MINNESOTA DEPARTMENT OF TRANSPORTATION
BLUE EARTH COUNTY DEPARTMENT OF PUBLIC WORKS
CSAH 60, CSAH 82 & VICTORY DRIVE
CONSTRUCTION PLANS FOR CSAH 60 & CSAH 82
GRADING, BASE, BITUMINOUS SURFACE, & PONDS

STATE AID PROJECT NO. 07-660-005

BETWEEN MAP DRIVE & VICTORY DRIVE S
FROM THE WEST ¼ CORNER OF SEC 21-108-26
TO A POINT 1379.28' EAST & 1016.64' NORTH
OF THE WEST ¼ CORNER OF SEC 21-108-26

GROSS LENGTH	1744.43	FEET	0.330	MILES
BRIDGE EXCEPTION	0.00	FEET	0.000	MILES
NET LENGTH	1744.43	FEET	0.330	MILES

BEGIN 07-660-005
STA 15+61.18

END 07-660-005
STA 33+05.61

BEGIN 07-682-008
STA 71+14.75

END 07-682-008
STA 76+60.23

BEGIN 07-682-008
STA 40+00.00

END 07-682-008
STA 59+45.60

PROJECT LOCATION
OUTLINE MAP OF MINNESOTA SHOWING LOCATION OF THE COUNTY WITHIN THE STATE.

BLUE EARTH COUNTY

VICTORY DRIVE

BETWEEN CSAH 82 & STADIUM ROAD
FROM A POINT 1347.76' E & 937.70' N OF THE WEST
¼ CORNER OF SEC 21-108-26 TO A POINT 1515.07' E &
687.25' N OF THE WEST ¼ CORNER OF SEC 21-108-26

GROSS LENGTH	251.25	FEET	0.048	MILES
BRIDGE LENGTH	0.00	FEET	0.000	MILES
NET LENGTH	251.25	FEET	0.0.48	MILES

STATE AID PROJECT NO. 07-682-008

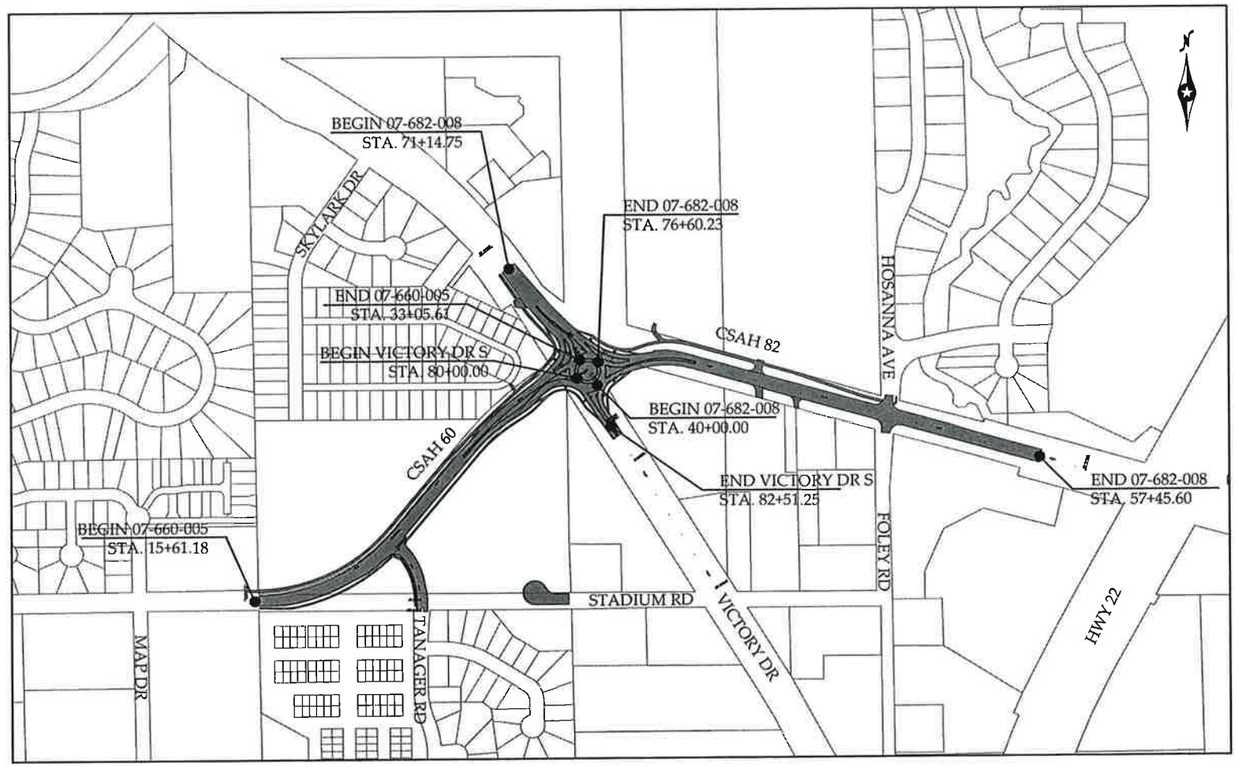
BETWEEN 209TH STREET & STADIUM ROAD
FROM A PONT 1082.95' E & 1247.64' S
OF THE NW CORNER OF SEC 21-108-26 &
660.73' W & 598.24' N OF THE CENTER OF SEC 21-108-26

STA 40+00.00-STA 59+45.60

GROSS LENGTH	1945.60	FEET	0.368	MILES
BRIDGE EXCEPTION	0.00	FEET	0.000	MILES
NET LENGTH	1945.60	FEET	0.368	MILES

STA 71+14.75-STA 76+60.23

GROSS LENGTH	545.48	FEET	0.368	MILES
BRIDGE EXCEPTION	0.00	FEET	0.000	MILES
NET LENGTH	545.48	FEET	0.368	MILES



CSAH 60 DESIGN DESIGNATION

ADT (CURRENT YEAR) 2012 - 9,800
ADT (FUTURE YEAR) 2032 - 12,400
(FROM MANKATO AREA TRANSPORTATION AND PLANNING STUDY)
ESAL 984,000
10 TON DESIGN
FUTURE FUCTIONAL CLASS MINOR ARTERIAL
R VALUE 10
DESIGN SPEED 40 MPH
BASED ON STOPPING SIGHT DISTANCE
HEIGHT OF EYE 3.5 - HEIGHT OF OBJECT 0.5
DESIGN SPEED NOT ACHIEVED AT:

VICTORY DR S DESIGN DESIGNATION

ADT (CURRENT YEAR) 2012 - 3,100
ADT (FUTURE YEAR) 2032 - 3,900
(FROM MANKATO AREA TRANSPORTATION AND PLANNING STUDY)
ESAL 310,000
10 TON DESIGN
FUTURE FUCTIONAL CLASS MAJOR COLLECTOR
R VALUE 10
DESIGN SPEED 40 MPH
BASED ON STOPPING SIGHT DISTANCE
HEIGHT OF EYE 3.5 - HEIGHT OF OBJECT 0.5
DESIGN SPEED NOT ACHIEVED AT:

CSAH 82 DESIGN DESIGNATION

ADT (CURRENT YEAR) 2012 - 7,800
ADT (FUTURE YEAR) 2032½ - 9,800
(FROM MANKATO AREA TRANSPORTATION AND PLANNING STUDY)
ESAL 780,000
10 TON DESIGN
FUTURE FUCTIONAL CLASS MINOR ARTERIAL
R VALUE 10
DESIGN SPEED 40+45 MPH
BASED ON STOPPING SIGHT DISTANCE
HEIGHT OF EYE 3.5 - HEIGHT OF OBJECT 0.5
DESIGN SPEED NOT ACHIEVED AT:

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX OF SHEETS

SHEET NO 1	TITLE
SHEET NO 2	LEGEND
SHEET NO 3	GENERAL PLAN LAYOUT
SHEET NO 4	QUANTITY DIVISIONS
SHEET NO 5-6	STATEMENT OF ESTIMATED QUANTITIES
SHEET NO 7	CONSTRUCTION & SOILS NOTES
SHEET NO 8-9	EARTHWORK SUMMARY & TABULATIONS
SHEET NO 10	STANDARD PLATES & INDEX OF TABULATIONS
SHEET NO 11-12	TABULATIONS OF QUANTITIES
SHEET NO 13-14	EXISTING UTILITY TABULATIONS
SHEET NO 15-17	TYPICAL SECTIONS
SHEET NO 18-20	CONSTRUCTION DETAILS
SHEET NO 21-23	RIGHT OF WAY PLAN
SHEET NO 24-25	ALIGNMENT PLAN
SHEET NO 26-33	TRAFFIC CONTROL
SHEET NO 34-39	EX CONDITIONS & UTILITIES & REMOVAL PLANS
SHEET NO 40	SANITARY SEWER PLAN
SHEET NO 41-49	STORM SEWER PLAN
SHEET NO 50-54	CONSTRUCTION PLAN
SHEET NO 55-58	ROUNDABOUT DETAILS
SHEET NO 59-62	PROFILES
SHEET NO 63-78	EROSION CONTROL AND TURF ESTABLISHMENT
SHEET NO 79-96	SIGNING & STRIPING PLAN
SHEET NO 97	LANDSCAPE PLAN
SHEET NO 98-100	LIGHTING PLANS
SHEET NO 101-103	CROSS SECTION LAYOUT
SHEET NO XSA1-XSA13	CROSS SECTION PLANS: CSAH 60
SHEET NO XSB1-XSB14	CROSS SECTION PLANS: CSAH 82 E
SHEET NO XSC1-XSC4	CROSS SECTION PLANS: CSAH 82 N
SHEET NO XSD1-XSD4	CROSS SECTION PLANS: VICTORY DRIVE
SHEET NO XSE1-XSE4	CROSS SECTION PLANS: TANAGER ROAD

THIS PLAN CONTAINS 142 SHEETS

SCALE

PLAN	100'	
PROFILE	100' HORIZ.	10' VERT.
INDEX MAP	1 MILE	
CROSS SECTIONS	10' HORIZ.	10' VERT.

UTILITIES

EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE-CALL AT 1-800-252-1166 OR 1-612-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY 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."

ONE CALL:	1-800-252-1166
ELECTRIC:	
XCEL ENERGY	507-387-9683
HICKORY TECH	507-387-1843
BENCO ELECTRIC	507-387-7963
TELEPHONE:	
CHARTER COMMUNICATIONS	507-469-0256
GAS:	
CENTERPOINT ENERGY	612-321-5444

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.

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

DATE 2/24/2012 — DANIEL A. LONNES — LICENSE No. 42779

BLUE EARTH COUNTY ENGINEER — DATE: 03 mar 12

CITY OF MANKATO ENGINEER — DATE: 3/2/2012

DIST. STATE AID ENGR : REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/POLICY — DATE: 3/12/2012

STATE AID ENGR : APPROVED FOR STATE-AID FUNDING — DATE: 3/12/2012

SAP 007-660-005 & SAP 007-682-008
(CSAH 60, CSAH 82 & VICTORY DRIVE)

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EXISTING

	IRON PIPE MONUMENT SET
	MONUMENT FOUND
	CAST IRON MONUMENT FOUND
	STONE MONUMENT FOUND
	BENCH MARK
	AUTO SPRINKLER
	ANTENNA
	AIR CONDITIONER
	ANCHOR
AP	AIR PUMP
	APRON
	BASKETBALL HOOP
	BIRD FEEDER
	BENCH
	BRACE POLE
	CATCH BASIN
	CLOTHES LINE POLE
	CONTROL POINT
	CLEAN OUT
	CURB STOP VALVE
	DITCH TOP
DF	DRINKING FOUNTAIN
DS	DOWN SPOUT
	ELECTRIC METER
E	ELECTRIC PEDESTAL
	ELECTRIC TRANSFORMER
	EXHAUST VENT
	FLAG POLE
FP	FILL PIPE
	GAS FILL PIPE
	GAS FILL PIPE
GAS	GAS VALVE
	GAS METER
	ACCESS GRATE
	HANDICAPPED PARKING
	HAND HOLE
	HORSE SHOE PIT
	HYDRANT
	IRRIGATION CONTROL VALVE
	LIGHT DECORATIVE
	LIGHT POLE
MB	MAILBOX
M	METER
	POST
	MANHOLE
	LIFT STATION MANHOLE
	MONITORING WELL
	ORDER MICROPHONE
	PARK GRILL
	GAS PUMP
PIV	POST INDICATOR VALVE
	PARKING METER
	SATELLITE DISH
SB	SOIL BORING
	SEMAPHORE TRAFFIC LIGHT
	SPRINKLER HEAD
	SIGNAL BOX
RR	SIGNAL POLE – RR
	SIREN
T	TELEPHONE PEDESTAL
	PUBLIC TELEPHONE
	TILE INLET
	TRAFFIC ARM BARRIER
	TRAFFIC SIGN
	TRANSMISSION TOWER
TV	CATV PEDESTAL
TW	TEST WELL
	UTILITY POLE
	VACUUM
	VENT PIPE
	DECIDUOUS TREE
	CONIFEROUS TREE
	STUMP
	BUSH
	WELL
	WATER METER
WT	WATER SPIGOT
	WATER VALVE
	WETLAND / MARSH
	WETLAND – DELINEATED

EO	OVERHEAD ELECTRIC LINE
EU	UNDERGROUND ELECTRIC LINE
G	GAS LINE
F	FIBER OPTIC LINE
TF	TELEPHONE FIBER OPTIC
TU	UNDERGROUND TELEPHONE LINE
TVO	OVERHEAD CATV LINE
TVU	UNDERGROUND CATV LINE
	WATER SYSTEM
	STORM SEWER
	TILE LINE
	SANITARY SEWER
	SANITARY FORCEMAIN
	CULVERT
	INTERMEDIATE CONTOURS
	INDEX CONTOURS
	COUNTY LINE
	CITY LIMITS
	SIXTEENTH LINE
	QUARTER LINE
	SECTION LINE
	ADJACENT LINES
	EASEMENT LINE
	BUILDING SETBACK LINE
	FENCE LINE
	GUARD RAIL
	ACCESS CONTROL LINE
	CENTERLINE
	PROPERTY / LOT LINE
	ROAD RIGHT-OF-WAY LINE
	RAILROAD RIGHT-OF-WAY LINE
	GRAVEL EDGE
	BITUMINOUS EDGE
	CONCRETE EDGE
	CURB & GUTTER
	WATER EDGE
	WATER CENTERLINE
	HIGHWATER LINE
	WETLAND EDGE
	SWALE CENTERLINE
	RAILROAD TRACKS
	TREE LINE EDGE

PROPOSED

22+00	ALIGNMENT/CENTERLINE
	RIGHT-OF-WAY LINE
	TEMPORARY EASEMENT
	CONSTRUCTION LIMITS
	CURB & GUTTER
	BITUMINOUS EDGE
	CONCRETE EDGE
	SILT FENCE-PREASSEMBLED
	SILT FENCE-HEAVY DUTY
	EROSION PROTECTION AT INLET
	MANHOLE
	CATCH BASIN
	STORM INLET
	APRON
12" STM	STORM SEWER
4" PERF	PERFORATED PIPE DRAIN
	STORM DRAIN TILE
	CULVERT W/APRON
3	STORM MANHOLE NUMBER
8" SAN	SANITARY SEWER
	SANITARY SEWER SERVICE
	SANITARY MANHOLE
A A	SANITARY MANHOLE NUMBER
6" WMN	WATERMAIN
	WATERMAIN SERVICE
	WATER SYSTEM MANHOLE
	HYDRANT
	HYDRANT W/ VALVE
	VALVE
	CURBSTOP
	BEND
	REDUCER
	CROSS
	TEE
	PLUG
	SLEEVE
	SIGN
	LIGHT POLE
23	SOIL BORING
	CONIFEROUS TREE
	DECIDUOUS TREE

LEGEND

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE)

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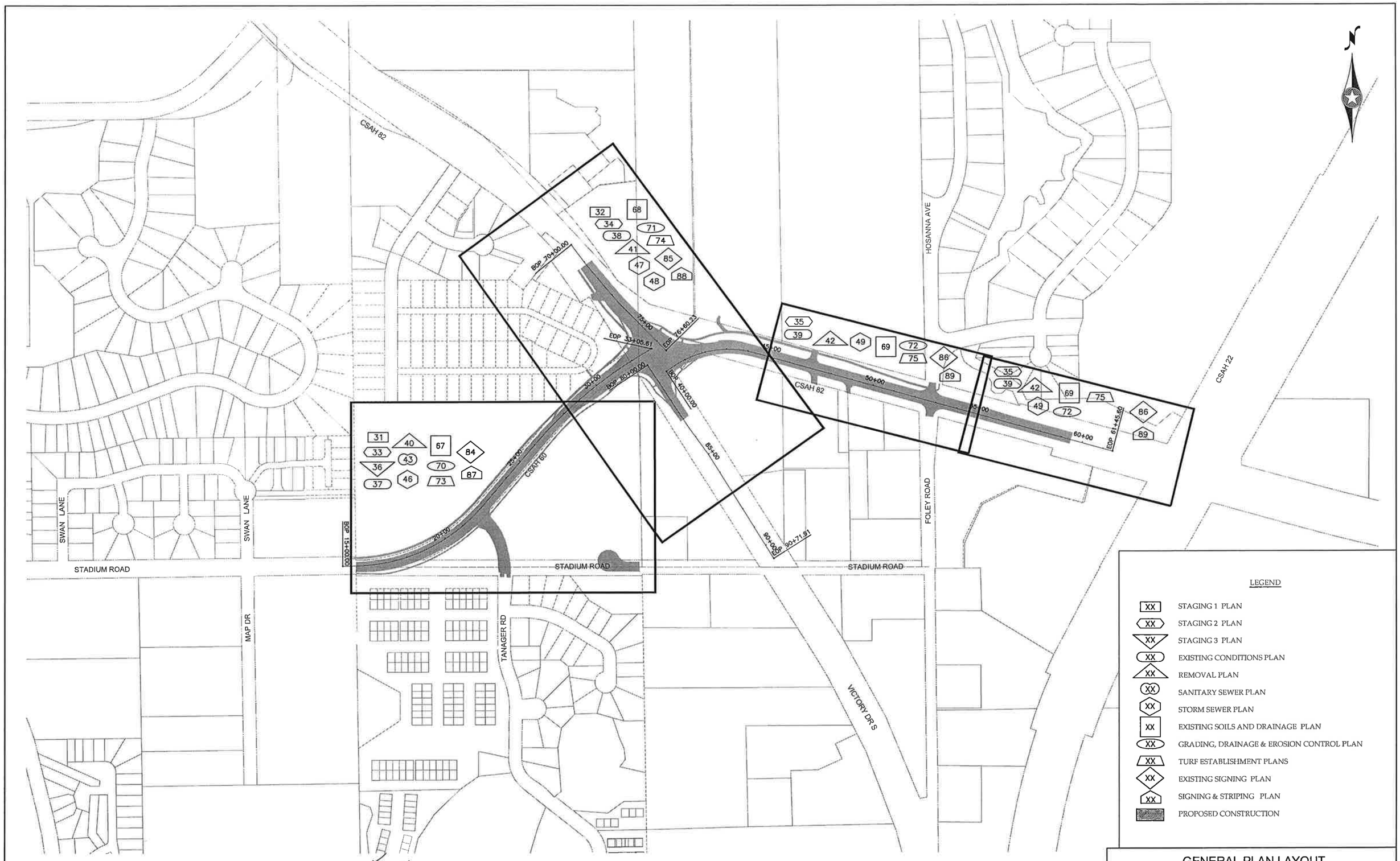

GENERAL PLAN LAYOUT

SCALE 0 200 400

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 3 OF 142 SHEETS

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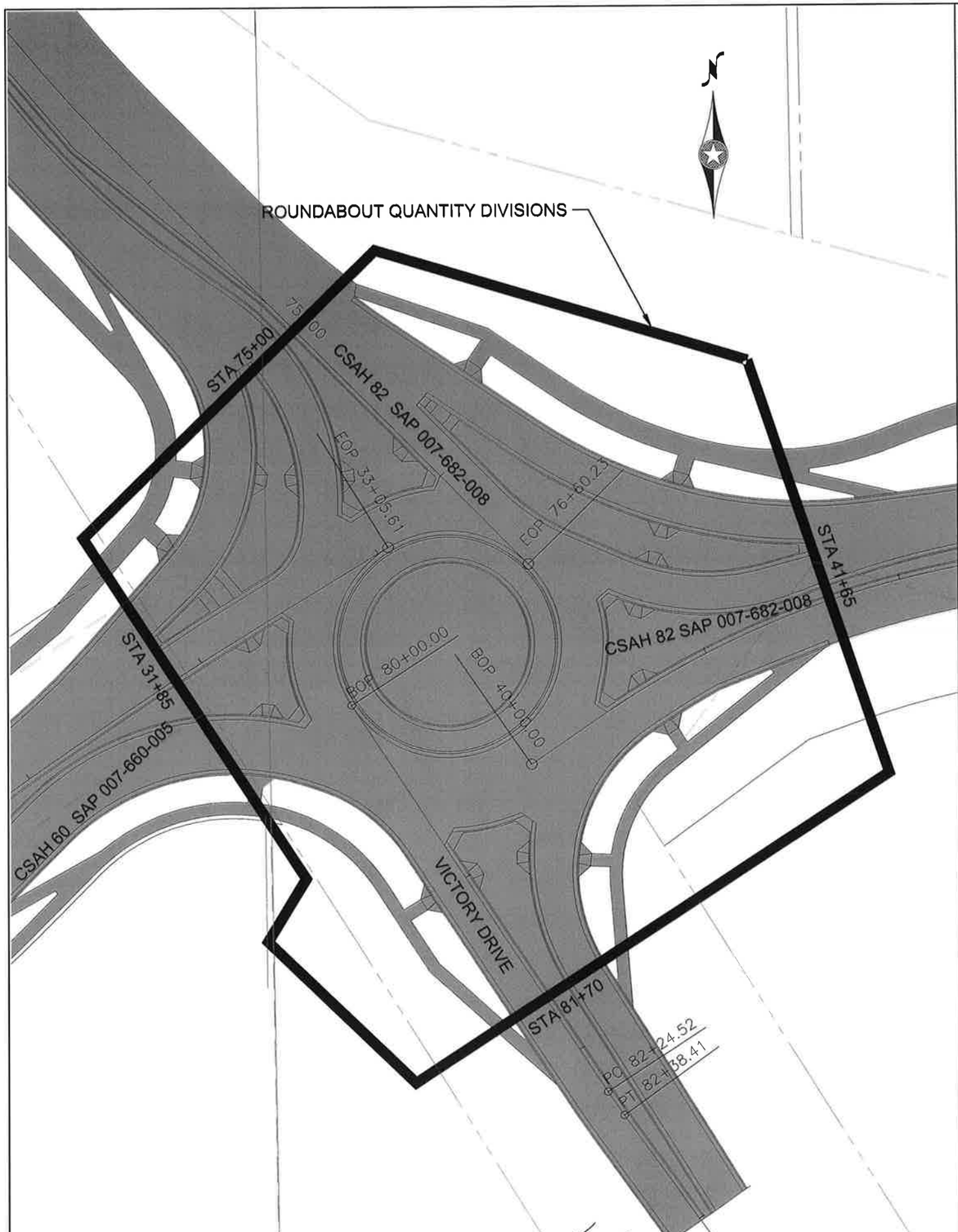

ROUNDABOUT QUANTITY DIVISION—FOR INFORMATION ONLY

ITEM NO.	MN/DOT SPEC NO.	BID ITEM	NOTES	UNIT	QUANTITY
1	2101.501	CLEARING		ACRE	0
2	2101.502	CLEARING		TREE	5
3	2101.506	GRUBBING		ACRE	0
4	2101.507	GRUBBING		TREE	5
5	2102.502	PAVEMENT MARKING REMOVAL		LIN FT	0
6	2102.602	PAVEMENT MARKING REMOVAL—SPECIAL		EACH	0
7	2104.501	REMOVE DRAINAGE PIPE		LIN FT	0
8	2104.501	REMOVE CONCRETE CURB & GUTTER		LIN FT	0
9	2404.501	REMOVE UNDERGROUND WIRE		LIN FT	65
10	2404.501	REMOVE NON—METALLIC CONDUIT		LIN FT	65
11	2104.503	REMOVE CONCRETE SIDEWALK		SQ FT	0
12	2104.505	REMOVE BITUMINOUS PAVEMENT		SQ YD	2800
13	2105.505	REMOVE CONCRETE PAVEMENT	(9)	SQ YD	821
14	2104.509	REMOVE LIGHT STANDARD BASE		EACH	1
15	2104.509	REMOVE DRAINAGE STRUCTURE		EACH	0
16	2104.509	REMOVE PIPE APRON		EACH	0
17	2104.509	REMOVE SIGN TYPE C		EACH	1
18	2104.509	REMOVE SIGN TYPE D		EACH	0
19	2104.509	REMOVE SIGN TYPE SPECIAL		EACH	0
20	2104.521	SALVAGE CABLE GUARDRAIL		LIN FT	0
21	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	0
22	2104.523	SALVAGE LIGHTING UNIT	(7)	EACH	1
23	2104.523	SALVAGE SIGN TYPE SPECIAL		EACH	0
24	2104.523	SALVAGE SIGN TYPE C		EACH	0
25	2104.523	ABANDON CULVERT		EACH	0
26	2105.501	COMMON EXCAVATION	(P)	CU YD	297
27	2105.505	MUCK EXCAVATION	(4)	CU YD	14876
28	2105.507	SUBGRADE EXCAVATION	(4)	CU YD	500
29	2105.522	SELECT GRANULAR BORROW		TON	6600
30	2105.533	SALVAGED AGGREGATE (CV)		CU YD	935
31	2105.543	STABILIZING AGGREGATE	(4)	TON	900
32	2211.503	AGGREGATE BASE (CV) CLASS 2		CU YD	20
33	2211.503	AGGREGATE BASE (CV) CLASS 2 MOD		CU YD	40
34	2211.503	AGGREGATE BASE (CV) CLASS 3		CU YD	0
35	2211.503	AGGREGATE BASE (CV) CLASS 5		CU YD	1315
36	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 8.0"		SQ YD	345
37	2301.511	STRUCTURAL CONCRETE		CU YD	77
38	2301.529	REINFORCEMENT BARS (EPOXY COATED)		POUND	400
39	2301.538	DOWEL BAR	(3)	EACH	300
40	2301.604	CONCRETE RUMBLE STRIPS		SQ YD	26
41	2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	190
42	2360.609	BITUMIINOUS MATERIAL FOR MIXTURE (PG 58—34)		TON	63
43	2360.609	BITUMINOUS AGGREGATE (GRAVEL INTERMEDIATE)		TON	775
44	2360.609	BITUMINOUS AGGREGATE (GRAVEL FINE)		TON	216
45	2360.609	BITUMINOUS AGGREGATE (RAP)		TON	72
46	2360.609	BITUMINOUS AGGREGATE (CLASS A COURSE)		TON	335
47	2360.609	BITUMINOUS AGGREGATE (CLASS A FINE)		TON	188
48	2360.609	BITUMINOUS (PRODUCE, HAUL & LAY)		TON	1143
49	2501.511	18" CS CULVERT		LIN FT	0
50	2501.515	15" RC PIPE APRON		EACH	0
51	2501.515	24" RC PIPE APRON	(6)	EACH	0
52	2501.515	30" RC PIPE APRON		EACH	0
53	2501.515	48" RC PIPE APRON	(6)	EACH	0
54	2501.515	18" CS APRON	(6)	EACH	0
55	2502.541	4" PERF TP PIPE DRAIN		LIN FT	742
56	2502.602	4" PVC PIPE DRAIN CLEANOUT		EACH	1
57	2503.511	8" PVC PIPE SEWER	(2)	LIN FT	0
58	2503.541	12" RC PIPE SEWER DESIGN 3006 CLASS V	(8)	LIN FT	176
59	2503.541	15" RC PIPE SEWER DESIGN 3006 CLASS V	(8)	LIN FT	80
60	2503.541	18" RC PIPE SEWER DESIGN 3006 CLASS V	(8)	LIN FT	114
61	2503.541	21" RC PIPE SEWER DESIGN 3006 CLASS IV	(8)	LIN FT	164
62	2503.541	24" RC PIPE SEWER DESIGN 3006 CLASS IV	(8)	LIN FT	93
63	2503.541	30" RC PIPE SEWER DESIGN 3006 CLASS IV	(8)	LIN FT	0
64	2503.541	36" RC PIPE SEWER DESIGN 3006 CLASS III	(8)	LIN FT	100
65	2503.541	48" RC PIPE SEWER DESIGN 3006 CLASS III	(8)	LIN FT	214
66	2503.602	CONNECT TO EXISTING SANITARY SEWER		EACH	0
67	2503.603	RECONSTRUCT SANITARY MANHOLE		LIN FT	0
68	2503.603	SANITARY SEWER MANHOLE		LIN FT	0
69	2504.602	ADJUST VALVE BOX		EACH	0
70	2504.602	RELOCATE HYDRANT AND VALVE		EACH	0

ITEM NO.	MN/DOT SPEC NO.	BID ITEM	NOTES	UNIT	QUANTITY
71	2504.604	4" POLYSTRENE INSULATION		SQ YD	0
72	2506.501	CONSTRUCT DRAINAGE STRUCTURE 2' X 3'		LIN FT	0
73	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN C OR G		LIN FT	43
74	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 48—4020		LIN FT	27
75	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 60—4020		LIN FT	7
76	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 72—4020		LIN FT	0
77	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 84—4020		LIN FT	25
78	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 96—4020		LIN FT	0
79	2506.516	CASTING ASSEMBLY		EACH	15
80	2506.522	ADJUST FRAME & RING CASTING		EACH	0
81	2506.602	CONNECT TO EXISTING STRUCTURE		EACH	0
82	2506.602	OUTLET CONTROL STRUCTURE		EACH	0
83	2506.602	ADJUST TILE INLET		EACH	0
84	2511.607	RANDOM RIPRAP—CL III		CU YD	0
85	2521.501	4" CONCRETE WALK		SQ FT	14440
86	2521.501	6" CONCRETE WALK		SQ FT	580
87	2521.511	3" BITUMINOUS WALK		SQ FT	3170
88	2531.501	CONCRETE CURB & GUTTER DESIGN B618		LIN FT	0
89	2531.501	CONCRETE CURB & GUTTER DESIGN B624		LIN FT	2785
90	2531.501	CONCRETE CURB & GUTTER DESIGN S524		LIN FT	334
91	2531.618	TRUNCATED DOMES		SQ FT	192
92	2540.602	RELOCATE MAILBOX SUPPORT		EACH	0
93	2545.601	LIGHTING SYSTEM		LUMP SUM	1
94	2545.602	MODIFY FEED POINT		EACH	1
95	2554.509	GUIDE POST TYPE B		EACH	0
96	2554.603	INSTALL 3—CABLE GUARDRAIL		LIN FT	0
97	2563.601	TRAFFIC CONTROL	(1)	LUMP SUM	0.29
98	2564.531	SIGN PANEL TYPE C		SQ FT	82
99	2564.531	SIGN PANEL TYPE D		SQ FT	32
100	2564.552	HAZARD MARKER X4—2		EACH	2
101	2564.537	INSTALL SIGN TYPE C		EACH	0
102	2564.537	INSTALL SIGN TYPE SPECIAL		EACH	0
103	2571.502	DECIDUOUS TREE, 2" CAL, B & B		TREE	4
104	2571.505	DECIDUOUS SHRUB NO 5 CONT		SHRUB	24
105	2571.507	PERENNIAL 4.5" CONT		PLANT	300
106	2571.507	PERENNIAL PLUG		PLANT	2500
107	2573.502	SILT FENCE, TYPE MACHINE SLICED		LIN FT	250
108	2573.505	FLOATATION SILT CURTAIN—TYPE STILL WATER		LIN FT	0
109	2573.513	TEMPORARY DITCH CHECK TYPE 7		CU YD	27
110	2573.53	STORM DRAIN INLET PROTECTION		EACH	15
111	2573.54	FILTER LOG TYPE STRAW BIOROLL 12"		LIN FT	45
112	2573.602	TEMPORARY ROCK CONSTRUCTION ENTRANCE		EACH	0
113	2575.501	SEEDING		ACRE	0
114	2575.502	SEED MIXTURE 250		POUND	20
115	2575.502	SEED MIXTURE 310		POUND	0
116	2575.502	SEED MIXTURE 340		POUND	0
117	2575.505	SOD TYPE LAWN		SQ YD	0
118	2575.513	MULCH MATERIAL TYPE 5		CU YD	64
119	2575.523	EROSION CONTROL BLANKET CAT 3		SQ YD	75
120	2575.532	FERTILIZER (22—5—10)		POUND	100
121	2575.550	COMPOST, GRADE 2		CU YD	64
122	2575.560	HYDRAULIC SOIL STABILIZER TYPE 5		POUND	600
123	2575.571	RAPID STABILIZATION METHOD 4		SQ YD	1380
124	2582.501	PAVEMENT MESSAGE RIGHT/THRU ARROW—EPOXY		EACH	0
125	2582.501	PAVEMENT MESSAGE LEFT/THRU ARROW—EPOXY		EACH	5
126	2582.501	PAVEMENT MESSAGE RIGHT/THRU/LEFT ARROW—EPOXY		EACH	1
127	2582.501	PAVEMENT MESSAGE LEFT ARROW—EPOXY		EACH	1
128	2582.501	PAVEMENT MESSAGE RIGHT ARROW—EPOXY		EACH	0
129	2582.501	PAVEMENT MESSAGE THRU ARROW—EPOXY		EACH	1
130	2582.502	4" BROKEN LINE YELLOW—EPOXY		LIN FT	0
131	2582.502	4" BROKEN LINE WHITE—EPOXY		LIN FT	0
132	2582.502	4" SOLID LINE WHITE—EPOXY		LIN FT	1840
133	2582.502	4" SOLID LINE YELLOW—EPOXY		LIN FT	1577
134	2582.502	4" DOUBLE SOLID LINE YELLOW—EPOXY		LIN FT	0
135	2582.502	8" DOTTED LINE WHITE—EPOXY		LIN FT	75
136	2582.502	12" SOLID LINE YELLOW—EPOXY		LIN FT	0
137	2582.502	12" SOLID LINE WHITE—EPOXY		LIN FT	0
138	2582.502	24" SOLID LINE YELLOW—EPOXY		LIN FT	115
139	2582.503	CROSSWALK MARKING—POLY PREFORM (GR IN)		SQ FT	648

QUANTITY DIVISIONS

NOT TO SCALE
FOR REFERENCE ONLY

CERTIFIED BY _____ LICENSED ENGINEER

LIC. NO. 42779 01/09/2012

SAP 007—660—005 & SAP 007—682—008 (CSAH 60, CSAH 82 & VICTORY DRIVE)

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STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	TAB	SHEET	MN/DOT SPEC NO.	BID ITEM	NOTES	UNIT	CSAH 60/CSAH 82 ROUNDABOUT — BLUE EARTH COUNTY 07-660-05 PARTICIPATING QUANTITY	BLUE EARTH COUNTY 07-660-05 STORM SEWER QUANTITY	BLUE EARTH COUNTY 07-682-08 PARTICIPATING QUANTITY	BLUE EARTH COUNTY 07-682-08 STORM SEWER QUANTITY	CITY OF MANKATO VICTORY DRIVE PARTICIPATING QUANTITY	CITY OF MANKATO VICTORY DRIVE STORM SEWER QUANTITY	CITY OF MANKATO NON-PARTIC QUANTITY	TOTAL ESTIMATED QUANTITY	FINAL QUANTITY
1	F	11	2101.501	CLEARING		ACRE	1.4							1.4	
2	F	11	2101.502	CLEARING		TREE	5		17				7	29	
3	F	11	2101.506	GRUBBING		ACRE	1							1	
4	F	11	2101.507	GRUBBING		TREE	5		17				7	29	
5	T	80	2102.502	PAVEMENT MARKING REMOVAL		LIN FT					900			900	
6	T	80	2102.602	PAVEMENT MARKING REMOVAL-SPECIAL		EACH					3			3	
7	D	11	2104.501	REMOVE DRAINAGE PIPE		LIN FT	320		640					960	
8	D	11	2104.501	REMOVE CONCRETE CURB & GUTTER		LIN FT	2650		32					2682	
9	D	11	2404.501	REMOVE UNDERGROUND WIRE		LIN FT			65					65	
10	D	11	2404.501	REMOVE NON-METALLIC CONDUIT		LIN FT			65					65	
11	D	11	2104.503	REMOVE CONCRETE SIDEWALK		SQ FT	320		360					680	
12	D	11	2104.505	REMOVE BITUMINOUS PAVEMENT		SQ YD	6340		13900		2780			23020	
13	D	11	2105.505	REMOVE CONCRETE PAVEMENT	(9)	SQ YD			1350		1350			2700	
14	D	11	2104.509	REMOVE LIGHT STANDARD BASE		EACH			1					1	
15	D	11	2104.509	REMOVE DRAINAGE STRUCTURE		EACH	4							4	
16	D	11	2104.509	REMOVE PIPE APRON		EACH	8		20					28	
17	S1	80	2104.509	REMOVE SIGN TYPE C		EACH	6		6		1			13	
18	S2	80	2104.509	REMOVE SIGN TYPE D		EACH	3		2		1			6	
19	S4	80	2104.509	REMOVE SIGN TYPE SPECIAL		EACH			1					1	
20	D	11	2104.521	SALVAGE CABLE GUARDRAIL		LIN FT			250					250	
21	E	11	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	85		280		50		40	455	
22	D	11	2104.523	SALVAGE LIGHTING UNIT	(7)	EACH			1					1	
23	S5	80	2104.523	SALVAGE SIGN TYPE SPECIAL		EACH	2		2					4	
24	S4	80	2104.523	SALVAGE SIGN TYPE C		EACH	1		8					9	
25	D	11	2104.523	ABANDON CULVERT		EACH					1			1	
26	A	9	2105.501	COMMON EXCAVATION	(P)	CU YD	8113		15437		716		1467	25733	
27	A	9	2105.505	MUCK EXCAVATION	(4)	CU YD	2263		12810		1859			16932	
28	–	–	2105.507	SUBGRADE EXCAVATION	(4)	CU YD	1000		1000					2000	
29	I	11	2105.522	SELECT GRANULAR BORROW		TON	12973		20700		1116		1971	36760	
30	I	11	2105.533	SALVAGED AGGREGATE (CV)		CU YD	1824		3530					5354	
31	–	–	2105.543	STABILIZING AGGREGATE	(4)	TON	1800		1800					3600	
32	I	11	2211.503	AGGREGATE BASE (CV) CLASS 2		CU YD	210		420					630	
33	I	11	2211.503	AGGREGATE BASE (CV) CLASS 2 MOD		CU YD	190		380					570	
34	I	11	2211.503	AGGREGATE BASE (CV) CLASS 3		CU YD							537	537	
35	I	11	2211.503	AGGREGATE BASE (CV) CLASS 5		CU YD	1186		500		231		715	2632	
36	H	11	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 8.0"		SQ YD	86		173		86			345	
37	H	11	2301.511	STRUCTURAL CONCRETE		CU YD	19		39		19			77	
38	H	11	2301.529	REINFORCEMENT BARS (EPOXY COATED)		POUND	100		200		100			400	
39	H	11	2301.538	DOWEL BAR	(3)	EACH	75		150		75			300	
40	H	11	2301.604	CONCRETE RUMBLE STRIPS		SQ YD	7		12		7			26	
41	J	11	2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	1000		1475		135		135	2745	
42	J	11	2360.609	BITUMIINOUS MATERIAL FOR MIXTURE (PG 58-34)		TON	182		311		24		32	549	
43	J	11	2360.609	BITUMINOUS AGGREGATE (GRAVEL INTERMEDIATE)		TON	780		1364		104		114	2362	
44	J	11	2360.609	BITUMINOUS AGGREGATE (GRAVEL FINE)		TON	624		1068		83		111	1886	
45	J	11	2360.609	BITUMINOUS AGGREGATE (RAP)		TON	208		318		28		69	623	
46	J	11	2360.609	BITUMINOUS AGGREGATE (CLASS A COURSE)		TON	967		1650		129		176	2922	
47	J	11	2360.609	BITUMINOUS AGGREGATE (CLASS A FINE)		TON	541		940		72		84	1637	
48	J	11	2360.609	BITUMINOUS (PRODUCE, HAUL & LAY)		TON	3303		5650		440		586	9979	
49	P	41-42	2501.511	18" CS CULVERT		LIN FT				264				264	
50	P	41-42	2501.515	15" RC PIPE APRON		EACH				2				2	
51	P	41-42	2501.515	24" RC PIPE APRON	(6)	EACH				5			2	7	
52	P	41-42	2501.515	30" RC PIPE APRON		EACH						2		2	
53	P	41-42	2501.515	48" RC PIPE APRON	(6)	EACH				1				1	
54	P	41-42	2501.515	18" CS APRON	(6)	EACH				6				6	
55	Q	12	2502.541	4" PERF TP PIPE DRAIN		LIN FT	3475		775		535			4785	
56	Q	12	2502.602	4" PVC PIPE DRAIN CLEANOUT		EACH	2		4		2			8	
57	K	11	2503.511	8" PVC PIPE SEWER	(2)	LIN FT							142	142	
58	P	41-42	2503.541	12" RC PIPE SEWER DESIGN 3006 CLASS V	(8)	LIN FT		718		88		57	196	1059	
59	P	41-42	2503.541	15" RC PIPE SEWER DESIGN 3006 CLASS V	(8)	LIN FT		369		307		140		816	
60	P	41-42	2503.541	18" RC PIPE SEWER DESIGN 3006 CLASS V	(8)	LIN FT		807		38				845	
61	P	41-42	2503.541	21" RC PIPE SEWER DESIGN 3006 CLASS IV	(8)	LIN FT				101		63		164	
62	P	41-42	2503.541	24" RC PIPE SEWER DESIGN 3006 CLASS IV	(8)	LIN FT		384		299				683	
63	P	41-42	2503.541	30" RC PIPE SEWER DESIGN 3006 CLASS IV	(8)	LIN FT						93		93	
64	P	41-42	2503.541	36" RC PIPE SEWER DESIGN 3006 CLASS III	(8)	LIN FT		225						225	
65	P	41-42	2503.541	48" RC PIPE SEWER DESIGN 3006 CLASS III	(8)	LIN FT		93		146				239	
66	K	11	2503.602	CONNECT TO EXISTING SANITARY SEWER		EACH							1	1	
67	D	11	2503.603	RECONSTRUCT SANITARY MANHOLE		LIN FT							9	9	
68	K	11	2503.603	SANITARY SEWER MANHOLE		LIN FT							15	15	
69	D	11	2504.602	ADJUST VALVE BOX		EACH	1		4					5	
70	D	11	2504.602	RELOCATE HYDRANT AND VALVE		EACH							2	2	

NOTES:
(P) PLAN QUANTITY
(1) PRORATED ITEM
(2) GRAVITY SANITARY SEWER DR 35
(3) 1 1/4" DIAMETER
(4) AS DETERMINED IN THE FIELD BY THE ENGINEER
(6) ALL APRONS SHALL INCLUDE TRASH RACKS WHICH ARE INCIDENTAL.
(7) SALVAGE AND DELIVER TO CITY. PUBLIC WORKS
(8) ALL PIPE JOINTS SHALL BE TIED
(9) RECORD DRAWINGS INDICATE 9-7-9 X22' CONCRETE PAVEMENT UNDER CSAH 82 NORTH AND VICTORY DRIVE

STATEMENT OF ESTIMATED QUANTITY

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

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STATEMENT OF ESTIMATED QUANTITIES CONTINUED

ITEM NO.	TAB	SHEET	MN/DOT SPEC NO.	BID ITEM	NOTES	UNIT	CSAH 60/CSAH 82 ROUNDABOUT — BLUE EARTH COUNTY 07-660-05 PARTICIPATING QUANTITY	BLUE EARTH COUNTY 07-660-05 STORM SEWER QUANTITY	BLUE EARTH COUNTY 07-682-08 PARTICIPATING QUANTITY	BLUE EARTH COUNTY 07-682-08 STORM SEWER QUANTITY	CITY OF MANKATO VICTORY DRIVE PARTICIPATING QUANTITY	CITY OF MANKATO VICTORY DRIVE STORM SEWER QUANTITY	CITY OF MANKATO NON-PARTIC QUANTITY	TOTAL ESTIMATED QUANTITY	FINAL QUANTITY
71	–	41-42	2504.604	4" POLYSTRENE INSULATION		SQ YD				40				40	
72	P	41-42	2506.501	CONSTRUCT DRAINAGE STRUCTURE 2' X 3'		LIN FT							5	5	
73	P	41-42	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN C OR G		LIN FT		56		14		29		99	
74	P	41-42	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 48-4020		LIN FT		87		26		6		119	
75	P	41-42	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 60-4020		LIN FT				7				7	
76	P	41-42	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 72-4020		LIN FT		7						7	
77	P	41-42	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 84-4020		LIN FT		8		17				25	
78	P	41-42	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 96-4020		LIN FT		8						8	
79	R	12	2506.516	CASTING ASSEMBLY		EACH		28		7		7	3	45	
80	D	11	2506.522	ADJUST FRAME & RING CASTING		EACH	3		3					6	
81	P	41-42	2506.602	CONNECT TO EXISTING STRUCTURE		EACH		2						2	
82	P	41-42	2506.602	OUTLET CONTROL STRUCTURE		EACH				1				1	
83	D	11	2506.602	ADJUST TILE INLET		EACH			1					1	
84	P	41-42	2511.607	RANDOM RIPRAP-CL III		CU YD				97		10		107	
85	G	11	2521.501	4" CONCRETE WALK		SQ FT	19015		12060		4635		1450	37160	
86	G	11	2521.501	6" CONCRETE WALK		SQ FT	460		1180		290			1930	
87	G	11	2521.511	3" BITUMINOUS WALK		SQ FT	18550		26940					45490	
88	G	11	2531.501	CONCRETE CURB & GUTTER DESIGN B618		LIN FT							1037	1037	
89	G	11	2531.501	CONCRETE CURB & GUTTER DESIGN B624		LIN FT	5017		3223		1089			9329	
90	G	11	2531.501	CONCRETE CURB & GUTTER DESIGN S524		LIN FT	85		170		85			340	
91	G	11	2531.618	TRUNCATED DOMES		SQ FT	48		112		32			192	
92	D	11	2540.602	RELOCATE MAILBOX SUPPORT		EACH							2	2	
93	–	–	2545.601	LIGHTING SYSTEM		LUMP SUM	0.25		0.5		0.25			1	
94	–	–	2545.602	MODIFY FEED POINT		EACH			1					1	
95	P	41-42	2554.509	GUIDE POST TYPE B		EACH				11		2		13	
96	D	11	2554.603	INSTALL 3-CABLE GUARDRAIL		LIN FT			250					250	
97	–	–	2563.601	TRAFFIC CONTROL	(1)	LUMP SUM	0.31	0.05	0.48	0.03	0.07	0.01	0.05	1	
98	S6	80	2564.531	SIGN PANEL TYPE C		SQ FT	54.5		108		43		4	209.5	
99	S7	80	2564.531	SIGN PANEL TYPE D		SQ FT	23		46		8			77	
100	S8	80	2564.552	HAZARD MARKER X4-2		EACH	1		4		1			6	
101	S4	80	2564.537	INSTALL SIGN TYPE C		EACH	1		8					9	
102	S5	80	2564.537	INSTALL SIGN TYPE SPECIAL		EACH	2		2					4	
103	U	97	2571.502	DECIDUOUS TREE, 2" CAL, B & B		TREE	1		2		1			4	
104	U	97	2571.505	DECIDUOUS SHRUB NO 5 CONT		SHRUB	6		12		6			24	
105	U	97	2571.507	PERENNIAL 4.5" CONT		PLANT	75		150		75			300	
106	U	97	2571.507	PERENNIAL PLUG		PLANT	625		1250		625			2500	
107	M	12	2573.502	SILT FENCE, TYPE MACHINE SLICED		LIN FT	2780		3430		525		720	7455	
108	M	12	2573.505	FLOATATION SILT CURTAIN-TYPE STILL WATER		LIN FT					478			478	
109	M	12	2573.513	TEMPORARY DITCH CHECK TYPE 7		CU YD	84		23		12		6	125	
110	M	12	2573.530	STORM DRAIN INLET PROTECTION		EACH	30		10		7		6	53	
111	M	12	2573.540	FILTER LOG TYPE STRAW BIOROLL 12"		LIN FT	200		450		65			715	
112	M	12	2573.602	TEMPORARY ROCK CONSTRUCTION ENTRANCE		EACH	1		2		1		1	5	
113	L	11	2575.501	SEEDING		ACRE	2.8		4.6		1		1	9.4	
114	L	11	2575.502	SEED MIXTURE 250		POUND	195		258		70		70	593	
115	L	11	2575.502	SEED MIXTURE 310		POUND	35							35	
116	L	11	2575.502	SEED MIXTURE 340		POUND	30							30	
117	L	11	2575.505	SOD TYPE LAWN		SQ YD	1250							1250	
118	U	97	2575.513	MULCH MATERIAL TYPE 5		CU YD	16		32		16			64	
119	M	12	2575.523	EROSION CONTROL BLANKET CAT 3		SQ YD	950		14501		4460		1975	21886	
120	L	11	2575.532	FERTILIZER (22-5-10)		POUND	980		1610		350		350	3290	
121	U	97	2575.550	COMPOST, GRADE 2		CU YD	16		32		16			64	
122	L	11	2575.560	HYDRAULIC SOIL STABILIZER TYPE 5		POUND	7560		1470		275			9305	
123	M	12	2575.571	RAPID STABILIZATION METHOD 4		SQ YD			400		800		400	1600	
124	T	80	2582.501	PAVEMENT MESSAGE RIGHT/THRU ARROW-EPOXY		EACH	2							2	
125	T	80	2582.501	PAVEMENT MESSAGE LEFT/THRU ARROW-EPOXY		EACH	1		6					7	
126	T	80	2582.501	PAVEMENT MESSAGE RIGHT/THRU/LEFT ARROW-EPOXY		EACH					1			1	
127	T	80	2582.501	PAVEMENT MESSAGE LEFT ARROW-EPOXY		EACH	2		5		1		1	9	
128	T	80	2582.501	PAVEMENT MESSAGE RIGHT ARROW-EPOXY		EACH	1		6		2		1	10	
129	T	80	2582.501	PAVEMENT MESSAGE THRU ARROW-EPOXY		EACH					1			1	
130	T	80	2582.502	4" BROKEN LINE YELLOW-EPOXY		LIN FT	232							232	
131	T	80	2582.502	4" BROKEN LINE WHITE-EPOXY		LIN FT	60		112					172	
132	T	80	2582.502	4" SOLID LINE WHITE-EPOXY		LIN FT	4131		6230		2780		650	13791	
133	T	80	2582.502	4" SOLID LINE YELLOW-EPOXY		LIN FT	2520		1895		90			4505	
134	T	80	2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY		LIN FT	625		2275		880		440	4220	
135	T	80	2582.502	8" DOTTED LINE WHITE-EPOXY		LIN FT	20		40		20			80	
136	T	80	2582.502	12" SOLID LINE YELLOW-EPOXY		LIN FT	30		60		30		70	190	
137	T	80	2582.502	12" SOLID LINE WHITE-EPOXY		LIN FT	45		72		127			244	
138	T	80	2582.502	24" SOLID LINE YELLOW-EPOXY		LIN FT	130		565		37			732	
139	T	80	2582.503	CROSSWALK MARKING-POLY PREFORM (GR IN)		SQ FT	162		342		108			612	

NOTES:
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(3) 1 1/4" DIAMETER
(4) AS DETERMINED IN THE FIELD BY THE ENGINEER
(6) ALL APRONS SHALL INCLUDE TRASH RACKS WHICH ARE INCIDENTAL.
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STATEMENT OF ESTIMATED QUANTITY

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

CONSTRUCTION / SOILS NOTES

GRADING, BASE AND SURFACE:

1) TOP OF THE SUBGRADE IS DEFINED AS THE BOTTOM OF THE SELECT GRANULAR MATERIAL. TOP OF THE GRADING GRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.

2) SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL, AND OTHER UNSTABLE MATERIAL. NO ORGANIC SOIL SHALL BE ALLOWED IN THE TOP 5 FEET BELOW THE GRADING GRADE. FOR FIELD PURPOSES, ORGANIC SOIL WILL BE IDENTIFIED AS BEING BLACK IN COLOR AND CONTAINING VISIBLE ORGANIC MATTER.

3) STRIP ALL INPLACE TOPSOIL UNDERNEATH THE ROADWAY AND REUSE AS SLOPE DRESSING. ALL TOPSOIL STRIPPING TO THE ASSUMED DEPTH NOTED IN THE EARTHWORK TABULATION WILL BE CONSIDERED COMMON EXCAVATION.

4) UNLESS OTHERWISE NOTED, IN ANY EMBANKMENT CONSTRUCTION, PROVIDE FOR SUBCUTS TO THE DEPTHS AND LOCATIONS SHOWN ON THE TYPICAL SECTIONS. SLOPES FOR THIS CONTRACT WILL BE REPRESENTED WITH VERTICAL:HORIZONTAL NOTATION, X(V):X(H).

5) EXCESS TOPSOIL AND MUCK MATERIAL SHALL BE USED OR STOCKPILED WITHIN THE CONSTRUCTION LIMITS OR AS DIRECTED BY THE ENGINEER.

6) IN FILL SECTIONS, TOPSOIL AND OTHER UNSUITABLE MATERIALS SHALL BE ELIMINATED FROM THE UPPER 5 FEET OF THE "GRADING GRADE" BENEATH THE ROADWAY, WITHIN THE LIMITS SHOWN ON THE TYPICAL SECTIONS.

7) OBTAIN COMPACTION ON THE GRADING PORTIONS OF PERMANENT CONSTRUCTION IN ACCORDANCE WITH THE "QUALITY COMPACTION METHOD" REQUIREMENTS.

8) OBTAIN COMPACTION ON THE AGGREGATE BASE PORTIONS OF PERMANENT CONSTRUCTION IN ACCORDANCE WITH THE "QUALITY COMPACTION METHOD" REQUIREMENTS.

9) TEST ROLLING WILL BE REQUIRED ON ALL PREPARED SUBGRADE PRIOR TO PLACEMENT OF GRANULAR MATERIAL AND AT ANY LOCATIONS DIRECTED BY THE ENGINEER, WITH A LOADED TANDEM AXEL TRUCK. THIS WORK WILL BE CONSIDERED INCIDENTAL. ACCORDING TO MNDOT SPEC 2111.

10) THE BOTTOM OF ALL SUBCUTS SHALL BE SHAPED AND COMPACTED BY THE "QUALITY COMPACTION METHOD." ALL SUBCUTS OR MUCK EXCAVATIONS SHALL BE BACKFILLED WITH SUITABLE GRADING MATERIAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

11) IN ANY CASE WHERE GRANULAR EMBANKMENTS OR BACKFILL JOIN NON-GRANULAR SOIL EMBANKMENTS OR BACKFILL, PROVIDE A 1(V):20(H) TRANSITION TAPER BETWEEN THE CHANGES IN MATERIAL TO PREVENT AN ABRUPT SOILS DIFFERENTIAL. THE 1(V):20(H) TAPER SHALL BE CONSTRUCTED SO THAT THE GRANULAR BACKFILL MATERIAL OVERLAYS THE ADJACENT NON-GRANULAR SOIL BACKFILL.

12) WHERE SUBCUTS RUN INTO DRIVEWAYS OR LOCAL ROADS, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1(V):4(H) TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

13) PROVIDE 1(V):20(H) TAPERS WHEN CHANGING SUBCUT DEPTHS OR WHEN GOING FROM GRANULAR MATERIAL TO SUITABLE GRADING MATERIAL.

14) 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.

15) STABILIZING AGGREGATE SHALL BE INCORPORATED INTO THE SUBGRADE TO ACHIEVE SATISFACTORY SURFACE STABILITY AT LOCATIONS DEEMED NECESSARY BY THE ENGINEER, IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2105.3G. GRANULAR MATERIAL WHICH IS FURNISHED BY THE CONTRACTOR SHALL BE STABILIZED, IF NECESSARY, AT THE CONTRACTOR'S EXPENSE.

16) THE BITUMINOUS MIXTURES SHALL MEET THE MOST CURRENT SPEC. 2360 MODIFIED (SEE SPECIAL PROVISIONS) REQUIREMENTS.

17) ALL SALVAGED ROADWAY MATERIALS SUCH AS CONCRETE, BITUMINOUS AND AGGREGATES MAY BE UTILIZED ACCORDING TO MN/DOT SPECIFICATIONS AND PROJECT SPECIAL PROVISIONS. MATERIALS NOT UTILIZED ON THIS PROJECT WILL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF OFF THE RIGHT OF WAY IN ACCORDANCE WITH MN/DOT SPECIFICATION 2104.3C3 AND AS AGREED UPON BY THE ENGINEER.

18) ALL THE PAVING ASSOCIATED WITH THE PROJECT SHALL ONLY NEED TO MEET THE REQUIREMENTS OF 2360.7B (SURFACE REQUIREMENTS).

REMOVALS:

19) PROVIDE A SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT. LOCATE ALL SAWCUTS ALONG LANE LINES OR PERPENDICULAR TO LANE LINES.

20) PROVIDE FOR THE REMOVAL AND DISPOSAL OF ANY INPLACE SURFACING, GUARDRAIL, OTHER STRUCTURES OR DEBRIS THAT WOULD INTERFERE WITH CONSTRUCTION. ALL SUCH MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED TO THE EXTENT ALLOWED OR DISPOSED OF OFF THE RIGHT OF WAY IN ACCORDANCE WITH SPEC. 2104.3C3. SOIL BORINGS ENCOUNTERED 3.5" TO 4" OF BITUMINOUS WITHIN THE SHOULDERS. VARIATIONS WITHIN 3" OF THE DEPTH INDICATED WILL BE CONSIDERED INCIDENTAL WITH NO VARIATIONS IN PAYMENT BEING MADE.

21) THE EXISTING AGGREGATE BASE SHALL BE RECYCLED TO THE EXTENT POSSIBLE AND MIXED OR BLENDED AS NEEDED TO BE REUSED AS AGGREGATE BASE CL 5 OR CL 7 AS ALLOWED BY MNDOT SPEC 2211. THE SOIL BORING ENCOUNTERED 4" OF BITUMINOUS PAVEMENT OVER 16" OF EXISTING AGGREGATE BASE ON THE SHOULDER OF CSAH 82 EAST AND 3.5" OF BITUMINOUS OVER 25" OF EXISTING AGGREGATE BASE IN THE SHOULDER OF CSAH 82 NORTH. EXISTING RECORD DRAWINGS INDICATE EXISTING MAINLINE ON CSAH 82 NORTH AND VICTORY DRIVE SOUTH TO BE 4.5" OF BITUMINOUS OVER 9-7-9 X 22' CONCRETE PAVEMENT FROM STATION 70+00 TO 90+00. EXISTING RECORD DRAWINGS INDICATE EXISTING MAINLINE ON CSAH 82 EAST TO BE 10.5" OF BITUMINOUS PAVEMENT OVER 9.5" OF AGGREGATE BASE. EXISTING RECORD DRAWINGS INDICATE MAINLINE CSAH 60 BETWEEN POHL ROAD AND VICTORY DRIVE TO BE 4.5" OF BITUMINOUS PAVEMENT OVER 14" AGGREGATE BASE.

22) THE AVERAGE EXISTING PAVEMENT THICKNESSES ARE ASSUMED BASED ON THE AVAILABLE DATA FROM SOIL BORINGS OR RECORD DRAWINGS. THE CONTRACTOR SHALL INVESTIGATE AND MAKE HIS/HER OWN DETERMINATION.

TURF ESTABLISHMENT:

23) CONTRACTOR SHALL STRIP ALL INPLACE TOPSOIL IN AREAS UNDERNEATH THE ROADWAY AND REUSE AS SLOPE DRESSING.

24) PLACE A MINIMUM OF 3 INCHES OF TOPSOIL ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.

25) SOD ALL AREAS ADJACENT TO RESIDENCES OR BUSINESSES AND AREAS OF HEAVY DRAINAGE RUNOFF, AS INDICATED IN THE TURF ESTABLISHMENT AND EROSION CONTROL PLANS AND DETAILS.

26) PROVIDE FERTILIZER TYPE 3, SLOW RELEASE TYPE, 22-5-10, OR EQUIVALENT ON ALL AREAS TO BE SEEDED OR SODDED.

MISCELLANEOUS:

27) WHERE SEDIMENT DEPOSITS IN WATERS OF THE STATE THE MATERIAL MUST BE REMOVED IN 7 DAYS.

28) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST CURRENT MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

29) THE CONTRACTOR IS HEREBY REMINDED OF HIS/HER RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.

A	EARTHWORK SUMMARY					
	EXCAVATION			EMBANKMENT		
LOCATION	2105 TOPSOIL STRIPPING (EV) CU YD	2105 COMMON EXCAVATION (EV) CU YD	2105 MUCK EXCAVATION (EV) CU YD	2105 SUITABLE GRADING (CV) CU YD	2105 UNSUITABLE GRADING (LV) CU YD	2105 SLOPE DRESSING (CV) CU YD
CSAH 60 (WEST)	6,761	4,452	404	1,030	6,731	1,332
CSAH 82 (EAST)	4,750	10,015	1,652	2,902	4,768	1,502
CSAH 82 (NORTH)	646	1,686		91	978	265
VICTORY DR SOUTH	477	642		292	538	232
TANAGER RD	613	1,463		117		89
ROUNDABOUT		297	14,876	18,340		600
STADIUM RD/CUL-DE-SAC (9)	171	4		247		17
POND A	1,660	7,174			3,086	
PROJECT TOTALS:	15,078	25,733	16,932	23,019	16,101	4,037

(B) EARTHWORK BALANCE

EXCAVATION (CU YD)

COMMON EXCAVATION= 25733 (EV)

MUCK EXCAVATION= 16932 (EV)

TOPSOIL STRIPPING= 15,078 (EV)

57743 (EV)

TOPSOIL & UNSUITABLE MATERIAL (AVAIL.)=
32010 (EV) -[20138 (CV) x 1.3] = 5831 (EV) (8)

SUITABLE GRADING MATERIAL (AVAIL.)=
25733 (EV) -[23019 (CV) x 1.1] = 412 (EV) (8)

43157 (CV)

EMBANKMENT (CU YD)

4037 (CV) =SLOPE DRESSING

23019 (CV) =SUITABLE GRADING

16101 (CV) =UNSUITABLE GRADING

NOTES:

(1) ALL TOPSOIL STRIPPING, INCLUDING IN FILL AREAS, IS PAID FOR AS COMMON EXCAVATION AND IS ASSUMED TO BE 1.0' DEEP.

(2) SEE CONSTRUCTION/SOIL NOTES FOR MATERIAL DEFINITIONS AND ADDITIONAL INFORMATION.

(3) 110% EXPANSION FACTOR USED FROM COMPACTED VOLUME (CV) TO EXCAVATED VOLUME (EV) , EXCEPT FOR TOPSOIL WHICH USES 130%.
EXPANSION FACTORS ARE ASSUMED VALUES, USED ONLY FOR THE PURPOSE OF ESTIMATED QUANTITIES. IT SHALL BE UNDERSTOOD THAT NO WARRANTY IS MADE OR IMPLIED AS TO THE ACCURACY, SUFFICIENCY, OR RELIABILITY OF THE EXPANSION FACTOR.

(4) MATERIAL THAT CONTAINS SOME ORGANIC MATERIAL MAY BE USED AS FILL IN UNSUITABLE AREAS UNDER TRAILS, WALKS, AND BOULEVARD AREAS, IF THE ENGINEER DETERMINES THAT THE MATERIAL HAS REASONABLE STRUCTURAL STRENGTH.

(5) TOPSOIL TO BE PLACED AT A MINIMUM OF 3". TOPSOIL MAY BE PLACED ON FILL SLOPES AT GREATER DEPTHS TO BALANCE THE TOPSOIL . NO TOPSOIL SHALL BE REMOVED FROM THE SITE.

(6) THE EXISTING BITUMINOUS, CONCRETE, AND AGGREGATE BASE VOLUMES ARE NOT INCLUDED IN THE COMMON EXCAVATION QUANTITIES.

(7) MUCK EXCAVATION SHALL BE AS DETERMINED IN THE FIELD BY THE ENGINEER. AREAS OF MUCK EXCAVATION SHALL BE FILLED WITH SUITABLE GRADING MATERIAL, THIS HAS BEEN ACCOUNTED FOR IN THE EARTHWORK BALANCE.

(8) EXCESS MATERIAL SHALL BE BALANCED ON SITE ALONG THE NORTH SIDE OF CSAH 60. SEE SPECIAL PROVISIONS.

(9) THE ROUNDABOUT, CUL-DE-SAC, AND POND EARTHWORK WAS CALCULATED BASED OFF OF VOLUMES BETWEEN FINAL SURFACES AND EXISTING SURFACES AND HAVE TAKEN INTO ACCOUNT STRIPPING OF TOPSOIL IN FILL AREAS.

EARTHWORK SUMMARY AND TABULATIONS

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EARTHWORK TABULATION

ROADWAY	STATION	EXCAVATION			EMBANKMENT		
		TOPSOIL STRIPPING	COMMON EXCAVATION	MUCK EXCAVATION	SUITABLE GRADING	UNSUITABLE GRADING	SLOPE DRESSING
		CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
CSAH 82 (EAST)							
	41+64.58	0	0	0	0	0	0
	42+00.00	205	1231	999	816	575	46
	42+50.00	239	936	653	811	357	69
	43+00.00	242	333	0	348	178	78
	43+50.00	237	329	0	262	146	75
	44+00.00	194	221	0	136	103	61
	44+50.00	175	222	0	79	119	59
	45+00.00	175	219	0	45	189	61
	45+50.00	192	214	0	27	207	66
	46+00.00	184	195	0	34	197	65
	46+50.00	167	142	0	50	183	58
	47+00.00	148	151	0	22	148	52
	47+50.00	129	151	0	17	144	48
	48+00.00	142	152	0	28	158	51
	48+50.00	162	145	0	24	163	52
	49+00.00	185	232	0	8	174	40
	49+50.00	178	262	0	12	191	40
	50+00.00	153	184	0	25	199	51
	50+50.00	147	183	0	25	212	49
	51+00.00	142	158	0	18	214	47
	51+50.00	138	135	0	13	188	44
	52+00.00	134	170	0	15	183	39
	52+50.00	90	323	0	11	99	21
	53+00.00	86	461	0	2	10	11
	53+50.00	102	349	0	11	24	20
	54+00.00	98	236	0	16	55	33
	54+50.00	98	246	0	10	57	34
	55+00.00	90	244	0	10	54	31
	55+50.00	81	244	0	6	37	28
	56+00.00	62	246	0	3	24	21
	56+50.00	66	244	0	4	39	25
	57+00.00	65	245	0	3	36	26
	57+50.00	62	244	0	3	31	26
	58+00.00	49	243	0	4	22	19
	58+50.00	45	246	0	2	18	17
	59+00.00	52	249	0	1	22	23
	59+45.60	36	230	0	1	12	16
CSAH 82 (EAST)	**SUBTOTALS**	**4750**	**10015**	**1652**	**2902**	**4768**	**1502**
CSAH 82 (NORTH)							
	71+16.18	0	0	0	0	0	0
	71+50.00	42	280	0	1	14	34
	72+00.00	120	283	0	8	30	43
	72+50.00	84	310	0	7	15	25
	73+00.00	79	286	0	4	81	20
	73+50.00	104	165	0	6	174	31
	74+00.00	107	100	0	33	229	37
	74+50.00	75	102	0	31	230	39
	74+94.18	35	160	0	1	205	36
CSAH 82 (NORTH)	**SUBTOTALS**	**646**	**1686**	**0**	**91**	**978**	**265**
VICTORY DR SOUTH							
	81+71.41	0	0	0	0	0	0
	82+00.00	54	120	0	5	125	23
	82+50.00	81	215	0	9	149	38
	83+00.00	85	207	0	5	172	42
	83+50.00	75	100	0	34	92	38
	84+00.00	66	0	0	76	0	33
	84+50.00	69	0	0	89	0	34
	85+00.00	47	0	0	74	0	24
VICTORY DR SOUTH	**SUBTOTALS**	**477**	**642**	**0**	**292**	**538**	**232**

EARTHWORK TABULATION

ROADWAY	STATION	EXCAVATION			EMBANKMENT		
		TOPSOIL STRIPPING	COMMON EXCAVATION	MUCK EXCAVATION	SUITABLE GRADING	UNSUITABLE GRADING	SLOPE DRESSING
		CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
CSAH 60 (WEST)							
	15+61.19	0	0	0	0	0	0
	16+00.00	130	198	0	0	18	14
	16+50.00	191	231	0	0	50	32
	17+00.00	205	204	0	0	85	38
	17+50.00	202	180	0	0	114	37
	18+00.00	210	153	0	0	155	41
	18+50.00	214	131	0	0	185	43
	19+00.00	214	128	0	1	190	43
	19+50.00	215	157	0	0	180	43
	20+00.00	212	195	0	0	151	40
	20+50.00	208	208	0	0	122	34
	21+00.00	209	212	0	0	123	34
	21+50.00	207	227	0	0	116	31
	22+00.00	205	276	0	0	80	23
	22+50.00	209	254	0	0	101	30
	23+00.00	215	189	0	0	165	43
	23+50.00	219	170	0	0	195	46
	24+00.00	223	130	0	1	232	47
	24+50.00	228	72	0	4	289	50
	25+00.00	233	21	0	18	348	52
	25+50.00	236	3	0	27	383	54
	26+00.00	236	8	0	17	383	54
	26+50.00	234	5	0	27	379	53
	27+00.00	235	0	0	64	409	55
	27+50.00	233	0	0	68	406	56
	28+00.00	230	5	0	39	350	53
	28+27.91	128	14	0	12	155	27
	28+50.00	101	34	0	5	98	21
	28+91.33	193	111	0	3	156	37
	29+00.00	41	26	0	0	30	7
	29+50.00	244	139	0	2	178	44
	30+00.00	261	133	0	24	229	49
	30+50.00	271	228	0	23	229	52
	31+84.73	169	410	404	695	447	49
CSAH 60 (WEST)	**SUBTOTALS**	**6761**	**4452**	**404**	**1030**	**6731**	**1332**
TANAGER RD							
	10+17.98	0	0	0	0	0	0
	10+50.00	36	213	0	2	0	6
	10+62.28	0	105	0	0	0	3
	11+00.00	50	272	0	7	0	12
	11+30.16	78	146	0	13	0	11
	11+50.00	51	80	0	10	0	7
	11+75.00	65	103	0	15	0	9
	12+00.00	67	100	0	17	0	9
	12+23.51	63	93	0	16	0	9
	12+50.00	71	111	0	16	0	9
	12+74.43	64	110	0	12	0	8
	13+00.00	68	130	0	9	0	6
TANAGER RD	**SUBTOTALS**	**613**	**1463**	**0**	**117**	**0**	**89**

EARTHWORK SUMMARY AND TABULATIONS

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STANDARD PLATES

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

PLATE NO.	DESCRIPTION
1103K	TYPICAL DOWEL BAR ASSEMBLY
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3040F	CORRUGATED METAL PIPE CULVERT (STANDARD 2–2/3" X 1/2" CORRUGATION)
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3123J	METAL APRON FOR CS CULVERT
3124B	METAL APRON CONNECTIONS
3133C	RIPRAP AT RCP OUTLETS
3134C	RIPRAP AT CMP OUTLETS
3145F	CONCRETE PIPE TIES
3221C	CORRUGATED STEEL PIPE COUPLING BAND
4002F	MANHOLE OR CATCH BASIN
4006L	MANHOLE OR CATCH BASIN PRECAST
4010H	CONCRETE SHORT CONE AND ADJUSTING RING
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN COVER FOR USE WITH OR WITHOUT TRAFFIC LOADS (27" DIAM OPENING)
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE
4129G	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE)–CASTING NO. 802A
4132F	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE)–CASTING NO. 805
4143E	STOOL GRATE & CONCRETE FRAME (MEDIAN DRAINS)
4154B	CATCH BASIN GRATE CASTING–CASTING NO. 816
4160D	CURB BOX CASTING FOR CATCH BASIN
4180J	MANHOLE OR CATCH BASIN STEP
7035N	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7036G	PEDESTRIAN CURB RAMP
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER DESIGN B AND DESIGN V
7102J	CONCRETE CURB AND GUTTER DESIGN B AND DESIGN V
7109C	MEDIAN NOSE AND ISLAND
7111J	INSTALLATION OF CATCH BASIN CASTINGS CONCRETE CURB & GUTTER
7113A	CONCRETE APPROACH NOSE DETAIL
8150C	INSTALLATION OF CULVERT MARKERS
8331B	3–CABLE GUARDRAIL WITH STEEL POSTS (SHEETS 1–3)
8333B	3–CABLE GUARDRAIL WITH ANCHOR (SHEETS 1–4)
9350A	MAIL BOX SUPPORT

(D) REMOVALS AND SALVAGING

ALIGNMENT/LOCATION	REMOVE: BITUMINOUS PAVEMENT (SQ YD)	REMOVE: (M) CONCRETE PAVEMENT (SQ YD)	REMOVE: CONCRETE SIDEWALK (SQ FT)	REMOVE: CONCRETE CURB & GUTTER (LIN FT)	REMOVE: UNDERGROUND WIRE (LIN FT)	REMOVE: NON-METALLIC CONDUIT (LIN FT)	REMOVE: DRAINAGE PIPE (LIN FT)	REMOVE: DRAINAGE STRUCTURE (EACH)	REMOVE: PIPE APRON (EACH)	REMOVE: LIGHT STANDARD BASE (EACH)	SALVAGE: LIGHTING UNIT (EACH)	SALVAGE & INSTALL: GUARDRAIL CABLE (LIN FT)	ADJUST: FRAME & RING CASTING (EACH)	ADJUST: VALVE BOX (EACH)	ADJUST: TILE INLET (EACH)	ABANDON: (B) CULVERT (EACH)	RECONSTRUCT: (L) SANITARY MANHOLE (LIN FT)	RELOCATE: HYDRANT AND VALVE (EACH)	RELOCATE: MAILBOX SUPPORT (EACH)
CSAH 60	6340	0	320	2650	0	0	320	4	8	0	0	0	3	1	0	0	0	0	0
CSAH 82-NORTH	2780	1350	255	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
CSAH 82-EAST	11120	0	105	32	65	65	640	0	20	1	1	250	2	4	1	0	9	2	2
VICTORY DRIVE-SOUTH	2780	1350	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
PROJECT TOTALS	23020	2700	680	2682	65	65	960	4	28	1	1	250	6	5	1	1	9	2	2

(E) SAWING & MILLING

ALIGNMENT/LOCATION	SAWING BITUMINOUS PAVEMENT (FULL DEPTH) (LIN FT)
CSAH 60	85
CSAH 82-NORTH	55
CSAH 82-EAST	225
VICTORY DRIVE-SOUTH	50
CUL-DE-SAC	40
TOTALS	455

(F) CLEAR & GRUB

ALIGNMENT/LOCATION	CLEAR & GRUB (ACRE)	CLEAR & GRUB (TREE)
CSAH 60	0.1	4
CSAH 82-NORTH	0	11
CSAH 82-EAST	0	6
VICTORY DRIVE-SOUTH	0	0
POND	1.3	1
CUL-DE-SAC	0	7
TOTALS	1.4	29

(G) CURB & GUTTER, WALK AND DRIVEWAY APRON

ALIGNMENT/LOCATION	CONCRETE CURB AND GUTTER: DESIGN B618 (LIN FT)	DESIGN B624 (LIN FT)	DESIGN S524 (LIN FT)	4" CONCRETE WALK (SQ FT)	6" CONCRETE WALK (SQ FT)	TRUNCATED DOMES (SQ FT)	3" BIT. TRAIL (SQ FT)
CSAH 60	0	5017	85	19015	460	48	18550
CSAH 82-NORTH	0	1539	85	4945	655	48	6930
CSAH 82-EAST	0	1684	85	7115	525	64	20010
VICTORY DRIVE-SOUTH	0	1089	85	4635	290	32	0
TANAGER ROAD	567	0	0	1450	0	0	0
CUL-DE-SAC	470	0	0	0	0	0	0
TOTALS	1037	9329	340	37160	1930	192	45490

(H) CONCRETE PAVEMENT

CONCRETE PAVING IRREGULAR WIDTH 8" THICK (SQ YD)	STRUCTURAL CONCRETE (CU YD)	CONCRETE RUMBLE STRIPS (E) (SQ YD)	REINFORCEMENT BARS (EPOXY COATED) TIE BARS (F) NO. 13 (POUND)	DOWEL BARS (G) (EACH)
345	77	26	400	300

(I) AGGREGATE

ALIGNMENT/LOCATION	AGGREGATE: (H) (J) AGGREGATE BASE (CV) CLASS 5 (CU YD)	AGGREGATE BASE (CV) CLASS 3 (CU YD)	AGGREGATE BASE (CV) CLASS 2 (CU YD)	AGGREGATE BASE (CV) CLASS 2 MOD (CU YD)	(I) (J) (K) SALVAGED AGGREGATE (CV) (CU YD)	BORROW: SELECT GRANULAR (TON)
CSAH 60	3010	0	210	420	1824	12973
CSAH 82-NORTH	830	0	50	100	0	4410
CSAH 82-EAST	3200	0	140	280	3530	16290
VICTORY DRIVE-SOUTH	231	0	0	0	0	1116
TANAGER ROAD	395	297	0	0	0	1971
CUL-DE-SAC	320	240	0	0	0	0
TOTALS	7986	537	400	800	5354	36760

(J) BITUMINOUS

ALIGNMENT/LOCATION	COURSE/ OIL TYPE	BITUM. MIX (TON)	TOTAL AGGR. (TON)	BITUM MAT'L (TON)	BITUM GRAVEL INTER. (TON)	BITUM GRAVEL FINE (TON)	RAP (TON)	BITUM CL. "A" COARSE (TON)	BITUM CL. "A" FINE (TON)	PRODUCE HAUL LAY (TON)	BITUM TACK COAT (GALLON)
				5.5%	30%	20%	0%	30%	20%		
CSAH 60	WEAR-C OIL	2202	2081	121	624	416	0	624	416	2202	1000
CSAH 82-NORTH	WEAR-C OIL	948	896	52	269	179	0	269	179	948	400
CSAH 82-EAST	WEAR-C OIL	3022	2856	166	857	571	0	857	571	3022	1075
VICTORY DRIVE-SOUTH	WEAR-C OIL	293	277	16	83	55	0	83	55	293	135
TANAGER ROAD	WEAR-C OIL	106	100	6	30	20	0	30	20	106	65
CUL-DE-SAC	WEAR-C OIL	114	108	6	32	22	0	32	22	114	70
TOTALS	WEAR-C OIL	6685	6317	368	1895	1263	0	1895	1263	6685	2745
				5.5%	15%	20%	20%	33%	12%		
CSAH 60	NON-C OIL	1101	1040	61	156	208	208	343	125	1101	0
CSAH 82-NORTH	NON-C OIL	420	397	23	60	79	79	131	48	420	0
CSAH 82-EAST	NON-C OIL	1260	1191	69	179	238	238	393	143	1260	0
VICTORY DRIVE-SOUTH	NON-C OIL	147	139	8	21	28	28	46	17	147	0
TANAGER ROAD	NON-C OIL	176	166	10	25	33	33	55	20	176	0
CUL-DE-SAC	NON-C OIL	190	180	10	27	36	36	59	22	190	0
TOTALS	NON-C OIL	3294	3113	181	467	623	623	1027	374	3294	0

(K) SANITARY SEWER

ALIGNMENT	STRUC. NO.	STATION	OFFSET	RIM ELEV	FLOW OUT ELEV	FLOWS TO	SANITARY MANHOLE (48") (LIN FT)	(A) CASTING ASSEMBLY	PVC PIPE SDR 35 8"	CONNECT TO EXISTING SANITARY SEWER (EACH)	NOTES
TANAGER	B	11+95.54	12.00' RT	1007.00	991.80	EXISTING	15.20	R-1642	109	1	(C)
TANAGER	STUB EAST	11+95.54	45.20' RT	–	992.03	B	–	–	33		(B)
TANAGER	STUB NORTH	14+07.46	1.01' LT	–	992.76	B	–	–	214		(B)
TOTALS							15		142	1	

(L) TURF ESTABLISHMENT

ALIGNMENT/LOCATION	SEEDING (ACRE)	SEED MIXTURE 250 (POUND)	SEED MIXTURE 310 (POUND)	(N) SEED MIXTURE 340 (POUND)	FERTILIZER (22-5-10) (POUND)	SOD TYPE LAWN (SQ YD)	HYDRAULIC SOIL STABILIZER (HYDROMULCH) (POUND)
CSAH 60	2.8	195	35	30	980	1250	7560
CSAH 82-NORTH	2.5	110	0	0	875	0	1470
CSAH 82-EAST	2.1	148	0	0	735	0	0
VICTORY DRIVE-SOUTH	1.0	70	0	0	350	0	275
TANANGER/CUL-DE-SAC	1.0	70	0	0	350	0	0
PROJECT TOTALS	9.4	593	35	30	3290	1250	9305

NOTES:

A NEENAH FOUNDARY CASTING NUMBER
B PLUG END (INCIDENTAL)
C EXISTING PIPE. VERIFY INVERT PRIOR TO CONSTRUCTION
E CONSTRUCT RUMBLE STRIPS ON EVERY OTHER PANEL
F FOR 8" CONCRETE PAVEMENT (2.5 FT BARS AT 2.5 F SPACING)
G 1 ¼" DIAMETER DOWEL BARS (EPOXY COATED) FOR 8" PAVEMENT. SEE STANDARD PLATE 1103.
H THIS COLUMN REPRESENTS THE TOTAL AGGREGATE BASE CLASS 5 AS REQUIRED PER DESIGN. THE BID QUANTITY FOR AGGREGATE BASE CLASS 5 (CV) IS THE TOTAL AGGREGATE BASE CLASS 5 QUANTITY LESS THE SALVAGED AGGREGATE QUANTITY. (7986 CU YD – 5354 CU YD=2632 CU YD)
I THIS COLUMN REPRESENTS THE AVAILABLE SALVAGED AGGREGATE THAT MAY BE PRODUCED BY RECLAIMING THE EXISTING BITUMINOUS AND AGGREGATE BASE ON STADIUM ROAD AND CSAH 82 EAST TO A DEPTH OF 12" FROM THE EXISTING SURFACE. EXISTING AGGREGATE MAY BE AVAILABLE AT GREATER DEPTHS AND SHALL BE SALVAGED TO THE EXTENT POSSIBLE AS DETERMINED IN THE FIELD BY THE ENGINEER. THIS ADDITIONAL SALVAGING SHALL BE PAID AT THE CONTRACT UNIT PRICE.
J IF THE SALVAGED AGGREGATE DOES NOT MEET THE REQUIRED CL 7 AGGREGATE GRADATION, OFFSITE MATERIAL SHALL BE HAULED IN TO BLEND WITH THE SALVAGED MATERIAL TO MEET THE REQUIRED GRADATIONS. ALL MATERIAL HAULED IN FOR BLENDING PURPOSES REGARDLESS OF GRADATION SHALL BE PAID FOR AS AGGREGATE BASE CLASS 5 (CV).
K SALVAGED AGGREGATE IS NOT ASSUMED TO BE AVAILABLE WITHIN THE CSAH 82 NORTH AND VICTORY DRIVE SOUTH ROADWAYS BECAUSE OF THE EXISTING CONCRETE PAVEMENT THAT IS IN PLACE UNDER THE EXISTING BITUMINOUS.
L INCLUDES REMOVING CASTING, CONE, ADDING BARREL SECTION, RESETTING CONE, AND RESETTING CASTING TO FINAL GRADE.
M 9-7-9 X 22' WIDE UNDER EXISTING BITUMINOUS PAVEMENT.
N SEEDING QUANTITIES ARE BASED ON THE FOLLOWING APPLICATION RATES:
SEED MIXTURE 250 = 70 LB/AC
SEED MIXTURE 310 = 82 LB/AC
SEED MIXTURE 340 = 84.5 LB/AC
FERTILIZER 22-5-10 = 350 LB/AC
HYDRAULIC SOIL STABILIZER = 2100 LB OF SLURRY/WATER MIX PER ACRE
O BASIS FOR BITUMINOUS QUANTITIES
BITUMINOUS MATERIAL FOR TACK COAT 0.05 GALS /SQ YD
BITUMINOUS COURSES, 110 LBS/1" THICKNESS/SQ YD
BITUMINOUS MATERIAL FOR MIXTURE ESTIMATED AT 5.5%

QUANTITY TABULATIONS

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(M)	EROSION CONTROL							
ALIGNMENT/LOCATION	SILT FENCE TYPE MACHINE SLICED	STORM DRAIN INLET PROTECTION	RAPID STABILIZATION METHOD 4	FILTER LOG TYPE STRAW BIOROLL 12"	TEMPORARY ROCK CONSTRUCTION ENTRANCE	FLOATATION SILT CURTAIN TYPE STILL WATER	EROSION CONTROL BLANKET CAT. 3	TEMPORARY DITCH CHECK TYPE 7
	(LIN FT)	(EACH)	(SQ YD)	(LIN FT)	(EACH)	(LIN FT)	(SQ YD)	(CU YD)
CSAH 60	2780	30	0	200	1	0	950	84
CSAH 82-NORTH	580	4	0	150	1	0	4256	6
CSAH 82-EAST	2850	6	400	300	1	0	10245	17
VICTORY DRIVE-SOUTH	525	7	800	65	1	478	4460	12
TANAGER/CUL-DE-SAC	720	6	400	0	1	0	1975	6
PROJECT TOTALS	7455	53	1600	715	5	478	21886	125

(Q)	SUBDRAIN	
ALIGNMENT/LOCATION	4" PERF TP PIPE DRAIN	4" PVC PIPE DRAIN CLEANOUT
	LIN FT	EACH
CSAH 60	3475	2
CSAH 82-NORTH	430	2
CSAH 82-EAST	345	2
VICTORY DRIVE-SOUTH	535	2
TOTALS	4785	8

(R)	CASTING ASSEMBLY		
ASSEMBLY	ASSEMBLIES REQUIRED	CASTING NO.	STANDARD PLATE NO.
B-5	7	FRAME CASTING NO. 802A GRATE CASTING NO. 816	4129 4154
B-9	30	FRAME CASTING NO. 805 GRATE CASTING NO. 816	4132 4154
M-11	5	STOOL GRATE & CONCRETE FRAME CASTING 731	4143
R-3067-V	2	NEENAH R-3067 W/ VANE GRATE	NA (A)
R-1642	1	NEENAH R-1642 W/ SOLID LID SANITARY SEWER CASTING	NA (A)
TOTAL	45		

NOTES:
A NEENAH FOUNDARY CASTING NUMBER

QUANTITY TABULATIONS

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SAP 007-660-005 & SAP 007-682-008 (CSAH 60 & CSAH 82) SHEET 12 OF 142 SHEETS

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(N1)	EXISTING GAS–CENTERPOINT ENERGY			
ROAD ALIGNMENT	STATION	OFFSET (FT)	IN PLACE UTILITY	REMARKS
CSAH 60	15+32 – 21+19	22 R – 296 R	UNDERGROUND	LEAVE AS IS
CSAH 60	21+19 – 20+95	296 R – 335 R	UNDERGROUND	LEAVE AS IS
CSAH 60	21+19 – 24+70	296 R – 749 R	UNDERGROUND	LEAVE AS IS
CSAH 60	24+70 – 25+19	749R – 808 R	UNDERGROUND	LEAVE AS IS
CSAH 60	24+70 – 24+75	749 R – 745 R	UNDERGROUND	LEAVE AS IS
CSAH 60	24+75 – 25+25	745 R – 805 R	UNDERGROUND	LEAVE AS IS
CSAH 82	43+59 – 45+83	13 R – 20 R	UNDERGROUND	LEAVE AS IS
CSAH 82	45+83 – 46+39	20 R – 28 R	UNDERGROUND	LEAVE AS IS
CSAH 82	46+39 – 47+06	28 R –52 R	UNDERGROUND	LEAVE AS IS
CSAH 82	47+06 – 53+00	52 R – 46 R	UNDERGROUND	LEAVE AS IS
CSAH 82	53+00 – 53+26	46 R – 44 R	UNDERGROUND	LEAVE AS IS
CSAH 82	53+00 – 53+18	46 R – 151 R	UNDERGROUND	LEAVE AS IS
CSAH 82	53+00 – 52+70	46 R – 113 L	UNDERGROUND	LEAVE AS IS

(N2)	EXISTING TELEVISION – CHARTER			
ROAD ALIGNMENT	STATION	OFFSET (FT)	IN PLACE UTILITY	REMARKS
CSAH 60	15+66 – 15+65	47 R – 88 R	BURIED FIBER	LEAVE AS IS
CSAH 60	15+65 – 15+91	88 R – 89 R	BURIED FIBER	LEAVE AS IS
CSAH 60	15+91 – 15+91	89 R – 75 R	BURIED FIBER	LEAVE AS IS
CSAH 60	15+91 – 20+59	75 R – 294 R	BURIED FIBER	LEAVE AS IS
CSAH 60	20+59 – 20+70	294 R – 275 R	BURIED FIBER	LEAVE AS IS
CSAH 60	20+69.89	275.15 R	PEDESTAL	LEAVE AS IS
CSAH 60	20+70 – 21+53	275 R – 378 R	BURIED FIBER	ADJUST
CSAH 60	21+53 – 21+45	378 R – 390 R	BURIED FIBER	LEAVE AS IS

(N3)	EXISTING FIBER/PHONE–HICKORYTECH			
ROAD ALIGNMENT	STATION	OFFSET (FT)	IN PLACE UTILITY	REMARKS
CSAH 60	15+64	48 R	PEDESTAL	LEAVE AS IS
CSAH 60	15+61	42 R	PEDESTAL	LEAVE AS IS
CSAH 60	15+61 – 15+49	42 R – 39 L	UNDERGROUND	LEAVE AS IS
CSAH 60	15+49 – 20+54	39 L – 145 R	UNDERGROUND	LEAVE AS IS
CSAH 60	20+54 – 22+08	145 R – 334 R	UNDERGROUND	LEAVE AS IS
CSAH 60	22+08 – 24+67	334 R – 646 R	UNDERGROUND	LEAVE AS IS
CSAH 60	24+67 – 24+79	646 R – 685 R	UNDERGROUND	LEAVE AS IS
CSAH 60	20+65	266 R	PEDESTAL	LEAVE AS IS
CSAH 60	20+67	267 R	PEDESTAL	LEAVE AS IS
CSAH 60	20+67 – 20+66	267 R – 271 R	UNDERGROUND	LEAVE AS IS
CSAH 60	20+66 – 21+25	271 R – 338 R	UNDERGROUND	LEAVE AS IS
CSAH 60	21+25 – 21+30	338 R – 328 R	UNDERGROUND	LEAVE AS IS
CSAH 60	21+30	328 R	PEDESTAL	LEAVE AS IS
CSAH 60	31+30 – 21+26	328 R – 339 R	UNDERGROUND	LEAVE AS IS
CSAH 60	21+26 – 21+34	339 R – 357 R	UNDERGROUND	LEAVE AS IS
CSAH 60	21+34 – 21+47	357 R – 351 R	UNDERGROUND	LEAVE AS IS
CSAH 60	21+47 – 21+62	351 R – 372 R	UNDERGROUND	LEAVE AS IS
CSAH 60	21+62 – 21+89	372 R – 395 R	UNDERGROUND	LEAVE AS IS
CSAH 60	21+89 – 25+18	395 R – 812 R	UNDERGROUND	LEAVE AS IS
CSAH 82	52+67 – 52+98	88 R – 53 R	UNDERGROUND	LEAVE AS IS
CSAH 82	52+98 – 55+01	53 R – 57 R	UNDERGROUND	LEAVE AS IS
CSAH 82	55+01	57 R	PEDESTAL	LEAVE AS IS
CSAH 82	55+01 – 55+43	57 R – 59 R	UNDERGROUND	LEAVE AS IS
CSAH 82	55+43 – 58+81	59 R – 57 R	UNDERGROUND	LEAVE AS IS
CSAH 82	72+25	56 R	PEDESTAL	ADJUST
CSAH 82	72+25 – 72+32	56 R – 55 R	UNDERGROUND	ADJUST
CSAH 82	72+32 – 72+45	55 R – 62 L	UNDERGROUND	ADJUST
CSAH 82	72+45 – 72+77	62 L – 69 L	UNDERGROUND	LEAVE AS IS
CSAH 82	72+77 – 73+99	69 L – 72 L	UNDERGROUND	ADJUST
CSAH 82	73+99 – 74+25	72 L – 82 L	UNDERGROUND	ADJUST
CSAH 82	74+25 – 74+36	82 L – 95 L	UNDERGROUND	ADJUST
CSAH 82	74+36	95 L	PEDESTAL	ADJUST
CSAH 82	74+36 – 74+25	95 L – 85 L	UNDERGROUND	ADJUST
CSAH 82	74+25 – 74+01	85 L – 75 L	UNDERGROUND	ADJUST
CSAH 82	74+01 – 72+77	75 L – 67 L	UNDERGROUND	ADJUST
CSAH 82	72+77 – 70+19	67 L – 66 L	UNDERGROUND	LEAVE AS IS

EXISTING UTILITY TABULATIONS

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(N5)	EXISTING ELECTRIC–BENCO			
ROAD ALIGNMENT	STATION	OFFSET (FT)	IN PLACE UTILITY	REMARKS
CSAH 60	15+53	58 R	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 60	15+56	48 R	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 60	15+56	59 R	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 60	15+64	46 R	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 60	15+76	33 L	ELECTRIC TRANSFORMER	ADJUST
CSAH 60	20+60	260 R	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 60	20+63	263 R	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 60	21+55	380 R	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 60	30+21	76 L	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 82	45+47	80 L	ELECTRIC TRANSFORMER	ADJUST
CSAH 82	52+12	94 R	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 82	52+17	90 L	ELECTRIC TRANSFORMER	ADJUST
CSAH 82	52+19	90 L	ELECTRIC TRANSFORMER	ADJUST
CSAH 82	52+17	99 L	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 82	54+93	65 R	ELECTRIC TRANSFORMER	LEAVE AS IS
CSAH 82	73+76	93 L	ELECTRIC TRANSFORMER	ADJUST
CSAH 82	73+72	96 L	ELECTRIC TRANSFORMER	ADJUST

(N5)	EXISTING ELECTRIC–PRIVATE			
ROAD ALIGNMENT	STATION	OFFSET (FT)	IN PLACE UTILITY	REMARKS
CSAH 60	21+13	330 R	LIGHT POLE	LEAVE AS IS
CSAH 82	52+87	68 L	LIGHT POLE	LEAVE AS IS
CSAH 82	73+96	32 L	LIGHT POLE	REMOVE

(N6)	EXISTING DRAINAGE–CITY/COUNTY			
ROAD ALIGNMENT	STATION	OFFSET (FT)	IN PLACE UTILITY	REMARKS
CSAH 60	24+57.27	739.42 R	CATCH BASIN	LEAVE AS IS
CSAH 60	24+61.31	744.27 R	CATCH BASIN	LEAVE AS IS
CSAH 60	24+88.10	715.24 R	CATCH BASIN	LEAVE AS IS
CSAH 60	24+91.48	719.24 R	CATCH BASIN	LEAVE AS IS
CSAH 60	29+76.85	96.67 L	CATCH BASIN	LEAVE AS IS
CSAH 60	29+87.40	125.56 L	CATCH BASIN	LEAVE AS IS
CSAH 60	30+04.50	127.02 L	CATCH BASIN	LEAVE AS IS
CSAH 60	30+28.59	89.53 L	CATCH BASIN	LEAVE AS IS
CSAH 60	31+03.02	157.91 L	INLET	LEAVE AS IS
CSAH 82	41+88.25	157.28 L	CATCH BASIN	REMOVE
CSAH 82	52+13.61	76.17 L	APRON	REMOVE
CSAH 82	53+31.22	78.00 L	APRON	REMOVE

(N7)	EXISTING SANITARY–CITY OF MANKATO			
ROAD ALIGNMENT	STATION	OFFSET (FT)	IN PLACE UTILITY	REMARKS
CSAH 60	15+07	5 R	MANHOLE	LEAVE AS IS
CSAH 60	15+07 – 18+44	5 R – 65 R	12" RCP	LEAVE AS IS
CSAH 60	18+44	65 R	MANHOLE	ADJUST
CSAH 60	18+44 – 21+05	65 R – 256 R	12" RCP	LEAVE AS IS
CSAH 60	21+05	256 R	MANHOLE	ADJUST
CSAH 60	21+05 – 23+22	256 R – 547 R	10 " ABS	LEAVE AS IS
CSAH 60	23+22	547 R	MANHOLE	LEAVE AS IS
CSAH 82	71+38	58 L	MANHOLE	LEAVE AS IS
CSAH 82	71+38 – 74+04	58 L – 33 L	24" PVC	LEAVE AS IS
CSAH 82	74+04	33 L	MANHOLE	ADJUST
CSAH 82	74+04 – 42+75	33 L – 81 L	24" PVC	LEAVE AS IS
CSAH 82	42+75	81 L	MANHOLE	ADJUST
CSAH 82	42+75 – 45+69	81 L – 54L	24" PVC	LEAVE AS IS
CSAH 82	45+69	54 L	MANHOLE	ADJUST
CSAH 82	45+69 – 45+72	54 L – 59 R	8" PVC	LEAVE AS IS
CSAH 82	45+72	59 R	MANHOLE	LEAVE AS IS
CSAH 82	45+69 – 49+74	54 L – 53 L	24" PVC	LEAVE AS IS
CSAH 82	49+74	53 L	MANHOLE	ADJUST
CSAH 82	49+74 – 52+60	53 L – 63 L	24" PVC	LEAVE AS IS
CSAH 82	52+60	63 L	MANHOLE	ADJUST
CSAH 82	52+60 – 52+88	63 L – 86 R	18" PVC	LEAVE AS IS
CSAH 82	52+88	86 R	MANHOLE	LEAVE AS IS

(N8)	EXISTING WATERMAIN–CITY OF MANKATO			
ROAD ALIGNMENT	STATION	OFFSET (FT)	IN PLACE UTILITY	REMARKS
CSAH 60	15+47	38 R	HYDRANT	LEAVE AS IS
CSAH 60	21+12	301 R	VALVE	ADJUST
CSAH 60	24+65	766 R	HYDRANT	LEAVE AS IS
CSAH 82	42+51	130 L	HYDRANT	LEAVE AS IS
CSAH 82	42+50	127 L	VALVE	LEAVE AS IS
CSAH 82	42+63	98 L	VALVE	ADJUST
CSAH 82	45+80	58 L	VALVE	ADJUST
CSAH 82	45+86	59 R	VALVE	LEAVE AS IS
CSAH 82	45+90	58 R	HYDRANT	LEAVE AS IS
CSAH 82	50+32	74 L	VALVE	ADJUST
CSAH 82	50+32	78 L	HYDRANT	ADJUST
CSAH 82	52+70	74 L	VALVE	ADJUST
CSAH 82	52+75	65 L	VALVE	ADJUST
CSAH 82	52+95	16 R	PLUG	ADJUST
CSAH 82	53+05	55 R	HYDRANT	ADJUST
CSAH 82	71+82	73 L	PLUG	LEAVE AS IS
CSAH 82	72+82	64 L	VALVE	LEAVE AS IS
CSAH 82	72+82	67 L	HYDRANT	LEAVE AS IS

EXISTING UTILITY TABULATIONS

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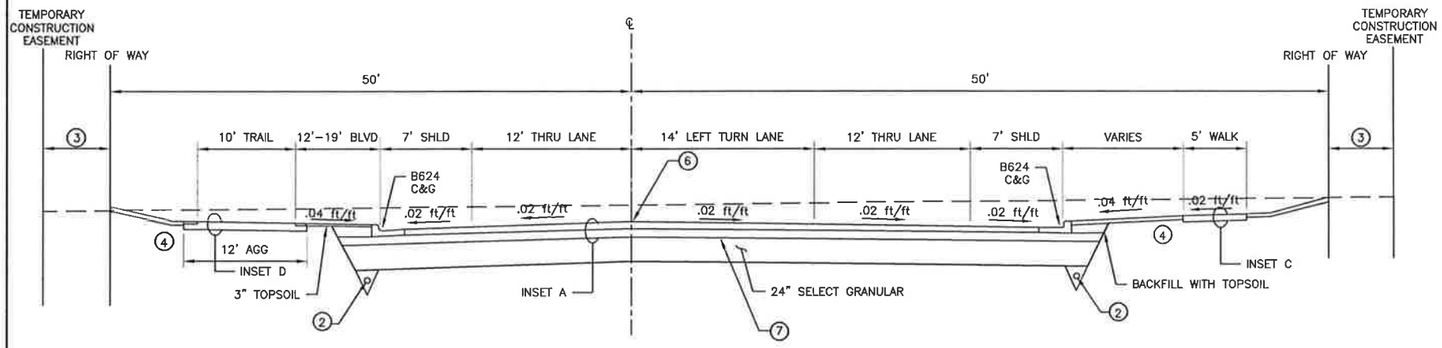


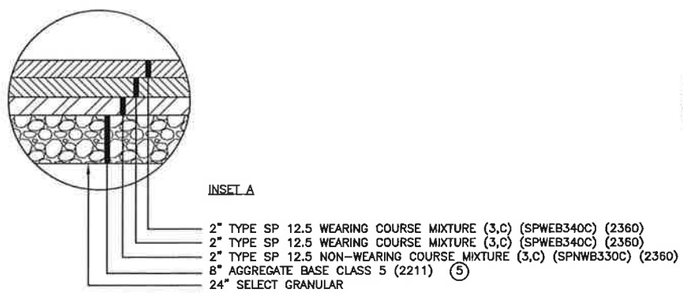
CSAH 60 TYPICAL SECTION

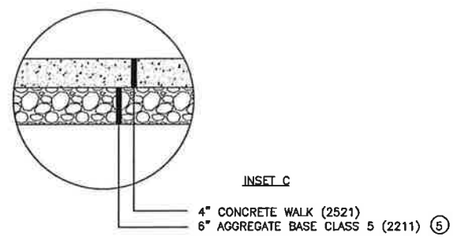
GENERAL NOTES:

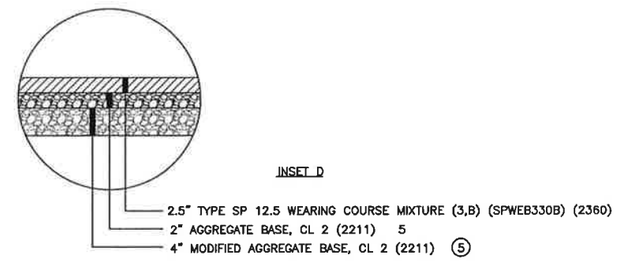
1. UNLESS OTHERWISE SPECIFIED, THE CROSS SLOPE OF THE GRADING GRADE MATCHES THE CROSS SLOPE OF THE DRIVING LANES.
2. PLACE BITUMINOUS TACK COAT BETWEEN ALL BITUMINOUS LIFTS AND ON EXISTING BITUMINOUS PRIOR TO PAVING WEAR COURSE. PLACE TACK COAT ON ALL VERTICAL FACES OF ADJACENT CURB & SAWCUT BITUMINOUS SURFACES.
3. INSLOPES SHOWN ARE TYPICAL. SEE CROSS SECTIONS FOR VARIATIONS.
4. SEE CROSS SECTIONS FOR ANY VARIATIONS FROM TYPICAL SECTION.

