

Minnehaha Creek Watershed District

REQUEST FOR BOARD ACTION

MEETING DATE: August 13, 2015

ITEM TYPE: Action Consent Discussion

TITLE: Authorization of Cost Share Funding – 2015 Homeowner BMP Cost Share Projects

RESOLUTION NUMBER: 15-069

PREPARED BY: Brett Eidem

E-MAIL: beidem@minnehahacreek.org

TELEPHONE: (952) 641-4523

REVIEWED BY: Administrator Counsel Program Mgr: Telly Mamayek
 Board Committee Engineer Other

WORKSHOP ACTION:

<input checked="" type="checkbox"/> Advance to Board mtg. Consent Agenda	<input type="checkbox"/> Advance to Board mtg. Consent Agenda with changes
<input type="checkbox"/> Advance to Board mtg. for more discussion	<input type="checkbox"/> Refer to a future workshop (date): _____
<input type="checkbox"/> Return to staff for additional work	<input type="checkbox"/> Refer to taskforce or committee (date): _____
<input type="checkbox"/> No further action requested.	<input type="checkbox"/> Advance to CAC mtg. for recommendation

PURPOSE or ACTION REQUESTED:

- 1) Authorize the administrator to execute a cost-share funding and maintenance agreement, with provision for appropriate signage, for the Walter Residence project, providing reimbursement of 75 percent of the documented costs for construction of stormwater BMP's, not to exceed \$7,500, contingent on final approval by cost-share program staff of a landscape design plan for the project;
- 2) Authorize the administrator to execute a cost-share funding and maintenance agreement, with provision for appropriate signage, for the McGary Property project, providing reimbursement of 75 percent of documented costs of construction of stormwater BMPs, not to exceed \$10,000, contingent on final approval by cost-share program staff of a landscape design plan for the project.

PROJECT/PROGRAM COST:

Fund name and number:	Cost Share Grant Program (4005)
Current grant budget:	\$832,000
Amount approved in 2015 to date:	\$666,462.37
Requested amount of funding:	75 percent of the documented costs of each of the two projects listed in the attached document, not to exceed \$7,500 for the Walter Residence project, and \$10,000 for the McGary two-property project, for a total of \$17,500.

PROJECT/PROGRAM LOCATION:

Dave and Kara Walter- 5024 Bruce Ave, Edina
John McGary- 3850 Day La AND 19350 Park Ave, Deephaven

**DRAFT for discussion purposes only and subject to Board action and the availability of funds.
Resolutions are not final until approved by the Board and signed by the Board Secretary.**

PROJECT TIMELINE:

Summer/Fall 2015

PROJECT SUMMARIES:

In 2015, the Cost Share Program was re-structured with an effort to encourage larger projects, both with residential and non residential partners. The two projects below involve multiple BMP's being implemented on an individual property in an effort to manage stormwater that would otherwise go offsite. At the July 8, 2015 Citizens Advisory Committee meeting, the CAC provided a recommendation for approval of funding the two projects in the amount requested by staff. According to the current program framework, applications recommended for funding that exceed the homeowner cap amount require Board authorization.

Dave and Kara Walter- 5024 Bruce Ave, Edina

Homeowners Dave & Kara Walter purchased the property in 2014 with the intentions of renovating and preserving a classic home in Edina along Minnehaha Creek. Renovations to the home will be completed in September 2015. There is approximately 335 feet of shoreline on the property. The property is elevated above the creek by as much as 20' at grade. The rains and flood of June 2014 suggested that more attention should be paid to storm water management and capture on site prior to going in the creek.

The project involves strategic placement of two rain gardens on the north and south sides of the property. Storm water catch basins and drain tile will direct water into the rain gardens. The raingardens will be able to capture and infiltrate the first inch of rain from about 2,500 sf of impervious surface. The project also involves strategic placement of natural vegetative materials and trees both evergreen and deciduous to aid in stream bank stabilization. The plant materials were also selected to create a more natural habitat along the creek with specific pollinator plants for the bee population. The project looks to capture a majority of the site storm water runoff, while reducing erosion and promoting infiltration along the entire creek. The proposed design will be restoring 154' of the streambank above the existing rip rap with a 20' buffer of native vegetation. This particular part of the Master Plan project is in the flood plain and particular attention is being paid to doubling up the silt fences with a 6" separation for maximum protection of the creek during the planting of all plant material. No grading will occur in this area therefore there will be no net gain in soil in the floodplain.

This grant request is a direct response to a stream bank restoration presentation given by District staff to the Arden Park neighborhood gathering at the end of May and a subsequent review on site by staff to review the merits of this project and the vitality of this section of the creek. It will be great to get a demonstration project in this section of the creek, where there is sustained outreach by Master Water Stewards and the Edina Environmental Commission. This is also a neighborhood of Edina that the city is incorporating their living streets policy, and where the city has partnered with the District on incorporating stormwater management throughout the road reconstruction.

The total cost of design, materials and construction for the two raingardens and the streambank stabilization is \$31,316.41. Staff is recommending funding 75% of the project costs, not to exceed the homeowner cap of \$2,500 for the two raingardens and \$5,000 for the streambank stabilization, not to exceed a total dollar amount of \$7,500 in grant funding for the entire project.

John McGary, 3850 Day La AND 19350 Park Ave, Deephaven

John McGary got the information about the cost share program from the 'Nextdoor Deephaven' social media post from our current CAC member Brian Girard. John contacted District staff this spring and discussed his intentions for a new driveway for the two properties he owns adjacent to each other, which happen to also be directly adjacent to Deephaven Beach, and which drain directly into Lake Minnetonka. Seeing a large opportunity for both water quality improvement and demonstration of stormwater BMPs, staff walked both properties and brainstormed ideas with John on what the stormwater retrofit could look like. John, who works for Lucid Builders, sees this project as a great opportunity to walk the walk and use his own property as a demonstration to promote these practices within the Builders Association. The proposed plan includes two raingardens capturing a majority of the runoff from the new driveway in the front yards. There are a total of 7

rain barrels proposed to capture roof runoff from the homes, as well as 2 raingardens in the backyard capturing overland flow runoff that has overtime caused erosion and sedimentation at the trail near the beach just downhill from the site. There is also a large proposed restoration of the buffer area between the property and the beach. The city has given John the ability and authority to manipulate all but the last 10' of this 25-30' vegetated slope that is the last chance to filter runoff and minimize erosion before the overland flow would drain across the path to the Deephaven Beach. It is currently semi-vegetated with buckthorn and a few other tree species, where Johns proposed plan includes more native plants and shrubs to cover more of the ground. The approximate drainage that could be captured and filtered through the proposed project is around 40,000 sf, which is more comparable to an alleyway or church project than a majority of our homeowner projects. About 1/3 of the runoff is impervious surface, but there is visible erosion near the Beach from this overland flow. Staff would like to approve funding for the project, but further develop a partnership with both the homeowner and the city. Staff intends to work with the city on the potential to completely restore this buffer area, and add site specific educational signage just off the trail near the public beach.

The total cost for the raingarden excavation, rainbarrels, drain tile, restoration work and plants comes to a total of \$48,328. Staff recommends funding 75% of the project, not to exceed \$5,000 for each of the two properties, not to exceed a total dollar amount of \$10,000. Staff will work with legal counsel, the city and the homeowner to create a holistic project and create an agreement that allows John to maintain the BMPs on both properties, and hopefully expand the restoration project to the bottom of the slope near the city land and beach.

STAFF RECOMMENDATION

The individual homeowners listed in the attached document have a staff and CAC recommendation for funding of 75 percent of the eligible costs for their projects from the Cost Share contingent on a signed grant and maintenance agreement that includes a landscape design plan that is mutually agreed upon by the Cost Share recipients and District staff and provision for signage.

Staff recommends funding the projects listed in the attached document at the above amount.

ATTACHMENTS:

1. Dave and Kara Walter Project Plans
2. John McGary Project Plans
3. All Cost Share Projects Recommended for Funding by CAC Memorandum

RESOLUTION

RESOLUTION NUMBER: 15-069

TITLE: Authorization of Cost Share Funding – 2015 Homeowner BMP Cost Share Projects

WHEREAS, the Cost Share Program was established by the MCWD to provide funding to property owners to design and install best management practices that will provide educational value as well as reduce the volume and increase the quality of stormwater flowing offsite; and

WHEREAS, Dave and Kara Walter and John McGary have submitted proposals for grant funding for the construction of stormwater best management practices,

WHEREAS, the MCWD 2015 budget includes funds for the Cost Share Program which has \$132,712.50 currently available; and

WHEREAS, the above proposals were reviewed by the Citizen Advisory Committee (CAC) on July 8, 2015, and the CAC has recommended approving the proposals and funding in the amount requested; and

WHEREAS, a summary of approved 2015 Homeowner Cost Share projects and funding amounts was included in the August 13, 2015 Board of Managers meeting packet information; and

WHEREAS, MCWD staff has reviewed the proposals and the CAC's comments and recommendations, and finds the proposals to be consistent with the goals of the Cost Share Program and recommends funding each of the two projects listed in the attached document, not to exceed \$7,500 for the Walter Residence project, and \$10,000 for the McGary two-property project, for a total of \$17,500; and

NOW, THEREFORE, BE IT RESOLVED, that the MCWD Board of Managers authorizes the administrator to execute, on advice and consent of counsel, a cost-share funding and maintenance agreement, with provision for appropriate signage, for the Walter Residence project, providing reimbursement of 75 percent of the documented costs for construction of stormwater BMP's, not to exceed \$7,500, contingent on final approval by cost-share program staff of a landscape design plan for the project;

NOW, THEREFORE, BE IT FURTHER RESOLVED that the MCWD Board of Managers authorizes the administrator to execute, on advice and consent of counsel, a cost-share funding and maintenance agreement, with provision for appropriate signage, for the McGary Property project, providing reimbursement of 75 percent of documented costs of construction of stormwater BMPs, not to exceed \$10,000, contingent on final approval by cost-share program staff of a landscape design plan for the project.

Resolution Number 15-069 was moved by Manager _____, seconded by Manager _____.
Motion to adopt the resolution ___ ayes, ___ nays, ___ abstentions. Date: _____.

Secretary Date: _____

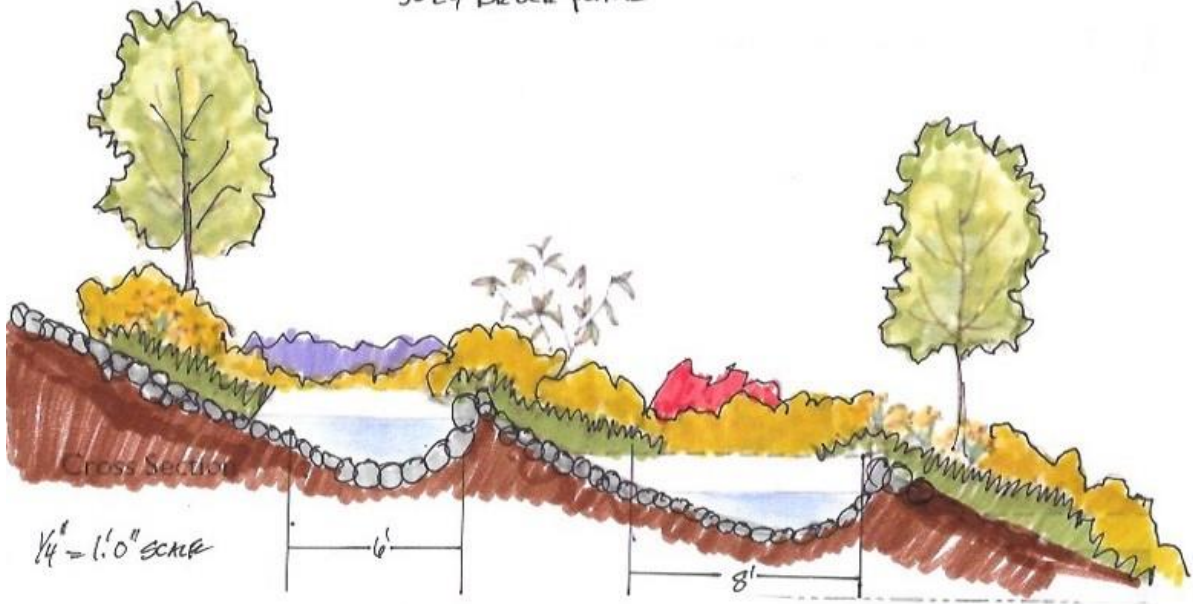
**DRAFT for discussion purposes only and subject to Board action and the availability of funds.
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NINNEKAH BLDG RENOVATION
 SOUTH BEND PARKS
 DIVISION, NINNEKAH, OHIO
 SCALE: 1/8" = 1'-0"


