



SWENSON, HAGEN & COMPANY P.C.
 1407 FURF CONSTRUCTION
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CONSTRUCTION PLANS FOR
 STREET PAVEMENT AND
 LIGHTING IMPROVEMENTS IN
 LAKEWOOD HARBOR 4TH ADDITION
 LAKEWOOD HARBOR 5TH ADDITION
 LAKEWOOD 5TH ADDITION
 Mandan, North Dakota

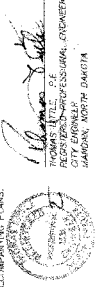
DESIGN ENGINEER'S CERTIFICATE
 I, **DAVID J. HENRY**, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH
 DAKOTA, HEREBY CERTIFY THAT THE CONSTRUCTION PLANS, SPECIFICATIONS, AND
 NOTES FOR THE IMPROVEMENTS IN THE CITY OF MANDAN, NORTH DAKOTA,
 DISTRICT NO. 139, PROJECT NO. 2006-13, WERE PREPARED UNDER MY SUPERVISION
 AND ARE COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



ELECTRICAL ENGINEER'S CERTIFICATE
 I, **DAVID J. HENRY**, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH
 DAKOTA, HEREBY CERTIFY THAT THE CONSTRUCTION PLANS, SPECIFICATIONS, AND
 NOTES FOR THE IMPROVEMENTS IN THE CITY OF MANDAN, NORTH DAKOTA,
 DISTRICT NO. 139, PROJECT NO. 2006-13, WERE PREPARED UNDER MY SUPERVISION
 AND ARE COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



APPROVAL OF CITY ENGINEER
 I, **DAVID J. HENRY**, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH
 DAKOTA, HEREBY CERTIFY THAT THE CONSTRUCTION PLANS, SPECIFICATIONS, AND
 NOTES FOR THE IMPROVEMENTS IN THE CITY OF MANDAN, NORTH DAKOTA,
 DISTRICT NO. 139, PROJECT NO. 2006-13, WERE PREPARED UNDER MY SUPERVISION
 AND ARE COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



DESIGN ENGINEER
 SWENSON, HAGEN & CO.

DEVELOPER
 KITZEL ERIKSON

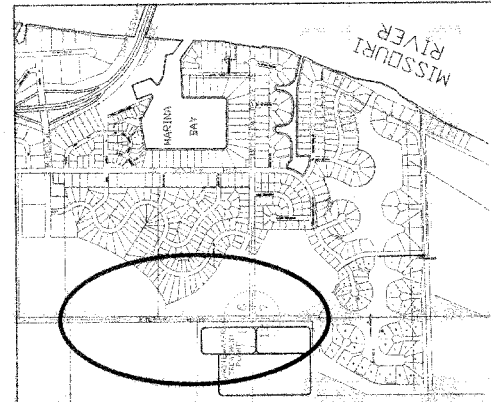
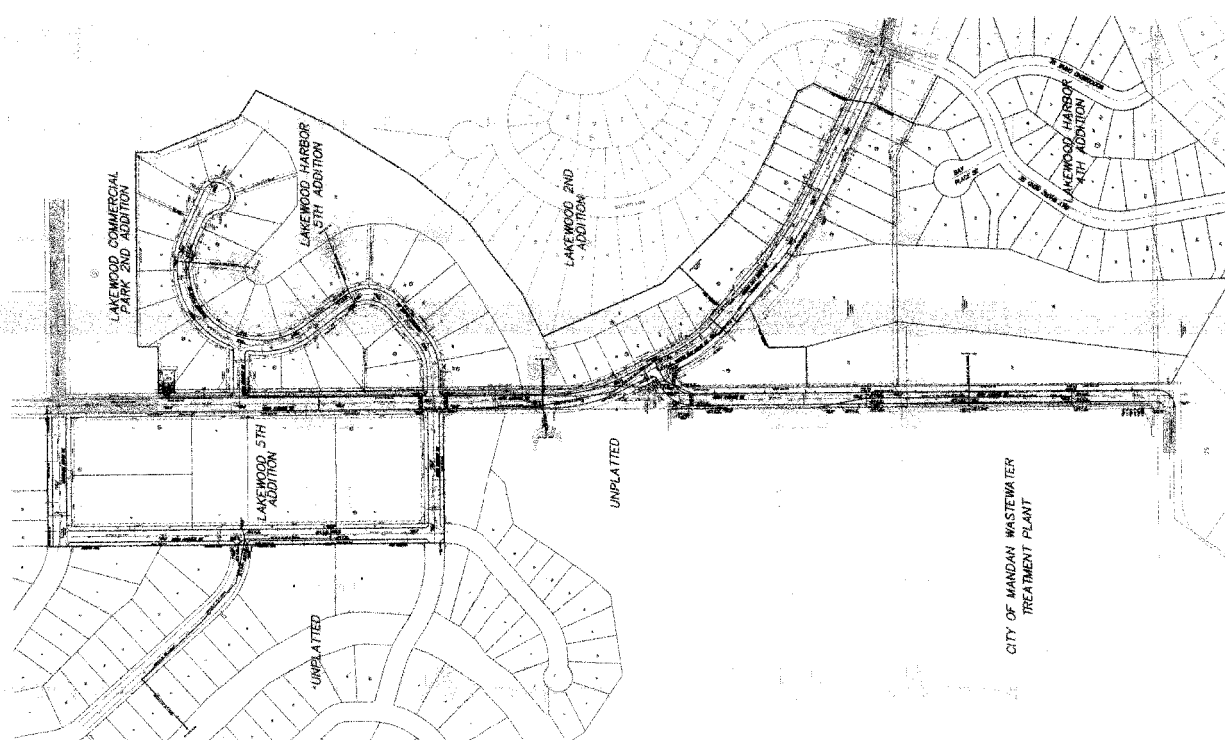
SHEET INDEX

SHEET C0	WILEY PARK SE
SHEET C1	40TH AVENUE SE
SHEET C2	39TH AVENUE SE
SHEET C3	38TH AVENUE SE
SHEET C4	37TH AVENUE SE
SHEET C5	36TH AVENUE SE
SHEET C6	35TH AVENUE SE
SHEET C7	34TH AVENUE SE
SHEET C8	33TH AVENUE SE
SHEET C9	32TH AVENUE SE
SHEET D0	31ST AVENUE SE
SHEET D1	30TH AVENUE SE
SHEET D2	29TH AVENUE SE
SHEET D3	28TH AVENUE SE
SHEET D4	27TH AVENUE SE
SHEET D5	26TH AVENUE SE
SHEET D6	25TH AVENUE SE
SHEET D7	24TH AVENUE SE
SHEET D8	23RD AVENUE SE
SHEET D9	22ND AVENUE SE
SHEET E0	21ST AVENUE SE
SHEET E1	20TH AVENUE SE
SHEET E2	19TH AVENUE SE
SHEET E3	18TH AVENUE SE
SHEET E4	17TH AVENUE SE
SHEET E5	16TH AVENUE SE
SHEET E6	15TH AVENUE SE
SHEET E7	14TH AVENUE SE
SHEET E8	13TH AVENUE SE
SHEET E9	12TH AVENUE SE
SHEET F0	11TH AVENUE SE
SHEET F1	10TH AVENUE SE
SHEET F2	9TH AVENUE SE
SHEET F3	8TH AVENUE SE
SHEET F4	7TH AVENUE SE
SHEET F5	6TH AVENUE SE
SHEET F6	5TH AVENUE SE
SHEET F7	4TH AVENUE SE
SHEET F8	3RD AVENUE SE
SHEET F9	2ND AVENUE SE
SHEET G0	1ST AVENUE SE
SHEET G1	0TH AVENUE SE

WARRANTY / DISCLAIMER
 The designs represented in these plans are in accordance
 with established practices of civil engineering. However,
 neither Swenson, Hagen & Co. nor its personnel can or do
 control the physical construction on a full time basis.

SAFETY NOTICE TO CONTRACTOR
 In accordance with generally accepted construction practices
 the Contractor will be solely and completely responsible for
 conditions of the job site, including the safety of the work. This requirement
 will apply continuously and not be limited to normal business
 hours.