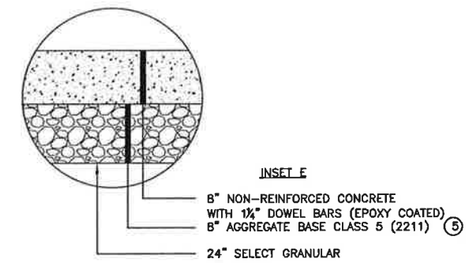
LEGEND

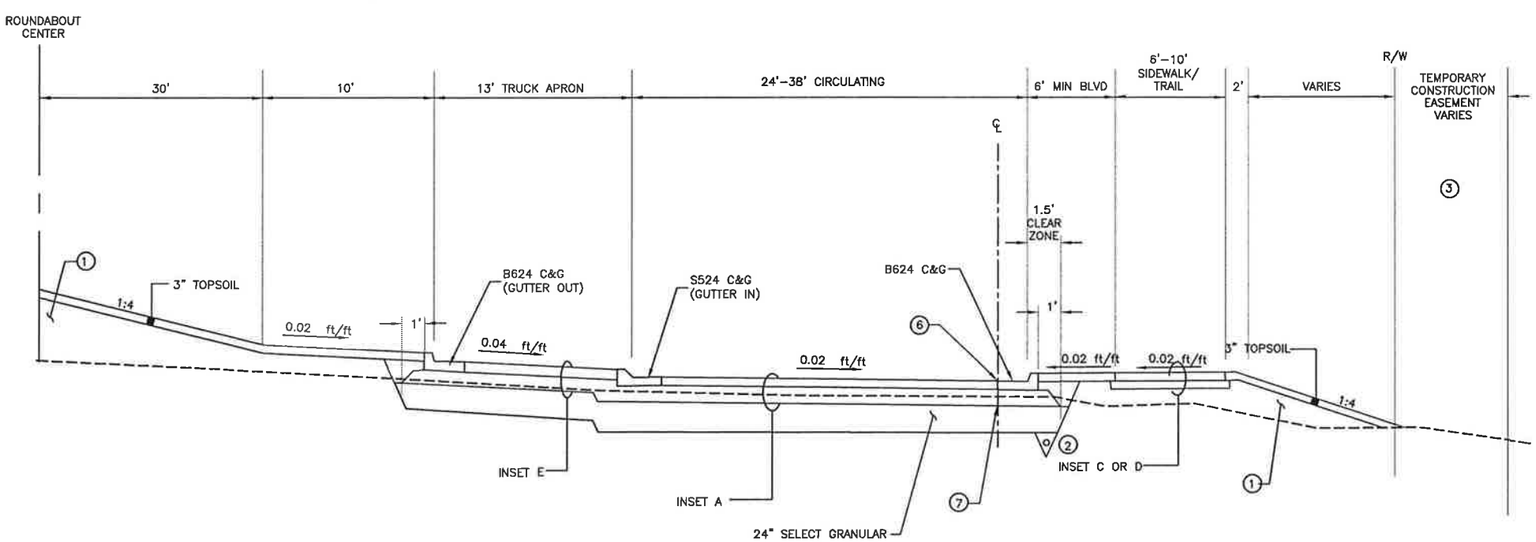
- - - - - - - - EXISTING GROUND











CSAH 60 & CSAH 82 ROUNDABOUT

NOTES:

1. BACKFILL WITH SUITABLE GRADING MATERIAL
2. 4" PERFORATED TP PIPE DRAIN SPEC 2502 SEE STORM SEWER PLANS FOR LOCATIONS
3. WORK IN ADJACENT PROPERTY OWNED BY THE CITY OF MANKATO OR BLUE EARTH COUNTY OR WORK COMPLETED IN EXISTING DRAINAGE & UTILITY EASEMENTS WILL NOT REQUIRE TEMPORARY CONSTRUCTION EASEMENT.
4. TRAILS & BOULEVARDS SHALL BE BUILT UP WITH TOPSOIL IN FILL AREAS
5. CLASS 7 RECYCLED WILL BE ALLOWED PER MNDOT SPEC. 313B
6. PROFILE GRADE & CROWN LOCATION
7. GRADING GRADE
8. BACKFILL WITH TOPSOIL OR UNSUITABLE MATERIAL
9. SEE SHOULDER DETAIL
10. SLOPE VARIES FOR CUL-DE-SAC GRADING
11. CENTERLINE FOR VICTORY DR SOUTH & CSAH 82 EAST
12. CENTERLINE FOR CSAH 60 & CSAH 82 NORTH

TYPICAL SECTIONS

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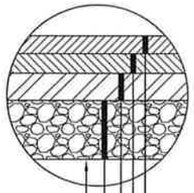
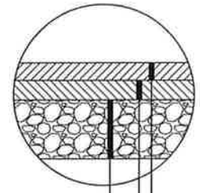


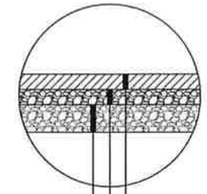
INSET A

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) (SPWEB340C) (2360)
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) (SPWEB340C) (2360)
- 2" TYPE SP 12.5 NON-WEARING COURSE MIXTURE (3,C) (SPNWB330C) (2360)
- 8" AGGREGATE BASE CLASS 5 (2211) (5)
- 24" SELECT GRANULAR



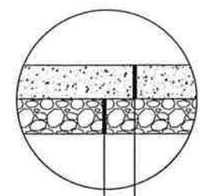
INSET B

- 2" SP. BITUMINOUS WEARING COURSE
- 2" SP. BITUMINOUS WEARING COURSE
- 8" AGGREGATE BASE CLASS 5 (2211) (5)



INSET D

- 2.5" TYPE SP 12.5 WEARING COURSE MIXTURE (3,B) (SPWEB330B) (2360)
- 2" AGGREGATE BASE, CL 2 (2211) 5
- 4" MODIFIED AGGREGATE BASE, CL 2 (2211) (5)



CONCRETE DRIVEWAY PAVEMENT

- 6" CONCRETE DRIVEWAY PAVEMENT (2531)
- 6" AGGREGATE BASE, CL 5 (2211) (5)

GENERAL NOTES:

1. UNLESS OTHERWISE SPECIFIED, THE CROSS SLOPE OF THE GRADING GRADE MATCHES THE CROSS SLOPE OF THE DRIVING LANES.
2. PLACE BITUMINOUS TACK COAT BETWEEN ALL BITUMINOUS LIFTS AND ON EXISTING BITUMINOUS PRIOR TO PAVING WEAR COURSE. PLACE TACK COAT ON ALL VERTICAL FACES OF ADJACENT CURB & SAWCUT BITUMINOUS SURFACES.
3. INSLOPES SHOWN ARE TYPICAL. SEE CROSS SECTIONS FOR VARIATIONS.
4. SEE CROSS SECTIONS FOR ANY VARIATIONS FROM TYPICAL SECTION.

NOTES:

(1) BACKFILL WITH SUITABLE GRADING MATERIAL

(2) 4" PERFORATED TP PIPE DRAIN SPEC 2502 SEE STORM SEWER PLANS FOR LOCATIONS

(3) WORK IN ADJACENT PROPERTY OWNED BY THE CITY OF MANKATO OR BLUE EARTH COUNTY OR WORK COMPLETED IN EXISTING DRAINAGE & UTILITY EASEMENTS WILL NOT REQUIRE TEMPORARY CONSTRUCTION EASEMENT.

(4) TRAILS & BOULEVARDS SHALL BE BUILT UP WITH TOPSOIL IN FILL AREAS

(5) CLASS 7 RECYCLED WILL BE ALLOWED PER MNDOT SPEC. 313B

(6) PROFILE GRADE & CROWN LOCATION

(7) GRADING GRADE

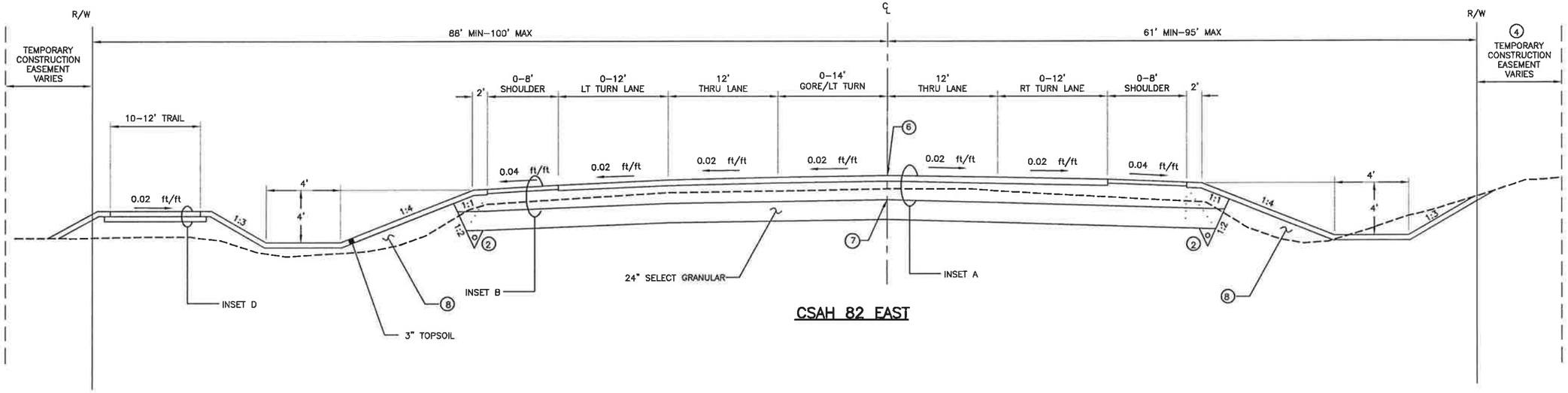
(8) BACKFILL WITH TOPSOIL OR UNSUITABLE MATERIAL

(9) SEE SHOULDER DETAIL

(10) SLOPE VARIES FOR CUL-DE-SAC GRADING

(11) CENTERLINE FOR VICTORY DR SOUTH & CSAH 82 EAST

(12) CENTERLINE FOR CSAH 60 & CSAH 82 NORTH



CSAH 82 EAST

LEGEND

- - - - - - - EXISTING GROUND

TYPICAL SECTIONS

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 16 OF 142 SHEETS

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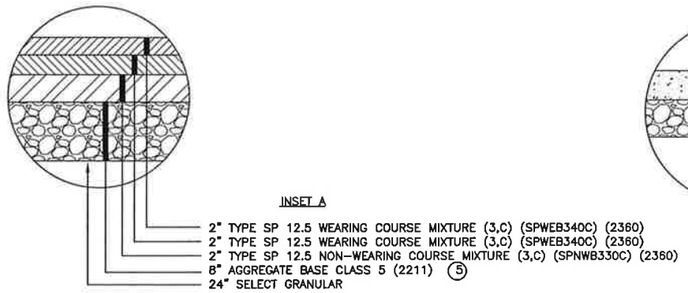
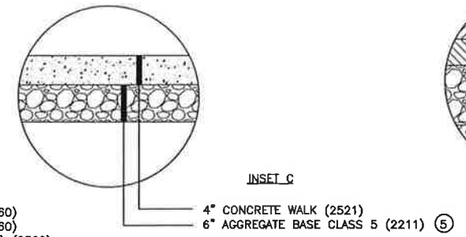
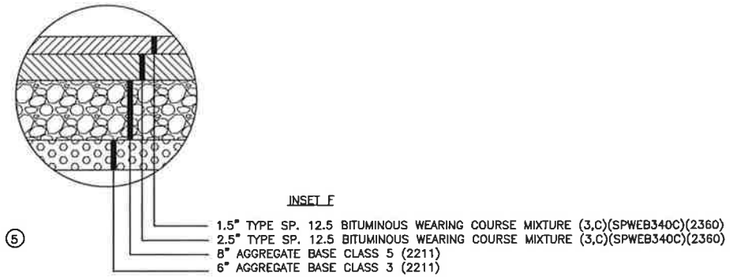
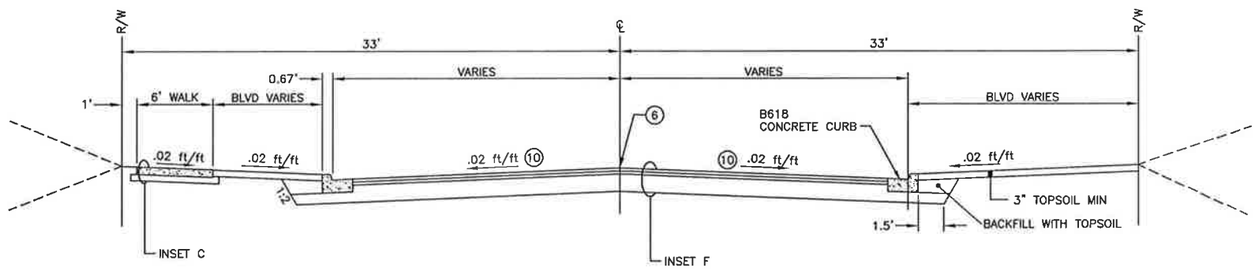






GENERAL NOTES:

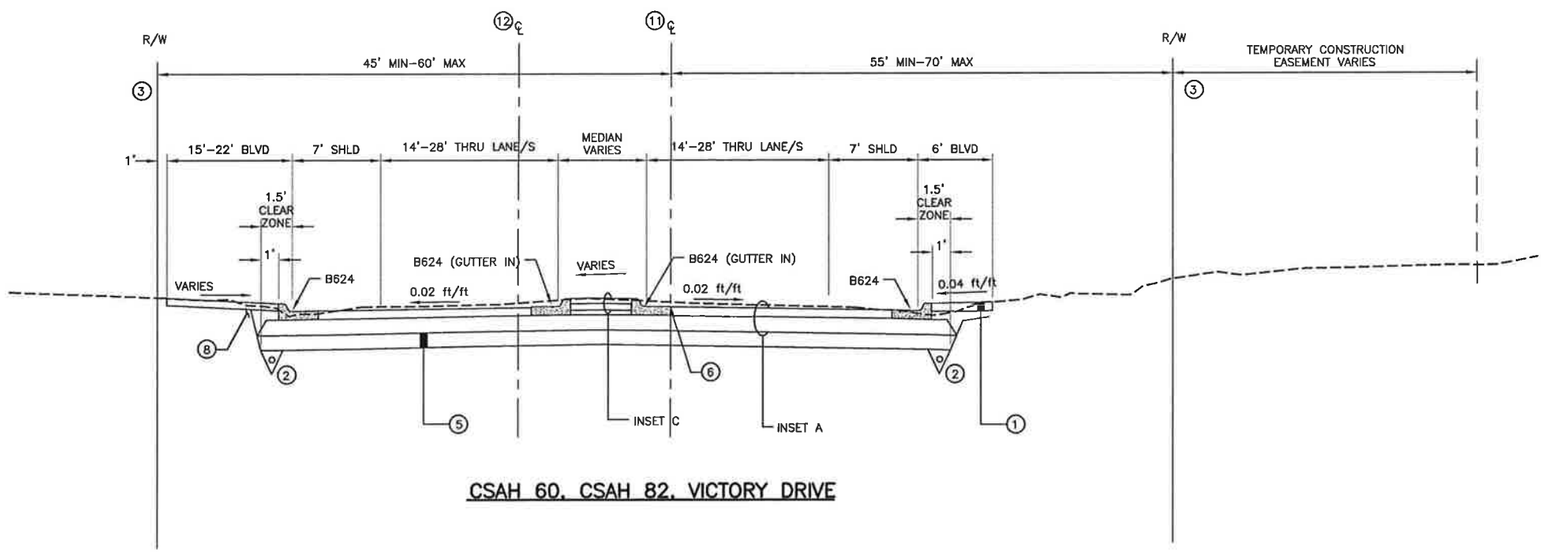
1. UNLESS OTHERWISE SPECIFIED, THE CROSS SLOPE OF THE GRADING GRADE MATCHES THE CROSS SLOPE OF THE DRIVING LANES.
2. PLACE BITUMINOUS TACK COAT BETWEEN ALL BITUMINOUS LIFTS AND ON EXISTING BITUMINOUS PRIOR TO PAVING WEAR COURSE. PLACE TACK COAT ON ALL VERTICAL FACES OF ADJACENT CURB & SAWCUT BITUMINOUS SURFACES.
3. INSLOPES SHOWN ARE TYPICAL. SEE CROSS SECTIONS FOR VARIATIONS.
4. SEE CROSS SECTIONS FOR ANY VARIATIONS FROM TYPICAL SECTION.



TANAGER ROAD & CUL-DE-SAC TYPICAL SECTION

NOTES:

(1) BACKFILL WITH SUITABLE GRADING MATERIAL
(2) 4" PERFORATED TP PIPE DRAIN SPEC 2502 SEE STORM SEWER PLANS FOR LOCATIONS
(3) WORK IN ADJACENT PROPERTY OWNED BY THE CITY OF MANKATO OR BLUE EARTH COUNTY OR WORK COMPLETED IN EXISTING DRAINAGE & UTILITY EASEMENTS WILL NOT REQUIRE TEMPORARY CONSTRUCTION EASEMENT.
(4) TRAILS & BOULEVARDS SHALL BE BUILT UP WITH TOPSOIL IN FILL AREAS
(5) CLASS 7 RECYCLED WILL BE ALLOWED PER MNDOT SPEC. 3138
(6) PROFILE GRADE & CROWN LOCATION
(7) GRADING GRADE
(8) BACKFILL WITH TOPSOIL OR UNSUITABLE MATERIAL
(9) SEE SHOULDER DETAIL
(10) SLOPE VARIES FOR CUL-DE-SAC GRADING
(11) CENTERLINE FOR VICTORY DR SOUTH & CSAH 82 EAST
(12) CENTERLINE FOR CSAH 60 & CSAH 82 NORTH



CSAH 60, CSAH 82, VICTORY DRIVE

LEGEND

- - - - - - - EXISTING GROUND

TYPICAL SECTIONS

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 17 OF 142 SHEETS

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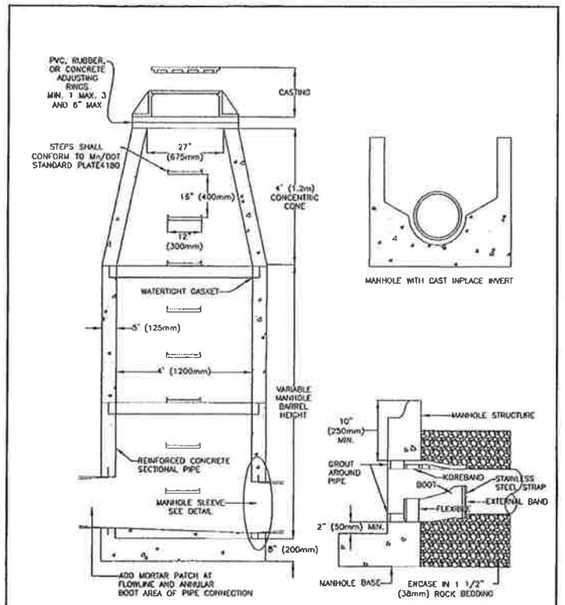
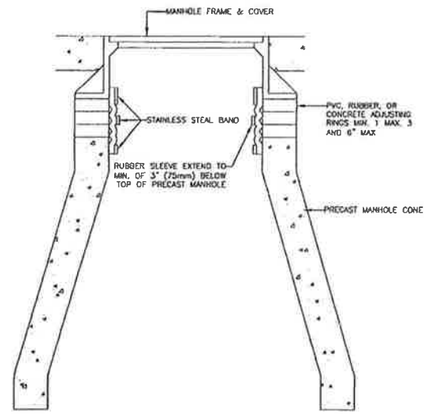


MANHOLE WITH CAST INPLACE INVERT

MANHOLE SLEEVE DETAIL

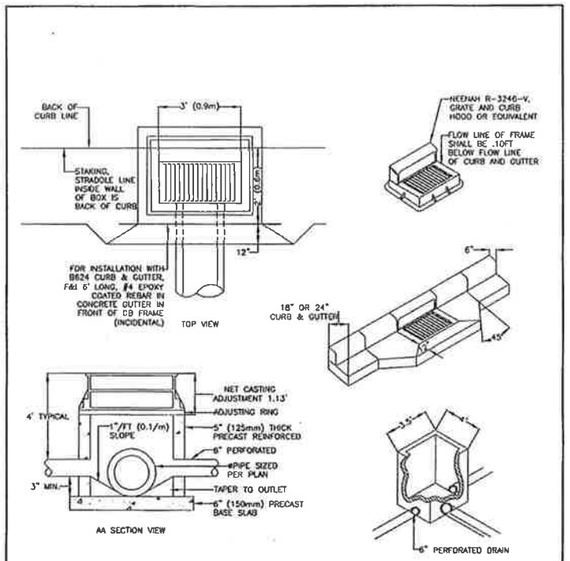
NOTE:
1. ALL CASTINGS SHALL HAVE A SOLID COVER WITH CONCEALED LIFT HOLES AND SELF SEALING FEATURE.
2. ON PIPES 12" (300mm) OR LESS CAST INVERT TO MATCH PIPE FLOWLINE WITH INVERT DIMENSIONS ONE PIPE SIZE LARGER THAN INCOMING PIPE.

APPROVED 2/08 CITY ENGINEER	CITY OF MANKATO ENGINEERING SANITARY SEWER MANHOLE	SPECIFICATION REFERENCE	STANDARD PLATE NO. 2200A 1 OF 1



NOTE:
1. ALL CASTINGS SHALL HAVE A SOLID COVER WITH CONCEALED LIFT HOLES & SELF SEALING FEATURE.
2. IF MULTIPLE ADJUSTING RINGS ARE USED, OVERLAPPING SLEEVES WILL BE REQUIRED. COMPENSATION SHALL BE PER EACH SLEEVE USED.

APPROVED 3/21/08 CITY ENGINEER	CITY OF MANKATO ENGINEERING INTERNAL RUBBER SLEEVE	SPECIFICATION REFERENCE	STANDARD PLATE NO. 2203A 1 OF 1



NOTES:
1. PIPE INLET AND OUTLET HOLES FOR PRECAST INLETS SHALL BE PREFORMED. ALL PIPES SHALL BE GROUTED WITH A NONSHRINK GROUT.
2. LIVE LOADING SHALL CONFORM TO AASHTO HS 25.
3. INLET FRAME SHALL BE SET .10' BELOW EXTENDED FLOW LINE.
4. EXTRAORDINARY COMPACTIVE EFFORT SHALL BE MADE IN THE VICINITY OF DRAINAGE STRUCTURES.

APPROVED 5/16/08 CITY ENGINEER	CITY OF MANKATO ENGINEERING MANKATO STD. CATCH BASIN NUMBER 1	SPECIFICATION REFERENCE	STANDARD PLATE NO. 2400B 1 OF 1

CONSTRUCTION DETAILS

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 18 OF 142 SHEETS

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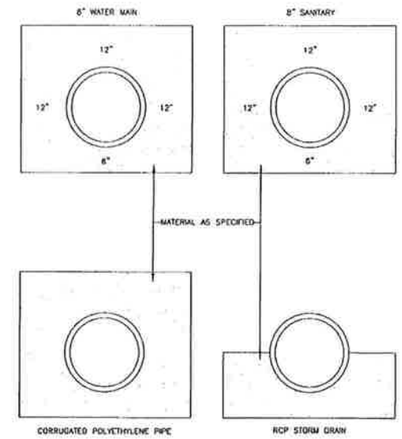
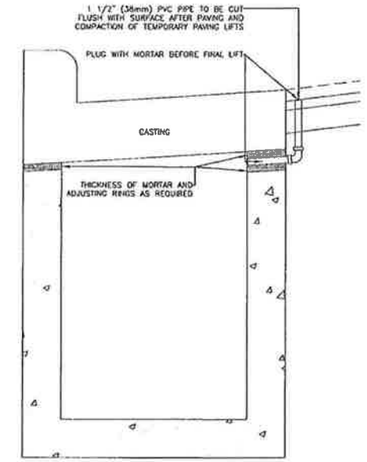


NOTE:
FOR ALL PIPE LARGER THAN 8 INCHES SHALL CONFORM TO MNDOT TECH MEMO NO. 07-04-B-01

APPROVED 2/08 CITY ENGINEER	CITY OF MANKATO ENGINEERING GRANULAR BEDDING & ENCASEMENT	SPECIFICATION REFERENCE	STANDARD PLATE NO. 2100A 1 OF 1



NOTE:
1. PVC STORM STRUCTURES REQUIRES A 2" HOLE TO ACCOMMODATE THE 1 1/2" (38mm) PVC PIPE.
2. INTERIM DRAINS ARE INCIDENTAL.

APPROVED 2/08 CITY ENGINEER	CITY OF MANKATO ENGINEERING INTERIM CATCH BASIN DRAIN	SPECIFICATION REFERENCE	STANDARD PLATE NO. 2460A 1 OF 1

CONSTRUCTION DETAILS

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

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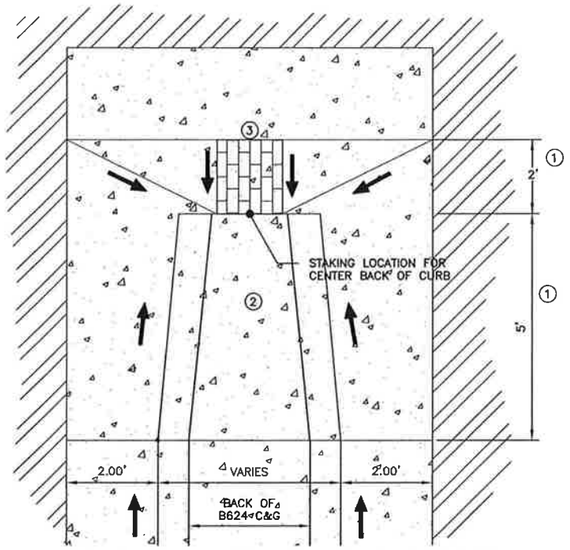


① PAID FOR AS CONCRETE DRIVEWAY PAVEMENT, INCLUDES GUTTER

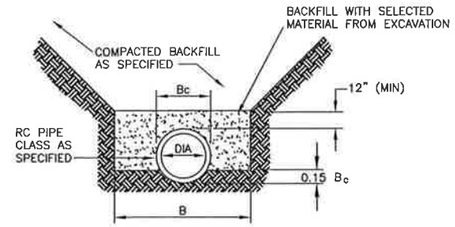
② SEE MNDOT STANDARD PLATE 7113 FOR TAPERS & GRADES OF MEDIAN

③ SEE DRAINAGE TABULATION FOR CASTING REQURIED. SUMP CASTING AS NEEDED TO COLLECT WATER IN GUTTER LINES.

→ DRAINAGE DIRECTION

CASTING AT MEDIAN END

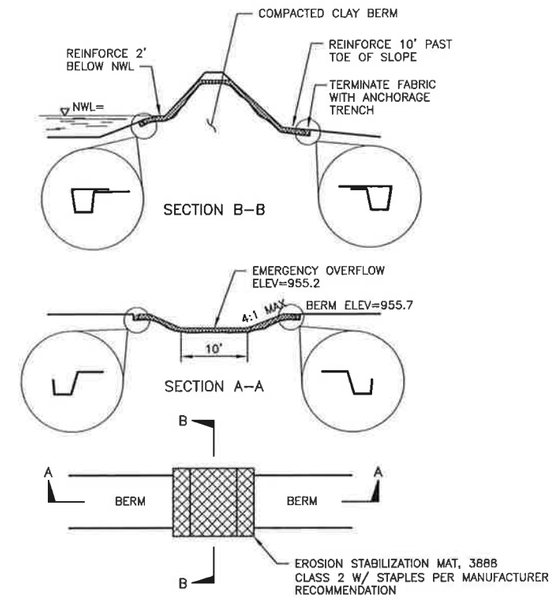
NOT TO SCALE



PIPE DIA	B
36" OR LESS	B_c + 24"
42" TO 54"	1.5 x B_c
60" OR OVER	B_c + 36"

RC PIPE CLASS "C" BEDDING

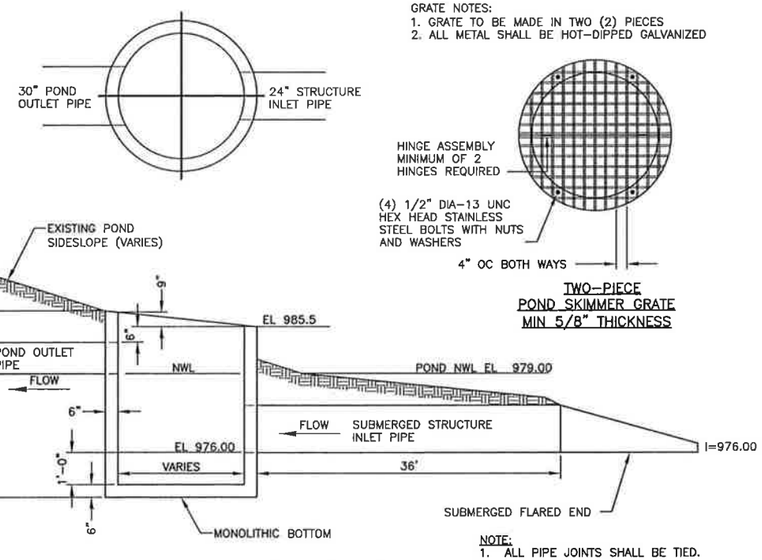
NOT TO SCALE



EROSION STABILIZATION MAT AT POND EOF

NOT TO SCALE

GRATE NOTES:
1. GRATE TO BE MADE IN TWO (2) PIECES
2. ALL METAL SHALL BE HOT–DIPPED GALVANIZED



NOTE:
1. ALL PIPE JOINTS SHALL BE TIED.

PRECAST CONCRETE POND SKIMMER STRUCTURE

NOT TO SCALE

CONSTRUCTION DETAILS

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007–660–005 & SAP 007–682–008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 20 OF 142 SHEETS

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LEGEND

- PROPOSED TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED PERMANENT DRAINAGE & UTILITY EASEMENT
- EXISTING UTILITY EASEMENT BY XCEL ENERGY
- EXISTING DRAINAGE & UTILITY EASEMENT
- EXISTING RIGHT OF WAY
- CONSTRUCTION LIMITS
- PROPOSED RIGHT OF WAY

CONSTRUCTION LIMITS (TYP)
PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TYP)
MATCHLINE STA 291+00 SEE SHEET 22
22' NSP EASEMENT
10' UTILITY EASEMENT
CONSTRUCTION LIMITS (TYP)
PROPOSED RIGHT OF WAY (TYP)
PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TYP)
CSAH 60
PROPOSED PERMANENT DRAINAGE &UTILITY EASEMENT (TYP)
PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TYP)
PROPOSED RIGHT OF WAY (TYP)
CONSTRUCTION LIMITS (TYP)
PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TYP)
PROPOSED PERMANENT DRAINAGE &UTILITY EASEMENT (TYP)
CONSTRUCTION LIMITS (TYP)
TANAGER RD
22' NSP EASEMENT
10' UTILITY EASEMENT
WEST 1/4 CORNER SEC. 21-108-26
PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TYP)
CONSTRUCTION LIMITS (TYP)
PROPOSED RIGHT OF WAY (TYP)
STADIUM ROAD
PROPOSED TEMPORARY CONSTRUCTION EASEMENT
OUTLOT C
OUTLOT B
BLOCK 3
TRAIL
OUTLOT B
OUTLOT A
WEST LINE NW 1/4 SEC. 21-108-26
OUTLOT A
COTTAGES AT TOWN HALL ACRES
TOWN
OUTLOT D
ACRES
PARK
OUTLOT D
WINGS
OVER
BLOCK 11
BLOCK 10
BLOCK 2
WHITE
OAK
BLOCK 3

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

RIGHT OF WAY PLAN

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 21 OF 142 SHEETS

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CONSTRUCTION LIMITS (TYP)

BLOCK 1

2

HEMES SUBDIVISION

CSAH 82

MDOT ROW
PLAT NO. 07-53

PARCEL 531

ACCESS TO MNDOT PROPERTY
BY PERMIT

PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TYP)

OUTLOT E

OUTLOT K

BLOCK 1

OUTLOT

OUTLOT A

OUTLOT I

BLOCK 3

PROPOSED PERMANENT DRAINAGE & UTILITY EASEMENT (TYP)

PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TYP)

PROPOSED RIGHT OF WAY (TYP)

PROPOSED PERMANENT DRAINAGE & UTILITY EASEMENT (TYP)

OUTLOT C

CONSTRUCTION
LIMITS (TYP)

CSAH 60

CSAH 82

MATCHLINE
STA 45+00
SEE SHEET 23

MATCHLINE
STA 49+00
SEE SHEET 21

PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TYP)

PROPOSED RIGHT OF WAY (TYP)

CONSTRUCTION
LIMITS (TYP)

PROPOSED TEMPORARY
CONSTRUCTION EASEMENT (TYP)

VICTORY DRIVE SOUTH

EXISTING RIGHT OF WAY (TYP)

EXISTING WETLAND EASEMENT

EXISTING RIGHT OF WAY (TYP)

LEGEND

PROPOSED TEMPORARY
CONSTRUCTION EASEMENT

PROPOSED PERMANENT
DRAINAGE & UTILITY EASEMENT

EXISTING UTILITY EASEMENT BY XCEL ENERGY

EXISTING DRAINAGE & UTILITY EASEMENT

EXISTING RIGHT OF WAY

CONSTRUCTION LIMITS

PROPOSED RIGHT OF WAY

RIGHT OF WAY PLAN

SCALE
0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 22 OF 142 SHEETS

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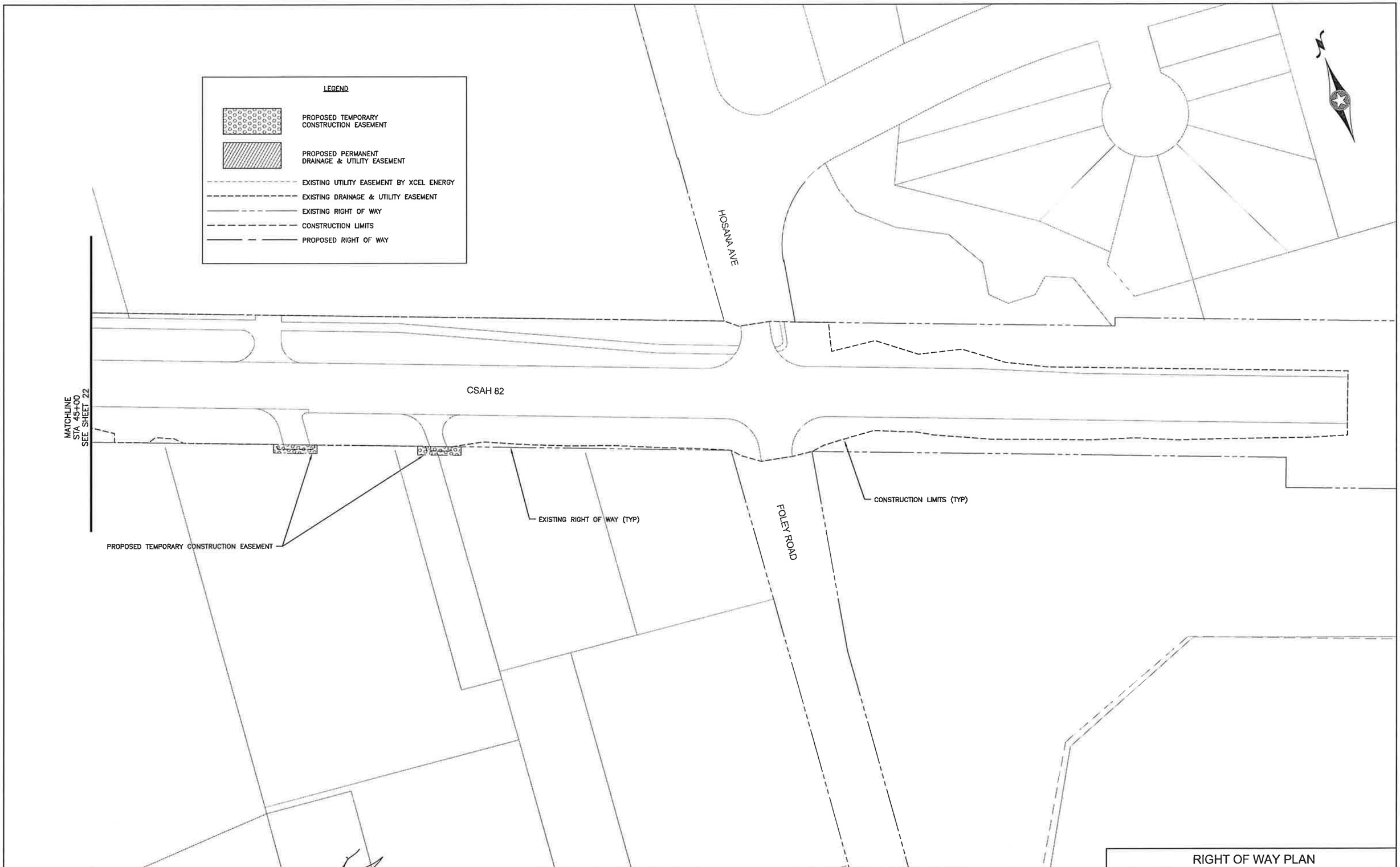

RIGHT OF WAY PLAN

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 23 OF 142 SHEETS

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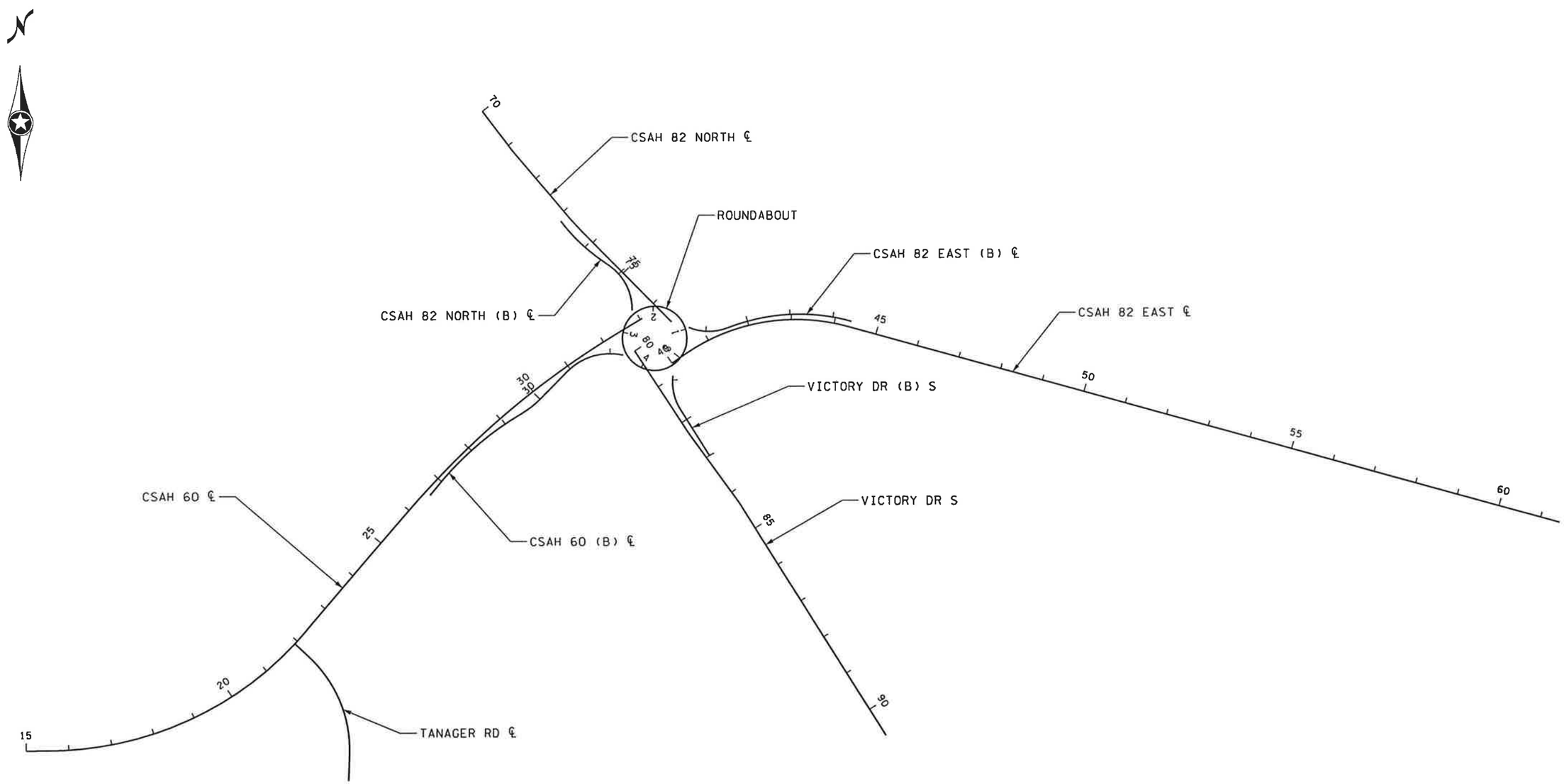

ALIGNMENT PLAN

CERTIFIED BY LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008(CSAH 60 & CSAH 82) SHEET 24 OF 142 SHEETS

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1000	POT	15+00.000						578,053.7226	208,451.1513	
	PC	15+45.832						578,099.5503	208,451.7952	S 89° 40' 04.02" E
WESTA-1	PI	19+10.482	50° 10' 07.46" LT	7° 21' 18.26"	778.997'	364.650'	682.097'	578,464.1938	208,449.6809	PI
	CC							578,104.0671	209,230.7789	
	PT	22+27.929						578,699.3821	208,728.3488	N 40° 09' 48.52" E
	PC	25+93.446						578,935.1298	209,007.6794	N 40° 09' 48.52" E
WESTA-2	PI	29+18.608	18° 27' 02.44" RT	2° 51' 42.94"	2,002.000'	325.162'	644.694'	579,144.8497	209,256.1705	PI
	CC							580,465.0728	207,716.4481	
	PT	32+38.140						579,422.4337	209,425.5145	N 58° 36' 50.96" E
1001	POT	33+05.612						579,480.0327	209,460.6535	
1020	POT	26+58.440						578,987.4722	209,047.9920	
	PC	27+08.219						579,019.5778	209,086.0331	N 40° 09' 48.52" E
WESTB-1	PI	28+27.948	19° 28' 00.11" RT	8° 12' 30.83"	698.000'	119.729'	237.151'	579,096.7999	209,177.5313	PI
	CC							579,552.9945	208,635.8436	
	PRC	29+45.370						579,200.1001	209,238.0641	N 59° 37' 48.63" E
	PRC	29+45.370						579,200.1001	209,238.0641	N 59° 37' 48.63" E
WESTB-2	PI	29+72.305	15° 11' 24.96" LT	28° 21' 51.29"	202.000'	26.935'	53.554'	579,223.3391	209,251.6819	PI
	CC							579,097.9730	209,412.3456	
	PT	29+98.924						579,242.1980	209,270.9132	N 44° 26' 23.67" E
	PC	30+90.699						579,306.4557	209,336.4395	N 44° 26' 23.67" E
WESTB-3	PI	31+67.759	58° 21' 29.62" RT	41° 31' 07.25"	138.000'	77.060'	140.559'	579,360.4098	209,391.4589	PI
	CC							579,404.9856	209,239.8173	
	PT	32+31.258						579,435.5550	209,374.3889	S 77° 12' 06.71" E
1100	POT	40+00.000						579,549.0040	209,355.2656	
	PC	40+40.150						579,582.0490	209,378.0705	N 55° 23' 23.34" E
EASTA-1	PI	42+50.241	50° 14' 55.28" RT	12° 47' 21.25"	448.000'	210.091'	392.898'	579,754.9611	209,497.3999	PI
	CC							579,836.5085	209,009.3506	
	PT	44+33.048						579,957.2745	209,440.7664	S 74° 21' 41.38" E
1101	POT	61+45.601						581,606.4308	208,979.1188	
1102	POT	62+10.601						581,623.9527	209,041.7126	
	PC	40+58.390						579,587.6216	209,439.3794	S 66° 41' 41.53" E
EASTB-1	PI	41+07.118	44° 52' 35.02" LT	48° 33' 20.68"	118.000'	48.728'	92.422'	579,632.3740	209,420.1012	PI
	CC							579,634.3056	209,547.7519	
	PRC	41+50.812						579,677.6893	209,438.0165	N 68° 25' 43.45" E
	PRC	41+50.812						579,677.6893	209,438.0165	N 68° 25' 43.45" E
EASTB-2	PI	43+02.970	37° 12' 35.17" RT	12° 40' 33.81"	452.000'	152.158'	293.544'	579,819.1900	209,493.9585	PI
	CC							579,843.8708	209,017.6741	
	PT	44+44.356						579,965.7151	209,452.9418	S 74° 21' 41.38" E

1231	POT	70+00.000						579,108.6556	209,944.1973	
1232	POT	71+15.708						579,178.8030	209,852.1776	
	PC	73+25.789						579,314.2067	209,691.5537	S 40° 07' 49.47" E
NORTHA-1	PI	73+45.211	4° 26' 56.02" LT	11° 27' 32.96"	500.000'	19.422'	38.824'	579,326.7245	209,676.7043	PI
	CC							579,696.4964	210,013.8185	
	PT	73+64.613						579,340.3566	209,662.8706	S 44° 34' 45.49" E
1233	POT	76+60.235						579,547.8521	209,452.3053	
1331	POT	80+00.000						579,462.2183	209,384.2627	
	PC	82+24.511						579,584.9350	209,196.2583	S 33° 08' 01.77" E
SOUTHA-1	PI	82+31.463	2° 38' 14.97" LT	18° 58' 19.60"	302.000'	6.952'	13.902'	579,588.7351	209,190.4366	PI
	CC							579,837.8287	209,361.3304	
	PT	82+38.413						579,592.7990	209,184.7959	S 35° 46' 16.74" E
1332	POT	84+29.046						579,704.2339	209,030.1244	
1333	POT	90+71.958						580,044.4029	208,484.5780	
1400	POT	10+00.000						578,800.6526	208,380.8136	
	PC	10+62.584						578,802.5614	208,443.3690	N 1° 44' 51.74" E
TANAGER-1	PI	11+99.096	48° 56' 05.39" LT	19° 05' 54.94"	300.000'	136.512'	256.222'	578,806.7248	208,579.8174	PI
	CC							578,502.7009	208,452.5185	
	PT	13+18.807						578,706.5828	208,672.5917	N 47° 11' 13.65" W
1401	POT	13+61.149						578,675.5213	208,701.3679	
	PC	1+00.000						579,580.5780	209,435.0364	N 16° 31' 37.76" W
RA-1	PI	1+00.001	359° 59' 57.25" LT	76° 23' 39.74"	75.000'	0.001'	471.238'	579,580.5782	209,435.0359	PI
	CC							579,508.6767	209,413.7011	
	PT	5+71.238						579,580.5783	209,435.0354	N 16° 31' 35.01" W

ALIGNMENT PLAN

CERTIFIED BY LICENSED ENGINEER LIC. NO. 42779 01/09/2012

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STAGING NARRATIVE

STAGE 1:

1. SET UP TRAFFIC CONTROL FOR STAGE 1 AS DETERMINED BY CONTRACTOR & APPROVED BY BLUE EARTH COUNTY.
2. CONSTRUCT REQUIRED EROSION CONTROL ITEMS PRIOR TO EARTH DISTURBING ACTIVITIES.
3. GRADE POND TO USE AS TEMPORARY SEDIMENTATION BASIN FOR DEWATERING AND FOR STORM WATER MANAGEMENT.
4. REMOVE BITUMINOUS AND CONCRETE PAVEMENT ON VICTORY DRIVE SOUTH.
4. STRIP TOPSOIL UNDER ROADWAY AND WITHIN REQUIRED AREAS.
5. PERFORM MUCK EXCAVATION AS NEED NEAR ROUNDABOUT AND BACKFILL WITH SUITABLE GRADING MATERIAL.

