

CHANGE ORDER #2

DATE	August 09, 2012
PROJECT NAME	Sunwood Drive Realignment, SAP 199-104-010, CP 12-20
PROJECT NUMBER	RAM12019
CIVIL SHEETS ISSUED	1A, 8B-12B & Change Order 2 Tabulations
SPECIFICATIONS SECTION ISSUED	None

SHEET 1A: COVER SHEET

- a) ADDED sheets 8B through 12B to sheet index

SHEET 8B: ZEOLITE STREET STORM SEWER PLAN & PROFILE

- a) ADDED sheet, refer to tabulations for quantities

SHEET 9B: ZEOLITE STREET WATERMAIN & STREET PLAN AND PROFILE

- a) ADDED sheet, refer to tabulations for quantities

SHEET 10B: LAKE RAMSEY BORROW PIT OVERFLOW CHANNEL

- a) ADDED sheet, refer to tabulations for quantities

SHEET 11B: BUNKER LAKE BLVD TRAFFIC CONTROL

- a) ADDED sheet, refer to tabulations for quantities

SHEET 8B: ZEOLITE STREET CONSTRUCTION DETAILS

- a) ADDED sheet

Supplemental Information: Change Order #2 Tabulations

END OF CHANGE ORDER #2

If any of these items are unclear or in need of further clarification contact the Engineer at (612) 638-0243.

No.	Mat. No	Item	Units	Quantity	Unit Price	Total Price
1	2101.501	CLEARING	ACRE	0.67	\$ _____	\$ _____
2	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	390	\$ _____	\$ _____
3	2104.509	REMOVE 73" ARCH STORM SEWER BULKHEAD	EACH	1	\$ _____	\$ _____
4	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	123	\$ _____	\$ _____
5	2105.501	COMMON EXCAVATION	CU YD	1,107	\$ _____	\$ _____
6	2105.535	SALVAGED TOPSOIL (LV)	CU YD	367	\$ _____	\$ _____
7	2105.535	TOPSOIL BORROW (LV)	CU YD	142	\$ _____	\$ _____
8	2105.601	DEWATERING	LUMP SUM	1	\$ _____	\$ _____
9	2211.503	AGGREGATE SHOULDERING (CV) CLASS 5 MODIFIED	CU YD	21.1	\$ _____	\$ _____
10	2211.503	AGGREGATE BASE (CV) CLASS 5 MODIFIED	CU YD	53.4	\$ _____	\$ _____
11	2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,C)	TON	66.33	\$ _____	\$ _____
12	2501.525	73" SPAN RC PIPE-ARCH APRON	EACH	1	\$ _____	\$ _____
13	2501.602	TRASH GUARD FOR 73" ARCH APRON	EACH	1	\$ _____	\$ _____
14	2503.541	73" RC PIPE SEWER DESIGN 3006 CLIII	LF	210	\$ _____	\$ _____
15	2503.602	CONNECT TO EXISTING STROM SEWER	EACH	1	\$ _____	\$ _____
16	2503.603	CLEAN EXISTING STORM SEWER PIPE	LF	140	\$ _____	\$ _____
17	2504.602	CONNECT TO EXISTING WATERMAIN	EACH	6	\$ _____	\$ _____
18	2504.603	12" DIP WATERMAIN CLASS 52	LF	54	\$ _____	\$ _____
19	2504.604	4" POLYSTYRENE INSULATION	SQ YD	43	\$ _____	\$ _____
20	2504.608	DIP FITTINGS	LBS	3300	\$ _____	\$ _____
21	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 108-4020	EA	1	\$ _____	\$ _____
22	2506.516	CASTING ASSEMBLY	EA	1	\$ _____	\$ _____
23	2506.521	INSTALL CASTING	EA	1	\$ _____	\$ _____
24	2511.501	RANDOM CLASS III RIP-RAP	CU YD	16	\$ _____	\$ _____
25	2563.601	TRAFFIC CONTROL	LS	1	\$ _____	\$ _____
26	2573.502	SILT FENCE, TYPE MACHINE SLICED	LF	650	\$ _____	\$ _____
27	2575.523	EROSION CONTROL BLANKET, CATEGORY 3	SQ YD	50	\$ _____	\$ _____
28	2575.501	SEEDING	ACRE	0.67	\$ _____	\$ _____
29	2575.502	SEED MIXTURE 190	LBS	37.2	\$ _____	\$ _____
30	2582.502	4" SOLID LINE, WHITE-PAINT	LF	40	\$ _____	\$ _____
31	2582.502	4" DOUBLE SOLID LINE, YELLOW-PAINT	LF	92	\$ _____	\$ _____

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR SUNWOOD DRIVE REALIGNMENT

LOCATED ON SUNWOOD DRIVE

STATE AID PROJ. NO. 199-104-010, CITY PROJECT 12-20

GROSS LENGTH 1404 FEET 0.26 MILES
 BRIDGES-LENGTH N/A FEET N/A MILES
 EXCEPTIONS-LENGTH N/A FEET N/A MILES
 NET LENGTH 1404 FEET 0.26 MILES
 REF. POINT WEST OF ZEOLITE
 TO REF POINT ARMSTRONG BLVD.

PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

PLAN SYMBOLS

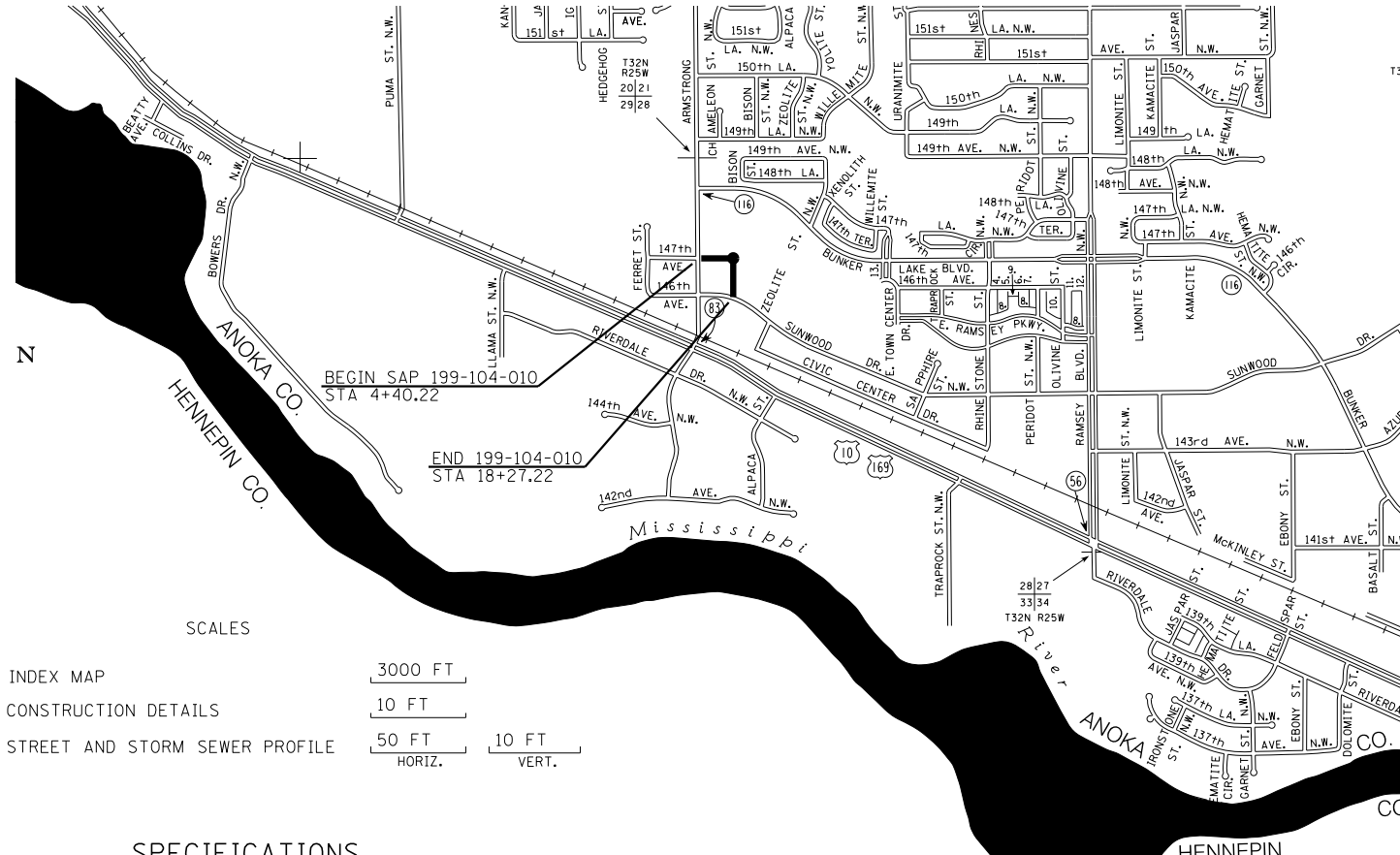
- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- SLOPE EASEMENT
- PRESENT RIGHT OF WAY LINE
- CONTROLLED ACCESS
- CORPORATE OR CITY LIMITS
- PROPERTY LINE
- TEMPORARY EASEMENT
- RAILROAD RIGHT OF WAY
- ROADWAY CENTERLINE
- RAILROAD
- RIVER OR CREEK
- DRAINAGE DITCH
- BRIDGE
- CULVERT
- DRAINTILE
- CAST IRON MONUMENT
- CONCRETE OR STONE MONUMENT
- MARSH OR SWAMP
- WOODS OR BRUSH
- DECIDUOUS TREE
- EVERGREEN TREE
- HEDGE
- BARBED WIRE FENCE
- CHAIN LINK FENCE
- WOVEN WIRE FENCE
- GUARDRAIL (CABLE)
- GUARDRAIL (PLATE BEAM)
- RETAINING WALL
- CATCH BASIN
- MANHOLE
- TRUNCATED DOME

UTILITY SYMBOLS

- POWER POLE LINE
- BURIED ELECTRICAL CABLE IN CONDUIT
- STEEL TOWER
- ANCHOR
- HANDHOLE
- GAS MAIN
- GAS VALVE
- SANITARY SEWER
- STORM SEWER
- TELEPHONE POLE
- BURIED TELEPHONE CABLE
- TELEPHONE CABLE IN CONDUIT
- FIRE HYDRANT
- WATER MAIN
- WATER VALVE
- STREET LIGHT



N



SCALES

- INDEX MAP
- CONSTRUCTION DETAILS
- STREET AND STORM SEWER PROFILE

SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION 'STANDARD SPECIFICATIONS FOR CONSTRUCTION', SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES & SIGNING SHALL CONFORM TO THE MN MUTCD INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

DESIGN DESIGNATION

CITY PROJECT 12-20
4+40 TO 14+40

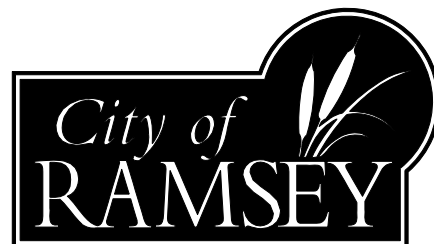
Design ESALS 2032 = 947,000
 ADT (Current Year) 2012 = N/A
 ADT (Future Year) 2032 = 18,900
 HCADT (Future Year) 2032 = 6%
 Design = 10 TONS
 R Value = 75
 Functional Class LOCAL COLLECTOR
 No. of Traffic Lanes = 4
 No. of Parking Lanes = 0
 Shoulder Width = 0'
 Design Speed 30 MPH
 D (Directional Distr.) = 50/50
 Based on Stopping Sight Distance
 Height of Eye 3.5' Height of Object 2.0'

DESIGN DESIGNATION

SAP 199-104-010
14+40 TO 18+44.49

Design ESALS 2032 = 947,000
 ADT (Current Year) 2012 = 3200
 ADT (Future Year) 2032 = 9,300
 HCADT (Future Year) 2032 = 6%
 Design = 10 TONS
 R Value = 75
 Functional Class LOCAL COLLECTOR
 No. of Traffic Lanes = 3
 No. of Parking Lanes = 0
 Shoulder Width = 0'
 Design Speed 30 MPH
 D (Directional Distr.) = 50/50
 Based on Stopping Sight Distance
 Height of Eye 3.5' Height of Object 2.0'

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY



INDEX

SHEET NO.	DESCRIPTION
1A	TITLE SHEET AND INDEX MAP
2A-3A	ESTIMATED QUANTITIES
4A	DRAINAGE TABULATION
5A	SOILS AND CONSTRUCTION NOTES
6A - 7A	TYPICAL SECTIONS
8A - 12A	CONSTRUCTION DETAILS
13A - 17A	STANDARD PLAN SHEETS
18A - 21A	ALIGNMENT PLAN AND TABULATION
22A - 23A	EXISTING CONDITIONS AND REMOVAL PLAN
24A - 28A	PROFILE AND STORM SEWER PLAN
29A - 34A	CONSTRUCTION PLAN
35A - 36A	SIGNING AND STRIPING PLAN
37A	STRIPING DETAILS
38A - 44A	SIGNING DETAILS
45A - 55A	CROSS SECTIONS
56A - 56A.4	STORM WATER POLLUTION PREVENTION PLAN
57A - 58A	WATERMAIN PLAN AND PROFILE
59A	WATERMAIN DETAILS
60A	OVERALL MASS GRADING/BORROW PLAN
61A	LAKE RAMSEY BORROW AREA
62A	LAKE RAMSEY BORROW AREA CROSS SECTIONS
63A - 64A	LANDSCAPE PLAN
65A	LANDSCAPE DETAILS
66A	LIGHTING PLAN
67A	IRRIGATION PLAN
1B - 2B	SUNWOOD RETAIL MASS GRADING, DRAINAGE, EROSION & SEDIMENT CONTROL PLAN
3B	SUNWOOD RETAIL MASS GRADING CROSS SECTIONS
4B	SUNWOOD RETAIL STORM SEWER PLAN AND PROFILE
5B	SUNWOOD RETAIL SANITARY SEWER PLAN AND PROFILE
6B	SUNWOOD RETAIL ACCESS DRIVE AND PROFILE
7B	SUNWOOD RETAIL CONSTRUCTION DETAILS
8B	ZEOLITE STREET STORM SEWER PLAN AND PROFILE
9B	ZEOLITE STREET WATERMAIN & STREET PLAN AND PROFILE
10B	LAKE RAMSEY BORROW PIT OVERFLOW CHANNEL
11B	ZEOLITE STREET AND BUNKER LAKE BLVD. TRAFFIC CONTROL
12B	ZEOLITE STREET CONSTRUCTION DETAILS

