

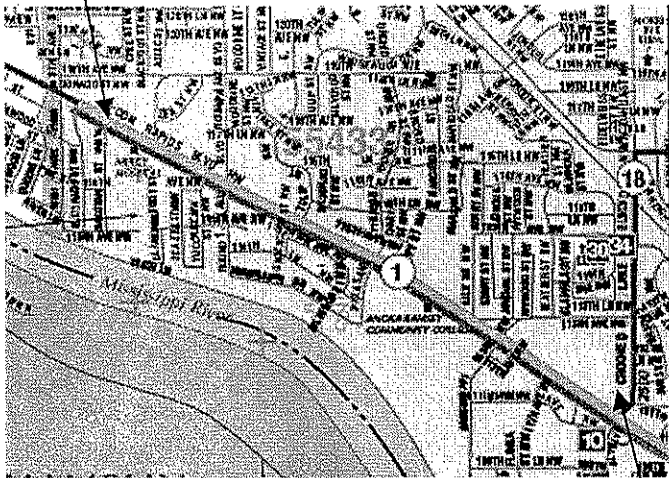
ANOKA COUNTY HIGHWAY DEPARTMENT

CONSTRUCTION PLAN FOR:
BIT. MILL, BIT. OVERLAY,
CENTER MEDIAN CONST.
STORM SEWER REPAIR, CURB
REPLACEMENT

CSAH NO: 1
 FROM 400' N.W. OF CROOKED LK BLVD
 TO DAKOTA ST

COUNTY PROJECT NO: 06-36-01
 GROSS LENGTH 8930 FT 1.7 MI
 BRIDGES LENGTH 0 FT 0 MI
 EXCEPTION LENGTH 0 FT 0 MI
 NET LENGTH 8930 FT 1.7 MI

END PROJECT C.P. 06-36-01 STATION 179+30



PAGE	SHEETS
1	TITLE
2	SEQ
3	STORM SEWER REPAIR
4	M.H / G.V. INFO / NOTES
5 - 8	TYPICAL SECTIONS
9 - 14	DETAILS
15	PAVEMENT MARKINGS
16 - 17	SIGNAL LOOP DETAILS
18 - 28	EXISTING LOOP LAYOUTS

BEGIN PROJECT C.P. 06-36-01 STATION 90+00

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

Andrew J. Witter
 ANDREW J. WITTER, P.E. LIC. NO. 42757 DATE 6/9/06

GOVERNING SPECIFICATIONS:

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2004."

APPROVED 6/14, 20 06

[Signature]
 ANOKA COUNTY ENGINEER

STATEMENT OF ESTIMATED QUANTITIES

TAB NO.	ITEM NO.	ITEM	NOTE NO.	UNIT	TOTAL EST. QUANT.
	2021.501	MOBILIZATION		LUMP SUM	1
A	2104.501	REMOVE CONCRETE CURB AND GUTTER	1	LIN FT	660
A	2104.505	REMOVE CONCRETE PAVEMENT	3	SQ YD	13
A	2104.505	REMOVE BITUMINOUS PAVEMENT	1, 4	SQ YD	1364
A	2104.511	SAWING CONCRETE PAVEMENT	3	LIN FT	186
A	2104.513	SAWING BITUMINOUS PAVEMENT	1, 4	LIN FT	2401
	2221.609	AGGREGATE SHOULDERING CLASS 7-BC	6, 7	TON	68
	2232.501	MILL BITUMINOUS SURFACE (1.5") MAINLINE AND ST. APPROACHES	18	SQ YD	78153
A	2301.502	8" CONCRETE PAVEMENT	3	SQ YD	13
	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	13	GALLON	3908
	2360.609	TYPE MV3 WEAR COURSE MIXTURE (MWWE35035 E) MAINLINE / ST. APP.	9	TON	6741
A	2360.609	TYPE LV3 WEAR COURSE MIX FOR PATCH CB'S / ISLAND(LVWE35030 E)	1, 4	TON	352
C	2504.602	ADJUST GATE VALVE AND BOX		EACH	1
A	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	1, 17	LIN FT	45
A,B	2506.516	CASTING ASSEMBLY	1	EACH	33
A	2506.602	GROUT CATCH BASIN OR MAN HOLE	1	EACH	11
A	2531.501	CONCRETE CURB AND GUTTER DESIGN B618	1	LIN FT	660
	2531.503	5.5" CONCRETE MEDIAN	4, 5	SQ YD	341
	2563.601	TRAFFIC CONTROL		LUMP SUM	1
	2563.602	PORTABLE CHANGEABLE MESSAGE SIGN		UNIT DAY	20
	2564.602	TEMPORARY RELOCATE SIGN TYPE C	14	EACH	6
	2564.602	PAVEMENT MESSAGE (LT / RT ARROW) HOT TAPE	12	EACH	40
	2564.602	PAVEMENT MESSAGE (HOV DIAMOND) HOT TAPE	8	EACH	7
	2564.603	4" BROKEN LINE WHITE - TEMPORARY PAINT	16	LIN FT	3572
	2564.603	4" SOLID LINE WHITE - EPOXY		LIN FT	25960
	2564.603	4" BROKEN LINE WHITE - EPOXY		LIN FT	3572
	2564.603	4" SOLID LINE YELLOW - EPOXY		LIN FT	17860
	2564.603	24" SOLID LINE WHITE - HOT TAPE	12	LIN FT	768
	2564.618	3 X 6 ZEBRA CROSSWALK - HOT TAPE	12	SQ FT	4680
	2565.602	LOOP DETECTOR 6'X6'	10, 11	EACH	70
A	2575.604	EROSION CONTROL BLANKET	2	SQ YD	271
	2580.523	4" BROKEN LINE REMOVABLE LANE TAPE	15	LIN FT	1429

BASIS OF PLANNED QUANTITIES

2357.502	BITUMINOUS MATERIAL FOR TACK COAT	.05 GAL / SQ YD
2360.609	TYPE MV3 WEARING COURSE MIXTURE (MWWE35035 E)	(SQ YD* IN*115 LBS) / 2000 = TONS
2360.609	TYPE LV3 WEARING COURSE MIXTURE FOR PATCHING (LVWE35030 E)	(SQ YD* IN*115 LBS) / 2000 = TONS

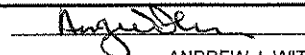
NOTES ...

- 1 REPAIRS AT CATCH BASIN LOCATIONS.
- 2 SEED, FERTILIZER, TOPSOIL AT CB REPAIRS INCIDENTAL TO EROSION CONTROL BLANKET.
- 3 CB REPAIRS IN CONCRETE BUS PAD LOCATION.
- 4 CENTER MEDIAN CONSTRUCTION @ MERCY HOSPITAL
- 5 SOLID 5.5" CENTER MEDIAN - 4" EXPOSED ABOVE BIT.
- 6 SHOULDERING NON-CURB AREAS 164+00 - 179+30 LNB / LSB
- 7 COMPACT AROUND CB REPAIRS
- 8 PLACED ON SHLDR. AT EXISTING SIGNED LOCATIONS.
- 9 INCLUDES STREET APPROACHES.
- 10 WILL BE LOC. AND MARKED BY ANOKA COUNTY PRIOR TO MILLING.
- 11 REPLACE ONLY IF DAMAGED DURING MILLING OPERATION.
- 12 MARKINGS TO BE INPLACE PRIOR TO OPENING TO TRAFFIC.
- 13 TACK FOR MILLED BITUMINOUS AREAS. EST AT 0.05 GAL PER SQ YD.
- 14 CONTRACTOR TO PLACE MERCY CENTER MEDIAN SIGNS ON TEMP STANDS DURING ISLAND CONSTRUCTION.
- 15 TEMP LANE TAPE SKIPS TO BE PLACED ON NEW MAT AT THE END OF EACH DAYS PAVING.
- 16 TEMP PAINT SKIPS FOR MARKING LANE DELINEATION ON MILLED BIT. SURFACE AT THE END OF EACH DAYS MILLING.
- 17 INCLUDES BOTH RERING / GROUT AND RECONSTRUCT STORM CATCH BASINS.
- 18 INCLUDES MILLING AREA FOR STREET APPROACHES

STANDARD PLATE DETAIL

PLATE NO.	DESCRIPTION
4010H	CONCRETE SHORT CONE AND ADJUSTING RING
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4126F	CATCH BASIN FRAME CASTING
4149C	GRATE CASTING FOR CATCH BASIN
4161F	CURB BOX CASTING FOR CATCH BASIN
7100G	CONCRETE CURB AND GUTTER (DESIGN B)
7111J	INSTALLATION OF CATCH BASIN CASTING
8000I	STANDARD BARRICADES

CERTIFIED BY



ANDREW J. WITTER, P.E.

LIC. NO. 42757 DATE 6/9/06

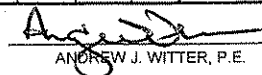
C.P. 06-36-01

SHEET NO. 2 OF 28 SHEETS

A. STORM SEWER REPAIRS LNB																			
STRUCTURE	STATION	LNB / LSB	LT / RT	SAW BIT. PAVEMENT	REMOVE BIT. PAVEMENT	REPLACE BIT. PAVEMENT	SAW CONC. PAVEMENT	REMOVE CONC. PAVEMENT	REPLACE CONC. PAVEMENT	EROSION CONT. BLANKET	REMOVE C&G	REPLACE B618 C&G	ASSEMBLY	CASTING HT.	801 CASTING	GROUT	RE-RING / GROUT	RECONSTRUCT STORM C.B.	ACTION
				LF	SY	TON	LF	SY	SY	SY	LF	LF			EA	EA	FT	FT	
133	92+03	LNB	RT																NONE
134	95+98	LNB	RT	28	9	3.58	4			9	20	20	A-1	11"	1		0.4		RE-RING / GROUT / CASTING
135	103+03	LNB	RT	28	9	3.58	4			9	20	20	A-1	11"	1		0.5		RE-RING / GROUT / CASTING
136	105+43	LNB	RT	28	9	3.58	4			9	20	20	A-1	11"	1		0.5		RE-RING / GROUT / CASTING
137	107+46	LNB	RT																NONE
138	110+22	LNB	RT	28	9	1.53	4			9	20	20	A-1	11"	1			2.7	RECONSTRUCT
139	118+05	LNB	RT													1			GROUT
140	120+18	LNB	RT	28	9	1.53	4			9	20	20	A-1	11"	1		0.7		RE-RING / GROUT / CASTING
141	122+20	LNB	RT	28	9	1.53	4			9	20	20	A-1	11"	1			2.5	RECONSTRUCT
142	124+23	LNB	RT	28	9	1.53	4			9	20	20	A-1	11"	1			2.9	RECONSTRUCT
143	126+46	LNB	RT													1			GROUT
144	129+28	LNB	RT	28	9	3.58	4			9	20	20	A-1	11"	1			2.5	RECONSTRUCT
145	130+80	LNB	RT													1			GROUT
146	133+75	LNB	RT	28	9	1.53	4			9	20	20	A-1	11"	1		0.6		RE-RING / GROUT / CASTING
147	136+75	LNB	RT	28	9	1.53	4			9	20	20	A-1	11"	1			2.8	RECONSTRUCT
148	139+75	LNB	RT													1			GROUT
149	142+87	LNB	RT	28	9	1.53	4			9	20	20	A-1	11"	1			2.6	RECONSTRUCT
149 - A	146+08	LNB	RT	28	9	1.53	4			9	20	20	A-1	11"	1			3.0	RECONSTRUCT
150	148+68	LNB	RT																NONE
151	150+29	LNB	RT	28	9	1.53	4			9	20	20	A-1	11"	1			2.8	RECONSTRUCT
152	152+28	LNB	RT	28	9	1.53	4			9	20	20	A-1	11"	1			3.6	RECONSTRUCT
153	156+01	LNB	RT	28	9	3.58	4			9	20	20	A-1	11"	1			3.3	RECONSTRUCT
154	158+52	LNB	RT	28	9	3.58	4			9	20	20	A-1	11"	1			4.0	RECONSTRUCT
155	163+07	LNB	RT	28	9	1.53	4			9	20	20	A-2	6"	1		0.2		RE-RING / GROUT / CASTING
LNB	TOTALS			476	153	38.31	68			153	340	340			17	4	2.9	32.7	

