# Third-year Monitoring Report for MWRDGC North Side & Lemont WRP

## Native Prairie Landscape Conversion Sites

Prepared for:

Metropolitan Water Reclamation District of Greater Chicago
100 Erie Street
Chicago, Illinois 60611

December 2006

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# MWRDGC – NORTH SIDE AND LEMONT

# PRAIRIE LANDSCAPE CONVERSION SITES

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Prepared for:

Metropolitan Water Reclamation District of Greater Chicago
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CONSERVATION DESIGN FORUM
Project No. 04080.03

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# TABLE OF CONTENTS

## EXECUTIVE SUMMARY

- This report documents native landscape restoration activities that occurred during the 2006 growing season at two Metropolitan Water Reclamation District of Greater Chicago facilities, including: North Side Water Reclamation Plant (WRP) and Lemont WRP native prairie landscape (NPL) conversion sites. In addition, the report includes methods and results of the third-year vegetation monitoring of these two NPLs.

- Maintenance activities in 2006 included weed control via select herbicide applications and enhancement planting. These actions were completed by District staff members and by a native landscape contracting firm (Conservation Land Stewardship, Elmhurst, IL). These maintenance activities were coordinated by staff from Conservation Design Forum.

- The results of the vegetation monitoring at North Side WRP and Lemont WRP are typical of native landscape creations that are in their early stages of establishment (by the end of 2006 these NPLs have completed their third growing year). Overall, by the summer months each NPL is dominated by common prairie species, as well as some common native and non-native weeds.

- If one were to rate the "success" of these two NPLs at this point in their development in terms of overall prairie establishment and landscape maintenance, it is our opinion that they can be assigned a value of 8 on a scale from 1 to 10 (1 being poor; 10 being excellent).

- It is recommended that 2007 NPL maintenance at these two project sites include: (1) a late winter/early spring controlled burn, with a follow-up mowing; (2) enhancement planting at North Side NPL; (3) select herbicide applications during the growing season in order to control various noxious weeds; (4) collection and dispersal of native prairie seed in fall.

# INTRODUCTION

## PROJECT SITE LOCATIONS AND PURPOSE

In June of 2003, Conservation Design Forum (CDF) was retained by the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) to facilitate the conversion of existing turf to "native prairie landscape" (NPL) at two facilities, namely: North Side Water Reclamation Plant (WRP), located at 3500 West Howard Street, Skokie; and Lemont WRP, located at 13 Stephen Street, Lemont. [A third site, LASMA Berm, located at 7601 South LaGrange Road, Willow Springs, was part of the original prairie conversion project as well; however, in early 2006 this site was dropped from the District's NPL conversion program.]

A plan view of each project site is included on EXHIBITS A and B. The purpose of prairie landscape monitoring is to assess vegetation development from year to year in order to make recommendations as to proper land management. The information presented in this report represents the third growing year of the prairie landscape at the North Side and Lemont sites. Specific monitoring methods and the locations of vegetation monitoring transects are discussed in the Methods section of this report; the monitoring results are presented in the Results and Discussion section.

## MAINTENANCE ACTIVITIES CONDUCTED IN 2006

The following is a chronological list of maintenance activities that were conducted at each NPL project site in the spring, summer, and fall of 2006. [These maintenance activities were documented in various correspondences submitted to MWRDGC staff throughout the growing season.] The District used in-house staff (from the downstate Fulton County MWRDGC facility) for all of the landscape maintenance at North Side WRP. These same staff also performed maintenance at Lemont WRP in spring and summer. Maintenance activities completed in September at Lemont WRP, however, were done by Conservation Land Stewardship (CLS) of Elmhurst, IL.

### North Side WRP

- May 16th: select herbicide application (*Roundup* for grassy stands of Kentucky Blue Grass and Quack Grass; *Garlon 3A* for various thistles, teasel, and clovers).
- June 6th: select herbicide application (*Garlon 3A* and *Grazon P&D* for various thistles, teasel, and broad-leaved weeds).
- June 28th: [same as June 6th.]
- October 5th: [same as June 6th.]

### Lemont WRP

- May 15th: select herbicide application (*Roundup* for grassy stands of Kentucky Blue Grass and Quack Grass; *Garlon 3A* for various thistles, teasel, and clovers).
- June 5th: select herbicide application (*Garlon 3A* and *Grazon P&D* for various thistles, teasel, and broad-leaved weeds).
- June 15th (approximately): all of the vegetation across the small NPL located near the canal in the northeastern portion of the facility was mowed down.
- June 29th: [same as June 5th.]
- September 25th: select herbicide application (*Roundup* for various invasive weeds).

Overall, these maintenance activities were performed in a timely and professional manner. In addition to these activities, interpretive signage was installed at Lemont on September 22nd, and at North Side on October 5th, 2006 by District staff. Also completed by CLS at Lemont on September 25th:

- a walking trail was mowed for easier access into the NPL;
- a mulch path was created leading up to one of the interpretive signs, and several 1-gallon size prairie plants were planted around each sign;
- approximately 1200 plant plugs were installed as an "enhancement planting" along a portions of the perimeter of the NPL (more specifically, in highly-visible areas along both sides of the entrance road to the Lemont WRP).

A list of the twelve common prairie plant species installed at Lemont as part of the enhancement planting is included in APPENDIX I. Note that a mowed trail and enhancement plantings are to be done at North Side in spring 2007. And lastly, photographs included at the back of the report depict many of these activities.

## MONITORING METHODS

Although there are many ways to monitor *de novo* ("from scratch") restorations and measure their performance, the approach utilized in this project emphasizes vegetation development and floristic quality assessment (FQA) methods. In summary, the vegetation is sampled along transect lines established within representative portions of each project site; a qualitative inventory of the vegetation across the entire landscape is recorded as well. These vegetation sampling protocols are repeated every year so that trends in floristic development can be monitored over time.

A critical component in the evaluation of a restoration is to determine the extent of native species recruitment and establishment across the landscape. A useful method in the determination of floristic quality is through an analysis of the conservatism and diversity of species that are recorded during the monitoring event. Conservatism represents the degree to which an experienced field botanist has confidence that a given species is representative of a high-quality, remnant habitat (i.e., those natural areas with intact presettlement structure, composition, and processes). Native plant species display varying degrees of tolerance to disturbance, as well as varying degrees of fidelity to specific habitat integrity. Native plants of a given region exhibit an observable range of conservatism, and each native species can be assigned a *coefficient of conservatism* (C value) ranging from 0 to 10, "weedy to conservative," that reflects its disposition.

The Mean C is the average coefficient of conservatism for a site. The floristic quality index (FQI) is a statistic derived by multiplying Mean C by the square root of the number of species inventoried; thus, the FQI is a function of conservatism and diversity. In general, site inventories with FQI values less than 20 are degraded or derelict plant communities, or are very small habitat remnants. Site inventories with FQI values in the twenties through low thirties suffer from various kinds of disturbance, but generally have potential for habitat restoration and recovery. When site inventories have FQI values in the middle thirties or higher, and/or have Mean C values of 3.4 or higher, one can be confident that there is sufficient native character present for the area to be at least regionally noteworthy. Site inventories with indices in the middle forties and higher are undoubtedly significant natural area remnants of statewide importance.

As management and time cause changes to take place, Mean C and FQI values will reflect the extent to which conservative species are being recruited and the floristic quality is improving. If an inventoried site has a large proportion of conservative plants, the Mean C is higher; in a degraded site, the Mean C is lower. The presence of a large proportion of adventive species and non-conservative native species suggest that an area is degraded. The Mean C and FQI values for a sampling transect are calculated for the transect as a whole and for the average quadrat; a comparison of floristic values between the transect and quadrat level is useful to understand the uniformity of native species establishment.

Another useful measurement that is important in the evaluation of a *de novo* landscape restoration is that of the wetness value (W). Each plant species has been assigned a wetness category that indicates its probability of occurrence in a wetland. Plants are designated as *Obligate Wetland* (OBL=-5), *Facultative Wetland* (FACW=-3), *Facultative* (FAC=0), *Facultative Upland* (FACU=3), and *Obligate Upland* (UPL=5). For about 20% of our flora, a "+" or "−" sign has been attached to the three *Facultative* categories to express the exaggerated tendencies of those species. The "+" sign denotes that the species generally has a greater estimated probability of occurrence in wetlands; the "−" sign denotes that it generally has a lesser estimated probability of occurrence in wetlands. Mean wetness values can be compared from year to year to gain an understanding on what type of plant species have become established across the restoration site.

Transect locations at each of the two project sites are described below and their approximate locations are depicted on EXHIBITS A and B.

North Side WRP

**Transect 1** is located in the northeastern corner of the WRP (see EXHIBIT A-2). The transect begins at the southeastern end of the prairie and is oriented 315° NW. The first quadrat is placed 10 paces in from the prairie/lawn boarder; subsequent quadrats are placed at 5-pace intervals along the transect line. A total of 10 quadrats are sampled along the transect.

**Transect 2** is located in the southwestern portion of the WRP (see EXHIBIT A-1). The transect begins at the southeastern end of the prairie and is oriented 315° NW. The first quadrat is placed 10 paces in from the prairie/lawn boarder; subsequent quadrats are placed at 20-pace intervals along the transect line. A total of 10 quadrats are sampled along the transect.

Lemont WPR

**Transect 1** is located in the western portion of the WRP (see EXHIBIT B). The transect begins at the northwestern corner of the prairie and is oriented 135° SE. The first quadrat is placed at the prairie/lawn boarder; subsequent quadrats are placed at 10-pace intervals along the transect line. A total of 10 quadrats are sampled along the transect.

**Transect 2** is located in the southern portion of the WRP (see EXHIBIT B). The transect begins at the southwestern corner of the prairie and is oriented 30° NE. The first quadrat is placed at the prairie/lawn boarder; subsequent quadrats are placed at 10-pace intervals along the transect line. A total of 10 quadrats are sampled along the transect.

All vegetation is sampled using a 0.25m$^2$ quadrat. The vegetation within each quadrat is identified and given a relative cover/abundance number from 1 to 5 as shown in Table 1

below. A compass is used to stay on the correct orientation, and photographs are taken at the start of each transect in order to document the current site conditions.

TABLE 1. COVER/ABUNDANCE NUMBERS

| COVER/ ABUNDANCE NO. | APPROXIMATE COVER |
|---|---|
| 1 | 1 to few stems present; species occupies only 1 quarter of quadrat |
| 2 | Few to several stems or clumps; species occupies 1 to 2 quarters of quadrat |
| 3 | Species occupies 2 to 3 quarters of quadrat with notable coverage in each occupied quarter |
| 4 | Species occupies 3 to 4 quarters of quadrat with regular cover throughout |
| 5 | Species dominates the entire quadrat |

The cover/abundance data is used to determine the relative importance value (RIV) for each species recorded along a transect. The RIV of each species is calculated by summing relative frequency and relative cover and dividing by 2. This and other information gathered via transect sampling offers important quantitative data that is used to interpret the development of the native landscape.

## RESULTS AND DISCUSSION

The results of the plant inventories and transect sampling are presented below. The field work occurred on September 21st (for Lemont) and September 22nd (for North Side) 2006, and was performed by Kenneth Johnson. Photographs taken during the monitoring event are included at the back of the report. Refer to EXHIBITS A and B for plan views of the two project sites.

### GENERAL PLANT INVENTORIES AND FQA DATA

The results of the plant inventories and associated FQA data for each of the two project sites are presented in APPENDIX II. Table 2 below summarizes the total number of native species recorded during the inventory (NS), along with the percent that these native species comprise of all plants recorded (%TS) at each site. The two bottom rows are the native Mean C and FQI values. For comparative purposes these same data are presented from the restoration monitoring conducted in the previous two years.

TABLE 2. GENERAL PLANT INVENTORIES & FQA SUMMARY

| FQA Data | North Side WRP | | | Lemont WRP | | |
|---|---|---|---|---|---|---|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| NS (% TS) | 33 (44%) | 27 (44%) | 30 (49%) | 22 (46%) | 30 (54%) | 37 (51%) |
| Native Mean C | 1.7 | 2.4 | 2.4 | 2.3 | 2.0 | 2.3 |
| Native FQI | 10 | 13 | 13 | 11 | 11 | 14 |

Based upon these data and general site observations noted throughout the 2006 growing season, the NPL at North Side WRP and Lemont WRP are developing in a satisfactory manner.

Unlike in the previous two years, prairie grasses (e.g., Big Bluestem Grass, Side-oats Grama) have become relatively common in late summer and fall, along with various common native and non-native forbs and grasses. As in earlier years, select weed control (for thistles, clovers, and other targeted weeds) has been effective at keeping specific weeds in check.

## TRANSECT SAMPLING AND FQA DATA

The results of the straight-line transect sampling are presented in APPENDIX III. As stated above, each transect runs through a representative portion of NPL at each project site (see EXHIBITS A and B). Transect sampling helps to quantify the vegetation changes and native landscape development. A comparison of floristic values between the transect and the quadrat level data is useful to understand the uniformity of native species establishment. The data are presented separately for each of the two project sites. As in previous years, a photograph was taken to document the landscape appearance at the beginning of each transect line (see photographs included at the back of report).

### North Side WRP

Table 3 below presents a summary of the data collected for each transect at the North Side WRP project site. The aggregate transect data are presented separately from the average quadrat data. The number of native taxa (NT) is given, along with the native Mean C, and the native FQI. For comparative purposes these same data are presented from the restoration monitoring conducted in the previous two years.

TABLE 3. NORTH SIDE WRP – TRANSECT SUMMARY

| TRANSECT | TRANSECT DATA SUMMARY | | | AVE QUADRAT DATA SUMMARY | | |
|---|---|---|---|---|---|---|
| | NT | MEAN C | FQI | NT | MEAN C | FQI |
| **T1** | | | | | | |
| 2004 | 14 | 2.1 | 8 | 3.3 | 1.6 | 2.8 |
| 2005 | 15 | 2.7 | 10 | 3.4 | 2.0 | 3.8 |
| 2006 | 18 | 2.7 | 12 | 4.4 | 2.3 | 4.9 |
| **T2** | | | | | | |
| 2004 | 11 | 2.2 | 7 | 2.3 | 1.3 | 2.2 |
| 2005 | 16 | 2.7 | 11 | 3.6 | 2.1 | 4.3 |
| 2006 | 12 | 2.8 | 10 | 4.0 | 2.5 | 5.2 |

Overall, the results show a positive trend in FQA values from 2004 to 2006. As stated last year, however, it is early in the development of the NPL and too soon to draw conclusions from these data.

Tables 4 and 5 below summarize the relative importance values (RIV) for the top 50% of species from each transect. For comparative purposes these same data are presented from the restoration monitoring conducted in the previous two years. Following each native species is its assigned C value (in parenthesis). Adventive species are in ALL CAPS. Species followed by an asterisk (*) were introduced to the site as part of the initial prairie seed installation. Brackets ([]) indicate the species was recorded in the sampling but not in the top 50% for that year, and a dash (-) indicates that it was not recorded during the sampling event.