STAGE 2:

1. SET UP TRAFFIC CONTROL FOR STAGE 2 ACCORDING TO PLAN REQUIREMENTS.
2. CONSTRUCT REQUIRED EROSION CONTROL ITEMS NEEDED FOR STAGE 2.
3. REMOVE BITUMINOUS AND CONCRETE PAVEMENT ON ROADWAYS.
4. STRIP TOPSOIL AS NEEDED.
5. ROUGH GRADE ALL AVAILABLE SITE.
6. INSTALL SANITARY SEWER AT TANAGER RD.
7. INSTALL STORM SEWER WITHIN ALL AVAILABLE AREAS.
8. PLACE SELECT GRANULAR, AGGREGATE BASE, CONCRETE CURB & GUTTER, CONCRETE MEDIANS, CONCRETE TRUCK APRON, BITUMINOUS NON-WEARING COURSE, CONCRETE SIDEWALKS, AND BITUMINOUS TRAILS ON CSAH 60 NORTH OF TANAGER, CSAH 82 NORTH & CSAH 82 EACH, AND VICTORY DRIVE SOUTH.
9. PLACE ALL TOPSOIL AND STABILIZE TURF IN ALL LOCATIONS LISTED ABOVE.
10. PLACE BITUMINOUS WEARING COURSE, PERMANENT STRIPING AND PERMANENT SIGNING.
11. REMOVE REQUIRED TEMPORARY TRAFFIC CONTROL ITEMS.
12. OPEN ABOVE LOCATIONS TO TRAFFIC.

STAGE 3:

1. SET UP TRAFFIC CONTROL FOR STAGE 3 ACCORDING TO PLAN REQUIREMENTS.
2. CONSTRUCT REQUIRED EROSION CONTROL ITEMS NEEDED FOR STAGE 3.
3. REMOVE BITUMINOUS PAVEMENT ON STADIUM RD.
4. FINISH CONSTRUCTION OF CSAH 60 TIE IN SOUTH OF TANAGER ROAD, TANAGER ROAD CONNECTION, AND CUL-DE-SAC.
5. COMPLETE ALL HARD SURFACE CONSTRUCTION INCLUDING SIDEWALKS AND TRAIL.
6. PLACE TOPSOIL AND STABILIZE TURF IN ALL LOCATIONS LISTED ABOVE.
7. PLACE BITUMINOUS WEARING COURSE, PERMANENT STRIPING AND PERMANENT SIGNING.
8. REMOVE ALL TEMPORARY TRAFFIC CONTROL ITEMS.
9. OPEN ABOVE LOCATIONS TO TRAFFIC.
10. REMOVE ALL TEMPORARY EROSION CONTROL ITEMS ONCE TURF HAS BEEN ESTABLISHED.

(O)	TRAFFIC CONTROL – "R" SERIES					
LEGEND	DESIGNATION	SIZE	COLOR	STAGE 1	STAGE 2	STAGE 3
ROAD CLOSED	R11-2	48" X 30"	BLACK ON WHITE	–	9	4
SIDEWALK CLOSED	R9-9	30"X18"	BLACK ON WHITE	–	2	1
TRAIL CLOSED	R9-9	30"X18"	BLACK ON WHITE	–	1	3

(O)	TRAFFIC CONTROL – "W" SERIES					
LEGEND	DESIGNATION	SIZE	COLOR	STAGE 1	STAGE 2	STAGE 3
DETOUR AHEAD	W20-2	48" X 48"	BLACK ON ORANGE	–	4	3
ROAD CLOSED AHEAD	W20-3	48" X 48"	BLACK ON ORANGE	–	3	0

(O)	TRAFFIC CONTROL – "G" SERIES					
LEGEND	DESIGNATION	SIZE	COLOR	STAGE 1	STAGE 2	STAGE 3
ROAD 82 ROAD CLOSED COUNTY HWY 23 TO VICTORY DRIVE BEGINNING MONTH DAY FOLLOW DETOUR	G20-X2	132" X 108"	BLACK ON ORANGE	–	1	0
ROAD 82 ROAD CLOSED STADIUM ROAD TO SCHLANK DRIVE BEGINNING MONTH DAY FOLLOW DETOUR	G20-X2	132" X 108"	BLACK ON ORANGE	–	1	0
ROAD 87 ROAD CLOSED COUNTY HWY 60 TO SCHLANK DR BEGINNING MONTH DAY FOLLOW DETOUR	G20-X2	132" X 108"	BLACK ON ORANGE	–	1	0
STADIUM ROAD ←	G20-X6L	48" X 36"	BLACK ON ORANGE	–	1	0
STADIUM ROAD →	G20-X6L	48" X 36"	BLACK ON ORANGE	–	1	0

GENERAL NOTES:

1. ACCESS TO RESIDENCES & BUSINESSES SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE CONTRACT.
2. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED. IN PLACE SIGNING MUST ALSO BE MAINTAINED OR TEMPORARILY RELOCATED FOR CONSTRUCTION ACTIVITIES.
3. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
4. QUANTITIES FOR TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND ARE SHOWN FOR INFORMATION ONLY. THE ITEM "TRAFFIC CONTROL" COVERS ALL DEVICES SHOWN ON THE PLAN SHEETS AND OTHER SETUPS REQUIRED BY THE CONTRACTORS OPERATIONS SUCH AS, BUT NOT LIMITED TO, MILLING & PAVING UNDER TRAFFIC, TEMPORARY ROAD CLOSURES, ADJUSTMENTS TO THE TRAFFIC CONTROL PLAN FOR CONSTRUCTION OPERATIONS, STAGED UTILITY INSTALLATION, TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER AND PAVEMENT MARKING INSTALLATION.
5. 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 WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD) AND PART VI, FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS. TRAFFIC CONTROL NOT IN COMPLIANCE WITH MMUTCD WILL BE SUBJECT TO VIOLATION IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
6. FOUR (4) ADDITIONAL TYPE III BARRICADES, AND TWENTY (20) ADDITIONAL BARRELS SHALL BE AVAILABLE FOR USE BY THE PROJECT ENGINEER AT HIS DISCRETION AND SHALL BE INCLUDED IN THE PRICE BID FOR TRAFFIC CONTROL.
7. PLACE G20-X2 7 DAYS IN ADVANCE OF CLOSURE, PLACE "FOLLOW DETOUR" PANELS ON G20-X2 ONCE CLOSURE BEGINS.
8. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER. GRINDING WILL BE ALLOWED AS A METHOD OF PAVEMENT MARKING REMOVAL ON PAVEMENT SUBJECT TO MILLING & REMOVAL.
9. PAINT SHALL BE USED FOR ALL TEMPORARY STRIPING.

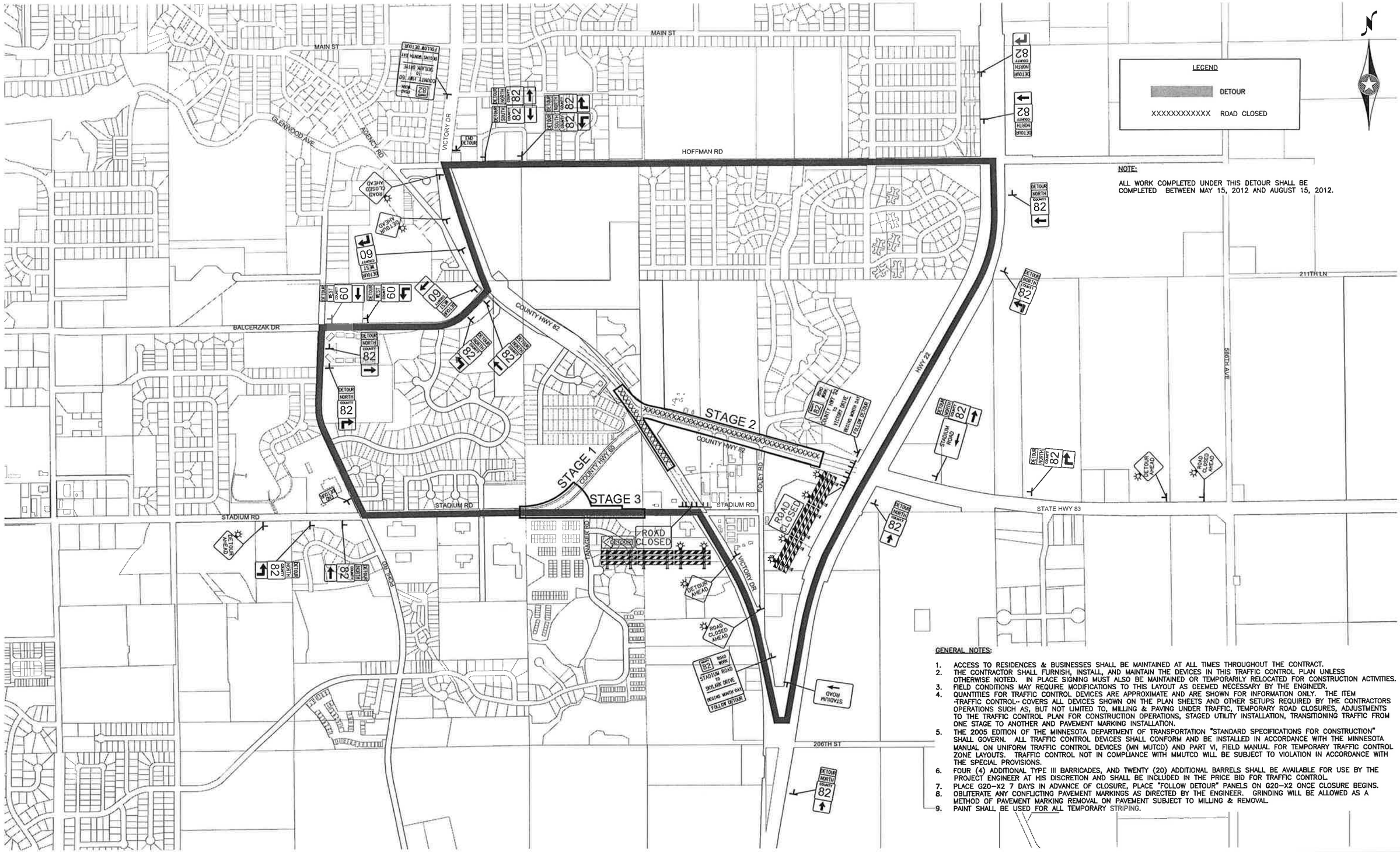
(O)	TRAFFIC CONTROL – "M" SERIES					
LEGEND	DESIGNATION	SIZE	COLOR	STAGE 1	STAGE 2	STAGE 3
COUNTY 82	M1-X4	24" X 24"	BLACK ON WHITE	–	18	0
COUNTY 60	M1-X4	24" X 24"	BLACK ON WHITE	–	4	13
NORTH	M3-1m	24" X 12"	BLACK ON WHITE	–	16	0
EAST	M3-2m	24" X 12"	BLACK ON WHITE	–	X	6
SOUTH	M3-3m	24" X 12"	BLACK ON WHITE	–	2	0
WEST	M3-4m	24" X 12"	BLACK ON WHITE	–	4	7
DETOUR	M4-8	24" X 12"	BLACK ON ORANGE	–	22	13
END DETOUR	M4-8a	24" X 18"	BLACK ON ORANGE	–	2	2
DETOUR	M4-10L	48" X 18"	ORANGE ON BLACK	–	1	0
↰	M5-1L	21" X 15"	BLACK ON WHITE	–	5	3
↱	M5-1R	21" X 15"	BLACK ON WHITE	–	5	3
→	M6-1R	21" X 15"	BLACK ON WHITE	–	4	3
←	M6-1L	21" X 15"	BLACK ON ORANGE	–	6	3
↑	M6-3	21" X 15"	BLACK ON WHITE	–	2	1

(O)	TRAFFIC CONTROL – DEVICES					
LEGEND	DESIGNATION	SIZE	COLOR	STAGE 1	STAGE 2	STAGE 3
	TYPE III	6" MIN	ORANGE ON WHITE	–	35	19
	TYPE "A"	FLASHER	AMBER	–	51	19

STAGING & TRAFFIC CONTROL TABULATIONS

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 26 OF 142 SHEETS



GENERAL NOTES:

1. ACCESS TO RESIDENCES & BUSINESSES SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE CONTRACT.
2. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED. IN PLACE SIGNING MUST ALSO BE MAINTAINED OR TEMPORARILY RELOCATED FOR CONSTRUCTION ACTIVITIES.
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5. 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 WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD) AND PART VI, FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS. TRAFFIC CONTROL NOT IN COMPLIANCE WITH MMUTCD WILL BE SUBJECT TO VIOLATION IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
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7. PLACE G20-X2 7 DAYS IN ADVANCE OF CLOSURE, PLACE "FOLLOW DETOUR" PANELS ON G20-X2 ONCE CLOSURE BEGINS.
8. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER. GRINDING WILL BE ALLOWED AS A METHOD OF PAVEMENT MARKING REMOVAL ON PAVEMENT SUBJECT TO MILLING & REMOVAL.
9. PAINT SHALL BE USED FOR ALL TEMPORARY STRIPING.

STAGE 2 - DETOUR PLAN

SCALE 0 500 1000

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 27 OF 142 SHEETS

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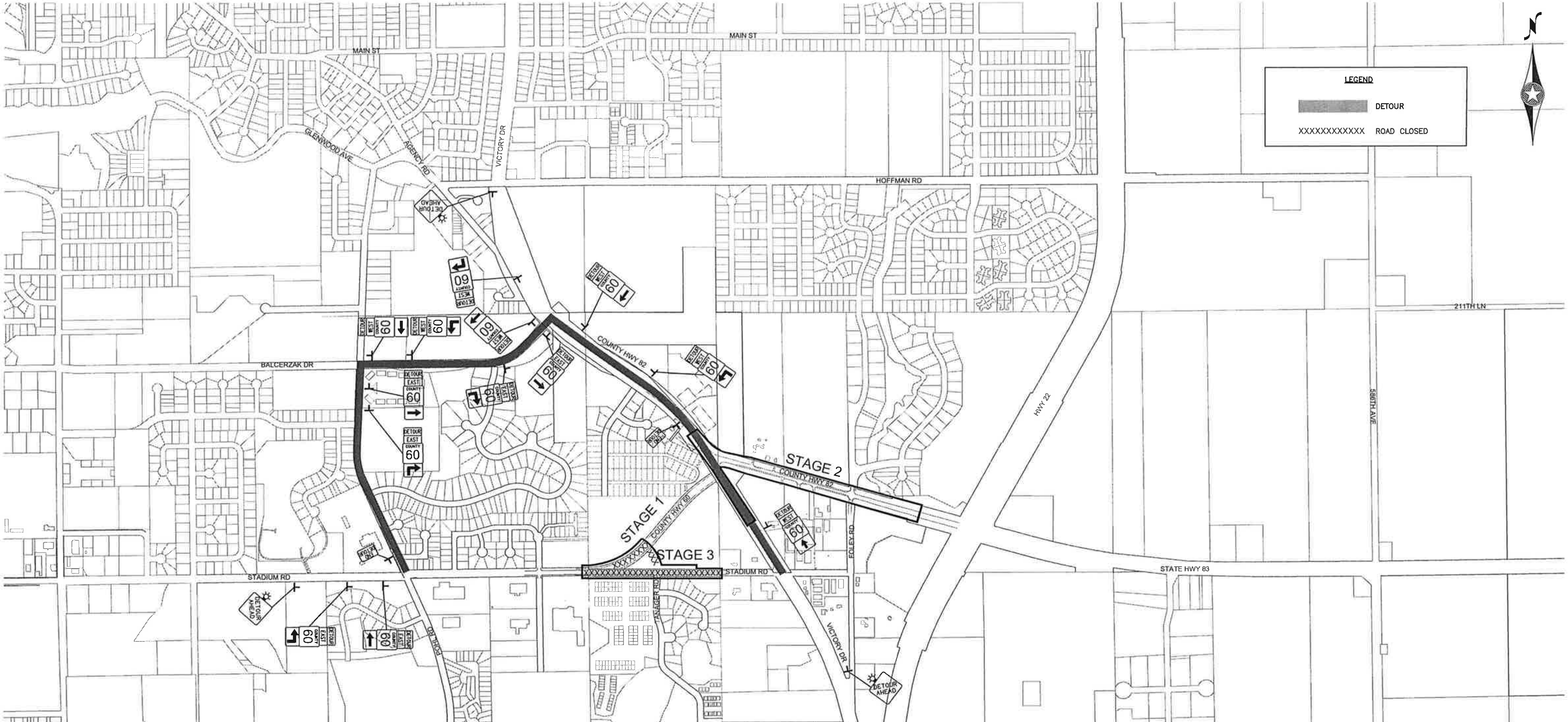

GENERAL NOTES:

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2. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED. IN PLACE SIGNING MUST ALSO BE MAINTAINED OR TEMPORARILY RELOCATED FOR CONSTRUCTION ACTIVITIES.
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9. PAINT SHALL BE USED FOR ALL TEMPORARY STRIPING.

STAGE 3 - DETOUR PLAN

CERTIFIED BY ______ LICENSED ENGINEER | LIC. NO. 42779 01/09/2012 | SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 28 OF 142 SHEETS

LEGEND

ALLOWABLE WORK ZONE

N

GENERAL NOTES:

1. CONTRACTOR MAY BEGIN CONSTRUCTION PRIOR TO MAY 15 WITH NO ROAD OR LANE CLOSURES ALLOWED DURING THE WORK. TEMPORARY ACCESS POINTS TO THE ROADWAYS WILL BE SUBJECT TO COUNTY APPROVAL
2. 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 WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD) AND PART VI, FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS. TRAFFIC CONTROL NOT IN COMPLIANCE WITH MMUTCD WILL BE SUBJECT TO VIOLATION IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

STAGING & TRAFFIC CONTROL PLANS-1

SCALE 0 200 400

CERTIFIED BY _____ LICENSED ENGINEER

LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 29 OF 142 SHEETS

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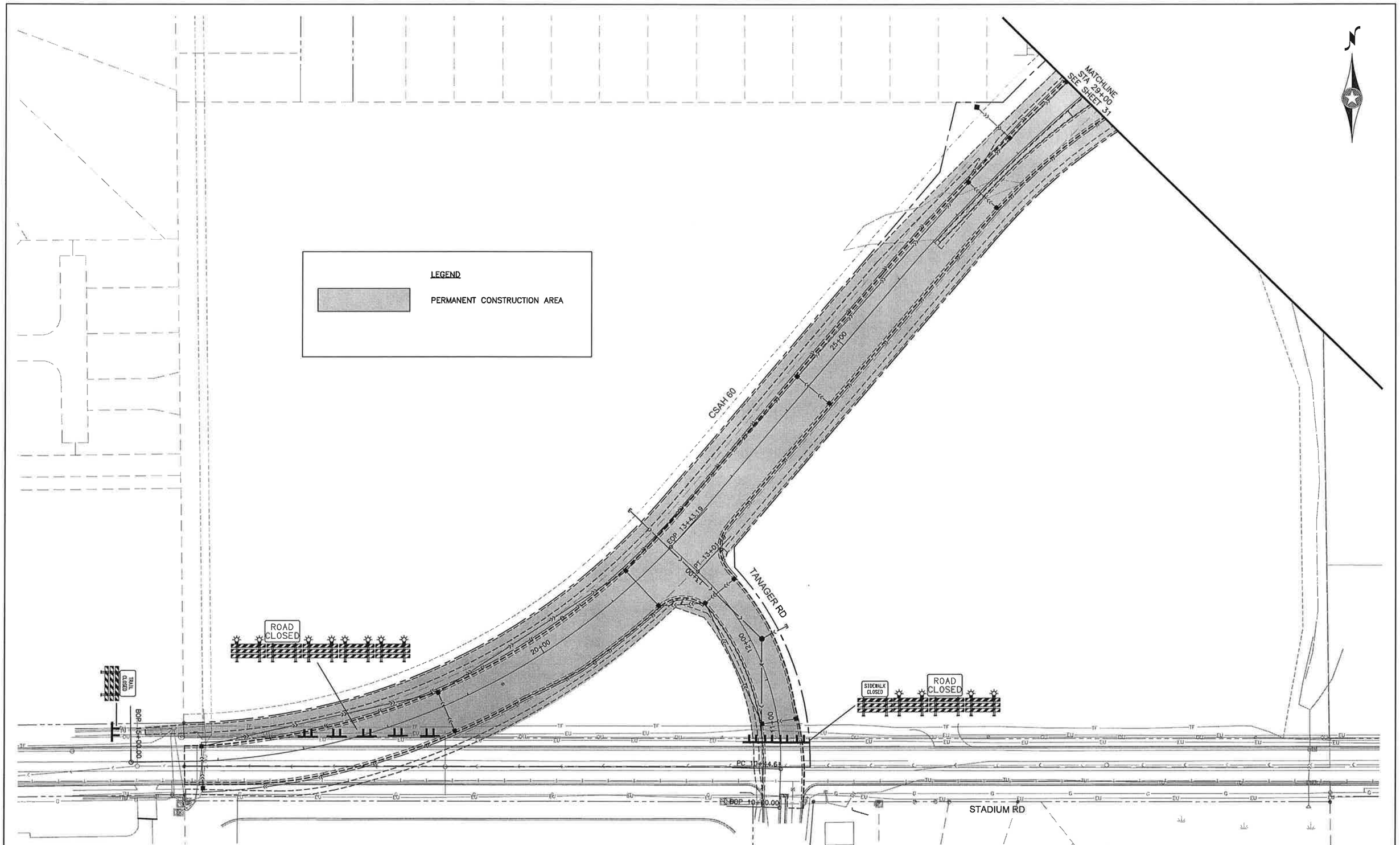

STAGING & TRAFFIC CONTROL PLANS-2

SCALE 0 50 100

CERTIFIED BY LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 30 OF 142 SHEETS

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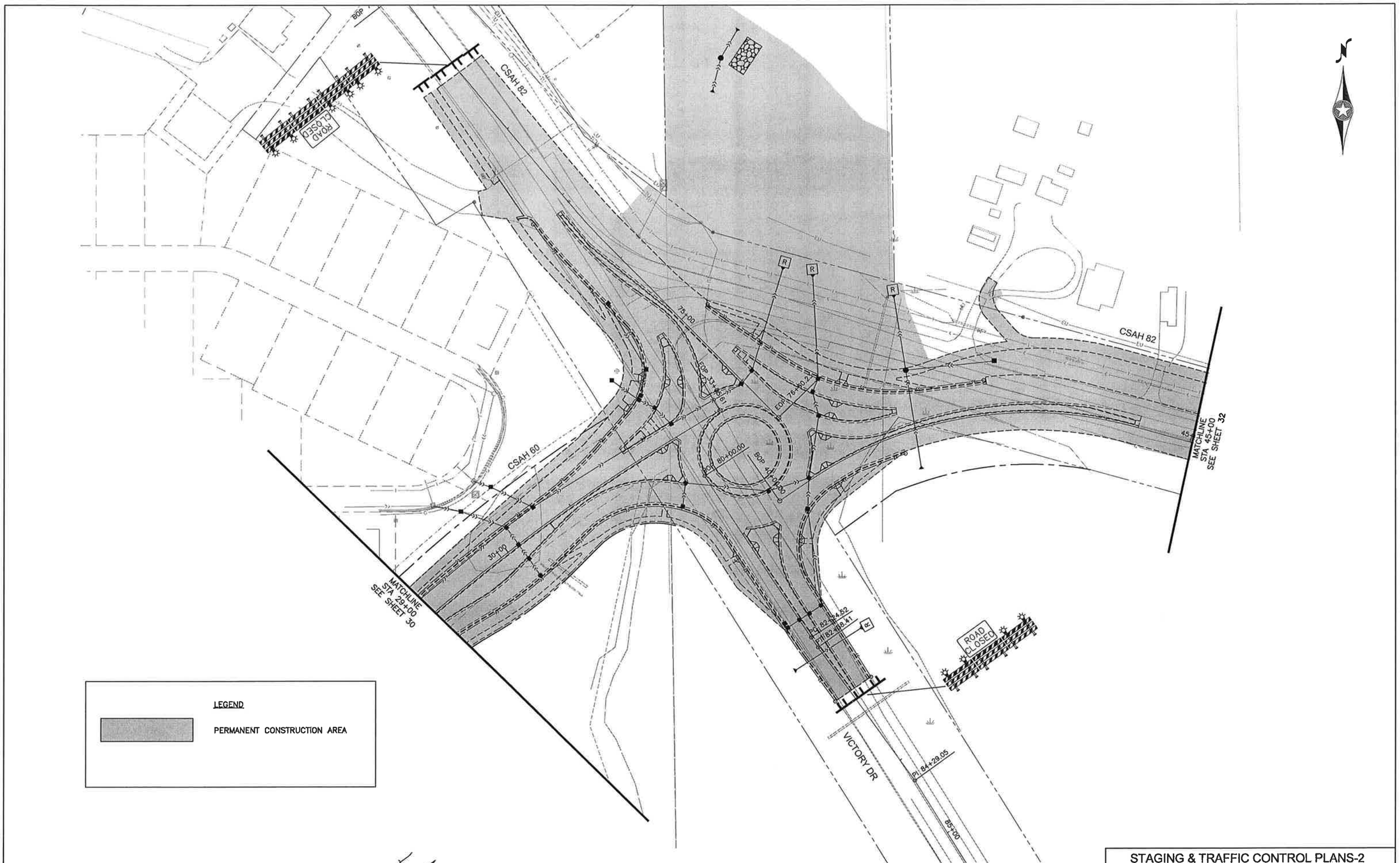

STAGING & TRAFFIC CONTROL PLANS-2

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 31 OF 142 SHEETS

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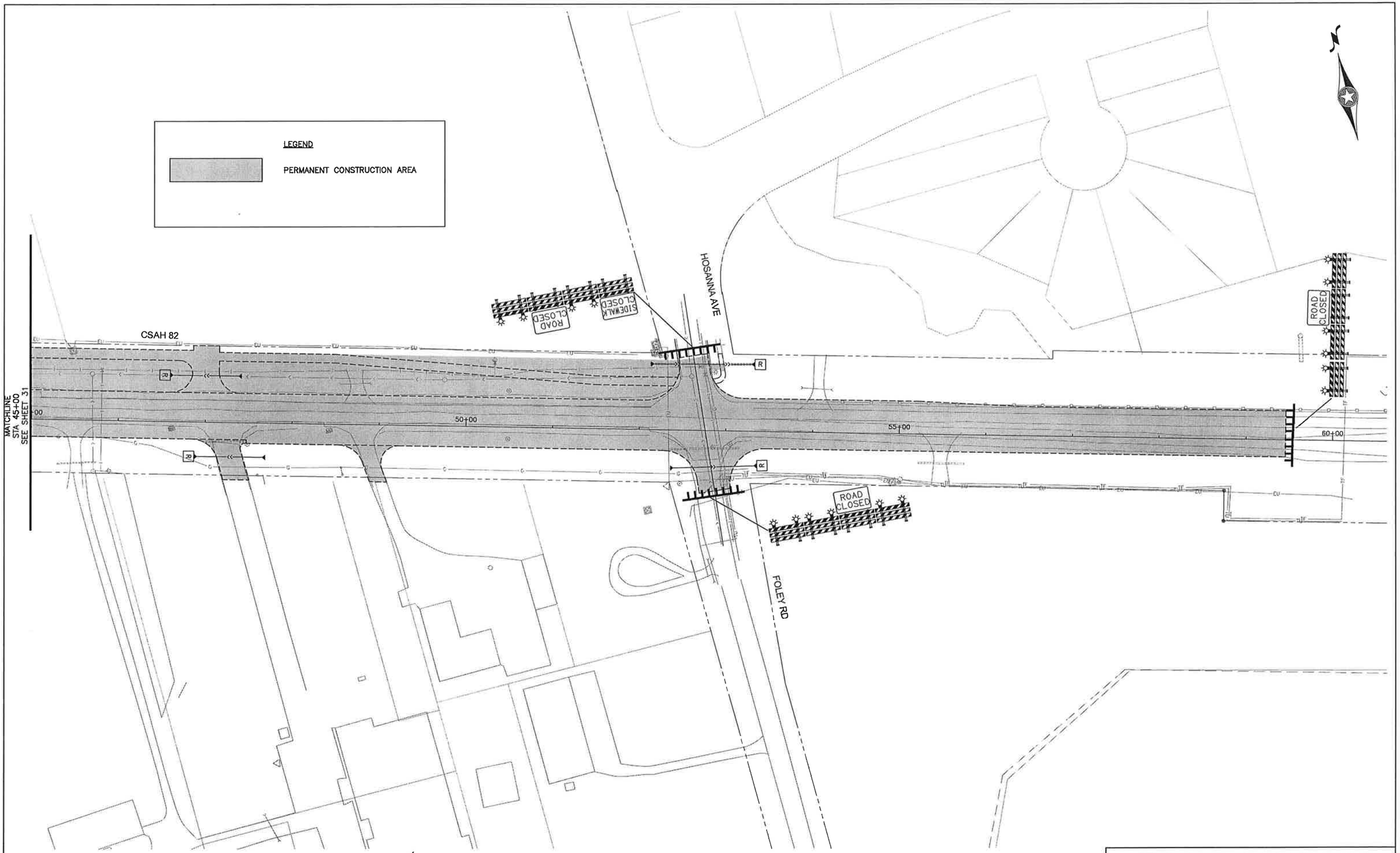

STAGING & TRAFFIC CONTROL PLANS-2

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 32 OF 142 SHEETS

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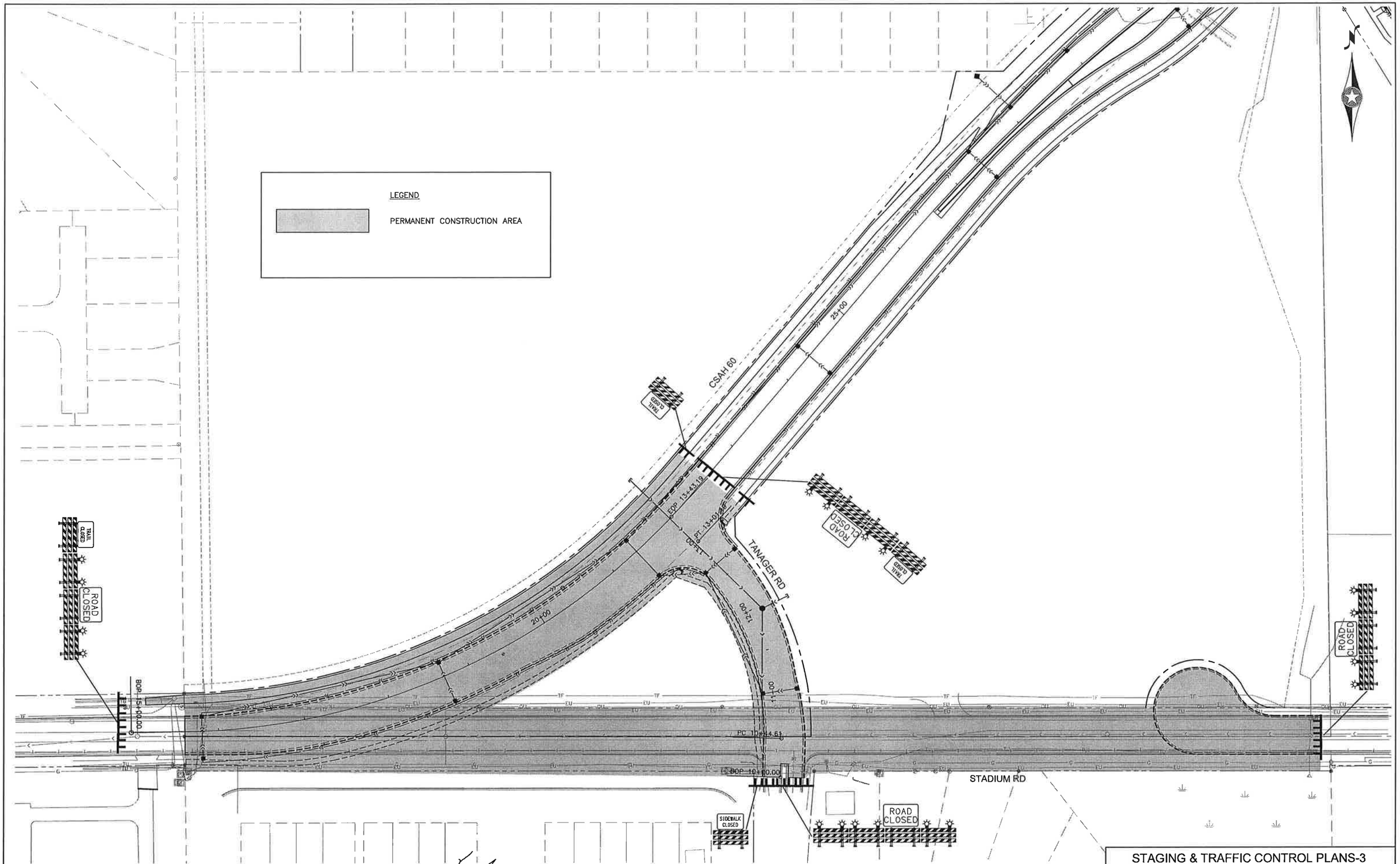

STAGING & TRAFFIC CONTROL PLANS-3

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 33 OF 142 SHEETS

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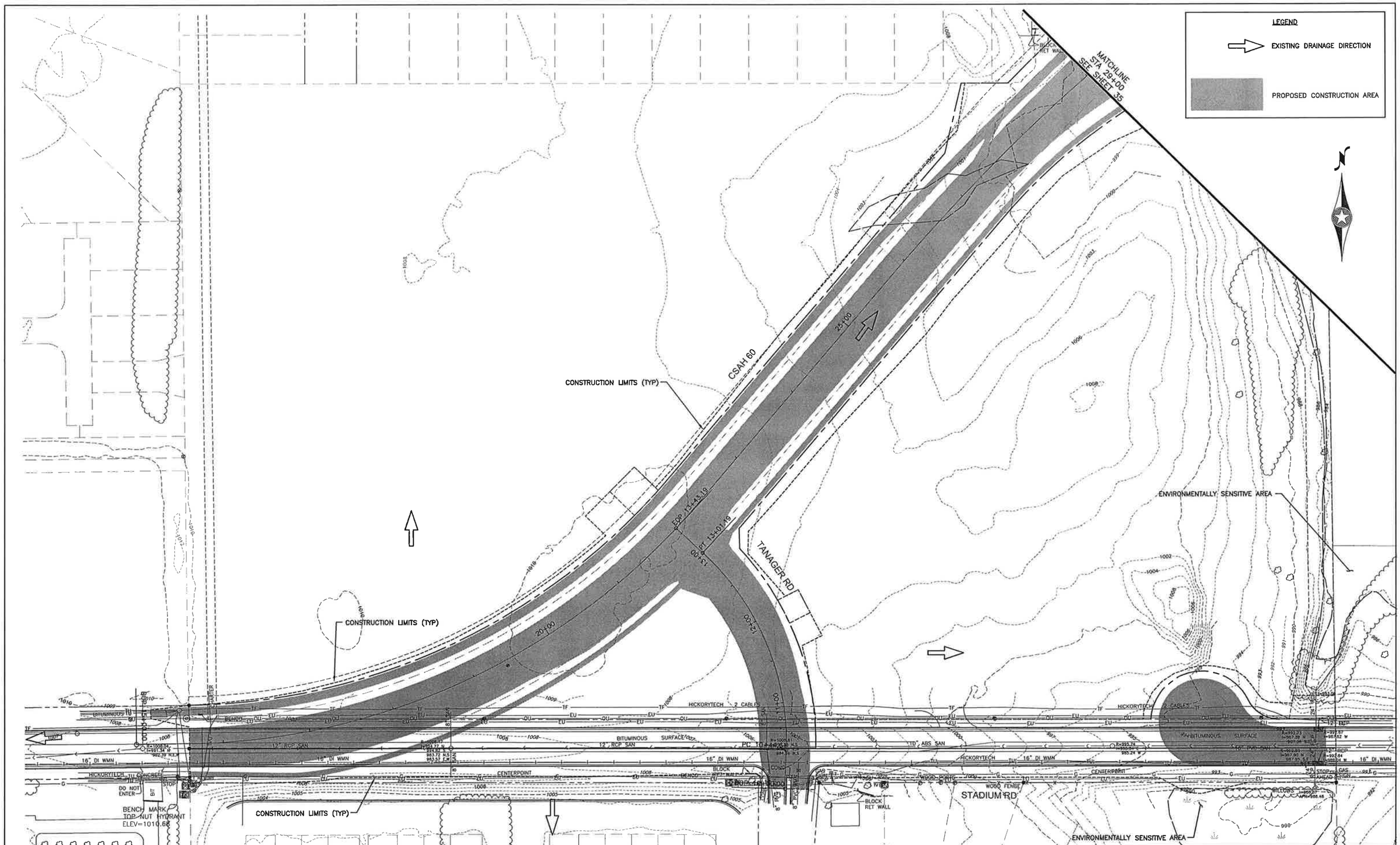

EXISTING CONDITIONS & UTILITIES

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 34 OF 142 SHEETS

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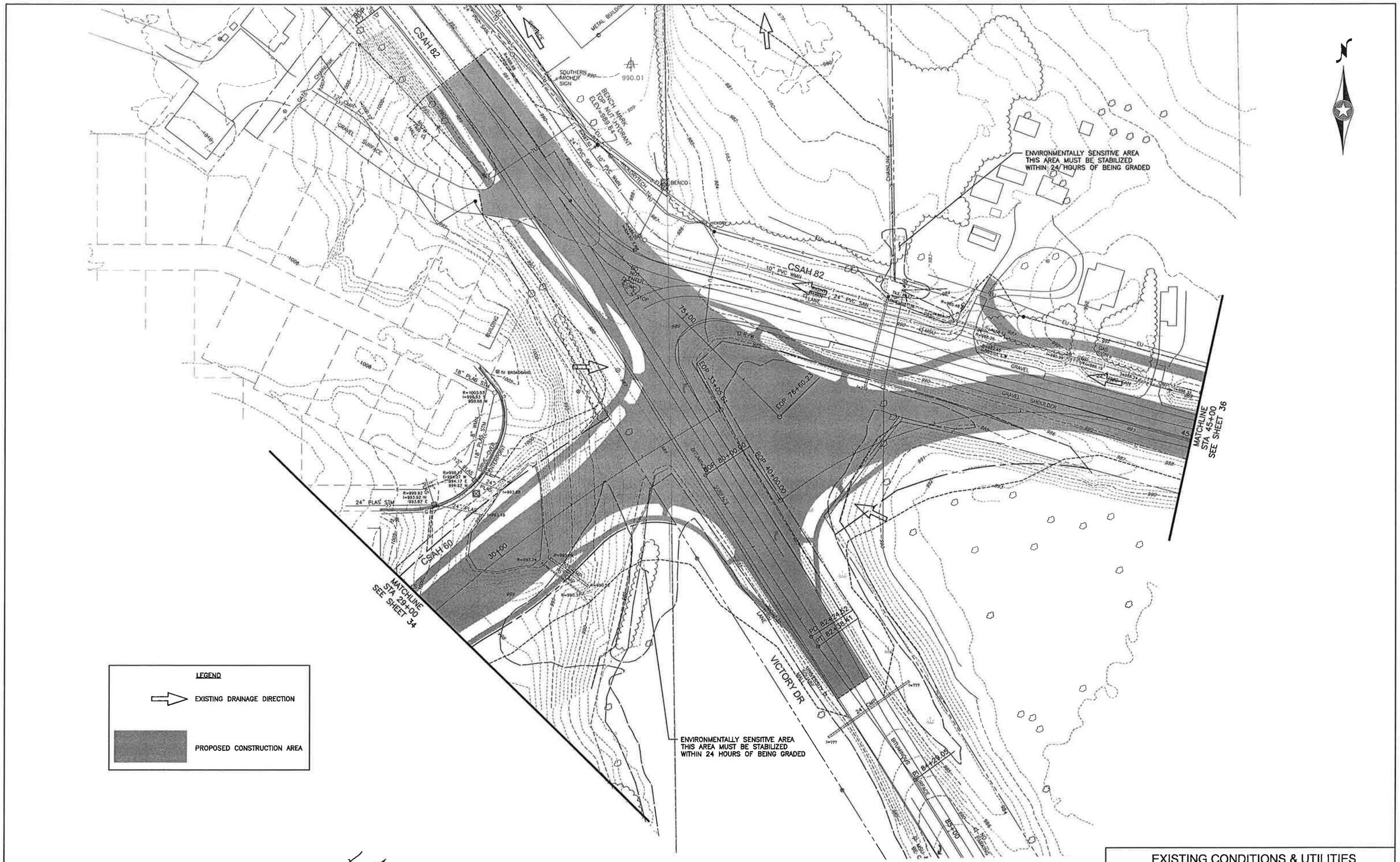

EXISTING CONDITIONS & UTILITIES

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 35 OF 142 SHEETS

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EXISTING CONDITIONS & UTILITIES

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 36 OF 142 SHEETS

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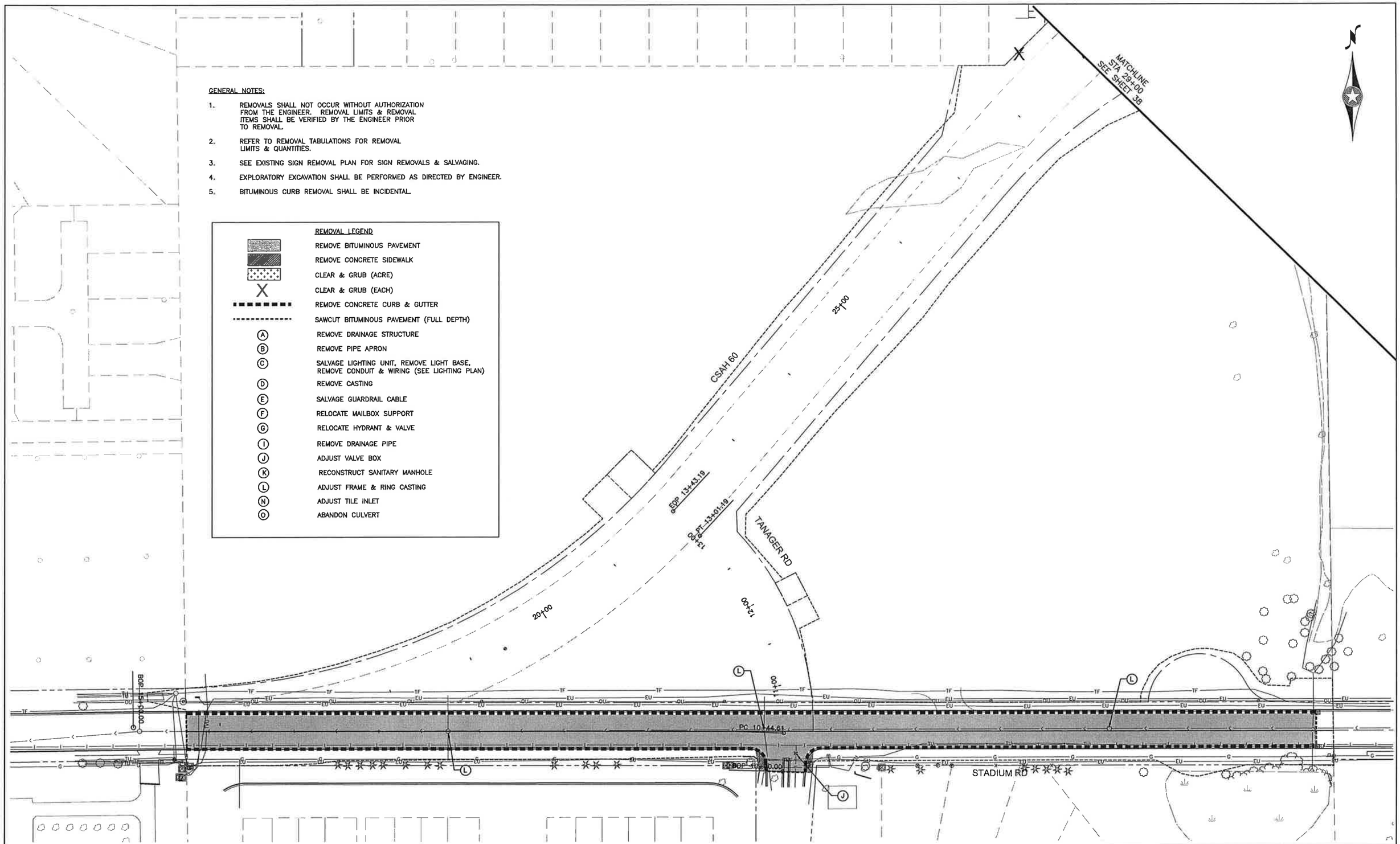
GENERAL NOTES:

1. REMOVALS SHALL NOT OCCUR WITHOUT AUTHORIZATION FROM THE ENGINEER. REMOVAL LIMITS & REMOVAL ITEMS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO REMOVAL.
2. REFER TO REMOVAL TABULATIONS FOR REMOVAL LIMITS & QUANTITIES.
3. SEE EXISTING SIGN REMOVAL PLAN FOR SIGN REMOVALS & SALVAGING.
4. EXPLORATORY EXCAVATION SHALL BE PERFORMED AS DIRECTED BY ENGINEER.
5. BITUMINOUS CURB REMOVAL SHALL BE INCIDENTAL.

