MALCOLM PIRNIE

Storm Water Pollution Prevention Plan and Related Documentation

APPENDIX

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MALCOLM PIRNIE

MALCOLM PIRNIE, INC.
INDEPENDENT ENVIRONMENTAL ENGINEERS, SCIENTISTS & CONSULTANTS

May 18, 2004

New York State Dept. of Environmental Conservation
"Notice of Intent" Processing
Bureau of Water Permits
625 Broadway
Albany, New York 12233-3505

Re: Buffalo Lakeside Commmerce Park – Certain Teed Project
"Notice of Intent" Submission

To Whom It May Concern:

On behalf of The Krog Corporation, Malcolm Pirnie has prepared the "Notice of Intent For Storm Water Discharges Associated With Construction Activity Under SPDES General Permit No. GP-02-01" form for the above referenced construction project and has enclosed it for your review and approval.

Please direct any questions or future correspondence relating to this project to me at the following:

Malcolm Pirnie, Inc.
40 Centre Drive
Orchard Park, New York 14127
Phone: (716) 667-6607

Thank you for your prompt response to this matter.

Very truly yours,

MALCOLM PIRNIE, INC.

Kent McManus, P.E., DEE
Senior Associate

Z:\Projects\3198004\Correspondance\NYSDEC 051404.doc

Notice of Intent ("NOI")

New York State Department of Environmental Conservation

Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NOTICE OF INTENT for Stormwater Discharges Associated with Construction Activity UNDER SPDES GENERAL PERMIT #GP-02-01

NYR __ __ __ __ __ __
(for DEC use only)

IMPORTANT: **All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this general permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to completing and submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.**

Section I. Applicant/Activity Information

1. Owner/Operator Name: The Krog Corporation

2a. Mailing Address: 4 Centre Drive	2b. City Orchard Park	2c. State NY	2d. Zip 14127
3. Contact Person: 3a. First Name: Patrick 3b. Last Name: Sheedy	3c. Phone: (716) 667-1234	3d. E-mail: psheedy@krogcorp.com	
4a. Site/Project Name: Buffalo Lakeside Commerce Park - Certain Teed Project		4b. Existing use of the site: COM/IND	
5a. Street Address: 1818 Fuhrmann Blvd.	5b. City: Buffalo	State: NY	5c. Zip 14218
6. County: Erie	7. Site Location: 7a. X Coordinates: 78W50'35"	7b. Y coordinates: 42N50'04"	

Section II. Disturbance Activity/Discharge Characteristics

8. Future use of the site: COM/IND	9. Duration of disturbance activity (use mm/dd/yyyy) from: 05/12/2004 to: 05/12/2005
10. Total site acreage: 25.3 (acres)	11. Total acres of disturbed area of overall plan of development or sale: 25.3
12. Soil (Hydrologic Soil Group): B	13. What is the maximum slope of disturbed area: 5.0 %

14. What is the percentage of impervious area of the site? 14a. before commencement of the project 0.0 %
14b. after completion of the project: 40.0 %

15. Will there be permanent stormwater management practices? ☑ yes ☐ no
16. Is this a phased project? ☑ yes ☐ no

Section III. Receiving System(s)

17. Does any part of the project lie within a regulated 100-year flood plain? ☐ yes ☑ no
18. Does the site/activity lie within the boundaries of the New York City watershed? ☐ yes ☑ no
19. Does runoff from site enter a storm sewer or ditch maintained by a local, Federal or State governmental unit (MS4)? ☐ yes ☑ no
If the answer to 19 is no, skip to question 20.
19a. Provide the name of the government owning the storm sewer system:
19b. Is the MS4 a "regulated MS4" as defined under 40 CFR Section 122.32? ☐ yes ☐ no ☐ don't know
19c. Does the MS4 have a SPDES permit for their storm sewer system? ☐ yes ☐ no ☐ don't know
19d. Is the runoff from the site tributary to a Combined Sewer Overflow (CSO)? ☐ yes ☐ no
20. What is the name of the nearest surface water body into which the runoff will enter?
21. Does the runoff discharge to a receiving water identified as 303(d) listed segment ☐, or "TMDL" water ☐, or neither ☑?

Section IV. Stormwater Pollution Prevention Plan:

22. What components are required for the SWPPP? (Consult the SWPPP and Stormwater Permit Process flow chart and check all that apply): 22a. ☑ Erosion and Sediment Control Plan 22b. ☑ Water Quality and Quantity Controls

23. Is the Construction Sequence Schedule for the planned management practices prepared? ☑ yes ☐ no

Will the Stormwater Pollution Prevention Plan be in conformance with:
24a. local government requirements? ☑ yes ☐ no 24b. NYSDEC requirements? ☑ yes ☐ no
If the answer to 24b. is yes, skip to Section VI.

Section V. Supplemental Information (only if you answered "no" to question 24.b.)

25. **Before submitting this NOI, you must have your SWPPP certified by a licensed Professional.**
This certification must state that the SWPPP has been developed in a manner which will enssure compliance with water quality standards and with the substantive intent of this permit (see general permit for additional information).
Is your plan certified by a licensed Professional? ☑ yes ☐ no

- Do not submit your SWPPP to DEC unless requested.
- A copy of your SWPPP must be submitted to the local jurisdiction(s) as required under Part III, subsection B.2 (also see question #29 below).
- State each deviation from the Department's Technical Standards, reasons supporting each deviation request and an analysis of the water quality impacts in your SWPPP.
- Use Section VII below to summarize the justification statement in one paragraph.
- Allow sixty (60) days from the receipt of your completed application for permit coverage to provide DEC an opportunity to review the application and supporting information.

Section VI. Reviews and Approvals

Has your SWPPP been reviewed by: 26a. ☐ local Soil and Water Conservation District 26b. ☑ Professional Engineer
26c. ☐ Certified Professional Erosion Control Specialist 26d. ☐ Licensed Landscape Architect. 26e. ☐ None

27. Are there other DEC permits required or already obtained for this project? ☐ yes ☑ no
28. If the answer to 27 is no, skip to question 29.
28a. If this NOI is submitted for the purpose of continuing previous coverage under the general permit for stormwater runoff from construction activities (GP-93-06), please indicate the SPDES reference number assigned under GP-93-06: NYR1_____
28b. If there is another SPDES permit, please indicate the permit number: NY _____
28c. If there are other DEC permits, please provide one of the permit numbers: _____

29. Has a copy of your SWPPP been submitted to the governing jurisdiction as required by the permit? ☑ yes ☐ no

Section VII. Details (use this space, maximum of 650 characters, to further explain answers where necessary).

Section VIII. Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I also certify under penalty of law that this document and the corresponding documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction. and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

30a. Printed Name: Patrick J. Sheedy	30b. Title/Position: Vice President	30c. Phone: (716) 667-1234
Signature:	30d. E-mail: psheedy@krogcorp.com	30e. Date: 05/18/2004

Reset All Fields

Kent McManus, PC MP1

New York State Department of Environmental Conservation
Division of Water
Bureau of Water Permits, 4th Floor
625 Broadway, Albany, New York 12233-3505
Phone: (518) 402-8111 • FAX: (518) 402-9029
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

5/27/04

The Krog Corporation
4 Centre Drive
Orchard Park NY 14127

Re: ACKNOWLEDGMENT of NOTICE of INTENT for Coverage Under SPDES General Permit for Storm Water Discharges from CONSTRUCTION ACTIVITY General Permit No. GP-02-01

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-02-01 for the construction activities located at:

Buffalo Lakeside Commerce Park
1818 Fuhrmann Blvd.
Buffalo NY 14218

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-02-01 from the above construction site will be authorized **5** business days from **5/18/04** which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: NYR **10H063**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on **5/18/04** is accurate and complete.

2. You have developed a Storm Water Pollution Prevention Plan (SWPPP) that complies with GP-02-01 which must be implemented as the first element of construction at the above-noted construction site.

3. Activities related to the above construction site comply with all other requirements of GP-02-01.

4. Payment of the annual $50 regulatory fee, which is billed separately by the Department in the mid-summer. The regulatory fee covers a period of one calendar year.

5. You have obtained all necessary Uniform Procedures Act (UPA) permits. You should check with your Regional Permit Administrator for further information. (Note: Construction activities cannot commence until all UPA permits have been issued.)

Please be advised that the Department may request a copy of your SWPPP for review.

Should you have any questions regarding any aspect of the requirements specified in GP-02-01, please contact Dave Gasper at (518) 402-8114 or the undersigned at (518) 402-8109.

Sincerely,

Toni Cioffi

Toni Cioffi
Environmental Program Specialist 1

tc
cc: RWE - 9

MALCOLM PIRNIE

STORM WATER POLLUTION PREVENTION PLAN

Prepared for:

THE KROG CORPORATION

Submitted by:
Malcolm Pirnie, Inc.
40 Centre Drive
Orchard Park, NY 14127

MAY 2004

MALCOLM PIRNIE

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MALCOLM PIRNIE

Introduction

SECTION 1

This Storm Water Pollution Prevention Plan (SWPPP) was prepared in association with a Notice of Intent (NOI) for submission to the New York State Department of Environmental Conservation (NYSDEC) by The Krog Corporation (Krog). This SWPPP is a plan for controlling run-off and contaminants during redevelopment activities at the Buffalo Lakeside Commerce Park (BLCP), CertainTeed (site) located off Commerce Drive in the City of Buffalo, New York. The development activities will occur on Parcels 1 and 2 in accordance with the NYSDEC-approved Remedial Action Work Plans (RAWPs) for these parcels. This SWPPP has been prepared in accordance with the following NYSDEC guidance documents:

- Instruction Manual for Storm Water Construction Permit dated February 2003.
- New York State Storm Water Management Design Manual dated October 2001.
- The Krog Corporation will be responsible for all redevelopment construction activities. Redevelopment construction activities will encompass precharacterization of planned excavation areas, excavation, access road and utility corridor construction, parking lots, loading/unloading areas, and a manufacturing building. After the construction activities are completed, Krog will petition the NYSDEC for liability releases under the Voluntary Clean-up Agreements, which led to the development of the RAWPs.

The project team consists of:

Project Manager - Pat Sheedy, The Krog Corporation

General Field Superintendent – Andy Metzger, The Krog Corporation

Daily Site Foreman – Tim Peters, The Krog Corporation

The site is approximately 25 acres in size. The approximate acreage of the proposed disturbed areas will vary depending on construction activities, but will be limited to between an estimated minimum of 2 acres to an estimated maximum of 15 acres at any one time. Additional project-specific information is presented in the Notice of Intent for Coverage Under GP-02-01 included as Appendix A.

1.1 Statement of Storm Water Management Objectives

The principle objective of this SWPPP is to comply with the NYDEC State Pollutant Discharge Elimination System (SPDES) Storm Water Permit for the proposed remedial construction activities by planning and implementing the following practices:

- Reduction of potential erosion and sediment loading to water bodies.
- Control of the impact of storm water runoff on the water quality of the receiving waters.
- Control of the volume and rate of runoff during construction.
- Maintenance of storm water controls during construction.

This SWPPP was prepared to select, size and site storm water management practices to protect water resources from storm water impacts related to the redevelopment construction activities.

1.2 Description of Pre-Construction Conditions

Parcels 1 and 2 of the BLCP are vacant former industrial properties currently owned by Development Downtown, Inc. (DDI). The BCLP encompasses four parcels approximately 113 acres in size that surround the Union Ship Canal (Figure 1-1). Parcels 1 and 2 have been characterized during several investigations, which led to the development of the RAWPs. The RAWPs are based on redevelopment of the sites for commercial and industrial purposes.

No environmentally sensitive areas, natural resource conservation areas, or wildlife habitats are located within the areas of proposed disturbance. Consequently no environmentally sensitive areas, natural resource conservation areas, or wildlife habitats will be impacted as a result of the redevelopment construction activities at the site.

