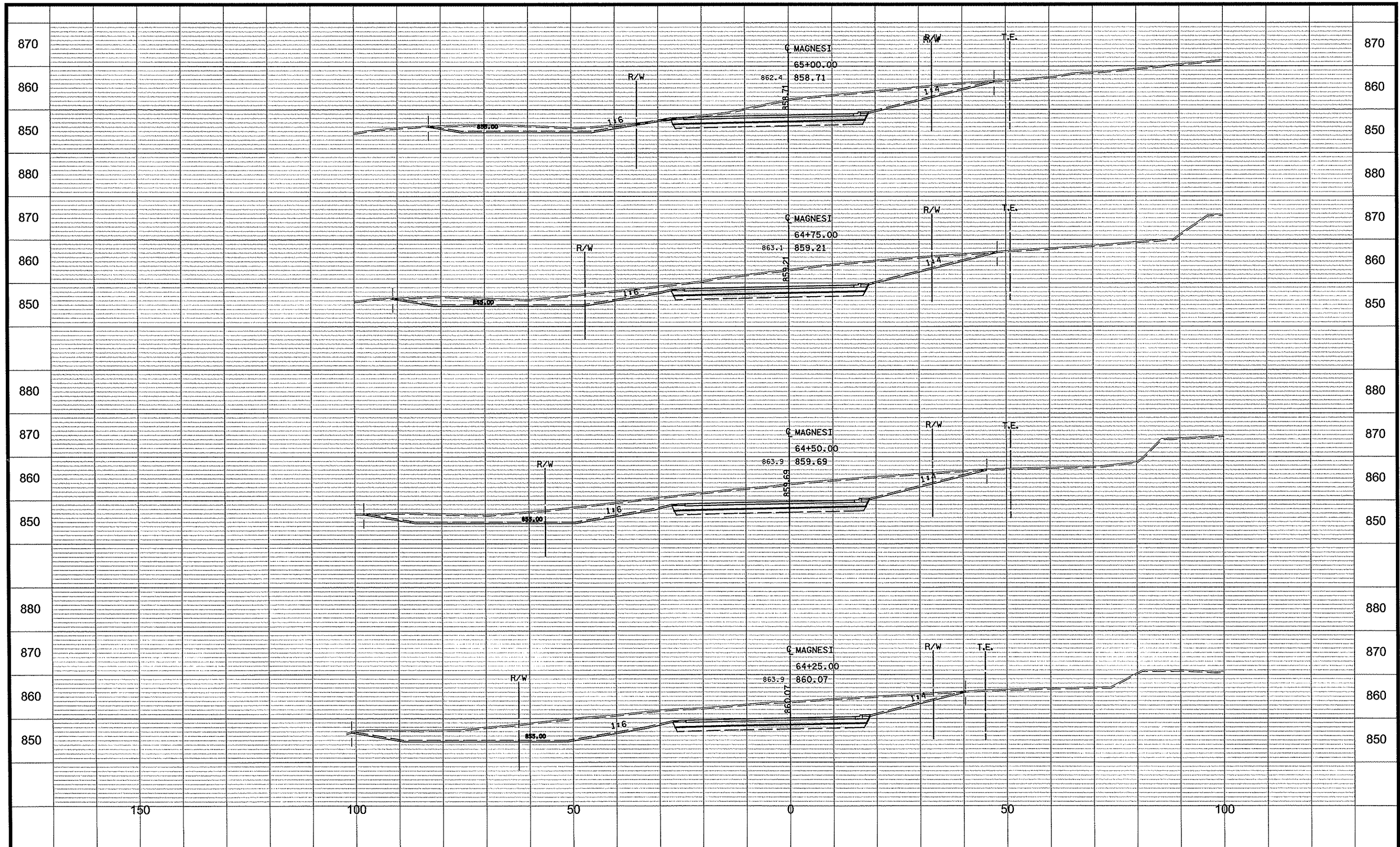
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S.P. 002-716-011  
 S.P. 199-020-008

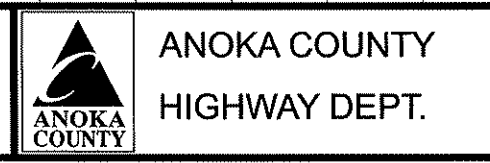
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**MAGENSIMUM ST.**  
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 Sheet 260 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION

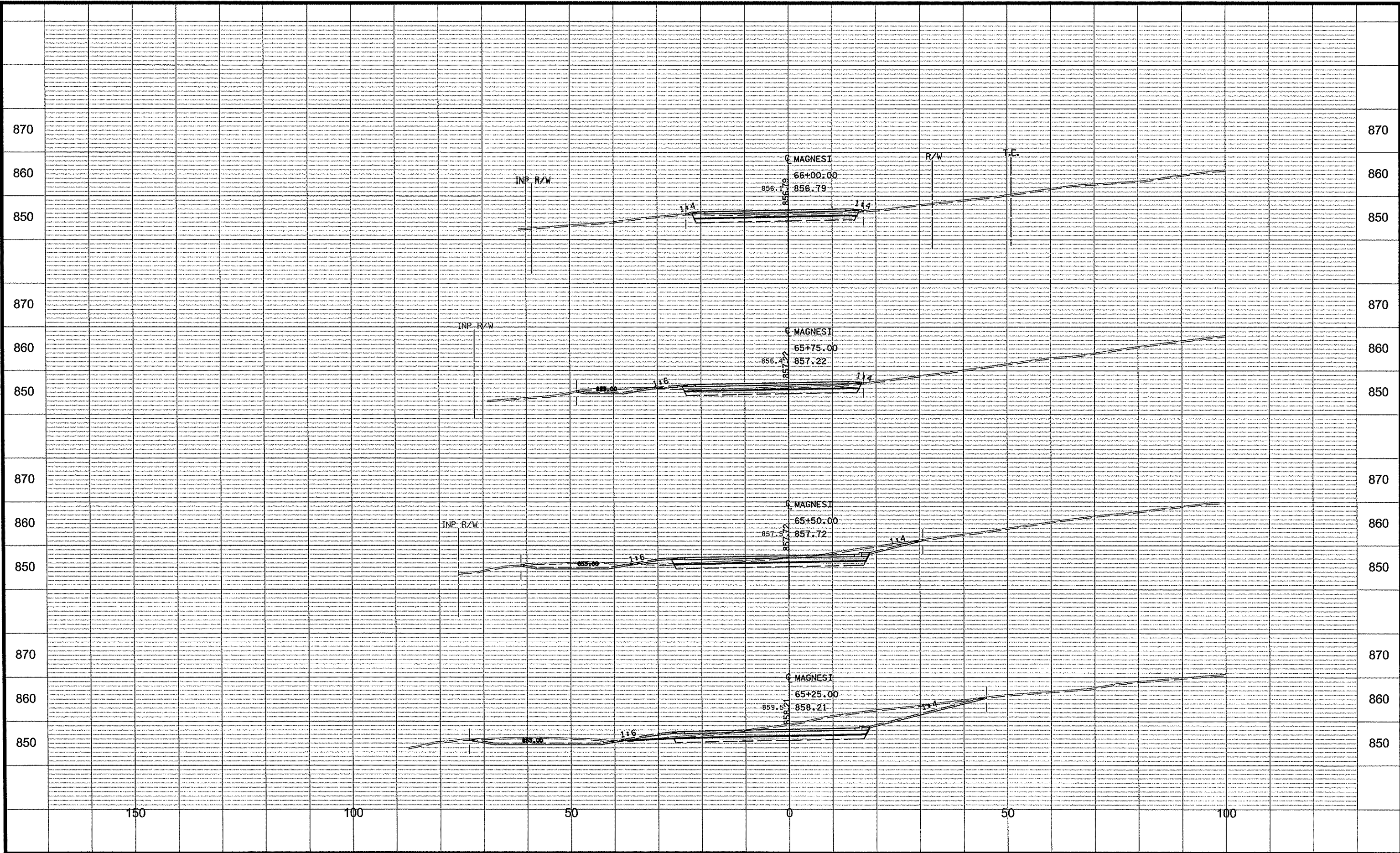
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 DESIGN BY MN DATE 02/23/2011  
 CHECKED BY CAK DATE 02/23/2011



