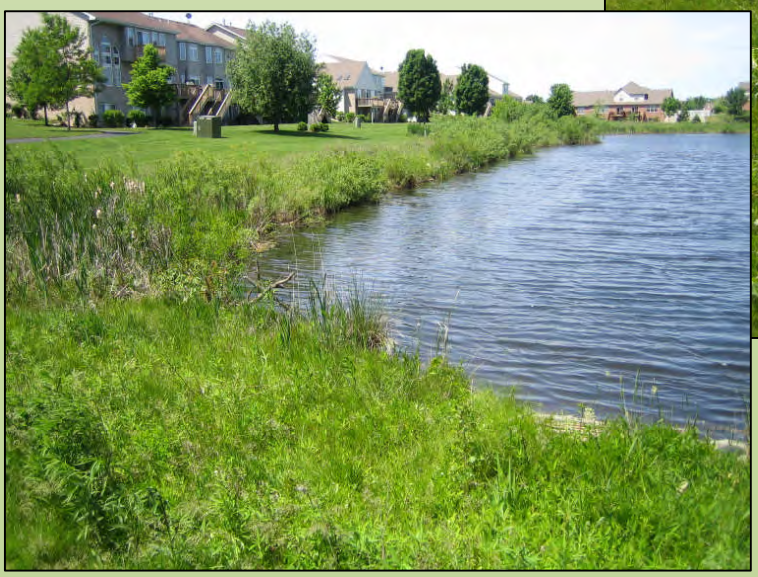
THE VILLAGE OF ORLAND PARK
BASIN BEST PRACTICES PROGRAM

BASIN ASSESSMENT AND MANAGEMENT PLAN REPORT

Report Date:
June 30, 2011

Prepared for:
The Village of Orland Park

Prepared by:
V3 COMPANIES



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TAB 1

Section 1 – Basin Assessment Narrative

This report presents the findings of a basin assessment and management plan that was completed by V3 Companies of Illinois (V3) for the Category A Ponds located in the Village of Orland Park (Village), Cook County, Illinois (See Figure 1, next page). Over 550 stormwater basins exist within the Village. Ownership and maintenance responsibility of 172 of those basins rests with the Village. During 2010, the Village classified twenty four (24) basins as Category A, which means they are High Impact ponds from the standpoint of visibility, maintenance and function. These twenty four (24) basins are the focus of this Basin Assessment and Management Plan Report.

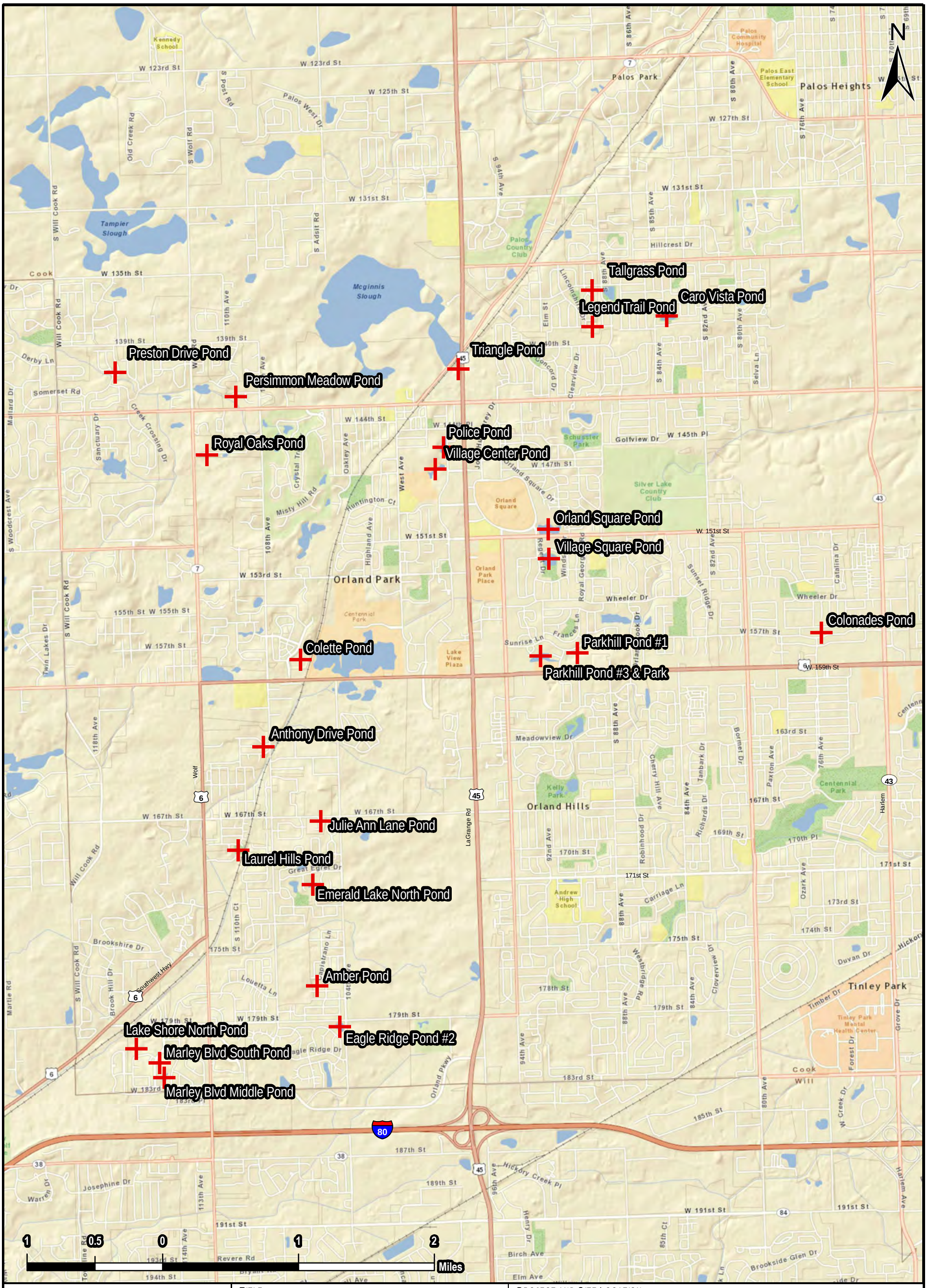
V3 completed the basin field inspections between May 26, 2011 and June 2, 2011, with the exception of Police Pond and Village Center Pond which had been previously assessed by V3 on August 10, 2010 by V3. The inspections were completed by two professionals: Keith Jones, Senior Ecologist and a 15 year expert in the assessment, design and restoration of stormwater facilities, along with Greg Wolterstorff, P.E., Water Resources Engineer and a 15 year expert in hydrology, hydraulics and erosion control associated with stormwater facilities. The basin assessments incorporated an evaluation of the function, vegetation condition, erosion control, and resident use of each basin. See the Basin Assessment Sheets in Appendix 1 for detail on the information evaluated for each of the twenty four (24) basins. The following provides a description of the assessment observations that were performed.

Basin Function. The basin assessments included an evaluation of the stormwater function of each basin by reviewing the above ground and visible condition of each inlet and outlet structure. Signs of end section failure, debris and clogging, and other potential impacts to the stormwater function of the basin were observed and noted. In addition, the toe of slope vegetation was observed to determine if any long drain down periods existed for the basin. One symptom of long drain down is signs of stress on the toe of slope vegetation and bare locations with scour lines above the typical normal water elevation (NWL).

Basin Vegetation. The vegetation growing on each basin slope, toe of slope and basin bottom was observed and noted. The condition of the vegetation, vegetation coverage by percentage, existence of invasive weed species and signs of algae were observed and noted for each of the twenty four (24) basins.

Erosion Condition. Erosion, rills, bare spots, mower wheel tracks and toe of slope scour was observed, noted and photographed for each basin. In addition any signs of muskrat activity (whether historic or active) was observed and noted. These locations give signs of existing or future erosion and sediment control problems that could cause water quality degradation and potentially impact the stormwater function and aesthetics of the basin if not addressed.

Resident Use of Basin. In most cases, the twenty four (24) selected Category A basins were within residential areas and had home owners living adjacent to the basin. Some basins were also incorporated into a Village Park. The resident use of the basin was observed and noted and specific attention was given to making sure that future beneficial use of the basins was maintained and protected.



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TITLE: **Basin Locations**	PROJECT AND SITE LOCATION: **2011 Basin Best Practices Program Orland Park, IL, Cook Co.**		
BASE LAYER: StreetMap USA	PROJECT NO. 10165.BASIN	FIGURE: Pond Locations	SHEET: 1 OF: 1
CLIENT: **Village of Orland Park Village Hall 14700 Ravinia Drive Orland Park, Illinois 60462**	QUADRANGLE: N/A	DATE: 05/26/11	SCALE: See scale bar

Exhibit B
Village of Orland Park
List of Basins

Current Maintenance Category	Site ID	Name	Location	Subdivision	Owner ID	Date_Accept	Pond Type	Site size
A	0204	CARO VISTA POND	13799 84th Ave		6001		WET	4.13
A	0310	TALLGRASS POND	13621 Tallgrass Tr		6001	4/10/2007	WET	3.60
A	0311	LEGEND TRAIL POND	13835 Legend Tr		6001	4/10/2007	WET	4.20
A	0404	TRIANGLE POND	14060 LaGrange Road		6001	9/30/2008	WET	2.42
A	0508	PERSIMMON MEADOW POND	10957 W. 142nd St		6001		WET	1.51
A	0611	PRESTON DRIVE POND	11626 Preston Drive	Long Run Creek	6001	8/31/2010	DRY	0.54
A	0825	ROYAL OAKS POND	11027 Royal Oaks Ln	Royal Oaks	6001	5/17/2005	WET	1.07
A	0901	POLICE POND	14500 Ravinia Ave		6001		WET	6.25
A	0902	VILLAGE CENTER POND	14650 Ravinia Ave		6001		WET	4.25
A	1002	ORLAND SQUARE POND	9100 W. 151st St		6001		WET	10.50
A	1304	COLONADES POND	7500 W.157th St		6001		WET	2.75
A	1501	VILLAGE SQUARE POND	9125 Kensington Way		6001		WET	8.41
A	1502	PARK HILL POND #1	15799 Parkhill Dr	Park Hill	6001		WET	7.32
A	1505	PARKHILL POND #3 & PARK	15798 Parkhill Dr	Park Hill	6001		WET	9.35
A	1716	COLETTE POND	15801 Park Station Blvd	Colette Highlands	6001	10/20/2005	WET	9.70
A	2007	ANTHONY DRIVE POND	10831 Anthony Dr	Spring Creek Place	6001	8/1/2005	WET	1.70
A	2908	LAUREL HILLS POND	11001 Laurel Hill Dr		6001		DRY	0.82
A	2909	EMERALD NORTH POND	17062 Kerry Ave	Forest View Estates	6001	5/4/2005	WET	1.36
A	2929	JULIE ANN LANE POND	16711 Julie Ann Lane	Hunter Point	6666		WET	0.61
A	3118	LAKE SHORE NORTH POND	11548 Lake Shore Dr		6001	8/1/2007	WET	3.10
A	3120	MARLEY BLVD MIDDLE POND	18121 Marley Blvd		6001		WET	2.10
A	3121	MARLEY BLVD SOUTH POND	18211 Marley Blvd		6001		WET	2.32
A	3202	EAGLE RIDGE POND #2	17900 104th Ave		6001		WET	5.10
A	3208	AMBER POND	10510 Amber Ln		6001		DRY	1.83

TAB 2

Section 2 – Proposed Management Plan Narrative

V3 prepared a management plan for each of the twenty four (24) selected Category A basins in order to restore the function, aesthetics, water quality buffer and stable slope conditions for each basin. The recommendations for each basin varied. The plan includes a broad range of recommendations, from a stewardship plan, to earthwork and stabilization activities to address significant erosion issues.

V3 has prepared conceptual cost estimates for each of the recommended site activities on the twenty four (24) selected Category A basins. These estimates include contingencies based on the level of complexity of the basin improvements and also include soft costs for spot topography, engineering and permitting for those basins that are recommended for Stabilization and Restoration. The Management Plans and Cost Estimates for each basin are provided in Appendix 2 – Proposed Management Plans & Cost Estimates.

Stewardship. Basins that had predominately native vegetation on the side slopes and along the water line and that had a large enough buffer for adequate water quality purposes were recommended to go directly into a stewardship plan. Five (5) basins met this criteria for the proposed management plan. The site activities generally consisted of weed control, prescribed burning and some miscellaneous work such as woody species control or installation of emergent plants along the shoreline. V3 has provided a three (3) year stewardship plan in the recommendations of this report. Long term stewardship by the Village should be considered and budgeted for these natural areas, similar to the ongoing maintenance of the Village owned turf areas.

Buffer Expansion. Nine (9) basins had side slopes that were dominated by turf grass with small buffer areas (5'-10') of un-mowed turf and weeds around the water edge. If the expansion of this buffer could be accomplished without impacting the resident use of the basin, then V3 recommended buffer expansion to 25'-30' native buffers. Site activities would include herbicide of the turf grass, installation of native seed and blanket and a 3-year stewardship plan to maintain and encourage establishment of the new native buffers. Miscellaneous work also may include control of woody plant species and installation of emergent plants along the shoreline.

Stabilization and Restoration. When the conditions of the basin included significant erosion along the shoreline that may impact private properties or safe resident use of the basin in the next couple of years, then V3 recommended stabilization and restoration of the basin side slopes. The site activities would include earthwork and reshaping of the banks, installation of native seed and blanket and installation of emergent plantings along the shoreline. In many cases, these projects also included buffer expansion to protect erosive failures from occurring in the future using deep rooted native vegetation surrounding the basin. Six (6) basins were in the condition that required this additional level of stabilization and restoration work to be performed.

Dry Basins. Three (3) basins within the Category A list were dry basins that were predominately mowed turf grass. Some landscape changes were recommended to improve the maintenance requirements for the Village. In one case, some failing landscape areas were recommended for removal, but the rest of the basin was performing well and did not

require restoration. On the other two basins, it appeared that wet bottom conditions made mowing difficult. V3 recommended converting the bottom of those basins to wetland vegetation to eliminate this ongoing mowing maintenance problem and the associated resident complaints regarding the un-mowed areas.

Triangle Basin. The Triangle Basin is completely contained within a five to eight (5-8') foot high concrete wall. It was originally designed and planted as an ornamental landscape basin, but has fallen to weed pressure because of the difficult access and lack of maintenance of this landscape area. The Village is going to determine how they want to re-plant the landscape of this basin and accomplish ongoing maintenance.

Operational Actions by the Village

On a number of basins, the previous stabilization and operational actions taken by the Village were evident. V3 discussed these past activities with Village staff. In many cases, the signs of fiber roll installations were obvious due to the existing wood stakes or remaining fiber rolls along the shoreline at the toe of slope. Additionally, the Village indicated that these basins are mowed by a contract mower and the amount of buffer that was present on the shoreline was shrinking each year due to "mower creep" by the Village contractor. To improve basin performance, there are minor modifications that should be made to the operational actions of the Village staff and contractors which are noted below.

Fiber Roll Installation.

It is evident that a substantial amount of time and Village budget dollars were spent installing fiber roll along the shoreline of many stormwater basins. Unfortunately, without the correct native plantings and long term management of these areas, the fiber roll will degrade after a couple of years. Once the fiber roll degrades, bare slopes are exposed behind the roll and the permanent blanket is also exposed which causes a barrier to growth of new vegetation.

Installation of fiber roll is a good way to establish new native plantings along the waterline of a basin, but without correct planting and management of these areas, it is not a sustainable use of time and budget dollars. This process will be reviewed with V3 restoration experts to make sure installation of fiber roll is done in the correct situation and with appropriate sustainable techniques. This stabilization technique will be incorporated into the training presentation for staff that is part of the Basin Best Practices Program.

Woody Species Clearing.

It is evident that woody species clearing has occurred in a few locations. When discussing the technique of clearing with the Village staff, it became apparent that this process is not done in the most effective manner for long term control of unwanted woody growth. Village staff indicated that summer clearing is common, however, when these tree and shrub species are cut in the summer, they will quickly re-sprout and may actually become denser in the next year than prior to removal. Woody species clearing should be performed between November 15 and March 15. Appropriate herbicide should be applied to the cut stump by a licensed applicator within 24 hours of cutting in order to maximize control efforts of unwanted woody species. This woody species control technique will be incorporated into the training presentation for staff that is part of the Basin Best Practices Program.

Reduction in Mowing.

Most of the basins within the Village ownership have a contracted mowing company performing the turf grass maintenance. The un-mowed buffer along most of the basins is smaller than V3 would recommend for water quality and bank stabilization purposes. In some cases, improving the basins could be as simple as having the mowing company reduce the mowing encroachment toward the water line. V3 recommends working with the mowing contractor to reduce the mowing area around the stormwater basins throughout the Village.

Amber Pond Outlet Baffle.

A large outlet baffle has been constructed at Amber Pond to slow water down as it enters the basin. Sediment accumulation has occurred on the downstream end of the basin approximately 18 inches below the invert elevation of the storm sewer. Apparently the Village has performed a number of clean up events by hand for this sediment because of the difficulty of working with a bobcat around the structural components of the baffle. V3 recommends allowing some of this siltation to occur without removing it around those structural areas as long as the sediment does not reach an elevation above the invert of the storm sewer. This additional sediment will not impact performance of the storm sewer and will cover the concrete baffle which will make mechanized maintenance possible in the future.

Weed and Feed Fertilizer on Turf Grass.

On a few basins, herbicide treatments were performed on desirable native plant species. This may have occurred from weed-and-feed fertilizer on the adjacent turf grass, or due to direct herbicide application to those plant species. In the case where fertilizer and herbicide is being used on the turf and pond buffer areas, the type of fertilizer and extent of treated area should be reviewed by the Village (or their consultant). It is important that a licensed herbicide applicator with knowledge of plant species perform any commercial herbicide applications. It is also important to make sure that nutrients from this fertilizer do not enter the ponds because it will increase the algae blooms in the water. In addition, it is advised that a “no-mow” turf transition exist between the mowed turf grass and the native prairie species to minimize this overlap into the desirable native species. The selection of fertilizer and appropriate buffers from application will be incorporated into the training presentation by V3.

Algae Treatments.

A number of basins receive algae treatments every two (2) weeks by the Village’s aquatic herbicide contractor. Unfortunately, these basins are also being mowed close to the water line, and either the Village or the adjacent residents are applying fertilizer to keep the grass green and the broadleaf weeds in check. The fertilizer is likely entering the water of the adjacent pond due to the narrow vegetative buffers that exist. The nutrients from the fertilizer will cause an expansion of algae growth in the basins, which is counter productive to the ongoing algae treatment program. V3 recommends that the Village review the fertilizer treatment program with the algae treatment program to make sure they are compatible and not counterproductive. V3 also recommends that adequate buffers be placed to keep the nutrients from entering the water.

Natural Area Focus.

The Village of Orland Park is in a unique and enviable position, compared to other municipalities, based on the number of stormwater basins and natural areas within the Village. Orland Park owns 172 basins and has over 550 within the municipality. In addition there are a large number of natural areas within the Orland Park boundaries that are owned by the Village or the Forest Preserve Districts of Cook and Will Counties. Orland Park must embrace these unique natural assets as a benefit to the community and create a sustainable program for maintenance and stewardship of these areas. V3 recommends identifying an individual within the Village that focuses on ponds and natural areas. V3 will be working with the Village through this Basin Best Practices Program to create a sustainable program for the long term enhancement and stewardship of these Village assets.

TAB 3

Section 3 – Conclusion

V3 has completed basin assessments and proposed management plans of twenty four (24) Category A basins, as determined by the Village of Orland Park. In general these basins are functioning well from a stormwater perspective based on the visual observations of inlet/outlet conditions and limited signs of vegetation stress along the shoreline. However, proposed improvements have been recommended by V3 within this report to address the concerns of stabilization, water quality and aesthetics. The purpose of these recommendations is to establish a three-year plan of activities that lead toward the long term sustainability of the Category A stormwater basins within the Village of Orland Park. This process of assessment, management plan, prioritization and implementation can be applied to the Category B basins as well, to best evaluate and apply budget dollars toward stormwater basin improvements of the High and Moderate Impact Basins in the Village.

The Village of Orland Park is in a unique position because of the amount of natural features, including stormwater basins, which exist within the municipal boundaries. These natural features can have a positive impact on the entire community when they are embraced as valuable assets and maintained in accordance with the best practices for stewardship natural areas. V3 has provided a number of recommendations regarding the operational activities associated with the stormwater basins that are performed by the Village. V3 will continue to work with the Village staff through the Basin Best Practices Program and the implementation of these improvements to train and transfer knowledge for future basin work in the Village. The condition and aesthetics of the stormwater basins in Orland Park will improve as these recommendations and management plans are implemented across the Village.

APPENDIX 1

Appendix 1 – Basin Assessments and Management Plans

POND MANAGEMENT PLAN SUMMARY SHEET

Narrative: The following pond management plan summary provides the concept construction estimates for the Category A Basins (as defined by Orland Park). A number of basins are recommended to go into stewardship with minor Year 1 restoration activities. Typical year one cost associated with these basins range from $6,000 to $15,000 depending on the pond size. An additional set of basins have vegetation management recommendations which includes expasion of prairie buffer into the existing turf areas around the basin or conversion of dry bottom basins to wetland bottom. Typical year one cost associated with these expansions of buffer areas is approximately $10,000 per acre for herbicide, soil prep, seed & blanket. The final group of basins incorporate earthwork and shoreline regrading work to stabilize and restore the shoreline. These projects should include some soft costs (spot topography, engineering and permiting) as well capital expenditures ranging from $50,000 to $150,000 for the year one cost.

Short-Term Management Recommendations
YEAR 1 - 3

ID Number	Basin Name	Recommendation	Construction Start	COST ESTIMATE SUMMARY				
				Year 1	Year 2-3	Contingency	Soft Costs	Total Cost
1	Caro Vista Pond	Stabilization & Restoration	October 1, 2011	$94,650	$9,450	$10,410	$10,410	**$124,920**
2	Tallgrass Pond	Stewardship	July 1, 2011	$6,600	$7,800	$1,440	N/A	**$15,840**
3	Legend Trail Pond	Stewardship	July 1, 2011	$7,100	$7,800	$1,490	N/A	**$16,390**
4	Triangle Pond	TBD	TBD	TBD	TBD	TBD	TBD	**$0**
5	Persimmon Meadow	Stewardship	July 1, 2011	$11,100	$8,200	$1,930	N/A	**$21,230**
6	Preston Drive	Convert Wetland Bottom	October 1, 2011	$8,325	$4,700	$1,303	N/A	**$14,328**
7	Royal Oaks	Buffer Expansion	October 1, 2011	$9,750	$4,700	$1,445	N/A	**$15,895**
8	Police Pond	Stabilization & Restoration	October 1, 2011	$55,200	$8,700	$6,390	$12,780	**$83,070**
9	Village Center Pond	Stabilization & Restoration	Ongoing	V3 Design/Build Contract				**$67,850**
10	Orland Square Pond	Buffer Expansion	October 1, 2011	$62,300	$12,300	$7,460	$14,920	**$96,980**
11	Colonades	Buffer Expansion	October 1, 2011	$11,600	$8,550	$2,015	N/A	**$22,165**
12	Village Square	Buffer Expansion	October 1, 2011	$25,500	$5,800	$3,130	N/A	**$34,430**
13	Parkhill Pond #1	Stabilization & Restoration	October 1, 2011	$124,000	$14,800	$13,880	$27,760	**$180,440**
14	Parkhill Pond #3 & Park	Stabilization & Restoration	October 1, 2011	$103,950	$11,550	$11,550	$23,100	**$150,150**
15	Colette Pond	Stewardship	July 1, 2011	$20,600	$12,800	$3,340	N/A	**$36,740**
16	Anthony Drive Pond	Stewardship	July 1, 2011	$6,600	$5,300	$2,380	N/A	**$14,280**
17	Laurel Hills Pond	Convert Wetland Bottom	October 11, 2011	$20,850	$5,200	$2,605	N/A	**$28,655**
18	Emerald North Pond	Stabilization & Restoration	October 11, 2011	$55,350	$5,050	$6,040	$12,080	**$78,520**
19	Julie Anne Lane	Buffer Expansion	October 11, 2011	$11,990	$5,000	$1,699	N/A	**$18,689**
20	Lake Shore North Pond	Buffer Expansion	October 11, 2011	$24,250	$8,300	$3,255	N/A	**$35,805**
21	Marley Middle Pond	Buffer Expansion	October 11, 2011	$18,250	$6,200	$2,445	N/A	**$26,895**
22	Marley South Pond	Buffer Expansion	October 11, 2011	$21,250	$6,075	$2,733	N/A	**$30,058**
23	Eagle Ridge Pond 2	Buffer Expansion	October 11, 2011	$42,450	$12,050	$5,450	N/A	**$59,950**
24	Amber Pond	Remove Landscape Areas	July 1, 2011	$3,000	$0	$300	N/A	**$3,300**
			TOTALS:	**$744,665**	**$170,325**	**$92,689**	**$101,050**	**$1,176,579**

BASIN PRIORITIZATION

Narrative: The following is V3's assessment of the priorities for implementation with the 2011 Budget. Ffive basins are in excellent condition and stewardship is the only recommendation, therefore these basins are the highest priority in order to maintain these conditions. The next level of attention should be given to the basins that have extreme erosion that needs to be addressed. V3 has ranked these by the visibility from major public areas (primary roadways or Village Hall). Next, V3 believes the buffer expansion sites will have a beneficial impact on water quality and stabilization, but these basins are functioning well and are fairly stable. The basins within this category have been lined up according to visibility and highest priority need. Finally, the dry ponds have some recommended improvements, but they are very low on the priority list.

Priority	ID Number	Basin Name	Recommendation	Construction Start	Total Cost
1	15	Colette Pond	Stewardship	July 1, 2011	**$36,740**
2	2	Tallgrass Pond	Stewardship	July 1, 2011	**$15,840**
3	3	Legend Trail Pond	Stewardship	July 1, 2011	**$16,390**
4	16	Anthony Drive Pond	Stewardship	July 1, 2011	**$14,280**
5	5	Persimmon Meadow	Stewardship	July 1, 2011	**$21,230**
6		Imperial East Pond	Outlet Replacement	November, 2011	**$17,731**
7	9	Village Center Pond	Stabilization & Restoration	Ongoing	**$67,850**
8	8	Police Pond	Stabilization & Restoration	October 1, 2011	**$83,070**
9	1	Caro Vista Pond	Stabilization & Restoration	October 1, 2011	**$124,920**
10	13	Parkhill Pond #1	Stabilization & Restoration	October 1, 2011	**$180,440**
11	14	Parkhill Pond #3 & Park	Stabilization & Restoration	October 1, 2011	**$150,150**
12	18	Emerald North Pond	Stabilization & Restoration	October 11, 2011	**$78,520**
13	23	Eagle Ridge Pond 2	Buffer Expansion	October 11, 2011	**$59,950**
14	10	Orland Square Pond	Buffer Expansion	October 1, 2011	**$96,980**
15	12	Village Square	Buffer Expansion	October 1, 2011	**$34,430**
16	21	Marley Middle Pond	Buffer Expansion	October 11, 2011	**$26,895**
17	22	Marley South Pond	Buffer Expansion	October 11, 2011	**$30,058**
18	11	Colonades	Buffer Expansion	October 1, 2011	**$22,165**
19	19	Julie Anne Lane	Buffer Expansion	October 11, 2011	**$18,689**
20	7	Royal Oaks	Buffer Expansion	October 1, 2011	**$15,895**
21	20	Lake Shore North Pond	Buffer Expansion	October 11, 2011	**$35,805**
22	6	Preston Drive	Convert Wetland Bottom	October 1, 2011	**$14,328**
23	17	Laurel Hills Pond	Convert Wetland Bottom	October 11, 2011	**$28,655**
24	24	Amber Pond	Remove Landscape Areas	July 1, 2011	**$3,300**
25	4	Triangle Pond	TBD	TBD	**$0**
				TOTALS:	**$1,194,310**

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/31/11

SITE INFORMATION:

NAME: Caro Vista Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE

SEDIMENT BASIN PRESENT NO

BASIN BOTTOM – VEGETATION: TURF GRASS X

NATIVE VEGETATION/WETLAND X

CONCRETE LINED CHANNEL

OTHER

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Open H_2O

PRIORITY WEEDS: Grass Carp

TOTAL VEGETATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION:

SIDE SLOPES: TURF GRASS X RIP-RAP

NATIVE VEGETATION (see below) OTHER

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Poa pra, Pyc vir, Pha aru, Canada thistle, mulberry

PRIORITY WEEDS: Pha aru, Poa pra, Thistle spp., mulberry

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)

ADDITIONAL COMMENTS ON VEGETATION: Natives present from prior restoration. Turf 1° component of buffer/slope. Muskrats have heavy presence, but trapped. Slopes gentle on west and southwest side. Steep eroded slopes on remaining sides. Good to do vegetative swale in northwest.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 8 TYPE RCP SIZE Various

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: Erosion is exposing FES. Rebar used to hold them in place. Failed FES should be repaired

OUTLET TYPE: CULVERT Restrictors - 10'' PVC and 12'' PVC SURFACE WEIR _____

OUTLET PROBLEMS: None

OVERFLOW CONDITIONS/PROBLEMS: -Overflow gate 2' X 5' to 60" RCP

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Low

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): Yes - several

LOCATION: Locations of sump pump discharge at top of bank

SHORELINE EROSION PRESENT (YES/NO): Yes – severe – east

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9" (3'- 4')

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Unstable

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes - Various, 5 Muskrats trapped recently

RESIDENT USE OF BASIN:

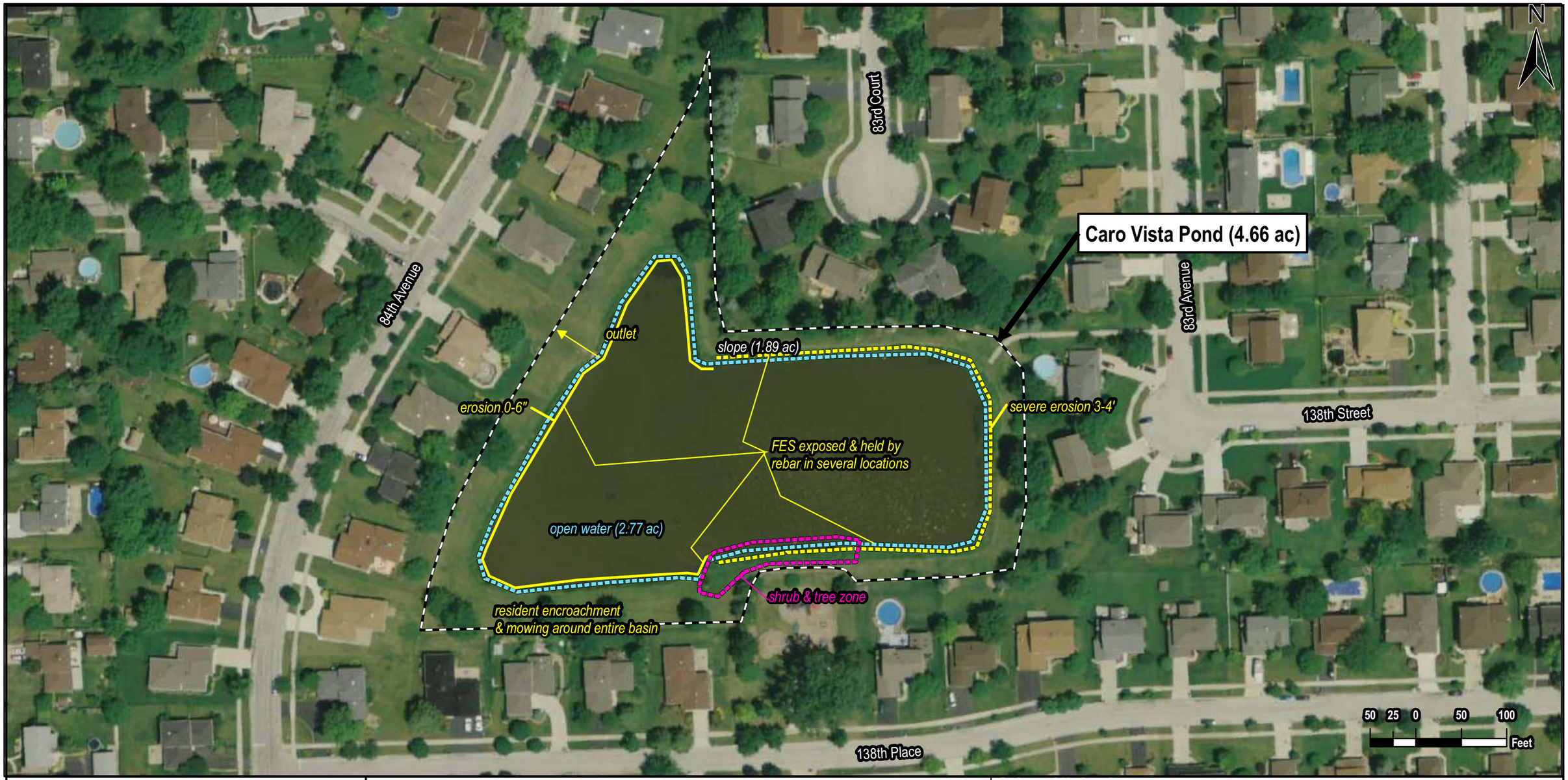
TOT LOT PRESENT (YES/NO): Yes LOCATION: South of basin

TURF PLAY AREA PRESENT (YES/NO): Yes LOCATION: Park & surrounding edge

RESIDENT USE OBSERVED (YES/NO): Yes – use of park area and surrounding edge

ADDITIONAL COMMENTS ON USE: Resident mowing of village property to gain more turf area.