REMOVAL LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE SIDEWALK
- CLEAR & GRUB (ACRE)
- X CLEAR & GRUB (EACH)
- REMOVE CONCRETE CURB & GUTTER
- SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (A) REMOVE DRAINAGE STRUCTURE
- (B) REMOVE PIPE APRON
- (C) SALVAGE LIGHTING UNIT, REMOVE LIGHT BASE, REMOVE CONDUIT & WIRING (SEE LIGHTING PLAN)
- (D) REMOVE CASTING
- (E) SALVAGE GUARDRAIL CABLE
- (F) RELOCATE MAILBOX SUPPORT
- (G) RELOCATE HYDRANT & VALVE
- (I) REMOVE DRAINAGE PIPE
- (J) ADJUST VALVE BOX
- (K) RECONSTRUCT SANITARY MANHOLE
- (L) ADJUST FRAME & RING CASTING
- (N) ADJUST TILE INLET
- (O) ABANDON CULVERT



REMOVAL PLAN

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 37 OF 142 SHEETS

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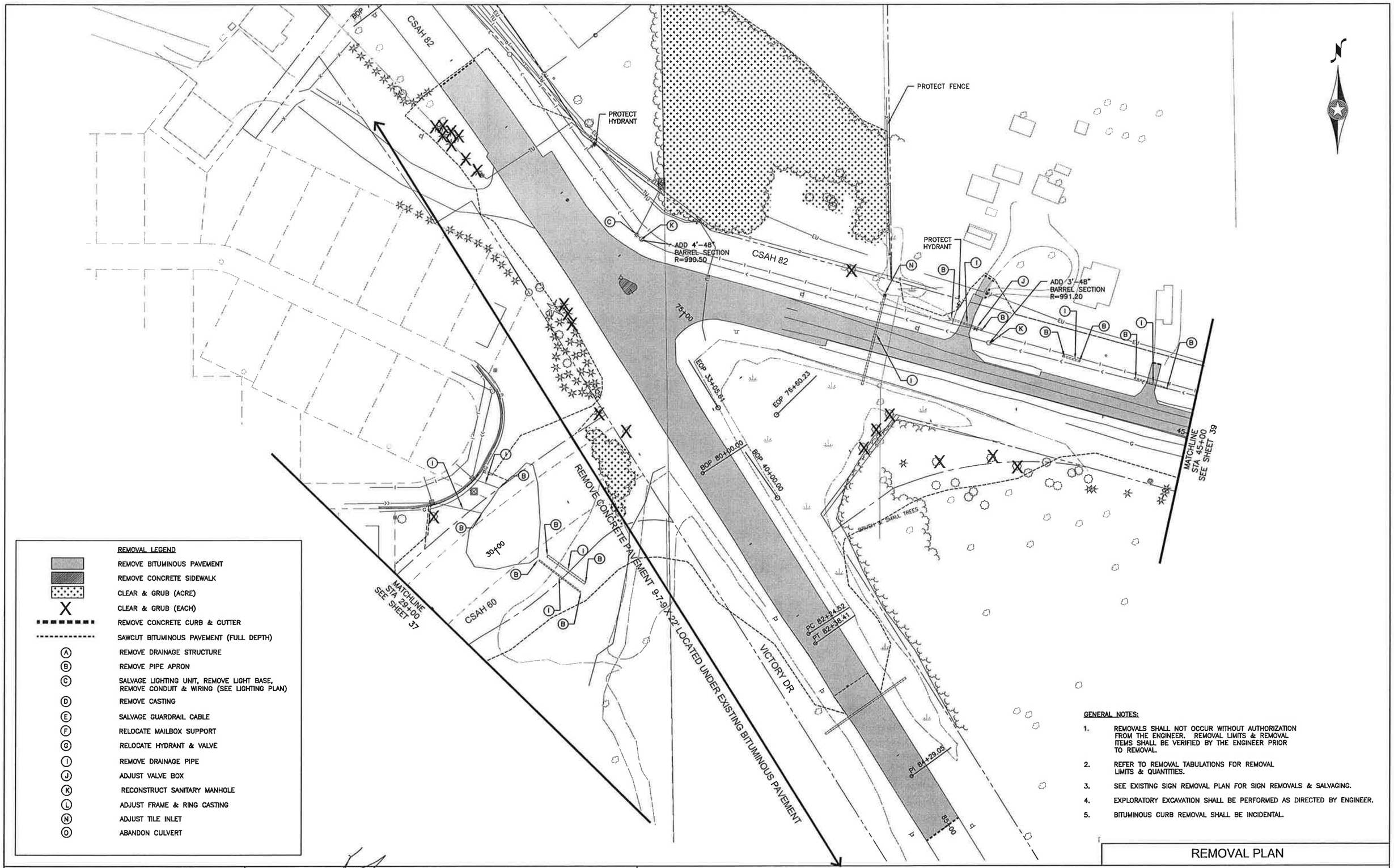

REMOVAL LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE SIDEWALK
- CLEAR & GRUB (ACRE)
- X CLEAR & GRUB (EACH)
- REMOVE CONCRETE CURB & GUTTER
- SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (A) REMOVE DRAINAGE STRUCTURE
- (B) REMOVE PIPE APRON
- (C) SALVAGE LIGHTING UNIT, REMOVE LIGHT BASE, REMOVE CONDUIT & WIRING (SEE LIGHTING PLAN)
- (D) REMOVE CASTING
- (E) SALVAGE GUARDRAIL CABLE
- (F) RELOCATE MAILBOX SUPPORT
- (G) RELOCATE HYDRANT & VALVE
- (I) REMOVE DRAINAGE PIPE
- (J) ADJUST VALVE BOX
- (K) RECONSTRUCT SANITARY MANHOLE
- (L) ADJUST FRAME & RING CASTING
- (N) ADJUST TILE INLET
- (O) ABANDON CULVERT

GENERAL NOTES:

1. REMOVALS SHALL NOT OCCUR WITHOUT AUTHORIZATION FROM THE ENGINEER. REMOVAL LIMITS & REMOVAL ITEMS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO REMOVAL.
2. REFER TO REMOVAL TABULATIONS FOR REMOVAL LIMITS & QUANTITIES.
3. SEE EXISTING SIGN REMOVAL PLAN FOR SIGN REMOVALS & SALVAGING.
4. EXPLORATORY EXCAVATION SHALL BE PERFORMED AS DIRECTED BY ENGINEER.
5. BITUMINOUS CURB REMOVAL SHALL BE INCIDENTAL.

REMOVAL PLAN

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 38 OF 142 SHEETS

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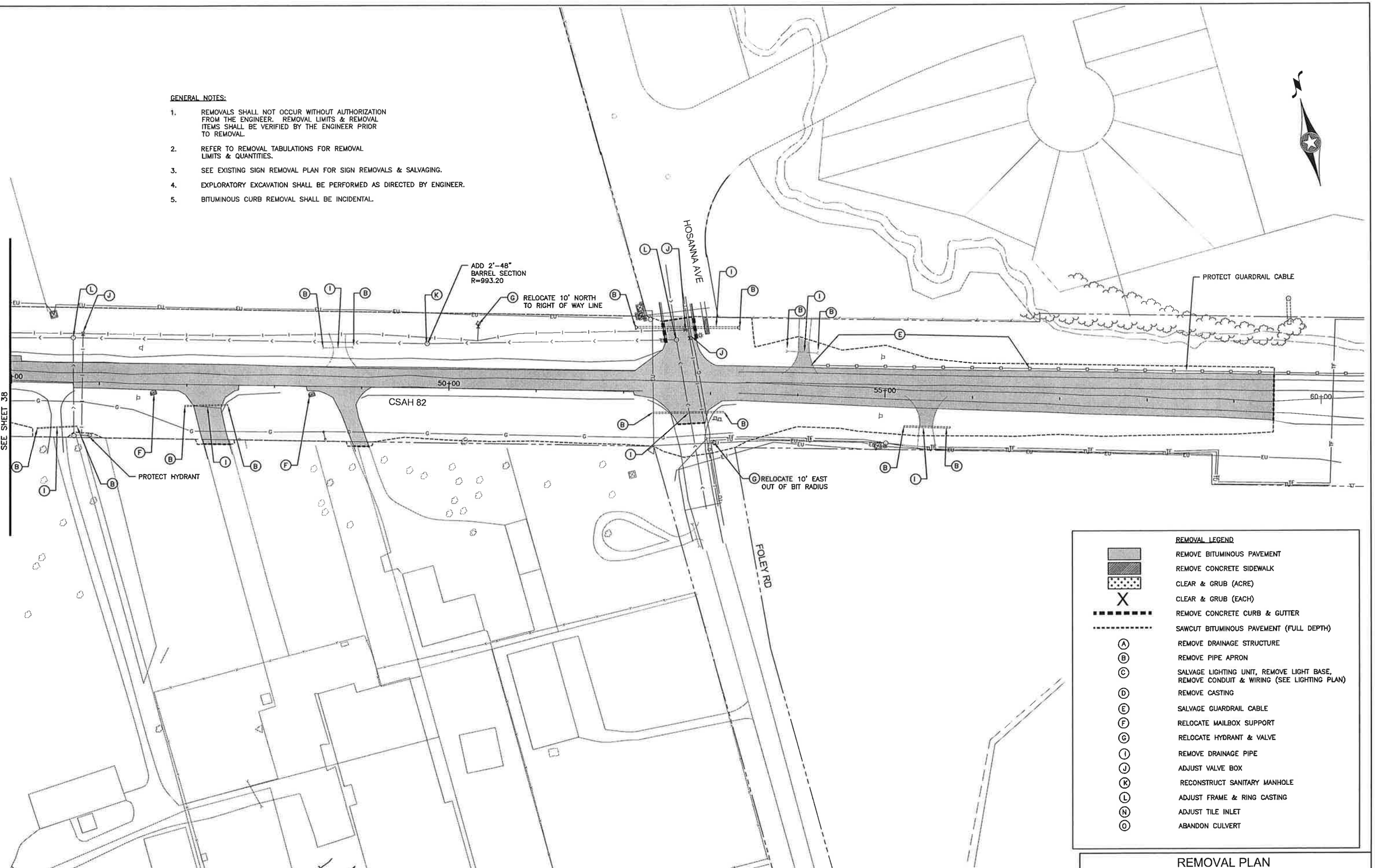
GENERAL NOTES:

1. REMOVALS SHALL NOT OCCUR WITHOUT AUTHORIZATION FROM THE ENGINEER. REMOVAL LIMITS & REMOVAL ITEMS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO REMOVAL.
2. REFER TO REMOVAL TABULATIONS FOR REMOVAL LIMITS & QUANTITIES.
3. SEE EXISTING SIGN REMOVAL PLAN FOR SIGN REMOVALS & SALVAGING.
4. EXPLORATORY EXCAVATION SHALL BE PERFORMED AS DIRECTED BY ENGINEER.
5. BITUMINOUS CURB REMOVAL SHALL BE INCIDENTAL.



REMOVAL PLAN

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 39 OF 142 SHEETS

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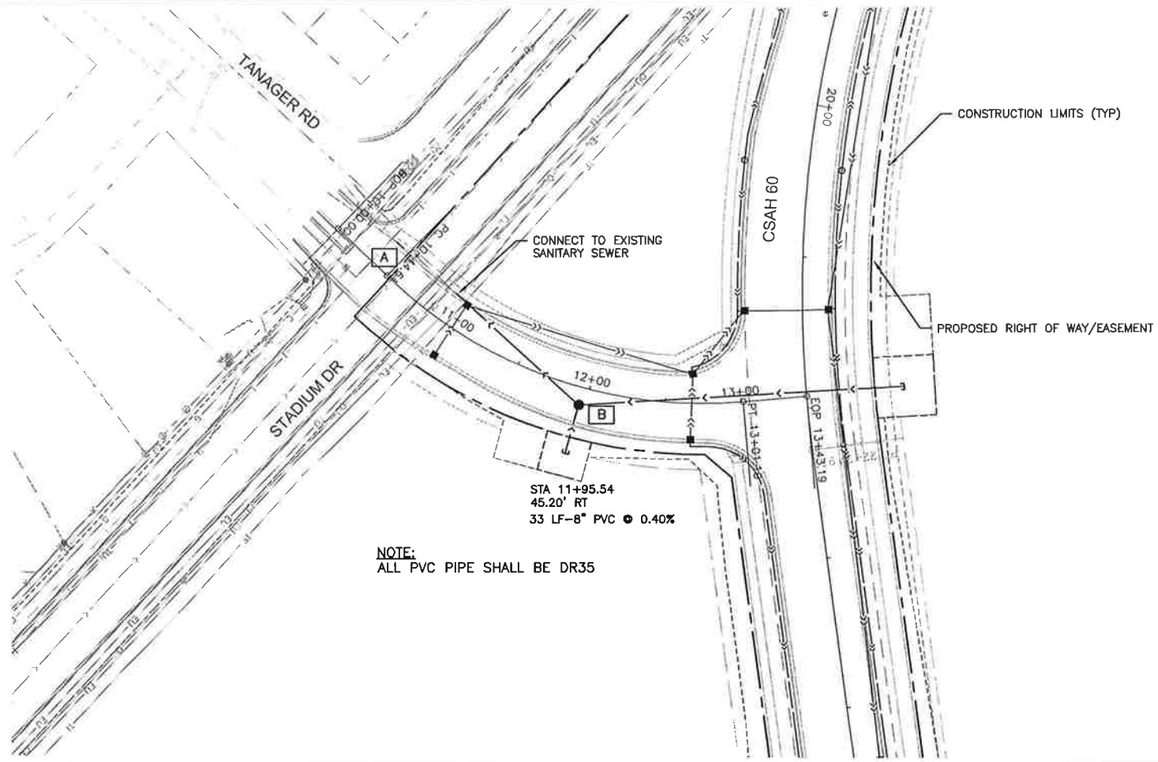
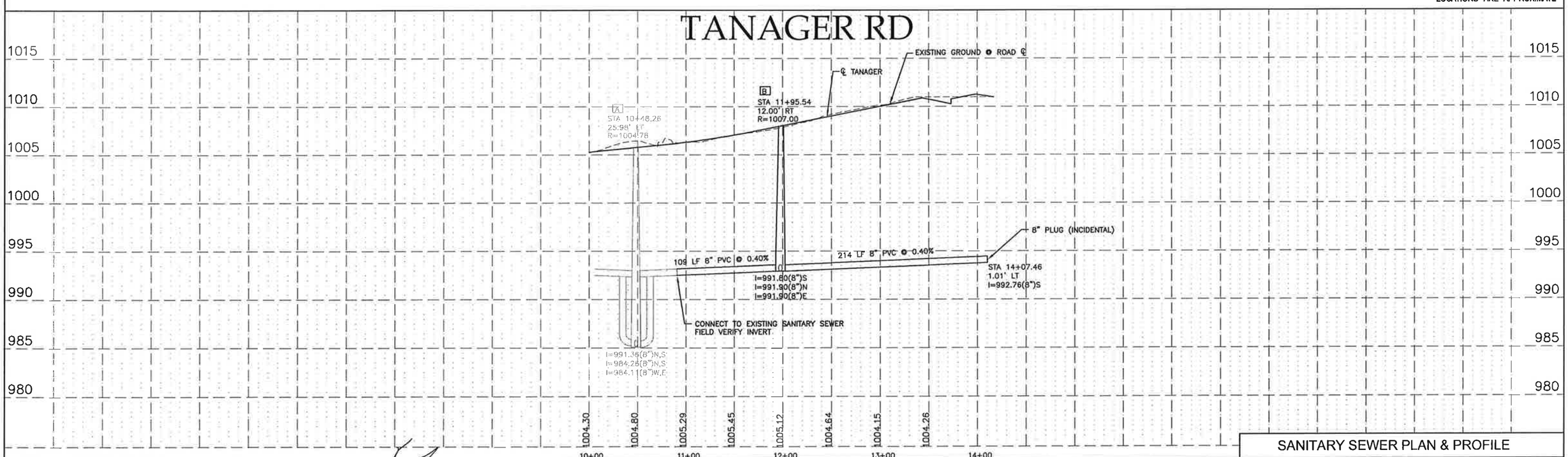


NOTE:
ALL PVC PIPE SHALL BE DR35

ALL UNDERGROUND UTILITIES LOCATIONS ARE APPROXIMATE



SANITARY SEWER PLAN & PROFILE

HORIZONTAL SCALE 0 50 100 | VERTICAL SCALE 0 5 10

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 40 OF 142 SHEETS

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(P) STORM SEWER TABLE

STRUCT	STATION	OFFSET BACK OF CURB	LT/RT	RIM ELEV FLOW LINE	STRUCT FLOW OUT ELEV	FLOWS TO STRUCT	FLOWS TO ELEV	STRUCTURE CONSTRUCTION DESIGN 2' X 3' (LIN FT)	C OR G (LIN FT)	4020-48" (LIN FT)	4020-60" (LIN FT)	4020-72" (LIN FT)	4020-84" (LIN FT)	4020-96" (LIN FT)	OUTLET CONTROL (EACH)	CASTING ASSEM	STEPS REQD
5000	75+39.33	126.83'	LT	–	981.00	OUTLET	–										–
5001	75+99.67	18.67'	LT	989.60	981.37	5000	981.00						8.23			B-5	Y
5002	75+99.91	4.00'	RT	990.20	981.43	5001	981.37						8.77			B-9	Y
5003	32+49.20	18.64'	LT	**989.60**	981.71	5002	981.43						7.89			B-5	Y
5004	30+64.11	26.71'	LT	994.59	986.62	5003	983.04							7.97		B-9	Y
5005	30+25.75	26.67'	LT	995.82	988.67	5004	987.62					7.15				B-9	Y
5006	28+96.41	25.94'	LT	999.67	993.15	5005	989.87			6.52						B-9	Y
5006A	28+05.69	22.29'	LT	1001.51	994.88	5006	993.15			6.63						B-9	Y
5007	27+36.25	19.67'	LT	1002.59	996.20	5006A	995.28			6.39						B-9	Y
5008	**24+37.57**	19.67'	LT	1007.04	998.90	5007	996.20			8.14						B-9	Y
5009	21+35.07	19.67'	LT	1010.08	1000.40	5008	998.90			9.68						B-9	Y
5010	18+69.08	19.67'	LT	1009.64	1001.90	5009	1000.60			7.74						B-9	Y
5011	18+69.08	33.67'	RT	1009.36	1004.60	5010	1004.35		4.76							B-9	Y
5012	15+81.19	19.67'	LT	1008.49	1003.50	5010	1002.10		4.99							B-9	Y
5013	15+81.19	33.67'	RT	1008.46	1003.77	5012	1003.50		4.69							B-9	Y
5020	32+43.94	39.97'	LT	989.30	984.15	5003	984.02		5.15							B-9	Y
5021	32+30.75	61.48'	LT	988.80	984.30	5021	984.15		4.50							B-5	Y
5022	32+17.77	95.24'	LT	988.00	984.68	5022	984.30		3.32							M-11	N
5030	32+35.12	64.50'	LT	989.00	984.53	5021	**984.50**		4.47							B-5	N
5031	75+10.83	71.63'	RT	989.40	984.69	5030	984.53		4.71							B-9	Y
5032	74+26.96	49.69'	RT	990.48	985.53	5031	985.09		4.95							B-9	Y
5040	30+39.60	72.29'	LT	995.20	990.56	5004	**989.40**			4.64						M-11	Y
6000	EXIST			–	994.27	5040	990.56									–	–
5050	30+24.86	2.67'	RT	997.24	991.65	5005	991.52			5.59						B-9	Y
5051	30+24.42	18.26'	RT	997.24	991.75	5050	991.65			5.49						B-9	Y
5052	30+23.48	46.87'	RT	996.78	991.88	5051	991.75		4.90							B-9	Y
5053	29+96.38	70.87'	LT	996.77	990.62	5005	989.52			6.15						M-11	Y
6001	EXIST				993.87	5053	993..23									–	–
5060	27+37.75	29.11'	RT	1002.59	997.89	5007	997.64		4.70							B-9	Y
5070	24+37.57	33.67'	RT	1006.76	1001.86	5008	1001.61		4.90							B-9	Y
5080	21+35.07	40.67'	RT	1009.66	1000.89	5009	1000.60			8.77						B-9	Y
5081	12+67.07	21.81'	LT	1008.31	1001.16	5080	1000.89			7.15						B-9	Y
5082	**12+67.11**	26.61'	RT	1008.23	1004.33	8081	1004.10		3.90							B-9	N
5083	10+99.94	20.66'	LT	1004.84	1002.13	8081	1001.36	2.71								R3067V	N
5084	10+99.90	23.84'	RT	1004.78	1002.34	8083	1002.13	2.44								R3067V	N

STRUCT	RC PIPE (DESIGN 3006) 12" STM PIPE (LIN FT)	15" STM PIPE (LIN FT)	15" STM APRON (EACH)	18" STM PIPE (LIN FT)	21" STM PIPE (LIN FT)	24" STM PIPE (LIN FT)	24" STM APRON (EACH)	30" STM PIPE (LIN FT)	30" STM APRON (EACH)	36" STM PIPE (LIN FT)	48" STM PIPE (LIN FT)	48" STM APRON (EACH)	CS CULVERT 18" STM PIPE (LIN FT)	CS CULVERT 18" STM APRON (EACH)	RIP RAP CL III (CU YD)	4" POLY INSULATION (SQ YD)	CONNECT TO EXIST STRUCT (EACH)	GUIDE POST TYPE B (EACH)
5000												1			20	8		1
5001											125							
5002											21							
5003											93							
5004										183								
5005										42								
5006						131												
5006A						92												
5007				70														
5008				300														
5009				300														
5010		259																
5011	50																	
5012	279																	
5013	53																	
5020				25														
5021				22														
5022				38														
5030				6														
5031				31														
5032	88																	
5040						56												
6000						18											1	
5050	26																	
5051	19																	
5052	25																	
5053						55												
6001						32											1	
5060	45																	
5070	50																	
5080		57																
5081		53																
5082	45																	
5083	154																	
5084	42																	

NOTES:
1. ALL INLET AND OUTLET APRONS SHALL INCLUDE TRASH RACK (INCIDENTAL).
2. ALL PIPE LENGTHS SHOWN INCLUDE APRON LENGTH. PAYMENT FOR PIPE LENGTH DOES NOT INCLUDE LENGTH OF APRON.
3. APRON OFFSETS AND ELEVATIONS ARE MEASURED TO THE END OF THE APRON.
4. ALL PIPE JOINTS SHALL BE TIED.

STORM SEWER TABULATIONS

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 41 OF 142 SHEETS

(P)

STORM SEWER TABLE CONTINUED

STRUCT	STATION	OFFSET BACK OF CURB	LT/RT	RIM ELEV FLOW LINE	STRUCT FLOW OUT ELEV	FLOWS TO STRUCT	FLOWS TO ELEV	STRUCTURE CONSTRUCTION DESIGN 2' X 3' (LIN FT)	C OR G (LIN FT)	4020-48" (LIN FT)	4020-60" (LIN FT)	4020-72" (LIN FT)	4020-84" (LIN FT)	4020-96" (LIN FT)	OUTLET CONTROL (EACH)	CASTING ASSEM	STEPS REQD	RC PIPE (DESIGN 3006) 12" STM PIPE (LIN FT)	15" STM PIPE (LIN FT)	15" STM APRON (EACH)	18" STM PIPE (LIN FT)	21" STM PIPE (LIN FT)	24" STM PIPE (LIN FT)	24" STM APRON (EACH)	30" STM PIPE (LIN FT)	30" STM APRON (EACH)	36" STM PIPE (LIN FT)	48" STM PIPE (LIN FT)	48" STM APRON (EACH)	CS CULVERT 18" STM PIPE (LIN FT)	CS CULVERT 18" STM APRON (EACH)	RIP RAP CL III (CU YD)	4" POLY INSULATION (SQ YD)	CONNECT TO EXIST STRUCT (EACH)	GUIDE POST TYPE B (EACH)
5100	41+36.58	210.53'	LT	–	981.00	OUTLET	–										–						1									9	8		1
5101	41+05.06	99.03'	LT	987.90	981.37	5100	981.00			6.53						B-5	Y						121												
5102	40+91.55	85.24'	LT	988.22	981.43	5101	981.37			6.79						B-9	Y						18												
5103	40+88.77	60.45'	LT	989.10	981.72	5102	981.63			7.38						B-5	Y					28													
5104	40+44.66	3.98'	LT	989.00	981.94	5103	981.72				7.06					B-9	Y					73													
5105	81+13.79	58.35'	LT	988.30	982.13	5104	981.94			6.17						B-9	Y					63													
5106	81+99.47	32.53'	LT	987.59	982.62	5105	982.33		4.97							B-5	Y		91																
5107	81+99.91	11.17'	LT	987.91	982.88	5106	982.82		5.03							B-9	Y		19																
5108	81+99.98	2.69'	LT	987.91	982.92	5107	982.88		4.99							B-9	Y		11																
5109	81+99.99	18.67'	RT	987.59	982.98	5108	982.92		4.61							B-5	Y		19																
5110	81+94.26	18.67'	RT	987.60	983.20	5109	983.18		4.40							B-5	N	7																	
5120	33+04.72	106.98"	RT	989.20	983.79	5104	983.44		5.41							B-9	Y	50																	
5121	32+26.57	48.90'	RT	989.60	984.28	5120	983.79		5.32							B-9	Y	97																	
5122	32+07.60	74.10'	RT	989.30	984.43	5121	984.28		4.87							B-9	Y	29																	
5140	41+93.87	157.74	LT	–	982.00	OUTLET	–												205	1													8		1
5141	41+70.12	45.68	RT	–	984.00	5140	982.00													1												8			1
5150	42+74.94	61.78	LT																102		1														1
5151	41+85.90	69.65	LT							5.00						M-11	Y																		
5160	47+41.04	54.03	LT																											82	1				1
5161	46+58.97	53.96	LT																												1	7			1
5170	47+69.53	39.93	RT																											82	1				1
5171	46+87.45	40.00	RT																												1	7			1
5190	52+12.45	76.20	LT																				120	1									8		
5191	53+32.29	77.81	LT																					1											
5200	52+36.62	44.32	RT																											100	1		8		1
5201	53+36.32	39.94	RT																												1	7			1
5210	82+44.63	37.96	RT	–	982.00	5211	984.00																		93	1									1
5211	82+49.29	54.92	LT	–	984.00	OUTLET	–																			1						10			1
5220	28+02.89	71.93	LT	1000	996.00	5006A	995.28			4.00						M-11	Y				52														
5240	73+21.46	209.15	LT																				20	1											
OCS-1	72+97.70	242.20	LT												1		N						20												
5241	72+85.59	279.36	LT																					1								9			
EOF																																30			
TOTALS								5	100	119	7	7	25	8	1			1059	816	2	845	164	683	5	93	2	225	239	1	264	6	107	40	2	13

NOTES:
1. ALL INLET AND OUTLET APRONS SHALL INCLUDE TRASH RACK (INCIDENTAL).
2. ALL PIPE LENGTHS SHOWN INCLUDE APRON LENGTH. PAYMENT FOR PIPE LENGTH DOES NOT INCLUDE LENGTH OF APRON.
3. APRON OFFSETS AND ELEVATIONS ARE MEASURED TO THE END OF THE APRON.
4. ALL PIPE JOINTS SHALL BE TIED.

STORM SEWER TABULATIONS

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

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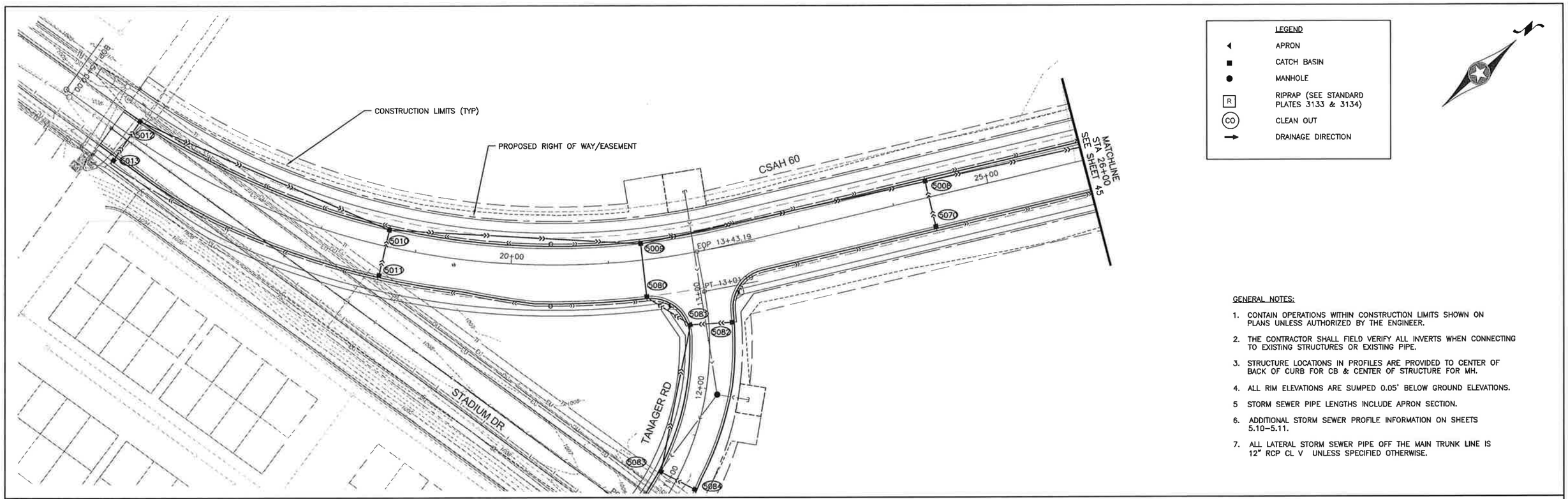
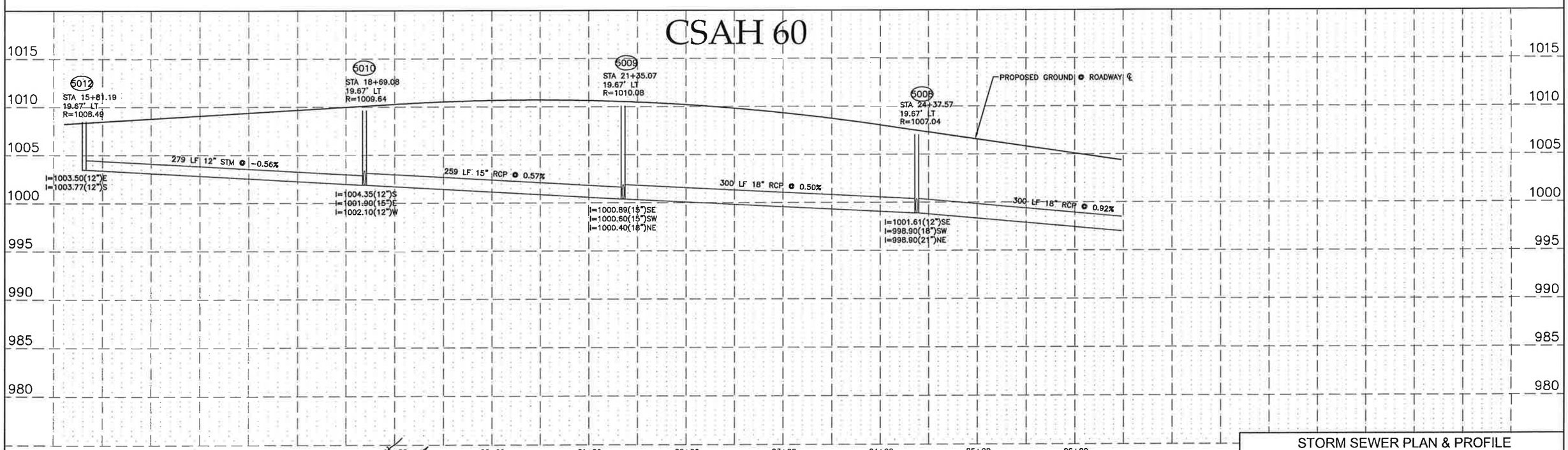


GENERAL NOTES:

1. CONTAIN OPERATIONS WITHIN CONSTRUCTION LIMITS SHOWN ON PLANS UNLESS AUTHORIZED BY THE ENGINEER.
2. THE CONTRACTOR SHALL FIELD VERIFY ALL INVERTS WHEN CONNECTING TO EXISTING STRUCTURES OR EXISTING PIPE.
3. STRUCTURE LOCATIONS IN PROFILES ARE PROVIDED TO CENTER OF BACK OF CURB FOR CB & CENTER OF STRUCTURE FOR MH.
4. ALL RIM ELEVATIONS ARE SUMPED 0.05' BELOW GROUND ELEVATIONS.
5 STORM SEWER PIPE LENGTHS INCLUDE APRON SECTION.
6. ADDITIONAL STORM SEWER PROFILE INFORMATION ON SHEETS 5.10–5.11.
7. ALL LATERAL STORM SEWER PIPE OFF THE MAIN TRUNK LINE IS 12" RCP CL V UNLESS SPECIFIED OTHERWISE.



STORM SEWER PLAN & PROFILE

HORIZONTAL SCALE 0 50 100 | VERTICAL SCALE 0 5 10

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007–660–005 & SAP 007–682–008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 43 OF 142 SHEETS

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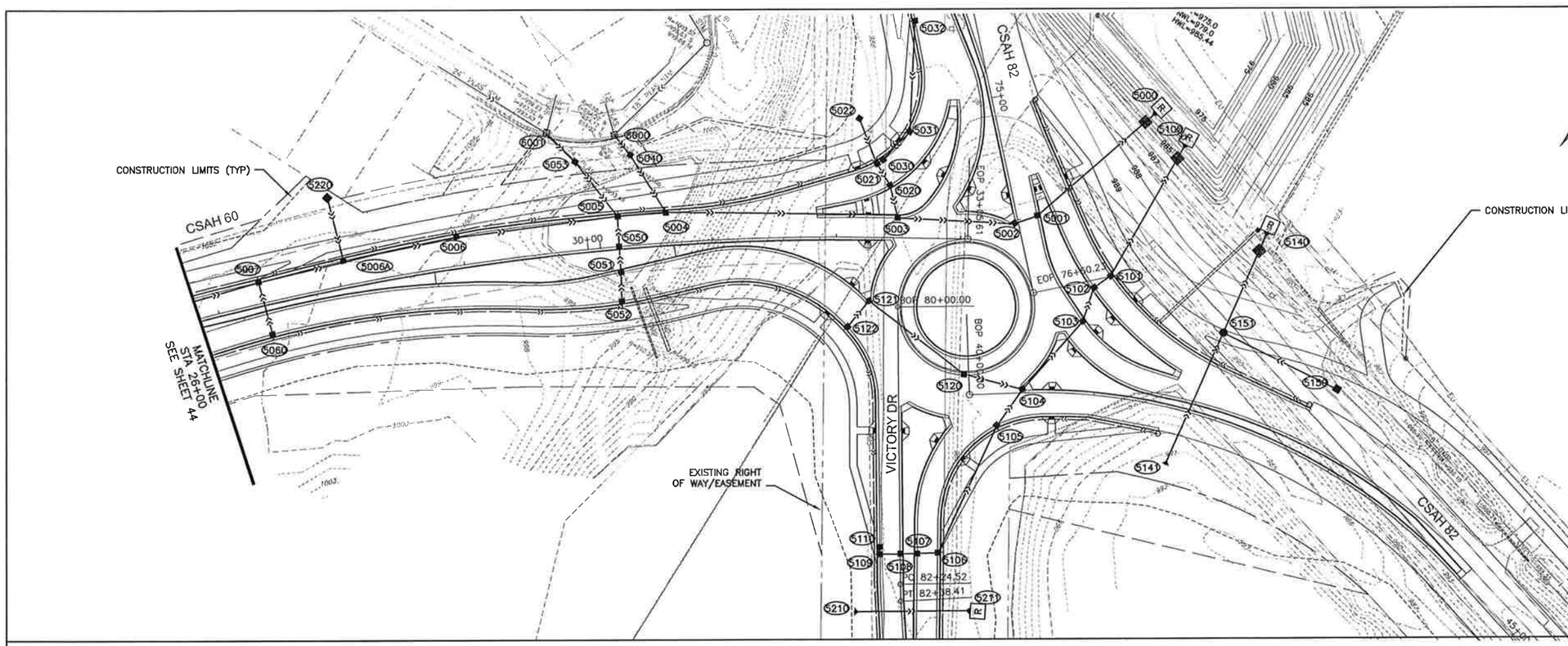


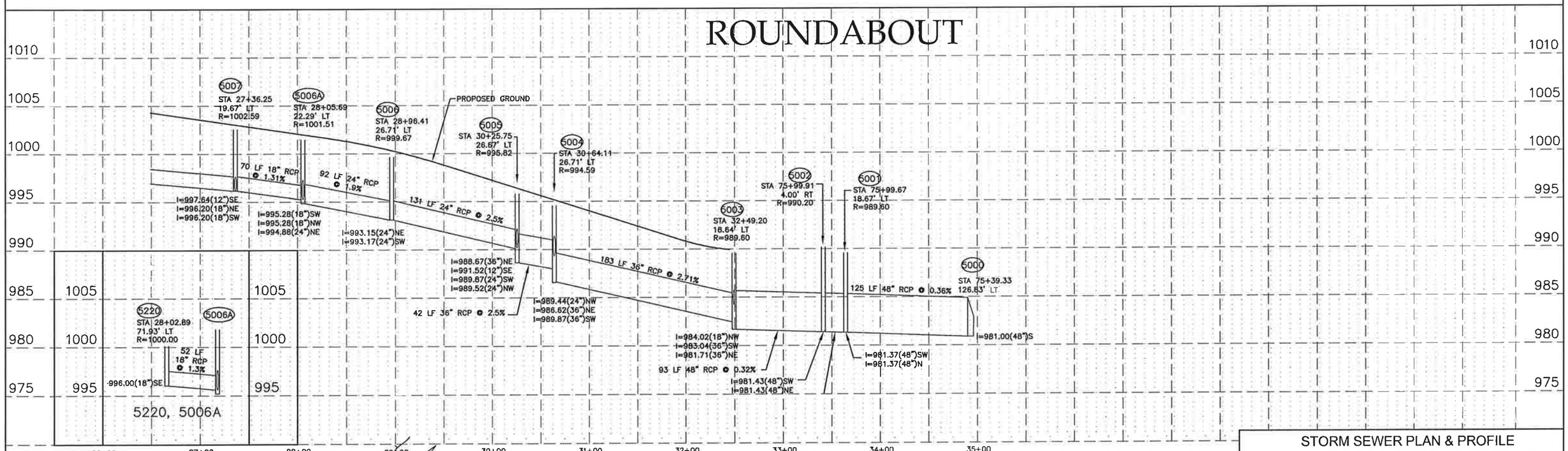
LEGEND

- APRON
- CATCH BASIN
- MANHOLE
- RIPRAP (SEE STANDARD PLATES 3133 & 3134)
- CLEAN OUT
- DRAINAGE DIRECTION

GENERAL NOTES:

1. CONTAIN OPERATIONS WITHIN CONSTRUCTION LIMITS SHOWN ON PLANS UNLESS AUTHORIZED BY THE ENGINEER.
2. THE CONTRACTOR SHALL FIELD VERIFY ALL INVERTS WHEN CONNECTING TO EXISTING STRUCTURES OR EXISTING PIPE.
3. STRUCTURE LOCATIONS IN PROFILES ARE PROVIDED TO CENTER OF BACK OF CURB FOR CB & CENTER OF STRUCTURE FOR MH.
4. ALL RIM ELEVATIONS ARE SUMPED 0.05' BELOW GROUND ELEVATIONS.
5. STORM SEWER PIPE LENGTHS INCLUDE APRON SECTION.
6. ADDITIONAL STORM SEWER PROFILE INFORMATION ON SHEETS 5.10-5.11.
7. ALL LATERAL STORM SEWER PIPE OFF THE MAIN TRUNK LINE IS 12" RCP CL V UNLESS SPECIFIED OTHERWISE.

ROUNDABOUT



STORM SEWER PLAN & PROFILE

HORIZONTAL SCALE 0 50 100 VERTICAL SCALE 0 5 10

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 44 OF 142 SHEETS

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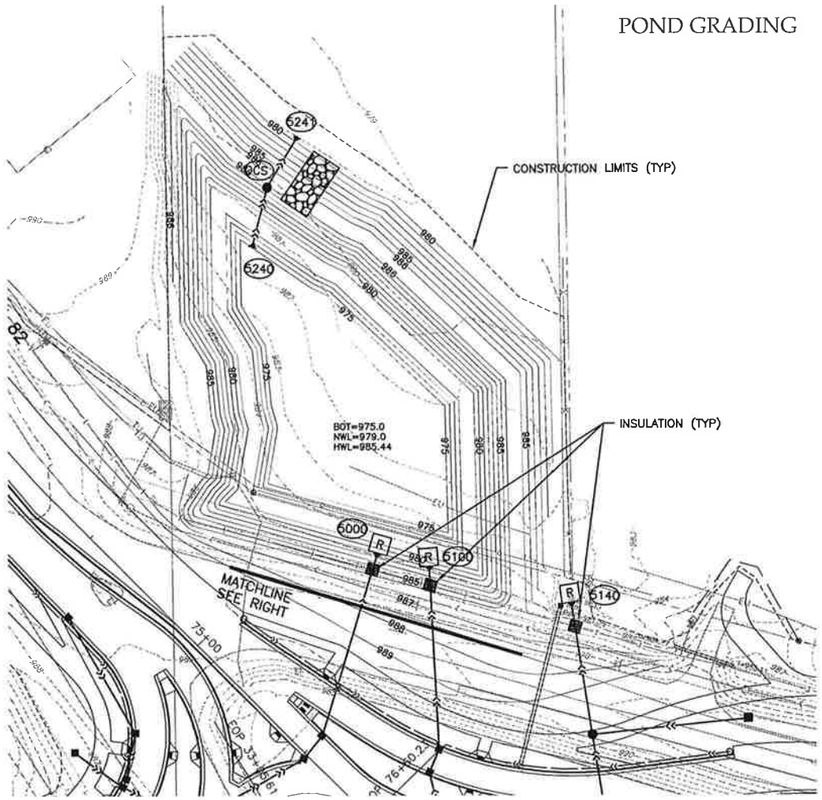
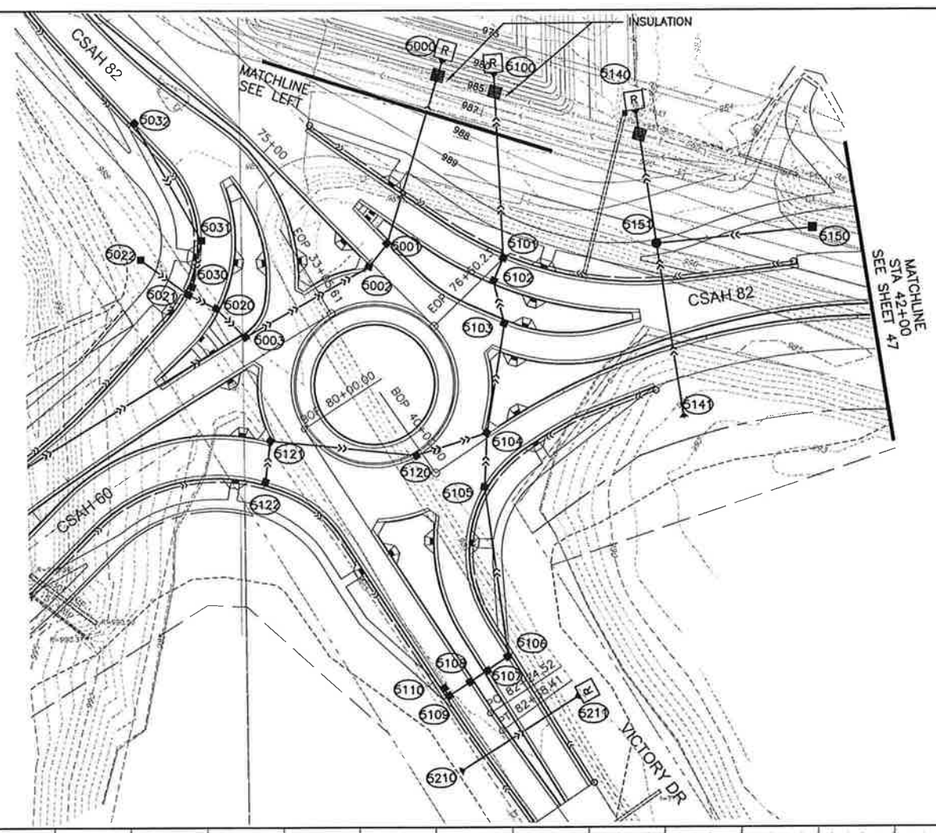
POND GRADING





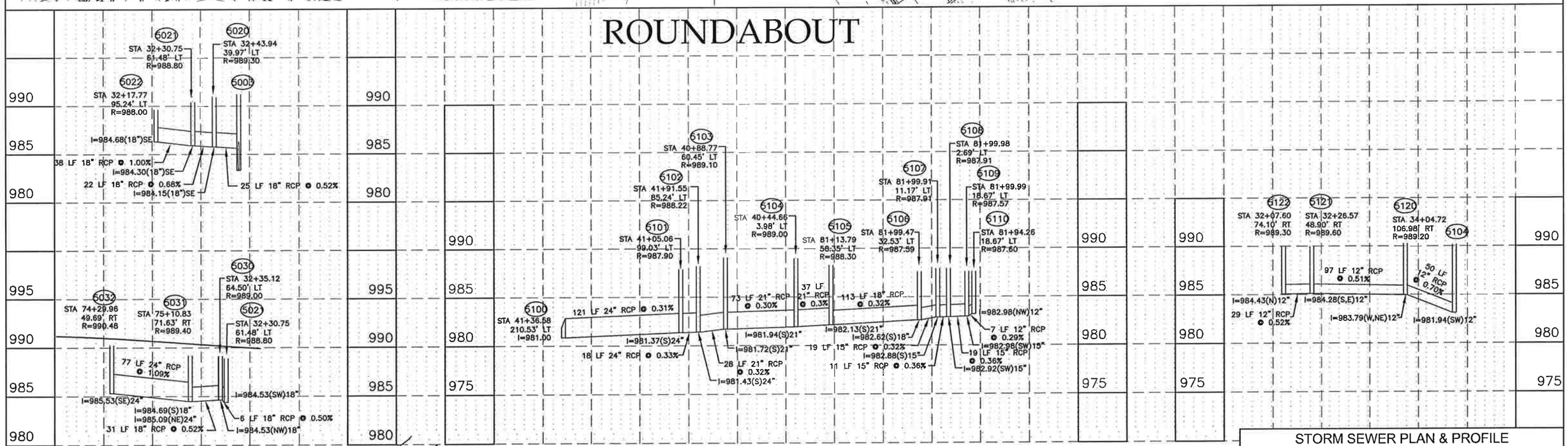
GENERAL NOTES:

1. CONTAIN OPERATIONS WITHIN CONSTRUCTION LIMITS SHOWN ON PLANS UNLESS AUTHORIZED BY THE ENGINEER.
2. THE CONTRACTOR SHALL FIELD VERIFY ALL INVERTS WHEN CONNECTING TO EXISTING STRUCTURES OR EXISTING PIPE.
3. STRUCTURE LOCATIONS IN PROFILES ARE PROVIDED TO CENTER OF BACK OF CURB FOR CB & CENTER OF STRUCTURE FOR MH.
4. ALL RIM ELEVATIONS ARE SUMPED 0.05' BELOW GROUND ELEVATIONS.
5. STORM SEWER PIPE LENGTHS INCLUDE APRON SECTION.
6. ADDITIONAL STORM SEWER PROFILE INFORMATION ON SHEETS 5.10–5.11.
7. ALL LATERAL STORM SEWER PIPE OFF THE MAIN TRUNK LINE IS 12" RCP CL V UNLESS SPECIFIED OTHERWISE.