THIS PLAN CONTAINS 83 SHEETS

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

PRINT NAME: ROBERT G. SCHUNICHT LICENSE # 12105

DATE: 08-07-12 SIGNATURE: Robert G. Schunicht

DESIGN SQUAD

APPROVED _____ DATE _____
CITY OF RAMSEY ENGINEER

APPROVED _____ DATE _____
ANOKA COUNTY ENGINEER

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

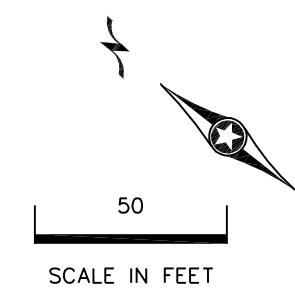
APPROVED FOR STATE AID FUNDING STATE AID ENGINEER

S.A.P. 199-104-010

C.P. 12-20
SHEET NO. 1A OF 12B SHEETS

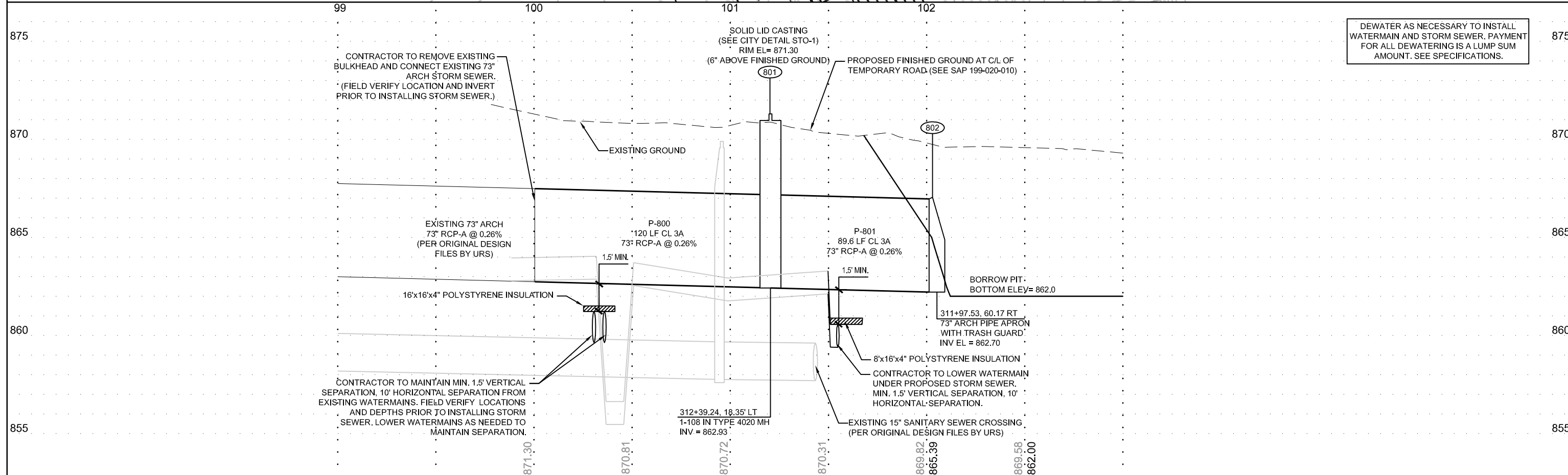
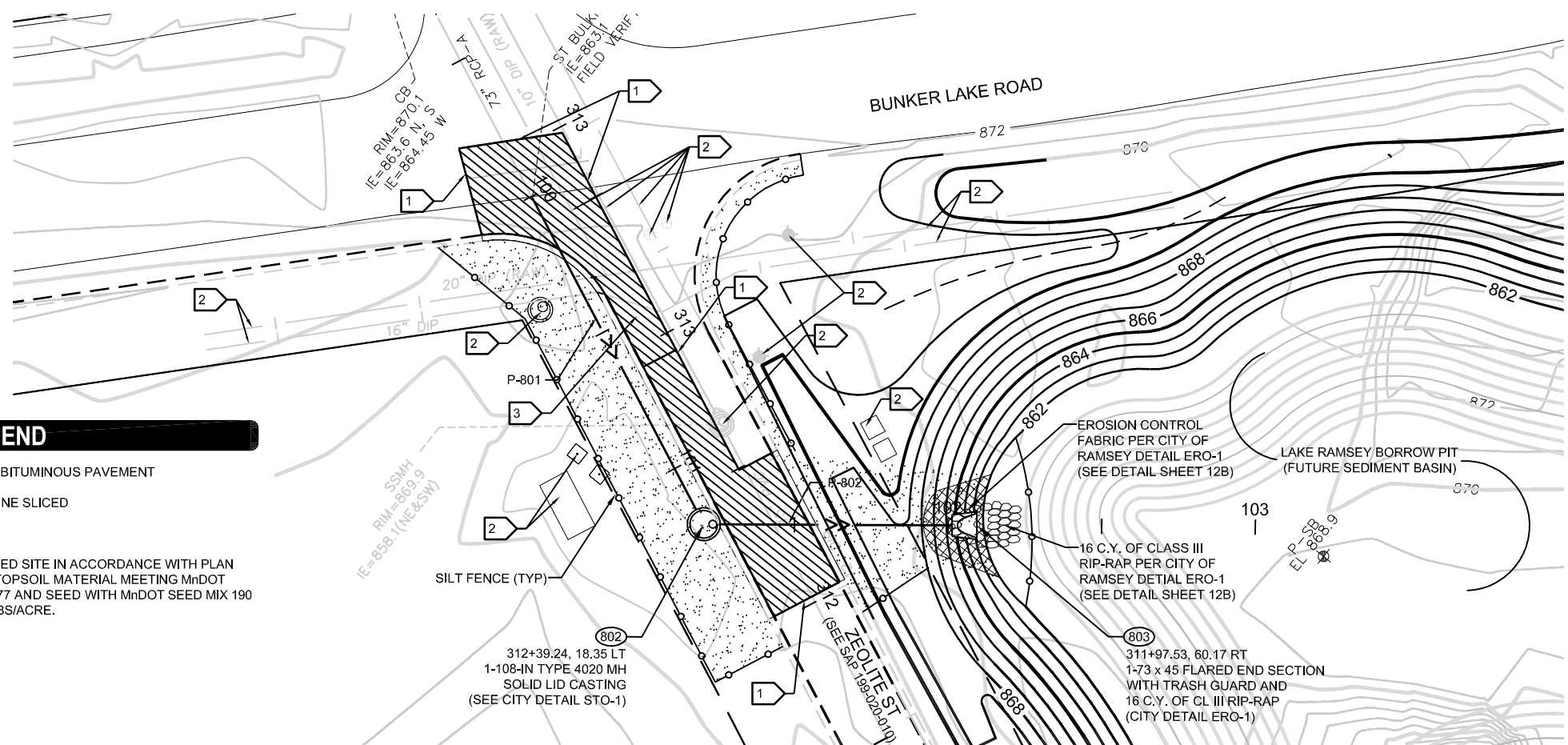
NOTES