Typical 25'- 35' of mow with 5'- 10' of buffer



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TITLE: **Assessment**		Project and Site Location: **Caro Vista Pond, 13799 84th Avenue, Orland Park, IL, Cook Co.**	
Base Layer: AirPhoto USA 2008		Project No.: 10165.BASIN	FIGURE: Caro Vista
CLIENT: **Village of Orland Park, Village Hall, 14700 Ravinia Drive, Orland Park, Illinois 60462**		QUADRANGLE: N/A	DATE: 06/02/11
			SHEET OF: 1 1
			SCALE: See scale bar

Pond 1: Caro Vista Pond

PHOTO 1

5-31-2011

Eastern Portion of Caro Vista Pond: View east. Significant toe erosion along far slope.

PHOTO 2

5-31-2011

Flared End Sections are undermined and falling into the lake. Attempt to keep them in place with rebar is not working.

PHOTO 3

5-31-2011

Northeast Corner – Sheer banks with 3 feet of vertical sloughing. Existence of stakes and permanent blanket from previous restoration efforts.

Pond 1: Caro Vista Pond

PHOTO 4

5-31-2011

Permanent blanket exposed – minimal vegetative growth

PHOTO 5

5-31-2011

Minimal buffer (5-10 feet). Residential mowing into Village property shown on right side of photo.

PHOTO 6

5-31-2011

Dense area of weeds (thistle, reed canary grass & teasel), trees and shrubs near playground area.

#1 Caro Vista Pond
Engineers Opinion of Probable Construction Cost

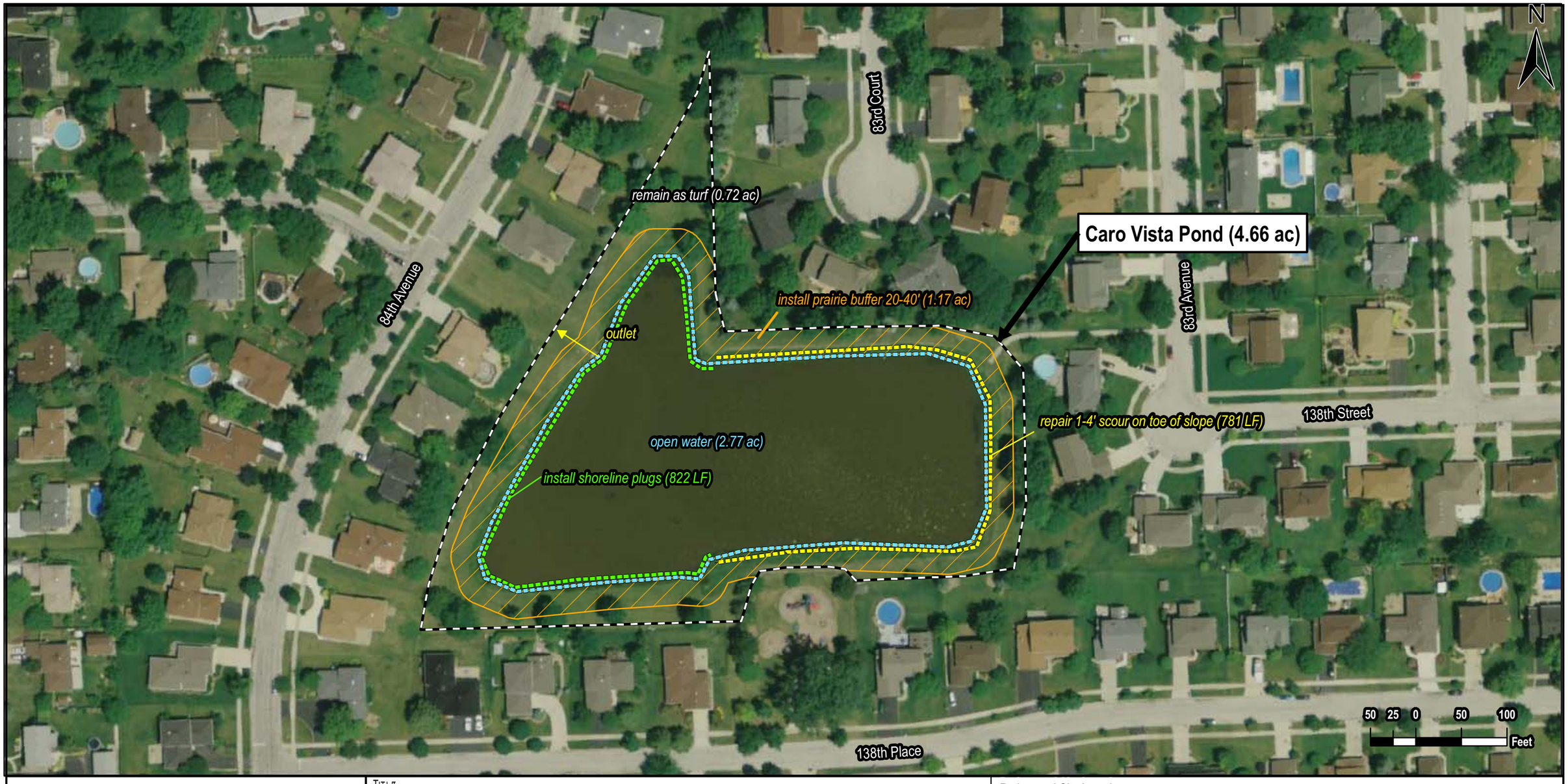
Narrative: Caro Vista Pond is a wet basin which has been restored in the past with bank shaping and fiber roll installations. However, the banks continue to experience significant erosion on the eastern half of the basin likely due to muskrat damage and wind action along this steep slope. V3 recommends repairing the banks along the eastern half of the basin with re-grading, native shoreline plugs and native prairie buffer. Also recommended to install shoreline plugs around western half of basin to protect shoreline along with a 20-40' native prairie buffer around the entire basin.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Boomspray	polaris, turf grass	1.5	Acre	$1,000	2	$3,000
Shoreline Restoration	Regrading, Bank Repair, Topsoil Import, Clay Export	1000.0	Ft	$50	1	$50,000
Slope Shaping	Shape Toe w/ Mini	1000.0	Ft	$10	1	$10,000
Seeding Prep	Rake Topsoil	1.5	Acre	$500	1	$750
Seeding	Site Area, 1 Year Guarantee	1.5	Acre	$3,500	1	$5,250
Blanket	S150BN	1.5	Acre	$7,300	1	$10,950
Wetland Plugs	Water perimeter, 2000 lin ft., 1 ft. center	2000.0	EA	$5	1	$10,000
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	1.5	Acre	$500	2	$1,500
Weed Control (spot spraying)	2 people, 1 day (2 in Yr 1)	1.0	EA	$1,000	2	$2,000
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$94,650

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	2 people, 1 day (2 per year)	1.0	EA	$1,000	4	$4,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	1.5	Acre	$500	1	$750
Prescribed Burn	Years 3 Coordination & 5 person crew	1.0	EA	$3,500	1	$3,500
Site Inspections/Meetings	each year	1.0	EA	$600	2	$1,200
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$9,450
					Contingency (10%):	$10,410
					Soft Costs (Survey, Engr, Mngt - 20%):	$20,820
					GRAND TOTAL YEAR 1-5:	$135,330

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE

Proposed Management Plan

Project and Site Location:

Caro Vista Pond
13799 84th Avenue
Orland Park, IL, Cook Co.

Base Layer:

AirPhoto USA 2008

CLIENT

Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project No.:	FIGURE	SHEET
10165.BASIN	Caro Vista	OF. 1 1

QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/31/11

SITE INFORMATION:

NAME: Tallgrass Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE

SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS

NATIVE VEGETATION/WETLAND X

CONCRETE LINED CHANNEL

OTHER

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Ele ery, Jun tor, water plantain, Sal int

PRIORITY WEEDS: Pha aru, Phr aru, willow, cottonwood

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
ADVENTIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Native dominance, needs burn, several muskrat dens observed, non-mow turf being mowed, no trees in prairie (planted), some trees in prairie (volunteer), 0'-10' emergent buffer, one blow out section with blank scour in southeast corner.

SIDE SLOPES: TURF GRASS RIP-RAP

NATIVE VEGETATION (see below) X OTHER X (no- mow turf strip)

NATIVE VEGETATION (IF, APPLICABLE: Les cap, Baptisia sp.

DOMINANT SPECIES (list top five): And ger, Sor nut, Sal int, mix of prairie forbs

PRIORITY WEEDS: Pha aru, Phr aru, willow, cottonwood, sweet clover

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)

ADDITIONAL COMMENTS ON VEGETATION: 100% cover, set non-mow buffer width to match mowing of other mowed areas around, need signage.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 5 TYPE RCP SIZE Various

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: None

OUTLET TYPE: CULVERT Culvert w 7" restrictor SURFACE WEIR Overflow 36" Drop grate

OUTLET PROBLEMS: Restrictor on wrong side of outlet manhole, move restrictor to other side of manhole

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Moderate

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION Minor sandbar willow coming up

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION: _____

SHORELINE EROSION PRESENT (YES/NO): No - Excellent shelf design w/ 3" high 10' wide arch

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable

MUSKRAT DAMAGE OBSERVED (YES/NO): No

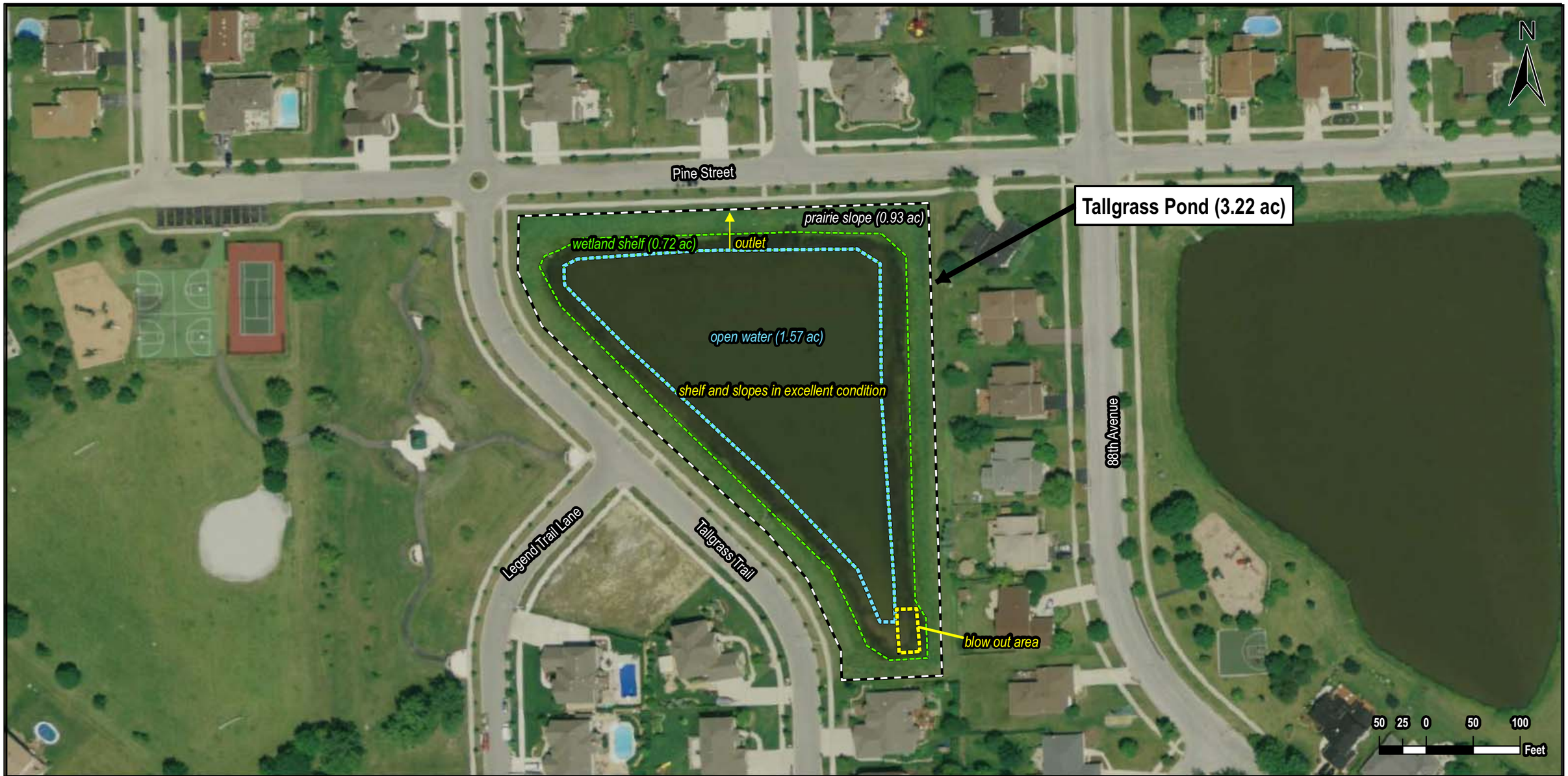
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): Yes LOCATION: Southwest of Basin

TURF PLAY AREA PRESENT (YES/NO): Yes LOCATION: Park to southwest

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Trail/Sidewalk and bench overlooks



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TITLE
Assessment

BASELAYER
AirPhoto USA 2008

CLIENT
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Tallgrass Pond
13621 Tallgrass Trail
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Tallgrass	OF. 1 1
QUADRANGLE	DATE	SCALE
N/A	06/02/11	See scale bar

Pond 2: Tallgrass Pond

PHOTO 1

5-31-2011

Northern slope – transition from sidewalk to turf to no-mow grass to prairie to wetland shelf.

PHOTO 2

5-31-2011

Wetland shelf – some debris piled up from a recent storm and wind fetch. Wetland vegetation generally in excellent condition and very little shoreline erosion.

PHOTO 3

5-31-2011

Southeast corner. Possible historic muskrat or outlet scour damage. Appears stable now.

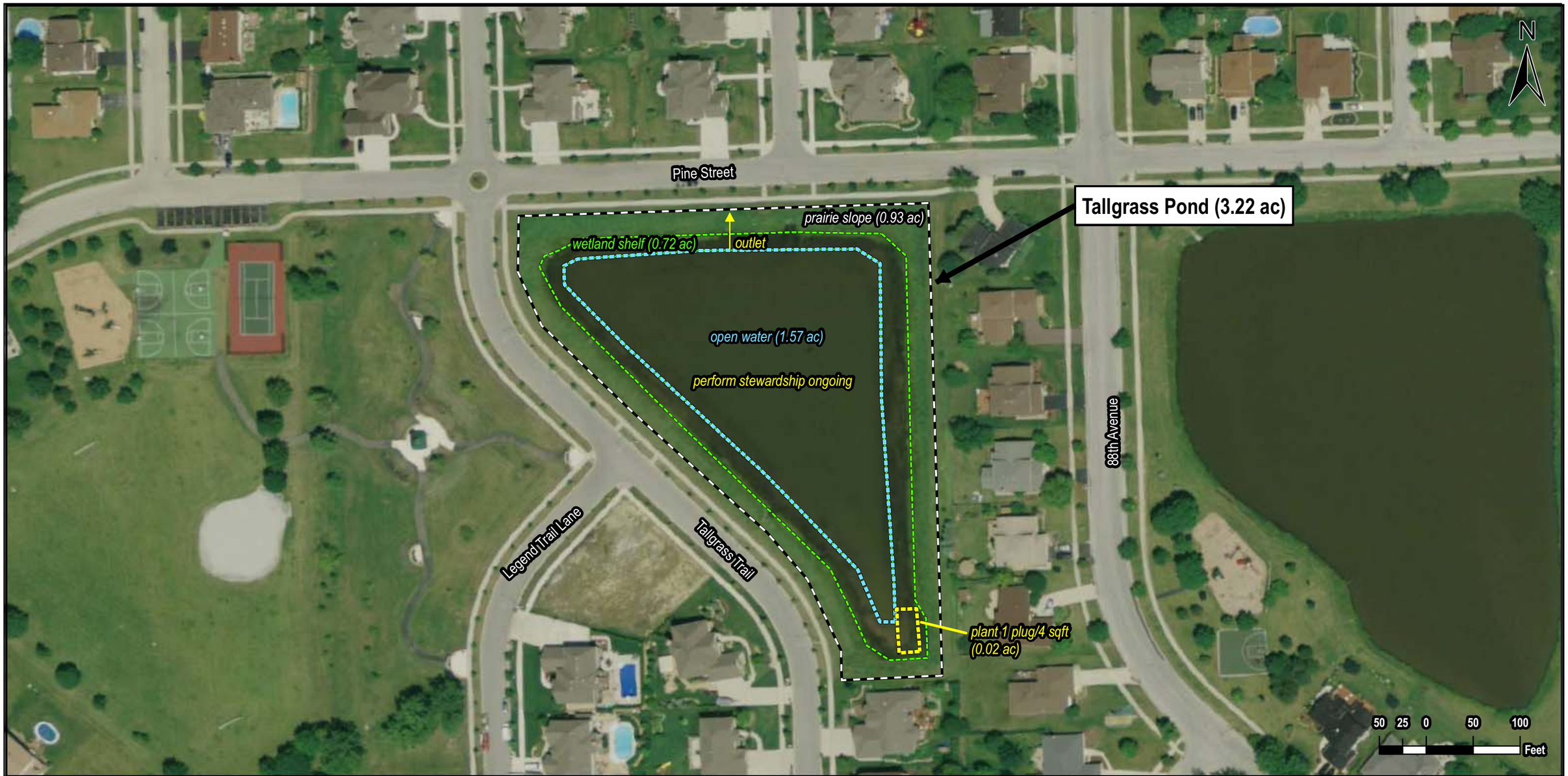
#2 Tallgrass Pond
Engineers Opinion of Probable Construction Cost

Narrative: Tallgrass Pond is a naturalized stormwater basin that was recently received by the Village out of stewardship by a developer. The basin shoreline and slopes are in excellent condition. The desgin of this basin should be incorporated into the design of every new basin with a safety (wetland) shelf that ranges from 0-3 inches above normal water elevation. One section of blow out has occured in the southeast corner of the basin that should be plugged. The fish and aquatic species appear healthy and vibrant and the algae growth is not a concern to the Village or residents that live in this community. V3 recommends ongoing stewardship to keep this basin in excellent condition.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	2 people, 1 day (2 per year)	1.0	EA	$1,000	2	$2,000
Wetland Plugs	Plant Blow Out Area - 1 every 4 Square Feet	300.0	EA	5	1	$1,500
Prescribed Burn	Years 1 Coordination & 5 person crew	1.0	EA	2,500	1	$2,500
Site Inspections/Meetings	1 each year	1.0	EA	$600	1	$600
					TOTAL:	$6,600
YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	2 people, 1 day (2 per year)	1.0	EA	$1,000	4	$4,000
Prescribed Burn	Years 3 Coordination & 5 person crew	1.0	EA	2,500	1	$2,500
Site Inspections/Meetings	each year	1.0	EA	650	2	$1,300
					TOTAL:	$7,800
					Contingency (10%):	$1,440
					GRAND TOTAL YEAR 1-3:	$15,840

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE
Proposed Management Plan

BASELAYER
AirPhoto USA 2008

CLIENT
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Tallgrass Pond
13621 Tallgrass Trail
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Tallgrass	OF. 1 1

QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/31/11

SITE INFORMATION:

NAME: Legend Trail Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE

SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS

NATIVE VEGETATION/WETLAND X

CONCRETE LINED CHANNEL

OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Ele ery, Phy vir, Sci atr, Jun eff, Sal int

PRIORITY WEEDS: Pha aru, Sal int, Lit sal

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%) Edge

NATIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: 100% cover in shelf (5-20' wide), no erosion

SIDE SLOPES: TURF GRASS RIP-RAP

NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE): Rattle snake master, Les cap, Sil per, Sill ac, Bou, cur, oats

DOMINANT SPECIES (list top five): And ger, Sol alt, mix of natives, Mon fis

PRIORITY WEEDS: Sweet clover, Canada thistle, Sandbar willow

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

NATIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: >95% cover, can use supplemental seeding bare/weedy areas, burn needed, need more signage.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 2 TYPE RCP SIZE Various

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: No

OUTLET TYPE: CULVERT 4.85" Restrictor SURFACE WEIR No

OUTLET PROBLEMS: No

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Low

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION Minor – Sandbar willow on N & W slopes

Woody buffer on S. shore – major willow in growth to slopes

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION: No

SHORELINE EROSION PRESENT (YES/NO): No

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable – Great shelf design

MUSKRAT DAMAGE OBSERVED (YES/NO): Minor – not active

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION: _____

TURF PLAY AREA PRESENT (YES/NO): No LOCATION: _____

RESIDENT USE OBSERVED (YES/NO): Fishing

ADDITIONAL COMMENTS ON USE: Adjacent to regional bike path, surrounding sidewalk

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TITLE
Assessment

BASELAYER
AirPhoto USA 2008

CLIENT
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Legend Trail Pond
13835 Legend Trail
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Legend Trail	OF. 1 1
QUADRANGLE	DATE	SCALE
N/A	06/02/11	See scale bar

Pond 3: Legend Trail Pond

PHOTO 1

5-31-2011

Western slope – Wetland shelf and native slopes in good condition.

PHOTO 2

5-31-2011

Southwest Corner – Trees installed in wet meadow area. Trees and natives in good condition.

PHOTO 3

5-31-2011

South Slope. Large wooded area along the south slope. Some volunteer buckthorn and other trees moving down the slope.

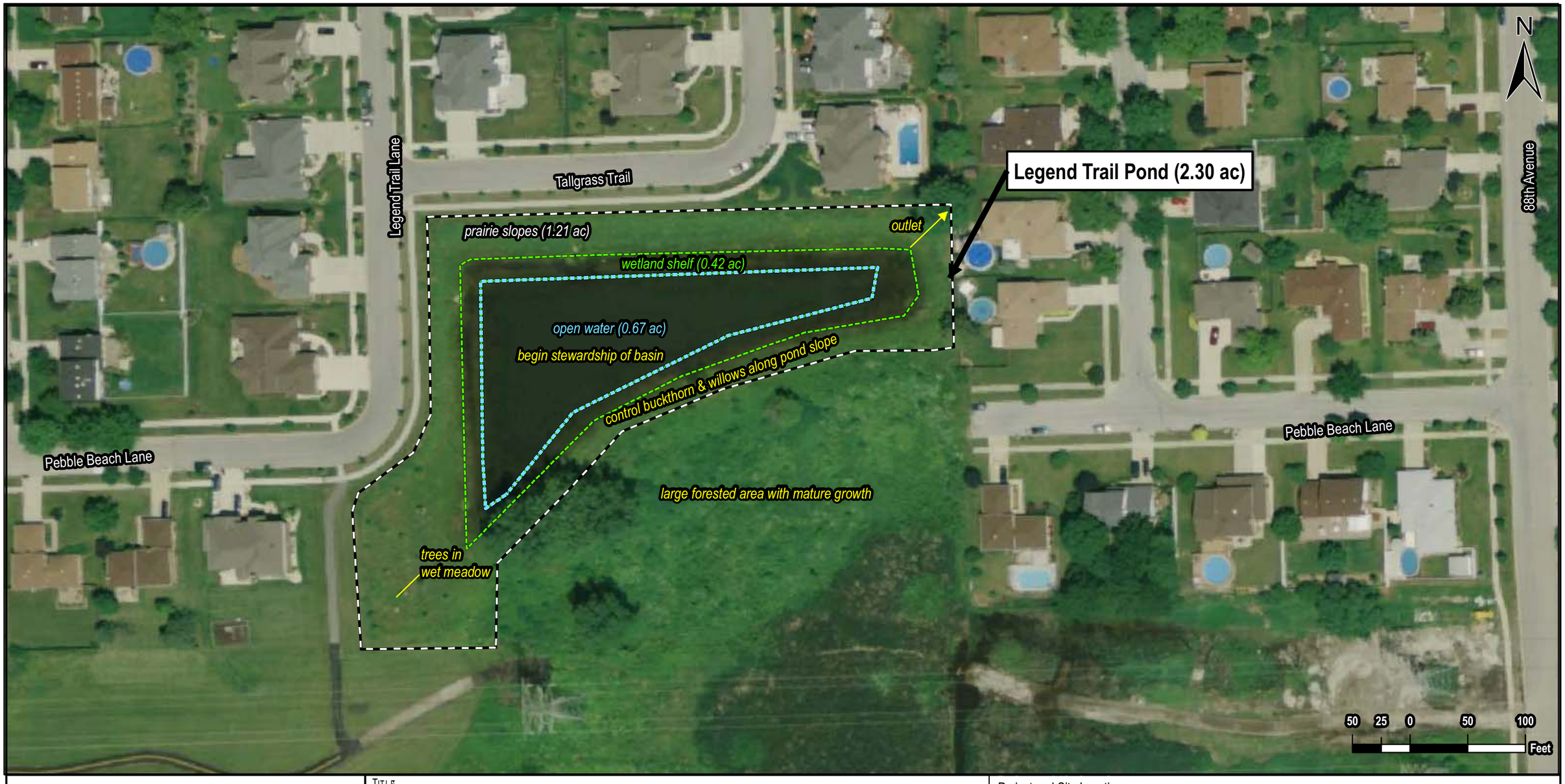
#3 Legend Trail Pond
Engineers Opinion of Probable Construction Cost

Narrative: Legend Trail Pond is a naturalized stormwater basin that was recently received by the Village out of stewardship by a developer. The basin shoreline and slopes are in excellent condition. The desgin of this basin should be incorporated into the design of every new basin with a safety (wetland) shelf that ranges from 0-3 inches above normal water elevation. The fish and aquatic species appear healthy and vibrant and the algae growth is not a concern to the Village or residents that live in this community. There is a woodland buffer to the south of this basin that is expanding into the slopes and tree control is recommended. V3 recommends ongoing stewardship to keep this basin in excellent condition.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1 - 2						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Weed Control (spot spraying)	2 people, 1 day (2 per year)	1.0	EA	$1,000	2	$2,000
Woody Species Control	Cut & Herbicide buckthorn and willow from pond slopes (Fall/Winter)	1.0	EA	2,000	1	$2,000
Prescribed Burn	Years 1 Coordination & 5 person crew	1.0	EA	2,500	1	$2,500
Site Inspections/Meetings	1 each year	1.0	EA	$600	1	$600
					TOTAL:	$7,100
YEAR 2 - 3						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Weed Control (spot spraying)	2 people, 1 day (2 per year)	1.0	EA	$1,000	4	$4,000
Prescribed Burn	Years 3 Coordination & 5 person crew	1.0	EA	2,500	1	$2,500
Site Inspections/Meetings	each year	1.0	EA	650	2	$1,300
					TOTAL:	$7,800
					Contingency (10%):	$1,490
					GRAND TOTAL YEAR 1-3:	$16,390

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE
Proposed Management Plan

BASELAYER
AirPhoto USA 2008

CLIENT
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Legend Trail Pond
13835 Legend Trail
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Legend Trail	OF. 1 1
QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 6/1/11

SITE INFORMATION:

NAME: Triangle Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE

SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS

NATIVE VEGETATION/WETLAND X

CONCRETE LINED CHANNEL

OTHER Open water with cattail fringe

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Typ ang

PRIORITY WEEDS:

TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Leave cattail or remove them & install heavy bulrushes

SIDE SLOPES: TURF GRASS RIP-RAP

NATIVE VEGETATION (see below) OTHER Wall – 6'- 10'

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Canada thistle, teasel, sycamore, bald cyprus

PRIORITY WEEDS: Canada thistle, teasel

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

ADDITIONAL COMMENTS ON VEGETATION: Need to eliminate it all and start over.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 2 TYPE RCP SIZE Various

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: Remove grate on inlet – safety concern

OUTLET TYPE: CULVERT 12" to Pump Station SURFACE WEIR Over Concrete Wall

OUTLET PROBLEMS: Outlet structure at water is covered with vegetation and access is difficult

OVERFLOW CONDITIONS/PROBLEMS: None

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Low

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS Cut Cattails EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION: N/A

SHORELINE EROSION PRESENT (YES/NO): No

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable

MUSKRAT DAMAGE OBSERVED (YES/NO): No

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION: _____

TURF PLAY AREA PRESENT (YES/NO): No LOCATION: _____

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Surrounding overlook

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TITLE
Asssesment

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Triangle Pond
14060 LaGrange Road
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Triangle	1 OF 1

QUADRANGLE	DATE	SCALE
N/A	06/02/11	See scale bar

Pond 4: Triangle Pond

PHOTO 1

6-01-2011

North Wall – Fountain features along wall with planter areas and cattail emergent shoreline. Significant weed invasion in planters.

PHOTO 2

6-01-2011

Southwest Corner – Lannon stone raised planter areas scattered along the concrete wall. Cut cattail material floating along edges of pond.

PHOTO 3

6-01-2011

Planter area contains very few original plantings and is overtaken by weed growth. Original stakes for geese protection remain throughout pond.

#4 Triangle Pond
Engineers Opinion of Probable Construction Cost

Narrative: Triangle Pond is a wet basin pond that is completely surrounded by 5-8 foot high concrete walls. The pond has fountains, lighting, and lanyon stone planter areas within the concrete walls. However, there is no access to maintain the planter areas. It is the recommendation of V3 that the Triangle Pond not be maintained by the same Department as the other ponds that are on the A List. It should be maintained as a decorative and ornamental landscape area similar to the parking lot plantings that are within the surrounding Railroad Station parking areas. The lanyon stone planting areas should be mulched and planted with ornamental perennials and the shoreline of the pond should be left as cattails so that as much water quality benefit as possible can be derived from these hearty wetland plants, because not much else can grow in those conditions.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Transfer maintenance to same Department or landscape company as Station Parking Lot						
					TOTAL:	$0

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
					TOTAL:	$0
					Contingency (10%):	$0
					GRAND TOTAL YEAR 1-3:	$0

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.

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TITLE

Proposed Management Plan

Base Layer: AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Triangle Pond
14060 LaGrange Road
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Triangle	1 OF. 1
QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/31/11

SITE INFORMATION:

NAME: Persimmon Meadow Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND X ONLINE

SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS

NATIVE VEGETATION/WETLAND X

CONCRETE LINED CHANNEL

OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Typ ang, Ele ery, Cx spp., Jun ten, Pod nod

PRIORITY WEEDS: Pha aru

TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Good shoreline edge, little emergent edge, little to no erosion, good aquatic plant population.

