Agenda Item 6

Memorandum:

To: Programs, Projects and Operations Subcommittee

Subject: City of South Sioux City Silver Lake Stormwater Management Project Request for Assistance

Date: December 1, 2008 Updated: December 9, 2008

From: Gerry Bowen

The City of South Sioux City has submitted an application under the District's Urban Drainageway Program for financial assistance on the Old Silver Lake Stormwater Management Project.

The City is asking for early approval on this project as they face a March 31, 2009 deadline to complete the stormwater management facilities. The current re-study of South Sioux City (part of FEMA's program of modernizing floodplain maps) demonstrated major changes to their floodplain maps in the Old Silver Lake basin in the community. The City has been aware of inadequacies in this area for some time, however, the new floodplain study will bring areas previously developed, areas under development, and areas considered for future development into the floodway and floodway fringe.

The City is able to install measures to correct the situation and significantly reduce the affected floodplain area. However, these measures must be installed prior to March 31, 2009. This date has been established to ensure that preliminary maps produced by FEMA show the revised floodplain boundaries. They plan to contract for the measures and complete the construction by this date. The City is expected to have construction bids on the project available to present to the subcommittee.

The total estimated cost of cure for the City is $1,879,000. Of this, they are requesting 60% cost share, or $1,127,400. To facilitate this, they are agreeable to the District paying its share over a four year period. A draft interlocal agreement is attached. The first payment would be in Fiscal Year 2010.

However, the current Urban Drainageway Program Guidelines limit projects to a total cost of $1.5 million. This leaves several possible Board actions:

a. Allow an exception and approve the project as presented.
b. Approve only the first $1.5 million of the project making the total cost share $900,000 over a period of three or four years, or
c. Deny the project as not meeting the program guidelines.

It is the staff recommendation that the Board allow an exception to the guidelines and approve the project as requested by the City.

- **Management recommends that the Subcommittee recommend to the Board that the General Manager be authorized to execute the proposed interlocal agreement with the City of South Sioux City for the Silver Lake Stormwater Management Project in the amount of $1,127,400, subject to changes deemed necessary by the General Manager and approved as to form by District Legal Counsel.**

November 21, 2008

John Winkler, General Manager
Papio-Missouri NRD
8901 S. 154th Street
Omaha, NE 68138

Re: Storm water Detention Costs

Dear Mr. Winkler:

South Sioux City recently became aware of some changes in our flood plain mapping that have resulted in major impacts on certain areas of our community. Effectively, floodway zones and flood plain areas have been modified to include developed areas, areas currently under development and areas where development is planned. See the attached map.

South Sioux City has worked with PBSJ Consultants to develop alternatives for the installation of infrastructure that would alleviate many areas from the proposed floodway/floodplain designation. We are also moving forward to construct the improvements prior to September 2009. If South Sioux City can complete the improvements, the proposed floodway/floodplain areas are significantly reduced.

Our request of the Papio-Missouri NRD is for possible funding of the construction of storm water detention facilities. We understand that the current budget is set until July, 2009. South Sioux City cannot wait until that time to build these facilities. The question is whether it is possible to receive funding from the NRD retroactively? We are requesting $1,127,400 or 60% of the project.

We would appreciate your attention to this request as soon as possible Thank you in advance for your time in this matter.

Sincerely,

Lance Hedquist, City Administrator
City of South Sioux City, Nebraska
1615 1st Ave
South Sioux City, NE 68776

PAPIO-MISSOURI RIVER
NATURAL
RESOURCES
DISTRICT
8901 S. 1 54th ST.
OMAHA, NE 68138-3621
(402) 444-6222
FAX (402) 895-6543

Form 17.17. A.

URBAN DRAINAGEWAY PROGRAM

APPLICATION

1. DATE: November 21, 2008

2. PROJECT NAME: Silver Lake Floodplain

3. PROJECT SPONSOR: City of South Sioux City
(Address) 1615 1st Avenue
South Sioux City, NE 68776

4. CONTACT PERSON: Lance Hedquist TITLE: City Administrator

5. TELEPHONE: 402-494-7517

6. PROJECT LOCATION **: Westside Drainageway (Old Silver Creek) between West 19th Street and the Missouri River

7. PROPOSED IMPROVEMENTS**: Constructing detention ponds and upgrading storm water pipe sizes beneath Golf Road, Dixon Path, and West 3rd Street. The improvements are to eliminate floodway.

8. TOTAL ESTIMATED COST: $ $1,879,000.00

9. COST SHARE REQUEST: $ $1,127,400.00

10. IMPLEMENTATION SCHEDULE: We will begin the project in December 2008 and be completed in September 2009.

11. SIGNATURE/TITLE: [signature] City Administrator

** Attach additional sheets as necessary.

Interlocal Agreement

Papio-Missouri River Natural Resources District

and

The City of South Sioux City, Nebraska

SILVER LAKE STORMWATER MANAGEMENT PROJECT

THIS INTERLOCAL AGREEMENT is made and entered into by and among the PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT, a political subdivision of the State of Nebraska (hereinafter referred to as the "NRD"), and the CITY OF SOUTH SIOUX CITY, NEBRASKA, a political subdivision of the State of Nebraska (hereinafter referred to as the "CITY").

RECITALS:

WHEREAS, the CITY desires to install stormwater management facilities in the Silver Lake Floodplain (hereinafter the PROJECT), and

WHEREAS, the NRD administers the Urban Drainageway Program, a program which provides 60% cost sharing to local units of government for the installation of improvements to urban stream channels, and,

WHEREAS, the CITY desires to construct the PROJECT during one construction season, and

WHEREAS, the NRD desires to reimburse the CITY over a period of four years.

NOW, THEREFORE, for and in consideration of the foregoing recitals and their mutual covenants hereinafter expressed, the parties agree as follows:

A. CITY RESPONSIBILITIES

1. The CITY shall acquire all easements and rights-of-way necessary for the PROJECT in the name of the CITY.

2. The CITY shall retain such consultants, at their own discretion and expense, as may be needed to engineer the PROJECT.

3. The CITY shall obtain the approval of all plans and specifications from the NRD prior to advertising for construction bids on the PROJECT.

4. The CITY shall retain such contractors, at their own discretion and expense, necessary to construct the project.

5. Upon completion, the CITY shall operate and maintain the PROJECT in perpetuity according to accepted engineering standards at no cost the NRD.

6. The CITY shall indemnify and hold the NRD harmless from and against all liability and damages resulting from the design, construction, operation, or maintenance of the PROJECT, and against all demands, causes of action, and claims arising therefrom, except as may be caused by negligence of the NRD, its agents, representatives, or employees.

B. NRD RESPONSIBILITIES

1. The NRD shall reimburse the CITY 60% of the total estimated cost not to exceed $1,127,400 according to the following schedule; $300,000 on September 1, 2009, $300,000 on September 1, 2010, $300,000 on September 1, 2011, and $227,000 on September 1, 2012. In the event that the total cost share is less than $1,127,400, the final payment on September 1, 2012 shall be adjusted to the corrected amount.

2. The NRD shall review and approve all plans and specifications in a timely manner.

C. DURATION

1. This agreement shall have permanent duration, commencing upon the occurrence of the signatures of both parties being affixed hereto.