- 1 SAWCUT EXISTING BITUMINOUS PAVEMENT (FULL DEPTH) PER COUNTY/CITY STANDARDS AND SPECIFICATION.
- 2 PROTECT STRUCTURES & UTILITIES. DAMAGE SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION AT NO ADDITIONAL COST.
- 3 ROADWAY RESTORATION (SEE SHEET 9B)
4. CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES <72> HOURS PRIOR TO BEGINNING DEMOLITION AND CLEARING.
5. INSTALL PERIMETER SEDIMENT CONTROLS PRIOR TO BEGINNING WORK AND MAINTAIN FOR DURATION OF CONSTRUCTION. REMOVE CONTROLS AFTER AREAS CONTRIBUTING RUN OFF ARE PERMANENTLY STABILIZED AND DISPOSE OF OFF SITE.
6. REFER TO SHEET 11B FOR TRAFFIC CONTROL.
7. HAUL DEMOLITION DEBRIS OFF-SITE TO A FACILITY APPROVED BY REGULATORY AUTHORITIES FOR THE HANDLING OF DEMOLITION DEBRIS, UNLESS NOTED OTHERWISE.
8. SWEEP ADJACENT STREETS CLEAN DAILY.
9. PIPE LENGTHS SHOWN ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF END SECTION.
10. INSTALL TRACER WIRE WITH UTILITIES PER CITY REQUIREMENTS AND SPECIFICATIONS.
11. REFER TO GEOTECHNICAL REPORT PREPARED BY NORTHERN TECHNOLOGIES, INC. DATED 01/31/12, FOR ADDITIONAL INFORMATION ON BACKFILL MATERIAL AND GROUNDWATER CONDITIONS.
12. CONTRACTOR TO CLEAN AND REMOVE SILT FROM EXISTING 73" ARCH STORM SEWER PIPE (APPROX. 140 L.F.) PIPE SHOULD BE FREE OF SILT AND DEBRIS.



LEGEND

- REMOVE EXISTING BITUMINOUS PAVEMENT
- SILT FENCE, MACHINE SLICED
- 8" BIOROLL
- RESTORE DISTURBED SITE IN ACCORDANCE WITH PLAN AND PLACE 4" OF TOPSOIL MATERIAL MEETING MnDOT SPECIFICATION 3877 AND SEED WITH MnDOT SEED MIX 190 AT A RATE OF 60 LBS/ACRE.



DEWATER AS NECESSARY TO INSTALL WATERMAIN AND STORM SEWER. PAYMENT FOR ALL DEWATERING IS A LUMP SUM AMOUNT. SEE SPECIFICATIONS.

SUNWOOD DRIVE REALIGNMENT
 SUNWOOD DRIVE
 RAMSEY, MINNESOTA

PROJ. NO.	RAM12019	DATE	7/25/2012	REVISION	CHANGE ORDER #1	REVIEW	RGS
DESIGNED BY:	RTS	CHECKED BY:	CNC	APPROVED BY:	RGS		

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.