38' APPROX
DRY CREEK + BASIN 24" BORDERS W/ 2" RIVER ROCK ON TOP

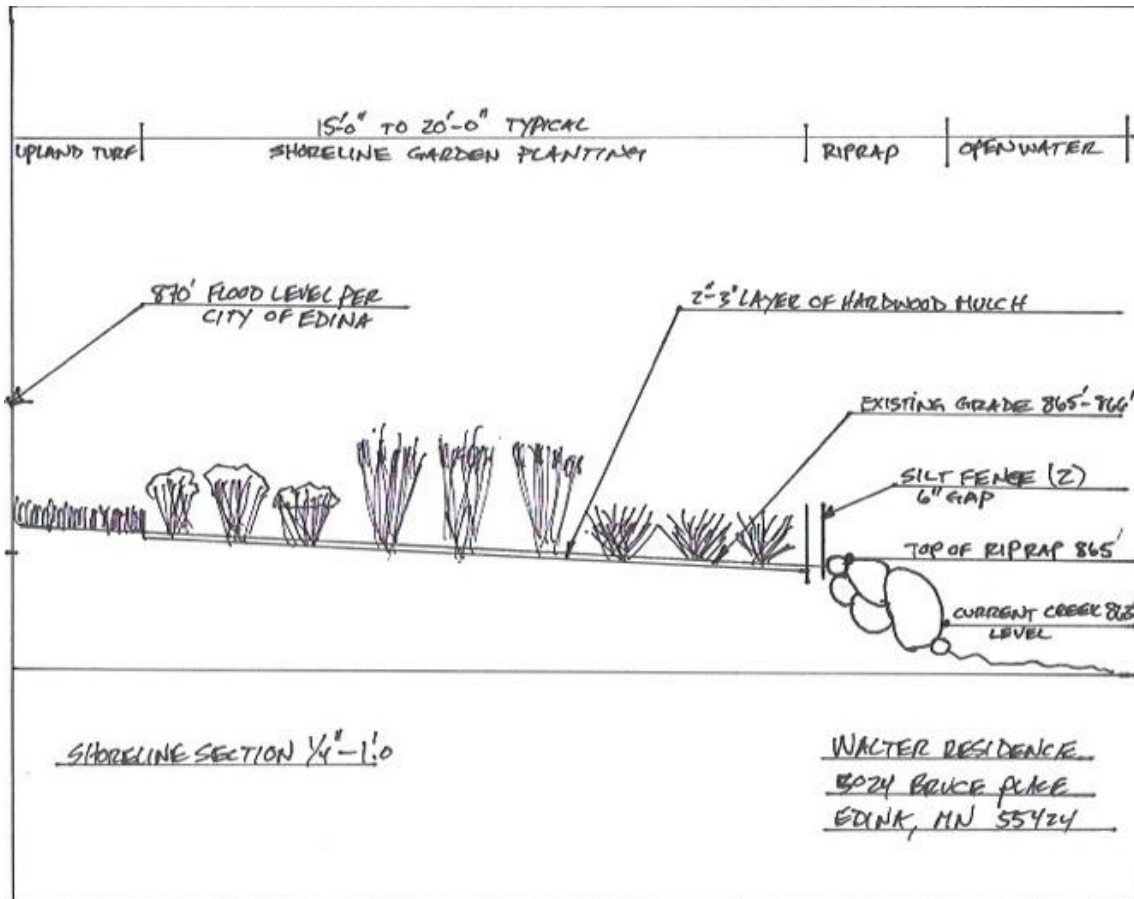
RAIN GARDEN
CONCEPT
5024 BRUCE PLACE





SHORELINE/CRACK BED
FURNISHING GUIDE - FOR FOOD PLANT
Scale 3/8" = 1'-0"

- WATER RESISTANCE
- SOIL RESISTANCE
- EROSION CONTROL



Kara & Dave Walter
 5024 Bruce Place
 Edina, MN. 55424



**LANDSCAPE Estimate Minnehaha
 Watershed District Grant Request:
 Shoreline & Stream bank Stabilization**

Attention: Brett Eidem
 Cost Share Grant Administrator

George Prine, Designer DATE: July 2, 2015

SCOPE OF WORK

We are grateful for the opportunity to present a landscape design solution for your entire property that is creative yet working in harmony with the architecture of your home, your lifestyle and the natural environment. Our primary focus is creating greater creek side stabilization and a more natural habitat. I'm confident that our artisans will achieve a finished look that will exceed your expectations.

SITE PREPARATION	QTY	COST	TOTAL
Install a silt fence along the projected stream bank the is doubled up with a 6" gap between silt fences. Installed.	400	\$ 2.75	\$ 1,100.00
Mulch- Premium dark brown mulch installed	11	\$ 90.00	\$ 990.00
		TOTAL	\$ 2,090.00

PLANT MATERIAL DESCRIPTION	SIZE	QTY	COST	TOTAL
Abies balsamea Balsam Fir	7'	6	\$ 439.00	\$ 2,634.00
Acer Freemanni Autumn Blaze Maple	2"	3	\$ 459.00	\$ 1,377.00
Nepeta Purrsian Blue	#1	105	\$ 9.99	\$ 1,048.95
Panicum Shenandoah Switchgrass	#1	116	\$ 9.99	\$ 1,158.84
Echinacea Raspberry Truffle	#1	27	\$ 15.99	\$ 431.73
Monarda Purple Rooster	#1	15	\$ 9.99	\$ 149.85
Echinacea Ruby Star	#1	7	\$ 9.99	\$ 69.93
Liatris Kobold	#1	14	\$ 9.99	\$ 139.86
		PLANT SUB-TOTAL	\$	7,010.16
		Delivery Fees	\$	300.00
		Tax	\$	545.04
		PLANT TOTAL	\$	7,855.20

DESIGN & LABOR	QTY	COST	TOTAL
Plant Material installation	1	\$ 3,280.00	\$ 3,280.00
Designer on site management	15	\$ 90.00	\$ 1,350.00
		SUB-TOTAL	\$ 4,630.00

PROJECT ESTIMATE	\$ 14,575.20
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NOTE: DIG Garden Design is not responsible for any damage to unmarked underground utilities, invisible dog fences, cables or phone lines.

Project Total \$ 14,575.20

Kara & Dave Walter
5024 Bruce Place
Edina, MN. 55424



LANDSCAPE Estimate Minnehaha Watershed District Grant Request **RAIN GARDENS**

George Prine, Designer

DATE: July 2, 2015

SCOPE OF WORK

We are grateful for the opportunity to present a landscape design solution for your entire property that is creative yet working in harmony with the architecture of your home, your lifestyle and the natural environment. Our primary focus is creating an enhanced sense of arrival to the back yard. Creating two rain gardens to capture storm water runoff above the flood plain and a creek side stabilization and natural habitat that is more natural. I'm confident that our artisans will achieve a finished look that will exceed your expectations.

SITE PREPARATION for Rain Gardens	QTY	COST	TOTAL
Site grading for foundational soil disbursement above the flood plain. Berming of the rain garden to the south and digging out for rain garden above the creek. (Note all work above flood plain and does not require permit)	1	\$ 1,800.00	\$ 1,800.00
Mulch- Premium dark brown mulch installed	15	\$ 90.00	\$ 1,350.00
		TOTAL	\$ 3,150.00

DRY CREEK BED FOR STORM WATER MGMT..	QTY	COST	TOTAL
Construct a dry creek bed for storm water managements as designed. Create 2 basins for overflow pooling. Several 24" -30" boulders for construction and filled with 4"-6" rock with smaller river rock on top.	1	\$ 2,200.00	\$ 2,200.00

PLANT MATERIAL DESCRIPTION	SIZE	QTY	COST	TOTAL
Creek side Rain Garden and Dry Creek				
Pinus Strobus Fastigiata	#10	8	\$ 199.00	\$ 1,592.00
Taxus cuspidata Nova yews	#7	5	\$ 89.00	\$ 445.00
Hosta Stained glass	#1	15	\$ 11.99	\$ 179.85
Nepeta Purrsian Blue	#1	15	\$ 9.99	\$ 149.85
Astilbe Deep red	#1	9	\$ 9.99	\$ 89.91
Salvia May Night	#1	9	\$ 9.99	\$ 89.91
Populus Quaking Aspen	1.5"	3	\$ 299.00	\$ 897.00
Joe Pye weed	#1	5	\$ 9.99	\$ 49.95
			sub-total	\$ 3,493.47

SIDE YARD				
Abies balsamea Balsam Fir	7'	3	\$ 459.00	\$ 1,377.00
Acer platanoides Emerald Lustre Norway Maple	2"	3	\$ 429.00	\$ 1,287.00

sub-total \$ 2,664.00

PLANT SUB-TOTAL \$ 6,157.47
Delivery Fees \$ 300.00
Tax \$ 478.74

PLANT TOTAL \$ 6,936.21

DESIGN & LABOR	QTY	COST	TOTAL
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Plant Material installation	1	\$ 3,105.00	\$ 3,105.00
Designer on site management	15	\$ 90.00	\$ 1,350.00

SUB-TOTAL \$ 4,455.00

PROJECT ESTIMATE			\$ 16,741.21
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NOTE: DIG Garden Design is not responsible for any damage to unmarked underground utilities, invisible dog fences, cables or phone lines.

Project Total \$ 16,741.21

Cost Share Grant Evaluation Form
Homeowner Grant

Name of Reviewer: _____ Brett Eidem _____
 Date Reviewed: _____ 7-3-15 _____

Applicant: Dave and Kara Walter
Project: 5024 Bruce Place, Edina
Amount Requested: \$7,500

Homeowner/Residential Grant: must be designed to produce greater public awareness of ways to improve water quality.

Organization Type: H.O.		
Are the Goals of Project Clearly Outlined? Yes. To capture runoff and stabilize the streambank while renovating a house.		
Past History: Has the applicant applied before? No		
<i>Project Design (50pts)</i>		
Notes: A home renovation on a lot with 300' of streambank. Promoting a natural stabilization above existing rip rap, and capturing nearly the entire existing home runoff through raingardens. Detailed budget, entire site design, maintenance included by designer.	20 /20	Water Resource Improvement to MCWD
	0 /5	Innovative Design
	5 /5	Budget Detail
	10 /10	Entire Site Concept Design
	5 /10	Maintenance Plan
Project Design Total:		45 /50
<i>Education & Outreach (40 pts)</i>		
Notes: The homeowners are willing to put up educational signage and promote clean water in their community. BMPs visible in front yard and backyard, aligning with District initiatives in Edina.	15 /20	Outreach Techniques
	15 /20	Visibility of Demonstration
Education & Outreach Total:		30 /40
<i>Water Resource Prioritization (10 pts)</i>		
Notes: Project is in SLP, and within 2 miles of Reach 20, but not adjacent to any waterbodies or high value natural resources. It will be great to have another homeowner demonstration in SLP.	5 /10	Alignment with District Priorities
Water Resource Prioritization Total:		5 /10
<i>Shoreline/Streambank Restoration (10 pts)</i>		
Shoreline/Streambank Restoration Total:		10 /10
Total:		90 /110
100 -90pts 75% Funding	The proposal is among the very best; it exceeds expectations in many areas, was very clearly presented, is an excellent match for this funding, and should be funded. Potential for up to 75% funding, not to exceed \$2,500 for BMP, \$5,000 for shoreline/streambank *Additional funding may be available based on extraordinary or well-beyond-standard water quality improvements or education/outreach components.	
89-75 pts 50% Funding	The proposal is generally strong and is a good match for this funding. If enough funding is available, this proposal should be funded. A few concerns might need to be addressed. Potential for up to 50% funding, not to exceed \$2,500 for BMP, \$5,000 for shoreline/streambank	
74-50 pts Needs Further Development	The proposal has some strengths but also several problem areas. Areas of concern would need to be addressed before further consideration of funding for this proposal.	
49-0 pts Does Not Qualify	This proposal is quite weak in many of the important areas. Concerns preclude recommendation of funding for this proposal.	
<i>Reporting</i>	*Required Annual Reporting <ul style="list-style-type: none"> - Inspection Form - Description and location of outreach techniques used - Number of people engaged and educated on the project - Has the project and outreach initiated other efforts on improving water quality and awareness 	

Comments and Notes: Great demonstration in an area where the District has been working with MWS to promote these practices to compliment the Districts partnership with the city of Edina. It is important to see these practices installed and have demonstrations to host other events to gain momentum to create a community impact on how people perceive both their streambanks and home remodels.