STORM SEWER REPAIRS LSB																			
STRUCTURE	STATION	LNB / LSB	LT / RT	SAW BIT. PAVEMENT	REMOVE BIT. PAVEMENT	REPLACE BIT. PAVEMENT	SAW CONC. PAVEMENT	REMOVE CONC. PAVEMENT	REPLACE CONC. PAVEMENT	EROSION CONT. BLANKET	REMOVE C&G	B618 C&G	ASSEMBLY	CASTING HT.	801 CASTING	GROUT	RE-RING / GROUT	RECONSTRUCT STORM C.B.	ACTION
				LF	SY	TON	LF	SY	SY	SY	LF	LF			EA	EA	FT	FT	
156	163+00	LSB	LT	28	9	3.58	4			9	20	20	A-1	11"	1		0.6		RE-RING / GROUT / CASTING
157	158+44	LSB	LT	28	9	3.58	4			9	20	20	A-1	11"	1		0.7		RE-RING / GROUT / CASTING
158	156+00	LSB	LT	28	9	3.58	4			9	20	20	A-1	11"	1		1.0		RE-RING / GROUT / CASTING
159	152+25	LSB	LT	28	9	1.53	4			9	20	20	A-1	11"	1		0.7		RE-RING / GROUT / CASTING
160	150+24	LSB	LT	28	9	1.53	4			9	20	20	A-1	11"	1		0.3		RE-RING / GROUT / CASTING
161	148+62	LSB	LT													1			GROUT
162	146+00	LSB	LT													1			GROUT
163	142+80	LSB	LT	28	9	1.53	4			9	20	20	A-1	11"	1		0.4		RE-RING / GROUT / CASTING
164	139+69	LSB	LT	28	9	1.53	4			9	20	20	A-1	11"	1		0.2		RE-RING / GROUT / CASTING
165	136+69	LSB	LT	28	9	1.53	4			9	20	20	A-1	11"	1		0.2		RE-RING / GROUT / CASTING
166	133+70	LSB	LT													1			GROUT
167	130+71	LSB	LT													1			GROUT
168	129+17	LSB	LT				22	4.4	4.4	4.4	20	20	A-1	11"	1		0.7		RE-RING / GROUT / CASTING
169	126+11	LSB	LT																NONE
170	124+12	LSB	LT	28	9	1.53	4			9	20	20	A-1	11"	1		0.8		RE-RING / GROUT / CASTING
171	122+12	LSB	LT													1			GROUT
172	120+12	LSB	LT	28	9	1.53	4			9	20	20	A-1	11"	1		0.8		RE-RING / GROUT / CASTING
173	118+13	LSB	LT	28	9	1.53	4			9	20	20	A-1	11"	1		0.3		RE-RING / GROUT / CASTING
174	110+19	LSB	LT													1			GROUT
175	107+33	LSB	LT	28	9	3.58	4			9	20	20	A-1	11"	1		0.4		RE-RING / GROUT / CASTING
176	105+34	LSB	LT				22	4.4	4.4	4.4	20	20	A-1	11"	1		1.4		RE-RING / GROUT / CASTING
177	103+00	LSB	LT																NONE
178	98+03	LSB	LT													1			GROUT
179	96+00	LSB	LT				22	4.4	4.4	4.4	20	20	A-1	11"	1		0.4		RE-RING / GROUT / CASTING
180	94+53	LSB	LT																NONE
181	91+99	LSB	LT																NONE
LSB	TOTALS			336	108	26.56	114	13.2	13.2	121.2	300	300			15	7	8.9		

B. SCHEDULE OF CASTINGS																				
ASSEMBLY	CASTING	GRATE	CURB BOX	QTY.	812	261	65	182	13.2	13.2	274.2	640	640		32	11	11.8	32.7	GRAND TOTAL LNB / LSB	
A-1	801 11"	810	821B	31																
A-2	801 6"	810	821B	1																

CERTIFIED BY 
 ANDREW J. WITTER, P.E.
 PROJ. 06-36-01

LIC. NO. 42757 DATE 6/9/06
 SHEET NO. 3 OF 28 SHEETS

C.	MANHOLES / GATE VALVES				
CAD POINT #	TYPE OF STRUCTURE	LNB / LSB	STA.	LOC. LT / RT	ACTION
CAD		CAD	CAD	CAD	FIELD
525	MH-TEL	LNB	90+76	RT	NONE
526	MH-SAN	LNB	97+57	RT	NONE
527	MH-TEL	LNB	97+91	RT	NONE
528	MH-TEL	LNB	104+97	RT	NONE
529	MH-TEL	LNB	105+04	RT	RAISE 0.5" BELL TELE. RESPONSIBILITY
530	MH-SAN	LNB	106+48	RT	NONE
531	MH-TEL	LNB	110+91	RT	NONE
532	MH-TEL	LNB	120+10	RT	NONE
533	MH-TEL	LNB	129+30	RT	RAISE 0.5" BELL TELE. RESPONSIBILITY
534	MH-TEL	LNB	138+51	RT	NONE
535	MH-TEL	LNB	147+70	RT	NONE
536	MH-TEL	LNB	156+90	RT	NONE
537	GAS VALVE	LNB	157+29	RT	NONE
538	GAS VALVE	LNB	160+94	RT	NONE
539	MH-TEL	LNB	164+98	RT	NONE
540	MH-TEL	LNB	165+03	RT	NONE
541	MH-SAN	LSB	156+74	LT	NONE
542	GV	LSB	130+18	LT	NONE
543	GV	LSB	130+09	LT	NONE
544	GV	LSB	130+03	LT	NONE
545	GV	LSB	97+55	LT	NONE
546	GV	LSB	97+10	LT	RAISE 2" CONTRACTOR RESPONSIBILITY
547	MH-SAN	LSB	97+04	LT	NONE
551	RECT. VAULT	LSB	170+57	RT	RAISE 1.5" BELL TELE. RESPONSIBILITY

CONTRACTOR RESPONSIBLE FOR COORDINATION OF BELL TELE ADJUSTMENTS.

NOTES...

- STOP HERE ON RED SIGNS TO BE PLACED AT STOP BAR LOCATIONS IMMEDIATELY AFTER MILLING SIGNALIZED INTERSECTIONS.
- ISLAND CONSTRUCTION BETWEEN BLACKFOOT AND DAKOTA STREETS TO BE COMPLETED PRIOR TO MILLING ROAD SURFACE.
- POLICE OFFICER TO DIRECT TRAFFIC IN ADDITION TO CONTRACTOR EMPLOYEES DURING MILLING / PAVING SIGNALIZED INTERSECTIONS.
- SEED, FERTILIZER, AND TOPSOIL ARE INCIDENTAL TO EROSION CONTROL BLANKET AT C.B. REPAIRS.
SEED - 50 B
FERTILIZER - 22 - 5 - 10
- CATCH BASIN REPAIRS TO BE COMPLETED PRIOR TO MILLING ROAD SURFACE.
- CONTRACTOR RESPONSIBLE TO CONTACT BELL TELEPHONE TO RAISE 3 - MANHOLES.
CONTRACTOR TO RAISE 1 - WATER GATE VALVE.
- TRAFFIC CONTROL ITEM INCLUDES POLICE OFFICER FOR MILLING / PAVING SIGNALIZED INTERSECTIONS.
- SIGN INSERTS IN NEW CONCRETE MEDIAN TO BE PLACED BY ANOKA COUNTY.
NEW MEDIAN SIGNS AND INSTALLATION TO BE PROVIDED BY ANOKA COUNTY.
- CONTRACTOR TO PLACE ALL EXISTING SIGNS IN MEDIAN CONST. AREA STA 175+00 ON TEMPORARY STANDS DURING MEDIAN CONST.
- ANOKA COUNTY NEEDS TO CONTACT M.T.C. TO MINIMIZE BUS TRAFFIC ON MILLED SHOULDERS.
- CATCH BASIN REPAIRS MUST BE COMPLETE AND BITUMINOUS BROUGHT BACK UP TO ORIGINAL HEIGHT TO ALLOW TRAFFIC TO RUN ON SHOULDERS WHILE MILLING MAINLINE THRU LANES.
- HEAT FUSED PAVEMENT MARKINGS SHALL BE INSTALLED FOLLOWING FINISH ROLLING NEW PAVEMENT AND INPLACE PRIOR TO OPENING LANES TO TRAFFIC.
- CONTRACTOR MUST COORDINATE MILLING / PAVING SCHEDULE WITH CITY OF COON RAPIDS POLICE DEPARTMENT FOR OFFICERS NEEDED FOR TRAFFIC CONTROL.
- CONTRACTOR MUST COORDINATE MILLING / PAVING SCHEDULE WITH ANOKA COUNTY SIGNAL DEPARTMENT FOR SIGNALS TO BE PUT ON FLASH FOR INTERSECTION MILLING / PAVING.
- MILLING SHOULDER / RIGHT TURN LANE CURB AREAS - DEPTH OF MILLING WILL BE MEASURED 1" DOWN FROM THE LIP OF CURB - NOT 1" FROM EXISTING PAVED SURFACE AND WILL NEED TO BE CHECKED AND ADJUSTED AS NECESSARY TO MAINTAIN NOT MORE THAN 1" MILL AT LIP OF CURB.
- MILLING THRU / LEFT TURN LANE CURB AREAS - DEPTH OF MILLING TO BE A CONSISTENT 1.5" MEASURED 1.5" DOWN FROM THE LIP OF MEDIAN CURB AND EXISTING BIT MAT.
- AFTER MILLING - TEMPORARY LANE SKIPS ARE TO BE STRIPPED BEFORE LEAVING FOR THE DAY.
- REMOVABLE LANE TAPE SKIPS TO BE INSTALLED ON FRESH PAVED MAT BEFORE FINAL STRIPPING.

