

SUPPLEMENTAL PACKET

9.A.4

City of Afton
3033 St. Croix Trl, P.O. Box 219
Afton, MN 55001

Meeting Date July 19, 2016

Council Action Memo

To: Mayor Bend and Members of the City Council
From: Ron Moore, City Administrator
Date: July 19, 2016
Re: Localized LLC Application for an Amendment to the Zoning Code to Allow a Non-Profit Park as a Conditional Use in the Agricultural and Rural Residential Zoning Districts at 2167 Oakgreen Avenue and two adjacent parcels with PID #s 16.028.20.23.0001 and 16.028.20.23.0002 – **Resolution 2016-34 - Supplemental**

Attached is an email from Council member Palmquist with his thoughts regarding the Nature Center use.

Ron Moore

From: ward1
Sent: Sunday, July 17, 2016 9:45 PM
To: Ron Moore
Subject: Nature Center with Trails

Hi Ron,
Since I won't be at the meeting I thought I would let you know my thoughts on this issue. I understand the PC voted to deny it as presented for an ordinance amendment. If the applicants go the CUP route there are a few things I wanted to share.

First off, assuming they are putting the entire 60 acres into a conservation easement, I like this idea. In terms of trail riding, my main concern is to ensure that it is open to the public, and not nominally. As long as it would be something our residents could use regularly if they are so inclined I think it sounds good. The issue to be resolved would be finding the balance between ensuring access for the public, and not overly burdening the neighbors with traffic.

But on the whole, assuming that conservation easement is in place, I support the idea presented.

Thanks,
Bill

9.C.7

City of Afton
3033 St. Croix Trl, P.O. Box 219
Afton, MN 55001

Meeting Date July 19, 2016

Council Action Memo

To: Mayor Bend and Members of the City Council
From: Ron Moorse, City Administrator
Date: July 19, 2016
Re: Afton Boulevard Cartway Erosion - **Supplemental**

Attached is information from the City Engineer regarding the Cartway erosion repairs, assuming the cartway would continue to be open to traffic. The City Engineer has recommended the City consider closing the road to traffic on a permanent basis to enable it to be regraded and revegetated for more effective erosion control. Tri County has provided a rough estimate of costs to complete the erosion repairs under two scenarios:

1. Keep the cartway open: \$7,500
2. Close the cartway permanently to traffic: \$4,000

Ron Moorse

From: Jesse Carlson <JCarlson@wsbeng.com>
Sent: Tuesday, July 19, 2016 12:29 PM
To: Ron Moorse
Cc: Diane Hankee
Subject: Cartway Road - Erosion Repairs
Attachments: MEMO_Cartway Road_Erosion Repairs_071916.pdf

Ron:

Good afternoon, the attached is the memo regarding the Cartway Road erosion repairs. I revised it from last year as per the following:

1. Included stabilizing the back slope using a MNDOT Bonder Fiber Matrix vs. a Hydraulic Mulch
2. Remove the item to remove material and stabilize the outside of the Cartway as it appears established and want to avoid/minimize disturbance on the outside edge of the road.
3. Include a statement regarding the integrity of the ravine.

Thank You,

Jesse Carlson, CPESC, CPSWQ
Water Resources Project Manager
d: 651-286-8464 | c: 612-518-8785
WSB & Associates, Inc. | 540 Gateway Blvd. | Burnsville, MN 55337



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Memorandum

To: *Ron Morse, City of Afton*

From: *Jesse Carlson, WSB & Associates, Inc.*

Date: *October 1, 2015*
Revised July 19, 2016

Re: *Cartway Road – Roadway Erosion Repairs*
WSB Project No. 01856-450

The following recommendations are to resolve the erosion that is occurring on the Cartway Road site in Afton, MN. A site visit was completed on September 18, 2015 after a 2.5" Rainfall event and again on July 11, 2016. During the site visit it was observed that significant erosion was occurring along the inside edge of the roadway.