TABLE 4. NORTH SIDE WRP – TRANSECT 1 RELATIVE IMPORTANCE VALUES (RIV)

| SPECIES (C VALUE) | RIV 2004 | RIV 2005 | RIV 2006 |
|---|---|---|---|
| Aster pilosus (0) | [3.5] | 7.7 | 13.1 |
| POA PRATENSIS | - | 5.6 | 11.7 |
| Ratibida pinnata (4)* | [1.0] | 7.2 | 10.7 |
| CIRSIUM ARVENSE | - | - | 7.3 |
| Rudbeckia hirta (1)* | 8.6 | [2.2] | 4.8 |
| Andropogon gerardii (5)* | - | - | 4.6 |
| Erigeron canadensis (0) | - | - | 4.6 |
| SOIL | - | 7.5 | - |
| TARAXACUM OFFICINALE | [1.0] | 6.7 | [2.4] |
| SETARIA GLAUCA | [2.8] | 6.6 | - |
| ATRIPLEX PATULA | - | 5.6 | - |
| Echinochloa crusgalli (0) | 5.3 | 5.5 | - |
| TRIFOLIUM HYBRIDUM | 15.0 | [4.5] | - |
| LOLIUM MULTIFLORUM | 14.8 | - | - |
| Panicum dichotomiflorum (0) | 5.7 | - | - |
| HIBISCUS TRIONUM | 5.1 | [3.9] | [1.2] |

TABLE 5. NORTH SIDE WRP – TRANSECT 2 RELATIVE IMPORTANCE VALUES (RIV)

| SPECIES (C VALUE) | RIV 2004 | RIV 2005 | RIV 2006 |
|---|---|---|---|
| POA PRATENSIS | [1.9] | 8.3 | 19.0 |
| Solidago altissima (1) | [2.8] | 5.2 | 15.3 |
| Elymus canadensis (4)* | - | 4.3 | 12.4 |
| Aster novae-angliae (4)* | [3.4] | [3.4] | 7.5 |
| Ratibida pinnata (4)* | [2.9] | [2.9] | 7.5 |
| MEDICAGO LUPULINA | [1.9] | 7.1 | - |
| AGROPYRON REPENS | - | 7.0 | [6.3] |
| CONVOLVULUS ARVENSIS | [1.4] | 4.3 | [1.3] |
| Ambrosia artemisiifolia (0) | [2.8] | 4.2 | - |
| LACTUCA SERRIOLA | - | 3.9 | - |
| POLYGONUM AVICULARE | - | 3.9 | - |
| TARAXACUM OFFICINALE | [1.4] | 3.9 | - |
| TRIFOLIUM HYBRIDUM | 26.5 | [2.0] | - |
| LOLIUM MULTIFLORUM | 21.5 | - | - |
| Rudbeckia hirta (1)* | 9.6 | [2.9] | - |

From these data it can be generalized that although a mix of common prairie species has become established within the NPL, Kentucky Blue Grass and weedy forbs are still common. This is not unexpected, however, since the landscape is in its early stages of development.

Lemont WRP

Table 6 below presents a summary of the data collected for each transect at the Lemont WRP project site. The aggregate transect data are presented separately from the average quadrat data. The number of native taxa (NT) is given, along with the native Mean C, and the native FQI. For comparative purposes these same data are presented from the restoration monitoring conducted in the previous two years.

TABLE 6. LEMONT WRP – TRANSECT SUMMARY

| TRANSECT | TRANSECT DATA SUMMARY | | | AVE QUADRAT DATA SUMMARY | | |
|---|---|---|---|---|---|---|
| | NT | MEAN C | FQI | NT | MEAN C | FQI |
| **T1** | | | | | | |
| 2004 | 15 | 1.2 | 5 | 4.7 | 1.0 | 2.3 |
| 2005 | 16 | 2.0 | 8 | 4.8 | 2.8 | 6.3 |
| 2006 | 11 | 2.9 | 10 | 3.0 | 3.5 | 7.0 |
| **T2** | | | | | | |
| 2004 | 21 | 1.5 | 7 | 3.9 | 1.3 | 2.6 |
| 2005 | 16 | 2.7 | 11 | 4.7 | 2.4 | 5.2 |
| 2006 | 18 | 3.1 | 13 | 4.2 | 2.9 | 5.9 |

As stated for the North Side WRP, overall there is a positive trend in FQA values from 2004 to 2006.

Tables 7 and 8 below summarize the relative importance values (RIV) for the top 50% of species from each transect. For comparative purposes these same data are presented from the restoration monitoring conducted in the previous two years. Following each native species is its assigned C value (in parenthesis). Adventive species are in ALL CAPS. Species followed by an asterisk (*) were introduced to the site as part of the initial prairie seed installation. Brackets ([]) indicate the species was recorded in the sampling but not in the top 50% for that year, and a dash (-) indicates that it was not recorded during the sampling event.

TABLE 7. LEMONT WRP – TRANSECT 1 RELATIVE IMPORTANCE VALUES (RIV)

| SPECIES (C VALUE) | RIV 2004 | RIV 2005 | RIV 2006 |
|---|---|---|---|
| Monarda fistulosa (4)* | [4.5] | 14.1 | 18.4 |
| Heliopsis helianthoides (5)* | 5.3 | 8.9 | 15.7 |
| Elymus canadensis (4)* | [1.1] | 7.9 | 10.5 |
| Aster novae-angliae (4)* | - | 8.1 | 10.2 |
| CHENOPODIUM ALBUM | 5.3 | 8.6 | [3.9] |
| Solidago altissima (1) | [1.1] | 7.3 | [9.5] |
| Rudbeckia hirta (1)* | 15.2 | - | - |
| Solanum americanum (0) | 11.1 | - | - |
| Oxalis stricta (0) | 8.4 | - | - |
| Polygonum pensylvanicum (0) | 5.7 | - | - |

TABLE 8. LEMONT WRP – TRANSECT 2 RELATIVE IMPORTANCE VALUES (RIV)

| SPECIES (C VALUE) | RIV 2004 | RIV 2005 | RIV 2006 |
|---|---|---|---|
| Solidago altissima (0) | - | 4.5 | 18.6 |
| Monarda fistulosa (4)* | [1.5] | 7.9 | 11.1 |
| POA PRATENSIS | [4.0] | [4.0] | 8.9 |
| TARAXACUM OFFICINALE | 8.2 | 5.8 | 5.5 |
| Aster novae-angliae (4)* | [3.5] | [3.5] | 4.7 |
| Elymus canadensis (4)* | [3.5] | [3.5] | 4.7 |
| Ratibida pinnata (4)* | [2.2] | 9.0 | [4.1] |
| Eupatorium serotinum (0) | [1.5] | 8.0 | - |
| Aster pilosus (0) | [1.5] | 6.9 | [3.9] |
| ATRIPLEX PATULA | [1.5] | 6.2 | [3.9] |
| Solidago canadensis (0) | - | 5.2 | - |
| CIRSIUM ARVENSE | 8.3 | [2.3] | [2.8] |
| Oxalis stricta (0) | 7.5 | [1.2] | - |
| Rudbeckia hirta (1)* | 6.8 | [1.2] | - |
| POLYGONUM PERSICARIA | 6.6 | - | - |
| Solanum americanum (0) | 5.0 | - | - |
| Eupatorium altissimum (0) | 3.9 | - | [2.8] |
| Panicum dichotomiflorum (0) | 3.9 | - | - |

Again as summarized for the NPL at the North Side site, a mix of common prairie species, Kentucky Blue Grass, and weedy forbs dominate the site. This is not unexpected, however, since the landscape is in its early stages of development.

SEEDED SPECIES RECRUITMENT

Alphabetical lists of the native species seeded as part of the initial NPL installation at each of the two project sites are presented in APPENDIX IV. Each species is listed along with its C value (in parenthesis). If the species was recorded from the site during the 2006 monitoring event it is indicated with a "Y", and if not it is indicated with a "N". The columns to the right summarize the RIV of each species if recorded during the transect sampling. A summary of these data are presented in Table 13 below. For comparative purposes these same data are presented from the restoration monitoring conducted in the previous two years and to the initial seeding.

TABLE 13. SEEDED SPECIES RECRUITMENT

| | NORTH SIDE WRP | | LEMONT WRP | |
|---|---|---|---|---|
| YEAR | NO. SPECIES PRESENT | MEAN C OF SPP PRESENT | NO. SPECIES PRESENT | MEAN C OF SPP PRESENT |
| Initial Seeding | 23 | 5.3 | 23 | 5.3 |
| 2004 | 11 | 4.4 | 9 | 4.2 |
| 2005 | 13 | 4.3 | 13 | 4.5 |
| 2006 | 14 | 4.5 | 15 | 4.3 |

At North Side WRP, fourteen (14) of the 23 seeded species were recorded during the monitoring event in September of 2006. Collectively, these 14 species have a Mean C value of 4.5 and five were in the top 50% RIV. At Lemont WRP, fifteen (15) of the 23 seeded species were recorded during the monitoring event in September of 2006. Collectively, these 15 species have a Mean C value of 4.3 and four were in the top 50% RIV.

Future restoration monitoring should be compared to these data in order to show trends in the establishment of the intended native landscape. With time and proper land management there should be an increase in native species recruitment and quality across all areas of the restoration site. In general, it is typical that after four (4) full growing seasons approximately 40% of the seeded species should be recorded in a site inventory—and if so, then the initial seeding should be considered satisfactory. Based upon three growing seasons, approximately 61% of the seeded species are present at the North Side NPL and approximately 65% at the Lemont NPL.

The native Mean W of each project site is summarized in Table 14 below and includes the Mean W of the initial seeding. This information can be used to inform native plant selection in future species enhancement efforts.

TABLE 14. MEAN W VALUES

| YEAR | NORTH SIDE WRP | LEMONT WRP |
|---|---|---|
| | MEAN W | MEAN W |
| Initial Seeding | 2.0 | 2.0 |
| 2004 | 1.7 | 1.0 |
| 2005 | 1.8 | 1.5 |
| 2006 | 1.7 | 1.2 |

## SUMMARY AND MANAGEMENT RECOMMENDATIONS

The following bullet items summarize the information presented within this report.

- As presented above, the primary land management activity conducted across these two *de novo* NPL sites during the 2006 growing season included weed control via spot herbicide applications.

- At Lemont WRP, a native species enhancement planting was completed in September 2006, and a path was mowed within the NPL for ease of access. This is to be completed at the North Side WRP in spring 2007.

- Interpretive signage was designed and installed at both sites in fall 2006.

- Both NPLs are developing in a satisfactory manner in terms of native species establishment and recruitment. By summer, each NPL is dominated by common prairie species, as well as some common native and non-native weeds.

- If one were to rate the "success" of these two NPLs at this point in their development in terms of overall prairie establishment and landscape maintenance, it is our opinion that they can be assigned a value of 8 on a scale from 1 to 10 (1 being poor; 10 being excellent).

- At least two more years of vegetation monitoring should be completed in order to document the development of the NPL through five full-growing seasons.

At present, a burn plan and burn permits are being prepared by CLS in order to conduct a prescribed landscape burn across both NPLs in March/April 2007. It should be anticipated that this first burn will be "spotty" and cover no more than one-half of the NPL. It is important, however, to begin the controlled burn process and to incorporate this management tool into the annual maintenance program at both sties. By the second or third controlled burn, no less than three-quarters of the NPL should carry a fire. To summarize anticipated NPL maintenance in 2007:

- Controlled burn in March/April (this should be followed by a landscape mowing in order to cut down un-burned vegetation and improve landscape aesthetics);
- Complete enhancement planting at North Side NPL;
- Select herbicide applications during the growing season for the control of various noxious weeds;
- Native seed collection and dispersal in fall.

## GENERAL REFERENCES

The following documents were reviewed and referenced in the preparation of this report.

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# APPENDIX I

## NPL ENHANCEMENT PLANTING

The following three pages are Xerox copies of the loading list provided by the installation contractor in order to document the species and quantities used as part of the enhancement planting at Lemont NPL, in September 2006. Around 1200 2.5-inch "plugs" were installed randomly on approximately 3-foot centers; these were planted along the perimeter of the NPL along the entrance road. In addition, several 1-gallon plants were installed in a planting bed around each of the three signs. A similar enhancement planting is to be done at the North Side NPL in spring 2007. See text for more information.

# APPENDIX II

## VEGETATION INVENTORIES & FLORISTIC QUALITY ASSESSMENT

The following is a summary of the inventory data generated using Wilhelm and Masters' *Floristic Quality Assessment and Computer Applications*, 1999. Plant nomenclature follows Swink and Wilhelm's *Plants of the Chicago Region, 1994*. More information on floristic quality assessment methodology can be found in *Erigenia*, number 15, November, 1997. Each plant inventory and assessment is divided into 2 sections as follows.

**Section 1** includes three tables that summarize the inventory assessment data. The table to the left is an analysis of the floristic quality of the project area. In addition to listing the number of native species and total number of species, the mean coefficient of conservatism (MEAN C), floristic quality index (FQI), and mean wetness (MEAN W) values are presented. These are calculated once for native species only, and a second time including adventive species (W/Adventives). The two other tables summarize the number and percent of species in each physiognomic group (A=annual, B=biennial, P=perennial, W=woody, H=herbaceous).

**Section 2** includes the plant inventory arranged alphabetically, with each species preceded by its database acronym and coefficient of conservatism (C=0 to 10, weedy to conservative); and followed by its wetness coefficient (W=-5 to +5, wet to dry), corresponding national wetland indicator status (OBL=obligate wetland species, FAC=facultative species, UPL=upland species), physiognomic group, and common name. Adventive species are written in ALL CAPS and have an asterisk (*) for their C value.

The Mean C is the average coefficient of conservatism for the site. The FQI is derived by multiplying Mean C by the square root of the number of species present. In general, sites with FQI values less than twenty are degraded or derelict plant communities, or are very small habitat remnants. Sites with FQI values in the twenties through low thirties suffer from various kinds of disturbance, but generally have potential for habitat restoration and recovery. When sites have FQI values in the middle thirties or higher, one can be confident that there is sufficient native character present for the area to be at least regionally noteworthy. Sites with indices in the middle forties and higher are often also statewide significant natural areas.

Site: **North Side WRP – Prairie Landscapes**
Locale: Skokie, IL
Date: September 22, 2006
By: Conservation Design Forum (K Johnson)

## Section 1. Summary Tables

| FLORISTIC QUALITY DATA | | | | | | |
|---|---|---|---|---|---|---|
| 30 NATIVE SPECIES | Native | 30 | 49.2% | Adventive | 31 | 50.8% |
| 61 Total Species | Tree | 1 | 1.6% | Tree | 2 | 3.3% |
| 2.4 NATIVE MEAN C | Shrub | 0 | 0.0% | Shrub | 1 | 1.6% |
| 1.2 W/Adventives | W-Vine | 1 | 1.6% | W-Vine | 0 | 0.0% |
| 13.3 NATIVE FQI | H-Vine | 0 | 0.0% | H-Vine | 0 | 0.0% |
| 9.3 W/Adventives | P-Forb | 13 | 21.3% | P-Forb | 8 | 13.1% |
| 1.7 NATIVE MEAN W | B-Forb | 1 | 1.6% | B-Forb | 5 | 8.2% |
| 2.2 W/Adventives | A-Forb | 6 | 9.8% | A-Forb | 9 | 14.8% |
| AVG: Fac. Upland (+) | P-Grass | 6 | 9.8% | P-Grass | 5 | 8.2% |
| | A-Grass | 2 | 3.3% | A-Grass | 1 | 1.6% |
| | P-Sedge | 0 | 0.0% | P-Sedge | 0 | 0.0% |
| | A-Sedge | 0 | 0.0% | A-Sedge | 0 | 0.0% |
| | Cryptogam | 0 | 0.0% | | | |