CERTIFIED BY

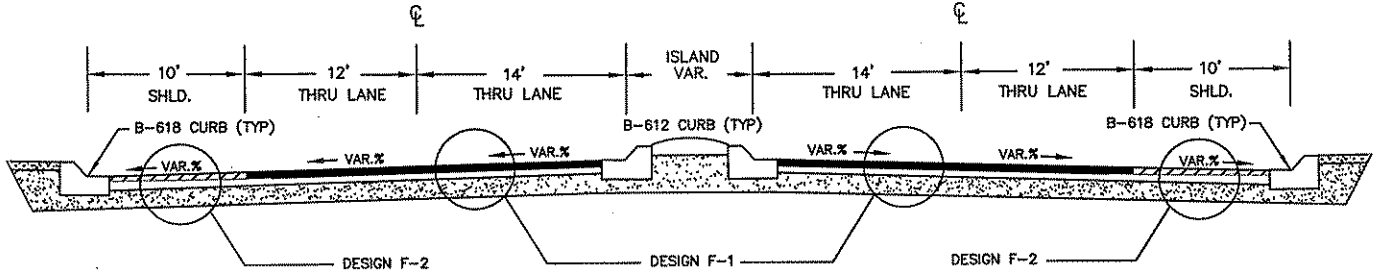

ANDREW J. WITTER, P.E.

LIC. NO. 42757 DATE 6/10/06

TYPICAL SECTIONS

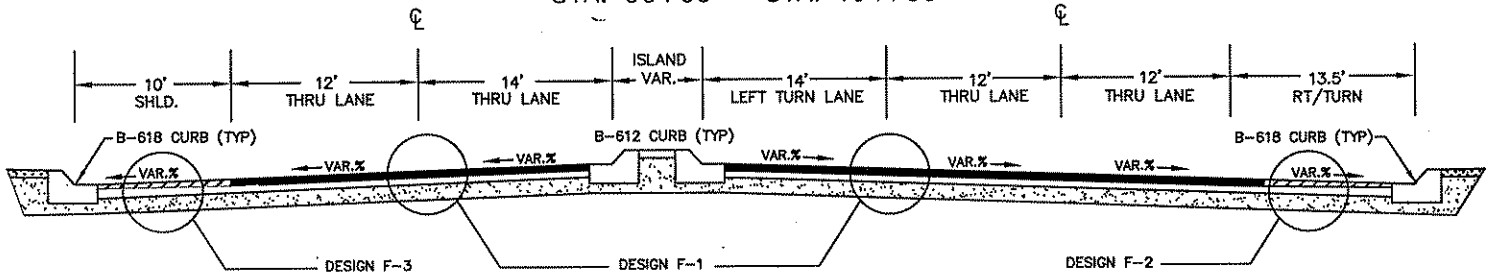
STANDARD SECTION

STA. 90+00 - STA. 164+00

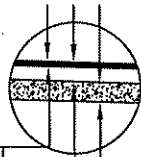


TURN LANE SECTION

STA. 90+00 - STA. 164+00

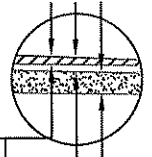


DESIGN F-1



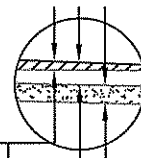
MILL 1.5" OF INPLACE BITUMINOUS
PAVE 1.5" TYPE WEAR COURSE MVWE35035 E
6" EXISTING BITUMINOUS
8" EXISTING CONCRETE/CLASS-5 BASE

DESIGN F-3



MILL 1.0" TO 1.5" TAPERED MILL OF INPLACE BITUMINOUS
PAVE 1.0" TO 1.5" TAPERED TYPE WEAR MVWE35035 E
3" EXISTING BITUMINOUS
7.5" EXISTING CLASS-5 BASE

DESIGN F-2

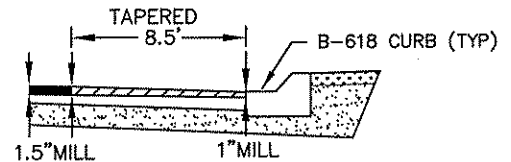


MILL 1.0" TO 1.5" TAPERED MILL OF INPLACE BITUMINOUS
PAVE 1.0" TO 1.5" TAPERED TYPE WEAR MVWE35035 E
7" EXISTING BITUMINOUS
7.5" EXISTING CLASS-5 BASE

TAPERED EDGE MILL DETAIL

ENTIRE LENGTH OF SHLDR. CURB
STA. 90+00 TO STA. 164+20 LNB/LSB

1" MILL @ LIP OF SHLDR./RTL CURB
1.5" MILL @ 8.5' FROM LIP OF SHLDR./RTL CURB



NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter

ANDREW J. WITTER, P.E.

C.P. 06-36-01

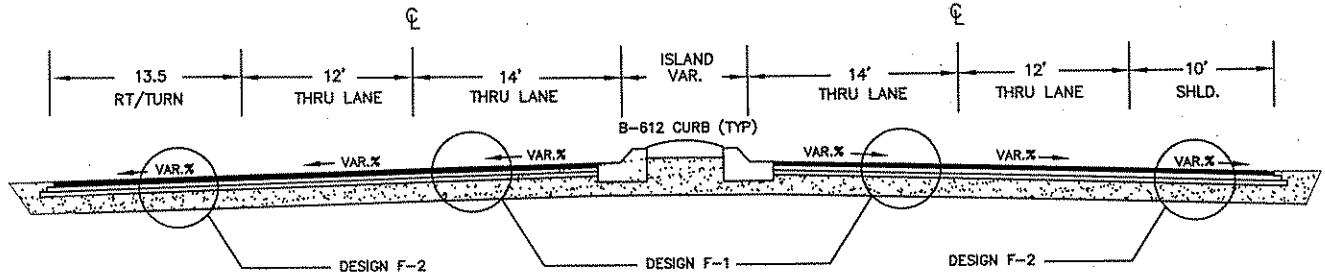
LIC. NO. 42757 DATE 6/9/06

SHEET NO. 5 OF 28 SHEETS

TYPICAL SECTIONS

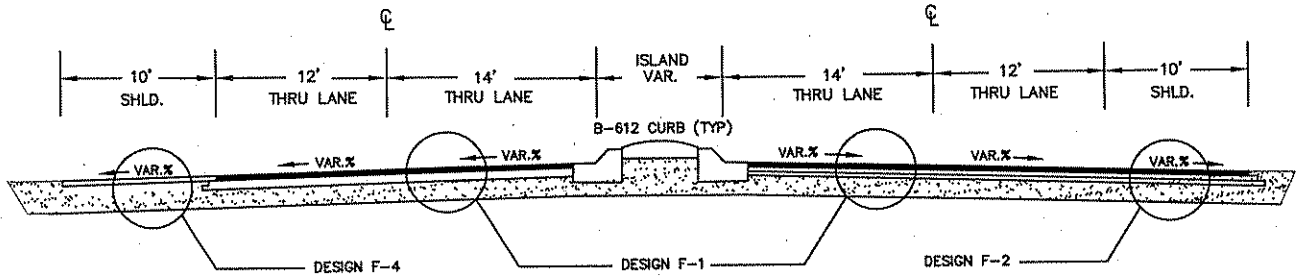
NON-OUTSIDE CURB SECTION

STA. 164+00 - STA. 165+00



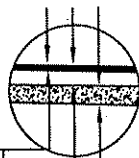
NON-OUTSIDE CURB SECTION

STA. 165+00 - STA. 166+00



DESIGN F-1

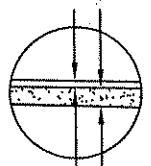
MILL 1.5" OF INPLACE BITUMINOUS
PAVE 1.5" TYPE WEAR COURSE MVWE35035 E
6" EXISTING BITUMINOUS
8" EXISTING CONCRETE/CLASS-5 BASE



DESIGN F-4

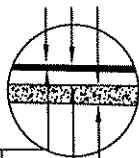
NO-MILL / NO-OVERLAY AREA

1.5" EXISTING BITUMINOUS
7.5" EXISTING CLASS-5 BASE



DESIGN F-2

MILL 1.5" OF INPLACE BITUMINOUS
PAVE 1.5" TYPE WEAR COURSE MVWE35035 E
7" EXISTING BITUMINOUS
7.5" EXISTING CLASS-5 BASE



NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter
ANDREW J. WITTER, P.E.

C.P. 06-36-01

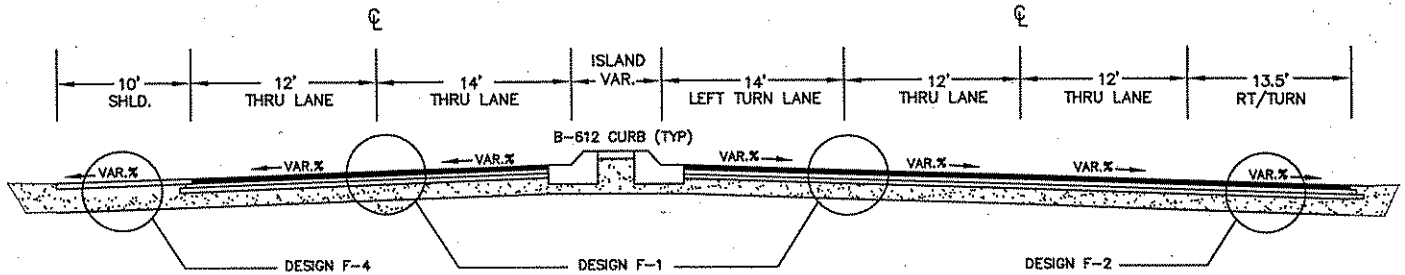
LIC. NO. 42757 DATE 6/9/06

SHEET NO. 6 OF 28 SHEETS

TYPICAL SECTIONS

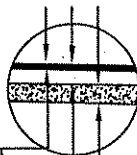
NON-OUTSIDE CURB TURN LANE SECTION

STA. 166+00 - STA. 170+50



DESIGN F-1

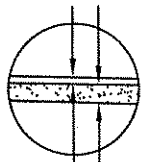
- MILL 1.5" OF INPLACE BITUMINOUS
- PAVE 1.5" TYPE WEAR COURSE MVWE35035 E
- 6" EXISTING BITUMINOUS
- 8" EXISTING CONCRETE/CLASS-5 BASE



DESIGN F-4

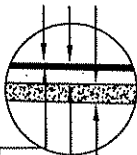
NO-MILL / NO-OVERLAY AREA

- 1.5" EXISTING BITUMINOUS
- 7.5" EXISTING CLASS-5 BASE



DESIGN F-2

- MILL 1.5" OF INPLACE BITUMINOUS
- PAVE 1.5" TYPE WEAR COURSE MVWE35035 E
- 7" EXISTING BITUMINOUS
- 7.5" EXISTING CLASS-5 BASE



NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter

ANDREW J. WITTER, P.E.