Cost Share 2015 Detailed Evaluation Criteria

Homeowner Grant Evaluation Criteria

Project Design- 50 Points

- Water Resource Improvement to MCWD (cost benefit)
 - o Proposed project captures greater than 50% of site runoff
 - o Reduces flow, promotes infiltration, reduces erosion
 - o Creates habitat and promotes pollinator plants
- Innovation- something we haven't funded before, innovative use of stormwater BMPs, first of its kind in the region/state, multi-functionality, re-use system
- Budget- Detailed cost estimate of project (construction and outreach efforts)
- Entire Site Concept Design- A concept diagram showing where all of the stormwater drains off the site
- Maintenance- having a detailed maintenance plan and recommended schedule

Education and Outreach- 40 Points

- Outreach Techniques
 - o Educational Signage
 - o Host an Event- block party, raingarden workshop, celebration with tour of BMPs onsite
 - o Innovative outreach techniques- use of social media, promotion of stormwater management
- Visibility of demonstration and Ed opportunities to the public
 - o Does the project encourage community involvement or community service by neighbors or other organizations

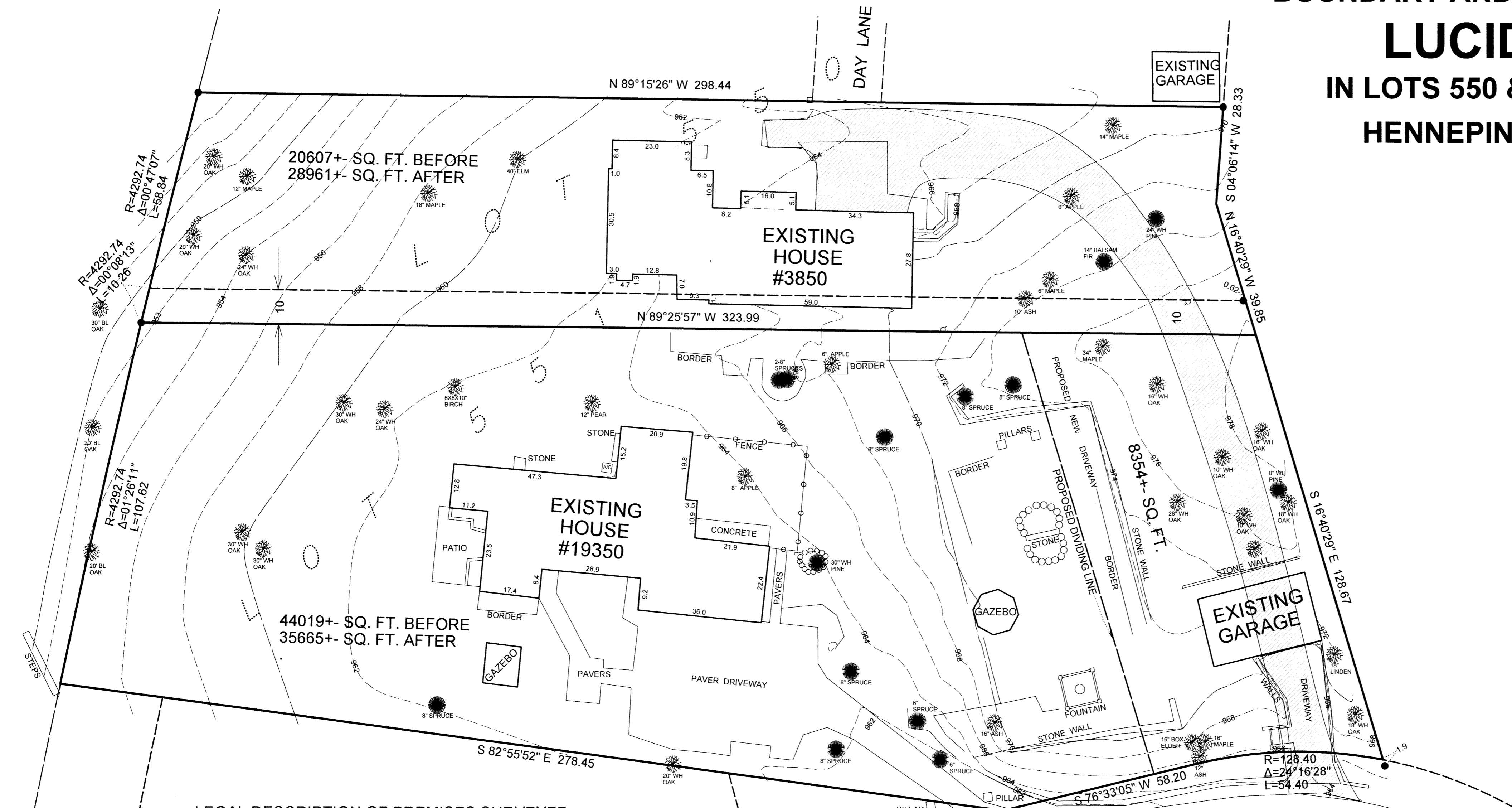
Water Resource Prioritization- 10 Points

- Proximity to Focal Geography of MCWD Initiatives
 - o How can the project complement other District initiatives/future projects
- Proximity to an impaired waterbody
 - o How does the project address impairments
- Protection of high value resource

Shoreline/Streambank Restoration- 10 Points

- Additional 10 points for biological and bioengineered shoreline/streambank projects, which are uniquely difficult and which the MCWD particularly wishes to encourage

**LOT LINE REARRANGEMENT AND
BOUNDARY AND TOPOGRAPHIC SURVEY FOR
LUCID BUILDERS
IN LOTS 550 & 551, DEEPHAVEN PARK
HENNEPIN COUNTY, MINNESOTA**

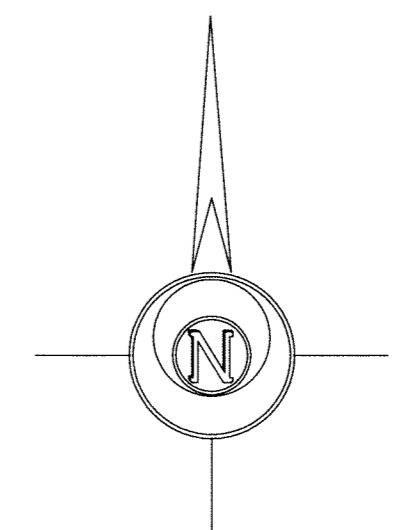
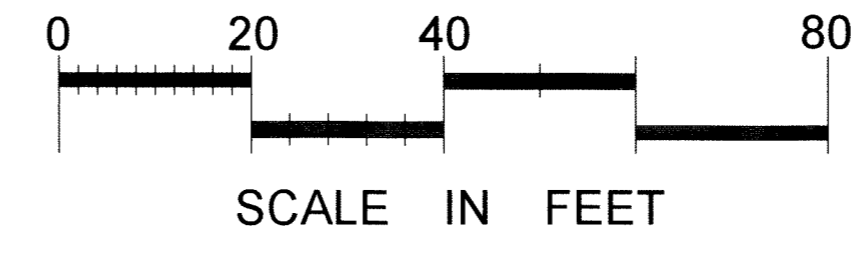


LEGAL DESCRIPTION OF PREMISES SURVEYED:
NORTH PARCEL #3850
 That part of Lot 551 lying South of the North 10 feet thereof,
 "DEEPHAVEN PARK", Hennepin County, Minnesota,
SOUTH PARCEL #19350
 Beginning at the southwest corner of Lot 550; thence northerly
 along the westerly line of said lot 550 a distance of 59.00 feet;
 thence easterly, parallel with the south line of said Lot 550 a
 distance of 298.45 feet to the easterly line of said Lot 550; thence
 southerly along said easterly line 58.4 feet to the southeasterly
 corner of said Lot 550; thence westerly along said south line
 318.4 feet to the point of beginning, AND the North 10 feet of
 Lot 551, all in "DEEPHAVEN PARK", Hennepin County, Minnesota.

This survey shows the boundaries of the above described
 property, based on legal descriptions supplied by others,
 topography of said property, and the location of all
 buildings thereon. It does not purport to show any other
 improvements or encroachments.

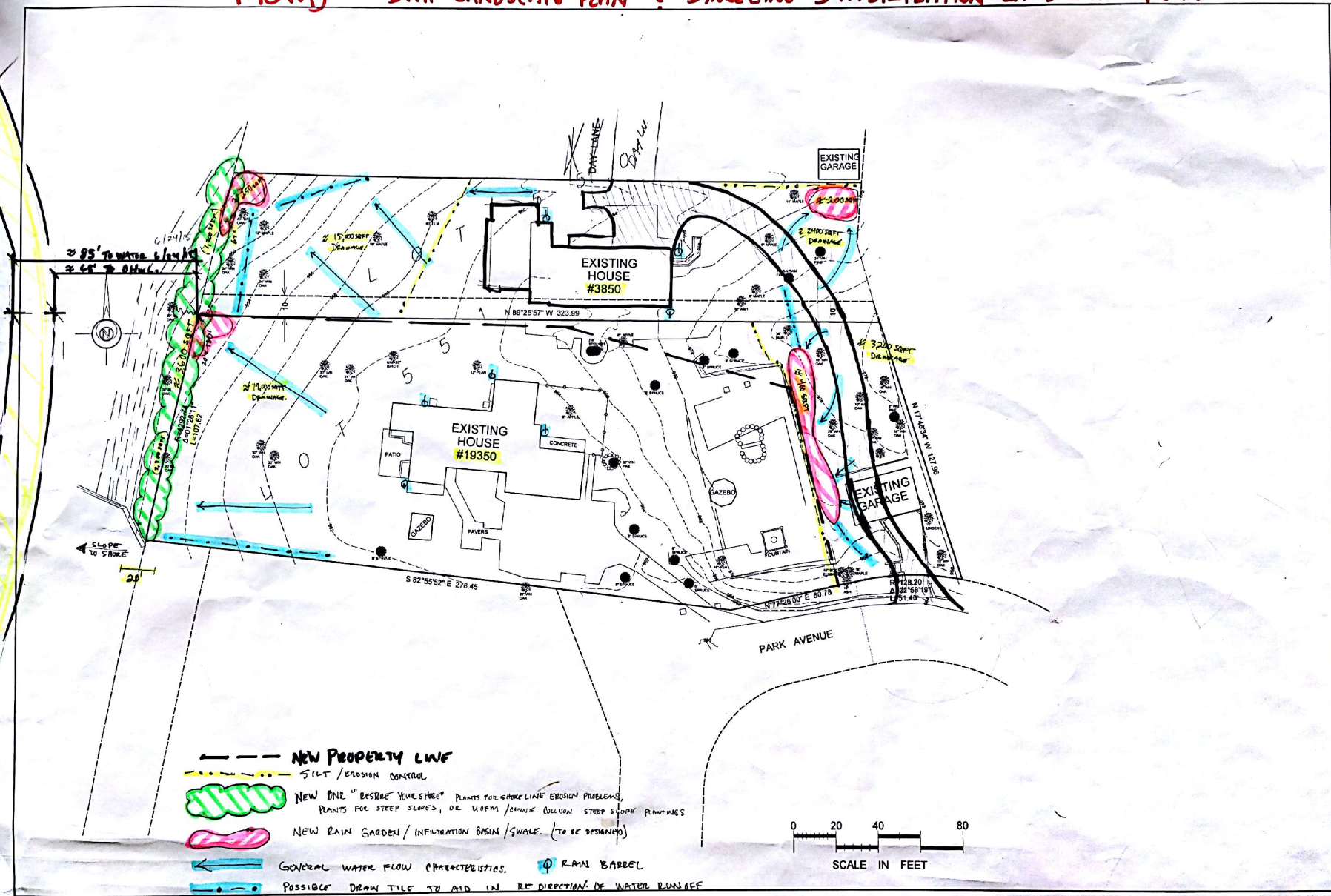
- : Iron marker found
- : Iron marker set
- - - : Existing contour line

NOTE: Accuracy of hardcover location, and extent of
 additional hardcover is limited by ice and snow cover.