S.P. 002-716-011  
 S.P. 199-020-008

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 Sheet 261 of 264 Sheets



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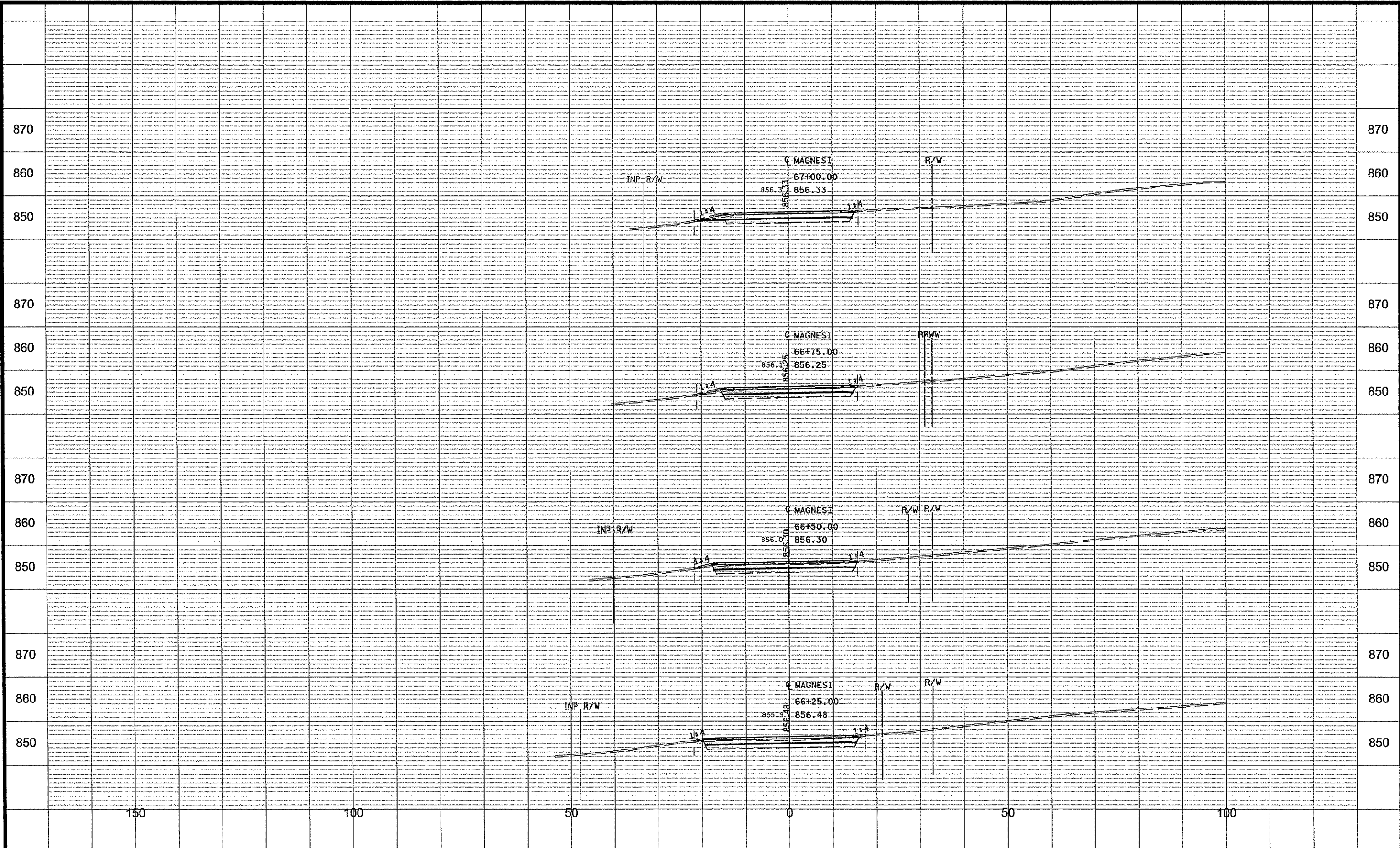
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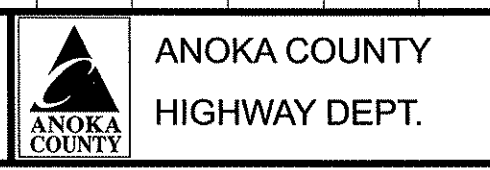
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 S.P. 199-020-008

**CROSS SECTIONS  
 MAGNESIUM ST.**  
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 Sheet 262 of 264 Sheets



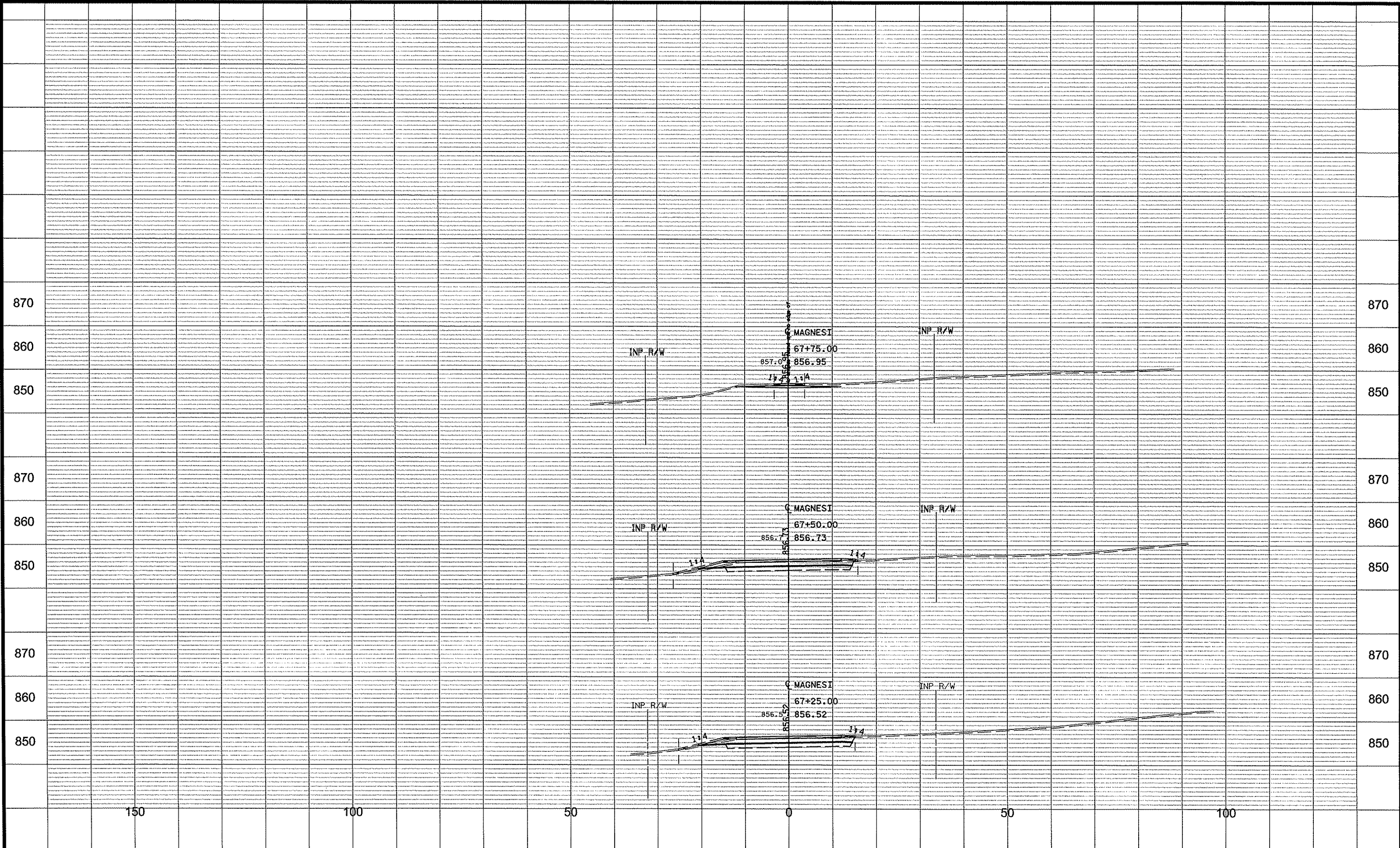
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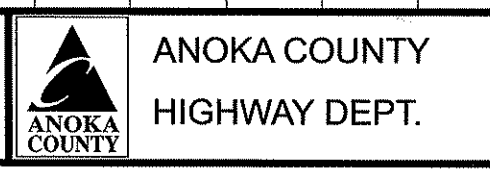
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 S.P. 199-020-008