UTILITY NOTICE TO CONTRACTOR
 The location of existing underground utilities are shown
 in an approximate way only and have not been independently
 verified by the Contractor. The Contractor shall be responsible for
 locating all utilities before commencing work, and agrees to be fully responsible
 for any and all damages which might be incurred by the
 Contractor's failure to locate and protect all underground utilities
 by using the "one call" number 1-800-735-0355.



LOCATION MAP

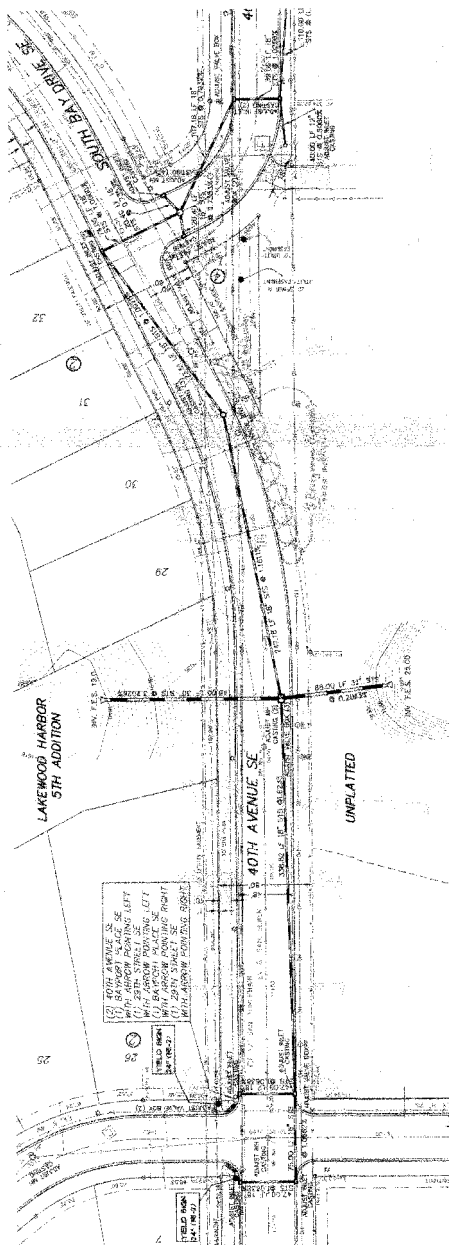


General Schematic
 1407 FURF CONSTRUCTION

It is the policy of Swenson, Hagen & Company P.C. to provide the most accurate and complete information possible to its clients. However, the information provided herein is for informational purposes only and does not constitute a contract. The information is provided as a service to our clients and is not intended to be used for any other purpose. Swenson, Hagen & Company P.C. is not responsible for any errors or omissions in this document. The information is provided as a service to our clients and is not intended to be used for any other purpose. Swenson, Hagen & Company P.C. is not responsible for any errors or omissions in this document.

CONSTRUCTION NOTES (THIS SHEET)

1. LOCATE THE EXISTING UTILITY LINES AT THE CROSSING OF THE STORM SEWER WITH THE EXISTING UTILITY LINES. THE CONTRACTOR SHALL REMOVE THE EXISTING GAS, WATER, AND TELEPHONE LINES TO THE POINT OF CROSSING. THE CONTRACTOR SHALL REPAIR THE EXISTING LINES TO THE ORIGINAL DEPTH AND COVER. THE CONTRACTOR SHALL ALSO REMOVE THE EXISTING MANHOLE AND REPAIR THE EXISTING MANHOLE TO THE ORIGINAL DEPTH AND COVER. THE CONTRACTOR SHALL ALSO REMOVE THE EXISTING MANHOLE AND REPAIR THE EXISTING MANHOLE TO THE ORIGINAL DEPTH AND COVER.
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3. SEE DETAIL ON SHEET C13 FOR THE DETAIL ON MANHOLE NO. 1.



Sta. 44+36.24 to 46+11.50
 End Club & Gutter Asphalt
 And Storm Sewer Quantities

Sta. 44+36.24 to 46+11.50
 End Club & Gutter Asphalt
 And Storm Sewer Quantities

Sta. 44+36.24 to 46+11.50
 End Club & Gutter Asphalt
 And Storm Sewer Quantities

Sta. 12+64.49 to 14+11.50
 End Club & Gutter Asphalt
 And Storm Sewer Quantities

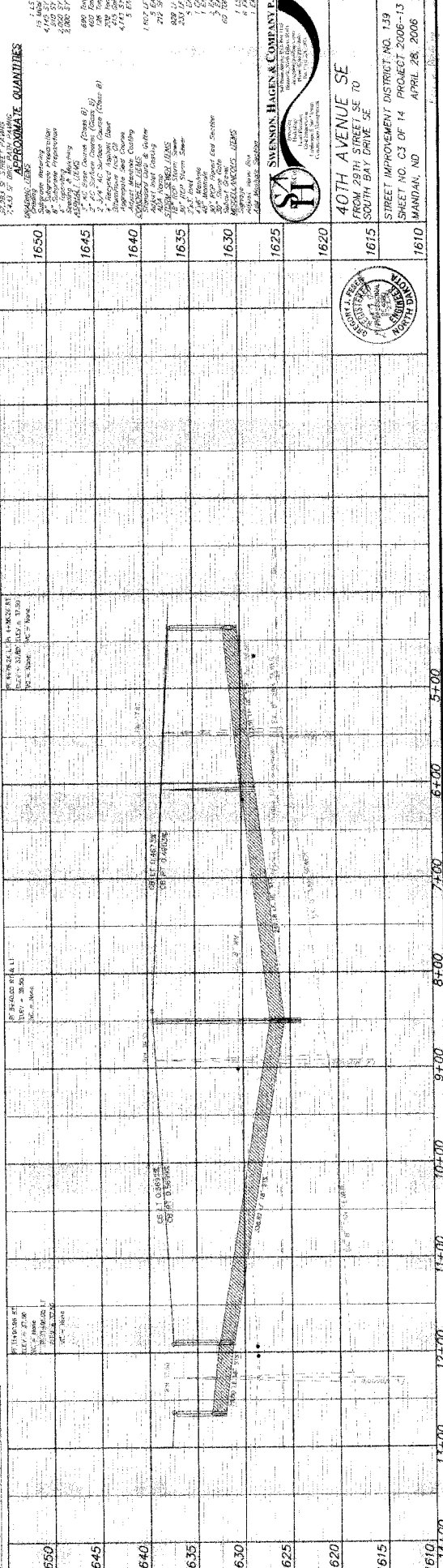
Sta. 12+64.49 to 14+11.50
 End Club & Gutter Asphalt
 And Storm Sewer Quantities

STORM SEWER MANHOLE AND INLET SCHEDULE

MANHOLE NO.	INLET NO.	MANHOLE SIZE	INLET SIZE	MANHOLE DEPTH	INLET DEPTH	MANHOLE TYPE	INLET TYPE
1650	1	36" Dia.	18" Dia.	4' 0"	4' 0"	Asphalt	Asphalt
1645	1	36" Dia.	18" Dia.	4' 0"	4' 0"	Asphalt	Asphalt
1640	1	36" Dia.	18" Dia.	4' 0"	4' 0"	Asphalt	Asphalt
1635	1	36" Dia.	18" Dia.	4' 0"	4' 0"	Asphalt	Asphalt
1630	1	36" Dia.	18" Dia.	4' 0"	4' 0"	Asphalt	Asphalt
1625	1	36" Dia.	18" Dia.	4' 0"	4' 0"	Asphalt	Asphalt
1620	1	36" Dia.	18" Dia.	4' 0"	4' 0"	Asphalt	Asphalt
1615	1	36" Dia.	18" Dia.	4' 0"	4' 0"	Asphalt	Asphalt
1610	1	36" Dia.	18" Dia.	4' 0"	4' 0"	Asphalt	Asphalt

CURVE DATA

Station	PC	PVI	PT	Length
12+64.49	12+64.49	13+00.00	13+35.51	70.02



APPROXIMATE QUANTITIES

Item	Quantity
Excavation	1,100 cu yd
Storm Sewer	1,100 lf
Manholes	7
Inlets	7
Asphalt	1,100 sq yd
Concrete	1,100 cu yd
Gravel	1,100 cu yd
Backfill	1,100 cu yd
Other	1,100 cu yd