SIDE SLOPES: TURF GRASS X RIP-RAP

NATIVE VEGETATION (see below) OTHER X Retention wall

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Poa pre, Canada thistle, crown vetch

PRIORITY WEEDS: Crown vetch, Canada thistle, volunteer trees and shrubs

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

Not including turf → ADVENTIVE RELATIVE COVER ESTIMATE (0 - 25%) 26 – 50% 51 – 75% 76- 100%

ADDITIONAL COMMENTS ON VEGETATION: Mow once per year, kill weedy species, keep turf on slope, could use reseeding.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 2 TYPE RCP SIZE

CHANNEL/SWALE TYPE SIZE

INLET PROBLEMS: No

OUTLET TYPE: CULVERT 12" RCP SURFACE WEIR Overflow on brick wall

OUTLET PROBLEMS: Constant clogging – Install additional length of pipe & grate on entrance

OVERFLOW CONDITIONS/PROBLEMS: None

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Low

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION Minor willow growth

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION:

SHORELINE EROSION PRESENT (YES/NO): No

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes – minor – various

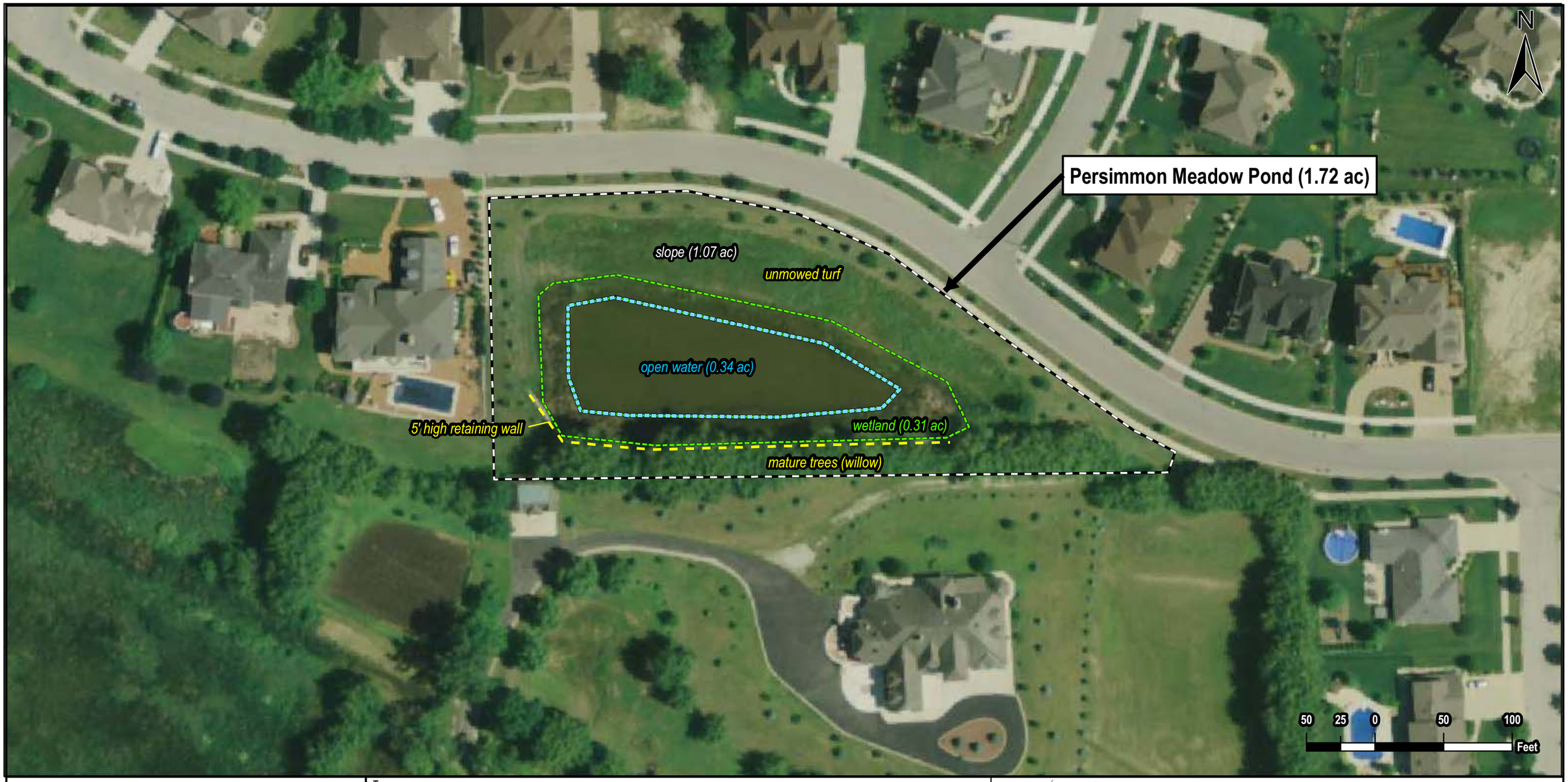
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION:

TURF PLAY AREA PRESENT (YES/NO): No LOCATION:

RESIDENT USE OBSERVED (YES/NO): No

ADDITIONAL COMMENTS ON USE: Looks like someone knocked wall top caps into lake – Replace and epoxy on top for safety concerns



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TITLE: **Assessment**	Project and Site Location: **Persimmon Meadow Pond 10957 W. 142nd Street Orland Park, IL, Cook Co.**		
Base Layer: AirPhoto USA 2008	Project No.: 10165.BASIN	FIGURE: Persimmon Meadow	SHEET OF: 1 1
Client: **Village of Orland Park Village Hall 14700 Ravinia Drive Orland Park, Illinois 60462**	QUADRANGLE: N/A	DATE: 05/26/11	SCALE: See scale bar

Pond 5: Persimmon Meadow Pond

PHOTO 1

5-31-2011

North Slope – Unmowed turf grass and emergent shoreline in good condition. Minimal erosion or scour on toe of slope.

PHOTO 2

5-31-2011

South Wall – Block wall completely lines the south shore of this pond. Mature willow trees in the background hang over the wall.

PHOTO 3

5-31-2011

Significant algae growth shown in photo.

Wall top caps have been kicked off by vandals or knocked off by mower. Should be repaired and epoxyed to wall.

#5 Persimmon Meadow Pond
Engineers Opinion of Probable Construction Cost

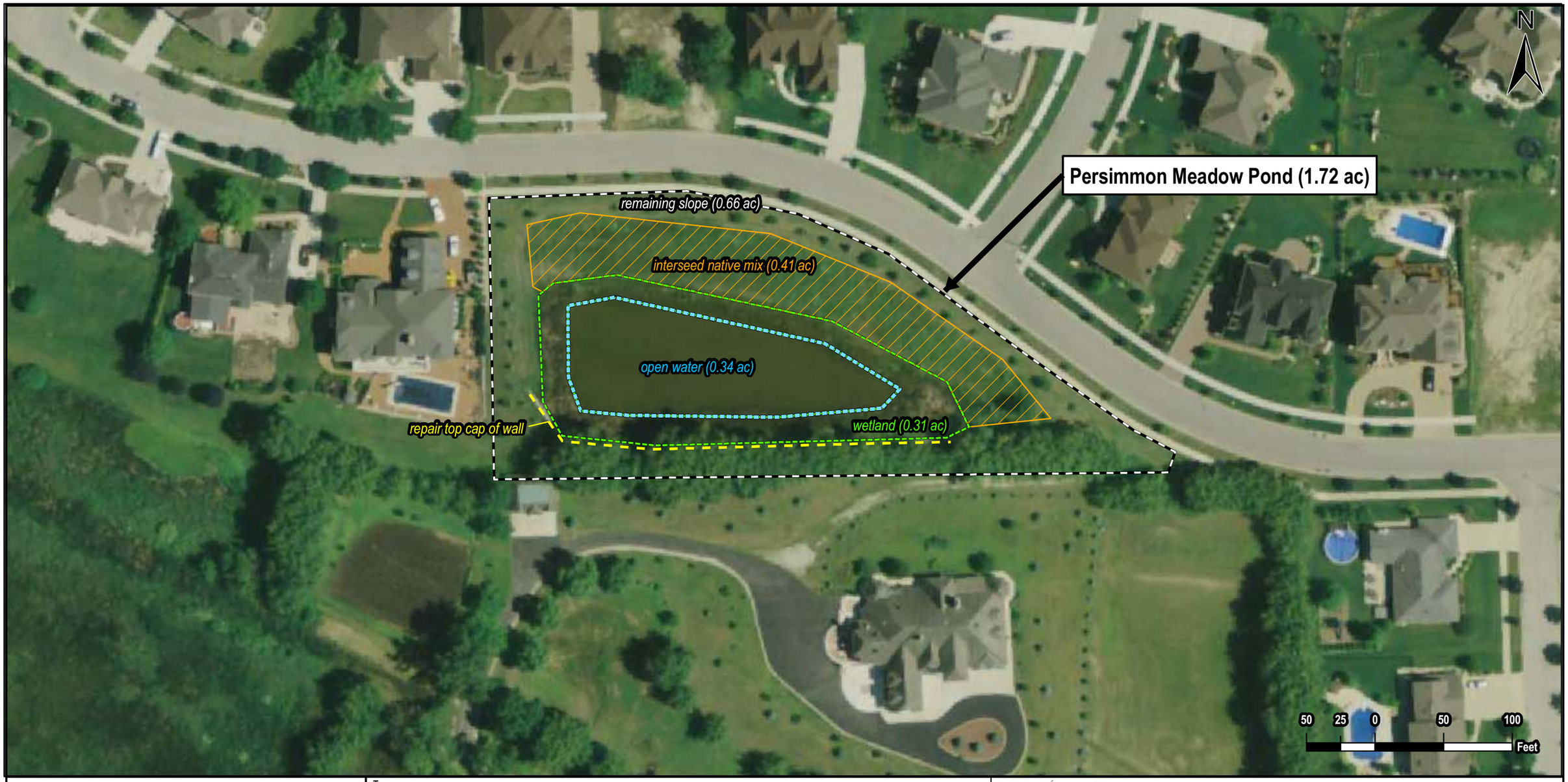
Narrative: Persimmon Meadow Pond is a naturalized stormwater basin around the north and east slopes and has a block wall along the south and west slopes. The vegetation is primarily unmowed turf grass and weeds with little to no native plant species on the slopes. However, the slopes are stable and this basin receives limited complaints from the residents, so we do not recommend completely redoing the vegetation in the basin. For safety purposes, the top-caps on the block wall should be grouted/expoyed down so they do not tip or get tossed off the wall. Significant algae growth appears to be an issue and this basin receives treatments every two (2) weeks. No easy fix is apparent to the algae problem without significant dredging costs. V3 recommends that the Village performs stewardship on this basin and interseed some native grassess to improve stablization and deep rooted vegetation matrix on these slopes. We do not believe that the mowing contract should occur to the south of the block wall.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Weed Control (spot spraying)	2 people, 1 day (3 per year)	1.0	EA	$1,000	3	$3,000
Wall Top Cap Repair	Safety Repairs	1.0	EA	2,500	1	$2,500
Prescribed Burn	Years 1 Coordination & 5 person crew	1.0	EA	3,000	1	$3,000
Interseeding	Native grass mix - Hand broadcast after burn	1.0	Acre	2,000	1	$2,000
Site Inspections/Meetings	1 each year	1.0	EA	$600	1	$600
					TOTAL:	$11,100

YEAR 2 - 3						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Weed Control (spot spraying)	2 people, 1 day (2 per year)	1.0	EA	$1,000	4	$4,000
Prescribed Burn	Years 3 Coordination & 5 person crew	1.0	EA	$3,000	1	$3,000
Site Inspections/Meetings	each year	1.0	EA	$600	2	$1,200
					TOTAL:	$8,200
					Contingency (10%):	$1,930
					GRAND TOTAL YEAR 1-3:	$21,230

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE

Proposed Management Plan

Project and Site Location: **Persimmon Meadow Pond**
10957 W. 142nd Street
Orland Park, IL, Cook Co.

Base Layer: AirPhoto USA 2008

Project No.: 10165.BASIN

FIGURE: Persimmon Meadow

SHEET 1 OF 1

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

QUADRANGLE: N/A

DATE: 06/16/11

SCALE: See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/26/11

SITE INFORMATION:

NAME: Preston Drive Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET ____ DRY X WETLAND X ONLINE ____
SEDIMENT BASIN PRESENT ____

BASIN BOTTOM – VEGETATION: TURF GRASS X
NATIVE VEGETATION/WETLAND X
CONCRETE LINED CHANNEL ____
OTHER ____

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Agrostis alba palustris, Poa pre, Typ ang, Ele ery, white clover

PRIORITY WEEDS: White clover, Typ ang, Poa pre, Lit sal

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	(51 – 75%)	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Bottom has hand cut channel that allows low flows to go directly from inlet to outlet. Center of basin has hump. C350 in basin bottom; not sure how extensive throughout bottom.

SIDE SLOPES: TURF GRASS X RIP-RAP ____
NATIVE VEGETATION (see below) ____ OTHER ____

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Poa pre, Que alb, elm sp., Que mac, silver maple

PRIORITY WEEDS: White clover

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Mowed turf with new trees

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 3 TYPE RCP SIZE

CHANNEL/SWALE No TYPE SIZE

INLET PROBLEMS: No

OUTLET TYPE: CULVERT 12" RCP w/ 4" Restricotr SURFACE WEIR No

OUTLET PROBLEMS: Debris cover

OVERFLOW CONDITIONS/PROBLEMS:

SHORT-CIRCUITING (YES/NO): Flatten bottom where residents cut channel

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH):

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY Bottom was cut to channel – reshape bottom

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS Cut cattails EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION:

SHORELINE EROSION PRESENT (YES/NO): No

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE:

MUSKRAT DAMAGE OBSERVED (YES/NO): No

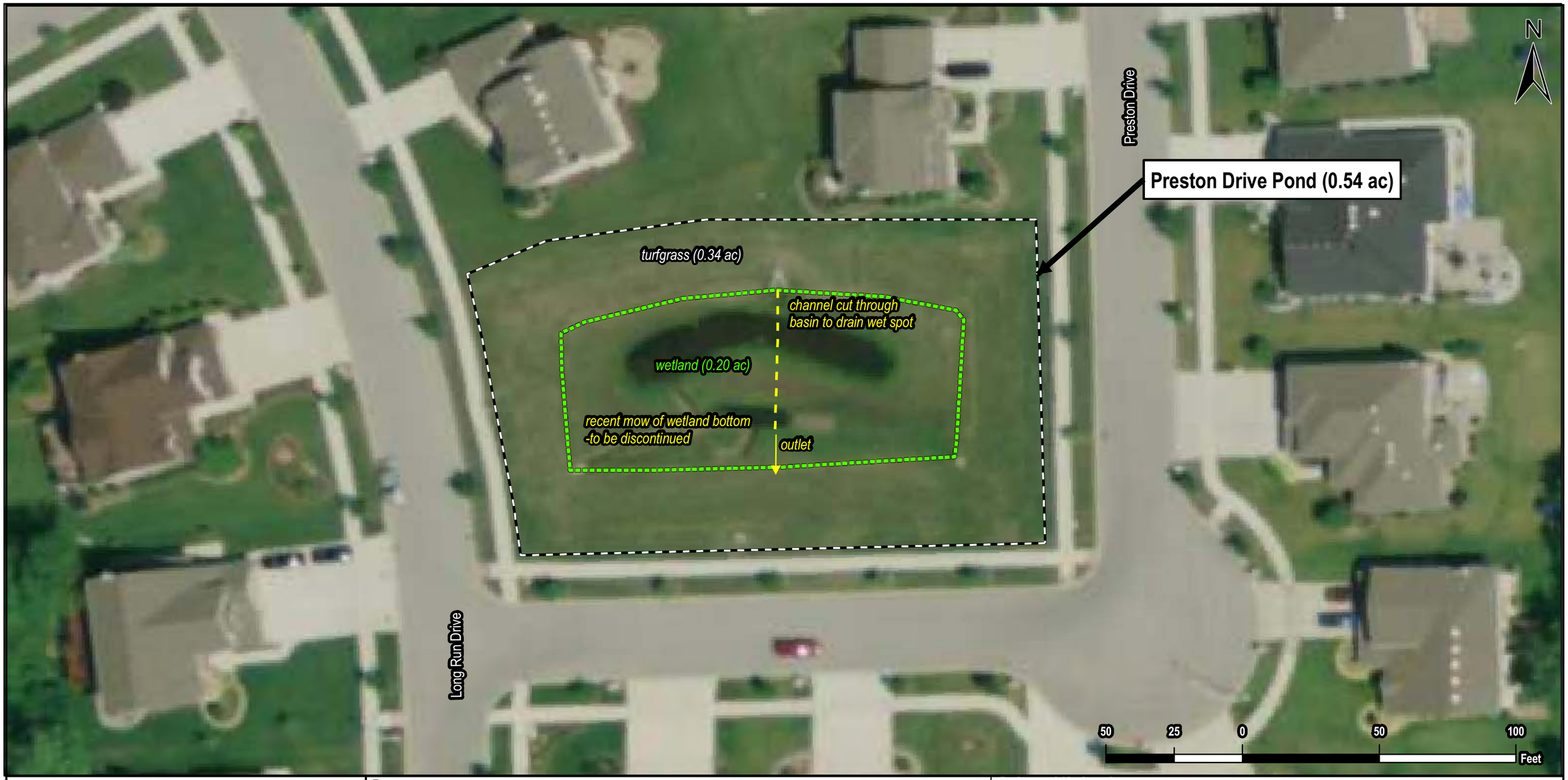
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION:

TURF PLAY AREA PRESENT (YES/NO): No LOCATION:

RESIDENT USE OBSERVED (YES/NO): No

ADDITIONAL COMMENTS ON USE: Turn back to wetland bottom



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TITLE
Assessment

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Preston Drive Pond
11626 Preston Drive
Orland Park, IL, Cook Co.

Project No.:
10165.BASIN

FIGURE
Preston Drive

SHEET
1
OF.
1

QUADRANGLE
N/A

DATE
05/26/11

SCALE
See scale bar

Pond 6: Preston Drive Pond

PHOTO 1

5-26-2011

Pond overview from west bank. Mowing on pond bottom in wet area and in wetland vegetation.

PHOTO 2

5-26-2011

Channel cut through bottom of basin by residents to drain a cattail stand. Permanent erosion blanket exposed and cut along channel.

PHOTO 3

5-26-2011

Mowed cattail cuttings covering the outlet location.

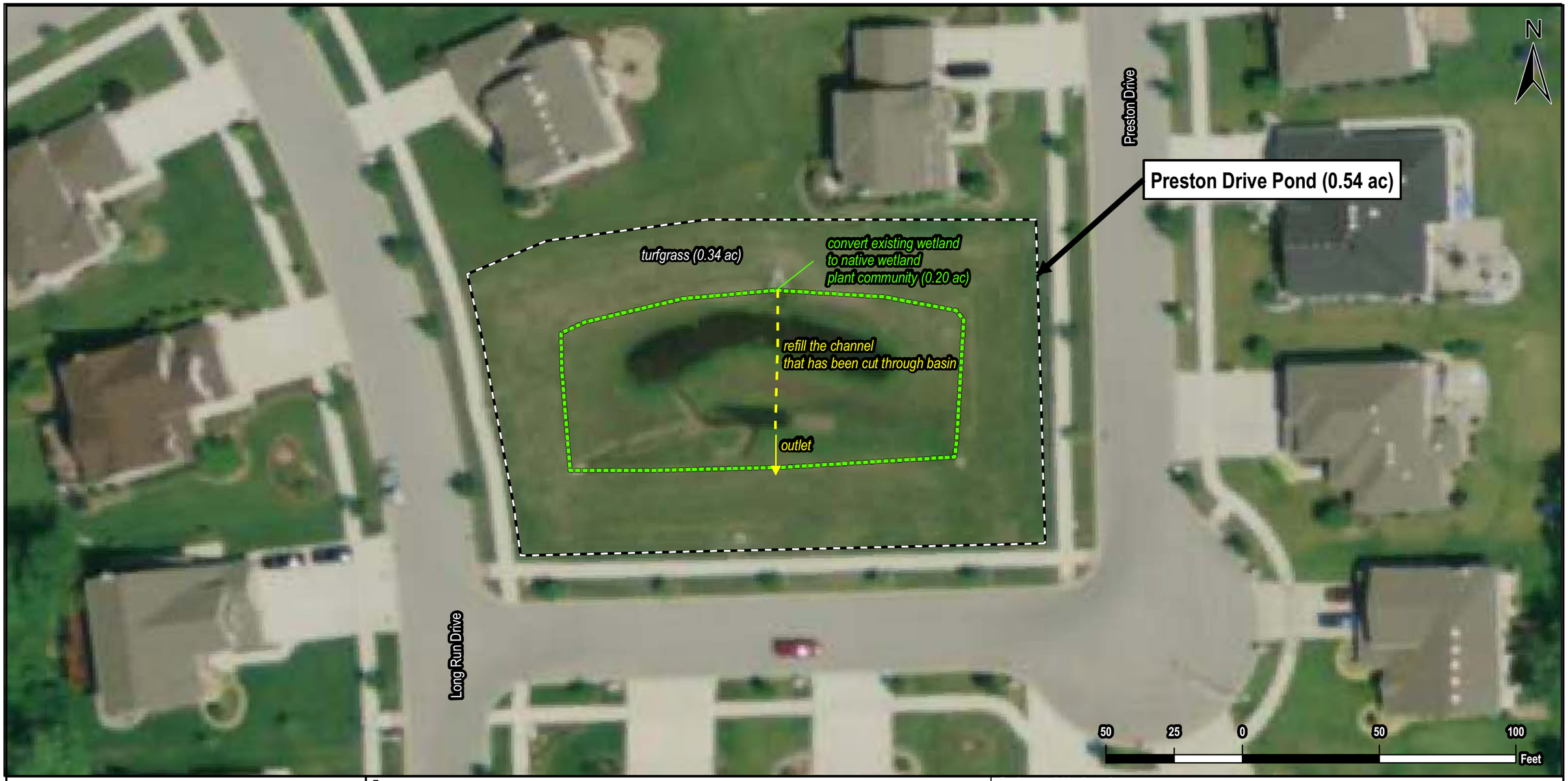
#6 Preston Pond
Engineers Opinion of Probable Construction Cost

Narrative: Preston Pond is a dry basin with turf grass and a small wetland zone in the center of the basin where it is too wet to grow grass and to run mowers. The surrounding residents would like it converted completedly to turf. The basin is surrounded by sidewalk, ornamental landscape plantings and some bench overlooks which give a manicured feel to the basin slopes and top of bank. The primary reason for this basin being in the A Category is the number of resident complaints regarding the mowing of this pond. Because of how wet the bottom of the pond is, V3 recommends converting the entire bottom to a wetland vegetation. The turf slopes and surrounding landscape area can be kept and maintained as is.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Selective Herbicide Pond Bottom	Selective herbicide prior to seeding	0.3	Acre	$500	1	$125
Hand Work on Channel	Repair cut channel	1.0	EA	$1,000	1	$1,000
Seeding	Hand Seed	0.3	Acre	$2,000	1	$500
Plugs	Install Wetland Plugs	1000.0	EA	$5	1	$5,000
Weed Control (spot spraying)	1 person, 0.5 day (2 in Yr 1)	1.0	EA	$250	2	$500
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$8,325
YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	1 person, 0.5 day (2 per year)	1.0	EA	$250	4	$1,000
Prescribed Burn	Year 3 Coordination & 4 person crew	1.0	EA	2,500	1	$2,500
Site Inspections/Meetings	each year	1.0	EA	600	2	$1,200
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$4,700
					Contingency (10%):	$1,303
					GRAND TOTAL YEAR 1-3:	$14,328

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE

Proposed Management Plan

Base Layer:

AirPhoto USA 2008

Client:

Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:

Preston Drive Pond
11626 Preston Drive
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Preston Drive	1 OF. 1
QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/31/11

SITE INFORMATION:

NAME: Royal Oaks Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE

SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS

NATIVE VEGETATION/WETLAND X

CONCRETE LINED CHANNEL

OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Typ ang, Ele ery, Pha aru

PRIORITY WEEDS: Typ ang, Pha aru

TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Pod nod, sago pond weed in aquatic zone. Cattails recently killed. Erosion now at toe (0- 6"). Plant low natives at toe 1' – 5' from shore.

SIDE SLOPES: TURF GRASS X RIP-RAP

NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Poa pre, white clover, Canada thistle, Cx vulp, Ele ery

PRIORITY WEEDS: Pha aru, white clover, sweet clover, red clover

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

ADDITIONAL COMMENTS ON VEGETATION: Turf dominant with natives. Extend no-man up slope. Can burn and add native mix, weed control, burn, move sign.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER _____ TYPE _____ SIZE _____

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: _____

OUTLET TYPE: CULVERT 18" RCP w/ 4" Restrictor SURFACE WEIR Concrete weir

OUTLET PROBLEMS: Drains to farm depression which had no outlet – always going to be a slow draining pond

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): High

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION: _____

SHORELINE EROSION PRESENT (YES/NO): Yes

IF YES WHAT IS SCOURING HEIGHT: (0 – 3") 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Becoming unstable

MUSKRAT DAMAGE OBSERVED (YES/NO): Minor – not active

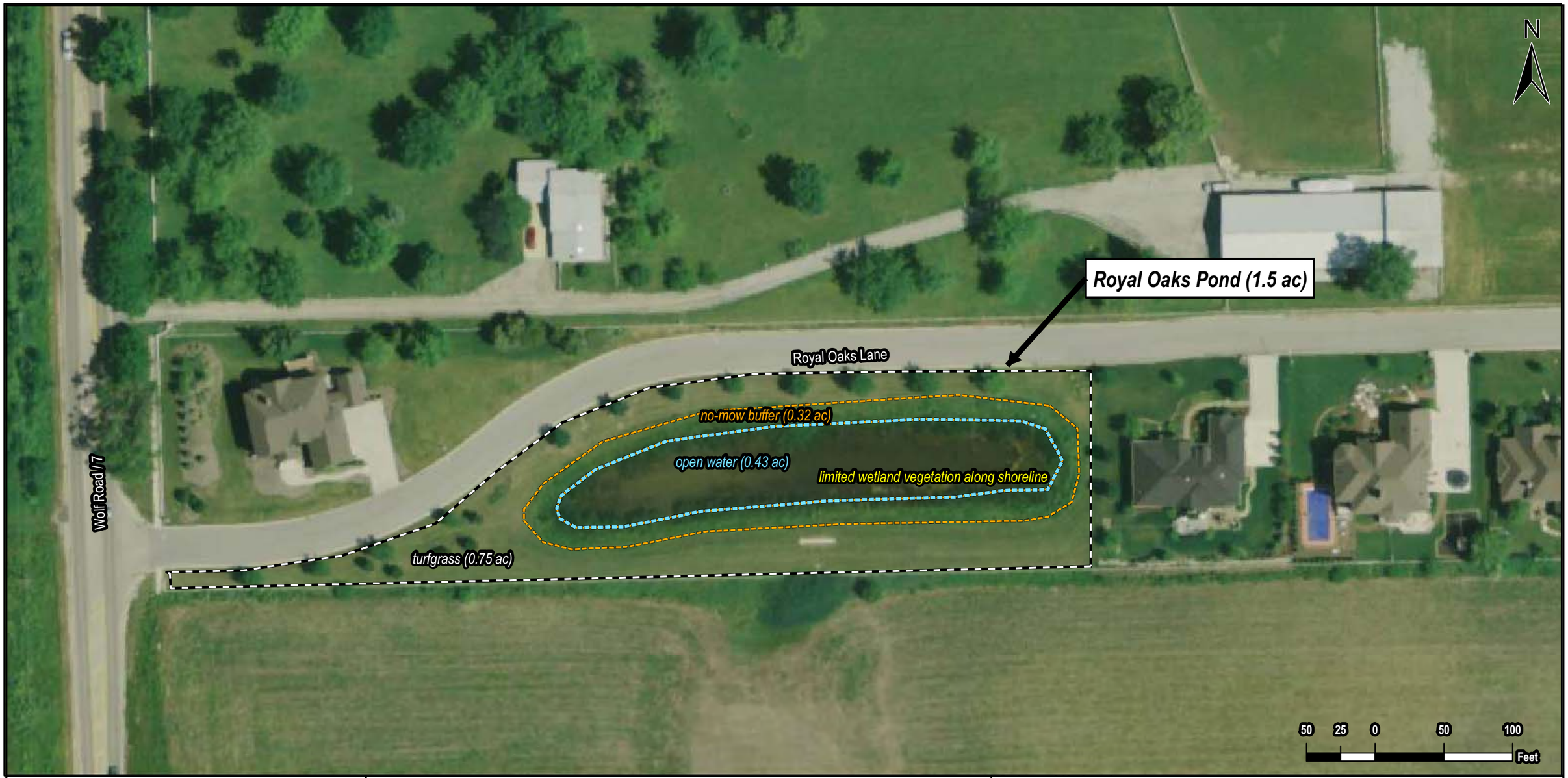
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION: _____

TURF PLAY AREA PRESENT (YES/NO): No LOCATION: _____

RESIDENT USE OBSERVED (YES/NO): No

ADDITIONAL COMMENTS ON USE: Reduce amount of mowing up to tree line and nothing around east side of basin along the fence line



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TITLE: **Assessment**		Project and Site Location: **Royal Oaks Pond 11027 Royal Oaks Lane Orland Park, IL, Cook Co.**	
Base Layer: AirPhoto USA 2008		Project No.: 10165.BASIN	FIGURE: Royal Oaks
Client: **Village of Orland Park Village Hall 14700 Ravinia Drive Orland Park, Illinois 60462**		QUADRANGLE: N/A	DATE: 06/02/11
			SHEET: 1 OF: 1
			SCALE: See scale bar

Pond 7: Royal Oaks Pond

PHOTO 1

5-31-2011

Pond overview from north bank. Narrow unmowed buffer along pond shoreline. Agricultural field in background is where pond outlets to.

PHOTO 2

5-31-2011

North slope – mowed area has some bare areas from mower tracks around trees.

PHOTO 3

5-31-2011

Signs of long periods of water covering shoreline due to exposed toe with minimal undercutting. This is likely due to slow drain down of adjacent agrictultural field.

#7 Royal Oaks Pond
Engineers Opinion of Probable Construction Cost

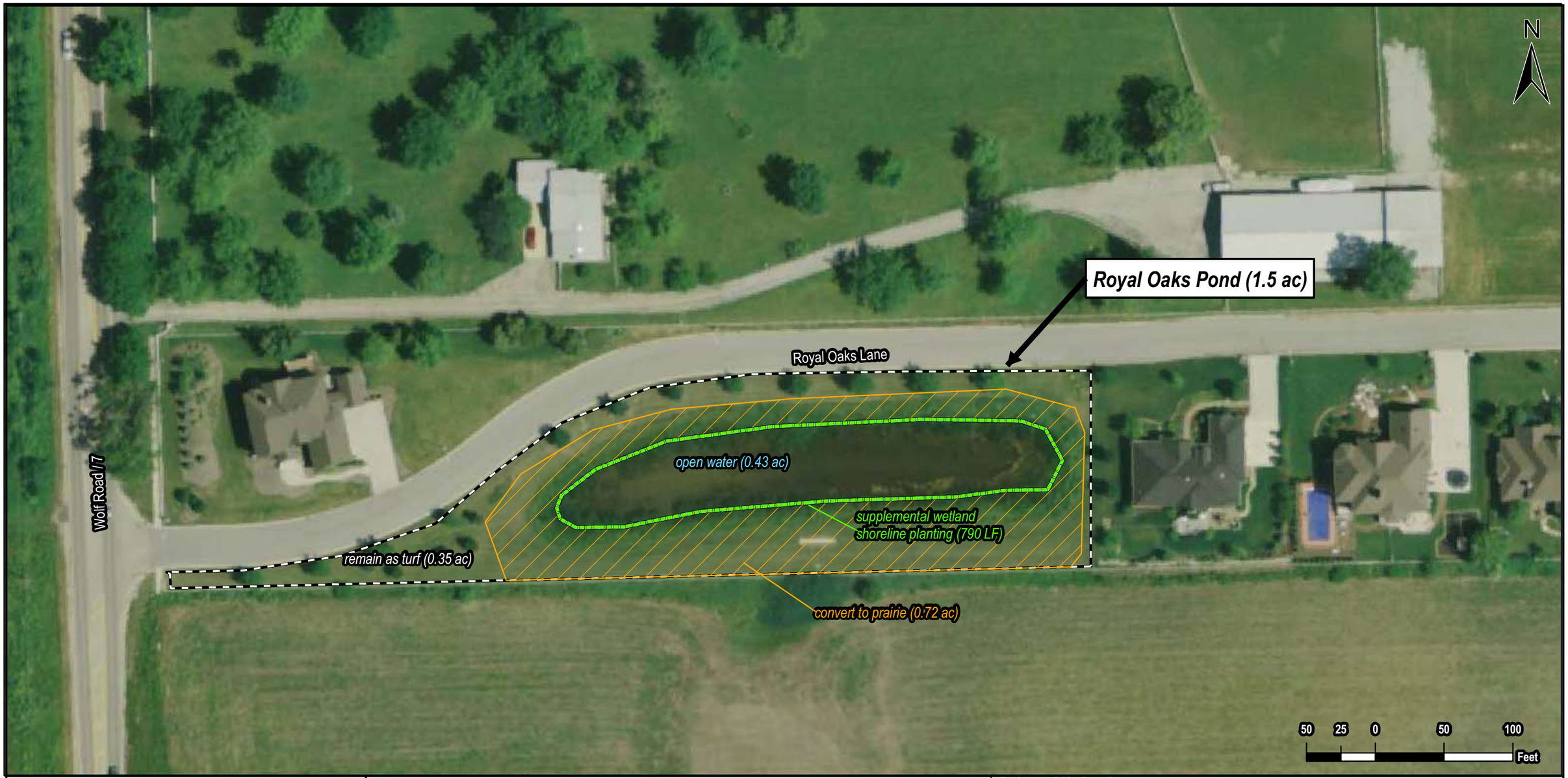
Narrative: Royal Oaks Pond is a wet basin which is a historic farm pond. It is directly connected to a farm field low area which takes a long time to overflow and drain down, so occasionally Royal Oaks Pond will also take a while to drain down after heavy rain events. V3 recommends eliminating the mowing for the majority of this basin and only mow a small strip between the back of curb and the west edge of the existing trees along Royal Oaks Drive. We also recommend to install shoreline plugs around the entire basin to protect shoreline from additional toe erosion.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Boomspray	polaris, turf grass	0.5	Acre	$500	2	$500
Seeding Prep	Rake Topsoil	0.5	Acre	$500	1	$250
Seeding	Site Area, 1 Year Guarantee	0.5	Acre	$3,500	1	$1,750
Blanket	S150BN	0.5	Acre	$7,300	1	$3,650
Wetland Plugs	Water perimeter, 800 lin ft., 2 ft. center	400.0	EA	$5	1	$2,000
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	0.5	Acre	$500	2	$500
Weed Control (spot spraying)	1 person, 0.5 day (2 in Year 1)	1.0	EA	$250	2	$500
Site Inspections/Meetings	1 each year	1.0	EA	$600	1	$600
					TOTAL:	$9,750

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	1 person, 0.5 day (2 per year)	1.0	EA	$250	4	$1,000
Prescribed Burn	Years 3 Coordination & 4 person crew	1.0	EA	$2,500	1	$2,500
Site Inspections/Meetings	each year	1.0	EA	$600	2	$1,200
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$4,700
					Contingency (10%):	$1,445
					GRAND TOTAL YEAR 1-3:	$15,895

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE: **Proposed Management Plan**		Project and Site Location: **Royal Oaks Pond, 11027 Royal Oaks Lane, Orland Park, IL, Cook Co.**	
Base Layer: AirPhoto USA 2008		Project No.: 10165.BASIN	FIGURE: Royal Oaks
Client: **Village of Orland Park, Village Hall, 14700 Ravinia Drive, Orland Park, Illinois 60462**		QUADRANGLE: N/A	DATE: 06/16/11
			SHEET 1 OF 1
			SCALE: See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 8/10/10

SITE INFORMATION:

NAME: Police Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
NATIVE VEGETATION/WETLAND Along shoreline
CONCRETE LINED CHANNEL
OTHER Open water

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): N/A

PRIORITY WEEDS: Common reed, reed canary grass
TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% (51 – 75%) 76 – 100%
NATIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% (51 – 75%) 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% (26 – 50%) 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: Mix of natives & non-natives. Natives included red-rooted spine rush, river bulrush, brown fox sedge, and swamp rose mallow.