## Section 2. Species Inventory

| ACRONYM | C | SCIENTIFIC NAME | W | WETNESS | PHYSIOGNOMY | COMMON NAME |
|---|---|---|---|---|---|---|
| ABUTHE | 0 | ABUTILON THEOPHRASTI | 4 | FACU- | Ad A-Forb | VELVETLEAF |
| ACARHO | 0 | Acalypha rhomboidea | 3 | FACU | Nt A-Forb | THREE-SEEDED MERCURY |
| AGRREP | 0 | AGROPYRON REPENS | 3 | FACU | Ad P-Grass | QUACK GRASS |
| AMBARE | 0 | Ambrosia artemisiifolia elatior | 3 | FACU | Nt A-Forb | COMMON RAGWEED |
| ANDGER | 5 | Andropogon gerardii | 1 | FAC- | Nt P-Grass | BIG BLUESTEM GRASS |
| ANDSCO | 5 | Andropogon scoparius | 4 | FACU- | Nt P-Grass | LITTLE BLUESTEM GRASS |
| ARCMIN | 0 | ARCTIUM MINUS | 5 | UPL | Ad B-Forb | COMMON BURDOCK |
| ASTNOV | 4 | Aster novae-angliae | -3 | FACW | Nt P-Forb | NEW ENGLAND ASTER |
| ASTPIL | 0 | Aster pilosus | 2 | FACU+ | Nt P-Forb | HAIRY ASTER |
| ATRPAT | 0 | ATRIPLEX PATULA | -2 | FACW- | Ad A-Forb | COMMON ORACH |
| BOUCUR | 8 | Bouteloua curtipendula | 5 | UPL | Nt P-Grass | SIDE-OATS GRAMA |
| BRANIG | 0 | BRASSICA NIGRA | 5 | UPL | Ad A-Forb | BLACK MUSTARD |
| CHEALB | 0 | CHENOPODIUM ALBUM | 1 | FAC- | Ad A-Forb | LAMB'S QUARTERS |
| CICINT | 0 | CICHORIUM INTYBUS | 5 | UPL | Ad P-Forb | CHICORY |
| CIRARV | 0 | CIRSIUM ARVENSE | 5 | UPL | Ad P-Forb | FIELD THISTLE |
| CIRVUL | 0 | CIRSIUM VULGARE | 4 | FACU- | Ad B-Forb | BULL THISTLE |
| CONARV | 0 | CONVOLVULUS ARVENSIS | 5 | UPL | Ad P-Forb | FIELD BINDWEED |
| CORLAN | 5 | Coreopsis lanceolata | 3 | FACU | Nt P-Forb | SAND COREOPSIS |
| DACGLO | 0 | DACTYLIS GLOMERATA | 3 | FACU | Ad P-Grass | ORCHARD GRASS |
| DAUCAR | 0 | DAUCUS CAROTA | 5 | UPL | Ad B-Forb | QUEEN ANNE'S LACE |
| ECHPUR | 3 | Echinacea purpurea | 5 | UPL | Nt P-Forb | BROAD-LEAVED PURPLE CONEFLOWER |
| ECHCRU | 0 | Echinochloa crusgalli | -3 | FACW | Nt A-Grass | BARNYARD GRASS |
| ELYCAN | 4 | Elymus canadensis | 1 | FAC- | Nt P-Grass | CANADA WILD RYE |
| EREHIE | 2 | Erechtites hieracifolia | 3 | FACU | Nt A-Forb | FIREWEED |
| ERIANS | 0 | Erigeron annuus | 1 | FAC- | Nt B-Forb | ANNUAL FLEABANE |
| ERICAN | 0 | Erigeron canadensis | 1 | FAC- | Nt A-Forb | HORSEWEED |
| EUPALT | 0 | Eupatorium altissimum | 3 | [FACU] | Nt P-Forb | TALL BONESET |
| EUPSEM | 0 | Eupatorium serotinum | -1 | FAC+ | Nt P-Forb | LATE BONESET |
| FESELA | 0 | FESTUCA ELATIOR | 2 | FACU+ | Ad P-Grass | TALL FESCUE |
| HELHEL | 5 | Heliopsis helianthoides | 5 | UPL | Nt P-Forb | FALSE SUNFLOWER |
| HIBTRI | 0 | HIBISCUS TRIONUM | 5 | UPL | Ad A-Forb | FLOWER-OF-AN-HOUR |
| JUNVIC | 2 | Juniperus virginiana crebra | 3 | FACU | Nt Tree | RED CEDAR |
| LACSER | 0 | LACTUCA SERRIOLA | 0 | FAC | Ad B-Forb | PRICKLY LETTUCE |
| LEPVIR | 0 | Lepidium virginicum | 4 | FACU- | Nt A-Forb | COMMON PEPPERCRESS |
| MELALB | 0 | MELILOTUS ALBA | 3 | FACU | Ad B-Forb | WHITE SWEET CLOVER |
| MONFIS | 4 | Monarda fistulosa | 3 | FACU | Nt P-Forb | WILD BERGAMOT |
| MORALB | 0 | MORUS ALBA | 0 | FAC | Ad Tree | WHITE MULBERRY |
| PANDII | 0 | Panicum dichotomiflorum | -2 | FACW- | Nt A-Grass | KNEE GRASS |
| PANVIR | 5 | Panicum virgatum | -1 | FAC+ | Nt P-Grass | SWITCH GRASS |
| PHLPRA | 0 | PHLEUM PRATENSE | 3 | FACU | Ad P-Grass | TIMOTHY |
| PLALAN | 0 | PLANTAGO LANCEOLATA | 0 | FAC | Ad P-Forb | ENGLISH PLANTAIN |
| PLAMAJ | 0 | PLANTAGO MAJOR | -1 | FAC+ | Ad P-Forb | COMMON PLANTAIN |
| POAPRA | 0 | POA PRATENSIS | 1 | FAC- | Ad P-Grass | KENTUCKY BLUE GRASS |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| POLAVI | 0 | POLYGONUM AVICULARE | 1 | FAC- | Ad | A-Forb | COMMON KNOTWEED |
| POLPEN | 0 | Polygonum pensylvanicum | -4 | FACW+ | Nt | A-Forb | PINKWEED |
| POLPER | 0 | POLYGONUM PERSICARIA | 1 | [FAC-] | Ad | A-Forb | LADY'S THUMB |
| RATPIN | 4 | Ratibida pinnata | 5 | UPL | Nt | P-Forb | YELLOW CONEFLOWER |
| RHACAT | 0 | RHAMNUS CATHARTICA | 3 | FACU | Ad | Shrub | COMMON BUCKTHORN |
| RUDHIR | 1 | Rudbeckia hirta | 3 | FACU | Nt | P-Forb | BLACK-EYED SUSAN |
| RUMCRI | 0 | RUMEX CRISPUS | -1 | FAC+ | Ad | P-Forb | CURLY DOCK |
| SETGLA | 0 | SETARIA GLAUCA | 0 | FAC | Ad | A-Grass | YELLOW FOXTAIL |
| SILINI | 5 | Silphium integrifolium | 5 | UPL | Nt | P-Forb | ROSIN WEED |
| SOLALT | 1 | Solidago altissima | 3 | FACU | Nt | P-Forb | TALL GOLDENROD |
| SOLGRN | 3 | Solidago graminifolia nuttallii | 0 | [FAC] | Nt | P-Forb | HAIRY GRASS-LEAVED GOLDENROD |
| SONOLE | 0 | SONCHUS OLERACEUS | 5 | [UPL] | Ad | A-Forb | STORE-FRONT SOW THISTLE |
| SORNUT | 5 | Sorghastrum nutans | 2 | FACU+ | Nt | P-Grass | INDIAN GRASS |
| TAROFF | 0 | TARAXACUM OFFICINALE | 3 | FACU | Ad | P-Forb | COMMON DANDELION |
| THLARV | 0 | THLASPI ARVENSE | 5 | UPL | Ad | A-Forb | PENNY CRESS |
| TRIPRA | 0 | TRIFOLIUM PRATENSE | 5 | UPL | Ad | P-Forb | RED CLOVER |
| ULMPUM | 0 | ULMUS PUMILA | 5 | UPL | Ad | Tree | SIBERIAN ELM |
| VITRIP | 2 | Vitis riparia | -2 | FACW- | Nt | W-Vine | RIVERBANK GRAPE |

Site: **Lemont WRP – Prairie Landscapes**
Locale: Lemont, IL
Date: September 21, 2006
By: Conservation Design Forum (K Johnson)

## Section 1. Summary Tables

| FLORISTIC QUALITY DATA | | Native | | | Adventive | | |
|---|---|---|---|---|---|---|---|
| 37 NATIVE SPECIES | Tree | 0 | 0.0% | Tree | 4 | 5.6% |
| 72 Total Species | Shrub | 0 | 0.0% | Shrub | 1 | 1.4% |
| 2.3 NATIVE MEAN C | W-Vine | 1 | 1.4% | W-Vine | 0 | 0.0% |
| 1.2 W/Adventives | H-Vine | 0 | 0.0% | H-Vine | 0 | 0.0% |
| 14.0 NATIVE FQI | P-Forb | 16 | 22.2% | P-Forb | 7 | 9.7% |
| 10.0 W/Adventives | B-Forb | 2 | 2.8% | B-Forb | 8 | 11.1% |
| 1.2 NATIVE MEAN W | A-Forb | 6 | 8.3% | A-Forb | 9 | 12.5% |
| 2.0 W/Adventives | P-Grass | 10 | 13.9% | P-Grass | 2 | 2.8% |
| AVG: Faculative (-) | A-Grass | 1 | 1.4% | A-Grass | 4 | 5.6% |
| | P-Sedge | 1 | 1.4% | P-Sedge | 0 | 0.0% |
| | A-Sedge | 0 | 0.0% | A-Sedge | 0 | 0.0% |
| | Cryptogam | 0 | 0.0% | | | |

## Section 2. Species Inventory

| ACRONYM | C | SCIENTIFIC NAME | W | WETNESS | PHYSIOGNOMY | COMMON NAME |
|---|---|---|---|---|---|---|
| ACARHO | 0 | Acalypha rhomboidea | 3 | FACU | Nt A-Forb | THREE-SEEDED MERCURY |
| AGRREP | 0 | AGROPYRON REPENS | 3 | FACU | Ad P-Grass | QUACK GRASS |
| AILALT | 0 | AILANTHUS ALTISSIMA | 5 | UPL | Ad Tree | TREE OF HEAVEN |
| ALLPET | 0 | ALLIARIA PETIOLATA | 0 | FAC | Ad B-Forb | GARLIC MUSTARD |
| AMAALB | 0 | AMARANTHUS ALBUS | 3 | FACU | Ad A-Forb | TUMBLEWEED |
| AMARET | 0 | AMARANTHUS RETROFLEXUS | 2 | FACU+ | Ad A-Forb | ROUGH AMARANTH |
| AMBARE | 0 | Ambrosia artemisiifolia elatior | 3 | FACU | Nt A-Forb | COMMON RAGWEED |
| AMBTRI | 0 | Ambrosia trifida | -1 | FAC+ | Nt A-Forb | GIANT RAGWEED |
| ANDGER | 5 | Andropogon gerardii | 1 | FAC- | Nt P-Grass | BIG BLUESTEM GRASS |
| ANDSCO | 5 | Andropogon scoparius | 4 | FACU- | Nt P-Grass | LITTLE BLUESTEM GRASS |
| ARCMIN | 0 | ARCTIUM MINUS | 5 | UPL | Ad B-Forb | COMMON BURDOCK |
| ARTVUL | 0 | ARTEMISIA VULGARIS | 5 | UPL | Ad P-Forb | MUGWORT |
| ASTERI | 5 | Aster ericoides | 4 | FACU- | Nt P-Forb | HEATH ASTER |
| ASTNOV | 4 | Aster novae-angliae | -3 | FACW | Nt P-Forb | NEW ENGLAND ASTER |
| ASTPIL | 0 | Aster pilosus | 2 | FACU+ | Nt P-Forb | HAIRY ASTER |
| ATRPAT | 0 | ATRIPLEX PATULA | -2 | FACW- | Ad A-Forb | COMMON ORACH |
| BOUCUR | 8 | Bouteloua curtipendula | 5 | UPL | Nt P-Grass | SIDE-OATS GRAMA |
| BRANIG | 0 | BRASSICA NIGRA | 5 | UPL | Ad A-Forb | BLACK MUSTARD |
| CARNUT | 0 | CARDUUS NUTANS | 5 | UPL | Ad B-Forb | MUSK THISTLE |
| CHEALB | 0 | CHENOPODIUM ALBUM | 1 | FAC- | Ad A-Forb | LAMB'S QUARTERS |
| CIRARV | 0 | CIRSIUM ARVENSE | 5 | UPL | Ad P-Forb | FIELD THISTLE |
| CORLAN | 5 | Coreopsis lanceolata | 3 | FACU | Nt P-Forb | SAND COREOPSIS |
| CORVAR | 0 | CORONILLA VARIA | 5 | UPL | Ad P-Forb | CROWN VETCH |
| CYPESC | 0 | Cyperus esculentus | -1 | [FAC+] | Nt P-Sedge | FIELD NUT SEDGE |
| DAUCAR | 0 | DAUCUS CAROTA | 5 | UPL | Ad B-Forb | QUEEN ANNE'S LACE |
| DIGSAS | 0 | DIGITARIA SANGUINALIS | 3 | FACU | Ad A-Grass | HAIRY CRAB GRASS |
| DIPLAC | 0 | DIPSACUS LACINIATUS | 5 | UPL | Ad B-Forb | CUT-LEAVED TEASEL |
| ECHPUR | 3 | Echinacea purpurea | 5 | UPL | Nt P-Forb | BROAD-LEAVED PURPLE CONEFLOWER |
| ECHCRU | 0 | Echinochloa crusgalli | -3 | FACW | Nt A-Grass | BARNYARD GRASS |
| ELYCAN | 4 | Elymus canadensis | 1 | FAC- | Nt P-Grass | CANADA WILD RYE |
| ELYVIR | 4 | Elymus virginicus | -2 | FACW- | Nt P-Grass | VIRGINIA WILD RYE |
| ERASPE | 3 | Eragrostis spectabilis | 5 | UPL | Nt P-Grass | PURPLE LOVE GRASS |
| ERIANS | 0 | Erigeron annuus | 1 | FAC- | Nt B-Forb | ANNUAL FLEABANE |
| ERICAN | 0 | Erigeron canadensis | 1 | FAC- | Nt A-Forb | HORSEWEED |
| EUPALT | 0 | Eupatorium altissimum | 3 | [FACU] | Nt P-Forb | TALL BONESET |
| EUPSEM | 0 | Eupatorium serotinum | -1 | FAC+ | Nt P-Forb | LATE BONESET |
| HELANN | 0 | HELIANTHUS ANNUUS | 1 | FAC- | Ad A-Forb | GARDEN SUNFLOWER |
| HELHEL | 5 | Heliopsis helianthoides | 5 | UPL | Nt P-Forb | FALSE SUNFLOWER |
| LACSER | 0 | LACTUCA SERRIOLA | 0 | FAC | Ad B-Forb | PRICKLY LETTUCE |
| LEOCAR | 0 | LEONURUS CARDIACA | 5 | UPL | Ad P-Forb | MOTHERWORT |
| MALNEG | 0 | MALVA NEGLECTA | 5 | UPL | Ad B-Forb | COMMON MALLOW |
| MONFIS | 4 | Monarda fistulosa | 3 | FACU | Nt P-Forb | WILD BERGAMOT |
| MORALB | 0 | MORUS ALBA | 0 | FAC | Ad Tree | WHITE MULBERRY |

| | | | | | | |
|---|---|---|---|---|---|---|
| MUHFRO | 3 | Muhlenbergia frondosa | -3 | FACW | Nt P-Grass | COMMON SATIN GRASS |
| MUHSCH | 0 | Muhlenbergia schreberi | 3 | [FACU] | Nt P-Grass | NIMBLEWILL |
| NEPCAT | 0 | NEPETA CATARIA | 1 | FAC- | Ad P-Forb | CATNIP |
| OENBIE | 0 | Oenothera biennis | 3 | FACU | Nt B-Forb | COMMON EVENING PRIMROSE |
| OXASTR | 0 | Oxalis stricta | 5 | UPL | Nt P-Forb | COMMON WOOD SORREL |
| PANVIR | 5 | Panicum virgatum | -1 | FAC+ | Nt P-Grass | SWITCH GRASS |
| PHYAME | 1 | Phytolacca americana | 1 | FAC- | Nt P-Forb | POKEWEED |
| POAPRA | 0 | POA PRATENSIS | 1 | FAC- | Ad P-Grass | KENTUCKY BLUE GRASS |
| POLCON | 0 | POLYGONUM CONVOLVULUS | 1 | FAC- | Ad A-Forb | BLACK BINDWEED |
| POLLAP | 0 | Polygonum lapathifolium | -4 | FACW+ | Nt A-Forb | HEARTSEASE |
| POLPEN | 0 | Polygonum pensylvanicum | -4 | FACW+ | Nt A-Forb | PINKWEED |
| POLPER | 0 | POLYGONUM PERSICARIA | 1 | [FAC-] | Ad A-Forb | LADY'S THUMB |
| PYCVIR | 5 | Pycnanthemum virginianum | -4 | FACW+ | Nt P-Forb | COMMON MOUNTAIN MINT |
| RATPIN | 4 | Ratibida pinnata | 5 | UPL | Nt P-Forb | YELLOW CONEFLOWER |
| RHACAT | 0 | RHAMNUS CATHARTICA | 3 | FACU | Ad Shrub | COMMON BUCKTHORN |
| ROBPSE | 0 | ROBINIA PSEUDOACACIA | 4 | FACU- | Ad Tree | BLACK LOCUST |
| RUDHIR | 1 | Rudbeckia hirta | 3 | FACU | Nt P-Forb | BLACK-EYED SUSAN |
| SETFAB | 0 | SETARIA FABERI | 2 | FACU+ | Ad A-Grass | GIANT FOXTAIL |
| SETGLA | 0 | SETARIA GLAUCA | 0 | FAC | Ad A-Grass | YELLOW FOXTAIL |
| SETVIV | 0 | SETARIA VIRIDIS | 1 | [FAC-] | Ad A-Grass | GREEN FOXTAIL |
| SOLALT | 1 | Solidago altissima | 3 | FACU | Nt P-Forb | TALL GOLDENROD |
| SOLGRN | 3 | Solidago graminifolia nuttallii | 0 | [FAC] | Nt P-Forb | HAIRY GRASS-LEAVED GOLDENROD |
| SOLSEM | 0 | SOLIDAGO SEMPERVIRENS | 3 | [FACU] | Ad P-Forb | SEASIDE GOLDENROD |
| SONOLE | 0 | SONCHUS OLERACEUS | 5 | [UPL] | Ad A-Forb | STORE-FRONT SOW THISTLE |
| SORNUT | 5 | Sorghastrum nutans | 2 | FACU+ | Nt P-Grass | INDIAN GRASS |
| TAROFF | 0 | TARAXACUM OFFICINALE | 3 | FACU | Ad P-Forb | COMMON DANDELION |
| ULMPUM | 0 | ULMUS PUMILA | 5 | UPL | Ad Tree | SIBERIAN ELM |
| VERTHA | 0 | VERBASCUM THAPSUS | 5 | UPL | Ad B-Forb | COMMON MULLEIN |
| VITRIP | 2 | Vitis riparia | -2 | FACW- | Nt W-Vine | RIVERBANK GRAPE |

# APPENDIX III

## TRANSECT SAMPLING & FLORISTIC QUALITY ASSESSMENT

The following is a summary of the transect data generated using Wilhelm and Masters' *Floristic Quality Assessment and Computer Applications*, 1999. Plant nomenclature follows Swink and Wilhelm's *Plants of the Chicago Region,* 1994. More information on floristic quality assessment methodology can be found in *Erigenia*, number 15, November, 1997. The results of each transect are presented in four sections as described below.