1. 18" Dia. Inlet
 2. 36" Dia. Manhole
 3. 4' 0" Depth
 4. Asphalt
 5. Concrete
 6. Gravel
 7. Backfill
 8. Other

1. 18" Dia. Inlet
 2. 36" Dia. Manhole
 3. 4' 0" Depth
 4. Asphalt
 5. Concrete
 6. Gravel
 7. Backfill
 8. Other

1. 18" Dia. Inlet
 2. 36" Dia. Manhole
 3. 4' 0" Depth
 4. Asphalt
 5. Concrete
 6. Gravel
 7. Backfill
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 3. 4' 0" Depth
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 5. Concrete
 6. Gravel
 7. Backfill
 8. Other

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 2. 36" Dia. Manhole
 3. 4' 0" Depth
 4. Asphalt
 5. Concrete
 6. Gravel
 7. Backfill
 8. Other



STEVEN HAGEN & COMPANY, INC.
 PROFESSIONAL ENGINEERS
 1000 S. HAYWOOD ST., SUITE 100
 RALEIGH, NC 27601
 (919) 877-1234

40TH AVENUE SE
 FROM 29TH STREET SE TO
 SOUTH BAY DRIVE SE

STREET IMPROVEMENT DISTRICT NO. 139
 SHEET NO. C3 OF 14 PROJECT 2006-13
 MANDALAY, ND APRIL 28, 2006

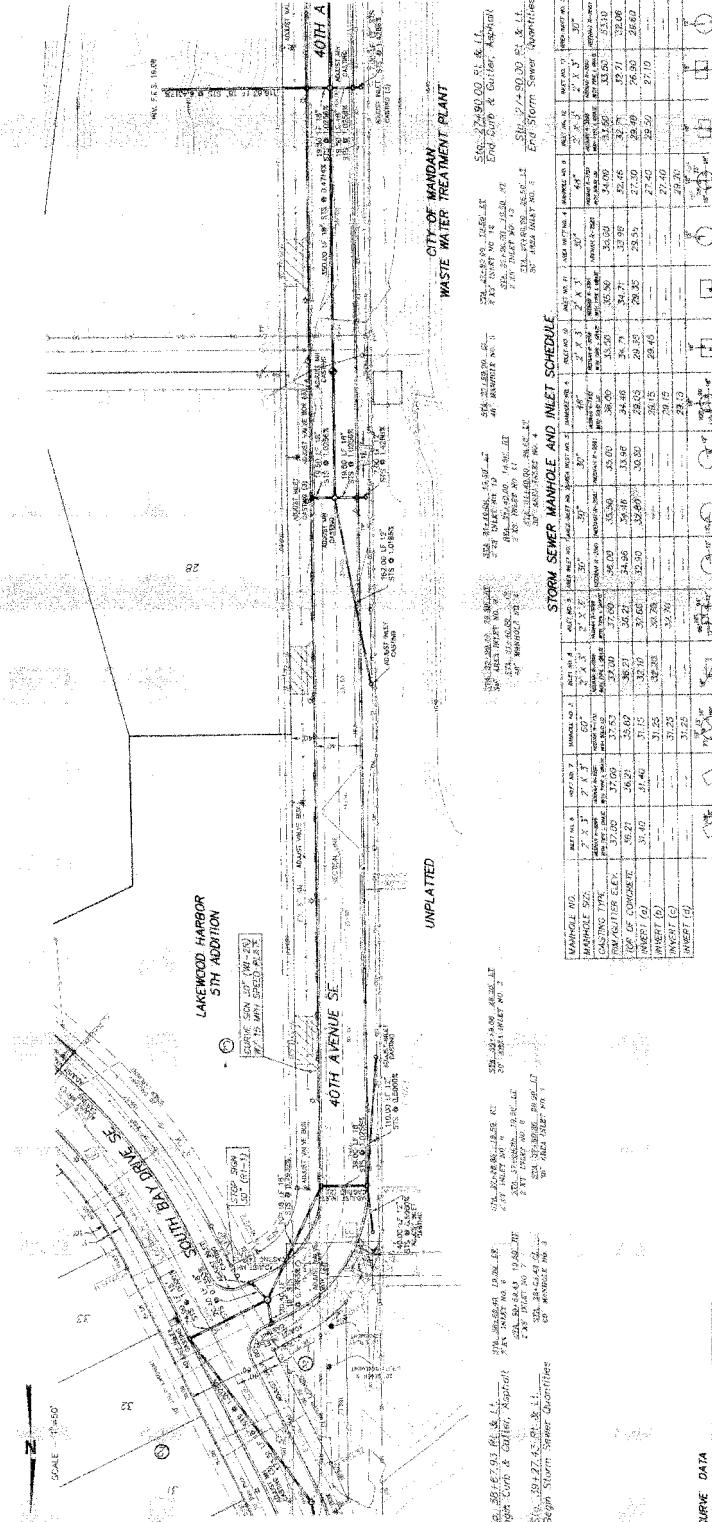
12+00 13+00 14+00 15+00 16+00

1610 1620 1630 1640 1650

CONSTRUCTION NOTES (CONT. SHEET)

- THE CONTRACTOR SHALL STRENGTHEN ALL EXISTING AND PROPOSED MANHOLE RINGS WITH REINFORCED CONCRETE TO MEET THE REQUIREMENTS OF THE CITY OF MANDAN. THE LOCATION SHALL BE LOCATED AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF MANDAN. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- THE EXISTING MANHOLE AT STA. 1645+00 NEEDS TO BE RAISED UP TO THE PROPOSED STREET GRADE. TO DO THIS THE CONTRACTOR SHALL REMOVE THE EXISTING CASTING, ADJUSTING RINGS, AND REINFORCE WITH REINFORCED CONCRETE. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
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CITY OF MANDAN WASTE WATER TREATMENT PLANT

STATION: 272+00 TO 287+00
 END CURB & GUTTER, ASPHALT
 END CURB & GUTTER, ASPHALT
 END CURB & GUTTER, ASPHALT
 END CURB & GUTTER, ASPHALT

STORM SEWER MANHOLE AND INLET SCHEDULE

MANHOLE NO.	MANHOLE TYPE	INLET TYPE	MANHOLE DIA.	INLET DIA.	INLET HEIGHT	MANHOLE DEPTH	INLET DEPTH	INLET SLOPE	MANHOLE SLOPE	MANHOLE MATERIAL	INLET MATERIAL
1650	12" DIA. MANHOLE	12" DIA. INLET	48"	12"	18"	48"	12"	1/4"	1/4"	REINFORCED CONCRETE	REINFORCED CONCRETE
1645	12" DIA. MANHOLE	12" DIA. INLET	48"	12"	18"	48"	12"	1/4"	1/4"	REINFORCED CONCRETE	REINFORCED CONCRETE
1640	12" DIA. MANHOLE	12" DIA. INLET	48"	12"	18"	48"	12"	1/4"	1/4"	REINFORCED CONCRETE	REINFORCED CONCRETE
1635	12" DIA. MANHOLE	12" DIA. INLET	48"	12"	18"	48"	12"	1/4"	1/4"	REINFORCED CONCRETE	REINFORCED CONCRETE
1630	12" DIA. MANHOLE	12" DIA. INLET	48"	12"	18"	48"	12"	1/4"	1/4"	REINFORCED CONCRETE	REINFORCED CONCRETE
1625	12" DIA. MANHOLE	12" DIA. INLET	48"	12"	18"	48"	12"	1/4"	1/4"	REINFORCED CONCRETE	REINFORCED CONCRETE
1620	12" DIA. MANHOLE	12" DIA. INLET	48"	12"	18"	48"	12"	1/4"	1/4"	REINFORCED CONCRETE	REINFORCED CONCRETE
1615	12" DIA. MANHOLE	12" DIA. INLET	48"	12"	18"	48"	12"	1/4"	1/4"	REINFORCED CONCRETE	REINFORCED CONCRETE
1610	12" DIA. MANHOLE	12" DIA. INLET	48"	12"	18"	48"	12"	1/4"	1/4"	REINFORCED CONCRETE	REINFORCED CONCRETE