No utility lines, easements, water supply wells, or sewage treatment systems exist in the areas of proposed disturbance. The site surface is composed of relatively coarse slag sized particles that allow precipitation that falls on the site to infiltrate relatively quickly.

1.2.1 Site Drainage

The natural drainage of the site based on current topography is toward the east/northeast. There are currently no drainage ways directly to the nearby Union Ship Canal.

1.2.2 Description of Proposed Construction Activities

Construction activities will include all activities typically associated with construction of a manufacturing facility including completion of borings, excavations for foundation construction, foundation construction, road and parking lot construction, loading/unloading area construction, utility corridor construction, and building construction.

1.2.3 Construction Schedule

The project schedule is based on completion of all construction activities by May 2005.

1.2.4 Site Geology

Fill material is present at the site at an average thickness of 9 feet and a maximum thickness of approximately 12 feet. Underlying the fill material is native material consisting of a layer of peat underlain by gray silt and clay.

Groundwater is present in the fill material and can exhibit elevated pH.

1.2.5 Description of Post-Construction Measures

The Krog's Construction Manager will be responsible for implementing all storm water measures at the site. A copy of the signed contractor and subcontractor certifications will be included in Appendix B of the SWPPP. If any other earthwork contractors are used during this project, the construction manager will obtain signed certifications from each contractor and add them to the SWPPP.

The Construction Manager is required to maintain a clean and orderly site by requiring the proper storage of any materials brought to the site. Additional silt fencing will be installed on the downward slope of any soil storage area posing a run-off threat. Any on-site temporary fuel tanks shall be double walled or include secondary containment, and drip pans will be placed underneath the fuel connections if any vehicle fueling is done on the site.

The following materials will be used at the site during different phases of the project: soils, gravel, topsoil, silt fencing materials, hay bales, etc. These materials do not pose a significant pollution risk due to rainfall and associated run-off because they will not be stockpiled or stored on site for any significant duration of time. The Construction Manager is responsible for proper use and storage of all materials at the site. Based on the temporary nature of material storage, and the types of materials that will be used at the site, no spill prevention and response plans are required.

Maps

SECTION 2

The following maps are included in this SWPPP:

- Vicinity Map (Figure 2-1): This map (1:24,000 scale) provides the location of the site, topography of the site vicinity, off-site drainage area, and bodies of water in the site vicinity;

- Site Plan and Proposed Erosion and Sediment Control Measures (Figure 2-2): These figures provide the areas of construction activity, points of potential storm water discharge, and proposed practices for erosion and sediment control.

FIGURE 2-1

VICINITY MAP

Project Location

Scale:

0 1 mi

Source: U.S. Geological Survey, Lackawanna, New York, United States, July 1983

UNION SHIP CANAL

APPROXIMATE LOCATION OF SILT FENCE REINFORCED WITH HAY BALES AS NECESSARY

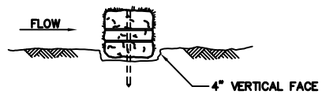
APPROXIMATE LOCATION OF SILT FENCE REINFORCED WITH HAY BALES AS NECESSARY

SITE DRAINAGE

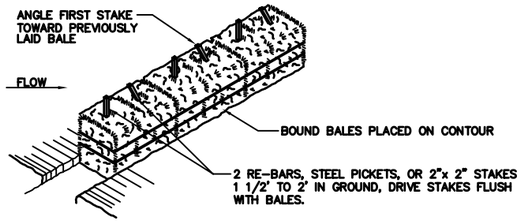
SITE DRAINAGE

PROPOSED MANUFACURING AND OFFICE FACILITY

F.F. EL. 583.50
(APPROX. 276,500 SF)



BEDDING DETAIL



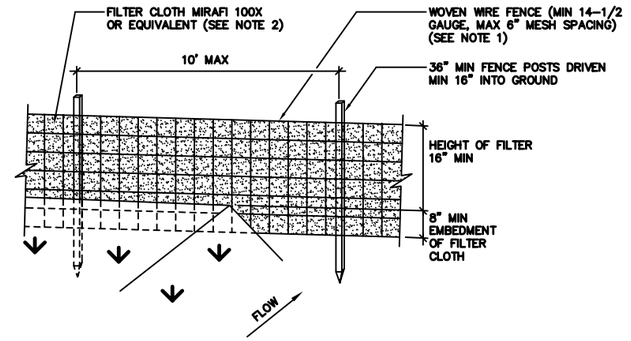
ANCHORING DETAIL

HAY BALE DIKE DETAIL

NOT TO SCALE

NOTES:

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. INSPECTION SHALL BE FREQUENT AND REPAIR SHALL BE MADE PROMPTLY AS NEEDED.
3. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.



B TYPICAL SILT FENCE DETAIL

User:WELSHANS Spec:PIRNIE STANDARD File:F:\Projects\3198004\CADD\3198G001.DWG Scale:1:1 Date:05/06/2004 Time:14:03 Layout:Layout1
XREFS:F:\Projects\3198004\CADD\3198B0R.dwg F:\Projects\3198004\CADD\X_CT_Boundary.dwg F:\Projects\3198004\CADD\3198Base.dwg IMAGES:None

MALCOLM PIRNIE

REVISIONS			
NO.	BY	DATE	REMARKS

DES
DWN
CKD

UNION SHIP CANAL
BUFFALO, NEW YORK

CERTAIN TEED MANUFACTURING AND OFFICE FACILITY

FIGURE 2-2

SITE PLAN AND PROPOSED EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1' = 100'

DATE MAY 2004

G SHEET 1 OF 2

CAD REF. NO. 3198G001

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Erosion and Sediment Control

SECTION 3

According to NYSDEC guidelines, erosion control provisions should be included for all construction activities where excavation, stripping, filling, grading or earth movement takes place. During performance of the construction activities, soil erosion and sedimentation control measures will be implemented to prevent accelerated erosion of areas subject to construction and to prevent excess sedimentation in site drainage pathways. These measures shall include the placement of staked hay bales, silt fences, surface water diversion methods, and other site controls as deemed necessary during the course of construction activities. Generic erosion and surface water control details are included on Figure 2-2.

3.1 Pre-Construction Activities

Resource Protection*:* There is no important vegetation on site and therefore no important vegetation will be disturbed as a result of the proposed redevelopment construction activities.

Surface Water Protection*:* General site drainage is toward the Union Ship Canal; however, the porous nature of the site surface promotes infiltration as opposed to runoff. Sediment control practices and measures, where necessary, are designed to protect the natural character of the Union Ship Canal and to minimize erosion and sedimentation from the start of land disturbance activities to completion of the project. Silt fence will be strategically placed along the site boundaries prior to implementation of construction activities in order to minimize the potential for run-off and associated erosion.

Stabilize Construction Entrance*:* Prior to the start of construction activities, construction traffic ingress and egress will be identified. All points of construction

ingress and egress will be protected to prevent the deposition of materials onto a traversed public thoroughfare, either by installing and maintaining a stabilized construction entrance, or by washing all vehicle wheels in a safe disposal area. Bare areas will be stabilized immediately as work takes place by topping the areas with gravel. All materials deposited onto public thoroughfares shall be removed on a daily basis. Proper precautions will be taken to verify that materials deposited onto public thoroughfares are removed so they do not enter catch basins or storm sewers.

***Perimeter Sediment Controls**:* Silt fence material and installation will comply with standard specifications. Silt fence will be installed based on appropriate spacing intervals. Silt fence will be placed on or parallel to contours where there is no concentration of water flowing to the silt fence and where erosion occurs in the form of sheet erosion. Additional silt fence will be installed as needed during construction activities and grading.

3.2 Run-Off and Drainage Control

***Run-off Control**:* Due to the porous nature of the surface material, precipitation will most likely infiltrate rather than run off. Run-off that results from flow over disturbed areas will flow first through silt fencing. Silt fencing will be installed prior to the start of construction activities. Avoidance of surface flows from highly erodible soil or along steep slopes will be avoided when possible.

Erosion and structural measures, other than silt fencing previously described, will be utilized for soil stabilization, run-off control, and sediment control during construction activities. Structural measures will include the following:

- *Minimal Soil/Fill Exposure* – Only the minimum amount of soil/fill disturbance required to implement efficient construction operations will be exposed.

- *Seeding* – After construction, exposed areas will be restored, seeded and protected with hay or other materials until vegetation is established. This measure will only be used on areas that have reached final grade.

3.3 Grading

Only the minimum amount of soil/fill disturbance required to implement efficient construction operations will be exposed. Excavation or clearing activities may only take place after sediment and erosion controls are installed.

Exposed soil/fill will be graded to allow for uniform grading and to eliminate channels and concentrated flow areas. For finished grading, adequate gradients will be provided so as to prevent water from standing on the ground surface for more than 24 hours after the end of a rain event, except in a swale flow area which may drain as long as 48 hours after the end of a rain event. Construction activities will occur only following installation of erosion control measures. Stockpiling of clean fill material at the site will be protected and stabilized in a location away from storm drains and water bodies.

Proposed grading will not impair existing surface drainage resulting in a potential erosion hazard impacting land or water bodies.

3.4 Erosion Control (Stabilization)

Erosion control practices will be completed to keep soil in place. Stabilization will be completed in a timely manner for the surface of each construction area. When activities temporarily cease during construction, soil stockpiles and exposed soil will be stabilized by seed, mulch, or other appropriate measures as soon as possible, but will not exceed more than 14 days after construction activity has ceased. Following initial disturbance of soil, stabilization will be completed within 14 days, or as soon as possible. Stabilization measures will be applied immediately on disturbed areas where work is delayed or completed.

3.5 Sediment Control

At any location where surface run-off from disturbed or graded areas may flow off the construction area, sediment control measures will be installed to prevent sediment from being transported off-site. No grading, filling or other disturbance will be permitted

within existing drainage swales. Drainage areas or other areas that transport concentrated flow will be appropriately stabilized.

3.6 Maintenance and Inspection

The daily site foreman will perform an initial inspection of the site. This inspection shall occur after the silt fencing has been installed as shown on Figures 2-1 and 2-2. No other construction shall occur until the daily site foreman completes the inspection and the report. The daily site foreman will use the Initial Inspection Checklist in Appendix C. The completed form will be attached to this SWPPP and maintained onsite during construction activities.

None of the erosion and sediment control measures used for this project will require scheduled maintenance. However, frequent visual inspection and maintenance is required on an as-needed basis. The daily site foreman will perform a visual inspection of the entire site each working day. If any erosion or sediment control device is in need of attention, the daily site foreman will require that the problem be repaired immediately. Possible maintenance activities required are repair of silt fence, application of hay bales, grading of disturbed areas, mowing, and seeding or mulching.

The daily site foreman will perform a more detailed inspection on the last workday of each week and record the results on the weekly inspection forms included in Appendix C. The completed inspection form will be signed and dated by the daily site foreman and will be placed in Appendix C of the SWPPP. Additional inspections shall occur on the day after any rainfall exceeding 0.5 inches of rain. The ongoing erosion control methods will be monitored for effectiveness during this inspection. The weekly inspection will include the following:

- A site walk-through to identify any areas where sediment is escaping.
- A visual survey of the silt fencing installed at the site.
- A check of grading in the areas of disturbance to verify that runoff can properly drain.

- A check for evidence of soil erosion, potential of pollutants entering drainage systems, and problems at drainage points (such as turbidity in the Genesee River).
- A check of construction vehicle entrances and exits to the site to make sure that excessive sediment is not being tracked off-site.
- A check of new vegetation to verify that it can properly develop.

The daily site foreman will prepare a written summary of the status of achieving each component of the SWPPP. This report shall be prepared at three-month intervals after the date of the initial inspection by the daily site foreman. The reports shall be maintained on-site with the SWPPP for the duration of the project.

The daily site foreman will perform a final inspection at the end of the project, once the work is deemed complete. The daily site foreman will use the Final Inspection Report in Appendix C. The completed form will be placed in Appendix C of the SWPPP.