**Section 1** is a summary of the quadrat data for the transect. The data listed for each quadrat includes the mean coefficient of conservatism (MC), floristic quality index (FQI), and mean wetness (MW). These values are calculated once for native species only, and a second time including adventive species (W/Ad). Also presented for each quadrat are the number of native species (NS), and number of total species (TS). Shown below each of these columns are their values averaged per quadrat (AVG), and standard deviation (STD). The columns to the far right are sequential averages of the wetness coefficients ([(*x*+*n*+*y*)/3]), data that can be useful in the evaluation of plants along a slope or topographical catena.

**Section 2** is a summary these same values for the entire transect. First, there is a tabulation of the species in each conservatism category (0 to 10) and the percentage of species in three conservatism classes (0 to 3, 4 to 6, 7 to 10). The two columns below summarize the number and percent of species in each physiognomic group (A=annual, B=biennial, P=perennial, W=woody, H= herbaceous). Next, there is a summary of the relative importance values (RIV) of each physiognomic group. These values are calculated by summing the frequency (FRQ) and the cover class (COV) of each group found in the transect then dividing by two.

**Section 3** is a table that lists the relative importance values for each species found in the transect sampling, calculated in the same manner described above. Each scientific name is followed by its coefficient of conservatism and wetland indicator status.

**Section 4** is the transect inventory arranged alphabetically to scientific name. This is followed by a list of the quadrats along the transect string that includes the cover class value determined for each species recorded in the quadrat.

Site: **North Side NPL - Transect 1**
Locale: Skokie, IL
Date: September 22, 2006
By: Conservation Design Forum (K Johnson)

SECTION 1

TRANSECT DATA, QUADRAT

| QUAD | MC | W/Ad | FQI | W/Ad | MW | W/Ad | NS | TS | MW SEQ | W/Ad |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3.5 | 3.0 | 8.6 | 7.9 | 2.2 | 2.0 | 6 | 7 | 1.9 | 1.9 |
| 2 | 2.0 | 1.4 | 5.3 | 4.4 | 1.7 | 1.9 | 7 | 10 | 2.0 | 2.2 |
| 3 | 0.3 | 0.1 | 0.6 | 0.4 | 2.0 | 2.8 | 3 | 8 | 1.7 | 2.2 |
| 4 | 3.0 | 1.7 | 6.0 | 4.5 | 1.3 | 2.0 | 4 | 7 | 1.7 | 2.4 |
| 5 | 3.3 | 2.6 | 6.5 | 5.8 | 2.0 | 2.6 | 4 | 5 | 1.9 | 2.5 |
| 6 | 0.5 | 0.2 | 0.7 | 0.4 | 2.5 | 2.8 | 2 | 5 | 2.4 | 2.8 |
| 7 | 3.2 | 2.3 | 7.2 | 6.0 | 2.8 | 2.9 | 5 | 7 | 2.5 | 2.8 |
| 8 | 2.0 | 1.7 | 4.5 | 4.1 | 2.2 | 2.7 | 5 | 6 | 2.3 | 2.7 |
| 9 | 2.5 | 0.6 | 3.5 | 1.8 | 2.0 | 2.5 | 2 | 8 | 2.0 | 2.3 |
| 10 | 2.3 | 2.0 | 5.7 | 5.3 | 1.8 | 1.7 | 6 | 7 | 1.9 | 2.1 |
| AVG | 2.3 | 1.6 | 4.9 | 4.1 | 2.0 | 2.4 | 4.4 | 7.0 | | |
| STD | 1.1 | 1.0 | 2.6 | 2.5 | 0.4 | 0.4 | 1.7 | 1.5 | | |

SECTION 2

| C | NUMBER | |
|---|---|---|
| 0 | 6 | |
| 1 | 2 | |
| 2 | 0 | 0 to 3 |
| 3 | 1 | 50.0% |
| 4 | 4 | |
| 5 | 4 | |
| 6 | 0 | 4 to 7 |
| 7 | 0 | 44.4% |
| 8 | 1 | |
| 9 | 0 | 8 to 10 |
| 10 | 0 | 5.6% |

| | |
|---|---|
| 18 | NATIVE SPECIES |
| 28 | TOTAL SPECIES |
| 2.7 | NATIVE MEAN C |
| 1.8 | W/Adventives |
| 11.5 | NATIVE FQI |
| 9.3 | W/Adventives |
| 2.0 | NATIVE MEAN W |
| 2.4 | W/Adventives |

| | | | | | |
|---|---|---|---|---|---|
| Native | 18 | 64.3% | Adventive | 10 | 35.7% |
| Tree | 0 | 0.0% | Tree | 0 | 0.0% |
| Shrub | 0 | 0.0% | Shrub | 0 | 0.0% |
| W-Vine | 0 | 0.0% | W-Vine | 0 | 0.0% |
| H-Vine | 0 | 0.0% | H-Vine | 0 | 0.0% |
| P-Forb | 9 | 32.1% | P-Forb | 3 | 10.7% |
| B-Forb | 1 | 3.6% | B-Forb | 2 | 7.1% |
| A-Forb | 3 | 10.7% | A-Forb | 3 | 10.7% |
| P-Grass | 5 | 17.9% | P-Grass | 2 | 7.1% |
| A-Grass | 0 | 0.0% | A-Grass | 0 | 0.0% |
| P-Sedge | 0 | 0.0% | P-Sedge | 0 | 0.0% |
| A-Sedge | 0 | 0.0% | A-Sedge | 0 | 0.0% |
| Cryptogam | 0 | 0.0% | | | |

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

| PHYSIOGNOMY | FRQ | COV | RFRQ | RCOV | RIV |
|---|---|---|---|---|---|
| Nt P-Forb | 29 | 48 | 41.4 | 47.5 | 44.5 |
| Ad P-Grass | 10 | 14 | 14.3 | 13.9 | 14.1 |
| Nt P-Grass | 9 | 14 | 12.9 | 13.9 | 13.4 |
| Ad P-Forb | 9 | 9 | 12.9 | 8.9 | 10.9 |
| Nt A-Forb | 5 | 7 | 7.1 | 6.9 | 7.0 |
| Ad A-Forb | 5 | 6 | 7.1 | 5.9 | 6.5 |
| Ad B-Forb | 2 | 2 | 2.9 | 2.0 | 2.4 |
| Nt B-Forb | 1 | 1 | 1.4 | 1.0 | 1.2 |

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

| SCIENTIFIC NAME | C | WETNESS | FRQ | COV | RFRQ | RCOV | RIV |
|---|---|---|---|---|---|---|---|
| Aster pilosus | 0 | FACU+ | 8 | 15 | 11.4 | 14.9 | 13.1 |
| POA PRATENSIS | 0 | FAC- | 8 | 12 | 11.4 | 11.9 | 11.7 |
| Ratibida pinnata | 4 | UPL | 6 | 13 | 8.6 | 12.9 | 10.7 |
| CIRSIUM ARVENSE | 0 | UPL | 6 | 6 | 8.6 | 5.9 | 7.3 |
| Rudbeckia hirta | 1 | FACU | 4 | 4 | 5.7 | 4.0 | 4.8 |
| Andropogon gerardii | 5 | FAC- | 3 | 5 | 4.3 | 5.0 | 4.6 |
| Erigeron canadensis | 0 | FAC- | 3 | 5 | 4.3 | 5.0 | 4.6 |
| Aster novae-angliae | 4 | FACW | 3 | 4 | 4.3 | 4.0 | 4.1 |
| Elymus canadensis | 4 | FAC- | 3 | 4 | 4.3 | 4.0 | 4.1 |
| Eupatorium serotinum | 0 | FAC+ | 2 | 4 | 2.9 | 4.0 | 3.4 |
| SONCHUS OLERACEUS | 0 | [UPL] | 2 | 3 | 2.9 | 3.0 | 2.9 |
| AGROPYRON REPENS | 0 | FACU | 2 | 2 | 2.9 | 2.0 | 2.4 |
| Coreopsis lanceolata | 5 | FACU | 2 | 2 | 2.9 | 2.0 | 2.4 |
| Monarda fistulosa | 4 | FACU | 2 | 2 | 2.9 | 2.0 | 2.4 |
| POLYGONUM AVICULARE | 0 | FAC- | 2 | 2 | 2.9 | 2.0 | 2.4 |
| TARAXACUM OFFICINALE | 0 | FACU | 2 | 2 | 2.9 | 2.0 | 2.4 |
| Bouteloua curtipendula | 8 | UPL | 1 | 2 | 1.4 | 2.0 | 1.7 |
| Echinacea purpurea | 3 | UPL | 1 | 2 | 1.4 | 2.0 | 1.7 |
| Solidago altissima | 1 | FACU | 1 | 2 | 1.4 | 2.0 | 1.7 |
| Sorghastrum nutans | 5 | FACU+ | 1 | 2 | 1.4 | 2.0 | 1.7 |
| Acalypha rhomboidea | 0 | FACU | 1 | 1 | 1.4 | 1.0 | 1.2 |
| Ambrosia artemisiifolia elatior | 0 | FACU | 1 | 1 | 1.4 | 1.0 | 1.2 |
| CIRSIUM VULGARE | 0 | FACU- | 1 | 1 | 1.4 | 1.0 | 1.2 |
| DAUCUS CAROTA | 0 | UPL | 1 | 1 | 1.4 | 1.0 | 1.2 |
| Erigeron annuus | 0 | FAC- | 1 | 1 | 1.4 | 1.0 | 1.2 |
| HIBISCUS TRIONUM | 0 | UPL | 1 | 1 | 1.4 | 1.0 | 1.2 |
| Panicum virgatum | 5 | FAC+ | 1 | 1 | 1.4 | 1.0 | 1.2 |
| RUMEX CRISPUS | 0 | FAC+ | 1 | 1 | 1.4 | 1.0 | 1.2 |
| | | | 70 | 101 | | | |

SECTION 4

| ACRONYM | C | SCIENTIFIC NAME | W | WETNESS | PHYSIOGNOMY | COMMON NAME |
|---|---|---|---|---|---|---|
| ACARHO | 0 | Acalypha rhomboidea | 3 | FACU | Nt A-Forb | THREE-SEEDED MERCURY |
| AGRREP | 0 | AGROPYRON REPENS | 3 | FACU | Ad P-Grass | QUACK GRASS |
| AMBARE | 0 | Ambrosia artemisiifolia elatior | 3 | FACU | Nt A-Forb | COMMON RAGWEED |
| ANDGER | 5 | Andropogon gerardii | 1 | FAC- | Nt P-Grass | BIG BLUESTEM GRASS |
| ASTNOV | 4 | Aster novae-angliae | -3 | FACW | Nt P-Forb | NEW ENGLAND ASTER |
| ASTPIL | 0 | Aster pilosus | 2 | FACU+ | Nt P-Forb | HAIRY ASTER |
| BOUCUR | 8 | Bouteloua curtipendula | 5 | UPL | Nt P-Grass | SIDE-OATS GRAMA |
| CIRARV | 0 | CIRSIUM ARVENSE | 5 | UPL | Ad P-Forb | FIELD THISTLE |
| CIRVUL | 0 | CIRSIUM VULGARE | 4 | FACU- | Ad B-Forb | BULL THISTLE |
| CORLAN | 5 | Coreopsis lanceolata | 3 | FACU | Nt P-Forb | SAND COREOPSIS |
| DAUCAR | 0 | DAUCUS CAROTA | 5 | UPL | Ad B-Forb | QUEEN ANNE'S LACE |
| ECHPUR | 3 | Echinacea purpurea | 5 | UPL | Nt P-Forb | BROAD-LEAVED PURPLE CONEFLOWER |
| ELYCAN | 4 | Elymus canadensis | 1 | FAC- | Nt P-Grass | CANADA WILD RYE |
| ERIANS | 0 | Erigeron annuus | 1 | FAC- | Nt B-Forb | ANNUAL FLEABANE |

| | | | | | | |
|---|---|---|---|---|---|---|
| ERICAN | 0 | Erigeron canadensis | 1 | FAC- | Nt A-Forb | HORSEWEED |
| EUPSEM | 0 | Eupatorium serotinum | -1 | FAC+ | Nt P-Forb | LATE BONESET |
| HIBTRI | 0 | HIBISCUS TRIONUM | 5 | UPL | Ad A-Forb | FLOWER-OF-AN-HOUR |
| MONFIS | 4 | Monarda fistulosa | 3 | FACU | Nt P-Forb | WILD BERGAMOT |
| PANVIR | 5 | Panicum virgatum | -1 | FAC+ | Nt P-Grass | SWITCH GRASS |
| POAPRA | 0 | POA PRATENSIS | 1 | FAC- | Ad P-Grass | KENTUCKY BLUE GRASS |
| POLAVI | 0 | POLYGONUM AVICULARE | 1 | FAC- | Ad A-Forb | COMMON KNOTWEED |
| RATPIN | 4 | Ratibida pinnata | 5 | UPL | Nt P-Forb | YELLOW CONEFLOWER |
| RUDHIR | 1 | Rudbeckia hirta | 3 | FACU | Nt P-Forb | BLACK-EYED SUSAN |
| RUMCRI | 0 | RUMEX CRISPUS | -1 | FAC+ | Ad P-Forb | CURLY DOCK |
| SOLALT | 1 | Solidago altissima | 3 | FACU | Nt P-Forb | TALL GOLDENROD |
| SONOLE | 0 | SONCHUS OLERACEUS | 5 | [UPL] | Ad A-Forb | STORE-FRONT SOW THISTLE |
| SORNUT | 5 | Sorghastrum nutans | 2 | FACU+ | Nt P-Grass | INDIAN GRASS |
| TAROFF | 0 | TARAXACUM OFFICINALE | 3 | FACU | Ad P-Forb | COMMON DANDELION |

TRANSECT STRING

>

| QUAD | 1 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 2 |
| ASTPIL | 1 |
| BOUCUR | 2 |
| CORLAN | 1 |
| ERICAN | 2 |
| POAPRA | 1 |
| RATPIN | 3 |

>

| QUAD | 2 |
|---|---|
| ACRONYM | COVER |
| ACARHO | 1 |
| ASTPIL | 2 |
| ELYCAN | 1 |
| ERICAN | 2 |
| HIBTRI | 1 |
| MONFIS | 1 |
| PANVIR | 1 |
| POAPRA | 1 |
| POLAVI | 1 |
| RUDHIR | 1 |