In addition to the erosion that is occurring along the roadway a ravine exists directly adjacent to the Cartway. The ravine is currently experiencing erosion, which could potentially impact the Cartway as erosion is expected to continue.

The following are the improvements that are recommended for this site:

1. Grade in swale (see design sketch), stabilize the inside edge of the roadway to a minimum width of 2 feet using MnDOT Class I riprap, Geotextile Filter, and Type 3 Geotextile fabric. The riprap shall extend up the bank a minimum distance of 12 inches.
2. Stabilize the bank of the roadway beyond the riprap using MnDOT 3884.B.4 Bonded Fiber Matrix and MnDOT Seed Mix 36-711 or vegetation meeting a Class B retardance factor (See attached for potential seed mixes).
3. At the downstream discharge point sediment shall be removed and a stilling basin should be installed (See attached stilling basin detail).
4. The areas adjacent to the stilling basin should be stabilized using MnDOT Seed Mix 36-711 or vegetation meeting a Class B retardance factor (See attached for potential seed mixes) and MnDOT Category 3B2S (natural net) erosion control blanket.

Attachments:

1. Design recommendations sketch
2. Permissible shear and velocity for selected lining materials
3. Classification of vegetation cover as to degree of retardance
4. MnDOT Riprap Gradations
5. Stilling Basin Location Map
6. Stilling Basin Detail

These repairs are necessary to prevent further erosion and discharge of sediments downstream.

Please let me know how I can be of further assistance as you review these recommended repairs.



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Project description Cartway Road
Task description Roadway Stabilization
Project number 1656-450
Designed by JC Checked by _____
Date 7/25/15 Page 1 of 1

Roadway Shoulder Stabilization

- Shear Stress Calculations

$$\tau = 62.4 \frac{\text{lbs}}{\text{ft}^2} \times \text{Flow Depth} \times \text{Slope (ft/ft)}$$

$$\tau = 62.4 \frac{\text{lbs}}{\text{ft}^2} \times 0.33 \text{ ft} \times 0.097$$

$$\tau = 1.99 \frac{\text{lbs}}{\text{ft}^2} ; \text{ acceptable Riprap} = 6\text{m}$$