Robert Schumert
 ROBERT SCHUMERT
 Registration No. 4043
 DATE: 06/01/2012

LANDFORM
 From Site to Finish

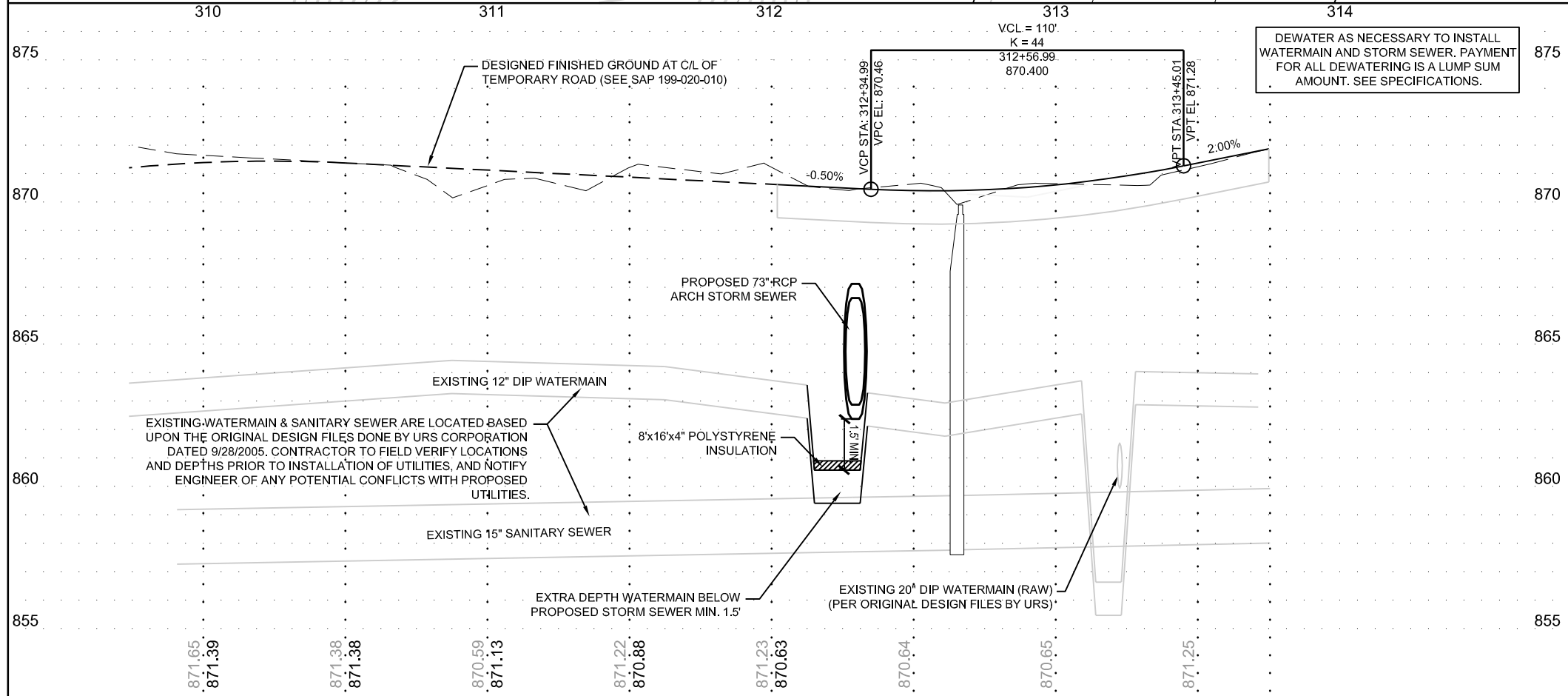
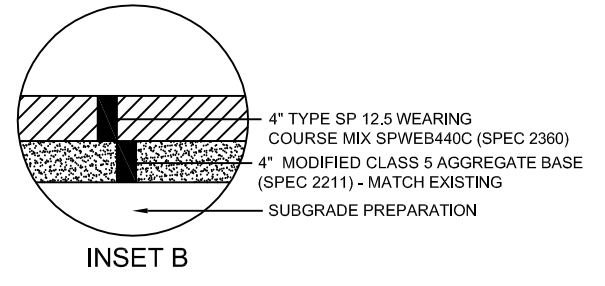
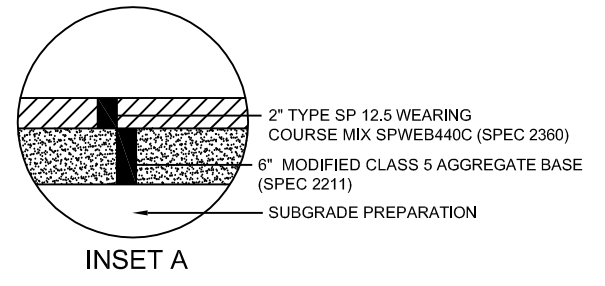
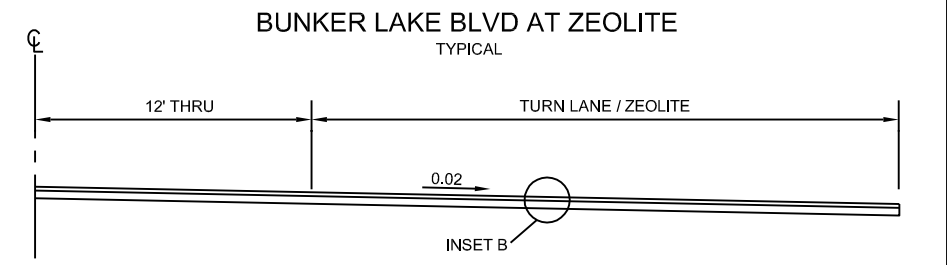
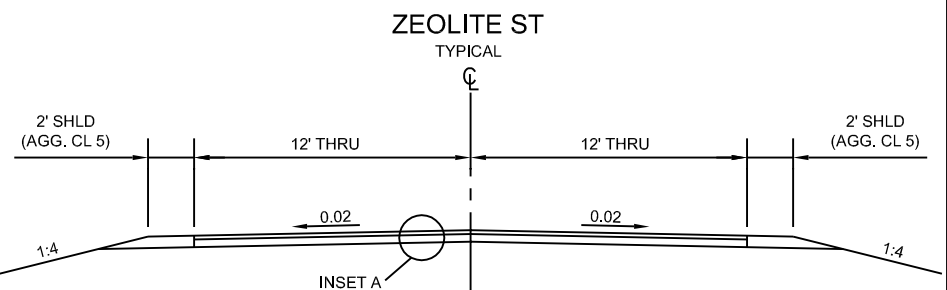
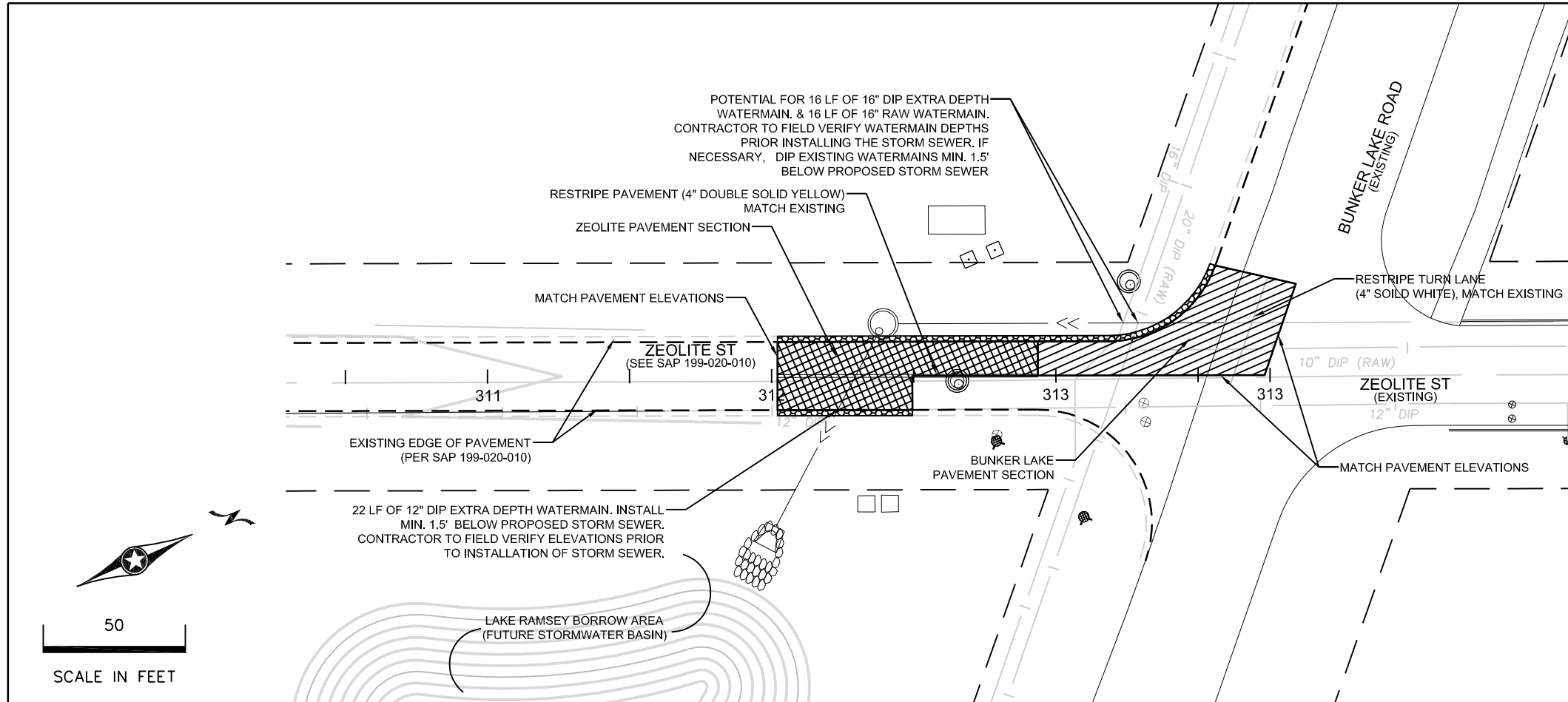
105 South Fifth Avenue
 Suite 513
 Minneapolis, MN 55401

Tel: 612-252-9070
 Fax: 612-252-9077
 Web: landform.net

STORM SEWER PLAN AND PROFILE
 ZEOLITE STREET

S.A.P. NO. 199-104-010, C.P. NO. 12-20

SHEET NO. 8B / 12B



DEWATER AS NECESSARY TO INSTALL WATERMAIN AND STORM SEWER. PAYMENT FOR ALL DEWATERING IS A LUMP SUM AMOUNT. SEE SPECIFICATIONS.