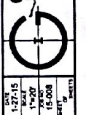
GRONBERG & ASSOCIATES, INC.	
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS 445 N. WILLOW DRIVE LONG LAKE, MN 55356 PHONE: 952-473-4141 FAX: 952-473-4435	
	MINN. LICENSE NUMBER
DATE: 1-27-15 1-28-20	SHEET NO. 15-008
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.	
DESIGNED	DRAWN
REVISIONS	CHECKED
DATE	BY

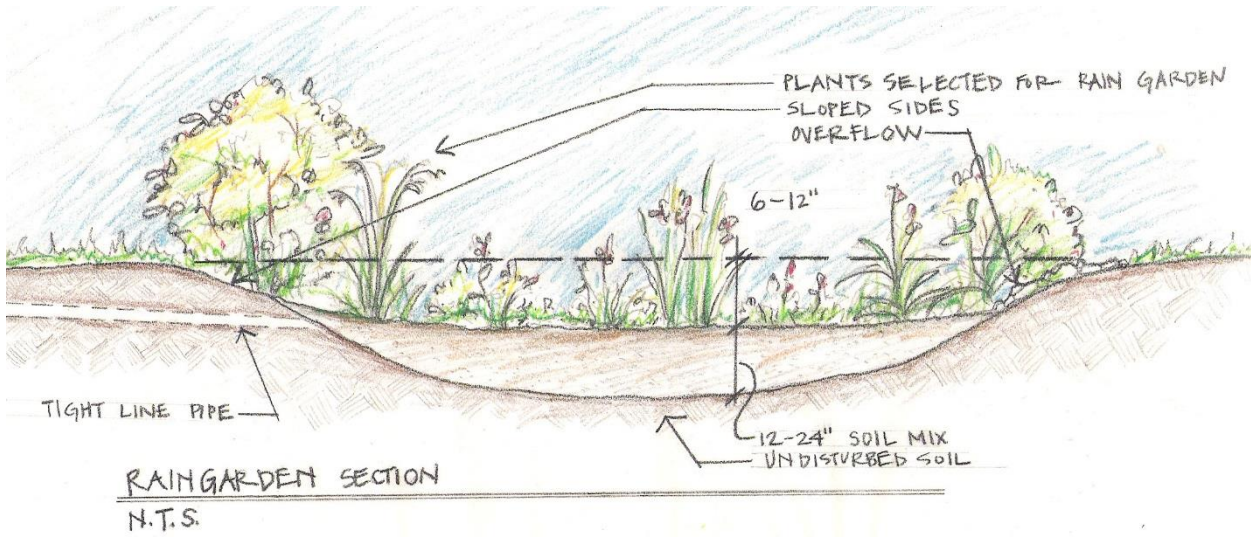
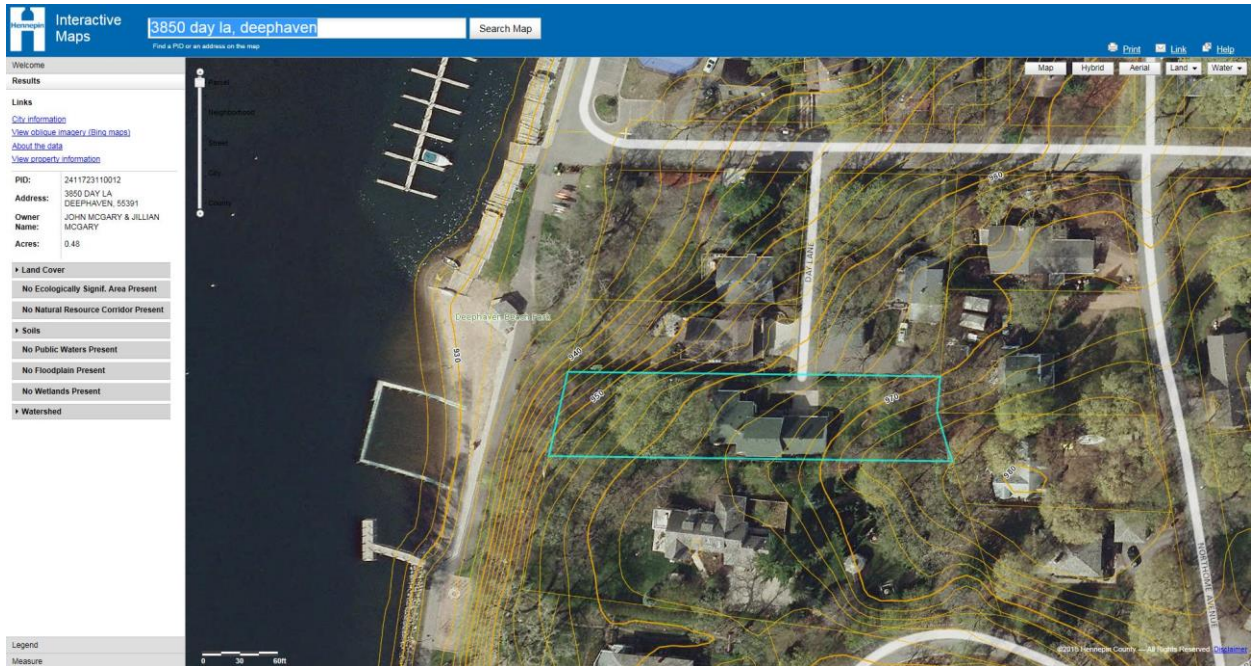
MCWD BMP LANDSCAPE PLAN & SHORELINE STABILIZATION LANDSCAPE PLAN.

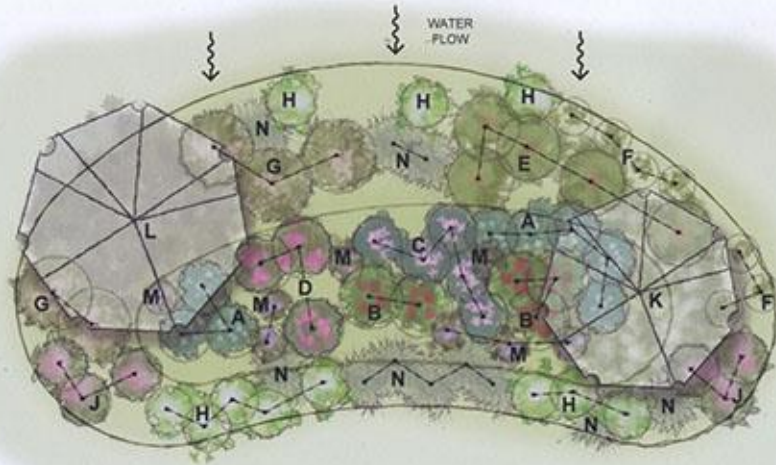


<p>15-0008</p>	
<p>I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.</p>	
DESIGNER	DATE
DRAWN	CHECKED
REVISIONS	
BY	
DATE	
<p>MINN. LICENSE NUMBER</p>	

GRONBERG & ASSOCIATES, INC.
 CIVIL ENGINEERS AND PLANNERS
 448 N. WILLOW DRIVE LONG LAKE, MN 55336
 PHONE: 952-473-4141 FAX: 952-473-4435



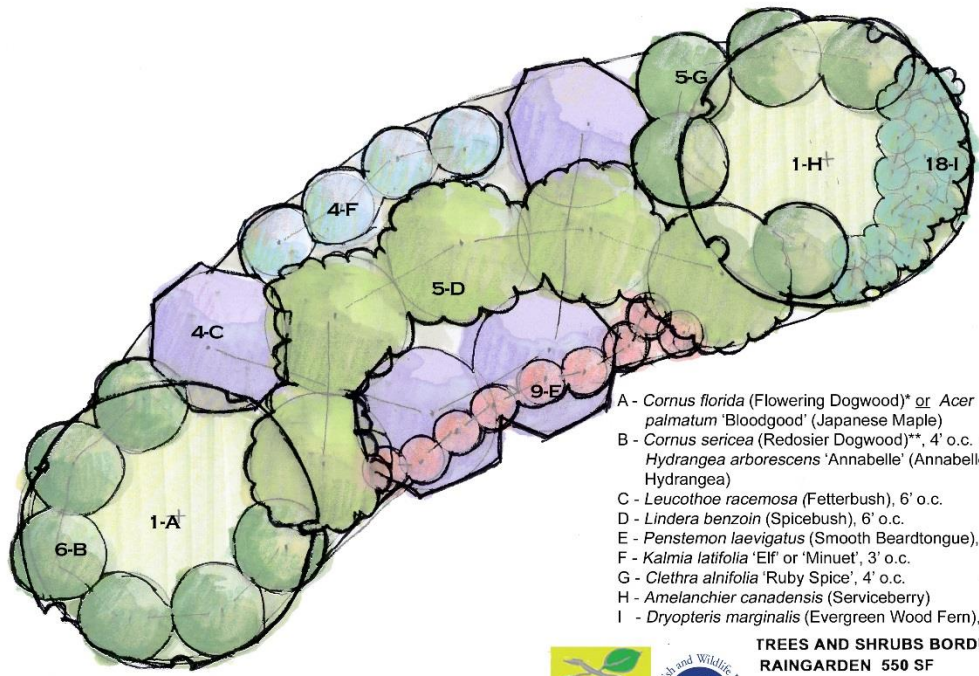




RAIN GARDEN in PARTIAL SUN / SHADE
24' x 12'



- | | | | |
|---|--|---|---------------------------------------|
| A | Boneset - Ostrich fern | J | Joe Pye weed - Wild columbine |
| B | Cardinal flower - Tall meadow rue | | Wild indigo - Cream violet |
| C | Turtlehead - Turk's cap lily - Canada lily | K | Alternate-leaved dogwood - Bladdernut |
| D | New England aster - Purple-stemmed aster | | Silky dogwood - Winterberry |
| E | Cinnamon fern - Tassel rue | | Spicebush - Red-berried elder |
| | Wild sweet William | L | Rosebay rhododendron - Spikenard |
| F | Jack-in-the-pulpit - Spiderwort | | Redbud - Arrowwood viburnum |
| G | Goatsbeard - Senative fern | | Flowering raspberry |
| | Flat-topped white aster | M | Shorl's aster - Zigzag aster |
| H | Maple-leaved waterleaf - Jacob's ladder | N | Bottlebrush grass |
| | Virginia waterleaf - Creeping phlox | | |



- A - *Cornus florida* (Flowering Dogwood)* or *Acer palmatum* 'Bloodgood' (Japanese Maple)
- B - *Cornus sericea* (Redosier Dogwood)***, 4' o.c. or *Hydrangea arborescens* 'Annabelle' (Annabelle Hydrangea)
- C - *Leucothoe racemosa* (Fetterbush), 6' o.c.
- D - *Lindera benzoin* (Spicebush), 6' o.c.
- E - *Penstemon laevigatus* (Smooth Beardtongue), 2' o.c.
- F - *Kalmia latifolia* 'Elf' or 'Minuet', 3' o.c.
- G - *Clethra alnifolia* 'Ruby Spice', 4' o.c.
- H - *Amelanchier canadensis* (Serviceberry)
- I - *Dryopteris marginalis* (Evergreen Wood Fern), 18" o.c.