IN WITNESS WHEREOF, the parties have executed this agreement on the dates hereinafter indicated pursuant to authorizing resolutions duly adopted at regularly-called meetings of their governing bodies.

Executed by THE CITY OF SOUTH SIOUX CITY, NEBRASKA, this _____ day of _____, 2008.

THE CITY OF SOUTH SIOUX CITY, NEBRASKA

By_____
Mayor

Attest:

_____
City Clerk

Executed by the PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT this _____ day of _____, 2008.

PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT

By_____
General Manager

Attest:

By_____

_____Title

OLSSON
ASSOCIATES

SSC Flood Zone Management Descriptions

The City of South Sioux City is currently in the design phase of providing drainage improvements on the west side of the city. The drainage improvements are based on the modeling completed by PBS&J for the NRD to update the flood plain maps. The modeling showed that a combination of providing detention area and upgrading pipe crossings needed to be completed to reduce the floodway along the drainage channel that carries storm runoff from the western part of the city. The following descriptions generally summarize the improvements that are planned to be completed to reduce the floodway along the drainage channel.

3rd Street
The crossing will be upgraded to include a 72" pipe in addition to the existing 60" arch RCP that currently outlets to the Missouri River.

Detention area will be created near 3rd Street on city owned property.

The detention area will be created next to the existing drainage channel. The east slope of the existing drainage channel will be removed to create the new detention area. The bottom of the existing drainage channel and existing pipes will remain. When the flow gets above the existing 24" pipe, it will overflow into the new detention area. The detention area is designed to drain to a ditch in the middle that flows at approx. 0.50% slope into the new 72" pipe located at the north end of the detention area. The detention area is between 10' and 13' deep with 3:1 slopes at the edges.

The current land use in this area is an open grass field

Dixon Path (9th Street)
The crossing will be upgraded to include a total of three 60" pipes or the equivalent concrete box culvert. Two new 60" pipes will be installed and the existing 60" arch RCP and 30" RCP will remain in place.

Detention area will be created in three locations near the Dixon Path crossing on private property. Two areas will be created next to the existing concrete lined drainage channel and one will be created south of Dixon Path and east of the drainage channel.

The detention area north of Dixon Path along the drainage channel will be between 7' and 9' deep with 3:1 slopes at the edges. It will flow to the drainage channel at approx. 1.5% slope. The existing concrete lined drainage channel will remain in this area.

1707 Dakota Avenue
P.O. Box 924
South Sioux City, NE 68776

TEL 402.494.3059
FAX 402.494.4064

www.oaconsulting.com

OLSSON
ASSOCIATES

The detention area south of Dixon Path and east of the drainage channel will be connected via a 36" pipe under Dixon Path to the detention area north of Dixon Path. This detention area will be between 4' and 8' deep with 3:1 slopes at the edges. It will drain to the corner where the 36" pipe is located at approx. 1.00% slope.

The detention area south of Dixon Path along the drainage channel will be between 6' to 8' deep with 3:1 slopes at the edges. It will flow to the drainage channel at approx. 1.50% slope. The existing concrete lined drainage channel will remain in this area.

The current land use in these areas is general use and pasture.

Golf Road (12th Street)
The crossing will be upgraded to include a total of three 60" pipes or the equivalent concrete box culvert. Part of the existing 60" arch RCP will remain. The existing 30" RCP will be removed.

NECC/WSC College Center Area
Detention area will be created in partnership with the Northeast Community College and Wayne State College proposed college center. The college center project requires the existing concrete lined drainage channel to be relocated and restored.

Detention area will be created next to the new drainage channel. The detention area will be between 4' and 7' deep with 3:1 slopes at the edges. The detention area will drain to the drainage channel at approx. 1.50% slope.

The current land use in this area is agricultural.

Hwy 77
The existing crossings under Hwy 77 will not be upgraded based on the results of the modeling

Detention area will be created upstream of Hwy 77 in two locations on private property.

One location is next to a 24" RCP that the drainage channel is piped through. The pipe will be removed and a 10' wide concrete lining will be built to match the existing concrete lined drainage channel upstream of this location. This detention area is approx. 2' deep with 3:1 slopes at the edges. This detention area is designed to drain to the drainage channel at approx. 0.35% slope.

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The other location will connect to the existing concrete lined drainage channel via a 42" RCP that crosses under Hwy 77. This detention area is between 1' and 2' deep with 3:1 slopes at the edges. This detention area is designed to drain to a small ditch along the property line at slopes between 0.25% and 0.80%. This ditch will then drain to the existing 42" RCP (that crosses under Hwy 77) at an approx. 0.10% slope.

The current land use in these areas is agriculture and general woodlands.

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www.oaconsulting.com

Hwy 77 and upstream

	Hwy 77 (Mid American Area)	Hwy 77 (CableOne Area)			
Total Cut (CY)	35955.82	9154.64			
Total Fill (CY)	6.49	948.13			
Total Storage (acre-feet)	22.29	5.67			
approx. ground elev.	1086.00	1086.00			
FL out	1083.87	1083.46			
Elev	Area (SF)	Area (SF)	Total Area (AC)	Goal (AC)	Goal (AC*FT)
1084	0	49249.08	1.13	14.87	29.37
1085	129795.62	167036.22	6.81	15.76	44.30
1086	558440.02	170421.66	16.73	18.50	59.39