LEGEND	
	ZEOLITE PAVEMENT SECTION (SEE ZEOLITE TYPICAL SECTION)
	BUNKER LAKE BLVD. SECTION (SEE BUNKER LAKE BLVD. TYPICAL SECTION)
	AGGREGATE SHOULDER, (SEE TYPICAL SECTIONS)



SUNWOOD DRIVE REALIGNMENT
SUNWOOD DRIVE
RAMSEY, MINNESOTA

PROJ. NO.	RAM12019	DATE	7/25/2012	REVISION		REVIEW	RGS
DESIGNED BY:	RTS	8/07/2012	CHANGE ORDER #1			RGS	
CHECKED BY:	CNC		CHANGE ORDER #2			RGS	
APPROVED BY:	RGS						

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.
Robert Schumert
NAME: ROBERT SCHUMERT
Registration No: 4043
DATE: 06/01/2012

LANDFORM
From Site to Finish

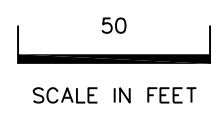
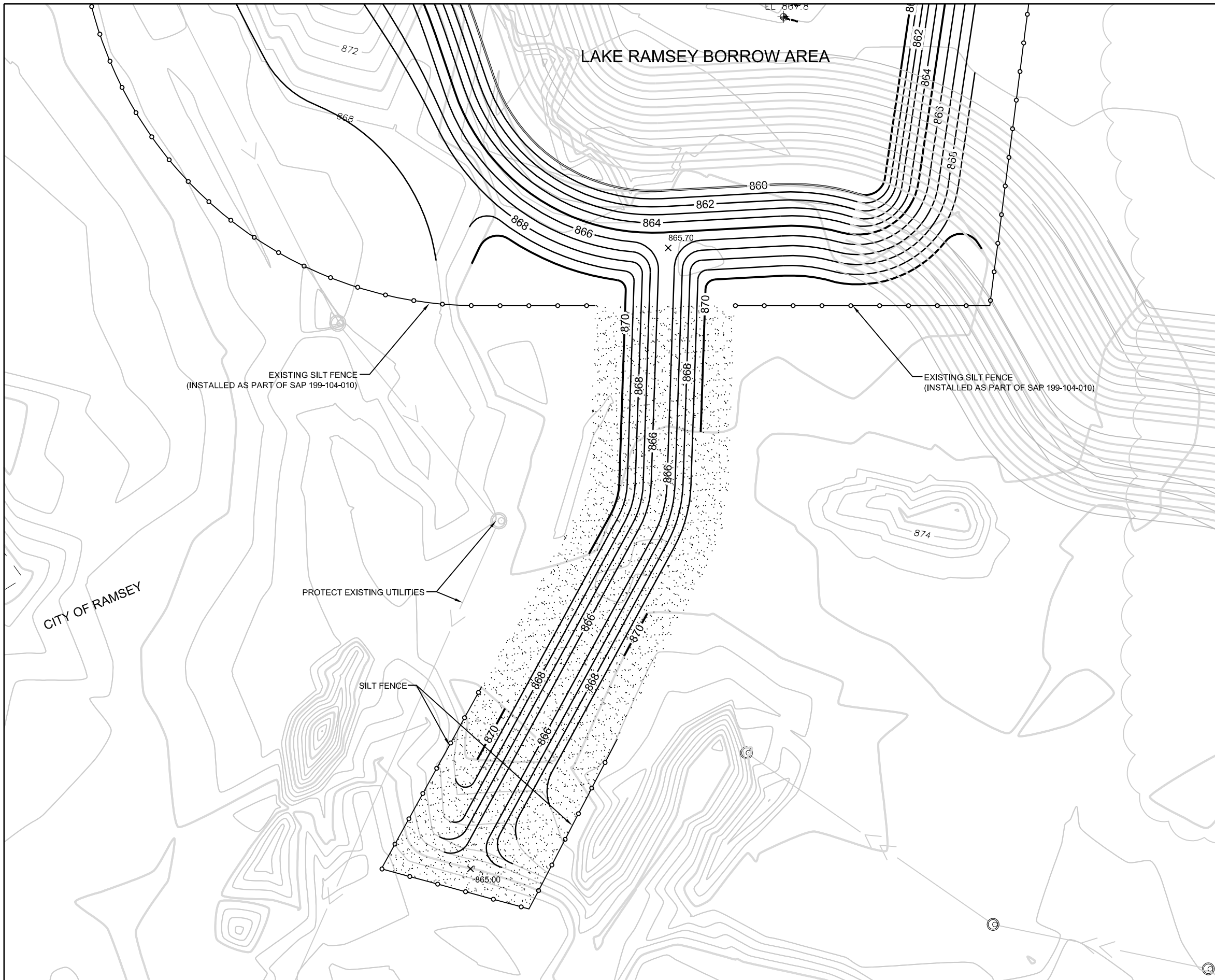
105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401

Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

**WATERMAIN & STREET PLAN AND PROFILE
ZEOLITE STREET**

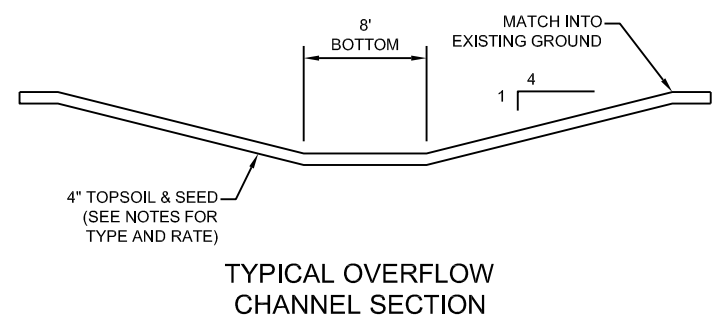
S.A.P. NO. 199-104-010, C.P. NO. 12-20

SHEET NO. 9B / 12B



LEGEND

- SILT FENCE, MACHINE SLICED
- RESTORE DISTURBED SITE IN ACCORDANCE WITH PLAN AND PLACE 4" OF TOPSOIL MATERIAL MEETING MnDOT SPECIFICATION 3877 AND SEED WITH MnDOT SEED MIX 190 AT A RATE OF 60 LBS/ACRE.



CITY OF RAMSEY

EXISTING SILT FENCE
(INSTALLED AS PART OF SAP 199-104-010)

EXISTING SILT FENCE
(INSTALLED AS PART OF SAP 199-104-010)

