

Site Report: Pinecone Road Development

prepared by

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Site Visits

We visited the Pinecone Road Development site on May 5, 2009 with the entire EDT team. During this visit we walked completely around the wetland and observed the general character of the site. We also drove to the southern edge of the site. One of us (SGS) returned on Tuesday, June 2, 2009 to more closely analyze the plant communities. Both visits lasted approximately one hour.

Site Description

This site, which is number 57 in the St. Cloud Natural Areas Inventory and Planning Framework (SCNAIPF), is a cattail marsh located just south of Gold's Gym in Sartell (MN) at T124N, R28W, Sec. 5. The site is an isolated wetland surrounded by development on all sides. It is bordered on the north by County Road 120, on the east by Oak Road, and along the south by Center Street. Pine Cone Road will soon cut through the property forming the western boundary. A Lutheran church and school occupy the northwest corner of the site. Currently, most of the western portion of the property is an abandoned agricultural field, which is a remnant of the fields that bordered the property to the south, west and north at the time of the original Environmental Sensitive Areas (ESA) survey. As noted in the original ESA survey, this parcel is not part of any larger natural complex. Images of the site are shown in Figures 1 – 6.

When originally surveyed in 1995 (SCNAIPF), plant species observed at the site included cattails (*Typha* sp.), sandbar willow (*Salix bebbiana*), reed canary grass (*Phalaris arundinacea*), smartweed (*Polygonum* sp.) and stinging nettle (*Urtica dioica*). No rare or unusual plants were mentioned. Our quick survey showed the presence of typical wetland species such as those previously mentioned as well as a variety of weeds (Table 1). The margin of the wetland is ringed by cattails and reed canary grass. Scattered forbs such as nettles also occur along the margins. There is a large clump of willows and aspen just south of the open water. This area also harbors characteristic woodland species such as Virginia creeper, as well as invasive species such as European buckthorn. The grassy area east and south of the woods has variety of forbs including thimbleweed, Culver's root, and blue-eyed grass. The latter two species are interesting because they are indicators of relatively undisturbed area. There are likely many other species present that were not identified during our quick field visits. The original Element Occurrence (EO) ranking for the site was "C," or "marginal," and we would rate it similarly today.

Soils within site 57 include a Darfur coarse sandy loam around the outer perimeter of the wetland and ponded Histosols and Haplaquolls within the center portion of the site (Soil Survey of Stearns County, 1985). Darfur coarse sandy loam soil is characterized as poorly drained soil, with high organic matter content, medium natural fertility, moderate to moderately rapid permeability and a seasonally high water table depth of 1 to 3 feet. Darfur coarse sandy loam soil is fairly well suited for pasture and well suited to wind breaks and environmental plantings, however, only varieties of trees and shrubs that tolerate excess moisture conditions should be selected for planting. Due to wetness, this soil is poorly suited for building sites. Ponded Histosols and Haplaquolls consist of sandy, loamy, organic and calcareous mucky lake sediments. Open water generally covers the middle of areas where this soil is found, but these areas may go dry in late summer and in times of drought. Areas where this soil is found are excellent habitat for wildlife (Soil Survey of Stearns County, 1985) such as rabbit, raccoon, pheasant, geese, ducks, and fox, as was mentioned in the original survey (SCNAIPF, 1995).

Soils surrounding site 57 include an Estherville sandy loam soil and a Dickman sandy loam soil (Soil Survey of Stearns County, 1985). While these soils (Estherville sandy loam and Dickman sandy loam) may not be found within site 57, they may be a factor in wetland expansion and in wetland buffers. Estherville sandy loam soil is characterized as a somewhat excessively drained soil, with moderate organic matter content, low natural fertility, rapid and moderately rapid permeability and a seasonally high water table depth of more than 6 feet. Estherville sandy loam soil is poorly suited for row crops (high erosion potential), fairly well suited for pasture, windbreaks and environmental plantings and suitable for building sites. Dickman sandy loam soil is characterized as a well drained soil, with moderate organic matter content, low natural fertility, rapid and moderately rapid permeability and a seasonally high water table depth of more than 6 feet. Dickman sandy loam soil is fairly well suited for row crops and pasture, well suited for windbreaks and environmental plantings and well suited for building site development (Soil Survey of Stearns County, 1985). A thorough delineation will be needed to determine the influence of these soils on the proposed wetland expansion locations.