SIDE SLOPES: TURF GRASS X RIP-RAP
NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Teasel

PRIORITY WEEDS: Teasel, thistle, sweet clovers, buckthorn, reed canary grass
TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)
NATIVE RELATIVE COVER ESTIMATE: 0 - 25% (26 – 50%) 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% (51 – 75%) 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: Mix of mostly invasives & some desirable prairie forb species such as common mountain mint, ironweed, Canada & Virginia wild rye.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 8 TYPE RCP SIZE Various

CHANNEL/SWALE From Humphrey Woods TYPE ____ SIZE ____

INLET PROBLEMS: ____

OUTLET TYPE: CULVERT 15" Restrictor SURFACE WEIR ____

OUTLET PROBLEMS: None

OVERFLOW CONDITIONS/PROBLEMS: ____

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): High on north end (excessive) coverage on slopes and pipe on north end

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS ____

STILLING BASIN(s) PRESENT ____

OTHER: EXCESS LITTER/DEBRIS Algae Mat EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION In some areas

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION: ____

SHORELINE EROSION PRESENT (YES/NO): Yes

IF YES WHAT IS SCOURING HEIGHT: (0 – 3" 4 – 6") 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Becoming Unstable

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION: ____

TURF PLAY AREA PRESENT (YES/NO): No LOCATION: ____

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Adjacent to trail and woods – Also used for fishing

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Title	**Assessment**
Base Layer	AirPhoto USA 2008
Client	**Village of Orland Park** **Village Hall** **14700 Ravinia Drive** **Orland Park, Illinois 60462**
Project and Site Location	**Police Pond** **14500 Ravinia Avenue** **Orland Park, IL, Cook Co.**
Project No.:	10165.BASIN
Figure	Police
Sheet	1 of 1
Quadrangle	N/A
Date	06/02/11
Scale	See scale bar

Pond 8: Police Pond (Village Hall North Basin)

PHOTO 1

8-10-2010

Teasel & thistle dominated west bank of Police Pond.

PHOTO 2

8-10-2010

Severe algae deposit at northern outlet pipe from prior storm event and northern wind fetch. Significant algae problem in this basin.

PHOTO 3

8-10-2010

Narrow un-mowed buffer between turf grass along Ravinia Avenue and shoreline along east bank.

#8 Police Pond
Engineers Opinion of Probable Construction Cost

Narrative: Police Pond is a wet basin which is a historic farm pond and immediately adjacent to Humphrey Woods and the Village Center. In 2010, the Village of Orland Park submitted a PARC Grant for this Police Pond area to rehabilitate a historic stone structure (sits west of the Police Pond) and construct and ADA accessible fishing pier. This grant would also have covered all of the recommended vegetative improvements below. V3 recommends reshaping the toe of this basin and converting a large portion of the turf grass surround the basin to prairie. We also recommend to install shoreline plugs around the entire basin to protect shoreline from additional toe erosion.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Boomspray	polaris, turf grass	2.0	Acre	$1,000	2	$4,000
Slope Regrading	Reshape Toe with Mini	1500.0	LF	$10	1	$15,000
Woody Species Removal	Cut & Herbicide Woody Species	1.0	EA	$1,500	1	$1,500
Seeding Prep	Rake Topsoil	2.0	Acre	$500	1	$1,000
Seeding	Site Area, 1 Year Guarantee	2.0	Acre	$3,500	1	$7,000
Blanket	S150BN	2.0	Acre	$7,300	1	$14,600
Wetland Plugs	Water perimeter, 3000 lin ft., 2 ft. center	1500.0	EA	$5	1	$7,500
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	2.0	Acre	$500	2	$2,000
Weed Control (spot spraying)	2 person, 1 day (2 in Year 1)	1.0	EA	$1,000	2	$2,000
Site Inspections/Meetings	1 each year	1.0	EA	$600	1	$600
					TOTAL:	$55,200

YEAR 2 - 3						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Weed Control (spot spraying)	2 person, 1 day (2 per year)	1.0	EA	$1,000	4	$4,000
Prescribed Burn	Years 3 Coordination & 6 person crew	1.0	EA	$3,500	1	$3,500
Site Inspections/Meetings	each year	1.0	EA	$600	2	$1,200
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$8,700
					Contingency (10%):	$6,390
					Soft Costs (Survey, Engr, Mngt - 20%):	$12,780
					GRAND TOTAL YEAR 1-3:	$83,070

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.

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TITLE: **Proposed Management Plan**		PROJECT AND SITE LOCATION: **Police Pond 14500 Ravinia Avenue Orland Park, IL, Cook Co.**	
BASE LAYER: AirPhoto USA 2008		PROJECT NO.: 10165.BASIN	FIGURE: Police
CLIENT: **Village of Orland Park Village Hall 14700 Ravinia Drive Orland Park, Illinois 60462**		QUADRANGLE: N/A	DATE: 06/16/11
			SHEET OF: 1 1
			SCALE: See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 8/10/10

SITE INFORMATION:

NAME: Village Center Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE

SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS

NATIVE VEGETATION/WETLAND Along shoreline/some aquatics

CONCRETE LINED CHANNEL

OTHER Open water

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): White water lily, red-rooted spike rush

PRIORITY WEEDS:

Along shoreline

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% (51 – 75%) 76 – 100%

NATIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% (51 – 75%) 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Some presence of natives along shoreline, and aquatics such as swamp rose mallow & pondweeds.

SIDE SLOPES: TURF GRASS X RIP-RAP

NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Little to no native presence, teasel dominant on slopes, turf further upslope

PRIORITY WEEDS: Teasel & Thistle

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

ADDITIONAL COMMENTS ON VEGETATION: Need to boom all slope (dominated by teasel) multiple times and start over

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 3 TYPE RCP SIZE

CHANNEL/SWALE TYPE SIZE

INLET PROBLEMS: Sediment deposits from ballpark

OUTLET TYPE: CULVERT 72" Connection to Police Pond SURFACE WEIR No

OUTLET PROBLEMS: No

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Low

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION:

SHORELINE EROSION PRESENT (YES/NO): Yes

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" (>9")

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Somewhat stable

MUSKRAT DAMAGE OBSERVED (YES/NO): Possibly

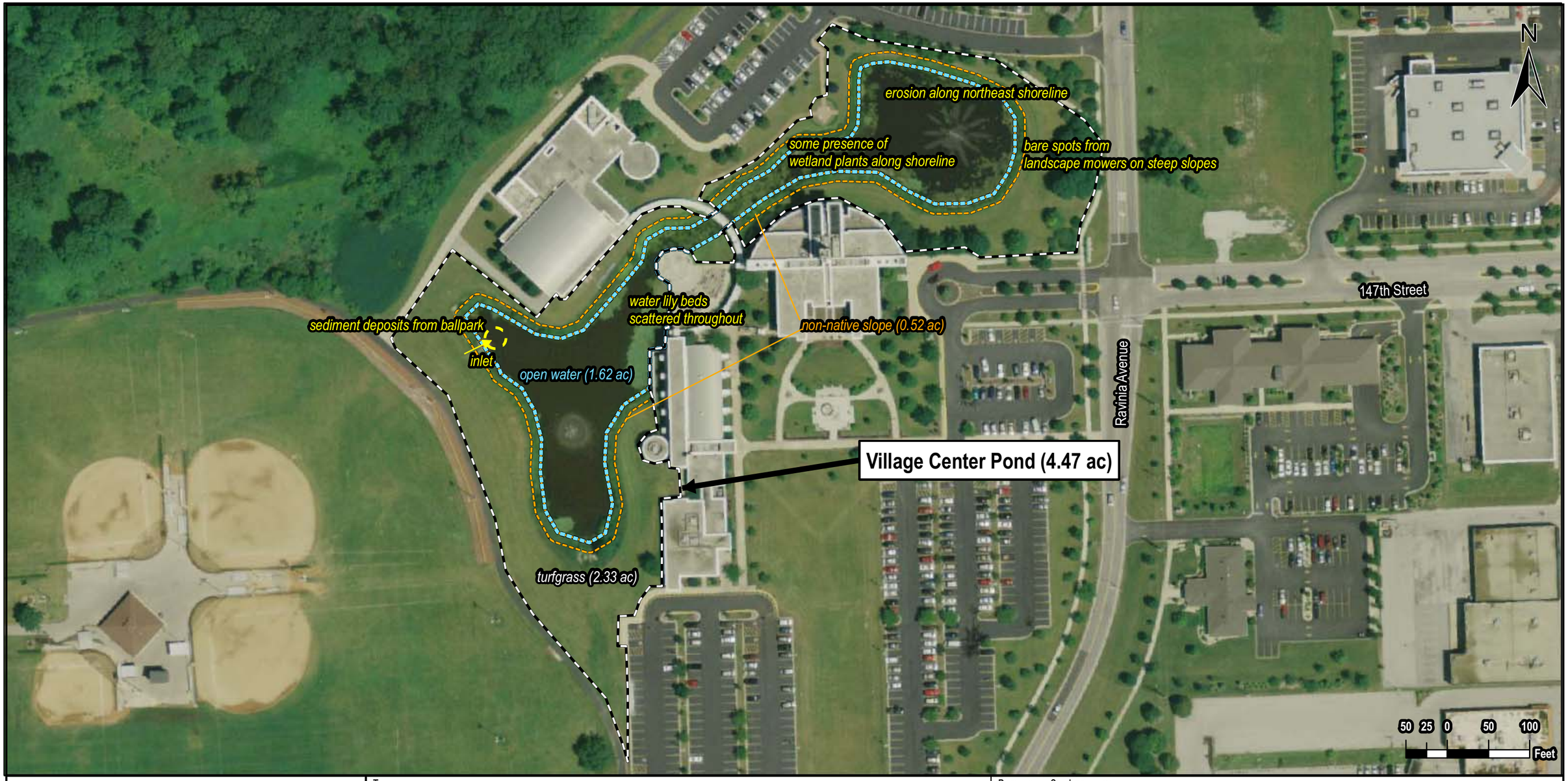
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION:

TURF PLAY AREA PRESENT (YES/NO): No LOCATION:

RESIDENT USE OBSERVED (YES/NO): No

ADDITIONAL COMMENTS ON USE: Highly visible to the public, garden/sitting area & trail on north end



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TITLE
Assessment

BASE LAYER
AirPhoto USA 2008

CLIENT
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

PROJECT AND SITE LOCATION
Village Center Pond
14650 Ravinia Avenue
Orland Park, IL, Cook Co.

PROJECT NO.:	FIGURE	SHEET
10165.BASIN	Village Center	1 OF 1

QUADRANGLE	DATE	SCALE
N/A	06/02/11	See scale bar

Pond 9: Village Center Pond (Village Hall South Basin)

PHOTO 1

8-10-2010

Banks of Village Center Pond dominated by teasel, thistle and turf grass.

PHOTO 2

8-10-2010

Approximate one (1') foot drop at toe of slope around much of the basin. Limited scour line appears to be forming above the water line. Obvious algae problem in the basin.

PHOTO 3

8-10-2010

Sediment deposition at storm inlet to Village Center Pond. Sediment coming from adjacent baseball fields to the southwest.

#9 Village Center Pond
Engineers Opinion of Probable Construction Cost

Narrative: The Village Center Pond is a wet basin which wraps around the Village Hall and Recreation Center. In 2010, V3 provided an assessment for the Village to evaluate improvements to the aesthetics of the basin. We have already begun restoration activities on the basin at the time of the Basin Assessment & Management Plan Report. Below are the items being performed by V3.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Design, Survey & Oversight						Pro Bono
Seeding & Erosion Blanket						$14,350
Native Plug Installattion						$10,000
North Garden Installation						$6,000
Annual M&M 2011						$6,000
Annual M&M 2012						$4,000
Annual M&M 2013						$3,000
Prescribed Burn						$3,500
Earthwork & Re-Shaping						$21,000
					TOTAL:	$67,850
					Contingency (10%):	N/A
					Soft Costs (Survey, Engr, Mngt - 20%):	N/A
					GRAND TOTAL YEAR 1-3:	$67,850

Notes:
Ongoing Design/Build Contract executed between V3 and Orland Park in 2011.

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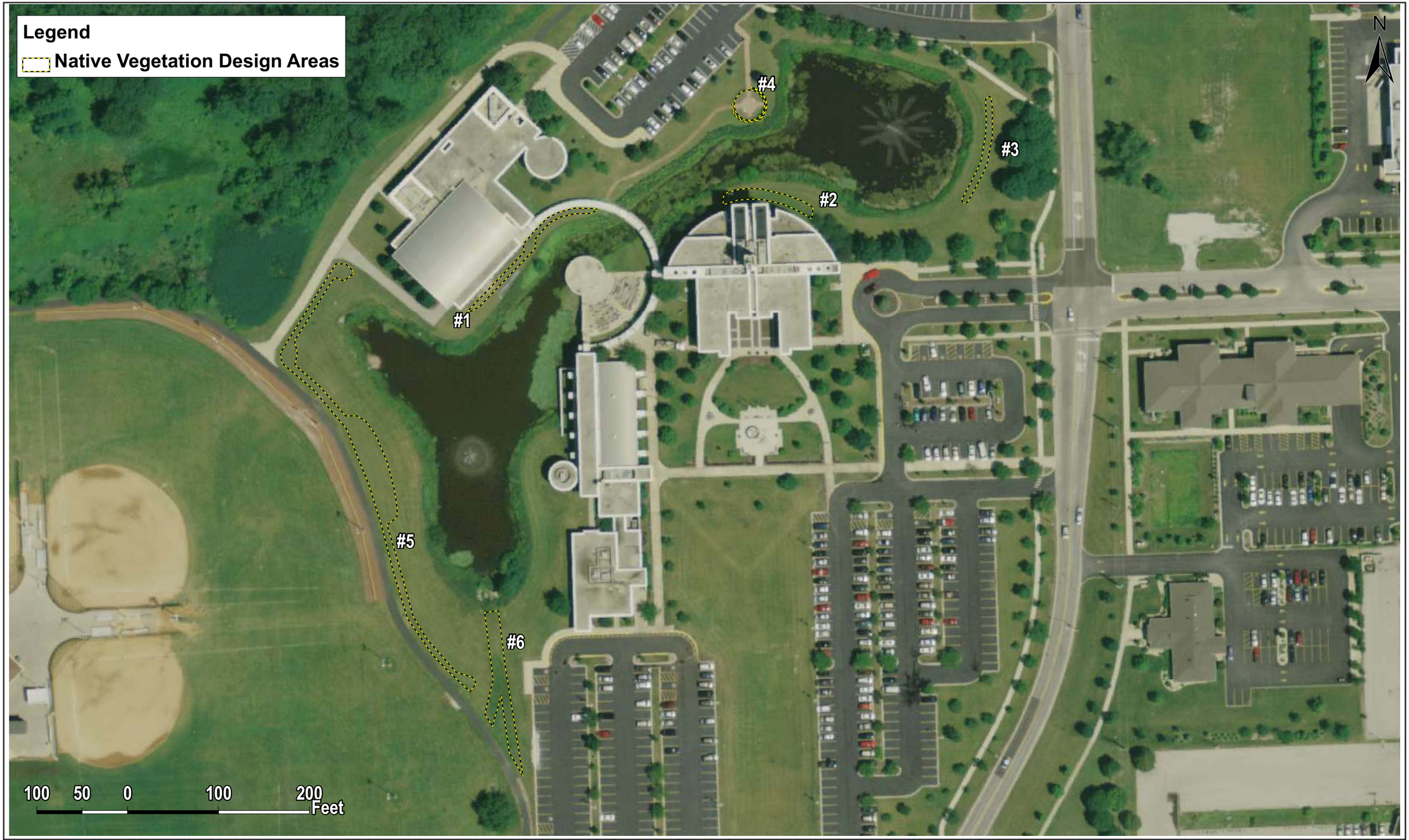
TITLE : **South Basin: Proposed**		PROJECT AND SITE LOCATION : **Village Hall, Orland Park, IL, Cook County**	
BASE LAYER : AirPhoto USA 2008		PROJECT NO. PROP	FIGURE : II
CLIENT : **Village of Orland Park, Village Hall, 14700 Ravinia Avenue, Orland Park, Illinois 60462**		QUADRANGLE : n/a	DATE : 9/1/10 revised 4/15/11
SHEET : 1 OF : 1	SCALE : See scale bar		



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REVISIONS

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

SEAL:

PROJECT NO.: ER11019	DESIGNED BY: KDJ
FILE NAME: Design	DRAWN BY: MAM
DATE: 06/03/2011	CHECKED BY:
SCALE: See Scale Bar	PROJECT MNG.: DJ

Orland Park Village Hall South Basin

Orland Park ILLINOIS

NATIVE VEGETATION DESIGN

DRAWING NO. 1.0

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 6/2/11

SITE INFORMATION:

NAME: Orland Square Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
NATIVE VEGETATION/WETLAND X
CONCRETE LINED CHANNEL
OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Typ ang, Sci vac

PRIORITY WEEDS: None
TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: 1° open H_2O with rip-rap toe above water in some sections, but 1° below.

SIDE SLOPES: TURF GRASS X RIP-RAP
NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE) Ver has, Pel pur, And ger, Pan vir, Indian grass, India hemp, Jun ten, Hib pal, Pop del, mulberry, hackberry

DOMINANT SPECIES (list top five): Ele ery, Sal int, alder sp., silver maple, Poa pre

PRIORITY WEEDS: clover spp., Pha aru, Thistle spp., teasel spp., buckthorn, volunteer trees
TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% (26 – 50%) 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: Natives installed prior, erosion from mowing, steep section (1:1) to shallow slope (>6:1), convert slopes to prairie & some to willow, can keep hawthorns on north side if raise canopy. Primarily turf and weeds.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 3 TYPE RCP SIZE

CHANNEL/SWALE TYPE SIZE

INLET PROBLEMS: No

OUTLET TYPE: CULVERT 36" RCP SURFACE WEIR No

OUTLET PROBLEMS: No

Debris in outlet at time of inspection

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Low

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS Yes – 1x/month cleanup EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION Yes – surrounding entire pond, mature vegetation

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION:

SHORELINE EROSION PRESENT (YES/NO): No – Rock toe around entire shore

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes, not active

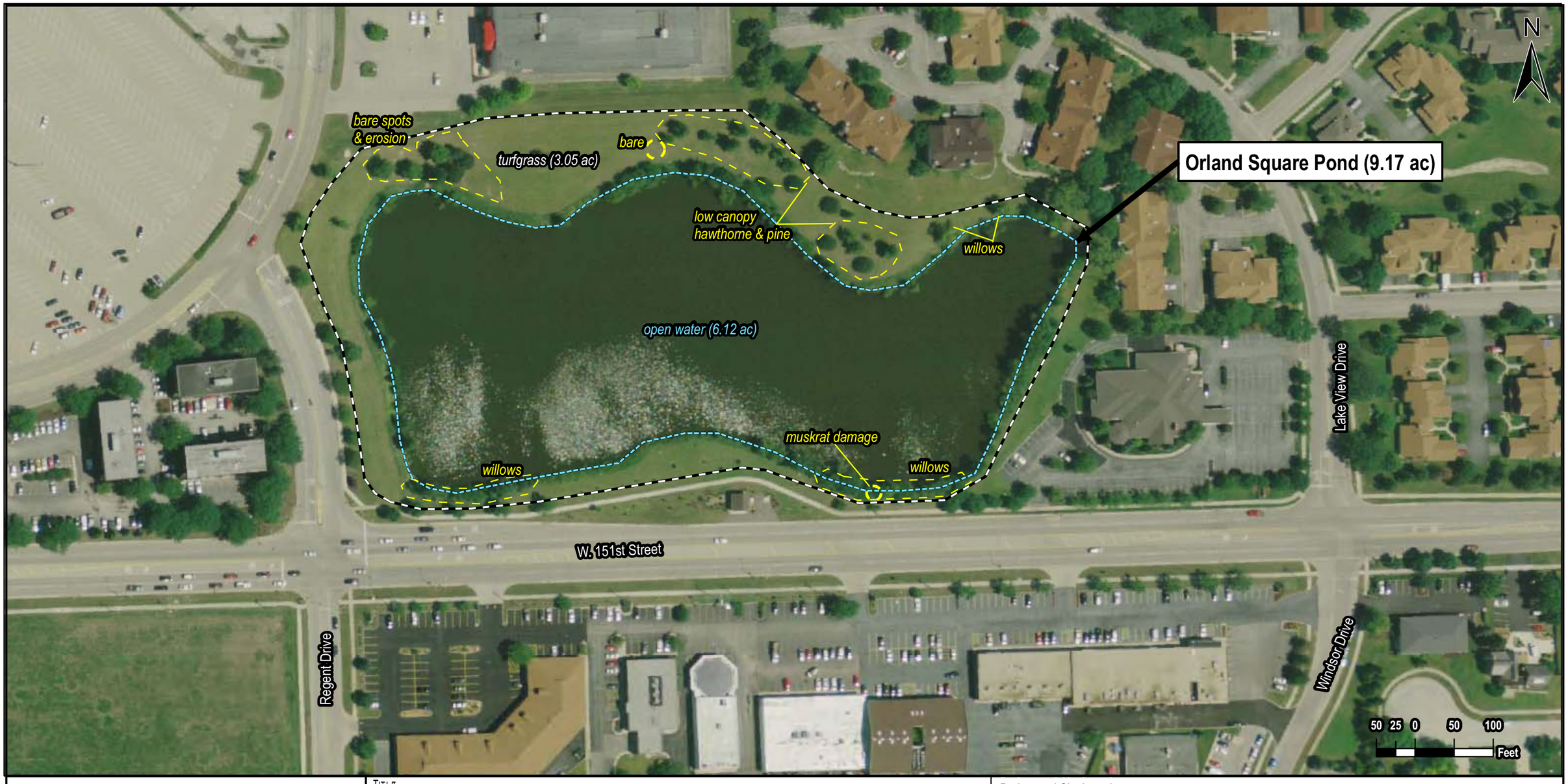
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION:

TURF PLAY AREA PRESENT (YES/NO): No LOCATION:

RESIDENT USE OBSERVED (YES/NO): No

ADDITIONAL COMMENTS ON USE: Good conversion potential



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TITLE
Assessment

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Orland Square Pond
9100 W. 151st Street
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Orland Square	1 OF 1
QUADRANGLE	DATE	SCALE
N/A	06/02/11	See scale bar

Pond 10: Orland Square Pond

PHOTO 1

6-02-2011

Northwest Corner. Bare spots in turf grass up slopes. Unmowed buffer of turf grass and mature trees lines entire basin.

PHOTO 2

6-02-2011

Area of bare slope due to mower tracks.

PHOTO 3

6-02-2011

Overview from west slope showing condition of mature trees along shoreline.

Pond 10: Orland Square Pond

PHOTO 4

6-02-2011

Slope slope – mowed turf area between sidewalk and un-mowed buffer along shoreline.

PHOTO 5

6-02-2011

Steep banks at southwest corner of the pond.

PHOTO 6

6-02-2011

Tree debris blocking the outlet and causing 2-3” raise in elevation in pond.

#10 Orland Square Pond
Engineers Opinion of Probable Construction Cost

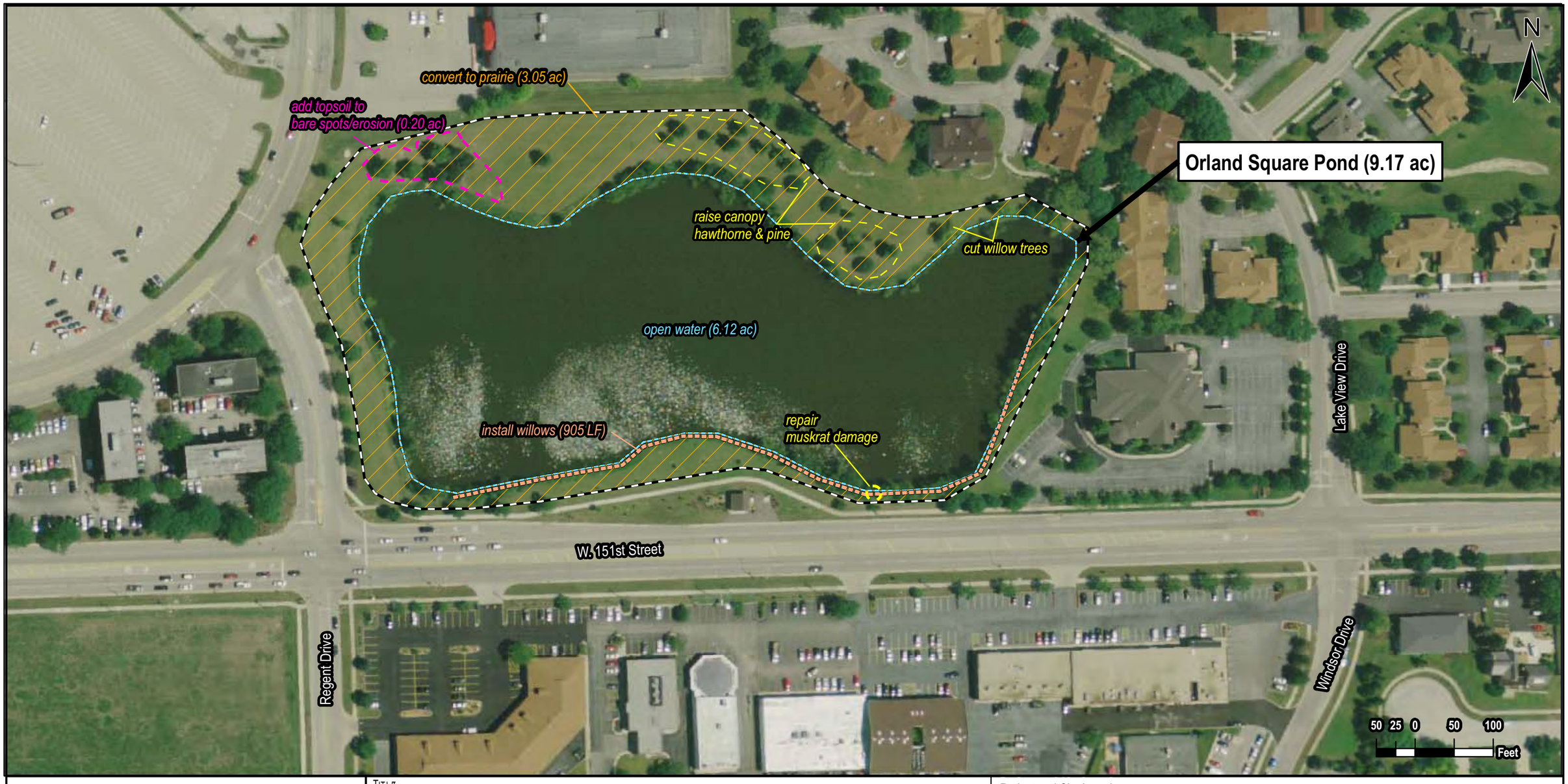
Narrative: Orland Square Pond is a large wet basin at a very high visibility location along 151st Street at the southern entrance to Orland Square. A number of mature trees and shrubs have grown up along the shoreline and the entire basin has a rock toe which has protected much of the steep slopes from erosion problems. However, the banks are very steep and predominately mowed turf grass which could be converted to prairie buffer area for a high visibility improvement. V3 recommends converting the slopes to native prairie and performing additional maintenance items recommended below.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Boomspray	polaris, turf grass	3.0	Acre	$500	2	$3,000
Fix Bare Spots	Topsoil Import	1.0	EA	$1,500	1	$1,500
Woody Species Cleanup	Remove Buckthorn and Trim Up Pine Trees	1.0	EA	$5,000	1	$5,000
Weeping Willow Removal	Remove Large Willow Trees	2.0	EA	$1,500	1	$3,000
Willow Stake Installation	Install Willow Stakes at Steep Locations along South Slope	500.0	Ft	$6	1	$3,000
Seeding Prep	Rake Topsoil	3.0	Acre	$500	1	$1,500
Seeding	Site Area, 1 Year Guarantee	3.0	Acre	$3,500	1	$10,500
Blanket	S150BN	3.0	Acre	$7,300	1	$21,900
Wetland Plugs	Water perimeter, 3000 lin ft., 2 ft. center	1500.0	EA	$5	1	$7,500
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	3.0	Acre	$200	2	$1,200
Weed Control (spot spraying)	3 people, 1 day (2 in Yr 1)	1.0	EA	$1,500	2	$3,000
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$62,300

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	3 people, 1 day (2 per year)	1.0	EA	$1,500	4	$6,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	3.0	Acre	$500	1	$1,500
Prescribed Burn	Years 3 Coordination & 6 person crew	1.0	EA	$3,500	1	$3,500
Site Inspections/Meetings	each year	1.0	EA	$650	2	$1,300
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$12,300
					Contingency (10%):	$7,460
					Soft Costs (Survey, Engr, Mngt - 20%):	$14,920
					GRAND TOTAL YEAR 1-3:	$96,980

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE

Proposed Management Plan

Project and Site Location:

Orland Square Pond
9100 W. 151st Street
Orland Park, IL, Cook Co.

Base Layer: AirPhoto USA 2008

Project No.: 10165.BASIN

FIGURE: Orland Square

SHEET 1 OF 1

Client:

Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

QUADRANGLE: N/A

DATE: 06/16/11

SCALE: See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 6/2/11

SITE INFORMATION:

NAME: Colonades Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
NATIVE VEGETATION/WETLAND X
CONCRETE LINED CHANNEL
OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Pond weed, Jun eff, Ele ery, Ele acu, Cx comosa

PRIORITY WEEDS: None
TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: 1° open H_2O, could use wetland plugs

SIDE SLOPES: TURF GRASS X RIP-RAP
NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE) Asc inc, Ely can, Jun eff, Pen dig, Ast nov, Sci pun, Indian hemp, Pyc vir, Mon fes, Pan vir

DOMINANT SPECIES (list top five): Poa pre, cup plant

PRIORITY WEEDS: teasel, Canada thistle, Poa pre, clover spp., Pha aru, multiflora rose
TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)
NATIVE RELATIVE COVER ESTIMATE: 0 - 25% (26 – 50%) 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% 76 – 100% turf
ADDITIONAL COMMENTS ON VEGETATION: Spraying of natives, can extend natives, muskrat damage on east side (throughout), ECB on slopes, little to no trees. Turf top native/turf slopes.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 3 TYPE RCP SIZE

CHANNEL/SWALE TYPE SIZE

INLET PROBLEMS: No

OUTLET TYPE: CULVERT 21" SURFACE WEIR 3' x 12' surface grate

OUTLET PROBLEMS: Residents move grate to improve flow – bad outlet design – consider replacement

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): High

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION:

SHORELINE EROSION PRESENT (YES/NO): Yes – Minimal locations

IF YES WHAT IS SCOURING HEIGHT: (0 – 3") 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes – not active

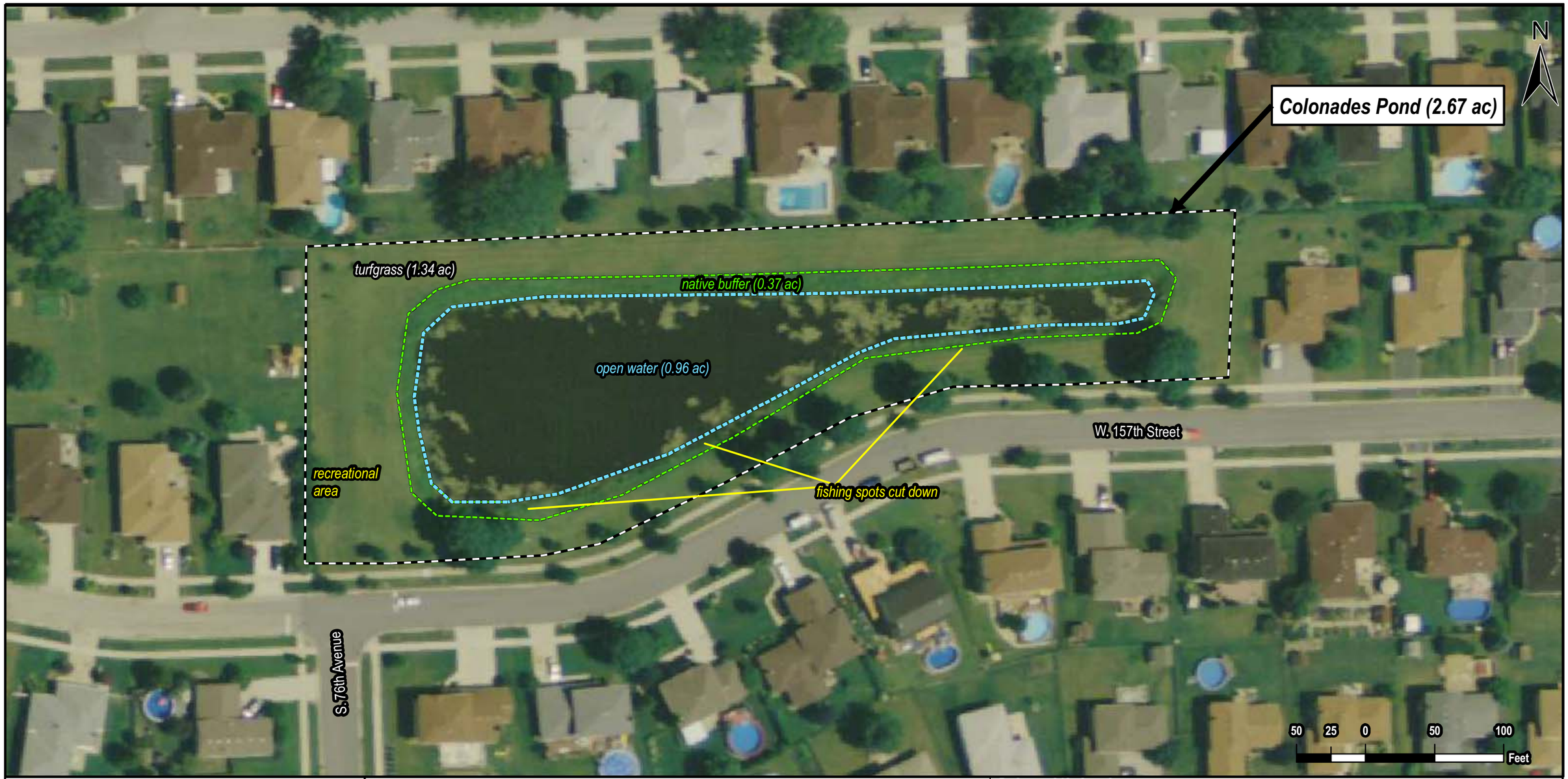
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION:

TURF PLAY AREA PRESENT (YES/NO): Yes LOCATION: W & E of Pond

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Observed resident throwing bread to the geese, Obvious fishing locations cut down by residents. Preserve turf area W of pond for recreation



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TITLE
Assessment

Project and Site Location:
Colonades Pond
7500 W. 157th Street
Orland Park, IL, Cook Co.