CROSS SECTIONS  
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 Sheet 263 of 264 Sheets



NO	DATE	BY	CKD	APPR	REVISION
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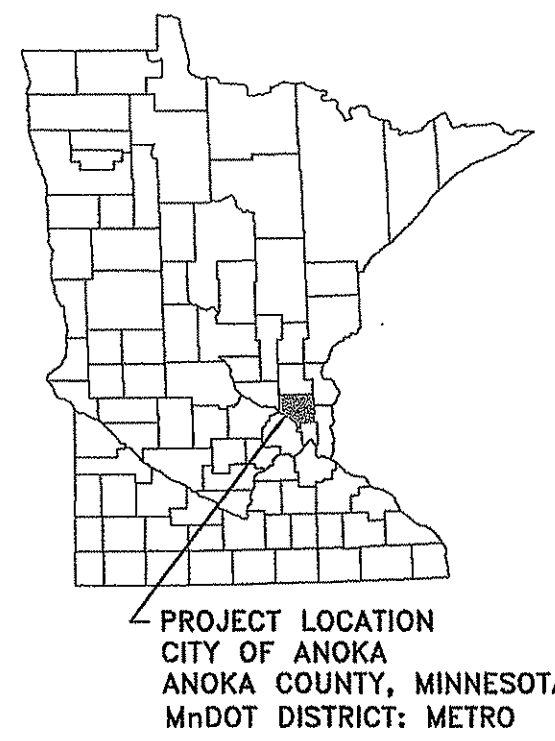
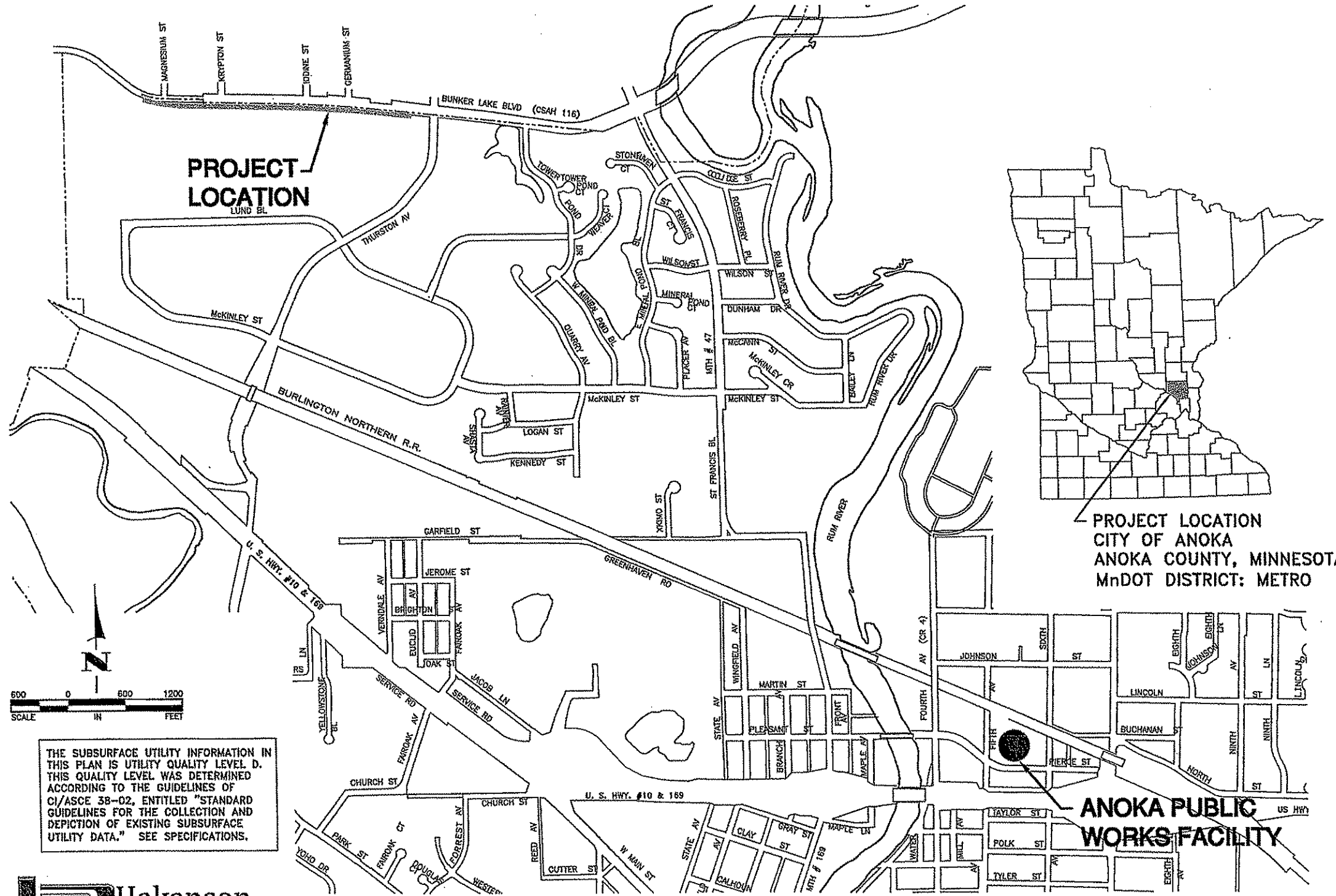
**ANOKA COUNTY**  
**HIGHWAY DEPT.**  
 S.P. 002-716-011  
 S.P. 199-020-008

**CROSS SECTIONS**  
**MAGNESIUM ST.**  
 STA 67+25.00 TO 67+75.00  
 Sheet 264 of 264 Sheets



# ANOKA COUNTY PLANS FOR WATERMAIN RELOCATION CITY OF ANOKA

LOCATED ON CSAH 116 (BUNKER LAKE BLVD)  
FROM THURSTON AVE. TO 400 FT WEST OF MAGNESIUM STREET



## GOVERNING SPECIFICATIONS

ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES SHALL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

WORK SHALL CONFORM TO THE STANDARD UTILITY SPECIFICATIONS AS PUBLISHED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA, 1999 REVISION.

## SHEET INDEX

THIS PLAN CONTAINS 8 SHEETS

SHEET NO.	DESCRIPTION
W1	TITLE SHEET.
W2-W4	REMOVALS
W5-W8	WATERMAIN CONSTRUCTION

*Greg Lee*  
APPROVED: GREG LEE  
CITY OF ANOKA PUBLIC SERVICE DIRECTOR / CITY ENGINEER  
DATE 3/22/11

I hereby certify that this plan, specification, or report 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.

