

DRAFT

**VILLAGE OF HINSDALE
ENVIRONMENT AND PUBLIC SERVICES COMMITTEE MINUTES
MONDAY, JANUARY 10, 2011**

Chairman Laura LaPlaca called the meeting of the Environment and Public Services Committee to order at 4:00 P.M., Monday January 10, 2011, in Memorial Hall of the Memorial Building, 19 East Chicago Avenue, Hinsdale, IL.

PRESENT: Chairman Laura LaPlaca, Trustee Kim Angelo, Trustee Doug Geoga, Trustee Bob Saigh

ABSENT: None

ALSO PRESENT: Dave Cook, Village Manager; Dan Deeter, Village Engineer; George Franco, Director of Public Services; John Finnell, Village Forester; Dan Hopkins, Village Horticulturist.

Approval of Minutes – December 13, 2010

The EPS Committee reviewed the minutes from the December 13, 2010 meeting. Trustee Angelo motioned for approval of the December 13, 2010 minutes. Trustee Geoga seconded. The motion passed unanimously.

Public Hearing for the Illinois Environmental Protection Agency Loan Project Number L174509 and L174511 for the Chestnut Street and Garfield Street Projects. Chairman LaPlaca opened the public hearing and introduced the agenda item. Mr. Deeter provided additional information. The public hearing has been announced more than 10-days prior to the hearing with a legal notice in the Hinsdalean on 12/30/10. Mr. Deeter also noted that the public has ten days to send comments to the Village (care of Mr. Deeter) or directly to the IEPA (care of Mr. Bingenheimer). There were no members of public present who wished to comment on the issue. Trustee Angelo motioned to close the public hearing. Trustee Geoga seconded. The motion passed unanimously.

Public Services Monthly Report

Mr. Franco discussed the highlights of the Public Services monthly report. These included salt/sand usage and water main breaks in December. Mr. Hopkins addressed staff ideas on the downtown planting areas. The committee members asked questions and a general discussion took place.

Request to seek Bids for Village Services. Mr. Franco requested permission from the committee to seek bids on various Village Services. There was a discussion and the committee directed Mr. Franco to seek bids for the services.

Engineering Monthly Report

Veeck Park Wet Weather Facility Update.

Chairman LaPlaca reviewed the status of the Veeck Park Wet Weather Facility. Mr. Deeter provided information on the Garfield Road Project, the Oak Street Bridge Engineering Phase 1/Environmental Assessment, the 2011 Resurfacing Project, the Chestnut Street Sewer Separation Project, and state & federal funding opportunities. Members of the committee asked questions about various projects. Chairman LaPlaca stated that there will be a Public Meeting on 02/17/11 to introduce the Oak Street Bridge Engineering Phase 1/Environmental Assessment. She also stated that residents can contact Mr. Cook if they wish to be part of the Oak Street Bridge Advisor committee.

To Award the Engineering Services for the Development of Bidding Documents and Construction Observation of the 2011 Road Resurfacing Project to SEC Group, Inc., and HR Green Company, in the amount not to exceed \$89,530.00.

Chairman LaPlaca introduced the agenda item. Mr. Deeter provided additional information. A general discussion took place. Trustee Saigh motioned to approve. Trustee Angelo seconded. The motion passed unanimously.

To Approve the Payment of 20% of the Construction and Engineering Costs or No More Than \$7,300 to Impacted Local Residents to Alleviate Flooding on Private Property Known as Localized Drainage Area #47 Once the Village has Received and Approved the Construction and Engineering Invoices.

Chairman LaPlaca introduced this agenda item. Mr. Deeter provided additional information. Mr. Jeff Holland, the resident group's representative, provided information on the project. A general discussion took place. Trustee Angelo motioned to approve. Trustee Geoga seconded. The motion passed unanimously.

Adjournment

With no further issues to be brought before the Committee, Trustee Saigh moved to adjourn. Trustee Angelo seconded. Motion carried and the meeting was adjourned at 4:47 P.M.

Respectfully submitted,

DRAFT

Dan Deeter
Village Engineer

MEMORANDUM

TO: CHAIRMAN LA PLACA AND THE EPS COMMITTEE
FROM: GEORGE FRANCO
SUBJECT: PUBLIC SERVICES MONTHLY REPORT-JAN. 2011
Date: 2/8/10

The Public Service Department dispatched snow and ice crews 13 times during January, plowing snow/ice and spreading 288.5 tons of rock salt, 180 tons of sand, and 900 gallons of liquid calcium chloride on Village roadways with another ½ ton of urea used on village sidewalks, ramps, and stairs. The cost for chemicals used was \$21,585.57 for rock salt, \$3,119.40 for sand, \$380.00 for bagged material, and \$567.00 for liquid calcium chloride for a total monthly chemical cost of \$25,651.97. These crews have logged approximately 289.5 overtime hours and 449 regular hours to combat the weather conditions, which included removing the snow/ice from the Business District once during January. The sidewalks in the Business District have been shoveled one time during the month for a cost of \$950.00. A comparison of time and materials related to snow and ice operations from this year to last year (through January 31) is as follows:

	<u>FY 2009-10</u>	<u>FY 2010-11</u>
Crews Dispatched	27	28
Regular hours	811	564
Overtime hours	937.5	940.5
Salt	658.5 tons	658.5 tons
Sand	464 tons	333 tons
Bagged Material	5.65 tons	.5 tons
Liquid Calcium	2,875/gal	2,200/gal
Estimated Chemical Cost	\$59,280.62	\$57,757.52

All snow and ice removal equipment has been inspected and repaired after every snow event, and is considered to be in good working order. Public Service crews also responded to and repaired 6 water main breaks during the month of January. These crews logged approximately 82.5 overtime hours to make these repairs to the water system. The dates, locations, and pipe sizes of the water main breaks are as follows:

- 1/5/11 519 The Lane 6 inch main
- 1/7/11 Vine St. and Hickory St. 4 inch main
- 1/8/11 Washington St. and 7th St. 4 inch main
- 1/14/11 5500 S. Grant St. 6 inch main
- 1/15/11 582 Warren Terrace 6 inch main
- 1/27/11 225 E. 1st St. 4 inch main

The Burns Field ice rink, which was closed for approximately 2 days due to inclement weather has been re-established with crews completing sweeping and layering maintenance as weather permits during normal work hours. Due to the snowfall on February 1st, there has been no maintenance at the ice rink since January 31st. Crews will attempt to remove the snow prepare the ice for skating conditions once roadway snow and ice operations are completed. The Public Service Department has been involved with other projects, which include:

- The start of the small tree pruning program, with Village crews pruning 172 trees with a diameter of 9 inches or less.
- The continuation of the tree pruning contract, with The Care of Trees pruning 540 parkway trees with a diameter of over 9 inches.
- Removal of Christmas decorations from the Business District and Burlington park.

- A complete round of pot-hole patching, with crews now focusing on trouble areas throughout town.
- Public Services staff has applied for an *Illinois Technical Assistance Grant for the Emerald Ash Borer*.
- Public Services staff has reviewed and commented on six tree preservation plans submitted for building/demolition permits.
- Monitoring of sump pump discharge locations, which require maintenance to remove icing hazards on roadways. During January, crews used approximately 12 tons of salt and 44 man hours to salt and scrape the ice from various locations.

Cc: Dave Cook, President Cauley, and Board of Trustees

PUBLIC SERVICE MONTHLY REPORT FOR JAN. 2011.00

ROADWAY

10.00 SIGNS
2.00 POSTS
7.00 SIGNS REPAIRED
12.00 TONS OF COLD MIX USED FOR POTHOLES
0.00 TONS OF HOT MIX
6.00 TONS OF GRAVEL FOR ALLEYS ACT,
0.00 WHITE PAINT
0.00 YELLOW PAINT
0.00 MAN HOURS BASIN TOP CLEANING
0.00 MAN HOURS ALLEY GRADING
0.00 MAN HOURS ALLEY TRIMMING
0.00 YARD OF CONCRETE

SNOW / ICE

13.00 Times crews where called out for snow and ice.
289.00 Tons of road salt used
180.00 Tons of sand used
2.00 Tons of salt + calcium for walks, ramps, stairs and train platforms.

TREE MAINT

194.00 TREES TRIMMED BY VILLAGE STAFF
0.00 TREES REMOVED BY VILLAGE STAFF
0.00 ELM TREES DETECTED BY STAFF 56 Pub..66 Private
0.00 ELM TREES REMOVED BY STAFF
0.00 ELM TREES THAT HAVE HAD AMPUTATED LIMBS
0.00 TREE STUMPS REMOVED BY STAFF
0.00 TREES PLANTED BY STAFF
540.00 TREES TRIMMED BY CONTRACTOR(to date)
0.00 NON ELMS REMOVED BY CONTRACTOR
0.00 ELMS REMOVED BY CONTRACTOR

EQUIP MAINT

12.00 SCHEDULED MAINT
45.00 UNSCHEDULED REPAIRS

WATER OPERATIONS

65841.00 GALLON OF WATER PUMPED TO DISTRIBUTION SYSTEM
64604.00 PUMPED IN JANUARY 2010
0.00 FEET OF SEWER LINES CLEANED
0.00 FEET OF SEWER LINE TELEVISED
0.00 SEWER BACKUP INVESTIGATIONS
0.00 BASINS REPAIRED
0.00 BASINS REBUILT
1.00 BASINS CLEAN FROM DEBRIS INSIDE
149.00 METER READINGS
4.00 WATER METERS REPAIRED
3.00 WATER METERS INSTALLED
0.00 HYDRANTS REPAIRED

7.00 HYDRANTS FLUSHED
 6.00 WATER MAINS REPAIRED
 0.00 SEWER SERVICE LOCATED
 136.00 J U L I E LOCATE REQUEST
 1.00 WATER CONNECT OR DISCONNECT INSPECTIONS
 22.00 VALVES EXERCISED
 1.00 VALVES REPAIRED
 2.00 WATER METERS REMOVED
 0.00 SEWER CONNECT INSPECTIONS
 0.00 FOUNTAINS SERVICED

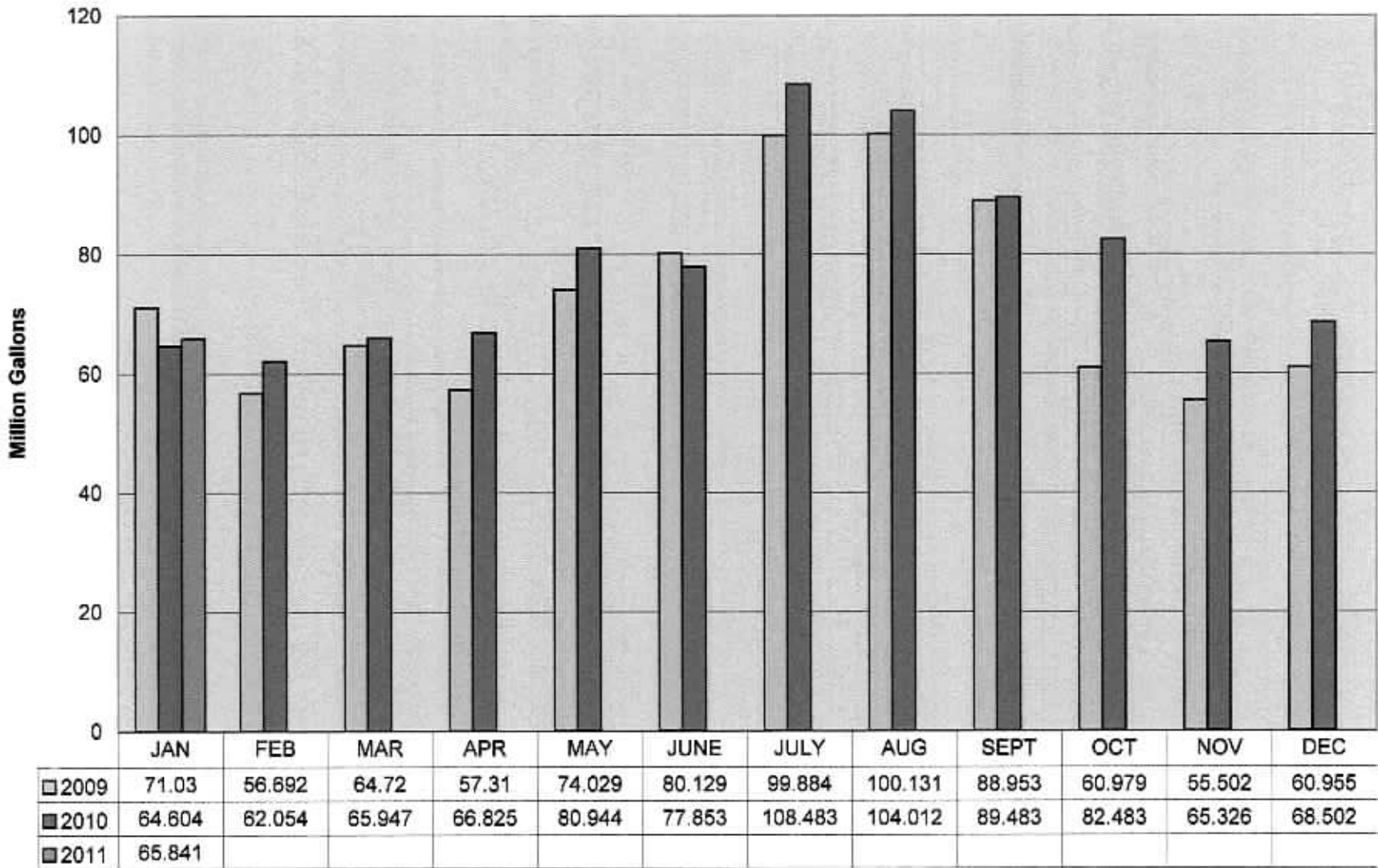
PARKS MAINTENANCE

Parks maintenance crews have been keeping up with general maintenance which includes garbage and litter pick and cleaning of the restrooms at Klm and a clean up of the Burns Field warming house. The ice rink at Burns Field has been maintained through January 31st, with crews sweeping and laying the rink as weather dictates. No ice rink operations have been conducted since January 30th due to snow operations. Crews have begun performing maintenance and repairs on all hand tools to ensure proper operation for the upcoming spring and summer seasons.

BUILDING MAINTENANCE

Building maintenance crews have been monitoring and servicing heating systems in Village owned buildings, making repairs as needed. Crews have been completing routine maintenance at the platform tennis courts and the emergency generators at the Memorial Building and Police/Fire Departments. Crews completed service calls at: KLM which included repairs to a furnace blower motor and bathroom exhaust fan, Hinsdale Center for the Arts which included ceiling repair, the Fire Department and Memorial Hall for plumbing issues, and pump bearing repair at Village Hall.

MONTHLY PUMPAGE



VILLAGE OF HINSDALE - IL 0434520

MONTHLY REPORT

Month: January, 2011

Day	Dist x1000	Finished Water				Air Temp Average	Total Precip
		Free CL ₂ Avg (mg/l)	Turbidity Avg (NTU)	Fluoride Avg (mg/l)	H ₂ O Temp Average		
1	1864	0.88	0.04	1.04	41	35	0.00
2	2117				40		0.00
3	2187	0.89	0.04	1.00	40	34	0.00
4	2168	0.93	0.04	0.95	40	28	0.00
5	2202	0.91	0.04	1.07	39	30	0.00
6	2127	0.82	0.04	1.10	39	25	0.00
7	2131	0.86	0.05	1.08	39	20	0.00
8	2113	0.84	0.05	1.09	39		0.00
9	2131				39		0.00
10	2190	0.84	0.04	1.06	39	20	0.00
11	2055	0.89	0.04	1.08	39	32	0.00
12	2090	0.83	0.04	1.10	38	32	0.00
13	2094	0.82	0.04	1.09	38	25	0.00
14	2134	0.88	0.04	1.11	38	24	0.00
15	2016	0.87	0.04	1.10	38	20	0.00
16	2073				38		0.00
17	2059	0.84	0.04	1.03	38	32	0.00
18	2095	0.92	0.04	1.03	38	32	0.00
19	2053	0.90	0.03	1.10	38	25	0.00
20	2151	0.91	0.03	1.11	38	17	0.00
21	2136	0.88	0.03	1.09	38	5	0.00
22	2132	0.91	0.02	1.12	38	15	0.00
23	2159				37		0.00
24	2235	0.86	0.03	1.08	37	23	0.00
25	2179	0.88	0.02	1.11	37	25	0.00
26	2195	0.97	0.02	1.05	37	31	0.00
27	2153	0.88	0.02	1.05	37	28	0.00
28	2145	0.85	0.01	1.16	37	32	0.00
29	2105	0.87	0.02	1.12	37	30	0.00
30	2155				37		0.00
31	2197	0.91	0.01	1.15	37	23	0.00

Day	Dist x1000	Free CL₂ Avg (mg/l)	Turbidity Avg (NTU)	Fluoride Avg (mg/l)	H₂O Temp Average	Air Temp Average	Total Precip
Sum:	65841						0.00
Avg:	2124	0.88	0.03	1.08	38	26	0.00
Max:	2235	0.97	0.05	1.16	41	35	0.00
Min:	1864	0.82	0.01	0.95	37	5	0.00

Reported By: Mark Pelkowski

VILLAGE OF HINSDALE, PLANT REPORT

Month: January, 2011

Day	Flow			—CL ₂ Residual—		Turbidity Average (NTU)	Fluoride Average (ppm)	H ₂ O Temp Average (F)	Air Temp Average (F)	Total Precip (in)
	Valve 1 (kgal)	Valve 2 (kgal)	Total (kgal)	Analyzer (ppm)	Lab (ppm)					
1	0	1864	1864	0.76	0.88	0.04	1.04	41	35	0.00
2	0	2117	2117	0.78				40		0.00
3	0	2187	2187	0.80	0.89	0.04	1.00	40	34	0.00
4	0	2168	2168	0.79	0.93	0.04	0.95	40	28	0.00
5	1	2201	2202	0.78	0.91	0.04	1.07	39	30	0.00
6	0	2127	2127	0.75	0.82	0.04	1.10	39	25	0.00
7	0	2131	2131	0.74	0.86	0.05	1.08	39	20	0.00
8	0	2113	2113	0.75	0.84	0.05	1.09	39		0.00
9	0	2131	2131	0.77				39		0.00
10	0	2190	2190	0.77	0.84	0.04	1.06	39	20	0.00
11	0	2055	2055	0.82	0.89	0.04	1.08	39	32	0.00
12	0	2090	2090	0.81	0.83	0.04	1.10	38	32	0.00
13	0	2094	2094	0.77	0.82	0.04	1.09	38	25	0.00
14	1	2133	2134	0.76	0.88	0.04	1.11	38	24	0.00
15	1	2015	2016	0.76	0.87	0.04	1.10	38	20	0.00
16	0	2073	2073	0.79				38		0.00
17	0	2059	2059	0.80	0.84	0.04	1.03	38	32	0.00
18	1	2094	2095	0.76	0.92	0.04	1.03	38	32	0.00
19	0	2053	2053	0.76	0.90	0.03	1.10	38	25	0.00
20	1	2150	2151	0.76	0.91	0.03	1.11	38	17	0.00
21	1	2135	2136	0.79	0.88	0.03	1.09	38	5	0.00
22	1	2131	2132	0.80	0.91	0.02	1.12	38	15	0.00
23	1	2158	2159	0.81				37		0.00
24	1	2234	2235	0.82	0.86	0.03	1.08	37	23	0.00
25	0	2179	2179	0.83	0.88	0.02	1.11	37	25	0.00
26	1	2194	2195	0.84	0.97	0.02	1.05	37	31	0.00
27	0	2153	2153	0.82	0.88	0.02	1.05	37	28	0.00
28	1	2144	2145	0.80	0.85	0.01	1.16	37	32	0.00
29	1	2104	2105	0.84	0.87	0.02	1.12	37	30	0.00
30	0	2155	2155	0.83				37		0.00
31	0	2197	2197	0.86	0.91	0.01	1.15	37	23	0.00
Sum:	12	65829	65841							0.00
Avg:	0	2124	2124	0.79	0.88	0.03	1.08	38	26	0.00
Max:	1	2234	2235	0.86	0.97	0.05	1.16	41	35	0.00
Min:	0	1864	1864	0.74	0.82	0.01	0.95	37	5	0.00

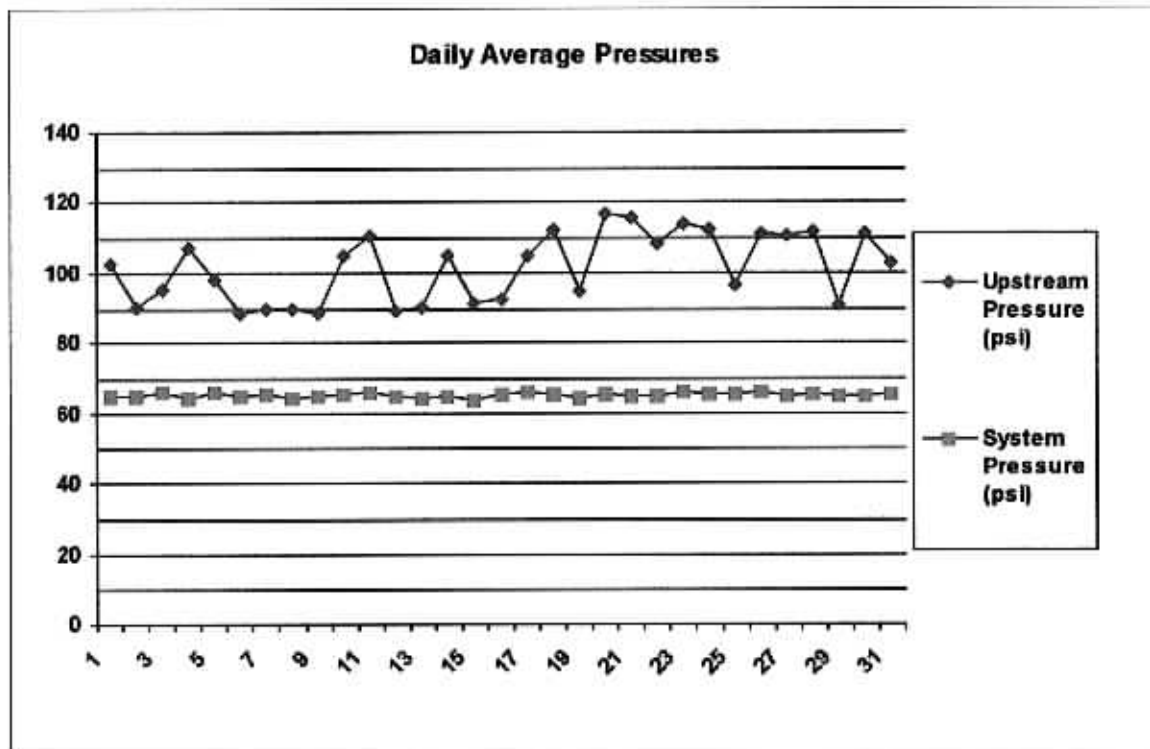
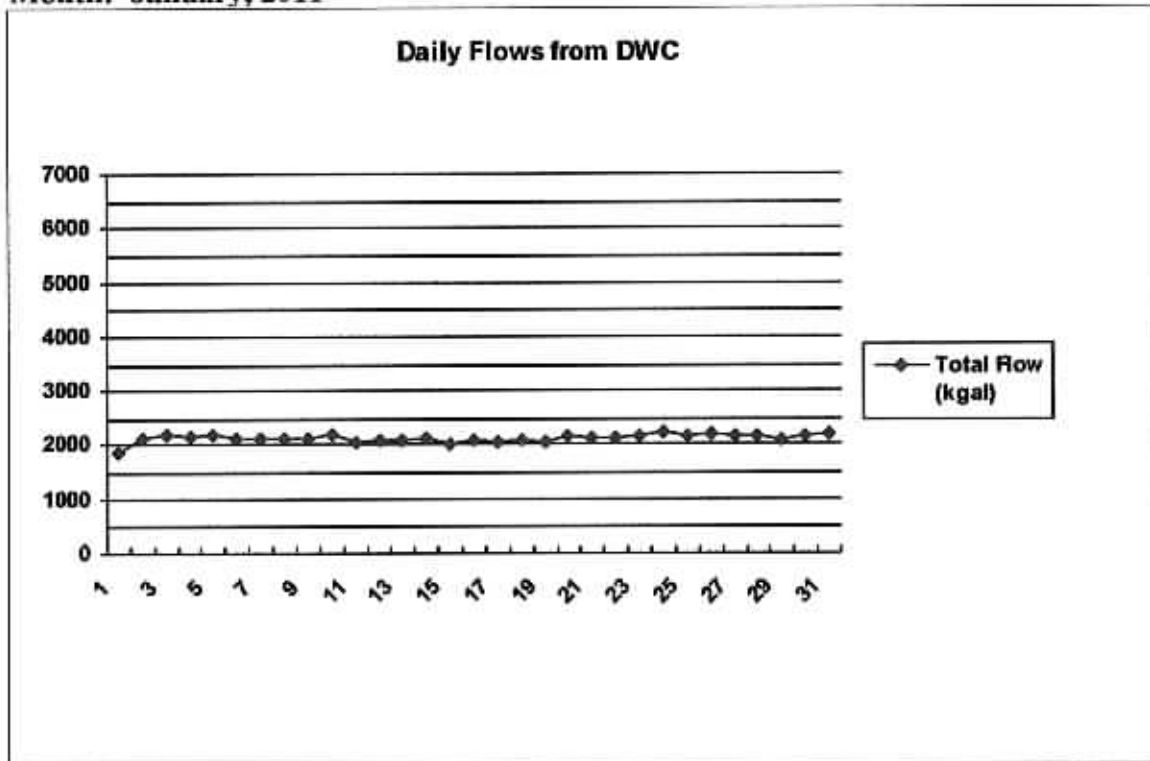
VILLAGE OF HINSDALE, PLANT REPORT

Month: January, 2011

Day	Flow	Tank Levels		Pressures		Pump Run Times			
	Total (kgal)	Standpipe (ft)	Clearwell (ft)	GSR (ft)	Upstream (psi)	System (psi)	HSP1 (hr)	HSP2 (hr)	HSP3 (hr)
1	1864	90.9	9.6	16.6	94.4	63.7	0.0	0.0	5.4
2	2117	90.3	9.5	16.4	94.0	63.6	0.0	0.0	5.1
3	2187	91.0	9.3	16.2	92.1	64.0	0.0	0.0	5.8
4	2168	90.4	9.5	16.4	93.9	63.6	0.0	0.0	4.9
5	2202	90.7	9.4	16.3	95.1	63.8	0.0	0.0	5.0
6	2127	90.6	9.6	16.5	93.5	63.6	0.0	0.0	4.6
7	2131	91.0	9.5	16.5	93.1	63.8	0.0	0.0	4.9
8	2113	90.5	9.5	16.4	94.2	63.7	0.0	0.0	6.2
9	2131	90.3	9.3	16.3	93.3	63.6	0.0	0.0	5.4
10	2190	90.8	9.1	16.1	94.4	64.3	0.0	0.0	4.8
11	2055	89.5	8.9	15.8	94.4	63.5	0.0	0.0	5.1
12	2090	90.7	9.5	16.4	95.3	63.7	0.0	0.0	4.9
13	2094	90.6	9.4	16.3	95.7	63.7	0.0	0.0	5.3
14	2134	91.0	9.3	16.3	102.0	64.0	0.0	0.0	5.4
15	2016	90.8	9.5	16.4	105.6	63.8	0.0	0.0	5.5
16	2073	90.6	9.6	16.5	103.2	63.7	0.0	0.0	5.0
17	2059	91.1	9.6	16.5	102.6	63.9	0.0	0.0	4.9
18	2095	90.8	9.6	16.5	110.1	63.8	0.0	0.0	4.4
19	2053	90.7	9.6	16.5	103.6	63.8	0.0	0.0	5.6
20	2151	90.2	9.4	16.3	102.3	63.7	0.0	0.0	5.0
21	2136	90.4	9.4	16.3	109.7	63.7	0.0	0.0	5.5
22	2132	90.4	9.3	16.1	108.4	63.8	0.0	0.0	6.1
23	2159	90.4	9.4	16.3	108.5	63.8	0.0	0.0	5.6
24	2235	90.1	9.4	16.3	108.6	63.7	0.0	0.0	5.3
25	2179	90.5	9.3	16.3	108.5	63.9	0.0	0.0	5.7
26	2195	90.5	9.5	16.4	105.5	63.9	0.0	0.0	5.0
27	2153	90.5	9.6	16.5	106.2	63.7	0.0	0.0	4.8
28	2145	90.4	9.4	16.3	108.5	63.7	0.0	0.0	5.3
29	2105	90.6	9.5	16.4	103.9	63.9	0.0	0.0	6.0
30	2155	90.3	9.5	16.4	103.5	63.7	0.0	0.0	5.0
31	2197	90.1	9.3	16.2	104.5	63.7	0.0	0.0	5.4
Sum:	65841						0.0	0.0	162.9
Avg:	2124	90.5	9.4	16.4	100.9	63.8	0.0	0.0	5.3
Max:	2235	91.1	9.6	16.6	110.1	64.3	0.0	0.0	6.2
Min:	1864	89.5	8.9	15.8	92.1	63.5	0.0	0.0	4.4

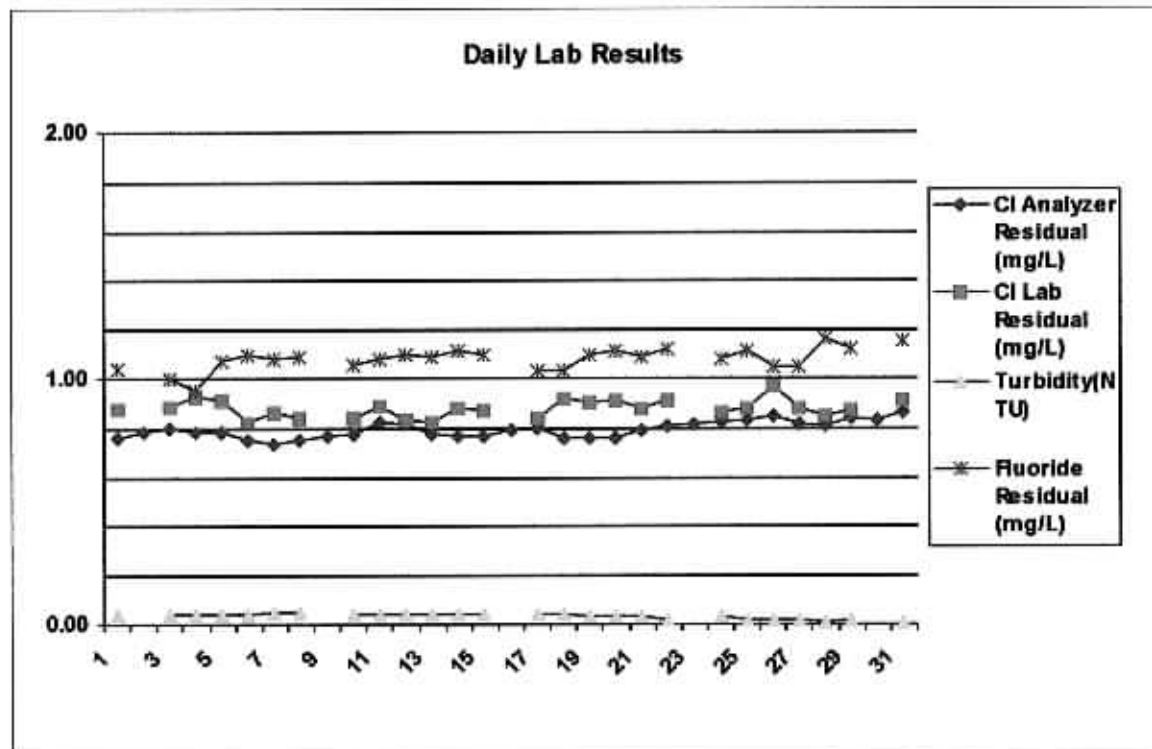
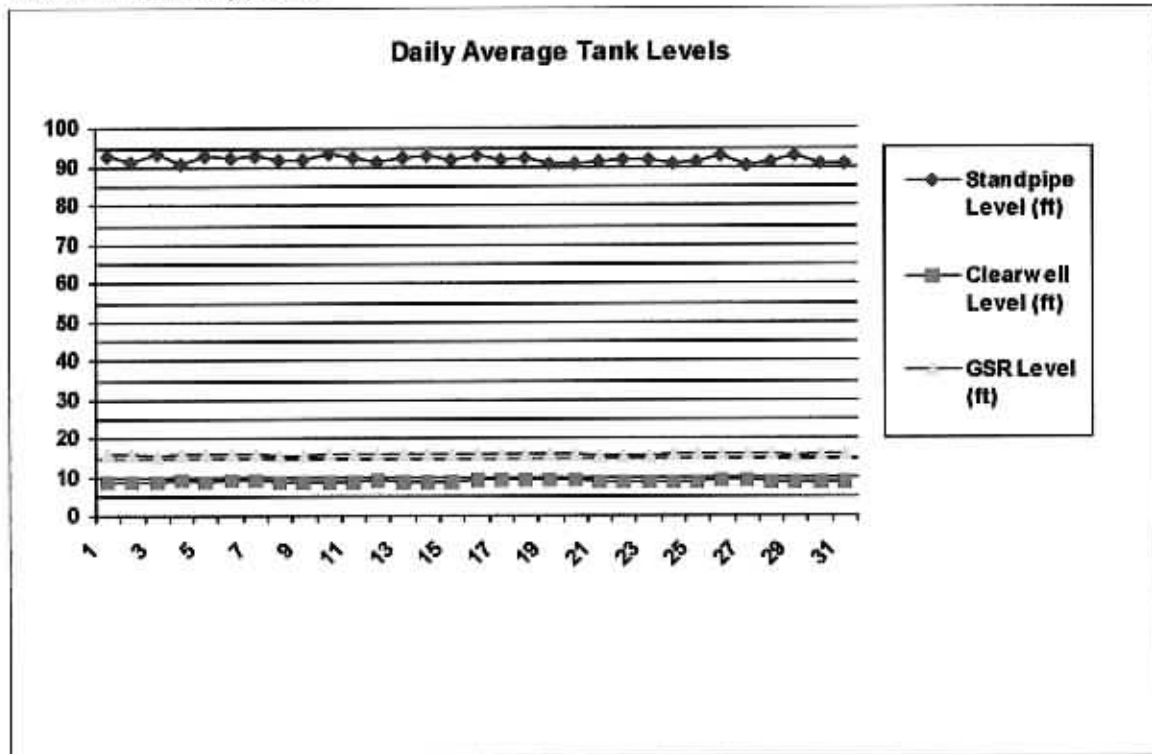
VILLAGE OF HINSDALE, SYSTEM TRENDS

Month: January, 2011



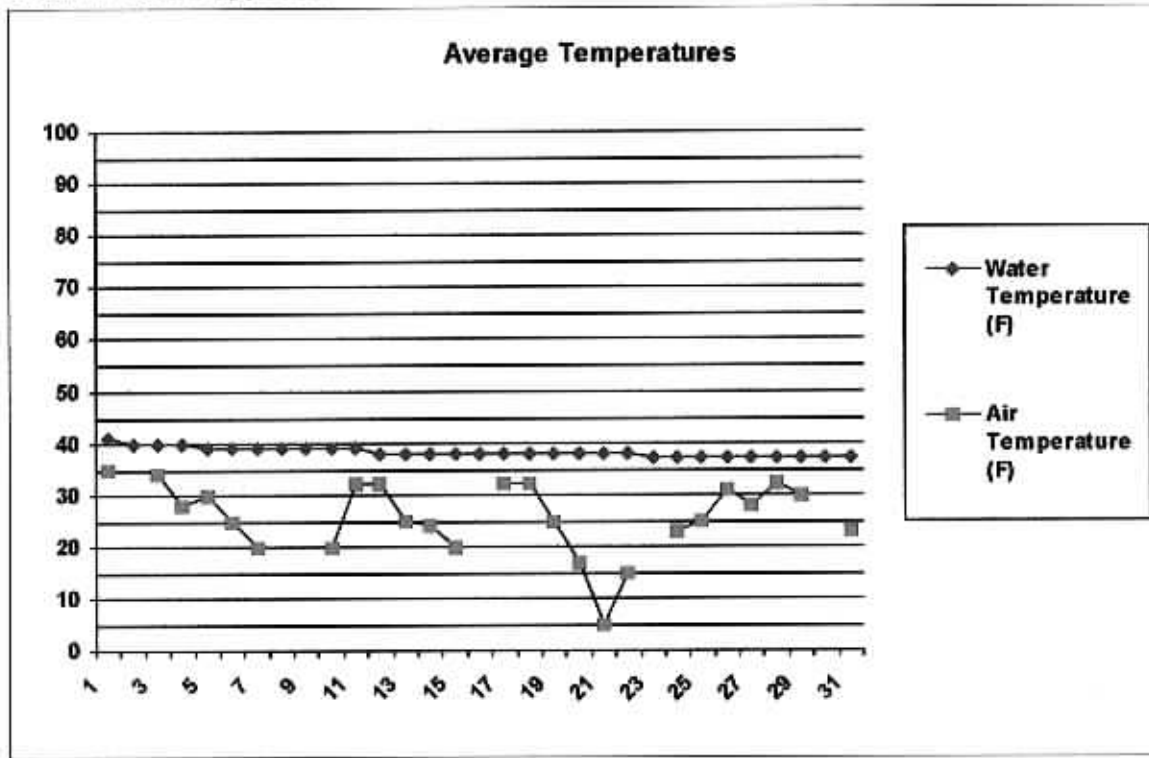
VILLAGE OF HINSDALE, SYSTEM TRENDS

Month: January, 2011



VILLAGE OF HINSDALE, SYSTEM TRENDS

Month: January, 2011



High Service and Well Pump Maintenance

January 2011

High Service Pump Motors

High Service Pump Motor #1- Check oil and lubricate grease fittings

High Service Pump Motor #2- Check oil and lubricate grease fittings

High Service Pump Motor #3- Check oil and lubricate grease fittings

High Service Pump Motor #4- Check oil and lubricate grease fittings

Well Pump Motors

Well #2 Pump Motor- Check oil, grease fittings, ran for Bacteria Testing

Well #5 Pump Motor- Check oil, grease fittings, and ran for Bacteria Testing

Well #8 Pump Motor- Check oil, grease fittings, and ran for Bacteria Testing

Well #10 Pump Motor- Check oil, grease fittings, and ran for Bacteria Testing

MONTHLY REPORT FOR January 2011

# of Bacteria samples	<u>25</u>
# of field chlorine	<u>22</u>
# of field turbidities	<u>22</u>
# of lab chlorine	<u>26</u>
# of lab turbidities	<u>26</u>
# of lab pH	<u>26</u>
# of lab fluoride	<u>26</u>
# of precipitation readings	<u>0</u>
# of temperature readings(air)	<u>25</u>
# of temperature readings(water)	<u>25</u>
# of DBP samples	<u>0</u>
# of Pumps serviced	<u>8</u>

MEMORANDUM

TO: Chairman LaPlaca and the EPS Committee
FROM: George Franco – Director of Public Services
DATE: February 14, 2011
SUBJECT: Annual IPM Review

At the January 10th EPS meeting, the Annual Integrated Pest Management review meeting was scheduled for the February 14, 2011 meeting for review and discussion of the 2011 IPM Maintenance Schedule and Report. The report was hand delivered to all members of the EPS Committee.

Staff requests that members bring the 2011 IPM Maintenance Schedule and Report to the February 14th meeting. A copy of this report is also available on the Village's website.

cc: President Cauley and the Board of Trustees
Dave Cook, Village Manager

MEMORANDUM

TO: Chairman LaPlaca & EPS Committee

FROM: Dan Hopkins

DATE: November 19, 2010

RE: IPM Compliance 2010

In accordance with the November 21, 1995, resolution that formalized the Integrated Pest Management Policy of the Village of Hinsdale, the following is the required annual report from the Pest Management Coordinator of compliance with this policy. Attached are tables that illustrate the Village's activities this year. The specifics of these activities are below:

1. Turf Maintenance

New grounds maintenance contracts went into effect May 1, 2010 incorporating the fertilizing and weed control procedures recommended by Dr. Fermanian in 1999 and reviewed in subsequent annual review meetings. The contract established unit prices for fertilizer and weed control.

Attached are tables that describe the locations at which fertilizing and weed control took place. There were two rounds of fertilizing and one round of weed control during the 2010 season. The areas covered by these activities are summarized.

Staff has developed quantitative and qualitative records to evaluate the performance of the turf maintenance activities. Staff visits each public grounds site and evaluates each space for turf density, weed content, and overall appearance. Each area was rated one through five with one being poor and five being excellent. Three rounds of visits were made this year. Appendix 1 describes the rating techniques.

As a result of the 1998 IPM annual meeting, the Committee established goals for the conditions of each turf use. Comparison with the established goals allows the Pest Management Coordinator to track the results of the Village's efforts. The trend is stable in all turf classes. Attached are a summary and tables.

Staff continued using the Aera-vator (aerator) that was purchased in 2008. This aerator shakes solid tines 4 to 4.5 inches into the soil to alleviate compaction. The aerator also has a seed box attachment that allows the operator to spread grass seed while aerating athletic fields. Over 1,300 lbs. of grass seed was spread during the 2010 season, and the initial results have been very promising. Areas that received

grass seed in 2010 included: Veeck Park, Burns Field, Stough Park, Melin Park, Dietz Park, Robbins Park, the Pool, Brook Park, Burlington Park, and the Memorial Building.

Spreading grass seed on existing turf is called overseeding. Overseeding is highly recommended by turf grass professionals as a way to repair damaged turf, increase turf density, and it is also an effective form of weed control. Having a healthy, dense turf can reduce or eliminate the need for chemical pesticides.

Staff continued experimenting with corn gluten meal in 2010. Corn gluten meal is a non-toxic alternative to traditional, chemical-based weed and feed products. Corn Gluten Meal has shown some promise as a pre-emergent herbicide, but the results were not as effective as some of the pesticides the Village has used in the past. Staff would like to continue using Corn Gluten Meal to see if its effectiveness improves over time.

Staff also continued to experiment with Burn Out II as a post-emergent, non-selective herbicide in 2010. Burn Out II is a non-toxic, pet safe weed killer. In the summer 2010, Burn Out II was used to help eliminate weeds in numerous parks throughout the Village. It was also effective at eradicating poison ivy that was found at Ehret Park. Staff would like to continue using this product.

In November 2009, Village staff attended Safer Pest Control natural lawn care classes. These classes were designed to help reduce or eliminate our dependence on chemical pesticides. These classes offered instruction on effective ways to becoming a pesticide free community. Staff found these classes extremely helpful, but realize that in the long run cost is still the biggest obstacle. Chip Osbourne the keynote speaker at these classes developed a "Step by Step" Guide to Natural Turf Management. Staff continued to implement some of the more cost-effective steps outlined by Mr. Osbourne to Melin Park in 2010. Steps that were taken include: soil testing, aerating, overseeding, and the use of corn gluten meal and Burn Out II. By August 2009, weed levels were on the rise at Melin Park. Staff aerated and overseeded Melin Park in September 2009. By June 2010 the turf density had improved dramatically and the weed levels lowered significantly.

As suggested by Mr. Osbourne, Village staff had soil tests conducted on several Village parks in 2010. Soil tests can tell you the pH, soil texture, amount of N-P-K, iron, and other important elements that are essential for proper plant health. If soils can be brought into a good balance it can greatly reduce or eliminate the need for chemical pesticides and fertilizers. Soil tests were conducted at Veeck Park, Stough Park, Burns Field (two areas), Peirce Park (two areas), KLM (two areas). For the most part the soil in these parks is in very good health. The phosphorous levels in

all tests were adequate, so staff applied a phosphorous-free fertilizer in the spring and fall of 2010. Phosphorous run off can lead to excessive algae growth, which can have a serious impact on Illinois lakes and streams. In 2009, Wisconsin banned the sale and use of lawn fertilizers containing phosphorous.

In 2010, staff experimented with urea as an alternative to calcium chloride (salt) to melt snow and ice around the Memorial Building. Urea is a high nitrogen fertilizer that works as an effective way to melt snow and ice. Calcium chloride can be very toxic to turf grass and other plants. Staff found urea worked well to melt snow and ice, but the nitrogen levels were too high, and this had an adverse effect on the turf grass. Urea's nitrogen level is at 50%. Staff would like to try a product with a lower nitrogen level around 25% or less in 2011.

In 2009, Melin Park was designated a "Pesticide Free Park". No chemical pesticides were used at Melin Park in 2010. Village residents now have an alternative to areas that may have been treated with chemical pesticides. Staff made signage to inform residents that this area is now pesticide free.

2. Other Grounds Maintenance

All flower beds, shrub beds, and natural areas were hand weeded and watered by Village personnel. All mowing was contracted. The Hinsdale 2025 surveys show strong support for increased garden areas.

3. Prairie Maintenance

Staff conducted prescribed prairie burns for Charleston Rd. Aquatic Garden and Jackson St. Prairie in March 2010. Prescribed burns can be a very effective form of weed control and also help to invigorate native plants. As early as June 2010, signs of improvement could be seen at prairies, and the results were overwhelmingly positive.

As part of the 2005 Dupage County permit for the Charleston Rd. Aquatic Garden, Dupage County was responsible for reviewing the permitted mitigation area twice a year for a period of five years. The purpose of these inspections was to ensure the success of the wetland mitigation areas, and to expedite the return of the security deposit that was held for this project. In September 2010, Jenna Fahey (Dupage County Wetland Specialist) conducted the final inspection, and said the Charleston Rd. Aquatic Garden passed with flying colors.

In August 2010, staff was contacted by Ryan Campbell, a Restoration Ecologist from Fermilab, in regards to the Jackson St. Prairie. Mr. Campbell asked if he could meet with Village staff at the Jackson St. Prairie do a walk through of the area. Mr.

Campbell was extremely impressed with the condition of the prairie and said if he were to rate it he would give it a 9 out of 10 for a remnant prairie. Mr. Campbell suggested starting a seed exchange with the Village. He could provide much needed seed stock for the Charleston Rd. Aquatic Garden in exchange for some of the prairie plant seeds in the Jackson St. Prairie. He also offered to create a detailed plant list and maintenance program for both Village prairie areas.

Staff continued working with David Crooks who has been involved with the Jackson St. Prairie preservation for many years. He again offered his services and even enlisted the help of the local Boy Scouts to keep this area clean. Staff would like to work with Mr. Crooks to conduct prairie burns in the spring of 2011. Applications for prescribed burn permits have already been approved for 2011.

4. Tree Preservation

Gypsy Moth and Emerald Ash borer (EAB) were both detected in Dupage and Cook Counties in 2008. Staff is working with the Illinois Department of Agriculture's Slow the Spread Program to help control these devastating pests. Information regarding these pests is available at the Public Services Department.

In 2010, Hinsdale lost 13 public elms and 53 private elms. A total of 225 elms received fungicide this year. The loss of treated trees is significantly lower than untreated tree loss. In the Hinsdale 2005 surveys, a large majority of respondents supported treating all public elm trees.

33 public trees were planted in the Village in 2010. Thirty one trees were graciously donated by the Dupage County Forest Preserve, and two trees were planted as part of the Tribute Tree program. The Beautification Task Force created the Tribute Tree program in November 2009. There are four more Tribute Trees scheduled for planting in spring 2011.

5. Mosquito Abatement

In 2003 the Village initiated a fourth cycle of inspection and treatment and paid for a trap in town to verify West Nile Virus (WNV) presence. In 2006 this trap and County traps tested positive for WNV, which began the village wide adulticiding program.

During 2010 Illinois saw increasing levels of West Nile Virus (WNV). There were 44 human cases in Illinois. There were 22 case reported in Cook County and 11 cases in Dupage County.

6. Recommendations

Turf

- a. Continue with grounds maintenance contracts for mowing and fertilizing.
- b. Continue using corn gluten meal and Burn Out II as non-toxic herbicides.
- c. Continue going to natural lawn care classes to keep abreast of new and innovative methods to help reduce our need of chemical pesticides.
- d. Staff would like to continue soil testing on all major green spaces.
- e. Staff does not recommend using any chemical pesticides to treat weeds in the spring of 2011. As of November 2010 turf conditions in most of the Village green spaces exceeded the action threshold. Meaning most of the turf in the Village is in good to excellent condition.
- f. Staff would like to use the money for the spring 2011 pesticide treatment to buy more turf grass seed. Staff feels the overseeding done in spring and fall of 2010 has had outstanding results.
- g. Approve the use of TriPower chemical pesticide fall 2011 (if necessary).
- h. Allow staff to conduct prescribed burns for Charleston Rd. Aquatic Garden and Jackson St. Prairie for spring 2011.

Trees

- a. No changes in tree management are recommended.

Mosquito Abatement

- a. No changes in mosquito abatement are recommended.

7. Annual Pest Management Review Meeting

The November 1995 ordinance requires an annual review meeting to be held by the Environment and Public Services Committee sometime before the end of February. As the acting Pest Management Coordinator, I ask that any technical or scientific questions regarding the compliance report be submitted in writing, no less than seven days before the IPM Review meeting. It is appropriate that the EPS Committee make a motion to approve the report. Proper notice will be given.

Attached are the following:

IPM Maintenance Schedule

Turf Condition Rating Summary

Grounds Maintenance History

Acreage of Activities History

Elm Tree History

Weather Data

Guide to Natural Turf Management, by Chip Osbourne and Doug Wood

Village Soil Samples

Product Labels and MSDS Pesticide Reports

cc: President and Board of Trustees
Dave Cook
George Franco

Proposed 2011 IPM Maintenance Schedule

January 10th

- a. IPM Annual Review Meeting.

March 1st

- a. Seek permission to conduct prairie burns.
- b. Submit prairie burn notification to a newspaper of general circulation in the Village of Hinsdale.
- c. Notify neighboring residents of upcoming prairie burns.

March 15th

- a. Conduct prairie burns on Jackson St. and Charleston Road (weather permitting).

April 1st

- a. Continue corn gluten meal testing.
Rate: 50lbs./2500sqft.
 - Treat Melin Park and KLM entrance beds with corn gluten meal.
- b. First round of aeration program.
- c. Overseed turf areas as needed.
Rate: 3-4lbs./1000sqft.

May 17th

- a. Spring Fertilization Program
Type: Lesco 32-0-16 (NPK)
Rate: 0.5lbs. N/1000sqft.

June 1st

- a. Elm tree inoculation program.
Type: Arbortech (EPA Reg 100-892)
Rate: 12 fl. oz. for each 5 inches of diameter.
- b. Mosquito abatement program.
Type: VectoBac (EPA Reg 73049-38) (granular)
Rate: 0.25-2qts./acre
Type: Altosid (EPA Reg 2724-375)
Rate: 1 briquet/100sqft. up to 2ft. deep of water.
Type: Anvil (EPA Reg 1021-1688-8329)
Rate: 1.9 oz/min at 5mph
- c. Second round of aeration program.

August 1st

- a. Third round of aeration program.
- b. Overseed turf areas as needed.
Rate: 3-4lbs./1000sqft.
- c. Add starter fertilizer to seeded areas.
Type: Lesco 16-20-4 (NPK)
Rate: Rate: 1lb./1000sqft.
- d. Topdress areas with sand.
 - The IPM Manager is working with Parks and Recreation to try to close all athletic fields for the month of August. August has very little sports activity, and it would be a good time to do field maintenance.

September 1st

- a. Early fall fertilization program (exclude areas seeded in August).
Type: 24-0-16 (NPK)
Rate: 1lb./1000sqft.

November 1

- a. Forth round of aeration program.
- b. Dormant seed turf areas as needed.
Type: 25% bluegrass and 75% ryegrass
Rate: 3-4lbs./1000sqft.
 - Grass seed sown in late fall will remain dormant till soil temperatures reach 50 degrees. Dormant seeding is a good way to ensure seeds germinate at the first available time in the spring.
- c. Add starter fertilizer to seeded areas.
Type: Lesco 16-20-4 (NPK)
Rate: 1lb./100sqft.
- d. Late fall fertilization program (exclude seeded areas).
Type: Lesco 32-0-16 (NPK)
Rate: 1.5lbs./1000sqft.

* All dates tentative and subject to change.

Appendix 1 – Rating Turf Areas

Unlike separate plots of farmland whose crops can be weighed and compared, turf areas are evaluated by the way they look, not what they produce. By definition any rating will be subjective. However, horticulturalists and other turfgrass professionals have developed a numerical rating system by which, plots of different grass seed mixes are compared in the National Turf Evaluation Program (NTEP). Several attributes of turf are rated on a 10-point scale then averaged together to create an overall number, which is used in comparisons, of for example, new variations of bluegrass.

Staff took a simplified approach, using only three attributes – turf density, weed content and overall appearance. Each attribute is rated from one (way below average) to 5 (way above average). Each turf area is classified by its use: high visibility, athletic, passive with foot traffic, passive without foot traffic or other.

Since 1996 sub-areas within locations have been identified and rated separately. A composite average equally weighing the three measures is computed next. An overall rating for each turf use is determined multiplying the sum of each place's rating average by its area and dividing by the total area of that turf use.

Here is a simple example of one turf type:

	Density	Weed	Appear.	Average	Area	Avg x Area
Park A	2	2	3	2.3	7 acres	16.1
Park B	3	3	3	3.0	1	3.0
Bldg C	3	4	5	4.0	2	8.0
					10 acres	27.1

$$\text{Composite rating} \quad \frac{27.1}{10} = 2.71$$

Goals based upon the rating system were established in 1999. These are the ideals to which the turf management program strives, but they are also based in reality. Lawns of green carpet are not appropriate everywhere. Next the objectives, the practical gauges by which progress is assessed were set. Neither the goals nor the objectives should change often. Maybe in time, sights can be set higher.

The goals are as follows:

- High visibility areas shall be treated to maintain a well above average rating (4.0).
- Athletic areas shall be treated to maintain an above average rating (3.5).

- Passive areas with foot traffic shall be treated to maintain an above average rating (3.5).
- Passive areas without foot traffic shall be treated to maintain an average rating (3.0).
- Other areas shall be treated as appropriate to their use.

The objectives are based on a three-year basis and are 80% of the goals. They are:

• High visibility	3.2
• Athletic	2.8
• Passive with foot traffic	2.8
• Passive without foot traffic	2.4
• Other	as appropriate


The above numbers represent the action threshold. An action threshold is the point at which an IPM Coordinator should take action to improve the turf quality, by either increasing turf density, decreasing weed population, and/or improving overall appearance. Any area that falls below the action threshold should receive attention to bring the levels up to or above the action threshold. Methods that can help bring levels up to action threshold include: aerating, fertilizing (organic/inorganic), top dressing, overseeding, and weed control (organic/chemical).

Staff has discussed this methodology with its turf consultant, Dr. Fermanian. He thought the approach was reasonable and agreed that a three-year average is a long enough time frame to judge progress. Individual seasons of extreme weather may tilt study lengths of shorter duration.

The object of a turf management program is stability over time. Any activity influenced by weather will see periodic advances and declines. The goals and objectives allow the Village to look past the seasonal battles over turf growth to assess its long-term programmed approach reflected in the IPM policy. An analysis using these tools will reveal long-range trends.

TURF CONDITION RATING 2010

SITE LOCATION		Apr-10			Action Threshold	Rating	Recommendations
		TURF DENSITY	WEED POPULATION	APPEARANCE			
MEMORIAL BUILDING							
HV	NORTH	3	2	3	3.2	2.67	A,F,S,W
HV	SOUTH	3	3	3	3.2	3.00	A,F,S,W
HV	BURLINGTON PARK	2	2	3	3.2	2.33	A,F,S,W
P	SYMONDS DRIVE	2	3	3	2.4	2.67	A,F,S
HV	POLICE/FIRE BLDG	3	3	3	2.8	3.00	A,F
WATER PLANT							
HV	WEST OF PLANT	3	3	3	2.8	3.00	A,F
P	S ALONG SYMONDS	3	2	3	2.4	2.67	A,F,W
PF	RESERVOIR	3	3	3	2.8	3.00	A,F
P	PUB WORKS GARAGE	2	2	2	2.4	2.00	A,F,S,W
P	BRUSH HILL	3	3	3	2.4	3.00	A,F
PEIRCE PARK							
A	FAR EAST FIELDS	4	3	4	2.8	3.67	A,F
A	NEAR EAST FIELDS	3	3	3	2.8	3.00	A,F
PF	PASSIVE AREAS	2	3	3	2.8	2.67	A,F,S
A	WEST FIELD	4	3	3	2.8	3.33	A,F
P	RAVINE & CTY LINE	3	3	3	2.4	3.00	A,F
P	RAVINE & OAK	3	3	3	2.4	3.00	A,F
P	YORK & WALKER	2	1	1	2.4	1.33	A,F,S,W
P	MADISON @ OGDEN	1	1	1	2.4	1.00	A,F,S,W
BURNS FIELD							
A	ICE RINK	2	1	2	2.8	1.67	A,F,S,W
A	SOCCER AREA	3	2	3	2.8	2.67	A,F,W
A	PLAYGROUND	2	2	3	2.8	2.33	A,F,S,W
PF	FRINGE	2	2	2	2.8	2.00	A,F,S,W
STOUGH PARK							
A	ICE RINK	2	2	3	2.8	2.33	A,F,S,W
O	RAILROAD BANK	3	2	3	n/a	n/a	n/a
PF	EAST PASSIVE	3	2	3	2.8	2.67	A,F,W
PF	CENTRAL PASSIVE	3	2	3	2.8	2.67	A,F,W
PF	W HINSDALE STA	2	1	1	2.8	1.33	A,F,S,W
JACKSON: 4TH - 8TH							
P	JACKSON PRAIRIE	3	3	3	2.4	3.00	A,F,S,W
P	JACKSON PRAIRIE	5	3	5	2.4	4.33	S
A	MELIN PARK	3	3	3	2.8	3.00	A
A	DIETZ PARK	2	3	3	2.8	2.67	A,F,S

 = Area has a rating that falls below the Action Threshold. Action should be taken to remedy this.


A = Aerate

F = Fertilize

S = Seed

W = Weed Control

SITE LOCATION		Apr-10			Action Threshold	Rating	Recommendations
		TURF	WEED	APPEARANCE			
		DENSITY	POPULATION				
ROBBINS PARK							
A	NE - NORTH	3	3	3	2.8	3.00	A,F
A	NE - SOUTH	3	3	3	2.8	3.00	A,F
A	CENTRAL	3	3	3	2.8	3.00	A,F
A	SOUTHWEST	3	3	3	2.8	3.00	A,F
PF	PARKWAYS	3	3	3	2.8	3.00	A,F
A	FOOTBALL	3	3	3	2.8	3.00	A,F
SWIMMING POOL							
PF	NORTH	1	2	2	2.8	1.67	A,F,S,W
PF	SOUTH	3	2	3	2.8	2.67	A,F,W
A	WEST	2	2	3	2.8	2.33	A,F,S,W
PF	EHRET PARK	2	3	3	2.8	2.67	A,F,S
P	HINS: STOUGH - GARF	2	2	2	2.4	2.00	A,F,S,W
HV	ELEANOR'S PARK	3	2	3	3.2	2.67	A,F,W
P	CHICAGO @ BNRR	2	3	3	2.4	2.67	A,F,W
HIGHLAND PARK							
PF	PASSIVE	3	3	3	2.8	3.00	A,F
PF	PARKWAYS	3	3	3	2.8	3.00	A,F
A	VEECK PARK	2	2	2	2.8	2.00	A,F,S,W
P	CHICAGO @ PRINCE	3	3	3	2.4	3.00	A,F
P	1ST & PRINCETON	3	3	3	2.4	3.00	A,F
P	3RD & PRINCETON	3	2	3	2.4	2.67	A,F
P	COLUMBIA: 1ST - 3RD	2	3	3	2.4	2.67	A,F,S
BROOK PARK							
A	PLAYING FIELD	2	3	3	2.8	2.67	A,F
PF	FRINGE AREAS	3	3	3	2.8	3.00	A,F,S
PF	6TH & PRINCETON	4	3	3	2.8	3.33	A,F
P	7TH & HARDING	3	3	3	2.4	3.00	A,F
PF	WOODLAND PARK	3	3	3	2.8	3.00	A,F
O	TAFT @ 55TH	1	1	1	n/a	n/a	n/a
P	7TH & WILSON	2	3	2	2.4	2.33	A,F,S
O	CLEVELAND @ 55TH	1	1	1	n/a	n/a	n/a
PF	WOODLAND DR ISLES	3	3	3	2.8	3.00	A,F
P	DALEWOOD ISLAND	3	3	3	2.4	3.00	A,F,W
P	COUNTY LINE CT	1	1	1	n/a	n/a	A,F,S,W
O	PAMELA CIRCLE	1	1	1	n/a	n/a	n/a
PF	CHARLESTON RD	3	3	3	2.8	3.00	A,F

 = Area has a rating that falls below the Action Threshold. Action should be taken to remedy this.


A = Aerate

F = Fertilize

S = Seed

W = Weed Control

SITE LOCATION		Apr-10			Action Threshold	Rating	Recommendations
		TURF	WEED	APPEARANCE			
		DENSITY	POPULATION				
KLM PARK							
HV	NEAR BUILDINGS	3	3	3	3.2	3.00	A,F,S
HV	CONCERT HILL	4	3	3	3.2	3.33	A,F
A	NORTH OF CREEK	3	3	3	2.8	3.00	A,F,S
A	EAST PLAY AREA	3	3	3	2.8	3.00	A,F
PF	SOUTH OF ROAD	3	2	2	2.8	2.33	A,F,S
PF	4TH ST ISLANDS	3	3	3	2.8	3.00	A,F
P	OAK @ 9TH	2	2	1	n/a	n/a	n/a
P	ELM ; 9TH - 55TH	3	2	3	2.4	2.67	A,F
PF	WASHINGTON CIRC	3	3	3	2.8	3.00	A,F
O	WASHINGTON LOT	1	1	1	n/a	n/a	n/a
PF	PARKWAYS @ HMS	2	1	1	2.8	1.33	A,F,S,W
O	LINCOLN LOT	1	1	1	n/a	n/a	n/a
O	VILLAGE LOT	1	1	1	n/a	n/a	n/a
O	W OF POST CIRCLE	1	1	1	n/a	n/a	n/a
A	DUNCAN FIELD	2	2	2	2.8	2.00	A,F,S,W

 = Area has a rating that falls below the Action Threshold. Action should be taken to remedy this.

A = Aerate

F = Fertilize

S = Seed

W = Weed Control

SITE LOCATION		Jul-10			Action Threshold	Rating	Recommendations
		TURF DENSITY	WEED POPULATION	APPEARANCE			
MEMORIAL BUILDING							
HV	NORTH	3	2	3	3.2	2.67	A,F,S,W
HV	SOUTH	3	3	3	3.2	3.00	A,F,S,W
HV	BURLINGTON PARK	3	2	3	3.2	2.67	A,F,S,W
P	SYMONDS DRIVE	2	3	3	2.4	2.67	A,F,S
HV	POLICE/FIRE BLDG	2	3	3	2.8	2.67	A,F,S
WATER PLANT							
HV	WEST OF PLANT	3	3	3	2.8	3.00	A,F
P	S ALONG SYMONDS	3	2	3	2.4	2.67	A,F,W
PF	RESERVOIR	3	3	3	2.8	3.00	A,F
P	PUB WORKS GARAGE	2	2	2	2.4	2.00	A,F,S,W
P	BRUSH HILL	3	3	3	2.4	3.00	A,F
PEIRCE PARK							
A	FAR EAST FIELDS	3	3	3	2.8	3.00	A,F
A	NEAR EAST FIELDS	3	3	3	2.8	3.00	A,F
PF	PASSIVE AREAS	2	3	3	2.8	2.67	A,F,S
A	WEST FIELD	4	3	3	2.8	3.33	A,F
P	RAVINE & CTY LINE	3	3	3	2.4	3.00	A,F
P	RAVINE & OAK	3	3	3	2.4	3.00	A,F
P	YORK & WALKER	1	1	1	2.4	1.00	A,F,S,W
P	MADISON @ OGDEN	1	1	1	2.4	1.00	A,F,S,W
BURNS FIELD							
A	ICE RINK	2	2	2	2.8	2.00	A,F,S,W
A	SOCCER AREA	3	2	3	2.8	2.67	A,F,W
A	PLAYGROUND	2	2	3	2.8	2.33	A,F,S,W
PF	FRINGE	2	2	2	2.8	2.00	A,F,S,W
STOUGH PARK							
A	ICE RINK	3	2	3	2.8	2.67	A,F,W
O	RAILROAD BANK	3	2	3	n/a	n/a	n/a
PF	EAST PASSIVE	3	2	3	2.8	2.67	A,F,W
PF	CENTRAL PASSIVE	3	2	3	2.8	2.67	A,F,W
PF	W HINSDALE STA	2	2	2	2.8	2.00	A,F,S,W
JACKSON PARK							
P	JACKSON: 4TH - 8TH	2	3	3	2.4	2.67	A,F,S,W
P	JACKSON PRAIRIE	5	3	5	2.4	4.33	S
A	MELIN PARK	3	3	3	2.8	3.00	A
A	DIETZ PARK	2	3	3	2.8	2.67	A,F,S

REMARK = Area has a rating that falls below the Action Threshold. Action should be taken to remedy this.


A = Aerate

F = Fertilize

S = Seed


W = Weed Control

SITE LOCATION		Jul-10			Action Threshold	Rating	Recommendations
		TURF DENSITY	WEED POPULATION	APPEARANCE			
ROBBINS PARK							
A	NE - NORTH	3	3	3	2.8	3.00	A,F
A	NE - SOUTH	2	3	3	2.8	2.67	A,F,S
A	CENTRAL	3	3	3	2.8	3.00	A,F
A	SOUTHWEST	3	3	3	2.8	3.00	A,F
PF	PARKWAYS	3	3	3	2.8	3.00	A,F
A	FOOTBALL	2	3	3	2.8	2.67	A,F,S
SWIMMING POOL							
PF	NORTH	1	2	2	2.8	1.67	A,F,S,W
PF	SOUTH	3	2	3	2.8	2.67	A,F,W
A	WEST	3	2	3	2.8	2.67	A,F,S,W
PF	EHRET PARK	2	3	3	2.8	2.67	A,F,S
P	HINS: STOUGH - GARF	2	2	2	2.4	2.00	A,F,S,W
HV	ELEANOR'S PARK	3	2	3	3.2	2.67	A,F,W
P	CHICAGO @ BNRR	2	3	3	2.4	2.67	A,F,W
HIGHLAND PARK							
PF	PASSIVE	3	3	3	2.8	3.00	A,F
PF	PARKWAYS	3	3	3	2.8	3.00	A,F
A	VEECK PARK	2	2	2	2.8	2.00	A,F,S,W
P	CHICAGO @ PRINCE	3	3	3	2.4	3.00	A,F
P	1ST & PRINCETON	3	3	3	2.4	3.00	A,F
P	3RD & PRINCETON	2	2	3	2.4	2.33	A,F,S,W
P	COLUMBIA: 1ST - 3RD	2	2	3	2.4	2.33	A,F,S,W
BROOK PARK							
A	PLAYING FIELD	3	3	3	2.8	3.00	A,F
PF	FRINGE AREAS	3	3	3	2.8	3.00	A,F,S
PF	6TH & PRINCETON	3	3	3	2.8	3.00	A,F
P	7TH & HARDING	3	3	3	2.4	3.00	A,F
PF	WOODLAND PARK	3	3	3	2.8	3.00	A,F
O	TAFT @ 55TH	1	1	1	n/a	n/a	n/a
P	7TH & WILSON	2	3	2	2.4	2.33	A,F,S
O	CLEVELAND @ 55TH	1	1	1	n/a	n/a	n/a
PF	WOODLAND DR ISLES	3	3	3	2.8	3.00	A,F
P	DALEWOOD ISLAND	3	3	3	2.4	3.00	A,F,W
P	COUNTY LINE CT	1	1	1	n/a	n/a	A,F,S,W
O	PAMELA CIRCLE	1	1	1	n/a	n/a	n/a
PF	CHARLESTON RD	3	3	3	2.8	3.00	A,F

 = Area has a rating that falls below the Action Threshold. Action should be taken to remedy this.

A = Aerate F = Fertilize S = Seed W = Weed Control

SITE LOCATION		Jul-10			Action Threshold	Rating	Recommendations
		TURF DENSITY	WEED POPULATION	APPEARANCE			
KLM PARK							
HV	NEAR BUILDINGS	3	3	3	3.2	3.00	A,F,S
HV	CONCERT HILL	3	3	3	3.2	3.00	A,F
A	NORTH OF CREEK	3	3	3	2.8	3.00	A,F,S
A	EAST PLAY AREA	3	3	3	2.8	3.00	A,F
PF	SOUTH OF ROAD	3	2	2	2.8	2.33	A,F,S,W
PF	4TH ST ISLANDS	3	3	3	2.8	3.00	A,F
P	OAK @ 9TH	2	2	1	n/a	n/a	n/a
P	ELM ; 9TH - 55TH	3	2	3	2.4	2.67	A,F
PF	WASHINGTON CIRC	3	3	3	2.8	3.00	A,F
O	WASHINGTON LOT	1	1	1	n/a	n/a	n/a
PF	PARKWAYS @ HMS	2	1	1	2.8	1.33	A,F,S,W
O	LINCOLN LOT	1	1	1	n/a	n/a	n/a
O	VILLAGE LOT	1	1	1	n/a	n/a	n/a
O	W OF POST CIRCLE	1	1	1	n/a	n/a	n/a
A	DUNCAN FIELD	2	2	2	2.8	2.00	A,F,S,W

 = Area has a rating that falls below the Action Threshold. Action should be taken to remedy this.

A = Aerate

F = Fertilize

S = Seed

W = Weed Control

SITE LOCATION		Nov-10			Action Threshold	Rating	Recommendations
		TURF DENSITY	WEED POPULATION	APPEARANCE			
MEMORIAL BUILDING							
HV	NORTH	3	3	3	3.2	3.00	A,F,S
HV	SOUTH	4	3	3	3.2	3.33	A,F
HV	BURLINGTON PARK	4	3	3	3.2	3.33	A,F
P	SYMONDS DRIVE	2	3	3	2.4	2.67	A,F,S
HV	POLICE/FIRE BLDG	3	3	3	2.8	3.00	A,F
WATER PLANT							
HV	WEST OF PLANT	3	3	3	2.8	3.00	A,F
P	S ALONG SYMONDS	3	2	3	2.4	2.67	A,F,W
PF	RESERVOIR	3	3	3	2.8	3.00	A,F
P	PUB WORKS GARAGE	2	2	2	2.4	2.00	A,F,S,W
P	BRUSH HILL	3	3	3	2.4	3.00	A,F
PEIRCE PARK							
A	FAR EAST FIELDS	3	3	3	2.8	3.00	A,F
A	NEAR EAST FIELDS	3	3	3	2.8	3.00	A,F
PF	PASSIVE AREAS	2	3	3	2.8	2.67	A,F,S
A	WEST FIELD	3	3	3	2.8	3.00	A,F
P	RAVINE & CTY LINE	3	3	3	2.4	3.00	A,F
P	RAVINE & OAK	3	3	3	2.4	3.00	A,F
P	YORK & WALKER	1	1	1	2.4	1.00	A,F,S,W
P	MADISON @ OGDEN	1	1	1	2.4	1.00	A,F,S,W
BURNS FIELD							
A	ICE RINK	2	3	3	2.8	2.67	A,F,S
A	SOCCER AREA	3	3	3	2.8	3.00	A,F
A	PLAYGROUND	3	2	3	2.8	2.67	A,F,W
PF	FRINGE	3	3	3	2.8	3.00	A,F
STOUGH PARK							
A	ICE RINK	3	3	3	2.8	3.00	A,F
O	RAILROAD BANK	3	3	3	n/a	n/a	n/a
PF	EAST PASSIVE	3	3	3	2.8	3.00	A,F
PF	CENTRAL PASSIVE	3	3	3	2.8	3.00	A,F
PF	W HINSDALE STA	2	2	2	2.8	2.00	A,F,S,W
JACKSON PARK							
P	JACKSON: 4TH - 8TH	2	3	3	2.4	2.67	A,F,W
P	JACKSON PRAIRIE	5	3	4	2.4	4.00	S
A	MELIN PARK	4	3	3	2.8	3.33	A
A	DIETZ PARK	2	3	3	2.8	2.67	A,F,S

2.67 = Area has a rating that falls below the Action Threshold. Action should be taken to remedy this.

A = Aerate F = Fertilize S = Seed W = Weed Control

SITE LOCATION		Nov-10			Action Threshold	Rating	Recommendations
		TURF	WEED	APPEARANCE			
		DENSITY	POPULATION				
ROBBINS PARK							
A	NE - NORTH	3	3	3	2.8	3.00	A,F
A	NE - SOUTH	2	3	3	2.8	2.67	A,F,S
A	CENTRAL	3	3	3	2.8	3.00	A,F
A	SOUTHWEST	3	3	3	2.8	3.00	A,F
PF	PARKWAYS	3	3	3	2.8	3.00	A,F
A	FOOTBALL	2	3	3	2.8	2.67	A,F,S
SWIMMING POOL							
PF	NORTH	2	2	2	2.8	2.00	A,F,S,W
PF	SOUTH	3	2	3	2.8	2.67	A,F,W
A	WEST	3	2	3	2.8	2.67	A,F,S,W
PF	EHRET PARK	2	3	3	2.8	2.67	A,F,S
P	HINS: STOUGH - GARF	2	2	2	2.4	2.00	A,F,S,W
HV	ELEANOR'S PARK	3	2	3	3.2	2.67	A,F,W
P	CHICAGO @ BNRR	2	2	3	2.4	2.33	A,F,W,S
HIGHLAND PARK							
PF	PASSIVE	3	3	3	2.8	3.00	A,F
PF	PARKWAYS	3	3	3	2.8	3.00	A,F
A	VEECK PARK	2	2	2	2.8	2.00	A,F,S,W
P	CHICAGO @ PRINCE	3	3	3	2.4	3.00	A,F
P	1ST & PRINCETON	3	3	3	2.4	3.00	A,F
P	3RD & PRINCETON	2	2	2	2.4	2.00	A,F,S,W
P	COLUMBIA: 1ST - 3RD	2	2	2	2.4	2.00	A,F,S,W
BROOK PARK							
A	PLAYING FIELD	2	3	3	2.8	2.67	A,F,S
PF	FRINGE AREAS	3	3	3	2.8	3.00	A,F,S
PF	6TH & PRINCETON	3	3	3	2.8	3.00	A,F
P	7TH & HARDING	3	3	3	2.4	3.00	A,F
PF	WOODLAND PARK	3	3	3	2.8	3.00	A,F
O	TAFT @ 55TH	1	1	1	n/a	n/a	n/a
P	7TH & WILSON	2	3	2	2.4	2.33	A,F,S
O	CLEVELAND @ 55TH	1	1	1	n/a	n/a	n/a
PF	WOODLAND DR ISLES	3	3	3	2.8	3.00	A,F
P	DALEWOOD ISLAND	3	3	3	2.4	3.00	A,F,W
P	COUNTY LINE CT	1	1	1	n/a	n/a	A,F,S,W
O	PAMELA CIRCLE	1	1	1	n/a	n/a	n/a
PF	CHARLESTON RD	3	3	3	2.8	3.00	A,F

 = Area has a rating that falls below the Action Threshold. Action should be taken to remedy this.

A = Aerate

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SITE LOCATION		Nov-10			Action Threshold	Rating	Recommendations
		TURF DENSITY	WEED POPULATION	APPEARANCE			
KLM PARK							
HV	NEAR BUILDINGS	3	3	3	3.2	3.00	A,F,S
HV	CONCERT HILL	4	3	3	3.2	3.33	A,F
A	NORTH OF CREEK	3	3	3	2.8	3.00	A,F,S
A	EAST PLAY AREA	3	3	3	2.8	3.00	A,F
PF	SOUTH OF ROAD	2	3	3	2.8	2.67	A,F,S,W
PF	4TH ST ISLANDS	3	3	3	2.8	3.00	A,F
P	OAK @ 9TH	2	2	1	n/a	n/a	n/a
P	ELM ; 9TH - 55TH	3	2	3	2.4	2.67	A,F
PF	WASHINGTON CIRC	3	3	3	2.8	3.00	A,F
O	WASHINGTON LOT	1	1	1	n/a	n/a	n/a
PF	PARKWAYS @ HMS	2	1	1	2.8	1.33	A,F,S,W
O	LINCOLN LOT	1	1	1	n/a	n/a	n/a
O	VILLAGE LOT	1	1	1	n/a	n/a	n/a
O	W OF POST CIRCLE	1	1	1	n/a	n/a	n/a
A	DUNCAN FIELD	2	2	2	2.8	2.00	A,F,S,W

2.67 = Area has a rating that falls below the Action Threshold. Action should be taken to remedy this.