>

| QUAD | 3 |
|---|---|
| ACRONYM | COVER |
| AGRREP | 1 |
| ASTPIL | 1 |
| CIRARV | 1 |
| CIRVUL | 1 |
| ERICAN | 1 |
| POAPRA | 3 |
| RUDHIR | 1 |

TAROFF 1

>

| QUAD | 4 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 1 |
| ASTPIL | 1 |
| ELYCAN | 1 |
| POAPRA | 2 |
| RATPIN | 2 |
| SONOLE | 1 |
| TAROFF | 1 |

>

| QUAD | 5 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 1 |
| CIRARV | 1 |
| MONFIS | 1 |
| RATPIN | 4 |
| RUDHIR | 1 |

>

| QUAD | 6 |
|---|---|
| ACRONYM | COVER |
| AGRREP | 1 |
| ASTPIL | 3 |
| CIRARV | 1 |
| POAPRA | 1 |
| SOLALT | 2 |

>

| QUAD | 7 |
|---|---|
| ACRONYM | COVER |
| ANDGER | 1 |
| ASTPIL | 2 |
| CIRARV | 1 |
| ECHPUR | 2 |
| ELYCAN | 2 |
| POAPRA | 2 |
| RATPIN | 2 |

>

| QUAD | 8 |
|---|---|
| ACRONYM | COVER |
| ASTPIL | 2 |
| CIRARV | 1 |
| EUPSEM | 2 |
| RATPIN | 1 |
| RUDHIR | 1 |
| SORNUT | 2 |

>

| QUAD | 9 |
|---|---|
| ACRONYM | COVER |
| AMBARE | 1 |
| ANDGER | 2 |
| CIRARV | 1 |
| DAUCAR | 1 |
| POAPRA | 1 |
| POLAVI | 1 |
| RUMCRI | 1 |
| SONOLE | 2 |

>

| QUAD | 10 |
|---|---|
| ACRONYM | COVER |
| ANDGER | 2 |
| ASTPIL | 3 |
| CORLAN | 1 |
| ERIANS | 1 |
| EUPSEM | 2 |
| POAPRA | 1 |
| RATPIN | 1 |

Site: **North Side NPL – Transect 2**
Locale: Skokie, IL
Date: September 22, 2006
By: Conservation Design Forum (K Johnson)

SECTION 1

TRANSECT DATA, QUADRAT

| QUAD | MC | W/Ad | FQI | W/Ad | MW | W/Ad | NS | TS | MW SEQ | W/Ad |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.9 | 2.2 | 7.6 | 6.7 | 2.1 | 2.1 | 7 | 9 | 2.4 | 2.3 |
| 2 | 2.3 | 1.5 | 4.5 | 3.7 | 2.8 | 2.5 | 4 | 6 | 1.8 | 1.9 |
| 3 | 2.4 | 1.7 | 5.4 | 4.5 | 0.6 | 1.0 | 5 | 7 | 1.6 | 1.8 |
| 4 | 2.2 | 1.6 | 5.3 | 4.6 | 1.5 | 1.9 | 6 | 8 | 1.7 | 2.1 |
| 5 | 1.0 | 0.3 | 1.0 | 0.5 | 3.0 | 3.5 | 1 | 4 | 2.5 | 2.7 |
| 6 | 2.7 | 1.6 | 4.6 | 3.6 | 3.0 | 2.6 | 3 | 5 | 3.0 | 2.8 |
| 7 | 1.0 | 0.3 | 1.0 | 0.6 | 3.0 | 2.3 | 1 | 3 | 2.1 | 2.0 |
| 8 | 4.0 | 2.4 | 6.9 | 5.4 | 0.3 | 1.0 | 3 | 5 | 1.8 | 1.8 |
| 9 | 3.6 | 3.6 | 8.0 | 8.0 | 2.2 | 2.2 | 5 | 5 | 1.7 | 1.9 |
| 10 | 3.4 | 2.4 | 7.6 | 6.4 | 2.6 | 2.6 | 5 | 7 | 2.4 | 2.4 |
| AVG | 2.5 | 1.8 | 5.2 | 4.4 | 2.1 | 2.2 | 4.0 | 5.9 | | |
| STD | 1.0 | 1.0 | 2.6 | 2.5 | 1.0 | 0.8 | 2.0 | 1.9 | | |

SECTION 2

| C | NUMBER | |
|---|---|---|
| 0 | 3 | |
| 1 | 1 | |
| 2 | 0 | 0 to 3 |
| 3 | 2 | 50.0% |
| 4 | 4 | |
| 5 | 2 | |
| 6 | 0 | 4 to 7 |
| 7 | 0 | 50.0% |
| 8 | 0 | |
| 9 | 0 | 8 to 10 |
| 10 | 0 | 0.0% |

| | |
|---|---|
| 12 | NATIVE SPECIES |
| 20 | TOTAL SPECIES |
| 2.8 | NATIVE MEAN C |
| 1.7 | W/Adventives |
| 9.5 | NATIVE FQI |
| 7.4 | W/Adventives |
| 2.2 | NATIVE MEAN W |
| 2.5 | W/Adventives |

| | | | | | |
|---|---|---|---|---|---|
| Native | 12 | 60.0% | Adventive | 8 | 40.0% |
| Tree | 0 | 0.0% | Tree | 0 | 0.0% |
| Shrub | 0 | 0.0% | Shrub | 0 | 0.0% |
| W-Vine | 0 | 0.0% | W-Vine | 0 | 0.0% |
| H-Vine | 0 | 0.0% | H-Vine | 0 | 0.0% |
| P-Forb | 8 | 40.0% | P-Forb | 2 | 10.0% |
| B-Forb | 1 | 5.0% | B-Forb | 1 | 5.0% |
| A-Forb | 1 | 5.0% | A-Forb | 0 | 0.0% |
| P-Grass | 2 | 10.0% | P-Grass | 4 | 20.0% |
| A-Grass | 0 | 0.0% | A-Grass | 1 | 5.0% |
| P-Sedge | 0 | 0.0% | P-Sedge | 0 | 0.0% |
| A-Sedge | 0 | 0.0% | A-Sedge | 0 | 0.0% |
| Cryptogam | 0 | 0.0% | | | |

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

| PHYSIOGNOMY | FRQ | COV | RFRQ | RCOV | RIV |
|---|---|---|---|---|---|
| Nt P-Forb | 28 | 45 | 47.5 | 42.5 | 45.0 |
| Ad P-Grass | 14 | 39 | 23.7 | 36.8 | 30.3 |
| Nt P-Grass | 9 | 14 | 15.3 | 13.2 | 14.2 |
| Ad B-Forb | 2 | 2 | 3.4 | 1.9 | 2.6 |
| Nt B-Forb | 2 | 2 | 3.4 | 1.9 | 2.6 |
| Ad P-Forb | 2 | 2 | 3.4 | 1.9 | 2.6 |
| Ad A-Grass | 1 | 1 | 1.7 | 0.9 | 1.3 |
| Nt A-Forb | 1 | 1 | 1.7 | 0.9 | 1.3 |

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

| SCIENTIFIC NAME | C | WETNESS | FRQ | COV | RFRQ | RCOV | RIV |
|---|---|---|---|---|---|---|---|
| POA PRATENSIS | 0 | FAC- | 8 | 26 | 13.6 | 24.5 | 19.0 |
| Solidago altissima | 1 | FACU | 8 | 18 | 13.6 | 17.0 | 15.3 |
| Elymus canadensis | 4 | FAC- | 8 | 12 | 13.6 | 11.3 | 12.4 |
| Aster novae-angliae | 4 | FACW | 5 | 7 | 8.5 | 6.6 | 7.5 |
| Ratibida pinnata | 4 | UPL | 5 | 7 | 8.5 | 6.6 | 7.5 |
| AGROPYRON REPENS | 0 | FACU | 3 | 8 | 5.1 | 7.5 | 6.3 |
| Monarda fistulosa | 4 | FACU | 3 | 5 | 5.1 | 4.7 | 4.9 |
| Aster pilosus | 0 | FACU+ | 3 | 3 | 5.1 | 2.8 | 4.0 |
| DACTYLIS GLOMERATA | 0 | FACU | 2 | 3 | 3.4 | 2.8 | 3.1 |
| DAUCUS CAROTA | 0 | UPL | 2 | 2 | 3.4 | 1.9 | 2.6 |
| Echinacea purpurea | 3 | UPL | 2 | 2 | 3.4 | 1.9 | 2.6 |
| Erigeron annuus | 0 | FAC- | 2 | 2 | 3.4 | 1.9 | 2.6 |
| Andropogon gerardii | 5 | FAC- | 1 | 2 | 1.7 | 1.9 | 1.8 |
| PHLEUM PRATENSE | 0 | FACU | 1 | 2 | 1.7 | 1.9 | 1.8 |
| Solidago graminifolia nuttallii | 3 | [FAC] | 1 | 2 | 1.7 | 1.9 | 1.8 |
| Ambrosia artemisiifolia elatior | 0 | FACU | 1 | 1 | 1.7 | 0.9 | 1.3 |
| CIRSIUM ARVENSE | 0 | UPL | 1 | 1 | 1.7 | 0.9 | 1.3 |
| CONVOLVULUS ARVENSIS | 0 | UPL | 1 | 1 | 1.7 | 0.9 | 1.3 |
| Heliopsis helianthoides | 5 | UPL | 1 | 1 | 1.7 | 0.9 | 1.3 |
| SETARIA GLAUCA | 0 | FAC | 1 | 1 | 1.7 | 0.9 | 1.3 |
| | | | 59 | 106 | | | |

SECTION 4

| ACRONYM | C | SCIENTIFIC NAME | W | WETNESS | PHYSIOGNOMY | COMMON NAME |
|---|---|---|---|---|---|---|
| AGRREP | 0 | AGROPYRON REPENS | 3 | FACU | Ad P-Grass | QUACK GRASS |
| AMBARE | 0 | Ambrosia artemisiifolia elatior | 3 | FACU | Nt A-Forb | COMMON RAGWEED |
| ANDGER | 5 | Andropogon gerardii | 1 | FAC- | Nt P-Grass | BIG BLUESTEM GRASS |
| ASTNOV | 4 | Aster novae-angliae | -3 | FACW | Nt P-Forb | NEW ENGLAND ASTER |
| ASTPIL | 0 | Aster pilosus | 2 | FACU+ | Nt P-Forb | HAIRY ASTER |
| CIRARV | 0 | CIRSIUM ARVENSE | 5 | UPL | Ad P-Forb | FIELD THISTLE |
| CONARV | 0 | CONVOLVULUS ARVENSIS | 5 | UPL | Ad P-Forb | FIELD BINDWEED |
| DACGLO | 0 | DACTYLIS GLOMERATA | 3 | FACU | Ad P-Grass | ORCHARD GRASS |
| DAUCAR | 0 | DAUCUS CAROTA | 5 | UPL | Ad B-Forb | QUEEN ANNE'S LACE |
| ECHPUR | 3 | Echinacea purpurea | 5 | UPL | Nt P-Forb | BROAD-LEAVED PURPLE CONEFLOWER |
| ELYCAN | 4 | Elymus canadensis | 1 | FAC- | Nt P-Grass | CANADA WILD RYE |
| ERIANS | 0 | Erigeron annuus | 1 | FAC- | Nt B-Forb | ANNUAL FLEABANE |
| HELHEL | 5 | Heliopsis helianthoides | 5 | UPL | Nt P-Forb | FALSE SUNFLOWER |
| MONFIS | 4 | Monarda fistulosa | 3 | FACU | Nt P-Forb | WILD BERGAMOT |
| PHLPRA | 0 | PHLEUM PRATENSE | 3 | FACU | Ad P-Grass | TIMOTHY |
| POAPRA | 0 | POA PRATENSIS | 1 | FAC- | Ad P-Grass | KENTUCKY BLUE GRASS |
| RATPIN | 4 | Ratibida pinnata | 5 | UPL | Nt P-Forb | YELLOW CONEFLOWER |
| SETGLA | 0 | SETARIA GLAUCA | 0 | FAC | Ad A-Grass | YELLOW FOXTAIL |
| SOLALT | 1 | Solidago altissima | 3 | FACU | Nt P-Forb | TALL GOLDENROD |
| SOLGRN | 3 | Solidago graminifolia nuttallii | 0 | [FAC] | Nt P-Forb | HAIRY GRASS-LEAVED GOLDENROD |

TRANSECT STRING

>

| QUAD | 1 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 1 |
| DACGLO | 1 |
| ECHPUR | 1 |
| ELYCAN | 1 |
| ERIANS | 1 |
| MONFIS | 1 |
| POAPRA | 3 |
| RATPIN | 1 |
| SOLALT | 3 |

>

| QUAD | 2 |
|---|---|
| ACRONYM | COVER |
| ASTPIL | 1 |
| ELYCAN | 1 |
| PHLPRA | 2 |
| POAPRA | 4 |
| RATPIN | 1 |
| SOLALT | 2 |

>

| QUAD | 3 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 1 |
| ASTPIL | 1 |
| DACGLO | 2 |
| ELYCAN | 1 |
| POAPRA | 4 |
| SOLALT | 2 |
| SOLGRN | 2 |

>

| QUAD | 4 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 1 |
| ASTPIL | 1 |
| DAUCAR | 1 |
| ELYCAN | 3 |
| ERIANS | 1 |
| POAPRA | 3 |
| RATPIN | 1 |
| SOLALT | 1 |

>

| QUAD | 5 |
|---|---|
| ACRONYM | COVER |
| CIRARV | 1 |
| CONARV | 1 |
| POAPRA | 4 |
| SOLALT | 3 |

>

| QUAD | 6 |
|---|---|
| ACRONYM | COVER |
| AGRREP | 4 |
| AMBARE | 1 |
| ELYCAN | 1 |
| POAPRA | 3 |
| RATPIN | 1 |

>

| QUAD | 7 |
|---|---|
| ACRONYM | COVER |
| AGRREP | 2 |
| POAPRA | 3 |
| SOLALT | 4 |

>

| QUAD | 8 |
|---|---|
| ACRONYM | COVER |
| AGRREP | 2 |
| ASTNOV | 2 |
| ELYCAN | 2 |
| MONFIS | 2 |
| POAPRA | 2 |

>

| QUAD | 9 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 2 |
| ELYCAN | 1 |
| HELHEL | 1 |
| RATPIN | 3 |
| SOLALT | 1 |

>

| QUAD | 10 |
|---|---|
| ACRONYM | COVER |
| ANDGER | 2 |
| DAUCAR | 1 |
| ECHPUR | 1 |
| ELYCAN | 2 |
| MONFIS | 2 |
| SETGLA | 1 |
| SOLALT | 2 |

\

Site: **Lemont NPL – Transect 1**
Locale: Lemont, IL
Date: September 21, 2006
By: Conservation Design Forum (K Johnson)

SECTION 1

TRANSECT DATA, QUADRAT

| QUAD | MC | W/Ad | FQI | W/Ad | MW | W/Ad | NS | TS | MW SEQ | W/Ad |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.5 | 1.0 | 3.5 | 2.2 | 4.0 | 2.6 | 2 | 5 | 3.0 | 2.3 |
| 2 | 4.3 | 4.3 | 8.5 | 8.5 | 2.0 | 2.0 | 4 | 4 | 2.8 | 2.3 |
| 3 | 4.3 | 3.4 | 8.5 | 7.6 | 2.5 | 2.2 | 4 | 5 | 2.2 | 2.2 |
| 4 | 4.2 | 3.0 | 9.4 | 7.9 | 2.2 | 2.3 | 5 | 7 | 2.2 | 2.4 |
| 5 | 3.5 | 2.8 | 7.0 | 6.3 | 2.0 | 2.6 | 4 | 5 | 2.4 | 2.8 |
| 6 | 2.5 | 2.0 | 5.0 | 4.5 | 3.0 | 3.4 | 4 | 5 | 2.4 | 2.7 |
| 7 | 3.8 | 3.8 | 8.5 | 8.5 | 2.2 | 2.2 | 5 | 5 | 2.4 | 2.7 |
| 8 | 2.8 | 2.0 | 6.3 | 5.3 | 2.0 | 2.6 | 5 | 7 | 2.2 | 2.3 |
| 9 | 3.0 | 2.3 | 5.2 | 4.5 | 2.3 | 2.0 | 3 | 4 | 1.9 | 2.0 |
| 10 | 4.3 | 4.3 | 8.5 | 8.5 | 1.5 | 1.5 | 4 | 4 | 1.9 | 1.7 |
| AVG | 3.5 | 2.9 | 7.0 | 6.4 | 2.4 | 2.3 | 4.0 | 5.1 | | |
| STD | 0.7 | 1.1 | 2.0 | 2.2 | 0.7 | 0.5 | 0.9 | 1.1 | | |