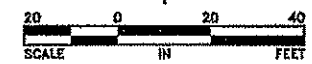
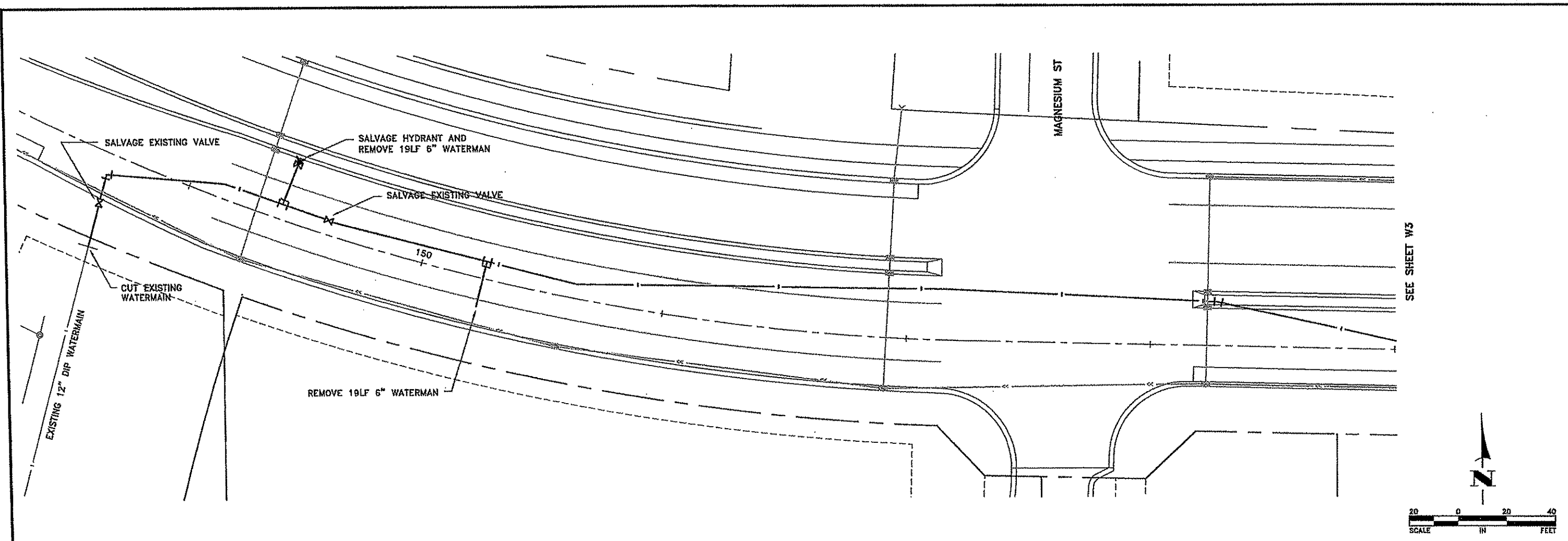
*Joseph J. Pelawa*  
JOSEPH J. PELAWA, P.E.  
HAKANSON ANDERSON INC.  
DESIGN ENGINEER  
42603 LIC. NO.  
DATE 3/22/11

DATE	REVISION

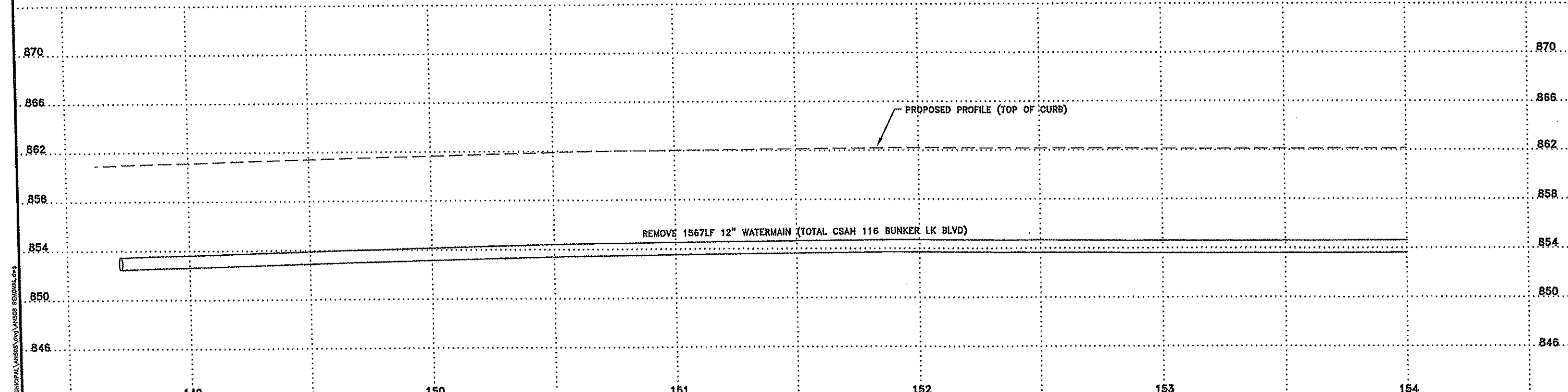
Mar 22, 2011 4:05pm K:\eod\_eng\PROJECTS\MUNICIPAL\AN508\dwg\AN508 TITLE.dwg



**Hakanson  
Anderson**  
Civil Engineers and Land Surveyors  
3601 Thurston Ave., Anoka, Minnesota 55303  
763-427-5860 FAX 763-427-0520

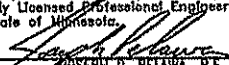


SEE SHEET W3



Mar 22, 2011 4:14pm  
 K:\proj\2011\PROJECTS\MUNICIPAL\ANOKA\VIEW\ANOKA REMOVAL.dwg

DATE	REVISION

I hereby certify that this plan, specification, or report 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.  
  
 JOSEPH D. PELAWA, P.E.  
 Date 3/22/11 Lic. No. 42603

DESIGNED BY: JDP  
 CHECKED BY: DMS  
 DATE: 3/22/11



**Hakanson Anderson**  
 Civil Engineers and Land Surveyors  
 3601 Thurston Ave., Anoka, Minnesota 55303  
 763-427-5860 FAX 763-427-0520  
 www.hakanson-anderson.com



**WATERMAIN REMOVAL PLAN**  
**CSAH 116 - BUNKER LAKE BLVD.**  
**CITY OF ANOKA, MINNESOTA**

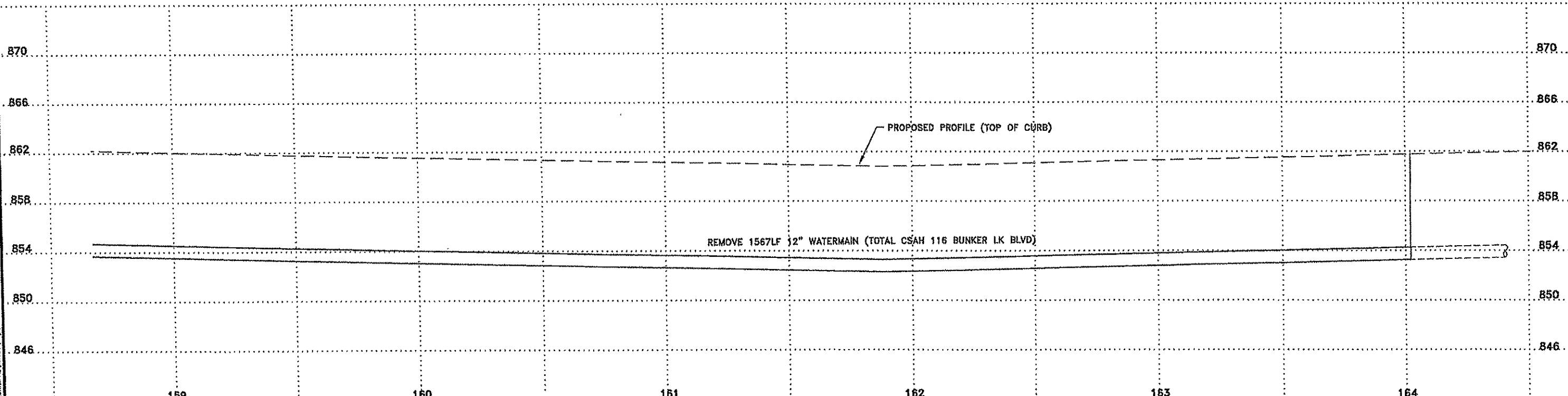
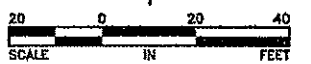
SHEET W2 OF WB SHEETS AN508



SEE SHEET W3

SALVAGE HYDRANT AND REMOVE 34LF 6" WATERMAN

SALVAGE EXISTING VALVE



Dec 22, 2011 4:14pm  
K:\\_and\_\proj\CSAG 116\CSAG 116 - BUNKER LK BLVD - REMOVAL.dwg

DATE	REVISION

I hereby certify that this plan, specification, or report 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.