C.P. 06-36-01

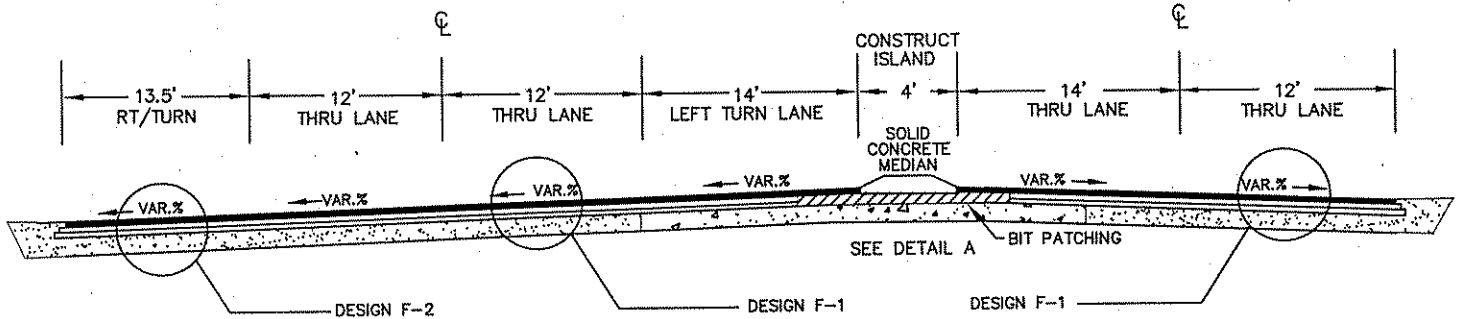
LIC. NO. 42757 DATE 6/1/06

SHEET NO. 7 OF 28 SHEETS

TYPICAL SECTIONS

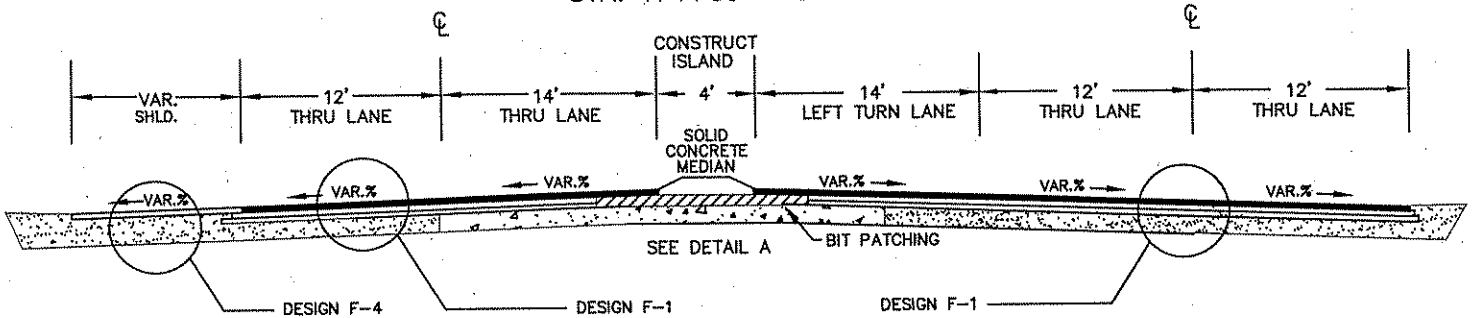
CONSTRUCT ISLAND SECTION

STA. 170+50 - STA. 174+00



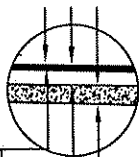
CONSTRUCT ISLAND SECTION

STA. 174+00 - STA. 179+30



DESIGN F-1

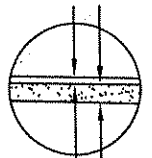
- MILL 1.5" OF INPLACE BITUMINOUS
- PAVE 1.5" TYPE WEAR COURSE MVWE35035 E
- 6" EXISTING BITUMINOUS
- 8" EXISTING CONCRETE/CLASS-5 BASE



DESIGN F-4

NO-MILL / NO-OVERLAY AREA

- 1.5" EXISTING BITUMINOUS
- 7.5" EXISTING CLASS-5 BASE



DESIGN F-2

- MILL 1.5" OF INPLACE BITUMINOUS
- PAVE 1.5" TYPE WEAR COURSE MVWE35035 E
- 7" EXISTING BITUMINOUS
- 7.5" EXISTING CLASS-5 BASE

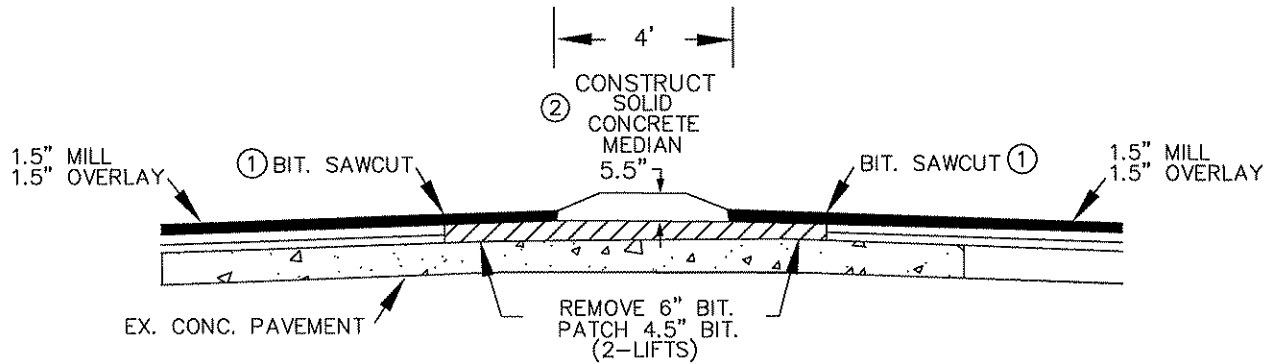


NOTE: NOT TO SCALE

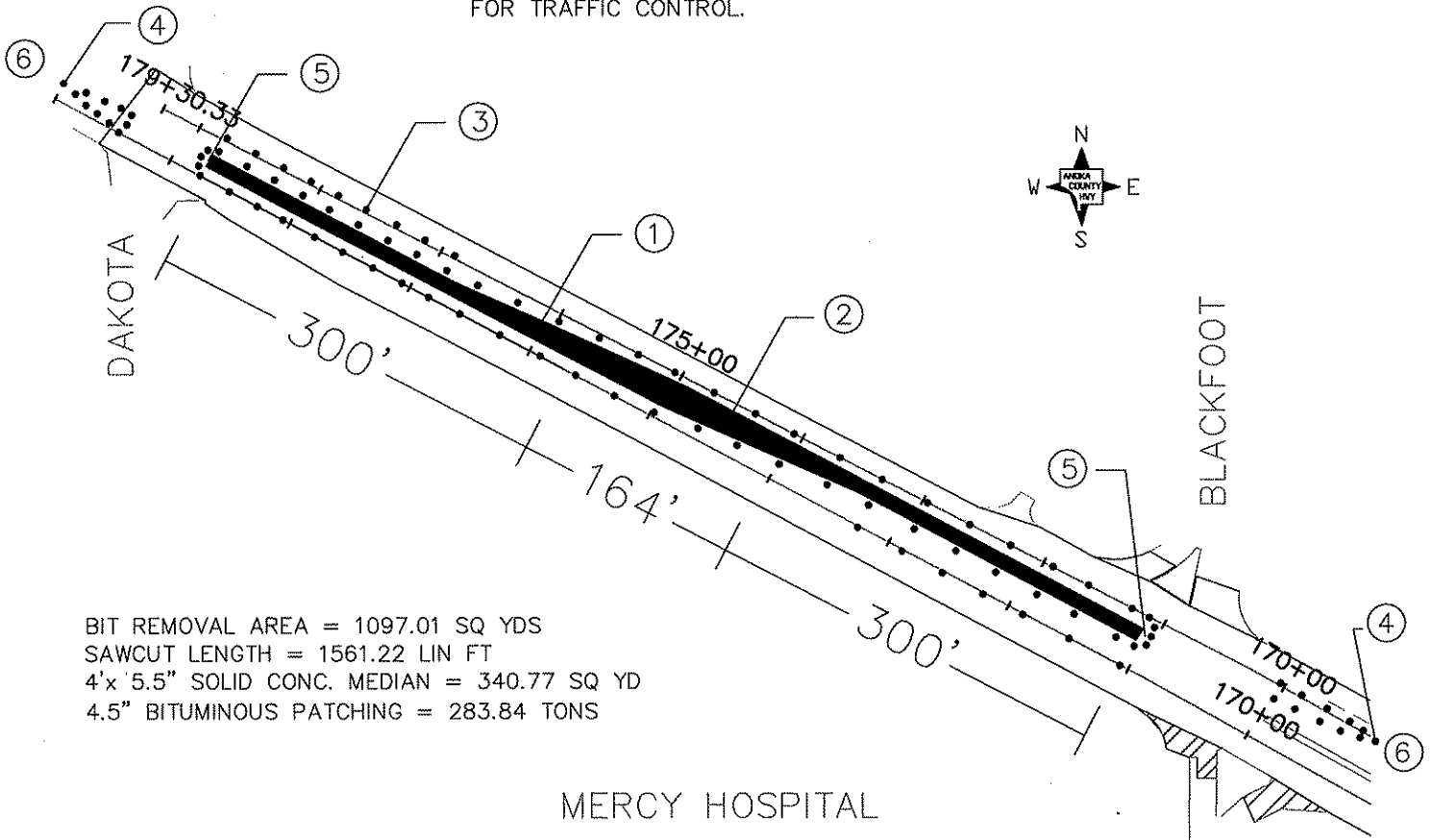
CERTIFIED BY Andrew J. Witter
 ANDREW J. WITTER, P.E.
 C.P. 06-36-01

LIC. NO. 42757 DATE 6/9/06
 SHEET NO. 8 OF 28 SHEETS

CONCRETE MEDIAN DETAIL A



- ① SAW-CUT 2' FROM FACE OF EX. BIT. CURB
- ② 5.5" SOLID CONCRETE MEDIAN , 4" EXPOSED ABOVE BIT.
- ③ RETROREFLECTIVE DRUMS
- ④ CHANNELIZE TRAFFIC CLOSING LEFT THRU LANE.
- ⑤ ALL MEDIAN SIGNS TO BE PLACED BY CONTRACTOR ON TEMP STANDS DURING CONSTRUCTION. ANOKA COUNTY TO SUPPLY AND INSTALL ALL PERMANENT MEDIAN SIGNS.
- ⑥ SEE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL FOR TRAFFIC CONTROL.