A = Aerate

F = Fertilize

S = Seed

W = Weed Control

GROUNDS MAINT HISTORY		SPR 2001	FALL 2001	SPR 2002	FALL 2002	SPR 2003	FALL 2003	SPR 2004	FALL 2004	SPR 2005	FALL 2005	SPR 2006	FALL 2006	SPR 2007	FALL 2007	SPR 2008	FALL 2008	SPR 2009	FALL 2009	SPR 2010	FALL 2010
1	MEMORIAL BUILDING																				
	NORTH	AF	AF	F	AF	AF	AFWS	AF	F	AF	AF	AF	AF	S	AF	WA	FAS	AFW	AF	AFS	AFWS
	SOUTH	AF	AFWS	F	AF	AF	AF	AF	FWS	AF	AF	AF	AF		AF	WA	FAS	AFWO	AFO	AFOS	AFWS
2	BURLINGTON PARK	AF	AF	F	AF	AF	const	const	AF	AF	WAFS	AO	AF		AF	WA	FAS	AFW	AF	AF	AFWS
3	BYMONDS DRIVE	F	FWS	F	F	F	F	F	F	F	WF	F	WSF				F	FW	F	F	F
4	POLICE/FIRE BLDG	F	FWS	F	F	F	FW	F	F	F		F	F		F	A	WFS	AF	AFW	F	F
5	WATER PLANT																				
	WEST OF PLANT	F	F	F	F	F	F	F	F	F	F	F	F		F		WAF	AF	AF	F	F
	S ALONG SYMONDS	F	F	F	F	F	F	F	F	F	F	F	F				WF	AF	AF	F	F
	N OVER RESERVOIR	F	F	F	F	F	F	F	FWS	F	F	F	F		F	A	WAF	AF	AFB	AF	AF
6	PW GARAGE	F	F	F	F	F	F	F	F	F	WFS	F	WSF		F		WF	F	F	F	F
7	BRUSH HILL	F	WFS	F	F	F	F	F	F	F	F	F	F		F	A	WAFS	AF	AFW	AF	AF
8	PEIRCE PARK																				
	FAR EAST - N	F	AF	F	AF	AF	WSF	F	FWS	AF	AF	AF	AF	A	AF		A	F	F	F	AF
	NEAR EAST - N	F	AF	F	AF	AF	WSF	F	FWS	AF	AF	AF	AF	A	AF		A	F	F	F	AF
	FAR EAST - S	O	AO	F	AF	AF	WSF	F	F	AF	AF	AO	AO	A	F		A	F	F	F	AF
	NEAR EAST - S	O	AO	F	AF	AF	WSF	F	F	AF	AF	AO	AO	A	AF		A	F	F	F	AF
	PASSIVE AREAS	F	F	F	FWS	F	F	F	F	AF	F	F	F		F	A	WA	F	AFS	F	AF
	WEST FIELD	F	F	F	FAWS	AF	F	F	F	AF	AF	AF	AF	A	F		A	F	F	F	AF
9	RAVINE & CTY LINE	F	F	F	F	F	F	F	F	F	F	F	F		F		F	FW	F	F	F
10	RAVINE & OAK	F	F	F	F	F	F	F	F	F	F	F	F		F		F	FW	F	F	F
11	YORK & WALKER	F	F	F	F	F	F	F	F	F	F	O	F		F						
12	MADISON @ OGDEN	F	F	F		F				F		F			F						
13	BURNS FIELD																				
	ICE RINK	AF	A					S		A						W	FA	AF	AF	F	AFWS
	SOCCER AREA	AF	AF	F	-	AF	F	F	FWS	AF	WAFS	AF	WASF	S	AFS	W	FA	AF	AF	F	AFWS
	PLAYGROUND	AF	AF	F	-	F	WS	F	F	AF	F	F	F		F		A	AF	AF	F	AF
	FRINGE	AF	WFS	F	WFS	F	WSF	F	FWB	F	WFS	F	WSF		F	W	A	AF	AF	F	AFW
14	STOUGH PARK																				
	ICE RINK	A								AF		F		S	AFS	A	WAF	AF	AF	F	AFWS
	RAILROAD BANK				WS	F	WSF	F	FWS	AF	F	F	F		F	A	WAF	AF	AF	F	AFS
	EAST PASSIVE	AF		F	F	F	F	F	F	AF	FWS	F	WSF		F	A	WAF	AF	AF	F	AFS
	CENTRAL PASSIVE	F	F	F	FW	F	F	F	F	AF	F	F	ASF		F	A	WAF	AF	AF	F	AFS
15	WHINSDALE STA	F	F	F	F	F	F	F	F	F	FS	F	WSF								

A = AERATE/F = FERTILIZE/O = ORG NAT FERT/S = SEED STARTER FERT/W = WEED CONTROL

GROUNDS MAINT HISTORY		SPR 2001	FALL 2001	SPR 2002	FALL 2002	SPR 2003	FALL 2003	SPR 2004	FALL 2004	SPR 2005	FALL 2005	SPR 2006	FALL 2006	SPR 2007	FALL 2007	SPR 2008	FALL 2008	SPR 2009	FALL 2009	SPR 2010	FALL 2010
16	JACKSON: 4TH - 8TH	O	O	F	O	F	F	F	F	F	F	F	F		F		F	F	AFWS	F	F
17	JACKSON PRAIRIE	F	F	F	F	F	F	F	FWS	F	F	O	O	S		S					
18	MELIN PARK	AF	AF	F	AF	AF	AFSW	F	F	F	F	AF	F	S	AFS	AO	AO	AOS	AOS	O	AS
19	DIETZ PARK	AF	AWFS	F	AF	AF	AFSW	F	F	F	F	AF	WFS		AFS		AF	AF	AFWS	F	AFS
20	ROBBINS PARK																				
	NE - NORTH	F	AF	F	AF	F	const	F	WS	AF	AF	AF	AF	AS	AFS	WA	WAF	AFW	AFS	F	AFS
	NE - SOUTH	F	AF	F	AF	F	const	F	WS	AF	AF	AF	AF	AS	AFS	WA	WAF	AFW	AFS	F	AFS
	CENTRAL	F	AF	F	AF	F	F	AF	FW	AFS	FS	F	WFS	AS	AFS	WA	WAFS	AFWS	AFWS	F	AFS
	SOUTHWEST	F	F	F	AF	AF	A	F	FWS	AF	AF	F	AF	S	AFS	WA	WAF	AFW	AFS	F	AFS
	PARKWAYS	F	F	F	AF	F	WS	FS	F	AF	F	F	F		F	WA	WAF	AFW	AFS	F	AFS
21	SWIMMING POOL																				
	NORTH	AF	F	F	F	F	F	F	FWS	F	F	F	F		F		WAF	F	F	F	AFS
	SOUTH	AF	F	F	F	F	FW	F	F	F	F	F	F		F		WF	F	F	F	AFS
	WEST	AF	F	F	FWS	F	FW	F	FWS	F	F	F	F		F		WF	F	AF	F	AFS
22	EHRET PARK	F	F	F	F	F	F	F	F	F	F	F	F		F	WA	F	AF	AFS	F	F
23	HINS: STOUGH-GARF	F	F		F	F	F	F	F	F	WFS	F	F								
24	ELEANOR'S PARK	F	F	F	F	F	FW	F	F	F	F	F	F		F		A	F	F	F	F
25	CHICAGO @ BNRR				FWS		FWS		F	F	F	F	F					F	F	F	F
26	HIGHLAND PARK																				
	PASSIVE	F	F	F	FWS	F	F	F	F	F	F	F	F		F	WA	WAF	AF	AFS	F	F
	PARKWAYS	F	F	F	FWS	F	F	F	F	F	F	F	F		F	WA	WAF	AF	AFWS	F	F
27	VEECK PARK	A	AF	A	AWF	AF	ASF	AF	ASF	AF	AF	AF	AWSF	AS	AFS	A	WAFS	AF	AFS	F	AFS
28	CHIC@ PRINCETON		F	F	F	F	F	F	F	F	F	F	AF		F	W	A	F	F	F	F
29	1ST & PRINCETON	F	F	F	F	F	FW	F	F	F	F	F	F		F	W	A	F	F	F	F
30	3RD & PRINCETON	F	F	F	F	F	F	F	FWS	F	F	F	F		F	W		F	F	F	F
31	COLUMBIA: 1ST-3RD		F		F		F		F	F	F	F	F		F		F	F	F	F	F

A = AERATE/F = FERTILIZE/O = ORG NAT FERT/S = SEED STARTER FERT/W = WEED CONTROL

GROUNDS MAINT HISTORY		SPR 2001	FALL 2001	SPR 2002	FALL 2002	SPR 2003	FALL 2003	SPR 2004	FALL 2004	SPR 2005	FALL 2005	SPR 2006	FALL 2006	SPR 2007	FALL 2007	SPR 2008	FALL 2008	SPR 2009	FALL 2009	SPR 2010	FALL 2010
32	BROOK PARK																				
	PLAYING FIELD	AF	AF	F	AF	AF	AF	AF	AF	F	F	F		AF			AFS	AFWS	AFWS	AFS	AFS
	FRINGE AREAS	AF	AF	F	AF	AF	AF	AF	AF	F	FWS	F	F		F		AFS	AFW	AFW	F	AFS
33	6TH & PRINCETON	F	F	F	F	F	F	F	F	F	F	F		F		W	A	F	F	F	F
34	7TH & HARDING	F	F	F	F	F	F	F	F	F	F	F		F			F	F	F	F	F
35	WOODLAND PARK	AF	F	F	F	F	F	F	F	F	FWS	F	WSF		F			FW	F	F	F
36	TAFT @ 55TH				F		F		F		F		F								
37	7TH & WILSON				F		F		F		F		F		F		F	F	F	F	F
38	CLEVELAND @ 55TH	F	F	F	F	F	FW	F	F		F		F								
39	WOODLAND DR ISLE	F	F	F	F	F	F	F	F	F	FWS	F	F		F	W	AF	F	F	F	F
40	DALEWOOD ISLAND	F	F	F	F	F	F	F	F	F	F	F	F				F	F	F	F	F
41	COUNTY LINE CT	F	F	F	F	F		F									F	F	F	F	F
42	PAMELA CIRCLE																F				
43	CHARLESTON RD	F	F	F	F	F	AF	F	F	F	F	F	WF		F	S	AF	AFW	AF	F	F
44	KLM PARK																				
	NEAR BUILDINGS	F	F	F	FS	F	FWS	F	FWS	F	WFS	F	AWSF		F	W	AF	AF	AFWS	F	AFS
	CONCERT HILL	F	F	F	FS	F	FSW	AF	AF	AF	AF	F	AF	AS	F	W	AF	AF	AFW	F	AF
	NORTH OF CREEK	AF	AWF	F	FS	F	F	F	AWF	AF	F	AF	F		F	W	AF	AF	AFW	F	AF
	EAST PLAY AREA	AF	AF	F	AFS	AF	AFSW	AF	F	AF	AF	AF	AWF	AS	AFS	W	AF	AF	AFWS	F	AFS
	SOUTH OF ROAD	F	F	F	FS	F	F	F	WF	AF	F	F	F		F	W	AF	AFO	AFO	F	AF
45	4TH ST ISLANDS	F	F	F	F	F	F	F	F	F	F	F	F		F		WAF	F	F	F	F
46	OAK @ 9TH																				
47	ELM; 9TH - 55TH	F	F	F				F													
48	WASHINGTON CIRCLE	F	F	F	F	F	FW	F	F	F	F	F	F		F	A	WAF	F	F	F	F
49	WASHINGTON LOT	F	F	F	F	F	const	F													
50	PARKWAYS @ HMB	F	F	F	F	F	const	F							F						
51	LINCOLN LOT	F	F	F	F	F	const	F													
52	VILLAGE LOT	F	F	F	F	F	const	F			WS										
53	W OF POST CIRCLE	F	F	F	W	F		F					F								
54	DUNCAN FIELD														F			A	A		A

A = AERATE/F = FERTILIZE/O = ORG NAT FERT/S = SEED STARTER FERT/W = WEED CONTROL

ACRES OF ACTIVITY SPRING 2010

LOCATION	AREA SF	AREA AC	FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE	FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE
1 MEMORIAL BUILDING														
NORTH	35,200	0.81	X	O	O	O	X	X	0.81	0.00	0.00	0.00	0.81	0.81
SOUTH	62,500	1.43	X	X	O	X	X	X	1.43	1.43	0.00	1.43	1.43	1.43
2 BURLINGTON PARK	62,400	1.43	X	O	O	O	X	X	1.43	0.00	0.00	0.00	1.43	1.43
3 SYMONDS DRIVE	18,400	0.42	X	O	O	O	O	O	0.42	0.00	0.00	0.00	0.00	0.00
4 POLICE/FIRE BUILDING	5,200	0.12	X	O	O	O	O	O	0.12	0.00	0.00	0.00	0.00	0.00
5 WATER PLANT														
WEST OF PLANT	20,000	0.46	X	O	O	O	O	O	0.46	0.00	0.00	0.00	0.00	0.00
SOUTH ALONG SYMONDS	4,500	0.10	X	O	O	O	O	O	0.10	0.00	0.00	0.00	0.00	0.00
NORTH OVER RESERVOIR	64,400	1.48	X	O	O	O	O	O	1.48	0.00	0.00	0.00	0.00	0.00
6 PUBLIC WORKS GARAGE	5,200	0.12	X	O	O	O	O	O	0.12	0.00	0.00	0.00	0.00	0.00
7 BRUSH HILL	119,400	2.74	X	O	O	O	O	O	2.74	0.00	0.00	0.00	0.00	0.00
8 PEIRCE PARK														
FAR EAST FIELDS	49,050	1.13	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
NEAR EAST FIELDS	49,050	1.13	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
PASSIVE AREAS	173,200	3.98	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
WEST FIELD	62,500	1.43	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
9 RAVINE & COUNTY LINE	900	0.02	X	O	O	O	O	O	0.02	0.00	0.00	0.00	0.00	0.00
10 RAVINE & OAK	3,000	0.07	X	O	O	O	O	O	0.07	0.00	0.00	0.00	0.00	0.00
11 YORK & WALKER	4,000	0.09	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
12 MADISON @ OGDEN	9,950	0.23	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
13 BURNS FIELD														
ICE RINK	73,500	1.69	X	O	O	O	O	O	1.69	0.00	0.00	0.00	0.00	0.00
SOCCER AREA	37,500	0.86	X	O	O	O	O	O	0.86	0.00	0.00	0.00	0.00	0.00
PLAYGROUND	8,000	0.18	X	O	O	O	O	O	0.18	0.00	0.00	0.00	0.00	0.00
FRINGE	117,600	2.70	X	O	O	O	O	O	2.70	0.00	0.00	0.00	0.00	0.00
14 STOUGH PARK														
ICE RINK	22,800	0.52	X	O	O	O	O	O	0.52	0.00	0.00	0.00	0.00	0.00
RAILROAD BANK	38,400	0.88	X	O	O	O	O	O	0.88	0.00	0.00	0.00	0.00	0.00
EAST PASSIVE	18,700	0.43	X	O	O	O	O	O	0.43	0.00	0.00	0.00	0.00	0.00
CENTRAL PASSIVE	34,400	0.79	X	O	O	O	O	O	0.79	0.00	0.00	0.00	0.00	0.00
15 WEST HINSDALE STATION	8,950	0.21	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00

LOCATION	AREA SF	AREA AC	FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE	FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE
16 JACKSON: 4TH - 8TH	228,900	5.25	X	O	O	O	O	O	5.25	0.00	0.00	0.00	0.00	0.00
17 JACKSON PRAIRIE	21,780	0.50	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
18 MELIN PARK	97,300	2.23	X	X	O	X	O	O	2.23	2.23	0.00	2.23	0.00	0.00
19 DIETZ PARK	54,200	1.24	X	O	O	O	O	O	1.24	0.00	0.00	0.00	0.00	0.00
20 ROBBINS PARK	591,700	13.58												
TOTAL	591,700	13.58	X	O	O	O	O	O	13.58	0.00	0.00	0.00	0.00	0.00
NORTHEAST - NORTH	"		O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
NORTHEAST - SOUTH	"		O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
CENTRAL	"	1.24	O	O	O	O	X	O	0.00	0.00	0.00	0.00	1.24	0.00
SOUTHWEST	"		O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
PARKWAYS	"	0.52	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
FOOTBALL	54,000	1.24	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
21 SWIMMING POOL														
NORTH	8,700	0.20	X	O	O	O	O	O	0.20	0.00	0.00	0.00	0.00	0.00
SOUTH	8,700	0.20	X	O	O	O	O	O	0.20	0.00	0.00	0.00	0.00	0.00
WEST	23,100	0.53	X	O	O	O	O	O	0.53	0.00	0.00	0.00	0.00	0.00
22 EHRET PARK	24,500	0.56	X	O	O	O	O	O	0.56	0.00	0.00	0.00	0.00	0.00
23 HINSDALE: STOUGH - GARF @VINE ST, QUINCY ST	78,500	1.80	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
24 ELEANOR'S PARK	18,200	0.42	X	O	O	O	O	O	0.42	0.00	0.00	0.00	0.00	0.00
25 CHICAGO @ BNRR	18,700	0.43	X	O	O	O	O	O	0.43	0.00	0.00	0.00	0.00	0.00
26 HIGHLAND PARK														
PASSIVE	195,000	4.48	X	O	O	O	O	O	4.48	0.00	0.00	0.00	0.00	0.00
PARKWAYS	"	0.00	X	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
27 VEECK PARK	522,720	12.00	X	O	O	O	O	O	12.00	0.00	0.00	0.00	0.00	0.00
28 CHICAGO @ PRINCETON	17,200	0.39	X	O	O	O	O	O	0.39	0.00	0.00	0.00	0.00	0.00
29 1ST & PRINCETON	15,500	0.36	X	O	O	O	O	O	0.36	0.00	0.00	0.00	0.00	0.00
30 3RD & PRINCETON	18,400	0.42	X	O	O	O	O	O	0.42	0.00	0.00	0.00	0.00	0.00
31 COLUMBIA: 1ST - 3RD	10,200	0.23	X	O	O	O	O	O	0.23	0.00	0.00	0.00	0.00	0.00
32 BROOK PARK														
PLAYING FIELD	236,800	5.44	X	O	O	O	X	X	5.44	0.00	0.00	0.00	5.44	5.44
FRINGE AREAS(near tennis)	"	0.00	X	O	O	O	X	X	0.00	0.00	0.00	0.00	0.00	0.00
33 6TH & PRINCETON	2,700	0.06	X	O	O	O	O	O	0.06	0.00	0.00	0.00	0.00	0.00
34 7TH & HARDING	8,800	0.20	X	O	O	O	O	O	0.20	0.00	0.00	0.00	0.00	0.00
35 WOODLAND PARK	198,000	4.55	X	O	O	O	O	O	4.55	0.00	0.00	0.00	0.00	0.00
36 TAFT @ 55TH	30,600	0.70	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
37 7TH & WILSON	800	0.02	X	O	O	O	O	O	0.02	0.00	0.00	0.00	0.00	0.00
38 CLEVELAND @ 55TH	7,900	0.18	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
39 WOODLAND ISLANDS	35,700	0.82	X	O	O	O	O	O	0.82	0.00	0.00	0.00	0.00	0.00
40 DALEWOOD ISLAND	4,000	0.09	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00

LOCATION	AREA SF	AREA AC	FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE	FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE
41 COUNTY LINE CT	900	0.02	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
42 PAMELA CIRCLE	500	0.01	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
43 CHARLESTON RD	48,900	1.12	X	O	O	O	O	O	1.12	0.00	0.00	0.00	0.00	0.00
44 KLM PARK														
NEAR BLDGS (west & pkwy)	250,000	5.74	X	O	O	O	O	O	5.74	0.00	0.00	0.00	0.00	0.00
CONCERT HILL	1,662,000	4.87	X	O	O	O	O	O	4.87	0.00	0.00	0.00	0.00	0.00
NORTH OF CREEK	*	33.48	X	O	O	O	O	O	33.48	0.00	0.00	0.00	0.00	0.00
EAST PLAY AREA	203,500	4.67	X	O	O	O	O	O	4.67	0.00	0.00	0.00	0.00	0.00
SOUTH OF ROAD	"	Incl	X	X	O	X	O	O	Incl	Incl	0.00	Incl	0.00	0.00
45 4TH ST ISLANDS	55,000	1.26	X	O	O	O	O	O	1.26	0.00	0.00	0.00	0.00	0.00
46 OAK @ 9TH	3,400	0.08	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
47 ELM ; 9TH - 55TH	15,450	0.35	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
48 WASHINGTON CIRCLE	20,200	0.46	X	O	O	O	O	O	0.46	0.00	0.00	0.00	0.00	0.00
49 WASHINGTON LOT	1,150	0.03	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
50 PARKWAYS @ HMS	3,200	0.07	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
51 LINCOLN LOT	2,800	0.06	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
52 VILLAGE LOT	7,450	0.17	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
53 WEST OF POST CIRCLE	6,000	0.14	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
54 DUNCAN FIELD	73,500	1.69	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	6,586,950	151.22	ACREAGE						122.26	3.66	0.00	3.86	10.35	9.11

ACRES OF ACTIVITY FALL 2010

LOCATION	AREA SF	AREA AC	FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE	FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE
1 MEMORIAL BUILDING														
NORTH	35,200	0.81	X	O	X	O	X	X	0.81	0.00	0.81	0.00	0.81	0.81
SOUTH	62,500	1.43	X	O	X	X	X	X	1.43	0.00	1.43	1.43	1.43	1.43
2 BURLINGTON PARK	62,400	1.43	X	O	X	O	X	X	1.43	0.00	1.43	0.00	1.43	1.43
3 SYMONDS DRIVE	18,400	0.42	X	O	O	O	O	O	0.42	0.00	0.00	0.00	0.00	0.00
4 POLICE/FIRE BUILDING	5,200	0.12	X	O	O	O	O	O	0.12	0.00	0.00	0.00	0.00	0.00
5 WATER PLANT														
WEST OF PLANT	20,000	0.46	X	O	O	O	O	X	0.46	0.00	0.00	0.00	0.00	0.46
SOUTH ALONG SYMONDS	4,500	0.10	X	O	O	O	O	X	0.10	0.00	0.00	0.00	0.00	0.10
NORTH OVER RESERVOIR	64,400	1.48	X	O	O	O	X	X	1.48	0.00	0.00	0.00	1.48	1.48
6 PUBLIC WORKS GARAGE	5,200	0.12	X	O	O	O	O	O	0.12	0.00	0.00	0.00	0.00	0.00
7 BRUSH HILL	119,400	2.74	X	O	O	O	O	X	2.74	0.00	0.00	0.00	0.00	2.74
8 PEIRCE PARK														
FAR EAST FIELDS	49,050	1.13	X	O	O	O	O	O	1.13	0.00	0.00	0.00	0.00	0.00
NEAR EAST FIELDS	49,050	1.13	X	O	O	O	O	O	1.13	0.00	0.00	0.00	0.00	0.00
PASSIVE AREAS	173,200	3.98	X	O	O	O	X	O	3.98	0.00	0.00	0.00	3.98	0.00
WEST FIELD	62,500	1.43	X	O	O	O	O	O	1.43	0.00	0.00	0.00	0.00	0.00
9 RAVINE & COUNTY LINE	900	0.02	X	O	O	O	O	O	0.02	0.00	0.00	0.00	0.00	0.00
10 RAVINE & OAK	3,000	0.07	X	O	O	O	O	O	0.07	0.00	0.00	0.00	0.00	0.00
11 YORK & WALKER	4,000	0.09	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
12 MADISON @ OGDEN	9,950	0.23	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
13 BURNS FIELD														
ICE RINK	73,500	1.69	X	O	X	O	X	X	1.69	0.00	1.69	0.00	1.69	1.69
SOCCER AREA	37,500	0.86	X	O	X	O	X	X	0.86	0.00	0.86	0.00	0.86	0.86
PLAYGROUND	8,000	0.18	X	O	O	O	O	X	0.18	0.00	0.00	0.00	0.00	0.18
FRINGE	117,600	2.70	X	O	X	O	X	X	2.70	0.00	2.70	0.00	2.70	2.70
14 STOUGH PARK														
ICE RINK	22,800	0.52	X	O	X	O	X	X	0.52	0.00	0.52	0.00	0.52	0.52
RAILROAD BANK	38,400	0.88	X	O	X	O	X	X	0.88	0.00	0.88	0.00	0.88	0.88
EAST PASSIVE	18,700	0.43	X	O	X	O	X	X	0.43	0.00	0.43	0.00	0.43	0.43
CENTRAL PASSIVE	34,400	0.79	X	O	X	O	X	X	0.79	0.00	0.79	0.00	0.79	0.79
15 WEST HINSDALE STATION	8,950	0.21	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00

LOCATION	AREA SF	AREA AC	FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE	FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE
16 JACKSON: 4TH - 8TH	228,900	5.25	X	O	O	O	O	O	5.25	0.00	0.00	0.00	0.00	0.00
17 JACKSON PRAIRIE	21,780	0.50	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
18 MELIN PARK	97,300	2.23	O	O	O	X	X	X	0.00	0.00	0.00	2.23	2.23	2.23
19 DIETZ PARK	54,200	1.24	X	O	O	O	X	X	1.24	0.00	0.00	0.00	1.24	1.24
20 ROBBINS PARK	591,700	13.58	X	O	O	O	X	X	13.58	0.00	0.00	0.00	13.58	13.58
TOTAL	591,700	13.58	X	O	O	O	X	X	0.00	0.00	0.00	0.00	0.00	0.00
NORTHEAST - NORTH	"		X	O	O	O	X	X	0.00	0.00	0.00	0.00	0.00	0.00
NORTHEAST - SOUTH	"		X	O	O	O	X	X	0.00	0.00	0.00	0.00	0.00	0.00
CENTRAL	"	1.24	X	O	O	O	X	X	1.24	0.00	0.00	0.00	1.24	1.24
SOUTHWEST	"		X	O	O	O	X	X	0.00	0.00	0.00	0.00	0.00	0.00
PARKWAYS	"	0.52	X	O	O	O	X	X	0.52	0.00	0.00	0.00	0.52	0.52
FOOTBALL	54,000	1.24	X	O	O	O	X	X	1.24	0.00	0.00	0.00	1.24	1.24
21 SWIMMING POOL	8,700	0.20	X	O	X	O	X	X	0.20	0.00	0.20	0.00	0.20	0.20
NORTH	8,700	0.20	X	O	X	O	X	X	0.20	0.00	0.20	0.00	0.20	0.20
SOUTH	23,100	0.53	X	O	X	O	X	X	0.53	0.00	0.53	0.00	0.53	0.53
WEST	24,500	0.56	X	O	O	O	O	X	0.56	0.00	0.00	0.00	0.00	0.56
22 EHRET PARK	78,500	1.80	O	O	O	O	O	O	0.00	0.00	0.00	0.00	0.00	0.00
23 HINSDALE: STOUGH - GARF @VINE ST, QUINCY ST	18,200	0.42	X	O	X	O	X	X	0.42	0.00	0.42	0.00	0.42	0.42
24 ELEANOR'S PARK	18,700	0.43	X	O	O	O	O	O	0.43	0.00	0.00	0.00	0.00	0.00
25 CHICAGO @ BNRR	195,000	4.48	X	O	O	O	O	X	4.48	0.00	0.00	0.00	0.00	4.48
26 HIGHLAND PARK	"	0.00	X	O	O	O	O	X	0.00	0.00	0.00	0.00	0.00	0.00
PASSIVE	522,720	12.00	X	O	X	O	X	X	12.00	0.00	12.00	0.00	12.00	12.00
PARKWAYS	17,200	0.39	X	O	O	O	O	O	0.39	0.00	0.00	0.00	0.00	0.00
27 VEECK PARK	15,500	0.36	X	O	O	O	O	O	0.36	0.00	0.00	0.00	0.00	0.00
28 CHICAGO @ PRINCETON	18,400	0.42	X	O	O	O	O	O	0.42	0.00	0.00	0.00	0.00	0.00
29 1ST & PRINCETON	10,200	0.23	X	O	O	O	O	O	0.23	0.00	0.00	0.00	0.00	0.00
30 3RD & PRINCETON	236,800	5.44	X	O	O	O	X	X	5.44	0.00	0.00	0.00	5.44	5.44
31 COLUMBIA: 1ST - 3RD	"	0.00	X	O	O	O	X	X	0.00	0.00	0.00	0.00	0.00	0.00
32 BROOK PARK	2,700	0.06	X	O	O	O	O	O	0.06	0.00	0.00	0.00	0.00	0.0

LOCATION

41 COUNTY LINE CT
42 PAMELA CIRCLE
43 CHARLESTON RD
44 KLM PARK

NEAR BLDGS (west & pkwy)
CONCERT HILL
NORTH OF CREEK
EAST PLAY AREA
SOUTH OF ROAD

45 4TH ST ISLANDS
46 OAK @ 9TH
47 ELM ; 9TH - 55TH
48 WASHINGTON CIRCLE
49 WASHINGTON LOT
50 PARKWAYS @ HMS
51 LINCOLN LOT
52 VILLAGE LOT
53 WEST OF POST CIRCLE
54 DUNCAN FIELD

AREA SF	AREA AC
900	0.02
500	0.01
48,900	1.12

250,000	5.74
1,662,000	4.67
"	33.48
203,500	4.67
"	incl
55,000	1.26
3,400	0.08
15,450	0.35
20,200	0.46
1,150	0.03
3,200	0.07
2,800	0.06
7,450	0.17
6,000	0.14
73,500	1.69

TOTAL

6,586,950	151.22
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FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE
O	O	O	O	O	O
O	O	O	O	O	O
X	O	O	O	O	X

X	O	O	O	X	X
X	O	O	O	O	X
X	O	O	O	O	X
X	O	O	O	X	X
X	O	O	X	O	X
X	O	O	O	O	O
O	O	O	O	O	O
O	O	O	O	O	O
X	O	O	O	O	X
O	O	O	O	O	O
O	O	O	O	O	O
O	O	O	O	O	O
O	O	O	O	O	O
O	O	O	O	O	O
O	O	O	O	O	O
O	O	O	O	O	X

ACREAGE

FERT	FERT ORG	WEED CHEM	WEED ORG	SPREAD SEED	AERATE
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
1.12	0.00	0.00	0.00	0.00	1.12

5.74	0.00	0.00	0.00	5.74	5.74
4.67	0.00	0.00	0.00	0.00	4.67
33.48	0.00	0.00	0.00	0.00	33.48
4.67	0.00	0.00	0.00	4.67	4.67
Incl	0.00	0.00	Incl	0.00	Incl
1.26	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.46	0.00	0.00	0.00	0.00	0.46
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	1.69

130.79	0.00	24.89	3.66	86.25	112.21
--------	------	-------	------	-------	--------

ACRES OF ACTIVITY

SPRING 2006	FALL 2006	SPRING 2007	FALL 2007	SPRING 2008	FALL 2008	SPRING 2009	FALL 2009	SPRING 2010	FALL 2010
----------------	--------------	----------------	--------------	----------------	--------------	----------------	--------------	----------------	--------------

TOTAL 2010	prev 3 yr avg
---------------	------------------

FERTILIZATION
WEED CONTROL
SEEDING
AERATE

126.7	131.3	0.0	132.7	0.0	114.3	130.4	130.8	122.3	130.8
0.0	23.8	0.0	0.0	43.0	47.3	31.9	63.4	0.0	24.9
4.5	20.0	0.0	13.2	1.6	24.0	23.0	63.7	10.4	66.3
30.4	41.1	45.7	38.0	50.9	119.8	111.4	111.4	9.1	112.2

253.1	169.4
24.9	61.8
76.6	41.8
121.3	159.1

Elm Tree Loss History

year	public loss	amputation	private loss
1991	53	2	62
1992	198	30	80
1993	71	3	96
1994	88	11	58
1995	69	4	47
1996	185	10	123
1997	52	12	64
1998	121	27	100
1999	99	13	44
2000	103	16	106
2001	132	10	220
2002	98	13	137
2003	172	12	127
2004	195	10	276
2005	100	5	155
2006	176	12	184
2007	97	8	74
2008	56	8	66
2009	60	10	58
2010	13	3	53
total	2,138	219	2,130

15 yr avg	111	11	119
-----------	-----	----	-----

estimated % loss
start pop end pop resid pop

3,735	3,682	1.4%
3,682	3,484	5.4%
3,484	3,413	2.0%
3,413	3,325	2.6%
3,325	3,256	2.1%
3,256	3,071	5.7%
3,071	3,019	1.7%
3,019	2,898	4.0%
2,898	2,799	3.4%
2,799	2,696	3.7%
2,696	2,564	4.9%
2,564	2,466	3.8%
2,466	2,294	7.0%
2,294	2,099	8.5%
2,099	1,999	4.8%
1,999	1,823	8.8%
1,823	1,726	5.3%
1,726	1,650	3.2%
1,650	1,590	3.6%
1,590	1,577	0.8%
		57.8%

4.6%

ELM TREES FUNGICIDED

year	public	private	total
2005	32	76	108
2006	21	79	100
2007	515	79	594
2008	466	77	543
2009	436	73	509
2010	225	56	281

cumulative public	cumulative private	cumulative total
32	76	108
53	155	208
568	234	802
1034	311	1345
1470	384	1854
1695	440	2135

Since 2007

12% of untreated elms have been lost.
1% of treated elms have been lost.

2005 Treated Elms Lost In 2010	
2005	0
2006	7
2007	4
2008	4
2009	2
2010	3

start pop	end pop	% loss
75	75	0.0%
75	68	9.3%
68	64	5.9%
64	60	6.3%
60	58	3.3%
58	55	5.2%

2006 Treated Elms Lost In 2010	
2006	4
2007	4
2008	1
2009	1
2010	2

start pop	end pop	% loss
12	8	33.3%
8	4	50.0%
4	3	25.0%
3	2	33.3%
2	0	100.0%

2007 Treated Elms Lost In 2010	
2007	1
2008	2
2009	1
2010	3

start pop	end pop	% loss
27	26	3.7%
26	24	7.7%
24	23	4.2%
23	20	13.0%

2008 Treated Elms Lost In 2010	
2008	3
2009	1
2010	2

start pop	end pop	% loss
466	463	0.6%
463	462	0.2%
462	460	0.4%

2009 Treated Elms Lost In 2010	
2009	0
2010	3

start pop	end pop	% loss
436	436	0.0%
436	433	0.7%

2010 Treated Elms Lost In 2010	
2010	0

start pop	end pop	% loss
225	225	0.0%

Total

start pop	end pop	% loss
1,206	1,193	6.0%

Since 2004

39% of untreated elms have been lost.
6% of treated elms have been lost.

2009-2010 WEATHER DATA

2009 PRECIPITATION TOTALS IN INCHES

JAN	2009	1.75	1.16	66%
FEB	2009	1.63	3.39	208%
MAR	2009	2.65	5.20	196%
APR	2009	3.68	5.19	141%
MAY	2009	3.38	3.63	107%
JUNE	2009	3.63	7.18	198%
JULY	2009	3.51	1.53	44%
AUG	2009	4.62	4.26	92%
SEPT	2009	3.27	1.03	31%
OCT	2009	2.71	6.04	223%
NOV	2009	3.01	1.23	41%
DEC	2009	2.43	2.73	112%
TOTAL		30.83	42.57	138%

2010 PRECIPITATION TOTALS IN INCHES

JAN	2010	1.75	1.13	65%
FEB	2010	1.63	1.64	101%
MAR	2010	2.65	1.55	58%
APR	2010	3.68	3.01	82%
MAY	2010	3.38	4.90	145%
JUNE	2010	3.63	6.17	170%
JULY	2010	3.51	8.84	252%
AUG	2010	4.62	1.80	39%
SEPT	2010	3.27	2.78	85%
OCT	2010	2.71	0.93	34%
NOV	2010	3.01	NOT AVAILABLE	
DEC	2010	2.43	NOT AVAILABLE	
TOTAL THRU OCT		30.83	32.75	106%

2009-2010 WEATHER DATA

2009 TEMPERATURES IN DEGREES FAHRENHEIT

JAN	2009	22.0	15.8	72%
FEB	2009	26.6	28.2	106%
MAR	2009	36.9	39.6	107%
APR	2009	48.5	47.2	97%
MAY	2009	59.0	59.9	102%
JUNE	2009	68.6	67.6	99%
JULY	2009	73.3	69.4	95%
AUG	2009	71.9	70.5	98%
SEPT	2009	64.5	65.3	101%
OCT	2009	52.8	48.8	92%
NOV	2009	39.8	45.3	114%
DEC	2009	27.5	26.5	96%

98%

2010 TEMPERATURES IN DEGREES FAHRENHEIT

JAN	2010	22.0	21.9	100%
FEB	2010	26.6	26.7	100%
MAR	2010	36.9	41.7	113%
APR	2010	48.5	54.6	113%
MAY	2010	59.0	61.7	105%
JUNE	2010	68.6	72.1	105%
JULY	2010	73.3	77.6	106%
AUG	2010	71.9	76.7	107%
SEPT	2010	64.5	65.1	101%
OCT	2010	52.8	NOT AVAILABLE	
NOV	2010	39.8	NOT AVAILABLE	
DEC	2010	27.5	NOT AVAILABLE	

105.41%

"Step by Step"

**GUIDE TO
NATURAL TURF MANAGEMENT**

*A Season-by-Season Guide for
Successful Natural Lawn Care*

By Chip Osborne and Doug Wood

Step by Step

GUIDE TO NATURAL TURF MANAGEMENT

Step One: March/April

The Soil Test

Like a blood test when you go to the doctor, a soil test reveals what you can't see: it tells you what condition the soil is in and what kinds of amendments it might need. Using a clean sampling tube, take samples from various locations on the property (more samples for larger properties) at a 4 to 5 inch depth. Remove debris (roots, thatch) from the top of the sample, air dry the samples overnight, mix the samples thoroughly and send one cup of the mixture to the lab. Request a standard test, which usually includes soil pH, calcium, magnesium and potassium levels, phosphorus levels and Cation Exchange Capacity. Also, ask for a percentage of organic matter analysis.

Basic soil testing is available from university cooperative extensions (instructions and fee schedules are posted on their websites) and other labs. Detailed microbiology tests are offered by the Soil Foodweb. Basic tests range from \$15 to \$40, and biology tests range from \$85 to \$225.

Aeration

Compaction is the number one enemy of turfgrass, and is the most common problem faced by turf managers, particularly on playing fields with heavy traffic. Turf roots grow in the air spaces between soil particles, so compacted soil prevents them from penetrating deep into the soil where they can reach moisture and nutrients. If the soil is compacted to the point where a penetrometer reads more than 200 pounds per square inch in the top 3 inches of soil, aeration is required, using either a core or slice aerator. Aeration is stressful for turf and should only be undertaken when the grass is actively growing, but can be performed as often as every two to four weeks when necessary. Aerate in a criss-cross pattern until 15-20% of the soil surface has been exposed.

Compost Top Dress

Ideally, the organic matter percentage, or "OM," should be at or above 5%. If it's not, aerate and then top dress with a good quality compost. If the property has been chemically maintained, a 1/4 inch to 1/2 inch layer of compost (also called "soil conditioner") should be spread over the top of the entire lawn. Compost can be spread with a compost spreader, an air blower, or on small areas, by broadcasting with shovels. It will take about a yard of compost to cover 1000 sq ft with 1/2 inch of compost; one acre of turf will require approximately 40 yards.

First Mowing

Using sharp mower blades, cut the grass at 2 inches and remove and dispose of all clippings. This will help reduce the threat of lawn disease. Other than cutting game day fields, this is the only time clippings should be removed.

Step by Step GUIDE TO NATURAL TURF MANAGEMENT

Step Two: March/April

Pre Emergence Weed Control with Corn Gluten

Corn gluten is an all-natural 100% organic pre-emergence weed control and fertilizer (it adds a 10% charge of nitrogen). Corn gluten prevents weed seeds from germinating, so it needs to be used at the right time; in the northeast, blooming forsythia is a good signal that it's time for corn gluten. Remember that corn gluten prevents grass seed as well as weed seeds from germinating, so you won't be able to over-seed for a few weeks after the corn gluten has been applied.

pH Balance with Lime

The ideal pH for turf grass is between 6.5 and 7.0. The soil test will reveal the pH of the soil, and in many cases, give you the recommended amounts of lime to add to the lawn. Keep in mind that you should never apply more than fifty pounds of lime per 1,000 sq ft. (If you need more lime, it will have to be in two applications.) Also remember that lime can take up to three months to become fully integrated into the soil, so you won't see the results in a soil test before then. Use calcitic lime if calcium level is low; dolomitic lime if magnesium levels are low.

Feed the Soil with Compost Tea

An application of compost tea (see step four for recipes and application rates) fortified with bacterial foods (feather meal, seed meals) and fungal foods (insoluble humic acid and kelp meal). will help slow the normally accelerated spring growth rate by tying up some nutrients. These will be cycled back to the plants later in the season. Apply higher rates of tea if foliar disease is present. You can also mix in milky spore bacteria to build its population in the soil.

Soil Detoxification and Inoculation Using Other Amendments

Marine products such as kelp and seaweed contain minerals and add organic matter to the soil. They promote deep root growth which helps keep lawns green even during times of drought.

The minerals and nutrients found in rockdust are particularly useful in re-energizing soil that has been compromised by chemical use. It is also a natural source of potassium (K).

Mowing

Grass should be cut at 2.5 to 3 inches except where lower blade heights are required for sports. Remember never to cut more than the top 1/3 of the grass blade at any one time. Grass clippings should always be left on the lawn.

Step by Step

GUIDE TO NATURAL TURF MANAGEMENT

Step Three: April to June

Organic Fertilizer Application

The choice and application of the proper natural organic fertilizer is one of the most important aspects of natural lawn care. Unlike synthetic fertilizers, which are water soluble, natural organic fertilizers break down by the action of microbes which exist in the soil. In effect, you are feeding those microbes, which in turn make nutrients available to the plants.

Because of this slow-release characteristic, natural organic fertilizers will generally not produce the sudden, dramatic greening effect common to many commercial synthetic fertilizers with high nitrogen levels. On the other hand, because it remains in the soil for a longer period of time, less fertilizer will be required over the season. Fifty pounds will cover approximately 2,000 sq ft.

Fertilizers containing added phosphorus should generally be avoided unless a specific problem needs to be corrected. Increasing microbial life (bacteria and fungi) can help release phosphorus that is tied up in the soil. In many areas, excess phosphorus run off into streams and municipal water systems is a source of serious environmental problems.

As the level of organic matter is raised through the application of compost (the organic level should ideally be between 5% and 8%) the need for fertilizer is reduced.

Irrigation

Automatic sprinkler systems can be a great time saver, but they can also be a source of trouble. Over-watering is a primary cause of turf fungal problems, and can undo much of the work you do. The system should be calibrated to deliver no more than 1.5 inches of water per week, and even less if a rain event occurs. Placing an empty tuna can on the lawn, running the system and seeing how long it takes to fill the can will help you determine proper settings.

Spot Weed Control

Products containing combinations of vinegar and natural plant oils (e.g., "Burn Out") are a good choice as non-selective weed killers in sidewalks, driveways, gravel tracks and paths. These products can be found at professional lawn care distributors. In most cases the property must be flagged.

Step by Step GUIDE TO NATURAL TURF MANAGEMENT

Step Four: June/July

Compost Tea

The application of high quality compost tea can be an effective way to continue to build soil quality, increase resistance to diseases and help sustain turf during a drought. Compost tea is made by steeping top quality compost in water while circulating the water and adding nutrients. Commercial tea brewers range in size from 5 to 500 gallons and are available from many manufacturers. You can spray tea from a backpack sprayer or a traditional spray rig. Remember that you are spraying live organisms, so remove fine mesh filter screens and allow the spray to fall gently on plant and turf surfaces.

Basic Compost Tea Recipe

50 gallons of de-chlorinated water
4-5 pounds of high quality compost
2 oz. molasses
3 oz. humic acid

Generally speaking, a tea brewed with a high bacterial content is preferable for turf; tea with a higher fungal content is recommended for foliar spray on trees and shrubs.

Tea should be mixed with water in sufficient dilution to achieve a rate of 15-20 gallons per acre. A typical mix is 20 gallons of tea to 100 gallons of water. Problem areas can be treated with a higher concentration of tea.

There appears to be some correlation between the application of compost tea and reduction of pest problems, but in most states it is illegal to make any claims or statements regarding the beneficial effects of compost tea on pests.

Over-Seeding

The best defense against weeds is a strong and healthy turf. Given the opportunity, grass plants will out-compete most weeds. Over-seeding, which is simply adding new grass plants to an existing lawn or field, rejuvenates the lawn with new life, fills in bare spots and keeps weeds from growing. Use a high quality seed or seed mix that is appropriate for your climate and has a minimum of noxious weeds. (Check the label for weed content.)

When over-seeding, you will want to reduce the height of the lawn in steps, eventually bringing it down to about two inches, to give the new seed a chance to get sunlight and germinate. Once the seed has sprouted you can begin bringing the lawn back up to 3 inches.

When sports playing schedules permit, allow grass to grow to 3.5 or even 4 inches. This will help develop robust root systems and create strong, disease and drought-resistant plants.

Step by Step

GUIDE TO NATURAL TURF MANAGEMENT

Step Five: July/August

Natural Pest and Disease Control

A healthy, well maintained natural lawn will be resistant to most pests and diseases. However, lack of organic matter, poor cultural practices, too much water, and other stresses can reduce turf's ability to fend off pests and diseases. When pests present themselves, here are some natural solutions:

Beneficial nematodes have proven to be very effective at dealing with grubs. These are microscopic worms that feed on grub larvae. Nematodes are aquatic animals, and need moisture and grubs to survive. Apply with water and keep the soil moist for a few days after application (see package for details). You can purchase nematodes from an insectary or nursery that carries beneficials.

Milky Spore is actually a disease which can be an effective biological control for Japanese beetles. The best time to apply is mid-to late summer when the new brood have hatched and are beginning to feed.

Here are some typical turf problems and recommended natural solutions:

Symptom	Possible Cause	Solution
Dandelions	Lack of calcium, low pH	Apply calcium, keep pH high
Moss	Low pH, too much moisture	Add lime, improve drainage
Red Thread	Lack of nitrogen	Fertilize with organic fertilizer, check potassium and raise if necessary
Dollar Spot	Lack of nitrogen, excess thatch, drought stress	Fertilize with organic fertilizer, apply compost top dress, irrigate
Crabgrass	Turf cut too close, excess nitrogen, low pH	Raise cutting height, over-seed, use organic (low N) fertilizer, apply lime to raise pH, apply corn gluten in spring
Thatch	Excess irrigation, improper mowing, too much fertilizer	Apply compost top dress, raise mower blades, leave lawn clippings on the lawn, adjust irrigation
Patches of dead grass	Grubs	Apply beneficial nematodes
Compaction	Sports, high traffic, machinery	Apply compost top dress, over-seed, apply organic fertilizer, mechanical aeration if necessary

Step by Step GUIDE TO NATURAL TURF MANAGEMENT

Step Six: September/October

New Construction

There is no question that fall is the best time to construct a new lawn or field. Once the days get shorter and the nights get longer, you'll have less competition from weeds. Start by removing all old growth and roots, but do not roto-till. Add whatever amendments may be indicated by a soil test (this is also the best time to fix texture or composition problems, if any), then add top soil as required and spread 1/2 inch of compost on top. Broadcast good quality, climate-appropriate seed and roll or tamp to ensure good soil-to-seed contact. Keep moist but not wet.

Root Growth Enhancement

In the fall, turf roots continue to grow long after the grass has stopped. Feeding the roots with natural growth stimulators such as seaweed extract will prepare the plants for a boost of new growth in the spring. Aeration may also be appropriate at this time.

Lime/Compost Application

Fall is the another window of opportunity for the application of lime (if needed) and compost. A good shot of compost now will give the turf a good supply of nutrients to begin a new season in the spring.

* * *

This document is not intended to address all situations which may be encountered in professional turf management. No representations are expressed or implied regarding the suitability of any product or technique described herein for any individual property. No liability is assumed or may be ascribed to Grassroots Environmental Education, its project partners, authors, contributors or underwriters.

We gratefully acknowledge the contributions of all of our instructors and contributors, including James Sottilo, Jeff Frank and Paul Sachs through his excellent book "Handbook of Successful Ecological Lawn Care" available from Amazon.com and other booksellers.

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Cost to do Natural Lawn Care in Melin Park

Soil Test	\$100
Top Dress	\$4,200
Corn Gluten Meal	\$3,824
Lime	\$1,176
Compost Tea	\$3,920
Organic Fertilizer	\$2,400
Spot Weed Control	\$100
Grass Seed	\$ 3,040
Total	\$18,760

Grass Seed Mixes Currently Used by the Village of Hinsdale

Greenskeeper Glamour Mixture

Fine-textured mix with quick germination, providing adaptability to moderate shade as well as full sunlight. Contains Kentucky bluegrass for winter hardiness and durability, along with turf-type ryegrasses for lasting appearance.

- 30% Kentucky Bluegrass 98/85
- 30% Creeping Red Fescue
- 40% Containing 2 of the following turf-type perennial ryegrasses: Accent, APM, Caddieshack or Monterey II

Seeding Rate:

- New lawns: 4-6 lbs. per 1,000 feet²
- Established lawns: 3-4 lbs. per 1,000 feet²

Field of Dreams Athletic Mixture

- 30% Goalkeeper Perennial Ryegrass
- 30% Top Gun Perennial Ryegrass
- 20% Blue Chip Kentucky Bluegrass
- 20% Freedom III Kentucky Bluegrass

Seeding Rate:

- New lawns: 3-5 lbs. per 1,000 feet²
- Established lawns: 2-3 lbs. per 1,000 feet²

Village Soil Samples 2010

Burns (Soccer Field)

Burns (Football Field)

Peirce (East Baseball)

Peirce (West Baseball)

Veeck (Construction Zone)

KLM (North)

KLM (South)

SOIL TEST RESULTS

SOIL pH: A measure of active acidity or alkalinity in a soil/water slurry. pH 7.0 is neutral, pH <7.0 is acidic and pH >7.0 is alkaline. Most turf and ornamentals prefer a pH of 6.5-7.5. Certain acid-loving plants prefer a pH <6.0.

BUFFER pH: A measure of the soil's ability to acidify a buffered solution. Used to determine the resistance to change in pH (acidic buffer capacity), when the soil pH is below 6.3. The buffer pH (not soil pH) is used to determine the lime requirement in most soils.

PHOSPHORUS (P): A measure of the available phosphorus (Bray 1) expressed in pounds per acre.

POTASSIUM (K): A measure of the available (exchangeable) potassium expressed in pounds per acre.

CALCIUM (Ca) and MAGNESIUM (Mg): A measure of the available (exchangeable) calcium and magnesium. Optimum soil test levels may vary depending on the cation exchange capacity and percent base saturation.

CATION EXCHANGE CAPACITY (CEC): A calculated value used to determine the relative nutrient holding capacity of the soil for the cations K^+ , Ca^{++} , Mg^{++} , H^+ (hydrogen) & Na^+ (sodium), if a sodium test is requested. CEC values are expressed as milliequivalents per 100 grams (meq/100) of soil. Exchangeable cations determined using neutral (pH 7.0) 1M ammonium acetate.

Typical CEC Ranges	Soil Texture	Relative Nutrient Holding Capacity CEC
0-12	Coarse (sandy)	Very Low < 5
8-25	Medium (loamy)	Low < 10
22-40+	Fine (clayey)*	Medium 10-22
30-50+	Organic	High > 22

* Certain types of clay soils have lower CEC ranging from 3 to 12.

PERCENT BASE SATURATION: Calculated values showing the percentage of the CEC occupied by each tested cation. Most turfgrasses and ornamentals perform best when the cations are in balance in the ranges shown below:

POTASSIUM	- K	2-7%
CALCIUM	- Ca	65-85%
MAGNESIUM	- Mg	10-20%
HYDROGEN	- H	0-5%* (when present)
SODIUM	- Na	0-5% (when tested)

* Higher hydrogen saturations (5-25%) may be acceptable for certain acid-loving plants. Calculated base saturations and CEC may be lower than normal when hydrogen saturation exceeds 20%.

UNDERSTANDING YOUR SOIL TEST REPORT

ANALYTICAL RESULTS

MICRO & SECONDARY NUTRIENTS: Available micro and secondary nutrients can be interpreted according to the table below. Response to available micro and secondary nutrients may differ according to turf or ornamental plant type.

RELATIVE VALUE	IRON (Fe)	MANGANESE (Mn)	ZINC (Zn)	COPPER (Cu)	BORON (B)	SULFUR (S)
----- lbs./acre -----						
LOW	<15	<10	<2	<0.5	<0.5	<20
MEDIUM	15-120	10-50	2-5	0.5-5.0	0.5-3.0	20-80
HIGH	>120	>50	>5	>5.0	>3.0	>80

ORGANIC MATTER (OM3): An estimate of the organic matter content of the soil reported as percent by weight. Organic matter is determined by combustion at 440°C using the U.S. Golf Assoc. method (ASTM D 2974).

SOLUBLE SALTS (SS): A measure of the salt concentration in the soil from both fertilizer and non-fertilizer sources.

Potential for Plant Injury	Soluble Salts (mmhos X 10 ⁴)
VERY LOW	< 25
LOW	26-100
MEDIUM (Sensitive plants may be injured)	101-200
HIGH	201-300
VERY HIGH (Most plants injured)	> 300

DISPLAY OF AVERAGE RESULTS: Line 11 on the report shows the average value for the tested nutrient. The average value for each nutrient is displayed graphically in the center section of the report. This provides an easy to interpret guide to the nutrient status of the soil.

NOTES:

- Optimum levels of plant nutrients vary with plant type, its use and fertility management level. These factors along with soil test information are used to make specific fertilizer recommendations.
- To convert pounds of nutrient per acre to parts per million divide reported values by 2.
- To convert soluble salt values to millimohs (mmhos) divide reported values by 100.
- Results followed by a "+" are outside the normal test range. Actual values are higher than shown and can be determined upon request.

LIME AND FERTILIZER RECOMMENDATION COMMENTS

CAUTION: To avoid plant injury consult a professional in the turf and ornamentals industry or your County Cooperative Extension Service before using recommended fertilizers or lime.

ALL RECOMMENDATIONS represent a typical amount for the plant type, its use and fertility management level as determined by the sample information provided and the soil test results. Actual fertility management may vary with different cultural practices, i.e. rate and timing of application, nutrient source, application method, etc.

LIME RECOMMENDATIONS are given in pounds per 1,000 sq. ft. (LBS/M) or tons per acre (TON/A) of ground limestone (TNP>90%). Recommendations are for the amount needed to correct acid soil conditions for the specific plant types. Do not over apply lime to established turf areas. Incorporate recommended amounts into the root zone at establishment.

LIME TYPE: When calcium and magnesium tests are performed, the lime type recommended will be indicated as high calcium (Ca) or high magnesium/dolomitic lime (Mg).

NITROGEN RECOMMENDATIONS are given in lbs. per 1,000 sq. ft. or lbs. per acre of actual nitrogen (N). **APP. FREQ:** Recommendations for application frequency given on a per season (S) basis should be split into multiple applications. Recommendations may also be given on a per month (M) of growing season or month of establishment basis. When NEW/ESTB. is selected as the fertility management level, nutrient recommendations are for incorporation into the soil at the time of planting (preferred) or for surface application during the first three months or more of establishment.

PHOSPHATE RECOMMENDATIONS are given in lbs. per 1,000 sq. ft. or lbs. per acre of P_2O_5 . Recommendations are given as the annual requirement for maintenance, if soil test values are adequate to high; the corrective amount, if soil test values are low; or the amount to be used during the establishment phase.

POTASSIUM RECOMMENDATIONS are given in lbs. per 1,000 sq. ft. or lbs. per acre of K_2O . Recommendations are given as the annual requirement for maintenance, if soil test values are adequate to high; the corrective amount, if soil test values are low; or the amount to be used during the establishment phase.

OTHER NUTRIENT RECOMMENDATIONS are given in lbs. per 1,000 sq. ft. or lbs. per acre of elemental magnesium (Mg), iron (Fe), manganese (Mn), or zinc (Zn). Recommendations are given as the corrective amount for maintenance or the amount to be used during the establishment phase. Do not over apply micronutrients.

JOHN DEERE LANDSCAPES 014
5379 WALNUT AVE
DOWNERS GROVE, IL 60515

SOIL TEST AND RECOMMENDATION REPORT
SUBMITTED BY/FOR: VILLAGE OF HINSDALE 84713

CLC LABS
325 VENTURE DRIVE
WESTERVILLE, OHIO 43081
614-888-1663

PORT REF. NUMBER	RESULTS OF ANALYSIS						CALCULATED VALUES						RESULTS OF ANALYSIS					
	Soil pH	Buffer pH	Pounds per Acre Available Nutrient				Cation Exchange Capacity	% Base Saturation					Pounds per Acre Available Nutrient					
LAB NO.			P	K	Ca	Mg		K	Ca	Mg	H	Na	Fe	Mn	Zn	Cu		
692	6.7		8	440	4945	1168	17.8	3.2	69	27								
AVERAGE RESULTS →			8	440	4945	1168	17.8	3.2	69	27								

DISPLAY OF AVERAGE RESULTS																		
SURPLUS					*													
					*													
HIGH			*	*	*													
			*	*	*					*								
ADEQUATE			*	*	*	*	*	*	*	*								
			*	*	*	*	*	*	*	*								
LOW			*	*	*	*	*	*	*	*								
	*		*	*	*	*	*	*	*	*								

PORT REF. NUMBER	SAMPLE INFORMATION				FERTILIZER RECOMMENDATIONS IN LBS. PER 1,000 SQ. FT.										COMMENTS
	SAMPLE IDENTIFICATION	PLANT TYPE	AREA TYPE	FERT/ MAINT. LEVEL	LIME LBS/M	LIME TYPE	NITROGEN	APP. FREQ.	P ₂ O ₅	K ₂ O	Mg				
	BURNS (SOCCER)	COOL SEASON MIX	SOCCER FIELD	MED.			3.5 -4.5	S	5.0	0.0					See All
RECOMMENDATIONS FOR AVERAGE RESULTS →							3.5 -4.5	S	5.0	0.0					See All

SEE COMMENTS ON REVERSE SIDE

DUE TO VARIATIONS IN WEATHER, SOIL CONDITIONS AND CULTURAL PRACTICES, NO WARRANTY EITHER EXPRESSED OR IMPLIED IS MADE WITH RESPECT TO PLANT PERFORMANCE.

JOHN DEERE LANDSCAPES 014
5379 WALNUT AVE
DOWNERS GROVE, IL 60515

SOIL TEST AND RECOMMENDATION REPORT

SUBMITTED BY/FOR: VILLAGE OF HINSDALE

84713

CLC LABS
325 VENTURE DRIVE
WESTERVILLE, OHIO 43081
614-888-1663

PORT REF. NUMBER	RESULTS OF ANALYSIS						CALCULATED VALUES						RESULTS OF ANALYSIS					
	Soil pH	Buffer pH	Pounds per Acre Available Nutrient				Cation Exchange Capacity	% Base Saturation					Pounds per Acre Available Nutrient					
LAB NO.			P	K	Ca	Mg		K	Ca	Mg	H	Na	Fe	Mn	Zn	Cu		
68Z	7.2		200+	646	6316	1295	22.0	3.8	72	25								
AVERAGE RESULTS →			200	646	6316	1295	22.0	3.8	72	25								

DISPLAY OF AVERAGE RESULTS

SURPLUS	*			*														
	*	*		*														
	*	*		*														
HIGH	*	*		*														
	*	*		*														
	*	*		*														
ADEQUATE	*	*	*	*	*	*		*	*	*								
	*	*	*	*	*	*		*	*	*								
	*	*	*	*	*	*		*	*	*								
LOW	*	*	*	*	*	*	*	*	*	*								
	*	*	*	*	*	*	*	*	*	*								
	*	*	*	*	*	*	*	*	*	*								

PORT REF. NUMBER	SAMPLE INFORMATION				FERTILIZER RECOMMENDATIONS IN LBS. PER 1,000 SQ. FT.										COMMENTS
	SAMPLE IDENTIFICATION	PLANT TYPE	AREA TYPE	FERT/ MAINT. LEVEL	LIME LBS/M	LIME TYPE	NITROGEN	APP. FREQ	P ₂ O ₅	K ₂ O	Mg				
	BURNS (FOOTBALL)	COOL SEASON MIX	FOOTBALL FLD.MED.				3.0 -4.0	S	0.0	0.0					See All
RECOMMENDATIONS FOR AVERAGE RESULTS →							3.0 -4.0	S	0.0	0.0					See All

SEE COMMENTS ON REVERSE SIDE

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PORT REF. NUMBER LAB NO.	RESULTS OF ANALYSIS						CALCULATED VALUES						RESULTS OF ANALYSIS					
	Soil pH	Buffer pH	Pounds per Acre Available Nutrient				Cation Exchange Capacity	% Base Saturation					Pounds per Acre Available Nutrient					
			P	K	Ca	Mg		K	Ca	Mg	H	Na	Fe	Mn	Zn	Cu		
66Z	7.4		58	624	6610	994	21.5	3.7	77	19								
AVERAGE RESULTS →			58	624	6610	994	21.5	3.7	77	19								

DISPLAY OF AVERAGE RESULTS																		
SURPLUS																		
		*			*													
HIGH		*			*													
		*			*													
		*		*	*													
ADEQUATE		*	*	*	*	*		*	*	*								
		*	*	*	*	*	*	*	*	*								
		*	*	*	*	*	*	*	*	*								
LOW		*	*	*	*	*	*	*	*	*								
		*	*	*	*	*	*	*	*	*								

PORT REF. NUMBER	SAMPLE INFORMATION				FERTILIZER RECOMMENDATIONS IN LBS. PER 1,000 SQ. FT.										COMMENTS
	SAMPLE IDENTIFICATION	PLANT TYPE	AREA TYPE	FERT/ MAINT. LEVEL	LIME LBS/M	LIME TYPE	NITROGEN	APP. FREQ	P ₂ O ₅	K ₂ O	Mg				
	PIERCE(EAST)	COOL SEASON MIX	COMMER. LAWN	MED.			3.5 -4.5	S	0.5	0.0					See All
RECOMMENDATIONS FOR AVERAGE RESULTS →							3.5 -4.5	S	0.5	0.0					See All

SEE COMMENTS ON REVERSE SIDE

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PORT REF. NUMBER	RESULTS OF ANALYSIS						CALCULATED VALUES						RESULTS OF ANALYSIS					
	Soil pH	Buffer pH	Pounds per Acre Available Nutrient				Cation Exchange Capacity	% Base Saturation					Pounds per Acre Available Nutrient					
LAB NO.			P	K	Ca	Mg		K	Ca	Mg	H	Na	Fe	Mn	Zn	Cu		
672	7.4		49	572	5851	1043	19.7	3.7	74	22								
AVERAGE RESULTS →			49	572	5851	1043	19.7	3.7	74	22								

DISPLAY OF AVERAGE RESULTS																		
SURPLUS						*												
		*				*												
HIGH		*				*												
		*				*												
		*				*				*								
ADEQUATE	*	*	*	*	*	*	*	*	*	*								
	*	*	*	*	*	*	*	*	*	*								
	*	*	*	*	*	*	*	*	*	*								
LOW	*	*	*	*	*	*	*	*	*	*								
	*	*	*	*	*	*	*	*	*	*								

PORT REF. NUMBER	SAMPLE INFORMATION				FERTILIZER RECOMMENDATIONS IN LBS. PER 1,000 SQ. FT.										COMMENTS
	SAMPLE IDENTIFICATION	PLANT TYPE	AREA TYPE	FERT/ MAINT. LEVEL	LIME LBS/M	LIME TYPE	NITROGEN	APP. FREQ	P ₂ O ₅	K ₂ O	Mg				
	PIERCE (WEST)	COOL SEASON MIX	COMMER. LAWN	MED.			3.5 -4.5	S	0.5	0.0					See All
RECOMMENDATIONS FOR AVERAGE RESULTS →							3.5 -4.5	S	0.5	0.0					See All

SEE COMMENTS ON REVERSE SIDE

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SOIL TEST AND RECOMMENDATION REPORT

SUBMITTED BY/FOR:

VILLAGE OF HINSDALE

84713

CLC LABS®

325 VENTURE DRIVE
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PORT REF. NUMBER LAB NO.	RESULTS OF ANALYSIS							CALCULATED VALUES					RESULTS OF ANALYSIS						
	Soil pH	Buffer pH	Pounds per Acre Available Nutrient				Cation Exchange Capacity	% Base Saturation					Pounds per Acre Available Nutrient						
			P	K	Ca	Mg		K	Ca	Mg	H	Na	Fe	Mn	Zn	Cu			
70Z	7.6		5	234	10184	1337	31.3	1.0	81	18									
AVERAGE RESULTS →			5	234	10184	1337	31.3	1.0	81	18									

DISPLAY OF AVERAGE RESULTS

SURPLUS				*															
			*	*															
HIGH			*	*															
			*	*															
ADEQUATE			*	*	*	*	*	*	*	*									
			*	*	*	*	*	*	*	*									
LOW			*	*	*	*	*	*	*	*									
	*		*	*	*	*	*	*	*	*									

PORT REF. NUMBER	SAMPLE INFORMATION				FERTILIZER RECOMMENDATIONS IN LBS. PER 1,000 SQ. FT.										COMMENTS
	SAMPLE IDENTIFICATION	PLANT TYPE	AREA TYPE	FERT/ MAINT. LEVEL	LIME LBS/M	LIME TYPE	NITROGEN	APP. FREQ	P ₂ O ₅	K ₂ O	Mg				
WEECK	COOL SEASON MIX	COMMER. LAWN	MED.				3.5 -4.5	S	3.0	0.5					See All
RECOMMENDATIONS FOR AVERAGE RESULTS →							3.5 -4.5	S	3.0	0.5					See All

SEE COMMENTS ON REVERSE SIDE

REPORT TO: JDLO14
JOHN DEERE LANDSCAPES 014
5379 WALNUT AVE
DOWNERS GROVE, IL 60515

SOIL TEST AND RECOMMENDATION REPORT
SUBMITTED BY/FOR: VILLAGE OF HINSDALE 84713

10/27/10
CLC LABS
325 VENTURE DRIVE
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614-888-1663

PORT REF. NUMBER	RESULTS OF ANALYSIS							CALCULATED VALUES					RESULTS OF ANALYSIS						
	Soil pH	Buffer pH	Pounds per Acre Available Nutrient				Cation Exchange Capacity	% Base Saturation					Pounds per Acre Available Nutrient						
LAB NO.			P	K	Ca	Mg		K	Ca	Mg	H	Na	Fe	Mn	Zn	Cu			
712	6.4		17	701	4872	1084	17.6	5.1	69	26									
AVERAGE RESULTS →			17	701	4872	1084	17.6	5.1	69	26									
DISPLAY OF AVERAGE RESULTS																			
SURPLUS				*		*													
HIGH				*		*													
ADEQUATE				*	*	*	*	*	*	*									
LOW			*	*	*	*	*	*	*	*									

PORT REF. NUMBER	SAMPLE INFORMATION				FERTILIZER RECOMMENDATIONS IN LBS. PER 1,000 SQ. FT.										COMMENTS
	SAMPLE IDENTIFICATION	PLANT TYPE	AREA TYPE	FERT/ MAINT. LEVEL	LIME LBS/M	LIME TYPE	NITROGEN	APP. FREQ	P ₂ O ₅	K ₂ O	Mg				
	KLM(NORTH)	COOL SEASON MIX	COMMER. LAWN	MED.			3.5 -4.5	S	2.0	0.0					See All
RECOMMENDATIONS FOR AVERAGE RESULTS →							3.5 -4.5	S	2.0	0.0					See All

SEE COMMENTS ON REVERSE SIDE

REPORT TO: JDLO14
JOHN DEERE LANDSCAPES 014
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SOIL TEST AND RECOMMENDATION REPORT
SUBMITTED BY/FOR: VILLAGE OF HINSDALE 84713

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PORT REF. NUMBER	RESULTS OF ANALYSIS						CALCULATED VALUES						RESULTS OF ANALYSIS									
	Soil pH	Buffer pH	Pounds per Acre Available Nutrient				Cation Exchange Capacity	% Base Saturation					Pounds per Acre Available Nutrient									
			P	K	Ca	Mg		K	Ca	Mg	H	Na	Fe	Mn	Zn	Cu						
LAB NO.																						
72Z	6.3		16	486	4774	969	16.6	3.8	72	24												
AVERAGE RESULTS →			16	486	4774	969	16.6	3.8	72	24												

DISPLAY OF AVERAGE RESULTS																				
SURPLUS																				
HIGH		*	*	*	*	*														
ADEQUATE		*	*	*	*	*	*	*	*	*	*									
LOW	*	*	*	*	*	*	*	*	*	*	*									

PORT REF. NUMBER	SAMPLE INFORMATION				FERTILIZER RECOMMENDATIONS IN LBS. PER 1,000 SQ. FT.										COMMENTS
	SAMPLE IDENTIFICATION	PLANT TYPE	AREA TYPE	FERT/ MAINT. LEVEL	LIME LBS/M	LIME TYPE	NITROGEN	APP. FREQ	P ₂ O ₅	K ₂ O	Mg				
	KLM(SOUTH)	COOL SEASON MIX	COMMER. LAWN	MED.			3.5 -4.5	8	2.0	0.0					See All
RECOMMENDATIONS FOR AVERAGE RESULTS →							3.5 -4.5	8	2.0	0.0					See All

SEE COMMENTS ON REVERSE SIDE

**MSDS SHEETS
FOR CHEMICAL PESTICIDES USED IN
THE VILLAGE OF HINSDALE**

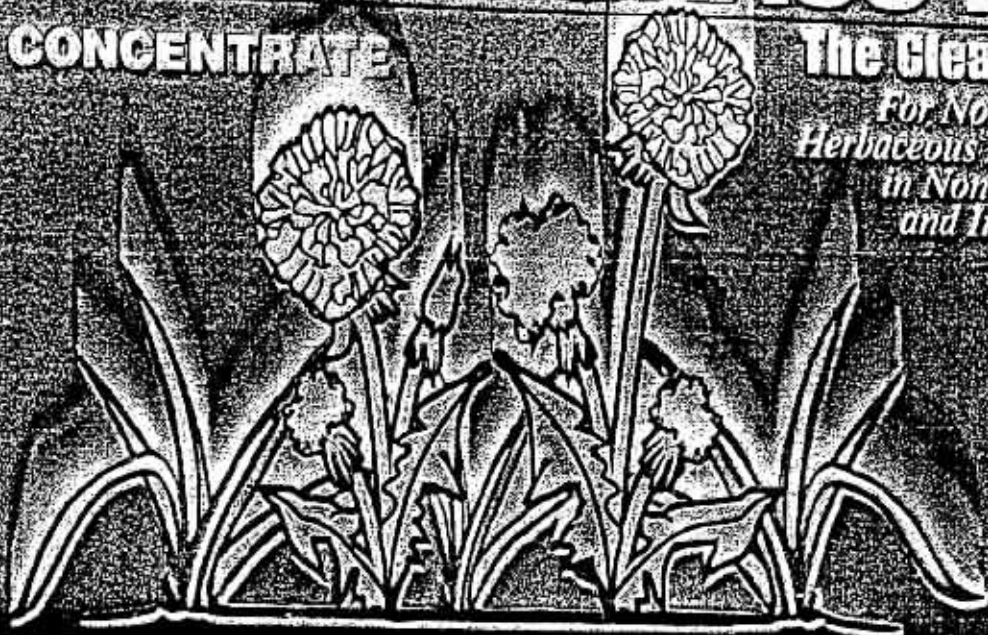
ST. GABRIEL LABORATORIES

Fast Acting

BurnOut

WEED & GRASS KILLER

CONCENTRATE



The Clearly Natural Choice

*For Non-Selective Control of
Herbaceous Broadleaf and Grass Weeds
in Non-Crop, Right-of-Way,
and Industrial Land Sites*

ACTIVE INGREDIENTS

Acetic Acid, Ethanoic Acid ($C_2H_2O_2$)	25%
Inert Ingredients	75%
Total	100%

**KEEP OUT OF REACH
OF CHILDREN**

DANGER: See back panel for additional
precautionary statements

Net Contents: 1 U.S. Gallon

KEEP OUT OF REACH OF CHILDREN

STATEMENT OF PRACTICAL TREATMENT

IF YOU HAVE A STOMACH ULCER:

If you do not understand instructions, ask someone to explain it to you or call
IF IN EVERY time you eat and drink, take a steady stream of water.
Swallow. Chew slowly and carefully.

IF SWALLOWED: Call a doctor or get medical attention. Do not induce vomiting.
Drink plenty of a large quantity of milk, egg whites, plain solution, etc. If you are
unable to drink large quantities of water, avoid alcohol.

IF ON SKIN: Wash with plenty of soap and water.
Get medical attention if irritation persists.
NOTE TO PHYSICIANS: Possible mucosal damage may contraindicate the use of plastic lavage.

PRECAUTIONARY STATEMENT

REGULATORY STATEMENT

DANGER: Remove dusts, vapors, aerosols, mists, fumes, or liquids through use of a fan and hose. Do not get eyes on skin or in clothing. Wash goggles or face shield after each use. In case of contact, immediately wash eyes or skin with plenty of water. Contact immediately if inhaled or ingested. Wash thoroughly with soap and water after handling. Do not apply to face or body. Do not contact children or other persons without a doctor's or pharmacist's advice. Wash gloves or face shield, long sleeve shirt and trousers when handling.

PERSONAL PROTECTION EQUIPMENT (PPE): Appropriate and sufficient PPE must be worn to protect the user from any hazard associated with the use of the product. PPE includes eye protection (goggles or face shield), long sleeve shirt and trousers, and gloves. Goggles and gloves plus soap. Periodically check instructions for the best performing PPE. If no such instructions exist for PPE use, consult and not rely on labels with PPE information from other sources. If situation arises, wash thoroughly with soap and water after handling.

ENVIRONMENTAL HAZARDS: Do not apply to water, or to areas where surface water is present, or to intertidal areas where the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment wash water.

EPA Registration No. 69836-T-53191
EPA Establishment NO. 053191-VA-1



DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

Do not apply this product in a way that will contact workers or other persons other than directly or through drift. Only protected handlers may be in area during application. For any requirements specific to your state or tribe, consult the agency responsible for pestfide regulation.

Surexit Work-A-Grow Killa is a potent, non-toxic, natural active ingredient and is proven to be effective in killing all types of weeds, grasses, and other unwanted plants. It is non-selective, meaning it will kill all types of plants, including the weeds you want to kill. Surexit is recommended for the control of weeds in lawns, gardens, and other areas. It is also effective in controlling weeds in agricultural areas, such as corn, soybeans, and cotton. Surexit is a fast-acting herbicide, and it is safe for use on all types of plants. It is also safe for use on children and pets. Surexit is a great choice for anyone looking for a safe and effective way to control weeds.

Herbicide Weed & Grass Killer is fast acting. Foliar contact results in rapid desiccation and control of annual weeds and grasses, and top growth reduction of herbaceous perennial weeds and grasses (See Tables below.) Re-treatment is required for control of established perennial weeds.

FOR EARLY SEASON ANNUAL WEED CONTROL: When weeds are small (3 in. tall) and actively growing, mix a spray solution consisting of 1 gallon of Burned Weed & Grass Killer for each 3 gallons of water. Ensure adequate mixing. Spray immature vegetation in field of corn.

DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.
NOTE: ALL CONTACTED VEGETATION WILL BE AFFECTED. AVOID CONTACT WITH DESIRABLE PLANTS. OVERSPRAY OR DRIFT WILL INJURE OR KILL CONTACTED VEGETATION.

TYPICAL WEEDS CONTROLLED

ANNUAL BROADLEAF WEEDS
Black Medick
Cinquefoil
Cinquefoil (rough)
Lamb's quarters
Mustard seed
Ox-eye daisy
P. weed
Ragweed
ANNUAL GRASSES
Crab grass
Foxtail

STORAGE: Keep from freezing. Store only in original unopened container and out of reach of children.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Empty (or substantially empty) containers may be recycled, if recommended, or punctured and disposed of in a sanitary waste or by incineration, as allowed by State and local authority, by burning, if burned, only by incineration.

Packed for **St. Gabriel Laboratories**
14540 John Marshall Hwy
Gainesville, Virginia 20153
1-800-801-0061
www.milkysports.com
To reorder call: 800-801-0061

CONDITIONS OF SALE

The label instructions for the use of this product reflect the opinion of experts based on research and field use. The procedures are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, improper use, timing, application, or other factors beyond the control of the manufacturer. Any use of this product which is beyond the control of St. Gabriel Laboratories, ALL SUCH RISKS WILL BE ASSUMED BY THE USER. St. Gabriel Laboratories shall not be responsible for loss of or damage resulting from the use of this product in any manner not set forth on this label. User assumes all risks associated with the use of this product.

St. Gabriel Laboratories warrants only that the material contained herein conforms to the chemical description on the label and is satisfactory for the use or uses thereon described when used in accordance with the label directions for use. Subject to the risks referred to above, ST. GABRIEL LABORATORIES DOES NOT MAKE OR UNDERTAKE ANY, ADVERTISED OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, AND EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. BUYER'S EXCLUSIVE REMEDY AND ST. GABRIEL LABORATORIES' EXCLUSIVE LIABILITY SHALL BE LIMITED TO REFUND OF THE PURCHASE PRICE OF THIS PRODUCT IN NO CASE SHALL ST. GABRIEL LABORATORIES OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES resulting from the use of this product. The foregoing is a condition of sale by St. Gabriel Laboratories and is accepted as such by the buyer.

Material Safety Data Sheet

U.S. Department of Labor

May be used to comply with

OSHA's Hazard Communication Standard,
29 CFR 1910.1200. This Standard must be
consulted for specific requirements.

Occupational Safety and Health
Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (As Used on Label and List) ST. Gabriel Laboratories BurnOut II Concentrate Active ingredient: Clove Oil 12%, Sodium Lauryl Sulfate 8% Inert ingredients: Vinegar, Citric Acid, Mineral oil, Lecithin, Water Total inert 80% Total 100%	
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Section I

Manufacturer's Name: St. Gabriel Laboratories	Emergency Telephone Number (800) 801-0061 Toll Free
Address: 14044 Litchfield Drive	Telephone Number for Information (540) 672-0866
Orange, Virginia 22960	Date Prepared April 25, 2003

Section II - Physical/Chemical Characteristics

Boiling Point	102°C 230 F.	Specific Gravity (H ₂ O = 1)	1.05
Vapor Pressure (mm Hg.)		Melting Point	N/A
Vapor Density (AIR = 1)		Evaporation Rate (Butyl Acetate = 1)	>1.0
Solubility in Water Complete in all Proportions			
Appearance and Odor Milky White			

Section III - Fire and Explosion Hazard Data

Flash Point (Method Used) 112 Degrees F	Flammable Limits Not tested	LEL N/A	UEL N/A
Extinguishing Media Foam, Carbon Dioxide, or Dry Chemical extinguishers			
Special Fire Fighting Procedures Self contained breath apparatus.			
Fire and Explosion Hazard: The product is flammable.			
Unusual Fire and Explosion Hazards NONE			
Hazardous Decomposition Products: Acid Vapors, Carbon Dioxide, Carbon Monoxide			

Section IV - Reactivity Data

Stability: Reacts with organic and inorganic bases.			Conditions to Avoid: Contact with skin, eyes, or prolong inhalation. Do not ingest product.
Incompatibility: Bases and caustic compounds (alkaline compounds)			
Hazardous Decomposition or Byproducts None			
Hazardous Polymerization Will not occur.			Conditions to Avoid

Section V - Health Hazard Data

Route(s) of Entry:	Inhalation? Yes	Skin? YES	Ingestion? YES
Health Hazards: Contains acetic acid and is flammable and extremely corrosive. Contact with this product will result in severe eye irritation and possible permanent damage. Contact with this product will cause severe skin irritation and/or chemical burns. Breathing vapors will cause significant respiratory irritation, and pulmonary			

edema if prolonged. Ingestion of this product could cause burns and destroy tissue in the mouth, throat, and digestive tract.

Carcinogenicity:	NTP? N/A	IARC Monographs? N/A	OSHA Regulated? N/A
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Signs and Symptoms of Exposure

Emergency and First Aid Procedures: Inhalation: Remove person to fresh air. Seek immediate medical assistance.

Ingestion: Seek immediate medical attention. Do not induce vomiting. Vomiting will cause further damage to the mouth and throat. If individual is conscious and alert, immediately rinsing mouth with water and give milk or water to drink. If possible, do not leave individual unattended.

Skin: Immediately flush skin with plenty of water and soap for at least 15 minutes while removing contaminated clothing and shoes. Call a physician immediately. Wash clothing before reuse and discard contaminated shoes.

Eyes: Immediately flush eyes gently with water for at least 15 minutes while holding eyelids apart. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. If symptoms develop as a result of vapor exposure, immediately move individual away from exposure and into fresh air before flushing as recommended above. Call a physician immediately.

Section VI - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled: Cover the contaminated surface with sodium bicarbonate or a soda ash/flaked lime mixture (50-50). Mix and add water if necessary to form a slurry. Scoop up slurry and wash site with soda ash solution. Proper mixing procedures are essential. Trained personnel should conduct this procedure. Untrained personnel should be removed from the spilled area.

Waste Disposal Method:

A leaking bottle may be placed in a plastic bag and normal disposal procedures followed. Liquid samples may be absorbed using vermiculite or sand, and disposed of in the normal way.

Precautions to Be taken in Handling and Storing

Avoid contact with eyes, skin or clothing. Keep bottle/container tightly closed and store in a cool, dry place.

Other Precautions

N/A

Section VII - Control Measures

Respiratory Protection: Wear a properly fitted half-face or full-face air purifying respirator which is approved for pesticides (NIOSH/MSHA IN U.S.) AND acid gas type cartridges.

Ventilation: Product for outdoor use only.

Local Exhaust
N/A

Special
N/A

Protective Gloves:

Wear Neoprene, Nitrile, or natural rubber gloves.

Eye Protection

Wear chemical goggles when handling the product and during application.

Other Protective Clothing or Equipment: Rubber apron is recommended when handling this product. Wear long sleeved shirt, long pants, socks and shoes.

Section VIII - Special Precautions

Precautions to be taken in Handling and Storing: Keep container tightly closed when not in use. Store only in the original container in a cool, dry place.

The above information is believed to be correct, but does not purport to be all inclusive. This data should be used only as a guide in handling this material. BurnOut II/St. Gabriel Laboratories shall not be held liable for any damage resulting from handling or from direct contact with this product.

Pure Barnyard, Inc.

MATERIAL SAFETY DATA SHEET

SECTION 1 Product and Company Identification

Product Name: Cockadoodle DOO Organic Weed Control—Corn Gluten Meal

Chemical Name: 60% Corn Gluten Meal

Formula: N/A

Manufacturer: on behalf of Pure Barnyard, Inc. 199 Constitution Ave. Portsmouth, NH 03801

For other information Call: 1-603-373-6955 x13

Prepared on: Nov. 6, 2002

SECTION II Ingredients

OSHA PEL

ACGIH TLV

Ingredient (s): CAS NO. 66071-96-3

Corn Gluten Meal	% by Wt.	TWA	STEL	TWA	STEL
Corn Gluten Meal			Nuisance particulate, --		Nuisance particulate, --
		CAS NO. 8001-22-7	15 mg/m3 of total dust		10 mg/m3 of total corn oil

SECTION III Hazard Identifications

Unaware of any hazards for this product. Avoid creating dust or exposing dust to ignition sources.

This material conforms to the Food and Drug Regulations. Since all the materials in this product are classified as feed ingredients, it is exempt from WHMIS. This MSDS is provided as general information for health and safety guidance

SECTION IV Physical/Chemical Characteristics Data

Boiling Point (OF): Not applicable	Specific Gravity (H2O=1): Not applicable
Vapor Pressure (mm Hg): Not applicable	Moisture (% by Wt): 9-12
Vapor Density (Air=1): Not applicable	Evaporation Rate (n-butyl acetate=1): Not applicable
Solubility in Water: Partially Soluable	Appearance and Odor: Goldenrod, slight odor

SECTION V – Fire and Explosion Hazard Data

Flash Point (Method Used)- N/A

Extinguishing Media: Water, Chemical, CO2

Special Fire Fighting Procedures: None

Unusual Fire and Explosion Hazards: Dusts from grain products suspended in air are explosive at criteria air-dust concentrations

SECTION VI - Health Hazard Data

Carcinogenicity:	NTP: No	IARC: No	OSHA: No
Route of Entry:	Ingestions:	Unlikely; Not a Hazard	
	Inhalation:	As dust	
	Skin:	Not a Hazard	
	Eyes:	Contact may cause temporary mild irritation.	
Effects of Overexposure:			
Acute	Ingestion:	Not a hazard in normal industrial use.	
	Inhalation:	Not a hazard	
	Skin:	Not a hazard	
	Eyes:	Contact may cause temporary mild irritation.	
Chronic	Ingestion:	Not a hazard in normal industrial use.	
	Inhalation:	Not a hazard	
	Skin:	Not a hazard	
	Eyes:	Contact may cause temporary mild irritations.	
Emergency and First Aid Procedures:	Ingestions:	Get medical attention for individuals who ingest large amounts.	
	Inhalation:	Remove to fresh air	
	Skin:	Wash with water	
	Eyes:	Wash with water	



For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300.
For Medical Emergencies Only, Call 1-877-325-1840.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Tri-Power® Selective Herbicide
Synonyms: Herbicide Mixture of MCPA, Mecoprop-p (MCP-p) and Dicamba
EPA Reg. No.: 228-262

Company Name: Nufarm Americas Inc.
150 Harvester Drive, Suite 200
Burr Ridge, IL 60527

Date of Issue: May 15, 2006
Sections Revised: All - new ANSI format

Supersedes: December 11, 2001

2. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance and Odor: Dark amber colored liquid with slight ammonia odor.