note: o.c. = on center
 *This end of the garden should be slightly higher than the 'H' end so that the dogwood/maple are not sitting in water after a rain event
 **partial shade or deciduous shade OK



TREES AND SHRUBS BORDER

RAINGARDEN 550 SF

Pt Shade-Shade
 Zones 5b-7b
 Piedmont

Scale: 1/4"=1'





3850 Day Lane
Wayzata MN 55391

Estimate

Date	Estimate #
7/2/2015	2015029

John and Jillian McGary
19350 Park Avenue
Deephaven MN 55391

Item	Scope of Work Description	Qty	Cost	Total
***** Shoreline stabilization - 19350 *****				
01.10 Archite...	Design time and professional fees, project coordination and planning.	1	2,000.00	2,000.00
01.40 Survey...	Gronberg - survey, stakeout, and potential area/runoff calculations.	1	3,400.00	3,400.00
01.40 Survey...	Grongberg - Rain garden design each.	1	400.00	400.00
01.10 Archite...	Tree Quality professional services/Certified Arborist, tree protection plan, planting schedule consulting.	1	350.00	350.00
01.10 Archite...	Tree Quality 1 year Follow up on plantings and design.	1	350.00	350.00
Subtotal grouping of the items above.				6,500.00
02.10 Erosio...	Silt fence or sock installation and maintenance.	1	350.00	350.00
02.50 Constr...	South east property drive entrance for rain garden excavation.	1	475.00	475.00
02.40 Excava...	Rain garden/draintile excavation and material disposal and import. Two load allowance.	2	1,775.00	3,550.00
03.90 Patio	Down slope hardscape edging of rain garden and install for overflow protection in 2 inch plus events.	2	500.00	1,000.00
Subtotal grouping of the items above.				5,375.00
24.20 Landsc...	Plantings for rain garden or swale and surrounding. Includes plants and installation. 150 plants per garden at \$7.5 plus \$12 install.	1	2,925.00	2,925.00

	This estimate is for the scope of work items only, the total reflects if all items are selected	Total
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Signature _____

Phone #	Fax #	E-mail	Web Site
612-207-8265	952-473-0453	john@lucidbuilders.com	LucidBuilders.com





3850 Day Lane
Wayzata MN 55391

Estimate

Date	Estimate #
7/2/2015	2015029

John and Jillian McGary
19350 Park Avenue
Deephaven MN 55391

Item	Scope of Work Description	Qty	Cost	Total
25.10 Rainwa...	Gutter filled rain barrel and installation. http://www.homedepot.com/p/Algreen-Madison-49-gal-Rain-Barrel-in-Charcoalstone-84302/204418187?cm_mmc=Shopping%7cBase&gclid=CjwKEAjwt5disBRCA5r7OjsK_-UgSJAC27JPgLXYjqadi7EjVPS71Tg5v0zuOfWX7Tv0N38MmWg0i0xoCyc_w_wcB&gclsrc=aw.ds	4	225.00	900.00
24.30 Fine G...	Final grade and permanent remediation of affected traffic and work areas.	2	450.00	900.00
	Subtotal grouping of the items above.			4,725.00
01 Administr...	Advertising design and administration for educational oportunities. Possible local magazine placements, Showcase home tours, signage, social media campaign, special events.	0	1,200.00	0.00
01.30 Genera...	Contractor overhead and profit at 12%.	1	1,992.00	1,992.00

	This estimate is for the scope of work items only, the total reflects if all items are selected	Total	\$18,592.00
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Page 2





3850 Day Lane
Wayzata MN 55391

Estimate

Date	Estimate #
7/2/2015	2015028

John and Jillian McGary
3850 Day Lane
Deephaven MN 55391

Item	Scope of Work Description	Qty	Cost	Total
	***** Shoreline stabilization - 3850 *****			
01.10 Archite...	Design time and professional fees, project coordination and planning.	1	2,000.00	2,000.00
01.10 Archite...	Tree Quality professional services/Certified Arborist, tree protection plan, planting schedule consulting.	1	350.00	350.00
01.10 Archite...	Tree Quality 1 year Follow up on plantings and design.	1	350.00	350.00
	Subtotal grouping of the items above.			2,700.00
02.10 Erosio...	Silt fence or sock installation and maintenance.	1	350.00	350.00
	Subtotal grouping of the items above.			350.00
24.20 Landsc...	Plantings for shoreline stabilization and surrounding. Includes plants and installation. 150 plants per garden at \$7.5 plus \$12 install.	1	2,925.00	2,925.00
25.10 Rainwa...	Gutter filled rain barrel and installation. http://www.homedepot.com/p/Algreen-Madison-49-gal-Rain-Barrel-in-Charcoalstone-84302/204418187?cm_mmc=Shopping%7cBase&gclid=CjwKEAju5disBRCA5r7OjsK_-UgSJAC27JPgLXYjqadi7EjVPS71Tg5v0zuOfWX7Tv0N38MmWg0i0xoCyc_w_wcB&gclsrc=aw.ds	3	225.00	675.00
24.30 Fine G...	Final grade and permanent remediation of affected traffic and work areas.	1	450.00	450.00
	Subtotal grouping of the items above.			4,050.00

	This estimate is for the scope of work items only, the total reflects if all items are selected	Total
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3850 Day Lane
Wayzata MN 55391

Estimate

Date	Estimate #
7/2/2015	2015028

John and Jillian McGary
3850 Day Lane
Deephaven MN 55391

Item	Scope of Work Description	Qty	Cost	Total
01 Administr...	Advertising design and administration for educational oportunities. Possible local magazine placements, Showcase home tours, signage, social media campaign, special events.	1	1,200.00	1,200.00
01.30 Genera...	Contractor overhead and profit at 12%.	1	1,023.00	1,023.00

	This estimate is for the scope of work items only, the total reflects if all items are selected	Total	\$9,323.00
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3850 Day Lane
Wayzata MN 55391

Estimate

Date	Estimate #
7/2/2015	2015026

John and Jillian McGary
19350 Park Avenue
Deephaven MN 55391

Item	Scope of Work Description	Qty	Cost	Total
***** BMP - 19350 Rain Garden *****				
01.40 Survey...	Grongberg - Rain garden design each.	1	400.00	400.00
01.10 Archite...	Tree Quality professional services/Certified Arborist, tree protection plan, planting schedule consulting.	1	350.00	350.00
01.10 Archite...	Tree Quality 1 year Follow up on plantings and design.	1	350.00	350.00
	Subtotal grouping of the items above.			1,100.00
02.10 Erosio...	Silt fence or sock installation and maintenance.	1	350.00	350.00
02.50 Constr...	South east property drive entrance for rain garden excavation.	1	475.00	475.00
02.40 Excava...	Rain garden/drain tile excavation and material disposal and import. Two load allowance.	2	1,775.00	3,550.00
03.90 Patio	Down slope hardscape edging of rain garden and install for overflow protection in 2 inch plus events.	2	500.00	1,000.00
	Subtotal grouping of the items above.			5,375.00
24.20 Landsc...	Plantings for rain garden or swale and surrounding. Includes plants and installation. 50 plants per garden at \$7.5 plus \$12 install.	2	975.00	1,950.00
24.30 Fine G...	Final grade and permanent remediation of affected traffic and work areas.	2	450.00	900.00
	Subtotal grouping of the items above.			2,850.00

	This estimate is for the scope of work items only, the total reflects if all items are selected	Total
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3850 Day Lane
Wayzata MN 55391

Estimate

Date	Estimate #
7/2/2015	2015026

John and Jillian McGary
19350 Park Avenue
Deephaven MN 55391

Item	Scope of Work Description	Qty	Cost	Total
01.30 Genera...	Contractor overhead and profit at 12%.	1	1,119.00	1,119.00

	This estimate is for the scope of work items only, the total reflects if all items are selected	Total	\$10,444.00
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Page 2





3850 Day Lane
Wayzata MN 55391

Estimate

Date	Estimate #
7/2/2015	2015027

John and Jillian McGary
3850 Day Lane
Deephaven MN 55391

Item	Scope of Work Description	Qty	Cost	Total
***** BMP - 3850 Rain Garden *****				
01.40 Survey...	Grongberg - Rain garden design each.	1	400.00	400.00
01.10 Archite...	Tree Quality professional services/Certified Arborist, tree protection plan, planting schedule consulting.	1	350.00	350.00
01.10 Archite...	Tree Quality 1 year Follow up on plantings and design.	1	350.00	350.00
	Subtotal grouping of the items above.			1,100.00
02.10 Erosio...	Silt fence or sock installation and maintenance.	1	350.00	350.00
02.50 Constr...	South east property drive entrance for rain garden excavation.	0	475.00	0.00
02.40 Excava...	Rain garden/drain tile excavation and material disposal and import. Two load allowance.	2	1,775.00	3,550.00
03.90 Patio	Down slope hardscape edging of rain garden and install for overflow protection in 2 inch plus events.	2	500.00	1,000.00
	Subtotal grouping of the items above.			4,900.00
24.20 Landsc...	Plantings for rain garden or swale and surrounding. Includes plants and installation. 50 plants per garden at \$7.5 plus \$12 install.	2	975.00	1,950.00
24.30 Fine G...	Final grade and permanent remediation of affected traffic and work areas.	2	450.00	900.00
	Subtotal grouping of the items above.			2,850.00

	This estimate is for the scope of work items only, the total reflects if all items are selected	Total
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3850 Day Lane
Wayzata MN 55391

Estimate

Date	Estimate #
7/2/2015	2015027

John and Jillian McGary
3850 Day Lane
Deephaven MN 55391

Item	Scope of Work Description	Qty	Cost	Total
01.30 Genera...	Contractor overhead and profit at 12%.	1	1,119.00	1,119.00

	This estimate is for the scope of work items only, the total reflects if all items are selected	Total	\$9,969.00
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Cost Share Grant Evaluation Form
Homeowner Grant

Name of Reviewer: _____ Brett Eidem _____
 Date Reviewed: _____ 7-2-2015 _____

Applicant: John McGary
Project: 3850 Day La, Deephaven- Shoreline Buffer and Raingarden/rainbarrel installation
Amount Requested: \$5,000

Homeowner/Residential Grant: must be designed to produce greater public awareness of ways to improve water quality.

Organization Type: H.O.		
Are the Goals of Project Clearly Outlined? Yes, slow down and capture as much runoff as possible that would otherwise drain directly into Lake Minnetonka.		
Past History: Has the applicant applied before? No		
<i>Project Design (50pts)</i>		
Notes: Redevelopment of two residential properties within very close proximity to Lk Mtka. Entire site retrofit to capture as much runoff onsite as possible, while also restoring the upland buffer that is the last chance for neighborhood runoff to be filtered before draining into Deephaven Beach. Budget detail and maintenance plan present.	20 /20	Water Resource Improvement to MCWD
	5 /5	Innovative Design
	5 /5	Budget Detail
	10 /10	Entire Site Concept Design
	10 /10	Maintenance Plan
Project Design Total:		50 /50
<i>Education & Outreach (40 pts)</i>		
Notes: H.O. works for Lucid Builders and intends to promote this type of Rez SW mgmt. through builders association. Also high visibility from Deephaven Beach.	15 /20	Outreach Techniques
	15 /20	Visibility of Demonstration
Education & Outreach Total:		30 /40
<i>Water Resource Prioritization (10 pts)</i>		
Notes: Within very close proximity to Lake Mtka	5 /10	Alignment with District Priorities
Water Resource Prioritization Total:		5 /10
<i>Shoreline/Streambank Restoration (10 pts)</i>		
Shoreline/Streambank Restoration Total:		5 /10
Total:		90 /110
100 -90pts 75% Funding	The proposal is among the very best; it exceeds expectations in many areas, was very clearly presented, is an excellent match for this funding, and should be funded. Potential for up to 75% funding, not to exceed \$2,500 for BMP, \$5,000 for shoreline/streambank *Additional funding may be available based on extraordinary or well-beyond-standard water quality improvements or education/outreach components.	
89-75 pts 50% Funding	The proposal is generally strong and is a good match for this funding. If enough funding is available, this proposal should be funded. A few concerns might need to be addressed. Potential for up to 50% funding, not to exceed \$2,500 for BMP, \$5,000 for shoreline/streambank	
74-50 pts Needs Further Development	The proposal has some strengths but also several problem areas. Areas of concern would need to be addressed before further consideration of funding for this proposal.	
49-0 pts Does Not Qualify	This proposal is quite weak in many of the important areas. Concerns preclude recommendation of funding for this proposal.	
<i>Reporting</i>	*Required Annual Reporting <ul style="list-style-type: none"> - Inspection Form - Description and location of outreach techniques used - Number of people engaged and educated on the project - Has the project and outreach initiated other efforts on improving water quality and awareness 	

Comments and Notes: This is a great demonstration project, with one of the larger water quality benefits for a H.O. project. Highly visible from public trails and Deephaven Beach, a great location for site specific educational signage. The restoration along the shoreline side will be continuous through both properties, and the raingardens will help infiltrate a majority of the site runoff in concentrated areas.