LEGEND

- APRON
- CATCH BASIN
- MANHOLE
- RIPRAP (SEE STANDARD PLATES 3133 & 3134)
- CLEAN OUT
- DRAINAGE DIRECTION

ROUNDABOUT



STORM SEWER PLAN & PROFILE

HORIZONTAL SCALE 0 50 100 | VERTICAL SCALE 0 5 10

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007–660–005 & SAP 007–682–008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 45 OF 142 SHEETS

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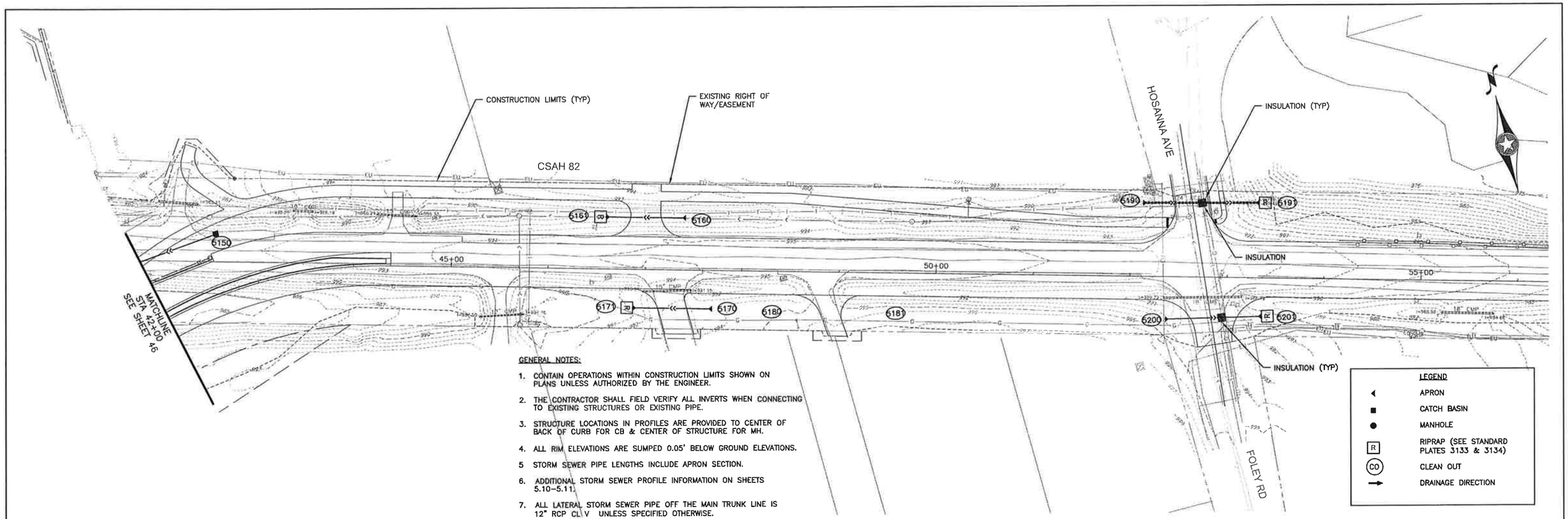
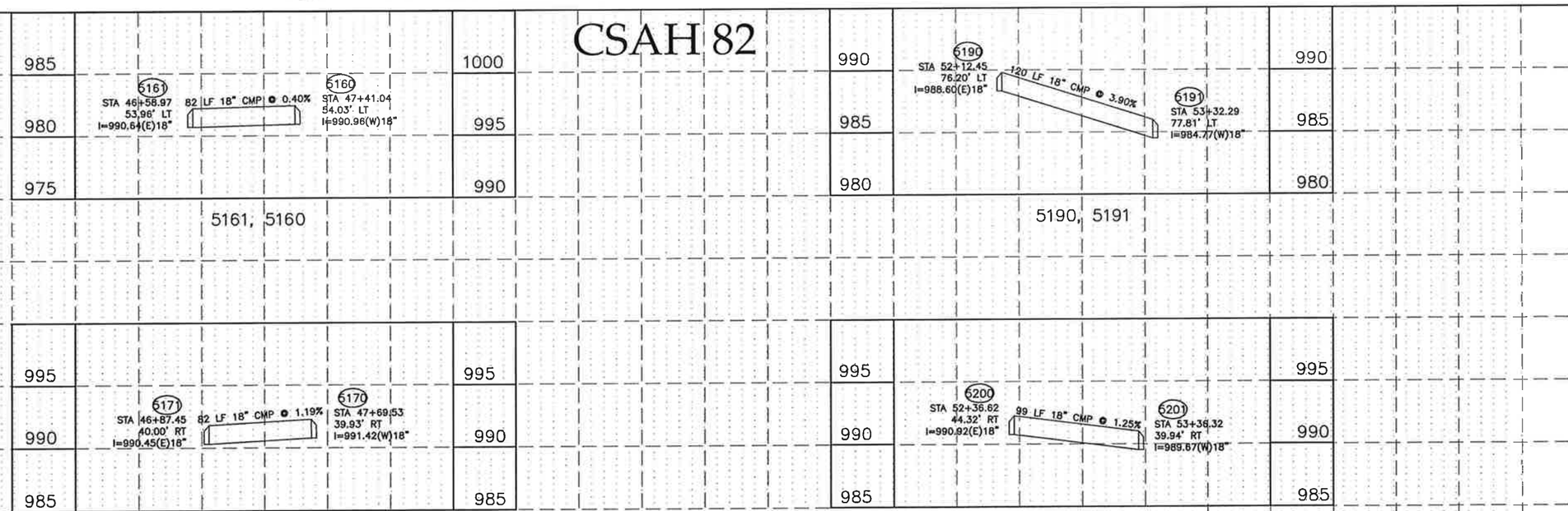


GENERAL NOTES:

1. CONTAIN OPERATIONS WITHIN CONSTRUCTION LIMITS SHOWN ON PLANS UNLESS AUTHORIZED BY THE ENGINEER.
2. THE CONTRACTOR SHALL FIELD VERIFY ALL INVERTS WHEN CONNECTING TO EXISTING STRUCTURES OR EXISTING PIPE.
3. STRUCTURE LOCATIONS IN PROFILES ARE PROVIDED TO CENTER OF BACK OF CURB FOR CB & CENTER OF STRUCTURE FOR MH.
4. ALL RIM ELEVATIONS ARE SUMPED 0.05' BELOW GROUND ELEVATIONS.
5. STORM SEWER PIPE LENGTHS INCLUDE APRON SECTION.
6. ADDITIONAL STORM SEWER PROFILE INFORMATION ON SHEETS 5.10–5.11.
7. ALL LATERAL STORM SEWER PIPE OFF THE MAIN TRUNK LINE IS 12" RCP CL V UNLESS SPECIFIED OTHERWISE.

CSAH 82



STORM SEWER PLAN & PROFILE

HORIZONTAL SCALE 0 50 100 | VERTICAL SCALE 0 5 10

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007–660–005 & SAP 007–682–008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 46 OF 142 SHEETS

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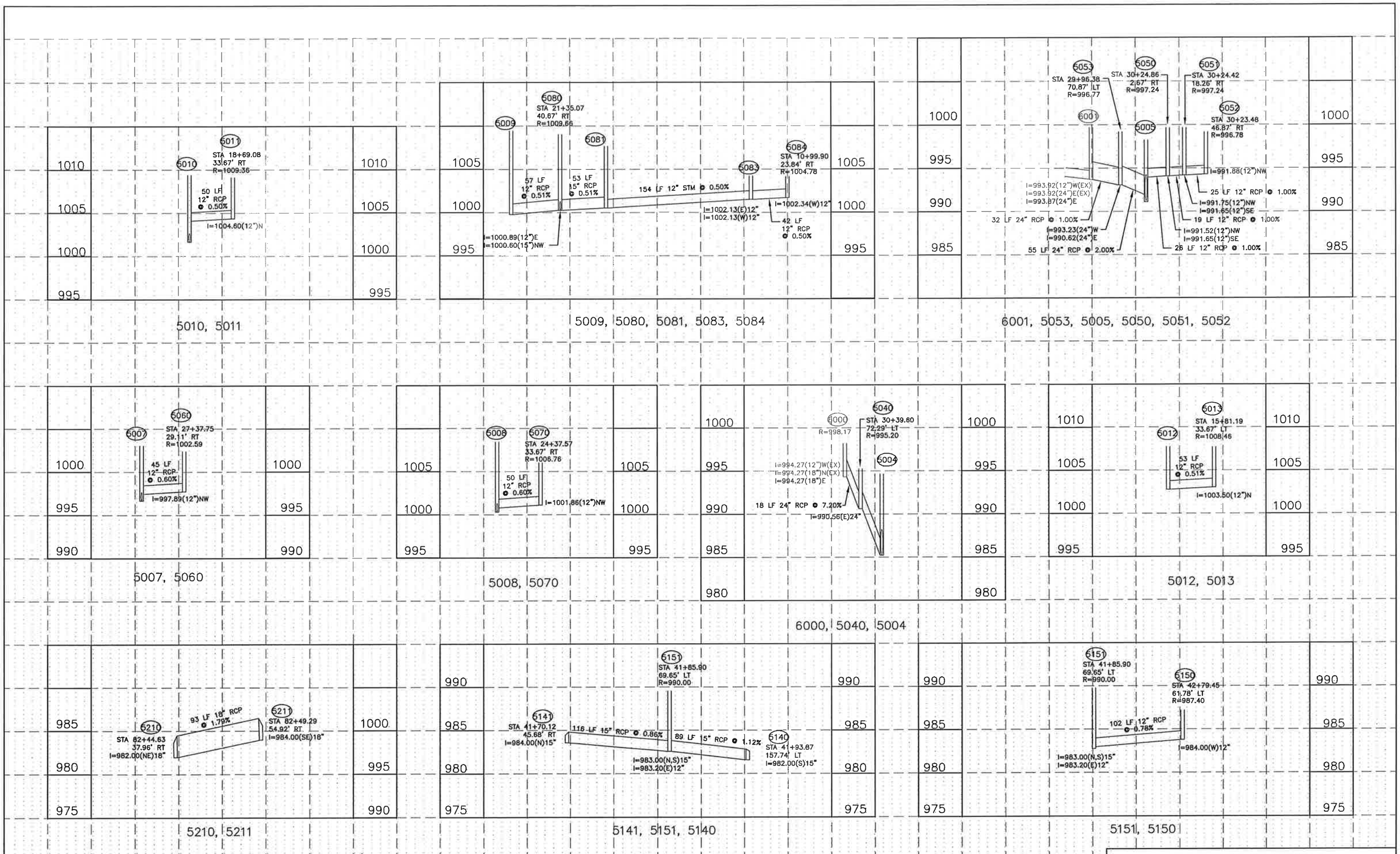

STORM SEWER LATERALS

HORIZONTAL SCALE 0 50 100

VERTICAL SCALE 0 5 10

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 47 OF 142 SHEETS

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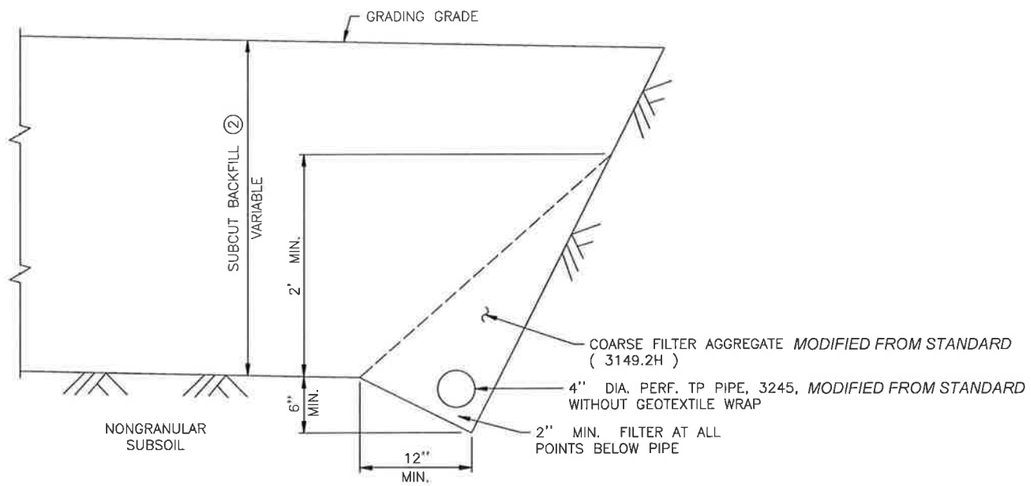
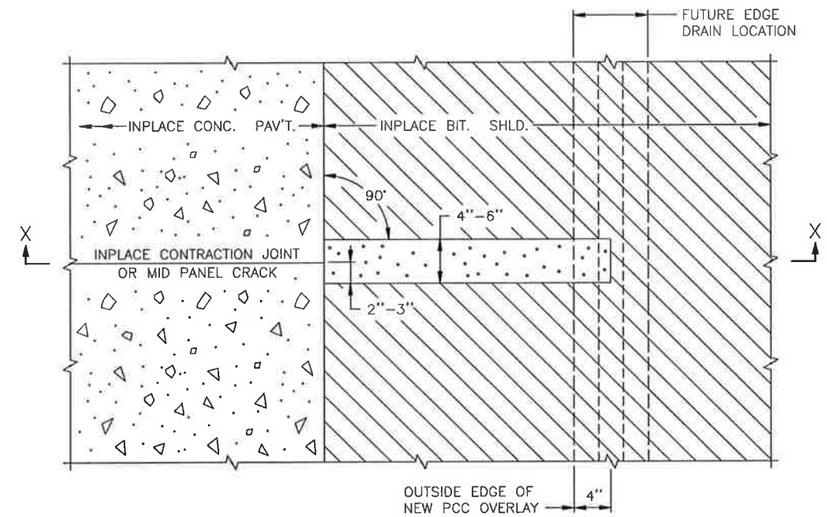
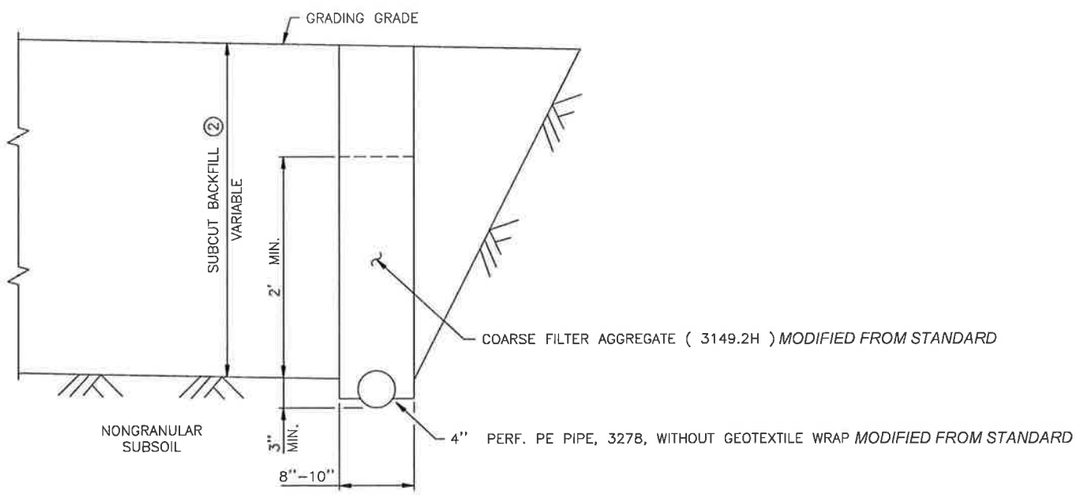


TYPICAL SECTION (OPTION NO. 1)①



PLAN VIEW



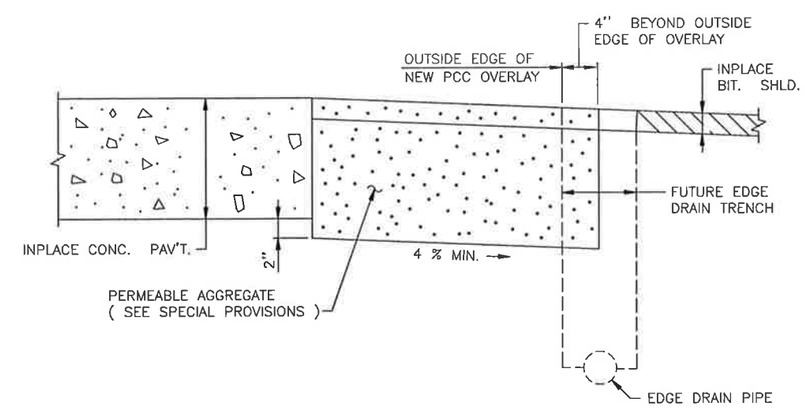
TYPICAL SECTION (OPTION NO. 2)①

SUBSURFACE DRAIN, SUBCUT DRAIN TYPE

NOTES:

① MAY NEED TO BE MODIFIED FOR SPECIFIC PROJECTS. SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS. OPTION NO. 2 MAY ONLY BE USED WHEN PIPE IS TO BEPLACED BY MACHINE TRENCHER.

② GRANULAR, SELECT GRANULAR OR SELECT GRANULAR MODIFIED. (AS SHOWN IN DESIGN RECOMMENDATION LETTER).



SECTION X–X

INTERCEPTOR DRAIN DETAIL ①

NOTE:

① SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.

MODIFIED

STANDARD SHEET NO. ~~5-297.430~~	TITLE: SUBSURFACE DRAINS
STANDARD APPROVED: FEBRUARY 25, 1997	

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

STATE AID PROJ. NO. SAP 007–660–005 & SAP 007–682–008 (CSAH 60, CSAH 82 & VICTORY DRIVE)

FILE NAME S430B97.SPN

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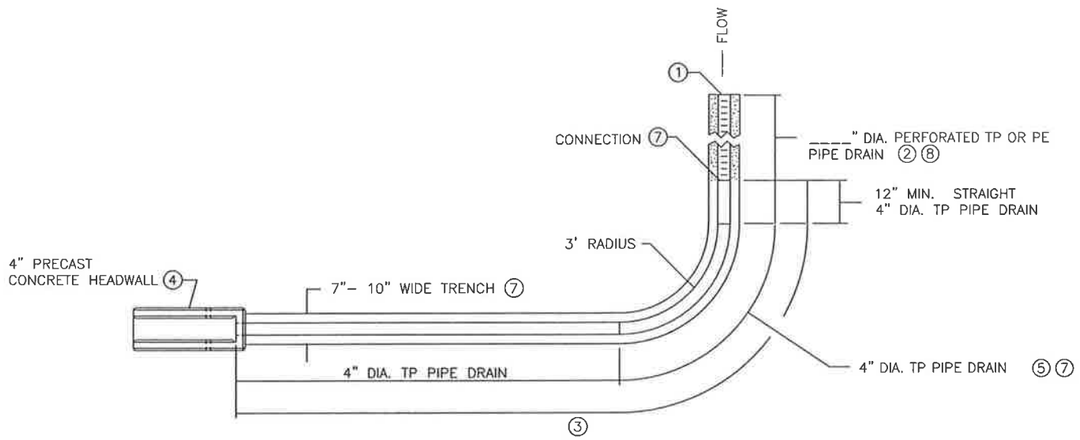
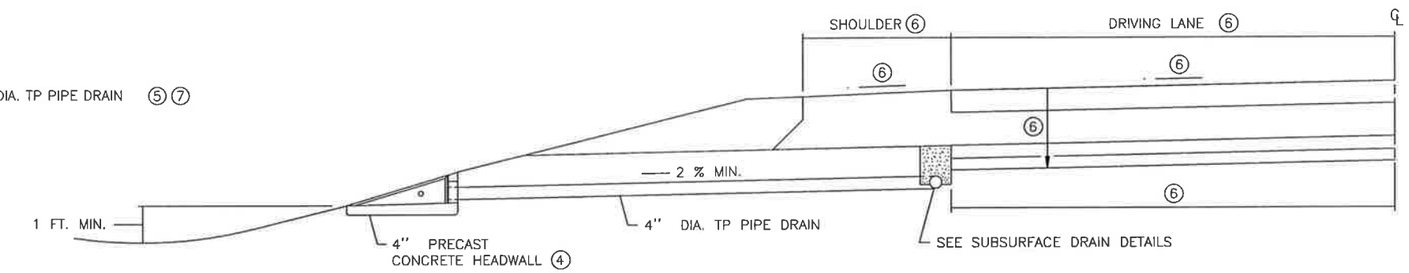
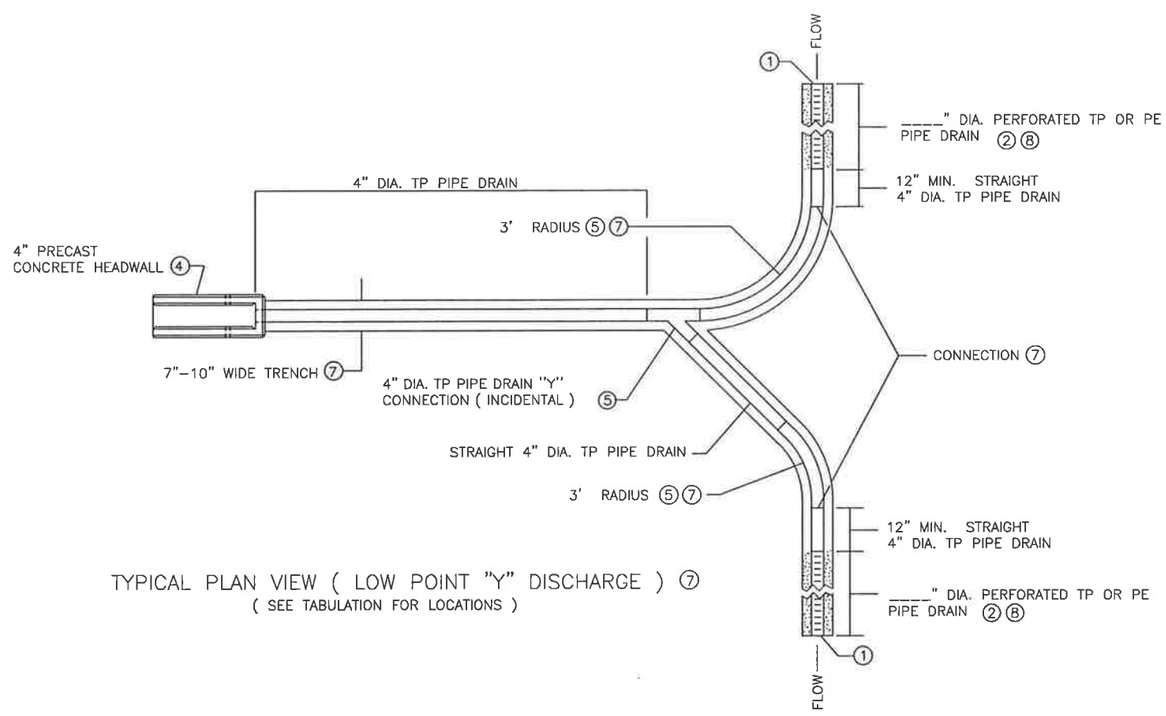


TYPICAL PLAN VIEW (SINGLE DISCHARGE) 7
(SEE TABULATION FOR LOCATIONS)



SECTION VIEW

TYPICAL EDGE DRAIN AND DISCHARGE CROSS SECTION 7
(SEE TABULATION FOR LOCATIONS)



TYPICAL PLAN VIEW (LOW POINT "Y" DISCHARGE) 7
(SEE TABULATION FOR LOCATIONS)

NOTES:

1. THE UPSTREAM ENDS OF THE PERFORATED PIPE SHALL BE CAPPED AS APPROVED BY THE PROJECT ENGINEER. THE CAPS ARE INCIDENTAL TO SPEC. 2502, ____ INCH PERFORATED TP OR PE PIPE DRAIN. PLACE PERFORATED PIPE WITH THE PERFORATIONS DOWN.
2. MAXIMUM LENGTH 500 FT., EXCEPT 300 FT. MAXIMUM FOR GRADES LESS THAN 0.2% . LENGTH INCLUDED AND PAID FOR AS SPEC. 2502, ____ INCH PERFORATED TP OR PE PIPE DRAIN.
3. LENGTH INCLUDED AND PAID FOR AS SPEC. 2502, 4 INCH DIA. TP PIPE DRAIN.
4. PRECAST CONCRETE HEADWALL STANDARD PLATE 3131 PAID FOR AS SPEC. 2502, 4 INCH PRECAST CONCRETE HEADWALL.
5. DETAILS OF CONNECTION AND COUPLING TO PIPE SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR " Y " AND EXTRA CONNECTION, 11 INCH TP PIPE AND COUPLING TO BE INCIDENTAL TO SPEC. 2502, 4 INCH DIA. TP PIPE DRAIN.
6. SEE ROADWAY TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
7. SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.
8. 3 INCH OR 4 INCH DIAMETER.

STANDARD SHEET NO. 5-297.433	TITLE: SUBSURFACE DRAINS OUTLET PIPES FOR EDGE AND SUBCUT DRAINS
STANDARD APPROVED: SEPTEMBER 12, 2005	
CERTIFIED BY LICENSED ENGINEER LIC. NO. 42779 01/09/2012	STATE PROJ. NO. SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET NO. 49 OF 142

FILE NAME S433010S.SPN

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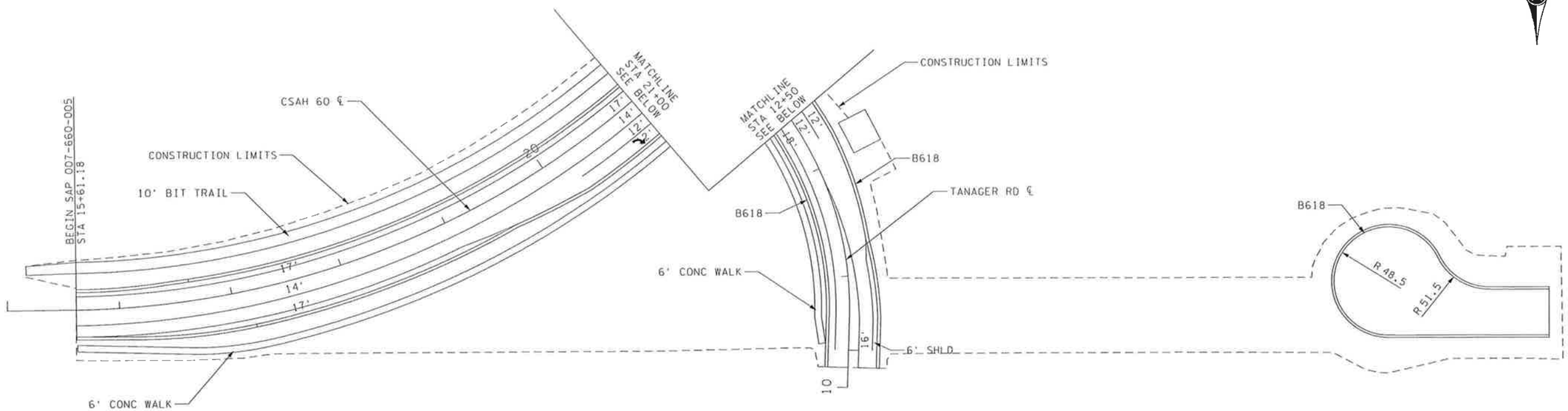
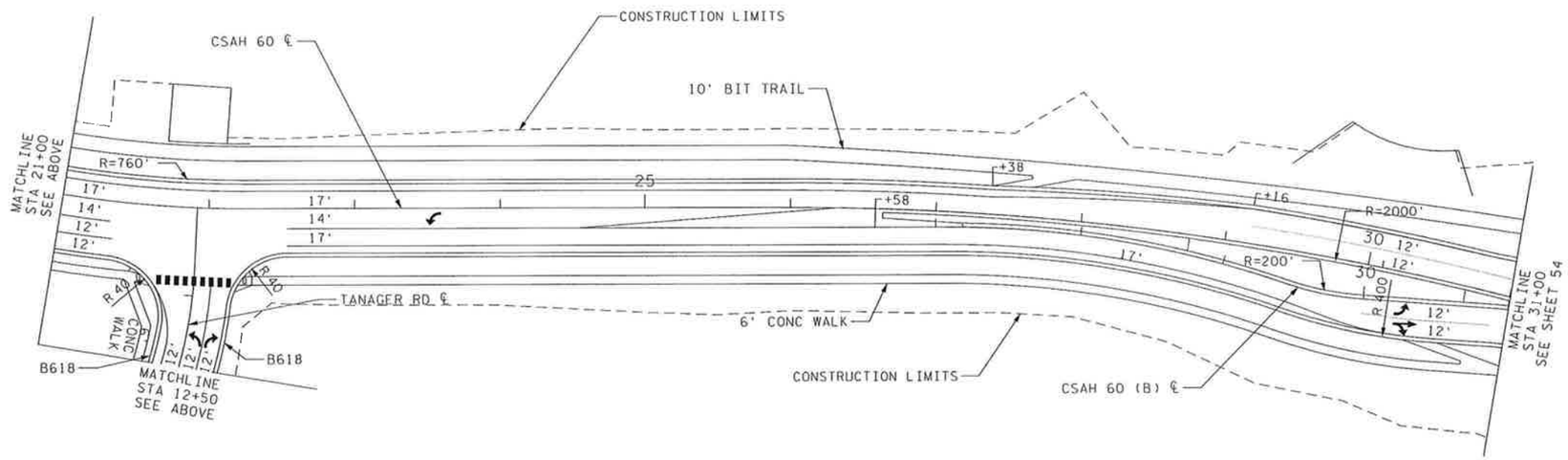
NOTE:

1. DIMENSIONS SHOWN IN CONSTRUCTION DRAWINGS ARE FROM EDGE OF DRIVING LANES & LIP OF CURB

2. ALL CURB IS B624 UNLESS SHOWN OTHERWISE.





CONSTRUCTION PLAN

SCALE 0 50 100

CERTIFIED BY LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008(CSAH 60 & CSAH 82) SHEET 50 OF 142 SHEETS

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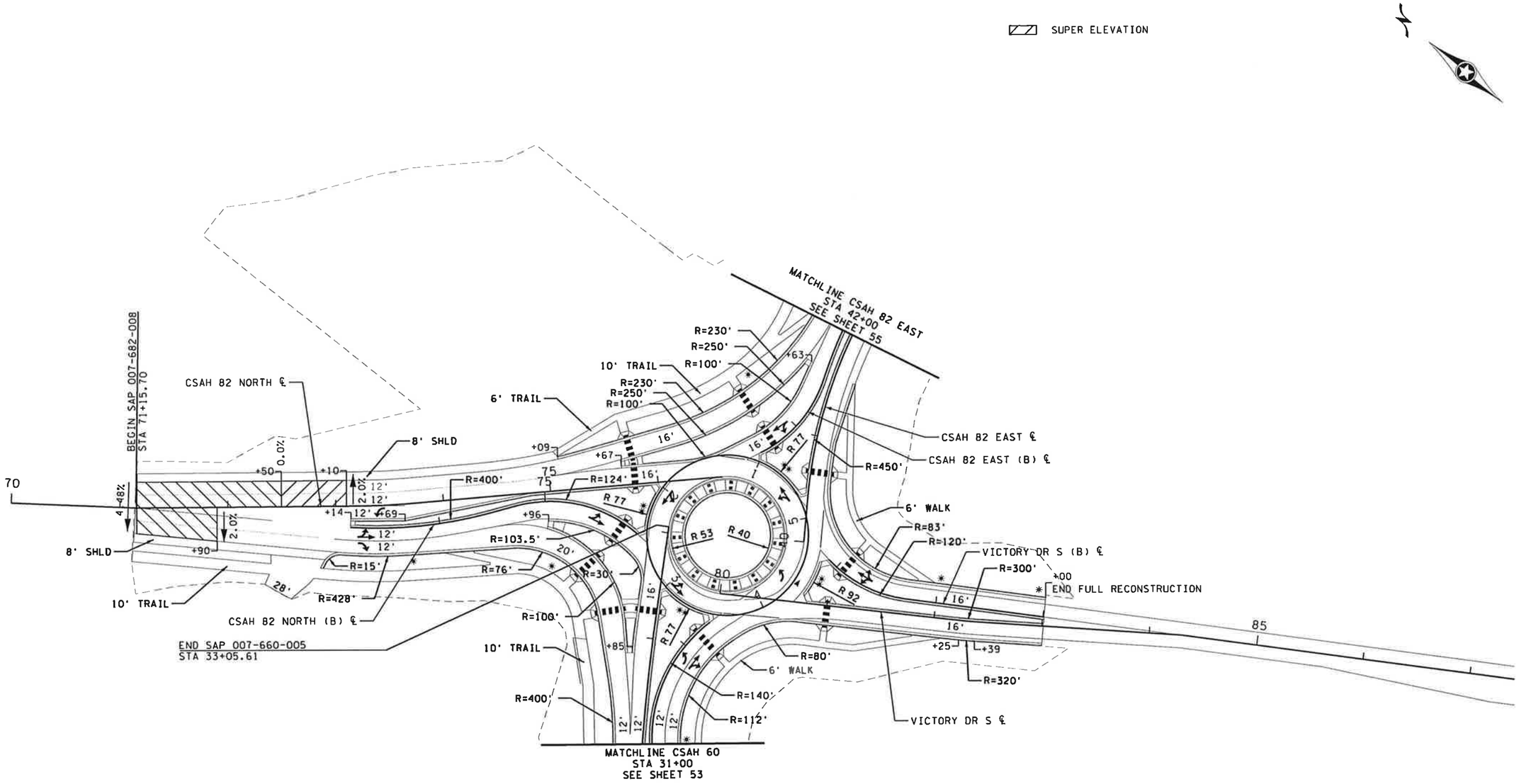

CONSTRUCTION PLAN

SCALE 0 50 100

CERTIFIED BY LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008(CSAH 60 & CSAH 82) SHEET 51 OF 142 SHEETS

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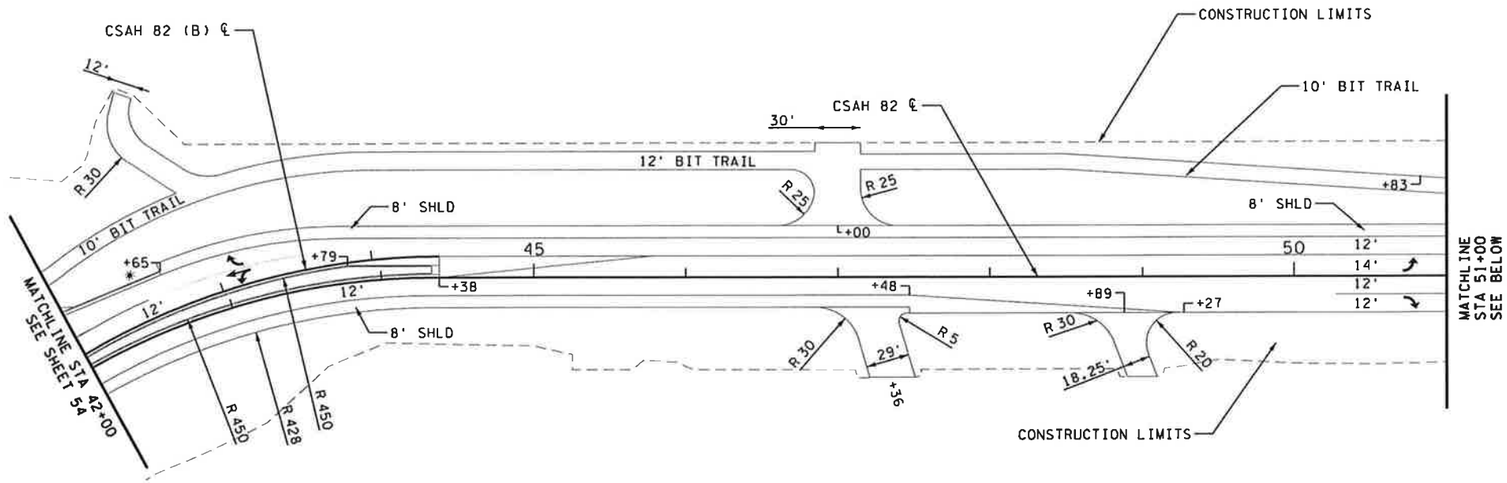

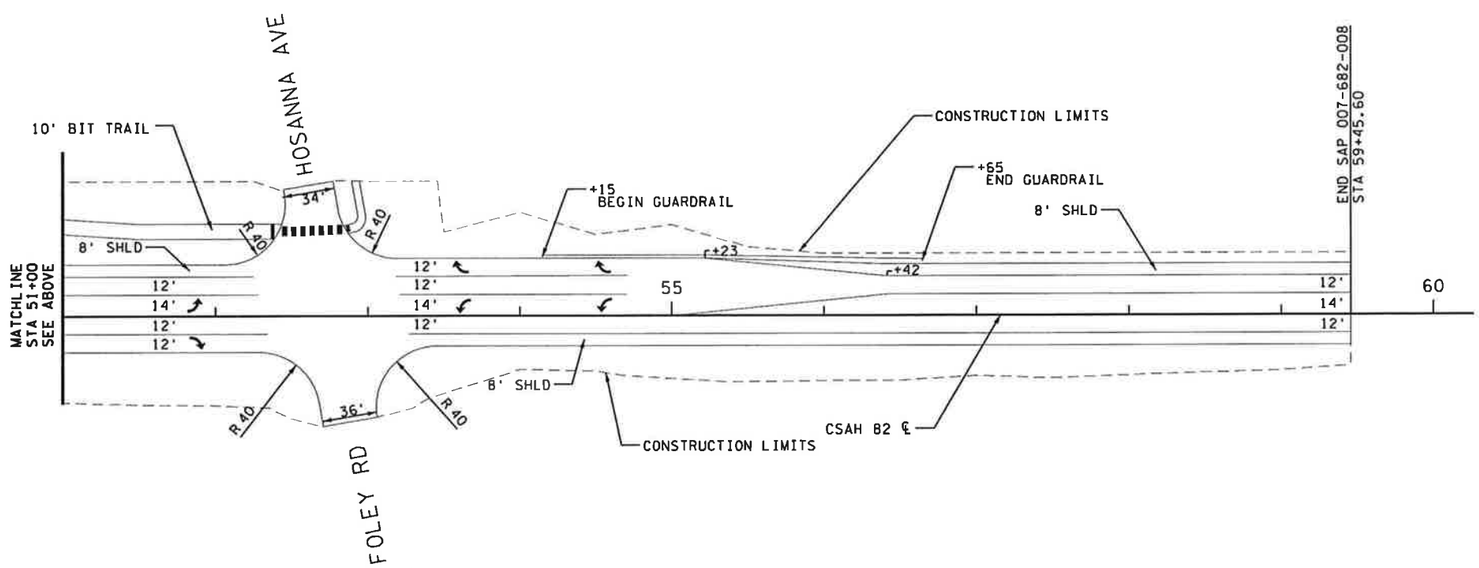

CONSTRUCTION PLAN

SCALE 0 50 100

CERTIFIED BY LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008(CSAH 60 & CSAH 82) SHEET 52 OF 142 SHEETS

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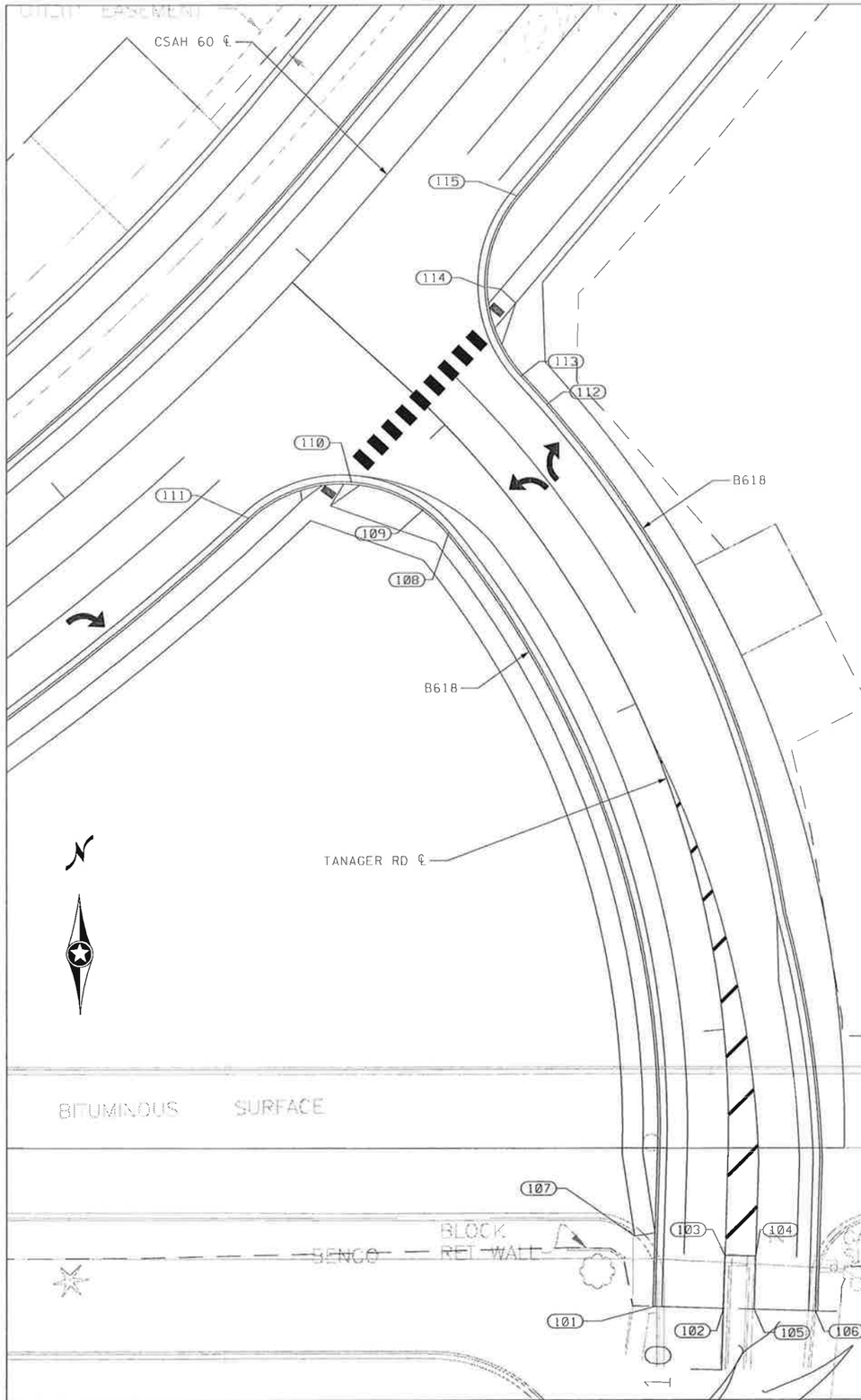
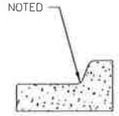


INTERSECTION 1					
POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	REMARKS
101	TANAGER RD	10+17.97	20.0 LT	N/A	MATCH EXISTING ELEVATION
102	TANAGER RD	10+17.97	0.0 LT	N/A	MATCH EXISTING ELEVATION AT LIP OF CURB
103	TANAGER RD	10+33.45	0.0 LT	N/A	MATCH EXISTING ELEVATION AT LIP OF CURB
104	TANAGER RD	10+33.45	9.0 RT	N/A	MATCH EXISTING ELEVATION AT LIP OF CURB
105	TANAGER RD	10+17.97	9.0 RT	N/A	MATCH EXISTING ELEVATION AT LIP OF CURB
106	TANAGER RD	10+17.97	27.0 RT	N/A	MATCH EXISTING ELEVATION
107	TANAGER RD	10+38.37	26.6 LT	N/A	BEGIN SIDEWALK
108	TANAGER RD	12+74.43	20.0 LT	1008.14	
109	TANAGER RD	12+84.24	20.0 LT	1008.31	
110	TANAGER RD	13+07.22	31.2 LT	1009.03	
111	CSAH 60	21+35.07	40.0 RT	1009.75	
112	TANAGER RD	12+85.05	26.0 RT	1008.23	
113	TANAGER RD	12+95.37	26.0 RT	1008.40	
114	TANAGER RD	13+18.97	37.1 RT	1008.77	
115	CSAH 60	22+53.46	33.0 RT	1009.14	

Curb radii are to face of curb.

INTERSECTION 2				
POINT	NORTHING	EASTING	ELEVATION	REMARKS
201	208,424.35	579,424.98	N/A	MATCH EXISTING ELEVATION
202	208,424.62	579,282.29	995.34	
203	208,450.38	579,238.55	996.19	
204	208,501.13	579,239.88	996.17	
205	208,524.55	579,284.91	995.29	
206	208,496.52	579,327.23	994.47	POINT OF REVERSE CURVE
207	208,476.05	579,345.63	994.09	
208	208,468.42	579,372.07	993.52	
209	208,468.25	579,425.18	N/A	MATCH EXISTING ELEVATION
210	208,474.62	5,792,282.28	995.43	CENTER POINT OF RADIUS

ALL POINTS SHOWN POINT TO GUTTER GRADE LOCATION & ELEVATION UNLESS OTHERWISE NOTED



GENERAL NOTES:

GUTTERLINE PROFILES DO NOT REFLECT DRAINAGE STRUCTURE SUMP.

ALL CURB & GUTTER IS B624 UNLESS NOTED OTHERWISE.

