

# STATE UNIVERSITY COLLEGE AT BUFFALO

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Preliminary floristic survey of the  
Lockport Stone Quarry - Van DeMark  
Chemical Co. Waste disposal site  
and recommendations concerning land-  
scape reseeding and maintenance.

For

WWW Consulting Engineers  
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by

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During early spring (22 April, 1977) the plants listed herein were collected from the study site. Plants were collected, identified and prepared for storage as herbarium vouchers according to standard herbarium procedure. In all cases Fernald, (1950) was used as a nomenclatural reference. Voucher specimens will be kept on file and housed as part of the permanent collection within the Herbarium, Department of Biology, State University College at Buffalo.

Floristically, the landfill site and directly adjacent areas could be classified as a slightly basic (pH) waste area - with a recently disturbed surface soil. Organic material within the soil appears minimal and is apparently one of the greater factors providing for the notable floristic sterility of the site.

By using the native floristic elements, found on site, as indicators of growing conditions, it is proposed that the following landscape reseeding cultural practices be employed:

First, nothing should be done to the steep rocky areas between the landfill and the Eighteen Mile Creek. Natural vegetation now exists in this area and will suffice as a ground cover.

Secondly, the landfill surface should be leveled, with the exception of the 2 m x 1 m soil dikes on the periphery. In order to better insure seed germination the site should be disked, harrowed or roughed up with a york rake. Loosening of the soil surface is highly recommended but not absolutely essential. Failure to properly prepare the seedbed could result in seed germination failure as high as 50%. Prior to seeding, 500 lbs./acre of 15-15-15 (N,P,K) fertilizer should be incorporated in the soil or, if no harrowing is done, the fertilizer should be broadcast. A single seeding application with a Cyclone (TM) or Gandy (TM) type broadcast seeder should be made using the following seed mixture:

- a) Crownvetch - var. "Penngift" - 10 lbs./acre
- and b) Birdsfoot trefoil - var. "Empire" - 6 lbs./acre (preferred)  
or var. "Viking" - 6 lbs./acre
- and c) Perennial rye grass - 10 lbs./acre (preferred)  
or Reed canary grass - 10 lbs./acre

Following seed application, the seedbed should be lightly raked (york rake), rolled or meekered to assure proper seed-soil contact for maximum germination.

A broad spectrum of soil and growing conditions exist within the study site but this perennial grass-legume seed mixture should provide continuous soil cover following establishment. Landscape maintenance will be minimal with this established cover due to the extensive self seeding and rhizome cloning capabilities of all these organisms. The drier dike and raised areas will eventually be heavily covered with the crownvetch while the trefoil will become well established in any wet or seepage area of the site. Perennial rye grass will provide immediate cover and will slowly be replaced by the legumes after a period of years. Perennial rye grass is preferred because it is a smaller more compact plant and will not present the gross ragged appearance of canary grass and also will not tend to choke out the slower growing legumes.

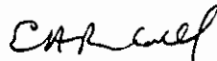
The proposed combination of organisms will adapt rather well to the sod removal-sod replacement method of landfill maintenance outlined elsewhere in this narrative. Additionally, these legumes do not and probably should not be clipped or mowed annually, a cultural practice necessary with other seeding mixtures such as orchard grass, brome grass, alfalfa and Maitland trefoils.

All material needed for the establishment of ground cover are locally available through a number of vendors:

- The fertilizer can be purchased from any farm supply dealer at a cost of about \$150.00/Ton (Agway, Inc.)
- Crownvetch\* is available from growers such as W. Mehlenbacher, Seedsman, Castile, N.Y. or Stanford Seed Co., 560 Fulton St., Buffalo, N.Y. at a cost of ca. \$5.50/lb. w/innoculant.  
(\*hard seed crownvetch should be specified and purchased, if available over the soft seeded types.)
- Birdsfoot Trefoil is available from Agway, Inc. or Stanford Seed Co. at a cost of:
  - var. "Empire" - \$2.95-\$3.00/lb.
  - var. "Viking" - \$3.95-\$4.25/lb.
- Perennial rye grass and reed canary grass is available from Agway, Inc. at a cost of \$2.30-\$3.00/lb.

I shall be happy to provide additional information if further questions arise concerning the floristics, or the landscaping.

Respectfully,



Eric A. Randall  
Assistant Professor, Biology

EAR:vm  
Inc.

Herb plant list  
Tree, shrub & vine plant list

HERBS:

Monarda didyma L.  
Prunella vulgaris L.  
Nepeta cataria L.  
Solanum dulcamara L.  
Rumex acetosella L.  
R. crispus L.  
Carex laxifolia Schkuhr  
C. abdita Bicknell  
Verbascum thapsus L.  
Plantago major L.  
P. lanceolata L.  
Galium sp.  
Dipsacus sylvestris Huds.  
Phytolacca americana L.  
Chenopodium album L.  
Lychnis alba Mill.  
Typha latifolia L.  
T. angustifolia L.  
Melilotus officinalis (L.) Lam.  
Impatiens pallida Nutt.  
Dactylis glomerata L.  
Poa annua L.  
Agropyron repens (L.) Beauv.  
Panicum capillare L.  
Tussilago farfara L.  
Carduus arvensis (L.) Scop.  
Taraxacum officinale Weber  
Arctium lappa L.  
Chrysanthemum leucanthemum L.  
Solidago sp.  
Rubus sp.

TREES, SHRUBS, VINES:

Ulmus rubra Muhl.

Populus tremuloides Michx.

Alnus serrulata (Ait.) Willd.

Salix sp.

Acer rubrum L.

Prunus pensylvanica L.f.

Tilia americana L.

Vitis sp.

Rhus typhina L.

Fraxinis americana L.

Sambucus pubens Michx.