Warning Statements: Keep out of reach of children. DANGER. Corrosive. Concentrate causes irreversible eye damage. Harmful or fatal if swallowed. Harmful if inhaled. Avoid breathing spray mist. Do not get in eyes, on skin or on clothing.

Potential Health Effects:

Likely Routes of Exposure: Inhalation, eye and skin contact.

Eye Contact: Direct or prolonged eye exposure to the concentrated product may cause irreversible eye damage.

Skin Contact: Slightly toxic and minimally irritating based on toxicity studies. Overexposure by skin absorption may cause symptoms similar to those for ingestion.

Ingestion: Harmful if swallowed. May cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.

Inhalation: Harmful if inhaled. May cause symptoms similar to those from ingestion.

Medical Conditions Aggravated by Exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

Potential Environmental Effects:

Drift or runoff may adversely affect non-target plants.

See Section 12: ECOLOGICAL INFORMATION for more information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
Dimethylamine Salt of 2-Methyl-4-Chlorophenoxyacetic Acid	2039-46-5	40.42
Dimethylamine Salt of (+)-R-2-(2-Methyl-4-Chlorophenoxy) propionic Acid	66423-09-4	7.99
Dimethylamine Salt of Dicamba (3,6-Dichloro-o-Anisic Acid)	2300-66-5	3.97
Other Ingredients		47.62

4. FIRST AID MEASURES

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If on Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

5. FIRE FIGHTING MEASURES

Flash Point: Not applicable due to aqueous formulation

Autoignition Temperature: Not determined **Flammability Limits:** Not determined

Extinguishing Media: Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 2 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection Information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

Handling:

Avoid breathing spray mist. Do not get in eyes or on clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Storage:

Always store pesticides in a secured warehouse or storage building. Store at temperatures above 32°F. If allowed to freeze, remix before using. This does not alter the product. Containers should be opened in well-ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high. Do not store near open containers of fertilizer, seed, or other pesticides. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear face shield or goggles when mixing and loading this product. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
DMA Salt of MCPA	NE	NE	NE	NE	
DMA Salt of Mecoprop-p	NE	NE	NE	NE	
DMA Salt of Dicamba	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES
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Appearance and Odor: Dark amber colored liquid with slight ammonia odor.

Boiling Point: Not determined

Solubility in Water: Soluble

Density: 9.4 pounds/gallon

Specific Gravity: 1.13 @ 20°C

Evaporation Rate: Not determined

Vapor Density: Not determined

Freezing Point: 32°F (0°C)

Vapor Pressure: Not determined

pH: 7.5 – 8.5

Viscosity: 30.16 cps @25°C

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions.

Conditions to Avoid: Excessive heat. Do not store near heat or flame.

Incompatible Materials: Strong oxidizing agents; bases and acids.

Hazardous Decomposition Products: Under fire conditions, may produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Data from laboratory studies on this product are summarized below.

Oral: Rat LD₅₀: 1,400 mg/kg; FIFRA Category III

Dermal: Rabbit LD₅₀: >2,000 mg/kg; FIFRA Category III

Inhalation: Rat 4-hr LC₅₀: > 0.23 mg/l; FIFRA Category II

Eye Irritation: Rabbit: Severely irritating/corrosive; FIFRA Category I

Skin Irritation: Rabbit: Slightly irritating; FIFRA Category IV

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to phenoxy herbicides may cause effects to liver, kidneys, blood chemistry, and gross motor function. Rare cases of peripheral nerve damage have been reported, but extensive animal studies have failed to substantiate these observations, even at high doses for prolonged periods. Repeated overexposure to dicamba may cause liver changes or a decrease in body weight.

Carcinogenicity / Chronic Health Effects: The International Agency for Research on Cancer (IARC) lists exposure to chlorophenoxy herbicides as a class 2B carcinogen, the category for limited evidence for carcinogenicity in humans. However, newer MCPA rat and mouse lifetime feeding studies, as well as a more current MCPP lifetime feeding study in rats, did not show carcinogenic potential. Dicamba did not cause cancer in long-term animals studies. The U.S. EPA has given dicamba a Class D classification (not classifiable as to human carcinogenicity).

Reproductive Toxicity: MCPA studies in laboratory animals have shown testicular effects and lower male fertility. No impairment of reproductive function attributable to MCPP has been noted in laboratory animal studies. Dicamba did not interfere with fertility in reproduction studies in laboratory animals.

Developmental Toxicity: MCPA and MCPP studies in laboratory animals have shown decreased fetal body weights and delayed development in the offspring at doses toxic to mother animals. Animal tests with dicamba have not demonstrated developmental effects.

Genotoxicity: There have been some positive and some negative studies, but the weight of evidence is that neither MCPA nor MCPP is mutagenic. Animal tests with dicamba did not demonstrate mutagenic effects.

Assessment Carcinogenicity:

This product contains substances that are considered to be probable or suspected human carcinogens as follows:

Component	Regulatory Agency Listing As Carcinogen			
	ACGIH	IARC	NTP	OSHA
Chlorophenoxy Herbicides	No	2B	No	No

See Section 2: HAZARDS IDENTIFICATION for more information.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on MCPA DMA:

96-hour LC₅₀ Bluegill: >310 mg/l

96-hour LC₅₀ Rainbow Trout: 230 mg/l

48-hour EC₅₀ Daphnia: 190 mg/l

Bobwhite Quail Oral LD₅₀: 390 mg/kg

Mallard Duck 8-day Dietary LC₅₀: >5,620 ppm

Data on Mecoprop-P:

96-hour LC₅₀ Bluegill: >100 mg/l (literature)

48-hour EC₅₀ Daphnia: >270 mg/l (literature)

72-hour EC₅₀ Green Algae: >270 mg/l (literature)

Data on Dicamba:

96-hour LC ₅₀ Bluegill:	135 mg/l	Bobwhite Quail 8-day Dietary LC ₅₀ :	>10,000 ppm
96-hour LC ₅₀ Rainbow Trout:	135 mg/l	Mallard Duck 8-day Dietary LC ₅₀ :	>10,000 ppm
48-hour EC ₅₀ Daphnia:	110 mg/l		

Environmental Fate:

MCPA DMA rapidly dissociates to parent MCPA in the environment. In soil, MCPA is microbially degraded with a typical half-life of approximately 10 to 14 days. Mecoprop-p DMA rapidly dissociates to parent mecoprop-p in the environment. In soil, mecoprop-p is microbially degraded with a typical half-life of approximately 11 to 15 days. Dicamba has low bioaccumulation potential, is not persistent in soil, is highly mobile in soil and degrades rapidly.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Method:**

Pesticide wastes are acutely hazardous. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed, labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Handling and Disposal:

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

For Department of Transportation (DOT) regulatory information, if required, consult transportation regulations, product shipping papers or call Nufarm's DOT Manager at 708-755-2104, Monday through Friday, 8:00 AM to 5:00 PM Central Time.

15. REGULATORY INFORMATION**U.S. Federal Regulations:**

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):
Immediate, Delayed

Section 313 Toxic Chemical(s):

Dicamba (CAS No. 1918-00-9), 3.30% equivalent by weight in product

Reportable Quantity (RQ) under U.S. CERCLA:

Dicamba (CAS No. 1918-00-9) 1,000 pounds

RCRA Waste Code:

None

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

Tri-Power is a registered trademark of Nufarm Americas Inc.

Benigrass Turf (Other Than Golf Course Greens and Tees): On closely mowed benigrass, apply Tri-Power at a maximum rate of 2 1/2 pints per acre (0.9 fluid ounces in 3 gallons of water per 1,000 square feet) in May or mid-August through September when weeds are actively growing. Exercise care when applying to avoid overdosing benigrass, or turf injury may result. Slight turf yellowing should disappear after about 1 week.

NOTE

Care should be taken to avoid overdosing Benigrass, St. Augustine, and Centipede grasses or injury may result. Large volumes of spray water will aid in obtaining uniform coverage. If hand-type sprayers are used, it is preferable to use a single nozzle sprayer rather than a multiple nozzle boom as sideways application with a boom where the spray from more than one nozzle is allowed to fall on the same area will result in heavy local over-application and subsequent turf discoloration or injury.

Herbi™ Controlled Droplet Applicator: For Cool Season Grasses—Add 1 1/2 to 2 1/2 pints of Tri-Power to the 5 pint Herbi bottle, then fill with water to make 5 pints of mixture or substitute 1/2 pint of a surfactant for water while agitating the solution. For Listed Warm Season Grasses—Apply 1 1/4 to 1 3/4 pints of Tri-Power, then add water to make total of 5 pints of mixture. While walking at approximately 1 pace (3 feet) per second, spray entire contents over 33,000 square feet (1/4 of an acre). Do not overlap (double coverage) at edge of spray patterns. Reduced rates (use 1/2 of rate shown above) of Tri-Power must be applied when grass is stressed from heat, drought, etc.

Herbi™ is a trademark of North American Micron.

Controlled Droplet Applicators:—(CDA), Atomizers, and Spinning Disk Applicators: For Cool Season Grasses—Use Tri-Power at the rate of 2 1/2 to 3 1/2 pints per acre (0.9 to 1.25 fluid ounces per 1,000 square feet) in sufficient water to assure coverage (1 to 4 gallons of water per acre is normal for this type of equipment).

For Listed Warm Season Grasses—Use 2 to 3 pints of Tri-Power per acre (0.7 to 1.1 fluid ounces per 1,000 square feet) in sufficient water to assure coverage (1 to 4 gallons of water per acre is normal for this type of equipment).

NOTE: For all grasses (1) Do not overlap spray patterns, (2) Use reduced rates if grass is stressed from heat, drought, etc., and (3) Follow CDA equipment spray instructions.

OTHER NON-CROP AREAS

Roadsides (Including Aprons and Guard Rails), Rights-of-Way, and Other Similar Non-Crop Areas: For the control of broadleaf weeds, mix at a rate of 1/4 to 1/2 gallon of Tri-Power per 50 to 300 gallons of water. This mixture will cover 43,500 square feet. Thoroughly saturate all weeds with spray mixture. Apply any time between the time when plants come into full leaf (Spring) to when the plants begin to go dormant. Best results are obtained when weeds are young and actively growing. Do not cut weeds until herbicide has translocated throughout the plant causing root death. For small broadleaf weeds, use the lower rate. Heavy, dense stands require the higher rate of 3 ounces of Tri-Power per gallon of water and spray to thoroughly wet all foliage.

For Control of Woody Plants: Apply to both stems and foliage any time from the time foliage is completely matured until the time plants start to go dormant. All leaves, stems and suckers must be completely wet to the ground line for effective control. Regrowth may be anticipated on the more resistant species. Add 1/2 gallons of Tri-Power to 100 gallons of water applying 200 to 600 gallons of spray mixture per 43,500 square feet depending upon the height and thickness of the brush. Mix thoroughly before spraying.

STORAGE AND DISPOSAL

STORAGE: Always store pesticides in a secured warehouse or storage building. Do not store near seeds, fertilizers, insecticides or fungicides. Store at temperatures above 32°F. If allowed to freeze, remix before using. This does not alter this product. Containers should be opened in well ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high. Do not contaminate water, food or feed by storage or disposal.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

WARRANTY

Riverdale warrants that this herbicide conforms to the chemical description on its label. When used in accordance with label directions under normal conditions, this herbicide is reasonably fit for its intended purposes. Since timing, method of application, weather, plant and soil conditions, mixtures with other chemicals and factors affecting the use of this product are beyond our control, no warranty is given concerning the use of this product contrary to label directions or under conditions which are abnormal or not reasonably foreseeable. The user assumes all risks of any such use.

(PR938&11 042194/RV 101698A)



Arbotect® 20-S

Fungicide

For Dutch Elm Disease and Sycamore Anthracnose

Active Ingredient:

Thiabendazole (CAS No. 148-79-8)

(equivalent to 20% 2-(4-thiazolyl) benzimidazole) 25.6%

Other Ingredients: 73.4%

Total: 100.0%

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-892

EPA Est. 39578-TX-1

Product of India

Formulated in the USA

SCP 892A-L1G 0503

1 gallon

Net Contents

syngenta

FIRST AID

If on skin or clothing	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none"> Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOT LINE NUMBER For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-888-8372	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed. May irritate skin. Avoid contact with skin or eyes.

Environmental Hazards

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and Buyer and User assume the risk of any such use. SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

STORAGE AND DISPOSAL

Prohibitions

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage

Store in original containers only. Keep container closed when not in use. Do not store near food or feed.

Pesticide Disposal

Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state, or local procedures under the Resource Conservation and Recovery Act.

Container Disposal

Do not reuse container. Triple rinse (or equivalent), then puncture and dispose of in a sanitary landfill or alternatives allowed by State and local authorities.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

APPLICATION PROCEDURES

Elm Trees—1 Year Treatment—Aids in the Control of Dutch Elm Disease

Preventive Treatment—For each 5 inches of trunk diameter, inject 1 fl. oz. of Arbotect® 20-S in 40 fl. oz. (1 1/4 qts.) of water to 2 fl. oz. of Arbotect 20-S in 80 fl. oz. (2 1/2 qts.) of water. Use the higher levels of Arbotect 20-S under high disease pressure situations.

Preventive applications should be made when leaves approach full size, usually in late May or June.

Therapeutic Treatment—For each 5 inches of trunk diameter, inject 2 fl. oz. of Arbotect 20-S in 80 fl. oz. (2 1/2 qts.) of water to 4 fl. oz. of Arbotect 20-S in 160 fl. oz. of water. Use the higher levels of Arbotect 20-S under high disease pressure situations.

Therapeutic applications should be made as soon as the current year infections are seen, usually in late June through August.

For optimum disease control, preventive treatment is recommended. When a tree shows more than 5% crown symptoms, treatment may not be effective. Treatment should be used in conjunction with an insect control and sanitation program (pruning of diseased limbs) in order to obtain best results. Trees that are 5 inches or less in diameter at chest height should not be treated.

Place injection sites as near to ground level as possible at 3 to 10-inch intervals around the trunk with a maximum hole diameter of $\frac{1}{8}$ inch using a minimum of 3 or 4 equally spaced injection points per tree.

Elm Trees—3 Year Treatment—For Preventive and Therapeutic Treatment of Dutch Elm Disease

Inject 12 fl. oz. of Arbotect 20-S for each 5 inches of trunk diameter. Dilute each 2.0 fl. oz. of Arbotect 20-S with 1 gal. of water. Inject into any exposed root flares, below ground, once every three years. The maximum diameter of the injection holes should be $\frac{1}{8}$ inch. Do not use this treatment if trees are less than 10 inches in diameter. When a tree shows more than 5% crown symptoms, treatment may not be effective. Treatment should be used in conjunction with an insect control and sanitation program (pruning of diseased limbs) in order to obtain best results.

Sycamore Trees—Aids in the Control of Sycamore Anthracnose

For each 5 inches of trunk diameter, inject 4 fl. oz. of Arbotect 20-S diluted with 80-160 fl. oz. of water (one part Arbotect 20-S to between 20 and 40 parts of water).

For best results, injections should be made in late summer or early fall, in each of two consecutive years. Repeat treatments may be necessary if the disease reappears.

Place injection sites at 3 to 10-inch intervals around the trunk with a maximum hole diameter of $\frac{1}{8}$ inch using a minimum of 3 or 4 equally spaced injection points per tree. Injection sites may be placed in root flares at or below ground level or in the trunk as near to ground level as possible. Trees that are 5 inches or less in diameter at chest height should not be treated. If pressure injection is to be used, do not exceed 100 psi.

Do not dilute Arbotect 20-S with highly alkaline water as a precipitate may form.

Arbotect 20-S is to be used by trained arborists and others trained in injection techniques and in the identification of Dutch elm disease and sycamore anthracnose.

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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at 1-800-334-8481.

Syngenta Crop Protection, Inc.
Greensboro, North Carolina 27409
www.syngenta-us.com
SCP 892A-L1G 0503



MATERIAL SAFETY DATA SHEET

Syngenta Crop Protection, Inc.
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name: ARBOTECT 20-S

Product No.: A10345A

EPA Signal Word: Caution

Active Ingredient(%): Thiabendazole (26.6%)

CAS No.: 148-79-8

Chemical Name: 1H-Benzimidazole, 2-(4-thiazolyl)-

Chemical Class: Benzimidazole Fungicide

EPA Registration Number(s): 100-892

Section(s) Revised: 2, 3, 8, 11, 15, 16

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Hypophosphorus Acid (50% Solution)	Not Established	Not Established	Not Established	No
Thiabendazole (26.6%)	Not Established	Not Established	10 mg/m ³ TWA ***	No

*** Syngenta Occupational Exposure Limit (OEL)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: B, S

3. HAZARDS IDENTIFICATIONSymptoms of Acute Exposure

May cause mild skin irritation.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Yellow orange liquid

Odor: Weak, like hydrogen sulfide

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center

or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method): Not Available

Flammable Limits (% in Air): Lower: % Not Applicable Upper: % Not Applicable

Autoignition Temperature: Not Available

Flammability: Not Applicable

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire

Use dry chemical, foam or CO₂ extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact: Where eye contact is likely, use chemical splash goggles.

Skin Contact: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

Inhalation: A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellow orange liquid
Odor:	Weak, like hydrogen sulfide
Melting Point:	Not Applicable
Boiling Point:	212°F
Specific Gravity/Density:	1.10 @ 77°F (25°C)
pH:	2.7 (1% suspension in water)
<u>Solubility in H₂O</u>	
Thiabendazole:	30mg/l (pH 7, pH 10) @ 68°F in water
<u>Vapor Pressure</u>	
Thiabendazole:	4.0 x 10 ⁻⁹ mmHg @ 77°F (25°C)

10. STABILITY AND REACTIVITY

Stability:	Stable under normal use and storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	None known.
Materials to Avoid:	Oxidizing agents (e.g., chlorates, nitrates)
Hazardous Decomposition Products:	Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:	<u>Practically Non-Toxic</u>	
	Oral (LD50 Rat) :	> 5,000 mg/kg body weight
Dermal:	<u>Practically Non-Toxic</u>	
	Dermal (LD50 Rat) :	> 5,050 mg/kg body weight
Inhalation:	<u>Not Available</u>	
	Inhalation (LC50 Rat) :	Not Available
Eye Contact:	Non-Irritating (Rabbit)	
Skin Contact:	Practically Non-Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Thiabendazole:	Decreased fetal weights and increased incidence of resorptions observed in dose levels that were maternally toxic. An increase in skeletal defects and cleft palate was observed in fetuses of mice.
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Chronic/Subchronic Toxicity Studies

Thiabendazole:	Increased incidence of anemia and changes in the thyroid, liver, spleen, kidney and gall bladder in rats and dogs.
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Carcinogenicity

Thiabendazole:	None observed.
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Other Toxicity Information

None

Toxicity of Other Components

Hypophosphorus Acid (50% Solution)

Test results reported in Section 11 for the final product take into account any acute hazards related to the hypophosphorus acid in the formulation.

Target Organs

Active Ingredients

Thiabendazole: Thyroid, liver, spleen, kidney, gall bladder, blood

Inert Ingredients

Hypophosphorus Acid (50% Solution): Not Applicable

12. ECOLOGICAL INFORMATION

Summary of Effects

Thiabendazole:

Very toxic to aquatic organisms. The aquatic toxicity is not increased significantly by chronic exposure. Does not bioaccumulate in fish and is rapidly metabolized.

Eco-Acute Toxicity

Thiabendazole: Invertebrates (Water Flea) LC50/EC50 0.81 ppm
Fish (Trout) LC50/EC50 0.55 ppm
Fish (Bluegill) LC50/EC50 19 ppm
Birds (8-day dietary - Bobwhite Quail) LC50/EC50 > 5,620 ppm
Birds (8-day dietary - Mallard Duck) LC50/EC50 > 5,620 ppm

Eco-Chronic Toxicity

Thiabendazole: Not Available

Environmental Fate

Thiabendazole:

The information presented here is for the active ingredient, thiabendazole.
Low bioaccumulation potential. Stable in soil and water. Stable in soil and water. Sinks in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Corrosive

Listed Waste: D002

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA

Proper Shipping Name: Pesticides, Liquid, Toxic, N.O.S. (Hypophosphorus Acid Solution)

Hazard Class or Division: Class 6.1

Identification Number: UN 2902

Packing Group: PG III

B/L Freight Classification

Fungicides, NOI, Poison

Comments

Water Transport - International

Proper Shipping Name: Pesticides, Liquid, Toxic, N.O.S. (Hypophosphorus Acid Solution)

Hazard Class or Division: Class 6.1

Identification Number: UN 2902

Packing Group: PG III

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Product Name: ARBOTECT 20-S

Page: 4

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Thiabendazole (26.6%) (CAS No. 148-79-8)

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

None

RCRA Hazardous Waste Classification (40 CFR 261)

Corrosive D002

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 1
Flammability: 1
Instability: 0

HMIS Hazard Ratings

Health: 1
Flammability: 1
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 06/05/1989

Revision Date: 10/28/2004

Replaces: 04/30/2004

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

RSVP#: SCP-955-892A-00128L

End of MSDS

Biological Larvicide

VectoBac® 12AS

Aqueous Suspension

Active Ingredient:

<i>Bacillus thuringiensis</i> , subsp. <i>israelensis</i> , strain AM 65-52, fermentation solids and solubles	11.61%
Other Ingredients	88.39%
Total	100.00%

Potency: 1200 International Toxic Units (ITU) per mg
(Equivalent to 4.84 billion ITU per gallon, 1.279 billion ITU per liter)

There is no direct relationship between intended activity (potency) and the Percent Active Ingredient by Weight.

EPA Reg. No. 73049-38

EPA Est. No. 33762-IA-001

List No. 5605

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- 4.0 Storage and Disposal
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- 11.0 Notice to User

KEEP OUT OF REACH OF CHILDREN

CAUTION

1.0

FIRST AID

If in eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARD TO HUMANS (AND DOMESTIC ANIMALS) CAUTION

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash contaminated clothing before reuse.

Mixer/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2 Physical and Chemical Hazards

Diluted or undiluted VectoBac 12AS can cause corrosion if left in prolonged contact with aluminum spray system components. Rinse spray system with plenty of clean water after use. Care should be taken to prevent contact with aluminum aircraft surfaces, structural components and control systems. In case of contact, rinse thoroughly with plenty of water. Inspect aluminum aircraft components regularly for signs of corrosion.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply directly to finished drinking water reservoirs or drinking water receptacles when water is intended for human consumption.

Do not apply when weather conditions favor drift from treated areas. Do not apply to metallic painted objects, such as automobiles, as spotting may occur. If spray is deposited on metallic painted surfaces, wash immediately with soap and water to avoid spotting.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all these factors when making decisions.

3.1 Chemigation

Do not apply this product through any type of irrigation system unless labeling on chemigation is followed.

4.0

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE: Store in a cool, [less than 86° F (30° C)], dry place.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

5.0 GROUND AND AERIAL APPLICATION

VectoBac 12AS may be applied in conventional ground or aerial application equipment with quantities of water sufficient to provide uniform coverage of the target area. The amount of water will depend on weather, spray equipment, and mosquito habitat characteristics. Do not mix more VectoBac 12AS than can be used in a 72-hour period.

CONTINUED

For most ground spraying, apply in 5-100 gallons of water per acre using hand-pump, airblast, mist blower, etc., spray equipment.

For aerial application, VectoBac 12AS may be applied either undiluted or diluted with water. For undiluted applications, apply 0.25 to 2.0 pt/acre of VectoBac 12AS through fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or rotary atomizers.

For diluted application, fill the mix tank or plane hopper with the desired quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding the VectoBac 12AS. VectoBac 12AS suspends readily in water and will stay suspended over normal application periods. Brief recirculation may be necessary if the spray mixture has sat for several hours or longer. AVOID CONTINUOUS AGITATION OF THE SPRAY MIXTURE DURING SPRAYING. Rinse and flush spray equipment thoroughly following each use.

For blackfly aerial applications, VectoBac 12AS can be applied undiluted via fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or open pipes. Rate of application will be determined by the stream discharge and the required amount of VectoBac 12AS necessary to maintain a 0.5 - 25 ppm concentration in the stream water. VectoBac 12AS can also be applied diluted with similar spray equipment. Do not mix more VectoBac 12AS than can be used in a 72-hour period.

6.0 APPLICATION DIRECTIONS

Do not apply when wind speed favors drift beyond the area of treatment.

Mosquito Habitat	Suggested Rate Range*
(Such as the following examples): Irrigation ditches, roadside ditches, flood water, standing ponds, woodland pools, snow melt pools, pastures, catch basins, storm water retention areas, tidal water, salt marshes and rice fields.	0.25 - 2 pts/acres

In addition, standing water containing mosquito larvae, in fields growing crops such as: Alfalfa, almonds, asparagus, corn, cotton, dates, grapes, peaches and walnuts, may be treated at the recommended rates.

When applying this product to standing water containing mosquito larvae in fields growing crops, do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Polluted water (such as sewage lagoons, animal waste lagoons).	1 - 2 pts/acre
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*Use higher rate range in polluted water and when late 3rd and early 4th instar larvae predominate, mosquito populations are high, water is heavily polluted, and/or algae are abundant.

Blackflies Habitat	Suggested Rate Range
Streams	
Stream water† (= ppm) for 1 minute exposure time	0.5 - 25 mg/liter
Stream water† (= ppm) for 10 minutes exposure time	0.05 - 2.5 mg/liter

†Use higher rate range when stream contains high concentration of organic materials, algae, or dense aquatic vegetation.

†Discharge is a principal factor determining carry of Bti. Use higher rate or increase volume by water dilution in low discharge rivers or streams under low volume (drought) conditions.

7.0 NUISANCE FLIES

For control of nuisance flies (*Psychoda* spp., *Chironomus* spp.) in sewage treatment facilities utilizing trickling filter systems.

APPLICATION DIRECTIONS

Nuisance Fly Habitat	Suggested Rate Range*
Trickling filter system of wastewater treatment plants	10 - 20 mg/liter a.(0.833-1.67 ml) per liter of wastewater feed to the filter per 30 minutes

* Use high rate for control of *Chironomus* spp. Apply undiluted with pre-calibrated pump or other device into the wastewater feeding into the filters for a period of 30 minutes. Repeat applications as needed after 2-4 weeks. Control of *Chironomus* spp. may take up to 2 weeks.

8.0 NUISANCE AQUATIC MIDGES

For control of *Chironomine* midges (*Chironominae: Chironomini*) inhabiting shallow, manmade and natural lakes or ponds.

APPLICATION DIRECTIONS

Nuisance Midge Habitat	Suggested Rate Range*
Shallow Lakes and Ponds per sewage oxidation ponds (less than acre 6 feet deep)	1 gallon (3,785.5 ml) per acre

* Apply diluted with water in total volume of 5 gallons/acre by pouring or spraying over the surface to be treated with pre-calibrated device. Repeat application as needed after 2-4 weeks. Control of *Chironomine* midges may take up to 2 weeks.

9.0 CHEMIGATION

Apply this product through flood (basin) irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have any questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers or other experts.

A person knowledgeable of this chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

CONTINUED

9.1 RICE-FLOOD (BASIN) CHEMIGATION

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

VectoBac 12AS is metered or dripped into rice floodwater at application stations positioned at the point of introduction (levee cut) of water into each rice field or pan. Two to three pints of VectoBac 12AS are diluted in water to a final volume of 5 gallons. The diluted solution is contained in a 5 gallon container and metered or dispersed into the irrigation water using a constant flow device at the rate of 80 ml per minute. Introduction of the solution should begin when 1/3 to 1/2 of the pan or field is covered with floodwater. Delivery of the solution should continue for a period of approximately 4-1/2 hours. Floodwater depth should not exceed 10-12 inches to prevent excessive dilution of VectoBac 12AS which could result in reduced larval kill.

Agitation is not required during the period in which the VectoBac 12AS solution is being dispersed.

Application of VectoBac 12AS into rice floodwater is not permitted using a pressurized water and pesticide injection system.

10.0 SMALL QUANTITY DILUTION RATES

Gallons Spray Solution/Acre
(Ounces Needed per Gallon of Spray)

VectoBac 12AS

Rate in Pints

Per Acre	10 Gal/A	25 Gal/A	50 Gal/A
0.25 (4 oz)	0.4	0.16	0.08
0.5 (8 oz)	0.8	0.32	0.16
1.0 (16 oz)	1.6	0.64	0.32
2.0 (32 oz)	3.2	1.28	0.64

11.0 NOTICE TO USER

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE CONCERNING USE OF THIS PRODUCT OTHER THAN AS INDICATED ON THE LABEL. USER ASSUMES ALL RISKS OF USE, STORAGE OR HANDLING NOT IN STRICT ACCORDANCE WITH ACCOMPANYING DIRECTIONS.

VectoBac® 12AS

MSDS# BIO-0031 Rev. 2

ISSUED 12/16/03

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL NAME: VectoBac® 12AS Biological Larvicide

EPA REG. NO.: 73049-38

List Number: 5605

Code Number: 15576, 15577, 21894

MANUFACTURER: Valent BioSciences Corporation
870 Technology Way, Suite 100
Libertyville, Illinois 60048

EMERGENCY TELEPHONE NUMBERS

Emergency Health or Spill:

Outside the United States: 651-632-6184

Within the United States: 877-315-9819

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME: *Bacillus thuringiensis*, subsp. *israelensis*

CONCENTRATION: 11.61 %

CAS NUMBER: 68038-71-1

OSHA-PEL 8HR TWA: N/L

STEL: N/L

CEILING: N/L

ACGIH-TLV 8HR TWA: N/L

STEL: N/L

CEILING: N/L

OTHER 8HR TWA: N/A

LIMITS STEL: N/A

CEILING: N/A

INGREDIENT NAME: Inert Ingredients - identity withheld as a Trade
Secret

CONCENTRATION: 88.39 %

CAS NUMBER: N/A

OSHA-PEL 8HR TWA: N/L

STEL: N/L

CEILING: N/L

ACGIH-TLV 8HR TWA: N/L

STEL: N/L

CEILING: N/L

OTHER 8HR TWA: N/A

LIMITS STEL: N/A

CEILING: N/A

VectoBac® 12AS

MSDS# BIO-0031 Rev. 2

ISSUED 12/16/03

3. HAZARDS INFORMATION

EMERGENCY OVERVIEW: Product is non-toxic by ingestion, skin contact, or inhalation. May be irritating to skin and eyes, and may be a skin sensitizer.

ROUTE(S) OF ENTRY: Skin: No
 Inhalation: No
 Ingestion: No

SKIN CONTACT: Mild irritant

SKIN SENSITIZATION: Possible mild sensitizer

EYE CONTACT: Mild irritant

TARGET ORGANS: N/D

CARCINOGENICITY RATING: NTP: N/L IARC: N/L OSHA: N/L ACGIH: N/L
None

SIGNS AND SYMPTOMS: Direct contact with eyes or skin may cause mild irritation.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/D

4. FIRST AID MEASURES

EYES: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

SKIN: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

INGESTION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

INHALATION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

VectoBac® 12AS

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ISSUED 12/16/03

5. FIRE FIGHTING PROCEDURES

FLASH POINT: N/A (Aqueous suspension)

FLASH POINT METHOD: N/A

LOWER EXPLOSIVE LIMIT(%): N/A

UPPER EXPLOSIVE LIMIT(%): N/A

AUTOIGNITION TEMPERATURE: N/A

FIRE & EXPLOSION HAZARDS: Non-flammable and no explosive properties.

EXTINGUISHING MEDIA: Use appropriate media for underlying cause of fire.

FIRE FIGHTING INSTRUCTIONS: Wear protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

SPILL OR RELEASE PROCEDURES: Recover product and place in appropriate container for disposal. Ventilate and wash area.

7. HANDLING AND STORAGE

HANDLING: N/D.

STORAGE: Store in a cool (59-86° F or 15-30° C), dry place.

SPECIAL PRECAUTIONS: Wash thoroughly with soap and water after handling. Keep impervious gloves on until all potentially contaminated personal protective equipment is removed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use local exhaust.

RESPIRATORY PROTECTION: Not usually required. If necessary (Mixers/loaders and applicators not in enclosed cabs or aircraft), use a MSHA/NIOSH approved (or equivalent) respirator with a dust/mist filter (N-95, R-95, or P95).

SKIN PROTECTION: Impervious, waterproof gloves and clothing to minimize skin contact.

EYE PROTECTION: Not usually required. If necessary, use safety glasses or goggles.

OTHER PROTECTION: Wash thoroughly with soap and water after handling.

VectoBac® 12AS

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ISSUED 12/16/03

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Light brown aqueous suspension.

ODOR: Typical fermentation (malt) odor.

BOILING POINT: Approx. 100° C

MELTING/FREEZING POINT: Approx. 0° C

VAPOR PRESSURE (mm Hg): N/D

VAPOR DENSITY (Air=1): N/D

EVAPORATION RATE: N/D

BULK DENSITY: 1.06-1.1 g/mL

SPECIFIC GRAVITY: N/D

SOLUBILITY: Disperses well in water

pH: 4.6-5.0

VISCOSITY: 250-1000 cps at 25 C

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

INCOMPATIBILITIES: Diluted or undiluted product can cause corrosion if left in prolonged contact with aluminum surfaces (e.g. spray equipment, aircraft components).

HAZARDOUS DECOMPOSITION PRODUCTS: N/D.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

ORAL LD50: > 5,000 mg/kg (rat)

DERMAL LD50: > 5,000 mg/kg (rabbit)

INHALATION LC50: > 5.34 mg/l (rat) No lethality was observed in rats after a 4 hour whole body exposure to this concentration of the product as an undiluted aerosol.

CORROSIVENESS: N/D. Not expected to have any corrosive properties.

DERMAL IRRITATION: Transient, mild to moderate redness was observed at the site of application in a skin irritation test in rabbits.

VectoBac® 12AS

MSDS# BIO-0031 Rev. 2

ISSUED 12/16/03

OCULAR IRRITATION: Transient, redness and conjunctival irritation observed in test animals in a study with this product. No positive ocular effects were observed.

DERMAL SENSITIZATION: Eight of ten animals positive in a dermal sensitization study in guinea pigs. Considered to be a mild sensitizer.

SPECIAL TARGET ORGAN EFFECTS: N/D.

CARCINOGENICITY INFORMATION: N/D. None of the components are classified as carcinogens.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: N/D

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: Dispose of product in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
HAZARD CLASS: N/A
UN NUMBER: N/A
PACKING GROUP: N/A
REPORTABLE QUANTITY: N/A

IATA/ICAO STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
HAZARD CLASS: N/A
UN NUMBER: N/A
PACKING GROUP: N/A
REPORTABLE QUANTITY: N/A

IMO STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
HAZARD CLASS: N/A
UN NUMBER: N/A
PACKING GROUP: N/A
REPORTABLE QUANTITY: N/A
FLASH POINT: N/D

VectoBac® 12AS

MSDS# BIO-0031 Rev. 2

ISSUED 12/16/03

15. REGULATORY INFORMATION

TSCA STATUS: Exempt RCRA STATUS: N/D

CERCLA STATUS: N/D PROP 65 (CA): N/D

SARA STATUS: N/D

16. OTHER INFORMATION

REASON FOR ISSUE: Updated Composition Information (Section 2) and
Phys/Chem. Properties (Section 9).

APPROVAL DATE: 12/16/03

SUPERSEDES DATE: 07/03/03

LEGEND: N/A = Not Applicable

N/D = Not Determined

N/L = Not Listed

L = Listed

C = Ceiling

S = Short-term

® = Registered Trademark of Valent BioSciences

(TM) = Registered Trademark of Valent BioSciences

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VALENT BIOSCIENCES.
CORPORATION670 Technology Way, Suite 100
Libertyville, IL 60048 - 800-323-9597

December 2003 © Valent BioSciences Corporation

Altosid®

BRIQUETS



A SUSTAINED RELEASE MOSQUITO GROWTH REGULATOR TO PREVENT ADULT MOSQUITO EMERGENCE
(INCLUDING THOSE WHICH MAY TRANSMIT WEST NILE VIRUS)

SPECIMEN LABEL

ACTIVE INGREDIENT:

S-Methoprene (CAS #65733-16-6) 8.62%
(Dry Weight Basis) 91.38%

OTHER INGREDIENTS:
Total 100.00%

This product contains water, therefore the weight of the briquet and percent by weight of active ingredient will vary with hydration. The Ingredient Statement is expressed on a dry weight basis.

EPA Reg No. 2724-375
EPA Est. No. 2724-TX-1

KEEP OUT OF REACH OF CHILDREN
CAUTION

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS **CAUTION**

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

FIRST AID

Call a poison control center or doctor for treatment advice.

If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
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If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes.
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Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.

ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of unused product.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Note to User: Do not remove ALTOSID® Briquets from container except for immediate use.

Because of the unique mode of action of ALTOSID Briquets, users must be familiar with special techniques for accurate evaluation of treatments. See Application Rates and Intervals section of this label or consult local Mosquito Abatement Agency. Effective use of ALTOSID Briquets in sites subjected to periodic heavy flow of water requires careful attention to briquet placement and to the possible need for retreatment. Use of the product in storm drains, waste treatment and settling ponds, and similar systems should therefore be limited to experienced pesticide applicators, such as personnel of Mosquito Abatement Districts and Public Health Agencies.

Introduction: The ALTOSID Briquet is a formulation designed to release effective levels of ALTOSID® Insect Growth Regulator up to 30 days under typical environmental conditions. Release of ALTOSID Insect Growth Regulator is effected by dissolution of the ALTOSID Briquet. If briquets become covered by obstructions such as debris, vegetation, and loose sediment as a result of high rainfall or flow, normal

dispersion of the active ingredient can be inhibited. Water flow may increase the dissolution of the briquet thus reducing the residual life of the briquet. Inspect areas of water flow to determine appropriate retreatment intervals. To assure positive results, place **ALTOSID Briquets** where they will not be swept away by flushing action. **ALTOSID Briquets** prevent the emergence of adult mosquitoes including *Anopheles*, *Culex*, *Culiseta*, *Coquillettidia*, and *Mansonia* spp., as well as those of the floodwater mosquito complex (*Aedes*, *Ochlerotatus*, and *Psorophora* spp.) from treated water. Treated larvae continue to develop normally to the pupal stage where they die.

APPLICATION TIMING

Apply **ALTOSID Briquets** at the beginning of the mosquito season. **ALTOSID Briquets** provide up to 30 days residual control. Continue treatment through the last brood of the season. Apply at any stage of larval development. **ALTOSID Briquets** may be applied as a pre-flood treatment prior to wetting events. **ALTOSID Briquets** will be unaffected in dry down situations and will begin working again during subsequent wetting events until the briquet is exhausted.

NOTE: This insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

APPLICATION SITES

ALTOSID Briquets are designed to control mosquitoes in small bodies of water. Examples of application sites are: storm drains, catch basins, roadside ditches, fish ponds, ornamental ponds and fountains, other artificial water-holding containers, animal watering troughs, cesspools and septic tanks, waste treatment and settling ponds, flooded crypts, transformer vaults, abandoned swimming pools, tires, construction and other manmade depressions, cattail marshes, water-hyacinth beds, vegetation-choked phosphate pits, pastures, meadows, rice fields, freshwater swamps and marshes, salt and tidal marshes, treeholes, woodland pools, floodplains, and dredging spoil sites. For application sites connected by a water system, i.e., storm drains or catch basins, treat all of the water holding sites in the system to maximize the efficiency of the treatment program.

APPLICATION RATES AND INTERVALS

For mosquito control in non-(or low-) flow, shallow depressions (up to two ft in depth), treat on the basis of surface area placing one **ALTOSID Briquet** per 100 sq ft. For applications in storm water drainage areas, sewers, and catch basins: Place one **ALTOSID Briquet** into each catch basin. Follow the chart below to determine the number of **ALTOSID Briquets** to use in large catch basins. Place one **ALTOSID Briquet** per 100 sq ft of surface area up to two feet deep for storm water drainage areas. Use one additional **ALTOSID Briquet** per two feet of water depth in areas deeper than two feet.

ALTOSID BRIQUET APPLICATION CHART

Number of Briquets	Catch Basin Size	Water Depth (Feet)
1	0-1,500	0-2
2	1,500-3,000	2-4
3	3,000-4,500	4-6
4	4,500-6,000	6-8

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. **Storage:** Store in cool, dry place. **Pesticide Disposal:** Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility. **Container Disposal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

To the fullest extent permitted by law, Seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Always read the label before using this product.

For more information call 1-800-248-7763 or visit our web site: www.altosid.com



Wellmark International
Schaumburg, Illinois U.S.A.



Zoecon®, A Wellmark International Brand
ALTOSID®, ZOECON® and WELLMARK® are
registered trademarks of Wellmark International.
U.S. Patent No. 7,196,116 B1

April, 2005
Schaumburg, IL

Date Issued:
Supersedes:

November, 2004
November, 2003

MATERIAL SAFETY DATA SHEET
ZOECON ALTOSID® BRIQUETS

Manufacturer: Wellmark International

Address: 1501 E. Woodfield Rd., Suite 200 West, Schaumburg, IL 60173

Emergency Phone: 1-800-248-7763

Transportation Emergency Phone: CHEMTREC: 1-800-424-9300

1. CHEMICAL PRODUCT INFORMATION

Product Name: Zoecon Altosid® Briquets

Chemical Name/Synonym: S)-Methoprene: Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate

Chemical Family: Terpenoid

Formula: C₁₉ H₃₄ O₃

EPA Registration No.: 2724-375-

RF Number: 433A

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component (chemical, common name)</u>	<u>CAS Number</u>	<u>Weight</u>	<u>Tolerance</u>
(S)-Methoprene: Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate	65733-16-6	8.62%	Not established
Inert ingredients (non-hazardous and/or trade secret):		91.38%	

3. HAZARD INFORMATION

PRECAUTIONARY STATEMENT
Caution: Keep out of the reach of children..

SIGNS AND SYMPTOMS OF OVEREXPOSURE

No adverse reactions have resulted from normal human exposure during research and testing. Adverse animal reactions to this product have not been shown.

PRIMARY ROUTE OF ENTRY Dermal/Eye: Yes Oral: Yes Inhalation: Yes

ACUTE TOXICITY

Oral: LD50 (rat): > 34,600 mg/kg bw (highest dose level tested) (Based on S-Methoprene)

Dermal: LD50 (rabbit) >5,000 mg/kg bw (Based on S-Methoprene)

Inhalation: LC50 (rat): >5.19 mg/L air (Based on S-Methoprene)

OTHER TOXICOLOGICAL INFORMATION

Skin Irritation: Non-irritating (rabbit) (Based on S-Methoprene)

Eye Irritation: Practically non-irritating (rabbit) (Based on S-Methoprene)

Sensitizer: Not a sensitizer(guinea pig) (Based on S-Methoprene)

4. FIRST AID MEASURES

Eye: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes.

Skin: Wash material off with soap and water. Remove contaminated clothing and footwear. See a physician if symptoms persist.

Ingestion: Drink 1-2 glasses of water and try to induce vomiting. Seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation: Remove victim to fresh air. See a physician if cough or other respiratory symptoms develop

Note to Physician: Treat symptomatically

5. FIRE FIGHTING MEASURES

NFPA Rating: Health: 0 Fire: 0 Reactivity: 0

Flammability Class: N/A

Flash Point: Does not flash

Explosive Limits (% of Volume): N/A

Extinguishing Media: Water, foam, dry chemical

Special Protective Equipment: Firefighters should wear protective clothing, eye protection, and self contained breathing apparatus.

Fire Fighting Procedures: Normal procedures. Do not allow run-off to enter waterways inhabited by aquatic organisms

Combustion Products: Carbon dioxide, carbon monoxide

Unusual Fire/Explosion Hazards: None

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken: Sweep up material and place in a container for disposal. Do not allow spill to enter waterways inhabited by aquatic organisms

Absorbents: None necessary due to product form

Incompatibles: None

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling.

Storage: Store in a cool, dry place. Do not contaminate food or feed by storage or disposal. Keep away from children.

8. EXPOSURE CONTROL / PERSONAL MEASURES

Exposure Limits: Not applicable

Ventilation: Use with adequate ventilation.

Personal Protective Equipment: Under ordinary use conditions, no special protection is required. If prolonged exposure is expected, it is recommended to wear a MSHA/NIOSH approved organic vapor/pesticide respirator, impervious gloves, chemical goggles or safety glasses with side shields.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:	Grey to black solid with slight hydrocarbon odor.
Boiling Point:	N/A
Melting Point:	N/A
Vapor Pressure (mm Hg):	N/A
Vapor Density (Air = 1):	N/A
Specific Gravity:	1.4 g/cc
Bulk Density:	N/A
Solubility:	1 ppm
Evaporation Rate:	N/A
pH:	N/A

10. STABILITY AND REACTIVITY

Stability:	Stable
Reactivity:	Non-reactive
Incompatibility w/ Other Materials:	None
Decomposition Products:	None
Hazardous Polymerization:	Will not occur

11. TOXICOLOGICAL INFORMATION

CHRONIC TOXICITY [Based on (RS)-Methoprene Technical]

Methoprene is not considered as a carcinogen. The NOEL for non-carcinogen effects in an 18-month mouse study was 250ppm.

DEVELOPMENTAL/REPRODUCTIVE TOXICITY [Based on (RS)-Methoprene Technical]

Methoprene is not a teratogen. The NOEL for maternal and embryo toxicity in rabbits was 200 mg/kg/day. The NOEL for reproductive effects in rats was 500 ppm.

MUTAGENICITY [Based on (RS)-Methoprene Technical]

Methoprene is not a mutagen.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE [Based on (RS)-Methoprene Technical]

Hydrolysis:	T _{1/2} > 4 weeks
Photolysis:	T _{1/2} < 10 hours
Soil half life:	~ 10 days
Water solubility:	< 2 ppm

ECOTOXICITY [Based on (S)-Methoprene Technical]

Acute Toxicity: fish:LC50 (trout): 760 ppb, (bluegill): > 370 ppb ((S)-Methoprene); aquatic invertebrates:LC50 (Daphnia): 360 ppb ((S)-Methoprene.)

13. DISPOSAL CONSIDERATIONS

Wastes resulting from the use of this product may be disposed of on site or at an approved waste management facility. Triple rinse (or equivalent). Do not contaminate water when disposing of rinsate or equipment wash waters. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

DOT49CFR Description: Not regulated as hazardous by D.O.T.

Freight Classification: Insecticides, NOI other than poison in boxes or drums. NMFC 102120

15. REGULATORY INFORMATION

CERCLA (Superfund): Not regulated

RCRA: Not regulated as hazardous

SARA 311/312 HAZARD CATEGORIES

Immediate Health: Yes (irritation)

Delayed Health: No

Fire: No

Sudden Pressure: No

Reactivity: No

The information presented herein, while not guaranteed, was prepared by technically knowledgeable personnel and to the best of our knowledge is true and accurate. It is not intended to be all inclusive and the manner and conditions of use and handling may involve other or additional considerations.

**CLARKE**

ANVIL® 10+10 ULV

Contains An Oil Soluble Synergized Synthetic Pyrethroid For Control of Adult Mosquitoes
(Including Organophosphate-Resistant Species) In Outdoor Residential
and Recreational Areas.

Precautionary Statements HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Harmful if absorbed through the skin. Avoid contact with skin, eyes or clothing. In case of contact, flush with plenty of water. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish. Do not apply over permanent bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material beyond the body of water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or wash waters.

This product is toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply to blooming crops or weeds when bees are actively visiting the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

For use only by federal, state, tribal or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

ACTIVE INGREDIENTS:

3-Phenoxybenzyl-(1RS, 3RS; 1RS, 3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl) cyclopropanecarboxylate ..	10.00%
* Piperonyl Butoxide, Technical	10.00%
** OTHER INGREDIENTS	80.00%
	100.00%

* Equivalent to 8.00% (butylcarbityl) (6-propylpiperonyl) ether and 2.00% related compounds
** Contains a petroleum distillate
Contains 0.74 pounds of Technical SUMITHRIN®/Gallon and 0.74 pounds Technical Piperonyl Butoxide/Gallon
SUMITHRIN®- Registered trademark of Sumitomo Chemical Company, Ltd.

**KEEP OUT OF REACH
OF CHILDREN
CAUTION**

PRECAUCIONAL USUARIO: Si usted no lee las reglas, no use este producto hasta que la etiqueta haya sido explicada ampliamente.

FIRST AID

IF SWALLOWED • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING: • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN: Contains a petroleum distillate - vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information regarding medical emergencies or pesticide incidents, call the International Poison Center at 1-888-740-8712.

MANUFACTURED FOR
**CLARKE MOSQUITO CONTROL
PRODUCTS, INC.**
159 N. GARDEN AVENUE • ROSELLE, ILLINOIS 60172

NOTICE: Seller makes no warranty, expressed or implied concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and/or handling of this material when use and/or handling is contrary to label instructions.

E.P.A. EST. No. 1021-MN-2
EPA Reg. No. 1021-1688-8329
NET CONTENTS

LOT NO.

Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other requirements exist.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel only.

USE AREAS: For use in mosquito adulticiding programs involving outdoor residential and recreational areas where adult mosquitoes are present in annoying numbers in vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses.

For best results, apply when mosquitoes are most active and weather conditions are conducive to keeping the fog close to the ground, i.e. cool temperatures and wind speed not greater than 10 mph.

Do not treat a site with more than 0.0036 pounds of Sumithrin® per acre in a 24-hour period. Do not exceed 1.0 pounds of Sumithrin® per acre in any site in any year. More frequent applications may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

Note: ANVIL 10+10 ULV can not be diluted in water. Dilute this product with light mineral oil if dilution is preferred.

SPRAY DROPLET SIZE DETERMINATION

Ground Equipment: Spray equipment must be adjusted so that the volume median diameter (VMD) is 8 to 30 microns ($8 \leq D_v 0.5 \leq 30 \mu m$) and that 90% of the spray is contained in droplets smaller than 50 microns ($D_v 0.9 < 50 \mu m$). Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

Aerial Equipment: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ($D_v < 60 \mu m$) and that 90% of the spray is contained in droplets smaller than 100 microns ($D_v 0.9 < 100 \mu m$). The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

GROUND ULV APPLICATION

Apply ANVIL 10+10 ULV through a standard ULV cold aerosol or non-thermal aerosol (cold fog) generator. Consult the following table for examples of various dosage rates using a swath width of 300 feet for acreage calculations.

Dosage Rate	Flow Rates in fluid oz./minute at truck speeds of:			
	FL. oz. ANVIL	5MPH	10MPH	15MPH
Lbs Sumithrin®/acre	10+10 ULV per Acre			20MPH
0.0036	0.62	1.9 oz.	3.8 oz	5.7 oz
0.0024	0.42	1.3 oz	2.5 oz	3.8 oz
0.0012	0.21	0.6 oz	1.3 oz	1.9 oz

ANVIL 10 + 10 ULV may be applied undiluted with a non-thermal ULV portable "backpack" spray unit capable of delivering particles in the 5 to 25 micron range. Apply at a walking speed of 2 mph, making sure that the same amount of A.I. is applied per acre.

ANVIL 10 + 10 ULV may be applied with suitable thermal fogging equipment. Do not exceed the maximum rates listed above. May be applied at speeds of 5 to 20 mph.

AERIAL APPLICATION

Prohibition on aerial use: Not for aerial application in Florida unless specifically authorized by the Bureau of Entomology, Florida Department of Agriculture and Consumer Service.

ANVIL 10+10 ULV may be applied at rates of 0.21 to 0.62 fluid ounces of ANVIL 10+10 ULV per acre by fixed wing or rotary aircraft equipped with suitable ULV application equipment. ANVIL 10+10 ULV may also be diluted with a suitable solvent such as mineral oil and applied by aerial ULV equipment so long as 0.62 fluid ounces per acre of ANVIL 10+10 ULV is not exceeded. Aerial application should be made at an altitude below 300 feet. Do not apply when ground wind speeds exceed 10 mph.

Dosage Rate	Flow Rates in fluid oz./acre	
	ANVIL® 10 + 10 ULV	
Lbs Sumithrin®/acre		
0.0036	.62 oz	
0.0024	.42 oz	
0.0012	.21 oz	

STORAGE & DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

STORAGE: Store in a cool, dry place. Keep container closed.

CONTAINER DISPOSAL: Triple rinse (or equivalent) then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved state and local procedures.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

FOR MORE INFORMATION CALL:
1-800-323-5727

ALD001

Material Safety Data Sheet

Date last revised: 15 December 2005

I. General Information

Chemical Name and Synonyms Sumithrin Piperonyl Butoxide	Trade Name & Synonyms Anvil 10+10 ULV
Chemical Family Synergized Synthetic Pyrethroid	EPA Registration Number 1021-1688-8329
Proper DOT Shipping Name Environmentally Hazardous Substances, Liquid, N.O.S., Marine Pollutant (d-Phenothrin) [bulk only]	DOT Hazard Classification Class 9, UN 3082 [bulk only]
Manufacturer Clarke Mosquito Control Products, Inc.	Manufacturer's Phone Number (630) 894-2000
Manufacturer's Address 159 North Garden Avenue Roselle, Illinois 60172	INFOTRAC (Emergency) Hotline 1-800-535-5053

II. Ingredients

Principal Hazardous Components	CAS #	Percent
Sumithrin® [3-Phenoxybenzyl-(1RS, 3RS; 1RS, 3SR) 2,2-dimethyl-3-(2-methylprop-2-enyl) cyclopropane-carboxylate]	026002-80-2	10.00%
Piperonyl Butoxide [Alpha-(2-(1-butoxyethoxy)-4,5-methylenedioxy-2-propyltoluene)]	000051-03-6	10.00%
Petroleum Distillates		1 – 15%
Inert Ingredients are propriety or non-hazardous. Values are not product specifications		40 – 78%

III. Physical Data

Boiling Point (°F): Not Established	Specific Gravity (H ₂ O = 1): 0.884
Vapor Pressure (mm Hg.): Not Established	Vapor Density (Air = 1): Not Established
Solubility in Water: Emulsifiable	pH: Not Applicable
Appearance: Liquid, Clear with a light yellow tinge	Odor: Pungent aromatic, similar to smell of mothballs

IV. Fire & Explosion Hazard Data

Flash Point (Test Method: +200 °F (Tag Closed Cup)
Extinguishing Media: Foam, carbon dioxide, or dry chemical
Special Fire Fighting Procedures: Treat as an oil fire. Use a full-faced self-contained breathing apparatus along with full protective gear. Keep nearby containers and equipment cool with a water stream. Contain the run-off, if possible, for proper disposal.

V. Health Hazard Data

Exposure Limits: Not established by OSHA or ACGIH

EMERGENCY FIRST AID

Skin Contact: CAUTION. Can cause a burning sensation on more sensitive areas (face, eyes, mouth). Prolonged or repeated exposure can cause irritation and reddening of the skin, possibly progressing into dermatitis. Immediately flush affected area with large amounts of water. Remove contaminated clothing and wash affected areas with soap and water. If irritation persists, get medical attention.

Eye: CAUTION. Can cause temporary irritation, tearing, and blurred vision. Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

Inhalation: CAUTION. Excessive inhalation can cause nasal and respiratory irritation. Remove affected person to fresh air. Give oxygen, if necessary. If breathing has stopped, administer artificial respiration and get medical attention immediately.

Ingestion: CAUTION. Can cause stomach irritation, resulting in nausea, cramps and vomiting. Excessive ingestion can cause nervous system disorders, such as fatigue, dizziness, headaches, lack of coordination, tremors and unconsciousness. Do not induce vomiting because of aspiration pneumonia hazard. Call a physician or poison control center.

Material Safety Data Sheet

Anvil 10+10 ULV

Date last revised: 15 December, 2005

VI. Reactivity Data

Stability:	Stable
Incompatibility	Strong acidic or alkaline materials
Hazardous Decomposition Products	Not Applicable

VII. Environmental Protection Procedures

Spill Response:

Shut off ignition sources. Stop release, if possible without risk. Dike or contain release, if possible, and if immediate response can prevent further damage or danger. Isolate and control access to the release area. Take actions to reduce vapors. Absorb with appropriate absorbent. For large spills, collect product into drums, etc., via drains, pumps, etc. Absorb with appropriate absorbent. Clean spill area of residues and absorbent. Contaminated absorbent and wash water should be disposed of according to local, state and federal regulations.

Storage:

Store containers upright and closed. Store in areas that are cool, dry and well ventilated. Keep away from heat, ignition sources and strong oxidizers. Emptied container may retain product residues.

Waste Disposal:

Do not contaminate water when disposing of equipment wash waters. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Do not mix with other waste materials.

VIII. Special Protection Information

Eye Protection: OSHA-approved safety glasses, goggles or face shield

Skin Protection: Handlers should wear protective clothing, chemical resistant gloves, and chemical resistant apron when cleaning, mixing or loading.

Respiratory Protection: Not required

Ventilation: Mechanical ventilation should be used when handling this product in enclosed spaces.

Other: IMPORTANT. Read and observe all precautions and instructions on the label.

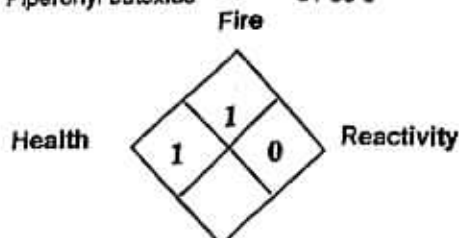
IX. Additional Regulatory Information

SARA Title III Data

Section 313: (Title III Superfund Amendment and Reauthorization Act)

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Ingredient	CAS Number	Percentage (by weight)
Piperonyl butoxide	51-03-8	10.0%



NFPA Code Key
 4 = Severe
 3 = Serious
 2 = Moderate
 1 = Minimal

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.



Sevin[®] SL

CARBARYL INSECTICIDE

Specimen Label

FOR AGRICULTURAL OR COMMERCIAL USE ONLY

ACTIVE INGREDIENT:

Carbaryl
(1-naphthyl N-methylcarbamate) 43.0% by wt.
INERT INGREDIENTS: 57.0% by wt.
TOTAL 100.0% by wt.

(Contains 4 pounds Carbaryl Per Gallon)

KEEP OUT OF REACH OF CHILDREN

CAUTION

EPA Reg. No. 432-1227

EPA Est. No. 264-MO-02

IN CASE OF MEDICAL, ENVIRONMENTAL, OR
TRANSPORTATION EMERGENCIES OR INJURIES,
CALL 1-800-334-7577 (24 HOURS/DAY).

FOR PRODUCT INFORMATION,
CALL TOLL-FREE: 1-800-331-2867

NET CONTENTS: 1, 2.5 OR 15 GALLONS

BACKED
by **BAYER.**



MSDS Number: 000000000196

SEVIN® 80WSP CARBARYL INSECTICIDE

MSDS Version 2.3

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name SEVIN® 80WSP CARBARYL INSECTICIDE
Chemical Name Carbaryl
Synonym
MSDS Number 196
Chemical Family
Chemical Formulation C12H11NO2
EPA Registration No. 432-1226
Canadian Registrat. No.

Bayer Environmental Science
 95 Chestnut Ridge Road
 Montvale, NJ 07645
 USA

For Product Use Information: (800)331-2867 Monday through Friday(CRLF) 8:00AM-4:30PM(CRLF) For Medical Emergency contact DART: (800) 334-7577 24 Hours/Day(CRLF) For Transportation Emergency CHEMTREC: (800) 424-9300 24 Hours/Day

Product Use Description FIFRA regulated use only.

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component Name</u>	<u>CAS No.</u>	<u>Concentration % by Weight</u>	
		<u>Minimum</u>	<u>Maximum</u>
CARBARYL, (1-NAPHTHYL N- METHYLCARBAMATE)	63-25-2	80.0000	
CALCIUM SILICATE	1344-95-2		
QUARTZ	14808-60-7	0.1100	
DIATOMACEOUS EARTH	61790-53-2		
Other ingredients (Trade secret)			

Material Safety Data Sheet

SEVIN® 80WSP CARBARYL INSECTICIDE

MSDS Number: 000000000196

MSDS Version 2.3

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview

Warning! Keep out of the reach of children. Hazard to humans and domestic animals. May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Harmful if gets in eyes.

Physical State

solid powder

Odor

phenolic

Appearance

off-white to pale yellow

Immediate Effects

Eye

Do not get in eyes. Causes redness, irritation, tearing.

Skin

Harmful if absorbed through skin. Do not get on skin or clothing. May produce symptoms similar to those from ingestion.

Ingestion

May be fatal if swallowed. This product causes reversible cholinesterase inhibition. Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced signs and symptoms. May lead to rapid onset of nausea, vomiting, diarrhea, abdominal pain, involuntary shaking, excess salivation, pinpoint pupils, blurred vision, profuse sweating, temporary paralysis, respiratory depression, and convulsions.

Inhalation

Harmful if inhaled. Do not breathe vapors, dusts or spray mists. May produce symptoms similar to those from ingestion.

Chronic or Delayed Long-Term

This product contains ingredients that are considered to be probable or suspected human carcinogens (See Section 11 - Chronic).

Medical Conditions Aggravated by Exposure

Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

Signs and Symptoms

Overexposure may cause salivation, watery eyes, pinpoint eye pupils, blurred vision, muscle tremors, difficult breathing, excessive sweating, abdominal cramps, nausea, vomiting, diarrhea, weakness, headache.

In severe cases convulsion, unconsciousness and respiratory failure may occur. Signs and symptoms occur rapidly following overexposure to this product.

SECTION 4. FIRST AID MEASURES

Eye

Flush eyes with plenty of water. Seek medical attention if irritation develops or persists.

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Skin	Wash skin thoroughly with soap and water.
Ingestion	Never give anything by mouth to an unconscious or convulsing person. If conscious and not convulsing, drink 1 to 2 glasses of water and induce vomiting by touching the back of the throat with finger. Get medical attention.
Inhalation	Remove victim from contaminated atmosphere. Call a physician.
Note to Physician	<p>Contact a physician immediately in all cases of suspected poisoning. Transport to a physician or hospital immediately and show a copy of this label to the physician. If poisoning is suspected in animals, contact a veterinarian.</p> <p>Treat symptomatically. Overexposure to materials other than this product may have occurred.</p>

This product contains a methyl carbamate insecticide, which is a cholinesterase inhibitor. Overexposure to this substance may cause toxic signs and symptoms due to stimulation of the cholinergic nervous system. These effects of overexposure are spontaneously and rapidly reversible. Gastric lavage may be used if this product has been swallowed. Poisoning may occur rapidly after ingestion and prompt removal of stomach contents is indicated.

Specific treatment consists of parenteral atropine sulfate. Caution should be maintained to prevent overatropinization. Improve tissue oxygenation as much as possible before administering atropine to minimize the risk of ventricular fibrillation. Mild cases may be given 1 to 2 mg intramuscularly every 10 minutes until full atropinization has been achieved and repeated thereafter whenever symptoms reappear. Severe cases should be given 2 to 4 mg intravenously every 10 minutes until fully atropinized, then intramuscularly every 30 to 60 minutes as needed to maintain the effect for at least 12 hours. Dosages for children should be appropriately reduced. Complete recovery from overexposure is to be expected within 24 hours.

Narcotics and other sedative should not be used. Further, drugs like 2-PAM (pyridine-2-aldoxime methiodide) are NOT recommended.

To aid in confirmation of a diagnosis, urine samples should be obtained within 24 hours of exposure and immediately frozen. Analysis will be arranged by Bayer.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point	Not applicable
Fire and Explosion Hazards	Like all organic and most dry chemicals, as a powder or dust, this product (when mixed with air in critical proportions and in the presence of an ignition source) may present an explosion hazard.
Suitable Extinguishing Media	Small Fires: carbon dioxide (CO ₂), dry chemical

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Fire Fighting Instructions

Large Fires: alcohol foam, polymer foam, water spray

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

SECTION 6. ACCIDENTAL RELEASE MEASURES

General and Disposal

Evacuation Procedures and Safety: Wear appropriate gear for the situation. See Personal Protection information in Section 8.

Cleanup and Disposal of Spill: Shovel up into an appropriate closed container (see Section 7: Handling and Storage). Clean up residual material by washing area with water. Decontaminate tools and equipment following cleanup. Avoid creation of dusty conditions.

Land Spill or Leaks

Containment of Spill: Follow procedure under Cleanup and Disposal of Spill.

Environmental and Regulatory Reporting: If spilled on the ground, the affected area should be scraped clean and placed in an appropriate container for disposal. Runoff from fire control or dilution water may cause pollution. Prevent material from entering public sewer system or any waterway. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

SECTION 7. HANDLING AND STORAGE

Handling Procedures

Avoid direct or prolonged contact with skin and eyes. Avoid breathing dusts. Do not ingest.

Storing Procedures

Store in original container. Keep in a dry, cool place. Keep out of reach of children and domestic animals.

Work/Hygienic Procedures

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining Personal Protective

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Equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

Min/Max Storage Temperatures

0 °C / 32 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

When handlers used closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [(40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: general area dilution/exhaust ventilation.

Eye/Face Protection

Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.

Body Protection

Applicators and other handlers must wear: Long-sleeved shirt and long pants waterproof gloves shoes plus socks Chemical resistant headgear for overhead exposure

Skin contact should be prevented through use of suitable protective clothing, gloves and footwear, selected with regard for use conditions and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Respiratory Protection

When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the

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following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridges/canister approved for use against pesticides.

Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit.

General Protection

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Limits

CARBARYL, (1-NAPHTHYL N-METHYLCARBAMATE)	63-25-2	ACGIH	TWA	5 mg/m3
		NIOSH	REL	5 mg/m3
		OSHA Z1	REL	5 mg/m3
		OSHA Z1A	TWA	5 mg/m3
		US CA OEL	TWA PEL	5 mg/m3
CALCIUM SILICATE	1344-95-2	ACGIH	TWA	10 mg/m3
		Remarks	The value is for particulate matter containing no asbestos and <1% crystalline silica.	
		NIOSH	REL	5 mg/m3
		Form of Exposure	Respirable.	
		NIOSH	REL	10 mg/m3
		Form of Exposure	Total	
		OSHA Z1	REL	5 mg/m3
		Form of Exposure	Respirable fraction.	
		OSHA Z1	REL	15 mg/m3
		Form of Exposure	Total dust.	
		OSHA Z1A	TWA	5 mg/m3
		Form of Exposure	Respirable fraction.	
		OSHA Z1A	TWA	15 mg/m3
		Form of Exposure	Total dust.	
		US CA OEL	TWA PEL	5 mg/m3
		Form of Exposure	Respirable fraction.	
		US CA OEL	TWA PEL	10 mg/m3

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QUARTZ	14808-60-7	Form of Exposure	Total dust.	
		NIOSH REL		0.05 mg/m3
		Form of Exposure	Respirable dust.	
		OSHA Z1A TWA		0.1 mg/m3
		Form of Exposure	Respirable dust.	
		US CA OEL TWA PEL		0.1 mg/m3
DIATOMACEOUS EARTH	61790-53-2	Form of Exposure	Respirable dust.	
		US CA OEL TWA PEL		0.3 mg/m3
		Form of Exposure	Total dust.	
		ACGIH TWA		0.05 mg/m3
		OSHA Z1A TWA		6 mg/m3
		US CA OEL TWA PEL		3 mg/m3
		Form of Exposure	Respirable dust.	
		US CA OEL TWA PEL		6 mg/m3
		Form of Exposure	Total dust.	
		US CA OEL TWA PEL		6 mg/m3
		ACGIH TWA		10 mg/m3
		Remarks	The value is for particulate matter containing no asbestos and <1% crystalline silica.	
		ACGIH TWA		3 mg/m3
		Remarks	The value is for particulate matter containing no asbestos and <1% crystalline silica.	

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	off-white to pale yellow
Physical State	solid powder
Odor	phenolic
pH	4 - 6.5 at 10 wt/wt%.
Vapor Pressure	Not available
Vapor Density (air = 1)	Not available
Specific Gravity	Not Available
Boiling Point	Not available
Melting/Freezing Point	Not available
Solubility (In water)	dispersible

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Molecular Weight 201.2 g/mol

Decomposition Temperature 140 °C

Other Information Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability This material is stable under normal handling and storage conditions described in Section 7.

Conditions to Avoid extreme heat
open flame
extreme humidity
moisture

Incompatibility strong acids
bases

Hazardous Products of Decomposition Decomposition Type: thermal
oxides of nitrogen
carbon oxides
methyl isocyanate
(trace; no adverse effects expected)

Hazardous Polymerization (Conditions to avoid) not applicable

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity Rat: LD50: 281 mg/kg

Acute Dermal Toxicity Rabbit: LD50: > 2,000 mg/kg

Acute Inhalation Toxicity No test data found for product.

Acute Respiratory Irritation:
No test data found for product.

Skin Irritation Rabbit: Minimally Irritating

Eye Irritation Rabbit: Slightly irritating.

Chronic Toxicity Carbaryl has been shown to cause tumors in laboratory animals in lifetime

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feeding studies. Carbaryl, when administered by various routes, at doses toxic to the maternal animals, has been shown to produce developmental toxicity in a number of species. Carbaryl produces no teratogenic effect in the absence of maternal toxicity.

Assessment Carcinogenicity

ACGIH

CARBARYL, (1-NAPHTHYL N-METHYLCARBAMATE)

63-25-2

Group A4

CALCIUM SILICATE

1344-95-2

Group A4

QUARTZ

14808-60-7

Group A2

NTP

QUARTZ

14808-60-7

IARC

CARBARYL, (1-NAPHTHYL N-METHYLCARBAMATE)

63-25-2

3

OSHA

None

SECTION 12. ECOLOGICAL INFORMATION

Acute and Prolonged Toxicity to Fish

The following data is based on the technical grade active ingredient(s) (TGAi).

Rainbow trout

LC50: 1950 ug/l

Exposure Time: 96 h

The following data is based on the technical grade active ingredient(s) (TGAi).

Bluegill sunfish

LC50: 6760 ug/l

Exposure Time: 96 h

Toxicity Other Non Mammal Terr. Species

The following data is based on the technical grade active ingredient(s) (TGAi).

Mallard duck

LC50: > 5,000 mg/kg

Exposure Time: 8 d

Dietary concentrations.

The following data is based on the technical grade active ingredient(s) (TGAi).

Bobwhite quail

LC50: > 5,000 mg/kg

Exposure Time: 8 d

Dietary concentrations.

Environmental Precautions

This product is toxic to aquatic and estuarine invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below mean high water mark. Discharge for rice fields may kill aquatic and estuarine invertebrates. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by cleaning of equipment or disposal of equipment wastewaters. Do not contaminate water when disposing of

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equipment washwaters.

BEE CAUTION: MAY KILL HONEYBEES IN SUBSTANTIAL NUMBERS.

This product is highly toxic to bees exposed to direct treatment of residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Environmental Fate

For chemical fate data call the product information phone number listed in Section 1.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Pesticide Disposal: Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

EPA Hazardous Waste - Yes

Container Disposal

Do not reuse outer bag. Dispose of outer bag in the trash, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

RCRA Classification

63-25-2 CARBARYL, (1-NAPHTHYL N- METHYLCARBAMATE)

US. EPA Resource Conservation and Recovery Act (RCRA) U List of Hazardous Wastes (40 CFR 261.33(f) and 40 CFR 302 [CERCLA]): U279

SECTION 14. TRANSPORT INFORMATION

Transportation Status:

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

US Department of Transportation

Shipping Name: NOT REGULATED

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SECTION 15. REGULATORY INFORMATION

US Federal

EPA Registration No. 432-1226

TSCA list

CARBARYL, (1-NAPHTHYL N- 63-25-2

METHYLCARBAMATE)

CALCIUM SILICATE 1344-95-2

QUARTZ 14808-60-7

DIATOMACEOUS EARTH 61790-53-2

TSCA 12b export notification

None

SARA Title III - section 302 - notification and information

None

SARA Title III - section 313 - toxic chemical release reporting

CARBARYL, (1-NAPHTHYL N- 63-25-2

1.0%

METHYLCARBAMATE)

US States Regulatory

CA Prop65

This product contains a chemical known to QUARTZ 14808-60-7
the state of California to cause cancer.

US State right-to-know Ingredients

CARBARYL, (1-NAPHTHYL N- 63-25-2

CA, CT, IL, MA, MN, NJ, PA, RI

METHYLCARBAMATE)

CALCIUM SILICATE 1344-95-2

IL, MN, PA, RI

QUARTZ 14808-60-7

IL, MA, MN, PA

DIATOMACEOUS EARTH 61790-53-2

IL

Canadian Regulations

Canadian Registrat. No.

Canadian Domestic Substance List

CALCIUM SILICATE 1344-95-2

QUARTZ 14808-60-7

Environmental

CERCLA

CARBARYL, (1-NAPHTHYL N- 63-25-2

100 lbs

METHYLCARBAMATE)

Clean Water Section 307 Priority Pollutants

None

Safe Drinking Water Act Maximum Contaminant Levels

None

International Regulations

Material Safety Data Sheet

SEVIN® 80WSP CARBARYL INSECTICIDE

MSDS Number: 000000000196

MSDS Version 2.3

EU Classification

None

European Inventory of Existing Commercial Substances (EINECS)

CARBARYL, (1-NAPHTHYL N-METHYLCARBAMATE)	63-25-2
CALCIUM SILICATE	1344-95-2
QUARTZ	14808-60-7

SECTION 16. OTHER INFORMATION

	Health	Flammability	Reactivity	Others
HMIS	2	1	1	
NFPA	3	1	1	

Reason for Revisions: Company name change.

Print Date: 02/05/2003

Supersedes MSDS, which is older than: 02/05/2003

This information is provided in good faith but without express or implied warranty. Buyer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer AG. Bayer Environmental Science

For more information please contact:

Dan Hopkins
Pest Management Coordinator
(630) 789-7042
dhopkins@villageofhinsdale.org

Recommended websites:

www.epa.gov

www.beyondpesticides.org

www.pesticide.org

www.spcpweb.org

www.safelawns.org



Village of Hinsdale
2010 Annual Report



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Clarke Environmental Mosquito Management

2010 Annual Report

Introduction

In many ways, 2010 was the perfect storm for mosquitoes in Illinois. As the 8th wettest and 8th warmest summer on record, Illinois experienced persistent and frequent rainstorms, extensive flooding and the ideal breeding conditions for mosquitoes. This confluence of conditions resulted in a bumper crop of aggressive nuisance mosquitoes. Every major news organization ran at least one story about the tremendous mosquito populations plaguing the Chicago area.

With almost no transition time, the focus shifted to West Nile Virus, with September showing mosquito infection rates similar to those in 2002, when Illinois was the epicenter of the West Nile outbreak.

This back-to-back barrage of mosquitoes kept mosquito control efforts in the headlines and busy on the ground. Clarke worked with the Village of Hinsdale to achieve best possible nuisance reduction and suppress West Nile infection rates for the community.

Service Contracts

To improve the health and quality of life for its residents, Clarke created and implemented an integrated pest management program specifically designed for the Village of Hinsdale. This annual report provides context for the various challenges faced by mosquito control professionals in the Village of Hinsdale, with detail on the weather, mosquito breeding habits and control efforts undertaken by Clarke in the area.

In a year where many mosquito programs experienced budget cuts and reduced services, there was an exceptional level of mosquito activity on both nuisance and disease fronts. Clarke worked closely with the Village of Hinsdale to monitor changing mosquito populations and used a best practices-approach to achieve the greatest control.



Innovation – Community – Sustainability

Clarke has identified the three passions that drive our business: innovation, community and sustainability. Our commitment to each of these areas can be seen in our approach to client work.

This year, our efforts to develop new products with improved environmental footprints were recognized on a national level as several formulations of Clarke's **Natular** received the **U.S. EPA Presidential Green Chemistry Challenge Award** – the first time this award has ever been given to an innovation in the mosquito control industry.

In many communities, we have shifted our operations to a greener approach, conducting catch basin treatments via bicycle, barrier applications with electric golf carts and shifting our company vehicles to hybrid vehicles. In addition, Clarke's "Project Prius" converted our operations to a paperless system that uses handheld devices for our field teams, allowing us to streamline operations, keep our field crews working more efficiently and tracking real-time data.

NPDES Reporting and Product Registrations

Data reporting will become even more important next year as many communities will now be required to file for NPDES permits for their mosquito control program. The pending NPDES permit is the most significant regulation and stewardship initiative that our industry has seen. For many programs, this involves significant data tracking and reporting. Each state will have its own version of the permit and as information on these permits becomes available, we will be sharing that with the Village of Hinsdale. **Clarke will be available to provide our customers with NPDES support** for the permitting process and data reporting when these new regulations come into effect in 2011.

Clarke, which has supported the registration of temephos (Abate) for the past 30 years, has opted to voluntarily cancel registration of this product for use in public health. This cancellation will take effect in five years, on December 31, 2015. This is not an easy decision for Clarke, but the costs associated with re-registration were prohibitive – estimated at up to \$2.8 million – with no guarantee of maintaining the registration. Clarke has chosen to voluntarily cancel this "old" solution and focus instead on the new compounds available with a better environmental profile that allow us to raise our stewardship bar even higher.

Through all these challenges, Clarke holds firm to its dedication to our customers and helping the Village of Hinsdale control mosquitoes. In this way, we realize our vision to make communities more livable, safe and comfortable.



Seasonal Overview: 8th Wettest, 8th Warmest

Unlike last year, the mosquito season of 2010 saw the combination of extremely wet and extremely warm weather, the 8th warmest and 8th wettest since 1871. In just the three months of May – June – July, precipitation totaled nearly 20 inches – about double the normal precipitation for Illinois in that time period. From March through September, temperatures every month exceeded normal temps, by an average of almost 4 degrees higher.

The extremely wet conditions supported excessive breeding of nuisance floodwater mosquitoes, *Aedes vexans*, but unlike 2008 and 2009, there were no cooler temperatures to suppress those populations.

Media coverage in July and August of the "Swarm of the Century" brought heightened awareness to the aggressive and pervasive mosquitoes in our areas.

Despite the wet weather early in the summer, August and September had lower than average rainfall, which helped support the return of West Nile Virus. West Nile mosquitoes thrive in a hot, arid summer environment, which amplifies the spread of the virus among *Culex* mosquitoes. In 2010, mosquito populations demonstrated infection rates nearing those in 2002, when Illinois was the epicenter of the outbreak. The first human cases of West Nile were reported in Illinois on August 31, with total human cases totaling 47¹.

Mosquito batches were found to carry the West Nile Virus at rates 450 percent higher than last year.

This year's statistics to-date are:

- 61 human cases (up from 5 in 2009)
- 3 fatalities (zero in 2009)
- 30 counties reporting West Nile activity (down from 36 in 2009)
- 64 positive birds (up from 26 in 2009)
- 2,290 positive mosquito batches (up from 404 in 2009)
- 1 positive horse (down from 6 in 2009)

¹ Illinois Department of Public Health <http://www.idph.state.il.us/envhealth/wnvglance10.htm> captured 10/29/10



Annual Program Update

Specifically, in the below listed counties, these are the West Nile virus statistics as of October 29, 2010, according to the Illinois Department of Public Health².