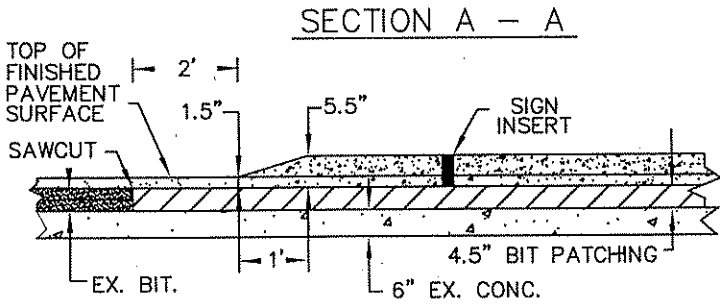
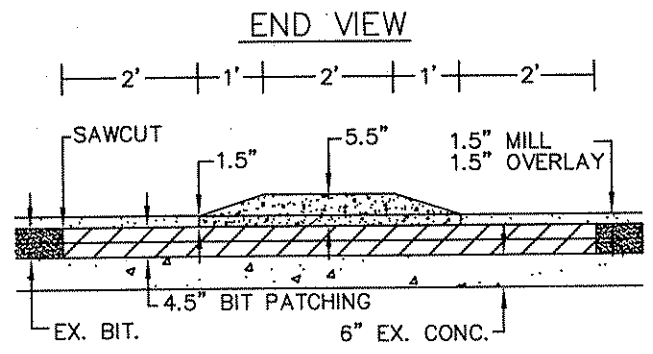
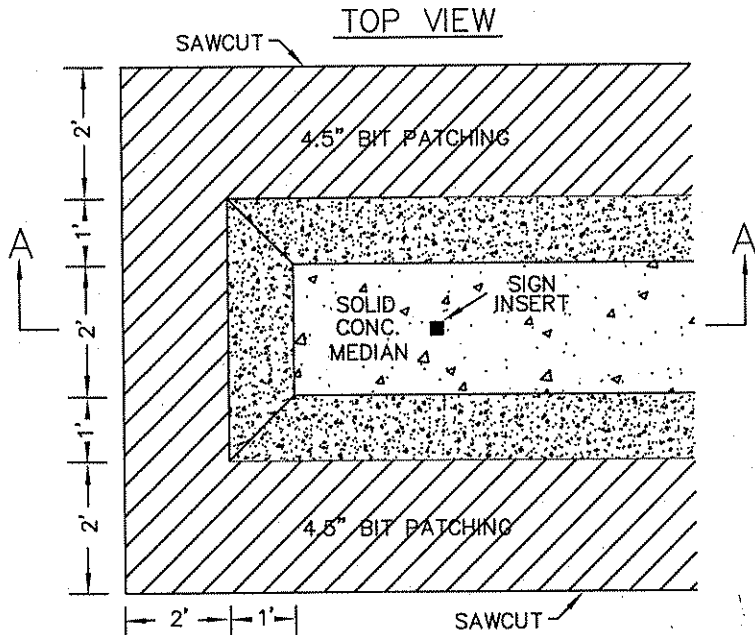
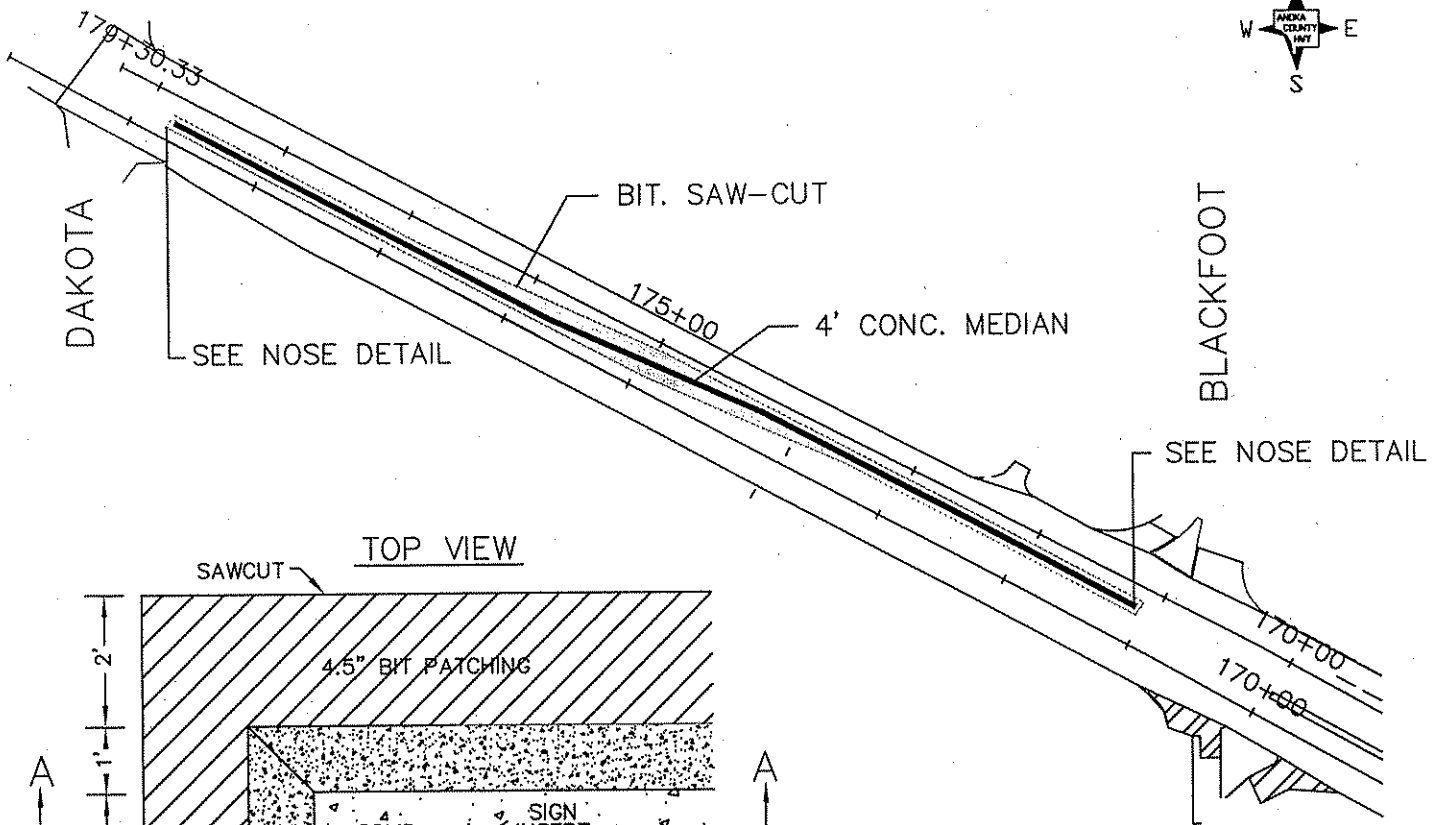
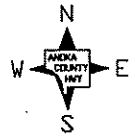
BIT REMOVAL AREA = 1097.01 SQ YDS
 SAWCUT LENGTH = 1561.22 LIN FT
 4'x 5.5" SOLID CONC. MEDIAN = 340.77 SQ YD
 4.5" BITUMINOUS PATCHING = 283.84 TONS

NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter
 ANDREW J. WITTER, P.E.