Development Plan/Recommendations

The development plan provided to us was not very detailed. As we understand, the areas to the north and west of the wetland will be used for commercial development while the area to the southeast is slated for patio homes. Although the overall quality (rank of C) of the biological community present at the site does not provide compelling evidence for preservation, wetlands areas have many values and are afforded protection via the Wetland Conservation Act and provisions in the Environmentally Sensitive Area Ordinance (ESAO). Thus, we recommend that any development that occurs on this site must comply with all provisions of both ordinances as well as any other protections offered by statute. Among our recommendations, many of which are derived from the ESA Ordinance, include:

1. The wetland should be delineated by a qualified delineator and provide proper documents before the final plat is approved. The delineation report should be filed with a Notice of Restriction so that future buyers are put on notice that the property has jurisdictional wetlands.

2. The wetland boundary should be shown on the final plat and made clear to all landowners (including patio home residents, school, and commercial tenants) through subdivision agreements and dedicated easements.
3. A buffer around the wetland of at least 20 feet in residential areas and greater in commercial areas should be established (p 35 – ESAO). No development should occur within the buffer. Within the wetland boundary, all of the following should be prohibited: vegetative removal, mowing, cutting, filling, dumping yard wastes, grading, drainage, soil deposition, buildings, and application of chemicals (*i.e.*, fertilizers, herbicides, pesticides). The control of noxious weeds is permitted. Plant species that are native to this wetland may be planted and maintained in the buffer area to enhance wildlife.
4. Monuments must be placed and landowners alerted that they are prohibited from developing in the wetland and buffer area. This should also be made apparent to residents along Oak Street who appear to have dumped yard wastes into the wetland.
5. No private motorized vehicles, ATVs, etc., shall be allowed in the delineated wetlands and buffer areas.
6. Fertilizers used in plats adjacent to the delineated wetland shall be phosphate-free.
7. Site development should insure a continued water supply to the wetland and a goal of zero water runoff (p 37).
8. During construction, the developers should: (a) grade the site to prevent water drainage into the wetland, (b) minimize compaction in the buffer area, (c) protect the area by silt fencing, etc.
9. A large volume of runoff is expected from impervious surfaces associated with the proposed commercial developments. A buffer larger than 20 feet should be required in these areas and could include rain gardens or other stormwater collection structures.
10. The developers propose expanding the wetland along the eastside of the property (Section C on the Wetland Replacement Polygon map). We are concerned that the additional water will impact the residents along Oak Street and suggest that the developers should consider an alternate site for creating replacement wetlands.
11. The Wetland Replacement Polygon map shows wetland removal areas (dark gray) including a large section in the western portion of the property and a smaller piece in the southeast corner. We wonder why the wetland along the south edge of the property will be not be replaced because it occupies approximately one-quarter of each platted patio home lot. Considering the required buffer, it appears to leave little room for the residents and will encourage encroachment into the wetland. This wetland should also be replaced **or** the lots redrawn to minimize the amount of wetland in platted lots.

12. Although drier now, at one time the two areas to the south of the open water were at one time much wetter (see Figure 7). If development of this site occurs, the source of the water to the site should be considered and there should be a plan in place to deal with water volumes that have been present in the recent past.

References:

- Ownbey, G & T Morley (1991) *Vascular Plants of Minnesota*. University of Minnesota Press, Minneapolis.
- *Soil Survey of Stearns County Minnesota*.
- *St. Cloud Environmentally Sensitive Areas Ordinance, No 1871*.
- *St. Cloud Natural Areas Inventory and Planning Framework*. Short Elliot Hendrickson, Inc.

Table 1. Some common plants growing in disturbed areas on the Pinecone Road Development Site. These plants were observed during a site visit on 2 June, 2009. Names follow Ownbey & Morley (1991)