3.7 Housekeeping

Good housekeeping practices are inexpensive, relatively easy to implement, and are often effective in preventing storm water contamination. Specific housekeeping activities should include the following:

- Neatly and orderly storage of any chemicals, pesticides, fertilizers, fuels, etc., that are being stored at the site;
- Regular disposal of garbage, rubbish, construction waste, and sanitary waste;
- Prompt cleanup of any spills of liquid or dry materials that have occurred;
- Cleanup of soil fill that has been tracked by vehicles or personnel or has been transported by wind or storm water to other areas of the site, to adjacent properties, or onto adjacent roadways.

3.8 Post-Construction Controls

Following completion of construction activities, the final grading and stabilization plan will be completed. All disturbed areas will be stabilized. Permanent topsoil, seed, riprap or other stabilization practices will be implemented in the disturbed areas as deemed appropriate. Stabilization activities will take place no later than 14 days after construction activities have ceased. All temporary control measures will be removed following growth of new vegetation or installation of other appropriate stabilization measures.

Additionally, redevelopment of the site will include the construction of a storm water management system that will be tied into the storm water management system being designed and permitted as part of the access road and utility corridor construction project being implemented by others.

MALCOLM PIRNIE

Water Quantity and Water Quality Control Plan

SECTION 4

A Water Quantity and Water Quality Control Plan is designed to meet NYSDEC's required sizing criteria and pollutant removal goals.

4.1 Unified Storm Water Sizing Criteria

Hydrologic and hydraulic analyses are conducted to address four distinct sizing criteria for storm water management practices. The four criteria are:

- Meeting pollutant removal goals.
- Reducing channel erosion.
- Preventing overbank flooding.
- Helping to control extreme flood events.

In New York State, a unified approach has been established for addressing these criteria. Water quality objectives are met by employing practices that will capture and treat 90 percent of the average annual storm water runoff volume (water quality volume). The water quality volume is directly related to the amount of impervious surface created at a site. Channel protection is achieved thorough the 24-hour extended detention of the post-developed 1-year, 24-hour storm. Overbank flooding is minimized by controlling the peak discharge from the 10-year storm to pre-development flow rates during the same storm event. Extreme floods are minimized by controlling the peak discharge from the 100-year storm to the pre-development flow rates during the same storm event.

4.2 Water Quality

As discussed in Section 1, the total project area for the project is approximately 25.3 acres. Under the pre-development conditions, there are no impervious surfaces present within the project area. The project will result in approximately 10 acres (44,000 square feet), or roughly forty percent of the total project area, of impervious surface being added within the project area.

The following formula is used to estimate the required water quality volume to meet pollutant removal goals:

$$\mathbf{WQ_v = [(P)(R_v)(A)]/12}$$

Where,

$R_v = 0.05 + 0.009(I)$
I = Impervious Cover (Percent)
Minimum $R_v = 0.2$
P = 90 Percent Rainfall Number
A = Site Area (Acres)

Based on the increase in impervious surface within the project area and a 90 percent rainfall of 0.9 inches, the water quality volume for the site is 0.102 acre-feet or roughly 33,200 gallons. The calculation for the water quality volume is included in Appendix D.

4.3 Channel Protection

In accordance with the New York State Storm Water Management Design Manual, the Stream Canal Protection Volume Requirements (often referred to as CPv) are designed to protect stream channels from erosion during storm events. In New York Sate this goal is accomplished by providing 24-hour extended detention of the one-year, 24-hour storm event.

However, because the site drainage will be directly into a fourth order or larger stream, the Union Ship Canal, the CPv requirements do not apply to construction at this site. Accordingly, there are no stream channel protection requirements.

4.4 Overbank Flooding and Extreme Flooding

The purpose of the over bank flood control sizing criterion is to prevent an increase in the frequency and magnitude of out-of-bank flooding generated by urban development (i.e., flow events that exceed the bank full capacity of the channel, and therefore must spill over into the floodplain). Similarly, the extreme flooding requirements are used to minimize risk of flood damage from large storm events, maintain the boundaries of the predevelopment 100-year flood plain, and protect the physical integrity of storm water management practices.

Similar to the above noted exemption for Channel Protection requirements, because drainage will be directly into a fourth order or larger stream, the Union Ship Canal, the over bank flooding and extreme flooding requirements do not apply to construction at this site. Accordingly, there are no overbank flooding or extreme flooding protection requirements.

4.5 Storm Water Management

This section presents a list of practices that are acceptable for water quality treatment. Each of the practices on this list are capable of the following:

- Capturing and treating the full water quality volume (WQv = 33,200 gallons)
- Removing 80% TSS and 40% TP
- Having acceptable longevity in the field
- Having a pretreatment mechanism.

Collection and conveyance of storm water for discharge to the Union Ship Canal has been chosen as the permanent means to manage the storm water runoff at the site. The full storm water management system, including the installation of catch basins and piping,

will be in place prior to the construction of the impervious surfaces at the site (e.g., roadways, building roofs, sidewalks, etc.), so the storm water control system will be in place to effectively capture and manage the storm water generated onsite.

Prior to the development of the site's impervious surfaces, storm water runoff will be managed using hay bails and silt fence as shown on Figure 2-2. The majority of precipitation is expected to infiltrate into the site's existing porous soils. Pre- and post-construction site grading plans, soil conditions, and details related to storm water management structures can be found in Appendices E, F, and G, respectively.

4.6 Construction Sequencing

To minimize the effects of storm water runoff, a Construction Sequencing Plan has been prepared and will be followed during the pre-, during, and post-construction phases at this site. This Plan is provided as Appendix H.

4.7 Site Maintenance

Routine field inspections of all temporary erosion and sediment controls will be performed throughout the construction project. The construction manager will inspect all controls once every seven days and immediately after periods of rainfalls greater than 0.5 inches. The construction manager will look for evidence of soil erosion on the site, potential of pollutants entering the drainage systems, problems at discharge points (such as turbidity in receiving water), and signs of soil and mud from the site to the public road at the entrance. The inspection will verify that all practices are operating adequately and maintained properly, and that sediment is removed from all control structures (i.e. silt fence, check dams and sediment traps). Section 5.0 provides additional detail on the inspection requirements and includes example inspection forms.

As needed, the Krog Corporation shall incorporate additional controls beyond the minimum shown in Figure 2-2, with alternative controls submitted to the NYSDEC for review and approval at least 10 business days before their proposed use.

MALCOLM PIRNIE

Inspection, Reporting, and Recordkeeping Requirements

SECTION 5

5.1 Inspections

The Krog Corporation shall assess the proposed construction site, and certify in an inspection report that the appropriate erosion and sediment controls described in this SWPPP, and required by the SPDES General Permit for Storm Water Discharges, have been adequately installed or implemented.

Following the start of construction, site inspections shall be conducted by the Construction Manager a minimum of once every seven days and within 24 hours of the end of a rainfall event of 0.5 inches or greater. Prior to filing the Notice of Termination or at the end of the permit term, the Krog Corporation's Construction Manager will perform a final site inspection, and certify that the site has undergone final stabilization and all temporary erosion and sediment controls that are not needed for long-term control have been removed.

5.1.1 Initial Assessment

Prior to the start of construction, an initial assessment of the necessary erosion and sediment controls will be made. Several pre-construction actions shall be performed before any disturbance can occur. These actions include:

- Surface water protection.
- Stabilized construction entrance and road(s).

- Perimeter sediment controls (silt fence, hay bale dikes)

The template for the initial inspection and assessment is included in Appendix C. An appropriate site map shall be used to locate the required information and track construction progress. The form requires the inspector to complete and verify the following items:

- Mark out all protected resources.
- Identify the drainage areas and adjacent water bodies.
- List and describe erosion and sediment control measures in place to protect disturbed areas and water bodies.
- Locate construction entrances and roads, and describe stabilization measures in place to prevent mud and debris from entering the public highway.
- Identify and locate all perimeter sediment control, including silt fence, sediment traps and basins.

5.1.2 Regular Inspections

Throughout the duration of construction, regular site inspections shall be performed at a minimum of once per week and within 24 hours of a rainfall event of 0.5 inches or greater. During each inspection, the Construction Manager shall record the following information:

- On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period.
- Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization.
- Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period.
- Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume.

- Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earth berm or silt fencing) and containment systems (sediment basins and sediment traps).
- Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching.
- Document any excessive deposition of sediment or ponding water along barrier or diversion systems.
- Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water.
- List all deficiencies and potential changes to the SWPPP.

The template for the regular inspections is included in Appendix C.

5.1.3 Final Inspections

Prior to filing the Notice of Termination, or at the end of permit term, the operator shall have a qualified professional perform a final site inspection. The inspector shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods. Final stabilization means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of 80% has been established, or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

5.1.4 Notice of Termination

When the site has been finally stabilized, the operator must submit a Notice of Termination (NOT) form to terminate coverage under the SPDES General Permit GP-02-01. The permittee must identify all of the permanent storm water management structures that have been constructed. In addition, a manual describing the operation and

maintenance practices that will be necessary for the structure(s) to function as designed after the site is stabilized must be developed and in-place. The permittee must also certify that the permanent structure(s) have been constructed as described in the SWPPP.

5.2 Reporting And Recordkeeping

The operator shall maintain a record of all inspection reports in a site logbook. The site logbook shall be kept on site and be made available to the permitting authority upon request. Prior to the commencement of construction, the operator shall certify in the site logbook that the SWPPP meets all Federal, State and local erosion and sediment control requirement. The operator shall also retain a copy of the SWPPP required by this permit at the construction site from the date of initiation of construction activities to the date of final stabilization. The operator shall retain copies of SWPPPs and any reports submitted in conjunction with this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the data that the site is finally stabilized.

The operator shall also prepare a written summary of its status with respect to compliance with this general permit at a minimum frequency of every three months during which coverage under this permit exists. The summary should address the status of achieving each component of the SWPPP.

In addition, on a monthly basis a summary of the site inspection activities shall be posted by the owner in a publicly accessible location at the project site.

MALCOLM PIRNIE

Notice of Intent

APPENDIX

A

Notice of Intent ("NOI")

New York State Department of Environmental Conservation

Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NOTICE OF INTENT for Stormwater Discharges Associated with Construction Activity UNDER SPDES GENERAL PERMIT #GP-02-01

NYR __ __ __ __ __ __
(for DEC use only)

IMPORTANT: **All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this general permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to completing and submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.**

Section I. Applicant/Activity Information

1. Owner/Operator Name: The Krog Corporation

2a. Mailing Address: 4 Centre Drive	2b. City Orchard Park	2c. State NY	2d. Zip
3. Contact Person: 3a. First Name: Patrick 3b. Last Name: Sheedy	3c. Phone: (716) 667-1234	3d. E-mail: psheedy@krogcorp.com	
4a. Site/Project Name: Buffalo Lakeside Commerce Park - Certain Teed Project		4b. Existing use of the site: COM/IND	
5a. Street Address: 1818 Fuhrmann Blvd.	5b. City: Buffalo	State: NY	5c. Zip
6. County: Erie	7. Site Location: 7a. X Coordinates: 78W50'35"	7b. Y coordinates: 42N50'04"	

Section II. Disturbance Activity/Discharge Characteristics

8. Future use of the site: COM/IND	9. Duration of disturbance activity (use mm/dd/yyyy) from: 05/12/2004 to: 05/12/2005
10. Total site acreage: 25.3 (acres)	11. Total acres of disturbed area of overall plan of development or sale: 25.3
12. Soil (Hydrologic Soil Group): B	13. What is the maximum slope of disturbed area: 5.0 %

14. What is the percentage of impervious area of the site? 14a. before commencement of the project 0.0 %
14b. after completion of the project: 40.0 %

15. Will there be permanent stormwater management practices?	16. Is this a phased project?
☑ yes ☐ no	☑ yes ☐ no

Section III. Receiving System(s)

17. Does any part of the project lie within a regulated 100-year flood plain? ☐ yes ☑ no
18. Does the site/activity lie within the boundaries of the New York City watershed? ☐ yes ☑ no
19. Does runoff from site enter a storm sewer or ditch maintained by a local, Federal or State governmental unit (MS4)? ☐ yes ☑ no
If the answer to 19 is no, skip to question 20.
19a. Provide the name of the government owning the storm sewer system:
19b. Is the MS4 a "regulated MS4" as defined under 40 CFR Section 122.32? ☐ yes ☐ no ☐ don't know
19c. Does the MS4 have a SPDES permit for their storm sewer system? ☐ yes ☐ no ☐ don't know
19d. Is the runoff from the site tributary to a Combined Sewer Overflow (CSO)? ☐ yes ☐ no
20. What is the name of the nearest surface water body into which the runoff will enter?
21. Does the runoff discharge to a receiving water identified as 303(d) listed segment ☐, or "TMDL" water ☐, or neither ☑?