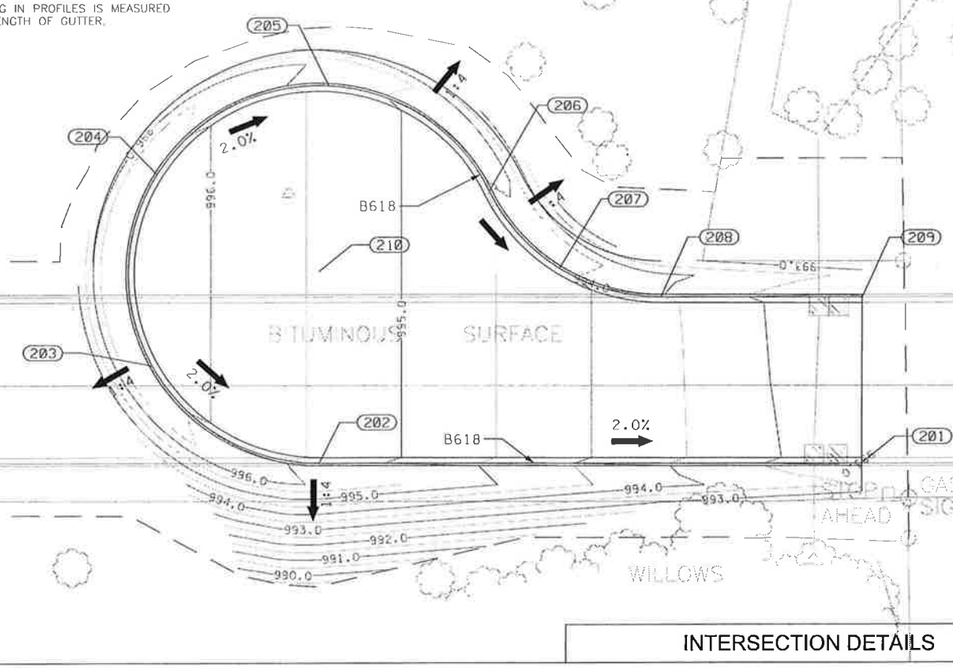
SEE CONSTRUCTION PLANS FOR RADIUS POINTS

ALL POINTS LOCATION & ELEVATION ARE GIVEN AT GUTTER GRADE

STATIONING IN PROFILES IS MEASURED ALONG LENGTH OF GUTTER.

LEGEND

- CATCH BASIN
- MANHOLE
- TRAFFIC
- EXISTING VALVE
- EXISTING MANHOLE
- ROAD CROSS SLOPE
- GUTTER GRADE



INTERSECTION DETAILS

SCALE 0 20 40

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008(CSAH 60 & CSAH 82) SHEET 53 OF 142 SHEETS

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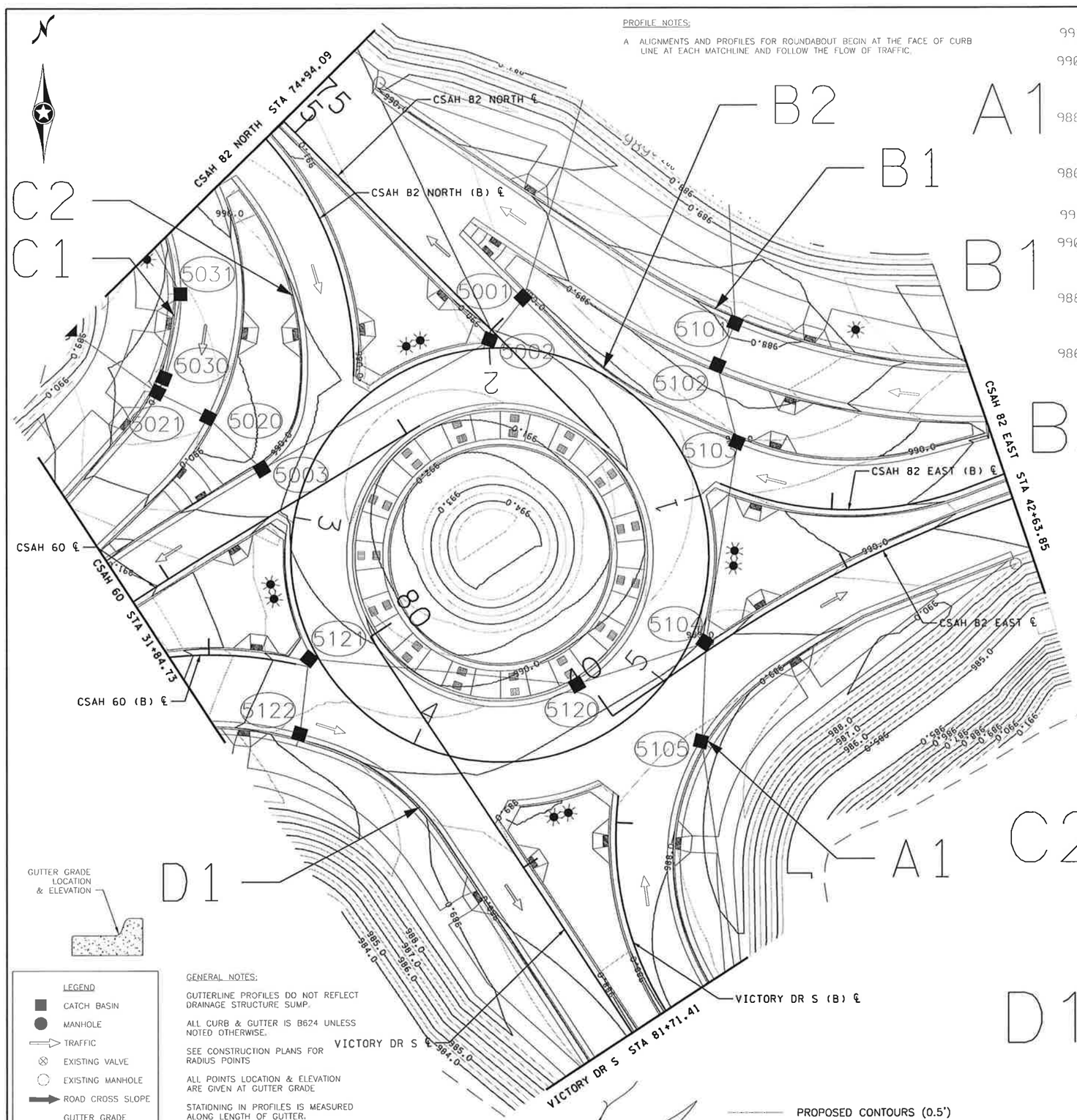
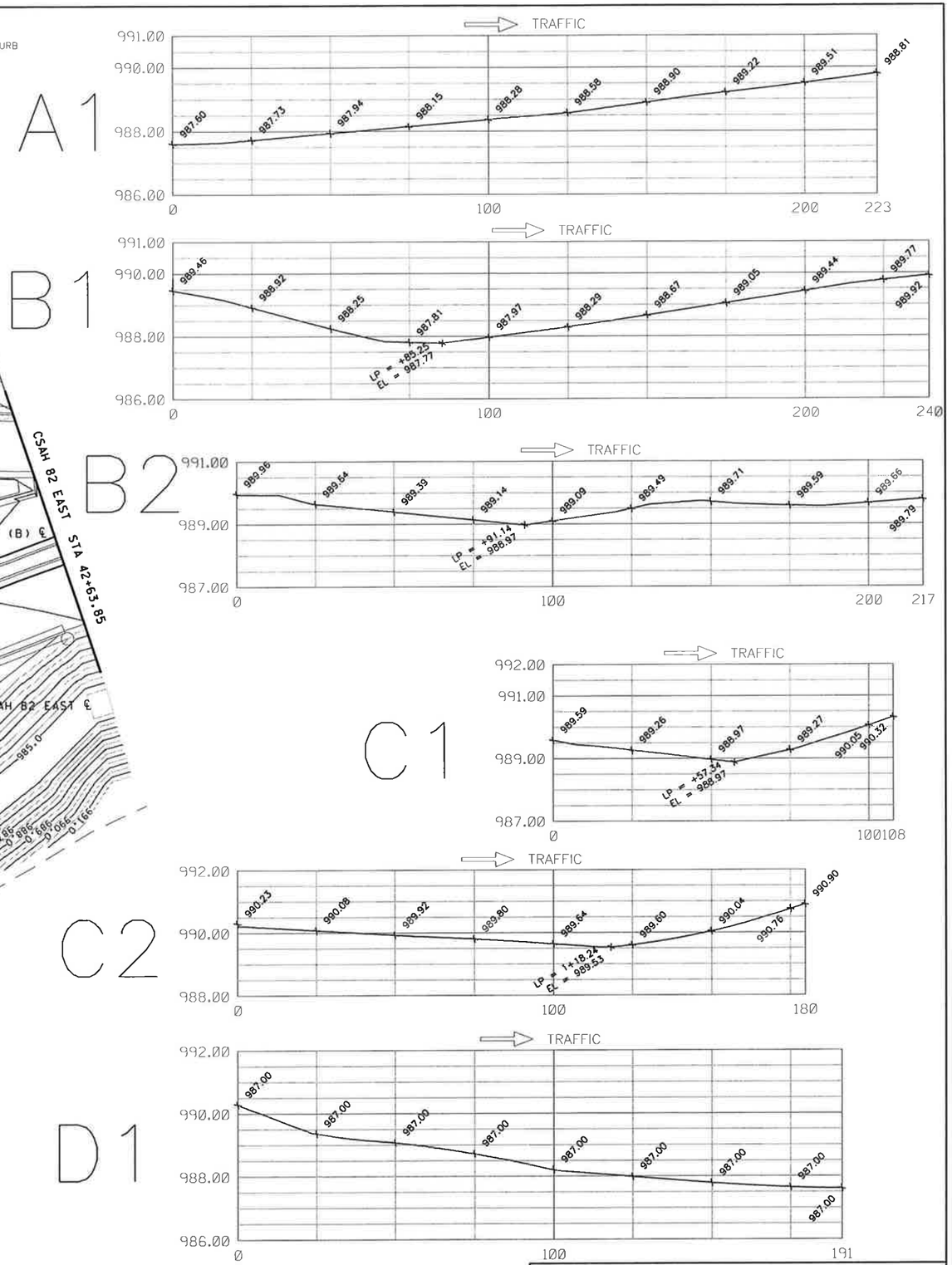
PROFILE NOTES:

A ALIGNMENTS AND PROFILES FOR ROUNDABOUT BEGIN AT THE FACE OF CURB LINE AT EACH MATCHLINE AND FOLLOW THE FLOW OF TRAFFIC.

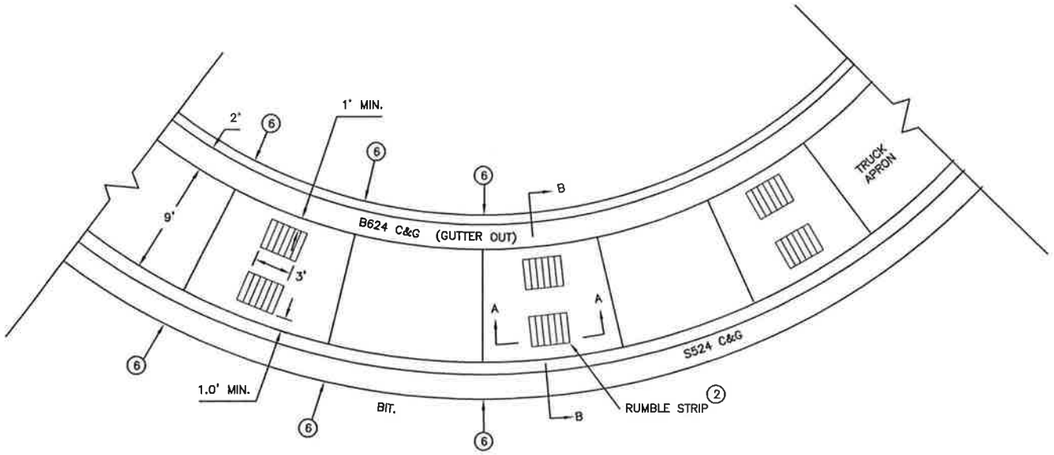




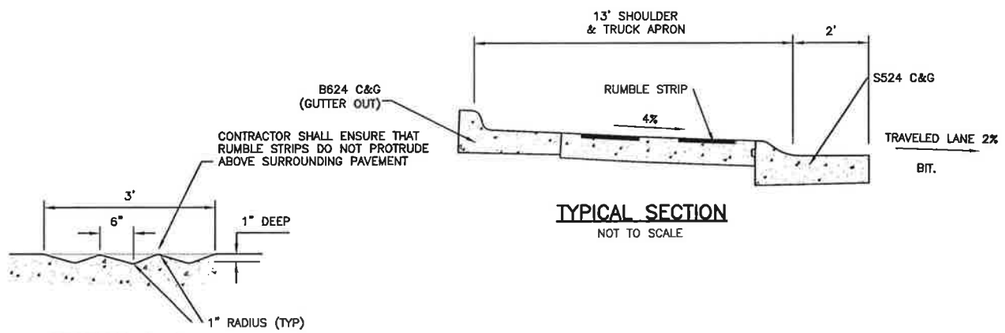
INTERSECTION DETAILS

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008(CSAH 60 & CSAH 82) SHEET 54 OF 142 SHEETS

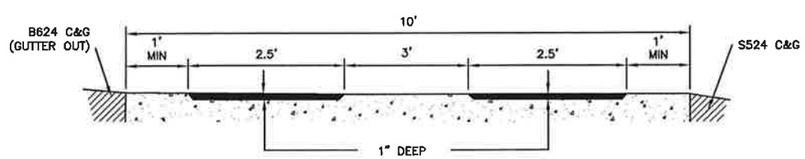


TYPICAL SECTION
NOT TO SCALE



TYPICAL SECTION
NOT TO SCALE

SECTION A–A
NOT TO SCALE



SECTION B–B
NOT TO SCALE

1. ROTATED OUT.
2. CONSTRUCT RUMBLE STRIPS ON EVERY OTHER PANEL ALONG TRUCK APRON EDGE. SEE CONCRETE TRUCK APRON DETAILS.
3. FOR CONCRETE PAVEMENT TYING TO C&G USE 2.5' BARS AT 2.5' SPACING.
4. 1 1/4" DIAMETER DOWEL BARS (EPOXY COATED) FOR 8" PAVEMENT. SEE STANDARD PLATE 1103.
6. PLACE C&G JOINTS AT SAME INTERVALS AS PAVEMENT JOINTS.

RUMBLE STRIP DETAILS

GENERAL NOTES:

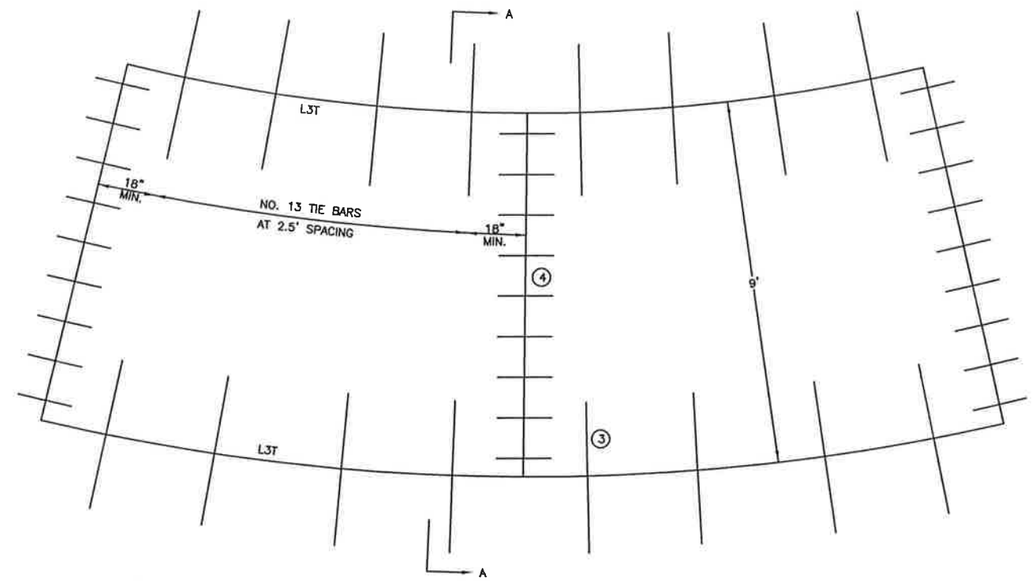
ALL REBARS ARE IN METRIC DESIGNATIONS.

SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CURB AND GUTTER DETAILS.

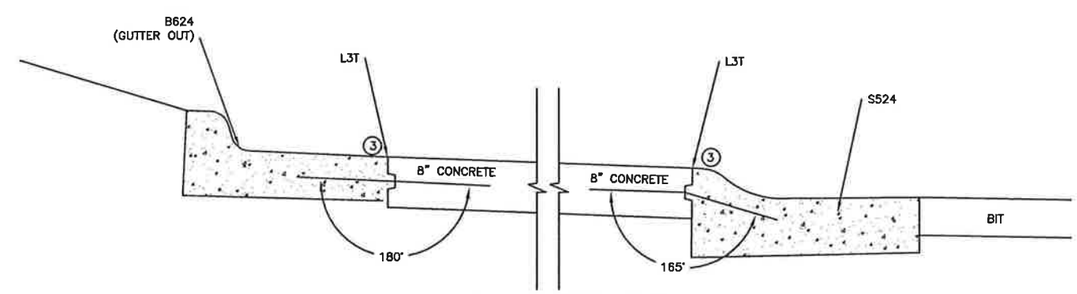
DOWEL BAR ASSEMBLIES SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.

ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301 AND SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M–31 OR M–53.

TIE BARS:
USE NO. 13 BARS 2.5' LONG AT 2.5' SPACING.



REINFORCEMENT IN CONCRETE PANELS
NOT TO SCALE



CURB & GUTTER JOINTS ADJACENT TO TRUCK APRON SECTION A–A
NOT TO SCALE

CONCRETE TRUCK APRON PAVEMENT-DETAIL

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007–660–005 & SAP 007–682–008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 55 OF 142 SHEETS

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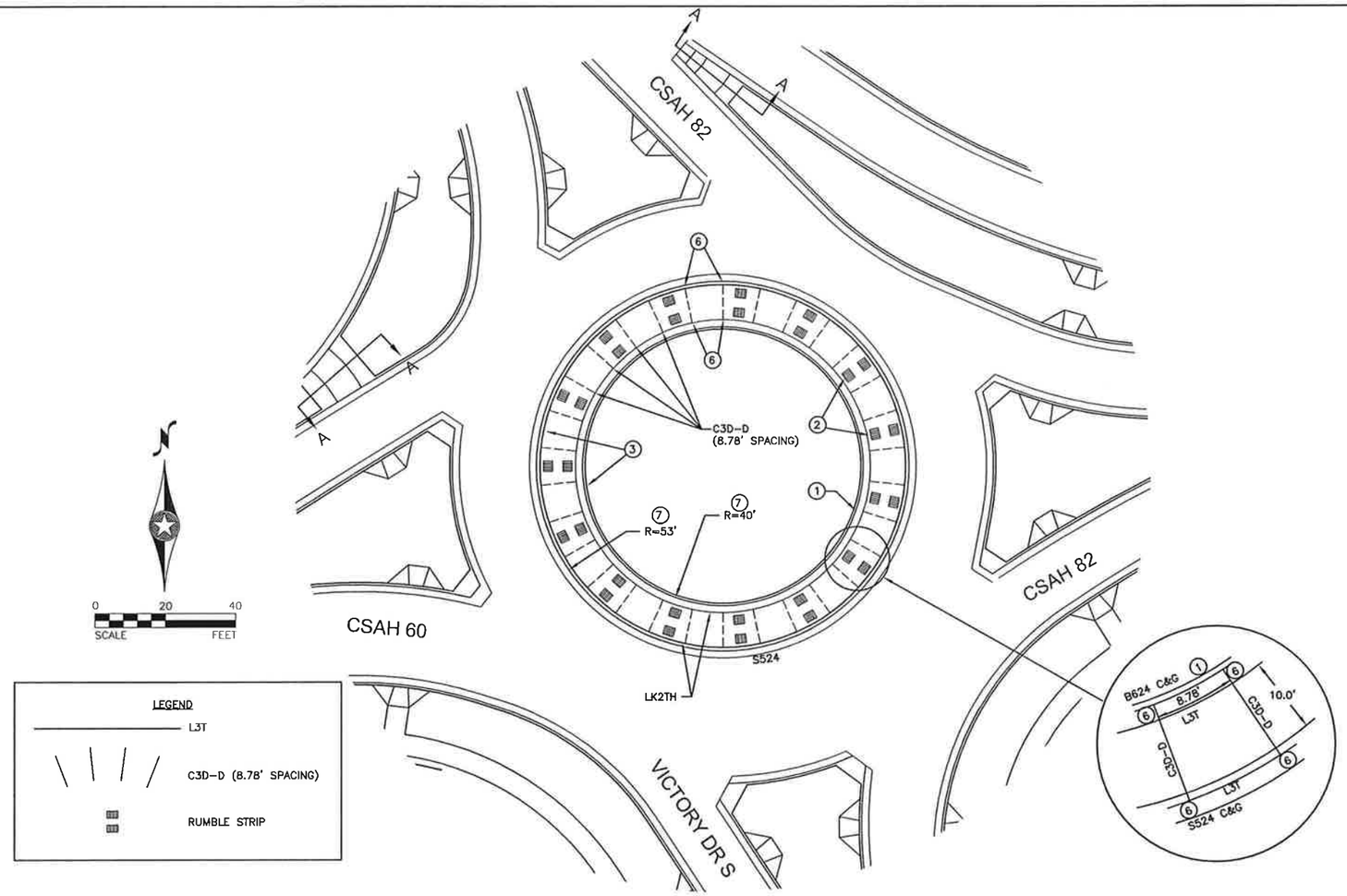
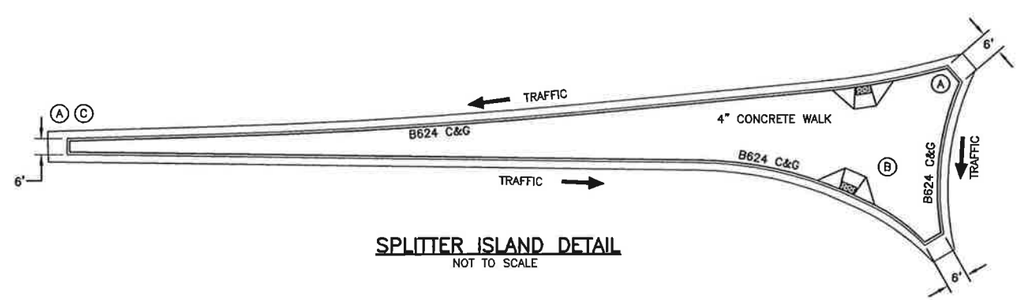


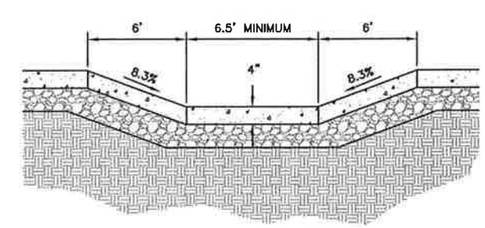
CSAH 60 & CSAH 82 ROUNDABOUT

1. ROTATED OUT.
2. CONSTRUCT RUMBLE STRIPS ON EVERY OTHER PANEL ALONG TRUCK APRON EDGE.
3. FOR CONCRETE PAVEMENT TYING TO C&G USE 2.5' BARS AT 2.5' SPACING.
4. 1 1/4" DIAMETER DOWEL BARS (EPOXY COATED) FOR 8" PAVEMENT. SEE STANDARD PLATE 1103.
5. CONCRETE APRON SHALL BE MADE OF 30 EQUAL PANELS. 8.78' PANEL LENGTH IS MEASURED FROM INSIDE EDGE OF TRUCK APRON ALONG CHORD LENGTH.
6. PLACE C&G JOINTS AT SAME INTERVALS AS PAVEMENT JOINTS.
7. MEASURED FROM FACE OF CURB



SPLITTER ISLAND DETAIL

NOT TO SCALE



SECTION A–A(D)

PAVING NOTES:

PANEL LAYOUTS AND JOINT TYPES IN THIS PLAN MAY BE CHANGED IF APPROVED BY THE ENGINEER.

CONCRETE PAVEMENT SHALL BE 8" THICK, NON-REINFORCED WITH 10.26' NON-SKEWED PANELS AND 1 1/4" EPOXY COATED STEEL DOWELS.

L3T JOINT TIED TO C&G REQUIRES NO. 13 TIE BARS, 2.5' LONG SPACED AT 2.5'.

ALL CONCRETE PAVEMENT DIMENSIONS ARE MEASURED BETWEEN JOINTS. CURB & GUTTER DIMENSIONS ARE NOT SHOWN.

REINFORCMENT BARS & DOWELS SHALL BE EPOXY COATED.

(A) MN/DOT STANDARD PLATE 7113 APPROACH NOSE. PAID FOR AS 6" DRIVEWAY PAVEMENT.

(B) CONSTRUCT CUT THROUGH PEDESTRIAN CROSSING WHEN UNABLE TO PROVIDE 4'X4' LANDING BETWEEN RAMPS. SEE MN DOT STANDARD PLATE 7036. INSTALL TRUNCATED DOMES AT EACH SIDE OF MEDIAN.

(C) MN/DOT STANDARD PLATE 7019 MEDIAN NOSE. REQUIRED ON CSAH 60, VICTORY DROVE & CSAH 82 EAST MEDIAN.

(D) USED AT MEDIANS THAT ARE NOT WIDE ENOUGH TO ALLOW PEDESTRIAN CURB RAMPS & 4'X4' LANDING PAD BETWEEN THEM.

CONCRETE TRUCK APRON-DETAIL

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 56 OF 142 SHEETS

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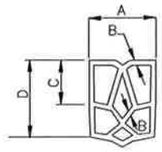
REQUIRED DIMENSIONS

JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	11/16" USE IN ALL 3/8" JOINTS
A	0.69" + 0.13" − 0.05"
B	0.08" ± 0.02"
C	0.25" MIN.
D	0.63" MIN.



SPEC. REFERENCE 3721

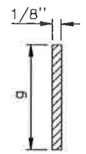
TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

NOTES:

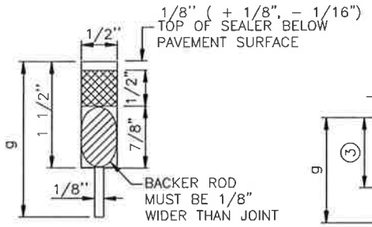
"A" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT "C" DEPTH. IN ITS FINAL POSITION, THE TOP CORNERS OF THE PREFORMED JOINT SEALER SHALL BE PLACED NOT LESS THAN 1/8 IN., NOR MORE THAN 5/16 IN. BELOW THE PAVEMENT SURFACE.

SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET. CURRENTLY APPROVED CONFIGURATIONS ARE ON FILE IN THE MATERIALS ENGINEERING SECTION, MINNESOTA DEPARTMENT OF TRANSPORTATION.

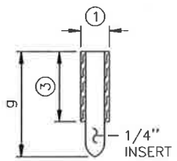
CONTRACTION JOINT SEALER
PREFORMED ELASTIC TYPE



DETAIL A
FORMED & SAWED



DETAIL B ②
SAWED



DETAIL C
FORMED
(INSERT TO BE REMOVED)

CONTRACTION JOINT CLASS DESIGNATION, DETAIL & SEALER SPEC. TABLE

CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITHOUT DOWELS	WITH DOWELS		
C1A	C1A−D	A	UNSEALED
C2A	C2A−D	A	3725
C2B	C2B−D	B	3725
C2X	C2X−D	B OR C	3725
C3D	C3D−D	D	3721
C3X	C3X−D	C OR D	3721
C4E	C4E−D	E	3722

LEGEND

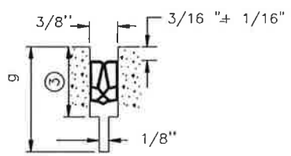
C = CONTRACTION JOINT
NO. = SEALANT TYPE
1 = UNSEALED
2 = 3725
3 = 3721
4 = 3722

LETTER = DETAIL
X = MORE THAN 1 DETAIL
−D = DOWEL BARS

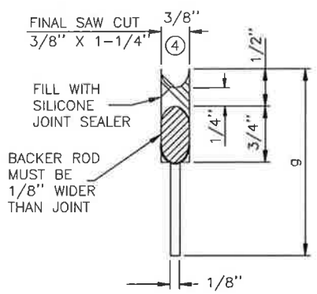
EXAMPLE
C2B−D

DOWEL BAR DIAMETER TABLE

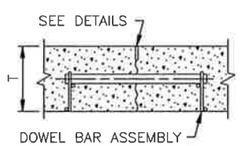
PAVEMENT THICKNESS T	DOWEL BAR DIAMETER
6" − 6 1/2"	1"
7" − 10"	1 1/4"
10 1/2" − 14"	1 1/2"



DETAIL D
SAWED



DETAIL E
SAWED



SECTION AT JOINT

NOTES:

① DESIGN C3X OR C3X−D −PRIOR TO INSTALLING PREFORMED JOINT SEALER IN THE FORMED JOINT (DETAIL C), THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH OF 3/8" BY SAWING ALONG THE FULL LENGTH OF THE FORMED JOINT.

DESIGN C2X OR C2X−D −PRIOR TO SEALING FORMED JOINT (DETAIL C) WITH HOT POUR SEALER THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH OF 1/2". SAW ALONG THE FULL LENGTH OF THE FORMED JOINT TO DEPTH OF 3/4" (+ 1/8", − 1/16"). THE SEALER SHALL BE FILLED TO THE SAME DEPTH AS SHOWN IN DETAIL B.

② DESIGN C2B OR C2B−D −PRIOR TO SEALING JOINT (DETAIL B) WITH HOT POUR JOINT SEALER, A 5/8" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 5/8" BELOW THE SURFACE OF THE PAVEMENT.

③ WHEN USING PREFORMED JOINT SEALER, THE DEPTH SHALL BE 1/4" MORE THAN THE PREFORMED SEALER, WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH.

④ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2" BELOW THE SURFACE OF THE PAVEMENT. NON SELF−LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 1/4".

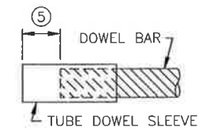
GENERAL NOTES:

SEE STANDARD PLATE 1103, DOWEL BAR ASSEMBLY.
SEE STANDARD PLATE 1150, CONSTRUCTION OF HEADER JOINTS. SEE STANDARD PLANS 5−297.217 AND 5−297.219, CONCRETE MAINLINE/RAMP PAVEMENT.

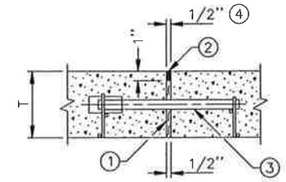
SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.

FOR UNBONDED OVERLAYS, THE JOINT DEPTH "g" SHALL BE T/3.
FOR CONCRETE PAVEMENT, THE JOINT DEPTH "g" SHALL BE T/4.

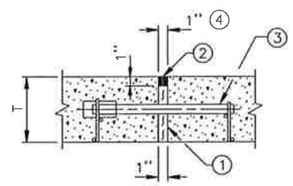
CONTRACTION JOINTS
DESIGN C



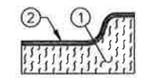
DOWEL BAR SLEEVE DETAIL



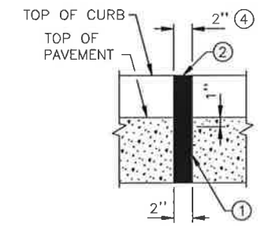
E1D−1 (W/DOWELS) E1−1 (W/O DOWELS)
DETAIL A



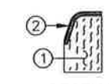
E2D−1 (W/DOWELS) E2−1 (W/O DOWELS)
DETAIL C



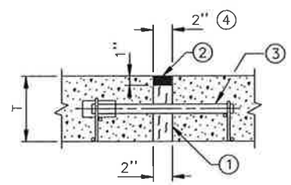
SECTION THRU CURB
E2−1



E4−1 (W/O DOWELS)
DETAIL D



SECTION THRU CURB
E4−1



E4D−1
(W/DOWELS)
DETAIL E

EXPANSION JOINTS

CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITH DOWELS	WITHOUT DOWELS		
E1D−1	E1−1	A	3723
E2D−1	E2−1	C	3723
	E4−1	D	3723
E4D−1		E	3723
	E8S−1	⑥	3725

LEGEND

E = EXPANSION JOINT
NO. = JOINT REFERENCE ④
D = DOWEL BARS
S = CONCRETE SILL
−1 = HOT POURED SEAL

EXAMPLE
E1D−1
HOT POURED SEAL
DOWEL BARS
JOINT REFERENCE
EXPANSION JOINT

NOTES:

① PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.

② JOINT SEALER SPEC. 3723. TOP OF SEALER, FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION E JOINTS FLUSH WITH SURFACE ± 1/8".

③ DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.

④ THE FIRST NUMBER IN THE JOINT DESIGNATION IS EQUAL TO HALF OF THE JOINT NUMBER IN 1/2" INTERVALS (I.E. E1 = 1/2", E2 = 1", E4 = 2", AND E8 = 4").

⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE TO BE EQUAL TO EXPANSION JOINT WIDTH.

⑥ SEE STANDARD PLAN 5−297.223 FOR E8S JOINT DETAIL.

EXPANSION JOINTS
DESIGN E

STANDARD SHEET NO. 5−297.221 (1 OF 2)	TITLE: PAVEMENT JOINTS CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)
STANDARD APPROVED: JUNE 6, 2005	
STATE PROJ. NO.	SAP 007−660−005 & SAP 007−682−008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET NO. 57 OF 142

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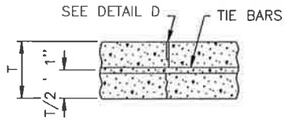
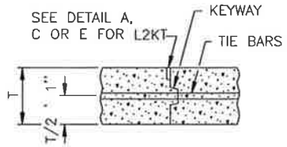
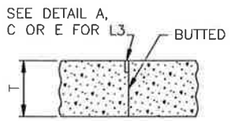


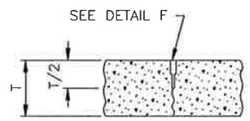
L1 & L1T



L2KT



L3



L4

LONGITUDINAL JOINT CLASS DESIGNATION, DETAIL & SEALER SPECIFICATION TABLE

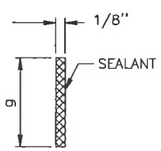
CLASS DESIGNATION				JOINT DETAIL	JOINT SEALER SPECIFICATION
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS	BUTTED		
L1H	L1TH			B	3723
		L2KTH		D OR E	3723
		L2KTS		C	3722
			L3H	D OR E	3723
			L3S	C	3722
L4S				F	3722

LEGEND

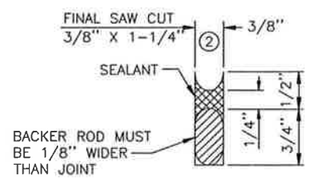
L = LONGITUDINAL JOINT
NO. = JOINT REFERENCE
K = KEYWAY
T = TIE BARS
U = UNSEALED
H = HOT POUR (SEALANT)
S = SILICONE (SEALANT)

JOINT REFERENCE NUMBERS

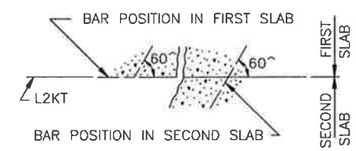
1 = SAWED TO A DEPTH OF T/3
2 = KEYED CONSTRUCTION JOINT
3 = BUTTED CONSTRUCTION JOINT
4 = SAWED TO A DEPTH OF T/2



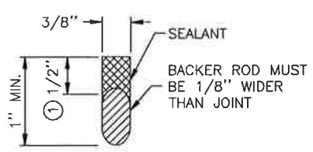
DETAIL B
(SAWED & SEALED WITH SPEC. 3723)



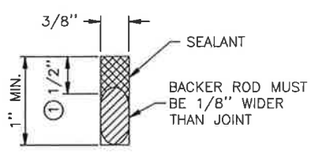
DETAIL C
(SAWED AND SEALED WITH SPEC. 3722)



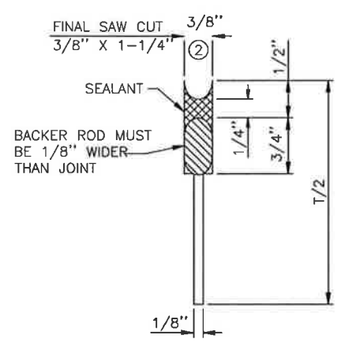
TIE BAR BENDING DETAIL



DETAIL D
(FORMED & SEALED WITH SPEC. 3723)



DETAIL E
(SAWED & SEALED WITH SPEC. 3723)



DETAIL F
(SAWED AND SEALED WITH SPEC. 3722)

LONGITUDINAL JOINT NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

THE TIE BAR SPACING FOR ALL L2KT JOINTS SHALL BE 2' – 6" CENTER TO CENTER AND BENT 60^ AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

TIE BARS IN THE L2KT JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE L1T JOINTS, WHEN TYING PAVEMENT TO PAVEMENT. TIE BARS IN THE L2KT JOINTS SHALL BE NO. 13 X 2' – 6", WHEN TYING CURB & GUTTER TO PAVEMENT.

ALL TIE BARS SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M–31 OR M–53.

NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED FOUR LANES, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.

JOINT WIDTH TOLERANCE IS + 1/16 IN. TO – 1/32 IN.

FOR CONCRETE PAVEMENT THE JOINT DEPTH " g " SHALL BE T/3 INCHES.

SPEC. 3723 SEALER – TOP OF SEALER FLUSH TO – 3/16 IN. BELOW TOP OF PAVEMENT SURFACE.

1 THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F, WITH A DIAMETER 1/8 IN. LARGER THAN THE JOINT OPENING, MAY BE PLACED 1/2 IN. BELOW THE TOP OF THE PAVEMENT.

2 THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT. A 1/2 IN. DIAMETER CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2 IN. BELOW THE SURFACE OF THE PAVEMENT. NON–SELF–LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 1/4 IN.

GENERAL NOTES:

SEE STANDARD PLATE 1103, DOWEL BAR ASSEMBLY. SEE STANDARD PLATE 1141, PAVEMENT KEYWAY. SEE STANDARD PLANS 5–297.217 AND 5–297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATIONS TO BE USED & SPECIAL REINFORCEMENT REQUIRED.

STANDARD SHEET NO. 5–297.221 (2 OF 2)	TITLE: PAVEMENT JOINTS LONGITUDINAL (DESIGN L)
STANDARD APPROVED: JUNE 6, 2005	
STATE PROJ. NO.	SAP 007–660–005 & SAP 007–682–008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET NO. 58 OF 142

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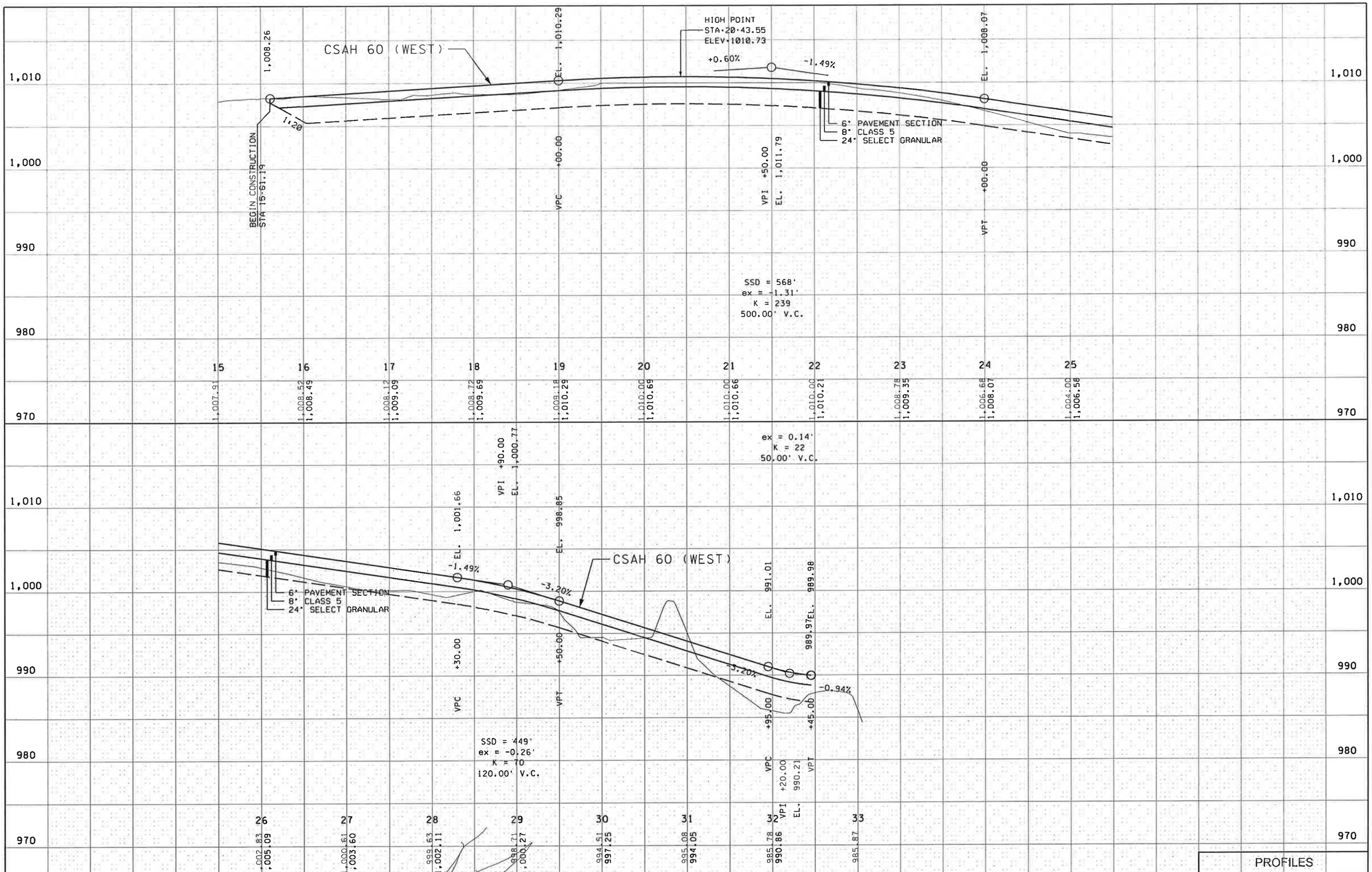

CERTIFIED BY LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008(CSAH 60 & CSAH 82) SHEET 59 OF 142 SHEETS

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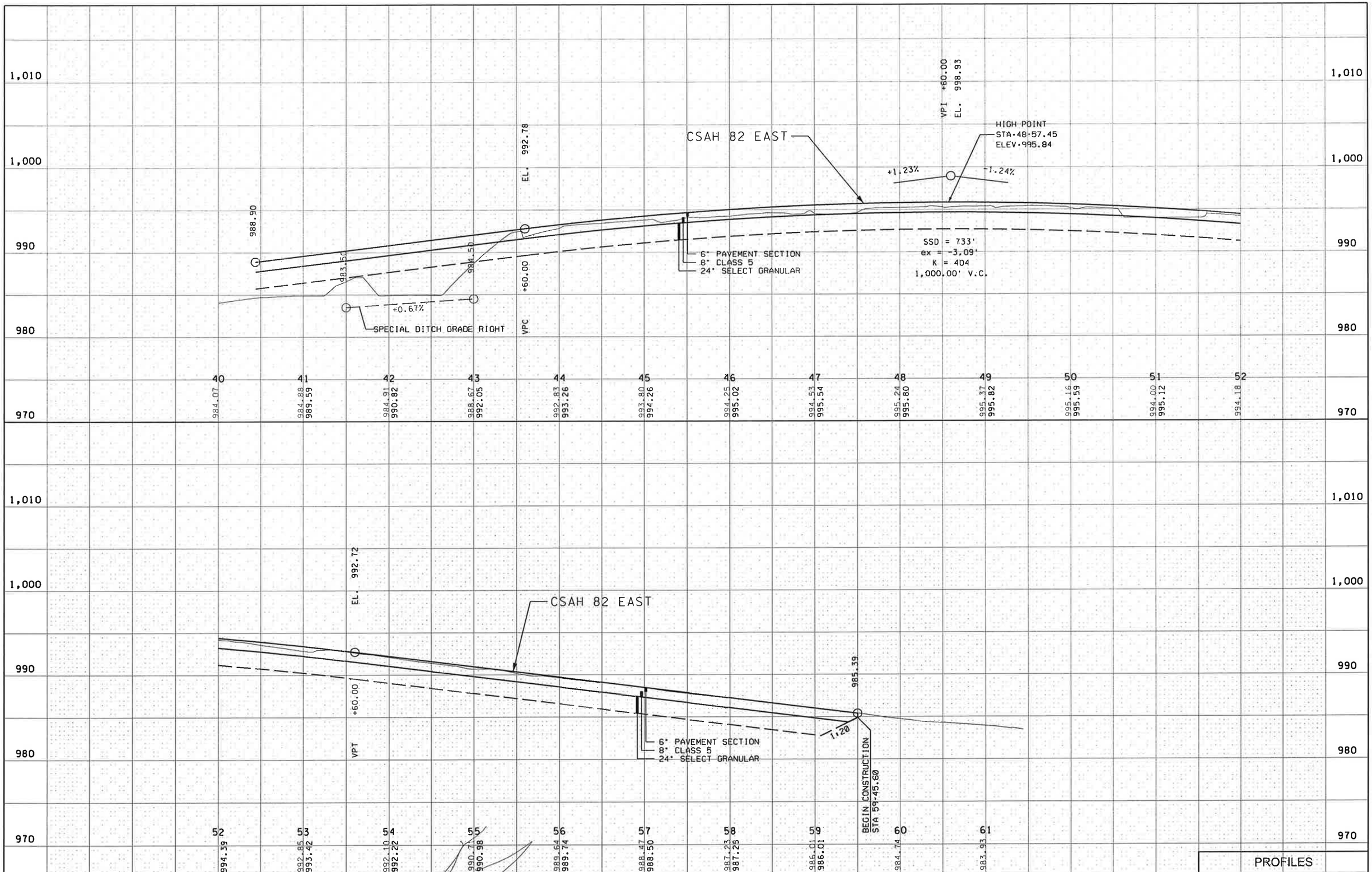

CERTIFIED BY LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008(CSAH 60 & CSAH 82) SHEET 60 OF 142 SHEETS

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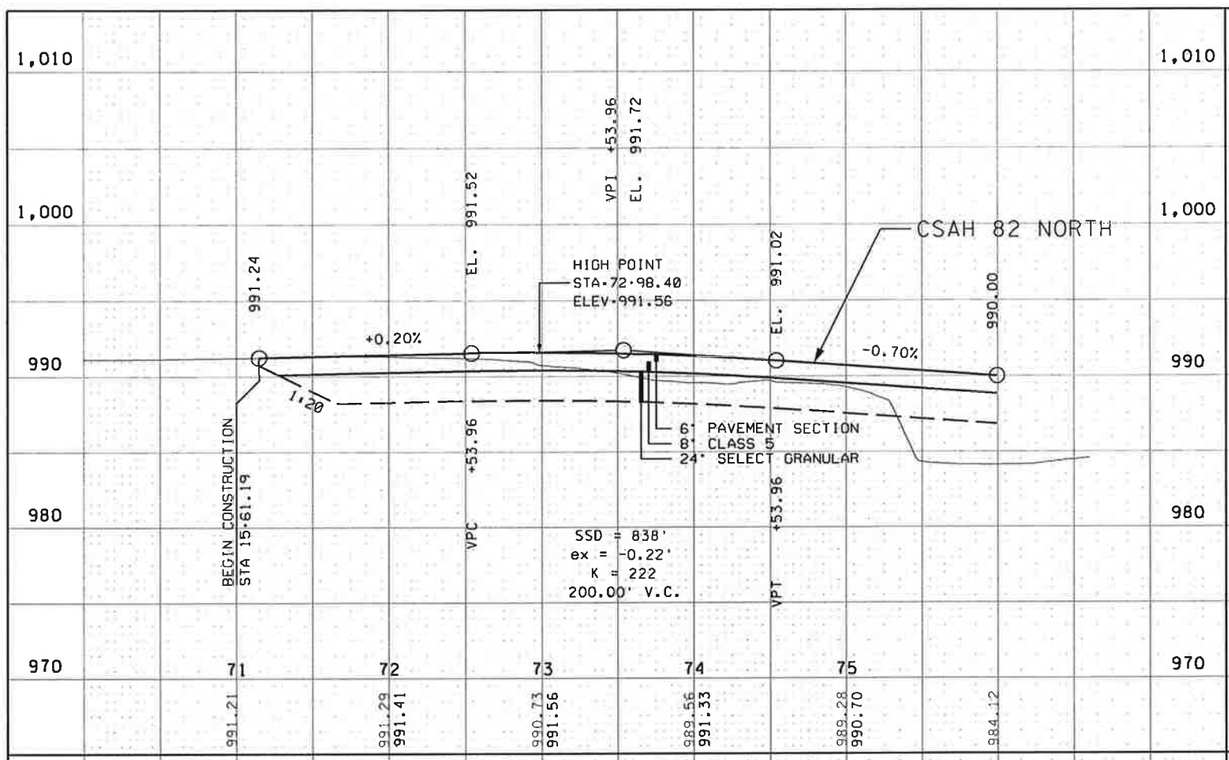