County	American Crow	Blue Jay	Other Birds	Mosquito Batches	Horse	Other Mammals
Adams	0	0	0	1	0	0
Carroll	0	0	2	0	0	0
Champaign	4	0	0	15	0	0
Cook	5	0	7	1879	0	0
DuPage	2	0	3	240	0	0
Gallatin	0	0	0	2	0	0
Greene	0	0	1	0	0	0
Jackson	0	0	0	3	0	0
Jefferson	0	0	0	0	1	0
Jo Daviess	1	0	1	0	0	0
Kane	0	1	3	39	0	0
Kankakee	2	0	1	0	0	0
Kendall	0	0	0	21	0	0
Knox	0	0	0	1	0	0
Lake	0	0	0	29	0	0
Lee	0	0	1	1	0	0
Livingston	1	0	0	0	0	0
Macon	0	0	0	19	0	0
McHenry	1	0	0	2	0	0
McLean	0	0	1	0	0	0
Mercer	0	0	1	0	0	0
Peoria	0	0	0	1	0	0
Rock Island	0	0	2	1	0	0
St. Clair	0	0	1	2	0	0
Sangamon	1	0	0	0	0	0
Stephenson	0	0	1	2	0	0
Tazewell	0	0	1	15	0	0
Whiteside	0	0	1	0	0	0
Will	1	1	0	17	0	0
Winnebago	17	0	0	0	0	0
TOTAL	35	2	27	2290	1	0

² Illinois Department of Public Health, October 29, 2010
http://www.idph.state.il.us/envhealth/wnv-surveillance_data_10.htm



About West Nile Virus

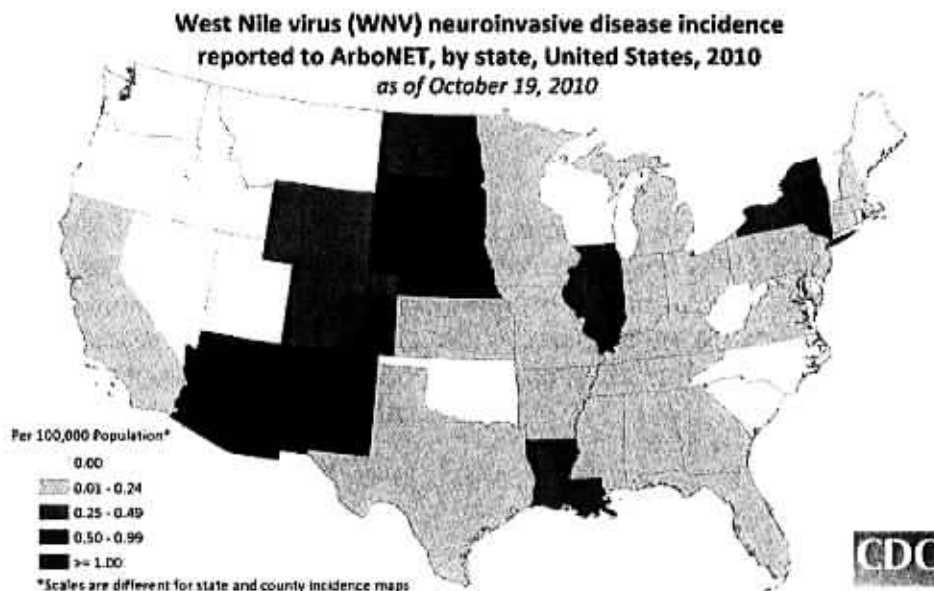
West Nile virus is primarily a mosquito-borne disease, which can cause West Nile encephalitis (swelling of the brain) and West Nile fever in humans. Though the majority of humans infected will not show symptoms, those who develop West Nile virus risk debilitating effects and possibly death. While the most severe cases and the highest risk of West Nile occur traditionally in people over 50 years of age or with compromised immune systems, all people who spend time outside are at risk of contracting the virus. The disease also affects birds, horses and other animals, with higher mortality rates.

West Nile Virus has spread rapidly across North America since it was discovered in the Western hemisphere, reports the U.S. Geological Survey. West Nile Virus swept from the New York City region in 1999 to almost all of the continental U.S., seven Canadian provinces and throughout Mexico and parts of the Caribbean by 2004. Of those infected, one in five will develop symptoms.

West Nile in the United States 2010

Last year we marked the 10th anniversary of West Nile Virus appearing in the United States. Though human cases dropped significantly in 2009, this year infection rates increased from 515 cases (recorded as of October 30, 2009) to 789 cases to date in 2010.

Illinois' high infection rates had a correlated increase in human cases – the highest number since 2007. In addition, Illinois had the 6th highest number of cases in the U.S., tying its rank in 2006.





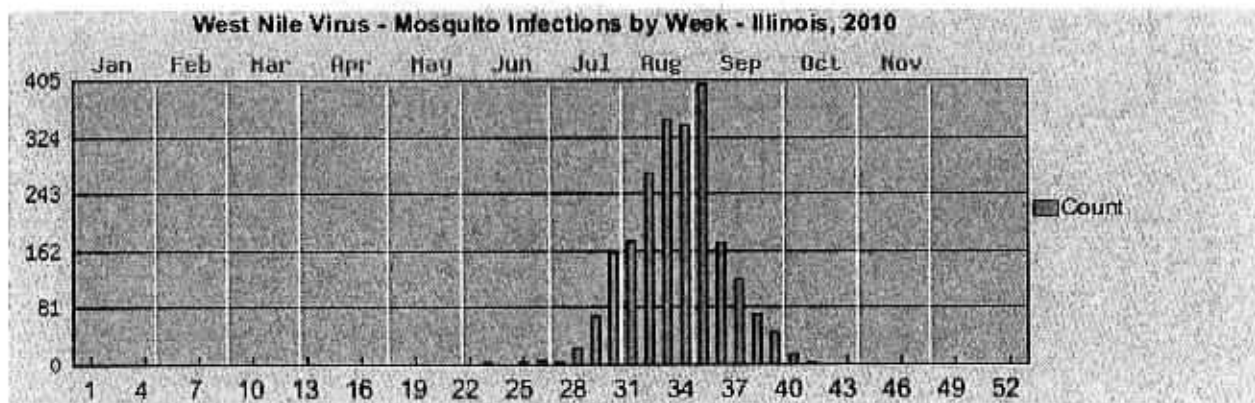
West Nile in Illinois 2010

Illinois first identified West Nile virus this year on May 13, 2010, with positive birds batches in Carroll and St. Clair Counties.

On August 31, the first human case of West Nile virus was reported in DuPage County. At that time, the Illinois Department of Public Health warned of particularly high infection rates among mosquito batches in the Chicago area, saying:

"The analysis from the weeks of August 15 and 22 indicates that more than 40 percent and 50 percent, respectively, of the mosquito samples from three mosquito abatement districts in Cook County were positive for West Nile virus."³

2010 West Nile Virus Mosquito Infections By Week - Illinois (Reported to CDC as of October 26, 2010)

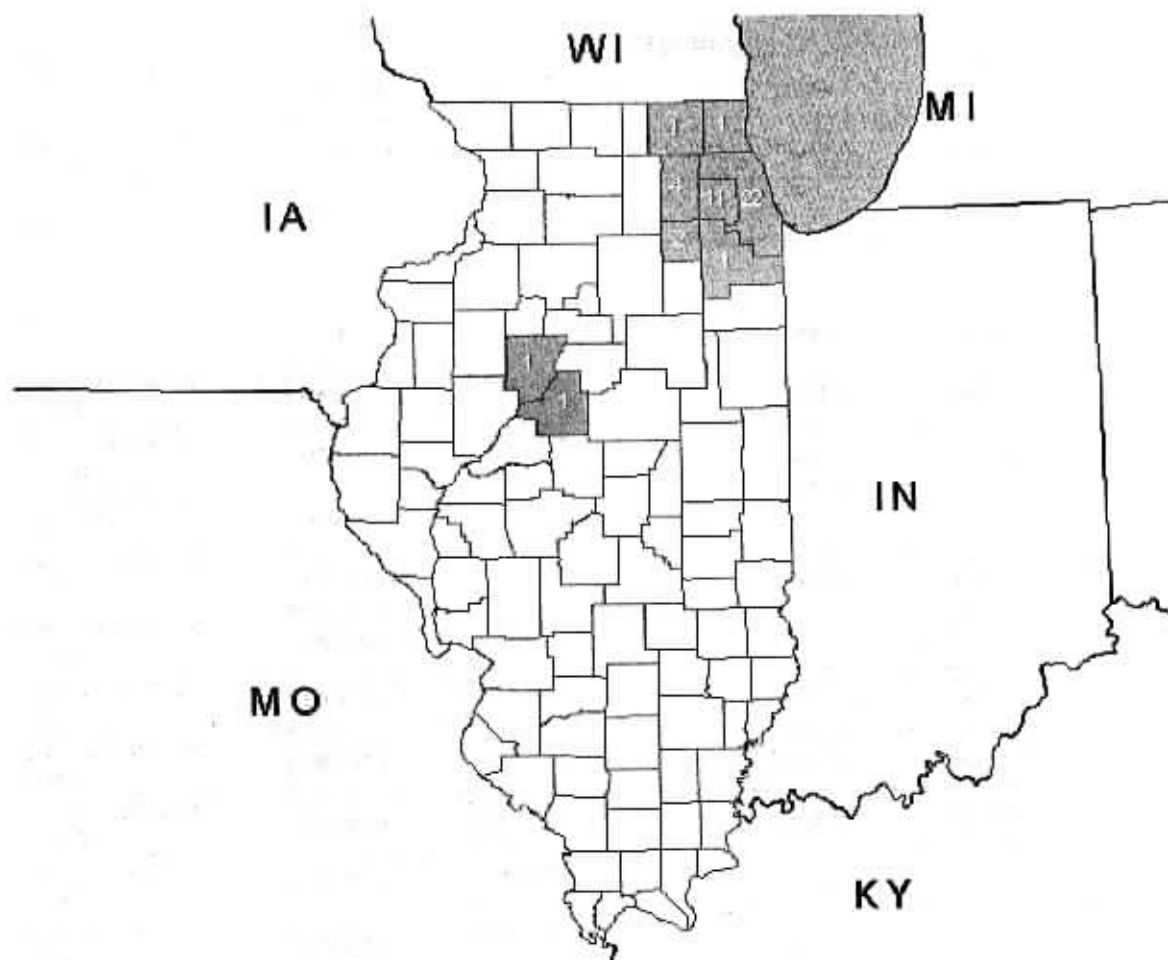


Though West Nile Virus was not seen in great quantities in 2008-2009, the situation in 2010 demonstrates that despite a wet early summer, West Nile Virus can thrive in mosquito populations with very little encouragement when warm temperatures are present. The virus is endemic to Illinois, and special attention should be paid to weather conditions to prepare for virus transmission, including drought conditions or periods of prolonged high temperatures.

³ http://www.idph.state.il.us/public/press10/8.31.10WNV_HumanCase.htm



2010 West Nile Virus⁴ Human Cases Reported in Illinois (Reported as of October 29, 2010)



⁴ http://diseasemaps.usgs.gov/wnv_il_human.html



2010 West Nile Virus Results

Customer	Collection Date	Species	Count of Females	Vectest	PCR
H00880 - VILLAGE OF HINSDALE	06/02/2010	Culex misc spp	9	Negative	Negative
H00880 - VILLAGE OF HINSDALE	06/08/2010	Culex misc spp	14	Negative	Negative
H00880 - VILLAGE OF HINSDALE	06/15/2010	Culex misc spp	7	Negative	Negative
H00880 - VILLAGE OF HINSDALE	06/22/2010	Culex misc spp	4	N/A	N/A
H00880 - VILLAGE OF HINSDALE	06/30/2010	Culex misc spp	11	Negative	Negative
H00880 - VILLAGE OF HINSDALE	07/08/2010	Culex misc spp	15	Negative	Negative
H00880 - VILLAGE OF HINSDALE	07/16/2010	Culex misc spp	14	Negative	Negative
H00880 - VILLAGE OF HINSDALE	07/21/2010	Culex misc spp	4	N/A	N/A
H00880 - VILLAGE OF HINSDALE	07/28/2010	Culex misc spp	33	Negative	Negative
H00880 - VILLAGE OF HINSDALE	08/04/2010	Culex misc spp	2	N/A	N/A
H00880 - VILLAGE OF HINSDALE	08/11/2010	Culex misc spp	50	Negative	Negative
H00880 - VILLAGE OF HINSDALE	08/18/2010	Culex misc spp	16	Negative	Negative
H00880 - VILLAGE OF HINSDALE	08/25/2010	Culex misc spp	10	Negative	Negative
H00880 - VILLAGE OF HINSDALE	09/02/2010	Culex misc spp	11	Negative	Negative
H00880 - VILLAGE OF HINSDALE	09/09/2010	Culex misc spp	3	N/A	N/A
H00880 - VILLAGE OF HINSDALE	09/15/2010	Culex misc spp	50	Positive	Positive
H00880 - VILLAGE OF HINSDALE	09/22/2010	Culex misc spp	9	Positive	Positive
H00880 - VILLAGE OF HINSDALE	09/29/2010	Culex misc spp	16	Negative	Negative



Climatology and Mosquito Overview

Weather has a huge impact on mosquito populations – rainfall determines if floodwater mosquito eggs will hatch, fierce storm can wash away egg rafts and variations in temperature can affect mosquito activity and larval development.

2010 weather highlights:

- March: Temperature 4.7 degrees above normal, relatively dry.
- April: Temperature more than 7 degrees above normal
- May: Rainfall about 50% greater than average (1.6 inches above normal)
- June: Wettest in 108 years with rainfall 70% higher than average
- July: 8th warmest, 3rd wettest July on record.
- August: continued warm/wet pattern
- September: Average temperature and rainfall

In our 2009 Annual Report, Clarke advised:

"The consideration moving forward is three straight years of significant rainfall, which resulted in many Aedes vexans eggs being laid in floodwater area. Should the appropriate weather conditions be present in 2010, eggs from these three years could hatch at once."

In 2010, it is clear that this scenario was realized – extreme numbers of *Aedes vexans* emerged in August after frequent rains created ground saturation conditions and resulted in significant standing water issues.

Aedes vexans is one of the most widespread pest mosquitoes in the world. Adult activity persists through September and well into October, when autumn temperatures remain warm. The average life span of adult *Aedes vexans* in nature is three to six weeks *Aedes vexans* has also been implicated in the transmission of several important diseases including St. Louis encephalitis and dog heartworm.

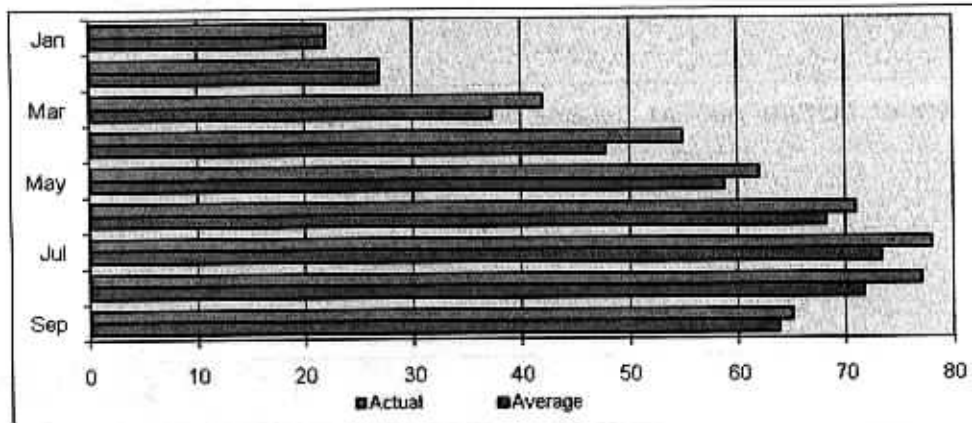
Aedes vexans lay eggs above water levels during flood seasons, which hatch during the next high water period.



2010 O'Hare International Airport (Chicago) Weather Survey

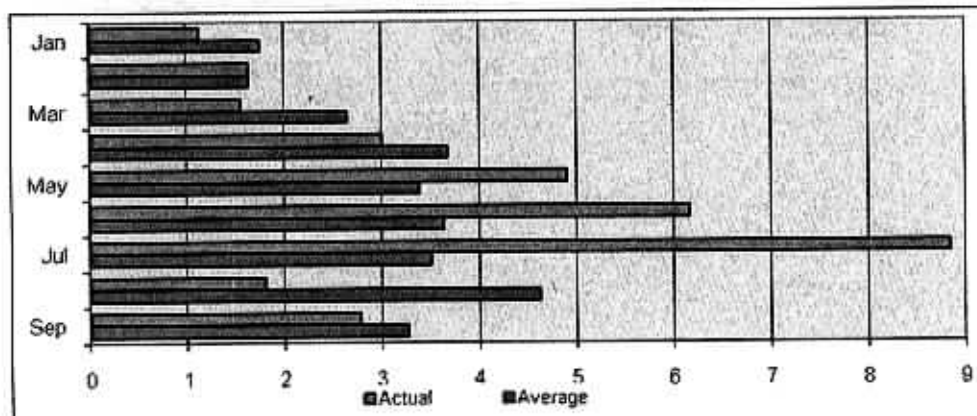
Temperature (degrees Fahrenheit)

	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan
Actual	65	77	78	71	62	55	42	27	22
Average	63.8	71.7	73.3	68.2	58.7	47.8	37.3	27	22



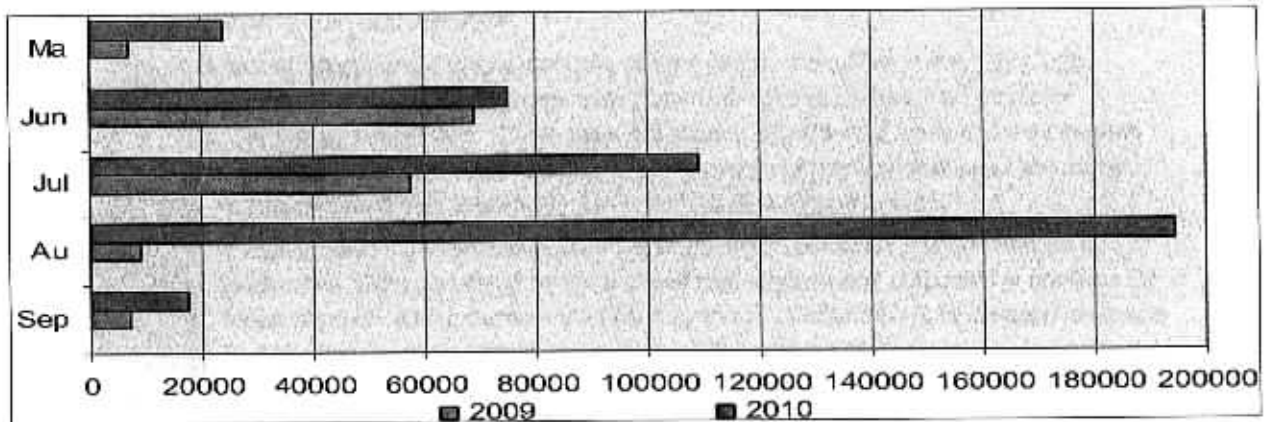
Precipitation (inches)

	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan
Actual	2.78	1.8	8.84	6.17	4.9	3.01	1.55	1.64	1.13
Average	3.27	4.62	3.51	3.63	3.38	3.68	2.65	1.63	1.75

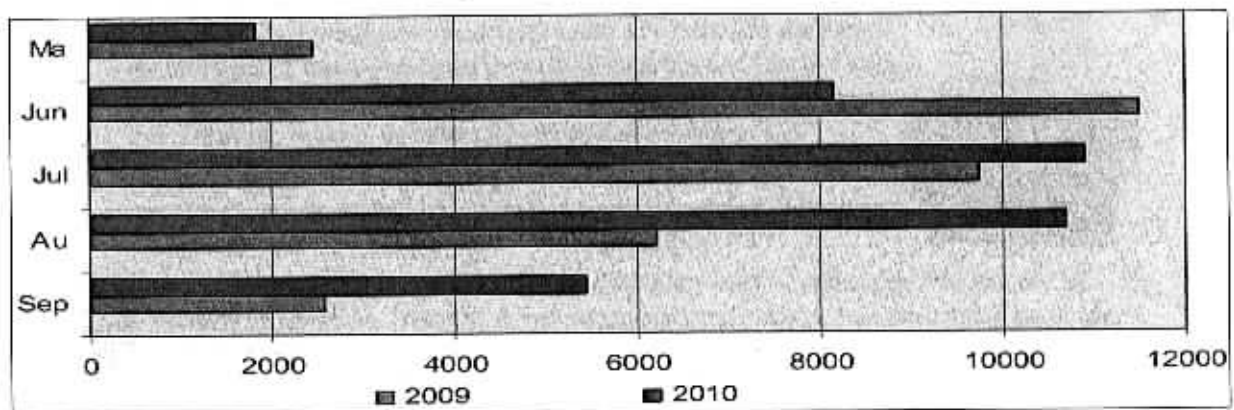




2010 Mosquito Light Trap Network Target Species Comparison *Aedes vexans*



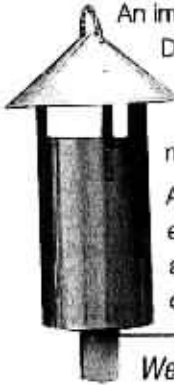
Culex pipiens and restuans





Surveillance Network

New Jersey Light Trap Network



An important supplement to any mosquito control program is a New Jersey Light Trap. Developed in the 1930s, the trap helps determine species diversity and monitors mosquito populations. These traps are located in residential areas and are operated between dusk and dawn (the peak activity period for many species) and should be maintained each year to identify historic and habitual mosquito sites. A 25-watt bulb in the trap attracts mosquitoes, which are drawn into the trap via an electric fan. Data generated by the trap catches serve several purposes: it confirms the arrival of predicted floodwater mosquito migrations, reflects the effectiveness of mosquito control efforts and identifies fluctuations in adult mosquito populations.

West Nile Virus Surveillance Trap

A vital tool in adult mosquito and arbovirus surveillance is the West Nile virus, or gravid, trap. Developed by the Centers for Disease Control and Surveillance, the trap primarily collects gravid (*Culex*) mosquitoes (principal vectors of West Nile virus), which makes it particularly effective in tracking the disease. A gravid female mosquito has taken a blood meal and is ready to lay her eggs. Typically, (*Culex*) mosquitoes search for water rich in organic material to lay their eggs. If they've obtained their blood meal from an infected animal, they can transmit the virus to their eggs. The mosquitoes are captured live, which allows us to test them for arboviruses and get an early indicator that the virus is present in the area.



Centers for Disease Control and Prevention (CDC) Trap



Mosquitoes looking for a blood meal are mainly attracted by carbon dioxide, exhaled by humans and animals. The CDC trap provides carbon dioxide as bait, though dry ice (frozen carbon dioxide), and a light source to attract female mosquitoes. This trap is set out at prime activity hours for the species targeted. A fan draws mosquitoes into a net and the live mosquitoes are trapped for arbovirus testing. CDC traps often show a very high species diversity and large overall mosquito numbers, indicating the presence of a mosquito-borne virus and relative indices of adult mosquito species.



Light Trap Species Summary

The following table summarizes the species composition from the light trap network operating in the Village of Hinsdale.

Light Trap Species Summary				
Species	Females	Percent	Males	Percent
<i>Ae cinereus</i>	2	0.4%	0	0.0%
<i>Ae species</i>	0	0.0%	49	26.5%
<i>Ae vexans</i>	345	75.0%	55	29.7%
<i>An punctipennis</i>	2	0.4%	1	0.5%
<i>An quadrimaculatus</i>	16	3.5%	0	0.0%
<i>An species</i>	0	0.0%	0	0.0%
<i>Cq perturbans</i>	0	0.0%	0	0.0%
<i>Cs inornata</i>	2	0.4%	0	0.0%
<i>Cs species</i>	0	0.0%	0	0.0%
<i>Cx erraticus</i>	0	0.0%	0	0.0%
<i>Cx pipiens</i>	41	8.9%	0	0.0%
<i>Cx restuans</i>	17	3.7%	0	0.0%
<i>Cx salinarius</i>	2	0.4%	0	0.0%
<i>Cx species</i>	12	2.6%	78	42.2%
<i>Cx tarsalis</i>	0	0.0%	0	0.0%
<i>Cx territans</i>	1	0.2%	0	0.0%
Mosquito, Misc.	0	0.0%	0	0.0%
<i>Oc canadensis</i>	0	0.0%	0	0.0%
<i>Oc excrucians</i>	0	0.0%	0	0.0%
<i>Oc grossbecki</i>	0	0.0%	0	0.0%
<i>Oc sollicitans</i>	0	0.0%	0	0.0%
<i>Oc stimulans</i>	0	0.0%	0	0.0%
<i>Oc triseriatus</i>	3	0.7%	1	0.5%
<i>Oc trivittatus</i>	16	3.5%	1	0.5%
<i>Oc. species</i>	0	0.0%	0	0.0%
<i>Or signifera</i>	0	0.0%	0	0.0%
<i>Ps ciliata</i>	0	0.0%	0	0.0%
<i>Ps columbiae</i>	0	0.0%	0	0.0%
<i>Ps ferox</i>	0	0.0%	0	0.0%
<i>Ur sapphirina</i>	1	0.2%	0	0.0%
Total	460	100.0%	185	100.0%

Total Number of Trap: 1

Average Number of Females/Trap Night: 9.39

Total Number of Trap Nights: 49

Number of Trap Malfunctions: 0

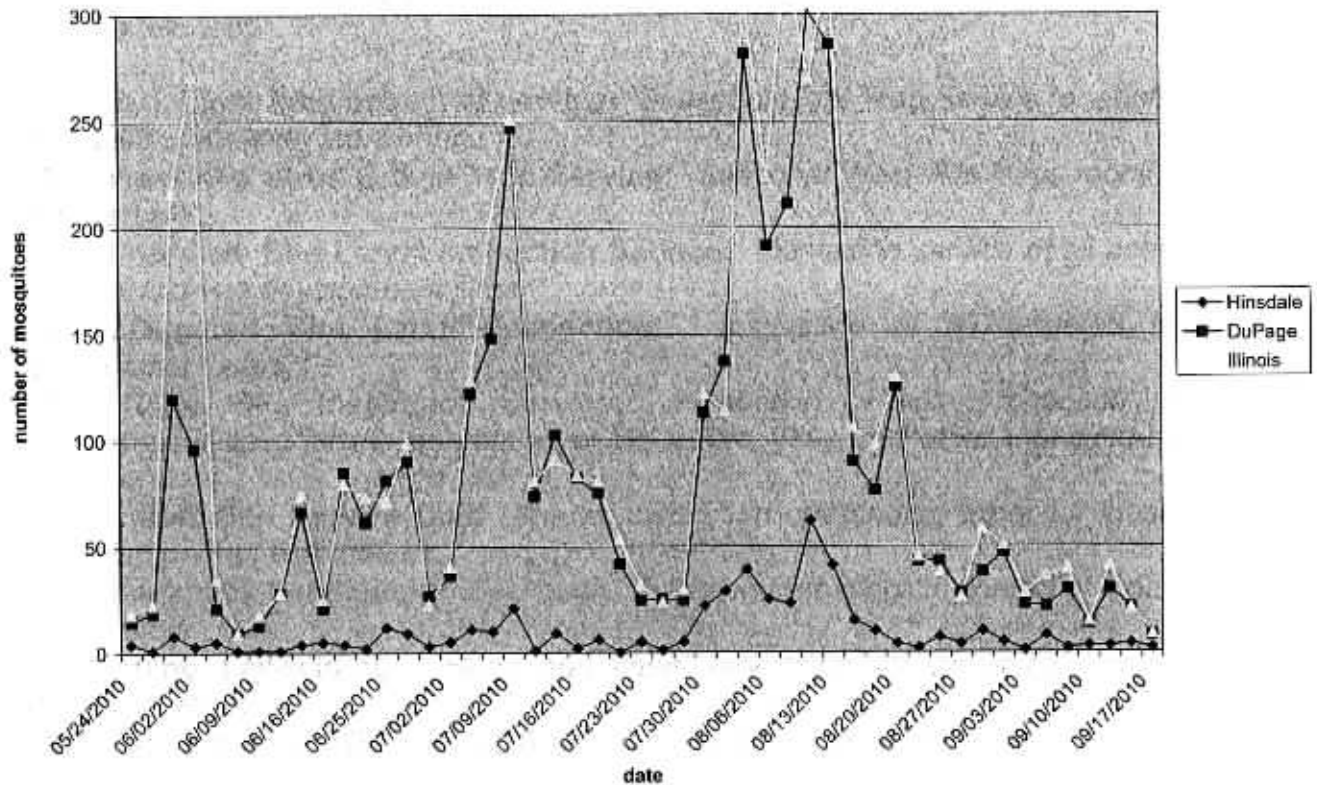
Total Number of Mosquitoes: 645



Annual Program Update

Light Trap Counts by Region, County and Community

Light Trap Comparison Chart





Operations and Surveillance Reports

Attached is a report outlining all services performed year-to-date. These services may include the following:

- **0952 N. J. Light Trap Seasonal Service:** *Seasonal Light Trap Service for adult mosquito population monitoring.*
- **1054 West Nile Virus Gravid Trap Service:** *Seasonal West Nile Virus monitoring trap service.*
- **1252 Complete Site Larval Inspection Service:** *Inspection service of all potential mosquito larvae development sites.*
- **1302 Targeted Site Larval Inspection:** *Inspection of all targeted larval development sites.*
- **1305 Culex Site Inspection Service:** *Inspection of culex mosquito larval development sites for the prevention of West Nile Virus and other mosquito-borne diseases.*
- **1352 Larval Site Service Call:** *Special inspection of standing water for mosquito breeding per hot line request.*
- **1752 Backpack Larviciding:** *Backpack larviciding for biological control of mosquito larvae sites.*
- **1754 Hand Larviciding:** *Hand equipment larviciding for biological control of mosquito larvae.*
- **1852 Mosquitofish (G. Affinis) Stocking:** *Stocking of mosquitofish (Gambusia Affinis) for biological larval control.*
- **2002 Catch Basin Trmt:** *Catch Basin treatment for larval control.*
- **2107 Backyard Catch Basin Touch-Up:** *Treatment of a backyard catch basin per the request of the community's resident.*
- **2402 Helicopter Larviciding:** *Helicopter larvicide application for biological control of mosquito larvae.*
- **2786 ULV Festival Touch-Up Appl:** *Truck ULV "touch-up" application for community festival mosquito control.*
- **2802 Truck ULV Appl:** *Truck ULV application for adult mosquito control.*



SERVICES PERFORMED YEAR-TO-DATE

Service Item	Start Date
ROS0952 - N.J. Light Trap Seasonal Serv	04/28/2010
ROS2019 - Altosid XR CB Bike - 150 day	05/05/2010
ROS1252 - Complete Site Larval Insp Serv	05/19/2010
ROS1054 - WNV Gravid Trap Service	06/01/2010
ROS1252 - Complete Site Larval Insp Serv	06/03/2010
ROS1252 - Complete Site Larval Insp Serv	06/10/2010
ROS1252 - Complete Site Larval Insp Serv	06/23/2010
ROS1752 - Vectobac (B.T.I.) BP Larv	06/25/2010
ROS1252 - Complete Site Larval Insp Serv	06/30/2010
ROS1252 - Complete Site Larval Insp Serv	07/07/2010
ROS1754 - Hand Larviciding	07/07/2010
ROS1252 - Complete Site Larval Insp Serv	07/15/2010
ROS1252 - Complete Site Larval Insp Serv	07/22/2010
ROS1852 - Mosquitofish (G. Affinis) Stck	07/22/2010
ROS1252 - Complete Site Larval Insp Serv	07/28/2010
ROS1252 - Complete Site Larval Insp Serv	08/05/2010
ROS1754 - Hand Larviciding	08/05/2010
ROS1252 - Complete Site Larval Insp Serv	08/11/2010
ROS2786 - Anvil ULV Festival Touch-Up	08/11/2010
ROS1252 - Complete Site Larval Insp Serv	08/18/2010
ROS2802 - Anvil Truck ULV Application	08/18/2010
ROS1754 - Hand Larviciding	08/18/2010
ROS1252 - Complete Site Larval Insp Serv	08/26/2010
ROS2018 - Vectolex WSP CB Bike - 30 day	08/30/2010
ROS1252 - Complete Site Larval Insp Serv	08/31/2010
ROS1305 - Culex Site Inspection Service	09/07/2010
ROS1754 - Hand Larviciding	09/08/2010
ROS1305 - Culex Site Inspection Service	09/14/2010
ROS1305 - Culex Site Inspection Service	09/23/2010

SERVICES INVOICED PER CONTRACT:

Services invoiced Year-to-Date: \$59,561.00

MEMORANDUM

TO: Chairman LaPlaca and EPS Committee
FROM: Engineering Department
DATE: February 14, 2011
RE: Engineering Monthly Report

The Engineering Division has continued to work with the Building Division in order to complete site inspections, as well as responding to drainage complaint calls. In total, 46 site inspections were performed for the month of October by three Engineering employees.

In addition to site management, the following capital improvement projects and engineering studies are also underway.

Veeck Park Wet Weather Facility

John Burns Construction Company (JBCC) did not respond to the January 10, 2011 letter from Clark Dietz, Inc. to submit as-built drawings, clean up debris from the site, and meet to verify completion of the final punch list. On February 7, 2011, the Village Attorney sent the attached letter to John Burns and the Continental Casualty Company stating that they have seven days to complete the items identified in the Clark Dietz letter or the Village will terminate the contract.

Garfield Road Program

The Village has applied for an IEPA revolving loan (estimated at 1.25%) for the sanitary sewer lining on the Garfield Project. As part of the IEPA revolving loan process, the Village conducted a public hearing on 01/10/11. No public comments were received during the public hearing or during the subsequent 10-day comment period. Updated loan application paperwork was submitted on January 28, 2011.

Oak Street Bridge Improvements

The Village conducted "kick-off" meetings for the Oak Street Bridge Engineering Phase 1/ Environmental Assessment on 01/04/11 and 01/05/11. SEC Group surveyed the area during the week of 01/10/11. Huff & Huff Inc. has submitted the environmental survey request to IDOT. Clark Dietz and the Village staff is preparing for an introductory public meeting on Thursday, February 17, 2011.

2011 Resurfacing Project

The Village Board approved SEC Group, Inc. an HR Green Company to provide the engineering services during the design and construction phase of the project. Representatives from SEC Group and the Village staff reviewed the areas to be improved on 01/26/11. SEC Group began surveying select areas the week of 01/31/11.

Chestnut Street Sewer Separation Project

Clark Dietz, Inc. has completed the design for the Chestnut Street Sewer Separation Project. As part of the IEPA revolving loan process, the Village will conduct a public hearing on the loan application on 01/10/11. No public comments were received by the Village during the public hearing and during the subsequent 10-day public comment period. The Village has received an IEPA water main permit and anticipates the IEPA sanitary sewer permit in March 2011.

State and Federal Funding Opportunities

A summary of the Grant Funds Awarded to or Applied for by the Village of Hinsdale is attached. Chicago Metropolitan Agency for Planning (CMAP) has issued a Call for Congestion Mitigation and Air Quality Improvement (CMAQ) Projects. Grant applications are due to CMAP in March 2011. The Village staff is investigating potential projects that may qualify.

Cc: President and Board of Trustees
Dave Cook

ROBBINS SCHWARTZ
NICHOLAS LIFTON & TAYLOR, LTD.

Attorneys at Law

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www.rsnlt.com

KENNETH M. FLOREY
kflorey@rsnlt.com

February 7, 2011

VIA UPS MAIL

Mr. Kevin Fangerow
John Burns Construction Company
17601 Southwest Highway
Orland Park, IL 60467

Ms. Peggy Faust
Continental Casualty Company
333 South Wabash, 22nd Floor
Chicago, IL 60604

Re: Hinsdale CSO Project
Performance Bond No. 929470340

Dear Mr. Fangerow & Ms. Faust:

Please be advised that I am the Village Attorney for the Village of Hinsdale. I am writing related to John Burns Construction Company's ("Burns") contract with the Village for its CSO Project. The Village's Engineering Consultant, Clark Dietz, on January 10, 2011 sent you a letter, a copy of which is attached, directing Burns to submit as built drawings, clean up debris and schedule a field meeting to verify completion of certain punchlist items for the punchlist dated August 18, 2010. To date, Burns has failed to comply or even respond to this letter. Pursuant to Article 15 of the General Conditions of your contract, you have seven (7) days from the date of this letter to complete the items identified in Clark Dietz's January 10, 2011 letter or the Village will terminate the contract.

If you have any question, please contact me.

Very truly yours,

ROBBINS, SCHWARTZ, NICHOLAS,
LIFTON & TAYLOR, LTD.



By: Kenneth M. Florey

cc: David Cook, Village of Hinsdale
Daniel Deter, Village of Hinsdale
Chester Kochan, Clark Dietz
John Boldt, Clark Dietz

Monthly Data
Veeck Park Wet Weather Facility
Hinsdale, IL

2/1/2011

Date	Bar Screen Channel Down Stream (feet)	Overflow Height Above Weir (feet)	Storage Tank Elevation (feet)	Precipitation (inches)
01/01/11	3.50		21.50	
01/02/11	0.03		3.30	
01/03/11	0.04		3.49	
01/04/11	0.02		3.23	
01/05/11	0.00		3.26	
01/06/11	0.04		3.28	
01/07/11	0.01		2.81	
01/08/11	0.00		3.03	
01/09/11	0.00		3.25	
01/10/11	0.02		3.47	
01/11/11	0.02		3.56	
01/12/11	0.00		3.64	
01/13/11	0.00		3.72	
01/14/11	0.01		2.00	
01/00/00	0.00		2.22	
01/00/00	0.00		2.45	
01/17/11	0.01		2.67	
01/18/11	0.03		2.54	
01/19/11	0.01		2.79	
01/20/11	0.00		3.19	
01/21/11	0.00		2.70	
01/22/11	0.00		2.94	
01/23/11	0.03		3.17	
01/24/11	0.03		3.32	
01/25/11	0.02		2.04	
01/26/11	0.02		2.26	
01/27/11	0.01		2.38	
01/28/11	0.00		2.70	
01/29/11	0.00		3.02	
01/30/11	0.02		3.34	
01/31/11	0.01		2.35	

Precipitation data is not collected in the winter because the rain gauge freezes.

Village of Hinsdale
Grant Funds Awarded in 2009 - 2011


Source	Program	Purpose	Funds Available	Amount
Illinois Commerce Commission	Crossing Safety Improvement Program	Oak Street Bridge - 60% Funding	2015 Capital Budget	\$10,200,000
Senator Dillard	State Capital Bill	Oak Street Bridge	Upon issuance of bonds	\$825,000
West Suburban Mass Transit	Car Sale Proceeds	Oak Street Bridge Eng/Construction	50/50 Reimbursement	\$395,000
Illinois Dept of Transportation	Federal Highway Bridge Program	Oak Street Bridge Phase I	July 2010 - 80/20	\$680,000
DuPage Mayors & Managers	Federal Stimulus	S. Garfield Reconstruction	Paid Through IDOT	\$1,632,000
Senator Dillard & Rep Bellock	Emergency Repair Program	Street resurfacing	Upon Project Completion	\$300,000
Representative Bellock	State Capital Bill	N. Washington Reconstruction	Upon issuance of bonds	\$340,000
New Local Transportation Projects	State Capital Bill	Road Improvements	20% released October, 2010	\$389,540
Lyons Township	Bond Proceeds	KLM Park Pavillion	Upon Project Completion	\$150,000
DuPage Mayors & Managers	STP Program	Oak Street Bridge	2015 Capital Budget	\$3,830,000
Total				<u>\$18,741,540</u>

Village of Hinsdale
Grant Funds Applied For

Source	Program	Purpose	Status	Amount
IEPA	ARRA/State Revolving Loan	Garfield Sewer Separation	IEPA to award in 2010/11	\$985,000
IEPA	ARRA/State Revolving Loan	Chestnut Sewer Separation	IEPA to award in 2010/11	\$5,140,760
IDOT	Federal Highway Bridge Grant	Oak Street Bridge Phases II & III	Applying through IDOT	\$4,895,000
IEPA	Illinois Green Infrastructure Grant	Woodlands Drainage Program, Ph I	Application Due: 12/15/10	\$750,000
IDNR	OSLAD	Improvements to KLM	IDNR to award in Jan 2011	\$150,000
IDNR	PARC	Upgrade KLM Electrical Service	IDNR to award in 2010/11	\$60,375
Total				<u>\$11,981,135</u>

Note: Italicized Entries are changes from the previous month's information.

DATE February 10, 2011**REQUEST FOR BOARD ACTION**

AGENDA EPS Agenda		ORIGINATING		
SECTION NUMBER		DEPARTMENT PUBLIC SERVICES		
ITEM Tree Protection		APPROVAL		
<p>The Board of Trustees has requested that the Environment and Public Services Committee discuss options to enhance tree protection in the Village. Attached is a draft of a proposed ordinance that pertains to tree protection for your review</p> <p>MOTION: To approve an ordinance Amending Title & (Public Ways and Properties), Chapter 2 (Trees and Shrubs) and Amending Title 9 (Building Regulations), Chapter 1 (Administrative Provisions), Section 9-1-7 (Standards and Conditions Applicable to All Work) of the Village Code of Hinsdale to Preserve and Protect Trees in the Village of Hinsdale.</p>				
STAFF APPROVALS				
APPROVAL	APPROVAL	APPROVAL	APPROVAL	MANAGER'S APPROVAL 
COMMITTEE ACTION:				
BOARD ACTION:				

VILLAGE OF HINSDALE

ORDINANCE NO. O2011-_____

AN ORDINANCE AMENDING TITLE 7 (PUBLIC WAYS AND PROPERTIES), CHAPTER 2 (TREES AND SHRUBS) AND AMENDING TITLE 9 (BUILDING REGULATIONS), CHAPTER 1 (ADMINISTRATIVE PROVISIONS), SECTION 9-1-7 (STANDARDS AND CONDITIONS APPLICABLE TO ALL WORK) OF THE VILLAGE CODE OF HINSDALE TO PRESERVE AND PROTECT TREES IN THE VILLAGE OF HINSDALE

WHEREAS, the Village of Hinsdale ("Village") is authorized to regulate construction activities pursuant to the Illinois Municipal Code, 65 ILCS 5/1-3-2, 65 ILCS 5/11-13-1 and 65 ILCS 5/11-30-4, and to regulate the use of municipal property also pursuant to the Illinois Municipal Code, 65 ILCS 5/11-80-2; and

WHEREAS, pursuant to said authority, the Village seeks to amend Title 7 ("Public Ways and Properties"), Chapter 2 ("Trees and Shrubs") of the Village Code of Hinsdale to further preserve and protect trees, including landmark and public trees as defined herein, with the Village; and

WHEREAS, the Village wishes to protect and preserve landmark trees, which provide a valuable natural resource to the community, and by adoption of this Ordinance, encourage voluntarily compliance with the goal of maintaining landmark trees in the community and discouraging their removal; and

WHEREAS, the protection and preservation of trees as whole will enhance the quality of life and the general welfare of the Village and its residents, and conserve and enhance the Village's physical and aesthetic environment by: (1) reducing energy consumption through summer shade and winter wind, (2) providing a buffer and screen against noise, light, and pollution, and (3) reducing air pollution through the removal of carbon dioxide, generation of oxygen, and the precipitation of dust and other airborne pollutants; and

WHEREAS, the protection and preservation of trees as a whole will increase property values in a manner that maintains each property owner's enjoyment of his or her property; and

WHEREAS, the Village wishes to discourage the removal of landmark trees on private property by property owners and developers by the adoption of this Ordinance and to further protect and preserve public trees.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Hinsdale, DuPage and Cook Counties and State of Illinois, as follows:

Section 1. Recitals Incorporated. The above recitals are incorporated herein as though fully set forth.

Section 2. Village Code Amended. Title 7 (Public Ways and Properties), Chapter 2 (Trees and Shrubs) of the Village Code of Hinsdale is amended to delete the overstricken language and adding the underlined language to read as follows:

7-2-1: DEFINITIONS:

As used in this chapter, the following words shall have the meanings hereafter ascribed to them:

LANDMARK TREE: Any tree that is eight (8) inches in diameter or more measured at four and one-half feet above ground level on the high side of the tree.

PUBLIC TREE: Any tree located on right-of-way, parkway or property of the Village of Hinsdale or any other public place, or any other tree owned by the Village of Hinsdale.

REMOVE OR REMOVAL: The physical detachment or elimination of a tree, or the effective detachment or elimination of a tree, through damage or otherwise. Without limitation of the foregoing, "remove" or "removal" does not include the pruning of trees.

TREE: A self-supporting, woody plant, together with its root system, having a well-defined stem or trunk or multi-stemmed trunk system, and more or less well-defined crown, and a mature height of at least eight feet. "Tree" shall not include trees in containers or nursery stock trees maintained for resale.

7-2-1: 7-2-2: PLANTING AND REMOVAL:

A. Permit To Plant: It shall be unlawful to plant any tree or shrub in any public street or parkway or other public place without having first secured a permit therefor. Applications for such permits shall be made to the ~~Superintendent of Public Works~~ Director of Public Services, who shall be authorized to issue such permits. All trees and shrubs so planted shall be placed subject to the directions of the ~~Superintendent of Public Works~~ Director of Public Services. Provided, however, that no permit shall be issued for the planting of any ~~Willow, Cottonwood, Box~~

~~Elder, Catalpa or any variety of Poplar trees~~—tree prohibited by the Village's Community Forestry Program Manual of Policy and Procedures.

B. Work On Public Trees:

1. It shall be unlawful to remove, cut down or otherwise work on any tree or shrub in any public street or parkway or other public place without having first secured a permit from the Village. Applications for such permits shall be made to the ~~Superintendent of Public Works~~ Director of Public Services who shall have authority to issue such permits.

2. Any person who removes or cuts down any tree in any public street or parkway or other public place without a permit from the Village shall:

a. Replace the tree with a tree of the same size and species, or another species approved by the ~~Superintendent of Public Works~~ Director of Public Services, and shall maintain said replacement tree in a safe and healthy condition for two (2) years after the replacement tree is planted. Replacement of the tree that is removed without a permit shall occur not more than six (6) months after the date of removal of such tree; and

b. Reimburse the Village in an amount equal to the greater of: three (3) times the value of the tree, as determined by an expert in valuation of trees selected by the Village, or one thousand dollars (\$1,000.00).

C. Work On Public And Private Trees: Any person doing tree work on Elm trees on either public or private property in the Village is required to sanitize his equipment by cleaning all pruning and cutting tools with rubbing alcohol between uses so as to prevent the spread of Dutch Elm fungus.

~~7-2-2:~~ 7-2-3: RESTRICTIONS:

A. Advertisements And Notices: It shall be unlawful to attach any sign, address plate, advertisement or notice to any tree or shrub in any street, parkway or other public place.

B. Wires: It shall be unlawful to attach any wire or other rope to any tree on public property without permission of the Village President and Board of Trustees.

Any person given the rights to maintain poles and wires in the streets, alleys or other public places in the Village shall, in the absence of provision in the franchise concerning the subject, keep such wires and poles from and away from any trees or shrubs in such places so far as may be possible and shall keep all such trees and shrubs properly trimmed and subject to the supervision of the ~~Superintendent of Public Works~~ Director of Public Services, so that no injury shall be done to the poles or wires or shrubs and trees by contact.

C. Gas Pipes: Any person maintaining any gas pipe in the Village shall, in the absence of provision in the franchise concerning the subject, keep such pipes free from leaks.

D. Excavations: In making excavations in streets or other public places proper care shall be taken to avoid injury to the roots of any tree or shrub, wherever possible.

7-2-3: 7-2-4: DANGEROUS TREES:

Any tree or shrub, which overhangs any sidewalk, street or other public place in the Village in such a way as to impede or interfere with traffic, or travel, or obstruct the view on such public place shall be trimmed by the owner of the abutting premises on which such tree or shrub grows so that the obstruction shall cease.

If, after ten (10) days' notice by registered mail, the owner fails to remove obstructing or hazardous limbs, the ~~Superintendent of Public Works~~ Director of Public Services is authorized hereby to take such steps as are necessary to ensure elimination of the obstruction or hazard to public safety and to bill the property owner for the expense incurred thereby.

7-2-4: 7-2-5: INJURY TO TREES AND SHRUBS:

It shall be unlawful to injure any tree or shrub planted in any such public place.

No tree climbing spikes will be used on public trees unless the permit for the work certifies that the tree involved is dead.

7-2-5: 7-2-6: AIR SPACE AROUND TREES PROTECTED:

No person shall, without the written permission of the ~~Superintendent of Public Works~~ Director of Public Services, place or maintain upon the grounds within the lines of any street, parkway or other public place

within the Village, stone, cement or other substance which shall impede the free passage of air to the roots of any tree located within the lines of such street, parkway or other public place, without leaving an open space of ground outside of the trunk of such tree in an area not less than four feet (4') square.

7-2-6: 7-2-7: TREES PROTECTED:

During the period in which the erection or repair of any building is being made, the owner thereof shall place such guards around all nearby trees standing within the lines of any street, parkway or other public place as shall effectively prevent injury to such trees in accordance with the Village's Designing for Mandatory Tree Protection During Construction Policy, as amended.

7-2-8: LANDMARK TREE REMOVAL ON PRIVATE PROPERTY:

The Village shall be provided with fourteen (14) days prior written notice by any person who proposes to remove a landmark tree located on private property within the Village, including, but not limited to, as part of any applicable village construction permit application. Said notice shall be provided to the Director of Public Services in a form to be determined by the Village.

7-2-9: LANDMARK TREE PRESERVATION PLAN:

Any permit applicant pursuant to Title 9 (Building Regulations) of this Code who proposes to demolish a principal structure or a detached garage or includes construction that will add six hundred (600) square feet or more of gross floor area to a principal structure or a detached garage, shall include a landmark tree preservation plan as part of the application. The tree preservation plan shall include a site plan of the property of a scale not less than one inch equals twenty feet (1" = 20'), which plan shall be graphically and accurately marked with all of the following information:

- a. The street address or legal description of the property and all property lines of the property;
- b. The location of all buildings, structures, driveways, walkways, and parking areas on the property;
- c. The proposed location of all temporary storage areas during construction on the property;

- d. The location of utility service lines on the property;
- e. The location of all landmark trees on the property and within fifteen feet (15') of any property line of the property (collectively the "protected trees");
- f. A legend stating the diameter of the landmark tree, genus and species, and general condition of each protected tree;
- g. The root protection zones within the property of all landmark trees;
- h. A detailed proposal for protection of all landmark trees and for protection of all trees other than landmark trees that may be damaged or removed during the proposed construction activity, including, without limitation, such measures as pruning, root pruning, use of retaining walls or protective fencing, augering of utility lines (to improve tree survivability), and similar measures;
- i. A clear delineation of the perimeters of each construction activity area and each root protection area; and
- j. A certification from an arborist that the tree preservation plan incorporates all reasonable steps necessary to minimize damage to trees on property adjacent to the property.

7-2-7: 7-2-10: TREE BOARD:

There is hereby created and established a Village Tree Board for the Village which shall consist of and shall be the members of the Environment and Public Services Committee of the Village or any other standing committee of the Village Board so appointed by the Village President. The chairman of the standing board committee shall serve as chairman of the Tree Board.

7-2-8: 7-2-11: DUTIES AND RESPONSIBILITIES:

It shall be the responsibility of the Tree Board to study, investigate, develop, update and administer a comprehensive plan for the care, preservation, pruning, planting, replanting, removal or disposition of trees and shrubs in parks along streets and in other public areas. The Tree Board, when requested by the Village Board shall consider, investigate, make finding, report and recommend upon any special matter coming within the scope of its work. The Tree Board may assign specific duties and delegate responsibility and authority for day-

to-day operation and activities to the Village tree crew through the Director of Public Services.

Section 3. Village Code Amended. Title 9 (Building Regulations), Chapter 1 (Administrative Provisions), Section 9-1-7 (Standards and Conditions Applicable to all Work) of the Village Code of Hinsdale is amended to delete the overstricken language and add the underlined language to read as follows:

9-1-7: STANDARDS AND CONDITIONS APPLICABLE TO ALL WORK:

The following standards and conditions shall apply to all work undertaken in the village pursuant to a permit issued under this title:

* * *

C. Required Plans And Specifications: Every application for a permit shall be accompanied by the following plans and specifications:

* * *

7. Tree Preservation Plan: If the application includes demolition of a principal structure or a detached garage or includes construction that will add six hundred (600) square feet or more of gross floor area to a principal structure or a detached garage, then the application shall include a tree preservation plan as set forth in section 7-2-9 of this Code. ~~The tree preservation plan shall include a site plan of the property of a scale not less than one inch equals twenty feet (1" = 20'), which plan shall be graphically and accurately marked with all of the following information:~~

~~a. The street address or legal description of the property and all property lines of the property;~~

~~b. The location of all buildings, structures, driveways, walkways, and parking areas on the property;~~

~~c. The proposed location of all temporary storage areas during construction on the property;~~

~~d. The location of utility service lines on the property;~~

~~e. The location of all trees in excess of eight inches (8") in diameter measured at breast height (dbh) on the property and within fifteen feet~~

~~(15") of any property line of the property (collectively the "protected trees");~~

~~f. A legend stating the dbh, genus and species, and general condition of each protected tree;~~

~~g. The root protection zones within the property of all protected trees;~~

~~h. A detailed proposal for protection of all protected trees and for protection of all trees other than protected trees that may be damaged or removed during the proposed construction activity, including, without limitation, such measures as pruning, root pruning, use of retaining walls or protective fencing, augering of utility lines (to improve tree survivability), and similar measures;~~

~~i. A clear delineation of the perimeters of each construction activity area and each root protection area; and~~

~~j. A certification from an arborist that the tree preservation plan incorporates all reasonable steps necessary to minimize damage to trees on property adjacent to the property.~~

~~* * *~~

Section 4. Severability and Repeal of Inconsistent Ordinances. If any section, paragraph, clause or provision of this Ordinance shall be held invalid, the invalidity thereof shall not affect any of the other provisions of this Ordinance. All ordinances in conflict herewith are hereby repealed to the extent of such conflict.

Section 5. Effective Date. This Ordinance shall be in full force and effect after its passage, approval, and publication in pamphlet form in the manner provided by law.

PASSED this ____ day of _____ 2011.

AYES:

NAYS:

ABSENT:

APPROVED this ____ day of _____ 2011.

Thomas K. Cauley, Jr., Village President

ATTEST

Christine M. Bruton, Deputy Village Clerk

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DATE February 10, 2011

REQUEST FOR BOARD ACTION

AGENDA EPS Agenda SECTION NUMBER	ORIGINATING DEPARTMENT PUBLIC SERVICES
ITEM Tree Protection	APPROVAL

The Board of Trustees has requested that the Environment and Public Services Committee discuss options to enhance tree protection in the Village. Attached is a draft of a proposed resolution that pertains to tree protection during construction activities for your review.

MOTION: To approve a Resolution Adopting a “Designing for Mandatory Tree Protection During Construction” Policy.

STAFF APPROVALS

APPROVAL	APPROVAL	APPROVAL	APPROVAL	MANAGER'S APPROVAL 
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COMMITTEE ACTION:

BOARD ACTION:

VILLAGE OF HINSDALE

RESOLUTION NO. _____

**A RESOLUTION ADOPTING A DESIGNING FOR MANDATORY TREE
PROTECTION DURING CONSTRUCTION POLICY**

WHEREAS, the Village of Hinsdale ("Village") is authorized to regulate construction activities pursuant to the Illinois Municipal Code, 65 ILCS 5/1-3-2, 65 ILCS 5/11-13-1 and 65 ILCS 5/11-30-4, and to regulate the use of municipal property also pursuant to the Illinois Municipal Code, 65 ILCS 5/11-80-2; and

WHEREAS, pursuant to said authority, the Village has adopted various provisions contained within the Village Code of Hinsdale ("Village Code") to regulate and protect trees located in parkways and other public property, including, but not limited to, Title 7 ("Public Ways and Properties"), Chapter 2 ("Trees and Shrubs") of the Village Code; and

WHEREAS, the Village has determined to adopt the attached "Designing for Mandatory Tree Protection During Construction Policy" ("Policy") to provide further guidance regarding measures to be implemented for the protection of existing public trees during construction activities and projects; and

WHEREAS, the Village shall be authorized to enforce the Policy in conjunction with the various provisions of the Village Code which regulate the protection of public trees during construction activities and projects pursuant to this Resolution; and

WHEREAS, the Policy adopted herein shall be incorporated into Title 7 (Public Ways and Properties), Chapter 2 (Trees and Shrubs) of the Village Code of Hinsdale as though fully set forth by separate ordinance.

NOW, THEREFORE, BE IT RESOLVED by the President and Board of Trustees of the Village of Hinsdale, DuPage and Cook Counties and State of Illinois, as follows:

Section 1. Recitals Incorporated. The above recitals are incorporated herein as though fully set forth.

Section 2. Approval of Designing for Mandatory Tree Protection During Construction Policy. The Village President and Board of Trustees hereby approve and adopt the "Designing for Mandatory Tree Protection During Construction Policy" attached hereto and incorporated herein by reference as a Village Policy.

Section 3. Severability and Repeal of Inconsistent Ordinances and Resolutions. If any section, paragraph, clause or provision of this Resolution shall be held invalid, the invalidity thereof shall not affect any of the other provisions of this resolution. All ordinances, resolutions or adopted motions in conflict herewith are hereby repealed to the extent of such conflict.

Section 4. Effective Date. This Resolution shall be in full force and effect upon its passage and approval.

PASSED this ____ day of _____, 2011.

AYES:

NAYES:

ABSENT:

APPROVED this _____ day of _____, 2011.

Thomas K. Cauley, Jr., Village President

ATTEST:

Christine M. Bruton, Deputy Village Clerk

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DESIGNING FOR MANDATORY TREE PROTECTION DURING CONSTRUCTION



**Village of Hinsdale
Public Services Department
225 NW Symonds
Hinsdale, IL 60521
(630) 789 – 7043**

**Village of Hinsdale
Public Services Department
225 NW Symonds
Hinsdale, IL 60521
(630) 789 – 7043**

DESIGNING FOR MANDATORY TREE PROTECTION DURING CONSTRUCTION

1. What is tree protection & why is it necessary?

Construction activities can cause irreparable damage to adjacent street trees and it is important that they be protected to insure the longevity of Hinsdale's Community Forest. This is why architects need to consider how a proposed project will impact existing street trees as well as trees on the site of the proposed project or the adjacent properties when designing a project.

The Village's Community Municipal Ordinance mandates that measures be implemented for the protection of existing Village trees during construction activities. During construction projects, Tree Protection Zones must be established around all Village trees prior to the commencement of construction activities.

Construction impacts to existing trees can be minimized by including the tree as an element of the Village's infrastructure that must be protected during construction. The photo at right shows an inadequate protection zone around a Village street tree that resulted in irreversible damage to its trunk.



When designing plans for construction projects it is important to consider the impact a proposed project might have on the adjacent Village street tree. Projects should be designed so they blend into and/or accentuate the existing conditions on the street right-of-way. Contractors should also have a clear understanding of how to access the site during construction, where to locate construction trailers, install utility meters, how building materials should be delivered or stored and eventually how to make repairs to sidewalks, curbs and gutters.

2. What is a Tree Protection Zone?

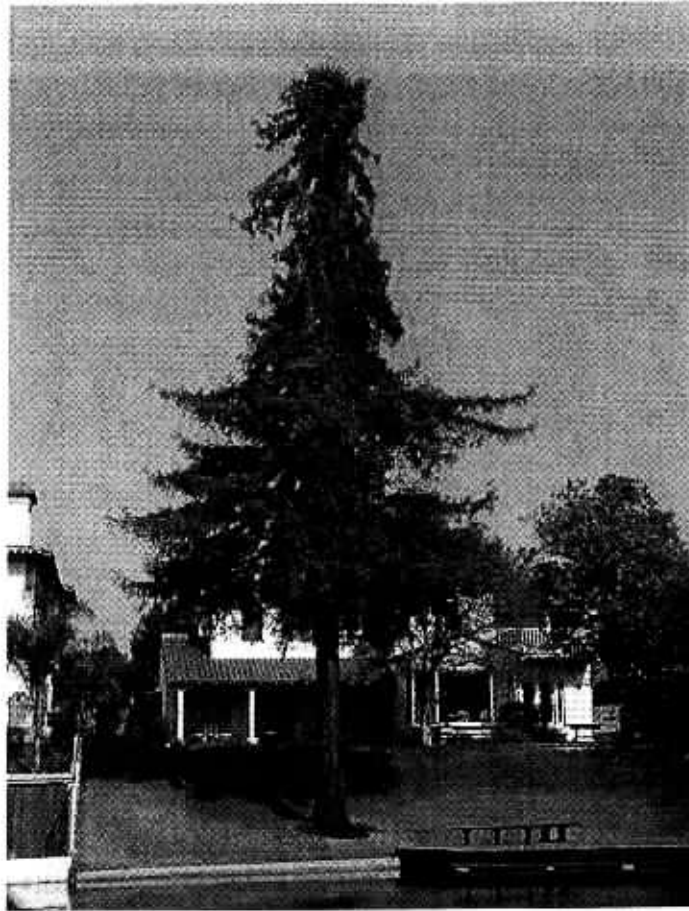
A Tree Protection Zone (TPZ) is the designated area that encompasses an entire tree canopy. However, for practical purposes the Village of Hinsdale requires that the public portion be delineated with chain link or wood-slant fencing. The area should be posted to alert contractors on the site and others that **no equipment, materials, debris, supplies or fill soil shall be located within the entire TPZ.**

3. How is a Tree Protection Zone determined?

When designing a new project it is important to determine how the structure will be built and how contractors can access the site without harming any existing trees. This is done by calculating the critical root zone (CRZ). This measurement is oftentimes consistent with the "drip line" of the tree which is the greatest extent of the tree's branches.



For some trees with narrow crowns, such as the tree shown in the photo below, this distance is not near enough to insure that the critical tree roots will be protected. To accurately determine the critical root zone of a narrow crowned tree, measure its trunk diameter at 4.5 feet above the ground with a diameter tape. Then multiply that number by 1.5 and express the results in feet. For example; if the tree in the photo below has a trunk diameter of 24 inches then the critical root zone has a radial distance of 36 feet, or a total diameter of 72 feet across.



Once the CRZ has been determined the boundary of the TPZ can then be established to determine, underground utilities, drainage lines and location of driveway.

4. What is the proper way to set up a Tree Protection Zone?

Construction equipment can injure the above ground portion of a tree by breaking branches, tearing the bark, and wounding the trunk. These injuries are permanent and, if extensive, can be fatal to the tree. Parkways must be fenced off to protect street trees during construction. The location of the fence must be shown on the plans and the following notes regarding the TPZ fencing are typically added:

- a. Obtain TPZ requirements from the Building Commissioner's office and post the tree as required by the Village of Hinsdale.
- b. Fence the public portion of the TPZ (*field example shown below*) with a six foot (6') chain link or wood-slat fence to prevent wounds to the tree and soil compaction within the root zone.
- c. Install and maintain a four to six inch layer of mulch in the entire area of the TPZ.



Occasionally there are circumstances that require access to the construction site be through the TPZ. In those cases where access is necessary through the TPZ, a steel plate may be utilized to bridge over the parkway for access. In other situations construction work may need to be conducted within the TPZ. In those situations steel plates can be placed over a mulch base to create a temporary work surface. These measures will prevent soil compaction within the critical root zones of trees.

In order to obtain authorization for this type of approach it must be detailed on the plans submitted to the Village and authorized prior to any construction activities taking place.



When bridging over a parkway the steel plate should rest on the top of the curb and the top of the concrete sidewalk on the opposite side of the parkway.

5. Construction access and permanent driveways.

Once the Critical Root Zone has been established a better understanding can be gained of how the proposed design can fit into the project site. Equally as important is how to access the site, both during the construction phase as well as once the project is completed. It is always best to utilize an existing driveway for both construction access and as a permanent driveway as that has the least impact on existing street trees.

a. Construction access:

Constant traffic
associated with a
construction project

that continually crosses over the parkway can have a negative impact on the root zone. To avoid this it's important to utilize the existing driveway approach or the alley if possible.

(PICTURE)

b. New permanent driveways:

On projects when a new driveway is planned, it is important to remember the critical root zone of existing trees when deciding on where exactly to locate the driveway. Keep in mind that the trunk of an existing street tree as well as its root system will increase in size. In order to avoid future conflicts between a driveway approach and the surface roots of an existing street tree the edge of new driveways must be located at least ten feet (10') away from the outside edge of the trunk of the street tree.

(PICTURE)

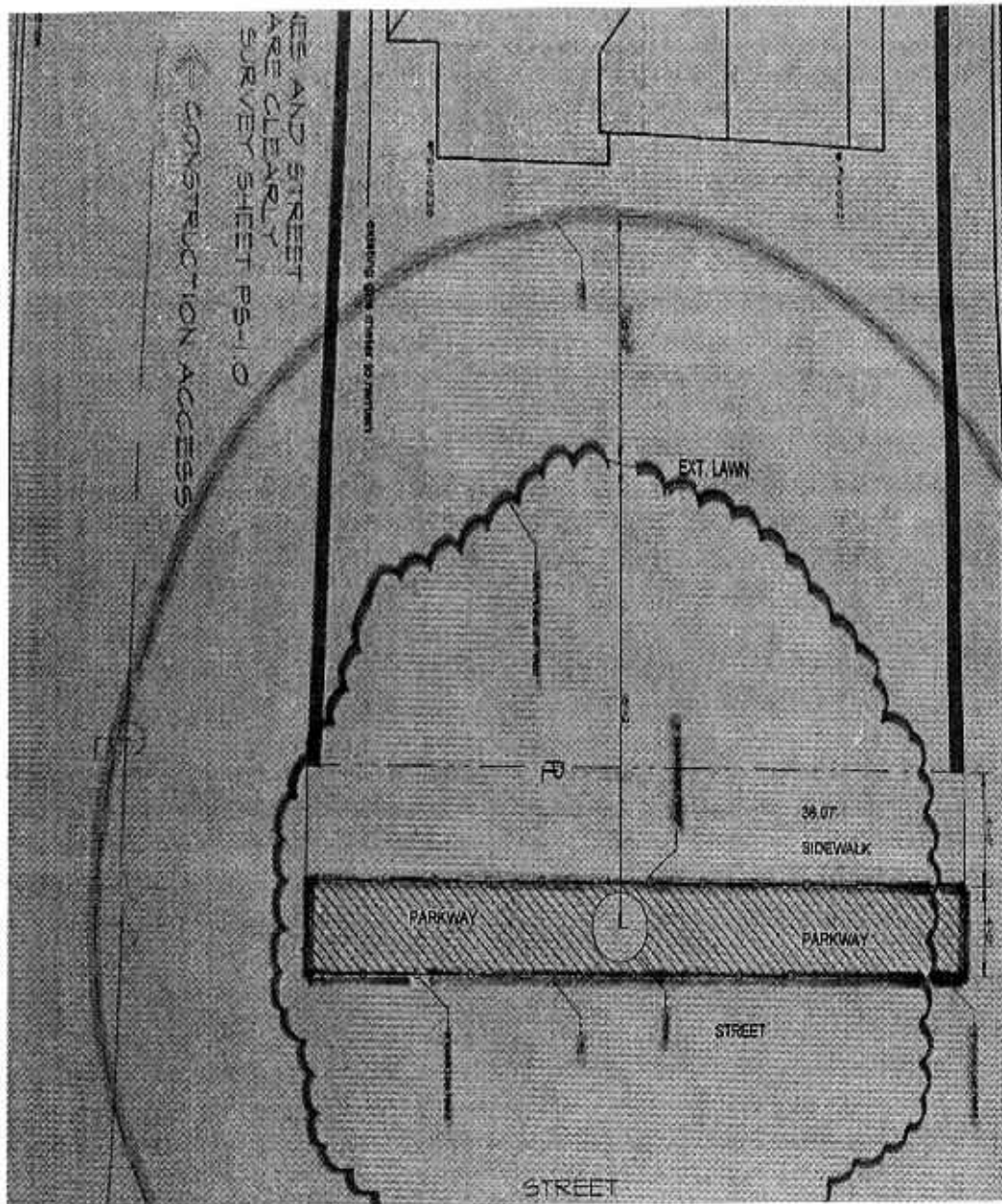
6. How should trees be shown on the plans?

Whether a project consists of constructing a new building, or renovating an old one, it is important to know what fixed features in the public right-of-way need to be worked around. Street trees are part of Hinsdale's infrastructure and probably one of its largest elements. The easiest way to understand the impact of having to work around a fixed object is to know its actual size.

a. Plans must accurately show the actual sizes of the street tree canopies to scale on all pages That show the street right-of-way or any portion of the street right-of way.

7. How should a Tree Protection Zone be shown on the plans?

The plans must show a Tree Protection Zone (TPZ) around existing street tree(s). The TPZ needs to encompass the canopy to the drip line. An example is shown below:



The TPZ should be clearly shown on all pages that show the street right-of-way or any portion of the street right-of-way. This includes but is not limited to the site plan, demolition plan, grading & drainage, utility site plan, shoring plan, elevation sheets and landscape plan.

The TPZ should be labeled with the following notes;

- [illegible]

The example above clearly shows the utilities and how they are being proposed to be installed. Since they are within the boundary of the TPZ and could have an adverse impact on the CRZ, design alternatives should be presented to the Village and a workable solution arrived at during the design phase and well before construction gets underway.

9. What if there is a conflict between utility trenches and tree roots?

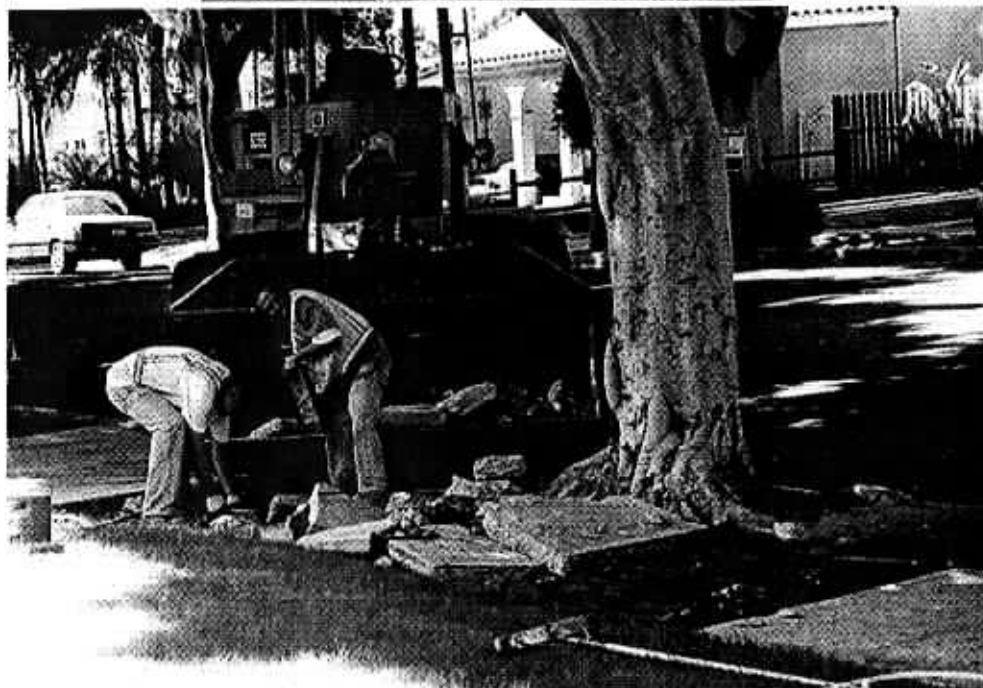
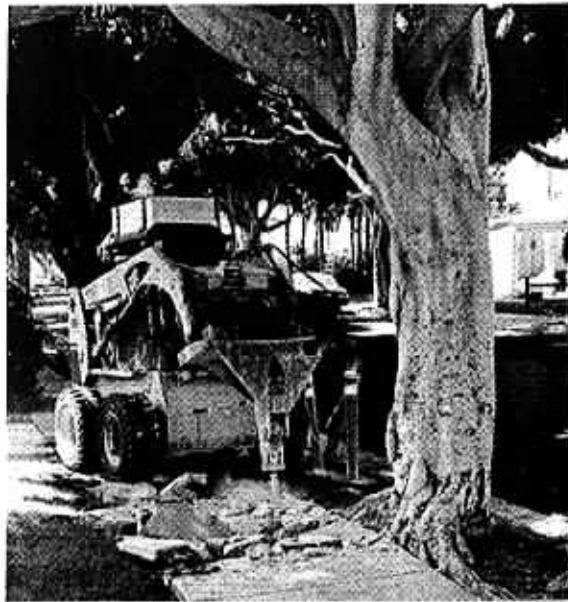
In cases where proposed utility lines are in conflict with existing tree roots trenchless methods are recommended. This is a much more advantageous method because excavation is not necessary between access points and construction activity is concentrated at the access sites, rather than along the entire length of the proposed trench.

Trenchless methods offer several potential advantages in addition to root preservation. They can reduce noise, dust, construction vibration, and other environmental impacts. These methods also have minimal impact on the public near a construction site, traffic is not interrupted, and other utilities are minimally affected. Trenchless technologies are also generally safer both for the construction workers and the general public.

10. How should off site repairs and improvements be made?

When conducting off-site work such as sidewalk or driveway repairs it is important to consider the impact of that work on the critical root zone and individual roots.

When removing hardscape materials the use of mechanical equipment is acceptable. However, to avoid damaging the surface roots and allow for proper root pruning to take place, remove the broken up material manually as shown in the photo below.



All excavation within the TPZ shall be done either manually or through the use of an air spade. This will help to preserve the root structure and allow a more precise determination to be made on root pruning requirements. More importantly it will avoid unnecessary damage to roots which should be preserved. This in turn helps to prolong a tree's life and insure its stability after construction has been completed.

STANDARD TREE PROTECTION ZONE GUIDELINES

1. Trees within the public right-of-way may not be removed for any reason and are to be protected from injury or damage during construction. This tree is a significant tree in the Village of Hinsdale. Pruning shall only be done by forestry staff to provide clearance for construction activities. Questions regarding street trees may be directed to the Village Forester at (630) 789 - 7043.
2. The typical TPZ should encompass the canopy of the tree. However, since these conditions are unique, the application should be evaluated with the final limits of the TPZ being established by the Village Forester.
3. Mulch the entire area of the TPZ in an effort to improve the growing environment for the roots. During construction phase maintain a four to six inch layer of chip mulch over the soil surface to reduce soil compaction, improve aeration, enhance moisture retention and reduce temperature extremes. Mulch generally consists of shredded leaves or bark, pine straw, peat moss, wood chips or composted green waste.
4. Fence the public portion of the TPZ with a six foot (6') high chain link or wood slat fence to prevent wounds to the tree and soil compaction within the root zone. Post the fence with a sign stating: "*TREE PROTECTION ZONE - KEEP OUT*".
5. Should it be necessary to trench within the TPZ all trenches shall be hand dug. No roots larger than two inches (2") shall be cut unless no other alternative is feasible. All smaller roots that require cutting shall be cut with pruning saws. Cuts shall be made flush with the side of the trench. If at any time twenty-five percent (25%) of the area within the TPZ is being separated from the tree by a trench, then the line shall be either relocated or installed by boring.
6. Removal of hardscape and/or excavation within the TPZ shall be done manually.
7. The minimum distance between an open trench and any tree shall be between six inches (6") to one foot (1') for every inch of trunk diameter measured at four and a half feet (4 ½') above existing grade, depending on the species of tree. Minimum clearance shall be ten feet (10') from the trunk of the tree.
8. In the event root pruning is required to accommodate grade changes or the installation of hardscape features the root pruning procedures shall be directed by forestry staff.
9. At no time shall any equipment, materials, supplies or fill soil be allowed in the TPZ unless necessary.
10. Prune and fertilize the trees after the completion of all exterior work on the building and at the beginning of the landscape phase.
11. Prior to the commencement of your project contact the Village Forester at (630) 789-7043 to determine the precise requirements of the TPZ.

(Waiting for spot for this picture)



REQUEST FOR BOARD ACTION
AGENDA EPS Agenda
SECTION NUMBER
ORIGINATING
DEPARTMENT PUBLIC SERVICES
ITEM 75 HP PUMP MOTOR REPLACEMENT
APPROVAL

There is \$22,000 budgeted in the Water & Sewer Department operations and maintenance fund (6102-7918) to complete the removal and replacement of a 75 hp pump motor and cleaning and inspection of the existing pump assembly, which is located in the Water Plant building. Staff has received 2 quotes for this service. The low quote received was from Layne Western, Inc., in the amount of \$12,010.00. The two quotes received are under the presumption that the existing pump assembly is able to be re-used. In the event this is not possible, staff will have repairs made with approval from the Village Manager, not to exceed the budgeted amount of \$22,000.00.

Public Services staff would like to recommend to Committee the award for the services of replacement of the 75 hp pump motor and cleaning and inspection of the pump assembly located in the Water Plant to Layne Western, Inc., in the amount of \$12,010.00, and if Committee concurs the following motion would be appropriate:

MOTION: To approve the removal and replacement of a 75 hp pump motor and cleaning and inspection of pump assembly to Layne Western, Inc., in the amount of \$12,010.00.

STAFF APPROVALS
APPROVAL
APPROVAL
APPROVAL
APPROVAL
MANAGER'S
APPROVAL
COMMITTEE ACTION:
BOARD ACTION:

January 19, 2011

Mr. Mark Pelkowski
Village of Hinsdale
225 Symonds Drive
Hinsdale, IL 60521-3489

RE: 75 HP Pump Maintenance Proposal

Dear Mr. Pelkowski:

As you requested, we have updated our pricing for the removal and inspection of your 75 HP booster pumping assembly. This pumping assembly was last serviced by Layne-Western in 1997.

As with all projects of this nature we propose to conduct the repairs on a time and materials basis in accordance with the rates and terms established in the enclosed Work Order form. The project will begin by mobilizing a two man crew to the site to remove the existing pumping assembly for inspection. The motor will be taken to a motor shop for disassembly and inspection and the bowl and column assemblies will be completely disassembled, sandblasted and inspected in our machine shop in Aurora, IL. Once this inspection is complete the Village will receive a detailed inspection report with our repair recommendations and the costs associated with these recommendations. No repairs will begin without the Village's prior approval. Upon completion of these repairs we will return and reinstall the pumping assembly and conduct pump startup to ensure that all components are operating as designed.

We estimate that the removal and eventual reinstallation of this pumping assembly will require 16 hours of a two man crew with hand tools and a service truck (\$273.00/hr), an estimated total cost of \$4,368.00. We assume that the chain hoist in the pump room is in adequate working condition and is available for our use during pump removal. Pump disassembly, sandblasting, and inspection will be approximately \$1,264.00.

As we discussed, a new 75 HP motor can be provided upon reinstallation for a cost of \$4,920.00. If the Village elects to purchase a new motor the existing 75 HP motor may be repairable as a spare. If the Village would like to have the existing motor disassembled and inspected the cost will be \$468.00.

As we discussed, a new 10" wafer style check valve can be provided for \$990.00. This will be installed when we return to install the repaired pumping assembly.

Layne-Western values our longstanding relationship with the Village of Hinsdale and is looking forward to the possibility of again being of service to the Village. Please do not



#12,010

Village of Hinsdale, IL
Re: 75 HP Pump Maintenance Proposal
January 19, 2011

Page 2 of 2

hesitate to contact me with any questions regarding this project or to discuss this proposal in more detail. I am always available either in the office at 630.897.6941 or on my mobile at 708.243.3673. If you desire to proceed, please sign and return a copy of this letter to our Aurora office. We should be able to mobilize a service crew within two weeks of receiving your signed approval.

Respectfully,

Layne-Western

a division of Layne Christensen Company

Chris Peschang
Contracting Engineer

Enclosures

Authorization to Proceed

Village of Hinsdale, IL

Date



WORK ORDER



Layne-Western

a division of Layne Christensen Company

PROFESSIONAL SERVICES FOR WATER SYSTEMS

721 West Illinois Avenue • Aurora, Illinois 60506-2892 • 630/897-6941
229 West Indiana Avenue • Beecher, Illinois 60401 • 708/946-2244

Purchaser Village of Hinsdale
Address 225 Symonds Drive
Job Location Hinsdale, IL 60521-3489

The undersigned Purchaser hereby instructs Layne-Western, a division of Layne Christensen Company ("Contractor") to proceed with work on Purchaser's well and/or pumping equipment with the understanding that the Terms and Conditions shown on the reverse are hereby incorporated as part of this Work Order and with the specific understanding that Contractor will not be liable for any damage in any way whatsoever for failure to complete the described work, nor for any injury or damage, including damage to the well, well material, pump or water supply, resulting from Contractor's efforts to perform such work, or for any delay on Contractor's part in completing same. All work will be provided on a cost plus basis at the hourly rates described below. Charges will be made at the below listed rates for travel time from applicable Aurora or Beecher, Illinois equipment base to destination and return for men and equipment. All hours worked before or after Contractor's normal work day hours and all hours worked on Saturdays, will be billed at time and one-half rates. All work on Sundays and/or any Federally recognized holiday will be billed at double time rates.

- | | |
|---|----------------------------|
| 1. Serviceman or machinist with hand tools..... | \$ 129.00 per hour |
| 2. Serviceman with service truck and tools or welding truck | 159.00 per hour |
| 3. Machinist with machine shop equipment | 146.00 per hour |
| 4. Machinist with 12" pipe threading machine | 172.00 per hour |
| 5. Serviceman with small hoist or winch truck or sandblast equipment..... | 194.00 per hour |
| 6. Operator and backhoe..... | 194.00 per hour |
| 7. Serviceman with small service rig or large hoist or flatbed crane | 204.00 per hour |
| 8. Serviceman with large service rig or large cable tool rig or 15 ton truck crane | 241.00 per hour |
| 9. Helpers (per helper)..... | 114.00 per hour |
| 10. Time and one half rate for serviceman | add 64.50 per hour |
| 11. Double time rate for serviceman..... | add 129.00 per hour |
| 12. Time and one half rate for helpers (per helper) | add 57.00 per hour |
| 13. Double time rate for helpers (per helper) | add 114.00 per hour |
| 14. Mileage from Layne shop or nearest point and return to shop, if not covered by hourly rate above: | |
| (a) Auto..... | 0.55 per mile |
| (b) Pickup truck..... | 0.70 per mile |
| (c) One-ton truck..... | 1.00 per mile |
| (d) Flat-bed truck | 2.10 per mile |
| (e) Semi-trailer truck | 2.75 per mile |
| 15. Per Diem: | |
| (a) Over 45 miles to 96 miles radius from base | 35.00 + motel cost/man/day |
| (b) Over 96 miles from base | 40.00 + motel cost/man/day |

Remarks:
Per proposal dated 1/19/11.