CURVE DATA

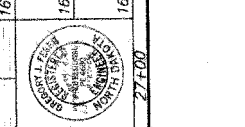
STATION	PC	PT	PI	STATION	PC	PT	PI	STATION	PC	PT	PI
1650	1650+00	1650+00	1650+00	1645	1645+00	1645+00	1645+00	1640	1640+00	1640+00	1640+00
1645	1645+00	1645+00	1645+00	1635	1635+00	1635+00	1635+00	1630	1630+00	1630+00	1630+00
1640	1640+00	1640+00	1640+00	1625	1625+00	1625+00	1625+00	1620	1620+00	1620+00	1620+00
1635	1635+00	1635+00	1635+00	1615	1615+00	1615+00	1615+00	1610	1610+00	1610+00	1610+00

APPROXIMATE QUANTITIES

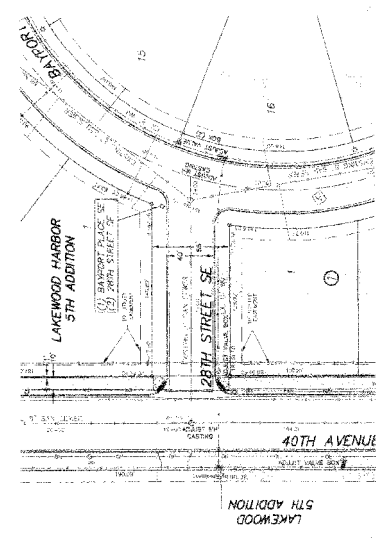
ITEM	QUANTITY	UNIT	PRICE	TOTAL
1650	1	MANHOLE	1500.00	1500.00
1645	1	MANHOLE	1500.00	1500.00
1640	1	MANHOLE	1500.00	1500.00
1635	1	MANHOLE	1500.00	1500.00
1630	1	MANHOLE	1500.00	1500.00
1625	1	MANHOLE	1500.00	1500.00
1620	1	MANHOLE	1500.00	1500.00
1615	1	MANHOLE	1500.00	1500.00
1610	1	MANHOLE	1500.00	1500.00



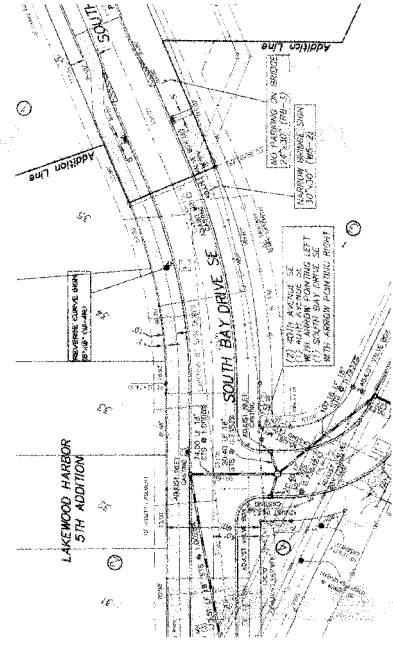
40TH AVENUE SE
 FROM 23RD STREET SE TO
 STATION 28+00
 STREET IMPROVEMENT DISTRICT NO. 139
 SHEET NO. 04 OF 14 PROJECT: 2009-13
 MANDAN, ND APRIL 28, 2009



CONTRACTOR SHALL PROVIDE ADDITIONAL CAUTION WHEN CROSSING EXISTING UTILITIES.



Sta. 0+27.00 RT & LT
Begin Curb & Gutter, Asphalt



Sta. 2+24.38 56.00 RT & LT
End Curb & Gutter, Asphalt

CURVE DATA

STATION	BEARING	LENGTH	TANGENT	ORDINATE
1635	S 48.00° E	175.00	88.9	27.98

STATION	APPROXIMATE QUANTITIES
1645	1.00 SF
1640	1.00 SF
1635	1.00 SF
1630	1.00 SF
1625	1.00 SF
1620	1.00 SF
1615	1.00 SF
1610	1.00 SF
1605	1.00 SF

SWENSON, HAGEN & COMPANY, P.C.

Professional Engineer
Professional Land Surveyor
Professional Geomatics Engineer
Professional Geotechnical Engineer
Professional Construction Manager

28TH STREET SE
FROM 40TH AVE TO
BAYPORT PLACE

SOUTH BAY DRIVE SE
FROM 40TH AVE TO
STATION 20+45

STREET IMPROVEMENT DISTRICT NO. 139
SHEET NO. C6 OF 14 PROJECT 2006-13
MANDAN, ND APRIL 28, 2006

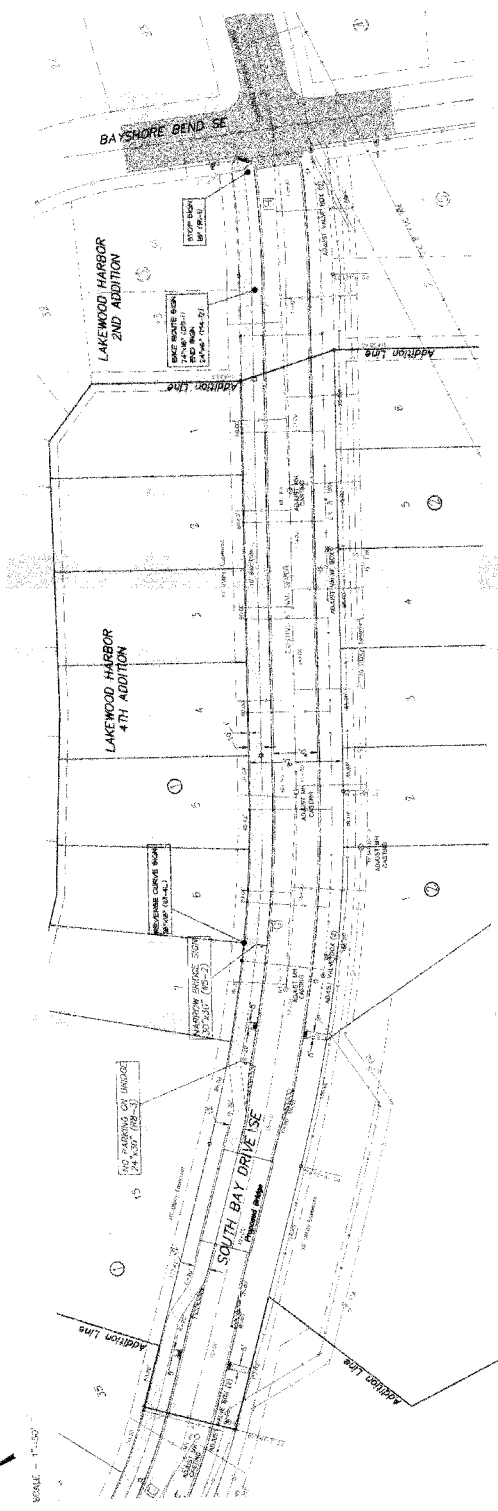


STATION	2+00	2+10	2+20	2+30	2+40	2+50	2+60	2+70	2+80	2+90	2+00
1645											
1640											
1635											
1630											
1625											
1620											
1615											
1610											
1605											

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CONSTRUCTION NOTES (THIS SHEET)

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MAY ELECT TO WORK UP TO THE BRIDGE PRIOR TO ITS COMPLETION.
2. PAINT 4" YELLOW STRIPING ON BOTH SIDES OF THE BRIDGE TO REMAIN THE ENTIRE LENGTH OF THE BRIDGE. THE CONTRACTOR SHALL MAINTAIN THIS STRIPING THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL MAINTAIN THE STRIPING THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL MAINTAIN THE STRIPING THROUGHOUT THE PROJECT.
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CURVE DATA