Family	Scientific Name	Common name
Aceraceae	<i>Acer negundo</i>	Box elder
Aceraceae	<i>Acer rubrum</i>	Red maple
Anacardiaceae	<i>Rhus glabra</i>	Smooth sumac
Anacardiaceae	<i>Toxicodendron rydbergii</i>	Poison ivy
Asclepiadaceae	<i>Asclepias sp.</i>	Milkweed (cf. swamp milkweed)
Asteraceae	<i>Achillea millefolium</i>	Yarrow
Asteraceae	<i>Antennaria sp.</i>	Pussytoes
Asteraceae	<i>Artemisia absinthium</i>	Wormwood
Asteraceae	<i>Cirsium vulgare</i>	Bull thistle
Asteraceae	<i>Cirsium canadensis</i>	Canada thistle
Asteraceae	<i>Conyza canadensis</i>	Horseweed
Asteraceae	<i>Erigeron sp.</i>	Fleabane
Asteraceae	<i>Eupatorium perfoliatum</i>	Boneset
Asteraceae	<i>Senecio plattensis</i>	Ragwort
Asteraceae	<i>Solidago canadensis</i>	Canada goldenrod
Asteraceae	<i>Taraxacum officinale</i>	Dandelion
Asteraceae	<i>Tragopogon dubius</i>	Goat's beard
Brassicaceae	<i>Berteroa incana</i>	Hoary alyssum
Brassicaceae	<i>Barbarea vulgaris</i>	Yellow rocket
Brassicaceae	<i>Lepidium densiflorum</i>	Peppergrass
Caprifoliaceae	<i>Lonicera tartarica</i>	Honeysuckle
Caprifoliaceae	<i>Sambucus pubens</i>	Red elder
Caryophyllaceae	<i>Lynchis alba</i>	White campion
Chenopodiaceae	<i>Chenopodium album</i>	Lamb's quarters
Cornaceae	<i>Cornus racemosa</i>	Gray dogwood
Cornaceae	<i>Cornus stolonifera</i>	Red-osier dogwood
Cupressaceae	<i>Juniperus virginiana</i>	Eastern red cedar
Cyperaceae		several species of sedges, including 2 <i>Carex</i>
Equisetaceae	<i>Equisetum cf. hyemale</i>	Horsetail
Fabaceae		vetches, 3 species
Fabaceae	<i>Trifolium arvense</i>	White clover
Fabaceae	<i>Trifolium pratense</i>	Red clover
Fagaceae	<i>Quercus bicolor</i>	Swamp white oak (only one seedling noted at edge of wetland; ID needs confirmation)
Fagaceae	<i>Quercus macrocarpa</i>	bur oak
Geraniaceae	<i>Geranium maculatum</i>	Wild geranium
Grossulariaceae	<i>Ribes sp.</i>	Gooseberry
Iridaceae	<i>Iris versicolor</i>	Iris
Iridaceae	<i>Sisyrinchium sp.</i>	Blue-eyed grass

Onagraceae	<i>Oenothera biennis</i>	Evening primrose
Oxalidaceae	<i>Oxalis sp.</i>	Oxalis
Poaceae	<i>Bromus inermis</i>	Smooth brome
Poaceae	<i>Phalaris arundinacea</i>	Reed canary grass
Poaceae	<i>Poa sp.</i>	Bluegrass
Poaceae	<i>Setaria sp.</i>	Foxtail
Polygonaceae	<i>Rumex acetosella</i>	Sorrel
Polygonaceae	<i>Rumex sp.</i>	Dock
Ranunculaceae	<i>Anemone sp.</i>	Thimbleweed
Ranunculaceae	<i>Aquilegia canadensis</i>	Wild columbine
Rhamnaceae	<i>Rhamnus cathartica</i>	European buckthorn
Rosaceae	<i>Geum canadensis</i>	Agrimony
Rosaceae	<i>Potentilla arguta</i>	Tall cinquefoil
Rosaceae	<i>Potentilla argenta</i>	Silvery potentilla/cinquefoil
Rosaceae	<i>Prunus serotina</i>	Black cherry
Rosaceae	<i>Prunus virginiana</i>	Chokecherry
Rubiaceae	<i>Hedyotis longifolia</i>	Bluets
Rutaceae	<i>Zanthoxylum americanum</i>	Prickly ash
Salicaceae	<i>Populus balsamifera</i>	Balsam poplar
Salicaceae	<i>Populus deltoides</i>	Cottonwood
Salicaceae	<i>Populus tremuloides</i>	Quaking aspen
Salicaceae	<i>Salix sp.</i>	Willow, 3 species
Scrophulariaceae	<i>Linaria vulgaris</i>	Butter 'n eggs
Scrophulariaceae	<i>Verbascum thapsus</i>	Common mullein
Scrophulariaceae	<i>Veronicastrum virginicum</i>	Culver's root
Typhaceae	<i>Typha sp.</i>	Cattail
Ulmaceae	<i>Ulmus pumila</i>	Siberian elm
Urticaceae	<i>Urtica dioica</i>	Stinging nettle
Vitaceae	<i>Parthenocissus inserta</i>	Virginia creeper



Figure 1. View of the wetland from the north.