Section IV. Stormwater Pollution Prevention Plan:

22. What components are required for the SWPPP? (Consult the SWPPP and Stormwater Permit Process flow chart and check all that apply): 22a. ☑ Erosion and Sediment Control Plan 22b. ☑ Water Quality and Quantity Controls

23. Is the Construction Sequence Schedule for the planned management practices prepared? ☑ yes ☐ no

Will the Stormwater Pollution Prevention Plan be in conformance with:
24a. local government requirements? ☑ yes ☐ no 24b. NYSDEC requirements? ☑ yes ☐ no
If the answer to 24b. is yes, skip to Section VI.

Section V. Supplemental Information (only if you answered "no" to question 24.b.)

25. **Before submitting this NOI, you must have your SWPPP certified by a licensed Professional**.
This certification must state that the SWPPP has been developed in a manner which will enssure compliance with water quality standards and with the substantive intent of this permit (see general permit for additional information).
Is your plan certified by a licensed Professional? ☑ yes ☐ no

- Do not submit your SWPPP to DEC unless requested.
- A copy of your SWPPP must be submitted to the local jurisdiction(s) as required under Part III, subsection B.2 (also see question #29 below).
- State each deviation from the Department's Technical Standards, reasons supporting each deviation request and an analysis of the water quality impacts in your SWPPP.
- Use Section VII below to summarize the justification statement in one paragraph.
- Allow sixty (60) days from the receipt of your completed application for permit coverage to provide DEC an opportunity to review the application and supporting information.

Section VI. Reviews and Approvals

Has your SWPPP been reviewed by: 26a. ☐ local Soil and Water Conservation District 26b. ☑ Professional Engineer
26c. ☐ Certified Professional Erosion Control Specialist 26d. ☐ Licensed Landscape Architect. 26e. ☐ None

27. Are there other DEC permits required or already obtained for this project? ☐ yes ☑ no
28. If the answer to 27 is no, skip to question 29.
28a. If this NOI is submitted for the purpose of continuing previous coverage under the general permit for stormwater runoff from construction activities (GP-93-06), please indicate the SPDES reference number assigned under GP-93-06: NYR1_____
28b. If there is another SPDES permit, please indicate the permit number: NY _____
28c. If there are other DEC permits, please provide one of the permit numbers: _____

29. Has a copy of your SWPPP been submitted to the governing jurisdiction as required by the permit? ☑ yes ☐ no

Section VII. Details (use this space, maximum of 650 characters, to further explain answers where necessary).

Section VIII. Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I also certify under penalty of law that this document and the corresponding documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction. and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

30a. Printed Name: Patrick J. Sheedy	30b. Title/Position: Vice President	30c. Phone: (716) 667-1234
Signature:	30d. E-mail: psheedy@krogcorp.com	30e. Date: 05/18/2004

Reset All Fields

MALCOLM PIRNIE

Storm Water Pollution Prevention Plan Certifications

APPENDIX

B

APPENDIX B

STORM WATER POLLUTION PREVENTION PLAN CERTIFICATIONS

CONSULTANT/OWNER CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

CONSULTANT CERTIFICATION

_____ _____

(Signature) (Date)

_____

(Printed Name and Title)

_____

_____

_____

(Company Name, Address and Telephone Number)

OWNER CERTIFICATION

_____ _____

(Signature) (Date)

_____

(Printed Name and Title)

_____

_____

_____

(Office Name, Address and Telephone Number)

CERTIFICATION BY CONTRACTORS

Made Pursuant to the State Pollution Discharge Elimination System (SPDES) General Permit for Storm Water Discharges from Construction Activity (Permit No. GP-02-01) for the Krog Corporation's Proposed Manufacturing and Office Facility, Union Ship Canal, Buffalo, New York:

PRIME CONTRACTOR CERTIFICATION

I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge storm water. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (SPDES) general permit for storm water discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards.

_____ _____

(Signature) (Date)

_____

(Printed Name and Title)

_____

_____

_____

(Office Name, Address and Telephone Number)

SUB-CONTRACTOR CERTIFICATION

I certify under penalty of law that I understand and agree to comply with the terms and conditions of the pollution prevention plan for the construction site identified in such plan as a condition of authorization to discharge storm water. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (SPDES) general permit for storm water discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards.

_____ _____

(Signature) (Date)

_____

(Printed Name and Title)

_____

_____

_____

(Name of Firm, Address and Telephone Number)

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Inspection Forms

APPENDIX

C

Storm Water Pollution Prevention Plan
Inspection and Maintenance Form

The Krog Corporation **Date:** _____

To be completed a minimum of every seven days and within 24 hours of a rainfall event of 0.5 inches or more.

Inspector: _____

Days since last rainfall: _____

Amount of last rainfall: _____ **inches**

EROSION CONTROLS

Area/Station	Date Since Last Disturbance	Date of Next Disturbance	Stabilized? (Yes/No)	Stabilized With	Condition

STABILIZATION REQUIRED:

_____

_____

_____

_____

_____

_____

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

Storm Water Pollution Prevention Plan
Inspection and Maintenance Form

The Krog Corporation **Date:** _____

To be completed a minimum of every seven days and within 24 hours of a rainfall event of 0.5 inches or more.

Inspector: _____

Days since last rainfall: _____

Amount of last rainfall: _____ **inches**

SEDIMENT CONTROLS

Perimeter Controls (Silt Fence, Vegetative Barriers, Haybale Dikes):

Location/Station	Is Perimeter Control Intact?	Is There Evidence of Breaches or Over-topping?	Condition

MAINTENANCE REQUIRED:

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

Sediment Traps/Filters (Check Dams, Turbidity Curtains):

Location/Station	Is Trap/Filter Intact?	Is There Evidence of Damage?	Condition

MAINTENANCE REQUIRED:

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

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Calculations

APPENDIX

D

APPENDIX D

STORM WATER RUNOFF CALCUATIONS

Water Quality (WQv) Equation:

$WQ_v = [(P)(R_v)(A)]/12$

$R_v = 0.05 + 0.009(I) =$	0.0536	
I = Impervious Cover (Percent) =	0.4	
Minimum $R_v = 0.2 =$	0.2	
P = 90 Percent Rainfall Number =	0.9	*
A = Site Area (Acres)	25.3	
WQv =	0.102	acre-ft
	32648	gallons

* - Source: New York State Storm Water Management Design Manual

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Site Grading Plans

APPENDIX

E

1 **SITE PLAN**
SCALE: 1" = 60'

SITE GRADING AND DRAINAGE NOTES

1. REFER TO DETAILS 10, L-5 AND 12, L-5 FOR CATCH BASIN, AND PIPE BEDDING AND BACKFILL INFORMATION.
2. STORM PIPE SHALL BE GASKETED PVC WITHIN THE LIMITS OF THE FUTURE BUILDING EXPANSION SO THAT IT MAY REMAIN IN PLACE IF BUILDING EXPANSION OCCURS. OTHERWISE ALL STORM PIPING SHALL BE HDPE PIPE AND MEET THE REQUIREMENTS OF THE CITY OF BUFFALO

K & associates
53 East Home Road
BOWMANSVILLE, NY 14026
716.684.6256
landscape architecture site planning 3d computer rendering

The Krog Corp.
4 Centre Drive Orchard Park, New York 14127
716-667-1234
Fax. 667-1258
Contractors Engineers Developers

NO.	DATE	REVISION DESCRIPTION	BY	APPRVD
3	05-10-04	REVISED GRADING / DRAINAGE PER DRAINAGE CAL		
2	04-02-04	REVISED BUILDING PERMIT ISSUE		
1	03-24-04	REVISED PAVING / UTILITES		

CertainTeed
Proposed Manufacturing and Office Facility
Union Ship Canal - Buffalo, New York

SITE GRADING AND DRAINAGE PLAN

DRAWN BY:	CAR
APPROVED BY:	CAR
DATE:	10-05-03
SCALE:	AS NOTED
PROJECT NO:	03-526
DRAWING NO:	