STATION	PC	PT	PI	PT	PC	ANGLE	LENGTH
1650	1650.00	1650.00	1650.00	1650.00	1650.00	90	0.00
1645	1645.00	1645.00	1645.00	1645.00	1645.00	90	0.00
1640	1640.00	1640.00	1640.00	1640.00	1640.00	90	0.00
1635	1635.00	1635.00	1635.00	1635.00	1635.00	90	0.00
1630	1630.00	1630.00	1630.00	1630.00	1630.00	90	0.00
1625	1625.00	1625.00	1625.00	1625.00	1625.00	90	0.00
1620	1620.00	1620.00	1620.00	1620.00	1620.00	90	0.00
1615	1615.00	1615.00	1615.00	1615.00	1615.00	90	0.00
1610	1610.00	1610.00	1610.00	1610.00	1610.00	90	0.00

SW: 20-12-50 PL & L.L.
 Eng: Curt & Gutter, Asphalt

APPROXIMATE QUANTITIES

ITEM	QUANTITY	UNIT
1. ASPHALT	1,650	CY
2. SAND	1,645	CY
3. GRAVEL	1,640	CY
4. CURB	1,635	LF
5. GUTTER	1,630	LF
6. SIGNAGE	1,625	LF
7. PAINT	1,620	LF
8. STRIPING	1,615	LF
9. UTILITIES	1,610	LF



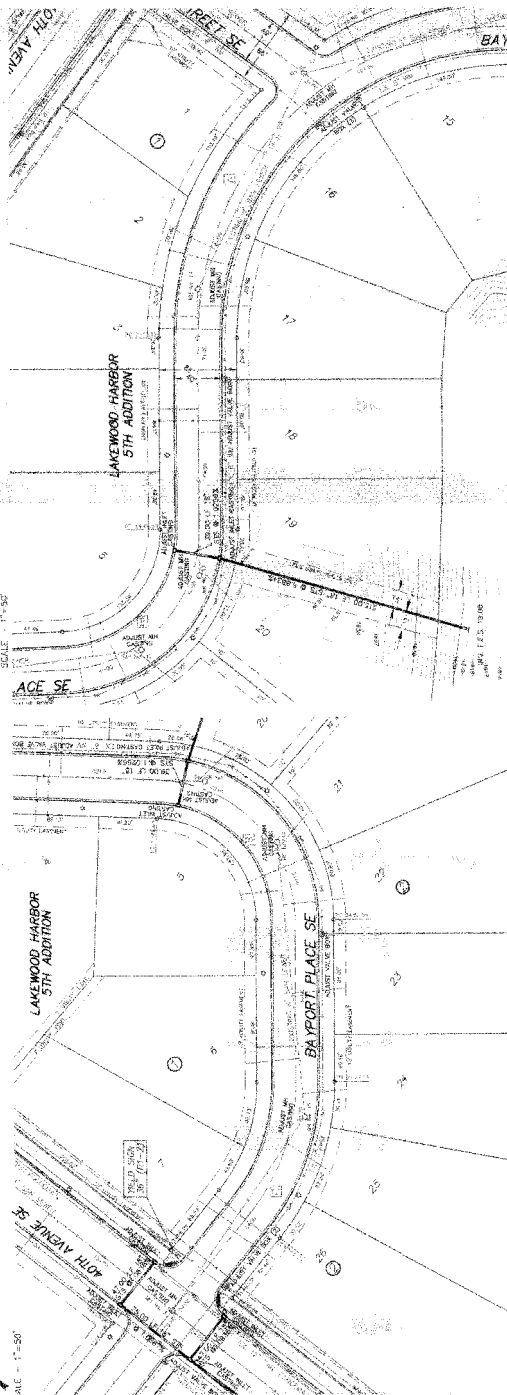
SOUTH BAY DRIVE SE
 FROM STATION 20+45 TO
 BAYSHORE BEND SE

SHEET NO. C7 OF 14 PROJECT 2006-13
 MANDAN, ND APRIL 28, 2006



STATION	1650	1645	1640	1635	1630	1625	1620	1615	1610
1650									
1645									
1640									
1635									
1630									
1625									
1620									
1615									
1610									

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CURVE DATA

CURVE	RADIUS	LENGTH	CHANGING	LEAS. A.
1	146.00	146.00	146.00	146.00
2	146.00	146.00	146.00	146.00
3	146.00	146.00	146.00	146.00
4	146.00	146.00	146.00	146.00

Sta. 67+41.00 P.I. & I.L.
Haydn Clark & Carter, Asphalt

Sta. 51+29.00 P.I. & I.L.
Bayport Storm Sewer Quantities

Sta. 51+29.00 P.I. & I.L.
End 40th & 28th Streets
Bayport Storm Sewer Quantities

STORM SEWER MANHOLE AND INLET SCHEDULE

MANHOLE NO.	DEPT. IN	DEPT. OUT
1650	42"	42"
1645	42"	42"
1640	42"	42"
1635	42"	42"
1630	42"	42"
1625	42"	42"
1620	42"	42"
1615	42"	42"
1610	42"	42"

STATION	DESCRIPTION	APPROXIMATE QUANTITIES
1650	MANHOLE 1650	1.12 12.600 2.800 2.800
1645	MANHOLE 1645	438.00 304.00 1594.00
1640	MANHOLE 1640	1872.00
1635	MANHOLE 1635	294.00 2.00
1630	MANHOLE 1630	87.00 1.00
1625	MANHOLE 1625	1.00
1620	MANHOLE 1620	1.00
1615	MANHOLE 1615	1.00
1610	MANHOLE 1610	1.00

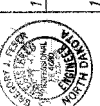
APPROXIMATE QUANTITIES
MANHOLE 1650
MANHOLE 1645
MANHOLE 1640
MANHOLE 1635
MANHOLE 1630
MANHOLE 1625
MANHOLE 1620
MANHOLE 1615
MANHOLE 1610

MANHOLE 1650
MANHOLE 1645
MANHOLE 1640
MANHOLE 1635
MANHOLE 1630
MANHOLE 1625
MANHOLE 1620
MANHOLE 1615
MANHOLE 1610



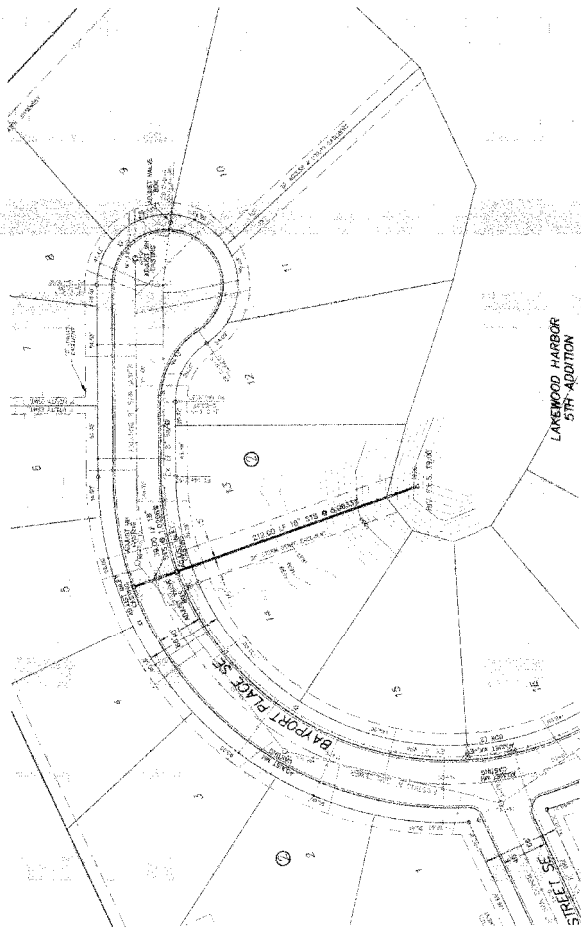
BAYPORT PLACE SE
FROM 40TH AVE SE TO
28TH STREET