Cost Share 2015 Detailed Evaluation Criteria
Homeowner Grant Evaluation Criteria

Project Design- 50 Points

- Water Resource Improvement to MCWD (cost benefit)
 - o Proposed project captures greater than 50% of site runoff
 - o Reduces flow, promotes infiltration, reduces erosion
 - o Creates habitat and promotes pollinator plants
- Innovation- something we haven't funded before, innovative use of stormwater BMPs, first of its kind in the region/state, multi-functionality, re-use system
- Budget- Detailed cost estimate of project (construction and outreach efforts)
- Entire Site Concept Design- A concept diagram showing where all of the stormwater drains off the site
- Maintenance- having a detailed maintenance plan and recommended schedule

Education and Outreach- 40 Points

- Outreach Techniques
 - o Educational Signage
 - o Host an Event- block party, raingarden workshop, celebration with tour of BMPs onsite
 - o Innovative outreach techniques- use of social media, promotion of stormwater management
- Visibility of demonstration and Ed opportunities to the public
 - o Does the project encourage community involvement or community service by neighbors or other organizations

Water Resource Prioritization- 10 Points

- Proximity to Focal Geography of MCWD Initiatives
 - o How can the project complement other District initiatives/future projects
- Proximity to an impaired waterbody
 - o How does the project address impairments
- Protection of high value resource

Shoreline/Streambank Restoration- 10 Points

- Additional 10 points for biological and bioengineered shoreline/streambank projects, which are uniquely difficult and which the MCWD particularly wishes to encourage



MEMORANDUM

DATE: August 11, 2015
 TO: MCWD Board of Managers
 FROM: Brett Eidem, Cost Share Specialist
 RE: 2015 Homeowner Cost Share Projects Recommended for Funding by CAC

PROGRAM CRITERIA

The MCWD administers a Cost Share program to provide incentive for interested parties to construct projects that will improve water quality. Part of the process in approving projects to receive funding is to have the applications reviewed by the Citizens Advisory Committee (CAC). These are the homeowner projects that were recommended funding by staff and the CAC. We feel these are strong demonstration projects that capture an impactful amount of runoff from the property and have an opportunity to engage neighbors and other networks outlined by the applicant to spread the message of clean water.

HOMEOWNER COST SHARE FUNDING

Total number of residential projects approved:	19
Total number of BMPs installed:	31
Total cost for construction of these BMPs:	\$256,649.52
Total MCWD cost share funding contribution:	\$56,236.50

SUMMARY:

MCWD Staff has received 33 applications for funding of projects through the 2015 MCWD Homeowner Cost Share program. Staff reviewed and provided a recommendation for approval of 19 of the projects (some need further development, some were denied) to the full CAC with the stipulations shown in the attached document. There were multiple homeowner projects that had cost estimates exceeding the homeowner cap amount of \$2,500 for 50% Cost Share funding. Staff review identified only two of these 19 projects that propose multiple BMPs capturing a large amount of runoff and sees benefits beyond the other homeowner proposals. The CAC recommends funding each of these projects at 75% funding, with a cap amount of \$7,500 for the Walter Residence in Edina and \$10,000 for the McGary owned two properties in Deephaven.

EDUCATION VALUE:

Staff sees the installation of stormwater best management practices as a powerful avenue to provide citizen engagement and advocacy opportunities where citizens become participants in and advocates for stormwater management and clean water. Staff also sees them as a way to educate the public on actions that can be taken on an individual citizen scale to improve stormwater management, enhance natural resources and green infrastructure, expand the knowledge base of water resources management, and provide educational opportunities through demonstrative projects within the watershed. Through partnering on these projects, we are

The Minnehaha Creek Watershed District is committed to a leadership role in protecting, improving and managing the surface waters and affiliated groundwater resources within the District, including their relationships to the ecosystems of which they are an integral part. We achieve our mission through regulation, capital projects, education, cooperative endeavors, and other programs based on sound science, innovative thinking, an informed and engaged constituency, and the cost effective use of public funds.

gaining stormwater management and investment from private property owners on land that we otherwise would not be able to implement projects on alone.

Permanent educational signage would be installed near the project sites on the grantee's property indicating the contribution of funds from the District and also directing people to the MCWD website. Cost Share Staff, in coordination with the Education and Communications departments, will utilize the below projects in program outreach to highlight the project and Cost Share program.

WATER QUALITY IMPROVEMENT:

Staff has analyzed all of the homeowner projects to identify the water quality improvement of these projects. This is just individuals that applied for cost share funding on their own, some of which have Master Water Stewards involved in the project, but are apart from the community scale projects which are described later in the document. The summary is described below:

Annual Volume reduction:	164,180 Cubic Feet (1,228,185 Gallons)
Annual Total Suspended Solids reduction:	874 Lbs.
Annual Phosphorus reduction:	2.1 Lbs.

*Estimates taken from Wenck Pollutant Reduction Calculator and MIDS Calculator

This does not account for the community scale projects that are adding water quality improvements by clustering projects in a concentrated area, which are also installing BMPs on private residential property.

COST SHARE APPLICATIONS

This document outlines all of the Cost Share Projects that have been reviewed and approved by the CAC for funding this year. There are five applications that are not complete but met the deadline with the application so staff intends to honor their request for funds when a decision can be made from their materials, and brought forward to the CAC at that time in the future. There are also an estimated 10 more Master Water Steward Capstone projects that will also be brought forward for approval later in the summer/fall of 2015.

Project #1- Alfred and Therese House- 5711 Zumbra Dr, Victoria

Alfred and Therese have recently inherited a home on Lake Zumbra, which has a failing retaining wall on the lakeshore. Because of weathering over time and last year's flooding, they have received significant damage to their retaining wall. Instead of replacing it, they have decided they want to restore the beach front to natural growth to encourage wildlife and prevent further erosion. This project will:

1. Restore native habitat
2. Reduce nonpoint source pollution and sediment runoff
3. Reduce shoreline erosion
4. Present a more natural appearance to lake users

Staff sees this project as a great way to kick off 2015, with a shoreline project on the western side of the District in the Six Mile Creek subwatershed. Both Al and Therese are very enthusiastic about protecting the water quality on Lake Zumbra and throughout the District. They are willing to have their shoreline project used as a demonstration and showcase for promoting natural shorelines. After meeting with them onsite, staff felt that there would need to be some hard armor added to the shoreline edge were intense erosion has happened. It was a recommendation of staff to look at, and not the homeowners wanting unnecessary riprap for the aesthetics of their shoreline. This project will still have to go through the District's permitting process, where final design will be developed to align with District requirements (slope, size of rock, erosion control measures, etc).

The total cost of the project that qualifies for cost share funding is \$19,946.00. Staff recommends funding the project at 50%, not to exceed the existing homeowner cap of \$5,000.00.

Project #2- Roger and Joanne Snyder- 5241 Portland Ave S, Minneapolis

This is a homeowner project that will be the capstone project of two of last year's Master Water Stewards, Michelle Jordan and Grace Sheely. The Snyder's live 1000 feet from Diamond Lake, directly across from Pearl Park. The Snyder's have recently constructed a detached garage on their property near the alley, and this has left most of their backyard

disturbed with exposed sediment. The opportunity is now to implement stormwater BMPs into the newly designed landscape. There is a future project in the area that is the Diamond Lake Blooming Alleys, where 5 alleyways will be retrofitted to capture runoff on properties before draining to the alleyway, similar to the Nokomis alleyway initiative. This project will serve as a demonstration for the future alleyway projects in the neighborhood.

The project proposed is the construction of 3 raingardens to capture backyard runoff from the house and the detached garage. This project will collect 40% of the site runoff. The rest of the backyard that isn't raingarden will be rototilled and planted as a low water fescue seed mix on aerated soils. The new garage does not yet have gutters, but they are being proposed to redirect the roof runoff to raingardens and keep it from entering the alley. There will be two raingardens in the backyard where there was an old driveway from the alley, and a third two tier raingarden will be constructed alongside the newly constructed detached garage. There will be educational signage near the raingarden closest to the alleyway. The Master Water Stewards will act as educators along with the Snyders as they host a minimum of one event for their neighborhood. More events are anticipated and welcome as part of the Diamond Lake Blooming Alleys project.

The total project cost is \$8,774. Staff recommends funding 50% of the project, not to exceed the homeowner cap of \$2,500.

Project #3- Chad and Carla Clow- 32 Luverne Ave, Minneapolis

This is a homeowner project in the Tangletown neighborhood, on a street without an alley. The Clows are interested in replacing their driveway with permeable pavers. They are proposing a modern look to the paver system, with some plantings in the middle of the driveway. This project has an opportunity to educate the community and showcase an alternative to the typical hard surface impervious solutions that have a damaging long term effect on the environment. The homeowners are proposing front yard signage in a highly visible area. There will be outreach with the neighbors on the install and they intend to host an event in the future where they can showcase the project. The homeowner is a licensed architect, and has designed and installed these pavers before. He intends to install them himself with the help of his family and some other volunteers, and has clearly outlined the construction process and all equipment needed to install them correctly. The proposed permeable paver driveway will be 818 sf. The drainage area to the driveway is 250 sf of impervious surface, and 2,030 sf of overland flow. Although the project is not capturing a lot of impervious surface, it is replacing over 1,000 sf of impervious driveway and is in a highly visible area. With the uniqueness to the design, staff anticipates that it will be a very engaging project for passersby and will have great outreach potential.

The total project cost is \$13,751. Staff recommends funding 50% of the project, not to exceed the homeowner cap of \$2,500.

Project #4- Gina Zaffrano and Michael Keller 3133 East Calhoun Pkwy, Mpls

Gina Zaffarano & Michael Keller have worked with 2013-2014 Master Water Steward Roxanne Stuhr to design two connected raingardens in existing terraces located in the front yard of their property. Being adjacent to Lake Calhoun, the property owners wanted to beautify their property while reducing stormwater runoff and promoting pollinator habitat. The raingardens are visible from East Calhoun Parkway, a heavily used street, and approximately 200 ft. from 32nd Beach on Lake Calhoun. Roxanne Stuhr will lead a Southwest community raingarden workshop from the yard discussing the merits of developing raingardens for landscaping and wildlife preservation in the community. The upper raingarden will capture runoff from one south downspout with a catch basin through 23 feet of drain tile. The lower raingarden will capture water from the south yard and part of a patio area by directing a previously installed 4" drain tile into the terraces and capture overflow from the upper raingarden. The proposed raingardens are designed to capture 625 sq. ft. of roof runoff (50% of the roof) capturing 486.98 gallons during a 1.25" rain event. Estimated annual reductions are removal of 82lbs of TSS and .035 lbs. of TP.

The total cost of the project is \$4,450.45. Staff recommends funding 50% of the project, not to exceed \$2,225.23

Project #5- Kelly Ede, 1668 Canary La, Mound (Shoreline Stabilization)

Kelly Ede wants to install a buffer strip of natural vegetation along the 80 ft. of shoreline of her property to reduce erosion, help maintain water quality, and provide habitat and travel corridors for wildlife. She purchased the home just over a year ago. It was clear that the shoreline had never been preserved or supported in any manner at all much less in a way to promote the health and wellness of the lake and ecosystem. The shoreline is terribly eroded from many years of neglect and run off. Just in the past year (this spring vs. last spring) there has been a visible decline in soil, plants and wildlife.