LIC. NO. 42757 DATE 6/1/06
 SHEET NO. 9 OF 28 SHEETS

ISLAND NOSE DETAIL

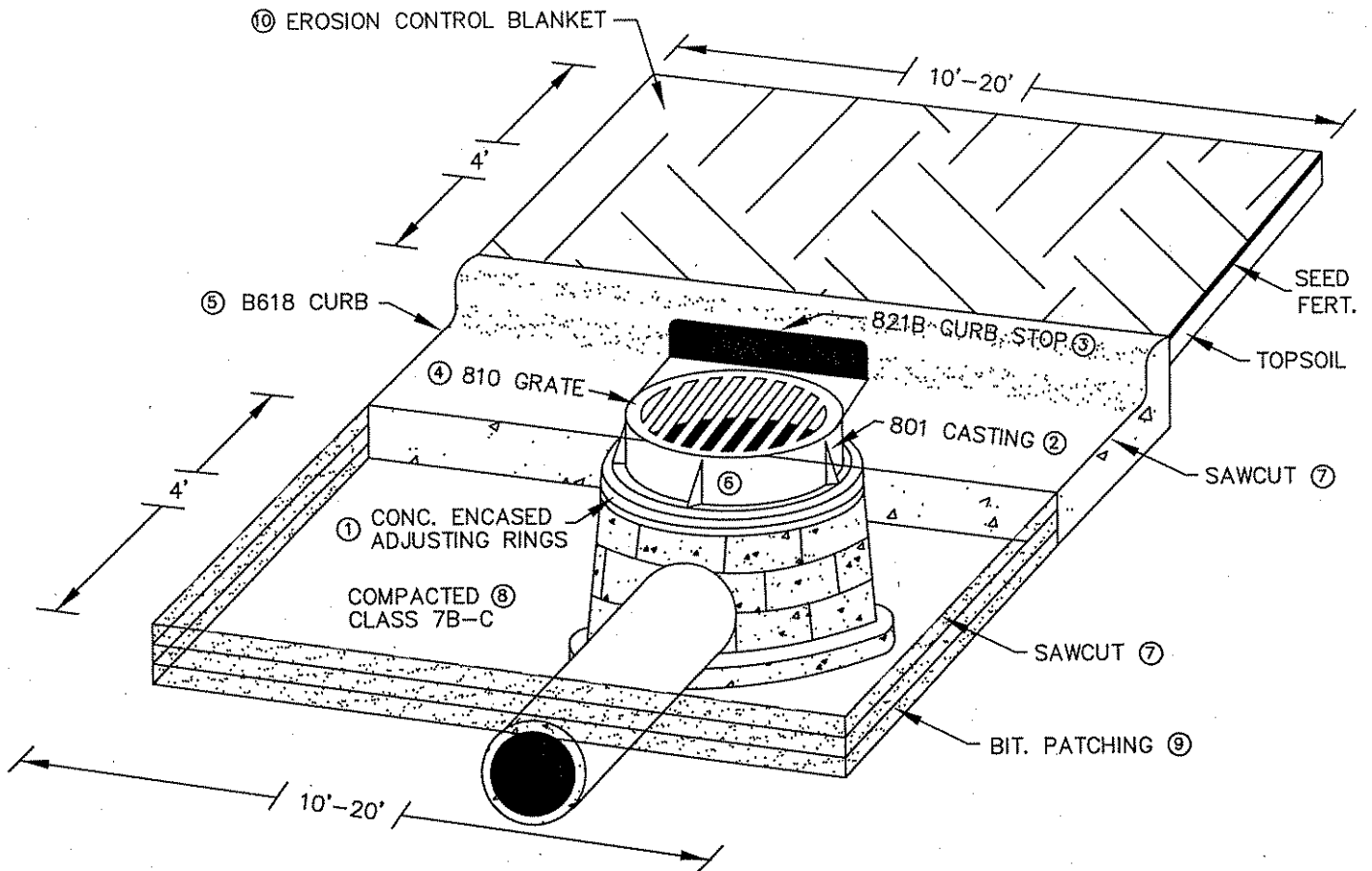


NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter
 ANDREW J. WITTER, P.E.
 C.P. 06-36-01

LIC. NO. 42757 DATE 6/9/06
 SHEET NO. 10 OF 28 SHEETS

C.B. REPAIR DETAIL



NOTES.. FOR TRAFFIC CONTROL AT CATCH BASIN REPAIRS REFER TO 6K-63 AND 6K65 SHLDR. AND RTL CLOSURES IN THE MINNESOTA TEMPORARY CONTROL ZONE LAYOUTS FIELD MANUAL.

REFER TO MINNESOTA STANDARD PLATES MANUAL FOR THE FOLLOWING...

- ① CONCRETE ENCASED CONCRETE ADJUSTING RINGS STANDARD PLATE 4026A
- ② RING AND FRAME CASTING 801 STANDARD PLATE 4126F
- ③ CURB BOX 821B STANDARD PLATE 4161F
- ④ GRATE CASTING 810 STANDARD PLATE 4149C
- ⑤ CONCRETE CURB AND GUTTER DESIGN B STANDARD PLATE 7100G
- ⑥ INSTALLATION OF CATCH BASIN CASTINGS STANDARD PLATE 7111J
- ⑦ SAWCUT BIT./CONCRETE BUS PADS/CONCRETE CURB FULL DEPTH.
- ⑧ ADD AND COMPACT CL-7B-C AROUND REPAIRED STRUCTURE.
- ⑨ REMOVE VAR. DEPTH BITUMINOUS 3"-7" / PATCH 2-LIFTS OF BITUMINOUS.
- ⑩ REPLACE DISPLACED TOPSOIL- SEED, FERT. AND COVER WITH EROS. BLANKET. SEED , FERT. AND TOPSOIL INNCCIDENTAL TO BLANKET.

NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter
ANDREW J. WITTER, P.E.

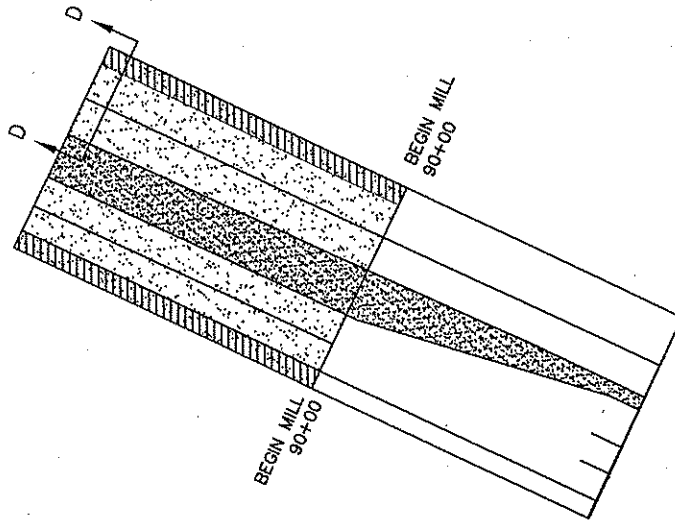
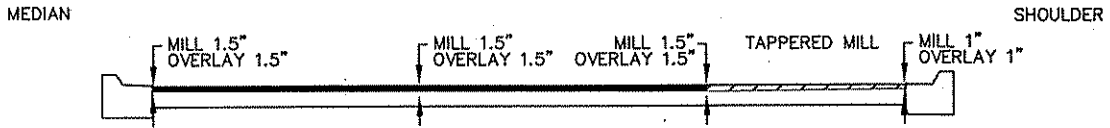
C.P. 06-36-01

LIC. NO. 42757 DATE 6/9/06

SHEET NO. 11 OF 28 SHEETS

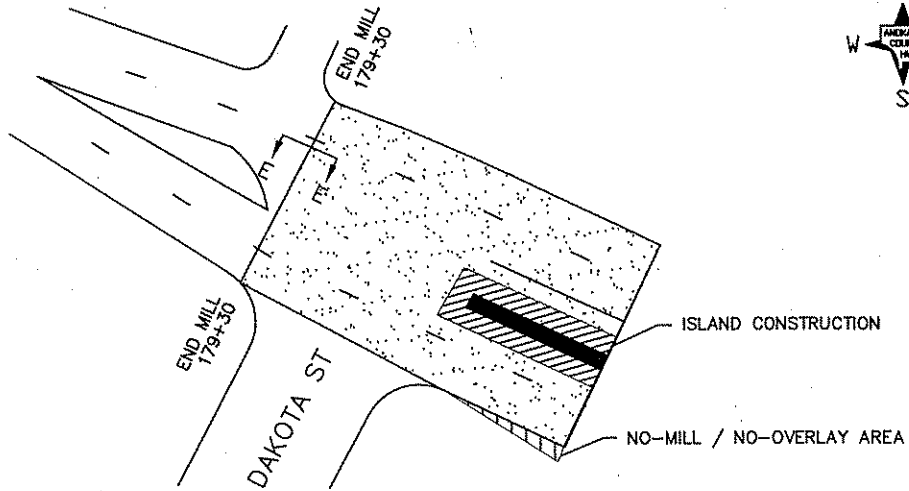
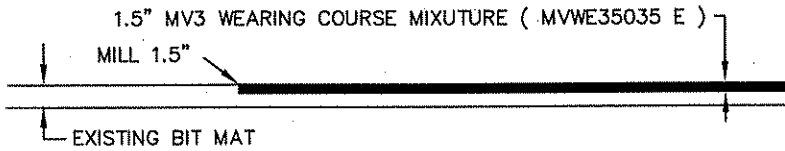
MILL DETAILS

BEGIN MILL DETAIL D - D MILL AS DIRECTED BY THE ENGINEER



CROOKED LAKE

END MILL DETAIL E - E MILL AS DIRECTED BY THE ENGINEER

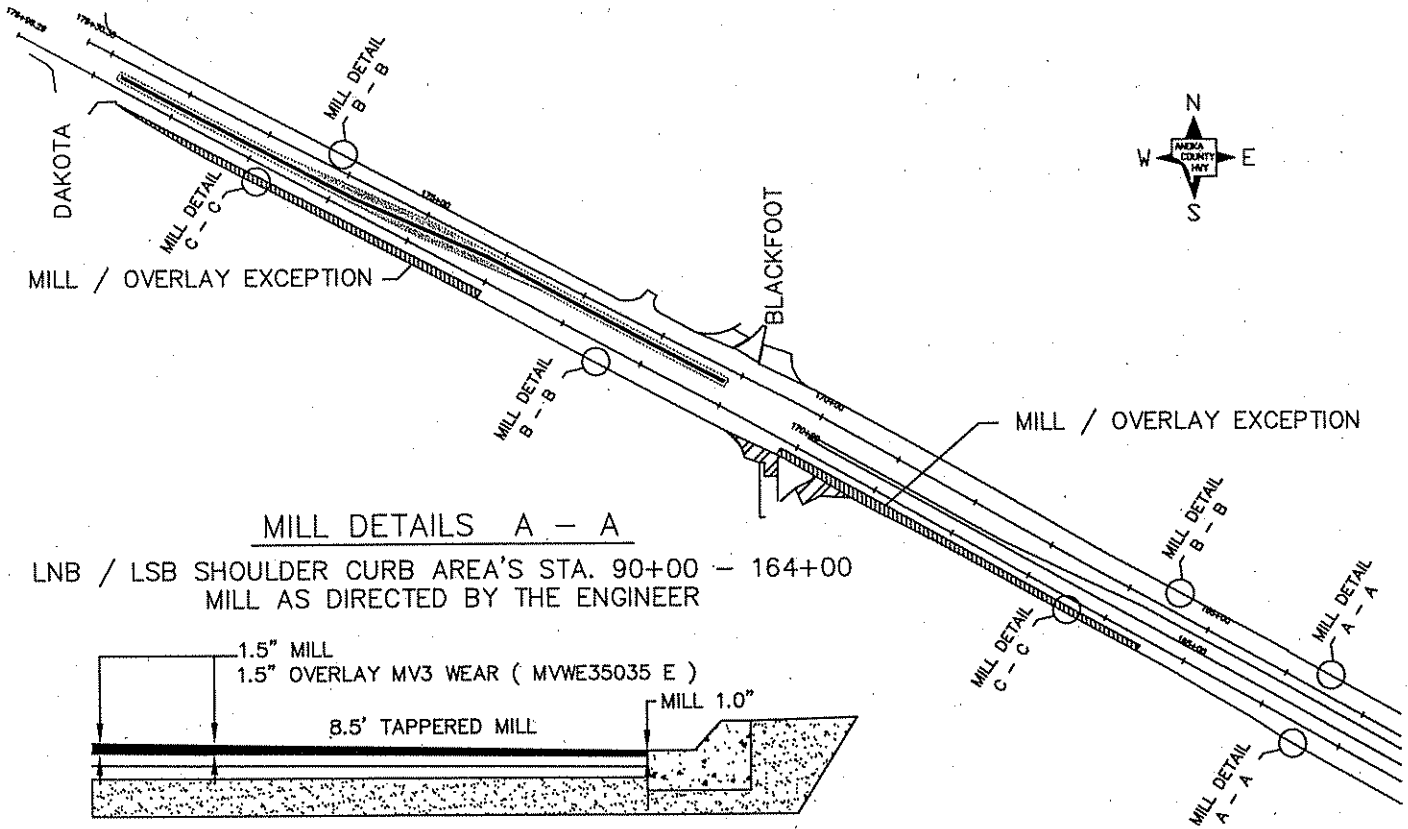


NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter
ANDREW J. WITTER, P.E.
C.P. 06-36-01