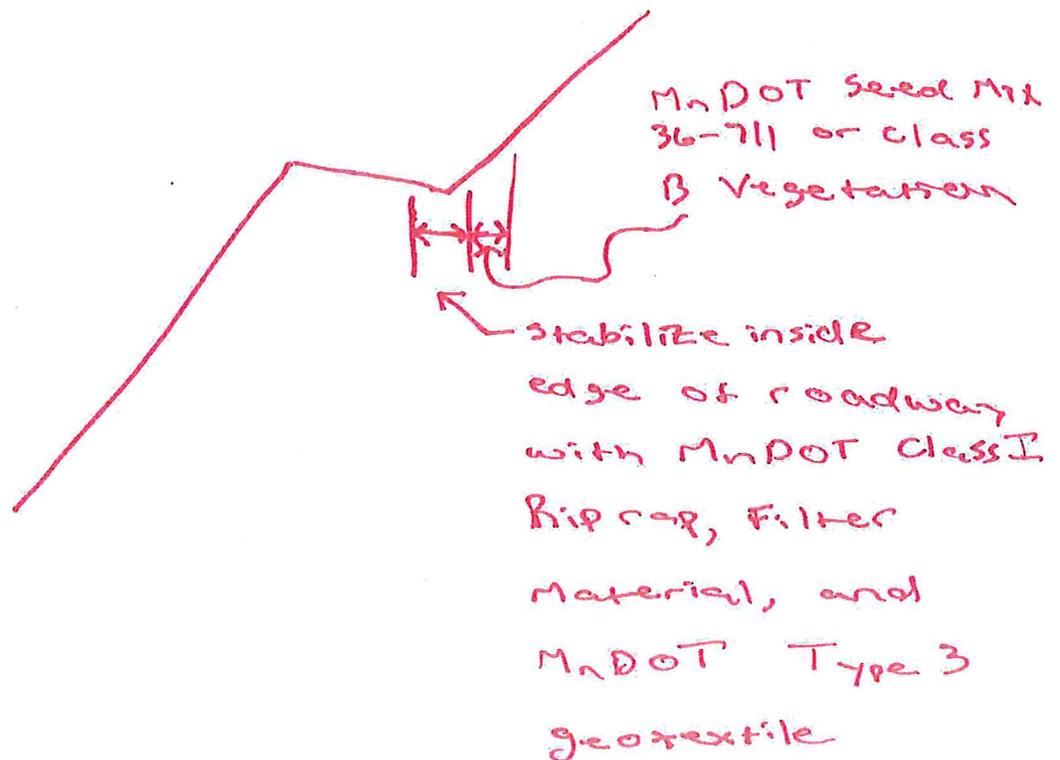


Table 2. Permissible Shear and Velocity for Selected Lining Materials¹

Boundary Category	Boundary Type	Permissible Shear Stress (lb/sq ft)	Permissible Velocity (ft/sec)	Citation(s)
<u>Soils</u>	Fine colloidal sand	0.02 - 0.03	1.5	A
	Sandy loam (noncolloidal)	0.03 - 0.04	1.75	A
	Alluvial silt (noncolloidal)	0.045 - 0.05	2	A
	Silty loam (noncolloidal)	0.045 - 0.05	1.75 - 2.25	A
	Firm loam	0.075	2.5	A
	Fine gravels	0.075	2.5	A
	Stiff clay	0.26	3 - 4.5	A, F
	Alluvial silt (colloidal)	0.26	3.75	A
	Graded loam to cobbles	0.38	3.75	A
	Graded silts to cobbles	0.43	4	A
<u>Gravel/Cobble</u>	Shales and hardpan	0.67	6	A
	1-in.	0.33	2.5 - 5	A
	2-in.	0.67	3 - 6	A
	6-in.	2.0	4 - 7.5	A
<u>Vegetation</u>	12-in.	4.0	5.5 - 12	A
	Class A turf	3.7	6 - 8	E, N
	Class B turf	2.1	4 - 7	E, N
	Class C turf	1.0	3.5	E, N
	Long native grasses	1.2 - 1.7	4 - 6	G, H, L, N
	Short native and bunch grass	0.7 - 0.95	3 - 4	G, H, L, N
	Reed plantings	0.1-0.6	N/A	E, N
	Hardwood tree plantings	0.41-2.5	N/A	E, N
<u>Temporary Degradable RECPs</u>	Jute net	0.45	1 - 2.5	E, H, M
	Straw with net	1.5 - 1.65	1 - 3	E, H, M
	Coconut fiber with net	2.25	3 - 4	E, M
	Fiberglass roving	2.00	2.5 - 7	E, H, M
<u>Non-Degradable RECPs</u>	Unvegetated	3.00	5 - 7	E, G, M
	Partially established	4.0-6.0	7.5 - 15	E, G, M
	Fully vegetated	8.00	8 - 21	F, L, M
<u>Riprap</u>	6 - in. d ₅₀	2.5	5 - 10	H
	9 - in. d ₅₀	3.8	7 - 11	H
	12 - in. d ₅₀	5.1	10 - 13	H
	18 - in. d ₅₀	7.6	12 - 16	H
	24 - in. d ₅₀	10.1	14 - 18	E
	<u>Soil Bioengineering</u>	Wattles	0.2 - 1.0	3
Reed fascine		0.6-1.25	5	E
Coir roll		3 - 5	8	E, M, N
Vegetated coir mat		4 - 8	9.5	E, M, N
Live brush mattress (initial)		0.4 - 4.1	4	B, E, I
Live brush mattress (grown)		3.90-8.2	12	B, C, E, I, N
Brush layering (initial/grown)		0.4 - 6.25	12	E, I, N
Live fascine		1.25-3.10	6 - 8	C, E, I, J
Live willow stakes		2.10-3.10	3 - 10	E, N, O
<u>Hard Surfacing</u>		Gabions	10	14 - 19
	Concrete	12.5	>18	H

¹ Ranges of values generally reflect multiple sources of data or different testing conditions.