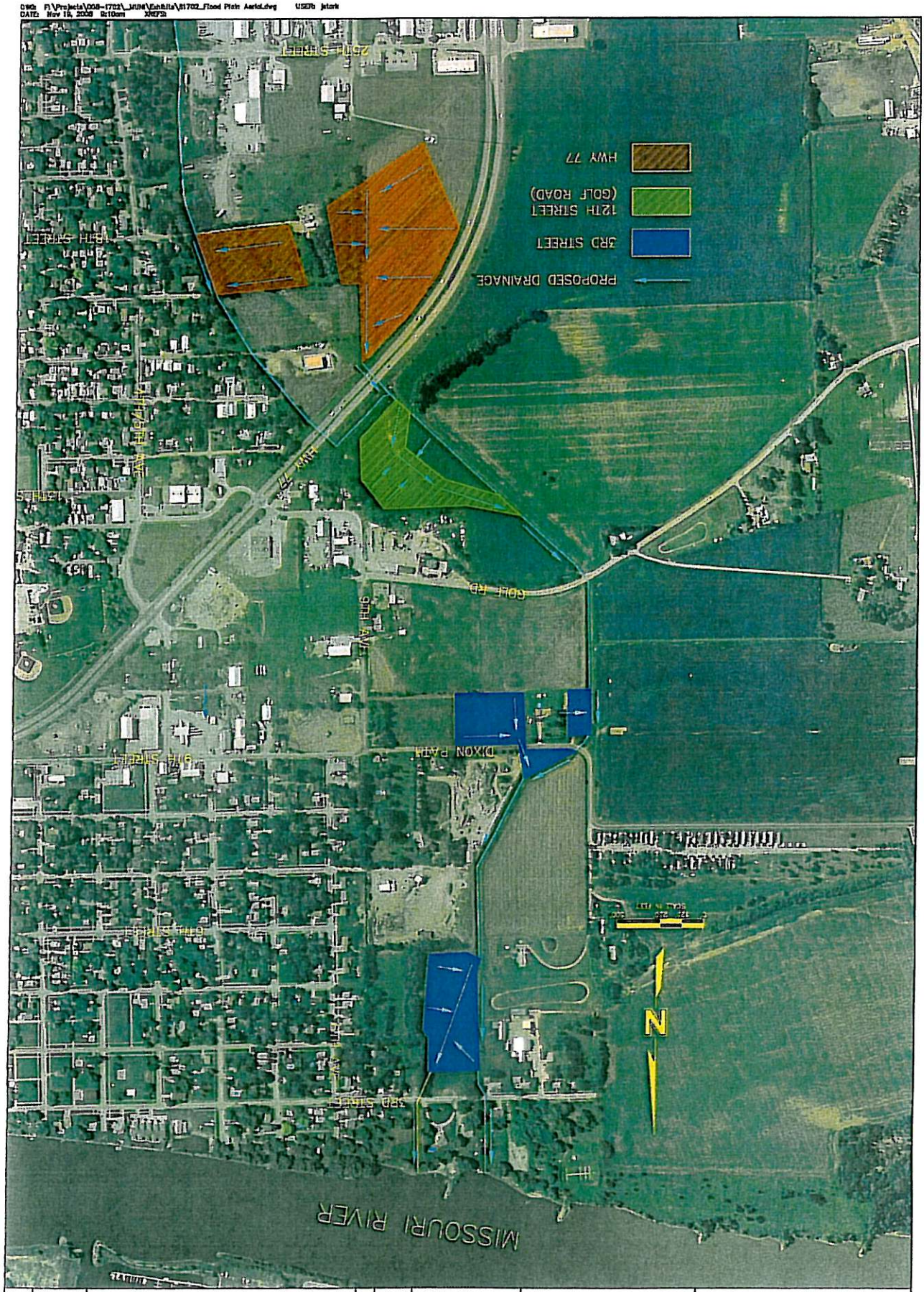
Golf Road (12th Street) to Hwy 77

12th Street (College Area)	
Total Cut (CY)	28504.11
Total Fill(CY)	1171.89
Total Storage (acre-feet)	17.67
approx. ground elev.	1087.00
FL out	1082.00

Elev	Area (SF)	Total Area (AC)	Goal (AC)	Goal (AC*FT)
1082	26383.8	0.61		
1083	23964.85	0.55	2.80	2.80
1084	86181.98	1.98	2.87	5.67
1085	155838.48	3.58	2.95	8.62
1086	169748.43	3.90	3.02	11.64
1087	183599.25	4.21	3.10	14.73

Missouri River to Golf Road (12th Street)

	3rd Street	Dixon Path					
Total Cut (CY)	81937.00	29412.00					
Total Fill(CY)	550.00	29725.00					
Total Storage (acre-feet)	50.79	18.23					
approx. ground elev.	1091.00	1091.00	1092.00	1091.00			
FL out	1077.83	1082.07	1083.14	1084.50			
Elev	Area (SF)	Area (SF) North along ditch	Area (SF) South along ditch	Area (SF) South of Dixon	Total Area (AC)	Goal (AC)	Goal (AC)
1077	0.00	0.00	0.00	0.00	0.00		
1078	3791.47	0.00	0.00	0.00	0.09		
1079	28387.77	0.00	0.00	0.00	0.65		
1080	84747.29	0.00	0.00	0.00	1.95		
1081	173742.36	0.00	0.00	0.00	3.99		
1082	184097.35	0.00	0.00	0.00	4.23	6.90	6.90
1083	187797.81	14399.27	0.00	0.00	4.64	7.01	13.91
1084	191502.37	30970.06	5631.52	0.00	5.24	7.13	21.04
1085	195223.15	32959.69	13130.50	2610.01	5.60	7.24	28.29
1086	198954.69	35033.87	14544.98	22882.86	6.23	7.36	35.65
1087	202693.24	37184.73	16011.32	64090.84	7.35	7.48	43.12
1088	206457.13	39412.38	17525.04	66914.22	7.58	7.60	50.72
1089	210280.75	41714.69	19068.54	70584.31	7.84	7.72	58.44
1090	214177.22	44092.51	20664.19	74382.16	8.11	7.84	66.27
1091	0.00	46582.56	22298.76	78189.81	3.38	7.96	
1092	0.00	0.00	21732.41	0.00	0.50	8.08	



SHEET 1 of 1	AERIAL VIEW	REV. NO.	DATE	REVISIONS DESCRIPTION	OLSSON ASSOCIATES
	SSC FLOOD PLAIN				
	SOUTH SIOUX CITY, NEBRASKA 2008				
				REVISIONS	

LEGEND

- BOLLARD
- BUSH
- CATCH BASIN SQUARE
- CONTROL POINT
- CONIFEROUS TREE
- DECIDUOUS TREE
- FOUND REBAR
- GUY WIRE
- LIGHT POLE
- MAILBOX
- POWER POLE
- SECTION CORNER
- STORM DRAIN MANHOLE
- SIGN
- SANITARY SEWER MANHOLE
- STUMP
- TELEPHONE PEDESTAL
- WATER VALVE
- STORM PIPE
- SANITARY PIPE
- UNDERGROUND CABLE
- BARBED WIRE FENCE
- SILT FENCE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EASEMENT LINE
- SECTION LINE

0' 25' 50' 100'
SCALE IN FEET

EARTHWORK		
CUT (CY)	FILL (CY)	NET (CY)
81637	856	81367 (CUT)

NOTE: A 1.0 CUT FACTOR AND A 1.35 FILL FACTOR WAS USED. FOR INFORMATION ONLY. EARTHWORK IS A LUMP SUM QUANTITY.

GENERAL NOTES

1. THE LOCATION OF ALL AERIAL AND UNDERGROUND UTILITIES MAY NOT BE INDICATED ON THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION (INCLUDING DEPTH OR HEIGHT) OF ALL UTILITIES BEFORE CONSTRUCTION. UNDERGROUND UTILITIES, INDICATED OR NOT, WILL BE LOCATED AND FLAGGED BY THE UTILITIES AT THE REQUEST OF THE CONTRACTOR. NO EXCAVATION WILL BE PERMITTED IN THE AREA OF THE UNDERGROUND FACILITIES UNTIL ALL SUCH FACILITIES HAVE BEEN LOCATED AND IDENTIFIED TO THE SATISFACTION OF ALL PARTIES. THE EXCAVATION MUST BE ACCOMPLISHED WITH EXTREME CARE IN ORDER TO AVOID ANY POSSIBILITY OF DAMAGE TO THE UTILITY FACILITY.

2. THE CONTRACTOR SHALL USE EXTREME CAUTION IN THE AREA OF ALL EXISTING MANHOLES, EXISTING POWER POLES, AND EXISTING UTILITIES, AND SHALL BE RESPONSIBLE FOR ANY DAMAGES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DAMAGES TO EXISTING UTILITIES.

3. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND SHALL PAY THE COST OF ALL FEES.