STREET IMPROVEMENT DISTRICT NO. 139
SHEET NO. 08 OF 14 PROJECT 2006-13
MANDALAY, ND APRIL 28, 2006



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CONSTRUCTION NOTES (THIS SHEET)
1. GENERAL NOTES ON SHEET 101



CURB DATA

DATE	BY	CHKD	APP'D
10/25/11	J. H. HARRIS	J. H. HARRIS	J. H. HARRIS

SIO. 576890 (B) & L.L.
Begin Curb & Center, Asphalt
2.5" RISE/FT

SIO. 137-2314 (B) & L.L.
Begin Storm Sewer Quantities
2.5" RISE/FT

SIO. 15-28-14-12-50-12
2.5" RISE/FT
2.5" RISE/FT

SIO. 67-23-22 (B) & L.L.
End Curb & Center, Asphalt
2.5" RISE/FT

SIO. 137-2314 (B) & L.L.
End Storm Sewer Quantities
2.5" RISE/FT

STORM SEWER MANHOLE AND INLET SCHEDULE

MANHOLE NO.	INLET NO.	INLET DIA.	MANHOLE DIA.	INVERT ELEV.	INLET ELEV.	INLET TYPE
1650	1	18"	36"	38.27	38.27	18"
1645	1	18"	36"	38.27	38.27	18"
1640	1	18"	36"	38.27	38.27	18"
1635	1	18"	36"	38.27	38.27	18"
1630	1	18"	36"	38.27	38.27	18"
1625	1	18"	36"	38.27	38.27	18"
1620	1	18"	36"	38.27	38.27	18"
1615	1	18"	36"	38.27	38.27	18"
1610	1	18"	36"	38.27	38.27	18"

MANHOLE NO.	INLET NO.	INLET DIA.	MANHOLE DIA.	INVERT ELEV.	INLET ELEV.	INLET TYPE	APPROXIMATE QUANTITIES
1650	1	18"	36"	38.27	38.27	18"	1.00 10.00 1.00 1.00
1645	1	18"	36"	38.27	38.27	18"	1.00 10.00 1.00 1.00
1640	1	18"	36"	38.27	38.27	18"	1.00 10.00 1.00 1.00
1635	1	18"	36"	38.27	38.27	18"	1.00 10.00 1.00 1.00
1630	1	18"	36"	38.27	38.27	18"	1.00 10.00 1.00 1.00
1625	1	18"	36"	38.27	38.27	18"	1.00 10.00 1.00 1.00
1620	1	18"	36"	38.27	38.27	18"	1.00 10.00 1.00 1.00
1615	1	18"	36"	38.27	38.27	18"	1.00 10.00 1.00 1.00
1610	1	18"	36"	38.27	38.27	18"	1.00 10.00 1.00 1.00



BAYPORT PLACE SE
FROM 28TH STREET TO
END

STREET IMPROVEMENT DISTRICT NO. 139
SHEET NO. 03 OF 14 PROJECT 2008-13
MANDARIN, ND APRIL 28, 2008

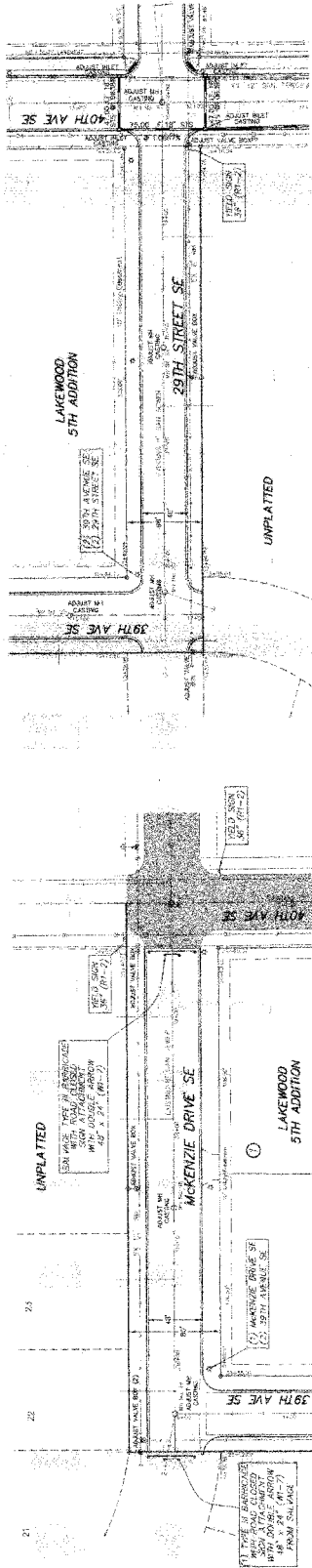


PLANNING & DESIGN SERVICES, INC. 1001 13th St SW, Grand Forks, ND 58201-1301. Project: 13-2014-03, Bayport Place SE, Storm Sewer Quantities. Date: 10/25/11. Engineer: J. Harris. Scale: 1" = 10'. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior written permission of the publisher.

CONSTRUCTION NOTES (THIS SHEET)
 1. THE INTERSECTION OF MCKENZIE DRIVE SE AND 40TH AVENUE SE TO PROVIDE A NATIONAL SURFACE, RAMPAGE AND EXPANSION OF EXISTING SIDEWALKS SHALL BE CONSIDERED INCIDENTAL TO THE DISTRICT PLAN FOR THE SAID DISTRICT.



SCALE = 1"=30'



Sta. 35+19.00 RT & LT
 Begin Curb & Gutter, Asphalt

Sta. 49+63.00 RT & LT
 End Curb & Gutter, Asphalt

Sta. 15+09.00 RT & LT
 Begin Curb & Gutter, Asphalt

Sta. 16+16.00 RT & LT
 End Curb & Gutter, Asphalt

STATION	STREET NAME	APPROXIMATE QUANTITIES	STATION	STREET NAME	APPROXIMATE QUANTITIES
1645	39TH AVE SE	11.55 13.40 2,500 SF 2,500 SF	1645	39TH AVE SE	11.55 13.40 2,500 SF 2,500 SF
1640	39TH AVE SE	8.97 4.65 41.94 SF 4.74	1640	39TH AVE SE	8.97 4.65 41.94 SF 4.74
1635	39TH AVE SE	1.64 1.64	1635	39TH AVE SE	1.64 1.64
1630	39TH AVE SE	1.64 1.64	1630	39TH AVE SE	1.64 1.64
1625	39TH AVE SE	1.64 1.64	1625	39TH AVE SE	1.64 1.64
1620	39TH AVE SE	1.64 1.64	1620	39TH AVE SE	1.64 1.64
1615	39TH AVE SE	1.64 1.64	1615	39TH AVE SE	1.64 1.64
1610	39TH AVE SE	1.64 1.64	1610	39TH AVE SE	1.64 1.64
1605	39TH AVE SE	1.64 1.64	1605	39TH AVE SE	1.64 1.64



MCKENZIE DRIVE SE
 FROM 40TH AVENUE SE TO
 38TH AVENUE SE TO
 29TH STREET SE
 FROM 40TH AVENUE SE TO
 39TH AVENUE SE
 STREET IMPROVEMENT DISTRICT NO. 139
 SHEET NO. C10 OF 14 PROJECT 2006-13
 RANDOLPH, MD APRIL 28, 2006



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CONSTRUCTION NOTES (THIS SHEET)

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PERSONNEL DIMENSIONS TO BE BASED ON A 50' WIDE LIGHT OF OBSTRUCTION. ANY ADDITIONAL DISTURBANCE TO BE DONE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
2. THE CUTWALL IS LOCATED IN A MOUND. THE CONTRACTOR SHALL MAINTAIN THE EXISTING SURFACE TO THE ORIGINAL FINISH GRADE. THE CONTRACTOR SHALL MAINTAIN THE EXISTING SURFACE TO THE ORIGINAL FINISH GRADE. THE CONTRACTOR SHALL MAINTAIN THE EXISTING SURFACE TO THE ORIGINAL FINISH GRADE.
3. EXISTING CONTOURS ARE SHOWN TO REPRESENT THE GRADE AT THE TIME OF CONSTRUCTION.