A. Chang, H.H. (1988).	F. Julien, P.Y. (1995).	K. Sprague, C.J. (1999).
B. Florineth. (1982)	G. Kouwen, N.; Li, R. M.; and Simons, D.B., (1980).	L. Temple, D.M. (1980).
C. Gerstgraser, C. (1998).	H. Norman, J. N. (1975).	M. TXDOT (1999)
D. Goff, K. (1999).	I. Schiechl, H. M. and R. Stern. (1996).	N. Data from Author (2001)
E. Gray, D.H., and Sotir, R.B. (1996).	J. Schoklitsch, A. (1937).	O. USACE (1997).

Table 7-4 Classification of vegetation cover as to degree of retardance

Retardance	Cover	Condition
A	Weeping lovegrass	Excellent stand, tall (average 30 in)
	Reed canarygrass or Yellow bluestem <i>ischaemum</i>	Excellent stand, tall (average 36 in)
B	Smooth brome grass	Good stand, mowed (average 12 to 15 in)
	Bermudagrass	Good stand, tall (average 12 in)
	Native grass mixture (little bluestem, blue grama, and other long and short midwest grasses)	Good stand, unmowed
	Tall fescue	Good stand, unmowed (average 18 in)
	Sericea lespedeza	Good stand, not woody, tall (average 19 in)
	Grass-legume mixture—Timothy, smooth brome grass, or orchardgrass	Good stand, uncut (average 20 in)
	Reed canarygrass	Good stand, uncut (average 12 to 15 in)
	Tall fescue, with birdsfoot trefoil or ladino clover	Good stand, uncut (average 18 in)
	Blue grama	Good stand, uncut (average 13 in)
C	Bahiagrass	Good stand, uncut (6 to 8 in)
	Bermudagrass	Good stand, mowed (average 6 in)
	Redtop	Good stand, headed (15 to 20 in)
	Grass-legume mixture—summer (orchardgrass, redtop, Italian ryegrass, and common lespedeza)	Good stand, uncut (6 to 8 in)
	Centipede grass	Very dense cover (average 6 in)
	Kentucky bluegrass	Good stand, headed (6 to 12 in)
D	Bermudagrass	Good stand, cut to 2.5-in height
	Red fescue	Good stand, headed (12 to 18 in)
	Buffalograss	Good stand, uncut (3 to 6 in)
	Grass-legume mixture—fall, spring (orchardgrass, redtop, Italian ryegrass, and common lespedeza)	Good stand, uncut (4 to 5 in)
	Sericea lespedeza or Kentucky bluegrass	Good stand, cut to 2-in height. Very good stand before cutting
E	Bermudagrass	Good stand, cut to 1.5-in height
	Bermudagrass	Burned stubble

Table 7-5 Retardance curve index by retardance class

SCS retardance class	Retardance curve index C_1
A	10.0
B	7.64
C	5.60
D	4.44
E	2.88

Table 3601-1 Random Riprap Gradation Requirements						
Weight, lb [kg]	Size, in [mm]*	Approximate Percent of Total Weight Smaller than Given Weight				
		Class of Riprap				
		I	II	III	IV	V
2,000 [900]	30 [750]	—	—	—	—	100
1,000 [450]	24 [600]	—	—	—	100	—
650 [300]	21 [525]	—	—	—	—	75
400 [180]	18 [450]	—	—	100	—	—
250 [113]	15 [375]	—	—	—	75	50
120 [55]	12 [300]	—	100	75	50	—
50 [22]	9 [225]	—	75	50	—	—
15 [7]	6 [150]	100	50	—	—	10
5 [2]	4 [100]	—	—	—	10	—
2 [1]	3 [75]	50	—	10	—	—
—	2 [50]	—	10	—	—	—
—	1 [25]	10	—	—	—	—