SECTION 2

| C | NUMBER | |
|---|---|---|
| 0 | 3 | |
| 1 | 1 | |
| 2 | 0 | 0 to 3 |
| 3 | 0 | 36.4% |
| 4 | 4 | |
| 5 | 3 | |
| 6 | 0 | 4 to 7 |
| 7 | 0 | 63.6% |
| 8 | 0 | |
| 9 | 0 | 8 to 10 |
| 10 | 0 | 0.0% |

| | |
|---|---|
| 11 | NATIVE SPECIES |
| 18 | TOTAL SPECIES |
| 2.9 | NATIVE MEAN C |
| 1.8 | W/Adventives |
| 9.6 | NATIVE FQI |
| 7.5 | W/Adventives |
| 1.8 | NATIVE MEAN W |
| 1.9 | W/Adventives |

| | | | | | |
|---|---|---|---|---|---|
| Native | 11 | 61.1% | Adventive | 7 | 38.9% |
| Tree | 0 | 0.0% | Tree | 0 | 0.0% |
| Shrub | 0 | 0.0% | Shrub | 0 | 0.0% |
| W-Vine | 0 | 0.0% | W-Vine | 0 | 0.0% |
| H-Vine | 0 | 0.0% | H-Vine | 0 | 0.0% |
| P-Forb | 7 | 38.9% | P-Forb | 1 | 5.6% |
| B-Forb | 0 | 0.0% | B-Forb | 1 | 5.6% |
| A-Forb | 2 | 11.1% | A-Forb | 3 | 16.7% |
| P-Grass | 2 | 11.1% | P-Grass | 2 | 11.1% |
| A-Grass | 0 | 0.0% | A-Grass | 0 | 0.0% |
| P-Sedge | 0 | 0.0% | P-Sedge | 0 | 0.0% |
| A-Sedge | 0 | 0.0% | A-Sedge | 0 | 0.0% |
| Cryptogam | 0 | 0.0% | | | |

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

| PHYSIOGNOMY | FRQ | COV | RFRQ | RCOV | RIV |
|---|---|---|---|---|---|
| Nt P-Forb | 31 | 49 | 60.8 | 64.5 | 62.6 |
| Nt P-Grass | 7 | 8 | 13.7 | 10.5 | 12.1 |
| Ad A-Forb | 4 | 8 | 7.8 | 10.5 | 9.2 |
| Ad P-Forb | 4 | 4 | 7.8 | 5.3 | 6.6 |
| Nt A-Forb | 2 | 4 | 3.9 | 5.3 | 4.6 |
| Ad P-Grass | 2 | 2 | 3.9 | 2.6 | 3.3 |
| Ad B-Forb | 1 | 1 | 2.0 | 1.3 | 1.6 |

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

| SCIENTIFIC NAME | C | WETNESS | FRQ | COV | RFRQ | RCOV | RIV |
|---|---|---|---|---|---|---|---|
| Monarda fistulosa | 4 | FACU | 8 | 16 | 15.7 | 21.1 | 18.4 |
| Heliopsis helianthoides | 5 | UPL | 8 | 12 | 15.7 | 15.8 | 15.7 |
| Elymus canadensis | 4 | FAC- | 6 | 7 | 11.8 | 9.2 | 10.5 |
| Aster novae-angliae | 4 | FACW | 5 | 8 | 9.8 | 10.5 | 10.2 |
| Solidago altissima | 1 | FACU | 5 | 7 | 9.8 | 9.2 | 9.5 |
| CIRSIUM ARVENSE | 0 | UPL | 4 | 4 | 7.8 | 5.3 | 6.6 |
| Ratibida pinnata | 4 | UPL | 3 | 3 | 5.9 | 3.9 | 4.9 |
| CHENOPODIUM ALBUM | 0 | FAC- | 2 | 3 | 3.9 | 3.9 | 3.9 |
| POLYGONUM CONVOLVULUS | 0 | FAC- | 1 | 4 | 2.0 | 5.3 | 3.6 |
| Erigeron canadensis | 0 | FAC- | 1 | 3 | 2.0 | 3.9 | 3.0 |
| Eupatorium serotinum | 0 | FAC+ | 1 | 2 | 2.0 | 2.6 | 2.3 |
| AGROPYRON REPENS | 0 | FACU | 1 | 1 | 2.0 | 1.3 | 1.6 |
| AMARANTHUS ALBUS | 0 | FACU | 1 | 1 | 2.0 | 1.3 | 1.6 |
| Ambrosia artemisiifolia elatior | 0 | FACU | 1 | 1 | 2.0 | 1.3 | 1.6 |
| Aster ericoides | 5 | FACU- | 1 | 1 | 2.0 | 1.3 | 1.6 |
| LACTUCA SERRIOLA | 0 | FAC | 1 | 1 | 2.0 | 1.3 | 1.6 |
| Panicum virgatum | 5 | FAC+ | 1 | 1 | 2.0 | 1.3 | 1.6 |
| POA PRATENSIS | 0 | FAC- | 1 | 1 | 2.0 | 1.3 | 1.6 |
| | | | 51 | 76 | | | |

SECTION 4

| ACRONYM | C | SCIENTIFIC NAME | W | WETNESS | PHYSIOGNOMY | COMMON NAME |
|---|---|---|---|---|---|---|
| AGRREP | 0 | AGROPYRON REPENS | 3 | FACU | Ad P-Grass | QUACK GRASS |
| AMAALB | 0 | AMARANTHUS ALBUS | 3 | FACU | Ad A-Forb | TUMBLEWEED |
| AMBARE | 0 | Ambrosia artemisiifolia elatior | 3 | FACU | Nt A-Forb | COMMON RAGWEED |
| ASTERI | 5 | Aster ericoides | 4 | FACU- | Nt P-Forb | HEATH ASTER |
| ASTNOV | 4 | Aster novae-angliae | -3 | FACW | Nt P-Forb | NEW ENGLAND ASTER |
| CHEALB | 0 | CHENOPODIUM ALBUM | 1 | FAC- | Ad A-Forb | LAMB'S QUARTERS |
| CIRARV | 0 | CIRSIUM ARVENSE | 5 | UPL | Ad P-Forb | FIELD THISTLE |
| ELYCAN | 4 | Elymus canadensis | 1 | FAC- | Nt P-Grass | CANADA WILD RYE |
| ERICAN | 0 | Erigeron canadensis | 1 | FAC- | Nt A-Forb | HORSEWEED |
| EUPSEM | 0 | Eupatorium serotinum | -1 | FAC+ | Nt P-Forb | LATE BONESET |
| HELHEL | 5 | Heliopsis helianthoides | 5 | UPL | Nt P-Forb | FALSE SUNFLOWER |
| LACSER | 0 | LACTUCA SERRIOLA | 0 | FAC | Ad B-Forb | PRICKLY LETTUCE |
| MONFIS | 4 | Monarda fistulosa | 3 | FACU | Nt P-Forb | WILD BERGAMOT |
| PANVIR | 5 | Panicum virgatum | -1 | FAC+ | Nt P-Grass | SWITCH GRASS |
| POAPRA | 0 | POA PRATENSIS | 1 | FAC- | Ad P-Grass | KENTUCKY BLUE GRASS |
| POLCON | 0 | POLYGONUM CONVOLVULUS | 1 | FAC- | Ad A-Forb | BLACK BINDWEED |
| RATPIN | 4 | Ratibida pinnata | 5 | UPL | Nt P-Forb | YELLOW CONEFLOWER |
| SOLALT | 1 | Solidago altissima | 3 | FACU | Nt P-Forb | TALL GOLDENROD |

TRANSECT STRING

>

| QUAD | 1 |
|---|---|
| ACRONYM | COVER |
| AMAALB | 1 |
| AMBARE | 1 |
| CHEALB | 1 |
| HELHEL | 1 |
| POLCON | 4 |

>

| QUAD | 2 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 1 |
| ELYCAN | 1 |
| HELHEL | 2 |
| RATPIN | 1 |

>

| QUAD | 3 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 1 |
| CHEALB | 2 |
| HELHEL | 3 |
| MONFIS | 1 |
| RATPIN | 1 |

>

| QUAD | 4 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 1 |
| CIRARV | 1 |
| ELYCAN | 1 |
| HELHEL | 2 |
| LACSER | 1 |
| MONFIS | 2 |
| RATPIN | 1 |

>

| QUAD | 5 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 1 |
| CIRARV | 1 |
| HELHEL | 1 |
| MONFIS | 2 |
| SOLALT | 2 |

>

| QUAD | 6 |
|---|---|
| ACRONYM | COVER |
| CIRARV | 1 |
| ERICAN | 3 |
| HELHEL | 1 |
| MONFIS | 3 |
| SOLALT | 1 |

>

| QUAD | 7 |
|---|---|
| ACRONYM | COVER |
| ELYCAN | 1 |
| HELHEL | 1 |
| MONFIS | 3 |
| PANVIR | 1 |
| SOLALT | 1 |

>

| QUAD | 8 |
|---|---|
| ACRONYM | COVER |
| AGRREP | 1 |
| ASTERI | 1 |
| CIRARV | 1 |
| ELYCAN | 1 |
| EUPSEM | 2 |
| MONFIS | 1 |
| SOLALT | 1 |

>

| QUAD | 9 |
|---|---|
| ACRONYM | COVER |
| ELYCAN | 2 |
| MONFIS | 3 |
| POAPRA | 1 |
| SOLALT | 2 |

>

| QUAD | 10 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 4 |
| ELYCAN | 1 |
| HELHEL | 1 |
| MONFIS | 1 |

Site: **Lemont NPL – Transect 2**
Locale: Lemont, IL
Date: September 21, 2006
By: Conservation Design Forum (K Johnson)

SECTION 1

TRANSECT DATA, QUADRAT

| QUAD | MC | W/Ad | FQI | W/Ad | MW | W/Ad | NS | TS | MW SEQ | W/Ad |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.3 | 1.8 | 4.0 | 3.5 | 1.3 | 1.3 | 3 | 4 | 1.9 | 1.8 |
| 2 | 2.5 | 1.7 | 5.0 | 4.1 | 2.5 | 2.3 | 4 | 6 | 1.8 | 1.7 |
| 3 | 4.0 | 2.7 | 8.0 | 6.5 | 1.5 | 1.7 | 4 | 6 | 2.3 | 2.2 |
| 4 | 2.0 | 1.4 | 4.5 | 3.8 | 2.8 | 2.6 | 5 | 7 | 2.3 | 2.3 |
| 5 | 2.9 | 2.9 | 8.1 | 8.1 | 2.6 | 2.6 | 8 | 8 | 2.1 | 2.3 |
| 6 | 2.8 | 1.8 | 5.5 | 4.5 | 1.0 | 1.7 | 4 | 6 | 2.7 | 2.5 |
| 7 | 2.3 | 1.2 | 4.0 | 2.9 | 4.3 | 3.3 | 3 | 6 | 1.9 | 1.8 |
| 8 | 3.3 | 1.7 | 5.8 | 4.1 | 0.3 | 0.5 | 3 | 6 | 2.6 | 2.2 |
| 9 | 3.6 | 2.6 | 8.0 | 6.8 | 3.0 | 2.7 | 5 | 7 | 1.7 | 1.5 |
| 10 | 3.3 | 2.0 | 5.8 | 4.5 | 1.7 | 1.2 | 3 | 5 | 2.3 | 2.0 |
| AVG | 2.9 | 2.0 | 5.9 | 4.9 | 2.1 | 2.0 | 4.2 | 6.1 | | |
| STD | 0.6 | 0.6 | 1.6 | 1.7 | 1.2 | 0.9 | 1.5 | 1.1 | | |

SECTION 2

| C | NUMBER | |
|---|---|---|
| 0 | 4 | |
| 1 | 1 | |
| 2 | 1 | 0 to 3 |
| 3 | 2 | 44.4% |
| 4 | 4 | |
| 5 | 6 | |
| 6 | 0 | 4 to 7 |
| 7 | 0 | 55.6% |
| 8 | 0 | |
| 9 | 0 | 8 to 10 |
| 10 | 0 | 0.0% |

| | |
|---|---|
| 18 | NATIVE SPECIES |
| 26 | TOTAL SPECIES |
| 3.1 | NATIVE MEAN C |
| 2.1 | W/Adventives |
| 13.0 | NATIVE FQI |
| 10.8 | W/Adventives |
| 1.9 | NATIVE MEAN W |
| 1.9 | W/Adventives |

| | | | | | |
|---|---|---|---|---|---|
| Native | 18 | 69.2% | Adventive | 8 | 30.8% |
| Tree | 0 | 0.0% | Tree | 0 | 0.0% |
| Shrub | 0 | 0.0% | Shrub | 1 | 3.8% |
| W-Vine | 1 | 3.8% | W-Vine | 0 | 0.0% |
| H-Vine | 0 | 0.0% | H-Vine | 0 | 0.0% |
| P-Forb | 10 | 38.5% | P-Forb | 3 | 11.5% |
| B-Forb | 0 | 0.0% | B-Forb | 0 | 0.0% |
| A-Forb | 1 | 3.8% | A-Forb | 2 | 7.7% |
| P-Grass | 5 | 19.2% | P-Grass | 1 | 3.8% |
| A-Grass | 1 | 3.8% | A-Grass | 1 | 3.8% |
| P-Sedge | 0 | 0.0% | P-Sedge | 0 | 0.0% |
| A-Sedge | 0 | 0.0% | A-Sedge | 0 | 0.0% |
| Cryptogam | 0 | 0.0% | | | |

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

| PHYSIOGNOMY | FRQ | COV | RFRQ | RCOV | RIV |
|---|---|---|---|---|---|
| Nt P-Forb | 31 | 52 | 50.8 | 58.4 | 54.6 |
| Nt P-Grass | 8 | 9 | 13.1 | 10.1 | 11.6 |
| Ad P-Forb | 7 | 7 | 11.5 | 7.9 | 9.7 |
| Ad P-Grass | 6 | 7 | 9.8 | 7.9 | 8.9 |
| Ad A-Forb | 4 | 8 | 6.6 | 9.0 | 7.8 |
| Nt A-Forb | 1 | 2 | 1.6 | 2.2 | 1.9 |
| Nt A-Grass | 1 | 1 | 1.6 | 1.1 | 1.4 |
| Ad A-Grass | 1 | 1 | 1.6 | 1.1 | 1.4 |
| Ad Shrub | 1 | 1 | 1.6 | 1.1 | 1.4 |
| Nt W-Vine | 1 | 1 | 1.6 | 1.1 | 1.4 |