PROTECT EXISTING UTILITIES

SILT FENCE

TYPICAL OVERFLOW CHANNEL SECTION

© LANDFORM 2012



SUNWOOD DRIVE REALIGNMENT
SUNWOOD DRIVE
RAMSEY, MINNESOTA

PROJ. NO.	RAM12019
DESIGNED BY:	RTS
CHECKED BY:	CNC
APPROVED BY:	RGS

DATE	7/25/2012
8/07/2012	

REVISION	CHANGE ORDER #1
	CHANGE ORDER #2

REVIEW	RGS
	RGS

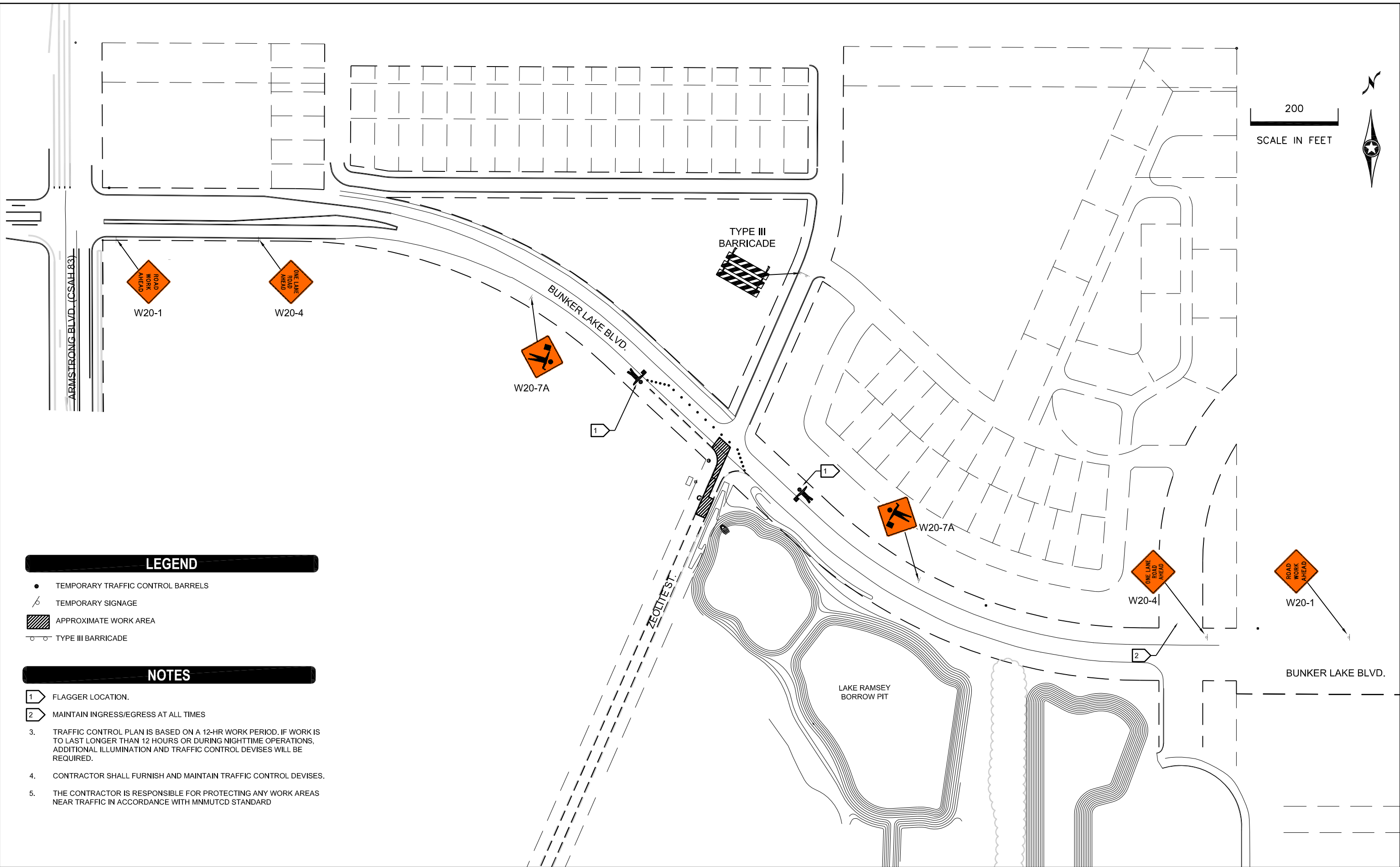
I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.
Robert Schumert
NAME: ROBERT SCHUMERT
Registration No: 4003
DATE: 06/01/2012



105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
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LAKE RAMSEY BORROW PIT OVERFLOW CHANNEL
S.A.P. NO. 199-104-010, C.P. NO. 12-20
SHEET NO. 10B / 12B

200
SCALE IN FEET



LEGEND

- TEMPORARY TRAFFIC CONTROL BARRELS
- ⚡ TEMPORARY SIGNAGE
- ▨ APPROXIMATE WORK AREA
- ⊕ TYPE III BARRICADE

NOTES

- 1 FLAGGER LOCATION.
- 2 MAINTAIN INGRESS/EGRESS AT ALL TIMES
3. TRAFFIC CONTROL PLAN IS BASED ON A 12-HR WORK PERIOD. IF WORK IS TO LAST LONGER THAN 12 HOURS OR DURING NIGHTTIME OPERATIONS, ADDITIONAL ILLUMINATION AND TRAFFIC CONTROL DEVICES WILL BE REQUIRED.
4. CONTRACTOR SHALL FURNISH AND MAINTAIN TRAFFIC CONTROL DEVICES.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH MNMUTCD STANDARD

SUNWOOD DRIVE REALIGNMENT
SUNWOOD DRIVE
RAMSEY, MINNESOTA

PROJ. NO. RAM12019
DESIGNED BY: RTS
CHECKED BY: CNC
APPROVED BY: RGS

DATE
7/25/2012
8/07/2012

REVISION
CHANGE ORDER #1
CHANGE ORDER #2

REVIEW
RGS
RGS

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.
Robert Schumert
NAME: ROBERT SCHUMERT
Registration No. 403
DATE: 06/01/2012

LANDFORM
From Site to Finish
105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

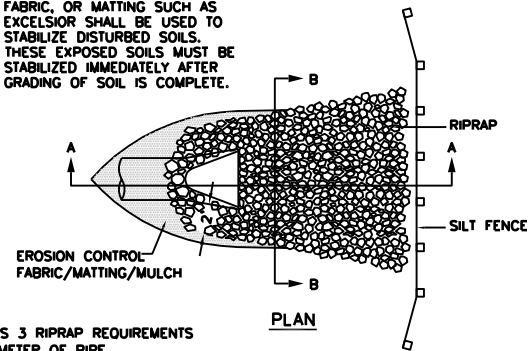
TRAFFIC CONTROL PLAN
BUNKER LAKE BLVD.

S.A.P. NO. 199-104-010, C.P. NO. 12-20

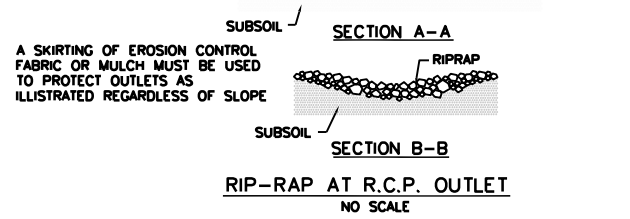
SHEET NO. 11B / 12B



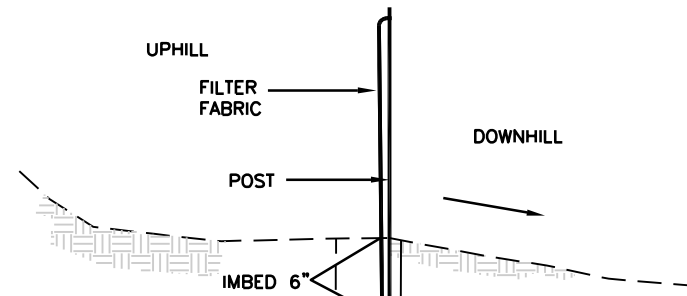
ON SLOPES 4:1 OR GREATER, ANCHOR OR STRAIGHT DISKED STRAW MULCH, SEEDING NETTING, FABRIC, OR MATTING SUCH AS EXCELSIOR SHALL BE USED TO STABILIZE DISTURBED SOILS. THESE EXPOSED SOILS MUST BE STABILIZED IMMEDIATELY AFTER GRADING OF SOIL IS COMPLETE.



CLASS 3 RIPRAP REQUIREMENTS /DIAMETER OF PIPE
 12" TO 24" 4 CUBIC YARDS
 27" TO 33" 8 CUBIC YARDS
 36" TO 48" 12 CUBIC YARDS
 54" AND UP 16 CUBIC YARDS
 (ONE CUBIC YARD IS APPROX. 2,800 LBS.)