* Weight to size conversion based on a specific gravity of 2.60 and a volume average between a sphere and cube

B Filter Material

B.1 Granular Filter

Provide granular filter material in accordance with 3149, "Granular Material," and the following gradations:

B.1.a Under Class I Random Riprap..... 3149.2G

B.1.b Under Other Riprap, Gabion, and Revet Mattress..... Table 3601-2

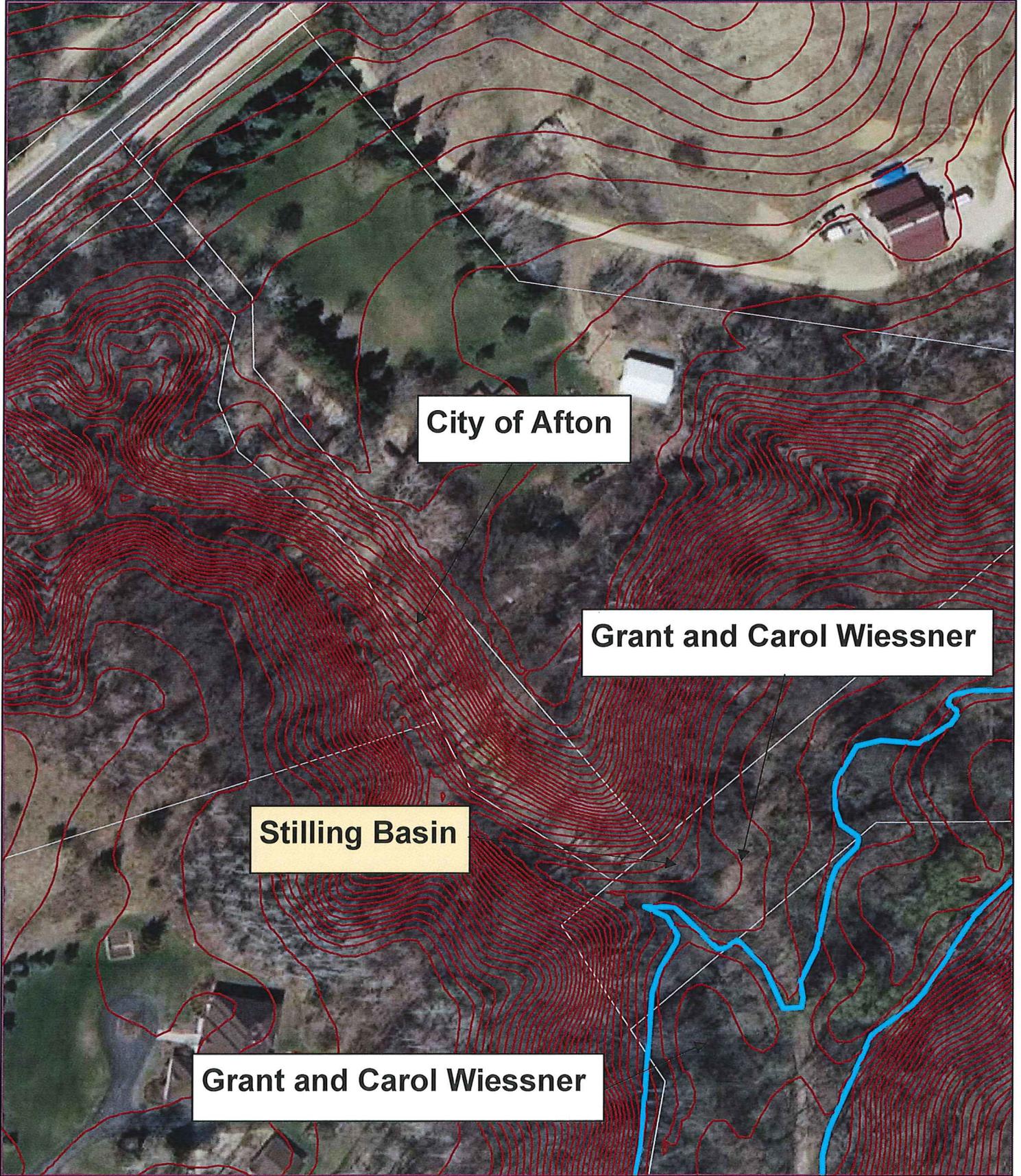
Table 3601-2 Granular Filter Material	
Sieve Size	Percent Passing by Weight
6 in [150mm]	100
3 in [75 mm]	75 – 95
1 in [25 mm]	35 – 75
No. 4 [4.75 mm]	10 – 40
No. 10 [2.0 mm]	5 – 25
No. 40 [425 µm]	0 – 10
No. 200 [425 µm]	0 – 5