*Joseph D. Pelawa*  
 JOSEPH D. PELAWA, P.E.  
 Date 3/22/11 Lic. No. 42603

DESIGNED BY: JDP  
 DRAWN BY: DMS  
 CHECKED BY: JDP

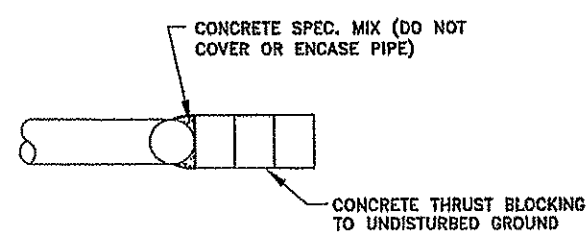
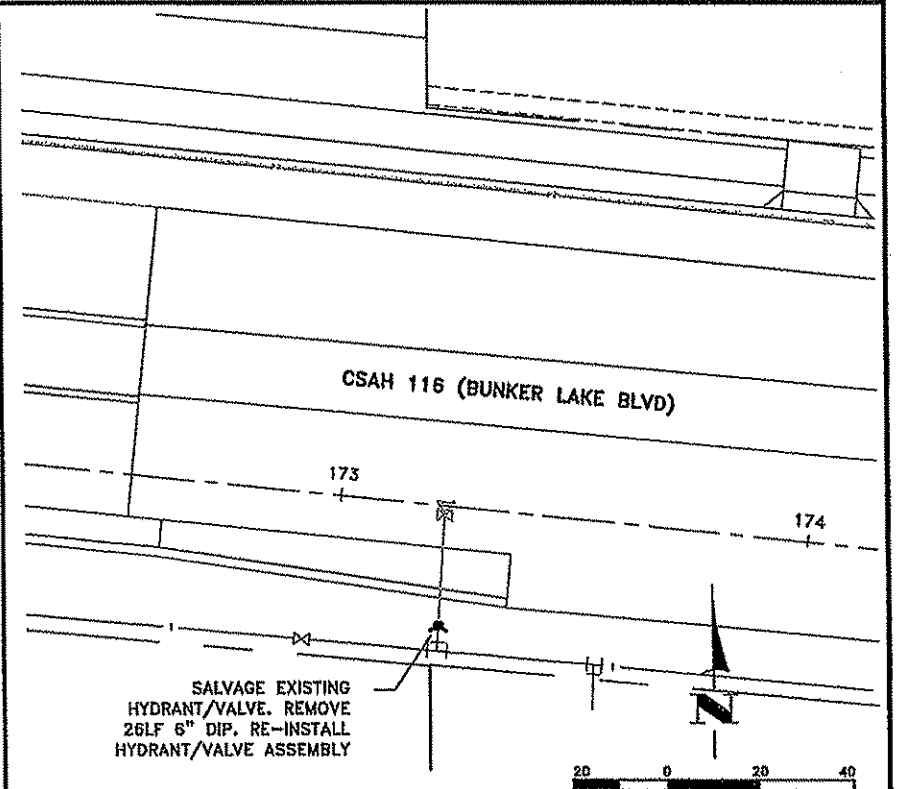
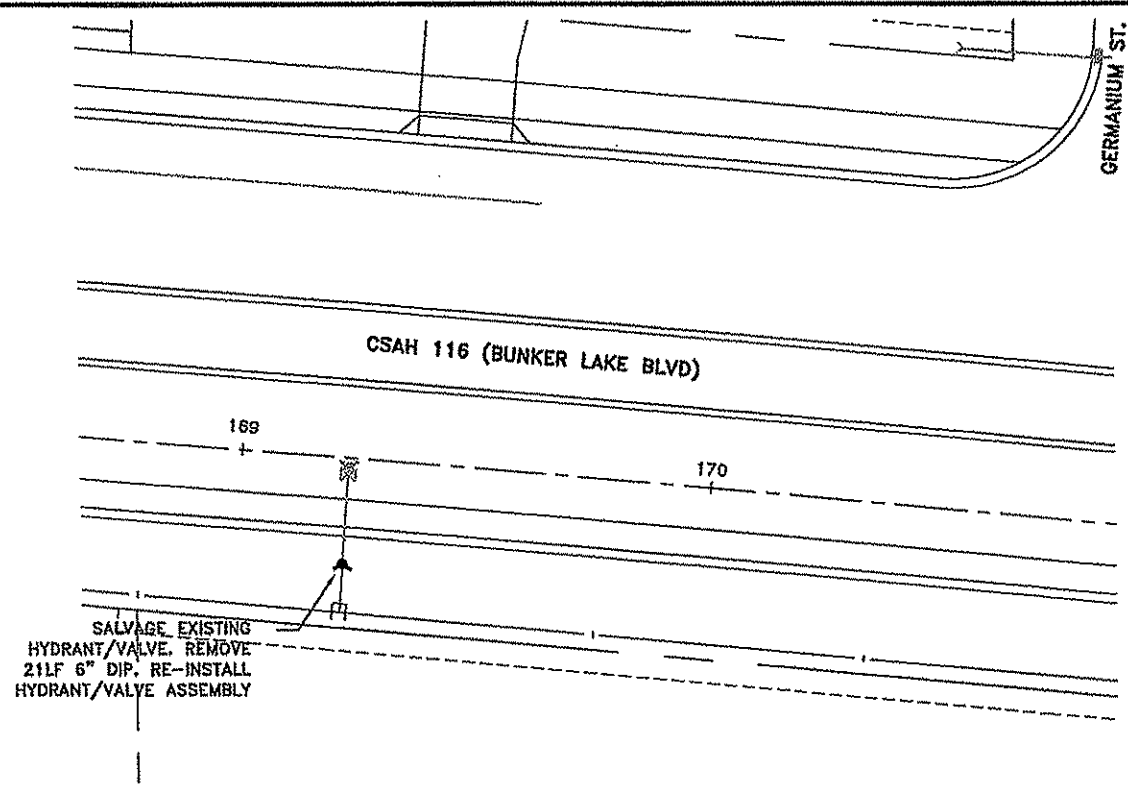
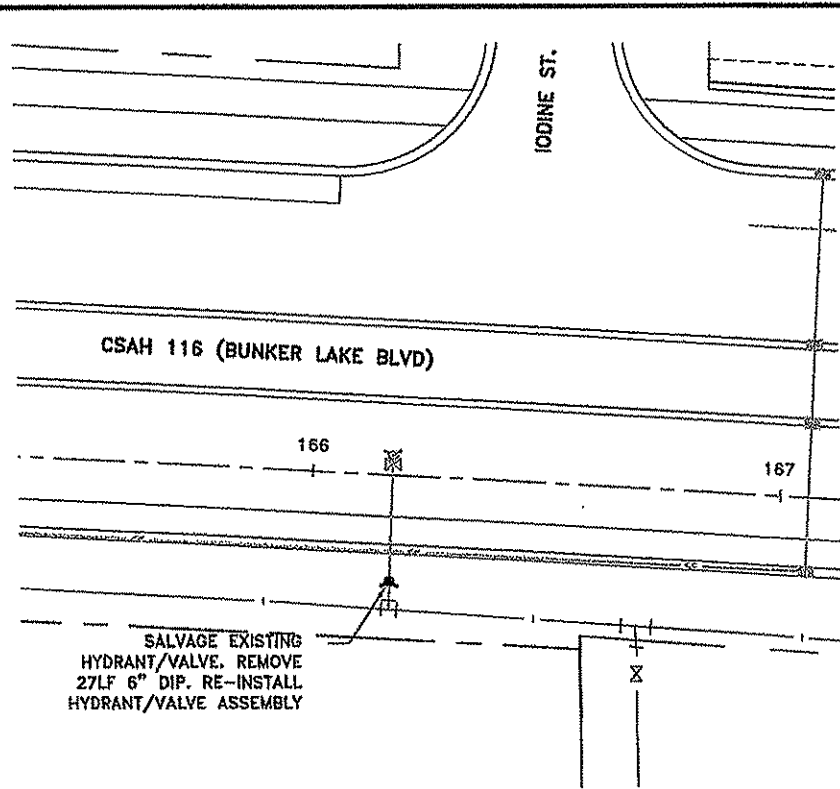