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Site Soil Conditions

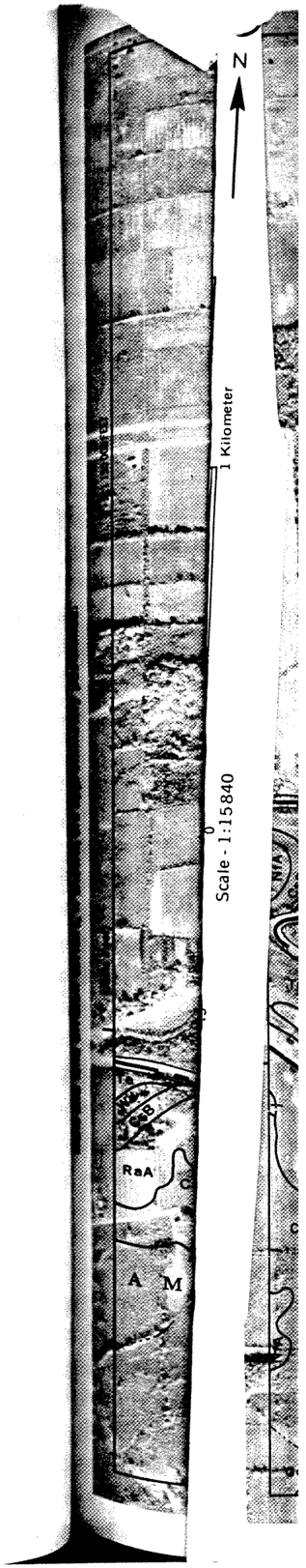
APPENDIX

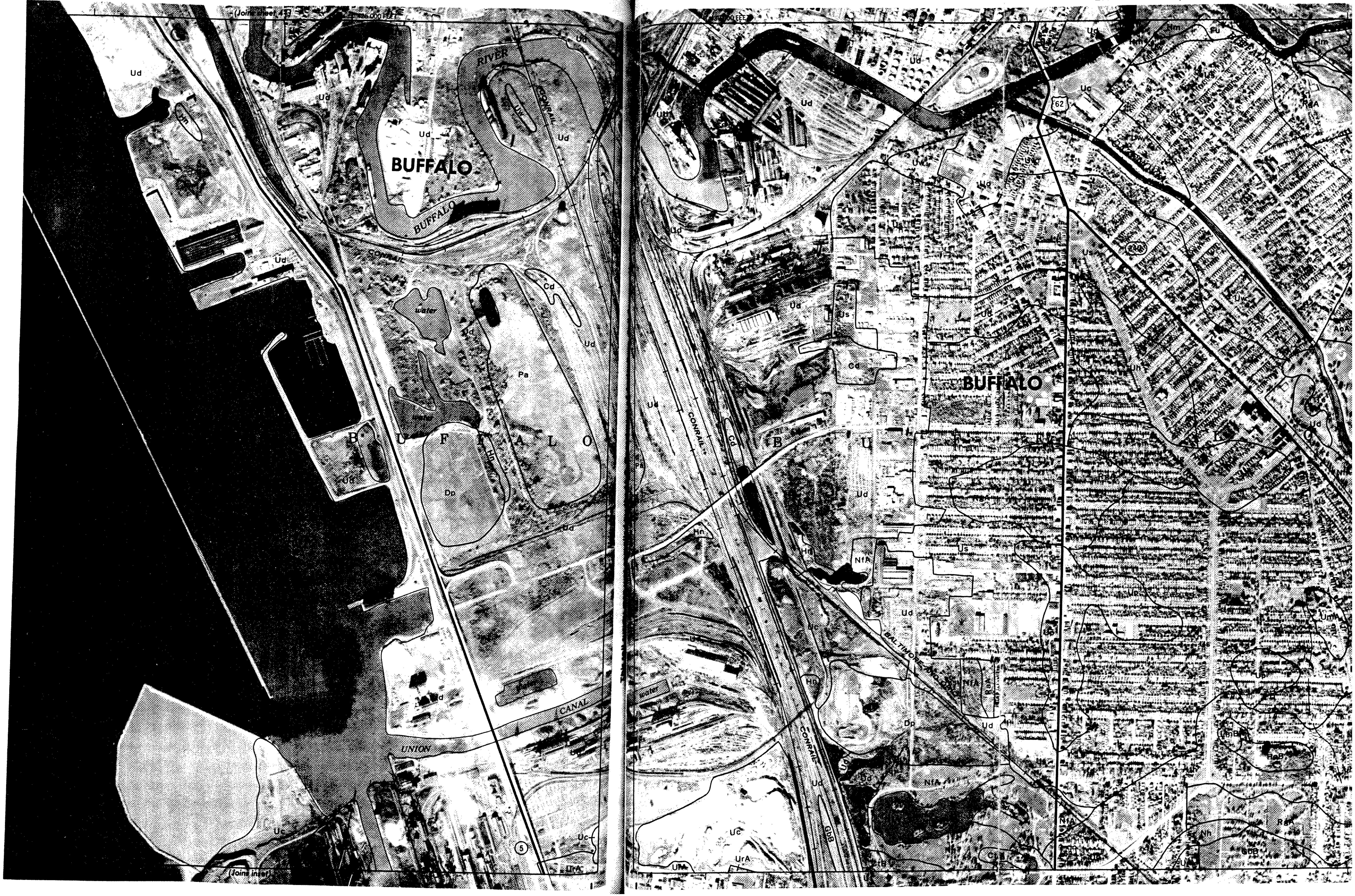
F

SOIL LEGEND

The publication symbol consists of letters. The first letter always a capital, is the initial letter of the mapping unit name. The second letter is a small letter. The third letter, always a capital A, B, C, D, E, or F, indicates the slope. Symbols without a slope letter are those of nearly level soils. A final number, 3, shows that the soil is severely eroded.

SYMBOL	NAME
AlA	Allard silt loam, 0 to 3 percent slopes
AlB	Allard silt loam, 3 to 8 percent slopes
AmA	Alton fine gravelly loam, 0 to 3 percent slopes
AmB	Alton fine gravelly loam, 3 to 8 percent slopes
AmC	Alton fine gravelly loam, 8 to 15 percent slopes
AnB	Alton gravelly loam, silty substratum, 3 to 8 percent slopes
AnC	Alton gravelly loam, silty substratum, 8 to 15 percent slopes
AoA	Angola silt loam, 0 to 3 percent slopes
AoB	Angola silt loam, 3 to 8 percent slopes
ApA	Appleton silt loam, 0 to 3 percent slopes
ApB	Appleton silt loam, 3 to 8 percent slopes
ArB	Arkport very fine sandy loam, 3 to 8 percent slopes
ArC	Arkport very fine sandy loam, 8 to 15 percent slopes
ArD	Arkport very fine sandy loam, 15 to 25 percent slopes
ArE	Arkport very fine sandy loam, 25 to 40 percent slopes
AuC	Aurora shaly silt loam, 8 to 15 percent slopes
Be	Beaches
BfA	Benson very cherty loam, 0 to 3 percent slopes
BfB	Benson very cherty loam, 3 to 8 percent slopes
BgC	Benson very cherty loam, very rocky, 8 to 15 percent slopes
BhB	Benson-Rock outcrop complex, 3 to 8 percent slopes
BlA	Blasdell shaly silt loam, 0 to 3 percent slopes
BlB	Blasdell shaly silt loam, 3 to 8 percent slopes
BlC	Blasdell shaly silt loam, 8 to 15 percent slopes
BlD	Blasdell shaly silt loam, 15 to 25 percent slopes
BrA	Brockport silty clay loam, 0 to 3 percent slopes
BrB	Brockport silty clay loam, 3 to 8 percent slopes
Ca	Canadice silt loam
Cb	Canadice silt loam, shaly till substratum
Cc	Canandaigua silt loam
Cd	Canandaigua mucky silt loam
CeA	Castile gravelly loam, 0 to 3 percent slopes
CeB	Castile gravelly loam, 3 to 8 percent slopes
CfB	Cayuga silt loam, 3 to 8 percent slopes
CfC	Cayuga silt loam, 8 to 15 percent slopes
CgB	Cazenovia silt loam, 3 to 8 percent slopes
CgC	Cazenovia silt loam, 8 to 15 percent slopes
Ch	Cheektowaga fine sandy loam
CkA	Chenango gravelly loam, 0 to 3 percent slopes
CkB	Chenango gravelly loam, 3 to 8 percent slopes
CkC	Chenango gravelly loam, 8 to 15 percent slopes
CkD	Chenango gravelly loam, 15 to 25 percent slopes
ClA	Chenango channery silt loam, fan, 0 to 3 percent slopes
ClB	Chenango channery silt loam, fan, 3 to 8 percent slopes
CmE	Chenango and Palmyra soils, 25 to 40 percent slopes
Cn	Chippewa silt loam
CoA	Churchville silt loam, 0 to 3 percent slopes
CoB	Churchville silt loam, 3 to 8 percent slopes
CrA	Claverack loamy fine sand, 0 to 3 percent slopes
CrB	Claverack loamy fine sand, 3 to 8 percent slopes
CsA	Collamer silt loam, 0 to 3 percent slopes
CsB	Collamer silt loam, 3 to 8 percent slopes
CsC	Collamer silt loam, 8 to 15 percent slopes
CtB	Collamer silt loam, till substratum, 3 to 8 percent slopes
CuB	Colonie loamy fine sand, 3 to 8 percent slopes
CuC	Colonie loamy fine sand, 8 to 15 percent slopes
Cv	Cosad loamy fine sand
DaB	Danley silt loam, 3 to 8 percent slopes
DaC	Danley silt loam, 8 to 15 percent slopes
DaD	Danley silt loam, 15 to 25 percent slopes
DbA	Darien silt loam, 0 to 3 percent slopes
DbB	Darien silt loam, 3 to 8 percent slopes
DbC	Darien silt loam, 8 to 15 percent slopes
DcB	Darien silt loam, silty substratum, 3 to 8 percent slopes
DdA	Derb silt loam, 0 to 3 percent slopes
DdB	Derb silt loam, 3 to 8 percent slopes
DdC	Derb silt loam, 8 to 15 percent slopes
Dp	Dumps
Du	Dumps, slag
Ed	Edwards muck
ElA	Elnora loamy fine sand, 0 to 3 percent slopes
ElB	Elnora loamy fine sand, 3 to 8 percent slopes
ErA	Erie channery silt loam, 0 to 3 percent slopes
ErB	Erie channery silt loam, 3 to 8 percent slopes
ErC	Erie channery silt loam, 8 to 15 percent slopes
FaA	Farmington cherty loam, 0 to 3 percent slopes
FaB	Farmington cherty loam, 3 to 8 percent slopes
FbA	Farnham shaly silt loam, 0 to 3 percent slopes
FbB	Farnham shaly silt loam, 3 to 8 percent slopes
FcA	Farnham shaly silt loam, fan, 0 to 3 percent slopes
FcB	Farnham shaly silt loam, fan, 3 to 8 percent slopes
Fu	Fluvaquents and Udifluvents, frequently flooded
GaA	Galen very fine sandy loam, 0 to 3 percent slopes
GaB	Galen very fine sandy loam, 3 to 8 percent slopes
GbB	Galen fine sandy loam, till substratum, 3 to 8 percent slopes
Ge	Getzville silt loam
Ha	Halsey silt loam
Hn	Haplaquolls, ponded
Hm	Hamlin silt loam
HoA	Honeoye loam, 0 to 3 percent slopes
HoB	Honeoye loam, 3 to 8 percent slopes
HrA	Hornell silt loam, 0 to 3 percent slopes
HrB	Hornell silt loam, 3 to 8 percent slopes
HsC	Hornell silt clay loam, 8 to 15 percent slopes
HuB	Hudson silt loam, 3 to 8 percent slopes
HuC	Hudson silt loam, 8 to 15 percent slopes
HvD	Hudson silty clay loam, 15 to 25 percent slopes
HvE	Hudson silty clay loam, 25 to 40 percent slopes
HwD	Hudson gravelly loam, hilly
In	Ilion silt loam
Ke	Kendaia silt loam
La	Lakemont silt loam
Lb	Lakemont mucky silt loam
Lc	Lamson very fine sandy loam
Ld	Lamson mucky very fine sandy loam
LfB	Langford channery silt loam, 3 to 8 percent slopes
LfC	Langford channery silt loam, 8 to 15 percent slopes
LfD	Langford channery silt loam, 15 to 25 percent slopes
LgC	Langford channery silt loam, silty substratum, 8 to 15 percent slopes
LgD	Langford channery silt loam, silty substratum, 15 to 25 percent slopes
LmA	Lima loam, 0 to 3 percent slopes
LmB	Lima loam, 3 to 8 percent slopes
Ly	Lyons silt loam
Lz	Lyons mucky silt loam
MaA	Manlius shaly silt loam, 0 to 3 percent slopes
MaB	Manlius shaly silt loam, 3 to 8 percent slopes
MaC	Manlius shaly silt loam, 8 to 15 percent slopes
MaD	Manlius shaly silt loam, 15 to 25 percent slopes
MbE	Manlius very shaly silt loam, 25 to 35 percent slopes
MbF	Manlius very shaly silt loam, 35 to 50 percent slopes
McB	Mardin silt loam, 3 to 8 percent slopes
McC	Mardin silt loam, 8 to 15 percent slopes
MdB	Mardin channery silt loam, 3 to 8 percent slopes
MdC	Mardin channery silt loam, 8 to 15 percent slopes
MdD	Mardin channery silt loam, 15 to 25 percent slopes
MeF	Mardin-Valois complex, 25 to 50 percent slopes
MfA	Marilla shaly silt loam, 0 to 3 percent slopes
MfB	Marilla shaly silt loam, 3 to 8 percent slopes
MfC	Marilla shaly silt loam, 8 to 15 percent slopes
Mg	Middlebury silt loam
Mh	Minoa very fine sandy loam
Ne	Newstead loam
NfA	Niagara silt loam, 0 to 3 percent slopes
NfB	Niagara silt loam, 3 to 8 percent slopes
Ng	Niagara silt loam, fan
Nh	Niagara silt loam, till substratum
Od	Odessa silt loam
Oe	Odessa-Lakemont silt loams
OrA	Orpark silty clay loam, 0 to 3 percent slopes
OrB	Orpark silty clay loam, 3 to 8 percent slopes
OrC	Orpark silty clay loam, 8 to 15 percent slopes
OvA	Ovid silt loam, 0 to 3 percent slopes
OvB	Ovid silt loam, 3 to 8 percent slopes
Pa	Palms muck
PbA	Palmyra gravelly loam, 0 to 3 percent slopes
PbB	Palmyra gravelly loam, 3 to 8 percent slopes
Pc	Patchin silt loam
PhA	Phelps gravelly loam, 0 to 3 percent slopes
PhB	Phelps gravelly loam, 3 to 8 percent slopes
Pt	Pits, borrow
Pu	Pits, gravel
Qu	Quarries
RaA	Raynham silt loam, 0 to 3 percent slopes
RaB	Raynham silt loam, 3 to 8 percent slopes
Re	Red Hook silt loam
RfA	Remsen silty clay loam, 0 to 3 percent slopes
RfB	Remsen silty clay loam, 3 to 8 percent slopes
RfC	Remsen silty clay loam, 8 to 15 percent slopes
RgA	Rhinebeck silt loam, 0 to 3 percent slopes
RgB	Rhinebeck silt loam, 3 to 8 percent slopes
RhC3	Rhinebeck silty clay loam, 8 to 15 percent slopes, severely eroded
RkA	Rhinebeck gravelly loam, 0 to 3 percent slopes
RkB	Rhinebeck gravelly loam, 3 to 8 percent slopes
RmA	Rhinebeck silty clay loam, stratified substratum, 0 to 3 percent slopes
RmB	Rhinebeck silty clay loam, stratified substratum, 3 to 8 percent slopes
Ro	Rock outcrop
SaA	Schoharie silt loam, 0 to 3 percent slopes
SaB	Schoharie silt loam, 3 to 8 percent slopes
SbC3	Schoharie silty clay loam, 8 to 15 percent slopes, severely eroded
ScD	Schuyler silt loam, 15 to 25 percent slopes
ScE	Schuyler silt loam, 25 to 40 percent slopes
Sd	Scio silt loam
Sw	Swormville clay loam
Te	Teel silt loam
To	Tioga silt loam
Uc	Udorthents, smoothed
Ud	Urban land
UeB	Urban land-Benson complex, 3 to 6 percent slopes
Uf	Urban land-Canandaigua complex
Ug	Urban land-Cayuga complex
Uh	Urban land-Churchville complex
Uk	Urban land-Claverack complex
UmA	Urban land-Collamer complex, 1 to 6 percent slopes
UnB	Urban land-Colonie complex, 3 to 6 percent slopes
Uo	Urban land-Cosad complex
Up	Urban land-Galen complex
UrA	Urban land-Lima complex, 1 to 6 percent slopes
Us	Urban land-Niagara complex
Ut	Urban land-Odessa complex
Uu	Urban land-Schoharie complex
Uv	Urban land-Swormville complex
Uw	Urban land-Teel complex
Ux	Urban land-Wassaic complex
VaB	Valois gravelly silt loam, 3 to 8 percent slopes
VaC	Valois gravelly silt loam, 8 to 15 percent slopes
VaD	Valois gravelly silt loam, 15 to 25 percent slopes
VbA	Varysburg gravelly loam, 0 to 3 percent slopes
VbB	Varysburg gravelly loam, 3 to 8 percent slopes
VbC	Varysburg gravelly loam, 8 to 15 percent slopes
VbD	Varysburg gravelly loam, 15 to 25 percent slopes
VbE	Varysburg gravelly loam, 25 to 40 percent slopes
VoA	Volusia silt loam, 0 to 3 percent slopes
VoB	Volusia silt loam, 3 to 8 percent slopes
VpA	Volusia channery silt loam, 0 to 3 percent slopes
VpB	Volusia channery silt loam, 3 to 8 percent slopes
WaA	Wassaic silt loam, 0 to 3 percent slopes
WaB	Wassaic silt loam, 3 to 8 percent slopes
WbB	Wassaic very stony loam, 3 to 8 percent slopes
WcE	Wassaic-Rock outcrop complex, 25 to 40 percent slopes
Wd	Wayland silt loam
WeB	Williamson silt loam, 3 to 8 percent slopes
WeC	Williamson silt loam, 8 to 15 percent slopes