She wants to do whatever she can to protect the lake and its ecosystem. This also presents itself to be a wonderful opportunity to educate our neighbors and the public in general on the critical need and importance of natural shoreline restoration. She lives on Jennings Bay, and also has erosion due to runoff from her street (canary La) that ends about 15 ft. from the shoreline, without a curb, so all of the pollutants at high flows will drain directly into the lake on her property, adding to the intense erosion. She is working with Natural Shore Technologies, and they have developed a plan to stabilize the shoreline through the use of biological stabilization. They will add biologs and coconut blanket to the exposed shoreline, and plant into it, creating a shoreline edge that will create a more consistent slope and long term stabilization. The design will also add a diversity of plants to attract wildlife, and will have flowering plants that bloom in different seasons. Kelly is supportive and open to ideas and suggestions around messaging the importance of lakeshore restoration/ ecosystem health and wellness. Through social media, educational sessions on the property, and educational signage. She would be able to message information and pictures through Facebook and twitter. She would be willing to share her experience by speaking, being available as a resource to the MCWD, pictures of our project can be shared. She suggested she can create a timeline photo diary, invite friends and neighbors over to share information and view.

The total cost of the shoreline stabilization is \$7,489.00. Staff recommends funding 50% of the project cost, not to exceed \$3,744.50.

Project #6- Eric Paulson, 2605 Mapleridge La, Orono (Shoreline Stabilization)

A significant amount of standing water was present on the shoreline property, which is currently turf grass down to riprap, due to heavy rains last June. Eric is looking to install an 82 ft x 12 ft (984sf) shoreline buffer of plants to promote infiltration, filter the runoff running into Lafayette Bay of Lake Minnetonka, and be aesthetically pleasing. The proposed shoreline buffer planting will filter approximately 53% percent of the entire site impervious runoff, approximately 4094.19 gallons of runoff for a one inch rain event. The proposed buffer will reduce sheet flow, promote infiltration, and reduce erosion. Though the current shoreline is not experiencing significant signs of erosion, the homeowners are taking proactive action, taking into account climate change models projecting an increase in heavy rain events, to further stabilize their shoreline. The shoreline garden will provide additional habitat for insects, pollinators, and wildlife using Neonic Free plants (bee friendly plants). The location of the shoreline buffer was chosen based on where the gutters outlet on the property. The existing turf grass will be killed with herbicide and disposed of. A coconut biolog will be placed above the existing riprap for erosion control until the plants establish, an additional silt fence will be included if deemed necessary. 4 inch and 1 gallon plants will be used to tie into the existing manicured landscape. By using more mature plants Wall Gardens is able to align the water quality and habitat benefits with the existing ethics of the property. The homeowners are willing to place a sign on their shoreline. The location of the property is in a cove of the bay that is frequented by fisherman and very visible by neighbors. The homeowners are also planning on hosting an event with neighbors, where Heidi Quinn; current Master Water Steward, is willing to provide expertise for the event. The homeowner is also part owner of the restaurant Victor's on Water Street in Excelsior; preliminary conversations are being planned on how to coordinate outreach with the restaurant. Wall Gardens has plans to launch a website in the fall that would feature the project and describe the benefits of water quality by implementing a shoreline garden. Judy Wall, owner and operator of Wall Gardens, has been maintaining the Paulson's property on a regular basis for 20+ years. Wall Gardens will biweekly monitor the buffer during the growing season and perform the following when needed: control invasive weeds, repair or do supplemental planting, conduct selective native plant control. Wall Gardens will continue to maintain the site for foreseeable future.

The total project cost is \$12,390.00. District staff recommends funding 50% of the project, not to exceed \$5,000.

Project #7- Michael and Judy Wright 2222 Huntington Pt Rd W, Minnetonka Beach (Shoreline Stabilization)

Michael and Judy Wright have been working with Urban Ecosystems (formerly ReGen Land Design) to design one of the largest shoreline buffers on Lake Minnetonka. This proposed design is featured in the newly developed, *Lake Minnetonka Guide to Shoreline Gardens*. This is an example of a shoreline garden with a cultivated aesthetic, to fit with the rest of the property's formal design. The shoreline garden will span the entire length of the shoreline, and will capture and promote infiltration of a large amount of the runoff from the large home and long fertilized lawn which currently all drains to the lake with only the existing hard armor (rip rap) between the lake and the yard. The drainage area that this buffer will filter and infiltrate is approximately 32,900 sf, which would be around 20,500 gallons in a 1 inch rain event. The shoreline garden has a width of 16-30 feet spanning the entire 200 feet of shoreline. There will be a mix of native and cultivar flowering plants and shrubs, planted on a less than 3:1 slope, all above the existing rip rap and 100 year floodplain, so there is no shoreline/streambank stabilization permit that will need to be issued through the District for this project. The Wrights intend to spread awareness of the benefits of shoreline buffers to their neighbors, and are open to showcasing the project throughout District promotional materials. The project is featured in the shoreline garden guide and will also be featured in the Lake Minnetonka Magazine. Because the shoreline buffer is limited to capturing runoff from just this property, the project is visible from the lake, and most of the promotion is through digital

means, staff feels that this project qualifies for cost share funding, but will remain at the cap amount of residential shoreline stabilization at \$5,000.

The total cost of the project is \$36,460.56. A majority of the cost is through plantings, which the homeowner would prefer to see more mature plantings instead of smaller plugs or seedlings. Staff recommends funding 50% of the project, not to exceed the homeowner cap of \$5,000.

Project #8- Natalie Cowell- 7733 W 24th St, St. Louis Park

This is a great homeowner project in an area of St. Louis Park where we currently do not have any cost share projects. It is great demonstrations of how to capture runoff in a residential setting, which will meet the homeowner's desire to create a more bee and bird friendly landscape in their yard. The project will capture roof and driveway runoff, through a series of raingardens, swales and a trench drain to keep driveway runoff onsite. The project was designed by Metro Blooms. This treatment train is very impactful as it is in the front yard of a property near an intersection. They have an entire site design plan, but will look to incorporate a backyard raingarden at a later time. The homeowners are willing to have educational signage at the project, and intend to promote clean water and these types of practices to their neighbors. The project will overall capture three different roofs and the entire driveway, which is a total of 1,558 sf. The raingardens and French drain are designed to capture a 1.25" rain event, with vegetated swales to carry any overflow away from the house for further filtration and infiltration.

The total project cost is \$8,600. Staff recommends funding 50% of the project costs, not to exceed the homeowner cap of \$2,500.

Project #9- James and Jennifer Christiansen, 2201 49th St W, Minneapolis

James and Jennifer are remodeling the house where the rear deck, asphalt driveway and 3/4 of roof downspouts all drain towards the alley storm drain. In order to allow a main floor addition for a bedroom and bath, we needed to lower the garage and driveway at rear of house, precluding drainage to alley. Best option is to retain storm runoff from rear of house and driveway with a permeable driveway with a 12" crushed granite sub base to allow it to drain down into sandy soil. Long-term site plan includes additional storm runoff features at front of house.

Project will significantly reduce storm runoff from this property into the storm drain system without compromising a dry basement. Property is located on a busy pedestrian corner with significant outreach potential. Biota Landscape has developed a comprehensive site plan and driveway maintenance schedule to maintain and improve runoff capture in the future. Homeowners are committed to successfully completing this project with Best Management Practices.

Project property is located on a busy pedestrian corner one block from Lake Harriet with easy viewing access from both public sidewalk on two sides of property and public alley at rear. The homeowners support educational signage, project documentation for public viewing, participation in on-site tours of successful projects and neighborhood demonstrations. Site plans include interesting garden features beyond water management, as Jennifer is former garden club president who organized garden tours in that capacity. The proposed project will capture approximately 75% of the site runoff, which is approximately 2,000 sf, with even more runoff in large events from offsite runoff draining through the alleyway. The proposed permeable paver system is designed to have a full 12" of angular granite as a subbase to insure the system has the capacity to infiltrate all of the runoff draining to it. The homeowner is proposing to filter roof runoff through vegetated area before reaching the pavers, and there is proposed maintenance plan to upkeep the pavers. The contractor is Biota Land Design, a trustworthy company we have seen permeable paver projects from in years past.

The total project cost for materials and construction is \$18,975. Staff recommends funding 50% of the project, not to exceed the homeowner cap of \$2,500.

Project #10- Elaina Moss, 4443 Cedar Ave S, Minneapolis

Elaina is a Hennepin County Master Recycler/Composter and has recently learned more about stormwater runoff. She has worked with Metro Blooms to develop a project that solves some of her and her neighbor's drainage issues. The 205 sf front yard raingarden will capture 230 sf direct roof runoff from Elaina's property, as well as captures 325 sf of roof runoff from the neighbor's property. Elaina is also proposing a rainbarrel for capture and re-use of another downspout on the property to hopefully capture another 200 sf of roof runoff onsite.

This project has good outreach potential, as it is a collaboration of two neighbors to minimize runoff and erosion. The homeowner is willing to promote clean water through educational signage, looking to show off the demonstration project at a 2016 block party she will be hosting, and promote the project on social media with the Hennepin County recycler/composter program to reach an engaged audience. This project is just West of Lake Hiawatha, across the street from the Hiawatha Golf Course. The homeowner detailed the visibility of the high trafficked area and the established neighborhood. With the planned outreach, there is great potential to coordinate and showcase multiple raingardens around the lake/ golf course neighborhoods.

Because of the minimal grading needed for the project this will be a homeowner install project, and a rather cost effective solution for stormwater management. The total cost of the project is estimated at \$1,795.00 with most of the costs being plants and design plans. Staff recommends 50% funding of the project, not to exceed \$987.50.

Project #11- Jamie Schwenedl, 3237 17th Ave, Minneapolis

Jamie is proposing to install a greenroof on the newly constructed detached garage. There is an existing smaller greenroof on part of the house, and they are looking to expand the green surfaces to the garage. Jamie sees garages, alleys and driveways as a space that could be used for water collection, food production, and socializing. They purchased the foreclosed duplex across the alley from their home, and the garage was falling over. They had been read about green roofs, and got excited about the possibility of building a new garage with an intensive green roof. Jamie took classes in green roof design and installation through Greenroofs for Healthy Cities, the national greenroof industry association. As the property was repaired and renovated, he installed a 150 sq. ft semi-intensive green roof on a section of roof 1 story up, and a 160 sq. ft. extensive green roof above the second story, planting them with a variety of plants in different depths to see what worked and did well. Now, they have built a garage with a 612 sq. ft. flat roof. With the help of Filla DesignBuild and Safe Haven Structural Engineering, the garage is designed to hold the weight of an intensive green roof, with up to 12 inches of growing medium, root mass and plants, as well as snow load during the winter. The garage is sloped to route any water not retained by the green roof away from the alley, into rain barrels between the garage and the house. Any water in excess of what is captured by rain barrels will flow into gardens, planters and a driveway made of over 400 sq feet of lattice style, permeable turfstone pavers that will be planted with grasses to minimize water runoff and maximize absorption into the ground.

With the help of a Cost Share grant, Jamie will be able to maximize the soil depth and plantings on the green roof, capturing the maximum amount of stormwater and increasing the amount of pollinator friendly plants on the roof. In a year with average precipitation (31 inches), I estimate this roof and connected rain barrels will capture up to 9,000 gallons of rainwater and snowmelt which would otherwise flow into the alley, and into the storm sewer system. Other benefits include pollinators for bees and birds and air quality. Hundreds of square feet of planted area filling a space that would otherwise be paved or shingled will lower the heat absorption from sunlight in the summer, reducing the urban heat island effect. The plants will also help filter the urban air, consuming CO2 and VOCs and releasing Oxygen.

Planned outreach includes the use of social media to reach out to others interested in green roofs to help with installation and planting and to build an outreach list and build an audience for facebook.com/croptopgreenroofs. Other outreach techniques include a Roofwarming party a party for neighbors and others interested in the project will be held upon completion of planting. The project is visible, and homeowner is willing to hold tours. The greenroof and raingardens complement the existing turfstone pavers with grass growing through them.