**Hakanson Anderson**  
 Civil Engineers and Land Surveyors  
 3601 Thurston Ave., Anoka, Minnesota 55303  
 763-427-5860 FAX 763-427-0520  
 www.hakanson-anderson.com

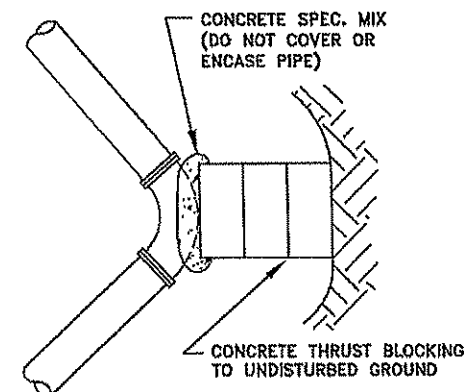


**WATERMAIN REMOVAL**  
**CSAG 116 - BUNKER LAKE BLVD.**  
 CITY OF ANOKA, MINNESOTA

SHEET W4 OF WB SHEETS AN50B



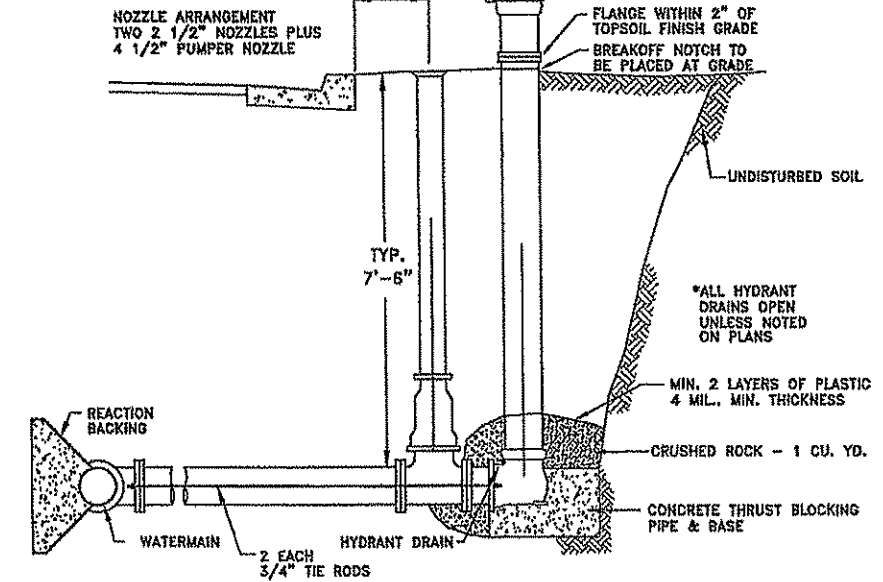
TEE BLOCKING



BENDS

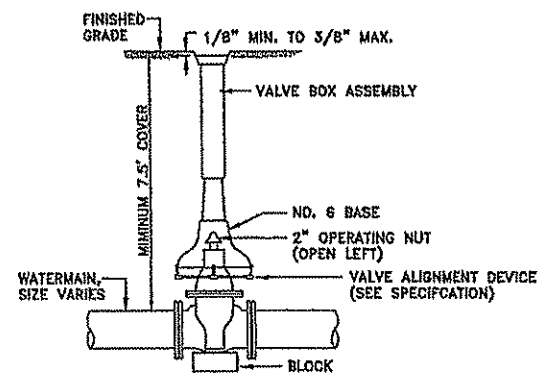
WATER MAIN THRUST BLOCKING DETAIL  
NO SCALE

- NOTES:
1. 16" BREAKOFF SECTION
  2. LEFT HAND OPERATING NUT (1 1/2" POINT TO FLAT)
  3. PAINT BARREL SECTION RED TO GRADE
  4. HYDRANT DRAIN OPEN EXCEPT IN WATER TABLE
  4. "MEGALUG" ADAPTERS MAY BE SUBSTITUTED FOR TIE RODS



HYDRANT AND VALVE PLACED AS PER PLANS

HYDRANT DETAIL  
NO SCALE



TYPICAL BUTTERFLY VALVE & BOX INSTALLATION  
12" & OVER WATERMAIN  
NO SCALE

NOTE:  
CONTRACTOR SHALL USE A VALVE STEM ALIGNMENT TUBE TOOL TO MAINTAIN VERTICAL ALIGNMENT WHEN BACKFILLING THE VALVE BONNET AND VALVE BOX ASSEMBLY. THE ALIGNMENT TUBE SHALL CONSIST OF METAL PIPE WITH A SQUARE NUT RECEIVER SECURELY FASTENED TO THE END FOR PLACEMENT ON THE VALVE OPERATING NUT.

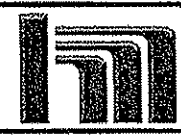
Nov 22, 2011 - 4:12:00 PM  
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DATE	REVISION

I hereby certify that this plan, specification, or report 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.