BUFFALO
BUFFALO RIVER
CONRAIL
water
B U F F A L O
UNION CANAL
BALTIMORE AND OHIO
62
Ud
Uc
UrA
Us
Cd
Pa
Dp
Hn
NfA

Cover crops and sod crops in the cropping system protect the surface from scour when flooding occurs. This nearly level soil is well suited to special crops that require irrigation and a stone-free plow layer.

This soil is also well suited to pasture and hay. Overgrazing can restrict plant growth and cause the loss of the pasture seeding. Proper stocking, rotation of pastures, yearly mowing, and deferment of grazing when the soil is wet are the main management concerns. Applications of lime are needed for optimum growth of pasture grasses.

The potential of this soil for wood crops is good. Only a small acreage is wooded. There are few limitations for timber production. Trees that require acid conditions do well on this soil.

Flooding is a serious limitation for most urban uses of this soil. Where the soil is used for septic tank absorption fields, pollution of the water supply can occur because of flooding and because the substratum is moderately to rapidly permeable. Some areas are well suited to recreational uses, such as athletic fields that require a gravel- and stone-free, nearly level site. This soil is an excellent source of topsoil.

This Tioga soil is in capability class I.

Uc—Udorthents, smoothed. These soils formed in deep manmade cuts or fills. Most of these areas are near industrial sites, urban developments, or construction sites. These soils consist of various kinds of excavated earthy material that has been stockpiled for use as fill or topdressing, soil and rock material that has been trucked from other areas and leveled, or soil deposits that are left in areas that have been excavated or deeply scalped. Fill material is variable in composition, but loamy, earthy material is dominant. In some places, the fill is mixed with slag or cinders around abandoned railroad yards. In other places, the earthy fill contains up to 10 percent concrete or asphalt and other trashy wastes.

This map unit is mainly nearly level or gently sloping. Some areas are steeper, particularly at the edge of cuts and along the sides of mounded fill. The areas are variable in shape, depending mostly on ownership boundaries. They range from 5 to 700 acres or more. The larger areas are in the city of Buffalo and adjacent suburbs near the larger industrial complexes.

Udorthents are too variable to have a typical profile, but in one of the more common profiles the surface layer is brown or grayish brown very gravelly loamy sand to silty clay loam 1 to 8 inches thick. The substratum is commonly light olive brown, brown, or dark yellowish brown and varies widely in texture from very gravelly loamy sand to silty clay.

Most areas are idle and support scattered weeds and grasses. A few areas have reverted to brush and tree saplings. Some areas, particularly around railroad yards, are used for urban development.

These Udorthents are mostly excessively drained to moderately well drained. Often the fill has been placed on very poorly drained to moderately well drained soils. Texture, stone content, soil reaction, and depth to bedrock vary considerably from one area to another. Bedrock, however, is usually at a depth of more than 5 feet. Depth to the seasonal high water table and permeability are variable and depend on topography, degree of compaction, soil texture, and other related factors.

These cut and fill areas are usually poorly suited to farm or recreational uses. Onsite investigation is essential to determine the feasibility of using areas for any purpose.

These Udorthents have not been assigned a capability subclass.

Ud—Urban land. This map unit is a miscellaneous area in which 80 percent or more of the soil surface is covered by asphalt, concrete, buildings, or other impervious structures. It includes parking lots, shopping and business centers, and industrial parks—in the cities of Buffalo and Lackawanna but also the business districts and adjacent shopping centers of villages in the suburban area near Buffalo. These areas generally range from 3 to 500 acres or more and are mostly nearly level to sloping.

Included in mapping are some landfills that have not been built upon or covered with asphalt. In many of these, several feet of fill has been placed over marshes and flood plains. The included areas range up to 3 acres.

It was not practical to examine and identify the soils underlying these impervious Urban land areas. Careful onsite investigation is necessary to determine the suitability and limitations of any abandoned areas for any proposed use. Some abandoned areas are suitable for asphalt-covered playgrounds or other recreation uses requiring a hard, impervious surface.

These Urban lands have not been assigned a capability subclass.

UeB—Urban land-Benson complex, 3 to 6 percent slopes. This complex is made up of gently sloping areas of Urban land and excessively drained and somewhat excessively drained Benson soils. Some areas of the Benson soils have been graded, scalped, or filled during urbanization. This complex is underlain by shallow limestone bedrock. These areas are generally about 5 to 100 acres. Slopes are long and gradual and are occasionally interrupted by ledges of rock outcrop.

A typical area of this complex is about 60 percent Urban land that is covered by concrete, asphalt, buildings, or other impervious surfaces; about 25 percent undisturbed Benson soils; and 15 percent other soils. Urban land and Benson soils occur together in such an

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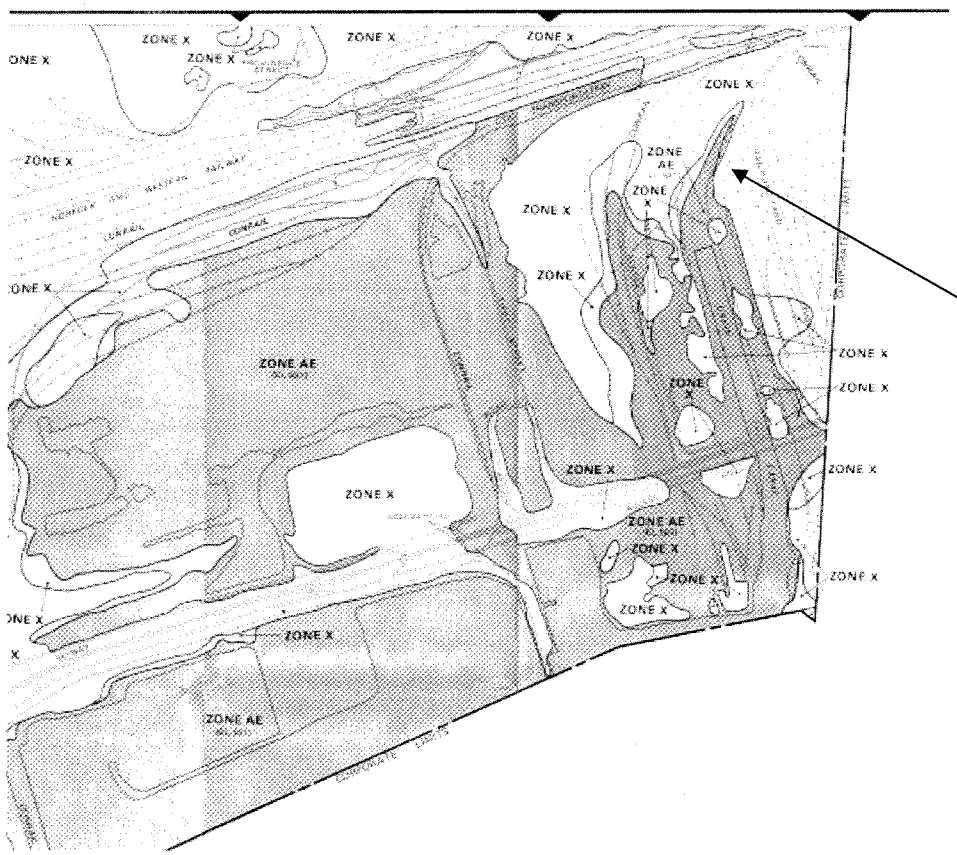
Storm Water Management Structures Drawings