NOTE: The final invoice will reflect the actual time and materials used on the job multiplied by the unit rates/prices indicated above and in any estimates provided. Any applicable taxes are not included and would be added to the invoice.

Work Authorized on Behalf of Purchaser By: _____

100110

Date: _____ Title: _____

TERMS AND CONDITIONS

LIABILITY OF CONTRACTOR: Contractor shall not be liable for any bodily injury, death, or injury to or destruction of tangible property except as the same may have been caused by the negligence of Contractor. In no event shall Contractor be liable for any delays or special, indirect, incidental or consequential damages. Purchaser agrees that the total limit of Contractor's liability (whether based on negligence, warranty, strict liability or otherwise) hereunder, shall not exceed the aggregate amount due Contractor for services rendered under this contract. All claims, including claims for negligence or any other cause whatsoever, shall be deemed waived unless made in writing and received by Contractor within one (1) year after Contractor's completion or work hereunder.

INSURANCE: Contractor shall provide worker's compensation insurance, public liability and property damage insurance covering its employees and operation. Purchaser, at its option may maintain such insurance as will protect it against claims arising out of the work.

PRICE ADJUSTMENT: Any cost estimates or time frames stated herein are subject to equitable adjustment in the event of differing or unforeseeable conditions, changes in applicable laws after the date of this contract, unforeseeable delays or difficulties caused by acts of God, Purchaser or any third parties. Prices of goods acquired by Contractor from others shall be adjusted to reflect Contractor's price in effect at time of shipment. The price of Contractor's goods will be adjusted to the price in effect at time of shipment in accordance with Contractor's current escalation policies for as specifically covered in this contract.

TERMS: Thirty (30) days net from date of invoice. For extended projects, Contractor shall submit invoices on a monthly basis for any and all work completed and materials or equipment provided during the previous month. Past due invoices shall be subject to a delinquency charge of one-half percent (1-1/2%) per month (eighteen percent (18%) per annum) unless a lower charge is required under applicable law, in which case the lower rate shall apply. Purchaser agrees to pay any and all attorney's fees and court costs should attorneys be utilized or court proceedings initiated to collect past due amounts arising out of this contract. Contractor shall have the right to immediately terminate this contract without further liability if Purchaser fails to make timely payment or otherwise materially breaches this contract.

MATERIAL SHORTAGES AND COST INCREASES: If any portion of materials or equipment which Contractor is required to furnish becomes unavailable, either temporarily or permanently, through causes beyond the control and without the fault of Contractor, then in the case of temporary unavailability any completion time frames shall be extended for such period of time as Contractor shall be delayed by such above-described unavailability, and in the case of permanent unavailability Contractor shall be excused from the requirement of furnishing such materials or equipment. Purchaser agrees to pay Contractor any increase in cost between the cost of the materials or equipment which have become permanently unavailable and the cost of the closest substitute which is then reasonably available.

DELAYS: If Contractor is delayed at any time in the progress of work by labor disputes, fire, unusual delays in transportation, unavoidable casualties, weather, or any cause beyond Contractor's reasonable control, then any completion time frames shall be extended by a reasonable period of time, at least equal to the period of delay.

CHANGED CONDITIONS: The discovery of any hazardous waste, substances, pollutants, contaminants, underground obstructions or utilities on or in the job site which were not brought to the attention of Contractor prior to the date of this contract will constitute a materially different site condition entitling Contractor, at its sole discretion to immediately terminate this contract without further liability.

GUARANTEE AND LIABILITY: Contractor warrants that its services will be performed in conformity with the standard of care in effect in its industry at the time of performance of such services. Contractor agrees, to the extent it is permitted, to pass on any warranties provided by the manufacturers of materials and/or equipment furnished under this contract. Contractor itself provides no warranty, express, implied or otherwise, on any such materials or equipment. Contractor will not be responsible for: work done, material or equipment furnished or repairs or alternations made by others.

For any breach hereunder, Contractor shall be liable only for the value of the installation work or, if it wrongfully fails to install, then its liability is limited to the difference between the contract price herein, and the value of other similar installation work. If Contractor's breach damages any materials or equipment furnished hereunder, Contractor shall only be liable for the value of such materials or equipment. Under no circumstances will Contractor be liable for consequential, special or indirect damages, including without limitation, any crop loss or damage, damage to other equipment, structures or property, nor for any other similar or dissimilar damages or losses whether due to delay, failure to furnish or install, delay in installation, defective material or equipment, defective workmanship, defective installation, delay in replacing, nor for any cause or breach whatsoever. In any event, Contractor's total liability towards Purchaser for alleged faulty performance or nonperformance under this contract shall be limited to the total contract price. No materials, equipment or services contracted herein carries any guarantee not mentioned in this contract. **THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED.**

TITLE AND OWNERSHIP: In case of default on Purchaser's part, Contractor shall have the right to enter the premises upon which any material or equipment furnished herein have been installed and retake such goods not then paid for and pursue any further remedy provided by law, including recovery of attorneys' fees and any deficiency to the maximum extent and in the manner provided by law. Such materials and equipment shall retain their character as personal property of Contractor until payment in full is received by Contractor, regardless of their mode of attachment. Unless prior specific written instructions are received to the contrary, surplus and replaced materials and equipment resulting from repair or installation work shall become the property of Contractor.

DELIVERY: Shipment schedules and dates, expressed or implied, are contingent on normal conditions. Contractor will not be responsible for any delays in shipment or completion caused by factors beyond its control such as, but not limited to, suppliers' failures, accidents, work stoppages or operation of or changes in the law. Shipments will be made as promptly as Contractor's ability to obtain materials and/or equipment and scheduling will permit. No delay in shipments or variances from shipping schedule shall be cause of cancellation or any claim for damage. Any changes in layout or design requested after acceptance of this contract will be made at Purchaser's additional cost. Any such change and/or time taken to supply engineering data or to approve drawings will automatically extend shipping schedules. Equipment will be shipped "knocked down" to the extent Contractor considers necessary, with small parts stripped from equipment and crated. On and after delivery to the carrier for transportation to the Purchaser's site, Purchaser shall be responsible for all loss or damage to materials or equipment due to any cause, including but not limited to loss or damage resulting from casualty.

INDEMNIFICATION: Purchaser agrees to indemnify and hold Contractor, its directors, officers, stockholders, employees, agents and subcontractors, harmless from and against any and all claims, demands, caused of action (including third party claims, demands or causes of action for contribution or indemnification), liability and costs (including attorneys' fees and other costs of defense) asserted and/or filed by Purchaser or any third party(ies), including without limitation Purchaser's employees, and arising out of or as a result of: (i) the presence of Contractor or its subcontractors at the job site, (ii) the work performed by Contractor or its subcontractors, or (iii) any negligence act or omission of Purchaser, its employees, agents, consultants, other contractors or any person or entity under Purchaser's control; except to the extent that such claims, demands, caused of action, liabilities or costs are caused by the negligence of Contractor or its subcontractors.

INTERPRETATION: This contract shall be governed by and construed in accordance with the laws of the state of the job site location. If any term, provision or condition contained herein shall, to any extent, be invalid or unenforceable, pursuant to state law or otherwise, the remainder of the terms, provisions and conditions herein (or the application of such term, provision, or condition to persons or circumstances other than those in respect of which it is invalid or unenforceable) shall not be affected thereby, and each term, provision and condition of this contract shall be valid and enforceable to the fullest extent permitted by law.

ASSIGNMENT & SUBLETTING: Purchaser shall not have the right to transfer or assign its rights and/or obligations under this contract to any third party, related or unrelated, without the express written consent of Contractor. Contractor shall have the right to transfer, assign or sublet all or any portion of its rights or obligations hereunder, but such transfer, assignment or subletting shall not relieve Contractor from its full obligations to Purchaser unless such transfer, assignment or subletting is pursuant to the sale of Contractor, or the division of Contractor responsible for this contract, to a third party.

MISCELLANEOUS: The terms and conditions set forth herein constitute the entire understanding of the parties relating to the work to be performed, and materials and equipment to be provided, by Contractor for the Purchaser. All previous proposals, offers, and other communications relative to the provisions of the subject work, oral or written, are hereby superseded, except to the extent that they have been expressly incorporated herein. Any modifications or revisions of any provisions contained in any purchase order, acknowledgment, or other form of the Purchaser are hereby expressly objected to by Contractor and shall not operate to modify this contract. This contract shall take effect upon acceptance and execution by both parties.



MUNICIPAL

WELL & PUMP

A Division of Municipal Well Services, Inc.

January 19, 2011, Rev. 2

Village of Hinsdale
225 Symonds Drive
Hinsdale, IL 60521-3489

Attn: Mr. Mark Pelkowski, Lead Water Operator

Re: 75HP Booster Repair

Dear Mark:

Having reviewed the project site and scope of services requested with you last week, we are pleased to provide pricing for the removal and inspection of the booster pump, in addition to furnish pricing for a new 75HP high Efficiency motor and new 10-inch Flo-matic Wafer check valve.

We have also included the costs for sand blasting of materials for further inspection, plus reinstallation of the booster pump and installation of the check valve as requested.

Our scope of services will include the following:

1. Mobilization to jobsite
2. Lock-out/Tag-out and site safety inspection meeting(to be conducted daily)
3. Remove existing 75HP booster pump
4. Disassemble & inspect entire assembly, less existing motor
5. Sand blast all materials for further inspection
6. Furnish complete report on equipment and recommended repairs
7. Furnish & Install new 75HP High Efficiency motor
8. Furnish & install new 10-inch by 4-1/4-inch thick Flo-matic wafer Check valve
9. Install repaired pump per report
10. Start-up & test
11. Conduct vibration analysis
12. Furnish operation & maintenance manuals
13. Demobilization to shop

After review of our scope, in addition to our proposal sheet attached, please do not hesitate to contact our office should you have any questions concerning the proposed work. We are readily available to perform the work, in addition to conforming to Illinois Prevailing wages and the Illinois Preference Act, HB 6349 which outlines State requirements for Illinois workers.

Village of Hinsdale

Page 2

January 19, 2011

We look forward to being of service to you and the Village of Hinsdale.

Very Truly Yours,

MUNICIPAL WELL & PUMP

Dick Milaeger

Richard N. Milaeger

Vice President

Enclosure: Proposal Outline



Project Proposal

Re: Hinsdale 75HP Booster Repair, Revised

Item #	Item Description	Quantity	Units	Unit Price	Extended Price
1	Mobilization	2	hours	180.00	\$ 360.00
2	Remove 75HP Booster Pump	7	hours	225.00	1,575.00
3	Demobilization	2	hours	180.00	360.00
4	Sand blast & inspect pump	3	hours	225.00	675.00
5	New 75HP VHS motor	1	each	4,490.00	4,490.00
6	New 10-inch wafer Check Valve	1	each	896.00	896.00
7	Remobilize	2	hours	180.00	360.00
8	Install repaired pump	10	hours	225.00	2,250.00
9	Install new check valve	5	hours	225.00	1,125.00
10	Start-up & test	3	hours	225.00	675.00
11	Demobilize	2	hours	180.00	360.00
12					-
13					-
14					-
15					-
16					-
17					-
18					-
19					-
20					-
21					-
22					-
23					-
24					-
25	Municipal Well & Pump pays				-
26	prevailing wages and furnishes				-
27	certified payroll reports on a				-
28	bi-weekly basis.				-
29					-
30					-
31					-
32					-
33					-
34					-
35					-
36					-
37					-
38					-
39					-
40					-
41					-
42					-
43					-
44					-
45					-
46					-
47					-
48					-
49					-
50					-
51					-
52					-
53					-
54					-
Total Project Proposal					13,125.00

Dated: January 19, 2011

By:

Dick Milaeger

Dick Milaeger
Vice President Sales
Municipal Well & Pump

DATE: February 14, 2011

REQUEST FOR BOARD ACTION

AGENDA		ORIGINATING Community		
SECTION NUMBER EPS Consent Agenda		DEPARTMENT Development		
ITEM Award SEC Group, Inc. Engineering Services to Develop Bidding Documents and Construction Observation for Phase 1 of the Woodlands Infrastructure Improvement Project		APPROVAL Daniel M. Deeter Village Engineer		
<p>The Village has developed a Woodlands Infrastructure Improvement Program to be constructed in three phases. Phase 1 will address road, stormwater management, water distribution, and sewer improvements on portions of Seventh Street, Cleveland Road, McKinley Lane, Taft Road, Wilson Lane, and Harding Road in the Woodlands community. The project will include replacement of <u>±</u>6,100 feet of water main, lining <u>±</u>2,900 feet of sanitary sewer, replacement of <u>±</u>6,200-linear feet of road, and construction of a "green" stormwater management infrastructure.</p> <p>After reviewing the qualifications of consultants we have previously worked with, staff is recommending SEC Group, Inc., an HR Green Company, to develop the bid documents, support the bidding process, and to conduct the construction observation during construction.</p> <p>Should the Committee concur with this request, the following motion would be appropriate:</p> <p>Motion: To Award the Engineering Services for the Development of Bidding Documents and Construction Observation for Phase 1 of the Woodlands Infrastructure Improvement Project to SEC Group, Inc., an HR Green Company, in the Amount Not To Exceed \$312,670.00.</p>				
APPROVAL	APPROVAL	APPROVAL	APPROVAL	MANAGER'S APPROVAL
COMMITTEE ACTION:				
BOARD ACTION:				



SEC Group, Inc.

An HR Green Company

Proposal for:
**Woodlands
Infrastructure
Improvements Project
Phase I**

Submitted to:
Village of Hinsdale, IL

Submitted by:
**SEC Group, Inc./An HR Green
Company
323 Alana Drive
New Lenox, IL 60451**

January 7, 2011

(Revised February 4, 2011)



Working Together to Build a Green Future



SEC Group, Inc.

An HR Green Company

January 7, 2011

Mr. Dan Deeter, PE
Village Engineer
Village of Hinsdale, IL
19 East Chicago Avenue
Hinsdale, IL 60521-3489

Re: Woodlands Infrastructure Improvements Project Phase I



Dear Mr. Deeter and the Selection Committee:

SEC Group Inc., an HR Green Company (SEC / HR Green) is pleased to provide the Village of Hinsdale three copies of our proposal to provide professional engineering services for the Woodlands Infrastructure Improvements Project Phase I. We sincerely appreciate the opportunity to submit our proposal and hope to further build upon our professional relationship with the Village of Hinsdale through this exciting project.

We recognize that this project is part of an infrastructure improvement that is essential to the long term viability of the Woodlands area. It certainly provides the opportunity to improve the quality of life for the stakeholders that live, work, and play in this area. Below are some Key Elements that have been identified in your project that will set SEC/HR Green apart to best achieve the project needs and goals. These key elements are:

- **Stakeholder Coordination** – The SEC/HR Green project team is **experienced in accurately assessing the needs and working with Village staff and residents** to produce the most realistic and advantageous solutions for this project. In the enclosed, we have detailed our qualifications and familiarity with projects that require a high degree of coordination with Village staff, permitting agencies and the local property owners. Our goal is to work closely with Village staff to coordinate with local stakeholders the proposed design elements, construction schedule, and subsequent cleanup and restoration procedures to minimize issues and complaints from the home owners along the project route. With service from our nearby New Lenox office, we have the technical expertise and ability to provide **exemplary coordination services** uniquely suited to meet the needs for this project.
- **Technical Expertise** – As shown in our enclosed project experience section, the SEC/HR Green team assembled specifically for this project has completed several neighborhood infrastructure improvement initiatives including related stormwater management with 'Green Initiative' technologies, water and sewer main rehabilitation/replacement and roadway rehabilitation projects. The SEC/HR Green team includes proven technical leaders **who will prepare detailed plans showing the many stormwater management and landscaping features that will most certainly be an integral part of this project.** As outlined in our project approach, we also have directional drilling and street design expertise available if needed to help stretch the available budget and meet the schedule.
- **Responsiveness** – SEC/HR Green has an industry-wide reputation for being a service oriented firm whose staff takes great pride in being responsive to our Client's needs as if they were our own. This project is very important to SEC/HR Green, and completing a high-quality plan to meet your needs is our goal. **We will include your staff and the project stakeholders as an integral part of the project team** throughout the analysis and decision making process. It is our experience that such a stakeholder focused approach will result in an efficient design that minimizes issues and complaints during construction.

Again, we thank you for the opportunity to be considered for this project, and we look forward to being a part of your team to achieve solutions that work for you. Please contact us with any questions.

Sincerely,

SEC Group, Inc., an HR GREEN COMPANY

T. Scott Creech, PE, MBA
Project Manager

progress. innovation. expertise.



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Green Solutions



Woodlands Infrastructure Improvements Project Phase 1
Hinsdale, IL

Para	Evaluation Criterion (RFP page)	Clark Dietz, Inc.	ERA	SEC Group	JJ Benes
A	Adherence to the intent of the RFP				
	1 Green design for stormwater management (stm) (pg 6,7)	6	6	6	6
	2 Retain the rural character (roads) (pg 6)	6	6	6	6
	3 Maximum retention of trees (pg 6)	6	6	6	6
	4 Infrastructure improvements (cover, pg 3,6,7)	6	6	6	6
B	Reponsiveness and completeness of proposal to these RFP requirements				
	1 Field Survey (all of the Woodland phases) (pg 7,8)	6	6	6	6
	2 Geotechnical investigation (all phases) (pg 3,7,8)	9	6	6	9
	3 SW/Green Modeling (page 7); (managing a 100-yr, 24-hr storm)	9	9	6	6
	4 Design Engineering (phase 1) (cover, pg 4)(efficiency)	3	6	6	9
	Water Main Replacement +/-6,100 ft (Phase 1) (pg 7)	6	6	6	6
	Sanitary Sewer Lining +/-2,900 ft (Phase 1) (pg 7)	6	6	6	6
	Roadway Replacement +/-6,600 ft (Phase 1) (pg 7)	6	6	6	6
	Stormwater - Green Design (cover, pg 3,6,7)	9	9	9	6
	Planting O&M Plan (pg 6)	6	3	6	6
	5 Permitting Support (pg 8)	3	6	9	6
	6 Bidding Support (Phase 1) (cover)	6	6	6	6
	7 Construction Observation (Phase 1) (cover) (efficiency)	3	6	6	6
	8 Preliminary Cost Estimate (Phase 2 & 3) (pg 7)	6	6	6	6
	9 Support for IGIG Application (Phase 2) (pg 7)	6	6	6	3
	Objectivity of proposal				
	1 B. Statement of Project Understanding (pg 3)	6	6	6	6
	Suitability of the Project Schedule				
	1 1.C. Design Schedule (pg 4)	3	6	6	6
	2 1.C. Construction Schedule (pg 4)	3	6	5	9
E	Experience, staffing quality, and references				
	1 A. Statement of Qualifications	6	6	6	6
	1.A.1 Specialized experiences & tech. competence (pg 3)	9	9	9	6
	1.A.2 Resumes of Team Members (pg 3)	9	9	9	9
	1.A.3. Description of Services to be Sub-contracted (pg 3)	6	6	6	6
	1.A.4. List of Similar Projects (pg 3)	9	6	6	3
F	Information obtained from references				
Totals		159	165	166	162

Notes:
1 Scales are 1 - 9. (9 exceeds the requirement, 6 meets the requirement, 3 partially meets requirement, 1 does not meet the requirement)

Woodlands Infrastructure Improvements Project Phase 1
Hinsdale, IL

2/7/2011	Phase 1 Design, Permit, Bidding								Construction							
	Start	Finish	Duration (weeks)	Consultant	Man-hours	Subs	Sub-Total	% of Constr.	Start	Finish	Duration (weeks)	Man-hours	Sub-Total	% of Constr.	Total	% of Constr.
Clark Dietz, Inc.	03/01/11	11/30/11	39	\$ 284,880	2484	\$ 60,000	\$ 344,880	7.5%	03/01/12	11/30/12	39	1824	\$ 223,088	4.9%	\$ 567,968	12.4%
SEC Group, Inc.	03/01/11	10/28/11	34	\$ 164,040	1656	\$ 17,500	\$ 181,540	4.0%	04/01/12	10/05/12	27	1216	\$ 131,130	2.9%	\$ 312,670	6.8%
JJ Benes	03/01/11	01/30/12	48	\$ 79,699	891	\$ 85,462	\$ 165,161	3.6%	09/19/11	09/23/12	42	2339	\$ 216,445	4.7%	\$ 381,606	8.3%
ERA	03/01/11	01/31/12	48	\$ 278,409	2829	\$ 40,050	\$ 318,459	6.9%	03/01/12	11/30/12	39	1982	\$ 209,230	4.6%	\$ 527,689	11.5%
Averages			42		1965		\$ 252,510				37	1840	\$ 194,973		\$ 447,483	

Woodlands Feasibility Investigation Cost Estimate	
Total Woodlands Infrastructure:	\$ 15,162,387
Phase 1 costs:	\$ 5,400,000
Design (15%)	810,000
Contingency (10%)	540,000
Construction Cost including contingency	\$ 4,590,000

Detail Fee Estimate
Woodlands IGIG Project
Hinsdale, IL
2/7/2011

**February 7, 2011 Proposals
Design Engineering**

	Clark Dietz, Inc.			ERA			SEC Group, Inc.			JJ Benes		
	Hours	Cost	Assumptions	Hours	Cost	Assumptions	Hours	Cost	Assumptions	Hours	Cost	Assumptions
Data Collection												
Kick-off, Site Recon, Data Collection, Research	96	\$ 12,220		20	\$ 1,737				Included in Design	11	\$ 1,284	
Field Topo Survey	572	\$ 56,960	All phases	506	\$ 35,143		466	\$ 39,655	All phases	11	\$ 47,237	All phases
Geotech Investigation	18	\$ 27,490	All phases, TSC	17	\$ 29,636	All phases, Rubino		\$ 12,500	All phases, TSC	3	\$ 36,306	All phases
Sewer Cleaning/Televise		\$ -			\$ 12,200			\$ 5,000	Phase 1		\$ 3,444	Phase 1
Water Modeling												
Green Stormwater Model	692	\$ 79,170	All phases	659	\$ 74,011	Analysis & Eval. Of all utilities	208	\$ 23,850		104	\$ 9,504	
Engineer Design, Specs, Cost Est.	626	\$ 67,150		1423	\$ 141,982	Base plan, analysis & eval., P, S & Est.	727	\$ 71,260		568	\$ 44,644	Prelim Engr all ph; Final Engr phase 1
Green Stormwater Infr.		\$ 35,000					151	\$ 15,995				
Roads												
Water Modeling												
Sanitary Sewer												
Permitting	52	\$ 6,900		103	\$ 10,936				Included in Modeling	42	\$ 4,560	
Bidding	80	\$ 9,870		42	\$ 4,353				Included in Design	50	\$ 7,164	
Cost Estimates for Phase 2 & 3	88	\$ 9,460		21	\$ 2,208		30	\$ 3,385		20	\$ 1,885	
QA/QC	84	\$ 12,700				Included in Design			Included in Design			Included in Design
Meetings	176	\$ 27,960		38	\$ 4,856		74	\$ 7,960		82	\$ 9,133	
Village Review Mtg												
EPS Committee												
Other												
Direct Costs					\$ 1,397			\$ 1,935				
Misc. Expenses @ 7.5%												
TOTAL	2484	\$ 344,880		2829	\$ 318,459		1656	\$ 181,540		891	\$ 165,161	
	105 \$/hr Design Engineering ¹			98 \$/hr Design Engineering ¹			99 \$/hr Design Engineering ¹			89 \$/hr Design Engineering ¹		

	Clark Dietz, Inc.			ERA			SEC Group, Inc.			JJ Benes		
	Hours	Cost	Assumptions	Hours	Cost	Assumptions	Hours	Cost	Assumptions	Hours	Cost	Assumptions
Construction Observation												
Site Visit/Field Observation	1686	\$ 175,940	8 month constr.; CDI prepares as-builts, H&H rain garden oversight	1797	\$ 175,494		1065	\$ 109,625		2083	\$ 145,277	
Meetings/Coordination	76	\$ 11,035		130	\$ 16,074		151	\$ 15,505		176	\$ 16,492	
Materials Testing		\$ 20,000	TSC		\$ 11,200			\$ 6,000		4	\$ 47,362	
Project Close-Out	62	\$ 6,710		55	\$ 5,544				Included in Field Ob	76	\$ 7,314	
Direct Costs					\$ 918							
Misc. Expenses @ 9%		\$ 9,403										
TOTAL	1824	\$ 223,088		1982	\$ 209,230		1216	\$ 131,130		2339	\$ 216,445	
	111 \$/hr CO ¹			100 \$/hr CO ¹			103 \$/hr CO ¹			72 \$/hr CO ¹		

Total Project Cost	4308	\$ 567,968	4811	\$ 527,689	2872	\$ 312,670	3230	\$ 381,606
	107.9 \$/hr ¹		99 \$/hr ¹		101 \$/hr ¹		77 \$/hr ¹	

Notes

1. Does not include sub-consultant costs.



Statement of Qualifications – Capabilities

SEC Group, Inc./An HR Green Company

323 Alana Drive
New Lenox, IL 60451
(815) 462-9324 – Telephone
(815) 462-9328 – Fax
www.secgroupinc.com

SEC/HR Green Project Manager

T. Scott Creech, PE, MBA | (815) 462-9324

SEC Group, Inc. was founded by civil engineer John Smith in McHenry, Illinois in 1981. The company evolved into a large and diverse organization providing a wide array of services to clients in Illinois and beyond. In July 2009, SEC Group merged with Howard R. Green Company (HR Green), a multi-discipline professional services firm offering planning, technical consulting, architectural, engineering and environmental services to clients in diverse markets. One of America's oldest design firms, HR Green enjoys a longstanding reputation for environmental stewardship, public service and technical excellence. The firm is consistently ranked among ENR's Top 500 Design Firms in the United States. Founded in Cedar Rapids, Iowa in 1913 by Howard R. Green, the firm currently employs nearly 400 professionals in Illinois, Iowa, South Dakota, Minnesota, Missouri, Kansas, Texas, California and Pennsylvania.



SEC/HR Green's core values include:

- Building a **great place to work**.
- Building **sustainable** business systems and practices.
- An uncommon commitment to **client service** – every project, every time.

SEC/HR Green's various business units provide comprehensive consulting services as follows:

- **Water & Wastewater** – Water source, treatment and distribution; wastewater collection, pumping and treatment; residuals handling and disposal.
- **Transportation** – Streets, highways, traffic engineering, bridge design and multi-modal transportation systems.
- **Buildings** – Architectural, structural, electrical, mechanical, civil/site and building exterior systems consulting.
- **Environmental** – Surface water management, hazardous materials, brownfields, air quality, clean energy, and more.
- **Community & Technology Resources** – Municipal engineering, landscape architecture, planning and funding, GIS and geospatial services, governmental process software.
- **Construction Services** – Construction staking and as-built surveys, construction observation and administration, owner representation.

SEC/HR Green seeks to provide its clients with technical solutions that are environmentally and economically sustainable.





Water Services Capabilities (Water Mains and Sanitary Sewers)

SEC/HR Green is committed to preserving our natural water resources through designing state-of-the-art, easy-to-operate, cost-effective solutions that meet the needs of our clients and regulatory standards.

Our comprehensive services and attention to detail can help to move both public and private projects from conceptual planning through design, financing, construction, start-up and operation. We bring experience and innovation to each and every project – striving for a cleaner, safer future.

Our team consists of water facilities design engineers, hydrogeologists, geologists, planners, and project-funding specialists that are familiar with local, state and federal regulations and funding agencies, allowing us to provide cost-effective solutions that benefit all stakeholders.

SEC / HR Green's experience in water supply and water facilities development includes a wide variety of projects that entail both surface water and groundwater aspects.

Our groundwater source of supply projects range from well forecasting, to the siting of single wells, to comprehensive assessments of the hydrogeological conditions that impact the planning and design of a high capacity well field. We provide expertise in aquifer evaluation, groundwater modeling, permitting assistance, well siting, hydraulic system modeling, well or well field and distribution system design, well field optimization and management, and water treatment assessments and solutions. We have designed vertical wells and high capacity radial collector wells. Specialty siting techniques include the use of geophysical surveys to evaluate the character, dimensions, and water bearing potential of the subsurface. We can also use aerial photographs to complete fracture trace analyses that can result in the siting of high capacity bedrock wells.



Our surface water source projects include raw water intakes on rivers and lakes, distribution systems, floodway/flood plain impact analysis, watershed analysis, permitting assistance, water treatment facilities design, and construction phase services.

Transportation Services Capabilities (Roadways)

Our overall transportation engineering services include transportation planning, highway studies and design, bridge studies and design, traffic engineering, environmental services, and surveying.

SEC/HR Green provides clients with highly focused and comprehensive transportation services. Our clients benefit from the melding of perspectives from different disciplines, including planners, engineers, and other technical experts. This multi-discipline approach allows us to effectively tackle related issues such as management of public participation, consideration of context sensitive solutions, and the need to apply advanced technology solutions to projects.

Our design professionals employ some of the most innovative technology solutions in the transportation industry. From sophisticated traffic simulation tools and the latest design software to geographic information systems (GIS) and intelligent transportation system (ITS) technologies, our SEC/HR Green stays on the cutting edge – passing the advantage of these technologies on to our clients.



SEC / HIR Green uses a broad-based, visionary approach to address transportation improvements in urban areas. We feel it is important to consider the entire context of the area and the community in considering design alternatives. This is accomplished by engaging the community and stakeholders in project steering committees, open house design workshops, and individual meetings. This provides the design team with the source of information and perspective regarding issues, concerns and specific needs that need to be considered in the design development process.

Landscape Architecture

Landscape Architecture . . . the profession that unites the built environment with the natural, and the people with the place. Our in-house team of landscape architects provide guidance and direction on aesthetic principles that serve both quality of life and safety purposes. The integration of these elements during the design phase allows for a seamless and comprehensive approach that helps to build community support while cost-effectively addressing important issues that are often overlooked in a "pure" engineering approach.

Services Include:

- Master planning
- Community visioning
- Wayfinding and signage system design
- Funding and grant facilitation
- Cultural and historic resource studies
- Site amenity and lighting design
- Community gateway and identity development
- Monument and sculpture design and coordination
- Scenic byway and heritage tourism interpretation
- Pedestrian and bike trail design
- Project marketing



Roadway Design

SEC / HIR Green's design professionals are trained in both Microstation Geopak and AutoCAD Land Development (SoftDesk) software applications and have the flexibility to provide design documentation for our clients based on their standards and preferences. They can provide electronic deliverables without the need for conversion from one platform to another – saving you time and money and eliminating the chance of conversion errors.

Services Include:

- Highway alignment and location studies
- Conceptual, preliminary and final design of highways and grade-separated facilities
- Urban interchange and intersection design
- Fully integrated computer-aided drafting and design





Pavement Management

A Pavement Management System is an objective and structured method for planning and programming pavement maintenance, rehabilitation, and reconstruction over an entire roadway network. SEC / HR Green can conduct and identify recommended pavement treatment strategies, and assist in budgeting and programming. SEC/HR Green uses computer software that includes algorithms which forecast the performance of pavement in the future.

Stormwater Capabilities

SEC/HR Green understands that watershed plans may address a wide variety of issues including flood protection, water quality enhancement, stream bank stabilization, habitat creation, and the creation of open space. SEC/HR Green has the requisite expertise and experience to address all of these issues for incorporation into a watershed plan.

At SEC / HR Green, our stormwater resource team works within the parameters established by local agencies and watershed districts to develop a comprehensive water resource plan for each project with wetland and storm water issues. Whether the issues are stormwater ponds, hydraulic modeling, storm sewer design approval from different agencies, wetland permitting and mitigation issues, or coordination with watershed districts, and state and local government units, our diverse team of water resource experts can address problems and provide solutions for each project.

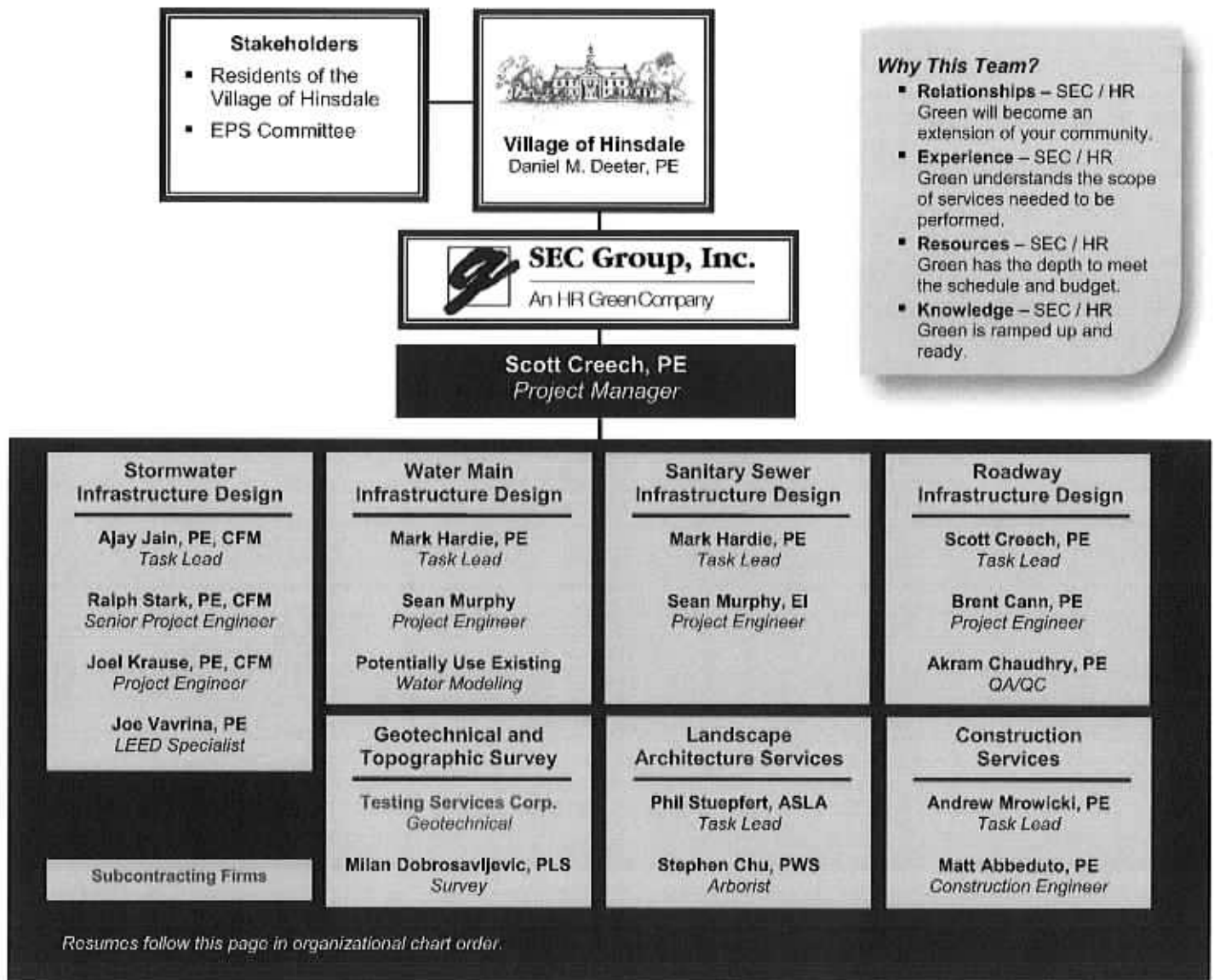
Our team of experts has a variety of experience in water resource projects including stormwater sewer planning and design, flood remediation, drainage studies, stormwater detention and watershed improvements, hydrological modeling, water quality modeling, wetland mitigation and permitting, combined sewer outfall (CSO) and storm sewer outfall (SSO) strategies, stormwater utility rate studies and public education. SEC / HR Green employs state-of-the-art modeling software, including HydroCAD, IIEC-1, TR-20, HEC-RAS, XP-SWMM and Hydraflow. On water quality monitoring projects, we use ISCO samplers to determine water quality parameters and measure the effectiveness of a new project or provide a benchmark of water quality measurements to determine the feasibility of a new project.



Statement of Qualifications – Project Team

The SEC /HR Green Team is a dedicated, talented team of multi-discipline professionals to assist the Village of Hinsdale with the completion of the Woodlands Infrastructure Improvements Project Phase I. Specific members of this team were chosen based on technical expertise such as engineering design, modeling, geotechnical investigations, field survey, bidding support, and construction observation. Additionally, the firm has significant related project experience, qualifications, and creativity to address your project in the most effective manner. This core group will be with you throughout the project. However, as the project becomes more defined, team members can be added so that we can meet your project needs in a thorough, creative, and professional manner.

SEC / HR Green has provided the Village of Hinsdale with structural and roadway engineering services in the past and now has assembled this team of water main, sanitary sewer, roadway, and stormwater professionals to again assist you with meeting your project improvement goals.





T. Scott Creech, PE **Project Manager**

Scott's civil engineering experience is deep and diverse. His expertise includes: hydrology, hydraulics and drainage; transportation; site development; parks and recreation; and resident construction engineering. Scott has performed analysis, modeling, design, and reports for storm water management systems, drainage systems and structures in both urban and rural scenarios. He has served as Project Engineer and Project Manager for urban and rural roadway design, intersection design/capacity analysis studies, traffic signal design, street lighting, storm sewer, sanitary sewer, storm water management systems, traffic studies, and project development reports. Scott has assisted with a variety of commercial, recreational, industrial and residential developments. He has also designed softball, soccer and basketball court complexes and parking facilities. His knowledge of the total project process, from inception through construction, has benefitted clients in both private and public sectors.

EDUCATION - Creech

BS, Civil Engineering,
University of Missouri-Rolla, 1987
BS, Physics,
Northeast Missouri State University, 1988
MBA, Business Administration,
Bradley University, 1991
MS, Civil Engineering,
Bradley University, 2000

EXPERIENCE

24 Years

REGISTRATION/LICENSE

PE – IL, IN

PROFESSIONAL AFFILIATIONS

- Parking and Transportation Advisory Board

PROJECT SPECIALIZATION

- All Facets of the Project
- Roadway Design

SELECTED PROJECT EXPERIENCE

FAU Rte 2678 (Garfield St.), First St., & Park Ave. Improvements - Village of Hinsdale, IL.

The Village of Hinsdale contracted with SEC/HR Green to provide design, contract bid document preparation, topographic survey, construction layout, and construction observation services for the Proposed Improvements to FAU Rte 2678 (Garfield St.), First St., & Park Ave. from FAU Rte 1504 (55th St.) to FAU Rte. 3782 (Chicago Ave.). Improvements to the 1.09 miles of urban roadway section include Hot-Mix Asphalt milling and overlay; concrete curb and gutter removal and replacement, combination storm and sanitary sewer separation; proposed storm sewer construction; cured in place (CIP) pipe lining of existing 24" VCP sanitary sewer; sanitary service rehabilitation; conflict manholes; 8" PVC water main reconstruction, related services and hydrants; driveway pavement reconstruction; P.C.C. sidewalk reconstruction and ADA ramps; thermoplastic pavement marking; and maintenance of traffic and detour plans. Funding for the project included ARRA Funds, IEPA revolving loan program funding and village funding.

Orland Hills Gardens Subdivision Water Main Replacement -Village of Orland Park, IL.

Project involved the design of approximately 6,300 lineal feet of 8-inch and 10-inch water main for design build application. The project specific scope of work included topographic survey, design and construction layout. The construction/permit documents were developed in conjunction with timely input from the Village and the Contractor to achieve an expeditious timeline within the project budgetary constraints while minimizing the disturbance to local residences. The project also involved permitting through the IEPA and an approval from METRA for crossing of the railroad Right-of-way.

Mill Street Water Main Replacement - Village of Hinsdale, IL.

Project involved the design of approximately 1,000 lineal feet of 6-inch and 8-inch water main for the Village of Hinsdale, IL. The project specific scope of work included topographic survey, design and construction layout. The bidding/construction/permit documents were developed to replace the existing 6" water main, valves, fire hydrants, and subsequent services that had exceeded the intended design life and were continuously in need of repair. The project design goals of completing the design and construction within schedule and budgetary constraints were successfully achieved through continuous and thorough project communication with Village engineering and public works departments as well as good communication with the IEPA through the permitting process.



Will County Adult Detention Facility - Teng & Associates, Inc.

Project involved civil and site engineering and surveying services for the design and construction of a 600 bed addition to the existing Will County Adult Detention Facility. The facility consists of residential, administrative, medical, dietary, recreational, video visitation, and support facilities, with site access, parking and lighting on a 37-acre site located in downtown Joliet, Illinois. Engineering services included design of utility extensions, water distribution, storm and sanitary sewer, as well as preparation of easement documentation and permitting. Project also included the design of loading dock expansion, site grading, storm water management facilities, erosion control, and improvements to Marion Street.

Tower Marketplace of Joliet - Ardmin Properties

Project involved a commercial development of 40 acres located in the northwest quadrant of the intersection of IL Route 59 and Theodore Street. Engineering services included survey, design and balance of site grading; erosion control plan; storm water pollution prevention and management plan; storm sewer design; water distribution system design; sanitary sewer and service design; interior roadway design; traffic impact study; intersection design study for signalized intersection on Theodore and IL Route 59; roadway design construction documents for improvements to Theodore and IL Route 59 attributable to the development; and Permitting for IEPA Notice of Intent, IEPA water pollution control, IEPA water supply, City of Joliet for rough grading and final plans, Illinois Department of Transportation construction plans.

Municipal Engineering Services - Village Of New Lenox

SEC/HR Green provides municipal engineering services to the Village of New Lenox. Key services include the review of land development construction documents. SEC/HR Green works closely with the Village Staff and other consultants to provide reviews of the development plans. Additionally, services include roadway inventory/rating reports for all Village maintained streets, attendance of Village meetings and providing general consultation.

Stormwater Treatment System - Joliet Junior College

Project included the designs, specifications, and bid documents for the construction of a hydrodynamic separator, oil and grit separator, several catch basin insert filters, and various storm sewer repairs. The improvements were part of the lake cleanup and management program implemented by the Joliet Junior College.

EXPERIENCE WITH PREVIOUS EMPLOYERS

Joliet Junior College Vet Technology Utility Relocation - Joliet, Illinois

Responsible for site utility relocation for development of a new Veterinary Technology and Industrial Training Facility at Joliet Junior College, Joliet, Illinois. Provided all necessary drawings and specifications for relocation of existing site utilities including storm and sanitary sewer, gas main, electric and water main.

Illinois Youth Center - Illinois Department of Corrections Kewanee, Illinois.

Responsible for providing civil and site engineering and surveying services for the planning, design and construction of a 400-cell medium security juvenile correctional facility. The facility consists of residential, administrative, medical, dietary, recreational, academic and support facilities, with site access, parking and lighting on a 120-acre site. Engineering services included design of utility extensions, water distribution, storm and sanitary sewer, as well as preparation of easement documentation and permitting. Project also included the design of two baseball fields, site grading, storm water management facilities, erosion control, detention fencing and high mast lighting for the fields.



Multi-Classification Female Correctional Facility - Illinois Department of Corrections, Hopkins Park, Illinois

Responsible for providing civil and site engineering and surveying services for the planning and design of an 1800-bed multi-classification women's correctional facility. The facility program consisted of residential, administrative, medical, dietary, recreational, academic, gun range, heliport, maintenance and other support facilities, with site access, parking, high mast lighting on a 137-acre site. Engineering services included design of site grading, site erosion control, utility extensions, water distribution, storm and sanitary sewer, storm water management facilities, as well as preparation of easement documentation. Project also included the design of a 500,000 gallon water tower, water treatment facilities, three water supply wells, water supply booster pump station, earthen berm gun range, heliport design and permitting, sally port, detention fencing and high mast lighting.

ACES Library – University of Illinois, Urbana, Illinois

Provided site development planning design and construction documents for utility extension and relocation, vehicular circulation, pedestrian circulation, site lighting, site furnishings, parking and landscape architecture. Also provided coordination of this site with the overall campus plan and associated structural and foundation design for the 5 story building.



Ajay Jain, PE, CFM **Stormwater Lead**

Ajay is an experienced municipal engineer who presently serves the Village of Carpentersville in an on-call Village consultant role. He specializes in stormwater management, especially related to watershed studies and transportation projects. Responding to the diverse needs of municipal clients, Ajay has cultivated a wide range of expertise including all aspects of hydrologic and hydraulic engineering design, watershed planning, sanitary sewer and water distribution system design and modeling, and GIS mapping and analysis. Ajay is an adept user of many computer applications including HEC-1, HEC-2, and HEC-RAS for watershed hydrologic and hydraulic modeling, Haestad Methods WaterCAD for water distribution system modeling, Pizer's HYDRA programs for sanitary sewer system modeling, and ArcView GIS program for mapping and analysis.

EDUCATION - Jain

BS, Civil Engineering,
Kamla Nehru Institute of Technology, 1991
MS, Civil Engineering,
Southern Illinois University, 1993

EXPERIENCE

18 Years

REGISTRATION/LICENSE

PE – IL, MO
Certified Floodplain Manager – IL

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers

PROJECT SPECIALIZATION

- Drainage Design
- Stormwater QA/QC

SELECTED PROJECT EXPERIENCE

Stormwater Watershed Management Plan - Village of Lake in the Hills, IL

A comprehensive Stormwater Watershed Management Plan was completed for the original portion of the Village of Lake in the Hills, Illinois utilizing GIS applications and watershed analysis. Proposed drainage system alternates were developed and studied in detail to provide a most cost-effective solution to the Village in reducing drainage complaints. A comprehensive stormwater watershed management plan was then developed including prioritization of various capital improvement projects based upon the severity of the drainage problems, and the extent of general population and property impact. Drainage analysis included hydrologic routing via HEC-1, flood control works analysis and design, storm sewer analysis and design, and hydraulic analysis of streams and ditches with HEC-RAS computer program. ArcView GIS software program was utilized for GIS application.

Drainage Study and Improvements - City of Harvard, IL

Investigated the causes of flooding within a 24 square block area in Harvard, Illinois. Included data collection, interviews, analysis of the existing drainage system, alternative cost-benefit analysis, developing a proposed drainage system improvement plan, opinion of probable cost and recommendation on prioritizing the improvement plan.

Illinois Routes 31 & 120 Intersection Geometry Study - City of McHenry, IL

Project involved a Phase I Study and Design Report for the proposed improvements of the Illinois Route 31 at Illinois Route 120 intersection. A detailed traffic analysis was included in the study, covering three intersections. In-line stormwater detention in the form of oversized storm sewer pipes was provided in order to ensure that existing downstream storm sewer pipes had sufficient capacity to convey the additional runoff associated with the roadway widening. Storm sewer was designed using Hydraulics Storm Sewers 2005. The scope of services included the preparation of an Existing Drainage Plan (EDP) and a Proposed Drainage Plan (PDP) along with a Location Drainage Study (LDS) report summarizing the design of the drainage infrastructure on the site.

Johnsburg Road Reconstruction - McHenry Co. Division of Transportation, IL

This 1.5 mile CMAQ-funded Phase I Engineering project involves the widening and resurfacing of Johnsburg Road to improve the capacity and level of service for the intersections to reduce emissions. Improvements are being completed on the intersecting streets of Riverside Drive, Spring Grove Road, and Chapel Hill Road. Improvements include widening to provide intersection channelization, traffic signals and adding a continuous third lane to function as a median/left turn lane. The intersecting streets will also be widened to provide



channelization at their intersections with Johnsbury Road. Ajay was responsible for overall drainage design and project management of drainage related tasks including preparation of an LDS.

US 45 Location Drainage Study and Hydraulic Reports - IL

The scope of work was to prepare a location drainage study (LDS) for an approximately 4.5 miles of roadway and IL-171 and US 45 interchange including seven major highway culvert analyses and two hydraulic reports. The work included completing stream and structure survey, preparing hydrologic and hydraulic model utilizing HEC-1 and HEC-RAS computer programs, developing existing and proposed roadway drainage plans including drainage alternative analysis and design of minor and major conveyance system, coordinating with Cook County Forest Preserve District, and attending public hearing meeting. Hydraulic Reports were prepared for US-45 over Crooked Creek and US-45 over Belly Deep Slough.

Illinois Route 120 Location Drainage Study and Hydraulic Reports, Cities of McHenry & Woodstock, IL

The scope of work was to prepare a location drainage study (LDS) for an approximately 12 miles of existing roadway drainage including four major highway culvert analyses and one hydraulic report. The work included completing stream and structure survey, preparing hydrologic and hydraulic model utilizing HEC-1, HEC-2, and HEC-RAS computer programs, developing existing and proposed roadway drainage plans including drainage alternative analysis and design of minor and major conveyance systems, coordinating the proposed drainage plans with the local governing agencies i.e. City of McHenry and City of Woodstock. Hydraulic report and IDNR-OWR floodway permit application was completed for IL-120 over Boone Creek.

I-57 and I-294 Interchange Phase I Study - T. Y. Lin International

The study area is located in the south suburbs of the City of Chicago in Cook County, Illinois. The project included the completion of a Location Drainage Study and four (4) Hydraulic Reports. The project also involved storm sewers, ditches, detention, and floodplain compensatory storage. Tasks also included floodway/floodplain modification and relocation for both the I-57 Drainage Ditch and Dixie Creek. Ajay led the technical team responsible for completing the LDS for the project limits including various Hydraulic Reports. He was also responsible for overall scheduling of the LDS and HIR tasks, project coordination with IDOT and prime consultant, and project execution and delivery.

McCullom Lake Road and Illinois Route 31 - City of McHenry, IL

Services included the preparation of Phase I study, Phase II contract plans, preparation of a Location Drainage Study (LDS), plats of highway, funding and right-of-way assistance, and Phase III construction services. McCullom Lake Road was realigned and widened to provide two lanes in each direction and continuous painted median. Illinois Route 31 was widened to provide two lanes in each direction along with northbound dual left turn lanes. The traffic signals at Illinois Route 31 and McCullom Lake Road were modernized and interconnected with the adjacent traffic signals located both to the north and south on Illinois Route 31.

Miller Road Improvements - Village of Lake in the Hills, IL

Project involved a Phase I Study and Design Report for reconstructing the existing pavement on approximately 0.3 miles of roadway. Several horizontal and vertical alignments were studied based upon existing elevations, impacts to the surrounding area (existing residents, wetlands, etc.), construction cost, traffic, etc. The existing intersection of Miller Road and Crystal Lake Road was studied to realign and better define the three-leg intersection. The Existing and future (2030) traffic capacity analysis of the roadway segment was included. An accident analysis was performed to determine if the corridor is a High Accident Location.



Ralph C Stark, PE, CFM Senior Project Engineer

Ralph specializes in surface water management, and his qualifications in this field are formidable. He has completed projects involving storm sewer/detention pond design, floodplain analysis and delineation, dam break analysis, Letter of Map

Amendment/Revision and stormwater pollution prevention plan preparation (SWPPP). He is familiar with stormwater and floodplain standards from FEMA, IDNR-OWR, NIPC, and Lake, Kane and McHenry Counties and erosion control standards in the Illinois Urban Manual. He has assisted in the preparation of the McHenry County Stormwater Plan, was a member of the McHenry County Stormwater Technical Advisory Committee. Ralph is adept in the use of the following software applications: HEC-1, HEC-2, TR-20, TR-55, HY-8, HEC RAS, HEC HMS, FEQ, HSPF, Hecstad Pondpack (versions 5 & 6), and XP-SWMM. He is a certified enforcement officer under the Lake County Watershed Development Ordinance, and has reviewed plans for compliance with stormwater/floodplain regulations on behalf of the communities of Mundelein, Antioch, Port Barrington, Johnsburg, Spring Grove, Harvard, Wonder Lake and Lake in the Hills since 1991. Ralph is also involved in the Lake County Municipal Advisory Committee (MAC) which coordinates the efforts of Lake County SMC and various Lake County communities in meeting NPDES Phase II requirements.

EDUCATION - Stark

BS, Civil Engineering,
University of Illinois, 1989

EXPERIENCE

22 Years

REGISTRATION/LICENSE

PE - IL
Certified Floodplain Manager - 2003

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers
- Illinois Association for Floodplain and Stormwater Management
- McHenry County Stormwater Plan and Technical Advisory Committee

PROJECT SPECIALIZATION

- Stormwater Design

SELECTED PROJECT EXPERIENCE

Weeks Park Drainage Study - DuPage County, IL

XP-SWMM and FEQ hydrologic and hydraulic computer modeling was completed for both existing and proposed conditions to ensure the proposed improvements would alleviate the drainage problems being experienced in the watershed. The unsteady state method was required in order to divide the flow between the re-graded ditch system and the new sewer provided below it. Properly accounting for the revised ditch capacity allowed SEC to minimize the size of the new sewers required. The FEQ analysis was also used to document that improved drainage at Weeks Park would not result in increased flooding at other locations upstream or downstream of the improvement.

Fort Dodge Business District Watershed Analysis - Ford Dodge, IA

The existing Fort Dodge drainage system in the area of the Crossroads Mall was analyzed using XP-SWMM. The existing sewers draining to multiple outlets are interlinked, requiring the use of an unsteady state method (such as XP-SWMM) to divide the flow among the different outlets. This method also detected changes in flow direction (opposite the slope of the pipe) under flood conditions as certain portions of the system reach or exceed their capacity. In the development of the proposed conditions options additional interlinking pipes were added to make better use of underutilized portions of the system and storage locations were added to reduce peak flows and minimize the size of the new sewers required to relieve the flooding. Multiple configurations of storage locations and new sewers were evaluated to determine the best combination and to work around property constraints.

IL Rte. 38 / Winfield Road Intersection Study - IDOT District 1

The work consisted of the widening and reconstruction of Illinois Route 38 to improve the capacity and level of service for the intersection. The development of the intersection was constrained by existing development,





wetlands, and the environmentally sensitive property owned by Cantigny Park. SEC used Hydraflow and XP-SWMM to analyze the storm sewer and detention system. The dynamic modeling afforded by XP-SWMM allowed SEC to utilize the storage in the intersection and surrounding properties as part of the existing conditions, thereby developing a more accurate model of the storage and storm sewer interaction. An existing off-site detention basin was enlarged as part of the project, allowing additional storage for the area that previously ponded in the intersection of Illinois Route 38 and Winfield Road. In addition to the capacity needs, the existing stormwater system was designed to address off-site drainage issues located to the east of the project limits which required the coordination with an on-going intersection improvement with DuPage County at the Illinois Route 38 at County Farm Road Project. Through extensive coordination and the detailed hydrologic and hydraulic modeling that was completed, SEC was able to improve the geometries of the intersection by adding additional impervious area for turn lanes while alleviating the existing drainage problems that had been affecting the intersection for years.

Wooded Shores Subdivision Roadway Improvements - Village of Wonder Lake, IA

The project included pulverization, widening and reconstruction of approximately four miles of roadway within two subdivisions, concrete gutter, drainage improvements, guardrail installation, tree removal, and landscaping. The project required coordination between the Village, numerous residents within the project limits and the contractors.

I-57 and I-294 Interchange Phase I Study - T. Y. Lin International

The study area is located in the south suburbs of the City of Chicago in Cook County, Illinois. Interstate 57 is a primary north-south route connecting downtown Chicago to central and southern Illinois. Interstate 294 is a fully access controlled, eight lane circumferential toll expressway around the City of Chicago, connecting northern Indiana and southern Wisconsin with connections to other interstate routes in northern Illinois including I-94, I-90, I-290, I-88, I-55, and I-80. The project included the completion of a Location Drainage Study and four (4) Hydraulic Reports. The project also involved storm sewers, ditches, detention, and floodplain compensatory storage. Tasks also included floodway/floodplain modification and relocation for both the I-57 Drainage Ditch and Dixie Creek.

US 45 Location Drainage Study and Hydraulic Reports – Cook County Forest Preserve, IL

The scope of work was to prepare a location drainage study (LDS) for an approximately 4.5 miles of roadway and IL-171 and US 45 interchange including seven major highway culvert analyses and two hydraulic reports. The work included completing stream and structure survey, preparing hydrologic and hydraulic model utilizing HEC-1 and HEC-RAS computer programs, developing existing and proposed roadway drainage plans including drainage alternative analysis and design of minor and major conveyance system, coordinating with Cook County Forest Preserve District, and attending public hearing meeting. Hydraulic Reports were prepared for US-45 over Crooked Creek and US-45 over Belly Deep Slough.

Illinois Route 120 Location Drainage Study and Hydraulic Reports – Cities of McHenry and Woodstock, IL

The scope of work was to prepare a location drainage study (LDS) for an approximately 12 miles of existing roadway drainage including four major highway culvert analyses and one hydraulic report. The work included completing stream and structure survey, preparing hydrologic and hydraulic model utilizing HEC-1, HEC-2, and HEC-RAS computer programs, developing existing and proposed roadway drainage plans including drainage alternative analysis and design of minor and major conveyance systems, coordinating the proposed drainage plans with the local governing agencies i.e. City of McHenry and City of Woodstock. Hydraulic report and IDNR-OWR floodway permit application was completed for IL-120 over Boone Creek.



Joel N Krause, PE, CFM Project Engineer

Joel works with a wide range of projects, but specializes in stormwater management and planning. He is adept at hydrologic and hydraulic modeling, storm sewer/detention design, and stormwater pollution prevention plans. Joel is also involved in the review of site plans for various municipalities. Work experience pertaining to NPDES permitting includes assisting with the completion of the initial Notice of Intent Form (NOI) for communities such as: Spring Grove, Lake in the Hills, Port Barrington, Nunda, Algonquin and McHenry Townships. Joel is proficient using HEC-1, HEC-2, TR-20, TR-55, HY-8, HEC-RAS, XP-SWMM, Hydraflow, AutoCAD, Microstation, and ArcGIS.

EDUCATION - Krause

BS, Civil Engineering,
Valparaiso University, 2002

EXPERIENCE

8 Years

REGISTRATION/LICENSE

PE - IL
Certified Floodplain Manager - 2006

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers
- Environmental and Water Resources Institute (EWRI)
- Conservation Foundation

PROJECT SPECIALIZATION

- Stormwater Design

SELECTED PROJECT EXPERIENCE

Weeks Park Drainage Study - DuPage County, IL

XP-SWMM and FEQ hydrologic and hydraulic computer modeling was completed for both existing and proposed conditions to ensure the proposed improvements would alleviate the drainage problems being experienced in the watershed. The unsteady state method was required in order to divide the flow between the re-graded ditch system and the new sewer provided below it. Properly accounting for the revised ditch capacity allowed SEC to minimize the size of the new sewers required. The FEQ analysis was also used to document that improved drainage at Weeks Park would not result in increased flooding at other locations upstream or downstream of the improvement.

Fort Dodge Business District Watershed Analysis - Ford Dodge, IA

The existing Fort Dodge drainage system in the area of the Crossroads Mall was analyzed using XP-SWMM. The existing sewers draining to multiple outlets are interlinked, requiring the use of an unsteady state method (such as XP-SWMM) to divide the flow among the different outlets. This method also detected changes in flow direction (opposite the slope of the pipe) under flood conditions as certain portions of the system reach or exceed their capacity. In the development of the proposed conditions options additional interlinking pipes were added to make better use of underutilized portions of the system and storage locations were added to reduce peak flows and minimize the size of the new sewers required to relieve the flooding. Multiple configurations of storage locations and new sewers were evaluated to determine the best combination and to work around property constraints.

IL Rte 38 / Winfield Road Intersection Study - IDOT District 1

The work consisted of the widening and reconstruction of Illinois Route 38 to improve the capacity and level of service for the intersection. The development of the intersection was constrained by existing development, wetlands, and the environmentally sensitive property owned by Cantigny Park. SEC used Hydraflow and XP-SWMM to analyze the storm sewer and detention system. The dynamic modeling afforded by XP-SWMM allowed SEC to utilize the storage in the intersection and surrounding properties as part of the existing conditions, thereby developing a more accurate model of the storage and storm sewer interaction. An existing off-site detention basin was enlarged as part of the project, allowing additional storage for the area that previously ponded in the intersection of Illinois Route 38 and Winfield Road. In addition to the capacity needs, the existing stormwater system was designed to address off-site drainage issues located to the east of the project limits which required the coordination with an on-going intersection improvement with DuPage County at the Illinois Route 38 at County Farm Road Project. Through extensive coordination and the detailed hydrologic and hydraulic modeling that was completed, SEC was able to improve the geometries of the intersection by adding additional





impervious area for turn lanes while alleviating the existing drainage problems that had been affecting the intersection for years.

Illinois Routes 31 & 120 Intersection Geometry Study - City of McHenry, IL

Project involved a Phase I Study and Design Report for the proposed improvements of the Illinois Route 31 at Illinois Route 120 intersection. A detailed traffic analysis was included in the study, covering three intersections. In-line stormwater detention in the form of oversized storm sewer pipes was provided in order to ensure that existing downstream storm sewer pipes had sufficient capacity to convey the additional runoff associated with the roadway widening. Storm sewer was designed using Hydraflow Storm Sewers 2005. The scope of services included the preparation of an Existing Drainage Plan (EDP) and a Proposed Drainage Plan (PDP) along with a Location Drainage Study (LDS) report summarizing the design of the drainage infrastructure on the site.

Miller Road Improvements - Village of Lake in the Hills, IL

Project involved a Phase I Study and Design Report for reconstructing the existing pavement on approximately 0.3 miles of roadway. Several horizontal and vertical alignments were studied based upon existing elevations, impacts to the surrounding area (existing residents, wetlands, etc.), construction cost, traffic, etc. The existing intersection of Miller Road and Crystal Lake Road was studied to realign and better define the three-leg intersection. The Existing and future (2030) traffic capacity analysis of the roadway segment was included. An accident analysis was performed to determine if the corridor is a High Accident Location.

I-57 and I-294 Interchange Phase I Study - T. Y. Lin International

The study area is located in the south suburbs of the City of Chicago in Cook County, Illinois. Interstate 57 is a primary north-south route connecting downtown Chicago to central and southern Illinois. Interstate 294 is a fully access controlled, eight lane circumferential toll expressway around the City of Chicago, connecting northern Indiana and southern Wisconsin with connections to other interstate routes in northern Illinois including I 94, I 90, I 290, I 88, I 55, and I 80. The project included the completion of a Location Drainage Study and four (4) Hydraulic Reports. The project also involved storm sewers, ditches, detention, and floodplain compensatory storage. Tasks also included floodway/floodplain modification and relocation for both the I-57 Drainage Ditch and Dixie Creek.

Halgus Road Improvements - Village of Lake in the Hills, IL

Project involved a Phase I Study and Design Report for reconstructing approximately half a mile of roadway. Several horizontal alignments were studied based upon impacts to the surrounding area (existing residents, wetlands, etc.), construction cost, traffic, etc. The existing intersection with the Village's Public Works driveway was studied to realign and better define the three-leg intersection. Existing and future (2030) traffic capacity analysis of the roadway segment is included. An accident analysis was performed to determine if the corridor is a High Accident Location. A Project Development Report (BLR 22110) and corresponding exhibits were also prepared.

Huntley Crossings (Illinois Rte 47 Widening) - Huntley, IL - Rubloff Development Group

The Huntley Crossings is a phased project containing a retail center with approximately 720,000 square feet of space with over 3,400 parking stalls. The project includes the redesign of existing Powers Road as well as 0.75 miles of Illinois Route 47 and two fully signalized intersection plans. SEC/HIR Green prepared a traffic impact analysis, traffic signal warrant analysis, and an intersection design study for improvements to the intersections. This project also includes the production of preliminary and Final Plats of Subdivision and all Plats of Survey necessary to annex and zone the property in question into the Village of Huntley. Both an Existing Drainage Plan (EDP) and a Proposed Drainage Plan (PDP) were developed along with a Stormwater Management Report summarizing the design of the drainage infrastructure on the site.



Joseph F Vavrina, PE, LEED AP **LEED Specialist**

Joe's experience includes seven years as a construction foreman prior to his engineering career. This experience equipped him with valuable insights into the constructibility of projects. As an engineer, he has been involved with retail development projects ranging from 1 to 100 acres. Joe is also an experienced Project/Design Engineer for municipal, educational, and commercial projects, including conceptual design through Final Engineering and construction. As a LEED Accredited Professional, he is well versed in principles of sustainable design.

EDUCATION - Vavrina

BS, Structural Engineering,
Milwaukee School of Engineering, 1998

EXPERIENCE

20 Years

REGISTRATION/LICENSE

PE – IL, WI
LEED Accredited Professional

PROJECT SPECIALIZATION

- Stormwater Sustainable Design

SELECTED PROJECT EXPERIENCE

Lake in the Hills Fen Conservation Area - McHenry County Conservation District, IL.

A Master Plan for the McHenry County Conservation District was developed for the 234 acre site that contained a rare hanging fen and a large wetland complex. A wetland delineation, which included floristic and wildlife quality assessment, was completed to determine the location, quality and function of the natural resources. The wetland study aided in the creation of a master plan for the site which proposed recreational amenities including observation areas, an educational bio-swale and rain garden filtration system, educational signage, pedestrian bridges, vehicular parking area, shelters and nature trails.

Bailey Woods Conservation Area - McHenry County Conservation Dist, IL

A Master Plan for the McHenry County Conservation District was developed for the 358 acre site that contained high quality native oak savannah and a large wetland complex. A wetland delineation, which included floristic and wildlife quality assessment, was completed to determine the location, quality and function of the natural resources. The wetland study aided in the creation of a master plan for the site which proposed recreational amenities including observation areas, vehicular parking area, shelters and nature trails.

Crystal Springs Farm Subdivision - Bull Valley, IL.

SEC/HR Green designed improvements on this 30-acre residential subdivision with eight lots. Infrastructure improvements included roadway, storm sewer, detention and erosion control plans including Stormwater Pollution Prevention Plan (SWP3).

Huntley Crossings Development - Huntley, IL - Rubloff Development Group

The Huntley Crossings is a phased project containing a retail center with approximately 720,000 square feet of space with over 3,400 parking stalls. The project includes the redesign of existing Powers Road as well as 0.75 miles of Illinois Route 47 and two fully signalized intersection plans. SEC/HR Green prepared a traffic impact analysis, traffic signal warrant analysis, and an intersection design study for improvements to the intersections. This project also includes the production of preliminary and Final Plats of Subdivision and all Plats of Survey necessary to annex and zone the property in question into the Village of Huntley. Both an Existing Drainage Plan (EDP) and a Proposed Drainage Plan (PDP) were developed along with a Stormwater Management Report summarizing the design of the drainage infrastructure on the site.

Immanuel Lutheran Subdivision - Immanuel Lutheran Church, IL.

SEC/HR Green prepared preliminary and final plats of the 60-acre site subdividing it into 4 lots with roads, utilities and detention basin. SEC/HR Green was responsible for the roadway design, storm and sanitary sewer design, water main design, detention, and grading of the site.



McHenry County College Parking Lot Expansion - Legat Architects

The parking lot expansion project entailed the design and preparation of construction drawings for a 500 car parking lot to service the existing college campus. As part of this project, modifications to the existing parking lot were necessary to tie in a building addition and create drop off lanes and bus routes. SEC/HR Green was responsible for all site layout and generation of construction plans including cost estimating to keep the project within client budget. In addition to the preparation of construction documents, SEC/HR Green was responsible for all surveying services including initial data collection and construction staking.

Joe was responsible for project documentation, the overall design of the parking lots, stormwater management, phasing plan, and permitting with the City of Crystal Lake.



Mark A Hardie, PE Water Main and Sanitary Sewer Lead

Mark's experience encompasses project management, design and construction administration. Mark specializes in the analytical evaluation of existing water and wastewater facilities to determine viable methods of correcting system deficiencies and meeting applicable requirements. He is committed to client involvement in the project development process, always seeking his clients' satisfaction with improvements to their facilities.

SELECTED PROJECT EXPERIENCE

Iowa Great Lakes Sanitary District – City of Milford, IA

This project included design, bidding, and construction administration services for the installation of cured-in-place pipe (CIPP) liners for approximately 25,000 ft. of 8, 10, and 12-in. diameter sewer mains. This project also included approximately 300 service lateral repairs and 50 manhole repairs.

Mark was responsible for design, schedule and budget monitoring, bidding correspondence and construction administration. Mark was the client contact for this project.

28th Street Water Main Improvements - City of Sioux Falls, SD

This project included design, bidding, and construction administration services for the installation of approximately 3,000 ft. of water main ranging in size from 16 to 24-in. diameter. This project also included full-width asphalt street restoration and other miscellaneous curb, sidewalk, storm sewer, and sanitary sewer repairs.

Mark was responsible for water main design, schedule and budget monitoring, bidding correspondence and construction administration. Mark was the client contact for this project.

East Rice Street Reconstruction - City of Sioux Falls, SD

This project included the design of a three-lane pavement section between I-229 to Timberline Avenue to better accommodate the increased traffic generated by heavy trucks and commuters. The project also included water, sewer, drainage, and guardrail improvements.

Mark was responsible for sewer main design, water main design and cost estimating.

Lyons Blvd. to Kiwanis Ave. Water Main - City of Sioux Falls, SD

This project included design and preparation of plans and specifications for installation of approximately 2,000 ft. of 16-in. diameter water main. This project included a railroad crossing and installation across the Big Sioux River and levee system.

Mark was responsible for water main design, schedule and budget monitoring, bidding correspondence and construction administration. Mark was the client contact for this project.

Booster Pump Station and Water Transmission Main - City of Huron, SD

This project included modifications to the high service pump room at the abandoned water treatment facility. This included the removal of the electrical equipment, three existing vertical turbine pumps, and associated piping, fittings, and valves. Some piping, fittings and valves removed were located in the abandoned clear-well beneath the high service pump room. The project also included the installation of two 125 hp horizontal split

EDUCATION - Hardie

BS, Civil Engineering,
South Dakota State University, 1991
MS, Civil Engineering,
South Dakota State University, 1993

EXPERIENCE

18 Years

REGISTRATION/LICENSE

PE – IL, IA, MN, SD

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers
- American Water Works Association
- National Society of Professional Engineers
- South Dakota Water & Wastewater Association

PROJECT SPECIALIZATION

- Water Main Design
- Sanitary Sewer Design



case pumps with VFDs; one 15 hp horizontal split case pump with a VFP; a flow-meter; associated piping, fittings and valves; and electrical equipment controls and lighting.

Distribution System Model Development - City of Elk Point, SD

A model was created for Elk Point's water distribution system to determine which areas of the City were experiencing low pressures and fire flow. The existing AutoCAD water distribution map was used to develop the model with waterCAD v6.0 software. Flow testing was completed on hydrants throughout the City to obtain data for calibration of the model. The calibrated model was then used to evaluate pressures and fire flow availability throughout the City. Future projects were identified to improve pressure and fire flow in the system.

Water Main and Booster Station - City of Rock Valley, IA

This work included the design and construction administration of 5,200 feet of 12-inch PVC water main, 175 feet of directional drilling and above-grade prefabricated booster station.

Cliff Avenue Corridor Improvements - City of Sioux Falls, SD

The Cliff Avenue Corridor Improvements project included modifications to the alignment of Cliff Avenue and its connecting streets along 1.2 miles of Cliff Avenue, transforming Cliff Avenue into a safe and attractive roadway. The improvements included landscaped medians, pedestrian facilities, access for persons with disabilities, street lights, traffic signals and associated utilities. A sustainable design philosophy was used, emphasizing low maintenance costs, water conservation, and future expandability with minimal disruption.



Sean G Murphy, PE **Project Engineer**

Sean has a wide range of water and wastewater experience. His professional experience includes design calculations, developing specifications for project packages, producing plans and directing the work of graphical technicians in the design process, and securing permits for construction and operation of municipal water and wastewater treatment infrastructure projects.

EDUCATION - Murphy

BS, Marketing,
Northern Illinois University, 1990
BS, Civil Engineering,
University of Illinois, 2006

EXPERIENCE

5 Years

REGISTRATION/LICENSE

PE - IL

PROJECT SPECIALIZATION

- Water Main
- Sanitary Sewer

SELECTED PROJECT EXPERIENCE

Bull Valley Commercial Parcel - Bull Valley, IL - Ruth Investments

Project involved development and design of a 60 acre commercial property located along busy Route 120 in Bull Valley. SEC/HR Green created a conceptual layout plan for the site including retail, restaurants, a gas station, and office space. Design also included the preparation of character and theme exhibit boards illustrating the intended equestrian character for the development with examples of complementary landscaping and architecture. Supplementary graphics and exhibits were designed to establish this theme through monument signage design, as well as, eco-friendly landscaping utilizing bioswales and other Best Management Practices to address storm water runoff and lessen the impact of impervious surfaces.

Well No. 10 Water Main Extensions - City of Harvard, IL

Approximately 6,000 lineal feet of 12 inch and 8 inch water main from new Well #10 to tie into existing distribution system at three locations.

Huntley Crossings (Illinois Rte 47 Widening); Huntley, IL- Rubloff Development Group

The Huntley Crossings is a phased project containing a retail center with approximately 720,000 square feet of space with over 3,400 parking stalls. The project includes the redesign of existing Powers Road as well as 0.75 miles of Illinois Route 47 and two fully signalized intersection plans. SEC/HR Green prepared a traffic impact analysis, traffic signal warrant analysis, and an intersection design study for improvements to the intersections. This project also includes the production of preliminary and Final Plans of Subdivision and all Plats of Survey necessary to annex and zone the property in question into the Village of Huntley. Both an Existing Drainage Plan (EDP) and a Proposed Drainage Plan (PDP) were developed along with a Stormwater Management Report summarizing the design of the drainage infrastructure on the site.

Sanitary Forcemain Improvements - Village Of Huntley, IL

The project consisted of installing a 16 inch PVC, C-900 force main along State Route 47 from south of Interstate 90 north to Powers Road, approximately 3300 feet of the project the pipe was installed by directional drilling and approximately 6800 feet of the project the pipe was installed by open cut. The project also consisted of installing a 12 inch PVC water main from south side of Interstate 90 to north of Interstate 90 connecting to an existing water main.

Interceptor Sewer Improvements - Village Of Huntley, IL

The project consisted of sanitary collection system master planning for the development area located south of Interstate 90 on both sides of State Route 47. The scope of work included: evaluation of expected sewer loading rates; corridor survey for pipe routing; preliminary design of a 5,000 gpm regional lift station; preliminary design of force mains and gravity sewer interceptors; and preparation of a Master Plan for sewer expansion in the area.



Legend Lakes Neighborhoods - City of McHenry, IL

SEC/HR Green provided construction observation services of this project, which included an extensive erosion control system that prevents sediment from leaving the site and disturbing the surrounding natural wetlands during the dewatering process. SEC/HR Green performed reviews of the record drawings for the site and documented the deficiencies that were identified. Additionally they reviewed and submitted the paperwork necessary for letter of credit reductions.

Lisle Sanitary Sewer Flow Monitoring & Modeling - Illinois American Water Company

The project involved an investigation to determine causes of sanitary collection system overflows. Project team collected GPS coordinates for the sanitary collection system and developed an accurate sanitary collection system map in GIS. A calibrated sanitary sewer system model was developed and utilized to create a prioritized list of action items to address I&I throughout the system.

Sanitary Sewer System Model - City of McHenry, IL

SEC/HR Green evaluated the entire wastewater collection system for the City of McHenry, Illinois. With two separate wastewater treatment plants, the sanitary sewer collection system consisted of two main catchments and 21 subcatchments, with a total of 3,000 manholes, 606,000 feet of gravity sewers, 31,000 feet of force mains and 19 pump stations. The Haestad's Methods modeling software SewerGEMS was used to create the sewer system models. The design flows resulting from these modeling efforts were then used to size a pump station and force main to eventually replace one of the City's existing wastewater treatment plants.

South Street Water Main Extension - Village of Richmond, IL

Project included 1,100 feet of 12 inch water main to serve the growing needs of the Village of Richmond. To minimize construction costs, the Village installed the water main utilizing public works staff.

Wonder Lake Street Improvements - Village of Wonder Lake, IL

Construction observation and documenting the contractors daily progress during: pulverization, widening and reconstruction of approximately four miles of roadway within two subdivisions, concrete gutter, drainage improvements, guardrail installation, tree removal, and landscaping. The project required coordination between the Village, numerous residents within the project limits and the contractors.



Brent D Cann, PE **Project Engineer**

Brent has worked on numerous municipal, drainage, transportation, and site development projects. He has become a vital project assistant to HR Green project managers in performing project tasks and has a keen eye for detail, quality and engineering values. His engineering knowledge combined with his business management skills have resulted in significant contributions to each project he has been assigned to. Brent has the technical aptitude to provide project support and the creativity to bring fresh ideas to many of HR Green's designs. Brent is part of the SEC / HR Green New Lenox team and will work closely with Scott Creech on this important project.

EDUCATION - Cann

BS, Civil Engineering,
Bradley University, 2004
MBA, Business Administration,
Olivet Nazarene University, 2010

EXPERIENCE

2 Years

REGISTRATION/LICENSE

PE - IL

PROJECT SPECIALIZATION

- Roadway

SELECTED PROJECT EXPERIENCE

Garfield Street Improvements - Village of Hinsdale, IL

Project consisted of constructing new storm sewer and connecting the existing curb inlets away from the existing combined sanitary sewer to direct the storm water flows away from the wastewater treatment facility. The existing brick sanitary sewer and manholes originally constructed in the 1920's were rehabilitated rather than removed for great cost savings. The project included removing three segments of water main and constructing new, larger water main. Funding alternatives were developed to include milling and overlaying pavement on Garfield Street, First Street, and Park Avenue. Survey aspects included topographic survey of approximately 4,500 feet of roadway including collector streets. This project required precise topography to identify any existing drainage problems and to locate all parkway trees for minimal disturbance during the construction process. This project also included extensive research of the existing underground utilities for minimal disturbance.

Ivanhoe Subdivision; Manhattan, Illinois - Fox Prairie Development LLC

This project established residential development on a 125-acre site including 226 residential units and 10-acre commercial property. SEC/HR Green provided surveying, interior roadway profile design, storm sewer system design, water main design, sanitary sewer system design, lot grading, and 100 year overflow design.

Anderson Road Extension - Kane County Division of Transportation, IL

The Anderson Road Extension is a proposed new 4-lane roadway linking Illinois Route 38 to Keslinger Road. The project includes a three span, 496-foot-long overpass to carry the Anderson Road extension over three main line tracks of the UPRR and nine coach yard tracks. The bridge will consist of a composite concrete deck on 58-inch-deep plate girders. The project will provide a key north-south transportation link for vehicular access to the newly constructed commuter train station in a neighboring community and relieve congestion along one of the most heavily traveled roadways in the region. SEC/HR Green is converting an Environmental Assessment for FHWA approval. SEC/HR Green provided surveying, traffic analysis, preliminary geometry, drainage and environmental studies services on the project. Responsibilities included the preparation of the intersection design studies and assisting with the preliminary drainage studies.

Calistoga Lakes Site Improvements - Village of New Lenox, IL

This project consisted of the observation of the installation of storm sewer, watermain, sanitary sewer, street and parking lot lighting, sidewalk, curb and gutter, asphalt roadways, asphalt parking lots, pavement markings and restoration improvements.



Laraway and Gougar Roads - Will County Department of Highways, IL

Project involves separate Pre-Phase I reports for the improvement of Laraway Road from US Route 52 to the Will/Cook County Line and the improvement of Gougar Road from US Route 52 to US Route 6. The objective of each report is to identify the proposed scope of improvements, lead the public involvement process with local communities, elected officials and the general public, document potential environmental impacts, identify access management strategies, and establish a proposed right-of-way envelope based on the typical cross-section, intersection geometrics, and drainage considerations.

IL Route 59 and Theodore Street Intersection Improvements - Ardmir Properties

This project included preparation of a Traffic Impact Study and an Intersection Design Study (IDS) prior to construction document preparation. The IDS extended through the limits of the project and included three (3) signalized intersections including IL Route 59 at Theodore Street and one (1) full access signalized location along each route. Improvement limits along IL Route 59 extend from approximately 1200 feet south of Theodore Street to approximately 1300 feet north of Theodore Street. Relocation and revision of the existing temporary traffic signals at the intersection with Theodore Street are also included. Storm sewer is designed to function with the future IDOT IL Rte. 59 corridor improvement. Improvements along Theodore Street extended from approximately 300 feet east of IL Route 59 to approximately 1100 feet west of IL Route 59. The new cross section will provide a continuous four (4) lane urban roadway with left turn channelization were applicable, along the west leg Theodore Street within the project limits. Permanent traffic signals were designed to be installed along Theodore Street at the east full access to the site.

Tower Marketplace of Joliet - Ardmir Properties

Project involved a commercial development of 40 acres located in the northwest quadrant of the intersection of IL Route 59 and Theodore Street. Engineering services included survey, design and balance of site grading, erosion control plan; storm water pollution prevention and management plan; storm sewer design; water distribution system design; sanitary sewer and service design; interior roadway design; traffic impact study; intersection design study for signalized intersection on Theodore and IL Route 59; roadway design construction documents for improvements to Theodore and IL Route 59 attributable to the development; and Permitting for IEPA Notice of Intent, IEPA water pollution control, IEPA water supply, City of Joliet for rough grading and final plans, Illinois Department of Transportation construction plans.

Laraway Road and Cedar Road Intersection Improvements - Village of New Lenox, IL

Project involved improvements to the intersection of County Highway 74 (Laraway Road) and County Highway 4 (Cedar Road) in New Lenox, IL. Improvements to the intersection included widening and striping for the addition of left turn lanes in all directions, utility relocation and addition of a traffic signal. Project Engineering and Surveying services consisted of design and preparation of plans and specifications; bid documents; utility coordination; permitting right-of-way document preparation and coordination; and construction observation.