Base Layer:
AirPhoto USA 2008

Project No.:
10165.BASIN

FIGURE
Colonades

SHEET
OF: 1
1

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

QUADRANGLE
N/A

DATE
06/02/11

SCALE
See scale bar

Pond 11: Colonades Pond

PHOTO 1

6-02-2011

West Slope. Bare zone along shoreline due to chemical spill damage.

PHOTO 2

6-02-2011

Outflow grate is moved by residents on a regular basis to lower water elevation.

PHOTO 3

6-02-2011

Flock of geese being fed by adjacent resident.

Pond 11: Colonades Pond

PHOTO 4

6-02-2011

Signs of native plant damage due to Weed & Feed application on turf grass.

PHOTO 5

6-02-2011

South bank – mowed turf along fences and turf/native buffer along shoreline. Signs of historic muskrat damage. Minimal shore erosion on toe of slope.

PHOTO 6

6-02-2011

North bank – locations of preferred fishing. Apparent grass cutting and aquatic weed removal at various fishing locations.

#11 Colonades Pond
Engineers Opinion of Probable Construction Cost

Narrative: Colonades Pond is a small wet basin within a residential subdivision that clearly gets a lot of fishing and recreation use. A number of fishing locations had been cut down and trampled along the western slope. Geese were being fed by a neighbor to the basin, thus creating an attractive holding locations for these nuisance birds. The surrounding flat grass areas and adjacent benches appear to get use from the residents as well. A nice amount of native vegetation was present in the unmowed buffer to the pond, but the buffer was very narrow and evidence of weed control activities were present on native and desireable plant species. V3 recommends converting the slopes to a 30 foot native prairie buffer and leaving the flat turf recreational areas to the north and south of the basin for the resident use.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Boomspray	polaris, turf grass	1.0	Acre	$500	2	$1,000
Seeding Prep	Rake Topsoil	1.0	Acre	$500	1	$500
Seeding	Site Area, 1 Year Guarantee	1.5	Acre	$3,500	1	$5,250
Blanket	S150BN	1.0	Acre	$7,300	1	$7,300
Prescribed Burn	Years 1 Coordination & 4 person crew	1.0	EA	$2,500	1	$2,500
Wetland Plugs	Water perimeter, 1000 lin ft., 1 ft. center	1000.0	EA	$5	1	$5,000
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	1.5	Acre	$500	2	$1,500
Weed Control (spot spraying)	2 person, 1 day (2 in Yr 1)	1.0	EA	$1,000	2	$2,000
Site Inspections/Meetings	1 each year	1.0	EA	$600	1	$600
					TOTAL:	$11,600

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	2 person, 1 day (2 per year)	1.0	EA	$1,000	4	$4,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	1.5	Acre	$500	1	$750
Prescribed Burn	Years 3 Coordination & 4 person crew	1.0	EA	$2,500	1	$2,500
Site Inspections/Meetings	each year	1.0	EA	$650	2	$1,300
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$8,550
					Contingency (10%):	$2,015
					GRAND TOTAL YEAR 1-3:	$22,165

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.

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TITLE

Proposed Management Plan

Base Layer:

AirPhoto USA 2008

Client:

Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:

Colonades Pond
7500 W. 157th Street
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Colonades	OF. 1 1

QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 6/1/11

SITE INFORMATION:

NAME: Village Square Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE

SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS

NATIVE VEGETATION/WETLAND

CONCRETE LINED CHANNEL

OTHER Open water

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): N/A

PRIORITY WEEDS: N/A

TOTAL VEGETATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION:

SIDE SLOPES: TURF GRASS X RIP-RAP

NATIVE VEGETATION (see below) OTHER

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Poa pre, Ele ery

PRIORITY WEEDS: Lit sal, thistle spp, misc. trees

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)

ADDITIONAL COMMENTS ON VEGETATION: Turf to shore

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 8 TYPE RCP SIZE

CHANNEL/SWALE TYPE SIZE

INLET PROBLEMS: No

OUTLET TYPE: CULVERT Primary 21" RCP SURFACE WEIR 6' X 8' grate to large RCP

OUTLET PROBLEMS: Historic flood – installed overflow outlet

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): High

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION:

SHORELINE EROSION PRESENT (YES/NO): Yes – Scattered along shore

IF YES WHAT IS SCOURING HEIGHT: (0 – 3") 4 – 6" 7 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Mixed

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes – Not active

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): Yes LOCATION: South side of park

TURF PLAY AREA PRESENT (YES/NO): Yes LOCATION: South side of basin

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Significant recreation and play area

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TITLE: **Assessment**		Project and Site Location: **Village Square Pond, 9125 Kensington Way, Orland Park, IL, Cook Co.**	
BASELAYER: AirPhoto USA 2008		Project No.: 10165.BASIN	FIGURE: Village Square
CLIENT: **Village of Orland Park, Village Hall, 14700 Ravinia Drive, Orland Park, Illinois 60462**		QUADRANGLE: N/A	DATE: 06/02/11
SHEET OF: 1 of 1	SCALE: See scale bar		

Pond 12: Village Square Pond

PHOTO 1

6-01-2011

North slope – Village installed stabilization in near photo with exposed permanent erosion blanket.

PHOTO 2 & 3

6-02-2011

Various locations of resident installed stone shoreline. Left photo includes section of Village installed fiber roll.

PHOTO 4

6-02-2011

East slope – Resident installed timber wall along shoreline.

Pond 12: Village Square Pond

PHOTO 5

6-02-2011

South shore – very flat slopes going up to baseball field – minimal buffer. Shallow emergent planting area potential within water line.

PHOTO 6

6-02-2011

South shore – Significant geese population using this pond and adjacent turf grass field for raising their goslings.

PHOTO 7

6-02-2011

West slope – steep slopes with turf grass mowing right down to edge of water. Typically 1' of scour along edge.

#12 Village Square Pond
Engineers Opinion of Probable Construction Cost

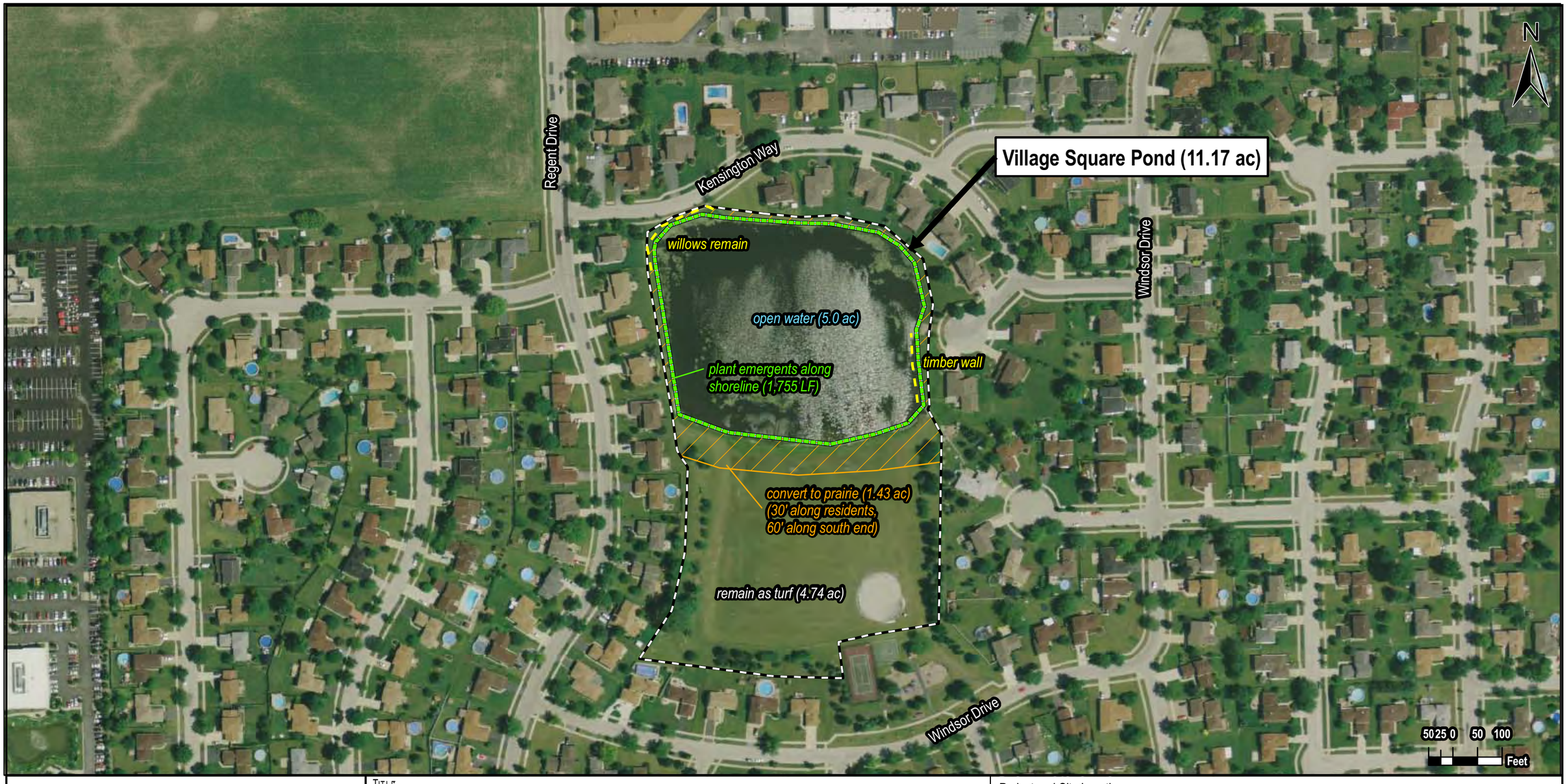
Narrative: Village Square Pond is a wet basin within a residential subdivision that is adjacent to a large baseball field. The surrounding residents view this pond as their own personnal amenity and have done landscape improvements, installed rock and timber shorelines, and mow down to the shoreline. Geese were numerous and a significant amount of algae was observed. The pond is treated every two (2) weeks to keep the algae under control. V3 recommends installing wetland vegetation along the toe to stop wave action and compete with the algae for nutrients and cover the algae blooms that do occur. V3 also recommend converting the slopes to a 30 foot native prairie buffer along the residents and a 60 foot buffer along the open baseball field area. We recommend leaving the rock toe and timber walls that have been constructed because they are protecting the shoreline.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Boomspray	polaris, turf grass	1.0	Acre	$500	2	$1,000
Seeding Prep	Rake Topsoil	1.0	Acre	$500	1	$500
Seeding	Site Area, 1 Year Guarantee	1.0	Acre	$3,500	1	$3,500
Blanket	S150BN	1.0	Acre	$7,300	1	$7,300
Wetland Plugs	Water perimeter, 2000 lin ft., 1 ft. center	2000.0	EA	$5	1	$10,000
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	1.0	Acre	$500	2	$1,000
Weed Control (spot spraying)	1 person, 1 day (2 in Yr 1)	1.0	EA	$500	2	$1,000
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$25,500

YEAR 2 - 3						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Weed Control (spot spraying)	1 person, 1 day (2 per year)	1.0	EA	$500	4	$2,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	1.0	Acre	$500	1	$500
Prescribed Burn	Years 3 Coordination & 4 person crew	1.0	EA	$2,000	1	$2,000
Site Inspections/Meetings	each year	1.0	EA	$650	2	$1,300
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$5,800
					Contingency (10%):	$3,130
					GRAND TOTAL YEAR 1-3:	$34,430

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE
Proposed Management Plan

BASELAYER
AirPhoto USA 2008

CLIENT
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Village Square Pond
9125 Kensington Way
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Village Square	1 OF 1
QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 6/2/11

SITE INFORMATION:

NAME: Parkhill Pond #1 Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
NATIVE VEGETATION/WETLAND X
CONCRETE LINED CHANNEL
OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE) N/A

DOMINANT SPECIES (list top five): N/A

PRIORITY WEEDS: N/A

TOTAL VEGETATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Open H_2O,

SIDE SLOPES: TURF GRASS X RIP-RAP
NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE) Ver has, Sil ter, Rud her, Pen dig, Pop del, silver Maple, Cx sp1, Jun ten, Iri vir, Ely vir, And sco, Cor rac, Pan ver, Ech pur, Asc inc, Asc ser

DOMINANT SPECIES (list top five): Ver has, Sil ter, Rud her, Pen dig, Pop del, silver Maple, Cx sp1, Jun ten, Iri vir, Ely vir, And sco, Cor rac, Pan ver, Ech pur, Asc inc, Asc ser, Ele ery, Poa pre, Crown vetch, Canada thistle

PRIORITY WEEDS: Canada thistle, small trees, Pha aru, clover spp. Buckthorn

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	(51 – 75%)	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Coir log edge/blowouts/erosion/established. Some muskrat damage. Mix of seeded natives/turf/weeds. Expand prairie, milestone ready mix.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 8 TYPE RCP SIZE

CHANNEL/SWALE TYPE SIZE

INLET PROBLEMS: Yes – Multiple Failed FES: on W. side of outlet channel, on SE corner

OUTLET TYPE: CULVERT 54" RCP SURFACE WEIR 4' - 18' slope grate drop box

OUTLET PROBLEMS: None

OVERFLOW CONDITIONS/PROBLEMS: None

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Moderate

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION Minor location along South Slope

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): Yes – Various on N. Slope

LOCATION:

SHORELINE EROSION PRESENT (YES/NO): Yes –North slope – varies 3" – 3'

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Unstable on North

MUSKRAT DAMAGE OBSERVED (YES/NO): Relevant on South

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION:

TURF PLAY AREA PRESENT (YES/NO): No LOCATION:

RESIDENT USE OBSERVED (YES/NO): No

ADDITIONAL COMMENTS ON USE:

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TITLE
Assessment

BASELAYER
AirPhoto USA 2008

CLIENT
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Parkhill Pond #1
15799 Parkhill Drive
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Parkhill #1	1 OF. 1
QUADRANGLE	DATE	SCALE
N/A	06/02/11	See scale bar

Pond 13: Parkhill Pond #1

PHOTO 1 & 2

6-02-2011

Flood Control Outlet Structure and outlet channel zone to east of pond.

PHOTO 3

6-02-2011

Locations of Village installed fiber roll still in place along outlet channel of Pond. Bare slopes above fiber roll will be a concern once the fiber roll degrades and is gone.

PHOTO 4

6-02-2011

North slope – area of significant bank undercutting (approximately 2’ scour).

Pond 13: Parkhill Pond #1

PHOTO 5 & 6

6-02-2011

Locations of FES Failure. Left – Exposed FES on south shoreline. Right – FES dropped into water on north shoreline.

PHOTO 7

6-02-2011

South shoreline – entire shore was repaired in past two years but signs of significant muskrat damage is prevalent along entire shore similar to shown in photo.

PHOTO 8

6-02-2011

North bank – typical steep slopes with fiber roll installations along shoreline. Potential for exposed shore in next 1-2 years.

#13 Parkhill Pond #1
Engineers Opinion of Probable Construction Cost

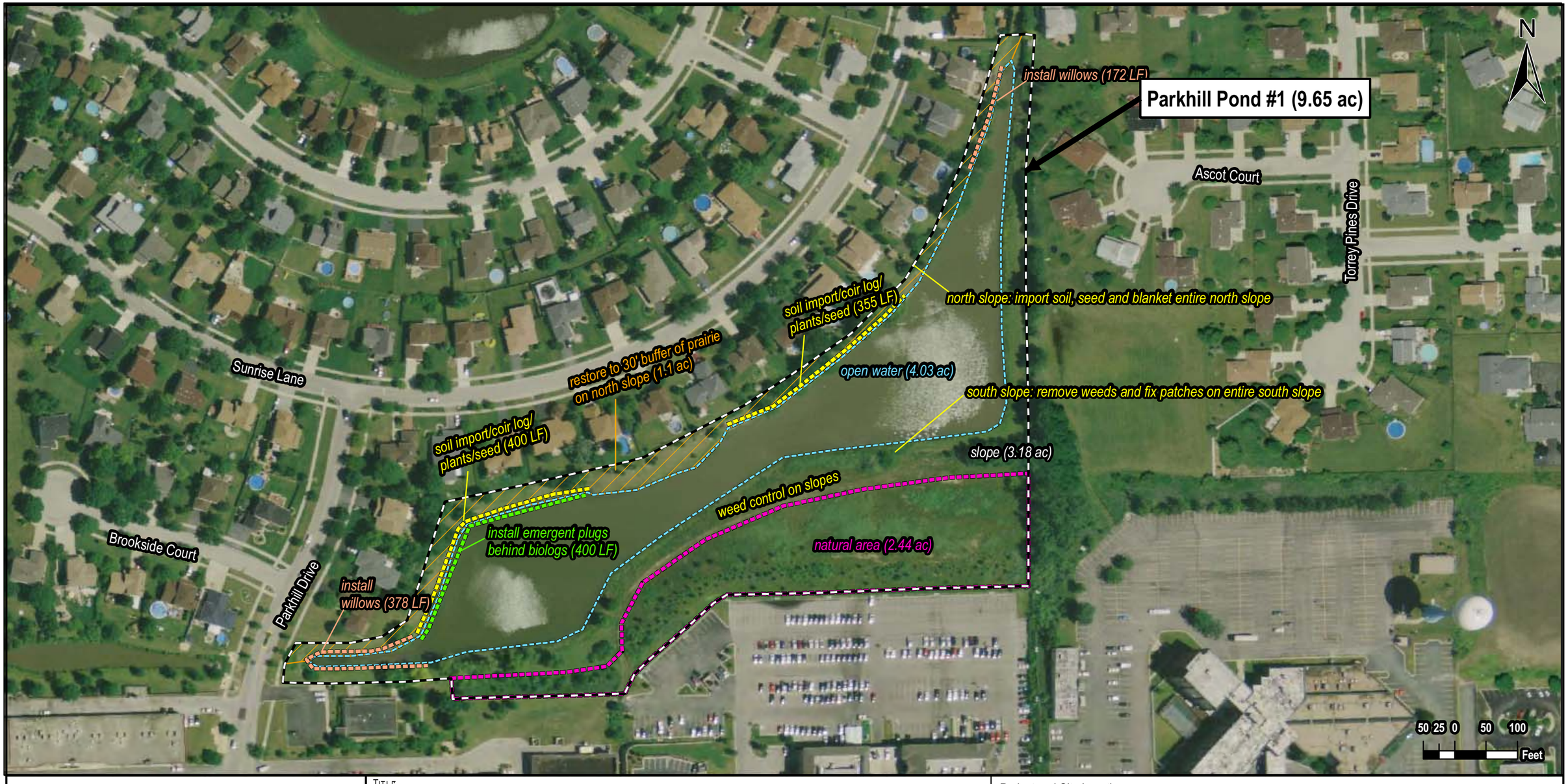
Narrative: Parkhill Pond #1 is a wet basin residential along the north slope and open space along the south and east slopes. Resident encroachment along entire north and east bank. Significant bank restoration work was performed along the east and south banks of the pond in the last 2 years and evidence of this work is still in place. In addition, fiber log was installed along the entire northern slope with stakes and logs still in existence along that north slope. There is significant scour and muskrat damage around most of the shoreline, even with the restoration and fiber roll installation that occured. V3 recommends patching damage along the south slope with weed control in the slopes through this area. Along the entire pond, wetland plugs can be installed along the existing fiber logs to provide deep rooted stabilization along these slopes. In addition some areas of regrading and soil import will be required. We also recommend installing live willow stakes along the inlet channel to stablilize the steep banks through this area.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Boomspray	polaris, turf grass	1.0	Acre	$500	2	$1,000
Shoreline Restoration	Regrade Bank, Install Shelf & Topsoil	1000.0	LF	$60	1	$60,000
Fiber Roll	Install Fiber Roll at Toe	1000.0	LF	$25	1	$25,000
Live Willow Stakes	Install Live Stakes (2 per foot)	500.0	LF	$6	1	$3,000
Seeding Prep	Rake Topsoil	1.0	Acre	$500	1	$500
Seeding	Site Area, 1 Year Guarantee	1.0	Acre	$3,500	1	$3,500
Blanket	S150BN	1.0	Acre	$7,300	1	$7,300
Wetland Plugs	Water perimeter, 3000 lin ft., 1 ft. center	3000.0	EA	$5	1	$15,000
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	3.0	Acre	$500	2	$3,000
Weed Control (spot spraying)	3 person, 1 day (3 in Yr 1)	1.0	EA	$1,500	3	$4,500
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$124,000

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	1 person, 1 day (2 per year)	3.0	EA	$500	4	$6,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	3.0	Acre	$500	1	$1,500
Prescribed Burn	Years 1 Coordination & 6 person crew	1.0	EA	$3,000	1	$3,000
Interseeding as Needed	Seed Native into existing unmowed area	2.0	Acre	$1,500	1	$3,000
Site Inspections/Meetings	each year	1.0	EA	$650	2	$1,300
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$14,800
					Contingency (10%):	$13,880
					Soft Costs (Survey, Engr, Mngt - 20%):	$27,760
					GRAND TOTAL YEAR 1-3:	$180,440

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE: **Proposed Management Plan**		Project and Site Location: **Parkhill Pond #1 15799 Parkhill Drive Orland Park, IL, Cook Co.**	
BASELAYER: AirPhoto USA 2008		Project No.: 10165.BASIN	FIGURE: Parkhill #1 / SHEET: 1 OF 1
CLIENT: **Village of Orland Park Village Hall 14700 Ravinia Drive Orland Park, Illinois 60462**		QUADRANGLE: N/A	DATE: 06/16/11 / SCALE: See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 6/1/11

SITE INFORMATION:

NAME: Parkhill Pond #3 & Park Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
NATIVE VEGETATION/WETLAND X
CONCRETE LINED CHANNEL
OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Hibiscus palustris, Pha aru, Ere ery, Lit sal

PRIORITY WEEDS: Lit sal, Pha aur
TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: Staffs from Coir log still present

SIDE SLOPES: TURF GRASS X RIP-RAP X Gabion Basket @ SE side
NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE) Sor nut, Ele ery, Cor rac, And ger

DOMINANT SPECIES (list top five): Poa pre, Pha aru, Lit sal

PRIORITY WEEDS: Crown vetch, autumn olive, Lit sal, Pha aru, Poa pre, Canada thistle, volunteer trees
TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: Mesh blanket on east side still present.
Permanent netting at toe. Erosion observed along steeper slopes.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 5 TYPE RCP SIZE

CHANNEL/SWALE TYPE SIZE

INLET PROBLEMS: No

OUTLET TYPE: CULVERT 52" RCP SURFACE WEIR No

OUTLET PROBLEMS: No – Flows to Parkhill #1

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Low - None

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION Mature trees surround basins, some volunteer buckthorn & cottonwood

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO Yes

LOCATION: Northwest corner by residents – downed 3 trees and bare slope

SHORELINE EROSION PRESENT (YES/NO): Yes – West bank – 1'-2', outlet – 1'-2', south slope 6", N slope 6"

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Unstable

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes – not active

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION:

TURF PLAY AREA PRESENT (YES/NO): Yes LOCATION: N. of basin

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Significant grass recreation area to be preserved

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Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
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TITLE: **Assessment**		Project and Site Location: **Parkhill Pond #3 & Park 15798 Parkhill Drive Orland Park, IL, Cook Co.**	
BASELAYER: AirPhoto USA 2008		Project No.: 10165.BASIN	FIGURE: Parkhill #3 / SHEET OF: 1 1
CLIENT: **Village of Orland Park Village Hall 14700 Ravinia Drive Orland Park, Illinois 60462**		QUADRANGLE: N/A	DATE: 06/02/11 / SCALE: See scale bar

Pond 14: Parkhill Pond #3 & Park

PHOTO 1

6-01-2011

Northeast Corner – Small un-mowed buffer adjacent to large turf recreational area. Minimal erosion apparent in this location.

PHOTO 2

6-02-2011

Gabion mattress installed along resident on north shore along entrance from pond to outlet channel.

PHOTO 3

6-02-2011

Steep banks outlet channel to east of pond. Mature tree and shrub growth exists along north slope of this outlet channel. Scour of approximately 1-2' along banks of this channel.

Pond 14: Parkhill Pond #3 & Park

PHOTO 4

6-02-2011

South of Pond – Large under-utilized turf grass area along commercial property. Mature trees line shoreline on south shoreline.

PHOTO 5

6-02-2011

West slope – Location of 3 large trees (pine) removed on steep slope. Bare slopes above significant scour zone along shoreline.

PHOTO 6

6-02-2011

North slope – Severe bank erosion and sloughing along much of the north shoreline. Signs of historic fiber roll installation that has degraded.

#14 Parkhill Pond #3 & Park
Engineers Opinion of Probable Construction Cost

Narrative: Parkhill Pond #3 & Park is a wet basin within a large park (north of pond) that is borderded by residential to the east and west and commercial to the south. Significant erosion and scour is occuring along the residences on each side of the pond that should be restored. The area to the south of the basin is a large turf grass area that is under utilized for recreation by residents and is a good location for prairie conversion if the 2011 budget allows. However this is a low priority conversion. This south bank can also be stablized in a cost effective manner with live willow stakes because it will provide enhanced habitat along this shoreline and screening from the commercial property to the south. The outflow channel to Parkhill Pond #3 has steep banks and could be stablized quickly and efficiently with live willow stakes along the bank. V3 also recommends converting the entire shoreline to a 30 foot native prairie buffer, but preserving the large park area for recreation.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Boomspray	polaris, turf grass	2.5	Acre	$500	2	$2,500
Shoreline Restoration	Regrade Bank, Install Shelf, Gabions & Topsoil	1000.0	LF	$50	1	$50,000
Live Willow Stakes	Install Live Stakes (2 rows)	1500.0	LF	$6	1	$9,000
Seeding Prep	Rake Topsoil	2.5	Acre	$500	1	$1,250
Seeding	Site Area, 1 Year Guarantee	2.5	Acre	$3,500	1	$8,750
Blanket	S150BN	2.5	Acre	$7,300	1	$18,250
Wetland Plugs	Water perimeter, 1500 lin ft., 1 ft. center	1500.0	EA	$5	1	$7,500
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	2.5	Acre	$500	2	$2,500
Weed Control (spot spraying)	3 person, 1 day (2 in Yr 1)	1.0	EA	$1,500	2	$3,000
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$103,950

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	3 person, 1 day (2 per year)	1.0	EA	$1,500	4	$6,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	2.5	Acre	$500	1	$1,250
Prescribed Burn	Years 3 Coordination & 6 person crew	1.0	EA	$3,000	1	$3,000
Site Inspections/Meetings	each year	1.0	EA	$650	2	$1,300
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$11,550
					Contingency (10%):	$11,550
					Soft Costs (Survey, Engr, Mngt - 20%):	$23,100
					GRAND TOTAL YEAR 1-3:	$150,150

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.

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TITLE
Proposed Management Plan

BASELAYER
AirPhoto USA 2008

CLIENT
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Parkhill Pond #3 & Park
15798 Parkhill Drive
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Parkhill #3	1 OF. 1
QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/31/11

SITE INFORMATION:

NAME: Colette Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
NATIVE VEGETATION/WETLAND X
CONCRETE LINED CHANNEL
OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE) Pickerel weed

DOMINANT SPECIES (list top five): Iri vir, Sci pun, Sci vac, Pot nod, Ele ery

PRIORITY WEEDS: Pha aru

TOTAL VEGETATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: 1° open H_2O, fish in water, good submergent plant community, very large pond, planting enclosure material still up.

SIDE SLOPES: TURF GRASS X RIP-RAP
NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE) And sco, And ger, Geu tri, Ziz aur, Asc inc, Pyc vir, Sol alt, Pen dig, Sil ter, Pet pur, ronweed, rattlesnake master, les cap, Cx hist

DOMINANT SPECIES (list top five): Poa pre, Ele ery, And sco, Mix of Forbs.

PRIORITY WEEDS: Sol alt, Pha aru, White Clove, Sweet Clover, Red Clover

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
ADVENTIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Turf on upper area above native zone. Can use a burn. Some slope repair required. Planting material still up. Heavy native plant diversity.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 5 TYPE RCP SIZE

CHANNEL/SWALE TYPE SIZE

INLET PROBLEMS: None

OUTLET TYPE: CULVERT 10" Restrictor SURFACE WEIR Stone Overflow to Railroad

OUTLET PROBLEMS: Connects to Lake Sedgewick so water stays high until Marley Creek can drain down

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Low

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes *Signs of high water for long times, but not stressing out shoreline plants. Prairie at toe is stressed.

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): Yes – NE corner – Blow out of slit fence

LOCATION: Erosion around FES at west slope

SHORELINE EROSION PRESENT (YES/NO): Yes – Due to bounce & fishermen, toe is bare/stressed

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9" (0"- 12" height)

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable

MUSKRAT DAMAGE OBSERVED (YES/NO): No

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION:

TURF PLAY AREA PRESENT (YES/NO): No LOCATION:

RESIDENT USE OBSERVED (YES/NO): Fishing

ADDITIONAL COMMENTS ON USE: Adjacent sidewalk & educational signage

V3 Companies
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630.724.9202 fax
www.v3co.com

TITLE

Assessment

Project and Site Location:

Colette Pond
15801 Park Station Blvd
Orland Park, IL, Cook Co.

Base Layer:

AirPhoto USA 2008

Project No.:

10165.BASIN

FIGURE

Colette

SHEET OF

1
1

Client:

Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

QUADRANGLE

N/A

DATE

06/02/11

SCALE

See scale bar

Pond 15: Colette Pond

PHOTO 1

5-31-2011

West slope – Transition from sidewalk to mowed turf to native prairie slope to emergent shoreline. Slopes in good condition and excellent mix of natives.

PHOTO 2

5-31-2011

Signs of long drain down period on toe of slopes where prairie vegetation was stressed out but emergent shoreline was tolerating the water. Also signs of fishermen path beaten along shore.

PHOTO 3

5-31-2011

Healthy emergent shore and native prairie buffer surrounds the entire pond.

Pond 15: Colette Pond

PHOTO 4

5-31-2011

Severe rill (5’ deep) coming from pavilion and venue area to the north of pond. Need to contain water in a dedicated rip-rap channel down slope.

PHOTO 5

5-31-2011

North slope – Location of historic silt fence within slopes which is now creating erosion points and rills. Should remove or cut off silt fence along entire length of north slope.

PHOTO 6

5-31-2011

Historic construction fence has fallen down north slope. Should be removed or cut to prevent bank erosion and stewardship issues.