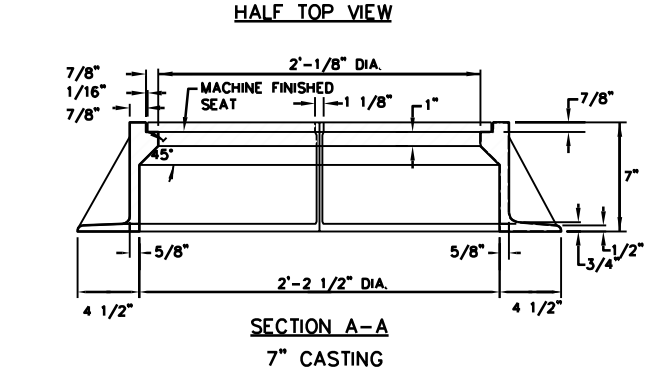
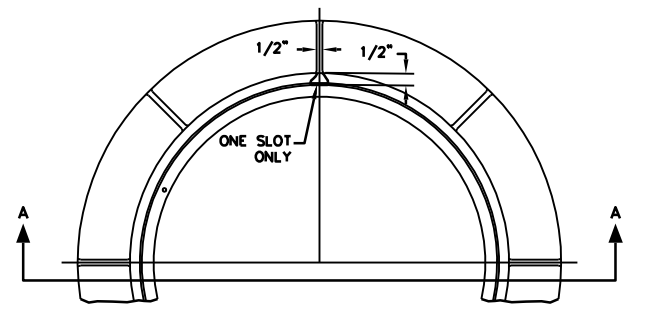


APPROVED		STANDARD DETAILS RIP - RAP
DATE	9-2011	CITY PLATE No. ERO-1



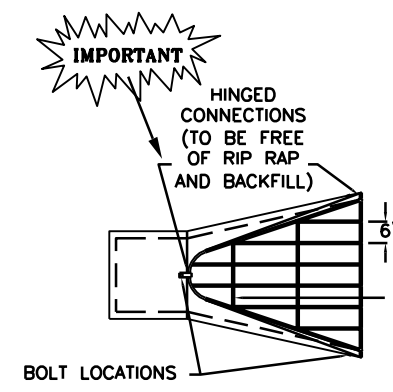
FABRIC ANCHORAGE TRENCH BACKFILL WITH TAMPED NATURAL SOIL
 MINIMUM TRENCH 6" wide by 6" deep
 INSTALL AS PER FILTER FABRIC MANUFACTURER'S RECOMMENDATIONS
SILT FENCE DETAIL
 NO SCALE

APPROVED		STANDARD DETAILS SILT FENCE
DATE	2-2005	CITY PLATE No. ERO-3



APPROVED		STANDARD DETAILS RING CASTING FOR NON-INLET STRUCTURE
DATE	7-93	CITY PLATE No. STO-1

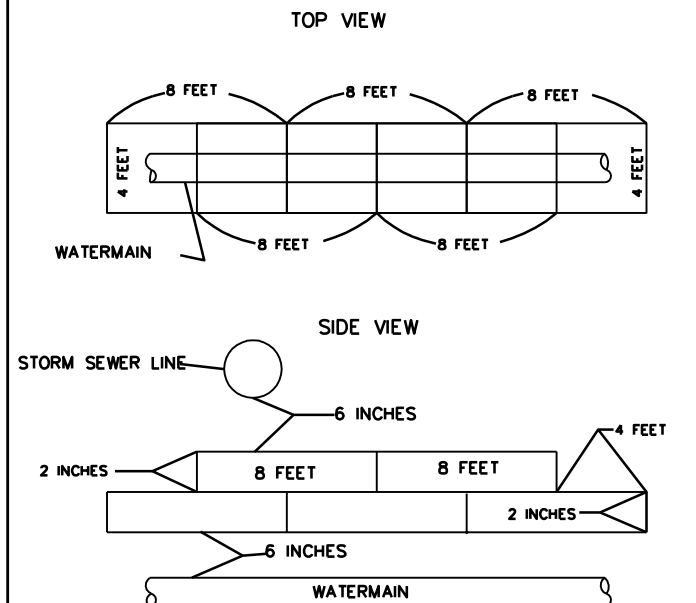
NOTE: GUARDS MUST BE INCORPORATED ON ALL INSTALLATIONS EXCEPT WHERE SPECIFICALLY ALLOWED OTHERWISE BY THE CITY ENGINEER.



PIPE SIZE	BOLT DIA.	BAR SIZE
12"-24"	5/8"	5/8"
27"-48"	3/4"	3/4"
54"-90"	1"	1"
22"-29"	5/8"	5/8"
36"-59"	3/4"	3/4"
65"-88"	1"	1"

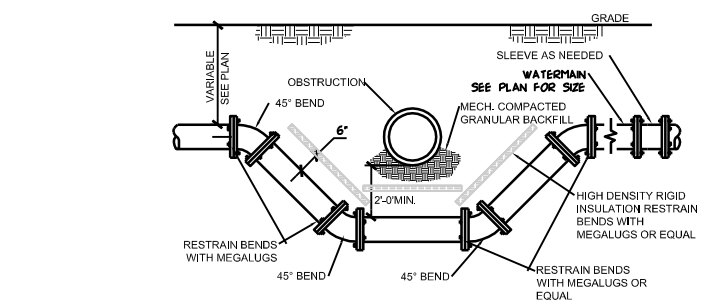
ALL GUARDS TO HAVE (1) CROSS BAR - 60" AND UP TO HAVE (2) EQUALLY SPACED
 NOTE: COATINGS ARE AS SPECIFIED ELSEWHERE

APPROVED		STANDARD DETAILS TRASH GUARD
DATE	2-2006	CITY PLATE No. STO-12



- NOTES: 1) SHEETS ARE 2 INCHES BY 4 FEET BY 8 FEET
 2) SURFACE PREPARATION SHALL BE SMOOTH AND ROCK FREE
 3) JOINTS WILL BE OVERLAPPED BY 4 FEET
 4) POLYSTYRENE INSULATION OR APPROVED EQUAL

APPROVED		STANDARD DETAILS UTILITY INSULATION
DATE	4/2004	CITY PLATE No. WAT-5



- USE MEGALUG THRUST RESTRAINTS ON ALL FITTINGS.
- ON NEW CONSTRUCTION RESTRAIN A MINIMUM OF TWO PIPE JOINTS (40 LF) LEFT AND RIGHT OF THE LOWERING.
- ANTI CORROSIVE COATING REQUIRED ON ALL BOLT AND RESTRAINT ASSEMBLIES.
- INSTALL POLYETHYLENE FILM WRAP AROUND ALL PIPE INCLUDED IN THE LOWERING.

WATERMAIN LOWERING W/ INSULATION
 NO SCALE

CITY OF RAMSEY
 SUNWOOD DRIVE REALIGNMENT
 SUNWOOD DRIVE
 RAMSEY, MINNESOTA

PROJ. NO.	RAM12019	DATE	7/25/2012	REVISION		REVIEW	
DESIGNED BY:	RTS	8/07/2012	8/07/2012	CHANGE ORDER #1		RGS	
CHECKED BY:	CNC			CHANGE ORDER #2		RGS	
APPROVED BY:	RGS						

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.
 NAME: ROBERT SCHWARTZ
 Registration No. 1005
 DATE: 06/01/2012

LANDFORM
 From Site to Finish
 105 South Fifth Avenue
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 Fax: 612-252-9077
 Web: landform.net

CONSTRUCTION DETAILS
 ZEOLITE STREET
 S.A.P. NO. 199-104-010, C.P. NO. 12-20
 SHEET NO. 12B / 12B