Laraway and Cherry Hill Intersection Improvements - Will County Department of Highways, IL

Improvements include widening and resurfacing of Laraway Road and Cherry Hill Road from a two-lane section to two through lanes with channelized left turn lanes for all legs, auxiliary right turn lanes and ten foot shoulders. The intersection improvements also include traffic signals, drainage appurtenances, utility coordination/relocation and right-of-way/easement acquisition. Survey work included a topographic survey of approximately 2,400 feet of Cherry Hill Road and approximately 2,700 feet of Laraway Road to IDOT standards, and locating existing right-of-way, section and adjacent parcel monumentation to create the base map for the Plat of Highways. Will County Illinois State Plane Control Monumentation was referenced to establish horizontal and vertical control utilizing GPS and the topographic survey with robotic total stations.





Akram Chaudhry, PE **Roadway QA/QC**

Akram brings a lifetime of experience in transportation and municipal project development. He has given capable leadership to preliminary studies and final design for highways and municipal projects. He has facilitated intergovernmental agreements for the use of State and Federal Funds, IDOT policies, procedures, standards, and construction management. Akram assists counties and municipalities in completing funding packages to finance their roadway improvements with various types of funds available through the Illinois Department of Transportation and other agencies. He coordinates, manages and reviews Phase I Reports; Phase II Contract Plans, specifications, and estimates for compliance with approved reports, design policies, and state and federal requirements. He is also responsible for management of Phase III Construction contracts financed with State and Federal funds.

EDUCATION - Chaudhry
BS, Civil Engineering,
Chicago Technical College, 1969

EXPERIENCE
41 Years

REGISTRATION/LICENSE
PE – IL

PROJECT SPECIALIZATION
▪ Roadway QA/QC

Akram serves as Principal-in-Charge for road resurfacing and reconstruction programs in the following Illinois municipalities: Antioch, Homer Glen / Homer Township, Oswego, Johnsburg, Richmond, Spring Grove, Oakwood Hills, Lake in the Hills, McHenry, Algonquin Township, McHenry Township and Nunda Township.

SELECTED PROJECT EXPERIENCE

Garfield Street Improvements - Village of Hinsdale, IL

Project consisted of constructing new storm sewer and connecting the existing curb inlets away from the existing combined sanitary sewer to direct the storm water flows away from the wastewater treatment facility. The existing brick sanitary sewer and manholes originally constructed in the 1920's were rehabilitated rather than removed for great cost savings. The project included removing three segments of water main and constructing new, larger water main. Funding alternatives were developed to include milling and overlaying pavement on Garfield Street, First Street, and Park Avenue. Survey aspects included topographic survey of approximately 4,500 feet of roadway including collector streets. This project required precise topography to identify any existing drainage problems and to locate all parkway trees for minimal disturbance during the construction process. This project also included extensive research of the existing underground utilities for minimal disturbance.

2005 Street Improvements - Village Of Mundelein, IL

Project entailed development of engineering plans and specifications for improvements to 4.3 miles of Village roadway. Project scope included roadway re-alignment, intersection re-alignment, vertical curve re-alignment, roadway widening, storm and sanitary sewer replacement, and complete roadway reconstruction.

MFT Road Resurfacing Project - Village Of Streamwood, IL

This project included the following activities: bituminous surface removal, PCC curb and gutter removal and replacement, PCC gutter installation, full-depth bituminous patching, and bituminous binder/surface course placement. SEC/HR Green provided construction layout staking, construction observation, documentation of contract quantities, and pay request recommendation.

MFT Road Programs - Village Of Antioch, IL

From 2006 to 2008 a total of 8.4 miles of road have been repaired and resurfaced at a total construction cost of nearly \$2.5 million. Street improvements included curb and gutter repairs, concrete gutter installation, sidewalk additions and repairs, extensive storm sewer additions and repairs, pavement pulverization, base repairs, pavement patching, and bituminous resurfacing. Typical resurfacing projects, like ones completed in Antioch, present several challenges for the project team. Access to homes and area businesses are incorporated into the



Woodlands Infrastructure Improvements Project Phase I Village of Hinsdale

project so that disruptions are minimal. In addition, many different construction disciplines are integrated into one project to provide a quality product, under budget, and meeting the needs of the municipality.

MFT Road Resurfacing Project - McHenry Township Road District, IL

This project included the following activities: Estimation of project, PCC curb and gutter installation, full-depth bituminous patching, aggregate base course removal and replacement/pulverization and bituminous binder/surface course placement.

Annual MFT Road Programs - Village Of Antioch, IL

Street improvements have included curb and gutter repairs, concrete gutter installation, sidewalk additions and repairs, extensive storm sewer additions and repairs, pavement pulverization, base repairs, pavement patching, and hot-mix asphalt resurfacing. SEC/HR Green assists the Village annually with executing the maintenance plan and providing recommendations with cost analyses for the effective maintenance and/or rehabilitation of Village roadways.

Ayer Street Downtown Reconstruction - City of Harvard, IL

Project involved the complete design engineering, landscape and streetscape design for five blocks along the City of Harvard's downtown main street (Ayer Street). Project included pavement reconstruction (resurfacing including brick pavers, reconstructed sidewalk, new storm sewer, revised business access, landscaping, lighting and planters, benches, etc for streetscape amenities.

Crystal Lake Road Improvements - Village of Lake In The Hills, IL

Reconstruction and widening of Crystal Lake Road between Indian Trail and Linden Street. The project involved replacement of the Woodcreek culvert and a new storm sewer system, bituminous paving, PCC sidewalk and curb/gutter installation, sanitary sewer installation and landscape restoration work.

Douglas Road Reconstruction - Village Of Oswego, IL

Project entailed widening/reconstruction of Douglas Road from US Route 30 to US Route 34. SEC/IIR Green prepared a Phase I study and design report as well as Phase II contract plans and specifications. Other improvements include the addition of storm sewer, sidewalks, noise barrier and water main relocation. An existing bridge at Waubensee Creek was removed and replaced with a precast three-sided box culvert to accommodate the widened roadway. Traffic signals were replaced at two intersections, while new signals were installed at Long Beach Road. Traffic signals at Long Beach Road, Fernwood Drive, and Townes Crossing were interconnected to facilitate improved traffic flow. In addition to the Phase I and Phase II engineering, SEC/HR Green performed Phase III resident engineering and inspection of the project. The project was let through the Illinois Department of Transportation, District 3. All construction must be performed in accordance with the Standard Specifications for Road and Bridge Construction, IDOT Highway Standards, approved plans and special provisions.

Drainage Study and Improvements - City of Harvard, IL

Investigated the causes of flooding within a 24 square block area in Harvard, Illinois. Included data collection, interviews, analysis of the existing drainage system, alternative cost benefit analysis, developing a proposed drainage system improvement plan, opinion of probable cost and recommendation on prioritizing the improvement plan.



Milan Dobrosavljevic, PLS **Land Survey**

Milan is directly involved in all phases of land surveying and mapping for transportation and land development projects. He has extensive experience the land development process, including retracement surveys of sectionalized lands. In addition, Milan has performed ALTA Land Title Surveys, Topographic Surveys, preliminary and final platting, legal descriptions, title commitment reviews, construction layout services. Beyond the transportation and land development field, Milan also has experience with specialized environmental mapping, including hydrographic surveys and natural resources inventories.

SELECTED PROJECT EXPERIENCE

Garfield Street Improvements - Village of Hinsdale, IL

Project consisted of constructing new storm sewer and connecting the existing curb inlets away from the existing combined sanitary sewer to direct the storm water flows away from the waste water treatment facility. The existing brick sanitary sewer and manholes originally constructed in the 1920's were rehabilitated rather than removed for great cost savings. The project included removing three segments of water main and constructing new, larger water main. Funding alternatives were developed to include milling and overlaying pavement on Garfield Street, First Street, and Park Avenue. Survey aspects included topographic survey of approximately 4,500 feet of roadway including collector streets. This project required precise topography to identify any existing drainage problems and to locate all parkway trees for minimal disturbance during the construction process. This project also included extensive research of the existing underground utilities for minimal disturbance.

Calistoga Lakes Site Improvements - Village of New Lenox, IL

This project consisted of the observation of the installation of storm sewer, watermain, sanitary sewer, street and parking lot lighting, sidewalk, curb and gutter, asphalt roadways, asphalt parking lots, pavement markings and restoration improvements.

Laraway Road and Cedar Road Intersection Improvements - Village of New Lenox, IL

Project involved improvements to the intersection of County Highway 74 (Laraway Road) and County Highway 4 (Cedar Road) in New Lenox, IL. Improvements to the intersection included widening and striping for the addition of left turn lanes in all directions, utility relocation and addition of a traffic signal. Project Engineering and Surveying services consisted of design and preparation of plans and specifications; bid documents; utility coordination; permitting right-of-way document preparation and coordination; and construction observation.

US 6 at Bell Road and McKinley Woods Road - Village of Channahon, IL

To accommodate a proposed development, the project improved the intersections with left turn lanes, right turn lanes as applicable and a traffic signal installation. This project included preparation of a Traffic Impact Study to determine specific needs and impacts, and an Intersection Design Study (IDS) to determine required roadway geometry and traffic signalization. Surveying included an overall topographic survey of approximately 8,000 feet of roadway and extensive research at the Will County and Grundy County Recorder of Deeds Office's to delineate and depict the existing right-of-way.

EDUCATION - Dobrosavljevic

BS, Surveying,
Michigan Tech University, 2000
AAS, Civil Engineering Technology,
Michigan Tech University, 2000

EXPERIENCE

11 Years

REGISTRATION/LICENSE

PLS - IL, IN

PROFESSIONAL AFFILIATIONS

- Illinois Professional Land Surveyors Association
- Southwest Suburban Home Builders Associates

PROJECT SPECIALIZATION

- Land Survey



Laraway and Gougar Roads - Will County Department of Highways, IL.

Project involves separate Pre-Phase I reports for the improvement of Laraway Road from US Route 52 to the Will/Cook County Line and the improvement of Gougar Road from US Route 52 to US Route 6. The objective of each report is to identify the proposed scope of improvements, lead the public involvement process with local communities, elected officials and the general public, document potential environmental impacts, identify access management strategies, and establish a proposed right-of-way envelope based on the typical cross-section, intersection geometrics, and drainage considerations.

IL Route 59 and Theodore Street Intersection Improvements - Ardmir Properties

This project included preparation of a Traffic Impact Study and an Intersection Design Study (IDS) prior to construction document preparation. The IDS extended through the limits of the project and included three (3) signalized intersections including IL Route 59 at Theodore Street and one (1) full access signalized location along each route. Improvement limits along IL Route 59 extend from approximately 1200 feet south of Theodore Street to approximately 1300 feet north of Theodore Street. Relocation and revision of the existing temporary traffic signals at the intersection with Theodore Street are also included. Storm sewer is designed to function with the future IDOT IL Rte. 59 corridor improvement. Improvements along Theodore Street extended from approximately 300 feet east of IL Route 59 to approximately 1100 feet west of IL Route 59. The new cross section will provide a continuous four (4) lane urban roadway with left turn channelization were applicable, along the west leg Theodore Street within the project limits. Permanent traffic signals were designed to be installed along Theodore Street at the east full access to the site.

Tower Marketplace of Joliet - Ardmir Properties

Project involved a commercial development of 40 acres located in the northwest quadrant of the intersection of IL Route 59 and Theodore Street. Engineering services included survey, design and balance of site grading; erosion control plan; storm water pollution prevention and management plan; storm sewer design; water distribution system design; sanitary sewer and service design; interior roadway design; traffic impact study; intersection design study for signalized intersection on Theodore and IL Route 59; roadway design construction documents for improvements to Theodore and IL Route 59 attributable to the development; and Permitting for IEPA Notice of Intent, IEPA water pollution control, IEPA water supply, City of Joliet for rough grading and final plans, Illinois Department of Transportation construction plans.

Wolf Road at US 30 (Construction Phase) - Village of Mokena, IL.

This project consisted of the observation of retaining walls, earthwork, storm sewer, curb and gutter, concrete roadway patching and widening, asphalt shoulders, guardrail, pavement marking and restoration improvements.

Berens Drive at Cherry Hill Rail - Village of New Lenox, IL.

This project consisted of the observation of the installation of storm sewer, watermain, sanitary sewer (force main and gravity), sidewalk, curb and gutter, industrial asphalt roadway, pavement markings and restoration improvements.

US 34 at Fairwind Boulevard - City Of Sandwich, IL.

The Phase I engineering included the completion of a traffic study for a new, 2 mile long collector roadway to be constructed on the City's west side, between Pratt Road and County Line Road. The Phase II portion of the project included the preparation of contract plans and specifications for the construction of Fairwind Boulevard from U.S. Route 34 to Center Street and the associated improvements to U.S. Route 34. U.S. Route 34 was converted to an urban curb and gutter section and was widened to provide a bidirectional left-turn lane within project limits. New traffic signals were installed at the intersection of U.S. Route 34 and new roadway lighting was provided along Fairwind Boulevard.





Phil L Stuepfert, ASLA **Landscape Architecture**

Phil's diverse experience includes master planned communities, golf course communities, mixed use developments, age targeted communities, parks and recreation, streetscapes and downtown revitalization. He is also well-versed in all types of land use planning such as commercial, office, industrial and business parks. His ability to effectively communicate and collaborate with builders and developers has resulted in successful projects of five to 7,000 acres in Illinois, Michigan, Wisconsin, Ohio, Kentucky, New Jersey, South Carolina, Florida, Texas, Oklahoma, Colorado, Nevada and Arizona. Additionally, Phil has project experience in Puerto Rico and the Philippines. He is recognized for innovative approaches that are environmentally sensitive, integrating Best Management Practices that compliment the natural characteristics of the land while achieving his client's goals. Phil is a frequent seminar speaker on conservation and sustainable design issues.

EDUCATION - Stuepfert
BS, Landscape Architecture,
University of Illinois, 1996

EXPERIENCE
15 Years

PROFESSIONAL AFFILIATIONS

- Home Builders Association of Greater Chicago
- National Association of Home Builders
- Urban land Institute
- American Planning Association
- American Society of Landscape Architects
- United City of Yorkville Green Committee

PROJECT SPECIALIZATION

- Landscape Architecture
- Planning

SELECTED PROJECT EXPERIENCE

Niles Rain Garden - Midwest Coca-Cola Bottling Company, IL

The project developed a sustainable rain garden park east of the intersection of Harlem and Touhy Avenues in the Village of Niles. The project goals were to improve a depleted site, cleanse polluted stormwater runoff and recharge the groundwater while inspiring and educating area residents, business owners, schools, public officials and other surrounding communities about the benefits of sustainable stormwater management practices. By redirecting polluted stormwater runoff to a rain garden, the plants and soil serve as a natural filter to cleanse the water before being released into streams, rivers and lakes. The landscape plants used in the Niles rain garden were all native to northeastern Illinois.

Lake in the Hills Fen Conservation Area - McHenry County Conservation District, IL

A Master Plan for the McHenry County Conservation District was developed for the 234 acre site that contained a rare hanging fen and a large wetland complex. A wetland delineation, which included floristic and wildlife quality assessment, was completed to determine the location, quality and function of the natural resources. The wetland study aided in the creation of a master plan for the site which proposed recreational amenities including observation areas, an educational bio-swale and rain garden filtration system, educational signage, pedestrian bridges, vehicular parking area, shelters and nature trails.

Bull Valley Commercial Parcel (Bull Valley, IL) - Ruth Investments

Project involved development and design of a 60 acre commercial property located along busy Route 120 in Bull Valley. SEC/HR Green created a conceptual layout plan for the site including retail, restaurants, a gas station, and office space. Design also included the preparation of character and theme exhibit boards illustrating the intended equestrian character for the development with examples of complementary landscaping and architecture. Supplementary graphics and exhibits were designed to establish this theme through monument signage design, as well as, eco-friendly landscaping utilizing bioswales and other Best Management Practices to address storm water runoff and lessen the impact of impervious surfaces.

Ayer Street Downtown Reconstruction - City of Harvard, IL

Project involved the complete design engineering, landscape and streetscape design for five blocks along the City of Harvard's downtown main street (Ayer Street). Project included pavement reconstruction (resurfacing



including brick pavers, reconstructed sidewalk, new storm sewer, revised business access, landscaping, lighting and planters, benches, etc for streetscape amenities.

Bristol Roads Drainage Analysis - Bristol Township, IL

Project involved a detailed drainage analysis of 3,300 feet of roads in Bristol, Illinois.

McHenry Riverwalk - City of McHenry, IL

The project entails a one-mile-long riverwalk path following the west bank of the Fox River and crossing Boone Lagoon via a new steel and concrete pedestrian bridge. The bridge spans 144 feet to a junction where the walk proceeds west following the south side of Boone Creek to Route 120. Also included in the project was the construction of two ornamental shade structures, storm sewer, extensive landscaping with irrigation, shore line stabilization with natural large boulders, sheet piling for toe of slope retention and ornamental lighting.

Johnsburg Road Widening - McHenry County Division of Transportation, IL

This CMAQ-funded project involves widening and resurfacing of Johnsburg Road to improve the capacity and level of service for the intersections. Services included preliminary design, public involvement, surveying and wetland delineation.

107 Acre Topographic Survey - Sandwich, IL

Topographic and Boundary Survey of the property located on the west side of Sandwich, Illinois, south of U.S. Rt. 34, for the purpose of subdivision design.

Milwaukee Avenue Streetscape - Village Of Niles, IL

SEC/HR Green is preparing a Phase I project report and Phase II Contract Plans. Project highlights include revitalization and improvements of streetscape aesthetics along Milwaukee Avenue, a major North-South roadway through Niles. Major concerns regulating this project included creating a welcoming environment to pedestrians, accessibility and movement, public safety, service improvement, and community identity and character. Safety measures were proposed to include differentiating paving materials, curb cut reductions, clearly defined parking designations and traffic-calming measures.

Comprehensive Land Use Plan - Village Of Johnsburg, IL

SEC/HR Green worked with the Village leaders and public to provide a Comprehensive Land Use Plan Update for the Illinois Route 31 Corridor for the Village of Johnsburg. The Village of 6,000 residents is experiencing rapid growth on their western border due to availability of land along Route 31. The update included Village meetings, site visits, and the creation of a comprehensive analysis of existing conditions, environmental opportunities and constraints and current transportation routes. The future growth of multiple land uses was considered as well as the future Metra station that has a tremendous impact on the region.



Stephen W Chu, PWS Arborist

Steve has extensive experience with wetland delineation, mitigation, restoration and permitting. He has performed more than 150 wetland delineations in Illinois and Wisconsin. Steve has prepared reports and permit applications for Federal, State, and local permits and coordinated field studies with designers, regulators, project managers, and clients. Steve is both a registered Professional Wetland Scientist (P.W.S.) and a Certified Arborist.

SELECTED PROJECT EXPERIENCE

2005 Street Rehabilitation Program - Village Of Mundelein, IL

This project involved over 4.3 miles of roadway that were scheduled for improvements ranging from patching to complete reconstruction.

Bailey Woods Conservation Area - McHenry County Conservation District, IL

A Master Plan for the McHenry County Conservation District was developed for the 358 acre site that contained high quality native oak savannah and a large wetland complex. A wetland delineation, which included floristic and wildlife quality assessment, was completed to determine the location, quality and function of the natural resources. The wetland study aided in the creation of a master plan for the site which proposed recreational amenities including observation areas, vehicular parking area, shelters and nature trails.

Steve was responsible for all wetland delineation procedures, floristic, wildlife quality assessment, project correspondence with ACOE, and Tree Survey Inventories.

Berens Drive at Cherry Hill Rail - Village of New Lenox, IL

This project consisted of the observation of the installation of storm sewer, watermain, sanitary sewer (force main and gravity), sidewalk, curb and gutter, industrial asphalt roadway, pavement markings and restoration improvements.

Crystal Lake Road Improvements - Village of Lake in The Hills, IL

Reconstruction and widening of Crystal Lake Road between Indian Trail and Linden Street. The project involved replacement of the Woodcreek culvert and a new storm sewer system, bituminous paving, PCC sidewalk and curb/gutter installation, sanitary sewer installation and landscape restoration work.

Anderson Road Extension - Kane County Division Of Transportation, IL

The Anderson Road Extension is a new four lane divided roadway linking Illinois Route 38 to Keslinger Road. The extension will provide a key north-south transportation link for vehicular access to the new Elburn Metra commuter station and will relieve congestion along Illinois Route 47 by providing a grade separation over the Union Pacific (UPRR) railroad tracks. As part of Metra's work along the UPRR West Line, a draft Environmental Assessment (EA) was prepared in Federal Transit Administration (FTA) format but was never processed for federal approval. Per an agreement with Kane County, Metra has provided the EA to the County for further processing. SEC/HIR Green was the Project Manager overseeing the efforts to convert the EA into a format acceptable for FHWA approval, preparation of a Section 106 report, and the design of the four lane roadway configuration. The project also included the completion of a Location Drainage Study and one (1)

EDUCATION - Chu

BS, Zoology,
University of Wisconsin, 2002
BS, Biological aspects of Conservation,
University of Wisconsin, 2002
MS, Natural Resources and Environmental
Science, 2002

EXPERIENCE

9 Years

CERTIFICATIONS

- Professional Wetlands Scientist
- ISA Certified Arborist
- Certified Wetlands Specialist – Lake County, IL
- Qualified Wetland Review Specialist – Kane County, IL
- Wetland Enforcement Specialist – McHenry County, IL

PROFESSIONAL AFFILIATIONS

- Society of Wetland Scientist
- International Society of Arboriculture
- Illinois Association of Environmental Professionals

PROJECT SPECIALIZATION

- Arborist





Hydraulic Report. The project also involved storm sewers, ditches, detention, and floodplain compensatory storage.

Haligus Road Improvements - Village of Lake In The Hills, IL

Project involved a Phase I Study and Design Report for reconstructing approximately half a mile of roadway. Several horizontal alignments were studied based upon impacts to the surrounding area (existing residents, wetlands, etc.), construction cost, traffic, etc. The existing intersection with the Village's Public Works driveway was studied to realign and better define the three-leg intersection. Existing and future (2030) traffic capacity analysis of the roadway segment is included. An accident analysis was performed to determine if the corridor is a High Accident Location. A Project Development Report (BLR 22110) and corresponding exhibits were also prepared.

Lake in the Hills Fen Conservation Area - McHenry County Conservation District, IL

A Master Plan for the McHenry County Conservation District was developed for the 234 acre site that contained a rare hanging fen and a large wetland complex. A wetland delineation, which included floristic and wildlife quality assessment, was completed to determine the location, quality and function of the natural resources. The wetland study aided in the creation of a master plan for the site which proposed recreational amenities including observation areas, an educational bio-swale and rain garden filtration system, educational signage, pedestrian bridges, vehicular parking area, shelters and nature trails.

Steve was responsible for all wetland delineation procedures, floristic, wildlife quality assessment, and project correspondence with ACOE.

Illinois Routes 31 & 120 Intersection Geometry Study - City of McHenry, IL

Project involved a Phase I Study and Design Report for the proposed improvements of the Illinois Route 31 at Illinois Route 120 intersection. A detailed traffic analysis was included in the study, covering three intersections. In-line stormwater detention in the form of oversized storm sewer pipes was provided in order to ensure that existing downstream storm sewer pipes had sufficient capacity to convey the additional runoff associated with the roadway widening. Storm sewer was designed using Hydraflow Storm Sewers 2005. The scope of services included the preparation of an Existing Drainage Plan (EDP) and a Proposed Drainage Plan (PDP) along with a Location Drainage Study (LDS) report summarizing the design of the drainage infrastructure on the site.

Milwaukee Avenue Reconstruction - Village Of Niles, IL

Project involves preparing a Phase I project report (Categorical Exclusion, Group, II), and Phase II Contract Plans. Project highlights include pavement widening and resurfacing to provide four 11-foot-wide lanes, water main, sidewalk, and curb and gutter replacement as well as traffic signals modernization and signal interconnections.

Seavy Drainage Channel - Village Of Mundelein, IL

The project consists of hydraulic modeling of Seavey Drainage Channel, preparation of contract plans and specifications to lower the streambed profile by approximately four feet and evaluation of design options to avoid conflicts with an existing 24 inch water supply main and a 30 inch high pressure gas main that were in line with the new ditch profile. Seavey Drainage Channel in the Village of Mundelein is mapped as a Zone AE floodplain, has a designated floodway, and has a watershed area greater than 640 acres or one square mile.



Andrew Mrowicki, PE Construction Services Lead

Andy gives experienced leadership to construction engineering at SEC/HR Green. He joined the firm in 2006 following a distinguished career at Illinois Department of Transportation (IDOT) District 3. While at IDOT, he served as an Area Supervising Field Engineer, supervising over \$550 million of construction projects, and prior to that as Senior Resident Engineer. He was responsible for the direct supervision of the engineering and technical staff engaged in the construction, documentation, and inspection of highway construction projects. He ensured that projects are adequately staffed, were completed on time, and met all specifications for quality workmanship and safety. He also administered contracts and resolved technical problems, and reviewed and initiated changes to design plans and project reports. Andy's projects often involved coordination between IDOT bureaus, local agencies, utility companies, contractors, and industry representatives.

EDUCATION - Mrowicki
BS, Zoology,
University of Illinois, 1990

EXPERIENCE
21 Years

REGISTRATION/LICENSE
PE - IL, TX

PROFESSIONAL AFFILIATIONS

- Illinois Association of Highway Engineers
- American Council of Engineering Companies of Illinois

PROJECT SPECIALIZATION

- Construction Inspection

SELECTED PROJECT EXPERIENCE

Garfield Street Improvements - Village of Hinsdale, IL

Project consisted of constructing new storm sewer and connecting the existing curb inlets away from the existing combined sanitary sewer to direct the storm water flows away from the wastewater treatment facility. The existing brick sanitary sewer and manholes originally constructed in the 1920's were rehabilitated rather than removed for great cost savings. The project included removing three segments of water main and constructing new, larger water main. Funding alternatives were developed to include milling and overlaying pavement on Garfield Street, First Street, and Park Avenue. Survey aspects included topographic survey of approximately 4,500 feet of roadway including collector streets. This project required precise topography to identify any existing drainage problems and to locate all parkway trees for minimal disturbance during the construction process. This project also included extensive research of the existing underground utilities for minimal disturbance.

187th St. and Wolf Road Intersection Improvements - Village Of Mokena, IL

This project consisted of the observation of earthwork, storm sewer, curb and gutter, sidewalk, asphalt roadway widening and resurfacing, concrete roadway widening, traffic signals, street lighting, pavement marking and restoration improvements.

Orchard Road; Oswego, Illinois - Kendall County Highway Department, IL

SEC/HR Green was responsible for the preparation of contract plans and specifications for approximately one mile of widening and resurfacing, from north of the Fox River bridge to north of Mill Road within the Village of Oswego. The existing roadway was widened to provide two 12-foot through lanes in each direction and an 18-foot barrier median with grass interior. New traffic signals were installed at U.S. Route 34, Lewis Street, and Mill Road. New roadway lighting within the grass median was also provided.

2007 MFT Road Program - Village of Oswego, IL

SEC/HR Green provided resident engineering services for road resurfacing projects in the Village. This work included IDOT documentation of all construction activities, including milling and resurfacing of various streets throughout the Village, manhole casting adjustments, aggregate shoulders, seeding, and fertilizer.





Anderson Road Extension - Kane County Division of Transportation, IL

The Anderson Road Extension is a new four-lane divided roadway linking Illinois Route 38 to Keslinger Road. The extension will provide a key north-south transportation link for vehicular access to the new Elburn Metra commuter station and will relieve congestion along Illinois Route 47 by providing a grade separation over the Union Pacific (UPRR) railroad tracks. As part of Metra's work along the UPRR West Line, a draft Environmental Assessment (EA) was prepared in Federal Transit Administration (FTA) format but was never processed for federal approval. Per an agreement with Kane County, Metra has provided the EA to the County for further processing. SEC/HR Green was the Project Manager overseeing the efforts to convert the EA into a format acceptable for FHWA approval, preparation of a Section 106 report, and the design of the four-lane roadway configuration. The project also included the completion of a Location Drainage Study and one (1) Hydraulic Report. The project also involved storm sewers, ditches, detention, and floodplain compensatory storage.

Douglas Road Reconstruction - Village Of Oswego, IL

Project entailed widening/reconstruction of Douglas Road from US Route 30 to US Route 34. SEC/HR Green prepared a Phase I study and design report as well as Phase II contract plans and specifications. Other improvements include the addition of storm sewer, sidewalks, noise barrier and water main relocation. An existing bridge at Waubensee Creek was removed and replaced with a precast three-sided box culvert to accommodate the widened roadway. Traffic signals were replaced at two intersections, while new signals were installed at Long Beach Road. Traffic signals at Long Beach Road, Fernwood Drive, and Townes Crossing were interconnected to facilitate improved traffic flow. In addition to the Phase I and Phase II engineering, SEC/HR Green performed Phase III resident engineering and inspection of the project. The project was let through the Illinois Department of Transportation, District 3. All construction must be performed in accordance with the Standard Specifications for Road and Bridge Construction, IDOT Highway Standards, approved plans and special provisions.

MFT Road Resurfacing Program - Homer Township Highway Department, IL

This project consisted of the observation of asphalt pavement patching and resurfacing, pavement marking and restoration improvements for years 2006 through 2009 of an annual MFT road resurfacing program.

151st Street Improvements - Homer Township Highway Department, IL

This project consisted of the observation of earthwork, storm sewer, curb and gutter, asphalt roadway widening and resurfacing, pavement marking and restoration improvements.

Wonder Lake Street Improvements - Village of Wonder Lake, IL

Construction observation and documenting the contractors daily progress during: pulverization, widening and reconstruction of approximately four miles of roadway within two subdivisions, concrete gutter, drainage improvements, guardrail installation, tree removal, and landscaping. The project required coordination between the Village, numerous residents within the project limits and the contractors.

In-Town Road Improvement Program - United City Of Yorkville, IL

Project reconstructed approximately 3.8 miles of existing residential roadways, located in the older section of the City. This project involved the widening of the existing roadways, pulverization and reshaping the existing pavement, resurfacing, and installation of aggregate shoulders. SEC/HR Green also designed sidewalk, curb and gutter, storm sewers, water main and sanitary sewer in various locations, new swales and culverts in other locations, pavement marking, and restoration of the project site.



Matt S Abbeduto, PE **Construction Engineer**

Matt is a seasoned construction representative with experience in residential, commercial and industrial site and building development, urban and rural roadway construction, and traffic signal reconstruction. He has provided construction observation services for several municipalities. He is experienced in preparing field reports as a resource for construction activities, progress and quality, and strives to keep clients updated on construction status and correspondence. His experience also includes coordinating with contractors, utility companies, construction/project managers, engineers and municipal personnel to resolve project conflicts.

EDUCATION - Abbeduto
BS, Civil Engineering,
University of Illinois, 2001

EXPERIENCE
9 Years

REGISTRATION/LICENSE
PE - IL

PROJECT SPECIALIZATION
▪ Construction Engineering

SELECTED PROJECT EXPERIENCE

Garfield Street Improvements - Village of Hinsdale, IL

Design Engineer responsible for quantity take-off calculations and quality assurance thereof. Project consisted of constructing new storm sewer and connecting the existing curb inlets away from the existing combined sanitary sewer to direct the storm water flows away from the wastewater treatment facility. The existing brick sanitary sewer and manholes originally constructed in the 1920's were rehabilitated rather than removed for great cost savings. The project included removing three segments of water main and constructing new, larger water main. Funding alternatives were developed to include milling and overlaying pavement on Garfield Street, First Street, and Park Avenue. Survey aspects included topographic survey of approximately 4,500 feet of roadway including collector streets. This project required precise topography to identify any existing drainage problems and to locate all parkway trees for minimal disturbance during the construction process. This project also included extensive research of the existing underground utilities for minimal disturbance.

187th St. and Wolf Road Intersection Improvements - Village Of Mokena, IL

This project consisted of the observation of earthwork, storm sewer, curb and gutter, sidewalk, asphalt roadway widening and resurfacing, concrete roadway widening, traffic signals, street lighting, pavement marking and restoration improvements.

Calistoga Lakes Site Improvements - Village of New Lenox, IL

This project consisted of the observation of the installation of storm sewer, watermain, sanitary sewer, street and parking lot lighting, sidewalk, curb and gutter, asphalt roadways, asphalt parking lots, pavement markings and restoration improvements.

Berens Drive at Cherry Hill Rail - Village of New Lenox, IL

This project consisted of the observation of the installation of storm sewer, watermain, sanitary sewer (force main and gravity), sidewalk, curb and gutter, industrial asphalt roadway, pavement markings and restoration improvements.

Anderson Road Extension - Kane County Division of Transportation, IL

The Anderson Road Extension is a new four-lane divided roadway linking Illinois Route 38 to Keslinger Road. The extension will provide a key north-south transportation link for vehicular access to the new Elburn Metra commuter station and will relieve congestion along Illinois Route 47 by providing a grade separation over the Union Pacific (UPRR) railroad tracks. As part of Metra's work along the UPRR West Line, a draft Environmental Assessment (EA) was prepared in Federal Transit Administration (FTA) format but was never processed for federal approval. Per an agreement with Kane County, Metra has provided the EA to the County for further processing. SEC/HR Green was the Project Manager overseeing the efforts to convert the EA into a



format acceptable for FHWA approval, preparation of a Section 106 report, and the design of the four-lane roadway configuration. The project also included the completion of a Location Drainage Study and one (1) Hydraulic Report. The project also involved storm sewers, ditches, detention, and floodplain compensatory storage.

Douglas Road Reconstruction - Village Of Oswego, IL

Project entailed widening/reconstruction of Douglas Road from US Route 30 to US Route 34. SEC/HR Green prepared a Phase I study and design report as well as Phase II contract plans and specifications. Other improvements include the addition of storm sewer, sidewalks, noise barrier and water main relocation. An existing bridge at Waubensee Creek was removed and replaced with a precast three-sided box culvert to accommodate the widened roadway. Traffic signals were replaced at two intersections, while new signals were installed at Long Beach Road. Traffic signals at Long Beach Road, Fernwood Drive, and Townes Crossing were interconnected to facilitate improved traffic flow. In addition to the Phase I and Phase II engineering, SEC/HR Green performed Phase III resident engineering and inspection of the project. The project was let through the Illinois Department of Transportation, District 3. All construction must be performed in accordance with the Standard Specifications for Road and Bridge Construction, IDOT Highway Standards, approved plans and special provisions.

151st Street Improvements - Homer Township Highway Department, IL

This project consisted of the observation of earthwork, storm sewer, curb and gutter, asphalt roadway widening and resurfacing, pavement marking and restoration improvements.

Anderson Road Extension - Kane County Division of Transportation, IL

The Anderson Road Extension is a proposed new 4-lane roadway linking Illinois Route 38 to Keslinger Road. The project includes a three span, 496-foot-long overpass to carry the Anderson Road extension over three main line tracks of the UPRR and nine coach yard tracks. The bridge will consist of a composite concrete deck on 58-inch-deep plate girders. The project will provide a key north-south transportation link for vehicular access to the newly constructed commuter train station in a neighboring community and relieve congestion along one of the most heavily traveled roadways in the region. SEC/HR Green is converting an Environmental Assessment for FHWA approval. SEC/HR Green provided surveying, traffic analysis, preliminary geometry, drainage and environmental studies services on the project. Responsibilities included the preparation of the intersection design studies and assisting with the preliminary drainage studies.



Statement of Qualifications – Subconsultants

SEC / HR Green will subcontract for Geotechnical Engineering services to be provided by others. SEC / HR Green has established relationships with several subconsultants that provide these services and anticipated engaging a subcontracting firm that provides the best value to the project while meeting the needs of the project objectives. Geotechnical Services anticipated include fifteen (15) borings at 20' depth as associated with the Phase I, II, & III improvements.

A qualified materials sub-consultant will be providing material testing services for Phase I roadway construction. Quality Assurance testing for asphalt and concrete shall be completed in accordance with Illinois Department of Transportation (IDOT) QC/QA requirements.



Statement of Qualifications – Similar Project Experience

Capital Improvement Program Lake in the Hills, Illinois

The Village of Lake in the Hills was originally developed as a recreational community and surrounded the lakes for which the Village is named. This original portion of the Village is characterized by significant topographic reliefs, narrow roads with ditch and culverts as its drainage system, and drainage overland flow paths which concentrated flows through private properties. This portion of the Village had been plagued with recurring flooding of homes and properties.

In 1997, the Village of Lake in the Hills hired SEC / HR Green / HR Green to complete a comprehensive drainage study of the entire original portion of the Village. SEC / HR Green developed a drainage study which mapped out over 70 separate watersheds. Utilizing resident questionnaires, site visits, watershed analysis, and benefit cost analysis, SEC / HR Green developed a comprehensive master plan with a prioritized listing of multi-year capital improvement projects. The Village was also in the process of completing a 15-year water main replacement program within the same study area. Through coordination with the Village, the fifteen-year water main replacement program was married with the drainage improvement program and consolidated into a nine-year program instead along with roadway improvements to develop a comprehensive plan to improve the original section of the Village.

The Village of Lake in the Hills committed to this multi-year capital improvement program to revitalize and improve the original portion of the Village. ***This program focuses on drainage improvements, water main improvements and roadway improvements.*** The planning process was completed in 2000.

SEC / HR Green was also hired by the Village to prepare Phase II engineering plans and specification, permitting and construction observation. SEC / HR Green completed the design and implementation of the nine-year program in 2010.

Water Main Replacement Program

Many of the existing water mains were deteriorating and in need of up-sizing to properly distribute water throughout the Village. Many of the existing water mains were constructed in the rear yards of homes which has made maintenance to the water mains very difficult. The first phases of the replacement program focused on major transmission mains. Subsequent phases were focused on the replacement of the smaller diameter water mains. Each phase includes about 6,800 to 9,000 lineal feet of ductile iron pipe water main and the reconnection of over 90 resident water services and the complete restoration of parkways and residents front and rear yards.

Roadways

As is always the case with underground rehabilitation projects, the existing roadways are subject to numerous pavement cuts and patches.

The roadway rehabilitation typically consisted of milling and resurfacing, full depth patching where required, and shoulder improvement. These improvements were prioritized such that they followed one year behind the water main and drainage improvements. This one-year period ensures that any construction trenches have fully settled so that the newly placed surface course is not compromised. The roadway rehabilitation project was generally

CONTACT

Mr. Fred Mullan
Village of Lake in the Hills
847.960.7500

SIMILARITIES TO YOUR PROJECT

- Drainage Improvements
- Water Main Replacement
- Roadway Improvements



funded with Motor Fuel Tax (MFT) dollars. SEC / HR Green was also responsible for coordinating each year's program with IDOT, preparing plans and specifications, and bidding the project.

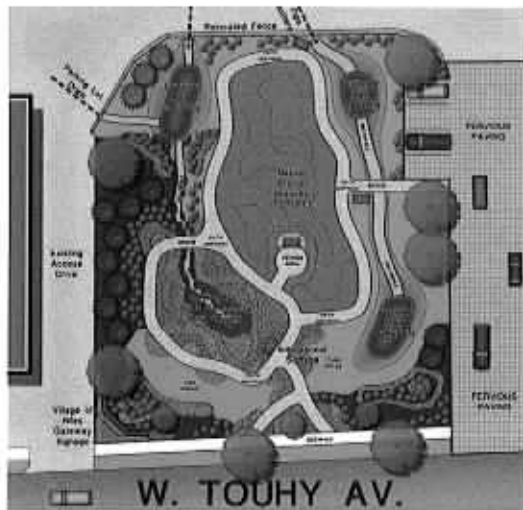
Because of the Village Board's commitment to this capital improvement program, the entire original portion of the Village has now been improved with new drainage systems that has resulted in reduced flooding, improved water distribution, and newly surfaced roadways.

Coca-Cola/Village of Niles Community Rain Garden **Village of Niles, Illinois**

SEC / HR Green in conjunction with the Village of Niles and the Coca-Cola Enterprises Bottling Companies embarked on building a sustainable rain garden park just east of the intersection of Harlem and Touhy Avenues in the Village of Niles. SEC and the Village of Niles together designed and implemented the first phase the Niles Rain Garden project in June 2008.

The primary goal was to improve a depleted site, cleanse polluted stormwater runoff, and recharge the groundwater while inspiring and educating area residents, business owners, schools, public officials and other surrounding communities about the benefits of sustainable stormwater practices. By redirecting polluted stormwater runoff to a rain garden, the plants and soil serve as a natural filter to cleanse the water before being released into streams, rivers and lakes.

The landscape plants used in the Niles rain garden were all native to northeastern Illinois. It is important to note that the roots of these plants can be up to 10 feet deep with a very fibrous root structure while the roots for turf grass used in lawns across the United States are two inches deep. This shallow root depth of a typical turf grass lawn requires the plant to utilize a lot of water and fertilizer while native landscape plants in the Midwest need no watering or fertilizers once established. This is partly due to the fact that 80 percent of the plant mass for native plants is underground. This tremendous root structure can breakdown pollutants effectively and the deep tap roots can absorb water efficiently even in drought conditions where the upper soil levels are dry.



The Niles Rain Garden site lies within a sensitive regional watershed, on the North Branch of the Chicago River, which covers over 44 square miles in Cook County, and over 50 square miles in neighboring Lake County. The Metropolitan Reclamation District of Greater Chicago is implementing a watershed management plan throughout the region to focus on improving water quality. The plan calls for a watershed action plan which includes best management practices such as rain gardens and bio-swales because potentially polluted stormwater runoff can have local and regional impacts. The runoff leaving the Niles Rain Garden site will eventually make its way to the Illinois River, which flows into the Mississippi River and is ultimately released into the Gulf of Mexico. Coca-Cola and the Village of Niles wanted to do their part by implementing an extremely sustainable solution while creating an appealing, pedestrian friendly park in a highly urbanized area.

CONTACT

Mr. Steven Virezeano
Village of Niles
847.588.8007

SIMILARITIES TO YOUR PROJECT

- Rain Garden
- Landscape Design
- Stormwater Management



Business District Watershed Analysis Fort Dodge, Iowa

The City of Fort Dodge currently experiences drainage issues in the form of localized flooding and storm sewer pipe surcharge in the area surrounding the Crossroads Mall. The City retained SEC / HR Green to complete a watershed study and develop concept level Best Management Practices (BMP) and storm sewer solutions to address the flooding issues, as well as improve water quality. The watershed examined encompasses approximately 577 acres of commercial and industrial land – including approximately 225-acres of impervious surfaces.

Multiple drainage alternatives were examined with the purpose of informing the City of options to improve drainage in the watershed and protect property from nuisance flooding. The City and SEC / HR Green selected an approach which included some new conveyance, but an increased focus on BMP to provide rate control and reduce storm sewer conveyance needs.

The existing Fort Dodge drainage system in the area of the Crossroads Mall was analyzed using XP-SWMM. The existing sewers draining to multiple outlets are interlinked, requiring the use of an unsteady state method (such as XP-SWMM) to divide the flow among the different outlets. This method also detected changes in flow direction (opposite the slope of the pipe) under flood conditions as certain portions of the system reach or exceed their capacity. In the development of the proposed conditions options additional interlinking pipes were added to make better use of underutilized portions of the system and storage locations were added to reduce peak flows and minimize the size of the new sewers required to relieve the flooding. Multiple configurations of storage locations and new sewers were evaluated to determine the best combination and to work around property constraints.

SEC / HR Green conducted several meetings with City staff and presented the concept level information to the public. One of the challenges of the public meeting included the balance of competing desires between various business land-owners in the area. While each owner agreed the flooding issue needed to be resolved, selecting the BMP locations is challenging. SEC / HR Green is currently working with the City staff, City Council, and business owners to develop the appropriate alternative for final design and construction. It is anticipated that Final Design will be completed by July 2011.

CONTACT

Mr. Chad Schaeffer
City of Fort Dodge
515.576.3601

SIMILARITIES TO YOUR PROJECT

- Drainage Improvements
- Green Approach
- XP-SWMM Modeling





Lake in the Hills Fen Conservation Area Master Plan McHenry County Conservation District – McHenry, Illinois

This 234 acre site contains sensitive features including a fen, creek and wetlands. SEC / IIR Green analyzed the opportunities and constraints of these features and assessed the feasibility of site improvements to limit impact upon native plant and wildlife communities.



SEC/HR Green conducted public meetings with District staff, stakeholders and coordinated with government agencies to elicit comments regarding site use and Master Plan development. Using this feedback SEC/HR Green prepared a Comprehensive Master Plan Report to accommodate the community's increased demand for open space concurrent with the District's preservation efforts. It documented site analysis, a wetland delineation, master plan, estimates of cost, and management implementation guidelines. The plan included a rain garden, shelter, trails, educational signage and parking. Ultimately, SEC/IIR Green prepared construction documents and assisted in the project bidding.

CONTACT

Ms. Amy Peters
McHenry County Conservation District
815.338.6223

SIMILARITIES TO YOUR PROJECT

- Green Approach
- Rain Garden Solution





Weeks Park Watershed Plan DuPage County, Illinois

DuPage County retained SEC / HR Green to investigate the Weeks Park watershed and to prepare plans to improve drainage patterns within the site. The client's primary concern is that the ditch in the unimproved Mellor Road Right-of-Way did not have adequate slope and did not dry out properly after the storm has passed. This project included improvements to the ditch drainage system, the stormwater lift station (SCADA), delineation of wetlands within the watershed and preparation of plans for all improvements. Construction level engineering plans and specifications are being prepared to incorporate cost-effective and environmentally sound solutions to improve stormwater conveyance, water quantity and water quality problems that had been identified within the project boundaries. A combination of ditch regarding and new sewer was designed to improve the drainage.

SEC conducted field surveys to establish benchmarks, determine the physical locations of all existing improvements and utilities, and to develop base map information in preparation for final design.

XP-SWMM and FEQ hydrologic and hydraulic computer modeling was completed for both existing and proposed conditions to ensure the proposed improvements would alleviate the drainage problems being experienced in the watershed. The unsteady state method was required in order to divide the flow between the re-graded ditch system and the new sewer provided below it. Properly accounting for the revised ditch capacity allowed SEC / HR Green to minimize the size of the new sewers required. The FEQ analysis was also used to document that improved drainage at Weeks Park would not result in increased flooding at other locations upstream or downstream of the improvement.

A wetland report and analysis was conducted which detailed potential wetland impacts and required wetland avoidance per the guidelines set forth by the County of DuPage and the Corps of Engineers. The wetland delineations were reviewed and concurred to by the County's wetland experts.

Como Student Housing – Parking Lot E University of Minnesota – St. Paul, Minnesota

The University of Minnesota (UMN) retained SEC / HR Green to reconstruct two of the parking lots at the Como Student Housing site. Complication to the project included poor site drainage due to area development and an insufficient stormwater sewer system. The project also had to meet the UMN's strict stormwater management requirements – runoff from the site could not exceed pre-settlement conditions.

After considering several options along with their related costs and maintenance requirements, HR Green and the UMN decided to reconstruct the parking lot using permeable pavers. This Best Management Practice resulted in a 95% reduction in impervious pavement. Almost all the stormwater runoff will be infiltrated and temporarily stored in the ground

CONTACT

Mr. Greg Phillips
DuPage County Department of
Environmental Concerns
630.407.6679

SIMILARITIES TO YOUR PROJECT

- XP-SWMM Modeling
- Rain Garden Solution

CONTACT

Mr. Jerald Erickson
University of Minnesota
612.378.2434

SIMILARITIES TO YOUR PROJECT

- Permeable Pavers



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under the parking lot, thus eliminating over 95% the stormwater runoff going into the existing storm sewer system. HR Green is working with the UMN to reduce city stormwater fees by applying for a stormwater credit with the City of Minneapolis.





Statement of Project Understanding

Project Understanding

The proposed scope of services, associated fees, and deliverables required are based on the Request for Proposal (RFP) dated December 22, 2010.

The services required for this project are to include survey, design, bid/construction document preparation, permitting, and construction observation services for Phase I of the Woodlands Infrastructure Project. Topographic Survey and Geotechnical Services shall be included for the entire Woodlands area within this proposal. Phase I includes an area bounded by the east right-of-way (ROW) of County Line Road to the west; the west ROW of I-294 to the east; the drainage divide north of 7th Street to the north; and the north ROW of Woodland Ave. to the south. The Phase I proposed improvements include storm water management utilizing the previously prepared Woodlands Green Initiatives for Stormwater Management Feasibility Study dated December 2009 as a guide, water main replacement and system modeling, sanitary sewer rehabilitation and selective replacement, roadway milling, patching and resurfacing, and Portland Cement Concrete edge treatment. Also included are permitting and coordination with various agencies, preliminary and final opinion of construction cost estimates for Phase I, pre-design opinion of construction cost estimates for Phase II & III for budgetary purposes, and support for an Illinois Green Infrastructure Grant (IGIG) application for Phase II.



It is understood that funding for the proposed improvements will be provided by the Village through bonding, grants and special service assessment (SSA) with the SSA being utilized for approximately 40% of the roadway improvements. An IGIG from the Illinois Environmental Protection Agency (IEPA) is anticipated to fund the storm water management improvements.

Design Criteria/Assumptions

The plans will be prepared in accordance with standard design guidelines from Illinois Department of Transportation (IDOT) Standards for Road and Bridge Construction, IDOT Bureau of Local Roads Manual, Policies and Procedures, and Illinois Environmental Protection Agency (IEPA) policies, applicable policies and ordinances for the VILLAGE OF HINSDALE, Plagg Creek Water Reclamation District, Illinois State Toll Highway Authority (ISTHA), MWRDGC and Dupage County Stormwater Ordinance.

Project Approach – Scope of Services

Per the Scope of Services as outlined on page 7 of the RFP, SEC / IIR Green will provide the following professional services:

- Water Main Replacement Services
- Sanitary Sewer Services
- Roadway Services
- Stormwater Services
- Cost Estimates for Phases I, II, and III Projects
- Geotechnical Investigation Services for Phases I, II, III





- Topographic Survey for Phases I, II, and III
- Permitting
- Construction Documents
- Meeting/Presentation Participation
- Landscape Architecture Services—Stormwater Green Initiatives
- Construction Observation

The following pages, outlines in greater detail our specific approach to providing the services mentioned above.

Water Main Replacement and Sanitary Sewer Services

HR Green will develop water main and sanitary sewer construction documents. In doing so, SEC / HR Green shall prepare the Contract Plans and Specifications for the utility improvements associated with the Woodlands Infrastructure Project, Phase I. Our proposal is based on the following:

- i. Within Phase I project limits approximately 6,100 lineal feet of 6" and 8" water main shall be replaced with 8" and 10" diameter water main. Size and material of both the existing water main and the proposed replacement shall be determined through water system modeling and confirmed by the VILLAGE OF HINSDALE prior to design and plan preparation.
- ii. SEC / HR Green will model the Woodlands Water System. It is assumed that a calibrated model previously prepared by others will be made available to use by SEC / HR Green. SEC / HR Green, assuming static conditions, will evaluate fire flows and pressures throughout the Woodlands System under current and future flow conditions. Elevation data obtained during the design topographic survey will be used where available and existing contour information outside the Phase I area will be used to spot check elevations throughout the subdivision.
- iii. The special provisions and details for the water main installation shall be based on standard open cut methods in order to allow for disconnection and reconnection of the existing water service lines. Specifications and details for trenchless water main construction shall be included for select segments if it is determined by SEC / HR Green to be the most efficient method of construction due to project constraints.
- iv. Approximately 2,900 lineal feet of 10" and 12" diameter combined sewer located within the Phase I project limits shall be lined with cured-in-place pipe (CIPP) lining construction materials. It is anticipated that a small portion of the sewer shall be removed and replaced in conjunction with the rehabilitation improvements. SEC / HR Green shall provide specifications and details for bidding and construction of proposed sewer lining and reconstruction improvements. Based on similar project experience, it is not anticipated that a permit from the IEPA will be necessary for lining or 'in kind' repair and therefore these services are not included herein. It is assumed that lining of individual sewer service lines or portions thereof will not be included in this project.
- v. Location of the existing storm drain and sanitary service connections shall be coordinated with the VILLAGE OF HINSDALE prior to design. Electronic Video TV inspection is anticipated to be required to supplement the design of CIPP lining and sanitary sewer reconstruction of the





combined sanitary sewers within Phase 1. Sub-consultant services have been provided in this contract/proposal for video inspection.

- vi. Upon review of the field records and the TV Video documentation, it is expected that those connections which are unable to be deciphered as either storm or sanitary will require field dye testing by others for further verification. No services have been provided for dye testing, as it has been assumed that the VILLAGE OF HINSDALE's maintenance crews are qualified to perform verifications as needed.
- vii. SEC / HR Green shall prepare and submit the required water main construction permit applications and associated support calculations to the Illinois Environmental Protection Agency (IEPA).

Roadway Services

SEC / HR Green will provide roadway design associated with the Woodlands Infrastructure Project, Phase I. The following services associated with the roadway improvements will be provided:

- i. Within the area specified in the Project Understanding section the proposed improvements include approximately 6,150 feet of existing rural residential streets;
- ii. Data collection, topographic survey as detailed below;
- iii. Existing utility information shall be developed from the above ground facilities picked up by the topographic survey, painted utility locations, and information acquired from the utility owners (utility atlas);
- iv. Project specifications and special provisions;
- v. The pavement within the limits of the roadway improvement shall be milled and resurfaced or replaced to full depth where trenching operations for storm sewer, sanitary sewer, or water main are required. Pavement conditions within the project limits will be evaluated and full-depth patching will be included as determined to be required by the SEC / HR Green and per VILLAGE OF HINSDALE suggestion. Improvements at intersections shall extend to cross street radius returns. Access to driveways shall be maintained during the course of construction;
- vi. Existing driveway pavement, sidewalk (if existing), and trees shall remain undisturbed, unless conditions require otherwise, per field inspection by the SEC / HR Green and/or direction from the VILLAGE OF HINSDALE;
- vii. Modifications to the roadway geometry are not anticipated to be required;
- viii. Geotechnical investigation is included within this contract by a sub-consultant of SEC / HR Green. This work is anticipated to include a total of fifteen (15) soil borings taken for Phase I, II, & III. Exact location shall be determined during the design portion of this project. The borings are anticipated to be required to a depth of twenty (20) feet and are for the purposes of determining suitable soils for storm water permeability and related construction;
- ix. It is anticipated that the improvements shall be built within the existing right of way. No additional right-of-way or easements are anticipated to be required;
- x. No structural elements are anticipated to be required (bridges, retaining walls, box culverts, etc.) and have not been included in this proposal;





- xi. An environmental review and analysis is not required and the improvements are not foreseen to involve environmental issues (wetlands, contaminated soils, floodplains, etc.). These items are not included in this proposal;
- xii. It is understood that impacts to existing trees foliage are undesirable and to be avoided. SEC / HR Green will provide design components and specifications which minimize the impacts to the existing landscape while providing the infrastructure improvements required/desired.
- xiii. Lighting and traffic signal improvements are not required and have not been included in this proposal;
- xiv. Pavement marking plans shall be combined onto the plan drawings as necessary in accordance with IDOT BLR guidelines. Separate pavement marking drawings are not included in this proposal;
- xv. Erosion control plans are anticipated to be combined onto the drainage plan/profile drawings. Separate erosion control drawings are not included in this proposal; and
- xvi. Administration and Project Management.

Stormwater Services

As noted in the RFP, the Village of Hinsdale desires to incorporate a "Green" approach to the stormwater management infrastructure in the Woodlands neighborhood. The "Green" approach is generally outlined in a feasibility report titled "Woodlands Green Initiatives for Stormwater Management Feasibility Study" dated December 2009 and prepared by Clark Dietz, Inc. and Huff and Huff, Inc. Although, the above referenced report will be utilized for the design, it must be noted that the feasibility report addresses the practicability of the green approach for the Woodlands neighborhood and is merely a collection of available tools to be used in the design. It must also be noted that the proposed project area under the RFP extends beyond the 7th Street Drainage that was utilized for a more in-depth look in the report. It is therefore necessary to revisit the work completed during the preparation of the feasibility report and prepare a detailed design model of the project area, including the same design principles as were used in evaluation of the 7th Street Drainage Basin, and utilizing more detailed topography and geotechnical investigations, which will be completed as part of this project.

SEC / HR Green will provide stormwater services associated with the Woodlands Infrastructure Project, Phase I based on the above understanding. Specifically, SEC / HR Green will provide the following services:

- i. Confirm watershed boundaries delineated in the feasibility report based upon detailed topography.
- ii. Evaluate soil borings and infiltration rates prepared by the geotechnical consultant and confirm its applicability to the assumptions made in the feasibility analysis XP-SWMM model completed during the previous study performed by Clark-Dietz for the Village of Hinsdale. It is assumed that the Village will make digital copies of the aforementioned XP-SWMM model available to SEC for utilization in the design.
- iii. Utilizing the XP-SWMM model completed previously, revise model to reflect design as modified using detailed topography and soils infiltration rates. SEC will also extend the model to the limits of the project included in the RFP.
- iv. Attend a meeting with the Village Staff to present the findings and the revised drainage prior to proceeding with contract plans.





- v. Incorporate revised design including design specifications, soil erosion and sediment control plan and details in the contract plans. Prepare an operation and maintenance plans for the various best management practices and green approach utilized in the final design including but not limited to rain gardens, bio-swales, permeable pavers, and D-Raintank® systems by Atlantis™.
- vi. Landscape Architecture services for planting plans, etc. as detailed under Landscape Architecture Service section under additional services.

Additional Considerations for Stormwater Management Design

Although, SEC / HR Green recognizes that significant effort has been expended in preparing the feasibility report, there may be additional considerations that will be beneficial in potentially impact overall project costs while still complying with the green approach principle and permitting requirements. Some of these design considerations may include:

1. Design frequency and duration versus benefit/cost analysis;
2. Alternative underground storage systems that may be more cost effective and still provide intended infiltration in underlying native soils;
3. Reevaluating drainage from both sides of the road in a crowned road and how it will be managed with storage proposed on one side of the road, etc. This is particularly true for figures 9 and 10 provided in the feasibility report.
4. Also, it must be noted that assuming deep rooted vegetation within the rain garden, which can extend as deep as 10', having a storage component directly underneath may not be feasible. The proposed cross-section in figure 10 of the feasibility will need to be revisited. An alternate can be to move the storage chambers underneath the road or longitudinally outside of the rain garden footprint.
5. Groundwater table. It is assumed that the water table is below the proposed storage elevation. If water table is shallow, it may impact the available storage contemplated as being available in the feasibility report.
6. It is also assumed that there are no wetlands within the project limits and no wetland permitting is required.

Cost Estimate for Phase II and III Projects

SEC/HR green will develop pre design Opinion of Probable Cost Estimates for Construction Costs, design engineering, and construction observation for future Phases II and III. It is our understanding that the Cost Estimates are to be utilized by the VILLAGE for pre-design budgetary purposes.

Geotechnical Services

SEC / HR Green will add a subcontractor to the project team that best aligns with the goals of the project to provide geotechnical engineering services. It is anticipated, the subcontractor will provide services for fifteen (15) borings at an average depth of 20' including infiltration rates as associated with the Phase I, II, & III improvements.

Topographic Survey

SEC / HR Green will provide the topographic survey services associated with the Woodlands Infrastructure Project, Phase I which will include the following:

- i. **Right of Way**—SEC / HR Green shall locate the existing right of way of the public streets lying within the yellow colored boundary on the exhibit entitled "Figure 3. Woodlands Neighborhood Sub-





- basins" included within the RFP dated December 22, 2010 with the exception of any part of County Line Road and 55th Street. The total length of the included streets is approximately 7,200 feet for Phase I and 13,900 feet for Phases II & III. SEC / HR Green shall calculate the existing right of way based on found monuments and documentation. Preliminary fieldwork will be done using adjoining subdivision plats, tax maps and deeds.
- ii. **Topographic Survey** – SEC / HR Green shall perform a topographic survey of the public streets lying within the yellow colored boundary on the exhibit entitled "Figure 3. Woodlands Neighborhood Sub-basins" included within the RFP dated December 22, 2010 with the exception of any part of County Line Road and 55th Street. The total length of the included streets is approximately 7,200 feet for Phase I and 13,900 feet for Phases II & III. The survey shall only extend to the existing right of way on both sides of the street and include cross-sections at fifty (50) feet intervals. In addition, the survey shall also include small sections of topography on private property limited to the side yards for residences 707-723 Taft and 720-736 Wilson; side yards for residences 811-805 Taft and 806-814 Wilson; side yards for residences 651 Dalewood, 705 McKinley, 700 Taft, and 707 Seventh; the south portion of residence 995 between Cleveland and Harding/Taft/55th intersection; side & backyards of 708, 712, & 730 Woodland and 955 Taft; Greenspace/Woodland Park area east and south of Harding Road. COMPANY shall locate visible manhole structures and provide invert depths and pipe sizes (where possible) on public storm sewers, sanitary sewers and watermain utilities located within the limits specified above. COMPANY shall attempt to map the underground utilities within the limits specified above based on best available information (i.e. Julie markings, Village Atlas, etc.). Trees six (6) inches or larger in diameter lying within the limits specified above shall also be located and shown on the survey, but species shall not be identified. Elevations shall be referenced to the Hinsdale benchmarks, which are on the NAVD 88 vertical datum. Coordinates shall be tied to the Illinois State Plane, East Zone (NAD 83) Coordinate System.
- iii. **Topographic Survey Drawing** – The final drawing shall depict existing visible improvements within the areas described above, as well as street names, house numbers and the existing right of way lines as determined by SEC / HR Green. The final drawing shall be incorporated into the Engineering Plans to be prepared by SEC / HR Green. The drawing shall be completed in Microstation V8 with data processed in GEOPak. Because the topographic data collected will be used specifically for in-house design, a Topographic Survey Plat will not be prepared and therefore is not included within this contract.

Permitting

The project limit is located in the corporate limits of the Village of Hinsdale. The Village has adopted the DuPage County Stormwater Ordinance across the entire Village. In addition, the outfall from the project is to a ditch system along Interstate 294, which is under the jurisdiction of Illinois State Toll Highway Authority (ISTHA). Finally, Village of Hinsdale is also governed by rules and regulations of Metropolitan Water Reclamation district of Greater Chicago (MWRDGC). As such SEC will coordinate. Prepare and submit permit applications to these various agencies noted above. SEC envisions a pre-application meeting/correspondence with the above agencies early on during the project to establish and obtain concurrence on design guidelines, permit submittal requirements, and permit review turnaround times. Using a pre-application meeting at the onset of the project generally leads to improve communications with the permitting agencies and reduce surprises in regards to project schedules.





SEC will prepare and submit to the Illinois Environmental Protection Agency (IEPA) Division of Public Water Supplies Permit for the Phase I water main construction.

The existing combined Sanitary/Storm Sewer is tributary to and subject to the Flagg Creek Water Reclamation District review. SEC intends to coordinate with the FCWRD via a pre-application meeting/correspondence with the early in the project design to establish and obtain concurrence on design guidelines, permit submittal requirements, and permit review turnaround times. SEC shall prepare and submit the applicable permitting associated with the rehabilitation of the sanitary sewer.

Additionally, SEC shall prepare and submit to the IEPA the Notice of Intent and Notice of Termination for the proposed project improvements.

Construction Documents

SEC / HR Green will provide contract plan/specification preparation services and bidding associated with the Woodlands Infrastructure Project, Phase I. Within the area specified in the Project Understanding section the proposed improvements include approximately 6,150 feet of existing rural residential roads; 6,100 feet of 8" and 10" diameter watermain; 2,900 feet of 10" and 12" diameter sewer; and stormwater management treatments including green initiative type of infrastructure. The following services associated with the project contract plan/specification preparation and bidding assistance will be provided:

- i. Contract Plans (including roadway, sanitary, water, stormwater, landscaping, and soil erosion and sediment control plans);
- ii. Project specifications and special provisions;
- iii. Utility coordination;
- iv. Geotechnical Engineering Services (sub-consultant) as detailed herein under additional services;
- v. Review Geotechnical Report (as prepared by sub-consultant) for locations as detailed herein;
- vi. Storm Water Pollution Prevention Plan submittal to IEPA;
- vii. Develop pay items and schedule of quantities;
- viii. Engineer's Opinion of Probable Construction Cost (EOPCC) preliminary and Final for Phase I;
- ix. Engineer's Opinion of Probable Construction Cost (EOPCC) preliminary only for Phases II & III.
- x. Estimate of Time (EOT) for construction schedule estimate for Phase I;
- xi. Coordination with ISTHA, IEPA and other required Agencies;
- xii. Disposition of review comments;
- xiii. Quality Control;
- xiv. Three (3) bid/construction document submittals have been included in this proposal for the VILLAGE OF HINSDALE – preliminary (60%), pre-final (90%) and final (100%). Pre-final (90%) and Final plans (100%) shall be submitted to FCWRD, MWRDGC, IEPA, Illinois Toll Highway Authority (as applicable), and DuPage/Cook Counties (as applicable) and for approval. A Local Letting is anticipated for this project and services are included as indicated herein. DuPage/Cook County review is not anticipated to be required and is not included in this proposal.





- xv. SEC / HR Green will assist the VILLAGE OF HINSDALE in advertisement for bid. It is assumed that the fees for advertisement are not included in this contract proposal but are to be paid for by the VILLAGE OF HINSDALE as a reimbursement or directly.
- xvi. SEC / HR Green will attend one (1) bid opening meeting at the VILLAGE OF HINSDALE and provide bid evaluation input and a recommendation of award to the VILLAGE OF HINSDALE.

Meeting/Presentation Participation

SEC / HR Green shall prepare meeting minutes and distribution to meeting attendees. The required number of meetings is estimated as noted below for the purposes of said proposal scope and fees. The meetings may differ from this proposal as directed by the VILLAGE OF HINSDALE and are subject to additional compensation per approved addendum.

- Nine (9) Monthly meetings with the VILLAGE OF HINSDALE at EPS Committee meeting;
- One (1) meeting with IEPA
- One (1) meeting each with MWRDGC and FCWRD
- One (1) Pre-Bid meeting and bidding period services;
- For construction related meetings see Construction Observation section on page 50.



This task also involves the management oversight of the project which will include the on-going review of the project design, schedule and budget, contract file management, general coordination and correspondence between SEC / HR Green, the VILLAGE OF HINSDALE, the review agencies, and subcontractors.

Landscape Architecture Services –Stormwater Green Initiative Services

As the stormwater management design will incorporate “green initiatives” utilizing rain gardens, landscape architecture services are required to prepare a landscape planting plan. SEC / HR Green will use in-house professionals to provide landscape architecture services that will be evolving throughout the course of this project. Specifically, some of the areas that will require landscape architecture professionals include the following:

- i. ***Conceptual Planting Plans*** –SEC / HR Green will prepare conceptual planting plans for the Rain Garden areas to be reviewed by the VILLAGE OF HINSDALE. This will include a detailed plant palette.
- ii. ***Construction Documents*** –SEC / HR Green will then prepare Construction Documents for the rain garden areas and make one (1) submittal including necessary calculations and an estimate of probable cost, specifications, and details. The drawings will specifically address the following:
 - ✓ ***Landscape Design Analysis*** –SEC / HR Green’s landscape architecture and planning staff will review the existing and proposed site conditions including soil borings as well as utilities in preparation for laying out the landscape design. SEC / HR Green will then prepare a design that will coordinate with the engineering design illustrating the landscape planting incorporating Best Management Practices.
 - ✓ ***Rain Garden Planting Design*** –Typically consists of deep water emergent and/or shallow water emergent plug communities, and the establishment of wet/mesic communities along side slopes for slope stabilization. Proper design including species diversification, plant spacing, and coverage will be imperative to the success of the filtration system.
 - ✓ ***Plant Palette*** –Typically consists of native plant materials where possible that are well



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adapted to the locale in order to:

- Facilitate infiltration and cleansing of the storm water runoff
- Provide food and habitat for native wildlife
- Decrease or eliminate water needed for irrigation of landscape plants
- Minimize long-term maintenance
- Stabilize slopes and protect the downstream water quality by controlling soil erosion



- ✓ **Maintenance Specifications** – SEC / HR Green will prepared as part of the Construction Documents as the Rain Garden areas' success relies on a consistent schedule of maintenance and weed control. Specifications will include language addressing:

- Site and bed preparation
- Planting schedules
- Planting methods
- Post planting maintenance schedule

Construction Observation

SEC / HR Green propose the following Construction Observation services as included in our proposal:

- i. **Project Startup** – SEC / HR Green will contact the residents and businesses within the construction zone and provide project and contact information to the residents and business. SEC / HR Green will also contact and or meet with the school district, and emergency services to ensure that all entities are aware of the project.
- ii. **Construction Observation** – SEC / HR Green will provide **full-time** construction observation services at a time and material basis not to exceed the amount listed herein. Note that the part-time construction observation services are based on an estimated 130 working days to complete the construction. SEC / HR Green will observe and verify that items being constructed and materials being utilized are in general conformance with the approved project plans and specifications. Additionally, construction observation services will include the following:
 - ✓ SEC / HR Green will complete Inspector's Daily Reports (IDR) and a daily diary, measure and document contract quantities, complete payment estimates, change orders, and weekly reports. Weekly reports will be submitted to the contractor and the VILLAGE OF HINSDALE. SEC / HR Green will verify that all materials incorporated into this project are IDOT approved materials and in accordance with the project Special Provisions. SEC / HR Green shall keep the VILLAGE OF HINSDALE informed of the progress of construction and update the VILLAGE OF HINSDALE on weekly basis.
 - ✓ SEC / HR Green in conjunction with the VILLAGE OF HINSDALE staff will review the condition of the traffic control once daily. Traffic control reviews will be completed for the construction zone.
 - ✓ SEC / HR Green will provide erosion and sedimentation control observation services on a weekly basis and after a rainfall of ½" or more or 6" or more of snow. SEC / HR



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Green will document each observation and will direct the contractor to repair and/or replace deficient erosion and sediment control measures.

- ✓ SEC/ HR Green will provide construction observation to ensure the Rain Gardens are constructed properly.

- iii. **Meetings** – SEC / HR Green will attend the preconstruction meeting with the VILLAGE OF HINSDALE, the contractor, subcontractors, emergency services, and any affected utility companies. SEC / HR Green anticipates that there will be weekly construction meetings (twenty-seven total meetings anticipated) with the VILLAGE OF HINSDALE, the contractor, and subcontractors. These coordination meetings will begin after the start of construction. SEC / HR Green will complete an agenda and meeting minutes for each construction meeting. Upon completion of the meeting minutes, SEC / HR Green will distribute the meeting minutes to all entities.
- iv. **Administration/Coordination** – This task will involve the management oversight of the project which will include the on-going review of the project execution, documentation, schedule and budget, contract file management, and general correspondence between SEC / HR Green, the VILLAGE OF HINSDALE, the contractor, and subcontractors.
- v. **Project Close Out** – SEC / HR Green will add all field notes and construction information accumulated during the construction of the project to the electronic construction files to create a construction notes sheet.



Services Not Included

SEC / HR Green has proposed an approach/scope of services that aligns to the Village of Hinsdale's RFP. As the Woodlands Infrastructure Improvements Project Phase I unfolds, additional services could potentially be needed. SEC / HR Green is a full service firm with specialized professionals available at a moment's notice if the need arises. Our scope of services outlined in this section and engineering fee estimate does not include the following:

- i. Permit fees as applicable;
- ii. Environmental studies including Abbrev. Phase I Report*;
- iii. Location Drainage Study services*;
- iv. Structural design services*;
- v. Floodplain analysis/study service*;
- vi. Wetland delineation/mitigation services*;
- vii. Right of way and easement plat preparation*; and
- viii. Construction staking and layout*.

*SEC / HR Green can provide services as required with addendum to Agreement.





Time

Schedule

It is our understanding that the Village of Hinsdale desires to achieve the proposed infrastructure improvements for this project within this construction season. The SEC/HR Green project approach incorporates all facets of the project from technical nuisances to permitting and agency coordination. Our team has the experience to effectively and efficiently guide you through the process and successfully achieve the project objectives.

SEC / HR Green propose the following schedule for the Woodlands Infrastructure Improvements Project Phase I:

Design Notice to Proceed.....	March 1, 2011
Topographic Survey	March 1- April 1, 2011
EPS Committee/Staff Meetings.....	May thru October 2011
Geotechnical Investigation.....	April 1, 2011
60% Submittal to CLIENT/IEPA/FCWRD/MWRD	May 27, 2011
Receipt of Comments.....	June 24, 2011
90% Submittal to CLIENT/IEPA/FCWRD/MWRD	July 22, 2011
Permit Submittals for Stormwater.....	July 22, 2011
Receipt of Comments from Village Staff.....	August 5, 2011
100% Submittal to CLIENT/REVIEW AGENCIES.....	August 26, 2011
Stormwater Permit Approval	September 2011
IEPA Division of Public Water Supplies Construction Permit	September 2011
Local Bid Opening.....	October 28, 2011
Construction Contract Approval.....	February 2012
Construction Start.....	April 1, 2012
Underground Utilities Substantial Completion.....	June 30, 2012
Roadway Reconstruction Start.....	July 1, 2012
Green Initiative/Streetscape/Landscape Start	August 15, 2012
Project Anticipated Completion	October 5, 2012

SEC / HRG estimates 110 working days within 2012 construction season for project construction.

This schedule was prepared to include reasonable allowances for review and approval times required by the CLIENT and public authorities having jurisdiction over the project. This schedule shall be equitably adjusted as the project progresses, allowing for changes in the scope of the project requested by the Village of Hinsdale or for delays or other causes beyond the control of SEC/HR Green.

Staff Availability

Our team's qualifications and resources would be of little value to this project unless they can be fully committed to the required tasks at hand. As such, we are already scheduling key team members to make them available to your project. We understand the importance of maintaining the project schedule and are willing to assign the staff necessary to meet these commitments. Even with our projected workload, our team has the capacity and ability to complete the design and engineering services required for the Woodlands Infrastructure Improvements Project Phase I.





Woodlands Infrastructure Improvements Project Phase I Village of Hinsdale

Engineering Fees

The SEC / IIR Green agrees to provide the proposed services as outlined in this proposal and summarized in the table below to the VILLAGE OF HINSDALE on the following basis: time and material basis with a "Not to Exceed" fee of \$ 312,670.00.

ITEM	MAN-HOURS	LABOR COST	DIRECT COST (1)	SUB CONSULTING
Design, Bid/Construction Document Preparation			\$ 600.00	
Roadway Infrastructure	512	\$ 50,440.00	\$ 200.00	
Water Infrastructure & Permitting	174	\$ 16,730.00		
Sanitary Sewer Infrastructure (2)	41	\$ 4,090.00		\$ 5,000.00
Storm water Green Initiative Design and Details	151	\$ 15,995.00		
Storm Water Analysis & Permitting	208	\$ 23,850.00		
Cost Estimates	30	\$ 3,385.00		
Geotechnical Investigation (Phases I, II, & III)				\$ 12,500.00
Topographic Survey				
Phase I Topographic Survey	198	\$ 16,650.00	\$ 920.00	
Phase II & III Topographic Survey	268	\$ 23,005.00		
Permitting (See Above)				
Meetings & Presentations	74	\$ 7,960.00	\$ 215.00	
Construction Observation				
Field Observation (3)	1065	\$ 106,625.00	\$ 3,000.00	
Meetings/Documentation/Coord.	151	\$ 15,505.00		
Material Testing: (Sub-Consultant budgetary #)	n/a			\$ 6,000.00
Subtotals:	2,872	\$284,235.00	\$ 4,935.00	\$ 23,500.00
	Contract Total:		\$ 312,670.00	

(1) Direct Costs Detail: Includes Postage, Mileage for Meetings/Field Visits, and Plotting Costs

DIRECT COST DETAIL	COST
Mileage: Combined Trips for Survey, Meetings, Construction Observation (miles/round trip x \$0.51/mile)	= \$ 4,135.00
Printing: Detail breakdown provided upon request	= \$ 600.00
Postage:	= \$ 200.00
	<u>\$ 4,935.00</u>

(2) Sub-Consultant for Combined Sewer Video TV Services – Phase I

(3) Full Time Construction Observation Services are based on estimated 130 working days during the 2012 construction season.



Why SEC / HR Green?

SEC / HR Green is passionate about enhancing the livability of our communities. Each person probably has a slightly different definition of livability, but in general livability is about quality of life and safety of one's surroundings. This includes addressing infrastructure improvements through better planning and design, maximizing and expanding new technologies, such as the use of green solutions that provide the needed results in a non-evasive way. Our infrastructure improvement approach discussed in this document, are right in line with this definition. Our team brings the following assets to this important project:

- **Experience of the Team**—A multi-discipline team that can hit the ground running and require little ramp up time. This team understands the goals of stormwater management, water main, sanitary sewer and roadway infrastructure engineering.
- **Capacity to Meet Deadlines**—Our staff depth and experience affords us the ability to adapt to changing situations as the public input is gathered and the issues and goals become more defined. We have the ability to apply more resources in a moment's notice if necessary to keep the project on schedule or fill a gap in a newly discovered area of expertise.
- **Project Management**—SEC / HR Green has already begun discussing the Woodlands Infrastructure Improvements Project Phase I and Scott Creech, your assigned Project Manager has personally met with several of the lead professionals to begin working on solutions. Scott has a dynamic rapport with both his clients and his project team which will benefit with regard to the performance and delivery of this project. As Project Manager, Scott will become a vital extension to your community and make sure that the infrastructure improvements are in the best interest to the Village of Hinsdale and the affected stakeholders.
- **Local Knowledge**—SEC / HR Green has previously been working together with the Village of Hinsdale to enhance the Village of Hinsdale. Our proposed project team comprises of professionals who already understand the goals and objectives that the Village sees as important. Our team has a successful working relationship with the Village of Hinsdale and understands the procedures of the Village.



In conclusion, we believe that SEC / HR Green's range of experience and capabilities in stormwater management (including "green solutions"), water main, sanitary sewer and roadway infrastructure engineering as well as construction observation will provide you with expertise necessary to achieve your goals. While all of the above considerations are important ingredients in the project's success, nothing is as important as dedication and personal commitment to your needs; and you have that commitment from the SEC / HR Green team.



SEC Group, Inc./An HR Green Company
323 Alana Drive
New Lenox, IL 60451





JAMES J. BENES AND ASSOCIATES, INC.
CONSULTING ENGINEERS

February 4, 2011

Mr. Daniel M. Deeter, P.E.
Village Engineer
Village of Hinsdale
19 East Chicago Avenue
Hinsdale, IL 60521-3489

Dear Dan:

At your request, we have updated our proposal for engineering services to reflect your review comments of January 31. Your comments and our response follows:

1. The Village's preliminary construction estimate for this project is +/- \$4.6M. Your proposal for design and construction engineering would be +/- 5% of the construction costs. Were you able to accomplish your previous similar projects, for example: the 2007 Lisle Downtown Sewer and Water Main Improvements, 2009 Wood Dale Central Avenue Improvements using similar engineering-to-construction cost ratios?

We significantly underestimated the scope of the proposed work for the roadway and rain garden improvements. The Lisle Sewer and Water Main Improvements engineering fees as a percentage of construction costs were 5.5% for design and 8.5% for construction. The Wood Dale roadway improvements engineering fees as a percentage of construction costs were 3.1% for design and 5.1% for construction. The higher fees for the Lisle project were due to the complexity of working in the central business district, while the Wood Dale project was located in a residential neighborhood. We intended to be between 8.0% and 8.5% of construction costs for the Woodlands Infrastructure Phase 1 project.

2. The geotechnical survey cost should include surveying all three phases. This survey should include determining the infiltration rates/modeling ground water flows. Previous soil borings (circa 1960's) identified permeable soils within 10-feet of the surface on the east side of the Woodlands. Some deeper soil borings may be necessary on the west side of the Woodlands.

The proposal has been revised to include 36 in-pavement borings and 16 off-pavement borings for the proposed rain gardens, in all three phases. The roadway borings were increased in depth and it was assumed there would be 12 borings at 20 feet to the west, 12 borings at 15 feet in the middle and 12 borings at 10 feet to the east. The proposal has also been revised to include costs for determining neighborhood infiltration rates and modeling ground water flow.

3. I would like to elaborate on where the major drainage routes through private property are located (which also need surveying). Please let me know if this impacts the surveying costs:

- * Sideyards for lots 707-723 Taft and 720-736 Wilson
- * Sideyards for lots 811-875 Taft and 806-814 Wilson
- * Sideyards of lots 651 Dalewood, 705 McKinley, 708 Taft, and 707 Seventh
- * The south portion of lot 995 between Cleveland and Harding/Taft/55th int.
- * Side & backyards of 708, 712, & 730 Woodland and 955 Taft
- * Greenspace/Woodland Park area east and south of Harding Road

Our original proposal included costs for checking a few sideyard grades in order to establish drainage patterns. The proposal has been revised to include costs for surveying the above yard areas, as well as Woodland Park on the east side of Harding Road.

4. Please include your current estimate for materials testing in your proposal. Changes to the material testing as a result of the final engineering plan will be addressed through a change order.