Figure 2. View of the wetland from the southeast.



Figure 3. View of the wetland from the northeast.



Figure 4. View of the property to the southwest



Figure 5. Looking toward the southern edge of the property near the proposed patio home location



Figure 6. Looking northeast from the southern edge of the property.

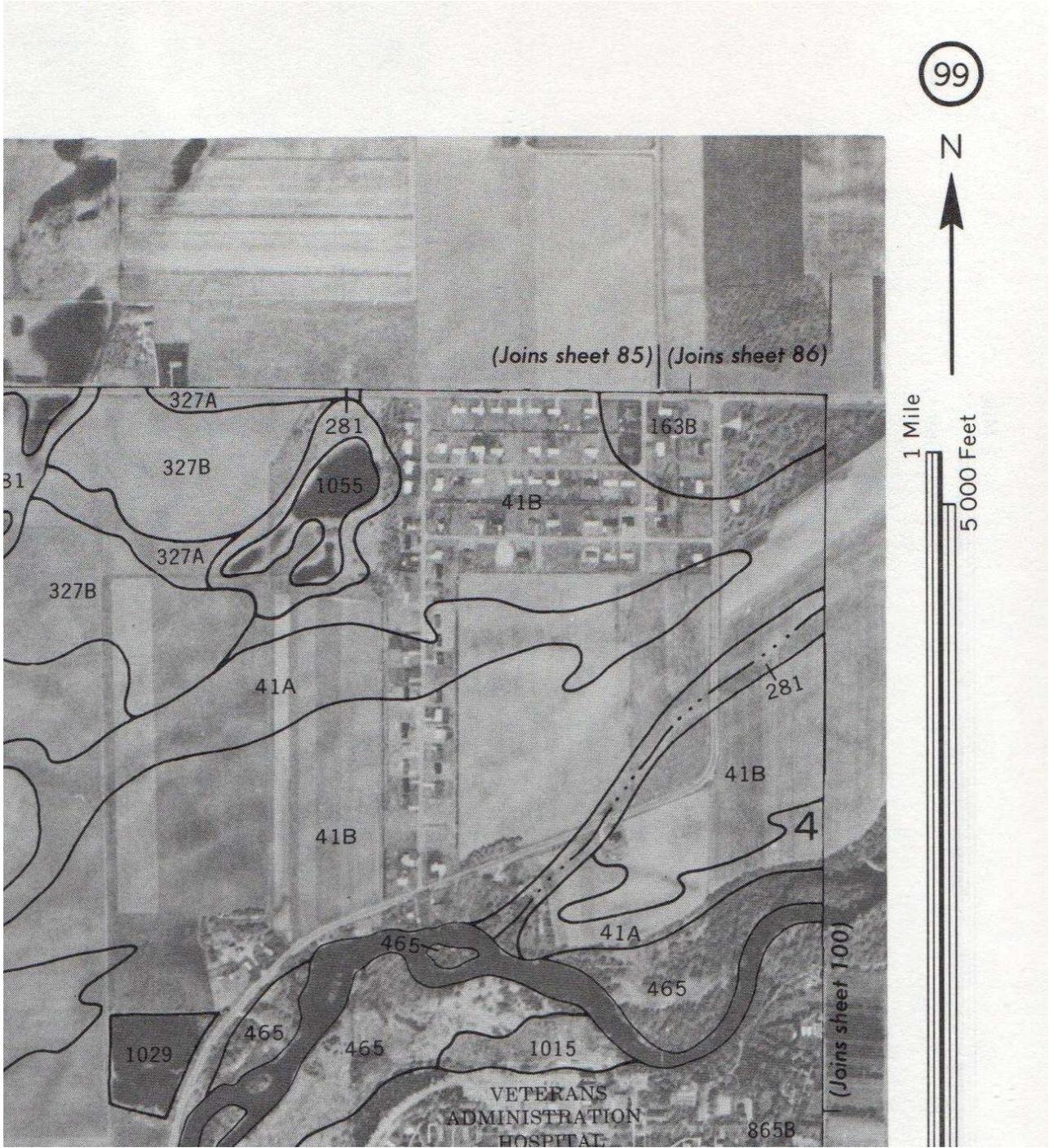


Figure 7. Aerial image showing site 57