STORM SEWER MANHOLE AND INLET SCHEDULE

MANHOLE NO.	INLET NO.	INLET SIZE	MANHOLE SIZE	DEPTH (ft)	INVERT (ft)	CONCRETE	REMARKS
1650	1	18" x 18"	36" x 36"	1.64	1.64	CONCRETE	EXISTING
1645	1	18" x 18"	36" x 36"	1.64	1.64	CONCRETE	EXISTING
1640	1	18" x 18"	36" x 36"	1.64	1.64	CONCRETE	EXISTING
1635	1	18" x 18"	36" x 36"	1.64	1.64	CONCRETE	EXISTING
1630	1	18" x 18"	36" x 36"	1.64	1.64	CONCRETE	EXISTING
1625	1	18" x 18"	36" x 36"	1.64	1.64	CONCRETE	EXISTING
1620	1	18" x 18"	36" x 36"	1.64	1.64	CONCRETE	EXISTING
1615	1	18" x 18"	36" x 36"	1.64	1.64	CONCRETE	EXISTING
1610	1	18" x 18"	36" x 36"	1.64	1.64	CONCRETE	EXISTING

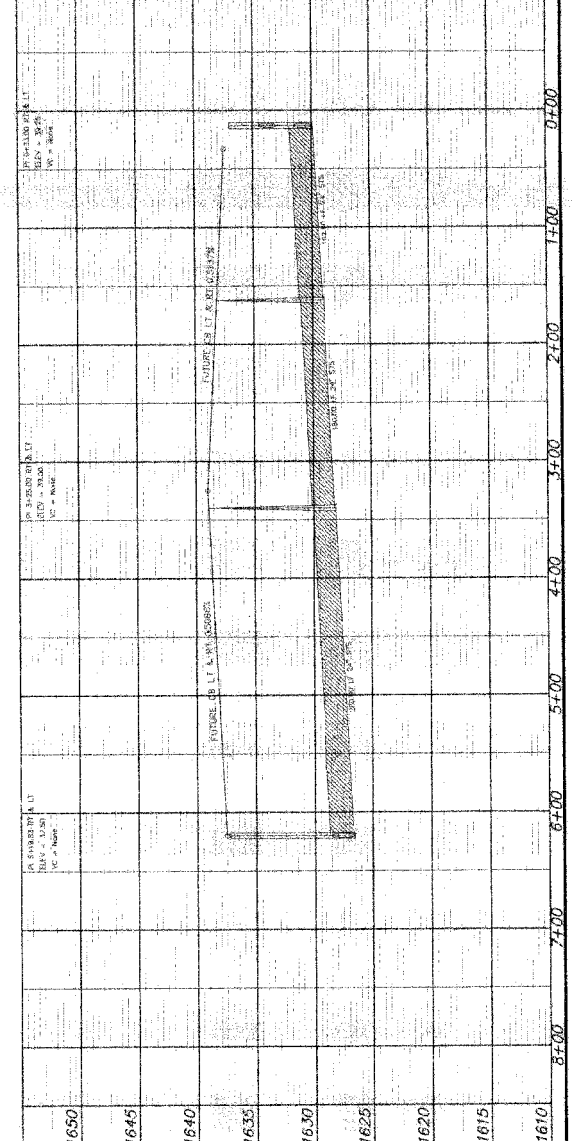
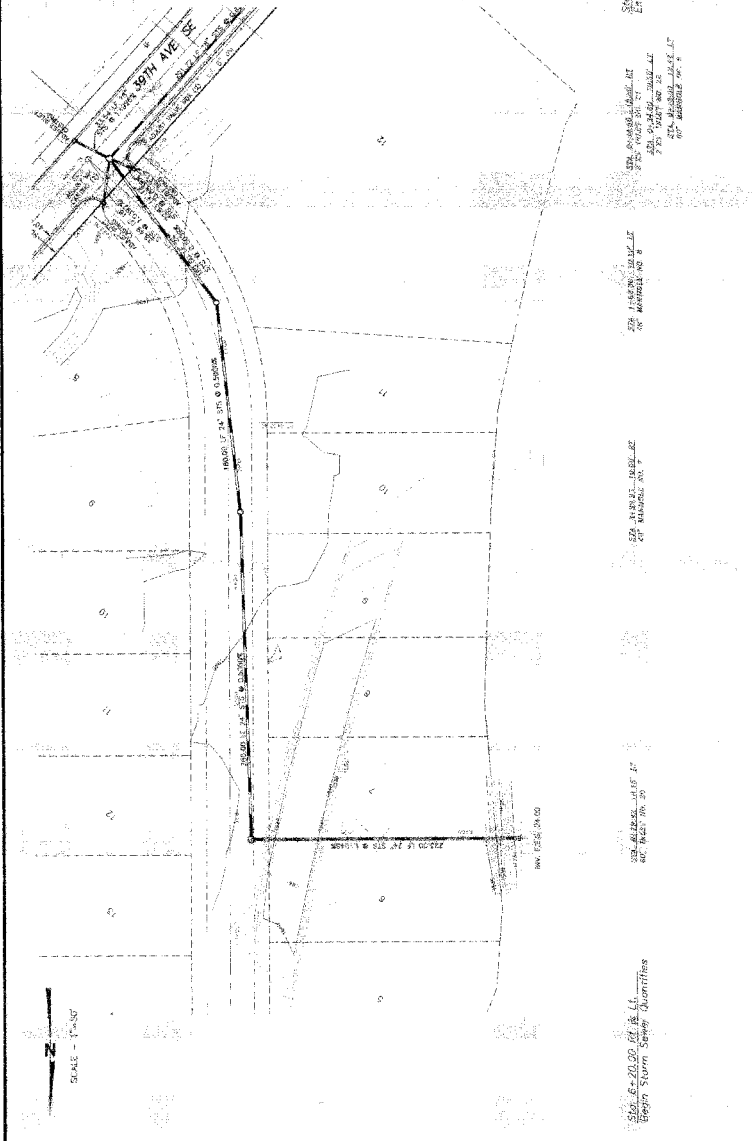
APPROXIMATE QUANTITIES

CONCRETE	4,800 CY
REINFORCEMENT	2,400 LB
PIPE	2,400 LF
MANHOLES	10
INLETS	10
SPRING	1



28TH STREET SE
FROM 39TH AVENUE SE TO
STATION 6+50

STREET IMPROVEMENT DISTRICT NO. 139
SHEET NO. 011 OF 14 PROJECT 2006-13
WANDER, ND APRIL 28, 2006

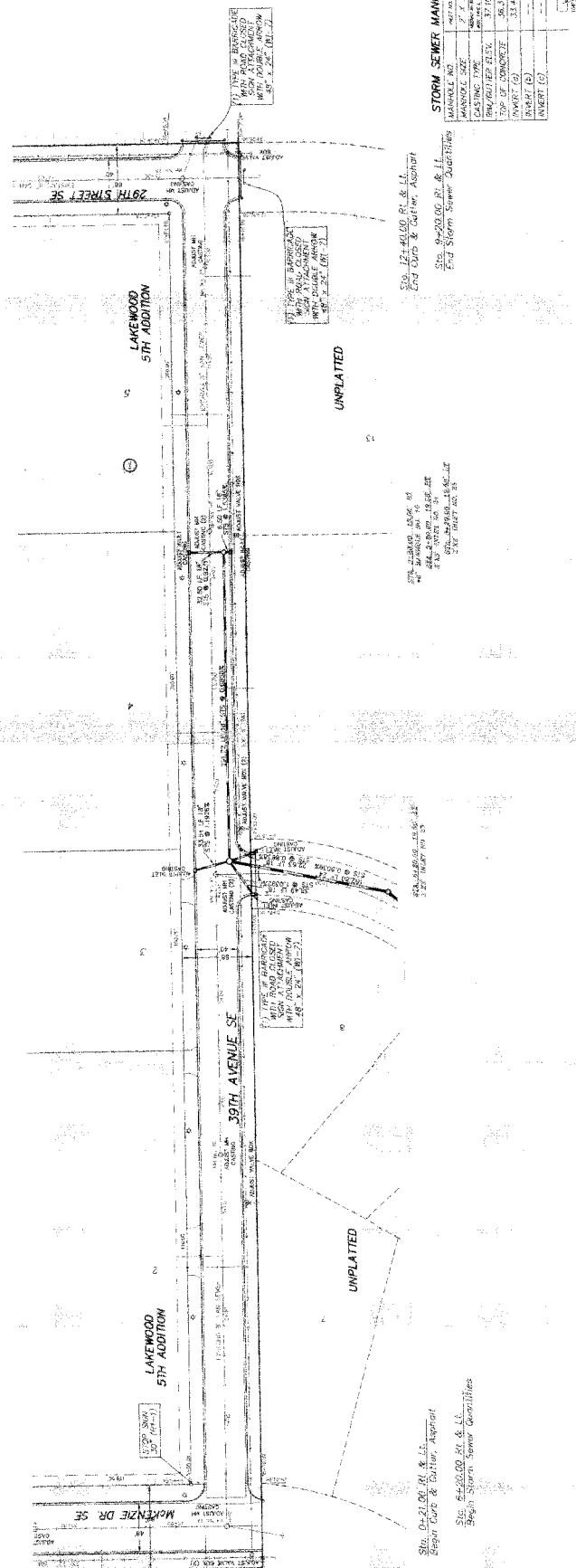


Professional seal and stamp of Steven J. Hagen, P.E., State of North Dakota, License No. 1000. The seal and stamp are required for the engineer's signature on this drawing.