4. THE CONTRACTOR SHALL PROTECT ALL TREES NOT MARKED FOR REMOVAL.

5. THE CONTRACTOR SHALL PRESERVE ALL PROPERTY CORNER MONUMENTS. PROPERTY CORNERS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.

6. THE CONTRACTOR SHALL PRESERVE ALL SURVEY CONTROL.

7. ALL SURFACES THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION. THIS WORK SHALL BE CONSIDERED INCIDENTAL AND NO MEASUREMENT OR PAYMENT SHALL BE MADE.

CONSTRUCTION NOTES

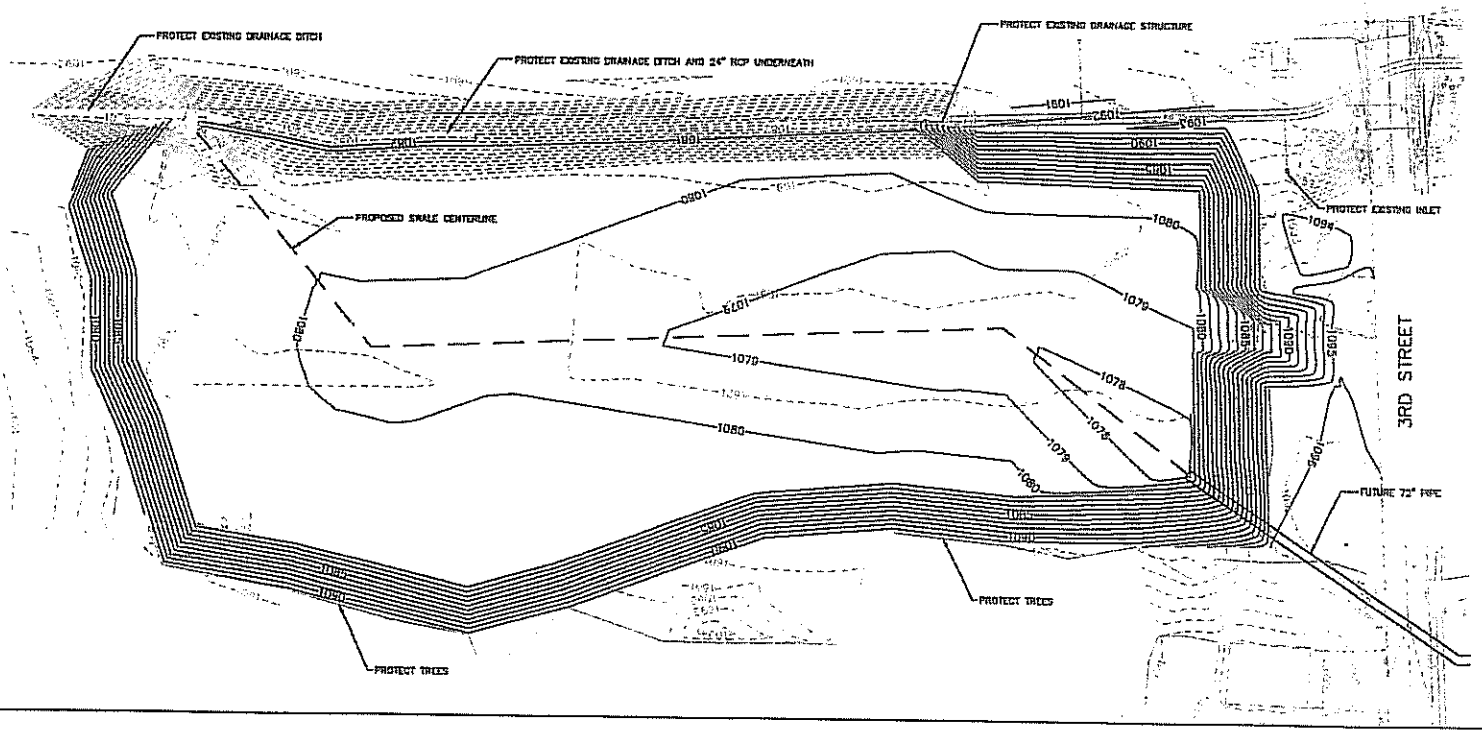
1. STABILIZATION MEASURES SUCH AS SEEDING SHALL BE USED IN ALL AREAS THAT BECOME DISTURBED.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ALL OF ITS REQUIREMENTS.

3. SILT FENCE MAY BE USED AS INLET PROTECTION BY PLACING IT AROUND ALL FOUR SIDES OF THE INLET (SEE SILT FENCE DETAIL ON SHEET 2).

4. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR LATER DISTRIBUTION IN THE AREAS TO BE SEEDED.

5. 3:1 (33%) IS THE MAXIMUM SLOPE ALLOWED.