APPENDIX

G

FLOOD MAP

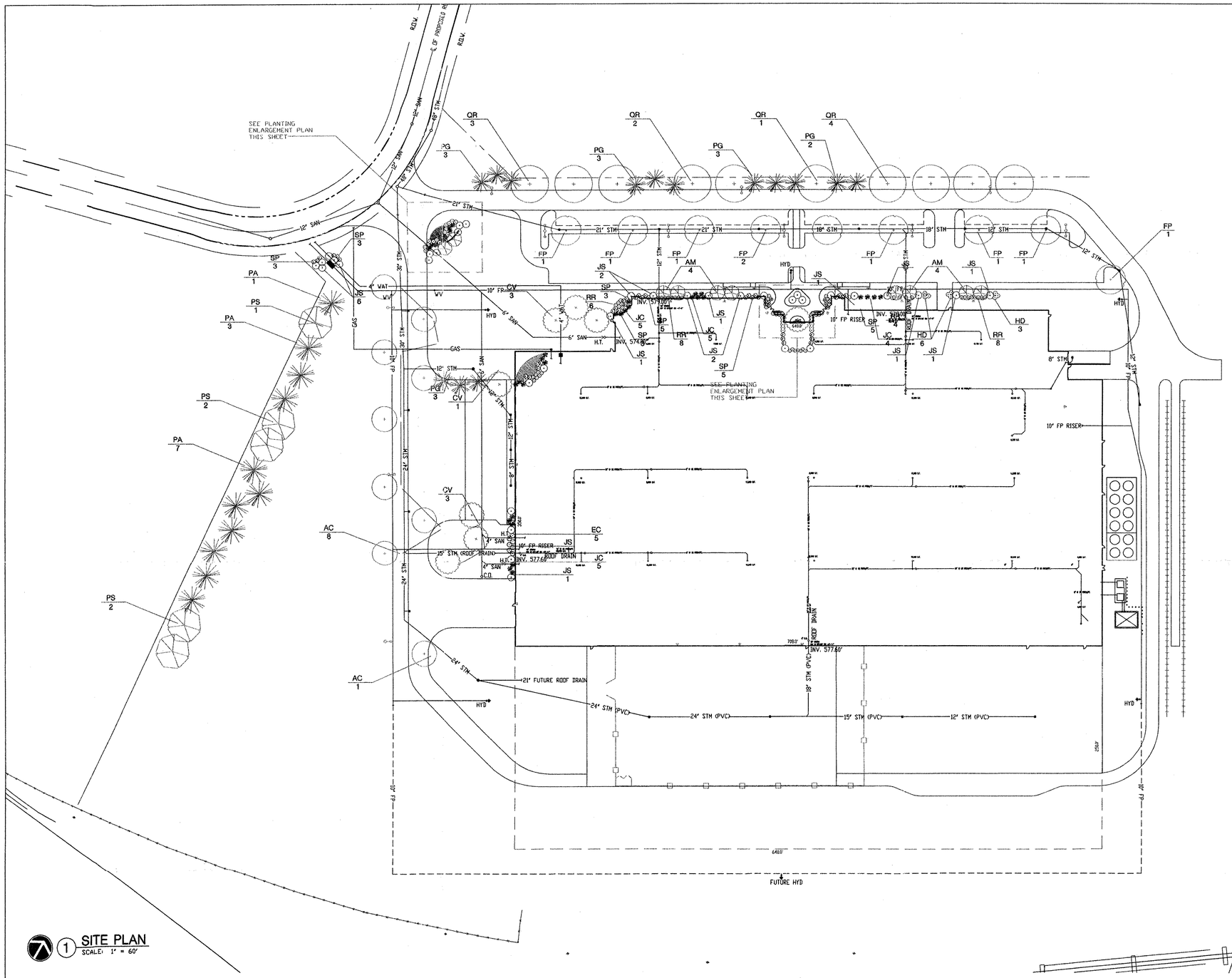


Legend:

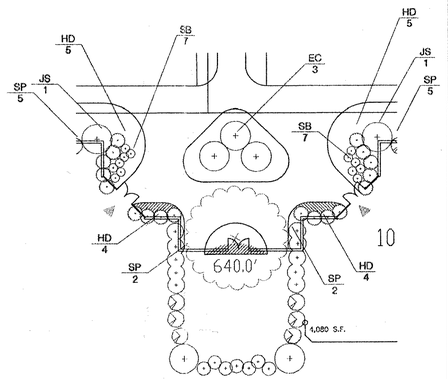
Zone AE - Special flood hazard areas inundated by 100 year Flood. Base flood elevation determined and indicated on drawing. For areas in and around this site the 100-year flood elevation is equal to 581 feet.

Zone X – Other flood areas inundated by 500-year flood.

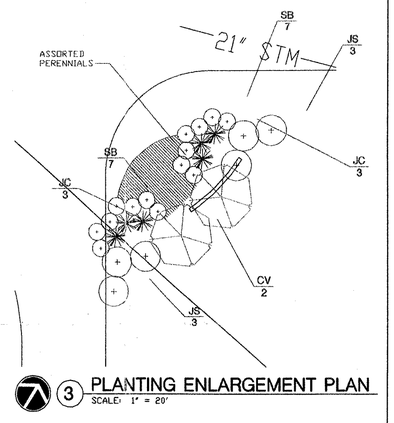
Source: Federal Emergency Management Agency (FEMA), Map No. 3602300020C, Revised August 23, 1999.



1 SITE PLAN
SCALE: 1" = 60'



2 PLANTING ENLARGEMENT PLAN
SCALE: 1" = 20'



3 PLANTING ENLARGEMENT PLAN
SCALE: 1" = 20'

PLANTING SCHEDULE

TREE SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
FP	9	Fraxinus pennsylvannica 'Patnare'	Patnare Ash	2" cal.	B&B	40' o.c.	RE: 1, L-5
CV	9	Crataegus viridis 'Winter King'	Winter King Hawthorn	2 1/2" cal	B&B	25' o.c.	RE: 1, L-5
AC	9	Acer campestre	Hedge Maple	2 1/2" cal	B&B	25' o.c.	RE: 1, L-5
QR	10	Quercus rubra	Red Oak	2" cal.	B&B	40' o.c.	RE: 1, L-5
PG	14	Picea glauca	White Spruce	6' Ht.	B&B	20' o.c.	RE: 2, L-5
PA	11	Picea abies	Norway Spruce	5' Ht.	B&B	30' o.c.	RE: 2, L-5
PS	5	Pinus sylvestris	Scotch Pine	6' Ht.	B&B	40'	RE: 2, L-5
AM	8	Amelanchier canadensis 'Autumn Brilliance'	Autumn Brilliance Serviceberry	6' Ht.	B&B	40'	RE: 1, L-5
BN	1	Betula Nigra 'Heritage'	Heritage River Birch	10' Ht.	B&B		RE: 1, L-5

SHRUB SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
EC	10	Euonymus alata 'Compacta'	Burning Bush	36" Ht.	B&B	6' o.c.	RE: 3, L-5
SP	39	Salix purpurea 'Nana'	Blue Artic Willow	36" Ht.	B&B	5' o.c.	RE: 3, L-5
SB	28	Spiraea x. bulnalda 'Goldflame'	Goldflame Spiraea	15" Ht.	#3 Cont	3' o.c.	RE: 3, L-5
RR	43	Rosa rugosa	Rugosa Rose	15" Ht.	#3 Cont	4' o.c.	RE: 3, L-5
JC	36	Juniperus chinensis 'Sea Green'	Sea Green Juniper	24" Ht.	B&B	5' o.c.	RE: 3, L-5
JS	33	Juniperus sabina 'Wichita Blue'	Wichita Blue Juniper	4' Ht.	B&B	8' o.c.	RE: 3, L-5
HD	27	Hydrangea macrophylla 'Glowing Embers'	Glowing Embers Hydrangea	3' Ht.	B&B	4' o.c.	RE: 3, L-5

Assorted mix of perennials

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landscape architecture site planning 3d computer modeling
53 East Home Road
BOWMANSVILLE, NY 14026
716/684-2604

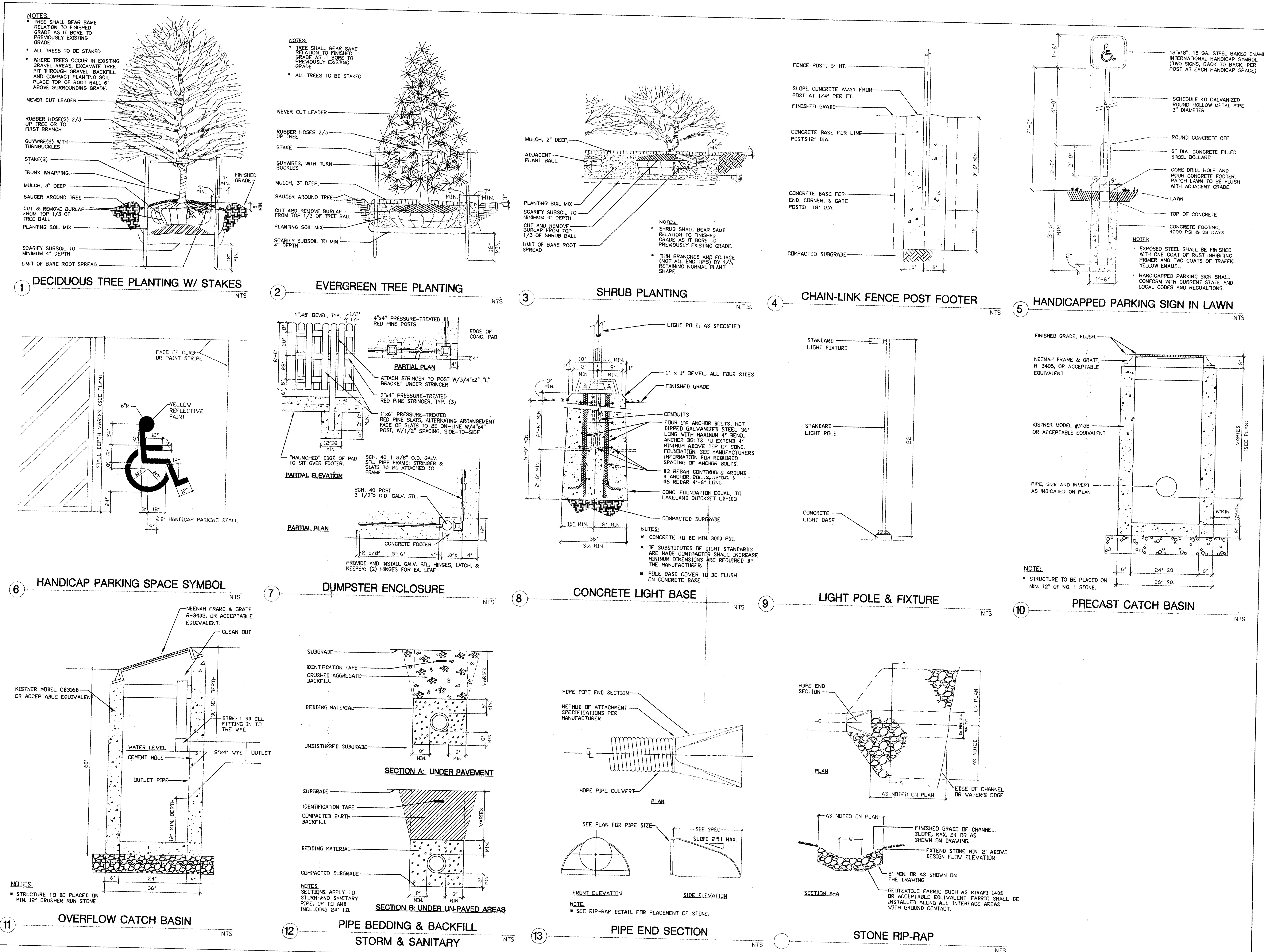
The Krog Corporation
4 Centre Drive Orchard Park, New York 14127
716-667-8214
Fax 667-2538
Contractors Engineers Developers

NO.	DATE	REVISION DESCRIPTION	BY	APPRVD
2	04-02-04	REVISED BUILD		
1	03-24-04	REVISED PAVING / UTILITIES / LANDSCAPING		

CertainTeed
Proposed Manufacturing and Office Facility
Union Ship Canal - Buffalo, New York

SITE PLANTING PLAN

DRAWN BY:	CAR
APPROVED BY:	CAR
DATE:	16-05-03
SCALE:	AS NOTED
PROJECT NO:	03-526
DRAWING NO:	