B.2 Geotextile Filter..... 3733

3601.3 SAMPLING AND TESTING

The Department will inspect the material for compliance to the requirements of this section. Obtain the Engineer's approval of the quality of the stone before delivering the stone to the project. The Engineer will inspect the stone for compliance to the gradation requirements after delivery of the stone to the project.

The Engineer will visually check riprap gradations. If the Contractor disagrees with the results of the Engineer's visual check, the Engineer will test the gradation based on weight. The gradation of random riprap must be within 10 percent of the percentages in Table 3601-1.



City of Afton

Grant and Carol Wiessner

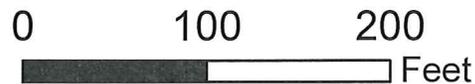
Stilling Basin

Grant and Carol Wiessner



-  Shoreland Management Area
-  100-Year Floodplain
-  Lakes & Rivers
-  Parcel Boundary
-  Roads

**City of Afton
Cartway Road**



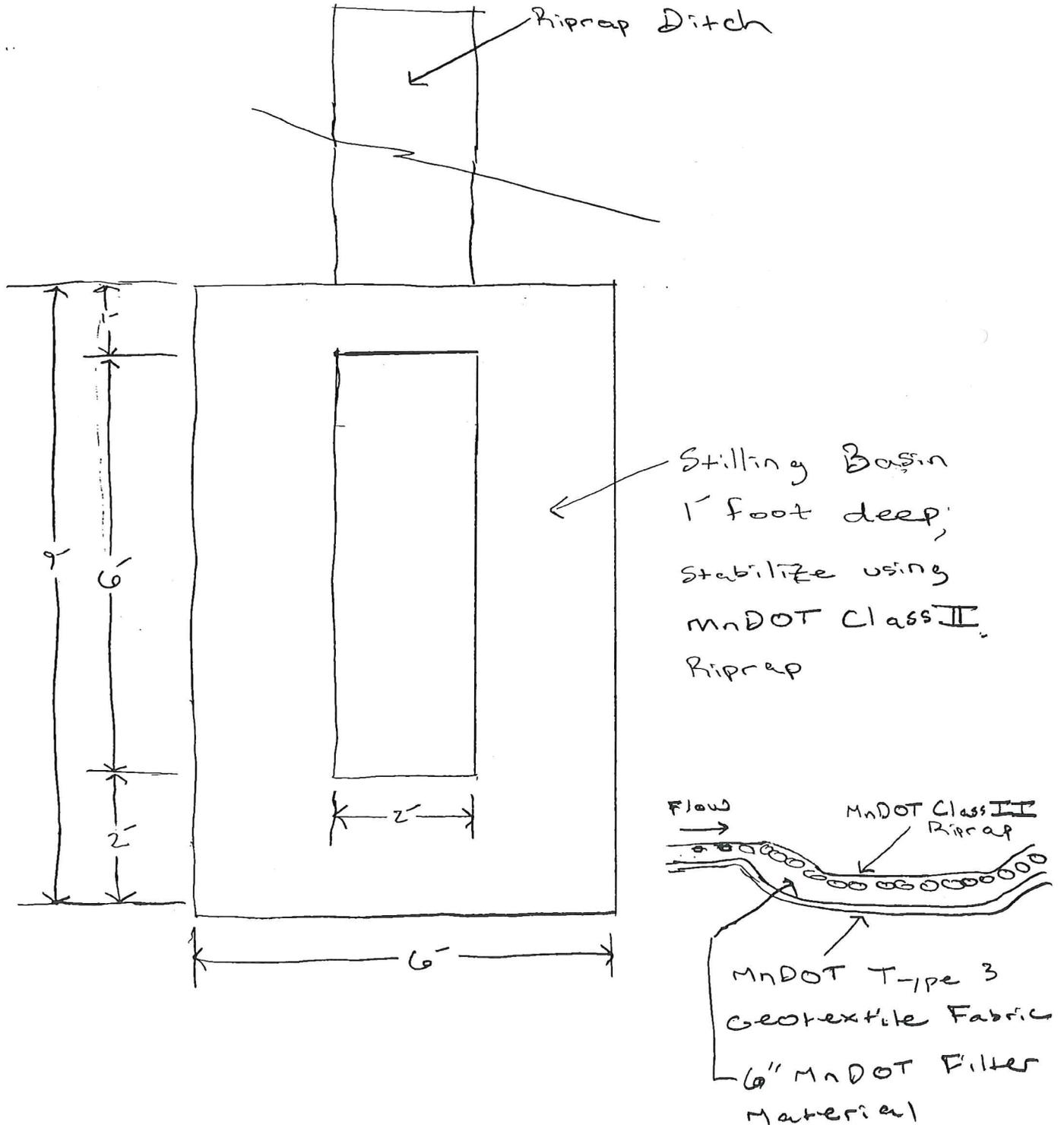


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Project description Cartway Flood
Task description Stilling Basin
Project number 256-430
Designed by JC Checked by _____
Date 9/28/15 Page 1 of 1

Stilling Basin



9.C.9

City of Afton
3033 St. Croix Trl, P.O. Box 219
Afton, MN 55001

Meeting Date July 19, 2016

Council Action Memo

To: Mayor Bend and Members of the City Council
From: Ron Moore, City Administrator
Date: July 19, 2016
Re: New Temporary Health Care Dwelling Statute - **Supplemental**

Attached is the ordinance language that allows a manufactured home in the A, AP, and RR zoning districts as a temporary accessory dwelling unit for the care of an inform family member.

Sec. 12-213. Manufactured homes.

A. Compliance. No person shall park or occupy a manufactured home on the premises of a lot with any occupied dwelling or on any land in the City except as provided for in this section.