OLSSON ASSOCIATES

FOR INFORMATION ONLY

NO.	DATE	REVISIONS DESCRIPTION
1	DATE	DESCRIPTION REVISIONS

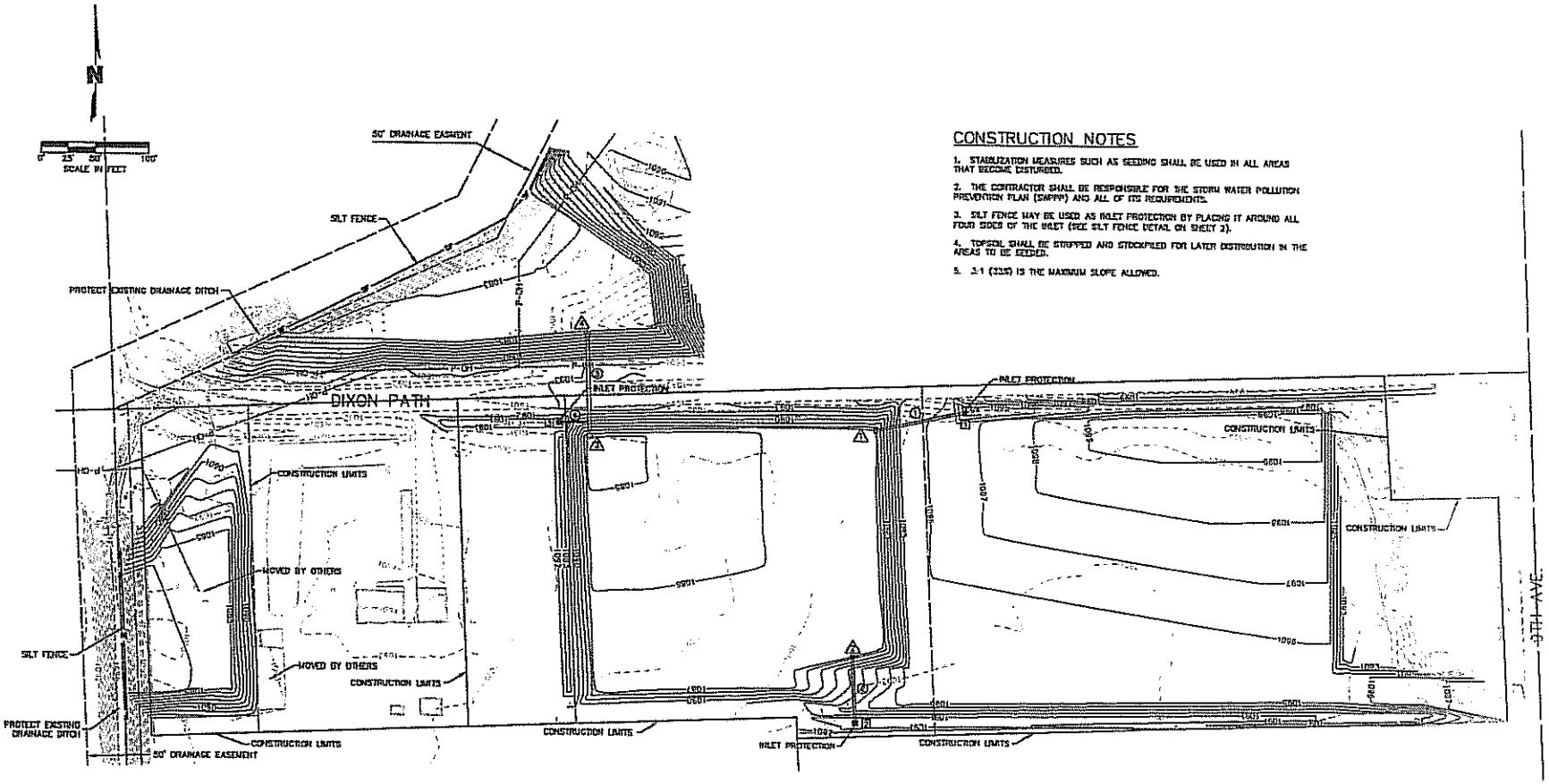
SITE OVERVIEW

SSC FLOOD ZONE MANAGEMENT
3RD STREET GRADING
SOUTH SIOUX CITY, NEBRASKA

2008

drawn by
checked by
approved by
QA/QC by
project no. 008-1000
drawing no.
date 11.20.08

SHEET 1 of 1



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EARTHWORK		
CUT (CY)	FILL (CY)	NET (CY)
29412	29725	313 (FILL)

NOTE: A 1.0 CUT FACTOR AND A 1.35 FILL FACTOR WAS USED. FOR INFORMATION ONLY. EARTHWORK IS A LUMP SUM QUANTITY.

STORM PIPE				
NO.	SIZE	TYPE	SLOPE	DESCRIPTION
1	24" X 80'	HDPE	1.00%	INLET 1 FL=1087.86 TO FES 1 FL=1087.06
2	24" X 85'	HDPE	1.00%	INLET 2 FL=1087.81 TO FES 2 FL=1087.08
3	36" X 84'	RCP	0.50%	FES 3 FL=1084.46 TO FES 4 FL =1084.04
4	15" X 28'	HDPE	2.00%	INLET 3 FL=1084.94 TO 30" RCP FL=1084.42

FLARED END SECTION					
NO.	SIZE	TYPE	SLOPE	INLET EL.	OUTLET EL.
1	24"	HDPE	1.00%	1087.06	1087.00
2	24"	HDPE	1.00%	1087.06	1087.00
3	36"	RCP	0.50%	1084.50	1084.46
4	36"	RCP	0.50%	1084.04	1084.00

STORM INLET			
NO.	RIM EL.	FL EL.	DEPTH
1	1093.50	1087.86	5.64
2	1093.00	1087.61	2.39
3	1093.25	1084.94	8.31

OLSSON ASSOCIATES

FOR INFORMATION ONLY

NO.	DATE	REVISIONS DESCRIPTION
		REVISIONS

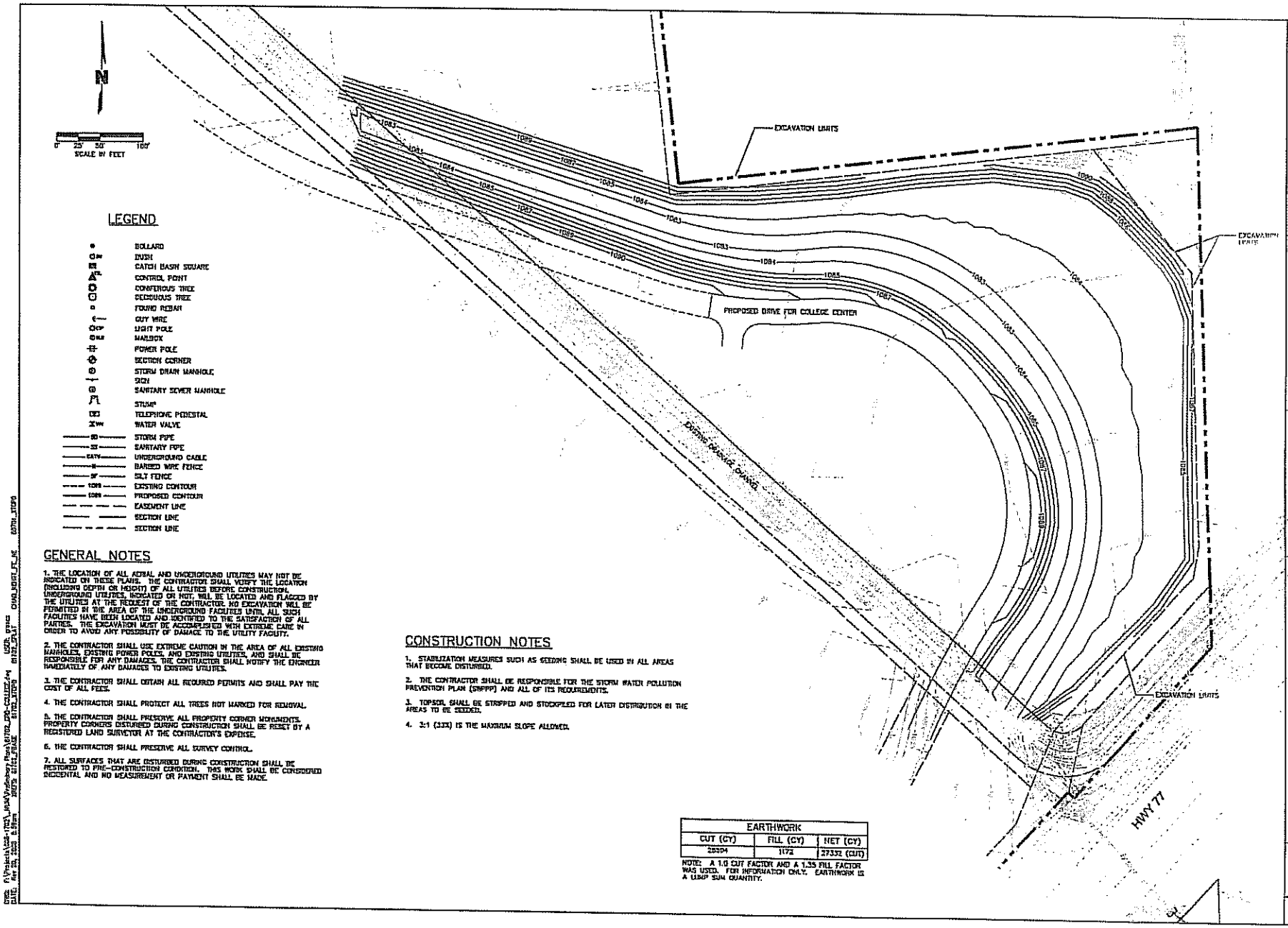
SITE OVERVIEW

SSC FLOOD ZONE MANAGEMENT
DIXON PATH GRADING

2008

SOUTH SIOUX CITY, NEBRASKA

SHEET 1 of 2



LEGEND

- BOLLARD
- BUSH
- CATCH BASIN SQUARE
- CONTROL POINT
- CONIFEROUS TREE
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CONSTRUCTION NOTES

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4. 3:1 (33%) IS THE MAXIMUM SLOPE ALLOWED.