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

| SCIENTIFIC NAME | C | WETNESS | FRQ | COV | RFRQ | RCOV | RIV |
|---|---|---|---|---|---|---|---|
| Solidago altissima | 1 | FACU | 9 | 20 | 14.8 | 22.5 | 18.6 |
| Monarda fistulosa | 4 | FACU | 6 | 11 | 9.8 | 12.4 | 11.1 |
| POA PRATENSIS | 0 | FAC- | 6 | 7 | 9.8 | 7.9 | 8.9 |
| TARAXACUM OFFICINALE | 0 | FACU | 4 | 4 | 6.6 | 4.5 | 5.5 |
| Aster novae-angliae | 4 | FACW | 3 | 4 | 4.9 | 4.5 | 4.7 |
| Elymus canadensis | 4 | FAC- | 3 | 4 | 4.9 | 4.5 | 4.7 |
| Ratibida pinnata | 4 | UPL | 3 | 3 | 4.9 | 3.4 | 4.1 |
| Aster pilosus | 0 | FACU+ | 2 | 4 | 3.3 | 4.5 | 3.9 |
| ATRIPLEX PATULA | 0 | FACW- | 2 | 4 | 3.3 | 4.5 | 3.9 |
| CHENOPODIUM ALBUM | 0 | FAC- | 2 | 4 | 3.3 | 4.5 | 3.9 |
| Andropogon gerardii | 5 | FAC- | 2 | 2 | 3.3 | 2.2 | 2.8 |
| CIRSIUM ARVENSE | 0 | UPL | 2 | 2 | 3.3 | 2.2 | 2.8 |
| Coreopsis lanceolata | 5 | FACU | 2 | 2 | 3.3 | 2.2 | 2.8 |
| Eupatorium altissimum | 0 | [FACU] | 2 | 2 | 3.3 | 2.2 | 2.8 |
| Heliopsis helianthoides | 5 | UPL | 2 | 2 | 3.3 | 2.2 | 2.8 |
| Aster ericoides | 5 | FACU- | 1 | 2 | 1.6 | 2.2 | 1.9 |
| Echinacea purpurea | 3 | UPL | 1 | 2 | 1.6 | 2.2 | 1.9 |
| Erigeron canadensis | 0 | FAC- | 1 | 2 | 1.6 | 2.2 | 1.9 |
| Echinochloa crusgalli | 0 | FACW | 1 | 1 | 1.6 | 1.1 | 1.4 |
| Eragrostis spectabilis | 3 | UPL | 1 | 1 | 1.6 | 1.1 | 1.4 |
| Panicum virgatum | 5 | FAC+ | 1 | 1 | 1.6 | 1.1 | 1.4 |
| RHAMNUS CATHARTICA | 0 | FACU | 1 | 1 | 1.6 | 1.1 | 1.4 |
| SETARIA VIRIDIS | 0 | [FAC-] | 1 | 1 | 1.6 | 1.1 | 1.4 |
| SOLIDAGO SEMPERVIRENS | 0 | [FACU] | 1 | 1 | 1.6 | 1.1 | 1.4 |
| Sorghastrum nutans | 5 | FACU+ | 1 | 1 | 1.6 | 1.1 | 1.4 |
| Vitis riparia | 2 | FACW- | 1 | 1 | 1.6 | 1.1 | 1.4 |
| | | | 61 | 89 | | | |

SECTION 4

| ACRONYM | C | SCIENTIFIC NAME | W | WETNESS | PHYSIOGNOMY | COMMON NAME |
|---|---|---|---|---|---|---|
| ANDGER | 5 | Andropogon gerardii | 1 | FAC- | Nt P-Grass | BIG BLUESTEM GRASS |
| ASTERI | 5 | Aster ericoides | 4 | FACU- | Nt P-Forb | HEATH ASTER |
| ASTNOV | 4 | Aster novae-angliae | -3 | FACW | Nt P-Forb | NEW ENGLAND ASTER |
| ASTPIL | 0 | Aster pilosus | 2 | FACU+ | Nt P-Forb | HAIRY ASTER |
| ATRPAT | 0 | ATRIPLEX PATULA | -2 | FACW- | Ad A-Forb | COMMON ORACH |
| CHEALB | 0 | CHENOPODIUM ALBUM | 1 | FAC- | Ad A-Forb | LAMB'S QUARTERS |
| CIRARV | 0 | CIRSIUM ARVENSE | 5 | UPL | Ad P-Forb | FIELD THISTLE |
| CORLAN | 5 | Coreopsis lanceolata | 3 | FACU | Nt P-Forb | SAND COREOPSIS |
| ECHPUR | 3 | Echinacea purpurea | 5 | UPL | Nt P-Forb | BROAD-LEAVED PURPLE CONEFLOWER |
| ECHCRU | 0 | Echinochloa crusgalli | -3 | FACW | Nt A-Grass | BARNYARD GRASS |
| ELYCAN | 4 | Elymus canadensis | 1 | FAC- | Nt P-Grass | CANADA WILD RYE |
| ERASPE | 3 | Eragrostis spectabilis | 5 | UPL | Nt P-Grass | PURPLE LOVE GRASS |
| ERICAN | 0 | Erigeron canadensis | 1 | FAC- | Nt A-Forb | HORSEWEED |

| | | | | | | |
|---|---|---|---|---|---|---|
| EUPALT | 0 | Eupatorium altissimum | 3 | [FACU] | Nt P-Forb | TALL BONESET |
| HELHEL | 5 | Heliopsis helianthoides | 5 | UPL | Nt P-Forb | FALSE SUNFLOWER |
| MONFIS | 4 | Monarda fistulosa | 3 | FACU | Nt P-Forb | WILD BERGAMOT |
| PANVIR | 5 | Panicum virgatum | -1 | FAC+ | Nt P-Grass | SWITCH GRASS |
| POAPRA | 0 | POA PRATENSIS | 1 | FAC- | Ad P-Grass | KENTUCKY BLUE GRASS |
| RATPIN | 4 | Ratibida pinnata | 5 | UPL | Nt P-Forb | YELLOW CONEFLOWER |
| RHACAT | 0 | RHAMNUS CATHARTICA | 3 | FACU | Ad Shrub | COMMON BUCKTHORN |
| SETVIV | 0 | SETARIA VIRIDIS | 1 | [FAC-] | Ad A-Grass | GREEN FOXTAIL |
| SOLALT | 1 | Solidago altissima | 3 | FACU | Nt P-Forb | TALL GOLDENROD |
| SOLSEM | 0 | SOLIDAGO SEMPERVIRENS | 3 | [FACU] | Ad P-Forb | SEASIDE GOLDENROD |
| SORNUT | 5 | Sorghastrum nutans | 2 | FACU+ | Nt P-Grass | INDIAN GRASS |
| TAROFF | 0 | TARAXACUM OFFICINALE | 3 | FACU | Ad P-Forb | COMMON DANDELION |
| VITRIP | 2 | Vitis riparia | -2 | FACW- | Nt W-Vine | RIVERBANK GRAPE |

TRANSECT STRING

>

| QUAD | 1 |
|---|---|
| ACRONYM | COVER |
| MONFIS | 2 |
| POAPRA | 1 |
| SOLALT | 3 |
| VITRIP | 1 |

>

| QUAD | 2 |
|---|---|
| ACRONYM | COVER |
| ASTPIL | 3 |
| MONFIS | 1 |
| POAPRA | 1 |
| RHACAT | 1 |
| SOLALT | 3 |
| SORNUT | 1 |

>

| QUAD | 3 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 2 |
| ELYCAN | 2 |
| MONFIS | 2 |
| POAPRA | 1 |
| RATPIN | 1 |
| SOLSEM | 1 |

>

| QUAD | 4 |
|---|---|
| ACRONYM | COVER |
| ASTERI | 2 |
| ERICAN | 2 |
| EUPALT | 1 |
| MONFIS | 2 |
| POAPRA | 1 |
| SOLALT | 2 |
| TAROFF | 1 |

>

| QUAD | 5 |
|---|---|
| ACRONYM | COVER |
| ASTPIL | 1 |
| ELYCAN | 1 |
| EUPALT | 1 |
| HELHEL | 1 |
| MONFIS | 3 |
| PANVIR | 1 |
| RATPIN | 1 |
| SOLALT | 1 |

>

| QUAD | 6 |
|---|---|
| ACRONYM | COVER |
| ANDGER | 1 |
| CIRARV | 1 |
| CORLAN | 1 |
| ECHCRU | 1 |
| POAPRA | 1 |
| SOLALT | 3 |

>

| QUAD | 7 |
|---|---|
| ACRONYM | COVER |
| CIRARV | 1 |
| ECHPUR | 2 |
| ERASPE | 1 |
| POAPRA | 2 |
| SETVIV | 1 |
| SOLALT | 2 |

>

| QUAD | 8 |
|---|---|
| ACRONYM | COVER |
| ANDGER | 1 |
| ASTNOV | 1 |
| ATRPAT | 1 |
| CHEALB | 3 |
| SOLALT | 1 |
| TAROFF | 1 |

>

| QUAD | 9 |
|---|---|
| ACRONYM | COVER |
| CHEALB | 1 |
| CORLAN | 1 |
| ELYCAN | 1 |
| MONFIS | 1 |
| RATPIN | 1 |
| SOLALT | 4 |
| TAROFF | 1 |

>

| QUAD | 10 |
|---|---|
| ACRONYM | COVER |
| ASTNOV | 1 |
| ATRPAT | 3 |
| HELHEL | 1 |
| SOLALT | 1 |
| TAROFF | 1 |

# APPENDIX IV

## SEEDED SPECIES RECRUITMENT

The two tables on the following pages represent an alphabetical list of the native species that were seeded as part of the NPL installation at the North Side WRP and Lemont WRP (installation was completed in April 2004). Each species is listed along with its C value (in parenthesis). If the species was recorded from the site during the 2006 monitoring event in September it is indicated with a "Y", and if not it is indicated with an "N"; the columns to the right summarize the RIV of each species if recorded during the transect sampling. And in addition, if a species was in the top 50% RIV for a transect it is indicated in **bold** typeface. For comparative purposes these same data from the previous two monitoring years are included.

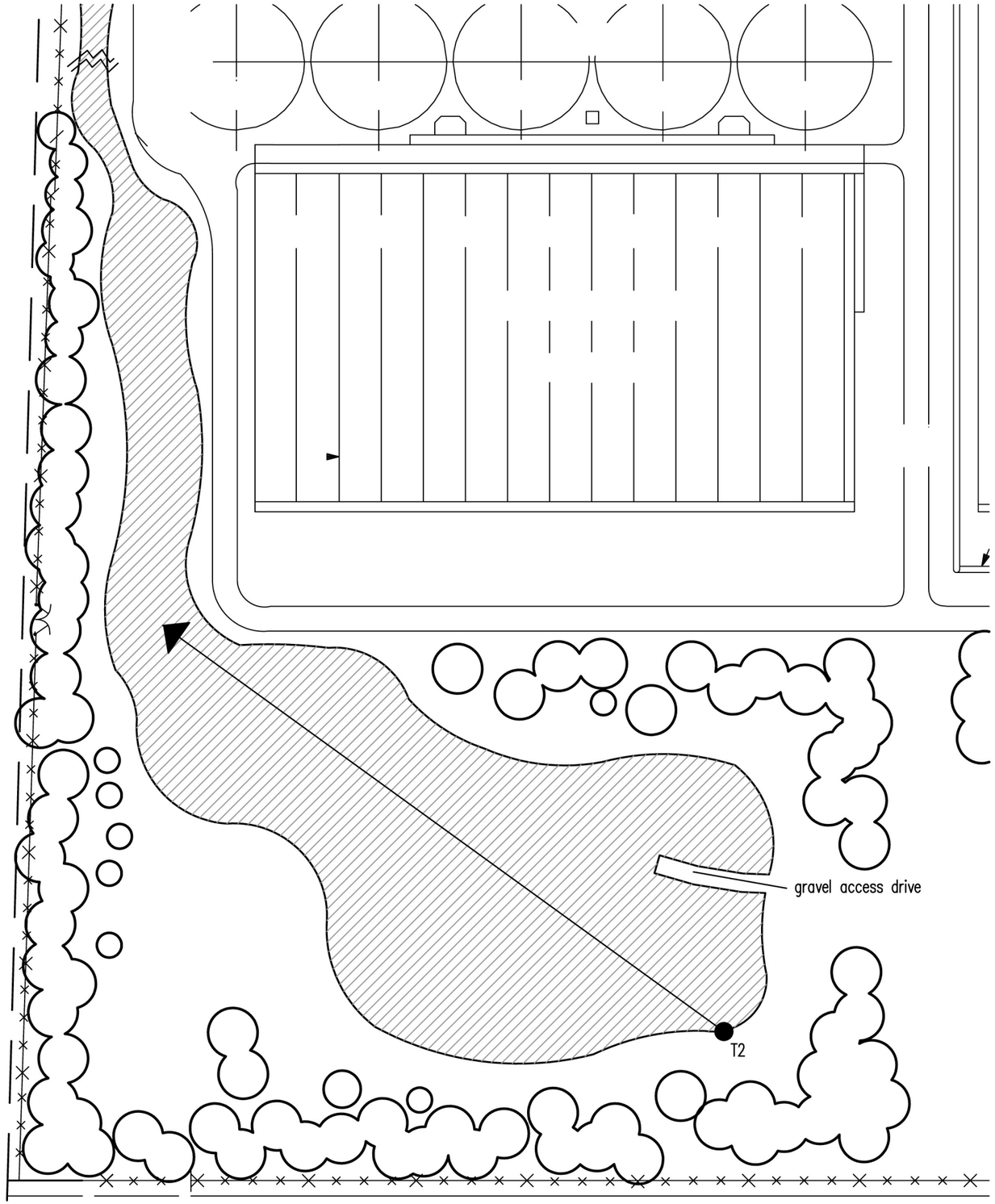
The North Side WRP prairie installation seed list is identical to that of Lemont WRP; six (6) common prairie grasses and seventeen (17) common prairie forbs were seeded at these two sites. See the report for more information.

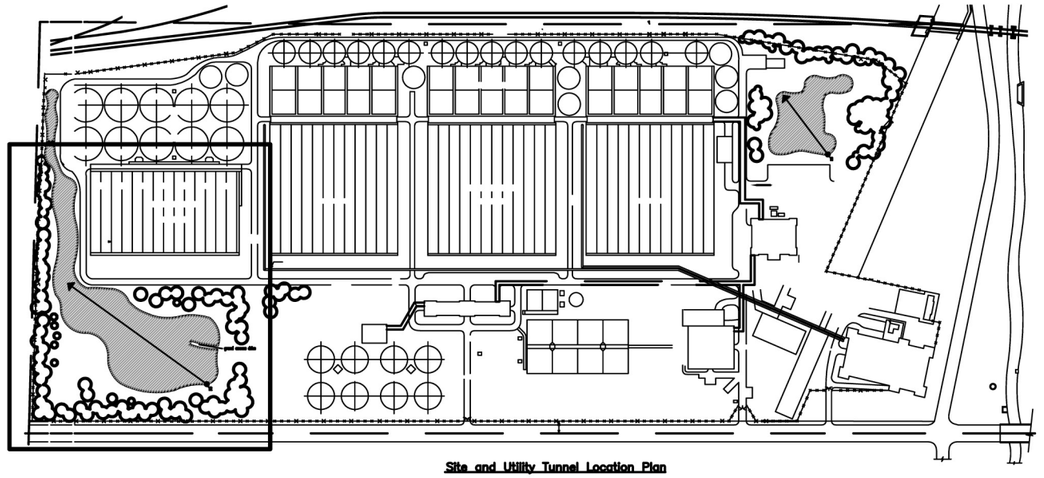
## TABLE A. NORTH SIDE NPL SEEDED SPECIES RECRUITMENT

| SPECIES (C VALUE) | RELATIVE IMPORTANCE VALUE (RIV) | | | | | |
|---|---|---|---|---|---|---|
| | TRANSECT 1 | | | TRANSECT 2 | | |
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| ***Andropogon gerardii*** *(5)Y* | 1.0 | - | **4.6** | - | - | 1.8 |
| *Andropogon scoparius (5)Y* | - | - | - | - | - | - |
| ***Aster novae-angliae*** *(4)Y* | 2.0 | 3.4 | 4.1 | 1.4 | 3.4 | **7.5** |
| *Astragalus canadensis (10)N* | - | - | - | - | - | - |
| *Bouteloua curtipendula (8)Y* | - | 1.1 | 1.7 | - | 1.0 | - |
| *Coreopsis lanceolata (5)Y* | 1.0 | 1.1 | 2.4 | 1.4 | 2.0 | - |
| *Desmodium canadense (4)N* | - | - | - | - | - | - |
| *Echinacea purpurea (3)Y* | 3.1 | 2.2 | 1.7 | - | 1.0 | 2.6 |
| ***Elymus canadensis*** *(4)Y* | - | 1.1 | 4.1 | - | **4.3** | **12.4** |
| *Eryngium yuccifolium (9)N* | - | - | - | - | - | - |
| *Heliopsis helianthoides (5)Y* | 2.0 | 1.1 | - | 2.8 | 2.0 | 1.3 |
| *Lespedeza capitata (4)N* | - | - | - | - | - | - |
| *Monarda fistulosa (4)Y* | - | - | 2.4 | 2.8 | - | 4.9 |
| *Panicum virgatum (5)Y* | - | 1.1 | 1.2 | - | 2.0 | - |
| *Penstemon digitalis (4)N* | - | - | - | - | - | - |
| *Petalostemum purpureum (9)N* | - | - | - | - | - | - |
| *Pycnanthemum virginianum (5)N* | - | - | - | - | - | - |
| ***Ratibida pinnata*** *(4)Y* | 1.0 | **7.2** | **10.7** | 1.4 | 2.9 | **7.5** |
| ***Rudbeckia hirta*** *(1)Y* | 8.6 | 2.2 | **4.8** | 9.6 | 2.9 | - |
| *Silphium integrifolium (5)Y* | - | - | - | - | - | - |
| *Sorghastrum nutans (5)Y* | - | - | 1.7 | - | - | - |
| *Veronicastrum virginianum (7)N* | - | - | - | - | - | - |
| *Zizia aurea (7)N* | - | - | - | - | - | - |