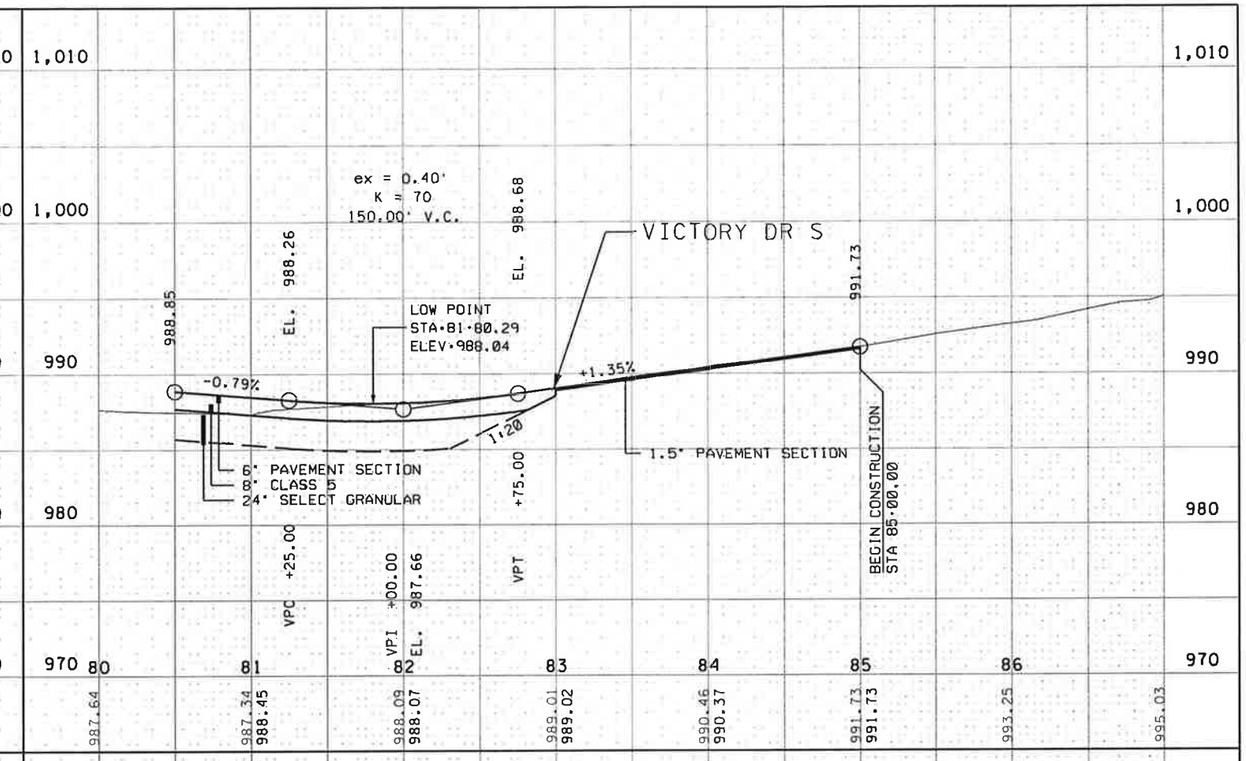

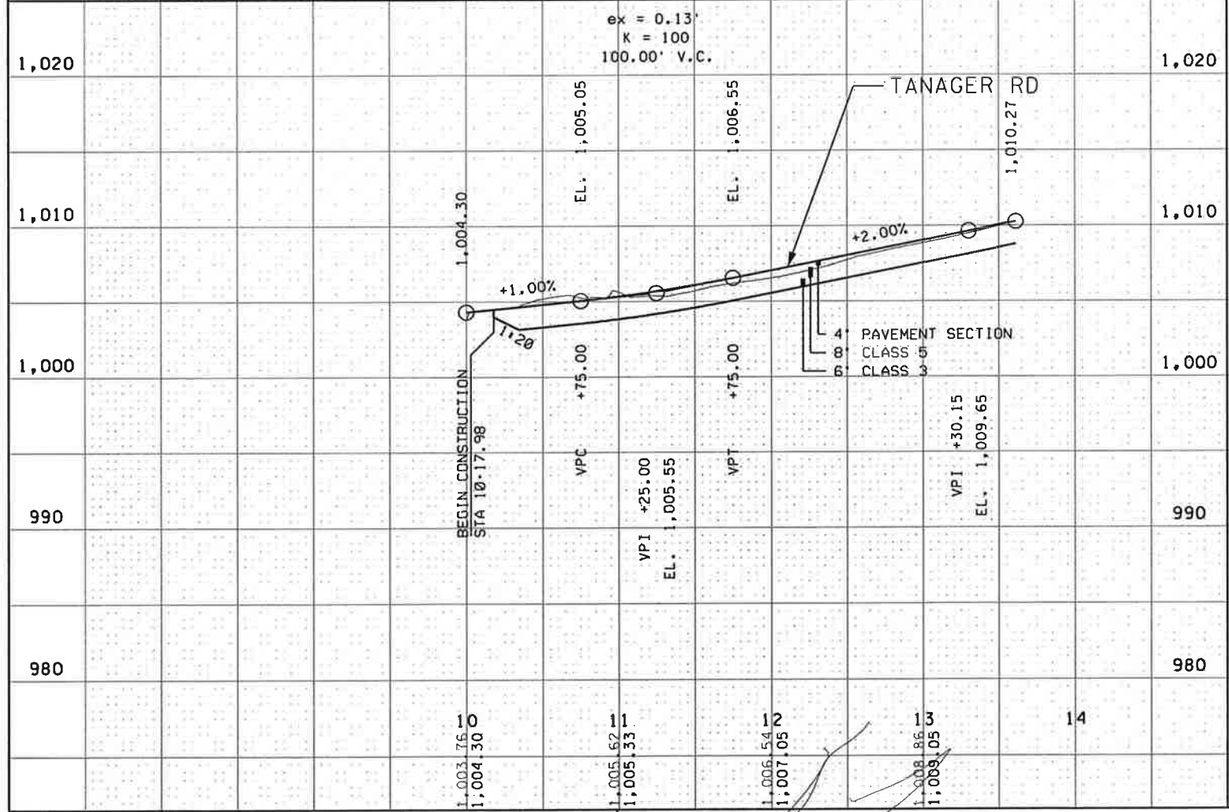

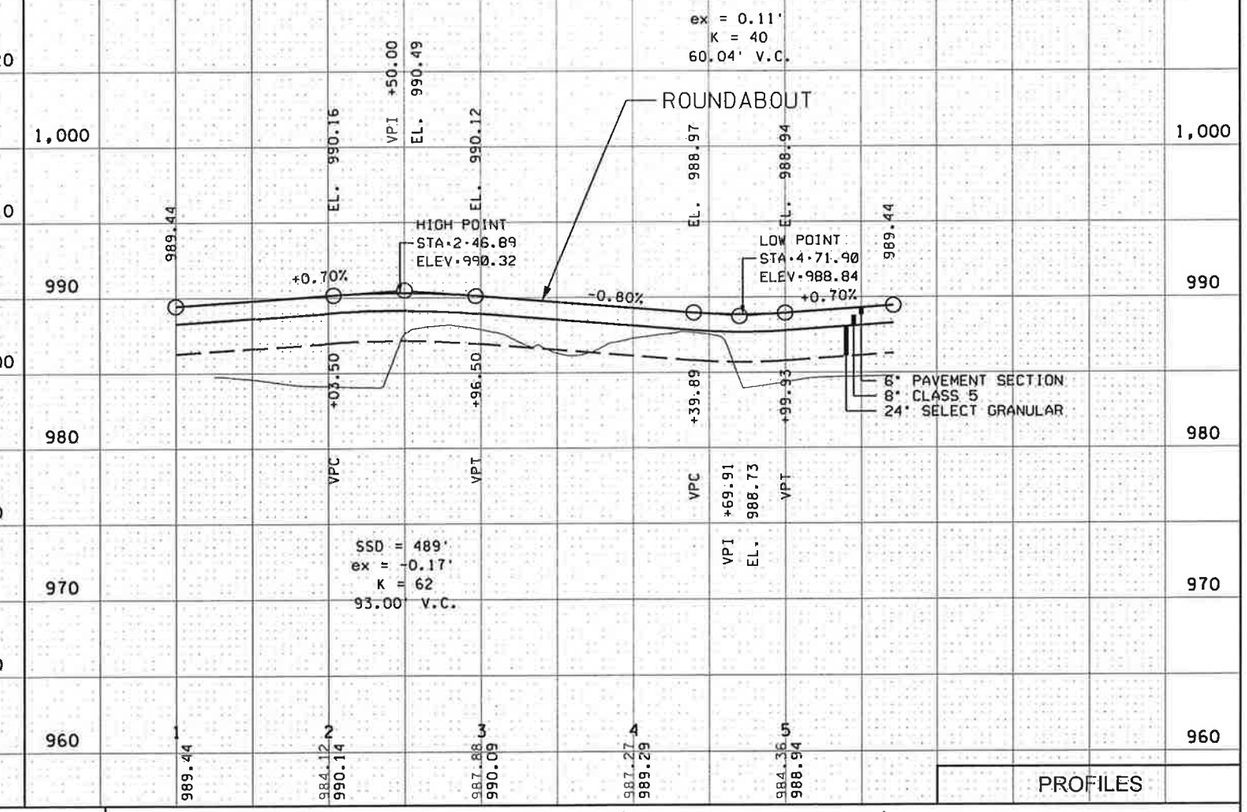

PROFILES

VERT. SCALE 0 5 10

HORIZ. SCALE 0 50 100

CERTIFIED BY _____ LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008(CSAH 60 & CSAH 82)SHEET 61 OF 142 SHEETS

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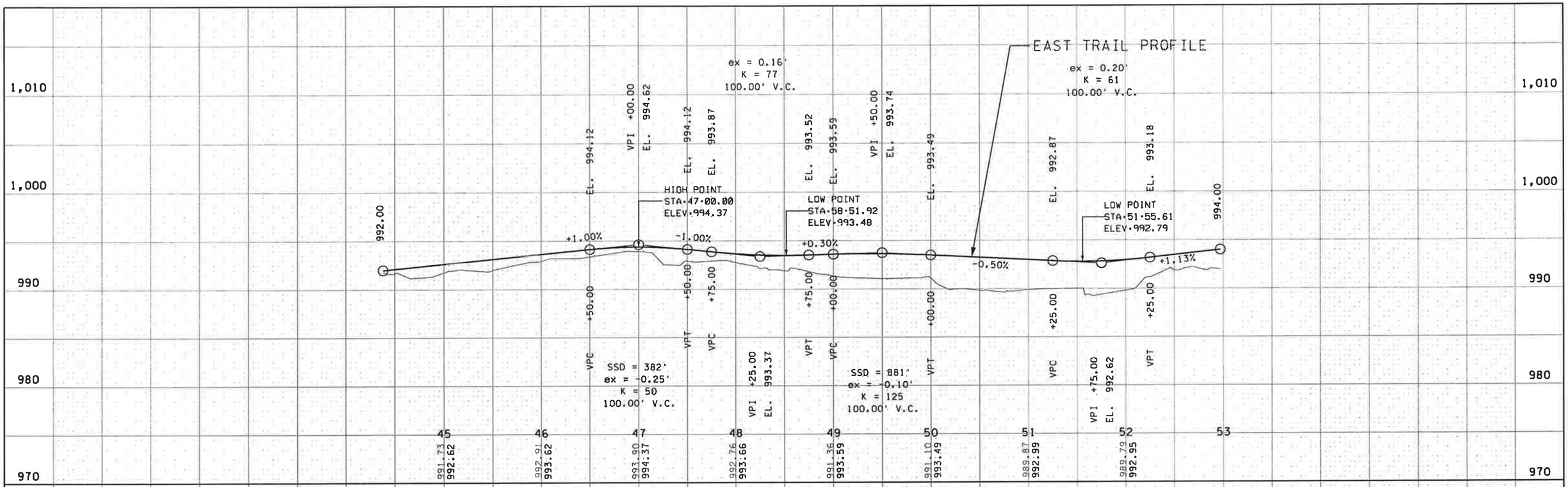

PROFILES

VERT. SCALE 0 5 10

HORIZ. SCALE 0 50 100

CERTIFIED BY LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008(CSAH 60 & CSAH 82) SHEET 62 OF 142 SHEETS

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GENERAL PROJECT INFORMATION:

PROJECT LOCATION & NARRATIVE:

THIS PROJECT INCLUDES THE REALIGNMENT OF CSAH 60, RECONSTRUCTION OF CSAH 82 NORTH, CSAH 82 EAST, AND VICTORY DRIVE SOUTH ALONG THE THE CONSTRUCTION OF A ROUNDABOUT AT THE INTERSECTION OF THE ABOVE LISTED ROADWAYS. THE SITE IS LOCATED IN SECTION 21, T 108 N, R 26 W. AT LONGITUDE –93°57'51", LATITUDE 44°08'53". THE PROJECT IS NEAR THE INTERSECTION OF C.S.A.H. 83 AND VICTORY DRIVE IN THE CITY OF MANKATO. THE MAJORITY OF THE SITE IS HYDRIC GROUP B WITH MODERATE INFILTRATION RATE AND MODERATE RATE OF WATER TRANSMISSION. THE REMAINDER OF THE SITE IS SLOW TO VERY SLOW INFILTRATION WITH A SLOW RATE OF WATER TRANSMISSION.

RESPONSIBLE PARTIES:

CONTRACTOR AND OWNER ARE REQUIRED TO APPLY FOR A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY AT LEAST 7 DAYS PRIOR TO BEGINNING WORK.

CONTRACTOR AND OWNER SHALL IDENTIFY A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPs WHO WILL OVERSEE THE IMPLEMENTATION OF THE SWPPP.

THE INSPECTOR MUST BE TRAINED PER REQUIREMENTS OF THE PERMIT, PART III.A.2

BLUE EARTH COUNTY	ALAN FROSBERG	(507) 304–4025
Owner:	Contact Person:	Phone:
BOLTON & MENK, INC.	ANDREW BUDDE	(952) 448–8838
Plan Preparer:	Contact Person:	Phone:
Contractor:	Contact Person:	Phone:
Person Responsible for Inspections:	Contact Person:	Phone:
XX	XX	XX
Regulating Watershed District/SWCD:	Contact Person:	Phone:

PROJECT AREAS:

TOTAL PROJECT SIZE (DISTURBED AREA) = 18.6 ACRES
MINIMUM AREA REQUIRING MPCA PERMIT = 1.0 ACRE

EXISTING AREA OF IMPERVIOUS SURFACE = 5.0 ACRES
POST–CONSTRUCTION AREA OF IMPERVIOUS SURFACE = 9.6 ACRES
TOTAL NEW IMPERVIOUS SURFACE AREA CREATED = 4.6 ACRES

MINIMUM AREA OF NEW IMPERVIOUS SURFACE CREATED REQUIRING PERMANENT STORM WATER MANAGEMENT = 1.0 ACRES

STORMWATER MANAGEMENT:

SURFACE WATER MANAGEMENT MEASURES USED TO MEET MPCA REQUIREMENTS:

- [x] WET SEDIMENTATION BASIN
- [ ] INFILTRATION/FILTRATION/BIORETENTION AREA
- [ ] REGIONAL POND
- [ ] ALTERNATIVE METHODS
- [ ] OTHER

WATER QUALITY VOLUME: TBD
FILTRATION VOLUME PROCIDED: TBD
PRETREATMENT FOREBAY POOL VOLUME: TBD

ADDITIONAL INFORMATION AVAILABLE IN DRAINAGE CALCULATION REPORT.

RECEIVING WATERS:

SURFACE WATERS AND WETLANDS THAT WILL RECEIVE STORM WATER RUNOFF FROM THE SITE AND ARE WITHIN ONE (1) MILE OF THE SITE ARE INDICATED WITH DIRECTION ARROW ON THE FOLLOWING SHEETS. THERE ARE NO IMPAIRED WATERS (STATE'S 303d LIST) WITHIN ONE (1) MILE OF THE CONSTRUCTION SITE AND RECEIVING RUNOFF FROM THE SITE:

CONSTRUCTION ACTIVITY NOTES:

ALL CONSTRUCTION ACTIVITIES MUST MEET THE REQUIREMENTS OF THE MPCA'S NPDES GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY. SEE SPECIFICATION SECTION 02370

EROSION PREVENTION:

CONTRACTOR SHALL USE PHASED CONSTRUCTION WHEREVER PRACTICAL TO MINIMIZED DISTURBED AREA.

ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

THE FOLLOWING SHALL BE INSTALLED WITHIN 24 HOURS OF CONNECTION TO SURFACE WATER:

1) ENERGY DISSIPATION (RIPRAP) AT ALL OUTLET APRONS
2) STABILIZATION OF TEMPORARY OR PERMANENT DRAINAGE SWALES WITHIN 200' OF EDGE OF SITE OR CONNECTION TO SURFACE WATER (INCLUDING STORM SEWER INLETS)

SEDIMENT CONTROL PRACTICES:

THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL SEDIMENT–LADEN SURFACE WATER FROM LEAVING THE CONSTRUCTION ZONE. ALL MOBILIZED SEDIMENT THAT HAS LEFT THE CONSTRUCTION ZONE SHALL BE COLLECTED BY THE CONTRACTOR AND PROPERLY DISPOSED OF AT NO ADDITIONAL COST TO THE OWNER.

ALL STREETS MUST BE SWEPT WHEN ANY OFF–SITE SEDIMENT TRACKING OCCURS OR AS DIRECTED BY THE ENGINEER. (INCIDENTAL)

TEMPORARY SEDIMENT BASIN IS REQUIRED WHEN 10 OR MORE ACRES OF DISTURBED AREA DISCHARGE TO A COMMON LOCATION (5 OR MORE ACRES IF DISCHARGE WITHIN ONE (1) MILE OF AN IMPAIRED WATER.

CONSTRUCTION GENERAL IMPLEMENTATION SCHEDULE & PHASING. THREE PHASES ARE PLANNED. REFER TO STAGING NARRATIVE FOR DETAILS:

1) INSTALL TRAFFIC CONTROL
2) INSTALL PERIMETER SILT FENCE.
4) CLEAR & GRUB POND AREA.
3) INSTALL ROCK CONSTRUCTION ENTRANCES, INLET PROTECTION TO OFF SITE CATCH BASINS AND CONSTRUCT TEMPORARY SEDIMENT BASINS IN POND LOCATION.
4) REMOVE EXISTING BITUMINOUS, AND ROUGH GRADE SITE.
5) COMPLETE UTILITY CONSTRUCTION.
6) INSTALL INLET PROTECTION DEVICES ON NEW CATCH BASINS.
7) INSTALL TEMPORARY DITCH CHECKS ALONG GUTTER LINE (AS NEEDED).
8) CONSTRUCT ROADWAY, WALKS, AND TRAILS.
9) STABILIZE SITE AS INDICATED ON THE PLANS.
10) ENSURE FINAL STABILIZATION MEASURES ARE COMPLETE.
11) SUBMIT NOTICE OF TERMINATION (NOT) TO MPCA WITHIN 30 DAYS.

CONCRETE WASHOUT:

ALL CONCRETE WASHOUT MUST BE CONTAINED WITHIN A LEAK–PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER (COMPACTED CLAY NOT ALLOWING INFILTRATION OF WASHOUT LIQUIDS IS PERMITTED). NO RUNOFF IS ALLOWED FROM THE CONCRETE WASHOUT AREA. ALL LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND A SIGN MUST BE INSTALLED ADJACENT TO WASHOUT AREAS INFORMING EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

DEWATERING AND BASIN DRAINING:

DEWATER SEDIMENT–LADEN SURFACE WATER TO TEMPORARY SEDIMENTATION BASINS WHEN REQUIRED. USE APPROVED ALTERNATE BMPS TO PREVENT TRANSPORTATION OF SEDIMENTS WHEN DISCHARGING TO SURFACE WATERS. DISCHARGE FROM TEMPORARY OR PERMANENT SEDIMENTATION BASIN MUST BE VISUALLY CHECKED TO ENSURE ADEQUATE TREATMENT IS OBTAINED IN THE BASIN.

USE APPROPRIATE ENERGY DISSIPATION MEASURES ON ALL DISCHARGES.

DEWATERING PRACTICES CANNOT CAUSE NUISANCE CONDITIONS, EROSION, OR FLOODING IN RECEIVING CHANNELS OR INUNDATION OF WETLANDS RESULTING IN ADVERSE IMPACTS.

EROSION & SEDIMENT CONTROL BMP ESTIMATED QUANTITIES:

BMP	QUANTITY
ROCK CONSTRUCTION ENTRANCE	5 EACH
INLET PROTECTION	53 EACH
SILT FENCE, MS	7455 LF
FLOATATION SILT CURTAIN	478 LF
FILTER LOG TYPE STRAW–BIOROLL	715 LF
EROSION CONTROL BLANKET, CAT. 3	21886 SY
EROSION STABILIZATION MAT CLASS 2	TBD
RAPID STABILIZATION METHOD 4	1600 SY
TEMPORARY DITCH CHECK–TYPE 7	125 CU YD
RIPRAP	TBD

CONSTRUCTION ACTIVITY NOTES:

INSPECTIONS AND MAINTENANCE:

THE CONTRACTOR MUST ROUTINELY INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS OF A RAINFALL EVENT GREATER THAN 0.5 INCHES IN A 24–HR PERIOD.

ALL INSPECTIONS MUST BE RECORDED AND RECORDS RETAINED WITH THE SWPPP ON SITE. COPIES SHALL BE MADE EACH WEEK & DELIVERED TO ENGINEER AT WEEKLY MEETINGS.

SILT FENCE, BIOROLLS, DITCH CHECKS AND INLET PROTECTION DEVICES MUST BE MAINTAINED WHEN ACCUMULATED SEDIMENT REACHES ½ OF THE DEVICE HEIGHT.

TEMPORARY SEDIMENT BASINS SHALL BE DRAINED AND CLEANED OF SEDIMENT WHEN THE DEPTH OF SEDIMENT IN THE BASIN IS EQUAL TO ½ OF THE ORIGINAL STORAGE VOLUME. DRAINAGE AND REMOVAL SHALL BE COMPLETED WITHIN 72 HOURS OF DISCOVERY.

OFF SITE VEHICLE TRACKING SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY.

ALL NON–FUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

POLLUTION PREVENTION:

ALL SOLID WASTE GENERATED BY/COLLECTED FROM THE CONSTRUCTION SITE MUST BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE STATE AND FEDERAL REGULATIONS.

ALL HAZARDOUS MATERIALS (OIL, GASOLINE, FUEL, PAINT, ETC) MUST BE PROPERLY STORED/CONTAINED TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH ALL APPLICABLE STATE AND FEDERAL REGULATIONS.

VEHICLE OR EQUIPMENT WASHING OR MAINTENANCE AREAS MUST BE LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF CONTAINING ANY HAZARDOUS MATERIALS MUST BE PROPERLY AND LAWFULLY COLLECTED AND DISPOSED OF. DEFINED AREA MUST BE DELINEATED WITH HEAVY– OR SUPER–DUTY SILT FENCE. NO ENGINE DEGREASING IS ALLOWED ON SITE.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MONITORING AIR POLLUTION AND ENSURING THAT IT DOES NOT EXCEED LEVELS SET BY LOCAL, STATE, OR FEDERAL REGULATIONS. THIS INCLUDES DUST CREATED BY WORK BEING PERFORMED ON THE SITE. AIR POLLUTION AND DUST CONTROL CORRECTION IS CONSIDERED INCIDENTAL TO THE UNIT BID PRICES FOR WHICH WORK IS BEING PERFORMED. ADDITIONAL DUST CONTROL MEASURES MAY BE REQUIRED BY THE ENGINEER.

FINAL STABILIZATION:

THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE. THE PERMITTEES MUST SUBMIT A NOTICE OF TERMINATION WITHIN 30 DAYS AFTER FINAL STABILIZATION IS COMPLETE OR SITE CONTROL HAS BEEN PASSED TO ANOTHER OWNER.

ALL TEMPORARY EROSION CONTROL MEASURES AND BMP's MUST BE REMOVED AS PART OF THE FINAL SITE STABILIZATION.

THE GENERAL PERMIT FURTHER DEFINES FINAL STABILIZATION AND ITS REQUIREMENTS.

RECORD RETENTION:

THE SWPPP, ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS ARE THE RESPONSIBILITY OF THE PERMITEE AND MUST BE KEPT AT THE SITE DURING CONSTRUCTION.

ALL OWNER(S) MUST RETAIN THE FOLLOWING FOR 3 YEARS AFTER SUBMITTAL OF NOT:
1) SWPPP;
2) ANY OTHER PERMITS REQUIRED FOR THE PROJECT;
3) INSPECTION AND MAINTENANCE LOGS;
4) ALL PERMANENT OPERATION AND MAINTENANCE AGREEMENTS FOR SURFACE WATER FACILITIES;
5) ALL DESIGN CALCULATIONS FOR TEMPORARY AND PERMANENT STORM WATER MANAGEMENT.

TRAINING REQUIREMENTS:

PERMITEE(S) MUST COMPLY WITH THE TRAINING REQUIREMENTS OF THE GENERAL PERMIT FOUND IN PART III.A.2. PROJECT INSPECTOR MUST BE CERTIFIED.

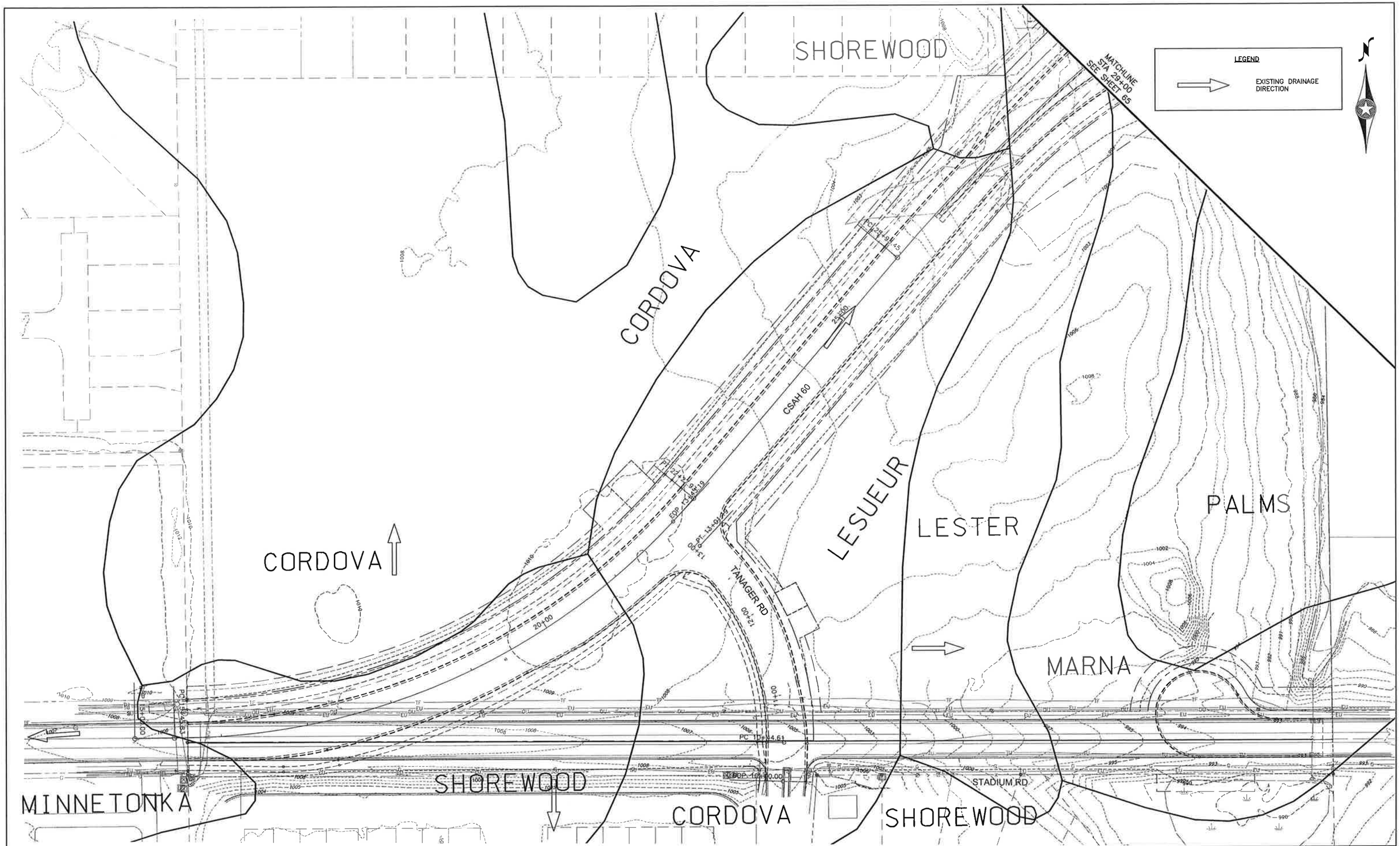
ADDITIONAL FIELD NOTES AS NEEDED:

SWPPP NARRATIVE

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007–660–005 & SAP 007–682–008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 63 OF 142 SHEETS



SWPPP EX CONDITIONS PLAN

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 64 OF 142 SHEETS

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RECEIVING WETLAND
565 FT

URBAN LAND

MARNA

MARNA

MARNA

SHOREWOOD

KILKENNY

LESTER

LESTER

CSAH 82

CSAH 82

CSAH 60

MATCHLINE STA 45+00 SEE SHEET 66

MATCHLINE STA 29+00 SEE SHEET 64

MARNA

PALMS

VICTORY DR

WETLAND

PALMS

LEGEND

EXISTING DRAINAGE DIRECTION

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SWPPP EX CONDITIONS PLAN

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 65 OF 142 SHEETS

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MARNA

LESTER

HOSANNA AVE

LESTER

LESTER

MARNA

CSAH 82

50+00

55+00

60+00

MATCHLINE
STA 45+00
SEE SHEET 65

MARNA

MARNA

LESTER

LESTER

SHOREWOOD

FOLEY RD

LEGEND

EXISTING DRAINAGE DIRECTION

SWPPP EX CONDITIONS PLAN

SCALE 0 50 100

CERTIFIED BY LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 66 OF 142 SHEETS

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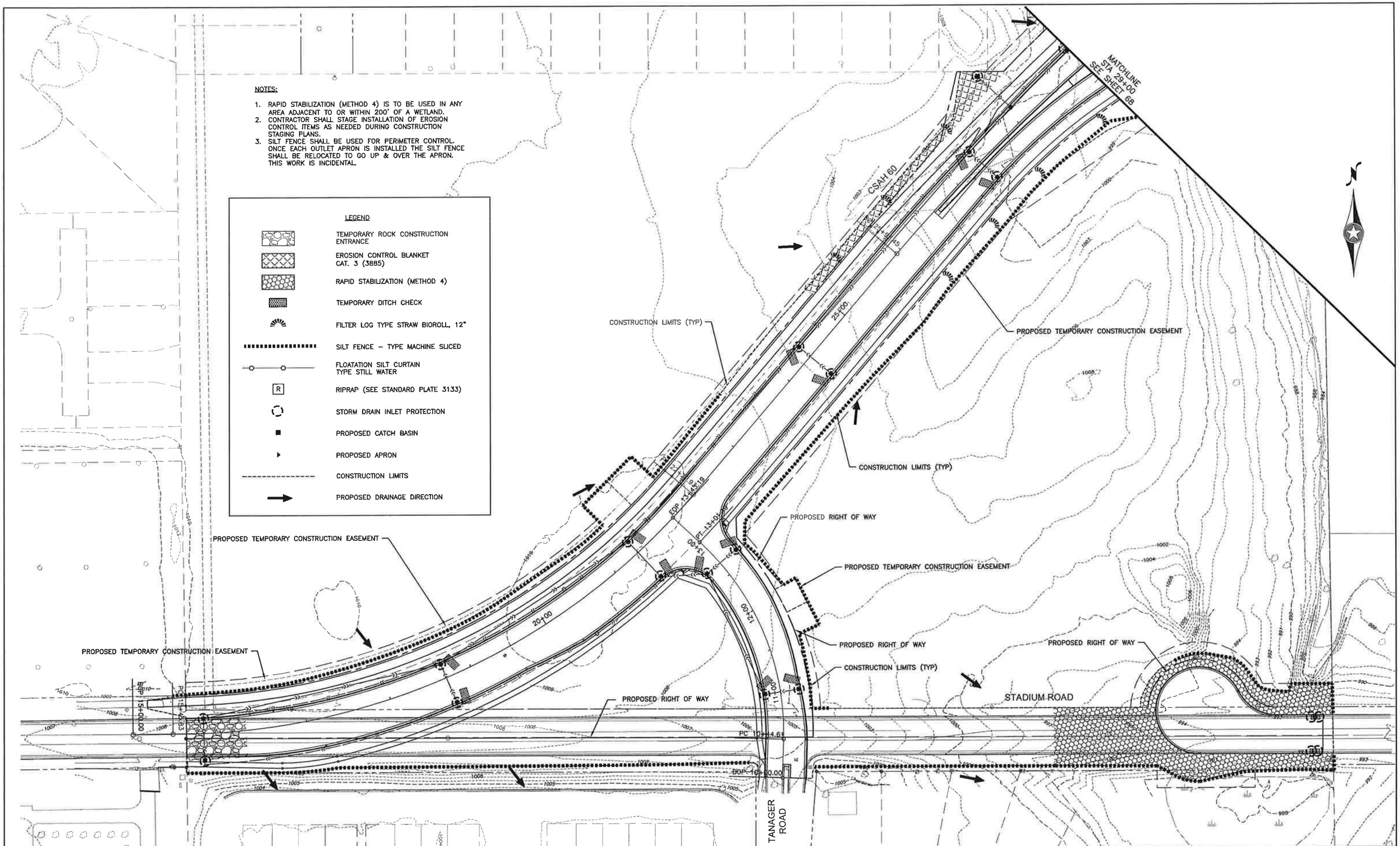
NOTES:

1. RAPID STABILIZATION (METHOD 4) IS TO BE USED IN ANY AREA ADJACENT TO OR WITHIN 200' OF A WETLAND.
2. CONTRACTOR SHALL STAGE INSTALLATION OF EROSION CONTROL ITEMS AS NEEDED DURING CONSTRUCTION STAGING PLANS.
3. SILT FENCE SHALL BE USED FOR PERIMETER CONTROL. ONCE EACH OUTLET APRON IS INSTALLED THE SILT FENCE SHALL BE RELOCATED TO GO UP & OVER THE APRON. THIS WORK IS INCIDENTAL.

LEGEND

- TEMPORARY ROCK CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET CAT. 3 (3885)
- RAPID STABILIZATION (METHOD 4)
- TEMPORARY DITCH CHECK
- FILTER LOG TYPE STRAW BIOROLL, 12"
- SILT FENCE – TYPE MACHINE SLICED
- FLOATATION SILT CURTAIN TYPE STILL WATER
- R RIPRAP (SEE STANDARD PLATE 3133)
- STORM DRAIN INLET PROTECTION
- PROPOSED CATCH BASIN
- PROPOSED APRON
- CONSTRUCTION LIMITS
- PROPOSED DRAINAGE DIRECTION



GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE 0 50 100

CERTIFIED BY LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 67 OF 142 SHEETS

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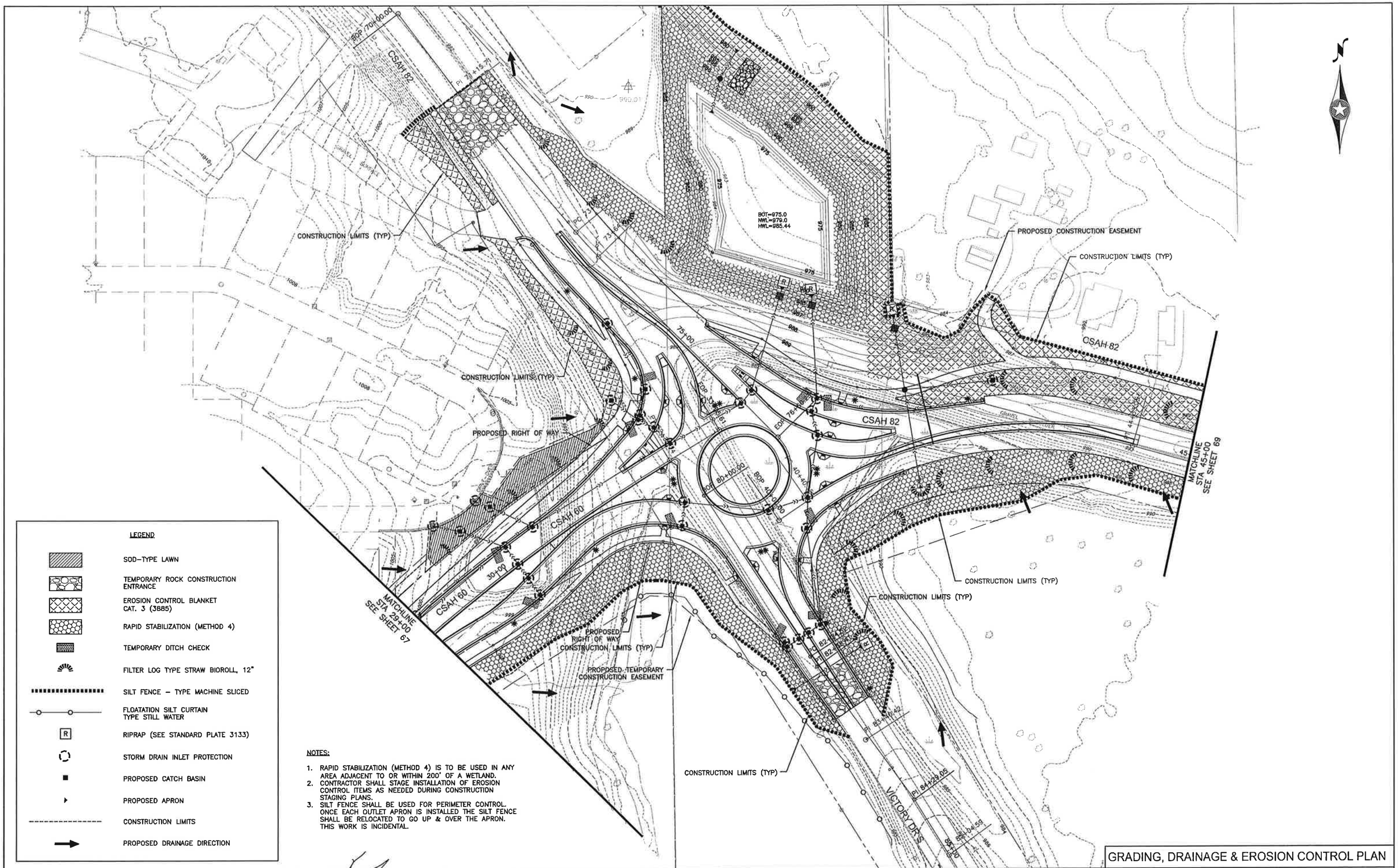

GRADING, DRAINAGE & EROSION CONTROL PLAN

CERTIFIED BY LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 68 OF 142 SHEETS

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PROPOSED TEMPORARY CONSTRUCTION EASEMENT

CONSTRUCTION LIMITS (TYP)

CSAH 82

HOSANNA AVE

FOLEY ROAD

GRAVEL SHOULDER

MATCHLINE STA 45+00 SEE SHEET 68

50+00

55+00

60+00

CONSTRUCTION LIMITS (TYP)

CONSTRUCTION LIMITS (TYP)

CONSTRUCTION LIMITS (TYP)

CSAH 82

LEGEND

- TEMPORARY ROCK CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET CAT. 3 (3885)
- RAPID STABILIZATION (METHOD 4)
- TEMPORARY DITCH CHECK
- FILTER LOG TYPE STRAW BIOROLL, 12"
- SILT FENCE – TYPE MACHINE SLICED
- FLOATATION SILT CURTAIN TYPE STILL WATER
- R RIPRAP (SEE STANDARD PLATE 3133)
- STORM DRAIN INLET PROTECTION
- PROPOSED CATCH BASIN
- PROPOSED APRON
- CONSTRUCTION LIMITS
- PROPOSED DRAINAGE DIRECTION

NOTES:

1. RAPID STABILIZATION (METHOD 4) IS TO BE USED IN ANY AREA ADJACENT TO OR WITHIN 200' OF A WETLAND.
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3. SILT FENCE SHALL BE USED FOR PERIMETER CONTROL. ONCE EACH OUTLET APRON IS INSTALLED THE SILT FENCE SHALL BE RELOCATED TO GO UP & OVER THE APRON. THIS WORK IS INCIDENTAL.

GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE 0 50 100

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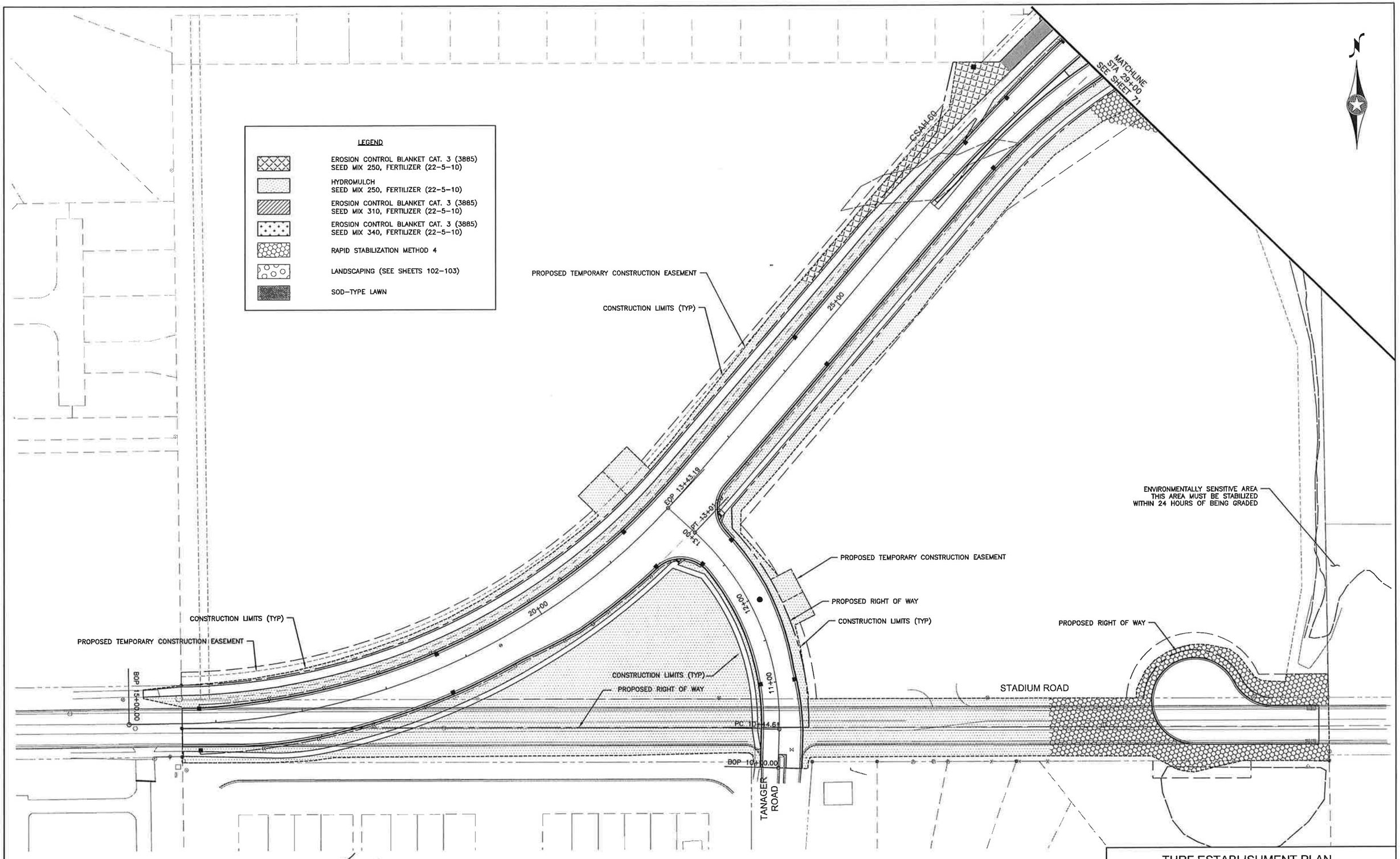

TURF ESTABLISHMENT PLAN

SCALE 0 50 100

CERTIFIED BY _____ LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 70 OF 142 SHEETS

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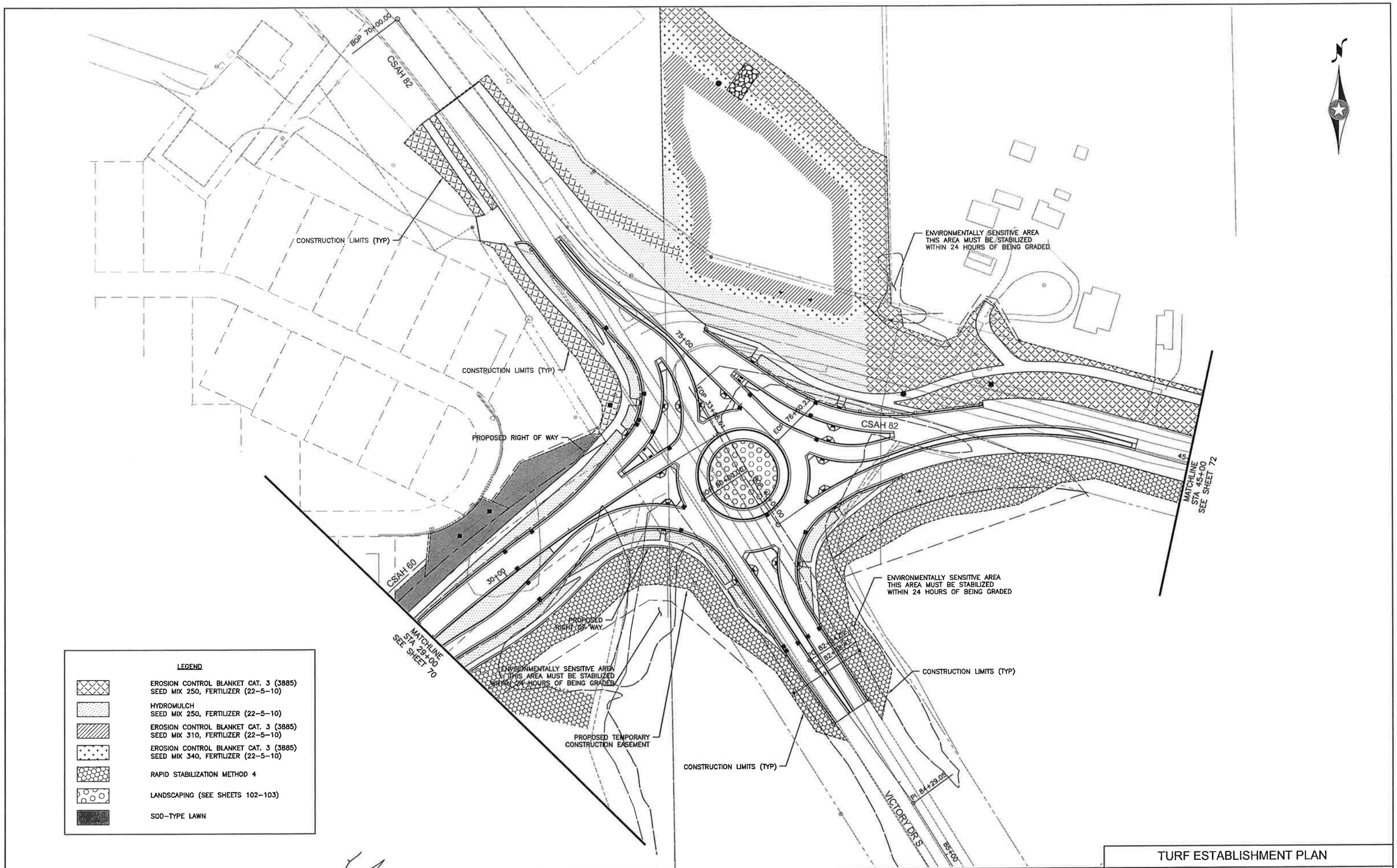

TURF ESTABLISHMENT PLAN

SCALE 0 50 100

CERTIFIED BY LICENSED ENGINEER LIC. NO. 42779 01/09/2012

SAP 007-660-005 & SAP 007-682-008 (CSAH 60, CSAH 82 & VICTORY DRIVE) SHEET 71 OF 142 SHEETS

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