EARTHWORK		
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28504	1172	27332 (CUT)

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OLSSON ASSOCIATES

FOR INFORMATION ONLY

REV NO	DATE	REVISIONS DESCRIPTION
1	DATE	DESCRIPTION

SITE OVERVIEW

SSC FLOOD ZONE MANAGEMENT
COLLEGE GRADING

2008

SOUTH SIOUX CITY, NEBRASKA

drawn by: ____
checked by: ____
approved by: ____
QA/QC by: ____
project no.: ____
drawing no.: ____
date: ____

SHEET 1 of 1

Northeast community college

Wayne State College Nebraska

College Center - NECC/ Wayne State College

South Sioux City, Nebraska

RESTORATION SITE PLAN

Beringer Ciaccio Dennell Mabrey

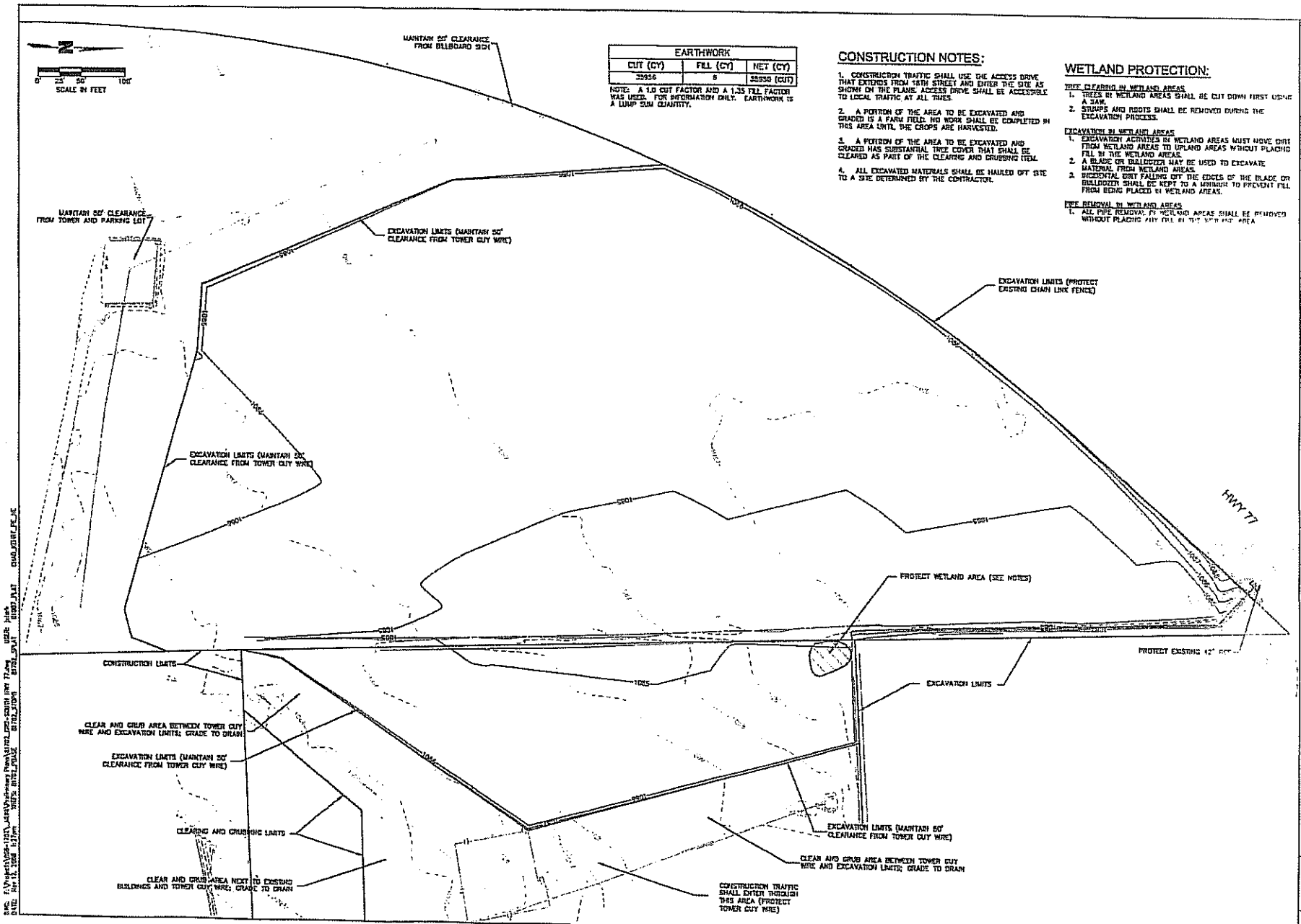
architecture • landscape architecture • interior design • construction management

bcdm

OMAHA • DES MOINES

08-28-2008

BCDM No. 4575-00



EARTHWORK		
CUT (CY)	FILL (CY)	NET (CY)
35936	8	35928 (CUT)

NOTE: A 1.0 CUT FACTOR AND A 1.35 FILL FACTOR WAS USED. FOR INFORMATION ONLY. EARTHWORK IS A LUMP SUM QUANTITY.

CONSTRUCTION NOTES:

1. CONSTRUCTION TRAFFIC SHALL USE THE ACCESS DRIVE THAT EXTENDS FROM 18TH STREET AND ENTER THE SITE AS SHOWN ON THE PLANS. ACCESS DRIVE SHALL BE ACCESSIBLE TO LOCAL TRAFFIC AT ALL TIMES.
2. A PORTION OF THE AREA TO BE EXCAVATED AND GRADED IS A FARM FIELD. NO WORK SHALL BE COMPLETED IN THIS AREA UNTIL THE CROPS ARE HARVESTED.
3. A PORTION OF THE AREA TO BE EXCAVATED AND GRADED HAS SUBSTANTIAL TREE COVER THAT SHALL BE CLEARED AS PART OF THE CLEARING AND GRUBBING ITEM.
4. ALL EXCAVATED MATERIALS SHALL BE HAULED OFF SITE TO A SITE DETERMINED BY THE CONTRACTOR.

WETLAND PROTECTION:

TREE CLEARING IN WETLAND AREAS
1. TREES IN WETLAND AREAS SHALL BE CUT DOWN FIRST USING A SAW.
2. STUMPS AND ROOTS SHALL BE REMOVED DURING THE EXCAVATION PROCESS.