* B. Care facilities. A manufactured home may be permitted in an A, AP or RR zoning district if the Zoning Administrator finds the following conditions are satisfied:

1. The manufactured home will be a temporary accessory dwelling unit to be occupied by persons who are:

a. Infirm to the extent that they require extraordinary care;

b. That such care can only be provided, without great economic hardship, by family members residing in the principal dwelling on the premises; and

c. The infirmity and the need for care required by Subsections A and B of this Subsection shall be shown by written statement of a physician.

2. The Administrative Permit is so conditioned that it will expire and terminate at such time as the care facility is no longer the residence of the person suffering from the infirmity who requires such care, or at such time as such care is no longer required.

3. At the time of termination of the Administrative Permit, the manufactured home care facility shall be removed from the premises within 30 days.

4. The Administrative Permit is so conditioned so as to be reviewed annually by the Zoning Administrator.

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Meeting Date July 19, 2016

Council Memo

To: Honorable Mayor Bend and Members of the City Council
From: Ron Moorse, City Administrator
Date: July 19, 2016
Re: Funding for the Natural Resources and Groundwater Committee Well Testing Program

The Natural Resources and Groundwater Committee is proposing to continue the well testing program that was in place in past years. The program includes the testing of approximately 40 well water samples both in the spring and in the fall. The cost of the testing is \$12.80 per sample. The cost for testing 80 samples would be \$1,024. The General Fund Budget includes \$1,000 for well testing.

Council Action Requested

Motion regarding authorizing the expenditure of \$1,024 for the well testing program.