We have revised the proposal to include an estimated cost for materials testing during the construction phase.

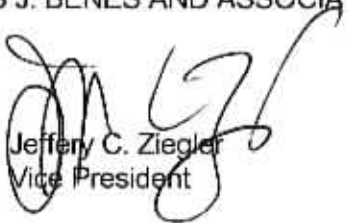
5. Your construction observation proposal should include final close-out of all records and documentation including, but not limited to, completion of the final punch list and record drawings (to be developed by the contractor and reviewed by the engineering consultant).

The proposal included costs for final inspections and punch list preparation. We have revised the proposal to also include review of the contractor-supplied record drawings. As we anticipate three separate contracts (1. sewer lining; 2. water main replacement; and 3. roadway/detention/storm sewers/rain gardens/permeable pavers/residential yard drainage), there will need to be three separate project close-outs.

Please feel free to contact us if you have any questions or require additional information.

Respectfully Submitted,
JAMES J. BENES AND ASSOCIATES, INC.

by:


Jeffrey C. Ziegler
Vice President

Proposal for Engineering Services

***Woodlands Infrastructure Project
Phase I***



**VILLAGE
OF HINSDALE**

Submitted to:
***The Village of Hinsdale
Cook & DuPage Counties, Illinois***

Revised
Ed. 2011

Submitted by :
James J. Benes and Associates, Inc.
Revised February 4, 2011



JAMES J. BENES AND ASSOCIATES, INC.
CONSULTING ENGINEERS

January 7, 2011

Mr. Daniel M. Deeter, P.E.
Village Engineer
Village of Hinsdale
19 East Chicago Avenue
Hinsdale, IL 60521-3489

Dear Dan:

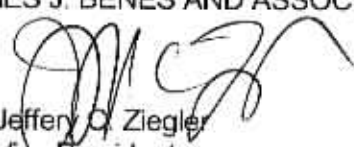
James J. Benes and Associates, Inc. is pleased to submit our Proposal to provide design and construction engineering services for the Village's Woodlands Infrastructure Project – Phase I. The Statement presents our capabilities and experience to perform these services. We have provided similar municipal engineering services for over 40 years, and are proud of the lasting relationship we have maintained with our municipal clients. James J. Benes and Associates, Inc. offers the following qualifications:

- Expertise and experience in design and construction engineering services that are specific to the type and location of the Woodlands Infrastructure Project improvements.
- A client base almost exclusively from the public sector. Concentrating our services on the public sector has provided a thorough understanding of the unique needs of our municipal clients.
- An understanding of the Village of Hinsdale, State, and Federal requirements and policies. Our experience is evidenced by our long relationship with the Village and the services we have provided directly to the Illinois Department of Transportation.
- A staff that is responsive to the needs of our municipal clients and is experienced in taking a project from the planning stage through construction. The broad range of experience makes our engineers better designers and construction engineers.
- Utilization of state-of-the art technology.

We are committed to provide individualized professional services that will meet your specific needs and schedules. Our client base that includes the Village of Hinsdale and other communities in the western suburbs gives us a unique understanding of the services to be provided. We believe that an important element of our service is the direct involvement of our Principals. It is the collective knowledge and experience of our staff that has enabled us to maintain the long term partnerships and establish a solid rapport with our municipal clients.

We are proud of our accomplishments and hope to be selected by the Village of Hinsdale to perform the design and construction engineering services for the Woodlands Infrastructure Project. If selected, we will provide an agreement in the IDOT Bureau of Local Roads' standard format or in another form acceptable to the Village.

Respectfully Submitted,
JAMES J. BENES AND ASSOCIATES, INC.


by: Jeffery Q. Ziegler
Vice President

FIRM BACKGROUND AND EXPERIENCE

JAMES J. BENES AND ASSOCIATES, INC. was founded as a Professional Civil Engineering Corporation in 1970. Since that time, we have served more than 200 individual public and private clients in over 70 communities in 5 states. The services provided that we provide include engineering reviews and studies, final design, preparation of construction plans and documents, and construction engineering. We are a registered Professional Engineering Corporation in Illinois.

Our office is located at 950 Warrenville Road in Lisle, Illinois. The proximity of this location to the Village and the project affords us ready access for meetings with the Village staff and timely responses to the project's needs during design and construction.

The firm has been pre-qualified with the Illinois Department of Transportation since 1970 and is currently pre-qualified to perform the following services:

PLANS, SPECIFICATIONS AND ESTIMATES

ROADS AND STREETS
TRAFFIC SIGNALS

STUDIES

DRAINAGE
TRAFFIC
HYDRAULIC REPORTS

LOCATION AND DESIGN STUDIES

REHABILITATION
RECONSTRUCTION/MAJOR REHABILITATION

SPECIAL SERVICES

ROUTE SURVEY
INSPECTION

We have prepared Combined Location/Design Reports, Drainage and Environmental Studies, final design plans and documents for the Illinois Department of Transportation for State Highway roadway improvements throughout the Chicago Metropolitan Area. We are proud to have received the 2008 Award for Exceptional Consulting Engineering Service from IDOT for one of our more recent Phase 2 projects.

The services provided to our municipal, state and county clients account for approximately 98 percent of our total annual billing. The engineering services provided to our municipal clients have included: preparation of plans and specifications for a wide variety of the capital improvement projects; construction inspection; reviews for private developments; coordination with residents; development of multi-year capital improvement programs; attendance at meetings with municipal staffs, elected officials and residents; and traffic engineering reviews and designs.

We have specific experience providing design and construction engineering services for roadway improvements to the Village of Hinsdale and numerous other municipalities. This experience gives us a unique understanding of the tasks necessary for the successful and timely completion of the 2011 Resurfacing Project.

Our staffing and workload will enable us to meet the Village's anticipated schedule for the completion of the 2011 Resurfacing Project. We will be firmly committed to assigning the necessary staff and monitoring their workloads to ensure that the design and construction engineering services are completed to the total satisfaction of the Village.

We are very pleased that 85 to 90 percent of our work in recent years has been with previous clients. We believe that the firm has been given the opportunity to continue to serve our clients because of the satisfaction with our responsiveness and the quality and timeliness of service that has been provided.

PROJECT STAFFING

James J. Benes and Associates, Inc. will use a project team approach for the design and construction engineering. Our project team members have significant experience performing these services on roadway and utility improvement projects similar to the 2011 Resurfacing Project. The workloads of each of the key members of the project team and support staff will be monitored to ensure that the project schedule is met.

Jeffery Ziegler will serve as the Project Manager and will be the primary contact person for the Village Staff. He has substantial experience as a Project Manager on numerous similar projects for our municipal clients, including the Village. He will direct the activities of the project team members.

Thomas Adomshick, P.E., PTOE will be the director of Quality Assurance and Control. He will review all materials before submittal to ensure compliance with Village and State design procedures.

Project Engineers and Environmentalists/Arborists for the design, and contract plan and document preparation will be *Brad Hargett, P.E., Josh Strait, P.E. and David Koldoff, CPESC*. These key team members will perform the design and prepare the plans and documents under the guidance of Mr. Ziegler and will direct the operations of other engineers, engineering technicians and clerical staff that are assigned to the project. They also have extensive experience working on similar projects and working with municipal and IDOT staffs.

Josh Strait, P.E. will serve as the resident engineer for the construction engineering. Mr. Strait has acted as resident engineer on numerous other construction projects similar in scope to the Woodlands Infrastructure Project – Phase I. He will be assisted by other engineers and field technicians on an as needed basis.

Resumes of the key staff members are attached.

Key Personnel

Jeffery C. Ziegler

Vice President

Mr. Ziegler is a principal and Vice President of James J. Benes & Associates, with 23 years experience in engineering planning and design, plan review and construction inspection. He is responsible for the management, direction and quality control for roadway, sanitary sewer, water main, streetlighting and drainage projects, as well as street sufficiency studies and capital improvement programs. He is a member of the American Public Works Association.

Education

*BS, Civil Engineering
Technology, Southern
Illinois University, 1972*

*Roadway Lighting Seminar
IDOT & CECI*

*IDOT Documentation
Seminar*

*IDOT Pavement
Management Seminar*

*Stormwater Best
Management Practices
Course NIPC/ASCE*

Experience

Municipal Engineering Services:

Client: Village of Western Springs, Village of Hinsdale

Project manager responsible for engineering reviews and stormwater reviews for single family homes and private developments in the Village of Hinsdale; and is the principal responsible for all engineering services related the firm's role as consulting municipal engineer for the Village of Western Springs.

20 Year Infrastructure Management Plan

Client: Village of Western Springs

Project engineer responsible for preparation of a street sufficiency study for all Village owned and maintained streets. Work included an evaluation of existing pavements and development of a multi-year improvement and maintenance program.

BNSF Pedestrian Underpass

Client: Village of Western Springs

Project manager responsible for the preparation of a Phase 1 Project Development Report and Phase 2 construction plans and documents for a federally funded pedestrian underpass under the Burlington Northern Santa Fe Railroad.

Johnson Avenue Roadway and Water Main Improvements

Client: Village of Western Springs

Project manager responsible for preparation of final plans, specifications and cost estimates and for construction management for reconstruction of 3,600' of residential street and replacement of 3,600' feet of water main.

Burlington Avenue Improvements

Client: Village of Western Springs

Project manager responsible for Phase 1, 2 and 3 engineering services for reconstruction of 2,700' of street in the central business district. The project was funded through the federal Surface Transportation Program.

Gilbert Avenue LAPP Improvements

Client: Village of Western Spring

Project manager responsible for the preparation construction plans and documents and construction engineering for resurfacing of 4,200' of a municipal collector Street. The project was funded through the federally funded and IDOT administered Local Agency Pavement Preservation program.

Ellington Avenue ERP Improvements

Client: Village of Western Springs

Project manager responsible for the preparation of construction contract documents and construction engineering for resurfacing of 3,000' of residential streets. The work was completed in compliance with IDOT procedures for MFT projects.

CMAQ Parking Lot Expansion

Client: Village of Western Springs

Project manager responsible for preparation of final plans, specifications and cost estimates, and for construction management for expansion of a commuter parking lot. The project was funded with a CMAQ grant.

Franklin Avenue Roadway and Water Main Improvement

Client: Village of Western Springs

Project Manager responsible for preparation of final plans and construction documents for reconstruction of 2,800' of residential street; resurfacing of 1,000' of street; and 1,200' of water main replacement.

Special Service Area No. 9

Client: Village of Hinsdale

Project manager responsible for preparation of final plans, specifications and cost estimates for construction of a rear yard storm sewer system that was funded with Special Service Area funding.

Key Personnel

Thomas Adomshick, P.E., PTOE

Vice President

Mr. Adomshick is a principal and Vice President of James J. Benes & Associates, with 26 years experience in engineering design, traffic studies, environmental studies, plan review and construction inspection. His assignments have included roadway, sanitary sewer, water main, streetlighting and drainage projects and traffic study and plan reviews. He is a member of the Institute of Transportation Engineers.

Education

*BS, Civil Engineering
Penn State University
State College, PA, 1983*

*Policy and Procedure &
Project Management
Seminar
IDOT & CECI*

*Construction Materials
Seminar, IDOT & CECI*

*Neighborhood Design and
Traffic Calming Seminar
University of Wisconsin*

*Highway Capacity
Workshop
Northwestern University*

*Environmental Analysis of
Highway Projects Seminar
University of Wisconsin*

Professional Registrations

*Professional Engineer – IL
since 1988*

*Professional Traffic
Operations Engineer
(certification) since 2003*

Experience

Illinois Route 31 at Illinois Route 176

Client: Illinois Department of Transportation

Project manager responsible for the preparation of Phase II final engineering plans and specifications for widening and reconstruction of 1.4 miles of a State Route. The project included intersection improvements and traffic signal modernization.

Annual Road Improvement Projects

Client: Village of Oak Brook

Project manager responsible for design, contract plan and document preparation, and construction engineering for annual road improvements. The scope of the improvements range from resurfacing to reconstruction and vary in length. Local and MFT funding is used.

22nd Street/York Road Improvements – Phases I, II & III

Client: Village of Oak Brook

Project engineer responsible for the preparation of a Phase I Project Development Report; preparation of final plans, specifications and cost estimates; and construction management for a \$3.0 million intersection widening and resurfacing project. The STP funded project included construction of dual left turn lanes and single right turn lanes at the intersection. It also included two new traffic signal installations, interconnection between six signalized intersections and a new roadway lighting system.

Illinois Route 56 – Phase II

Client: Illinois Department of Transportation

Project manager responsible for the preparation of Phase II final engineering plans and specifications for widening and reconstruction of 1.3 miles of a State Route. The project included intersection improvements and traffic signal modernization.

Waukegan Road/Chestnut Avenue – Phase I

Client: Village of Glenview

Project manager responsible for preparation of a Phase I Project Development Report for intersection widening and traffic signal modifications.

Forest Avenue Improvements - Phases I, II & III

Client: Village of Riverside

Project manager responsible for the preparation of a Phase I Project Development Report; preparation of Phase II final plans, specifications and cost estimates; and construction management for a federally funded resurfacing project of 2,100 feet of streets in a designated historic district.

Illinois Route 83 Environmental Assessment (Re-evaluation)

Client: Illinois Department of Transportation

Project engineer responsible for the preparation of an Environmental Assessment (Re-evaluation) and a Noise Report (Addendum) for widening and reconstruction of an eight mile long section of Illinois Route 83 from south of Interstate 55 to 31st Street, in eastern DuPage County. The project involved widening Route 83 from four lanes to six lanes. Tasks included data collection, analysis of environmental impacts, noise analysis, air quality analysis, attending public hearings and preparation of reports.

Woodside Road Improvements – Phases I, II & III

Client: Village of Riverside

Project manager responsible for Phase I, II & III engineering services for the resurfacing of 2,800 feet of streets in a designated historic district. The project was funded with STP funds.

Illinois Route 22 Roadway Improvements

Client: Illinois Department of Transportation

Project manager responsible for preparation of Phase II final engineering plans and specifications for realignment and reconstruction of 2.675 kilometers of a Strategic Regional Arterial.

Addison Road – Phases I, II & III

Client: Village of Riverside

Project manager responsible for Phase I, II & III engineering services for the resurfacing of 3,900 feet of streets in a designated historic district. The improvement was funded through the Surface Transportation Program.

Jorie Boulevard LAPP Improvements

Client: Village of Oak Brook

Project manager responsible for Phase I, II & III engineering services for the resurfacing of 1.5 miles of a municipal collector street. The improvement was funded through the Local Agency Pavement Preservation program.

Key Personnel

Bradley D. Hargett, P.E., CFM

Associate

Mr. Hargett is a project engineer with 19 years experience in location design studies, location drainage studies, engineering design, roadway and hydrologic surveys, materials testing and construction management. His assignments have included roadway, sanitary sewer, water main and drainage projects, as well as geometric studies, intersection design studies and drainage studies.

Education

*BS, Civil Engineering
Technology
Southern Illinois University
Carbondale, IL, 1991*

*Fundamentals of Geometric
Design Workshop
Northwestern University*

*IDOT Documentation
Seminar*

*Traffic Signal Actuation
Workshop
Northwestern University*

*HEC-RAS Seminar
IDOT & ASCE*

Professional Registrations

Professional Engineer – WI

*Certified Floodplain
Manage - ASFPM*

Experience

Main Street Improvements

Client: Village of Lisle

Project engineer responsible for preparation of final plans, construction documents, and estimates for reconstruction of 1,500 of street through the central business district. The improvement included water main replacement, sanitary sewer repairs, storm sewers, street lighting, and traffic signals.

Central Avenue Roadway and Utility Improvements

Client: City of Wood Dale

Project engineer responsible for preparation of final plans, construction documents, and estimates for reconstruction of 4,000 feet of residential street. The improvement included conversion to an urban section, storm sewers, sanitary sewer, and sidewalks.

Glenview Road/Greenwood Road – Phase I

Client: Village of Glenview

Project engineer responsible for preparation of a Phase I Project Development Report for an intersection widening and traffic signal modifications.

Illinois Route 56

Client: Illinois Department of Transportation

Project engineer responsible for preparation of Phase 2 final engineering plans and specifications for widening and reconstruction of 1.3 miles of a State Route.

2006 Paving Project

Client: Village of Oak Brook

Project engineer responsible for preparation of final drainage plans, specifications and cost estimates for 3.7 miles of residential street resurfacing.

Hillgrove Avenue Improvement – Phase 2

Client: Village of Western Springs

Project engineer responsible for preparation of final engineering plans and biddings documents for reconstruction of 2,700 feet of roadway. The project was funded with federal funds and included commuter parking.

Volk Brothers CDBG Improvements

Client: Village of Bensenville

Project engineer responsible for designs and preparation of final plans and documents for reconstruction of 1,100 feet of residential street. The improvements included sidewalks, storm sewers, and driveway and parkway restoration. The improvement was funded with a community Development Block Grant.

Gilbert Avenue LAPP Improvement

Client: Village of Western Springs

Project engineer responsible for preparation of final plans, specifications and cost estimates and for construction engineering for resurfacing of 4,200 feet of a municipal collector. The project was funded through the Local Agency Pavement Preservation program.

Illinois Route 22 Roadway Improvements

Client: Illinois Department of Transportation

Project engineer responsible for preparation of final plans and specifications for realignment and reconstruction of 2.675 kilometers of a Strategic Regional Arterial.

Nerge Road Improvements - Phase I and II

Client: Village of Elk Grove Village

Project engineer responsible for preliminary design and for preparation of final plans, specifications and cost estimates for widening and resurfacing 1,700 feet of street. The \$2.7 million STP funded project also included traffic signals and right-of-way acquisition.

Burlington Avenue Improvement – Phase 2

Client: Village of Western Springs

Project engineer responsible for preparation of final engineering plans and bidding documents for reconstruction of 2,700 feet of roadway. The project was funded with federal funds and included commuter parking adjacent to the reconstructed roadway.

Illinois Route 31 at Illinois Route 176

Client: Illinois Department of Transportation

Project engineer responsible for preparation of Phase 2 final engineering plans and specifications for widening and reconstruction at the intersection of IL 31 and IL 176. The project length is 1.4 miles.

David A. Koldoff, CPESC

Director of Natural Resources

Mr. Koldoff has a strong background in land-use planning and environmental consulting and has completed several hundred projects in DuPage County involving site development and stormwater permitting. With approximately 17 years of experience, he has successfully completed projects in each DuPage County municipality, including approximately 50 projects in Downers Grove. David has managed stormwater-related projects on behalf of DuPage County DOT and DEC, and the Forest Preserve District. Most projects have involved impact analysis and project permitting for natural resources (including wetlands), and have involved state and federal agencies (IDNR, IEPA, IDOT, IHPA, NRCS, SWCD, and ACOE). David has extensive expertise in Best Management Practice (BMP) design and streambank stabilization. He is an ISA-Certified Arborist, a Certified Wetland Specialist, and a Certified Professional in Erosion and Sediment Control (CPESC).

Education & Registrations:

*Bachelor of Science,
Environmental Biology
Eastern Illinois Univ. 1993*

CPESC (#4509)

*Institute of Wetland and
Environmental Education
and Research*

*Kane County Wetland
Review Specialist (#W-011)*

*Lake County Certified
Wetland Specialist (#C-016,
and Designated Erosion
Control Inspector (DECI)*

ISA – Arborist (IL-4729A)

Special Assignments:

*The Morton Arboretum
Research Dept (Intern) and
Collections Dept., 1993*

Wetland Training Inst. 1995

Experience:

DuPage County Department of Environmental Concerns

Supervisor for team of ecologists working on mitigation monitoring sites at various locations throughout the County. Coordinated schedule and logistics with County staff on approximately 50 sites.

DuPage County Division of Transportation (Various Projects)

Review and preparation of wetland submittals and supportive documentation in conjunction with administration of county and municipal stormwater and floodplain ordinance. Completed various roadway projects in Downers Grove including: Highland Avenue; 75th Street; and Fairview Avenue.

Cantera Industrial Park

Client: LaSalle Partners

Participated in the development and implementation of a comprehensive erosion and sediment control program; supervised staff for three-season monitoring of waterfowl in 40-ac wetland complex; completed fish stocking program; and monitored vegetation establishment. Prepared reports and facilitated ACOE approvals.

High Speed Rail – Chicago to St. Louis, IL

Client: Illinois Department of Transportation

Conducted field investigations for T&E species, water resources, wetlands, and prairie remnants in areas of proposed project impact along a 280-mile long corridor; developed affected environmental consequences text on water resources including U.S. Waters and fish and aquatic habitat for four action alternatives for project Environmental Impact Statement (EIS).

David A. Koldoff

Special Assignments (cont.)

*Prescription Burning,
Public Presentation,
Kennedy Group, 1998*

*Volunteer Work, West
Chicago Prairie, 1999*

*ASLA Native Plant
Restoration Series, 2000*

*DuPage County Hydric
Soils Course, 2002*

Green Roof Seminar, 2002

*Designers and Specifiers
Ground Control Workshop,
2005*

*Wetland Restoration Plan,
Build, and Maintenance,
2001-2006*

America in Bloom, 2006

*U.S. Green Building Consul
LEED Seminar 2006*

*Volunteer: Hope Garden,
Naperville Evangelical Free
Church, 2006-07*

ASFMS Conference 2006

*Warrenville Environmental
Advisory Commissioner
2007*

Naperville River Walk Phase I Renovation (Seg. 2)

Client: City of Naperville

Arborist responsible for tree impact assessments resulting from proposed Riverwalk and Amphitheatre renovation, including bulkhead wall and retaining wall removal along a 400-foot section of the City of Naperville's renowned downtown Riverwalk.

Illinois Route 336, Macomb, IL

Client: Illinois Department of Transportation

Conducted Field investigations of wetlands, wildlife, and proposed wetland mitigation areas for proposed highway improvement project Environmental Impact Statement (EIS)

Thunderhawk Golf Course, Lake Co. IL

Client: Lake County Forest Preserve District

Project manager responsible for wetland and wildlife analysis, and Section 404 permitting for a 240-acre parcel of land for LCFPD's Audubon "Signature" design course.

(TBON), Northern Illinois

Client: Commonwealth Edison

Field Supervisor for wetland delineation on more than 200 miles of fiber optic corridor. Activities included wetland delineations, report preparation, and regulatory agency coordination.

Wetland and Wildlife Services

Client: Forest Preserve District of DuPage County

Project manager responsible for evaluation of wildlife habitat, floristic quality, threatened/endangered species, and water resources. Representative projects include: Springbrook Prairie Regional Trail; Springbrook Prairie Wetland Bank; Deep Quarry Lake Fishery Improvement; Herrick Lake Pedestrian Pathway; Blackwell Facility Expansion; McDowell Woods Pedestrian Trail, Pratt Wayne Woods/Brewster Creek Wetland Initiative; Danada Visitor Garden; Danada Headquarters Visitor Center; Danada Wetland Bank; and Hidden Lake Pedestrian Trail.

Other Representative Projects:

Nike Park – Naperville Park District

Northside Park Lake Restoration – PEI/Wheaton Park District

Lyman Woods Streambank Restoration – Downers Grove P.D.

Salt Creek Restoration – Patrick Engineering/DuPage County DEC

DuPage River Trail – Plainfield Township Park District

Cantigny Park Re-development – Cantigny Foundation, Wheaton, IL

E. Highlands Subdivision Roads and Sidewalk – City of Naperville

Village of Downers Grove- Various wetland reviews

Warrenville Road Permeable Pavers – Grant Procurement

Joshua D. Strait, P.E.

Project Engineer

Mr. Strait is a project engineer with seven years experience in engineering design, plan review and construction inspection. His assignments have included roadway, water main and drainage projects.

Education

*BS, Civil Engineering
University of Illinois
Champaign, IL, 2002*

*IDOT Documentation
Seminar*

*IDOT/APWA Project
Finalization Procedures
Seminar*

Professional Registrations

Professional Engineer – IL

Experience

2008 Reconstruction Project

Client: City of Lockport

Project engineer responsible for the design and preparation of final plans, specifications and cost estimates for reconstruction of approximately 2,600 feet of residential streets. The improvement included sidewalks, water mains, storm sewers, and driveway and parkway restoration.

2006 MFT Street Improvement

Client: City of Wood Dale

Project engineer responsible for preparation of final plans, construction documents, and estimates and for construction engineering for reconstruction of 3,600 feet and resurfacing of 3,000 feet of residential streets. The reconstructed streets were converted to an urban section. The project included water main replacement, storm sewers, sanitary sewer repairs, and sidewalks.

Rose Avenue Reconstruction

Client: Village of Western Springs

Project engineer responsible for design and preparation of engineering plans and contract documents for reconstruction of 970 feet of residential street. The project included curb and gutter, storm sewers, water main replacement, and restoration.

Joric Boulevard LAPP Improvements

Client: Village of Oak Brook

Resident engineer responsible for construction engineering for 1.5 miles of resurfacing on a municipal collector. The construction documentation was performed in accordance with federal and IDOT policies and procedures.

Johnson Avenue Reconstruction

Client: Village of Western Springs

Project engineer responsible for preparation of final plans, construction documents and estimates for reconstruction of 3,800 feet of residential street. The project included water main replacement and sidewalks.

2007 Paving Project

Client: Village of Oak Brook

Project engineer responsible for construction engineering for resurfacing of 3.2 miles of residential streets. The improvements included pavement patching, curb repairs, bridge repairs, and driveway and parkway reconstruction.

Ridgewood Road Improvements

Client: Village of Riverside

Project engineer responsible for preparation of final plans and documents and construction engineering for resurfacing of 800 feet of a municipal collector. The plans and documentation for the construction was prepared in accordance with federal and IDOT policies and procedures.

2010 MFT Street Improvements

Client: Village of Riverside

Project engineer responsible for design, preparation of final plans and documents, and construction engineering for resurfacing of 3,600 feet of residential street. The plan preparation and construction documentation was completed in accordance with IDOT policies and procedures for MFT projects.

Burlington Avenue Improvements

Client: Village of Western Springs

Resident engineer responsible for construction engineering for 2,700 feet of reconstruction of a municipal collector. The construction documentation was performed in accordance with federal and IDOT policies and procedures.

Mitchell Drive Water Main Replacement

Client: Village of Woodridge

Project engineer responsible for design and preparation of the final plans and construction documents for replacement of 2,800 feet of water main in a residential neighborhood.

Suburban Estates Water Main Improvements

Client: Village of Woodridge

Project engineer responsible for design, preparation of final plans and construction documents, and construction engineering for construction of 6,600' of water main in residential neighborhoods.

2010 Water Main Replacement

Client: Village of Oak Brook

Project engineer responsible for design and preparation of final plans and construction documents for replacement of 3,100 feet of water main.

SIMILAR ROADWAY EXPERIENCE

James J. Benes and Associates, Inc has recently completed or is currently working on the following roadway improvement projects:

Client: Village of Oak Brook

Project: 2009 Paving Project

Project Manager: Thomas Adomshick, P.E., PTOE

Project Engineer: Natalie Nelson, EI

Services: Design and Construction Engineering

Improvement: Resurfacing of approximately 1 mile of residential streets. The improvements included surface removal, pavement patching, curb and gutter repairs, driveway and parkway restoration, and HMA resurfacing. The work was locally funded.

Client: Village of Lisle

Project: Main Street Improvements

Project Manager: Gary Cottingham, P.E.

Project Engineers: Brad Hargett, P.E., CFM

Services: Design and Construction Engineering

Improvement: Reconstruction of three blocks of pavement in the central business district. The improvements included pavement removal, storm sewers, ornamental pedestrian and street lighting, curb and gutter, medians, traffic signals, and water main replacement. The work was funded with motor fuel taxes. The improvement received the 2010 Transportation Project of the Year Award from the Chicago Metropolitan Chapter, Fox Valley Branch, of the APWA.

Client: Village of Riverside

Project: 2010 MFT Street Improvements

Project Manager: Thomas Adomshick, P.E., PTOE

Project Engineer: Josh Strait, P.E.

Services: Design and Construction Engineering

Improvement: Resurfacing of approximately 3,600 feet of residential streets. The improvements included surface removal, pavement patching, curb and gutter repairs, driveway and parkway restoration, and HMA resurfacing. The work was funded with motor fuel taxes.

Project: 2009 MFT Street Improvements

Project Manager: Thomas Adomshick, P.E., PTOE

Project Engineer: Jim Miedema, P.E.

Services: Design and Construction Engineering

Improvement: Resurfacing of approximately 1 mile of residential streets and concrete patching on approximately 1,800 feet of streets. The improvements included surface removal, HMA and concrete pavement patching, curb and gutter repairs, driveway and parkway restoration, and HMA resurfacing. The work was funded with motor fuel taxes.

SIMILAR WATER MAIN EXPERIENCE

The following is a listing of recent water main projects for which James J. Benes and Associates, Inc. has provided design and construction engineering services:

Client: City of Warrenville

Project: Landon Avenue Sanitary Sewer and Water Main Improvements

Project Manager: James Darnell, P.E.

Project Engineers: Josh Strait, P.E. and Steve Gidley, P.E.

Services: Design and Construction Engineering

Improvement: Installation of approximately 200 feet of water main by open trench construction and 4,400 feet of water by directional bore. Thirty-two services were connected to the new water main. A large portion of the water main was installed within regulatory flood plain and wetland. A City/County Stormwater Permit, Joint COE/IDNR-OWR/IEPA permit, and IEPA Public Water Supplies Construction Permit were obtained.

Client: Village of Oak Brook

Project: 2010 Water Main Replacement

Project Manager: Thomas Adomshick, P.E.

Project Engineers: Josh Strait, P.E. and Steve Gidley, P.E.

Services: Design and Construction Engineering

Improvement: Water main replacement consisting of 3,140 feet of open trench construction, 8,490 feet of directional bore, and 108 service connections. Permits were obtained from the IEPA – Public Water Supplies and the DuPage County Highway Department.

Client: Village of Western Springs

Project: Johnson Avenue Roadway and Utilities

Project Manager: Jeffery Ziegler

Project Engineer: Josh Strait, P.E.

Services: Design Engineering

Improvement: Water main replacement project consisting of 3,685 feet of open trench water main construction and 90 water services. A permit was obtained from the IEPA – Public Water Supplies

Client: Village of Lisle

Project: 2007 Downtown Sewer and Water Main Improvements

Project Manager: Gary Cottingham, P.E.

Project Engineer: Josh Strait, P.E.

Service: Design Engineering

Improvement: The improvement included 1,330 feet of water main replacement and service connections. A permit was obtained from the IEPA – Public Water Supplies.

SIMILAR STORM SEWER EXPERIENCE

Client: Village of Lisle

Project: 2007 Downtown Sewer and Water Main Improvements
Project Manager: Gary Cottingham, P.E.
Project Engineer: Josh Strait, P.E.
Service: Design Engineering
Improvement: The improvement included 1,830 feet of storm sewer construction.

Project: 2010 Drainage Improvements
Project Manager: Gary Cottingham, P.E.
Project Engineer: Josh Strait, P.E.
Service: Design Engineering
Improvement: The improvement consists of 1,980 feet of storm sewer construction.
Certification was received from DuPage County.

Client: City of Wood Dale

Project: 2006 Roadway and Utility Improvements
Project Manager: Gary Cottingham, P.E.
Project Engineer: Josh Strait, P.E.
Service: Design and Construction Engineering
Improvement: The improvement included 2,700 feet of storm sewer construction.

Project: Central Avenue Improvements
Project Manager: Gary Cottingham, P.E.
Project Engineer: Brad Hargett, P.E.
Service: Design and Construction Engineering
Improvement: The improvement included 3,200 feet of storm sewer construction.

Client: City of Lockport

Project: 2009 Reconstruction Project
Project Manager: Gary Cottingham, P.E.
Project Engineers: Josh Strait, P.E.
Services: Design Engineering
Improvement: The improvement included 2,600 feet of storm sewer construction.

Client: Illinois Department of Transportation

Project: IL Rte. 31 at IL Rte. 176 Intersection Improvements
Project Manager: Thomas Adomshick, P.E., PTOE
Project Engineer: Brad Hargett, P.E., CFM
Services: Design Engineering
Improvement: The improvement includes 12,900 feet of storm sewer construction.

Project: IL Rte. 56 Improvements
Project Manager: Thomas Adomshick, P.E., PTOE
Project Engineer: Brad Hargett, P.E., CFM
Services: Design Engineering
Improvement: The improvement included 9,500 feet of storm sewer construction.

LIST OF REFERENCES

VILLAGE OF WESTERN SPRINGS
740 HILLGROVE AVENUE
WESTERN SPRINGS, ILLINOIS 60558
William Nelson, Director of Municipal Services
(708) 246-1800

VILLAGE OF RIVERSIDE
27 RIVERSIDE ROAD
RIVERSIDE, ILLINOIS 60546
Ed Bailey, Director of Public Works
(708) 442-3590

VILLAGE OF OAK BROOK
1200 OAK BROOK ROAD
OAK BROOK, ILLINOIS 60521
Michael Hullihan, Director of Public Works
(630) 368-5272

CITY OF LOCKPORT
17112 S. PRIME ROAD
LOCKPORT, ILLINOIS 60441
Amy Ries, City Engineer (815) 838-0549

VILLAGE OF Lisle
925 BURLINGTON AVENUE
Lisle, ILLINOIS 60532
Jason Elias, Director of Public Works
(630) 271-4170

ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196
Ken Eng, Bureau of Design
(847) 705-4247

VILLAGE OF WOODRIDGE
5 PLAZA DRIVE
WOODRIDGE, ILLINOIS 60517
Katy Rush, Village Manager
(630) 719-4706

CITY OF BATAVIA
200 N. RADDANT ROAD
BATAVIA, ILLINOIS 60510
Gary Holm, Director of Public Works
(630) 454-2300

UNDERSTANDING OF PROJECT

The Village of Hinsdale's Woodlands Infrastructure Project – Phase I will include the following major elements: Data Acquisition, Preliminary Engineering, Final Engineering, and Bidding & Construction. The Woodlands neighborhood has been divided into three areas, which we will refer to as Woodlands Section A, Woodlands Section B and Woodlands Section C. The following streets are included in each section:

WOODLANDS SECTION A

<u>Street</u>	<u>From</u>	<u>To</u>	<u>Length</u>
Seventh Street	County Line Road	Cleveland Road	440 feet
Seventh Street	Cleveland Road	McKinley Lane	440 feet
Seventh Street	Taft Road	Wilson Lane	530 feet
Seventh Street	Wilson Lane	Harding Road	390 feet
Cleveland Road	Woodland Avenue	Seventh Street	840 feet
McKinley Lane	Woodland Avenue	Seventh Street	900 feet
Taft Road	Woodland Avenue	Seventh Street	1,130 feet
Wilson Lane	Woodland Avenue	Seventh Street	1,170 feet
Harding Road	Woodland Avenue	Seventh Street	1,360 feet
Harding Road	Seventh Street	Bittersweet Lane	970 feet
Total			8,170 feet

WOODLANDS SECTION B

<u>Street</u>	<u>From</u>	<u>To</u>	<u>Length</u>
Woodland Avenue	County Line Road	Cleveland Road	900 feet
Woodland Avenue	Cleveland Road	McKinley Lane	540 feet
Woodland Avenue	McKinley Lane	Taft Road	340 feet
Woodland Avenue	Taft Road	Wilson Lane	730 feet
Woodland Avenue	Wilson Lane	Harding Road	320 feet
Cleveland Road	South End	Woodland Avenue	1,260 feet
Taft Road	55 th Street	Woodland Avenue	1,060 feet
Harding Road	Taft Road	Woodland Avenue	980 feet
Total			6,130 feet

WOODLANDS SECTION C

<u>Street</u>	<u>From</u>	<u>To</u>	<u>Length</u>
Woodside Avenue	County Line Road	Hillcrest Avenue	725 feet
Woodside Avenue	Hillcrest Avenue	Princeton Road	560 feet
Sixth Street	County Line Road	Dalewood Lane	460 feet
Sixth Street	Dalewood Lane	Princeton Road	930 feet
Bittersweet Lane	West End	Princeton Road	380 feet
Dalewood Lane	Sixth Street	East End	825 feet
Princeton Road	Woodside Avenue	Bittersweet Lane	800 feet
Total			4,680 feet

The improvements for Woodlands Section A will be constructed, starting with water main replacement and combined sewer lining in Fall and Winter 2011, and continuing with stormwater improvements and roadway reconstruction in Spring and Summer 2012. Native landscaping will be completed in Spring 2013.

The improvements for Woodlands Section B will be constructed, starting with water main replacement and combined sewer lining in Fall and Winter 2013, and continuing with stormwater improvements and roadway reconstruction in Spring and Summer 2014. Native landscaping will be completed in Fall 2014.

The improvements for Woodlands Section C will be constructed, starting with water main replacement and combined sewer lining in Fall and Winter 2015, and continuing with stormwater improvements and roadway reconstruction in Spring and Summer 2016. Native landscaping will be completed in Fall 2016.

The Village desires professional engineering services to perform design and construction services including survey, preparation of conceptual plans, preparation of final plans, specifications and bidding documents, permitting, bidding services, construction observation, and final construction documentation. The specific services to be provided are outlined in the Project Approach section of the Proposal.

PROJECT APPROACH

The professional engineering services for the project will be divided into the following four categories:

- **Data Acquisition**
- **Preliminary Engineering**
- **Final Engineering**
- **Bidding and Construction**

The scopes of the services are based on the Request for Proposals (RFP) dated December 22, 2010, a field meeting with Dan Deeter on January 3, 2011, and review comments received from Dan Deeter on January 31, 2011.

Data Acquisition shall generally consist of field survey for Woodlands Sections A, B and C, including public rights-of-way, designated side and rear yard drainage problems, and Woodland Park. Data Acquisition shall also include cleaning and televising the combined sewers in Woodlands Section A, and performing a geotechnical investigation in Woodlands Sections A, B and C.

Preliminary Engineering shall generally consist of preparing preliminary plans for water main replacement, combined sewer lining, stormwater improvements, including Best Management Practices for Water Quality, and roadway reconstruction, in Woodlands Sections A, B and C. This work shall also include the preparation of preliminary construction cost estimates, broken down by categories and neighborhood sections. Preliminary Engineering shall also include a study of neighborhood infiltration rates and modeling ground water flow.

Final Engineering shall be in accordance with IDOT MFT guidelines and shall generally consist of preparing final engineering plans and contract documents for water main replacement, combined sewer lining, stormwater improvements, including Best Management Practices for Water Quality and stormwater detention, and roadway reconstruction, in Woodlands Section A. This work shall also include the preparation of final construction cost estimates, broken down by categories, for Woodlands Section A. Also included are coordination meetings with Village staff,

permitting and coordination with outside agencies, and development of operations and maintenance plans for the BMP facilities in the public right-of-way. Although the request for proposals addresses computer modeling of the Woodlands water system, Mr. Deeter informed us that water system modeling would not be required for this project. It is assumed that the proposed work will be covered by three separate contracts and therefore, three separate sets of plans and contract documents will need to be prepared. It is anticipated that the three contracts will be: 1 sewer lining, 2 water main replacement, and 3 roadway reconstruction including storm sewers, detention facilities, rain gardens, permeable pavers and residential drainage (side yard and rear yard) improvements.

Bidding and Construction tasks shall meet Village and IDOT MFT requirements. The work shall generally consist of attending pre-bid and pre-construction meetings, construction observation, construction management, including the preparation of weekly reports and engineer's payment estimates, construction coordination meetings with Village staff, and attendance at monthly Village EPS Committee meetings.

The following specific tasks will be performed in each category of the phases.

DATA ACQUISITION

1. We anticipate a kick-off meeting at the onset of the project to review the goals and schedule and to obtain background data. Plans, atlases, aerial photography, standard details and specifications, and any other available material will be obtained from the Village.
2. Field Survey: Baselines will be established along public streets in Woodlands Sections A, B and C (approximately 19,000 feet). Horizontal and vertical controls will be established using the DuPage County (NAVD 88) datum. All planimetry within the public rights-of-way will be collected. Cross sections will be surveyed on 50 foot centers. The rims and invert elevations of all manhole structures will be recorded. Designated private property overland drainage paths will also be surveyed, as will Woodland Park. The Village will provide a copy of the recently completed tree inventory and any available site plans for the designated residential properties.
3. Geotechnical Investigation: Soil borings will be performed in Woodlands Sections A, B and C at 36 locations in the roadway pavement and at 16 locations in the parkway near the proposed rain gardens. Soil borings will extend to a depth of 20 feet below existing grade in the western portion of the neighborhood, 15 feet below existing grade in the center, and 10 feet below existing grade in the eastern portion. A geotechnical report will be prepared to address existing pavement subgrade conditions and make recommendations for roadway reconstruction; as well as addressing the permeability of the existing soils beneath the rain gardens. The report will also include an analysis of the neighborhood infiltration patterns and a model of ground water flow.
4. Televisive Combined Sewers: The existing 10" and 12" combined sewers owned by the Village in Woodlands Section A will be cleaned and televised. It is assumed that some root-cutting will be required, but that the sewers will require light cleaning only. Heavy cleaning will be done on a time and material basis. A DVD of the television inspection will be provided to the Village for their records.
5. Utility information (gas, electric, telephone, fiber optic, cable television, etc.) will be gathered from the utility companies.

PRELIMINARY ENGINEERING

1. Base plan sheets will be prepared for Woodlands Sections A, B and C using the data collected in the field survey and information shown on the utility atlases provided by the Village and utility companies. The base sheets will show all existing pavements, sidewalks, utilities, trees, property lines, and other features that may impact the final design.
2. Water Main Replacement: The water main replacement notes will be added to the base sheets. All 6" water mains will be replaced with 8" water main. All 10" water main will remain unless the Village identifies locations that have a history of water main breaks. A water system computer model is not required as the 1971 pitometer study and the Pre-Lake Michigan Water Strand Associates report both concluded that the only needed improvement was a connection between Dalewood Lane and Bittersweet Lane.
3. Combined Sewer Lining: The sewer lining notes will be added to the base sheets. All Village sewers will be lined or replaced. No change in alignment is anticipated. The FCWRD and MWRDGC will maintain their own structures. We are not aware of any IGA commitments by the Village to the FCWRD which would impact the proposed improvements.
4. Stormwater Improvements: The stormwater management notes will be added to the base sheets. Stormwater improvements will be designed in accordance with DuPage County requirements even though the project is in Cook County, per Village policy. Plans will be submitted to the MWRDGC, and as their requirements are less restrictive than DuPage County, MWRDGC approval is anticipated. If the required storage cannot be accommodated by the proposed underground facilities, underground or surface facilities will be added in the islands or in Woodland Park. The choice of plantings for the proposed rain gardens will be discussed with Village staff.
5. Roadway Reconstruction: A typical section for the proposed roadway reconstruction will be prepared. All roadways will be designed to a structural number of 3.00. The location of the reconstructed roadways will closely match the existing roads. The proposed roadway pavement will be hot-mix asphalt, 20 feet wide, with a B-6.12 gutter section on each side.
6. Cost Estimates: Preliminary construction cost estimates will be prepared for the proposed water main replacement, sewer lining, stormwater management improvements and roadway reconstruction. The estimates and preliminary plans and details will be provided to Village staff for review and comment before the commencement of final engineering for Woodlands Section A.

FINAL ENGINEERING

1. Base plan sheets will be prepared for Woodlands Section A using the data collected in the field survey and information shown on the utility atlases provided by the Village and utility companies. The base sheets will be plan and profile sheets with a 1" = 20' scale and will show all existing pavements, sidewalks, utilities, trees, property lines, and other features that may impact the final plan preparation. The profiles will show the existing vertical alignments of the streets and the profiles of the existing storm, combined and sanitary sewers.
2. Design and plot typical sections for pavement reconstruction.

3. Design and plot the proposed water main replacement on the plan and profile sheets.
4. Design and plot the proposed sewer lining improvements on the plan and profile sheets.
5. Design and plot the proposed storm sewers, detention facilities and rain gardens on the plan and profile sheets.
6. Design and plot the proposed roadways and permeable paver parking areas on the plan and profile sheets.
7. Design and prepare traffic control plans.
8. Prepare construction detail sheets.
9. Plot final utility locations on utility plan and profile sheets.
10. Determine final quantities.
11. Prepare a street by street engineer's estimate of construction costs.
12. Technical specifications and special provisions, bidding documents and construction contract documents will be prepared using IDOT MFT and Village policies and procedures. The special provisions will reference the IDOT Standard Specifications for Road and Bridge Construction and the Standard Specifications for Water and Sewer Main Construction in Illinois.
13. Bidding and contract documents will be prepared using Village and IDOT MFT policies and procedures.
14. Coordination: Bi-weekly design coordination meetings will be held with Village staff. Final plans and specifications will be submitted to the MWRDGC for review and approval. A submittal will be made to the USACE to confirm that they will not take jurisdiction. The ISTHA will be contacted, although the Village has the right to use Woodland Park for stormwater management. Plans, special provisions, and a permit application will be submitted to the IEPA for the proposed water main improvements.
15. Rain Garden Operations and Maintenance: An O&M document will be prepared for Village staff. The document will outline the inspections and maintenance activities that are necessary to ensure the sustainability of the rain gardens and other installed BMPs.

CONSTRUCTION MANAGEMENT

1. Bidding: The proposed bidding documents will be prepared, printed and advertised. We will attend the pre-bid meetings with Village staff and prospective bidders. We will attend the bid openings, review the received bids, and prepare a summary of bids and recommendation of award.
2. Pre-construction: After award by the Village, we will prepare contract documents and send them to the contractors. We will attend the preconstruction meeting with Village staff and the Contractors to review the project requirements, scheduling, sub-contractors, and other matters associated with the construction of the project. Electronic copies of the construction documents will be provided to the Village and contractor for use during construction of the improvement.
3. Construction Observation & Management: We will establish the limits of construction and will check the Contractor's layout of the construction lines and grade. Construction observation services will be provided in accordance with IDOT MFT guidelines.

It is anticipated that IEPA form LPC-662 will be used where the work area is within a right-of-way or easement that is abutted by residential properties.

The construction engineering services will not include:

- Assuming any of the responsibilities of the Contractor's superintendent or of Subcontractors.
 - Expediting the work for the Contractor.
 - Advising on, or issuing directions concerning, aspects of construction means, methods, techniques, sequences or procedures, or safety precautions and programs in connection with the work.
4. Contractor payment requests will be reviewed and compared to as-built quantities and material certifications provided by the Contractor. Engineer's Partial Payment Estimates will be prepared on standard IDOT forms on a monthly basis and submitted to the Village for payment to the Contractor.
 5. Quality assurance testing and management will be provided for the concrete and hot mix asphalt construction. This work will be subcontracted.
 6. Upon completion of the improvement, an Engineer's Final Payment Estimate will be prepared and submitted to the Village. Final inspections will be held and we will prepare punch lists. We will review contractor-supplied record drawings.
 7. Coordination: During construction, weekly coordination meetings will be held with representatives of the Village and the Contractor to discuss the construction schedule and any problems or concerns that may arise. During construction, we will also attend monthly Village EPS Committee meetings to update the project status and answer any questions.

COMPENSATION

Compensation for all services will be on an hourly rate basis. Invoices will be prepared monthly and will document the direct payroll and direct costs expended. **The not-to-exceed costs for the Woodlands Infrastructure Project – Phase I are as follows:**

Field Survey Woodlands Sections A, B and C	\$ 47,237
Geotechnical Investigation Woodlands Sections A, B and C	\$ 36,306
Televise and Clean Combined Sewers Woodlands Section A	\$ 3,444
Preliminary Engineering Woodlands Sections A, B and C	\$ 20,037
Final Engineering Woodlands Section A	\$ 58,136
Construction Management Woodlands Section A	<u>\$216,445</u>
Total Cost:	\$381,606

The not-to-exceed costs are based on the "Estimates of Manhours and Costs" that are attached to and made part of the proposal. Also attached are Preliminary Schedules for completion of the tasks listed in the Project Approach.

COMPLIANCE WITH RULES AND REGULATIONS

James J. Benes and Associates Inc. complies with the Illinois Fair Employment Practices Commission's Rules and Regulations, the Americans With Disabilities Act of 1990, Public Act 87-1257 regarding sexual harassment, all current OSHA rules and regulations, and the Federal Drug Free Work Place Act. We shall also comply with all laws of the United States, State of Illinois, and all ordinances and regulations of the Village of Hinsdale.

REVISED ESTIMATE OF HOURS AND COST

DATE: 04-Feb-11
 CLIENT: Village of Hinsdale
 PROJECT: Woodlands Infrastructure Improvements - Phase I

LENGTH OF IMPROVEMENT: 18,980 FEET = 3.5947 MILES
 5,785 METERS = 5.7848 KILOMETERS

ESTIMATED COST OF CONSTRUCTION: \$4,600,000

CATEGORY OF SERVICE	PRINC.	PROJ. ENGR	ENVIRON SCIENTIST	TECH	TOTAL HOURS	DIRECT PAY	TOTAL PAY COST	DIRECT COST	TOTAL COST
DATA ACQUISITION									
1. Kick-off meetings and gather data from the Village	3	3	0	0	6	\$275	\$760		\$760
2. Field Survey - Sections A, B and C	1	2	0	8	11	\$303	\$837	\$46,400	\$47,237
3. Geotechnical Investigation - Sections A, B and C	1	2	0	0	3	\$125	\$344	\$35,962	\$36,306
4. Clean and televise Village combined sewers - Section A	1	2	0	0	3	\$125	\$344	\$3,100	\$3,444
5. Coordination with utility companies - obtain atlases	1	4	0	0	5	\$190	\$524		\$524
Subtotal									\$88,270
PRELIMINARY ENGINEERING - SECTIONS A, B & C									
1. Base plan sheets with survey and utility information	0	4	0	24	28	\$667	\$1,842		\$1,842
2. Drainage analysis (storm sewer & detention sizing)	4	40	0	24	68	\$2,082	\$5,747		\$5,747
3. Establish roadway profiles	2	16	0	8	26	\$821	\$2,265		\$2,265
4. Establish roadway typical sections	0	2	0	8	10	\$244	\$674		\$674
5. Water main replacement design	0	8	0	4	12	\$351	\$970		\$970
6. Combined sewer lining design	0	4	0	4	8	\$220	\$608		\$608
7. Rain garden and BMP design	0	0	16	4	20	\$725	\$2,002		\$2,002
8. Preliminary plans and details preparation	0	4	4	16	24	\$648	\$1,787		\$1,787
9. Preliminary quantity take-off & construction cost estimates	0	16	4	0	20	\$683	\$1,885		\$1,885
10. Presentation to the Village	2	2	2	4	10	\$352	\$973		\$973
Subtotal									\$18,754
FINAL ENGINEERING - SECTION A									
1. Base plan and profile sheets and 50 foot cross sections	0	4	0	40	44	\$1,025	\$2,829		\$2,829
2. Title sheets, general notes & standard details (3 sets of plans)	0	4	0	24	28	\$667	\$1,842		\$1,842
3. Water main replacement plans	2	8	0	24	34	\$916	\$2,529		\$2,529
4. Combined sewer lining plans	0	8	0	16	24	\$620	\$1,710		\$1,710
5. Storm sewer and detention facility design	2	16	4	0	22	\$801	\$2,211		\$2,211
6. Rain garden & BMP design	0	0	16	0	16	\$636	\$1,755		\$1,755
7. Roadway reconstruction plans and cross sections	2	24	4	80	110	\$2,851	\$7,869		\$7,869
8. Construction details	0	16	8	16	40	\$1,200	\$3,311		\$3,311
9. Traffic control plan	2	8	0	8	18	\$559	\$1,542		\$1,542
10. Erosion control and stormwater pollution prevention plan	0	2	16	16	34	\$1,059	\$2,923		\$2,923
11. Quantity take-off and construction cost estimate	0	16	8	16	40	\$1,200	\$3,311		\$3,311
12. Specifications and bidding documents (3 sets)	2	48	16	0	66	\$2,326	\$6,420		\$6,420
13. Coordination meetings with Village staff (est 12 meetings)	18	36	18	0	72	\$2,957	\$8,160		\$8,160

REVISED ESTIMATE OF HOURS AND COST

DATE: 04-Feb-11
 CLIENT: Village of Hinsdale
 PROJECT: Woodlands Infrastructure Improvements - Phase I

LENGTH OF IMPROVEMENT: 18,980 FEET = 3.5947 MILES
 5,785 METERS = 5.7848 KILOMETERS

ESTIMATED COST OF CONSTRUCTION: \$4,600,000

CATEGORY OF SERVICE	PRINC.	PROJ. ENGR	ENVIRON SCIENTIST	TECH	TOTAL HOURS	DIRECT PAY	TOTAL PAY COST	DIRECT COST	TOTAL COST
14. Permitting (USACE, IEPA, MWRDGC, FCWRD, etc.)	2	8	32	0	42	\$1,652	\$4,560		\$4,560
15. Bidding assistance and attend bid opening	0	24	0	0	24	\$786	\$2,169	\$2,500	\$4,669
16. Summary of bids and recommendation of award (x3)	2	24	0	0	26	\$904	\$2,495		\$2,495
Subtotal									\$58,136
CONSTRUCTION MANAGEMENT - SECTION A									
1. Preconstruction meeting (x3)	0	12	4	12	28	\$820	\$2,264		\$2,264
2. Establish limits and check contractor's layout	2	24	8	0	34	\$1,222	\$3,373		\$3,373
3. Construction observation - combined sewer lining	2	8	0	50	60	\$1,498	\$4,133		\$4,133
4. Construction observation - water main replacement	5	52	0	520	577	\$13,620	\$37,591		\$37,591
5. Construction observation - roadway reconstruction	8	72	0	720	800	\$18,922	\$52,225		\$52,225
6. Construction observation - storm sewers	2	12	0	120	134	\$3,193	\$8,813		\$8,813
7. Construction observation - underground detention	2	16	0	160	178	\$4,218	\$11,642		\$11,642
8. Construction observation - rain gardens	2	14	140	0	156	\$6,142	\$16,951		\$16,951
9. Construction observation - permeable pavement	2	6	6	60	74	\$1,894	\$5,227		\$5,227
10. Construction observation - residential drainage improvements	2	4	0	40	46	\$1,143	\$3,155		\$3,155
11. Partial payment estimates	0	24	0	0	24	\$786	\$2,169		\$2,169
12. Coordination meetings with Village staff (est 26 meetings)	0	104	44	0	148	\$5,155	\$14,228		\$14,228
13. QA materials testing	0	4	0	0	4	\$131	\$362	\$47,000	\$47,362
14. Final inspection and punch list	2	24	8	0	34	\$1,222	\$3,373		\$3,373
15. Final payment estimates (x3)	0	24	0	0	24	\$786	\$2,169		\$2,169
16. Review contractor-supplied record drawings	2	16	0	0	18	\$642	\$1,772		\$1,772
Subtotal									\$216,445
TOTAL COSTS	78	771	358	2026	3233	\$89,364	\$246,644	\$134,962	\$381,606



February 4, 2011

Mr. Dan Deeter, P.E.
Village Engineer
Village of Hinsdale
19 E. Chicago Avenue
Hinsdale, IL 60521-3489

Re: Woodlands Phase I Improvements

Dear Mr. Deeter:

We are in receipt of your review comments dated 01/28/11 regarding the Woodlands Phase I Improvement proposal. Our responses to those comments are as follows:

1. The Village's preliminary construction estimate for this project is \$4.8M. Your proposal for design and construction engineering would be +/-15.2% of the construction costs. We had anticipated that the project costs would be more aligned with IDOT road & utility reconstruction engineering estimates of 6 – 9% of the construction costs. Please provide further information why this project requires the additional engineering effort.

Response: We have attached a spreadsheet that summarizes our proposed engineering fees, provides percentage of construction cost calculations, and incorporates adjustments to our proposed fee, based on our responses to your questions. Because our proposed fee includes some engineering services for Phases 2 and 3, we have included an analysis that pro-rates these services for the Phase 1 portion only, so that the percentage of construction cost can be evaluated accurately.

We offer that in our experience IDOT maintenance projects limit the consulting engineer to a fee of 5% of the total estimated construction cost plus a base fee of \$1,000 for design engineering and 6% for construction engineering. Maintenance projects typically consist of resurfacing, minor pavement patching, and minor curb replacement. Utility replacement, drainage improvements, or pavement reconstruction projects are placed in the reconstruction category. For reconstruction projects, IDOT targets 8 to 10% of estimated construction costs for design engineering and 8 to 10% of estimated construction costs for construction engineering. IDOT projects that involve new alignments or significant widening will include a separate preliminary engineering phase that is separate from design engineering for construction documents and is not included in the 8 to 10% target. Engineering services for roadway alignment studies and public involvement

during this IDOT preliminary engineering phase are analogous to the green infrastructure stormwater modeling required for this Woodlands project, and could therefore be excluded from the 8 to 10 % limit.

In our responses to your questions below, we have identified several potential scope deductions. These deductions are incorporated into our attached spreadsheets.

2. Topographic survey costs are double the cost provided by an independent surveyor/reviewer. Please explain why 632 hours of surveying time is required. Additionally, the following are the major drainage routes through private property that should be located (which also need surveying). Please let me know if this impacts the surveying costs:
 - Sideyards for lots 707-723 Taft and 720-736 Wilson
 - Sideyards for lots 811-875 Taft and 806-814 Wilson
 - Sideyards of lots 651 Dalewood, 705 McKinley, 708 Taft, and 707 Seventh
 - The south portion of lot 995 between Cleveland and Harding/Taft/55th intersection
 - Side & backyards of 708, 712, & 730 Woodland and 955 Taft
 - Greenspace/Woodland Park area east and south of Harding Road

Response: The inclusion of only the above 6 drainage route locations would reduce our scope and fee. Our topographic survey effort consists of:

- *320 hours for topographic survey (field time);*
 - *Phase 1, 2 and 3;*
 - *Level loop to provide benchmarks for robotic topographic survey and construction;*
 - *GPS will be used to establish control;*
 - *Robotic survey will be used within the Woodlands neighborhood because the dense tree cover precludes the use of the more efficient GPS method;*
 - *Edge of pavement, pavement and ground grades, trees and landscape areas, utility structures including water service valves;*
 - *Location of property corner markers as required to establish the right-of-way location;*
 - *Drip lines of trees, as coordinated with design requirements;*
- *160 hours for preparation of base sheets and TIN models;*
- *120 hours for survey of drainage routes on private property.*

Based on our familiarity with this project, we included an allowance for survey of side yards. Limiting side yard survey to the locations specified reduces our private property drainage survey effort from 120 hours to 60 hours.

3. Stormwater management is a major concern for the residents of this area. Your proposal assumes using the previous AECOM and CDI Woodlands Green Initiative XP-SWMM models. However, there is a significant number of engineering hours (1012 hrs) committed to green stormwater modeling. Please explain the additional engineering effort in addition to the existing models.

Response: Our proposed effort for green stormwater modeling acknowledges stormwater management as a major concern for the Woodlands neighborhood residents by including public participation in the scope. Our proposed effort of 1,012 engineering hours consists of:

- *Project management, quality assurance, and coordination with road, sanitary sewer, and water system design – 72 hours;*
- *Green stormwater modeling – 620 hours;*
- *Report preparation – 160 hours;*
- *Public participation – 160 hours.*

The allowance for public involvement provides for developing a public meeting agenda and presentation approach in collaboration with Village staff, preparation of exhibits and handouts, and time spent with the Woodlands neighborhood residents. We envisioned the stormwater modeling report as a bridge between public involvement and the highly technical stormwater runoff models. The report would also serve as formal design guidance for Phases 2 and 3.

The previous AECOM and CDI XP-SWMM models provide useful information and a basis for design. The previous AECOM model provides applicable information about existing conditions. The previous CDI model provides a starting point for the green stormwater modeling included in our scope.

The AECOM XP-SWMM model will be used as the existing conditions benchmark. The AECOM model of proposed conditions did not include green infrastructure and will therefore not be incorporated into green stormwater modeling included in our scope. The AECOM existing

conditions model results will be used to determine stormwater flow at the bottom of each drainage basin within the Woodlands project area. These existing stormwater flows will be compared against green infrastructure stormwater flows to demonstrate to regulatory agencies that this project does not increase stormwater flows.

Similarly, the AECOM XP-SWMM model was used in the feasibility study for this project as a comparative tool between the proposed green infrastructure improvements within the 7th Street Basin and the traditional stormwater management systems proposed by AECOM. This analysis demonstrated that the target areas for green infrastructure identified in the CDI Woodlands Green Initiatives Feasibility Study model resulted in equal or better performance than traditional stormwater management systems.

The CDI Woodlands Green Initiatives Feasibility Study included a preliminary XP-SWMM model that could capture and manage the 100-year storm event. Since the 7th Street Basin that was modeled in this Feasibility Study is only approximately 20% of the Woodlands neighborhood, a significant effort is required to complete the modeling. Another limitation of the 7th Street model is that it is based on available information, including aerial photography that will need to be updated with topographic survey.

The modeling performed for Phases 1, 2, and 3 will provide the design basis for protection for the 100-year storm event throughout the neighborhood. We recommend that the Village continues with the approach of surveying and modeling all three phases at once, even though only Phase 1 will proceed to construction documents at this time. We believe this approach will provide cost-effective and efficient services to the Village.

4. The miscellaneous category (7.5%) should be handled as a change order.

Response: This line item has been removed and this change is reflected in our adjusted fee.

5. Your proposal contemplates 9-hours construction observation per day throughout the project. Please provide details concerning your concept for phasing construction over 335 days, including construction to be done from 12/01/11 to 04/01/12 and the construction observation required. It would appear that the reduce construction in the winter would require a corresponding reduction in the construction observation effort. You may elaborate on the option to only conduct construction in the 2012 construction season, the feasibility of this option, and its impact on your construction hours/fees.

Response: We propose to provide a full-time construction observer for the duration of the construction project as required and directed by the Village.

If the construction project were to begin in Spring 2012, we would anticipate that the entire project could be completed in one construction season. We believe that by considering this option, the project would receive better construction bid prices, and the project could be coordinated effectively between the contractor, Village, residents, and Clark Dietz. The uncertainty of winter-weather impacts would be eliminated. The duration of construction would be the full seven months, April – November, and project close out would occur after completing the final punch list. We recommend that the Village proceed with this option.

6. Reduce the sewer cleaning and videotaping to Phase 1 only.

Response: This change in scope has been reflected in the adjusted fee. However, we believe the Village will receive a better price for sewer cleaning and videotaping if the Village contracts for this work directly.

7. Modeling of the water distribution system will not be required. The construction will replace existing 6" watermain with 8" watermain and replace in-kind the existing 8" or 10" water mains.

Response: This change in scope has been reflected in the adjusted fee.

8. Stormwater (Green) Infrastructure: Typical rain gardens include "native" plantings to improve infiltration. Some of these native plants have roots up to 10-feet long. Please explain how rain gardens will have underground detention underneath them.

Response: Our proposed green stormwater infrastructure includes rain gardens with and without underground detention as well as paver parking areas with underground detention. Native plantings within the rain gardens proposed above underground detention/infiltration basins will be selected considering the depth of the root systems and the depth of soil above the underground detention system. The depth of soil above each detention basin will be determined during final design, but will be adequate for the plantings selected.

Appropriate plants will be selected for all landscaped areas on a site-specific basis. Native plants that are tolerant of urban runoff and varying soil moisture levels will be selected. For rain gardens with underground

detention, species selection will be based in part on form, size, and type of root system. Underground detention will have a sufficient depth of engineering soil above each system in order to promote plant growth and reduce the effect of their roots on the detention facility. Plants with overly aggressive roots will be avoided. In order to avoid damage to plants and obstruction of flow, woody plants will not be placed where flow enters the detention basin. A healthy plant cover will minimize clogging of fine soil sediments. Other considerations such as growth rate, maintenance requirements, and hardiness are also included during plant selection. Qualified personnel will select the plants, and existing manuals that provide lists of recommended species used in these systems will be consulted.

9. Permitting: Your statement "Due to the unique nature of the project and the cutting edge green infrastructure techniques being used, minimal coordination may be necessary..." It's our experience that "unique" and "cutting edge" techniques require more coordination, not less. Please explain your comments further and how you will handle increased scrutiny by reviewing agencies.

Response: We agree with your observation that unique and cutting-edge projects typically generate increased scrutiny by reviewing agencies. We may have overlooked this aspect. We do anticipate that this project will not generate extensive additional scrutiny because it utilizes green technologies that have been advocated by stormwater reviewing agencies for the past decade. Our experience is that reviewing agencies respond very favorably to green technologies. For this project in particular, with no increase in impervious, hard surfaces, the regulatory reviews should be expeditious and favorable.

10. Does your proposal include support for developing the Phase 2 Illinois Green Infrastructure Grant (IGIG) application?

Response: Yes, our proposal includes preparation of an IGIG application for Phase 2. We prepared the IGIG application for Phase 1, and this experience benefits preparing the Phase 2 application. This effort is included in the line item "Cost Estimates for Phase II and III."

Mr. Dan Deeter
February 4, 2011
Page 7

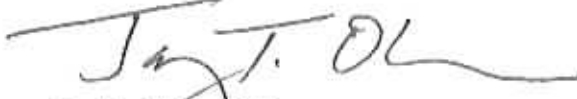
11. Does your proposal include potential coordination with IDOT (for 55th Street) and ISTHA (for the adjacent I-294 ROW)?

Response: Yes, our project includes coordination with IDOT and ISTHA. Because our proposal does not include construction within the 55th Street or I-294 right-of-way, we anticipate minimal coordination. This project will reduce the stormwater runoff to the IDOT and ISTHA right-of-way. We will communicate the nature of the proposed work, and we expect favorable responses.

We also have the following to offer. Our level of effort for Engineering Design Specifications, and Cost Estimates (construction documents) could be reduced. Our originally proposed level of effort included presentation to Village staff and Village review at the concept stage (10% complete), preliminary engineering (35 to 50% complete), pre-final construction documents (95% complete), and final construction documents (100% complete). We offer a reduction in scope that would limit submittal and review to the concept and pre-final stages. Although our preference is to provide the Village with service at the level of effort that we originally proposed, our potential scope and fee reduction for this project may provide a better alignment with Village requirements.

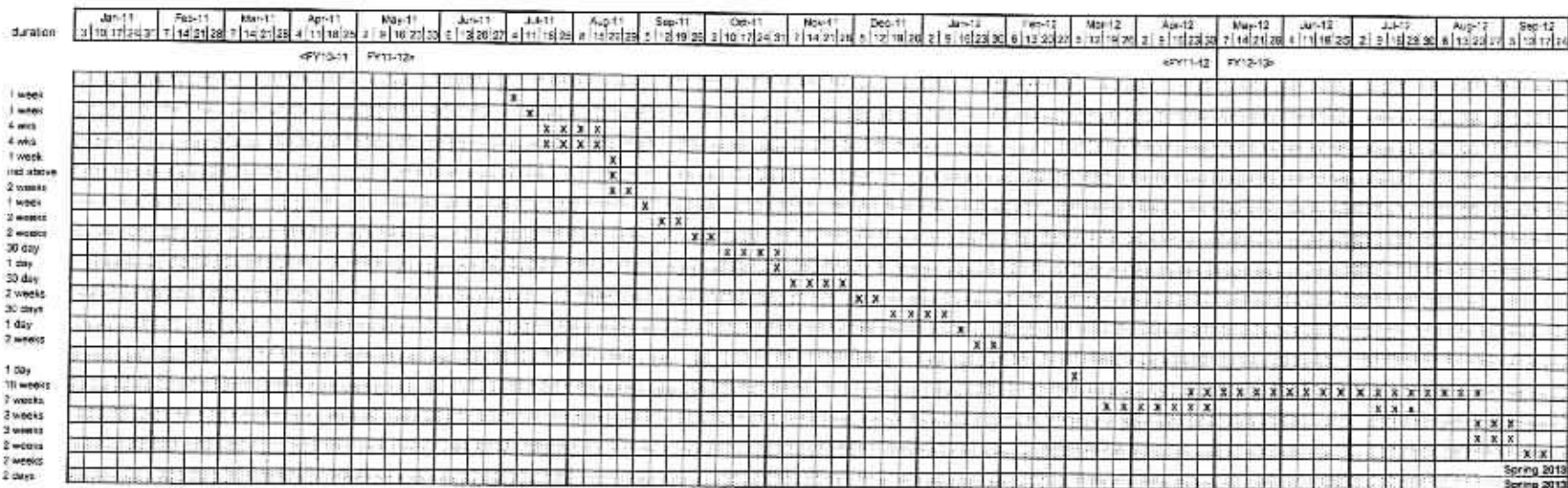
Should you have any questions, feel free to contact me at (262) 657-1550.

Sincerely,
Clark Dietz, Inc.

A handwritten signature in black ink, appearing to read "Jay T. Olson", with a long horizontal flourish extending to the right.

Jay T. Olson, P.E.
Senior Project Manager

Construction Services - utilities	
Construction - water	13 weeks
Construction - sewer lining	10 weeks



Schedule assumes few opportunities for field work based on current snow cover.
Schedule will be accelerated weather permitting

Spring 2018
Spring 2019

FEE ESTIMATE
VILLAGE OF HINSDALE
WOODLANDS INFRASTRUCTURE IMPROVEMENTS PROJECT PHASE I
CONSTRUCTION ENGINEERING SERVICES
FEBRUARY 4, 2011

PERSONNEL				CH		ITD		GP		SC/TC		AT		LABOR SUBTOTALS		TRIPS		SUBCONSULTANTS	
				QA/QC		Project Manager		Resident Engineer		Const. Observer		Project Surveyor							
				\$170 /hr		\$180 / hr		\$115 / hr		\$100 /hr		\$95 /hr				\$25 /trip			
				Hours Subtotal		Hours Subtotal		Hours Subtotal		Hours Subtotal		Hours Subtotal		HOURS AMOUNT		Trips Subtotal			
			Pre-Construction Meeting	4	\$680	4	\$720	12	\$1,380	8	\$800		\$0	28	\$1,500	8	\$200		
			Construction Observation	4	\$680	4	\$720	128	\$14,720	1330	\$133,000	20	\$1,900	1886	\$170,940	200	\$5,000		\$20,000
			Project Close Out	2	\$340	4	\$720	12	\$1,380	24	\$2,400	20	\$1,900	67	\$6,000	2	\$50		
			EPS Committee		\$0	12	\$1,320	16	\$1,840		\$0		\$0	48	\$6,960	13	\$325		
			TOTAL	10	\$1,700	44	\$7,040	188	\$19,120	1362	\$134,200	40	\$3,800	1914	\$182,060	225	\$1,625	0	\$20,000

SUMMARY				
LABOR				\$188,060
TRIPS				\$5,625
INDC. EXPENSES @ 5.0%				\$9,408
SUBTOTAL - CLARK DIETZ, INC.				\$203,093
SUBCONSULTANTS				\$20,000
TOTAL FEE ESTIMATE				\$223,093

ASSUMPTIONS:

1. Construction project duration - 8 months.
2. Full-Time observation @ 8 hours per day.
3. Clark Dietz to prepare as-built drawings.
4. Materials Testing included in proposal provided by TSC.
5. Huff & Huff to provide rain garden oversight.



ADJUSTED SCORE PER VILLAGE REQUEST AND ADDITIONAL POTENTIAL SCORE DEVIATIONS

SUMMARY			
	LABOR		5275.600
	TRIPS		34.200
VASC EXPENSES @ 7.5%			
SUBTOTAL - CLARK BROS. INC.			5344.000
SUBCONTRACTANTS			265.000
TOTAL CONTRACT			5609.000



ADJUSTED SCOPE PER VILLAGE REQUEST

[illegible]

2. MONAD=		
LOWR=		236.07E
TRIP=		56.78E
MISC. COSTS @ 7.5%		
SUBTOTAL - CLAIM DUTY INC		236.07E
LIABILITIES & ASSETS		236.00E
TOTAL FIVE YEARLY		688.07E



Village of Hinsdale



Clark Dietz
118 S. Clinton Street, Suite 600
Chicago, IL 60661
312-648-9900



January 7, 2010

Daniel M. Deeter, P.E.
Village Engineer
Village of Hinsdale
19 East Chicago Avenue
Hinsdale, IL 60521

Re: Woodlands Infrastructure Improvements Project Phase I – Hinsdale, Illinois

Dear Mr. Deeter:

Thank you for inviting Clark Dietz to provide our Proposal for Professional Services for the Woodlands Infrastructure Improvements Project Phase I. We have enjoyed being part of this exciting project from its concept to present day and hope to continue our involvement in the upcoming phases. It is abundantly clear that this is not a simple neighborhood improvement project, but rather an opportunity to be a part of a very unique and cutting edge concept within the Village of Hinsdale. There are opportunities to preserve the aesthetics of an already character-filled neighborhood, reduce the flooding potential using green techniques, and improve an aging road, water and sanitary sewer system. The Clark Dietz team will collaborate with Village staff so that the desired outcomes are achieved.

We understand the Village will select a consultant based on qualifications. The Clark Dietz team has design experience and technical knowledge in all disciplines of this project, and we are not only familiar with the Village of Hinsdale and its staff, but also with the history of the Woodlands neighborhood. Our key team members are dedicated to the success of this project and the satisfaction of the Village staff and the residents of the Woodlands neighborhood. We will be enlisting some very talented Subconsultants to round out our team. They consist of Huff & Huff, a well-known multi-disciplinary firm with award winning expertise in environmental science and green infrastructure design, Testing Services Corporation (TSC) for geotechnical services, and National Power Rodding for sewer televising and cleaning.

We look forward to working with you on this important project. Our team is confident we will deliver the value that the Village of Hinsdale is expecting. We work as a team, not just as Consultants, and we are committed to involve our clients in the decision making process to produce a successful project.

If you have any questions or desire additional information, please contact me at 630-536-6807.

Sincerely,
Clark Dietz, Inc.

A handwritten signature in dark ink, appearing to read "Jay T. Olson".

Jay T. Olson, P.E.
Project Manager



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• Project Experience	
 Project Understanding & Approach	 Section 2
 Schedule	 Section 3
 Fees	 Section 4

Technical Competence Statement



TECHNICAL COMPETENCE STATEMENT



Statement of Interest – Clark Dietz desires to provide the Village of Hinsdale professional engineering design and construction engineering services for the Woodlands Infrastructure Improvements Project Phase I.

Qualifications – Clark Dietz is no stranger to the planning and design of infrastructure improvements. We have worked closely with clients throughout Illinois and the Midwest to develop comprehensive roadway, watermain, sanitary sewer, and drainage improvements which comply with regional requirements. Coordination between all disciplines is crucial to the success of a project and we have extensive experience in accomplishing this challenge. Additionally, the Clark Dietz/Huff & Huff team has been immersed in the expanding discipline of sustainability. Some recent improvement projects include:

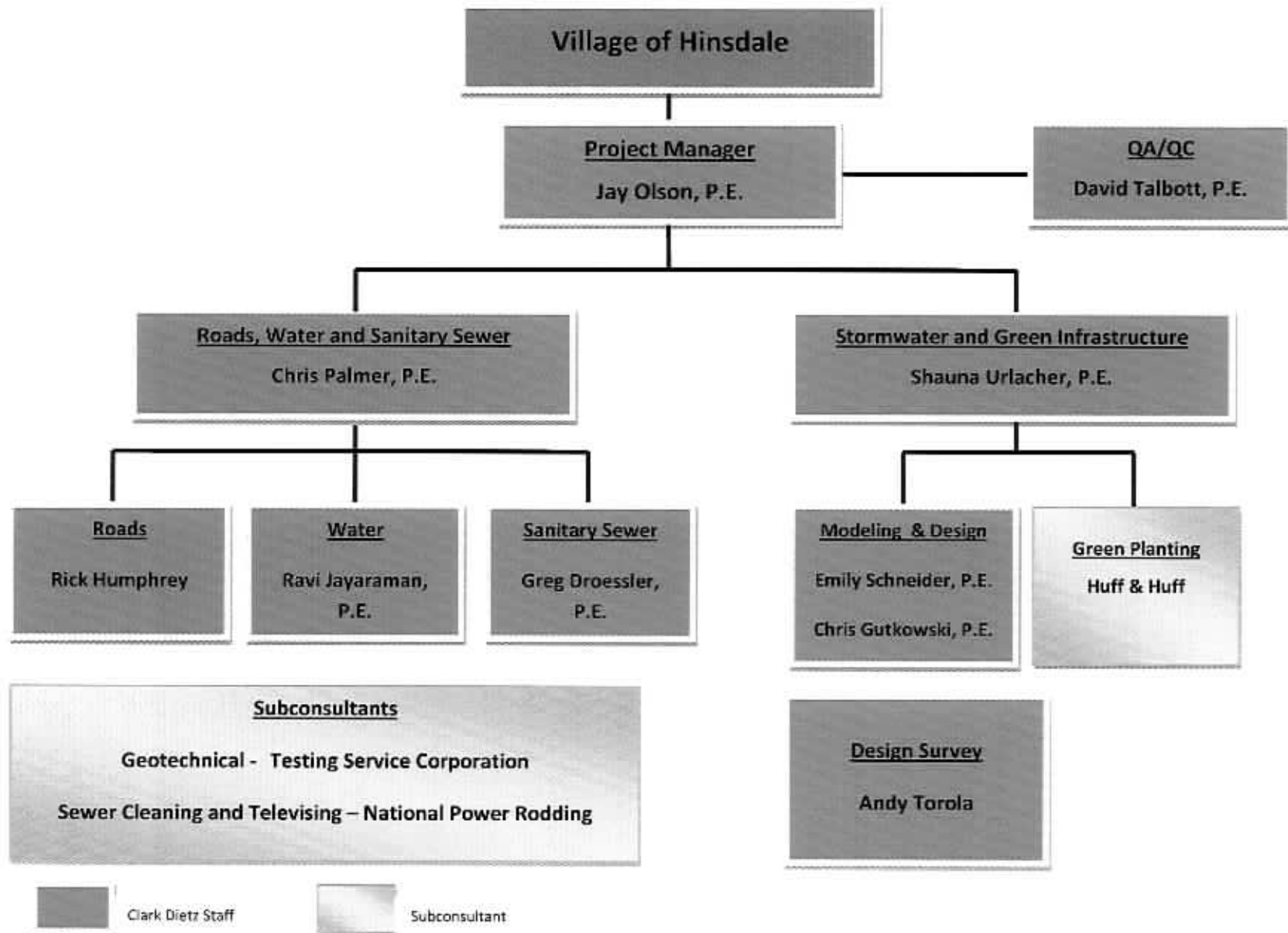
- **Woodlands Green Initiatives for Stormwater Management, Hinsdale, IL**
- **Stormwater Master Plan, Hinsdale, IL**
- **Bioswales to Improve Stormwater Quality – Interstate 294 Reconstruction – Illinois Tollway**
- **Storm Sewer and Water Main Replacement – Southeast Lake Forest, IL**
- **South Campus Stormwater Master Plan – University of Illinois at Urbana-Champaign**
- **Village of Deerfield Sustainable Stormwater Concepts, Deerfield, IL**
- **MWRDGC Pilot Studies for Permeable Pavement, Stickney, IL**
- **John Street Watershed Master Plan, Champaign, IL**
- **Sustainable Design Plan, O'Hare International Airport, Chicago, IL**

Personnel – The Village of Hinsdale can rely on the specialized talents of Clark Dietz and Huff & Huff staff to drive the Woodland Infrastructure Improvement Project through design to final plans, specifications, estimates and construction observation. Our staff and team members have outstanding knowledge of surveys, roadway reconstruction, intersection design, drainage evaluation, storm water detention, utility coordination, green infrastructure and native plantings. This knowledge will benefit the Village of Hinsdale as we work together to reconstruct the public infrastructure in the Woodlands neighborhood.