EXCAVATION IN WETLAND AREAS
1. EXCAVATION ACTIVITIES IN WETLAND AREAS MUST MOVE DIRT FROM WETLAND AREAS TO UPLAND AREAS WITHOUT PLACING FILL IN THE WETLAND AREAS.
2. A BLADE OR BULLDOZER MAY BE USED TO EXCAVATE MATERIAL FROM WETLAND AREAS.
3. INCIDENTAL DIRT FALLING OFF THE EDGES OF THE BLADE OR BULLDOZER SHALL BE KEPT TO A MINIMUM TO PREVENT FILL FROM BEING PLACED IN WETLAND AREAS.

PIPE REMOVAL IN WETLAND AREAS
1. ALL PIPE REMOVAL IN WETLAND AREAS SHALL BE REMOVED WITHOUT PLACING ANY FILL IN THE WETLAND AREA

OLSSON ASSOCIATES

This document was originally approved and sealed on 11/13/08 by CRAIG P. MOSER, a licensed professional engineer in the State of NEBRASKA, E-10037.

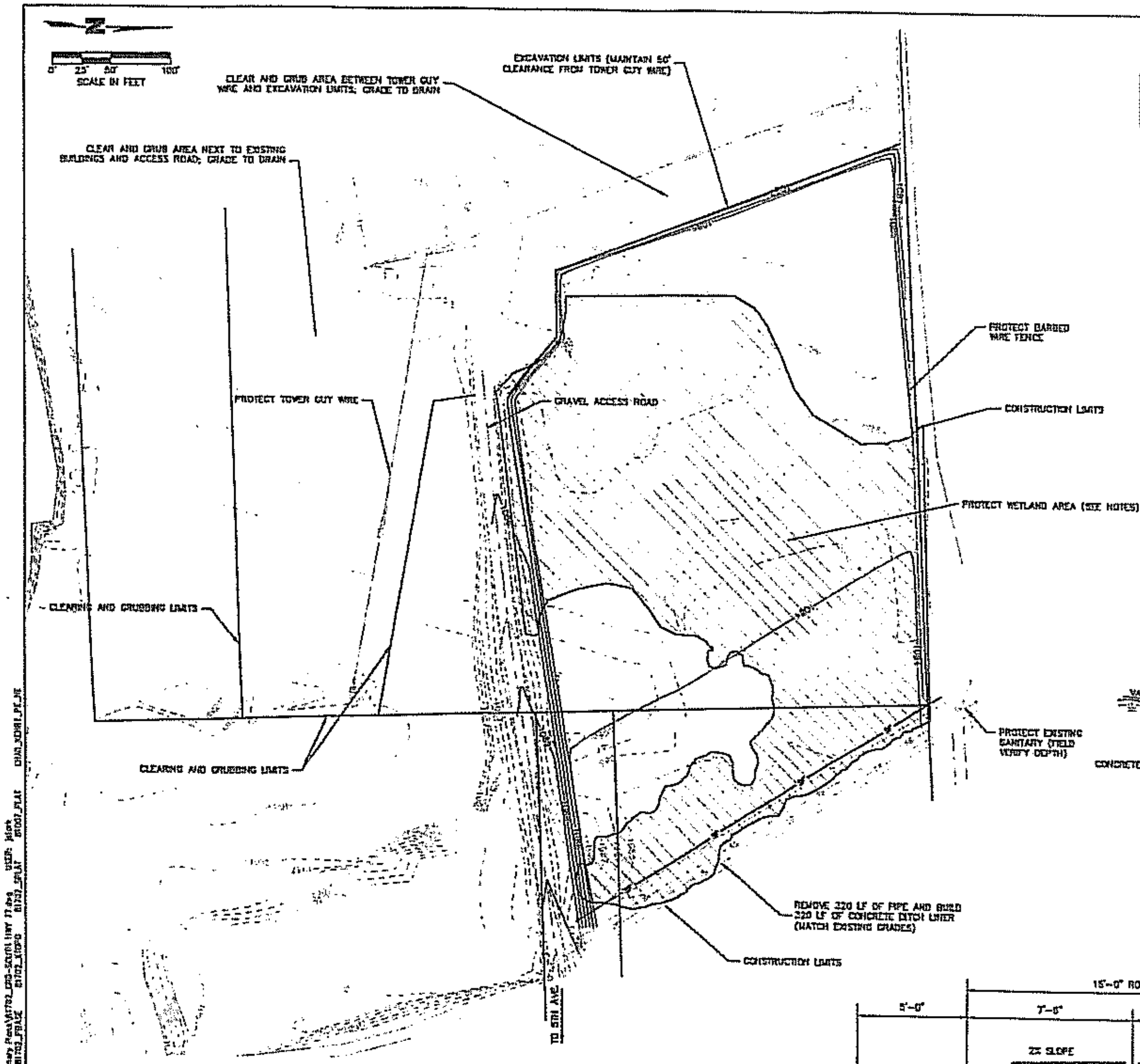
REV/ FIL	DATE	REVISIONS DESCRIPTION
1		

SITE OVERVIEW

FLOOD ZONE MANAGEMENT
MID AMERICAN AREA
SOUTH SIOUX CITY, NEBRASKA
2008

drawn by: ZTS
checked by: CPM
approved by: CPM
QA/QC by: CPM
project no.: 008-17778
drawing no.:
date: 11.17.08

SHEET
2 of 4


SCALE IN FEET
0" 25' 50' 100'
CLEAR AND GRUB AREA BETWEEN TOWER GUY WIRE AND EXCAVATION LIMITS; GRADE TO DRAIN
EXCAVATION LIMITS (MAINTAIN 50' CLEARANCE FROM TOWER GUY WIRE)
CLEAR AND GRUB AREA NEXT TO EXISTING BUILDINGS AND ACCESS ROAD; GRADE TO DRAIN
PROTECT TOWER GUY WIRE
GRAVEL ACCESS ROAD
PROTECT BARBED WIRE FENCE
CONSTRUCTION LIMITS
PROTECT WETLAND AREA (SEE NOTES)
CLEARING AND GRUBBING LIMITS
CLEARING AND GRUBBING LIMITS
PROTECT EXISTING SANITARY (FIELD VERIFY DEPTH)
REMOVE 220 LF OF PIPE AND BUILD 220 LF OF CONCRETE DITCH LINER (MATCH EXISTING GRADES)
CONSTRUCTION LIMITS
TO 5TH AVE

EARTHWORK		
CUT (CY)	FILL (CY)	NET (CY)
9155	948	8452 (CUT)

NOTE: A 1.0 CUT FACTOR AND A 1.35 FILL FACTOR WAS USED. FOR INFORMATION ONLY. EARTHWORK IS A LUMP SUM QUANTITY.

WETLAND PROTECTION:

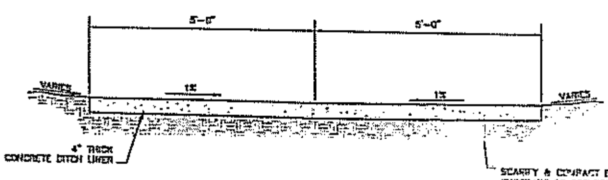
TREE CLEARING IN WETLAND AREAS
1. TREES IN WETLAND AREAS SHALL BE CUT DOWN FIRST USING A SAW.
2. STUMPS AND ROOTS SHALL BE REMOVED DURING THE EXCAVATION PROCESS.