CONSTRUCTION NOTES (THIS SHEET)

1. GENERAL NOTES ON SHEET C-1.

SCALE = 1"=30'



STORM SEWER MANHOLE AND INLET SCHEDULE

MANHOLE NO.	INVERT TO TOP OF MANHOLE	INVERT TO TOP OF INLET	INVERT TO TOP OF INLET
1650	15.00	15.00	15.00
1645	15.00	15.00	15.00
1640	15.00	15.00	15.00
1635	15.00	15.00	15.00
1630	15.00	15.00	15.00
1625	15.00	15.00	15.00
1620	15.00	15.00	15.00
1615	15.00	15.00	15.00
1610	15.00	15.00	15.00

APPROXIMATE QUANTITIES

MANHOLE NO.	CONCRETE	PIPE	INVERT TO TOP OF MANHOLE	INVERT TO TOP OF INLET	INVERT TO TOP OF INLET
1650	15.00	15.00	15.00	15.00	15.00
1645	15.00	15.00	15.00	15.00	15.00
1640	15.00	15.00	15.00	15.00	15.00
1635	15.00	15.00	15.00	15.00	15.00
1630	15.00	15.00	15.00	15.00	15.00
1625	15.00	15.00	15.00	15.00	15.00
1620	15.00	15.00	15.00	15.00	15.00
1615	15.00	15.00	15.00	15.00	15.00
1610	15.00	15.00	15.00	15.00	15.00

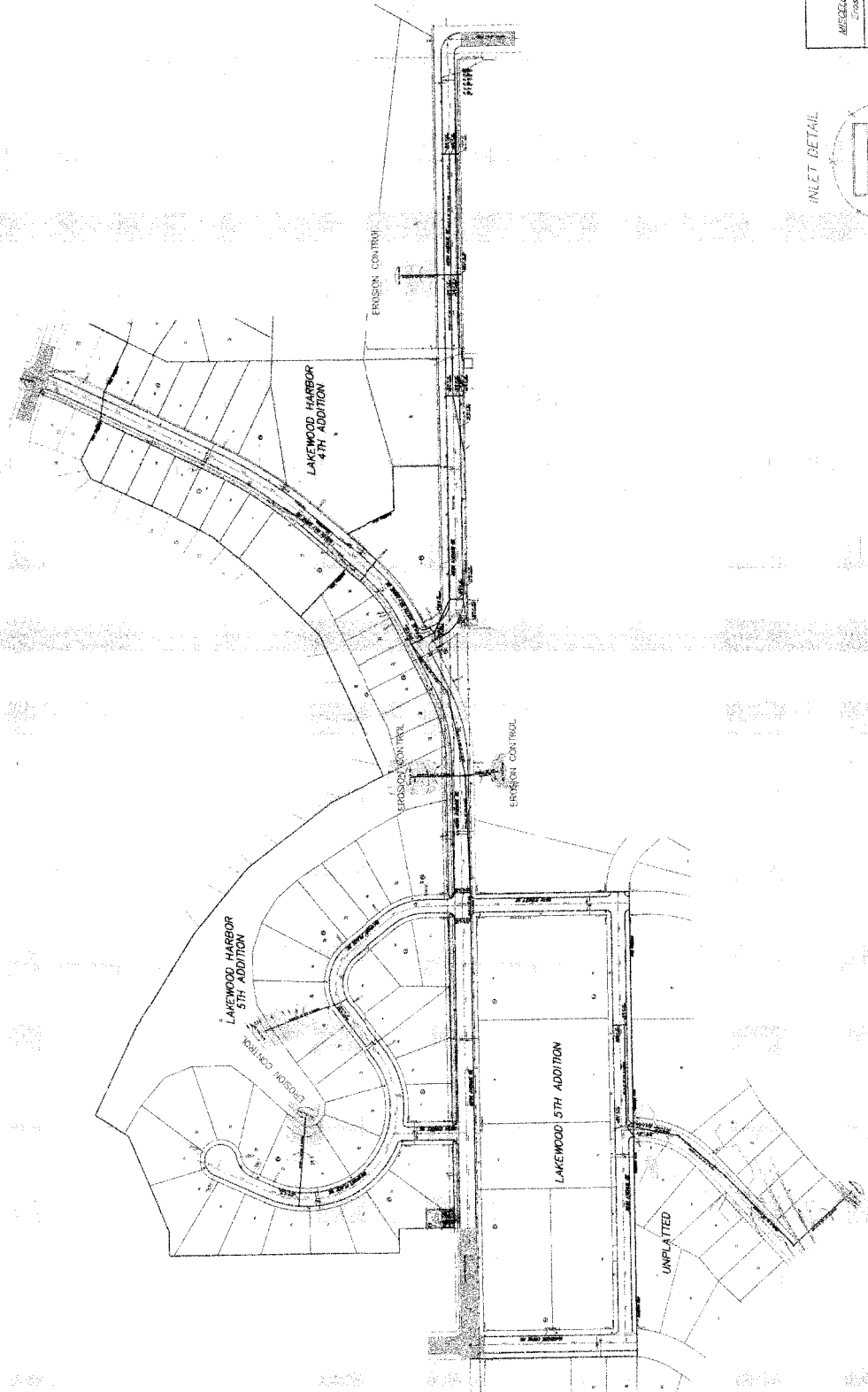
SWENSON HARTIN & COMPANY P.C.
 39TH AVENUE SE
 29TH STREET SE
 MANDAN, ND

39TH AVENUE SE
 29TH STREET SE

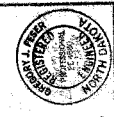
STREET IMPROVEMENT DISTRICT NO. 139
 SHEET NO. C12 OF 14 PROJECT 2006-13
 MANDAN, ND APRIL 28, 2006

1650 1645 1640 1635 1630 1625 1620 1615 1610

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00



SCALE: 1" = 100'
Overall Schematic
NOT FOR CONSTRUCTION



APPROXIMATE QUANTITIES

7.15

SWENSON, HAGEN & COMPANY P.C.
Professional Engineers
2000 14th Street, NW
Mandan, ND 58542
Phone: (701) 221-3880
Fax: (701) 221-3881
www.swhagen.com

EROSION CONTROL PLAN

STREET IMPROVEMENT DISTRICT NO. 139
SHEET NO. C14 OF 14 PROJECT 2006-13
MANDAN, ND
APRIL 29, 2006
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INLET DETAIL



NOTE:
INSTALL EROSION CONTROL DEVICE
AROUND INLETS TO PROTECT FROM
SILT AND SANDS ENTERING STORM SEWER
SYSTEM.
GRADE CURB AND GUTTER IS
TO BE RAISED AND SET BACK
WITH GRAVEL FILLED SANDBAGS TO
PROTECT INLETS UNTIL STREET IS
COMPLETED.

Professional Engineer Seal: SWENSON, HAGEN & COMPANY P.C., License No. 000013, State of North Dakota, Mandan, ND. This drawing was prepared and issued in my capacity as a Professional Engineer. I am duly licensed in the State of North Dakota. My registration number is 000013. My registration expires on 12/31/2008. I am duly licensed in the State of North Dakota. My registration number is 000013. My registration expires on 12/31/2008.