## TABLE B. LEMONT NPL SEEDED SPECIES RECRUITMENT

| SPECIES (C VALUE) | RELATIVE IMPORTANCE VALUE (RIV) | | | | | |
|---|---|---|---|---|---|---|
| | TRANSECT 1 | | | TRANSECT 2 | | |
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| *Andropogon gerardii (5)Y* | - | - | - | - | - | 2.8 |
| *Andropogon scoparius (5)Y* | - | - | - | - | - | - |
| ***Aster novae-angliae** (4)Y* | - | **8.1** | **10.2** | 1.1 | 3.5 | **4.7** |
| *Astragalus canadensis (10)N* | - | - | - | - | - | - |
| *Bouteloua curtipendula (8)Y* | - | - | - | 1.1 | - | - |
| *Coreopsis lanceolata (5)Y* | - | - | - | - | - | 2.8 |
| *Desmodium canadense (4)N* | - | - | - | - | - | - |
| *Echinacea purpurea (3)Y* | 1.1 | 3.9 | - | 2.2 | 3.5 | 1.9 |
| ***Elymus canadensis** (4)Y* | 1.1 | **7.9** | **10.5** | - | 3.5 | **4.7** |
| *Eryngium yuccifolium (9)N* | - | - | - | - | - | - |
| ***Heliopsis helianthoides** (5)Y* | 5.3 | **8.9** | **15.7** | 3.7 | 2.8 | 2.8 |
| *Lespedeza capitata (4)N* | - | - | - | - | - | - |
| ***Monarda fistulosa** (4)Y* | 4.5 | **14.1** | **18.4** | 1.5 | **7.9** | **11.1** |
| *Panicum virgatum (5)Y* | - | - | 1.6 | - | - | 1.4 |
| *Penstemon digitalis (4)N* | - | - | - | - | - | - |
| *Petalostemum purpureum (9)N* | - | - | - | - | - | - |
| *Pycnanthemum virginianum (5)Y* | - | - | - | - | - | - |
| *Ratibida pinnata (4)Y* | - | 5.8 | 4.9 | 2.2 | **9.0** | 4.1 |
| *Rudbeckia hirta (1)Y* | 15.2 | - | - | 6.8 | 1.2 | - |
| *Silphium integrifolium (5)Y* | - | - | - | - | - | - |
| *Sorghastrum nutans (5)Y* | - | - | - | - | 1.2 | 1.4 |
| *Veronicastrum virginianum (7)N* | - | - | - | - | - | - |
| *Zizia aurea (7)N* | - | - | - | - | - | - |



Site and Utility Tunnel Location Plan

Key

Prairie landscape

Existing treeline

Vegetation monitoring transect

GENERAL NOTES:

1. This plan provides a general conceptual layout of the prairie landscape; all measurements and dimensions are approximate.

2. The north edge of the prairie seeding area extends approximately 100' beyond the depiction on this sheet; see smaller overall site plan for exact location.

N
W E
S

0 50 100 200

Scale 1"=100'-0"

**Conservation Design Forum**
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**Client:**
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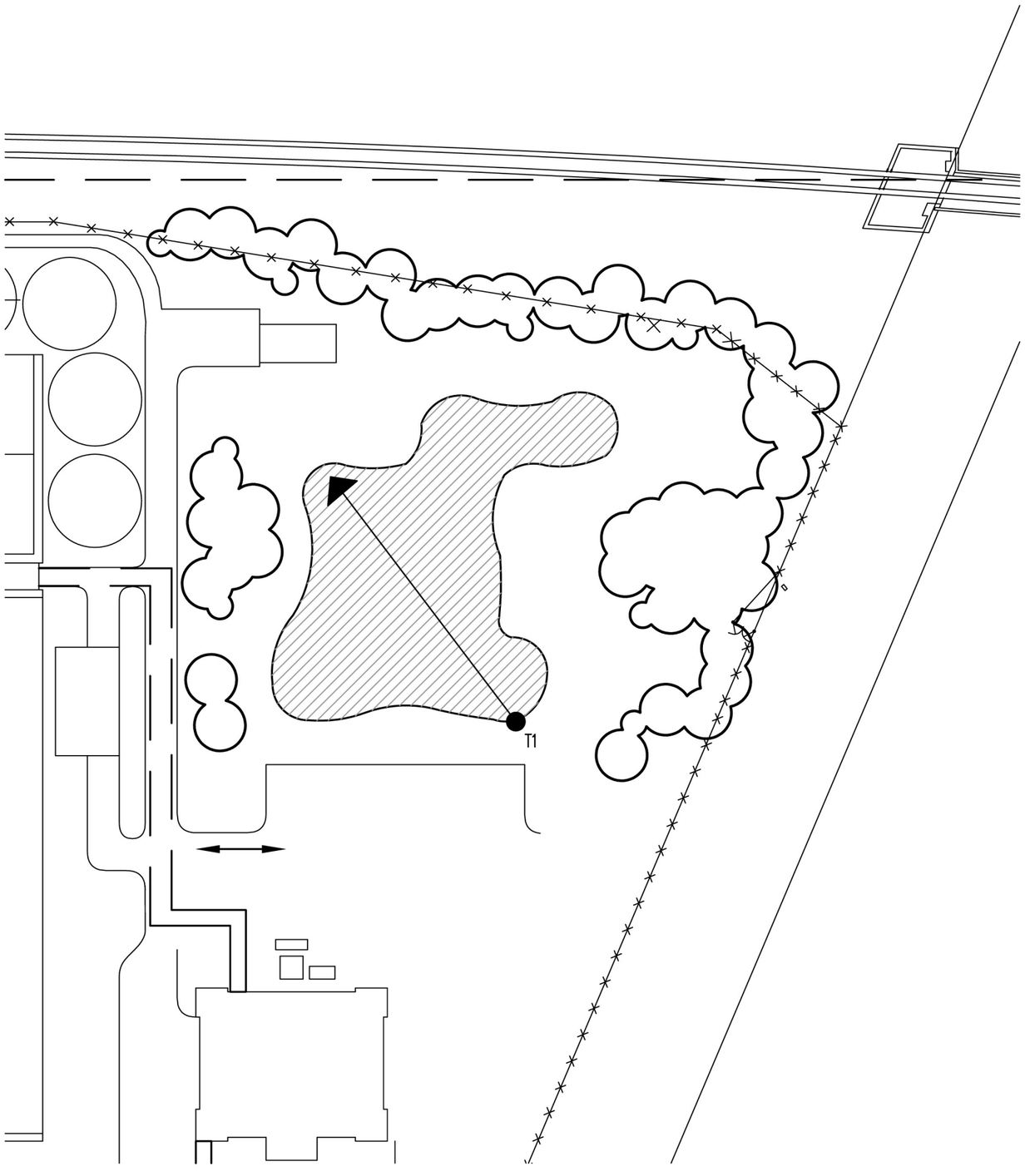
Chicago, IL 60611

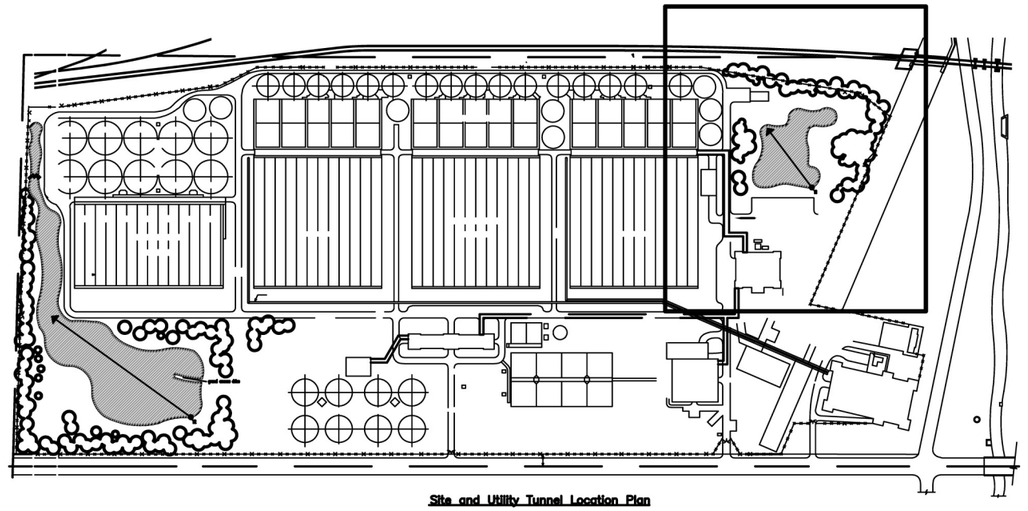
Exhibit A-1
**North Side WRP Native Landscape Areas**

**Issue/Revision**

**Status** 100%
**Drwn by:** AC
**Chkd by:** KJ

**Date** December 2006
**Job No.** 04060.03



Site and Utility Tunnel Location Plan

Key

Prairie landscape

Existing treeline

Vegetation monitoring transect

GENERAL NOTE:
1. This plan provides a general conceptual layout of the prairie landscape; all measurements and dimensions are approximate.

N
W E
S

0 50 100 200

Scale 1"=100'-0"

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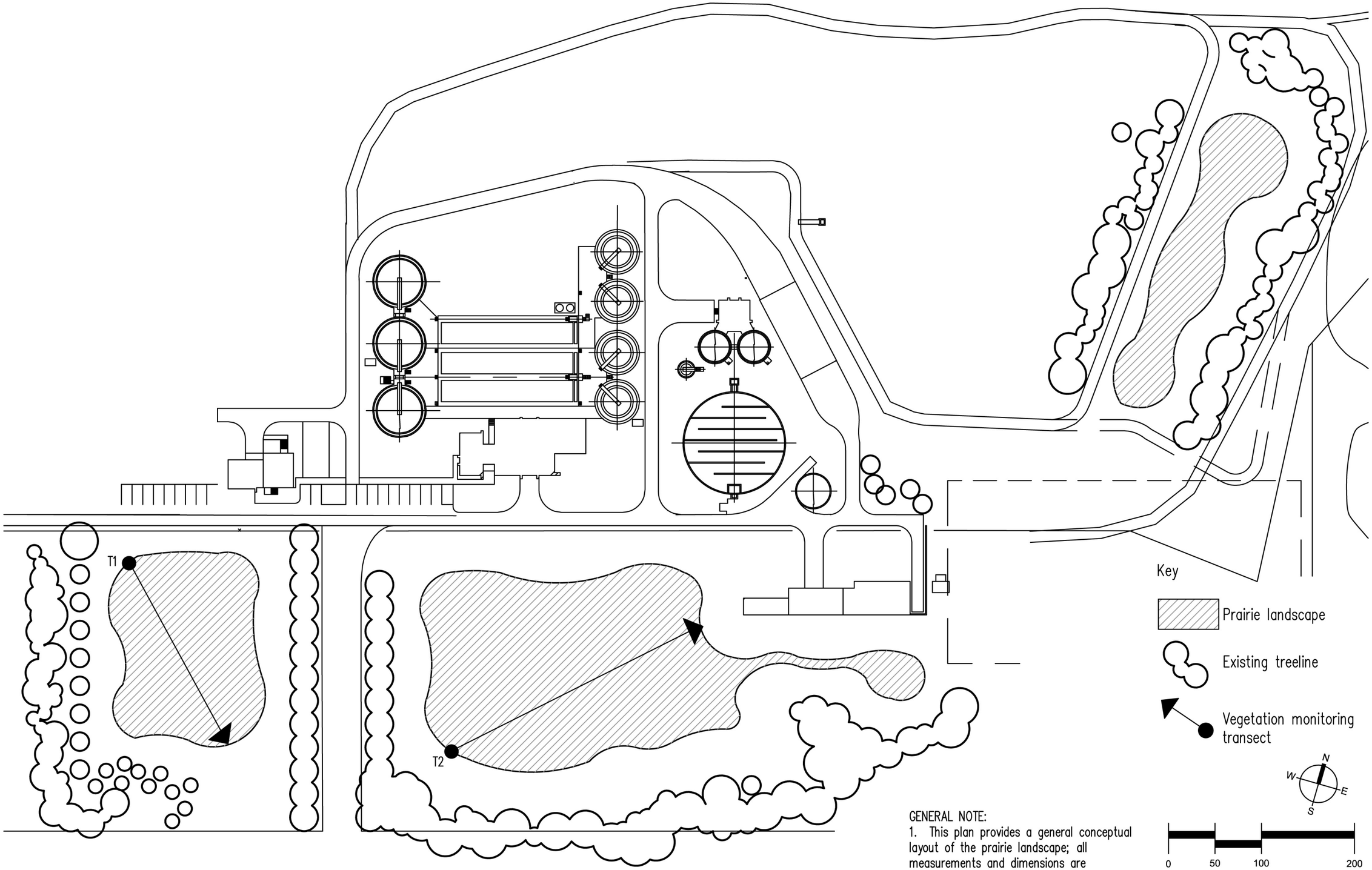
Exhibit A-2
**North Side WRP Native Landscape Areas**

**Issue/Revision**

**Status** 100%
**Drwn by:** AC
**Chkd by:** KJ

**Date** December 2006
**Job No.** 04080.03




GENERAL NOTE:
1. This plan provides a general conceptual layout of the prairie landscape; all measurements and dimensions are approximate.

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Exhibit B
**Lemont WRP Native Landscape Areas**

Issue/Revision

| Status | Drwn by: AC |
|---|---|
| 100% | Chkd by: KJ |

| Date | Job No. |
|---|---|
| December 2006 | 04080.03 |

# PHOTOGRAPHS

The photographs on the following several pages were taken during the 2006-calendar year at the two project sites. The last four pages include photographs taken during the site walk-throughs in September, as well as selected images of prairie grasses and wildflowers that were seeded at these sites—some of which are present, others of which will be seen as these native landscape re-creations mature over the next few years.

September 22, 2006

September 22, 2006

**Above** Transect 1.

**Below** Transect 2.

October 5, 2006

October 5, 2006

**Above** Spot herbicide application.

**Below** Sign installation.

June 5, 2006


June 29, 2006

**Above** Spot herbicide application.

**Below** Herbicide chemicals.

June 29, 2006

August 8, 2006

**Above** Herbicide damage.

**Below** Site walk with CDF and MWRD representatives.


September 25, 2006


September 25, 2006

**Above** Flail mower prepping for enhancement plug zones.

**Below** Native prairie landscape signage and planting.

September 29, 2006

September 29, 2006

**Above** Transect 1.

**Below** Transect 2.

## Common Prairie Plants - Grasses

Switch Grass
Panicum virgatum

Big Bluestem Grass
Andropogon gerardii

Little Bluestem Grass
Andropogon scoparius

Side-oats Grama
Bouteloua curtipendula

Indian Grass
Sorghastrum nutans

## Common Prairie Plants - Flowering Forbs

Compass Plant
Silphium laciniatum

Prairie Dock
Silphium terebinthinaceum

Beard Tongue Foxglove
Penstemon digitalis

White Wild Indigo
Baptisia leucantha

## Common Prairie Plants - Flowering Forbs (cont.)

New England Aster
Aster novae-angliae

Purple Coneflower
Echinacea purpurea

False Sunflower
Heliopsis helianthoides

Wild Bergamot
Monarda fistulosa

Yellow Coneflower
Ratibida pinnata

Black-eyed Susan
Rudbeckia hirta

Culver's Root
Veronicastrum virginicum