EXCAVATION IN WETLAND AREAS
1. EXCAVATION ACTIVITIES IN WETLAND AREAS MUST MOVE DIRT FROM WETLAND AREAS TO UPLAND AREAS WITHOUT PLACING FILL IN THE WETLAND AREAS.
2. A BLADE OR BULLDOZER MAY BE USED TO EXCAVATE MATERIAL FROM WETLAND AREAS.
3. INCIDENTAL DIRT FALLING OFF THE EDGES OF THE BLADE OR BULLDOZER SHALL BE KEPT TO A MINIMUM TO PREVENT FILL FROM BEING PLACED IN WETLAND AREAS.

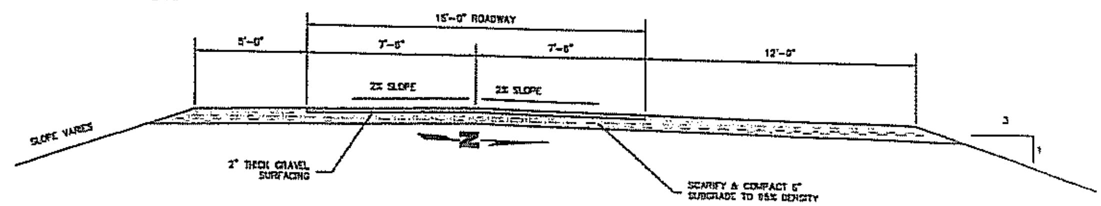
PIPE REMOVAL IN WETLAND AREAS
1. ALL PIPE REMOVAL IN WETLAND AREAS SHALL BE REMOVED WITHOUT PLACING ANY FILL IN THE WETLAND AREA.

CONSTRUCTION NOTES:

1. THE ENTIRE AREA TO BE EXCAVATED AND GRADED HAS SUBSTANTIAL TREE COVER THAT SHALL BE CLEARED AS PART OF THE CLEARING AND GRUBBING ITEM.
2. ALL EXCAVATED MATERIALS SHALL BE HAULED OFF SITE TO A SITE DETERMINED BY THE CONTRACTOR.



CONCRETE DITCH LINER
SCALE: 3/4" = 1'-0"



GRAVEL ROAD REBUILDING SECTION
SCALE: 3/8" = 1'-0"

OLSSON ASSOCIATES

This document was originally approved and sealed on 11/13/08, by CHAD P. KEHRT, a licensed professional engineer in the State of NEBRASKA, E-10037.

REV. NO.	DATE	REVISIONS DESCRIPTION

REVISIONS

SITE GRADING

FLOOD ZONE MANAGEMENT
CABLEONE AREA

SOUTH SIOUX CITY, NEBRASKA

2008

SHEET
3 of 4

SSC Flood Zone Management

Date Updated: 11/19/08

3rd Street Flood Storage

No.	Item	Unit	Quantity	Unit Price	Total
1	Excavation	CY	81937	$4.00	$327,748.00
2	Fill	CY	407	$1.50	$610.50
				Subtotal	$328,358.50
				10% Contingency	$32,835.85
				Total Flood Storage	$361,194.35

3rd Street Pipe Crossing

1	72" RCP	LF	750	$125.00	$93,750.00
2	72" RCP Flared End Section	EA	1	$3,000.00	$3,000.00
3	120" Diameter Storm Manhole	EA	2	$5,000.00	$10,000.00
4	Outlet Structure	EA	1	$7,500.00	$7,500.00
5	Outlet Control with slide gate	EA	1	$15,000.00	$15,000.00
6	Remove and Replace 6" concrete pavement	SY	100	$35.00	$3,500.00
				Subtotal	$132,750.00
				20% Contingency	$26,550.00
				Total 3rd Street	$159,300.00

Dixon Path Flood Storage

No.	Item	Unit	Quantity	Unit Price	Total
1	Excavation	LS	1	$75,000.00	$75,000.00
2	36" RCP pipe	LF	84	$55.00	$4,620.00
3	24" HDPE pipe	LF	135	$45.00	$6,075.00
4	15" HDPE pipe	LF	26	$30.00	$780.00
5	36" RCP flared end section	EA	2	$2,000.00	$4,000.00
6	24" HDPE flared end section	EA	2	$1,000.00	$2,000.00
7	Storm Inlet	EA	3	$2,500.00	$7,500.00
				Subtotal	$99,975.00
				10% Contingency	$9,997.50
				Total Flood Storage	$99,975.00

Dixon Path Pipe Crossing

1	60" RCP	LF	384	$100.00	$38,400.00
2	Remove and Replace 6" concrete pavement	SY	100	$35.00	$3,500.00
5	Concrete Headwall	EA	2	$10,000.00	$20,000.00
				Subtotal	$61,900.00
				20% Contingency	$12,380.00
				Total Dixon Path	$74,280.00

Golf Road Pipe Crossing

1	60" RCP	LF	162	$100.00	$16,200.00
2	Remove and Replace 6" concrete pavement	SY	100	$35.00	$3,500.00
3	Remove Pipe	LF	175	$10.00	$1,750.00
4	Excavate Drainage Channel	LF	110	$31.50	$3,465.00
5	Concrete Ditch Lining	LF	110	$40.00	$4,400.00
6	Concrete Headwall	EA	2	$10,000.00	$20,000.00
				Subtotal	$49,315.00
				20% Contingency	$9,863.00
				Total Golf Road	$59,178.00

College Flood Storage

No.	Item	Unit	Quantity	Unit Price	Total
1	Excavation	CY	28504	$5.00	$142,520.00
2	Fill	CY	868	$1.50	$1,302.00
3	Channel Restoration	LF	1330	$270.00	$359,100.00
4	Excavation and Grading of wetlands	CY	4840	$5.00	$24,200.00
5	Installation of wetlands and buffer areas	AC	6	$3,000.00	$18,000.00
6	Concrete Channel Removal	LF	1050	$5.00	$5,250.00
				Subtotal	$550,372.00
				10% Contingency	$55,037.20
				Total Flood Storage	$605,409.20

Mid American/CableOne Flood Storage

No.	Item	Unit	Quantity	Unit Price	Total
1	Mobilization	LS	1	$10,000.00	$10,000.00
2	Clearing and Grubbing	LS	1	$10,000.00	$10,000.00
3	Earthwork	LS	1	$225,000.00	$225,000.00
4	Remove Pipe	LF	320	$10.00	$3,200.00
5	Build Concrete Ditch Lining	LF	320	$35.00	$11,200.00
6	Silt Fence	LF	369	$3.00	$1,107.00
7	Gravel	TN	100	$20.00	$2,000.00
8	Type 'B' Seeding	AC	6.8	$2,500.00	$17,000.00
9	Construction Entrance	LS	1	$5,000.00	$5,000.00
				Total Flood Storage	$284,507.00
				Total Estimated Construction	$1,644,000.00
				Survey	$25,000.00
				Geotech	$1,050.00
				Design	$67,200.00
				College Design	$52,000.00
				Construction Administration	$50,000.00
				Wetlands Monitoring ($8,000 per year for 5 years)	$40,000.00
				Total Engineering	$235,250.00
				Total Project Estimated Cost	$1,879,000.00
				NRD Contribution	$1,127,400.00
				City of South Sioux City Contribution	$751,600.00