*Joseph D. Pelawa*  
 JOSEPH D. PELAWA, P.E.  
 Date 3/22/11 Lic. No. 42603

DESIGNED BY: JDP  
 DRAWN BY: DMS  
 CHECKED BY: JDP

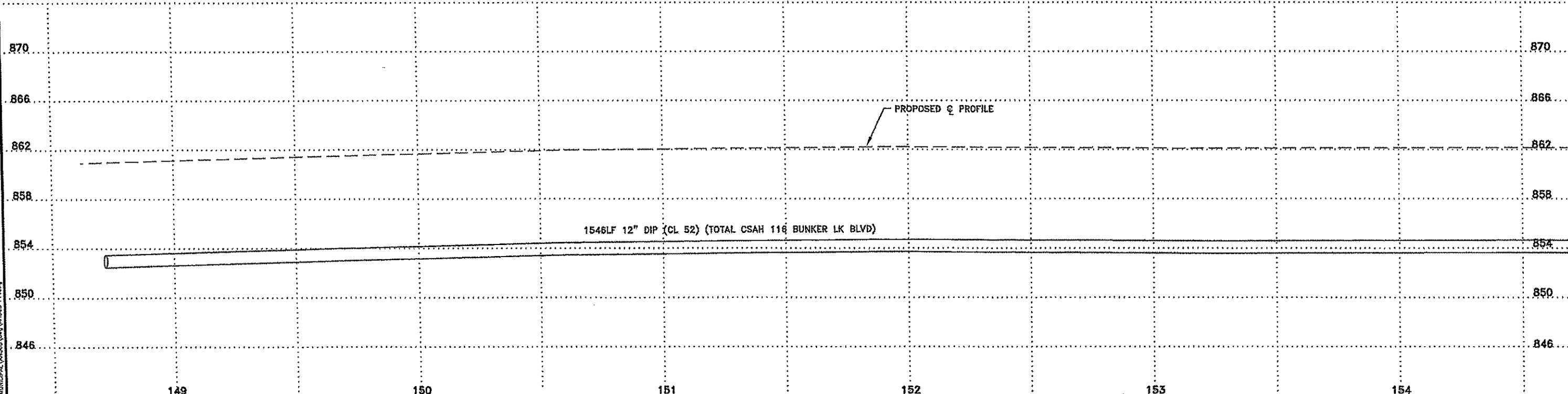
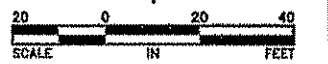
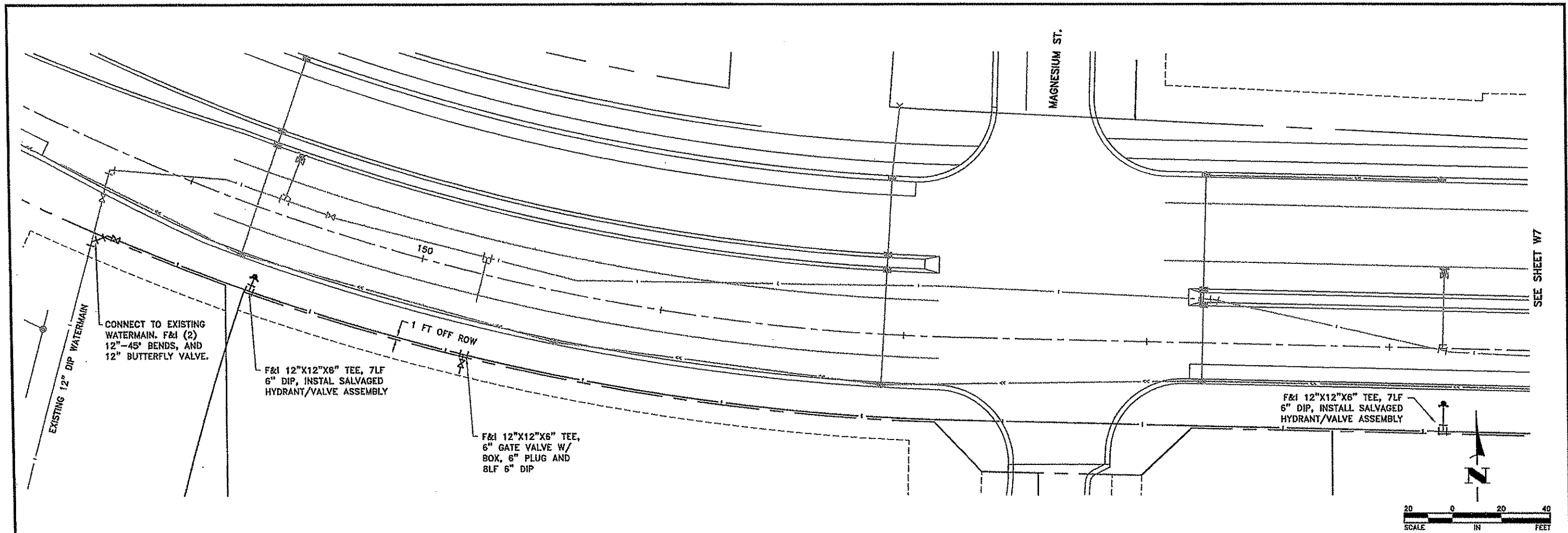


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 Civil Engineers and Land Surveyors  
 3601 Thurston Ave., Anoka, Minnesota 55303  
 763-427-5860 FAX 763-427-0520  
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RELOCATE HYDRANTS  
 CSAH 116 - BUNKER LAKE BLVD.  
 CITY OF ANOKA, MINNESOTA

SHEET W5  
 OF W8  
 SHEETS



No. 20, 2011 - 4120m  
 K:\Local\mnp\PROJECTS\MUNICIPAL\ANOKA\W6\AN508.P01.dwg

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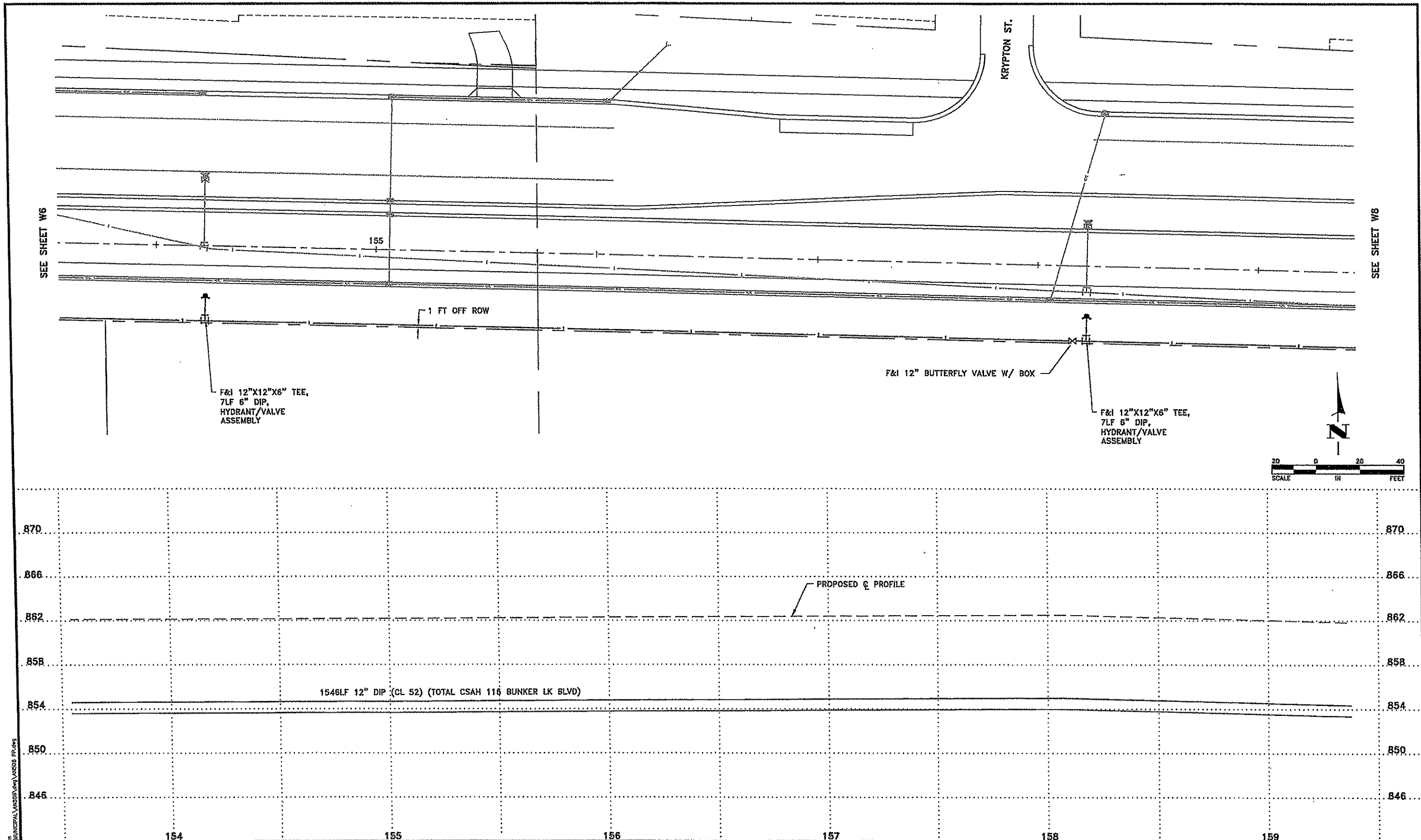


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WATERMAIN  
 CSAH 116 - BUNKER LAKE BLVD  
 CITY OF ANOKA, MINNESOTA

SHEET W6  
 OF W8  
 SHEETS AN508



SEE SHEET W6

SEE SHEET W8

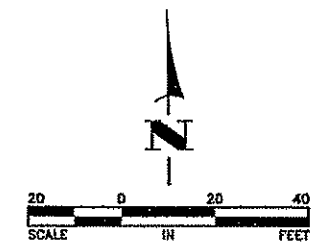
KRYPTON ST.