#15 Colette Pond
Engineers Opinion of Probable Construction Cost

Narrative: Colette Pond is a large wet basin which is west of and directly connected to Lake Sedgewick. There is good fishing in the pond and significant use of the pond occurs by fishermen. This basin was recently received by the Village from the developer of this subdivision and the pond has been in stewardship for a number of years. The pond slopes are in amazing conditions with native populations which may rival some wetland mitigation buffer areas. There is a significant erosion problem at the northeast corner of the basin where a large amount of drainage is directed to the pond from the adjacent stockpile areas. This erosion must be repaired with large rip-rap from the top of the bank to the shoreline in order to prevent future damage. In addition, a large line of silt and snow fence is still existing from previous construction of the stockpiles. This is now creating an erosion problem because it is at the middle of the slope and has not been maintained. The Public Works Dept was going to attempt to remove this fencing.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Prescribed Burn	Years 1 Coordination & 6 person crew	1.0	EA	$3,500	1	$3,500
Remove Silt Fence & Snow Fence	Remove by Village PW	1.0	EA	$0	1	$0
Repair Erosion Rill	Install Rip-Rap, Fabric, Seed & Blanket in Erosion Area	1.0	EA	$7,500	1	$7,500
Seeding	Site Area, 1 Year Guarantee	4.3	Acre	$2,000	1	$8,500
Weed Control (spot spraying)	4 person, 1 day (2 in Yr 1)	1.0	EA	$2,000	2	$4,000
Site Inspections/Meetings	1 each year	1.0	EA	$600	1	$600
					TOTAL:	$20,600

YEAR 2 - 3						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Weed Control (spot spraying)	4 person, 1 day (2 in Yr 1)	1.0	EA	$2,000	4	$8,000
Prescribed Burn	Years 3 Coordination & 4 person crew	1.0	EA	$3,500	1	$3,500
Site Inspections/Meetings	each year	1.0	EA	$650	2	$1,300
					TOTAL:	$12,800
					Contingency (10%):	$3,340
					GRAND TOTAL YEAR 1-3:	$36,740

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.

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TITLE

Proposed Management Plan

Project and Site Location:

Colette Pond
15801 Park Station Blvd
Orland Park, IL, Cook Co.

Base Layer:

AirPhoto USA 2008

Client:

Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project No.:	FIGURE	SHEET OF
10165.BASIN	Colette	1 1

QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 6/1/11

SITE INFORMATION:

NAME: Anthony Drive Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
NATIVE VEGETATION/WETLAND X
CONCRETE LINED CHANNEL
OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Ele ery, Pha aru, Lit sal

PRIORITY WEEDS: Pha aru, Lit sal
TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: 1° open water with small emergent edge. 2-3' planting edge open for planting of low stature wetland plants.

SIDE SLOPES: TURF GRASS X RIP-RAP
NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Poa pre, And sco, Canada thistle, trees

PRIORITY WEEDS: Sweet clover, teasel spp, Pha aru, volunteer trees, Lit sal, Thistle spp., Salix spp., honeysuckle
TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% (26 – 50%) 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: Evergreen and deciduous trees on slopes (heavy shade), natives present from original planting/seeds but 1° turf. Seed turf/native mix in bare areas. Clean up residential encroachment and brush piles (up and downed/piled). Put up boundary fence and/or signs.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 2 TYPE RCP SIZE

CHANNEL/SWALE TYPE SIZE

INLET PROBLEMS: None

OUTLET TYPE: CULVERT RCP SURFACE WEIR Dual 3' x 3' grates

OUTLET PROBLEMS: Constant collections of debris

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): High

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION Trees and shrubs surrounding slopes

Volunteer trees on E and S slopes – weed whip in areas where mow is not possible

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION:

SHORELINE EROSION PRESENT (YES/NO): Yes

IF YES WHAT IS SCOURING HEIGHT: (0 – 3" 4 – 6") 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable but increasing

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes – not active

Resident mowing and landscaping to shoreline. Private UP-lights on trees

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION:

TURF PLAY AREA PRESENT (YES/NO): No LOCATION:

RESIDENT USE OBSERVED (YES/NO): Fishing

ADDITIONAL COMMENTS ON USE: Resident Encroachment on S & W slopes

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www.v3co.com

TITLE
Assessment

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Anthony Drive Pond
10831 Anthony Drive
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Anthony Drive	OF 1 1

QUADRANGLE	DATE	SCALE
N/A	06/02/11	See scale bar

Pond 16: Anthony Drive Pond

PHOTO 1

6-01-2011

North slope – Mature trees & shrubs in un-mowed turf buffer. Signs of fishermen trail around entire pond.

PHOTO 2

6-01-2011

West slope – landscape installations and mowed turf grass to shoreline.

PHOTO 3

6-01-2011

Mature tree growth on south slope. Location of significant fishing pressure obvious by fishing trail and disposed worm boxes.

#16 Anthony Drive Pond
Engineers Opinion of Probable Construction Cost

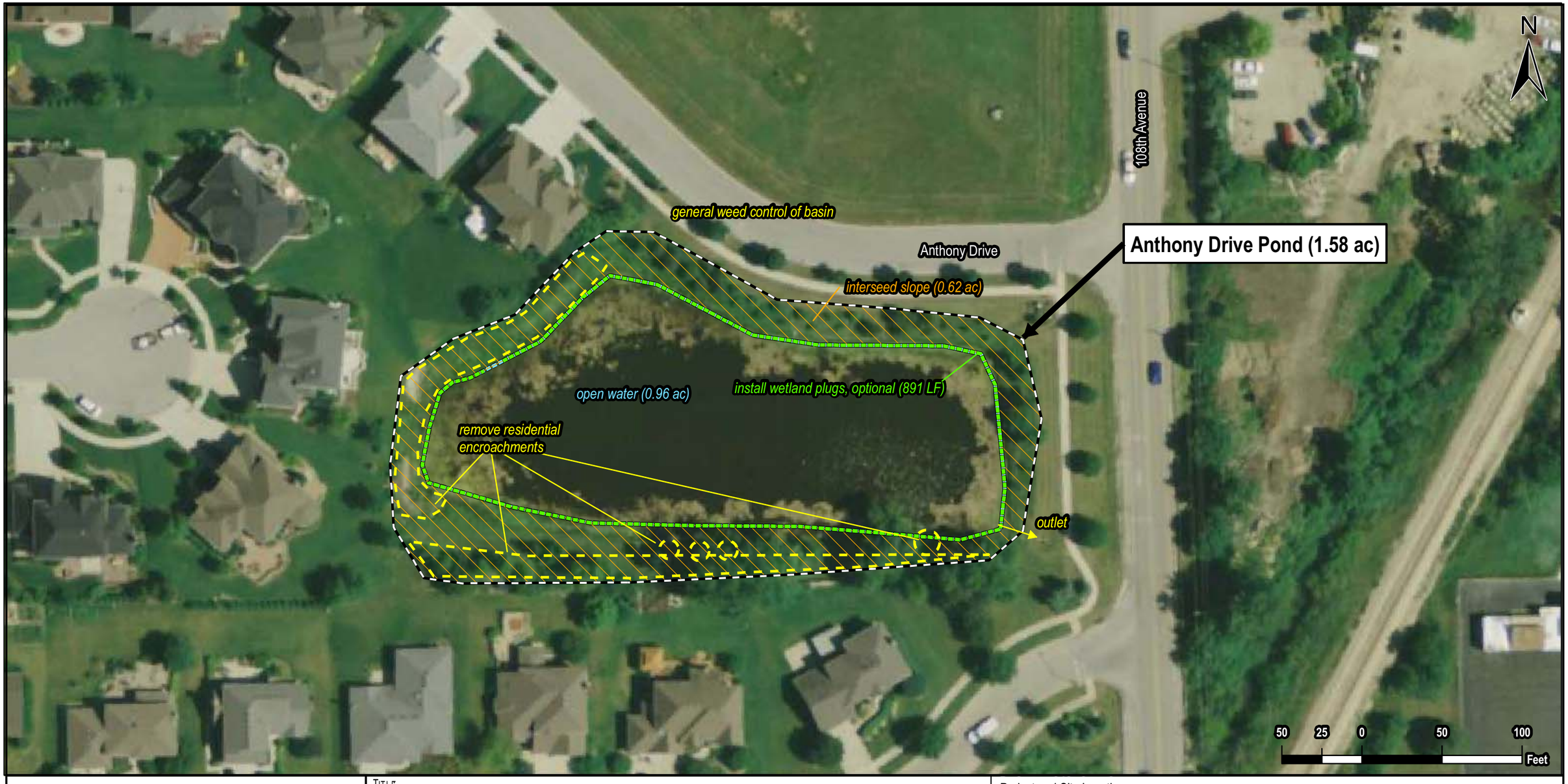
Narrative: Anthony Pond is a small wet basin in a residential subdivision that is visible from 108th Street. There is good fishing in the pond and significant use of the pond occurs by fishermen. The residents along this basin have encroached with their landscape features and gardens into the Village property. V3 recommends to manage this basin as a turf/forb blend. Stop mowing contract on the majority of the slopes and interseed the turf grass with natives without killing the existing turf grasses.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Prescribed Burn	Years 1 Coordination & 4 person crew	1.0	EA	$2,500	1	$2,500
Seeding	Site Area, 1 Year Guarantee	1.0	Acre	$2,000	1	$2,000
Wetland Plugs	Water perimeter, 1000 lin ft., 2 ft. center	500.0	EA	$5	1	$2,500
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	1.0	Acre	$500	2	$1,000
Weed Control (spot spraying)	1 person, 0.5 day (2 in Yr 1)	1.0	EA	$250	2	$500
Site Inspections/Meetings	1 each year	1.0	EA	$600	1	$600
					TOTAL:	$6,600

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	1 person, 0.5 day (2 per year)	1.0	EA	$250	4	$1,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	1.0	Acre	$500	1	$500
Prescribed Burn	Years 3 Coordination & 4 person crew	1.0	EA	$2,500	1	$2,500
Site Inspections/Meetings	each year	1.0	EA	$650	2	$1,300
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$5,300
					Contingency (20%):	$2,380
					GRAND TOTAL YEAR 1-3:	$14,280

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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www.v3co.com

TITLE
Proposed Management Plan

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Anthony Drive Pond
10831 Anthony Drive
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Anthony Drive	OF 1 1

QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/26/11

SITE INFORMATION:

NAME: Laurel Hills Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET _____ DRY X WETLAND X ONLINE _____

SEDIMENT BASIN PRESENT No

BASIN BOTTOM – VEGETATION: TURF GRASS 1°

NATIVE VEGETATION/WETLAND 2°

CONCRETE LINED CHANNEL _____

OTHER _____

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Typ ang, Pha aru, Agrostis alba palustris, Poa pre, Ele obt

PRIORITY WEEDS: Typ ang, Pha aru, Poa pre

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)

ADDITIONAL COMMENTS ON VEGETATION: Natives in wet area Cx crist, Typ lat, nutsedge, Sci atr, Lit sal, Sci vac, etc. 1° water inlet across from 1° outlet and water runs directly from one to the other.

SIDE SLOPES: TURF GRASS X RIP-RAP _____

NATIVE VEGETATION (see below) _____ OTHER _____

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Poa pre, Pha aru, Canada thistle

PRIORITY WEEDS: Pha aru, Canada thistle

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Turf slopes, erosion at above inlet in North, erosion on slopes due to mowing

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS STORM SEWER_____ TYPE 6"–top of slope, 24"–PVC from tot lot area, 12" -RCP

SIZE: PVC (catch basin at courts)

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: _____

OUTLET TYPE: CULVERT 24" RCP to manhole at SE corner, 24" RCP to manhole SURFACE WEIR: None

OUTLET PROBLEMS: Sediment accumulation in outlet pipe

OVERFLOW CONDITIONS/PROBLEMS: None apparent

SHORT-CIRCUITING (YES/NO): _____

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): _____

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY _____

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS _____ EXCESS SEDIMENT ACCUM _____

EXCESS WOODY VEGETATION _____

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): Yes

LOCATION: Corner of ball courts

SHORELINE EROSION PRESENT (YES/NO): No

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable

MUSKRAT DAMAGE OBSERVED (YES/NO): No

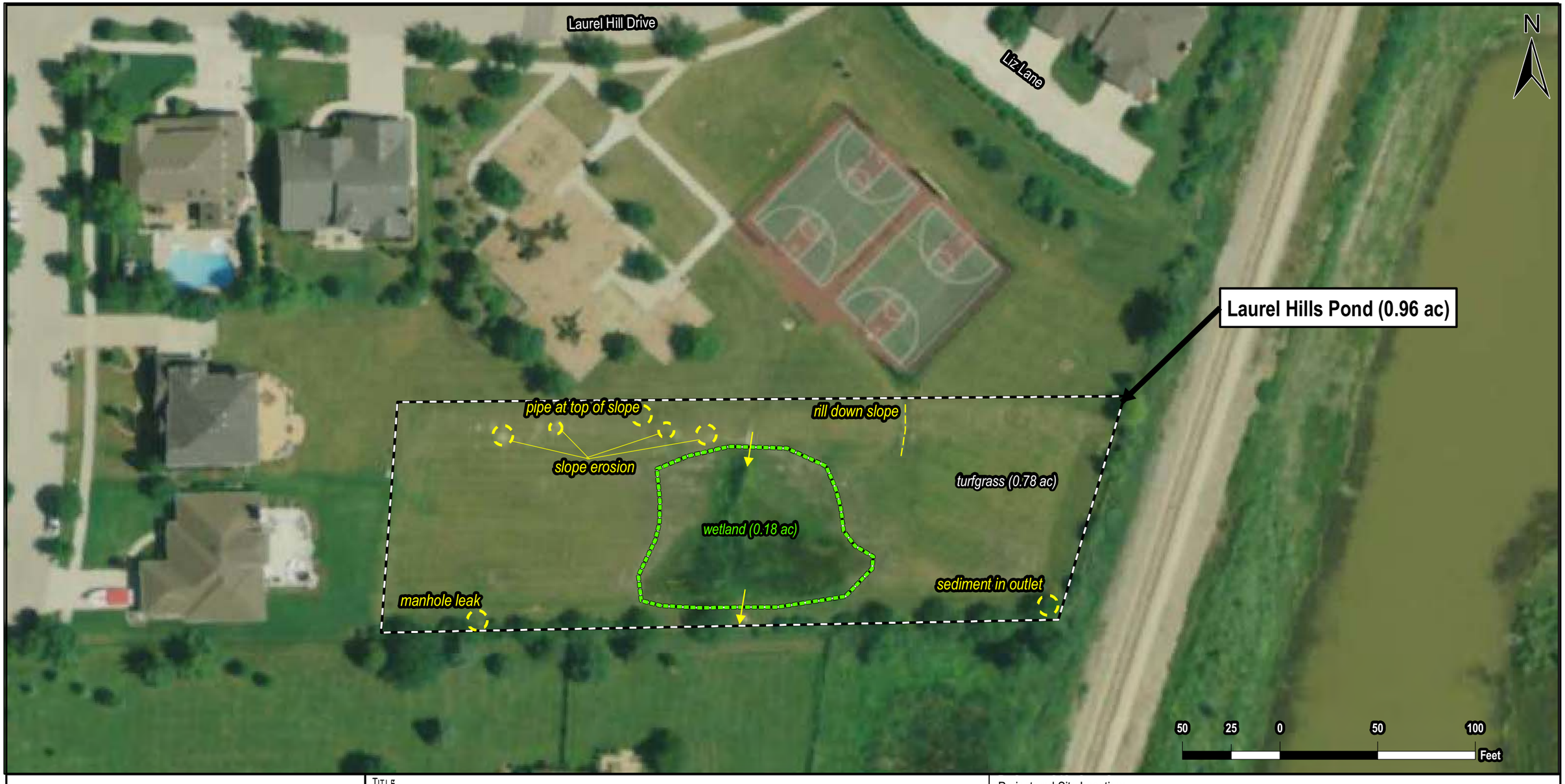
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): X LOCATION: North of basin

TURF PLAY AREA PRESENT (YES/NO): X LOCATION:

RESIDENT USE OBSERVED (YES/NO): No - it was raining

ADDITIONAL COMMENTS ON USE: Looks like active park facility



V3 Companies
7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
www.v3co.com

TITLE
Assessment

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Laurel Hills Pond
11001 Laurel Hill Drive
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Laurel Hills	1 OF 1

QUADRANGLE	DATE	SCALE
N/A	05/26/11	See scale bar

Pond 17: Laurel Hills Pond

PHOTO 1

5-26-2011

Overview from north slope – turf surrounding low area of cattails.

PHOTO 2

6-01-2011

Southeast corner – One of the outlets blocked by sediment.

PHOTO 3 & 4

6-01-2011

Erosion rill down north slope near the tennis courts storm catch basin.

#17 Laurel Hills Pond
Engineers Opinion of Probable Construction Cost

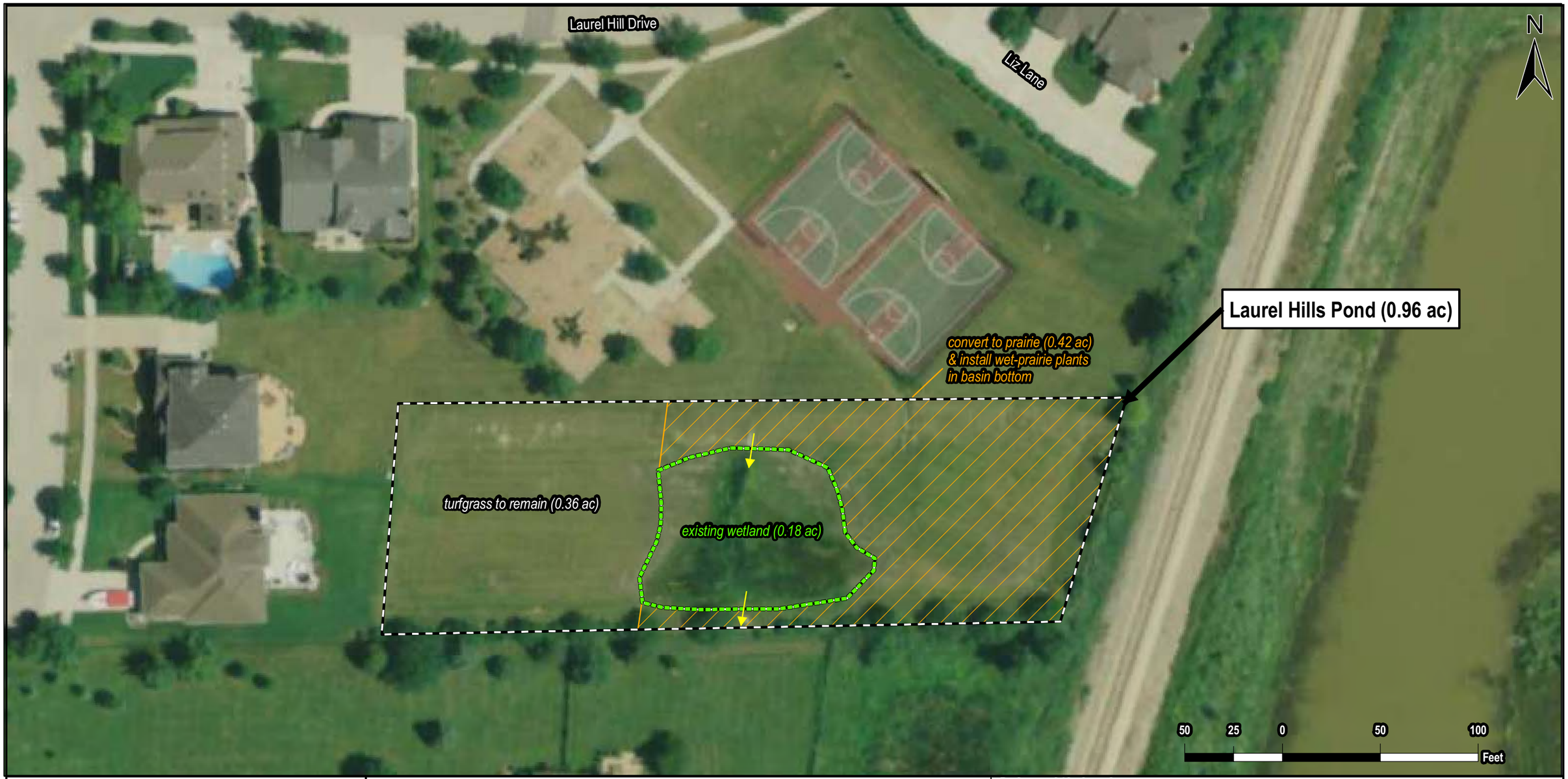
Narrative: Laurel Hills Pond is a small dry basin in a residential subdivision that is immediately south of an active park with sizeable tot-lot play area and tennis/basketball courts. Some bank problems exist on the basin and erosion should be fixed at a few locations. Also, this basin is wet enough to convert to a wetland bottom basin and remove the difficulty of mowing through the bottom. However, about 1/3 of the basin could remain as turf grass to allow for a recreational area for the residents using the park. V3 recommends to convert approximatley 2/3 of the basin to prairie.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Boomspray	polaris, turf grass	0.5	Acre	$500	2	$500
Seeding Prep	Rake Topsoil	0.5	Acre	$500	1	$250
Seeding	Site Area, 1 Year Guarantee	0.5	Acre	$3,500	1	$1,750
Blanket	S150BN	0.5	Acre	$7,300	1	$3,650
Wetland Plugs	Plugs in Bottom	2000.0	EA	$5	1	$10,000
Repair Erosion Rill	Install Rip-Rap, Fabric, Seed & Blanket in Erosion Area	1.0	EA	$2,500	1	$2,500
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	0.5	Acre	$500	2	$500
Weed Control (spot spraying)	1 person, 0.5 day (2 in Yr 1)	1.0	EA	$250	2	$500
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$20,850

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	1 person, 0.5 day (2 per year)	1.0	EA	$250	4	$1,000
Prescribed Burn	Years 3 Coordination & 4 person crew	1.0	EA	$3,000	1	$3,000
Site Inspections/Meetings	each year	1.0	EA	$600	2	$1,200
					TOTAL:	$5,200
					Contingency (10%):	$2,605
					GRAND TOTAL YEAR 1-3:	$28,655

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



V3 Companies
7325 Janes Avenue
Woodridge, IL 60517
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630.724.9202 fax
www.v3co.com

TITLE

Proposed Management Plan

Project and Site Location:

Laurel Hills Pond
11001 Laurel Hill Drive
Orland Park, IL, Cook Co.

Base Layer:

AirPhoto USA 2008

Client:

Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project No.:	FIGURE	SHEET
10165.BASIN	Laurel Hills	1 OF 1
QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 6/1/11

SITE INFORMATION:

NAME: Emerald North Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
NATIVE VEGETATION/WETLAND X
CONCRETE LINED CHANNEL
OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE) Sci vac

DOMINANT SPECIES (list top five): Pod nod, Sal int, Lit sal, Ele ery, sago pond weed

PRIORITY WEEDS: Sal int (not on south side where existing wetland), Lit sal, pha aur

TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Very little wetland edge, plant more or build shelf

SIDE SLOPES: TURF GRASS X RIP-RAP
NATIVE VEGETATION (see below) X OTHER

NATIVE VEGETATION (IF, APPLICABLE) Rat pin, Ech pur, Cx cris, Ast sim, Fru ame, Asc inc, Sci vac, Sci atr, Cx vulp

DOMINANT SPECIES (list top five): Poa pre, fescue spp., Ele ery, Sal int

PRIORITY WEEDS: Typ ang, Phr ang, Lit sal, Poa pra, clover spp., thistle spp., teasel spp., Plantago spp, Sal int

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Primarily turf. Heavy hard and soft-scape encroachment on east side and on village easement, convert to prairie.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER _____ TYPE _____ SIZE _____

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: No

OUTLET TYPE: CULVERT Dual out to wetland south of pond SURFACE WEIR _____

OUTLET PROBLEMS: No

OVERFLOW CONDITIONS/PROBLEMS: No

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Low – Increasing due to willow removal

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION Significant willow growth in southern wetland

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION: _____

SHORELINE EROSION PRESENT (YES/NO): Yes

IF YES WHAT IS SCOURING HEIGHT: (0 – 3”) 4 – 6” 7 – 9” >9”

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable but increasing due to willow removal

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes – none active

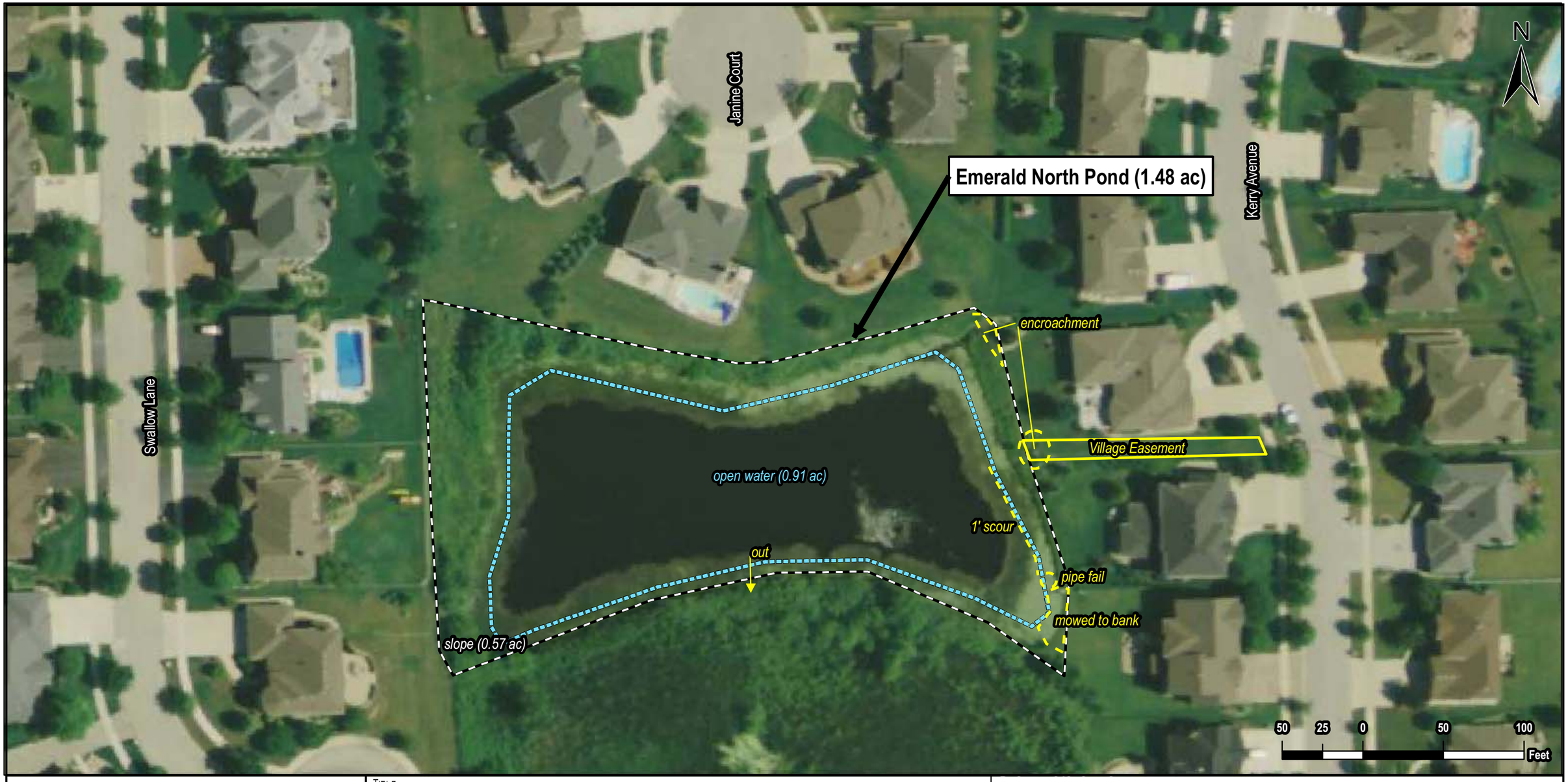
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION: _____

TURF PLAY AREA PRESENT (YES/NO): No LOCATION: _____

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Landscaping and mowing in village owned property



V3 Companies
7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
www.v3co.com

TITLE
Assessment

Project and Site Location:
Emerald North Pond
17062 Kerry Avenue
Orland Park, IL, Cook Co.

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project No.:	FIGURE	SHEET
10165.BASIN	Emerald North	OF. 1 1

QUADRANGLE	DATE	SCALE
N/A	06/02/11	See scale bar

Pond 18: Emerald North Pond

PHOTO 1

6-1-2011

South shore of pond is mature willow growth and large wetland complex. Pond outlets to this wetland area.

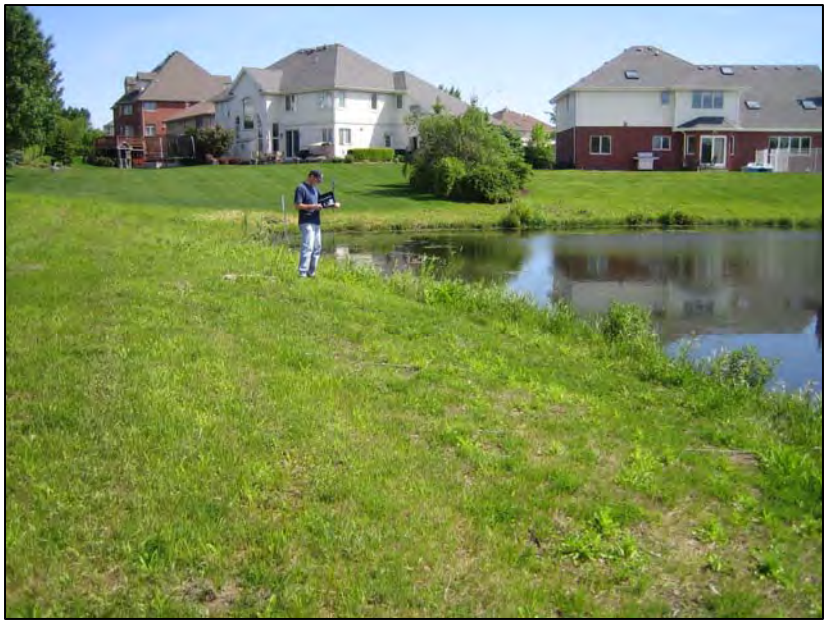


PHOTO 2

6-01-2011

West slope – Stumps remaining from recent willow cutting performed by Village. Signs of toe erosion and weed invasion increasing throughout area of prior willow stands.

PHOTO 3 & 4

6-01-2011

Bare spots on slope and 18-24" eroded shoreline typical around west and north slopes.

Pond 18: Emerald North Pond

PHOTO 5

6-1-2011

Severe erosion (2’ scour) along eastern slope immediately adjacent to fence line.

PHOTO 6

6-01-2011

Resident use of slope for boat storage – signs of killed vegetation under boat.

PHOTO 7

6-01-2011

Mowed turf grass to shoreline at southeast corner. Scour – 1’ at toe.

#18 Emerald North Pond
Engineers Opinion of Probable Construction Cost

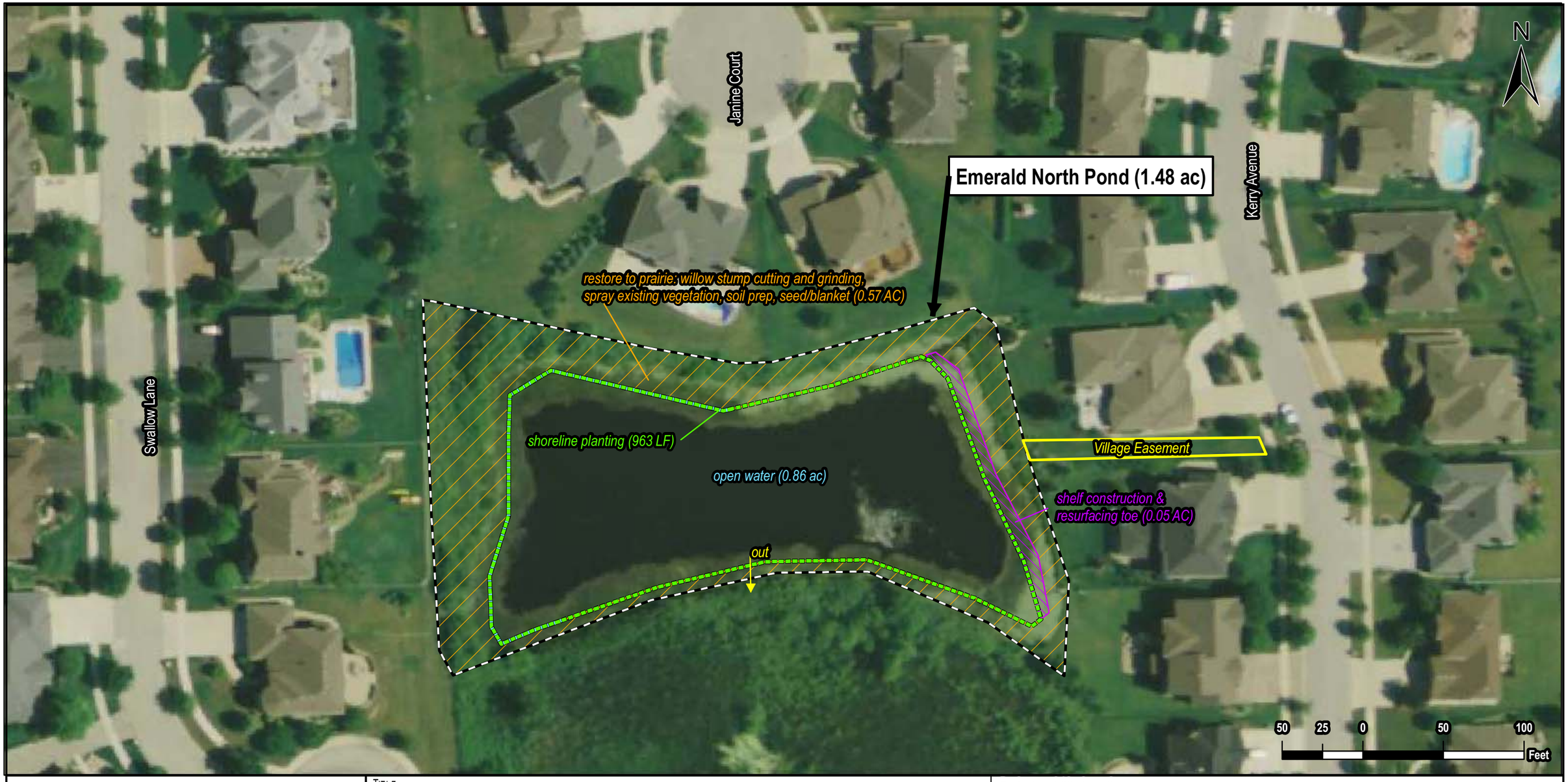
Narrative: Emerald North Pond is a large wet basin with a connected wetland area immediately south of the water. There is good fishing in the pond and significant use of the pond occurs by the residents. The residents along this basin have encroached with their landscape features and gardens into the Village property. In 2010, the Village removed a very large stand of sandbar willow which was surrounding this basin. After that occurred, the algae blooms increased dramatically and erosion along the toe is evident. V3 recommends to restore a 30 foot prairie buffer around the east, west and north slopes. The east slope is experiencing significant erosion and a wetland shelf should be built in this area to protect from additional scour toward the private properties. Emergent vegetation will be installed around the entire basin to protect the shoreline.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Boomspray	polaris, turf grass	0.5	Acre	$1,000	2	$1,000
Shoreline Restoration	Build Shelf on East Side	200.0	Ft	$150	1	$30,000
Repair Haul Road	Turf Repair	1.0	EA	$2,000	1	$2,000
Wetland Plugs	Shelf Planting	500.0	EA	$8	1	$4,000
Slope Shaping	Shape Toe w/ Mini	500.0	Ft	$10	1	$5,000
Seeding Prep	Rake Topsoil	0.5	Acre	$500	1	$250
Seeding	Site Area, 1 Year Guarantee	0.5	Acre	$3,500	1	$1,750
Blanket	S150BN	0.5	Acre	$7,300	1	$3,650
Wetland Plugs	Water perimeter, 700 lin ft., 1 ft. center	700.0	EA	$5	1	$3,500
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	0.5	Acre	$500	2	$500
Stump Cutting	Trim Down Willow Stumps	1.0	EA	$2,000	1	$2,000
Weed Control (spot spraying)	1 people, 0.5 day (2 in Yr 1)	1.0	EA	$250	2	$500
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$55,350

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	1 person, 0.5 day (2 per year)	1.0	EA	$250	4	$1,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	0.5	Acre	$500	1	$250
Prescribed Burn	Years 3 Coordination & 4 person crew	1.0	EA	$2,500	1	$2,500
Site Inspections/Meetings	each year	1.0	EA	$650	2	$1,300
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$5,050
					Contingency (10%):	$6,040
					Soft Costs (Survey, Engr, Mngt - 20%):	$12,080
					GRAND TOTAL YEAR 1-3:	$78,520

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE

Proposed Management Plan

Base Layer: AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Emerald North Pond
17062 Kerry Avenue
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Emerald North	OF. 1 1
QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 6/1/11

SITE INFORMATION:

NAME: Julie Ann Lane Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
NATIVE VEGETATION/WETLAND X
CONCRETE LINED CHANNEL
OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Sci vac, Typ ang, Ele ery, Jun ten, Nym odr, Pod nod

PRIORITY WEEDS: Pha aru, Sal int, Phr aus
TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: 3-5' planting edge (install native wetland plugs at toe). Stop cutting emergent plants. Install more aquatic plants.