NOTES:
* TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUSLY EXISTING GRADE
* ALL TREES TO BE STAKED
* WHERE TREES OCCUR IN EXISTING GRAVEL AREAS, EXCAVATE TREE PIT THROUGH GRAVEL. BACKFILL AND COMPACT PLANTING SOIL. PLACE TOP OF ROOT BALL 6" ABOVE SURROUNDING GRADE.
NEVER CUT LEADER
RUBBER HOSE(S) 2/3 UP TREE OR TO FIRST BRANCH
GUYWIRE(S) WITH TURNBUCKLES
STAKE(S)
TRUNK WRAPPING
MULCH, 3" DEEP
SAUCER AROUND TREE
CUT & REMOVE BURLAP FROM TOP 1/3 OF TREE BALL
PLANTING SOIL MIX
SCARIFY SUBSOIL TO MINIMUM 4" DEPTH
LIMIT OF BARE ROOT SPREAD
FINISHED GRADE
1 DECIDUOUS TREE PLANTING W/ STAKES
NTS
NOTES:
* TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUSLY EXISTING GRADE
* ALL TREES TO BE STAKED
NEVER CUT LEADER
RUBBER HOSES 2/3 UP TREE
STAKE
GUYWIRES, WITH TURN BUCKLES
MULCH, 3" DEEP
SAUCER AROUND TREE
CUT AND REMOVE BURLAP FROM TOP 1/3 OF TREE BALL
PLANTING SOIL MIX
SCARIFY SUBSOIL TO MIN. 4" DEPTH
2 EVERGREEN TREE PLANTING
NTS
MULCH, 2" DEEP
ADJACENT PLANT BALL
PLANTING SOIL MIX
SCARIFY SUBSOIL TO MINIMUM 4" DEPTH
CUT AND REMOVE BURLAP FROM TOP 1/3 OF SHRUB BALL
LIMIT OF BARE ROOT SPREAD
NOTES:
* SHRUB SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUSLY EXISTING GRADE.
* THIN BRANCHES AND FOLIAGE (NOT ALL END TIPS) BY 1/3, RETAINING NORMAL PLANT SHAPE.
3 SHRUB PLANTING
N.T.S.
FENCE POST, 6' HT.
SLOPE CONCRETE AWAY FROM POST AT 1/4" PER FT.
FINISHED GRADE
CONCRETE BASE FOR LINE POSTS: 12" DIA.
CONCRETE BASE FOR END, CORNER, & GATE POSTS: 18" DIA.
COMPACTED SUBGRADE
4 CHAIN-LINK FENCE POST FOOTER
NTS
18"x18", 18 GA. STEEL BAKED ENAMEL INTERNATIONAL HANDICAP SYMBOL (TWO SIGNS, BACK TO BACK, PER POST AT EACH HANDICAP SPACE)
SCHEDULE 40 GALVANIZED ROUND HOLLOW METAL PIPE 3" DIAMETER
ROUND CONCRETE OFF
6" DIA. CONCRETE FILLED STEEL BOLLARD
CORE DRILL HOLE AND POUR CONCRETE FOOTER. PATCH LAWN TO BE FLUSH WITH ADJACENT GRADE.
LAWN
TOP OF CONCRETE
CONCRETE FOOTING, 4000 PSI @ 28 DAYS
NOTES
* EXPOSED STEEL SHALL BE FINISHED WITH ONE COAT OF RUST INHIBITING PRIMER AND TWO COATS OF TRAFFIC YELLOW ENAMEL.
* HANDICAPPED PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGUALTIONS.
5 HANDICAPPED PARKING SIGN IN LAWN
NTS
FACE OF CURB OR PAINT STRIPE
YELLOW REFLECTIVE PAINT
STALL DEPTH VARIES (SEE PLAN)
8' HANDICAP PARKING STALL
6 HANDICAP PARKING SPACE SYMBOL
NTS
1",45° BEVEL, TYP.
4"x4" PRESSURE-TREATED RED PINE POSTS
EDGE OF CONC. PAD
PARTIAL PLAN
ATTACH STRINGER TO POST W/3/4"x2" "L" BRACKET UNDER STRINGER
2"x4" PRESSURE-TREATED RED PINE STRINGER, TYP. (3)
1"x6" PRESSURE-TREATED RED PINE SLATS, ALTERNATING ARRANGEMENT FACE OF SLATS TO BE ON-LINE W/4"x4" POST, W/1/2" SPACING, SIDE-TO-SIDE
"HAUNCHED" EDGE OF PAD TO SIT OVER FOOTER.
SCH. 40 1 5/8" O.D. GALV. STL. PIPE FRAME; STRINGER & SLATS TO BE ATTACHED TO FRAME
PARTIAL ELEVATION
SCH. 40 POST 3 1/2"Ø O.D. GALV. STL.
PARTIAL PLAN
CONCRETE FOOTER
PROVIDE AND INSTALL GALV. STL. HINGES, LATCH, & KEEPER; (2) HINGES FOR EA. LEAF
7 DUMPSTER ENCLOSURE
NTS
LIGHT POLE; AS SPECIFIED
1" x 1" BEVEL, ALL FOUR SIDES
FINISHED GRADE
CONDUITS
FOUR 1"Ø ANCHOR BOLTS, HOT DIPPED GALVANIZED STEEL 36" LONG WITH MAXIMUM 4" BEND, ANCHOR BOLTS TO EXTEND 4" MINIMUM ABOVE TOP OF CONC. FOUNDATION. SEE MANUFACTURERS INFORMATION FOR REQUIRED SPACING OF ANCHOR BOLTS.
#3 REBAR CONTINUOUS AROUND 4 ANCHOR BOLTS, 12"O.C. & #6 REBAR 4'-6" LONG
CONC. FOUNDATION EQUAL, TO LAKELAND QUICKSET LB-103
COMPACTED SUBGRADE
NOTES:
* CONCRETE TO BE MIN. 3000 PSI.
* IF SUBSTITUTES OF LIGHT STANDARDS ARE MADE CONTRACTOR SHALL INCREASE MINIMUM DIMENSIONS ARE REQUIRED BY THE MANUFACTURER.
* POLE BASE COVER TO BE FLUSH ON CONCRETE BASE
8 CONCRETE LIGHT BASE
NTS
STANDARD LIGHT FIXTURE
STANDARD LIGHT POLE
CONCRETE LIGHT BASE
9 LIGHT POLE & FIXTURE
NTS
FINISHED GRADE, FLUSH.
NEENAH FRAME & GRATE, R-3405, OR ACCEPTABLE EQUIVALENT.
KISTNER MODEL #3158 OR ACCEPTABLE EQUIVALENT
PIPE, SIZE AND INVERT AS INDICATED ON PLAN
VARIES (SEE PLAN)
NOTE:
* STRUCTURE TO BE PLACED ON MIN. 12" OF NO. 1 STONE.
10 PRECAST CATCH BASIN
NTS
NEENAH FRAME & GRATE R-3405, OR ACCEPTABLE EQUIVALENT.
CLEAN OUT
KISTNER MODEL CB316B OR ACCEPTABLE EQUIVALENT
STREET 90 ELL FITTING IN TO THE WYE
WATER LEVEL
CEMENT HOLE
8"x4" WYE
OUTLET
OUTLET PIPE
NOTES:
* STRUCTURE TO BE PLACED ON MIN. 12" CRUSHER RUN STONE
11 OVERFLOW CATCH BASIN
NTS
SUBGRADE
IDENTIFICATION TAPE
CRUSHED AGGREGATE BACKFILL
BEDDING MATERIAL
UNDISTURBED SUBGRADE
SECTION A: UNDER PAVEMENT
SUBGRADE
IDENTIFICATION TAPE
COMPACTED EARTH BACKFILL
BEDDING MATERIAL
COMPACTED SUBGRADE
NOTES:
SECTIONS APPLY TO STORM AND SANITARY PIPE, UP TO AND INCLUDING 24" I.D.
SECTION B: UNDER UN-PAVED AREAS
12 PIPE BEDDING & BACKFILL STORM & SANITARY
NTS
HDPE PIPE END SECTION
METHOD OF ATTACHMENT SPECIFICATIONS PER MANUFACTURER
HDPE PIPE CULVERT
PLAN
SEE PLAN FOR PIPE SIZE
SEE SPEC.
SLOPE 2.5:1 MAX.
FRONT ELEVATION
SIDE ELEVATION
NOTE:
* SEE RIP-RAP DETAIL FOR PLACEMENT OF STONE.
13 PIPE END SECTION
NTS
HDPE END SECTION
PLAN
AS NOTED ON PLAN
EDGE OF CHANNEL OR WATER'S EDGE
FINISHED GRADE OF CHANNEL. SLOPE, MAX. 2:1 OR AS SHOWN ON DRAWING.
EXTEND STONE MIN. 2' ABOVE DESIGN FLOW ELEVATION
2' MIN. OR AS SHOWN ON THE DRAWING
GEOTEXTILE FABRIC SUCH AS MIRAFI 140S OR ACCEPTABLE EQUIVALENT. FABRIC SHALL BE INSTALLED ALONG ALL INTERFACE AREAS WITH GROUND CONTACT.
SECTION A-A
STONE RIP-RAP
NTS

K & associates
53 East Union Road
BOWMANSVILLE, NY 14026
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The Krog Corp.
4 Centre Drive · Orchard Park · New York
Contractors · Engineers · Developers

NO	DATE	REVISION DESCRIPTION	BY	APPRVD

CertainTeed
Proposed Manufacturing and Office Facility
Union Ship Canal - Buffalo, New York

SITE DETAILS

DRAWN BY:	CAR
APPROVED BY:	CAR
DATE:	10-05-03
SCALE:	AS NOTED
PROJECT NO:	03-526

MALCOLM PIRNIE

Construction Sequencing Plan

APPENDIX

H

CONSTRUCTION SEQUENCE SCHEDULE

THE KROG CORPORATION
STORM WATER POLLUTION PREVENTION PLAN

Type	Activities	Quantity	Start State and End Date	Maintenance Actions
1 - Pre-Construction Activities	Installation of perimeter sediment controls (e.g., silt fencing and haybails)	As shown on drawings	Performed during before and during construction (Approx. dates: 4/04 - 5/05)	Inspections to occur bi-weekly or anytime after rainfall exceed 0.5 inches. Repairs performed as needed
2 - Runoff & Drainage Control	Installation of temporary runoff controls such as drainage swales as needed during construction.	As shown on drawings	Performed during construction (Approx. dates: 5/04 - 5/05)	Inspections to occur bi-weekly or anytime after rainfall exceed 0.5 inches. Repairs performed as needed
3 - Grading	Rough grading and placement of surface soils	As shown on drawings	Performed during construction (Approx. dates: 5/04 - 5/05)	Inspections to occur bi-weekly or anytime after rainfall exceed 0.5 inches. Repairs performed as needed
4 - Erosion Control	Stailization of soils including seeding and mulching	As shown on drawings	Performed during construction (Approx. dates: 5/04 - 5/05)	Inspections to occur bi-weekly or anytime after rainfall exceed 0.5 inches. Repairs performed as needed
5 - Sediment Control	Installation of perimeter sediment controls (e.g., silt fencing and haybails) as needed during construction	As shown on drawings	Performed during construction (Approx. dates: 5/04 - 5/05)	Inspections to occur bi-weekly or anytime after rainfall exceed 0.5 inches. Repairs performed as needed
6 - Maintenance Inspection & Plan Update	Inspection and Maintenance	Not applicable	Performed during during and after construction (Approx. dates: 5/04 and beyond)	Inspections to occur bi-weekly or anytime after rainfall exceed 0.5 inches. Plan updated as needed.
7 - Finalize Grading & Landscaping	Stailization of disturbed soils by adding topsoil, mulch, and seeding.	As shown on drawings	Performed during construction (Approx. date: 5/05)	Reseed and remulch final grading as needed to maintain stabilizing vegetation.
8 - Post Construction SW Management	Post-Construction Storm Water Management Plan	To be developed upon completion of construction	Post construction period (Approx. date: Beginning 5/05)	Maintain and update Post-Construction Storm Water Management Plan as needed