F&I 12"X12"X6" TEE,  
7LF 6" DIP,  
HYDRANT/VALVE  
ASSEMBLY

F&I 12" BUTTERFLY VALVE W/ BOX

F&I 12"X12"X6" TEE,  
7LF 6" DIP,  
HYDRANT/VALVE  
ASSEMBLY

1 FT OFF ROW



PROPOSED  $\phi$  PROFILE

1546LF 12" DIP (CL 52) (TOTAL CSAH 116 BUNKER LK BLVD)

Nov 22, 2011 - 4:12pm  
 K:\Land\Proj\Projects\MUNICIPAL\ANOKA\wg\AN508.rvt

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*Joseph D. Pelawa*  
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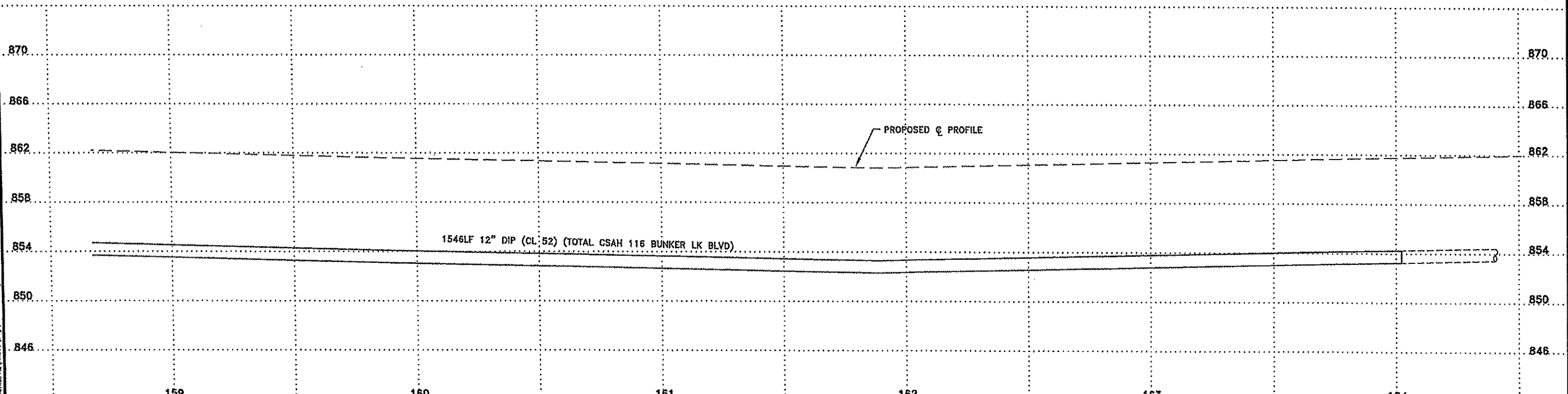
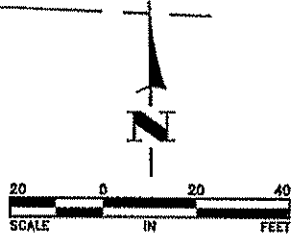
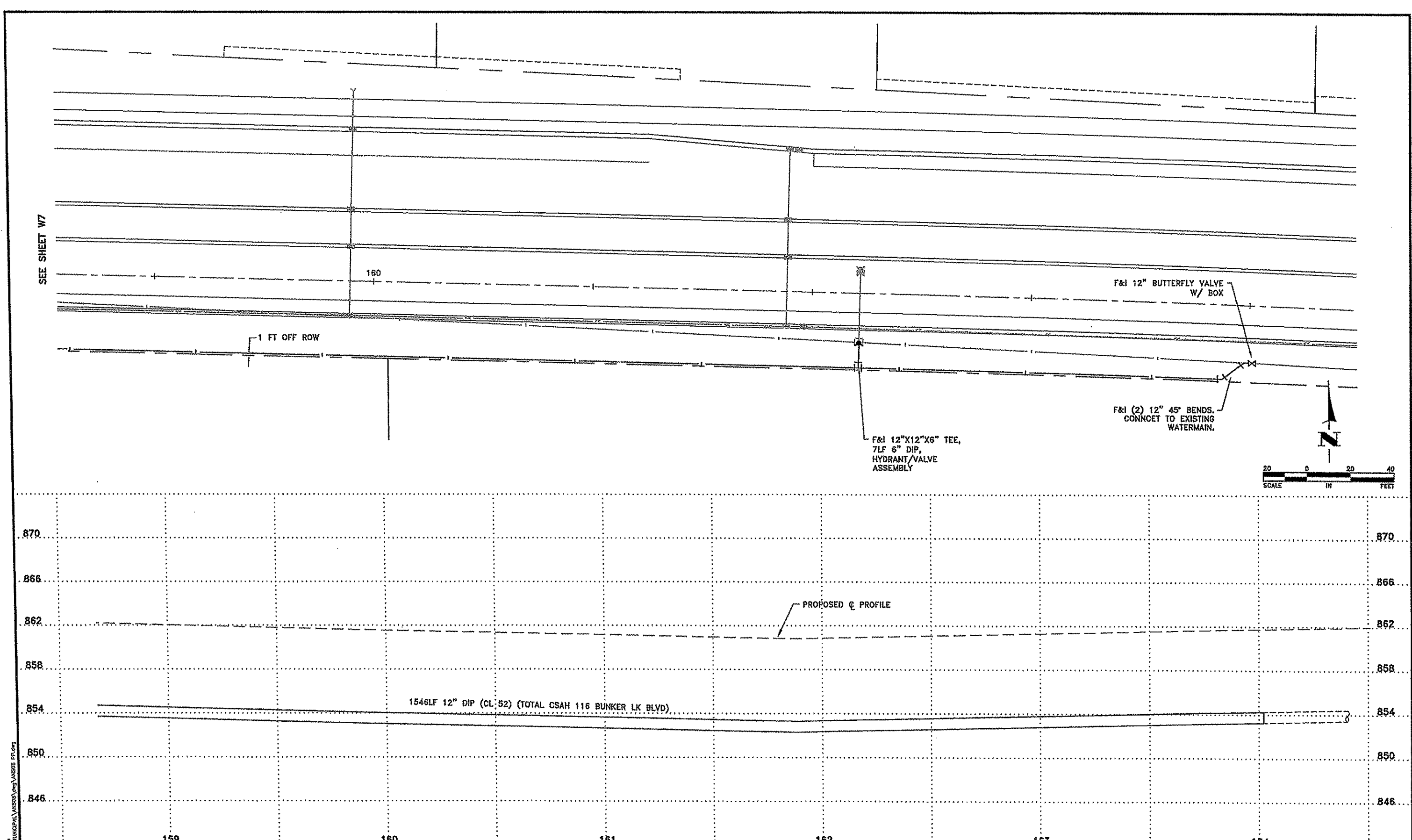


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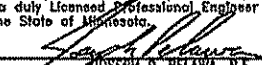
**WATERMAIN**  
 CSAH 116 - BUNKER LAKE BLVD  
 CITY OF ANOKA, MINNESOTA

SHEET W7 OF WB SHEETS AN508

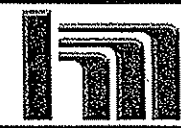


Mar 22, 2011 - 4:12pm  
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 CHECKED BY: JDP



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**WATERMAIN**  
 CSAH 116 - BUNKER LAKE BLVD  
 CITY OF ANOKA, MINNESOTA

SHEET WB  
 OF WB  
 SHEETS AN508