SIDE SLOPES: TURF GRASS X RIP-RAP
NATIVE VEGETATION (see below) OTHER

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Poa pre, Ele ery, Jun tor, Cor sp., Kentucky coffee tree, silver maple

PRIORITY WEEDS: White clover, Phr aus, Pha aru
TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: Turf slopes with Ornamental trees and shrubs on East and South side, these can be removed or kept. Mulch and cutting/trimming would be eliminated if shrubs removed. Install signs, convert to low profile prairie. Only one neighbor. 4:1 – 6:1 slopes. Muskrat blowouts (~2)

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER _____ TYPE _____ SIZE _____

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: None

OUTLET TYPE: CULVERT _____ SURFACE WEIR _____

OUTLET PROBLEMS: None

OVERFLOW CONDITIONS/PROBLEMS: None

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Low

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION: _____

SHORELINE EROSION PRESENT (YES/NO): Yes

IF YES WHAT IS SCOURING HEIGHT: (0 – 3” 4 – 6” 7 – 9”) >9”

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Becoming unstable

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes – not active

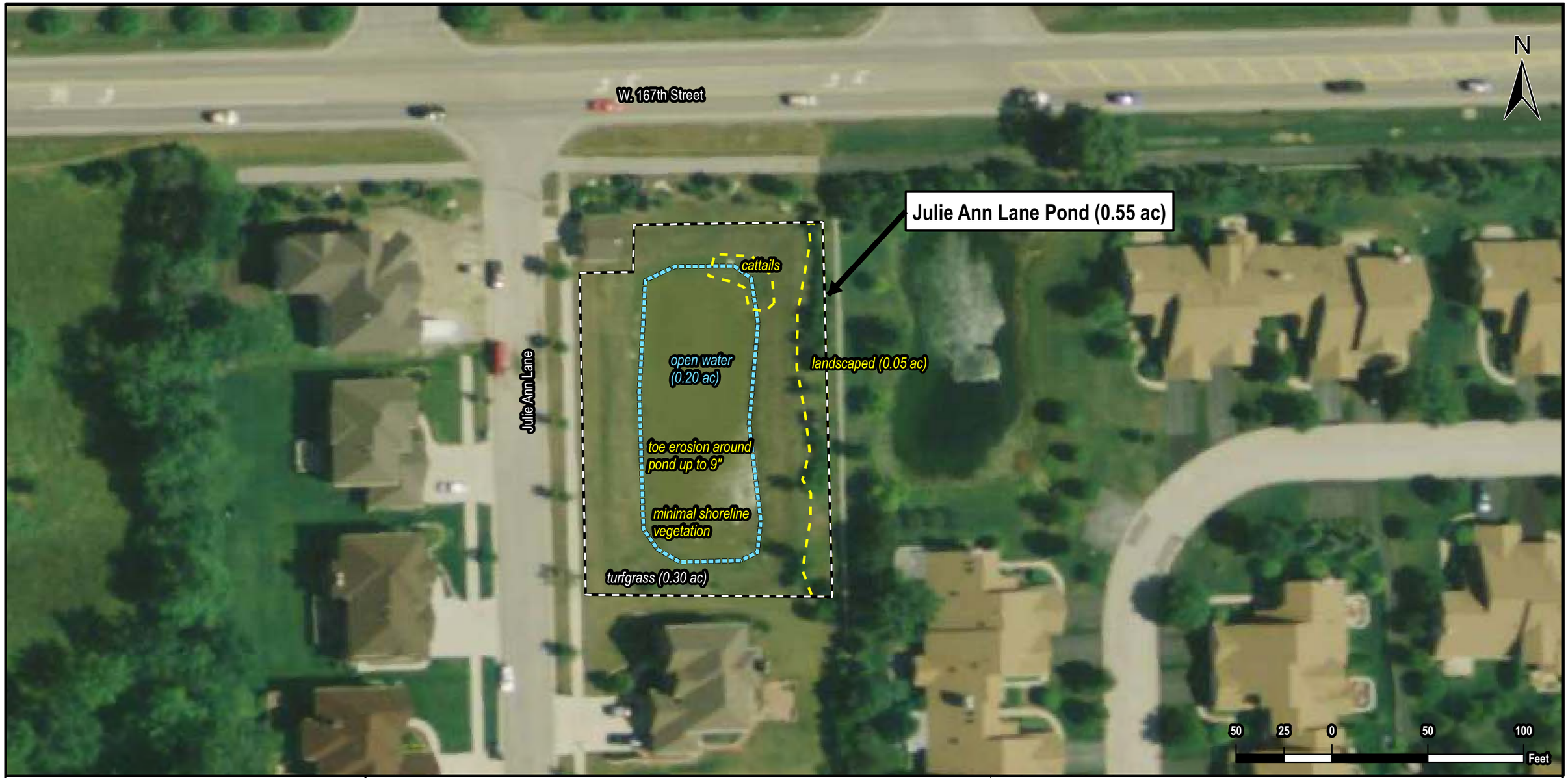
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION: _____

TURF PLAY AREA PRESENT (YES/NO): No LOCATION: _____

RESIDENT USE OBSERVED (YES/NO): No

ADDITIONAL COMMENTS ON USE: Mowed basin, but no available use



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TITLE
Assessment

Project and Site Location:
Julie Ann Lane Pond
16711 Julie Ann Lane
Orland Park, IL, Cook Co.

Base Layer:
AirPhoto USA 2008

Project No.:
10165.BASIN

FIGURE
Julie Ann Lane

SHEET
OF: 1
1

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

QUADRANGLE
N/A

DATE
06/02/11

SCALE
See scale bar

Pond 19: Julie Anne Lane Pond

PHOTO 1

6-1-2011

Mowed turf grass to shoreline – minor scour and erosion along toe of slope.

PHOTO 2

6-01-2011

Cattail growth at outlet from basin. Also observed high turbidity of water likely due to carp or goldfish in shallow pond.

PHOTO 3

6-01-2011

Ornamental bushes and mulch along eastern top of bank.

#19 Julie Anne Lane Pond
Engineers Opinion of Probable Construction Cost

Narrative: Julie Anne Lane Pond is a small wet basin that was just received by the Village from the home owners association. The pond is extremely shallow and contains a large number of gold fish and carp which are making the water very turbid. V3 recommends restoring this entire basin to prairie because the slopes provide minimal recreation ability. In addition the ornamental shrubs along the east top of bank should be removed to allow for prairie installations and future burning. Emergent vegetation, including Water Lily will help keep the turbidity down (or at least hide it) and will compete with algae for nutrients.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Boomspray	polaris, turf grass	0.3	Acre	$500	2	$300
Seeding Prep	Rake Topsoil	0.3	Acre	$500	1	$150
Seeding	Site Area, 1 Year Guarantee	0.3	Acre	$3,500	1	$1,050
Blanket	S150BN	0.3	Acre	$7,300	1	$2,190
Wetland Plugs	Water perimeter, 400 lin ft., 2 rows, 1 ft. center	800.0	EA	$5	1	$4,000
Deep Wetland Plants	White Water Lily Tubers	500.0	EA	$2	1	$1,000
Remove Ornamental Shrubs	East Top of Bank (25 total)	1.0	EA	$1,000	1	$1,000
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	0.3	Acre	$1,000	2	$600
Weed Control (spot spraying)	1 person, 0.5 day (2 in Yr 1)	1.0	EA	$250	2	$500
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$11,990

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	1 person, 0.5 day (2 per year)	1.0	EA	$250	4	$1,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	0.3	Acre	$1,000	1	$300
Prescribed Burn	Years 3 Coordination & 4 person crew	1.0	EA	$2,500	1	$2,500
Site Inspections/Meetings	each year	1.0	EA	$600	2	$1,200
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$5,000
					Contingency (10%):	$1,699
					GRAND TOTAL YEAR 1-3:	$18,689

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.

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TITLE
Proposed Management Plan

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Julie Ann Lane Pond
16711 Julie Ann Lane
Orland Park, IL, Cook Co.

Project No.: 10165.BASIN

FIGURE
Julie Ann Lane

SHEET
OF: 1 1

QUADRANGLE
N/A

DATE
06/16/11

SCALE
See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 6/1/11

SITE INFORMATION:

NAME: Lake Shore North Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
*Fish fry abundant NATIVE VEGETATION/WETLAND X
*Blue gill spawning beds CONCRETE LINED CHANNEL
OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE) Jun eff,

DOMINANT SPECIES (list top five): Ele ery, Sal int, Iri vir, sago pond weed, Typ ang

PRIORITY WEEDS: Pha aru, Typ ang

TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: Muskrat observed

SIDE SLOPES: TURF GRASS X 1/2 RIP-RAP
NATIVE VEGETATION (see below) X 1/2 OTHER

NATIVE VEGETATION (IF, APPLICABLE) Spa pec, Cx sp, Jun ten, Ele aci, Cx vulp, Cx scop, Ziz aur, Sol rig, Ech pur, Pen dig

DOMINANT SPECIES (list top five): Ele ery, Poa pre, Sal int, Mon fes, Sol alt
Turf area all turf

PRIORITY WEEDS: Sal int, Typ ang, sweet clover, white clover, ornamental onion sp., honeysuckle, Pha aru, thistle spp., elm-red, bull thistle, Lit sal, volunteer trees and shrubs

Native Area

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)
NATIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% (51 – 75%) 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Muskrat slope damage, keep willow grove on South side in parts. Remove bird feeders.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER_____ TYPE_____ SIZE_____

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: _____

OUTLET TYPE: CULVERT _____ SURFACE WEIR _____

OUTLET PROBLEMS: Outlet to floodplain basin which is connected to Marley Creek so drain down is slower.

OVERFLOW CONDITIONS/PROBLEMS: None

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): Moderate

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY N/A

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION Willow growth is significant around shoreline

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): _____

LOCATION: _____

SHORELINE EROSION PRESENT (YES/NO): _____

IF YES WHAT IS SCOURING HEIGHT: 0 – 3” 4 – 6” 7 – 9” >9”

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: _____

MUSKRAT DAMAGE OBSERVED (YES/NO): _____

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): _____ LOCATION: _____

TURF PLAY AREA PRESENT (YES/NO): _____ LOCATION: _____

RESIDENT USE OBSERVED (YES/NO): Walking trail surrounds entire pond

ADDITIONAL COMMENTS ON USE: _____

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7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
www.v3co.com

TITLE
Assessment

Project and Site Location:
Lake Shore North Pond
11548 Lake Shore Drive
Orland Park, IL, Cook Co.

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project No.:	FIGURE	SHEET
10165.BASIN	Lake Shore North	OF 1 1
QUADRANGLE	DATE	SCALE
N/A	06/02/11	See scale bar

Pond 20: Lake Shore North Pond

PHOTO 1

6-01-2011

South slope – Native prairie slopes and emergent shoreline in good condition.

PHOTO 2

6-01-2011

Regional trail along north top of slope.

PHOTO 3

6-01-2011

South Slope. Large mowed turf grass area. Residents installed bird feeders and houses along buffer area.

#20 Lake Shore North Pond
Engineers Opinion of Probable Construction Cost

Narrative: Lake Shore North Pond is a naturalized stormwater basin that was recently received by the Village out of stewardship by a developer. The basin shoreline and slopes are in good condition, but appear to have various locations of historic and active muskrat damage. In fact we observed a muskrat on the Lake Shore North Pond during the inspection which was likely heading to the adjacent floodplain pond and Marley Creek to the north. The fish population is abundant and we observed thousands of fish fry in the shallows along the shoreline along the west slope. A portion of turf grass along the south slope should be converted to prairie to increase the buffer area and keep the residents from pushing closer to the water with their bird houses and feeders. V3 recommends ongoing stewardship to keep this basin in good condition.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Repair Muskrat Damage	Reshape banks with Mini	100.0	LF	$30	1	$3,000
Woody Species Control	Remove Woody Growth on North Bank	1.0	EA	$2,000	1	$2,000
Boomspray	polaris, turf grass	0.5	Acre	$500	2	$500
Seeding Prep	Rake Topsoil	0.5	Acre	$500	1	$250
Seeding	Site Area, 1 Year Guarantee	0.5	Acre	$3,500	1	$1,750
Blanket	S150BN	0.5	Acre	$7,300	1	$3,650
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	1.5	Acre	$500	2	$1,500
Wetland Plugs	Pickeral Weed	500.0	EA	$8	1	$4,000
Prescribed Burn	Years 1 Coordination & 5 person crew	1.0	EA	$3,000	1	$3,000
InterSeeding	Native Grass & Forb Mix	1.0	Acre	$2,000	1	$2,000
Weed Control (spot spraying)	2 people, 1 day (2 per year)	1.0	EA	$1,000	2	$2,000
Site Inspections/Meetings	1 each year	1.0	EA	$600	1	$600
					TOTAL:	$24,250

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	2 people, 1 day (2 per year)	1.0	EA	$1,000	4	$4,000
Prescribed Burn	Years 3 Coordination & 5 person crew	1.0	EA	$3,000	1	$3,000
Site Inspections/Meetings	each year	1.0	EA	$650	2	$1,300
					TOTAL:	$8,300
					Contingency (10%):	$3,255
					GRAND TOTAL YEAR 1-3:	$35,805

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.

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TITLE: **Proposed Management Plan**		Project and Site Location: **Lake Shore North Pond, 11548 Lake Shore Drive, Orland Park, IL, Cook Co.**	
Base Layer: AirPhoto USA 2008		Project No.: 10165.BASIN	FIGURE: Lake Shore North; SHEET OF: 1 of 1
Client: **Village of Orland Park, Village Hall, 14700 Ravinia Drive, Orland Park, Illinois 60462**		QUADRANGLE: N/A	DATE: 06/16/11; SCALE: See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/26/11

SITE INFORMATION:

NAME: Marley Blvd Middle Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE
SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS
Muskrat den holes here but inactive NATIVE VEGETATION/WETLAND X
CONCRETE LINED CHANNEL
OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Sci vac, Typ ang, Ele ere, Pha aru, Typ lat

PRIORITY WEEDS: Pha aru, Typ ang
TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% (76 – 100%)
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: 1-2' planting shelf. Algae in pond. Heavy fishing area.

SIDE SLOPES: TURF GRASS X RIP-RAP
NATIVE VEGETATION (see below) OTHER

NATIVE VEGETATION (IF, APPLICABLE) Dogwood (mowed), Salix spp, honeysuckle,

DOMINANT SPECIES (list top five): Poa pre

PRIORITY WEEDS: Salix spp., multiflora rose, Pha aru
TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% (51 – 75%) 76 – 100%
NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% 76 – 100%
ADDITIONAL COMMENTS ON VEGETATION: Slope gentle. Some erosion where mowing has damaged and fishing spots. 0-6' no mow buffer (increase width). Muskrat den holes observed, but inactive.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS STORM SEWER 1 TYPE Tot lot drain PVC, RCP-S

SIZE 6" at shoreline, 27" ±

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: No

OUTLET TYPE: CULVERT 12" RCP outlet SURFACE WEIR Grate inlet - large

OUTLET PROBLEMS: Minor debris – continue maintenance

OVERFLOW CONDITIONS/PROBLEMS: None

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): High

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY

CONCRETE CHANNELS

STILLING BASIN(s) PRESENT

OTHER: EXCESS LITTER/DEBRIS Minor EXCESS SEDIMENT ACCUM: No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION:

SHORELINE EROSION PRESENT (YES/NO): No - Minor turf bare spots due to tire tracks

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes, one observed swimming recently

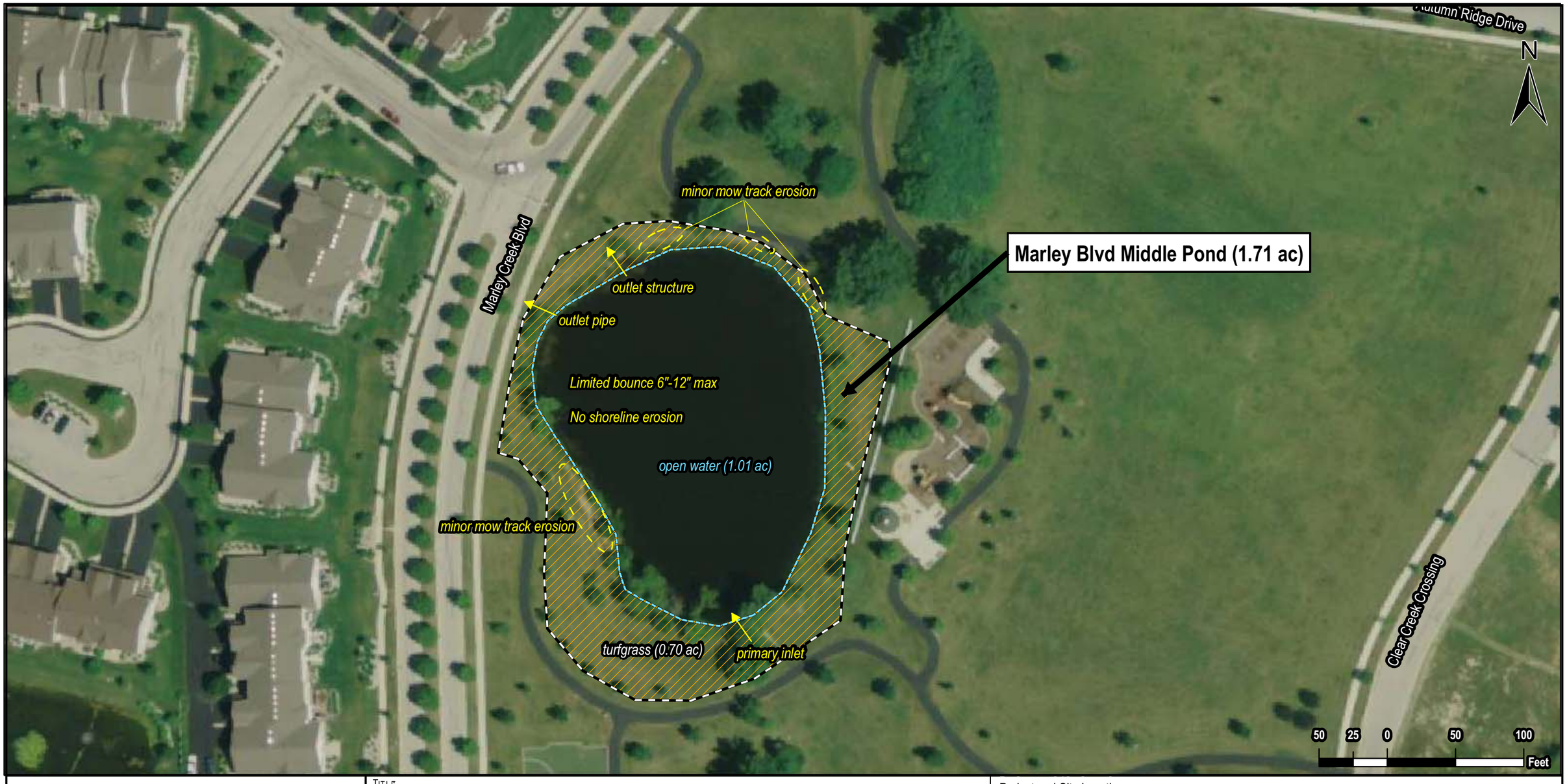
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): Yes LOCATION: East of basin

TURF PLAY AREA PRESENT (YES/NO): Yes LOCATION: Park surrounding

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Fishing lake



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TITLE

Assessment

Base Layer: AirPhoto USA 2008

Client: **Village of Orland Park**
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Marley Blvd Middle Pond
18121 Marley Blvd
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET OF
10165.BASIN	Marley Blvd Middle	1 1
QUADRANGLE	DATE	SCALE
N/A	05/26/11	See scale bar

Pond 21: Marley Middle Pond

PHOTO 1

5-26-2011

Minimal un-mowed buffer around pond. No residents on this pond – completely within park. Turf grass with a few mature trees.

PHOTO 2

5-26-2011

Good growth of emergent vegetation along shoreline and into water.

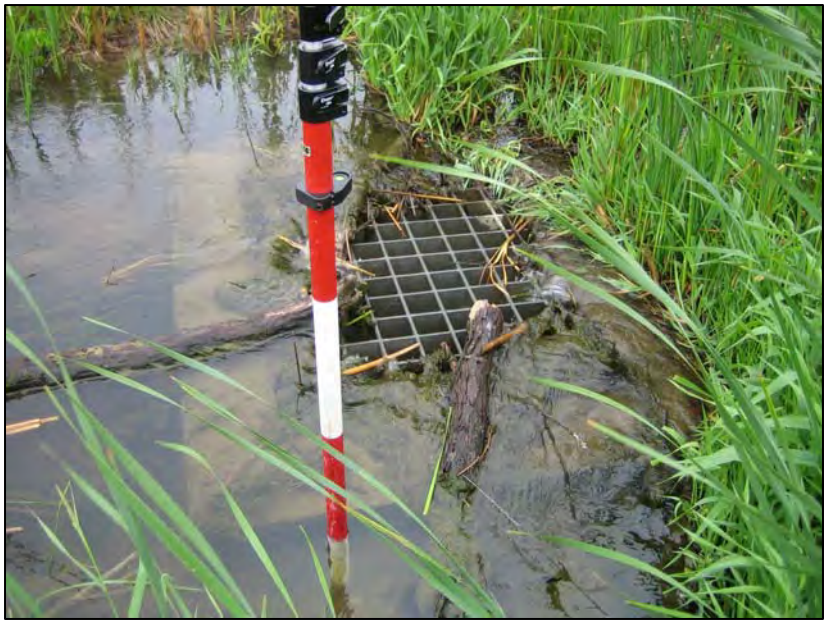


PHOTO 3

5-26-2011

Minor debris blockage on outlet grate. Occurs very regularly due to grate design.

#21 Marley Middle Pond
Engineers Opinion of Probable Construction Cost

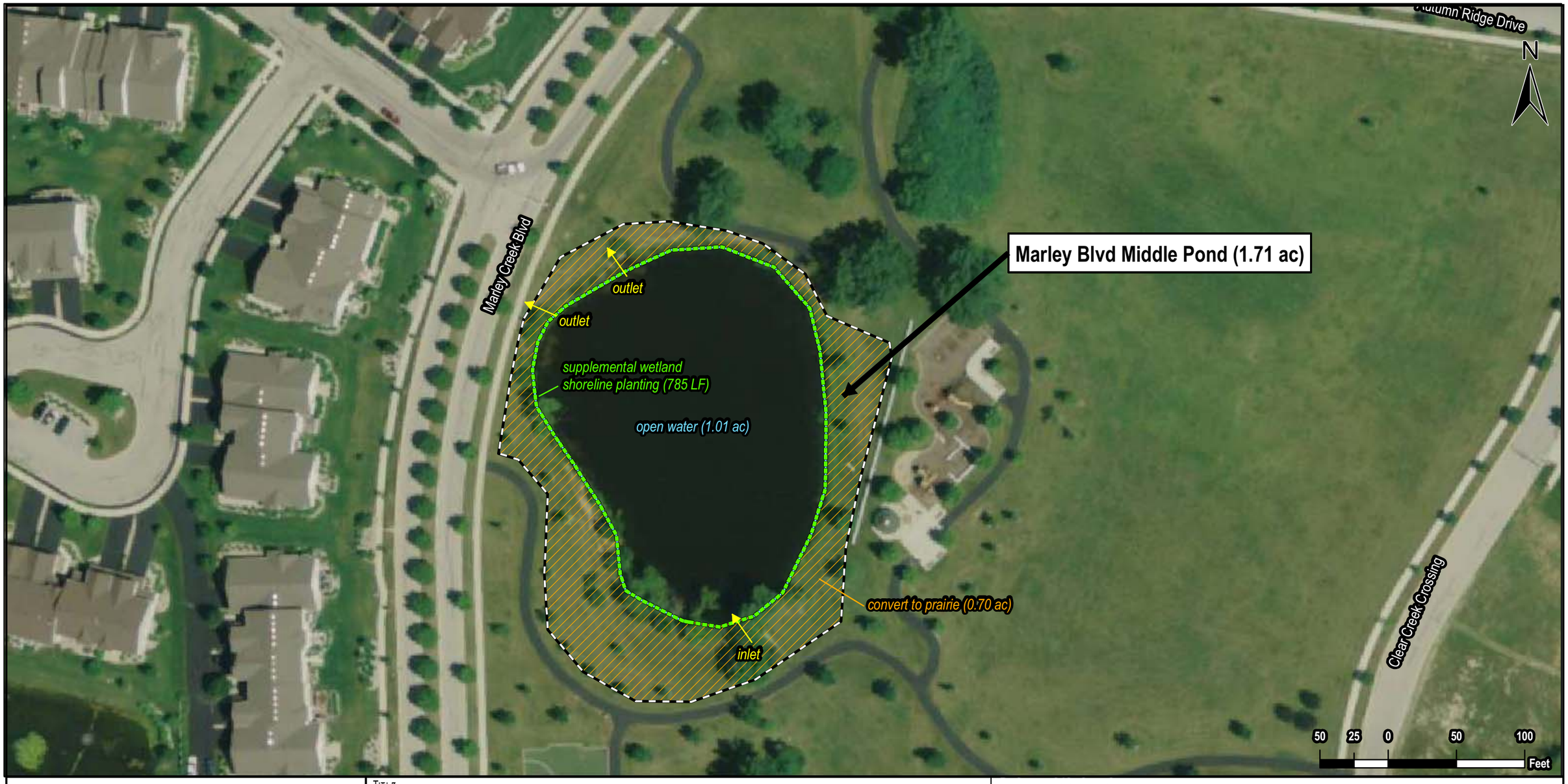
Narrative: Marley Middle Pond is a historic farm pond which was incorporated into the park features for this subdivision. There is good fishing in the pond and significant use of the pond occurs by fishermen. There are no residents on this basin and it is completely surrounded by the park. However, the pond buffer is small (5-10') of unmowed turf grass. V3 recommends expanding the native basin around this pond and increasing the wetland vegetation along the shoreline to prevent further erosion along the toe (minor - 3"-6" scour).

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Boomspray	polaris, turf grass	1.0	Acre	$1,000	2	$2,000
Seeding Prep	Rake Topsoil	1.0	Acre	$500	1	$500
Seeding	Site Area, 1 Year Guarantee	1.0	Acre	$3,500	1	$3,500
Blanket	S150BN	1.0	Acre	$7,300	1	$7,300
Wetland Plugs	Shoreline 700 linear Ft, 2 ft center	350.0	EA	$5	1	$1,750
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	1.0	Acre	$500	2	$1,000
Weed Control (spot spraying)	1 people, 1 day (2 in Yr 1)	1.0	EA	$500	2	$1,000
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$18,250

YEAR 2 - 3						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Weed Control (spot spraying)	1 person, 1 day (2 per year)	1.0	EA	$500	4	$2,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	1.0	Acre	$500	1	$500
Prescribed Burn	Years 3 Coordination & 4 person crew	1.0	EA	$2,500	1	$2,500
Site Inspections/Meetings	each year	1.0	EA	$600	2	$1,200
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$6,200
					Contingency (10%):	$2,445
					GRAND TOTAL YEAR 1-3:	$26,895

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE

Proposed Management Plan

Base Layer: AirPhoto USA 2008

Client: **Village of Orland Park**
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Marley Blvd Middle Pond
18121 Marley Blvd
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Marley Blvd Middle	OF 1 1

QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/26/11

SITE INFORMATION:

NAME: Marley Blvd South Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE

SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS X

NATIVE VEGETATION/WETLAND X

CONCRETE LINED CHANNEL

OTHER Hardscape on residential property

NATIVE VEGETATION (IF, APPLICABLE): Cx vulp, Cx Anne, Vit rip, Sal int, mulberry, cottonwood, Sci vac

DOMINANT SPECIES (list top five): Pha aru, Sal int, Poa pre, Ele ere

PRIORITY WEEDS: Pha aru

TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Good overhand from trees, good downed trees/fish habitat, Heavy algae population.

SIDE SLOPES: TURF GRASS X RIP-RAP

NATIVE VEGETATION (see below): X

OTHER: Hardscape on residential property

NATIVE VEGETATION (IF, APPLICABLE): Cx vulp, Cx anne, Vit rip, Sal int, mulberry, cottonwood, Sci vac

DOMINANT SPECIES (list top five): Cx vulp, Cx anne, Vit rip, Sal int, mulberry, cottonwood, Sci vac

PRIORITY WEEDS: Honeysuckle, Pha aru

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% (26 – 50%) 51 – 75% 76 – 100%

Turf dominated

ADDITIONAL COMMENTS ON VEGETATION: Keep trees. Expand “native” buffer.

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER 3 TYPE _____ SIZE _____

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: _____

OUTLET TYPE: CULVERT _____ SURFACE WEIR Large drop grate

OUTLET PROBLEMS: Algae covers grate during every storm

_____

OVERFLOW CONDITIONS/PROBLEMS: Overflow to grass swale and runs down to Middle Pond.

Only 6"-9" dome to overflow

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): High

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY _____

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION Yes, willow growth. Cut and herbicide November-February.

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No

LOCATION: _____

SHORELINE EROSION PRESENT (YES/NO): No

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable

MUSKRAT DAMAGE OBSERVED (YES/NO): _____

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): Yes LOCATION: _____

TURF PLAY AREA PRESENT (YES/NO): Yes LOCATION: _____

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Fishing – catch and release pond

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TITLE: **Assessment**		Project and Site Location: **Marley Blvd South Pond 18211 Marley Blvd Orland Park, IL, Cook Co.**	
Base Layer: AirPhoto USA 2008		Project No.: 10165.BASIN	FIGURE: Marley Blvd South
Client: **Village of Orland Park Village Hall 14700 Ravinia Drive Orland Park, Illinois 60462**		QUADRANGLE: N/A	DATE: 05/26/11
			SHEET: 1 OF. 1
			SCALE: See scale bar

Pond 22: Marley South Pond

PHOTO 1

5-26-2011

Blocked outlet grate due to grate design. Regular occurrence and maintenance issue.

PHOTO 2

5-26-2011

Un-mowed turf buffer and mature trees and shrubs along west slope.