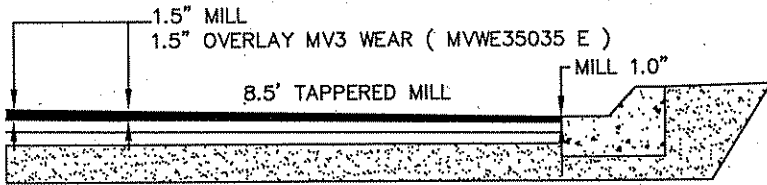
LIC. NO. 42757 DATE 6/9/00
SHEET NO. 12 OF 28 SHEETS

MILL DETAILS



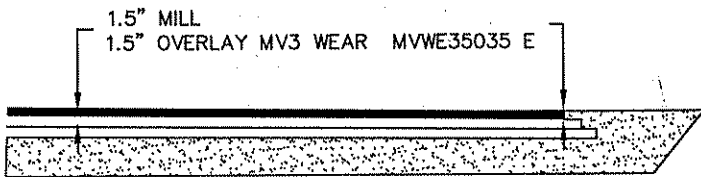
MILL DETAILS A - A

LNB / LSB SHOULDER CURB AREA'S STA. 90+00 - 164+00
MILL AS DIRECTED BY THE ENGINEER



MILL DETAILS B - B

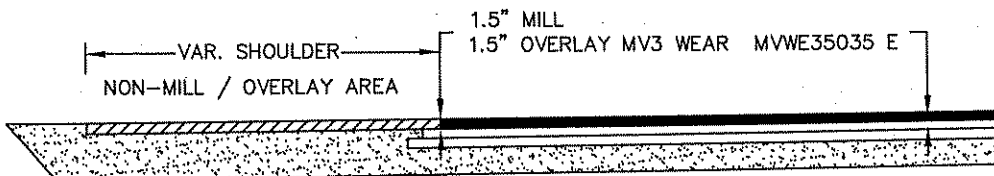
LNB NON-SHOULDER CURB AREA'S STA.164+00 - STA.179+30
LSB NON-SHOULDER CURB AREA'S STA.170+50 - STA.174+00
MILL AS DIRECTED BY THE ENGINEER



MILL DETAILS C - C

LSB NON-SHOULDER MILL AREA

LSB NON-SHOULDER CURB AREA'S STA .165+50 - 170+10
LSB NON-SHOULDER CURB AREA'S STA .174+00 - 179+30
MILL AS DIRECTED BY THE ENGINEER

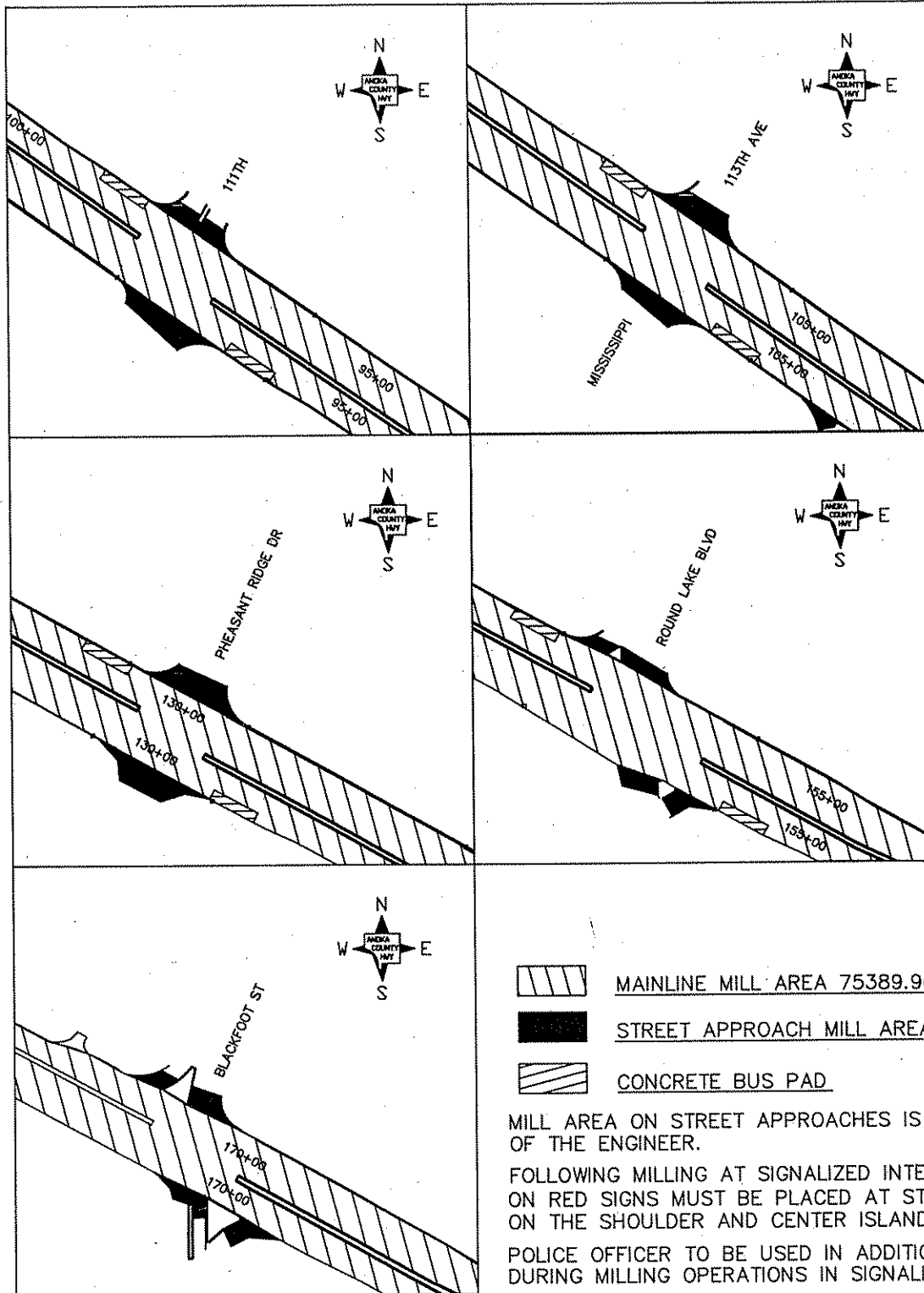


NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter
ANDREW J. WITTER, P.E.
C.P. 06-36-01

LIC. NO. 42757 DATE 6/1/06
SHEET NO. 13 OF 28 SHEETS

INTERSECTION MILL DETAILS

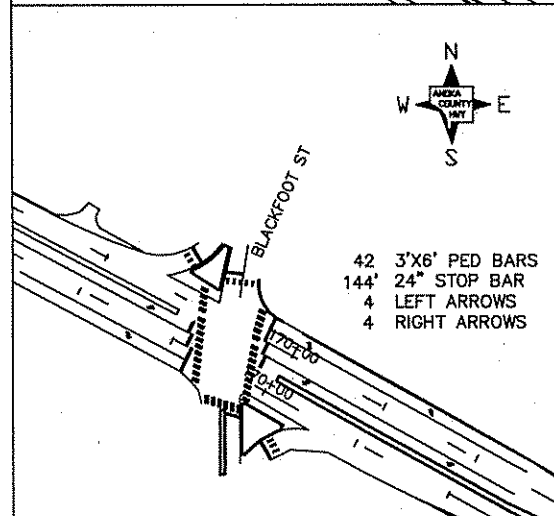
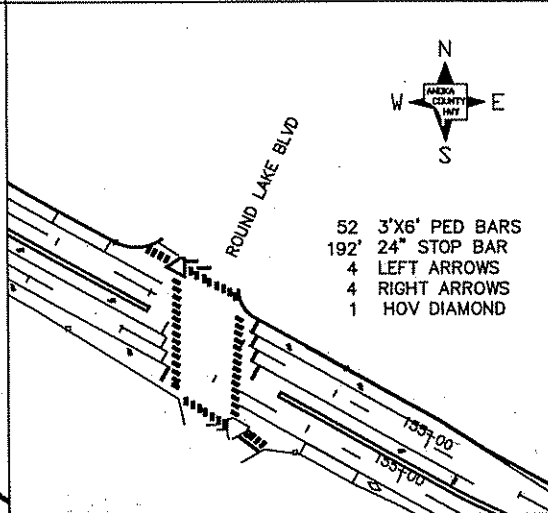
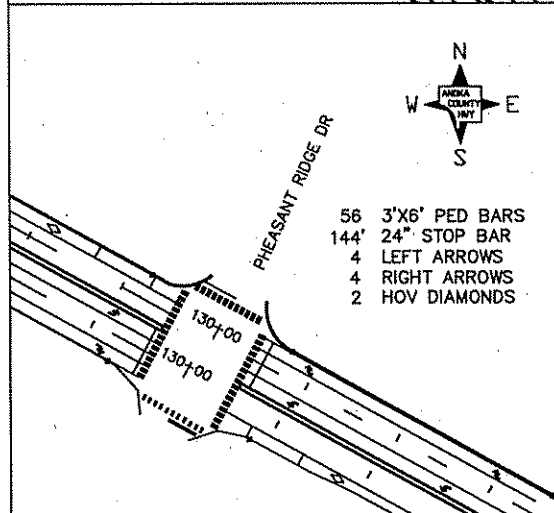
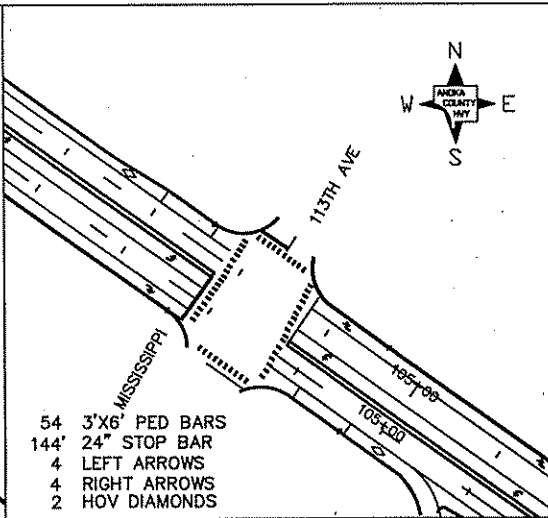
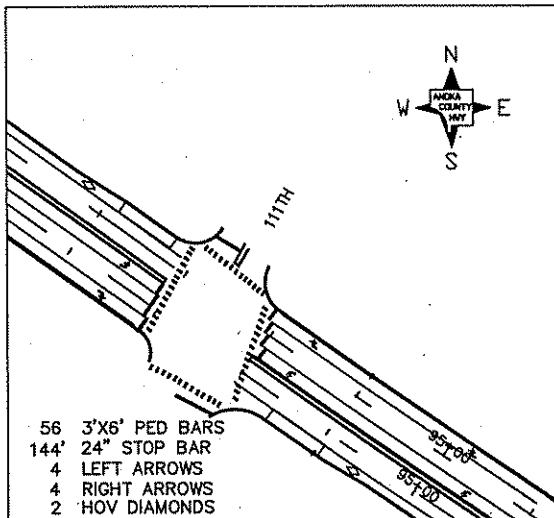


NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter
 ANDREW J. WITTER, P.E.
 C.P. 06-36-01

LIC. NO. 42757 DATE 6/1/06
 SHEET NO. 14 OF 28 SHEETS

PAVEMENT MARKINGS



NOTE:...

PAVEMENT MARKINGS TO BE INSTALLED IMMEDIATELY FOLLOWING FINISH ROLLING NEW MAT AND INPLACE, PRIOR TO OPENING TO TRAFFIC.

HOV DIAMONDS TO BE INSTALLED AT SIGNALIZED INTERSECTIONS ADJACENT HOV SIGNS.

- 260 3'X6' PED BARS
- 768' 24" STOP BAR
- 20 LEFT ARROWS
- 20 RIGHT ARROWS
- 7 HOV DIAMONDS

NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter

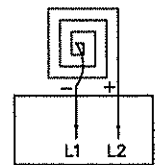
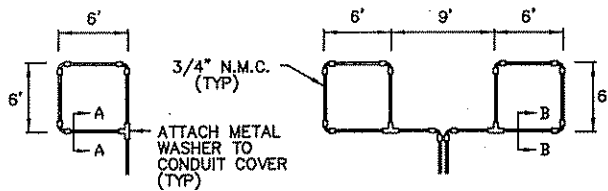
ANDREW J. WITTER, P.E.

C.P. 06-36-01

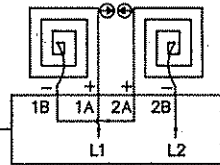
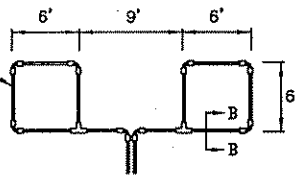
LIC. NO. 42757 DATE 6/9/00

SHEET NO. 15 OF 28 SHEETS

SIGNAL LOOP DETAIL



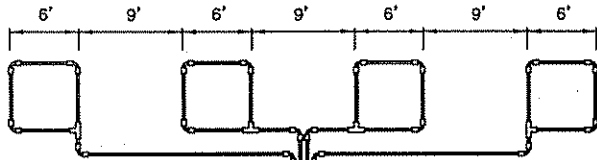
**LOOP DETECTOR
DETAIL 'A'**
(LOOP PHASING FOR
SINGLE CONNECTION)



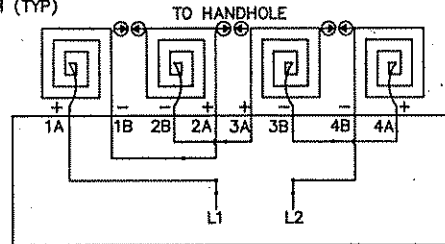
LOOP CONNECTIONS SHALL BE
LABELED AND SPLICED IN THE
HANDHOLE AS FOLLOWS:

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

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



LOOP RETURN CONDUITS
MAY BE PLACED IN COMMON
TRENCH (TYP)

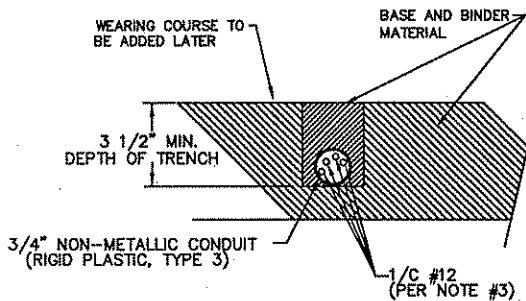


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED
IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A 3B TO 4A
1B TO 2A 4B TO L2
2B TO 3A

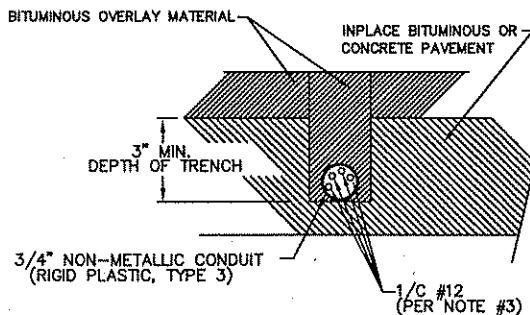
SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE.
ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE
(1A, 1B, ECT).

**LOOP DETECTOR
DETAIL 'C'**
(LOOP PHASING FOR
SERIES CONNECTION)



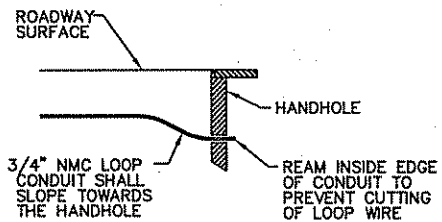
SECTION A-A

DETAIL FOR LOOP INSTALLATION
IN NEW ROADWAY



SECTION B-B

DETAIL FOR LOOP INSTALLATION
IN EXISTING ROADWAY



DRAINAGE DETAIL

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.

NOTE: NOT TO SCALE

CERTIFIED BY Andrew J. Witter

ANDREW J. WITTER, P.E.

LIC. NO. 42757 DATE 6/8/00

C.P. 06-36-01

SHEET NO. 16 OF 28 SHEETS

SIGNAL LOOP DETAIL

ABBREVIATIONS

3-(KEG) SIGNAL HEAD PHASE '3' - NO. '1'	P2-(KEG) PED INDICATION PHASE '2' - NO. '1'
BR. GR. BARE GROUND	PB PUSH BUTTON
CH. SW. CHECK SWITCH	PB2-(KEG) PUSH BUTTON PHASE '2' - NO. '1'
CLR CLEAR	PEC PHOTOELECTRIC CELL
D2-(KEG) DETECTOR PHASE '2' - NO. '1'	PED PEDESTRIAN
DWK DOWNT WALK	R RED
EGG EQUIPMENT GROUND	R&S REMOVE AND SALVAGE
EVP EMERGENCY VEHICLE PRE-EMPTION	RLTA RED LEFT TURN ARROW
F&I FURNISH AND INSTALL	RRTA RED RIGHT TURN ARROW
FL FLASH/FLASHING	RSC RIGID STEEL CONDUIT
G GREEN	SDP SOURCE OF POWER
GLTA GREEN LEFT TURN ARROW	SPR SPARE
GRN GREEN	ST. LHT STREET LIGHT
GR. R GREEN ROD	STA STATION
GRTA GREEN RIGHT TURN ARROW	SW SWITCH
GTHA GREEN THRU ARROW	SWD SWITCHED
HH HANDHOLE	S&R SALVAGE AND REINSTALL
HPS HIGH PRESSURE SODIUM	TDW TELEPHONE DROP WIRE
JB JUNCTION BOX	WLK WALK
LUM LUMINAIRE	YEL YELLOW
NEU NEUTRAL	YLTA YELLOW LEFT TURN ARROW
NMC NONMETALLIC CONDUIT	YRTA YELLOW RIGHT TURN ARROW
	YTHA YELLOW THRU ARROW

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's	
SIGNAL BASE NO.	
SIGNAL FACE NO.	
LUMINAIRE NO.	
CONTROLLER AND CABINET	
CONTROLLER AND CABINET - IN PLACE	
HANDHOLE	
HANDHOLE - IN PLACE	
RIGID STEEL CONDUIT (RSC)	
RIGID STEEL CONDUIT (RSC) - IN PLACE	
SIGNAL FACE WITH BACKGROUND SHIELD	
SIGNAL FACE W/O BACKGROUND SHIELD	
SIGNAL FACE - IN PLACE	
PEDESTRIAN INDICATORS	
PEDESTRIAN INDICATORS - IN PLACE	
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	
PEDESTRIAN PUSH BUTTON STATION	
TRAFFIC SIGNAL PEDESTAL	
TRAFFIC SIGNAL PEDESTAL - IN PLACE	
TRAFFIC SIGNAL POLE AND MAST ARM	
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	
STREET LIGHT POLE AND LUMINAIRE	
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	
MAST ARM AND LUMINAIRE	
MAST ARM AND LUMINAIRE - IN PLACE	
WOOD POLE	
WOOD POLE - IN PLACE	
SOURCE OF POWER	
RAILROAD SIGNAL - IN PLACE	
RIGHT OF WAY LINE	
CENTERLINE	
EDGE OF ROADWAY	
SHOULDERLINE	
CURB LINE	
STOP BAR	
EMERGENCY VEHICLE PREEMPTION DETECTOR	

STANDARD PLATES

THESE STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:

PLATE NO.	DESCRIPTION
7035 L	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7036 E	PEDESTRIAN CURB RAMP
7100 G	CONCRETE CURB AND GUTTER (DESIGN B)
8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8111 C	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
8112 C	PEDESTAL FOUNDATION
8114 A	PVC HANDHOLE/PULLBOX
8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 K	PA85 POLE FOUNDATION
8121 D	TRANSFORMER BASE AND POLE BASE PLATE
8122 C	PEDESTAL AND PEDESTAL BASE
8123 E	POLE AND MAST ARM
8124 E	MAST ARM SIGNAL HEAD MOUNTS
8126 F	PA90 AND PA100 POLE FOUNDATION

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

CERTIFIED BY Andrew J. Witter

ANDREW J. WITTER, P.E.

LIC. NO. 42757 DATE 6/10/06

C.P. 06-36-01

SHEET NO. 17 OF 28 SHEETS