The total cost for draintile, engineered soil, gravel, plants and other materials and install, the total cost of installing the greenroof on top of the already built garage is \$10,464.20. Staff recommends 50% funding of the project, not to exceed the homeowner cap of \$2,500.

Project #12- Marcie Rendon, 4241 27th Ave S, Minneapolis

Marcie Rendon Has recently had her entire yard disturbed from a need to raise her home and create a new foundation for it to be re-positioned on. This has left her with a completely blank slate for the landscape minus a few mature trees. Marcie would like to direct runoff away from their home's foundation, but still promote infiltration onsite if at all possible. Marcie worked with Earth Wizards to come up with a design plan that incorporates three small raingardens, a dry creek bed and some existing rainbarrels to minimize runoff leaving the property. Marcie is a local writer and poet who focus on Native American cultures. She has outlined in her outreach to promote clean water through her work, as

well as collaborating with Master Water Stewards on outreach efforts. She is also willing to post up educational signage, host a neighborhood block party to showcase project. Marcie is in communication with the master gardener and master water steward programs for other outreach assistance. The project is within rather close proximity to Lake Hiawatha, and can definitely be tied into the outreach of a tour with other raingardens within a close proximity. The soil on the property is heavy clay. A 6" deep hole, filled with water, can take up to ½ an hour to sink in. Given this, the proposed rain gardens and dry creek beds will need at least a 12" sand/compost mix for proper filtration. They will build the raingardens to be an ambiguous size to fit around the existing tree roots. The roof runoff will be captured and diverted through NDS boxes and draintile to the gardens.

The total project cost that qualifies for cost share funding is \$3,354.05. Staff recommends 75% approval, not to exceed \$2,500.

Project #13- Mary Alden, 4517 Brookside Terrace, Edina

Mary has a large sloped yard down to Minnehaha Creek in Edina very close to 50th and Hwy 100. There is minimal erosion to the existing streambank, but it is currently mowed down to about 10' from the streambank, and then overgrown with invasive reed canary and shrub thicket. This project will be a great addition to existing sustainable practices on the property. The owners were the first home in this area of Edina to have bee hives and will be installing a 40' vegetated buffer along 92' of shoreline with pollinators integrated throughout. The project should not only filter, but infiltrate almost all of the site (.75 acre) runoff draining towards the creek. There is some great outreach potential with an elementary school teacher living at the home to include site specific techniques to be integrated into already ecological oriented curriculum. Homeowner has been in conversation with neighbors and there may be an opportunity to expand buffer to both properties. Homeowner is willing to host open house, and promote project on Minnesota Hobby Beekeepers group and on neighborhood NextDoor web blog.

The total project cost is \$10,340.85, which includes design, materials, install and two years maintenance. This project is replacing existing vegetation on a streambank that has negligible erosion. It has potential for expanding into neighbor's property, but not completely convinced that a 40' streambank buffer is necessary. Staff recommends 50% funding of the project, not to exceed the cap amount of \$3,000.

Project #14- Lee Globus, 3001 Atwater St, Minnetonka

Lee is a current Master Water Steward and this is his capstone project, and also where he will conduct his education and outreach. The project will capture first inch of runoff for drainage area, approximately 5,500sf, 1,300 of which is impervious. The raingarden capacity is 300 cubic feet, so rather large and will capture most of the house and part of the large driveway. The homeowner is a very engaged Master Water Steward who organized the Minnehaha Marsh Neighborhood, and is using NextDoor.com to update the neighborhood on his efforts. He is looking to organize a future buckthorn bust, and was a big volunteer for the Minnehaha Creek Cleanup (single handedly brought in a ton of trash from the creek. Lee has clearly aligned his efforts as a MWS and resident with the District and will create a great demonstration project, and can further help the District with education and outreach to residents with the city of Minnetonka street reconstruction projects in the future.

The total project cost for a dry creekbed, redirection of downspouts and a raingarden are \$5,720. Lee is renting equipment and doing most of the install himself. Staff recommends funding 50% of the project, not to exceed the cap of \$2,500.

Project #15- Elaine Erickson, 3330 Decatur Lane, St. Louis Park

Elaine has owned her home on Minnehaha Creek for over 40 years. With the flooding last spring, she became concerned about the amount of sediment eroding from her yard into the creek and is interested in naturally stabilizing the streambank to prevent further erosion. Elaine has been working with Russ Henry at Giving Tree Gardens to design and restore 19 linear feet of the streambank. The restoration will include a native upland buffer and native emergent aquatic plants, accounting for approximately 324 square feet. Using the MPCA MIDS calculator, the restoration will result in a reduction of 0.17 lbs/yr TP and 31 lbs/yr TSS. Elaine is willing to place educational signage on her property, partner with MCWD to host events, and promote her project through local news sources. Elaine has obtained approval from the City of St. Louis Park to construct the restoration as long as there is a maintenance agreement in place. MCWD

staff is currently processing her shoreline erosion control permit application. The DNR has issued Giving Tree Gardens a permit to transport aquatic plants.

The total cost of the streambank restoration and two years of maintenance is \$3,135.00. Staff recommends funding 50% of the project not to exceed \$1,567.50 contingent on MCWD shoreline erosion control permit.

Project #16- Shelly Urness, 1959 Shorewood Lane, Mound

Shelly recently purchased a home in Mound after moving down from the Brainerd Lakes area, and is surprised at the lack of best practices when it comes to landscaping and runoff management, especially with middle class homes that are not directly on the lake. Her home is located in a densely populated area located off Three Points Boulevard on a point between West Arm and Harrison Bay of Lake Minnetonka. She would like to improve the stormwater runoff situation and have her home be a model for best management practices. Shelly initially submitted an application by the homeowner deadline to install a raingarden on her property. Using the new evaluation criteria her project scored under the amount to recommend funding. Since then, staff has visited her site and worked with her to further develop her plan to capture more runoff on site. Initially her design was to capture 1 downspout accounting for a ¼ of her roof runoff. The design has been altered to capture a second downspout, directing ½ of her roof runoff, 875 square feet, to the raingarden. Staff also identified and suggested to install a rain barrel capturing an additional 524 square feet of roof runoff. Shelly has a background in natural resources and now works in public relations. She is committed to showcasing MCWD's efforts through a public relations focus on the homeowner/agency partnership. She has plans to build community capacity within Mound by promoting/planning a neighborhood clean-up, host a raingarden info session, and promote her project on social media.

The total qualifying cost of the raingarden design, materials, and installation is \$9,160. Because the project is tucked away in the back yard, the visibility of the project is minimal. We still see it as an opportunity to install another demonstration project in the dense Three Pints Blvd neighborhood in Mound, and can have multiple homeowners promoting stormwater BMPs in an area of Mound where there is much potential for runoff to be captured before direct discharge to Lake Minnetonka. Staff recommends funding 50% of the project not to exceed \$1,200.

Project #17 Emily and James Bujold, 4909 28th Ave S, Minneapolis

Emily and James are working with two Master Water Stewards to create a raingarden that will capture and direct roof runoff to the front yard to a big raingarden that will add some curb appeal and interest to passersby. Two master water stewards designed the entire property, and chose the one option for a raingarden that would capture the most roof runoff for the first project. Project will capture 1,400 gallons of runoff in a 1.25" rain event. There is great outreach proposed through the Master Water Stewards, and include specific events to kick off the project and planned to happen when completed. This is a highly visible location and great site specific educational signage designed to be installed and will be seen from the sidewalk. The homeowner is a block leader for the Nokomis Alleyway project, so this will be a demonstration for her block to learn more about raingardens.

The total estimated cost for the project is \$2,200. Staff is recommending funding 50% of the project, not to exceed \$1,100.

Project #18- Dave and Kara Walter- 5024 Bruce Ave, Edina

Homeowners Dave & Kara Walter purchased the property in 2014 with the intentions of renovating and preserving a classic home in Edina along Minnehaha Creek. Renovations to the home will be completed in September 2015. There is approximately 335 feet of shoreline on the property. The property is elevated above the creek by as much as 20' at grade. The rains and flood of June 2014 suggested that more attention should be paid to storm water management and capture on site prior to going in the creek.

The project involves strategic placement of two rain gardens on the north and south sides of the property. Storm water catch basins and drain tile will direct water into the rain gardens. The raingardens will be able to capture and infiltrate the first inch of rain from about 2,500 sf of impervious surface. The project also involves strategic placement of natural vegetative materials and trees both evergreen and deciduous to aid in stream bank stabilization. The plant materials were also selected to create a more natural habitat along the creek with specific pollinator plants for the bee population. The project looks to capture a majority of the site storm water runoff, while reducing erosion and promoting

infiltration along the entire creek. The proposed design will be restoring 154' of the streambank above the existing rip rap with a 20' buffer of native vegetation. This particular part of the Master Plan project is in the flood plain and particular attention is being paid to doubling up the silt fences with a 6" separation for maximum protection of the creek during the planting of all plant material. No grading will occur in this area therefore there will be no net gain in soil in the floodplain.

This grant request is a direct response to a stream bank restoration presentation given by District staff to the Arden Park neighborhood gathering at the end of May and a subsequent review on site by staff to review the merits of this project and the vitality of this section of the creek. It will be great to get a demonstration project in this section of the creek, where there is sustained outreach by Master Water Stewards and the Edina Environmental Commission. This is also a neighborhood of Edina that the city is incorporating their living streets policy, and where the city has partnered with the District on incorporating stormwater management throughout the road reconstruction.

The total cost of design, materials and construction for the two raingardens and the streambank stabilization is \$31,316.41. Staff is recommending funding 75% of the project costs, not to exceed the homeowner cap of \$2,500 for the two raingardens and \$5,000 for the streambank stabilization, not to exceed a total dollar amount of \$7,500 in grant funding for the entire project.

Project #19- John McGary, 3850 Day La AND 19350 Park Ave, Deephaven

John McGary got the information about the cost share program from the 'Nextdoor Deephaven' social media post from our current CAC member Brian Girard. John contacted District staff this spring and discussed his intentions for a new driveway for the two properties he owns adjacent to each other, which happen to also be directly adjacent to Deephaven Beach, and which drain directly into Lake Minnetonka. Seeing a large opportunity for both water quality improvement and demonstration of stormwater BMPs, staff walked both properties and brainstormed ideas with John on what the stormwater retrofit could look like. John, who works for Lucid Builders, sees this project as a great opportunity to walk the walk and use his own property as a demonstration to promote these practices within the Builders Association. The proposed plan includes two raingardens capturing a majority of the runoff from the new driveway in the front yards. There are a total of 7 rain barrels proposed to capture roof runoff from the homes, as well as 2 raingardens in the backyard capturing overland flow runoff that has overtime caused erosion and sedimentation at the trail near the beach just downhill from the site. There is also a large proposed restoration of the buffer area between the property and the beach. The city has given John the ability and authority to manipulate all but the last 10' of this 25-30' vegetated slope that is the last chance to filter runoff and minimize erosion before the overland flow would drain across the path to the Deephaven Beach. It is currently semi-vegetated with buckthorn and a few other tree species, where Johns proposed plan includes more native plants and shrubs to cover more of the ground. The approximate drainage that could be captured and filtered through the proposed project is around 40,000 sf, which is more comparable to an alleyway or church project than a majority of our homeowner projects. About 1/3 of the runoff is impervious surface, but there is visible erosion near the Beach from this overland flow. Staff would like to approve funding for the project, but further develop a partnership with both the homeowner and the city. Staff intends to work with the city on the potential to completely restore this buffer area, and add site specific educational signage just off the trail near the public beach.

The total cost for the raingarden excavation, rainbarrels, drain tile, restoration work and plants comes to a total of \$48,328. Staff recommends funding 75% of the project, not to exceed \$5,000 for each of the two properties, not to exceed a total dollar amount of \$10,000. Staff will work with legal counsel, the city and the homeowner to create a holistic project and create an agreement that allows John to maintain the BMPs on both properties, and hopefully expand the restoration project to the bottom of the slope near the city land and beach.