PHOTO 3

5-26-2011

Residential ownership and landscaping along east and south slopes of pond

#22 Marley South Pond
Engineers Opinion of Probable Construction Cost

Narrative: Marley South Pond is a historic farm pond that was incorporated into the park features of this residential subdivision. The Village owns the west slope of the pond and the residents own into the water along the east and south slope of the pond. There is good fishing in the pond and significant use of the pond occurs by fishermen. V3 recommends expanding the native buffer around the west slope of the pond. In addition there are a number of buckthorn and other weedy trees that have grown along the slope that should be removed to stop their expansion.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Boomspray	polaris, turf grass	1.0	Acre	$1,000	2	$2,000
Seeding Prep	Rake Topsoil	1.0	Acre	$500	1	$500
Seeding	Site Area, 1 Year Guarantee	1.0	Acre	$3,500	1	$3,500
Blanket	S150BN	1.0	Acre	$7,300	1	$7,300
Wetland Plugs	Shoreline 500 linear Ft, 1 ft center	500.0	EA	$5	1	$2,500
Woody Species Removal	Cut & Herbicide Buckthorn and other woody species	1.0	EA	$2,500	1	$2,500
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	0.8	Acre	$500	2	$750
Weed Control (spot spraying)	1 people, 1 day (2 in Yr 1)	1.0	EA	$500	2	$1,000
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$21,250

YEAR 2 - 3						
ACTIVITY	**EXPLANATION**	**COST ESTIMATE**				
		Quantity	**Unit**	**Cost/Unit**	**Events**	**Total Cost**
Weed Control (spot spraying)	1 person, 1 day (2 per year)	1.0	EA	$500	4	$2,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	0.8	Acre	$500	1	$375
Prescribed Burn	Years 3 Coordination & 4 person crew	1.0	EA	$2,500	1	$2,500
Site Inspections/Meetings	each year	1.0	EA	$600	2	$1,200
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$6,075
					Contingency (10%):	$2,733
					GRAND TOTAL YEAR 1-3:	$30,058

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.

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TITLE
Proposed Management Plan

Project and Site Location:
Marley Blvd South Pond
18211 Marley Blvd
Orland Park, IL, Cook Co.

Base Layer:
AirPhoto USA 2008

Project No.:
10165.BASIN

FIGURE
Marley Blvd South

SHEET
1
OF.
1

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

QUADRANGLE
N/A

DATE
06/16/11

SCALE
See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/26/11

SITE INFORMATION:

NAME: Eagle Ridge Pond #2 Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET X DRY WETLAND ONLINE

SEDIMENT BASIN PRESENT

BASIN BOTTOM – VEGETATION: TURF GRASS X

Toe of slope NATIVE VEGETATION/WETLAND X

CONCRETE LINED CHANNEL

OTHER Open H_2O

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Typ ang, Sci vac, Ele eve, Poa pre, Pha aru

PRIORITY WEEDS: Pha aru, Lit sal

TOTAL VEGETATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Very few emergent plants in H_2O. 1-2 foot plant shelf available. Recommend planting short stature emergent plants (pickerel weed, arrowhead, arrow arum, etc.)

SIDE SLOPES: TURF GRASS X RIP-RAP

NATIVE VEGETATION (see below) OTHER

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Poa pre, Rye spp, white clover

PRIORITY WEEDS: Pha aru, white clover, Pla maj

TOTAL VEGETATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% (76 – 100%)

NATIVE RELATIVE COVER ESTIMATE: (0 - 25%) 26 – 50% 51 – 75% 76 – 100%

ADVENTIVE RELATIVE COVER ESTIMATE: 0 - 25% 26 – 50% 51 – 75% 76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Muskrat damage along slope in many places (>15 holes/dens). 0-6” slope toe scour. Little bounce in pond keeping erosion to a minimum. 3-10’ no mow ring around pond edge. Moved turf above. Residents encroaching into “basin slopes” with landscaping (hardscaping & softscaping)

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER _____ TYPE RCP-NE SIZE 21"

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: _____

OUTLET TYPE: CULVERT 36" RCP SURFACE WEIR None

OUTLET PROBLEMS: None

OVERFLOW CONDITIONS/PROBLEMS: None

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): High

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY _____

CONCRETE CHANNELS _____

STILLING BASIN(s) PRESENT _____

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

Yes

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): No – Flat slopes

LOCATION: _____

SHORELINE EROSION PRESENT (YES/NO): Yes

IF YES WHAT IS SCOURING HEIGHT: (0 – 3") 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE: Stable

MUSKRAT DAMAGE OBSERVED (YES/NO): Yes – Surrounding shore

RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION: _____

TURF PLAY AREA PRESENT (YES/NO): Yes LOCATION: Residents adjacent to W.

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Fishing lake, shore trail

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TITLE
Assessment

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Eagle Ridge Pond #2
17900 104th Avenue
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Eagle Ridge	1 OF 1
QUADRANGLE	DATE	SCALE
N/A	05/26/11	See scale bar

Pond 23: Eagle Ridge Pond 2

PHOTO 1

5-26-2011

Flat slopes around entire pond – narrow un-mowed buffer with surrounding turf grass.

PHOTO 2

5-26-2011

Good growth of emergent vegetation along shoreline. Signs of historic muskrat activity – not active.

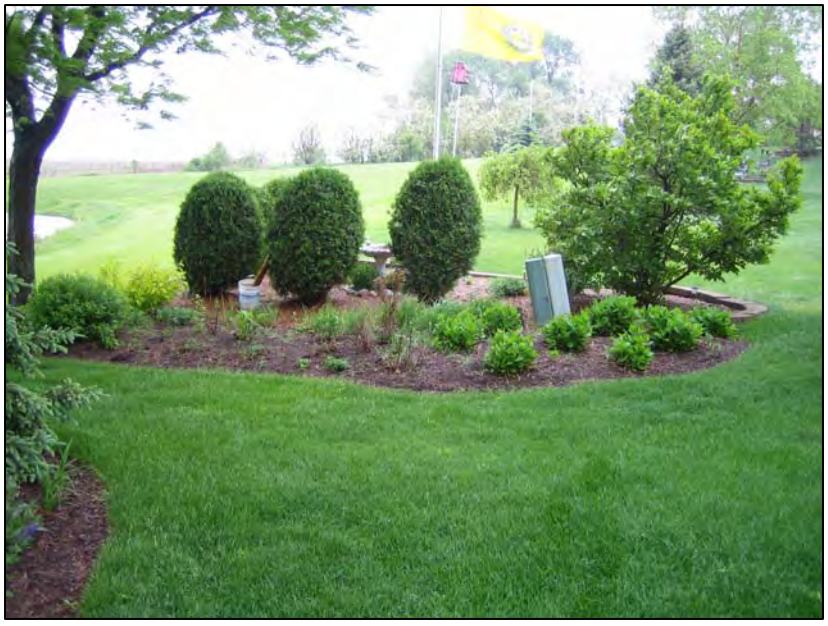

PHOTO 3

5-26-2011

Resident landscaping and mowing along west slope.

#23 Eagle Ridge Pond 2
Engineers Opinion of Probable Construction Cost

Narrative: Eagle Ridge Pond #2 is a small wet basin in a residential subdivision that is highly visible from at the intersection of 104th Street and 179th Avenue. There is good fishing in the pond and significant use of the pond occurs by fishermen. The residents along this basin have encroached with their landscape features and gardens into the Village property along the west slope of the pond. V3 recommends converting this entire grass area around the pond to a native buffer area. It does not appear that any recreation activities occur in this turf area and it would be a highly visible restoration example for the Village.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Boomspray	polaris, turf grass	2.5	Acre	$500	2	$2,500
Seeding Prep	Rake Topsoil	2.5	Acre	$500	1	$1,250
Seeding	Site Area, 1 Year Guarantee	2.5	Acre	$3,500	1	$8,750
Blanket	S150BN	2.5	Acre	$7,300	1	$18,250
Wetland Plugs	Water perimeter, 1000 lin ft., 1 ft. center	1000.0	EA	$5	1	$5,000
Mow (10"-12")	High Mow in Prairie (2x Yr 1)	2.5	Acre	$500	2	$2,500
Weed Control (spot spraying)	3 person, 1 day (2 in Yr 1)	1.0	EA	$1,500	2	$3,000
Site Inspections/Meetings	2 each year	1.0	EA	$600	2	$1,200
					TOTAL:	$42,450

YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	3 person, 1 day (2 per year)	1.0	EA	$1,500	4	$6,000
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	2.5	Acre	$500	1	$1,250
Prescribed Burn	Years 3 Coordination & 6 person crew	1.0	EA	$3,500	1	$3,500
Site Inspections/Meetings	each year	1.0	EA	$650	2	$1,300
Ongoing Mowing Contract	Reduction In Mowing Acreage	Deduct?				
					TOTAL:	$12,050
					Contingency (10%):	$5,450
					GRAND TOTAL YEAR 1-3:	$59,950

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.

V3 Companies
7325 Janes Avenue
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TITLE

Proposed Management Plan

Base Layer:

AirPhoto USA 2008

Client:

Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:

Eagle Ridge Pond #2
17900 104th Avenue
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Eagle Ridge	OF. 1 1

QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

SITE ASSESSMENT AND MANAGEMENT PLAN FORM

PROJECT: Orland Park – Basin Best Practices Program

DATE OF FIELD VISIT: 5/26/11

SITE INFORMATION:

NAME: Amber Pond Category: Type A

BASIN VEGETATION CONDITIONS:

TYPE: WET _____ DRY X WETLAND _____ ONLINE _____

SEDIMENT BASIN PRESENT No

BASIN BOTTOM – VEGETATION: TURF GRASS X

NATIVE VEGETATION/WETLAND No

CONCRETE LINED CHANNEL No

OTHER No

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Poa pre

PRIORITY WEEDS: White clover, rye spp.

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: All turf grass

SIDE SLOPES: TURF GRASS X RIP-RAP _____

NATIVE VEGETATION (see below) No OTHER _____

NATIVE VEGETATION (IF, APPLICABLE)

DOMINANT SPECIES (list top five): Same as bottom, but with ornamental landscape trees and shrubs. Planting beds with shrubs and herb plants (no mow) and mulch.

PRIORITY WEEDS: White Clover

TOTAL VEGETATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	(76 – 100%)
NATIVE RELATIVE COVER ESTIMATE:	(0 - 25%)	26 – 50%	51 – 75%	76 – 100%
ADVENTIVE RELATIVE COVER ESTIMATE:	0 - 25%	26 – 50%	51 – 75%	76 – 100%

ADDITIONAL COMMENTS ON VEGETATION: Stable hydrology, or lack of

MAINTENANCE/DESIGN PROBLEMS:

NUMBER OF INLETS: STORM SEWER _____ TYPE RCP – E, RCP - SE SIZE 15", 30" with outlet baffle

CHANNEL/SWALE _____ TYPE _____ SIZE _____

INLET PROBLEMS: Sediment build up in baffle

OUTLET TYPE: CULVERT 15" SURFACE WEIR None

OUTLET PROBLEMS: No – Outfall to large storm sewer at NW Corner of property.

OVERFLOW CONDITIONS/PROBLEMS:

SHORT-CIRCUITING (YES/NO): No

WET/WETLAND BASINS ALGAE (LOW/MODERATE/HIGH): N/A

DRY BASINS: POOR DRAINAGE IN AREAS INTENDED TO BE DRY None Observed

CONCRETE CHANNELS Outlet Baffle – Allow to sediment over stone in baffle

STILLING BASIN(s) PRESENT Bottom of Pond

OTHER: EXCESS LITTER/DEBRIS No EXCESS SEDIMENT ACCUM No

EXCESS WOODY VEGETATION No

IF NATURALIZED BASIN, DOES HYDROLOGIC CONDITION APPEAR APPROPRIATE FOR VEGETATION (YES/NO). IF NO, EXPLAIN.

N/A

EROSION PROBLEMS:

RILLS AND/OR GULLIES PRESENT (YES/NO): Landscape – mow wheels

LOCATION: At landscape areas

SHORELINE EROSION PRESENT (YES/NO): No

IF YES WHAT IS SCOURING HEIGHT: 0 – 3" 4 – 6" 7 – 9" >9"

SHORELINE EROSION APPEARS STABLE OR UNSTABLE:

MUSKRAT DAMAGE OBSERVED (YES/NO): No

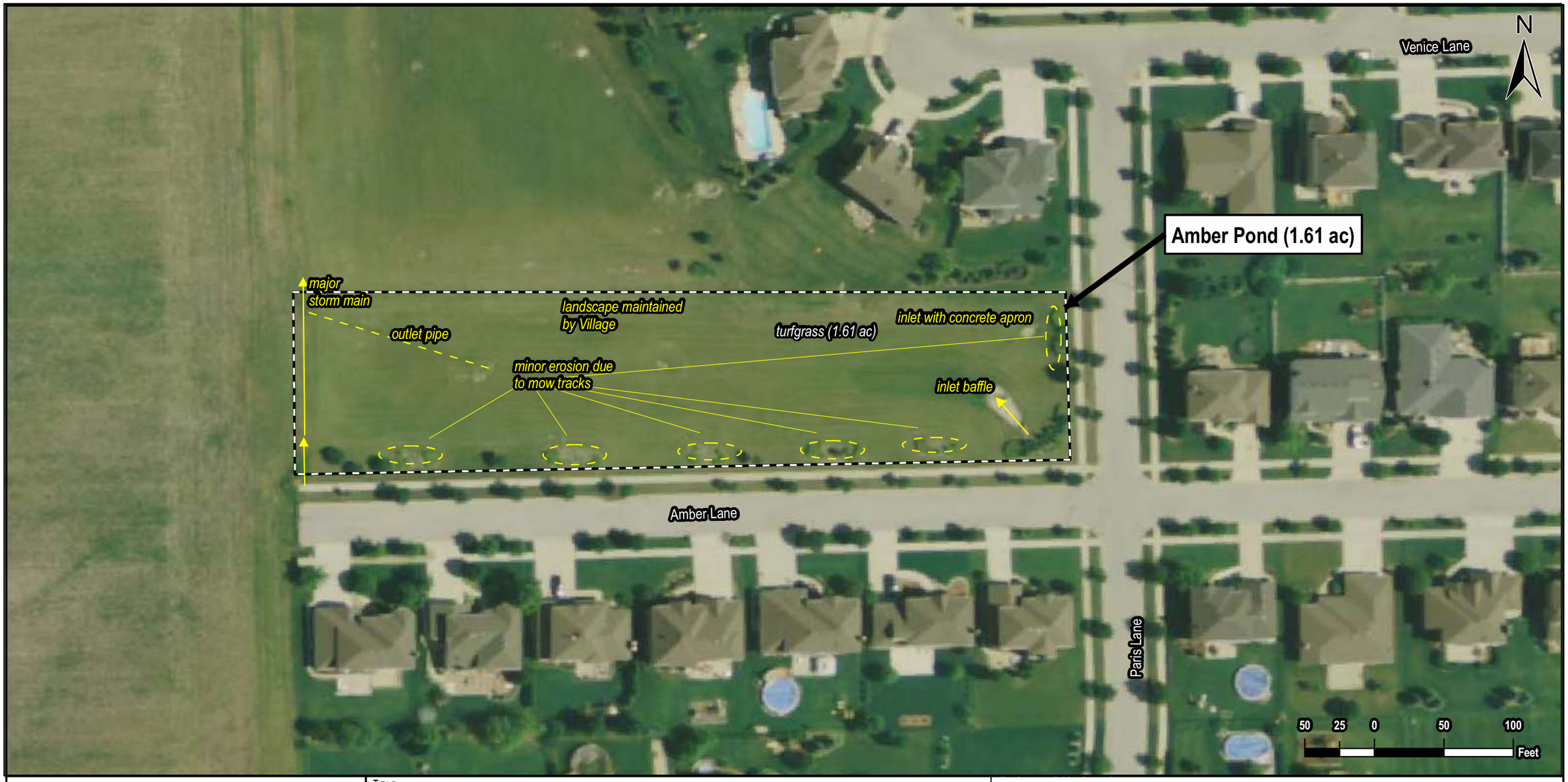
RESIDENT USE OF BASIN:

TOT LOT PRESENT (YES/NO): No LOCATION:

TURF PLAY AREA PRESENT (YES/NO): Yes LOCATION: Entire basin

RESIDENT USE OBSERVED (YES/NO): Yes

ADDITIONAL COMMENTS ON USE: Park & Play – volleyball, baseball



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TITLE

Assessment

Base Layer:

AirPhoto USA 2008

Client:

Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:

Amber Pond
10510 Amber Lane
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Amber	1 OF 1
QUADRANGLE	DATE	SCALE
N/A	05/26/11	See scale bar

Pond 24: Amber Pond

PHOTO 1

5-26-2011

Overview of Amber Pond: View east.

PHOTO 2

5-26-2011

View of landscape area with dead bushes and significant weed growth. Also observe mower wheel scrapes around landscape areas.

PHOTO 3

5-26-2011

View of south slope of Amber Pond and landscape areas along the top of the bank.

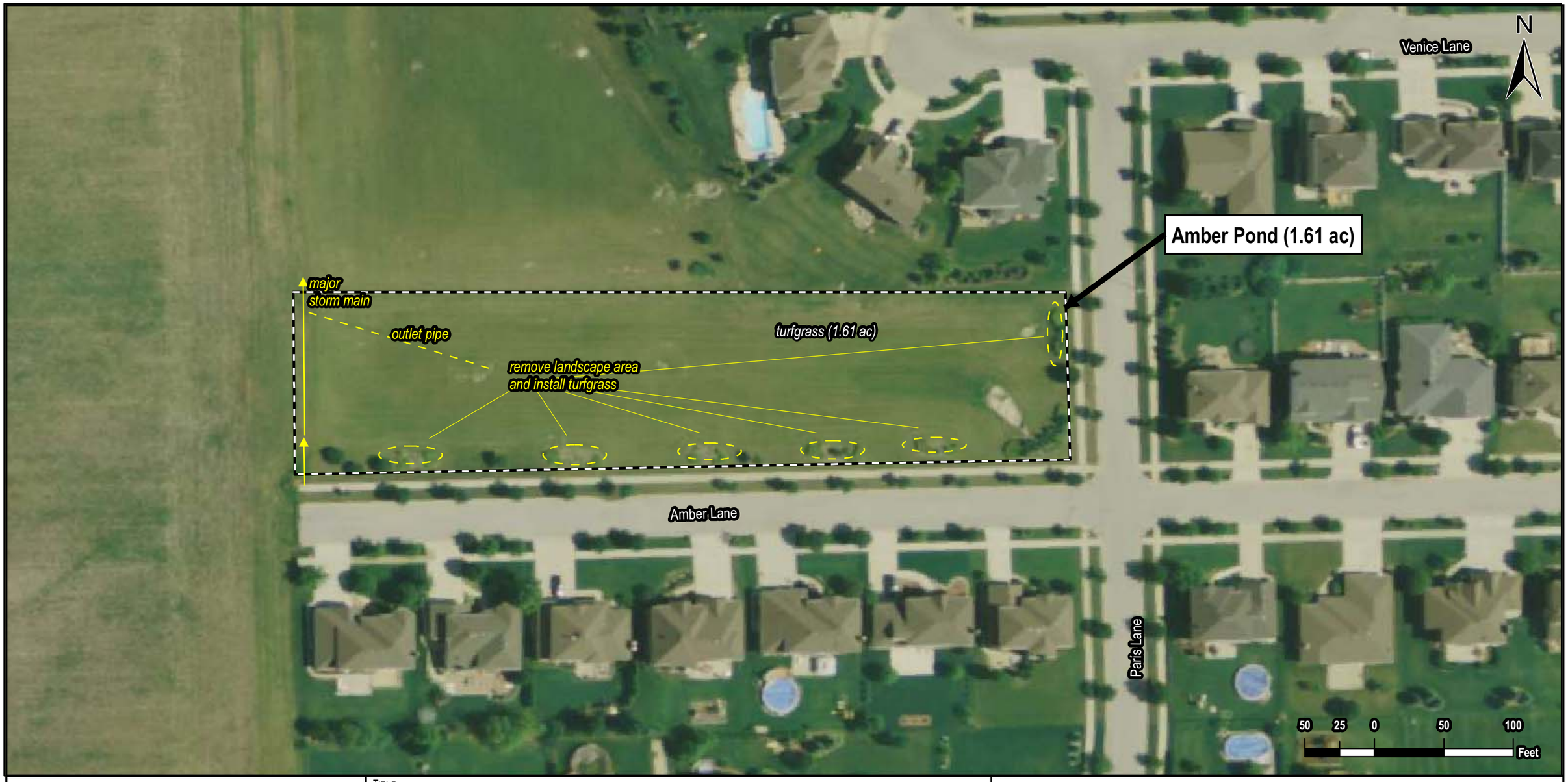
#24 Amber Pond
Engineers Opinion of Probable Construction Cost

Narrative: Amber Pond is a dry basin with turf grass. It is apparently used extensively by residents and balls and frisbees were located in the bottom of the basin at the time of the field inspection. The primary reason for this basin being in the A Category is the number of resident complaints regarding the landscaped areas around the top of the berm of the basin. This area must be mulched annually and weeded regularly. In addition the landscape areas have a number of dead bushes and are generally not meeting the aesthetic purposes intended. There are also erosion spots on the slopes under each landscape area where the mowers are slipping down the grass when going around those curves. We recommend removing these landscape areas and replacing with turf grass.

Short-Term Management Recommendations
YEAR 1 - 3

YEAR 1						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Event/Year	Total Cost
Remove Landscape Areas	Remove/Dispose	6.0	EA	$200	1	$1,200
Seeding Prep	Topsoil Place/Rake Topsoil	6.0	EA	$100	1	$600
Seeding	Hand Seed	6.0	EA	$100	1	$600
Blanket	S-150	6.0	EA	$100	1	$600
					TOTAL:	$3,000
YEAR 2 - 3						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Event/Year	Total Cost
Ongoing Mowing Contract						$0
					TOTAL:	$0
					Contingency (10%):	$300
					GRAND TOTAL YEAR 1-3:	$3,300

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.



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TITLE
Proposed Management Plan

Base Layer:
AirPhoto USA 2008

Client:
Village of Orland Park
Village Hall
14700 Ravinia Drive
Orland Park, Illinois 60462

Project and Site Location:
Amber Pond
10510 Amber Lane
Orland Park, IL, Cook Co.

Project No.:	FIGURE	SHEET
10165.BASIN	Amber	1 OF 1

QUADRANGLE	DATE	SCALE
N/A	06/16/11	See scale bar

Imperial East Pond
Schedule of Values
2011 - 2013

2011						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Install New Outlet	12" RCP with 4" Restrictor	1.0	LS	$9,500	1	$9,500
Boomspray	polaris, turf grass	0.2	Acre	$500	1	$100
Seeding Prep	Rake Topsoil	0.2	Acre	$500	1	$100
Seeding	Site Area, 1 Year Guarantee	0.2	Acre	$3,500	1	$700
Blanket	S150BN	0.2	Acre	$7,300	1	$1,460
					TOTAL:	$11,860

2012						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	1 person, 0.5 day	1.0	EA	$250	2	$500
Wetland Plugs	Water perimeter, 420 lin ft., 2 ft. center	210.0	EA	$5	1	$1,050
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	1.0	Acre	$300	2	$600
Site Inspections/Meetings	each year	1.0	EA	$650	1	$650
					TOTAL:	$2,800

2013						
ACTIVITY	EXPLANATION	COST ESTIMATE				
		Quantity	Unit	Cost/Unit	Events	Total Cost
Weed Control (spot spraying)	1 person, 0.5 day	1.0	EA	$250	2	$500
Mow (10"-12")	High Mow in Prairie (1x Yr 2)	1.0	Acre	$300	1	$300
Site Inspections/Meetings	each year	1.0	EA	$650	1	$650
					TOTAL:	$1,450
					Contingency (10%):	$1,621
					GRAND TOTAL YEAR 1-3:	$17,731

Notes:
Earthwork wages are per Union Rates. Restoration is based on non-prevailing wage labor.
Prescribed Burn pricing is based on single site burn. May be able to obtain cost efficiencies if grouped together.

January 20, 2011

Mr. Ed Wilmes
Director of Public Works and Engineering
Village of Orland Park
15655 Ravinia Avenue
Orland Park, Illinois 60462

Re: Breckenridge Pond – Imperial Lane East
Detention Basin Assessment

Dear Ed:

V3 Companies was requested to obtain and review engineering plans for the Imperial Lane East pond in the Breckenridge Subdivision and to present recommended solutions for the ongoing maintenance problems in this basin. We have completed this task and are providing our findings in this assessment letter.

Project Understanding

It is our understanding that this small basin experiences severe algae blooms during the year and has a variable water level depending on the time of the year. Due to the fluctuations in water elevation, it is apparent that the natural vegetated shoreline is constantly under stress. Due to these conditions the Village of Orland Park has received complaints from the neighbors about the unsightly conditions. The water elevation will change by as much as three (3') feet between wet and dry weather conditions and kill the vegetation, either through drowning out, or drying out, depending on the season.

V3 recommended that an engineering assessment of the basin should be completed to review original plans and design calculations, along with additional field work to determine what could be done to stabilize the normal water elevation of this detention basin. The Village of Orland Park subsequently authorized the Breckenridge Pond Assessment Task Order for the purpose of completing this task.

Research and Review

V3 was able to obtain the following calculations and plans for the Breckenridge Subdivision stormwater basin from the Engineering Department at the Village:

- Stormwater Design Calculations by KDC Consultants, Inc. dated 1/10/00
- MWRD Permit Documents and Calculations dated 11-30-01
- Final Engineering Plans for Breckenridge Subdivision dated 7/26/01

These plans and calculations show that the Imperial Lane East pond has a design normal water elevation of 683.0 and a design high water elevation of 688.00. The normal water elevation should be controlled by a 12" RCP Flared End Section at elevation 683.0. The outlet from this basin drains to a six (6') foot wide and thirty five (35') foot long infiltration trench between elevations 682.7 and 679.4 and a four inch (4") restrictor pipe which limits the flow between the pond and the infiltration trench. The restrictor pipe is located in a catch basin next to the pond.

The high water elevation is controlled by an overland flow route at approximately 687.0 elevation which allows water to bypass the restricted release and dump directly to the unnamed tributary of Marley Creek in large storm events.

It does not appear from the construction plans that a direct outlet from the pond to the unnamed tributary to Marley Creek was provided. Additionally the V3 field investigation did not locate any direct outlet from the basin. The only way for this pond to drain down is through the infiltration trench. It has likely that the infiltration trench is filled with sediment and is not functioning, which would cause extremely long drain down periods for this basin during rain events.

Recommendations

The following is a list of recommendations and associated construction costs to restore the Imperial Lane East detention basin.

1. Outlet Construction: Install a normal water elevation outlet for the Imperial Lane East detention basin. The outlet would be 20 feet of 12" RCP at an elevation of 683.0 from the pond to a new 4' diameter manhole. In addition, approximately 30' of 12" RCP at an elevation of 683.0 would be installed from the new manhole to the flared end section at Imperial Lane. A four (4") inch restrictor should be grouted in place at the entrance to the 12" pipe in the new manhole. **Engineers Estimate of Cost = $8,500**

2. Vegetation Restoration: The existing vegetation on this stormwater pond has been killed or severely stressed due to the varying water elevations in the pond throughout the years. It is recommended to install native seed and erosion blanket on the slopes and wetland plugs along the shoreline to restore the vegetation condition of this stormwater pond. Approximately 0.2 Acres of native seed and erosion blanket will be installed along with 210 wetland plugs. **Engineers Estimate of Cost = $3,000**

3. Vegetation Maintenance: We recommend a minimum two year maintenance period for the slopes and shoreline vegetation to encourage the native vegetation to take hold and keep invasive and noxious weeds from taking over these planting areas. Maintenance would include mowing (3 events total) and chemical weed control (6 events total). **Engineers Estimate of Cost = $3,500**

We believe that these improvements will restore the function and intent of this stormwater pond by allowing the basin to fill and release during storm events. These improvements will also reduce resident complaints regarding the aesthetics of this basin. This construction method will also maintain a wet bottom stormwater basin, which is desired by the surrounding neighbors.

Construction Activities

V3 Companies can complete these construction tasks as a design/build contract. We would appreciate the opportunity to provide a design/build construction quote to the Village of Orland Park to assist with the stormwater pond improvements that have been identified and recommended through this basin assessment.

Please give me a call with any questions, or if you require additional information to make the final decision on this project.

Sincerely,
V3 COMPANIES, LTD.

Gregory V. Wolterstorff, P.E.
Director of Natural Resources

GVW/vad

APPENDIX 2

Appendix 2 – Vegetation Abbreviation Key

Acronym	Scientific Name	Common Name
ACESAI	*Acer saccharinum*	Silver Maple
AGRALP	*Agrostis alba palustris*	Bent Grass
ALISUB	*Alisma subcordatum*	Water Plantain
ANDGER	*Andropogon gerardii*	Big Bluestem
ANDSCO	*Andropogon scoparius*	Little Bluestem
APOSIB	*Apocynum sibiricum*	India Hemp
ASTNOV	*Aster novae-angliae*	New England Aster
CXANNA	*Carex annectens*	Large Yellow Fox Sedge
CXCOMO	*Carex comosa*	Bristly Sedge
CXHYST	*Carex hystericina*	Porcupine Sedge
CXSPP	*Carex* sp.	Carex Species
CXVULP	*Carex vulpinoidea*	Brown Fox Sedge
CIRARV	*Cirsium arvense*	Canada Thistle
CIRVUL	*Cirsium vulgare*	Bull Thistle
CORSP	*Coreopsis* sp.	Coreopsis Species
CORRAC	*Cornus racemosa*	Gray Dogwood
DIPLAC	*Dipsacus laciniatus*	Cutleaf Teasel
ECHPUR	*Echinacea purpurea*	Broad-Leaved Purple Coneflower
ELEACU	*Eleocharis acicularis*	Needle Spikerush
ELEERY	*Eleocharis erythropoda*	Red-Rooted Spike Rush
ERYYUC	*Eryngium yuccifolium*	Rattlesnake Master
FRUAME	*Fragaria virginiana*	Virginia strawberry
GEUTRI	*Geum triflorum*	Prairie Smoke
GYMDIO	*Gymnocladus dioicus*	Kentucky Coffee Tree
HIBPAL	*Hibiscus palustris*	Swamp Rose Mallow
IRIVIR	*Iris virginica shrevei*	Blue Flag Iris
JUNEFF	*Juncus effusus*	Common Rush
JUNTEN	*Juncus tenuis*	Path Rush
JUNTOR	*Juncus torreyi*	Torrey's Rush
LESCAP	*Lespedeza capitata*	Roundhead Bushclover
LYTSAL	*Lythrum salicaria*	Purple Loosestrife
MONFIS	*Monarda fistulosa*	Wild Bergamot
MORALB	*Morus alba*	Mulberry
NYMODR	*Nymphaea odorata*	White Watery Lily
PANVIR	*Panicum virgatum*	Switch Grass
PENDIG	*Penstemon digitalis*	Foxglove Beard Tongue
PELPUR	*Petalostemum puprureum*	Purple Prairie Clover
PHAARU	*Phalaris arundinacea*	Reed Canary Grass
PHYARU	*Phalaris arundinacea*	Reed Canary Grass
PHRAUS	*Phragmites australis*	Common Reed
PLAMAJ	*Plantago major*	Common Plantain
PLAOCC	*Platanus occidentalis*	Sycamore
POAPRA	*Poa pratensis*	Kentucky Blue Grass
POPDEL	*Populus deltoides*	Eastern Cottonwood
PODNOD	*Potamogenton nodosus*	Longleaf Pondweed
PYCVIR	*Pycnanthemum virginianum*	Common Mountain Mint
QUEALB	*Quercus alba*	White Oak
QUEMAC	*Quercus macrocarpa*	Bur Oak
RATPIN	*Ratibida pinnata*	Yellow Coneflower
RHACAT	*Rhamnus cathartica*	Buckthorn
ROSMUL	*Rosa multiflora*	Multiflora Rose
RUDHIR	*Rudbeckia hirta*	Black-Eyed Susan
SALINT	*Salix Interior*	Sandbar Willow
SALIXSPP	*Salix sp.*	Willow
SCIATR	*Scirpus atrovirens*	Dark Green Rush
SCIFLU	*Scirpus fluviatilis*	River Bulrush
SCIPUN	*Scirpus pungens*	Chairmaker's Rush
SCIVAC	*Scirpus validus creber*	Great Bulrush
SECVAR	*Securigera varia*	Crown Vetch
SILTER	*Silphium terebinthinaceum*	Prairie Dock
SOLALT	*Solidago altissima*	Canada goldenrod
SORNUT	*Sorghastrum nutans*	Indian Grass
SPAPEC	*Spartina pectinata*	Prairie Cord Grass
STUPEC	*Stuckenia pectinata*	Sago Pondweeds
TAXDIS	*Taxodium distichum*	Bald Cypress
TRIREP	*Trifolium repens*	White Clover
TYPANG	*Typha angustifolia*	Narrow-Leaved Cattail
ULMRUB	*Ulmus rubra*	Elm-Red
VITRIP	*Vitis riparia*	Riverbank Grape
ZIZAUR	*Zizia aurea*	Golden Alexanders
N/A	*Ctenopharyngodon idella*	Grass Carp - Fish
N/A	*Fescue* Sp.	Fescue
N/A	*Lonicera*	Honeysuckle
N/A	*Melilotus* sp.	Sweet Clover
N/A	*N/A*	Prairie Forbs