Project Team

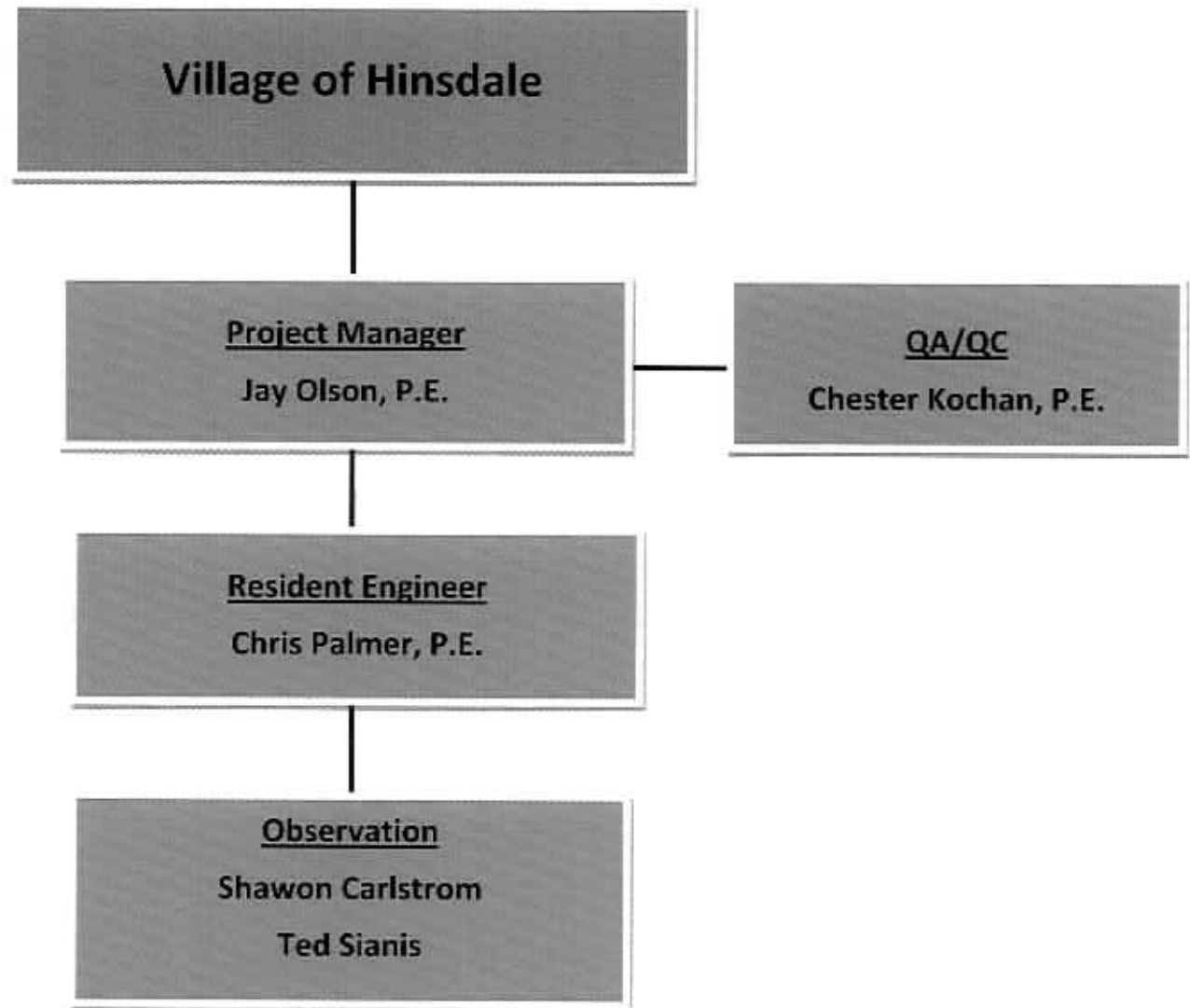
Woodlands Infrastructure Improvements Project Phase I

Design Team



Woodlands Infrastructure Improvements Project Phase I

Construction Team





Jay Olson, P.E. Project Manager

Mr. Olson has more than 33 years of development, management and civil/environmental engineering design experience on private and public sector projects. His Site Development experience includes experience in commercial, medical/health care, office, industrial, residential, senior housing and retail markets. His Public Sector experience includes street and roadway improvement projects, water, sanitary sewer and storm sewer utilities, sidewalks and bicycle trails, parks, commuter parking lots and schools.

EDUCATION

*BS, Civil Engineering, New
Mexico State University*

REGISTRATIONS

*Professional Engineer, IL
Professional Engineer, NM*

PROFESSIONAL AFFILIATIONS

*American Society of Civil
Engineers
Village of Winfield Trustee*

EXPERIENCE

33 years

Chestnut Street Improvements, Hinsdale, IL. The Village of Hinsdale contracted with Clark Dietz to design the Chestnut Street Improvement Project which incorporated the planned sewer separations along with necessary roadway, sanitary sewer and water main improvements. Village infrastructure plans for sewer separation, roadway rehabilitation and utilities were overlaid to develop the most efficient means of addressing their long term needs. The result of this collaborative planning was a comprehensive project that included 1400 feet of roadway resurfacing, 4100 feet of roadway reconstruction, and 300 feet of alley reconstruction. Additionally, this project included the installation of 1300 feet of new sanitary sewer, 700 feet of new water main, and 200 feet of sanitary sewer lining.

Combined Sewer Overflow Facility Construction, Hinsdale, IL. tank and control building construction and all related mechanical and electrical facilities, sewer construction, access road construction and associated landscaping improvements.

Kostner Avenue ARRA Reconstruction, Richton Park, IL. The Village was awarded Emergency Roadway Repair Funding to reconstruct Kostner Avenue from Sauk Trail to Poplar Avenue. The roadway was situated as the neighborhood low point where all other adjacent roadways drained to. Unfortunately the existing storm sewer was not adequately designed to handle the storm flow from the surrounding areas. The original construction of the roadway base was also compromised to a point where it was not structurally sound. The design included undercutting the roadway for the entire length and backfilling with Porous Granular material to correct the structural integrity of the road base. The storm sewer was replaced and sized appropriately to handle the storm water flow from the surrounding area. The roadway was completely reconstructed from side walk to side walk including concrete curb/gutter, hot mix asphalt pavement and aggregate base course roadway pavement.

Other experience includes:

- **Richton Park Village Engineering Services 2009-2010, IL.**
- **2011 Street Improvements, Hinsdale, IL.**
- **Meadow Lake - Stormwater Improvements Construction, Richton Park, IL.**
- **Meadow Lake Stormwater Improvements Design, Richton Park, IL.**
- **2009 Sewer TV & Clean, Richton Park, IL.**
- **Farm Trace Phase II Detention Basin Design and Permitting, Richton Park, IL.**
- **Sanitary Sewer 10-Yr Update Plan, Richton Park, IL.**
- **Farm Trace By-Pass Sewer Construction, Richton Park, IL.**

Experience Prior to Clark Dietz:

- **Wheaton Christian Grammar School - Winfield, IL.**
- **Delta Dental Office Building, Naperville, IL.**
- **North Hills Medical Office Centre - Menomonee Falls, WI.**
- **Randall Crossings Business Park, Elgin, IL.**
- **West Ridge Corporate Center, Aurora, IL.**
- **South Entrance Road, Joliet Junior College, Joliet, IL.**



David L. Talbott, P.E. **Design Services QA/QC**

Mr. Talbott is a skilled civil/environmental engineer with broad experience in both municipal and government projects. His areas of expertise include project management, civil engineering, design and construction engineering. His project experience includes road, alley and bridge reconstruction, water system improvements, wastewater treatment and sanitary sewer improvements, stormwater management plans and drainage improvements, floodplain and watershed management plans, and railroad grade separation projects. He also has extensive construction management experience. He has served as Public Works Director and Director of Engineering and Housing at a major military base.

EDUCATION

*M.S., Systems Management,
University of Southern
California*

*B.S., Engineering Management,
University of Missouri - Rolla*

REGISTRATIONS

*Professional Engineer - IL
Professional Engineer - MI*

ADDITIONAL TRAINING

*Class "C" Water Operator -
Illinois*

PROFESSIONAL

AFFILIATIONS

*American Public Works
Association*

*American Water Works
Association*

Water Environment Federation

EXPERIENCE

39 years

Project experience includes:

- Grand Avenue Underpass, Franklin Park, Illinois.
- Lake Street Viaduct Improvement Project, Chicago, Illinois.
- Prospect Avenue Bridge and Roadway Reconstruction, DuPage County, Illinois.
- North Central Line Parking Lot and Station Construction, Franklin Park, Illinois.
- 2000 -2010 Alley Paving Program, Franklin Park, Illinois.
- Water Main Replacement Program, Franklin Park, Illinois.
- 2003 Alley Paving Program, Bellwood, Illinois.
- Spring Creek Reservoir Parking Lot and Trail, Forest Preserve District of DuPage County, Illinois.
- 2000 Streets Program Construction Engineering, Franklin Park, Illinois.
- Village Engineering Services, Bellwood, Illinois.
- Green Bay Road, Wilmette, Illinois, IDOT District 1/Schaumburg.
- Beckwith Road, Morton Grove, Illinois.
- I-294 Rehabilitation From Mile Marker 0.2 to Mile Marker 5.5, Illinois State Toll Highway Authority.
- Lake Street Viaduct Improvement Project, Chicago, Illinois.
- Public Works Director working for Lake Zurich, Illinois.
- Director of Engineering and Housing, Fort Sheridan, Illinois.
- East-West Tollway, I-88, Improvements, Illinois Toll Highway Authority.
- North-South Tollway, I-294, Sound Attenuation Wall, Illinois Toll Highway Authority.
- Village Staff Engineering Services, Franklin Park, Illinois.
- Evergreen and Vista Storm Sewer Design, Addison, Illinois.
- 2003-2010 Floodplain Management, Franklin Park, Illinois.
- Industrial Area Stormwater Management Plan, Franklin Park, Illinois.
- East Dayton Road Watershed Plan, Ottawa, Illinois.
- Phase I Stormwater Master Plan and NPDES Phase II, Moline, Illinois.
- Stormwater Management and Flooding Analysis, Matteson, Illinois.
- Scott Street Lift Station Rehabilitation and Silver Creek Drive Sewer

- Separation, Franklin Park, Illinois.
- Water and Sewer Capital Improvement Plan, Bellwood, Illinois.
- Sewer System Condition Evaluation, Franklin Park, Illinois.
- Chestnut Emergency Sewer Repair Design and Construction Engineering, Franklin Park, Illinois.
- Sanitary Sewer Rehabilitation, Lake Zurich, Illinois.
- Extension of Sewer Services to Route 12 and Route 134, Fox Lake, Illinois.
- Eastside Relief Sewer Project Phase II, Wilmette, Illinois.
- Greenleaf Avenue Relief Sewer/Inlet Control Phase I, Wilmette, Illinois.
- Westside Sanitary Relief Sewer, Wilmette, Illinois.
- Des Plaines Wastewater Treatment Facility, Lake County, Illinois.
- Fox Lake Wastewater Treatment Facility, Fox Lake, Illinois.
- Well #7 Final Design, Lake Zurich, Illinois.
- Fullerton Avenue Water Main Design, Franklin Park, Illinois.
- Water Distribution Facility Plan, Franklin Park, Illinois.
- Des Plaines River Road Water Main Relocation Design and Construction Engineering, Franklin Park, Illinois.
- 2000 Scott Street Construction Engineering, Franklin Park, Illinois.
- NPDES Phase II Compliance Year 3, Franklin Park, Illinois.
- Copenhagen Detention Facility, Franklin Park, Illinois.
- Ambleside-Dimmeydale Water Main Replacement, Deerfield, Illinois.
- Water and Sewer Capital Improvement Plan, Bellwood, Illinois.



Shauna Urlacher, P.E., CFM **Stormwater and Green Infrastructure** **Lead Engineer**

Ms. Urlacher is experienced in hydrologic and hydraulic analysis of existing and proposed conditions using computer models including XP-SWMM, EPA SWMM, WinTR-20, HEC-RAS, StormCAD, Culvert Master and Flow Master. She is experienced with development of municipal stormwater capital improvement programs, NPDES Phase II programs and Community Rating System applications. Additionally, Ms. Urlacher has designed numerous flood relief projects including relief sewers, detention basins and re-establishment of overland flow paths.

EDUCATION

*BS, General Engineering,
Civil Emphasis, Montana
Tech of the University of
Montana*

REGISTRATIONS

*Professional Engineer, IL
Professional Engineer, WI
Certified Floodplain
Manager, IL*

ADDITIONAL TRAINING

*XP-SWMM Sanitary &
Combined Sewer
Modeling, XP Software
BMP Effectiveness, The
Conservation Foundation
BMP-LID Design with EPA
SWMM, IAFSM
Advanced Steady Flow
Modeling Using HEC-
RAS, U of W-Madison*

PROFESSIONAL

AFFILIATIONS

*Illinois Association for
Floodplain and
Stormwater Management
Illinois RiverWatch Network*

EXPERIENCE

8 years

Woodlands Green Initiatives for Stormwater Management, Hinsdale, Illinois.

The Woodlands neighborhood located in Hinsdale had a long history of flooding. The neighborhood consisted of narrow tree-lined streets with widespread established vegetation. Streets were without curb, gutters or roadside ditches and the severe elevation change throughout the neighborhood contributed to flooding in the lower elevations. Clark Dietz took the approach to managing the stormwater runoff by incorporating green techniques including rain gardens and bioswales to treat and detain the stormwater runoff at various locations throughout the area. A detailed analysis was performed for approximately 20% of the neighborhood which consisted of location and size of each green technology application, an XP-SWMM model showing runoff reduction amounts, as well as a detailed cost analysis. These results were used to estimate the stormwater related construction costs for the entire neighborhood. By incorporating these techniques, the stormwater conveyance piping was drastically reduced in size, and total construction costs were estimated to result in over a 60% cost savings as compared with traditional methods.

Meadow Lake Drainage Modifications, Richton Park, IL. Project included a detailed hydrologic and hydraulic analysis on three areas within the existing neighborhood. Prepared a plan, which included an expansion of the existing detention basin, conveyance for upstream tributary areas and two overflow structures from the neighborhood. Worked with Village staff, adjacent properties, IDOT and MWRD to develop a design approach to improve the drainage within the neighborhood without adversely affecting other properties within the watershed.

Stuenkel Road Phase I Hydraulic Report, University Park and Monce Township, IL. Location Drainage Study for a new interchange at Interstate 57 and Stuenkel Road. Included in this project was hydrologic/hydraulic modeling of the existing and proposed conditions, determination of the Base Flood Elevation, existing and proposed creek crossings analysis, and creek re-alignment. The project also included roadway drainage analysis, compensatory storage and detention.



Emily K. Schneider, P.E., CFM

Stormwater and Green Infrastructure Project Engineer

Ms. Schneider is a Project Engineer with experience on a variety of municipal and stormwater engineering projects. These include pavement replacement and roadway widening projects, storm drainage systems, water main relocations, sanitary sewer projects, and permit coordination.

EDUCATION

*B.S., Civil Engineering,
University of Missouri-
Columbia*

REGISTRATIONS

*Professional Engineer, WI
Professional Engineer, IL
Certified Floodplain Manager,
IL*

ADDITIONAL TRAINING

*BMP-LID Design with EPA-
SWMM, IAFSM
WinSLAMM for Urban
Stormwater Quality
Management, NASECA
Wisconsin
Designing Bio/Infiltration BMPs
for Stormwater Quality
Improvement, University of
WI- Madison
XP-SWMM Training, XP
Software*

PROFESSIONAL

AFFILIATIONS

*American Council of
Engineering Companies
Illinois Association of
Floodplain and Stormwater
Managers*

EXPERIENCE

6 years

Stormwater Master Plan, Hinsdale, IL. Project included an update of the Village's paper-based utility maps to a GIS-based environment. Worked closely with Village staff to define specific problem areas and develop Early Action Projects to address key flooding areas. Completed an XP-SWMM model of the storm sewer and identified key hydraulic bottlenecks. Also used XP-SWMM model to assist the Village in CSO Long Term Control Planning.

Woodlands Green Initiatives for Stormwater Management, Hinsdale, Illinois.

The Woodlands neighborhood located in Hinsdale had a long history of flooding. The neighborhood consisted of narrow tree-lined streets with widespread established vegetation. Streets were without curb, gutters or roadside ditches and the severe elevation change throughout the neighborhood contributed to flooding in the lower elevations. Clark Dietz took the approach to managing the stormwater runoff by incorporating green techniques including rain gardens and bioswales to treat and detain the stormwater runoff at various locations throughout the area. A detailed analysis was performed for approximately 20% of the neighborhood which consisted of location and size of each green technology application, an XP-SWMM model showing runoff reduction amounts, as well as a detailed cost analysis. These results were used to estimate the stormwater related construction costs for the entire neighborhood. By incorporating these techniques, the stormwater conveyance piping was drastically reduced in size, and total construction costs were estimated to result in over a 60% cost savings as compared with traditional methods.

Outfall Pipe Design, Fox Lake, IL. The Village of Fox Lake retained Clark Dietz to develop a long term solution to problems with the Regional Wastewater treatment plant outfall. The existing outfall consisting of 2,000 feet of 66" pipe from the plant to an outfall structure next to Pistakee Lake and 9,200 feet of 48" pipe across Pistakee Lake to the Fox River. The outfall structure and the 48" pipe have had several failures over the last several years causing unpermitted discharges to the lake. Clark Dietz completed a Phase I study which developed solutions to the outfall piping. The project entailed design and construction observation of the repairs to 657 feet of the 66" Techite pipe and 100 feet of the 48" pipe leaving the outfall structure.

Sewer D Bypass Line, Pleasant Prairie, Wisconsin. Project included design of a new 21"/24" sanitary sewer in Pleasant Prairie, WI. The project included directional drilling, extensive coordination with the Wisconsin DNR for wetland disturbance and erosion control, floodplain filling/compensatory storage, land acquisition, and a siphon under the Des Plaines Tributary.



Christopher Gutkowski, P.E. **Stormwater Modeling Project Engineer**

Mr. Gutkowski has a wide range of experience in environmental engineering planning and design, specializing in stormwater. His stormwater experience includes stormwater master plan development and hydrologic/hydraulic modeling utilizing HEC-HMS, HEC-RAS, XP-SWMM and EPA-SWMM. He has worked on projects that include low impact design, site plan review, floodplain/floodway analysis, FEMA floodplain map revisions, and capital improvement plans. Combined and sanitary sewer experience includes overflow elimination studies, system and treatment plant modeling, and sewer separation studies. He has also been involved with several community wide sewer and water main mapping projects using GIS software.

EDUCATION

*MS, Civil and
Environmental
Engineering, University of
Illinois*
*BS, Civil and Environmental
Engineering, University of
Illinois*

REGISTRATIONS

Professional Engineer, IL
*Certified Floodplain
Manager, IL*

ADDITIONAL TRAINING

ArcGIS Training
XP-SWMM Training

EXPERIENCE

6 years

Stormwater Master Plan, Hinsdale, IL. Project included an update of the Village's paper-based utility maps to a GIS-based environment. Worked closely with Village staff to define specific problem areas and develop Early Action Projects to address key flooding areas. Completed an XP-SWMM model of the storm sewer and identified key hydraulic bottlenecks. Also used XP-SWMM model to assist the Village in CSO Long Term Control Planning.

John Street Watershed Master Plan, Champaign, IL. Analyzed a flood-prone area near downtown Champaign and provided recommendations for improvement alternatives. The project included sewer system survey, detailed hydrologic/hydraulic modeling using XP-SWMM, evaluation of existing hydraulic bottlenecks, evaluation of improvement alternatives, and a report summarizing the key findings and recommendations, cost estimates and proposed schedule.

South Campus Stormwater Master Plan, Urbana-Champaign, IL. Developed a Stormwater Master Plan for the University of Illinois South Campus, focusing on sustainable design methods. Low Impact Development (LID) principles were used to develop recommendations on stormwater controls for future development that will include a research park, conference center, and residential development. Clark Dietz performed hydrologic/hydraulic modeling to confirm existing and proposed hydrologic response, and selected the appropriate stormwater controls.

Copper Slough Watershed Master Plan, Champaign, IL. Performed a study of the Copper Slough Watershed, a 10 square mile area on the west side of Champaign. Project included an XP-SWMM hydrologic and hydraulic analysis of the entire watershed, focusing on the open channel, trunk storm sewers, and large detention ponds. Solutions were developed to alleviate flooding, erosion, and reduce the potential for stormwater pollution. Special attention was given to unconventional improvements such as channel restoration, off-line stormwater detention, and stormwater BMPs within a large industrial area in the headwaters of the watershed.



Christopher Palmer, P.E. Roads, Water and Sanitary Sewer Lead Engineer

Mr. Palmer is an accomplished design and resident engineer with over 10 years of experience as a project engineer and construction manager on municipal and DOT projects. Mr. Palmer is proficient in surveying, CADD drafting, cost-benefit analysis, municipal infrastructure design, construction contract assembly, construction management, project closeout and community coordination.

EDUCATION

*BS, Civil Engineering,
Marquette University*

REGISTRATIONS

Professional Engineer, IL

EXPERIENCE

10 years

Sewer D Bypass Line, Pleasant Prairie, Wisconsin. Project included design of a new 21"/24" sanitary sewer in Pleasant Prairie, WI. The Wisconsin DNR mandated closure of Wastewater Treatment Plant "D", forcing construction of a new bypass sewer to take the flows from this location to an existing sewer located along CTH H. The project included directional drilling, extensive coordination with the Wisconsin DNR for wetland disturbance and erosion control, floodplain filling/compensatory storage, land acquisition, and a siphon under the Des Plaines Tributary. Additionally, a gravel bike path will be placed on top of the sanitary sewer to provide the base for a future bike path through the area. Clark Dietz was also contracted to perform site Construction Observation Management duties.

Experience Prior to Clark Dietz:

Rezek Henry Meisenheimer & Gende Engineers, Inc.

June 2003-August 2010: Resident engineer for several municipal clients. Responsibilities included assessing submitted site plans, engineering plan design and preparation, administering utility coordination, on-site surveying, roadway geometric design, stormwater hydraulic analysis and design, sanitary capacity analysis water main sizing and design, and specification/contract assembly. Additional duties included construction project administration of multiple infrastructure projects. Specific tasks included management of construction inspection and survey teams, construction pay request reviews, onsite quality assurance, construction quantity management, change order reviews and processing, progress report preparation, sediment and erosion quality control and public outreach to residents.

Earthtech, Inc. (AECOM)

June 1999-2003 - Project Engineer for several municipal clients on a design team for sanitary sewer design, tunnel design, large capacity stormwater design, and local WisDOT roadway design. Additional responsibilities as a CM quality assurance engineer on several municipal projects that involved MMSD deep tunnel, water, wastewater, WisDOT heavy highway, local roadway and light rail activities.



Gregory Droessler, P.E. Sanitary Sewer Project Engineer

Mr. Droessler is a skilled civil and environmental engineer with experience in municipal engineering and wastewater engineering projects. He has contributed to the design of wastewater treatment facilities, lift stations, water system improvements, as well as numerous street and utility rehabilitation projects. He also has experience with construction engineering and resident observation.

EDUCATION

*BS, Industrial Technology
Management, University
of Wisconsin - Platteville*

REGISTRATIONS

*Professional Engineer, IL
Professional Engineer, WI*

PROFESSIONAL AFFILIATIONS

*American Council of
Engineering Companies
Water Environment
Federation
Wisconsin Wastewater
Operators Association*

EXPERIENCE

14 years

Sauk Trail Sewer and Water Improvements, Richton Park, Illinois. The existing Village concept plan was reviewed to determine population projections in the area. This was used to calculate that approximately 6,000 LF of 16-inch water main should be installed along with 3,300 LF of 24-inch PVC SDR 26 and 2,500 LF of 18-inch PVC SDR 26 sanitary sewer. The project included the crossing of Sauk Trail to provide a stub to the north at Ridgeland Avenue. The proposed water and sewer mains crossed existing underground Shell pipeline, Natural Gas high pressure pipeline and Nicor Gas main. These crossings required special permit and easement provisions.

Outfall Pipe Design, Fox Lake, IL. The Village of Fox Lake retained Clark Dietz to develop a long term solution to problems with the Regional Wastewater treatment plant outfall. The existing outfall consisting of 2,000 feet of 66" pipe from the plant to an outfall structure next to Pistakee Lake and 9,200 feet of 48" pipe across Pistakee Lake to the Fox River. The outfall structure and the 48" pipe have had several failures over the last several years causing unpermitted discharges to the lake. Clark Dietz completed a Phase I study which developed solutions to the outfall piping. The project entailed design and construction observation of the repairs to 657 feet of the 66" Techite pipe and 100 feet of the 48" pipe leaving the outfall structure.

Sewer D Bypass Line, Pleasant Prairie, Wisconsin. Project included design of a new 21"/24" sanitary sewer in Pleasant Prairie, WI. The Wisconsin DNR mandated closure of Wastewater Treatment Plant "D", forcing construction of a new bypass sewer to take the flows from this location to an existing sewer located along CTH H. The project included directional drilling, extensive coordination with the Wisconsin DNR for wetland disturbance and erosion control, floodplain filling/compensatory storage, land acquisition, and a siphon under the Des Plaines Tributary

38th Street Water & Sewer Extension, Kenosha, WI. Design of 4,500 FT of new 16-inch water main and 24-inch sanitary sewers to be constructed in advance of a roadway reconstruction project. This project included phased construction, directional drilling of the water main and the use of microtunneling to install the 24-inch sewers up to 44-feet deep. Clark Dietz also provided construction staking.

Airport Water & Sewer Extension, Kenosha, WI. Designed an extension of 7,000 ft of new 16-inch water main and 11,000 ft of 24-inch sanitary sewer around the Kenosha Regional Airport. The project included wetlands crossing and phased construction. Clark Dietz also provided construction staking for this project.



EDUCATION

MS, Civil Engineering, Birla

*Institute of Technology,
India*

MS, Biological Sciences,

*Birla Institute of
Technology, India*

BS, Civil Engineering,

University of Oklahoma

REGISTRATIONS

Professional Engineer, IL

Professional Engineer, IA

Professional Engineer, WI

Professional Engineer, MI

PROFESSIONAL

AFFILIATIONS

American Council of

Engineering Companies

American Society of Civil

Engineers

American Water Works

Association

Illinois Municipal League

Water Environment

Federation

EXPERIENCE

21 years

Ravi Jayaraman, P.E. Water Project Engineer

Mr. Jayaraman is a skilled engineer with experience in the design of water treatment and distribution systems. He has been responsible for hydrologic/hydraulic analyses, project budgets and cost management. His past projects include treatment plant improvements, radium removal from ground water, design of new reservoirs and booster station, improvement to existing reservoirs and booster stations, design and installation of water mains, construction engineering and operations start-up.

High Lift Pump Replacement, Winnetka, IL. Design services for hydraulic surge analysis, pumping system analysis, equipment selection, placement, design drawings and associated bid documents to replace an existing 7.5 mgd pump with two small pumps at the Winnetka water plant.

38th Street Water & Sewer Extension, Kenosha, WI. Design of 4,500 FT of new 16-inch water main and 24-inch sanitary sewers to be constructed in advance of a roadway reconstruction project. This project included phased construction, directional drilling of the water main and the use of microtunneling to install the 24-inch sewers up to 44-feet deep. Clark Dietz also provided construction staking for this project.

Belmont Avenue Booster Station Improvements, Franklin Park, IL. Provided design services to replace four existing large size booster pumps with new pumps. Performed hydraulic evaluations, surge analysis and developed duty points for the replacement pumps. Worked with the pump vendors to select replacement pumps. The replacement pumps were selected to work efficiently with VFDs the Village had installed recently as part of a project to replace their electrical distribution system and pump controllers. Prepared contract documents for procurement of pumps, valves, piping and their installation.

Holiday Park Tower, Fox Lake, IL. Performed water system modeling and completed a study to evaluate the need for an elevated storage tank in the Village. Based on the results from the study, contract documents were designed and developed to construct an elevated storage tank.

Fountain Square Storage Facility and Booster Station, Waukegan, IL. Provided design services for construction one 9.7 MGD booster station to include 5 water booster pumps. The masonry pumping station included process piping, variable frequency drives, a 750 KW natural gas generator, instrumentation and control, electrical and mechanical and security systems, landscaping and site restoration. Assisted the City in preparing and submitting the permit applications to the Illinois EPA for the construction of the pumping station. Provided engineering services during construction of the pumping station and associated appurtenances.

Elm Avenue CDBG Water Main Improvements, Fox Lake, IL. This project included the design of approximately 2,540 FT of 8-inch PVC water main. The addition of this water main improved the water system in the area by providing a much needed loop between two existing mains. The project scope also included 7 valves with boxes, 56 1-inch services, 9 fire hydrant assemblies, a single 8-inch pressure connection, and non-pressure connections to existing water main. Also provided construction layout, construction observation, and project administration services for this project.

Other project experience includes:

- Brookfield Hills LLC Water System Study, Brookfield, WI.
- 48th & 50th Street Watermain, Kenosha, WI.
- 27th Avenue Sewer Relay, Kenosha, WI.
- Kellogg Creek Water Main Crossing Construction, Zion, IL.
- Kings Island Lift Stations Improvements, Fox Lake, IL.
- Washington Lift Station Improvements, Fox Lake, IL.
- Water System Improvements, East Dundee, IL.
- Water Treatment Facility Improvements, East Dundee, IL.
- Water Treatment Plant Construction, East Dundee, IL.
- Tall Oaks Sewer Study, Fox Lake, IL.
- Sewer & Water Rate Study, Fox Lake, IL.
- Tall Oaks Water Study, Fox Lake, IL.



EDUCATION

*AAS, Mechanical
Technology, Parkland
College*

EXPERIENCE

40 years

Richard Humphrey Roads Project Engineer

Mr. Humphrey has many years of experience with all phases of highway design and construction including survey, final design, preparation of bid documents, and construction observation. He has extensive experience in Phase I preliminary engineering studies, stormwater drainage design and pavement design. He has been integrally involved with design and construction observation for rural to urban roadway conversions and reconstructions; numerous structure replacements including box culverts, precast deck bridges, and cast in place bridges for single and multiple-span structures; parking facilities; road widening and resurfacing; intersection improvements; bridge inspections and hydraulic studies.

Chestnut Street Improvements, Hinsdale, IL. The Village of Hinsdale contracted with Clark Dietz to design the Chestnut Street Improvement Project which incorporated the planned sewer separations along with necessary roadway, sanitary sewer and water main improvements. Village infrastructure plans for sewer separation, roadway rehabilitation and utilities were overlaid to develop the most efficient means of addressing their long term needs. The result of this collaborative planning was a comprehensive project that included 1400 feet of roadway resurfacing, 4100 feet of roadway reconstruction, and 300 feet of alley reconstruction. Additionally, this project included the installation of 1300 feet of new sanitary sewer, 700 feet of new water main, and 200 feet of sanitary sewer lining.

55th Street Improvement, Downers Grove, IL. Removal and replacement of 1.75 miles of a four-lane urban arterial through a residential section of Downers Grove, Illinois. Work tasks included intersection design studies, accident analysis, retaining wall design for adjacent residential properties, storm drainage design, detailed stage construction and maintenance of traffic plans and generation of plans, specifications and estimates.

Other project experience includes:

- North Prospect Avenue Reconstruction, Champaign, IL.
- Hamilton Road Extension, Phase II, Bloomington, IL.
- Curtis Road Phase I, Urbana, IL.
- North Prospect Avenue Reconstruction - Town Center Boulevard to Olymian Drive, Champaign, IL.
- Curtis Road - Wynstone Drive to Wesley Avenue, Champaign, IL.
- John Street Phase 2 Water Main Relocation, Champaign, IL.
- Vernon Avenue Bridge over Sugar Creek - Phase II, Normal, IL.
- Lake of the Woods Road Improvements, Mahomet, IL.
- 8th Street Roadway Improvements, St. Joseph, IL.
- Bradley Avenue Intersection Improvements, Champaign, IL.
- University Avenue - Mattis Avenue to State Street, Champaign, IL.



EDUCATION

*BS, Civil Engineering,
University of Illinois at
Chicago*

REGISTRATIONS

*Professional Engineer, IL
Nat. Council of Examiners
for Eng. and Surveying*

ADDITIONAL TRAINING

*ACI Certified Concrete
Field Testing Technician
Grade 1*

*Certified Nuclear
Compaction Gauge
Operator*

*IDOT Certified
Documentation
Technician*

*IDOT Certified QC/QA
Bituminous Concrete
Density Tester*

*IDOT Certified QC/QA
Bituminous Concrete
Level I, II, III*

*IDOT Certified QC/QA
Mixture Aggregate
Technician*

PROFESSIONAL AFFILIATIONS

*American Society of Civil
Engineers*

EXPERIENCE

26 years

Chester Kochan, P.E. Construction Services QA/QC

As technical leader of construction engineering, Mr. Kochan is experienced with a wide range of transportation and infrastructure projects. He directs construction engineering services including observation, materials testing, documentation and survey activities for projects in Illinois and Wisconsin. He has successfully completed projects for IDOT, WisDOT, ISTHA, county highway departments, local municipalities, and private sector clients. His projects have included roadway and bridge reconstruction in urban and rural settings; water main extensions and replacements; and Interstate highway bridges, interchanges and roadway rehabilitations.

Combined Sewer Overflow Facility Construction, Hinsdale, IL. Tank and control building construction and all related mechanical and electrical facilities, sewer construction, access road construction and associated landscaping improvements.

IL Route 64 - North Avenue, IL 53 to Villa Avenue, Villa Park, IL. Construction engineering services for this project consisted of the total reconstruction of approximately five miles of IL Route 64 (North Avenue) from Addison Road 53 to Villa Avenue. This existing four-lane undivided roadway was replaced with a six-lane divided roadway. The pavement consisted of 10 inches of PCC over 4 inches of granular subbase over 12 inches of aggregate subgrade. Modernization of traffic signals occurred at eight intersections. Various cross streets were also reconstructed.

22nd Street Reconstruction, Oak Brook Terrace, IL. Construction engineering services during the total reconstruction and widening of 22nd Street from Illinois Route 56 (Butterfield Road) to Illinois Route 83 (Kingery Highway). New pavement consists of 8-1/2 inch jointed reinforced PCC pavement. Project also includes traffic signal modernization, interconnect, lighting, water main and storm sewer installation and all roadway appurtenances.

Sunset Drive Rehabilitation, Villa Park, IL. Construction engineering services during the reconstruction of Sunset Drive between Westmore Avenue and Westwood Avenue. Improvements included new storm sewer, sanitary sewer replacement, water main relocation and total removal and replacement of the pavement.

Other project experience includes:

- U.S. Route 30 Construction Engineering, Crest Hill and Joliet, IL.
- Edens Expressway (I-94) Roadway and Bridge Rehabilitation, Chicago, IL.
- Various I-57 Bridge Improvements, IL.
- Dundee Road Improvement, Glencoe, IL.
- Belmont Avenue - Phase 1, Franklin Park, IL.
- North Avenue Rte. 53 to Addison, Schaumburg, IL.
- Glencoe-Green Bay Road Construction, Glencoe, IL.



Shawon Carlstrom, EI Construction Observer

Mr. Carlstrom is IDOT ICORS certified and is an IDOT Certified Documentation Technician working as part of our transportation construction engineering team. He graduated from the University of Illinois at Chicago with a bachelor's degree in Civil Engineering. He has worked on projects for IDOT and local municipalities. His project experience includes roadway/bridge rehabilitation, roadway reconstruction and drainage improvements.

EDUCATION

*BS, Civil Engineering,
University of Illinois at
Chicago*

REGISTRATIONS

Engineer Intern, IL

ADDITIONAL TRAINING

*IDOT Documentation
Certified Technician
IDOT ICORS Certified*

PROFESSIONAL AFFILIATIONS

*American Society of Civil
Engineers
Chancellor's Student Service
Award
Engineers Without Borders
First United Methodist
Church Mission
Roy Howard Pollack
Scholarship
Tau Beta Pi - Engineering
Honor Society*

EXPERIENCE

8 years

Combined Sewer Overflow Facility Construction, Hinsdale, IL. Tank and control building construction and all related mechanical and electrical facilities, sewer construction, access road construction and associated landscaping improvements.

Sunset Drive Rehabilitation, Villa Park, IL. Construction engineering services during the reconstruction of Sunset Drive between Westmore Avenue and Westwood Avenue. Improvements included new storm sewer, sanitary sewer replacement, water main relocation and total removal and replacement of the pavement.

22nd Street Reconstruction, Oak Brook Terrace, IL. Construction engineering services during the total reconstruction and widening of 22nd Street from Illinois Route 56 (Butterfield Road) to Illinois Route 83 (Kingery Highway). New pavement consists of 8-1/2 inch jointed reinforced PCC pavement. Project also includes traffic signal modernization, interconnect, lighting, water main and storm sewer installation and all roadway appurtenances.

Other local roads project experience includes:

- Chestnut Street Improvements, Hinsdale, IL.
- 2008 MFT Streets Reconstruction, Hinsdale, IL.
- MFT Resurfacing Lincoln-Ernst, IL.
- MFT Resurfacing Scott Street, Franklin Park, IL.
- Franklin Avenue Resurfacing, Franklin Park, IL.

Various I-57 Bridge Improvements, IL. Construction engineering services for the improvement of 103rd Street, 111th Street, 112th Place, 115th Street, and 125th Street bridges over I-57. Work included deck removal and replacement, HMA approach roadway resurfacing, substructure repairs, underpass lighting, light poles replacement on bridge structure, overhead sign placement, traffic signals upgrading, and overhead signs modifications.

Edens Expressway (I-94) Roadway and Bridge Rehabilitation, Chicago, IL. Construction engineering services including the inspection, material testing, documentation, and layout for the 13-mile Edens Expressway (I-94) rehabilitation project. Roadway and ramp work entailed pavement patching, resurfacing, pavement marking and barrier wall replacement. Six bridges were rehabilitated; work included deck scarification and patching, parapet wall repairs, bearing replacements and microsilica overlay. The total project construction cost was \$42 million.



Theodore Sianis, EI Construction Observer

Mr. Sianis is a graduate engineer responsible for planning, design, and construction inspection on a variety of municipal projects involving stormwater drainage, sanitary sewers, lift stations, treatment plants, and street/parking lot improvements.

EDUCATION

*BS, Civil Engineering,
Purdue University*

REGISTRATIONS

Engineer Intern, IN

ADDITIONAL TRAINING

WisDOT AGGTEC

*Certification - Wisconsin
Department of
Transportation*

WisDOT PCC Technician I

*Certification - Wisconsin
Department of
Transportation*

PROFESSIONAL

AFFILIATIONS

*Indiana Water Environment
Association
Water Environment
Federation*

EXPERIENCE

3 years

Kostner Avenue ARRA Reconstruction, Richton Park, IL. The Village was awarded Emergency Roadway Repair Funding to reconstruct Kostner Avenue from Sauk Trail to Poplar Avenue. The roadway was situated as the neighborhood low point where all other adjacent roadways drained to. Unfortunately the existing storm sewer was not adequately designed to handle the storm flow from the surrounding areas. The original construction of the roadway base was also compromised to a point where it was not structurally sound. The design included undercutting the roadway for the entire length and backfilling with Porous Granular material to correct the structural integrity of the road base. The storm sewer was replaced and sized appropriately to handle the storm water flow from the surrounding area. The roadway was completely reconstructed from side walk to side walk including concrete curb/gutter, hot mix asphalt pavement and aggregate base course roadway pavement.

Ohio Street Reconstruction Phase II, Racine, WI. Project included the survey and design for the reconstruction of Ohio Street from Durand Avenue (STH 11) to 21st Street. This project is the extension of the typical section defined in Phase I portion of Ohio Street that was also designed by Clark Dietz, Inc. Included in this project was roadway lighting design, storm sewer, curb and gutter, concrete pavement, utility coordination, and public involvement.

CTH K (60th Street) Reconstruction, Kenosha, WI. This project involved the reconstruction of a 2-lane rural section of Kenosha County Highway K (CTH K) to a 4-lane urban roadway section. This project began at a railroad crossing and continued through mostly residential property and two schools ending at a major WisDOT intersection. This project improved the capacity of CTH K and due to the proximity of the schools the safety of CTH K for both motorists and pedestrians. This project also included roadway lighting, conversion of an open drainage system to a closed drainage system, railroad and utility coordination, public involvement, and coordination between Kenosha County, City of Kenosha, Town of Somers, and WisDOT.

38th Street Water & Sewer Extension, Kenosha, WI. Design of 4,500 FT of new 16-inch water main and 24-inch sanitary sewers to be constructed in advance of a roadway reconstruction project. This project included phased construction, directional drilling of the water main and the use of microtunneling to install the 24-inch sewers up to 44-feet deep. Clark Dietz also provided construction staking for this project.



Andrew Torola **Design Survey**

Mr. Torola is experienced in construction observation, topographic survey and CADD operation (AUTOCad and MicroStation). His construction experience includes staking and layout, street reconstruction, and water and sewer extensions.

EDUCATION

REGISTRATIONS

ADDITIONAL TRAINING

Curriculum: Cad Drafting Coursework, (Autocad & Microstation), College of Lake County

Curriculum: Construction Inspection, College of Lake County

Curriculum: Construction Methods, College of Lake County

Curriculum: Surveying I & II, College of Lake County

Curriculum: Subdivision Planning & Design, College of Lake County

ESRI Certificate ArcGIS 1 Haestead Methods 0 CEU in Watercad Distribution

Fundamentals of Structural Design, University of Wisconsin

GIS for Public Works, University of Madison

Network Modeling Certificate, Eagle Point Software

WisDOT Training Seminars for Geopak Software

EXPERIENCE

17 years

Sewer D Bypass Line, Pleasant Prairie, Wisconsin. Project included topographic survey and construction staking for design of a new 21"/24" sanitary sewer in Pleasant Prairie, WI.

Other projects for which Mr. Torola performed topographic survey include:

- Chestnut Street, Hinsdale, IL.
- 2011 Street Improvements, Hinsdale, IL.
- Meadow Lake Stormwater Study, Richton Park, IL.
- Meadow Lake Stormwater Improvements Design, Richton Park, IL.
- Metra Parking Lot Design, Richton Park, IL.
- NWRWRF Outfall Pipe Study, Fox Lake, IL.
- Olcott & Wilson Drainage, Harwood Heights, IL.
- Washington Avenue Sewer Improvements Design, Fox Lake, IL.
- Water Main At Kellogg Creek, LCPWD, Zion, IL.
- Howard Court Drainage Improvements, Fox Lake, IL.
- Grass Lake & Westshore Watermain Design, Fox Lake, IL.
- North Beach Access Road Design, Lake Forest, IL.
- Root River Pathway, Racine, WI.
- Bain Station Crossing Phase I, Pleasant Prairie, WI.
- Ohio Street Reconstruction Phase II, Racine, WI.
- Sewer Rehab Project, New Berlin, WI.
- Museum Topo, Kenosha, WI.
- Washington Street Topo, Kenosha, WI.
- Taylors Woods Booster Station Design, Menomonee Falls, WI.
- 30" Transmission Main, Kenosha, WI.
- 38th Street Reconstruction, Kenosha, WI.
- 38th Street Water & Sewer Extension, Kenosha, WI.
- Airport Water & Sewer Extension, Kenosha, WI.
- 104th Ave Park Topo, Pleasant Prairie, WI.
- 114th Street Storm Sewer Replacement, Pleasant Prairie, WI.
- Hubbard & Barker Street Design, Racine, WI.
- Lake Michigan Pathway, Racine, WI.



Expertise	Wetland Delineation/Permitting Ecological Issues Tree Surveys	Threatened and Endangered Species Studies/Coordination Sustainable Stormwater Concepts Stormwater & NPDES Permitting
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Water Quality & Sustainable Stormwater Concepts

- Created a concept plan for the construction of rain gardens at the Citgo Lemont Refinery designed to capture runoff from administration and laboratory buildings. Developed various options for each garden inclusive of cost estimates, maintenance requirements, and detailed engineering drawings for installation (2010-2011).
- Developed a concept plan, focusing on innovative green stormwater infrastructure and the use of rain gardens within the Woodlands neighborhood, located northeast of the intersection of 5th Street and County Line Road in the Village of Hinsdale, Illinois, to provide localized flood control (2009).
- Collection and analysis of temperature and stormwater data for the Chicago Green Roof Study (2006).

Wetland Delineation and Permitting

- Completed 404 permitting and the antidegradation assessment/401 Water Quality Certification for installation of 900 feet of sheet pile wall adjacent to the South Branch of the Chicago River within Ping Tom Memorial Park on Chicago Park District property for the City of Chicago (2010).
- Completed 404 permitting/401 Water Quality Certification/T&E Surveys for the extension of Cedar Lake Road between Illinois Route 120 and Town Line Road in the Village of Round Lake for the Lake County Division of Transportation (2010-2011).
- Completed 404 permitting for the creation of wetlands within the Chicago River at Eric Park for the City of Chicago, Chicago Park District (2010).
- Conducted wetland delineations and coordination with the FWS and the IDNR for critical habitat issues for the relocation of the Union Pacific Industrial Yard for the City of Crystal Lake (2010).
- Conducted the wetland delineation and farmed wetland determination for the Washington Street Improvement Project in the Villages of Grayslake, Hainesville, Round Lake Park, and unincorporated Lake County for the Lake County Division of Transportation. Attended and presented findings to constituents at Community Advisory Group Meetings and Public Meetings (2010).

Ecological Issues

- Conducted vegetative surveys for the proposed remediation and restoration of Big Marsh located east of South Stony Island Avenue in the South Deering in the City of Chicago. Outlined in report format the recommended preliminary vegetation management and monitoring strategy for Big Marsh in conjunction with the Calumet Open Space Reserve Plan set forth by the City of Chicago, Department of Planning & Development (2010).
- Assisted with completion of the Environmental Assessment for the Churchill Woods Dam Removal project within Churchill Woods Forest Preserve for the DuPage County Stormwater Management Division and the Forest Preserve District of DuPage County (2010).

Threatened and Endangered Species

- Field monitoring of Hine's emerald dragonfly (*Somatochlora hineana*; HED) in areas of expected HED activity over or adjacent to rail lines for the Illinois Intercity High Speed Rail project. Identified HED present, determined dragonfly density and frequency, including morning and evening activity periods (2010).
- Coordinated and assisted in Hine's emerald dragonfly habitat restoration at Keepataw Forest Preserve, Black Partridge Forest Preserve, and Waterfall Glen Forest Preserve for the Tollway related to the I-355 extension. Tasks included planting created rivulets with 15,000 plugs, numerous herbicide applications within high quality wetlands (inclusive of fens), and hand pulling/weed whacking of invasive species (2008-2010).

Section 4(f) – Section 106 and Section 6(f) Land and Water Conservation Fund Act

- Completed the Individual Section (4) Evaluation for the new St. Charles Bridge Crossing over the Fox River for the City of St. Charles. The proposed new bridge crossing is the subject of an Environmental Assessment (EA)

within the National Environmental Policy Act (NEPA) process (2010).

- Completed the structure photographs for determination of potential historic quality for the Fleming Road improvement project in Bull Valley, McHenry County (2010).

Tree Surveys

- Coordinated tree survey and preservation plan for improvements to Fleming Road in Bull Valley for McHenry County Division of Transportation. Over 1,700 trees identified (2010).
- Coordinated tree survey and preservation plan for improvements to the Illinois Route 53 and Illinois Route 56 intersection, inclusive of surveys on Morton Arboretum and DuPage County Forest Preserve District property in DuPage County, Illinois. Over 9,000 trees identified via traditional and transect methodologies (2009).
- Coordinated tree survey for Interstate 57 and Interstate 294 interchange project in Cook County for IDOT and the Illinois Tollway. Over 10,000 trees identified (Winter 2008).

Soil and Erosion Control Plan Review

- Natural gas pipeline wetland screenings, delineations, permitting via the Corps of Engineers and Chicago Collar Counties as well as Soil Erosion/Sediment Control (SE/SC) inspections for Kinder Morgan and Nicor Gas. Nicor Gas experience includes pipeline maintenance along Pipeline A in Lake County as well as review of SE/SC measures for over 300 pipeline installations in the Chicago Collar Counties (2006 to 2009).

Previous Experience

- Intern Conservation Science – Regional Floristics, Chicago Botanic Garden, Conservation Research Department. Conducted conservation research on threatened and endangered plant species in the Chicago region through the Plants of Concern Program. Performed monitoring workshops, collected baseline and demographic data, digital mapping of study species through ArcView, data analysis and presentation in grant reports and program constituents, and finalized the 2004 Plants of Concern Report. Also, assisted with herbarium management, construction of V-Plants Virtual Herbarium and federally endangered species surveys at Midewin National Tallgrass Prairie (2003-2004).
- Interdisciplinary Technician – Hawaii Volcanoes National Park, U.S. Geological Survey, Biological Resources Division. Conducted research on macro-invertebrate and gastropod composition in rodenticide (Ramik Green) treated/non-treated areas. Collected seedling depredation data to determine disparity of damage by rats, birds, and slugs in wet/mesic forests as well as seedling predation data to determine differences in rodenticide treated/non-treated sites. Documented wet/mesic forest composition (2002-2003).

Educational Experience

- M.A. Candidacy in Geography and Environmental Studies at Northeastern Illinois University
- B.S. (2002) Biological Sciences, Illinois State University, Normal, Illinois
- Wetland Delineation Training (US ACOE 2004) IWEER
- Wetland Plant Identification coursework with Dr. Robert H. Mohlenbrock Biotic Consultants, (2006 – 2010)
- Rain Garden Design coursework via the Chicago Botanic Garden (2009)
- Illinois Soil Classifiers workshop (2009)
- Midwest Ecological Prescription Burn Crew Member Training Class, Chicago Wilderness (2009)
- Erosion & Sediment Control workshop through Lake County Soil & Water Conservation District (2006- 2007)
- Certificate of Training at the Context Sensitive Solutions Street Design workshop by the Congress for the New Urbanism and the Metropolitan Mayors Caucus (2006)

Certifications

- Illinois and Indiana certified pesticide applicator
- Lake County Certified Wetland Specialist
- McHenry County Certified Wetland Specialist
- Kane County Qualified Wetland Review Specialist

Awards/ Professional Organizations

- Merit Prize received through the North Shore Garden Club for research on *D. reverchonii* (August 2003)
- Illinois Native Plant Society/Midwest Invasive Plant Network/Conservation Foundation/Chicago Wilderness



Expertise Wetland Delineation/Mitigation/Permitting NEPA Documentation/EIS, EA, ECAD
Constructed Wetland and Habitat Restoration Section 106 Reports, Section 4(f)
Threatened and Endangered Species Studies

Natural Resource Experience:

- Project manager for District 1, Illinois Department of Natural Resources Wetland Blanket contract. Coordinates and schedules staff for various work orders for proposed transportation improvement projects. Have assisted junior staff in complex delineations for this contract. Provides QA/QC of all reports and results and coordinates with the Department on schedules, budgets, and project priorities.
- Project manager for MWRDGC assessment of Upper Salt Creek Watershed. Trained staff to perform wetland and habitat investigations in the field screenings. Staff investigated over 200 areas and reported on existing conditions. Developed a project specific prioritizing system to identify highest priority sites based on a suite of field conditions keying on restoration potential. Goals were to identify areas of highest flood control/water quality benefits in the basin to the MWRDGC. (2008)
- Provided technical guidance and QA/QC oversight for the MWRDGC assessment of the North Branch Chicago River Watershed. Worked with staff to implement the field assessment and rating system developed for the Upper Salt Creek Watershed study for this watershed assessment. In addition to restoration priorities near existing streams, also assessed the ravine communities along Lake Michigan for existing conditions and restoration and enhancement potential. QA/QC of final report. (2009)
- I-294 North – Bioswale development for Illinois Tollway relative to impacts to Forest Preserve District of Cook County land. Developed plans and design of bioswales for water quality treatment of I-294 stormwater runoff. Presented updated bioswale plan to Tollway and FPDCC. Development of conceptual preliminary design of Bioswales. Prepared revisions and responses to public and FPDCC comments. (2007) Concept plan received Highest Honors from ACEC in 2008.
- Provide technical oversight and review during the contract plan/design phase for the Illinois Tollway Bioswale project. Provide comments on plan details and compliance reviews to original plan agreements between FPDCC and Illinois Tollway. (2009)
- Lead designer for a polishing constructed wetlands for the Burlington WWTP. (2007).
- Illinois Tollway – Developed systemwide Threatened and Endangered species Conservation Management Plan for addressing issues related to seaside crowfoot (*Ranunculus cymbalaria*), alkali bulrush (*Scirpus paludosus*), and bog arrow grass. As part of the Conservation Plan, continue to monitor and maintain the translocated plants and provide annual reports to the IDNR. (2006)
- I-294 North – Inventoried individuals of bog arrow grass (*Triglochin maritima*) along I-294 at Illinois Route 22 and Plaza 21. Developed a conservation plan for the translocation of these plants from Tollway right-of-way. Coordinated translocation efforts with Tollway, IDNR, and Chicago Park District and received approval for relocation to selected suitable sites in Chicago Park District sites. Led the field efforts to remove and transplant the individuals to their destination sites. Continue to monitor and maintain suitable conditions for the transplants and provide a summary report to the IDNR annually. (2006-present)
- Environmental Inspector and Coordinator for preliminary construction activities related to the Interstate 355 South Extension. Coordinated field investigations for Indiana bat, working with contractors, Illinois Tollway Authority, and federal regulatory agencies. Coordinated regular agency meetings and provided QA oversight for Section 404 submittals for haul road construction. Identified suitable habitat for Indiana bat along the corridor and assisted in overnight mist surveys and conducted overall tree preservation activities for mainline construction. (2004/2005)
- As part of the permitting activities for Interstate 355 South Extension, was part of the coordination team that developed final protocols for construction activities relative to the federally endangered Hines Emerald Dragonfly (HED). Organized monthly HED coordination meetings with all pertinent agencies and experts. These meetings were initiated in 2005 and continue to the present. Assisting Huff & Huff staff with issues related to habitat restoration for the HED.
- Coordinated native plantings to provide suitable habitat for the state and federally endangered Hine's emerald dragonfly at Keepataw Forest Preserve for the Interstate 355 South Extension. Monitored the progress of the plantings. Provided hands on assistance in plant installation and also was herbicide applicator for management activities at Black Partridge Forest Preserve adjacent to Keepataw. (2008-09)

- Conducted wetland delineations for the construction of the North Wastewater Treatment Facility (WWTF) in Burlington, Illinois. (2007). Upon completion of the delineations, developed the grading and planting plans for the proposed polishing wetland which will serve the WWTF. Reviewed proposed site hydrology to confirm plant community success.
- Conducted permitting task for Stearns Road Extension Project including the crossing of the Fox River. (Fox River Bridge EIS). Submitted permitting documents and coordinated efforts between USACE, IEPA, and Kane County. Obtained Individual Section 404 permit in 2006.
- Project manager for Environmental Inspections for the construction of Stearns Road in Kane County. This includes contractor awareness training for sensitive natural resources in the project corridor including the South Elgin Fen, McLean Blvd. Fen, James Pate Philip State Park, DeSantos Brewster Creek INAI site, and endangered species within the corridor including fishes, mussels, and various plant species. Participated in the mussel surveys and relocation for sections of Brewster Creek and its tributaries. (2007 to present).
- Prepared Conceptual Mitigation plan for the re-construction of wetland mitigation site owned and constructed by the Illinois Department of Transportation at Route 83 and Gilmer Road, found to be in non-compliance by the Corps of Engineers. Assisted engineers in preparation of grading plans. Designed mitigation site including plant communities and location of water control structures. Formally presented the plan to reviewing agencies at IDOT's annual wetland coordination meeting. Served as liaison between IDOT, Corps of Engineers and the Fish and Wildlife Service (1997).
- Provided final QA/QC and technical guidance in preparation of Wetland Technical Report for DEIS for Fox River Bridge Crossings project, Kane County, Illinois, 1997. Prepared response to comments from agencies and public (2001). Co-authored biological sections for DEIS. Conducted Supplemental Wetland delineation for one corridor of the DEIS, including threatened and endangered species survey and locating proximity to proposed roadway, as well as delineation of a hillside/slope fen wetland. Provided Floristic Quality Index compilation for delineated wetlands.
- Conducted natural resources inventory and study for proposed improvements to Interstate 80/94 near the Indiana State line including the Illinois Route 394 interchange. (2001)
- Prepared Endangered Species Translocation Plan for two plant species impacted by the Algonquin Bypass (IL Route 31). Surveyed plant locations and assisted in minimization plan. Identified suitable receiving site and assisted Natural History Survey and Illinois DNR in actual translocation activities. Coordinated effort with IDOT, INHS, IDNR, McHenry County Highway Dept and McHenry County Conservation District. (2004)
- Project manager for Metra Wetland Blanket Contract since 2002. Tasks include numerous wetland delineations and NEPA document preparation for proposed Metra Commuter Rail expansion and improvements.
 - Provided environmental inspection for 65 acre State Line Wetland Mitigation Bank for Metra. Coordinated agency reviews and approvals for the mitigation bank. Oversaw construction of the wetland bank and provided regular reporting to Metra on progress. Worked with the contractors to resolve issues during construction. Upon completion, did regular inspections of the bank to determine if goals were met. Reviewed annual reports prepared by contractor.
 - Conducted maintenance activities and delineations of new wetlands at Metra's Antioch Wetland Bank. Continue to monitor this site which received full closure from the Corps of Engineers. Maintenance activities will continue until 2011. Maintenance includes removal of invasive species with manual removal or chemical herbicide control.
 - Developed a wetland prairie/savanna restoration plan for Metra at St. Charles Park District's Campton Hills Park site to meet the requirements of a Corps of Engineers permit. Investigated suitable sites for the eventual translocation of approximately one acre of native prairie from Metra right-of-way to the Campton Hills site. Continue monitoring of the site to determine future maintenance needs.

Certifications:

- Certified Wetland Specialist – Lake County Stormwater Management Commission May, 2002
- Kane County QWRS - Qualified Wetland Review Specialist November, 2004
- McHenry County Certified Wetland Specialist- 2008
- Illinois Licensed Pesticide Applicator – 2005 to present

Presentations/Lectures:

- Lorman Education Services – Wetlands and Wetland Permitting Training Seminars – 2007 to present.
- Bioswales for Stormwater/Water Quality Benefit – I-294 – Illinois Water Environment Association (March 2008)
- Illinois State Floodplain Managers Conference (Feb 2009)

TIMOTHY R. PECENIAK, P.E.

**Professional Engineer
Geotechnical Engineering Department**

PRIMARY RESPONSIBILITIES

Project Supervision and Preparation of Geotechnical Reports.

EDUCATION

B. S. in Civil Engineering, University of Illinois, 2003

PROFESSIONAL REGISTRATION

Professional Engineer: Illinois, 2008

Illinois Registration No. 062.061269

PROFESSIONAL EXPERIENCE

Testing Service Corporation, Project Engineer, 2005 - Present

Everest Engineering, Geotechnical Engineer, 2004-2005

EXPERIENCE HIGHLIGHTS

Mr. Peceniak's primary responsibilities includes planning, supervision, analysis and report preparation of geotechnical investigations for commercial and school properties, business parks, residential developments, wastewater treatment facilities, roadways and bridges. Recommendations have included shallow footings and deep foundation systems such as drilled piers, augered cast-in-place piles and driven piles. Current duties also include creating Boring Location Plans using Auto CAD 2009 and MicroStation v8. Other responsibilities include global stability of geogrid-reinforced segmental, sheet piling and concrete retaining walls, as well as embankments, cut slopes and earthen embankments modeled by computer studies. His experience includes numerous projects where various types of retaining wall systems were evaluated for a given set of surface and subsurface conditions. He has evaluated pavement conditions and created pavement designs for large commercial and residential roadways.

His early experience as a field/geotechnical engineer included supervision of boring layout, utility clearance and supervision of geotechnical drilling and sampling, testing and observation of foundation soils and engineered fill. This work also included laboratory testing as well as direct supervision of quality control testing for concrete, asphalt and soil.

SELECTED PROJECT EXPERIENCE

CenterPoint Intermodal, Joliet, Illinois: Rail Yard, Bridges/Culverts, Pavement Designs and Deep Sewers
Seneca I-80 Railport, Seneca, Illinois: Railport, Warehouse Buildings, Roadways, Detention Basins
Cambridge Lakes North - Active Adult Model Homes, Pingree Grove, Illinois: Residential Development
Continuing Care Retirement Community, Geneva, Illinois: 3-Story Building with below Grade Parking
South Dam Modifications - Busse Woods Reservoir, Cook County, Illinois: Slope Stability for New Dam.

Specific transportation projects: Kostner Avenue Reconstruction, Richton Park; Burlington and Dumoulin Avenues and River Drive and Lacey Avenue, Lisle; Forest Avenue-Ogden Avenue to Chestnut, Western Springs; Ellington Avenue between Hillgrove and Ogden Avenue, Western Springs; 2010 Rolling Meadows Streets pavement cores; Pedestrian Bridge, Virgil Gilman Trail at Galena Boulevard, Sugar Grove; Great Western Trail Bridges and Retaining Walls, Lombard; Lacey Creek Watershed Roadway Upgrades, Downers Grove; The Morton Arboretum, Permeable Pavement Parking Lot, Lisle; Washington, Grant & Lansing Streets, Hinsdale.

MICHAEL V. MACHALINSKI, P.E.

**Principal Geotechnical Engineer
Vice President**

PRIMARY RESPONSIBILITIES

Manager Geotechnical Department
Principal Geotechnical Engineer

EDUCATION

M.S. in Civil Engineering, University of Illinois at Champaign-Urbana, 1976
B.S. in Civil Engineering, University of Illinois at Champaign-Urbana, 1975

PROFESSIONAL REGISTRATION

Professional Engineer: Illinois #062-038559, 1979

PROFESSIONAL EXPERIENCE

Testing Service Corporation, Vice President, 1992 - Present
Testing Service Corporation, Principal Geotechnical Engineer, 1989 - 1992
Testing Service Corporation, Senior Engineer, 1987 - 1989
Mirza Engineering, Inc., Senior Engineer, 1982 - 1987
Harding Lawson Associates, Project Engineer, 1979 - 1982
Testing Service Corporation, Staff Engineer, 1976 - 1979

EXPERIENCE HIGHLIGHTS

Mr. Machalinski's responsibilities as Vice President, Manager Geotechnical Department and Principal Geotechnical Engineer include providing direction of soil and groundwater investigations and associated engineering analysis. Typical projects include mid to high-rise building structures, governmental and commercial properties, business park and residential developments, infrastructure improvements, and roadways. He has provided design criteria for drilled pier, pile and mat foundations. He performs engineering analysis for bearing capacity and settlement of heavy structures using Menard Pressuremeter data; stability of cut slopes, new embankments and landfills modeled by computer studies; and hydrologic investigations related to below grade structures and retention ponds. Prior duties as Senior Engineer in the CME Department included review of engineering reports related to construction inspection services. As a Project Engineer, his duties for selected projects have included testing and observation of foundation soils, engineered fill, cast-in-place concrete, structural steel, masonry, roofing materials, sprayed-on-fireproofing, drilled piers and piles. Mr. Machalinski has also performed engineering analysis for pile load tests, underpinning of foundations, cofferdams and settlement monitoring.


RECENT BRIDGE PROJECTS

Client	Bridge Location	Bridge Details
CenterPoint Properties, Inc	Patterson & Millsdale Roads Joliet, IL	One-Span 100' in length, 36' wide
Village of Lombard	Great Western Trail Bridges Lombard, IL	Three Pedestrian Bridges
Robert H. Anderson	Jerrico Road over Blackberry Creek, Kane County, IL	Two-Span, 114' in length, 56' wide
Centerpoint Properties, Inc.	Baseline Road Extension over Lead Tracks Joliet, IL	Three-Span, 215' in length, 75' wide
Engineering Enterprise	Williams Road/DuPage Rive Warrenville, IL	Three-Span Bridge

Subconsultant Services



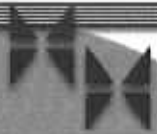
SUBCONSULTANT SERVICES



Huff & Huff is a multi-disciplinary firm with expertise in environmental science and green infrastructure design. Huff & Huff will provide design support for rain gardens, native planting, permeable pavers, and other areas where the Village would be best served by Huff & Huff's involvement. Huff & Huff's qualifications summary follows.

Testing Service Corporation (TSC) is a firm with extensive geotechnical experience in the Chicago metropolitan area. TSC will provide geotechnical engineering services for soil permeability at rain garden and permeable paving locations. They will also provide geotechnical engineering services for roadway pavement design.

National Power Rodding is a firm that specializes in sewer televising, cleaning, and maintenance. National Power Rodding will perform any televising of sanitary sewers to evaluate condition and suitability for lining as needed.



HUFF & HUFF, INC

Huff & Huff, Inc. (H&H) is a multi-disciplined firm, located in Oak Brook, Illinois providing environmental and civil engineering services as well as natural resource assessments. Founded in 1979, the firm size has increased to 30 professionals and 4 support staff; this size guarantees personal involvement and supervision on all projects. We have completed projects in 32 states; however, the primary work areas are Illinois and Indiana.



The diversity of the firm's expertise allows effective solutions for clients. Wastewater, water quality, wetlands, groundwater remediation, air pollution, water pollution, hazardous waste, waste management, noise & vibration, NEPA documents, environmental site assessments, underground storage tanks, and risk assessments are all areas where H&H routinely provides engineering services. For 30 years H&H has maintained this diversity in environmental experience.



Our work has been recognized with five Engineering Excellence awards for noise, remediation, wastewater, and water quality projects. Currently H&H is the Tollway's environmental consultant and the Illinois

DOT's statewide noise consultant, providing training and oversight on noise issues. In addition, Metra has designated H&H as its wetland consultant for three years. These responsibilities are indicative of the quality and effectiveness of H&H's work.

H&H has provided solutions to environmental issues for public- and private-sector clients. We utilize our experience and innovative approaches to "make a difference" for our clients. We make this difference through effective resolution of issues, being responsive, and listening to our clients.



FIRM BACKGROUND INFORMATION

Testing Service Corporation (TSC) has a recognized reputation for provision of professional engineering services. Since our 1954 incorporation, the firm has completed more than 76,000 projects, primarily throughout Central and Northern Illinois. The corporate project list includes large scale residential, commercial, retail and industrial development, as well as medium to large scale structures. Public infrastructure items such as roadways, bridges, tunnels, underground and earth retention systems are also included.

TSC operates from its corporate headquarters in Carol Stream, Illinois. Our firm has branch facilities in Bloomington, DeKalb, Gurnee, Rockford, Shorewood, Illinois. TSC employs a staff of more than 125 people, including 15 Professional Engineers, Structural Engineers and Geologists. Our Geotechnical Engineering and Material Engineering operational groups are supported by Laboratory and Drilling departments. These four departments can operate together or independently depending on client/project specific needs.

Geotechnical Engineering (GEO) - TSC has practiced geotechnical engineering since its 1954 incorporation. Our professional engineers have developed recommendations for standard spread footings, as well as deep foundations including driven piles and caissons. Lateral earth pressure criteria has been developed for evaluation and design of temporary and permanent support systems for deep excavations and tunnels. Data from inclinometers and Menard pressuremeters is regularly employed by TSC's geotechnical staff. In addition, our geotechnical staff is well experienced in roadway/infrastructure projects.

Construction Materials Engineering (CME) - Our CME department is staffed by about 80 personnel including eight (8) Professional Engineers. TSC technicians provide testing, observation and sampling services for soils, Portland cement and bituminous concrete, structural steel and roofing materials on construction projects. The following list highlights major field and laboratory construction materials services that are routinely provided by TSC's Construction Materials Engineering group:

Technicians receive appropriate training for the services they are required to perform. Field technicians assigned to various projects are certified and well versed in project specific requirements and information. TSC has in-house capability to provide technicians with the radiation safety training necessary for Nuclear/Moisture Density Gauge operators. Regular training for Structural Steel NDT Technicians (Certified to SNT-TC-1A for UT, Mt and PT), Illinois Department of Transportation QC/QA - Levels 1, 2 & 3, and Portland cement concrete testing using American Concrete Institute materials are elements of the continuing training provided our technicians.

TSC maintains and operates a dedicated pick-up van service for field samples. The personnel who perform this function are trained in ACI standards for handling of freshly cast concrete samples. There is a charge for this service. However, responsible and expedient treatment of sample materials makes this service a value.

Laboratory - The physical materials testing laboratory at TSC's location in Carol Stream is the largest of its type in the state of Illinois. TSC's Bloomington branch office is also equipped with a full-service physical materials testing laboratory. TSC's laboratory is an active participant in the National Voluntary Laboratory Accreditation program. The firm is a member of the American Council of Independent Laboratories.

Drilling - TSC owns, operates and maintains a drill fleet of 13 units. These drills have a wide range of configurations and access capacity including truck, rubber tire and track mounted All-Terrain Vehicle (ATV), skid and tripod. Drill supervisors are licensed, well drillers and crews have the OSHA 40-Hour Health & Safety training.

Project Experience

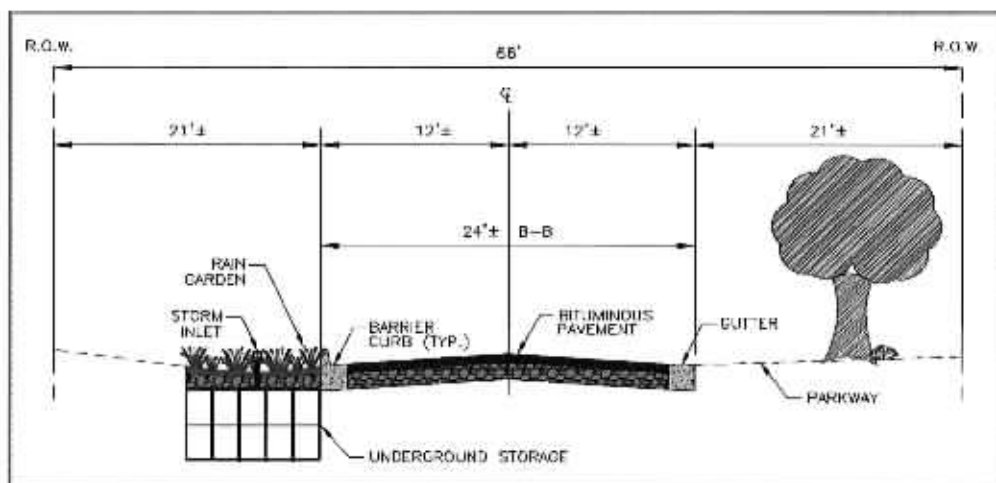


Woodlands Green Initiatives for Stormwater Management Hinsdale, IL

The existing Woodlands neighborhood located in Hinsdale has a long history of flooding. The neighborhood consists of narrow tree-lined streets with widespread established vegetation. Streets are without curb, gutters or roadside ditches and the severe elevation change throughout the neighborhood contributes to flooding in the lower elevations. A conventional analysis was previously performed to modify the roadways with curb and gutter, a storm sewer conveyance system, and several large detention basins at the low end of the neighborhood. Clark Dietz provided a different approach to managing the stormwater runoff by incorporate green techniques including rain gardens and bioswales to treat and detain the stormwater runoff at various locations throughout the area. A detailed analysis was performed for approximately 20% of the neighborhood which consisted of location and size of each green technology application, an XP-SWMM model showing runoff reduction amounts, a pollutant removal model using WinSLAMM software, as well as a detailed cost analysis.



These results were used to estimate the stormwater related construction costs for the entire neighborhood. By incorporating these techniques throughout the neighborhood, the stormwater conveyance piping was drastically reduced in size, and total construction costs were estimated to result in over a 60% cost savings as compared with traditional methods.





Storm Sewer and Water Main Replacement - Southeast Lake Forest, IL

The City of Lake Forest had experienced street flooding and water system failures in an approximately one-half square mile residential area in the southeast section of the community. Clark Dietz was retained by the City to prepare plans and specifications to alleviate the flooding and to replace the failing water system. Approximately 13,000 LF of storm sewer was upsized to pipe diameters ranging from 12 inches to 42 inches. The improvements following the recommendations outlined in a previously prepared drainage study. Plans and specifications for the replacement of the failing water distribution system in this area were also prepared. Approximately 4,600 LF of water main from 6-inch to 8-inch was upsized.

Total resurfacing of the residential streets in the affected area was also included with this project. The removal of approximately 54,500 square yards of existing bituminous roadway was followed by resurfacing. This included leveling binder and bituminous surface courses following the placement of area reflective crack control treatment. This part of the project also included spot removal and replacement of deteriorating or damaged concrete curb and gutter.

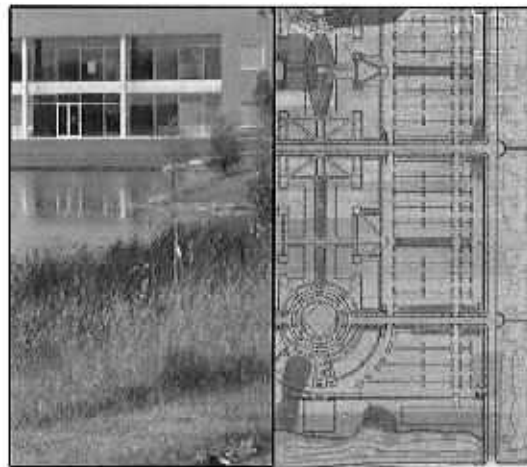
In addition to design engineering, Clark Dietz provided construction observation and contract administration for this project.





South Campus Stormwater Master Plan University of Illinois at Urbana-Champaign

Clark Dietz was contracted by the University of Illinois at Urbana-Champaign (UIUC) to develop a comprehensive stormwater master plan for the south campus area. This portion of the UIUC campus is quickly growing and University officials wanted to develop a stormwater management plan to promote enhanced stormwater quality and sustainable design.

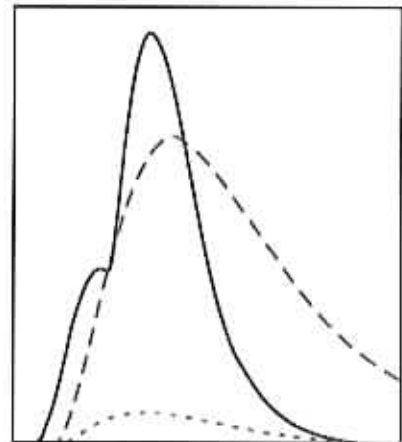


Clark Dietz worked closely with University staff to redefine the site planning process and change the way the University manages stormwater runoff. XP-SWMM stormwater modeling was used to analyze "what if" scenarios of development under current local requirements versus emerging "Low Impact Development" stormwater design techniques. This effort revealed that the University could promote stormwater

infiltration within its newly-developing areas, thus reducing the hydrologic impact of development on downstream areas. The UIUC adopted the measures in this Master Plan for all future development and redevelopment, citing its importance for sustainable development.

Key project components included:

- Developed XP-SWMM model for the south campus area
- Identified stormwater BMPs best suited for the south campus
- Evaluated impacts of sustainable design on receiving streams
- Developed project prioritization
- Identified key retrofit opportunities in developed areas
- Identified potential cost savings with a Low Impact Development approach (versus conventional design techniques),





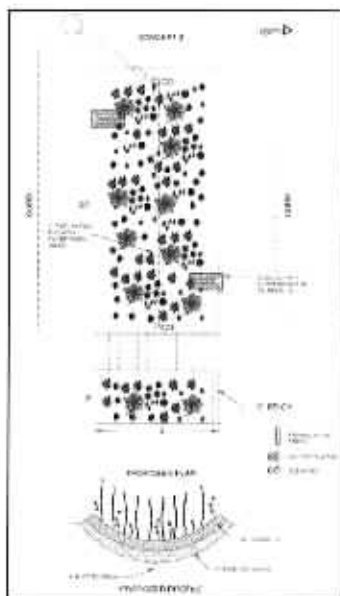
Village of Deerfield Sustainable Storm Water Concepts Deerfield, Illinois

Services Performed:

- Gathered background information
- Assessed existing conditions
- Prepared concept plan options and associated costs
- Provided oversight of implementation

Name of Client:

Barbara Little
Director of Public Works
and Engineering
(847) 945-5000



Huff & Huff, Inc. was contracted in 2009 to determine the feasibility, make recommendations, and assist in implementation for green infrastructure improvement for five sites within the Village of Deerfield.

The goal in these five areas was to reduce pollutant loading to the West Fork of the North Branch Chicago River, increase infiltration, provide aesthetically pleasing visual barriers for residences and pedestrians, and introduce and educate the community on green infrastructure and native vegetation. All five areas were adjacent to roadways, parking lots, and/or railroads, which can contain pollutants such as chloride and solids. The five areas consisted of small parking lot islands, medians, and long linear features encompassing several city blocks.

Individual green infrastructure concepts were prepared for each of the five sites based on the specific goals and existing conditions. The selected plants do not require the use of fertilizers and require minimal maintenance after they have become established. Reduction in mowing will cut down on fuel and labor costs as well as emissions from the use and transportation of the mowing equipment.

Specific tasks performed include:

- Gathered background on utilities, drainage patterns, soil conditions, and water volumes in area
- Assessed existing conditions
- Prepared concept plan options and associated costs
- Provided oversight of implementation

Installation is planned for 2011, subject to funding.



**Bioswales to Improve Stormwater Quality – Interstate 294
Reconstruction
Illinois Tollway
September 2007**

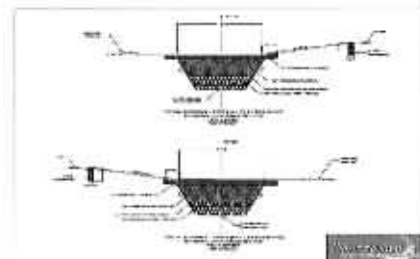
Services Performed:

- Stormwater Management Plan and Design
- Bioswale Research
- Water Quality Investigations
- Development of Various Bioswale Designs

Client Contact:
Rocco Zuccherro
(630) 241-6800

In 2004, the Illinois Tollway initiated a system-wide improvement in the Chicago Metropolitan area, including Interstate 294. One section of Interstate 294 extended through Forest Preserve District of Cook County (FPDCC) land. In 2007, the Tollway tasked Huff & Huff (H&H) with development of a stormwater management system of bioswales that offset the use of 16 acres of FPDCC lands, improved water quality, established methods of evaluating effectiveness, and could receive approval of the FPDCC Board in less than three months. This system was developed with input from stakeholder groups: the FPDCC staff, federal and state resource agencies, environmental groups, and Tollway staff.

The bioswale design study is a first in terms of its magnitude (six miles), its consensus process, establishment of performance measures, methods for analyzing effectiveness, and a maintenance plan. Twenty-one individual plans for treating stormwater over the six miles of FPDCC frontage accounted for soil types, groundwater depth, vegetation, and habitat.



The project area also encompassed known habitat for the Massasauga Rattlesnake (*Sistrurus catenatus*), a federal species of concern, and a state endangered species. The US Fish & Wildlife Service and the Illinois Department of Natural Resources were important stakeholders in the project and the bioswale designs were developed to improve habitat conditions yet discourage the migration of snakes towards the highway.





**Bioswales to Improve Stormwater Quality – Interstate 294
Reconstruction
Illinois Tollway
September 2007**

The implementation of bioswales provides an important sustainable solution in the following ways:

- A greater portion of the stormwater runoff will now infiltrate to the groundwater table, recharging the groundwater system.
- Plant diversity in the area currently receiving stormwater will be substantially increased.
- Plant density and the swale design will reduce sediment reaching the receiving stream thus, improving water quality.

These benefits will not only accrue to the forest preserve but also provide a positive benefit to the Des Plaines River watershed.

The Des Plaines River watershed drains approximately 400 square miles of land in the project area. This includes urban areas and FPDCC lands adjacent to sections of the waterway.

The watershed provides passive recreational opportunities, but currently, the water quality is not sufficient to support aquatic life uses or activities, such as swimming. Urban runoff is one factor contributing to this reduced water quality. The proposed project is an example of methods to improve storm water quality, which is an important environmental goal of the watershed. Improved water quality is one step toward the goal of greater aquatic and recreational use of the watershed.

This was the 2008 Honor Award recipient from ACEC-Illinois. The bioswale construction was initiated in 2010, and will be completed in the first half of 2011.



**Metropolitan Water Reclamation District of Greater Chicago
Pilot Studies for Permeable Pavement
West-Southwest Treatment Plant Parking Lots
Stickney, Illinois**

Services Performed:

- Prepare Plans and Specs for monitoring system
- Construction Oversight
- Start-up and Closeout

Name of Client:

MWRDCG

Contact:

Stephen Panozzo

MWH

175 W. Jackson Blvd.

Suite 1900

Chicago, IL 60604

(312) 831-3836

Huff & Huff, Inc. was contracted in 2007-2008 to prepare plans and specifications for a monitoring system to evaluate permeable pavement options for the MWRDGC. Four plots within the parking lot of the WSW plant were established to monitor the performance of alternative materials. Monitoring is being conducted at four designated test locations including:

- Porous asphalt test area
- Porous concrete test area
- Permeable pavers test area
- Control area

Monitoring is being conducted to evaluate both water quality and quantity produced by each of the test plots. The samplers and flow meters located in two equipment sheds were connected to the collection manholes using underground conduits for installation of the sampling tubes and bubbler tube connections. One sampler in each shed was provided with an input from a roof-top rain gauge. Samplers were used to monitor water quality after rainfall percolated through the pavement. Monitoring wells have been provided at the low point of each gravel bed suitable for installation of a submerged level transducer. This transducer will enable the District to determine the volume of water percolating through the permeable pavement sections. The monitoring wells will consist of twelve-inch diameter ADS drain basins including two four-inch diameter, 2 foot long perforated pipe sections provided with an end cap.

Specific tasks for this project included the following:

- Prepare monitoring plan for the test areas.
- Specifications of equipment and construction
- Prepare progress reports
- Prepare bid documents
- Provide site inspection services to keep client informed on progress of work and to ensure quality of various aspects of contractor's executed work
- Prepared operation and maintenance manual for the treatment system




**Metropolitan Water Reclamation District of Greater Chicago
Pilot Studies for Permeable Pavement
West-Southwest Treatment Plant Parking Lots
Stickney, Illinois**





PROJECT UNDERSTANDING AND APPROACH



Clark Dietz has spent a great deal of time in the Woodlands neighborhood to determine a cost-effective solution that provides the neighborhood with stormwater protection. In addition to providing the Woodlands neighborhood with better stormwater protection, the Village of Hinsdale desires to comprehensively improve roadway and utility infrastructure in the neighborhood. It is essential that an integrated team of professionals with the ability to coordinate all disciplines of this project work together to achieve a positive result for both the Village of Hinsdale and the neighborhood's residents. Sustainable design and green infrastructure are proven techniques that effectively deal with stormwater problems in smaller basin areas, such as the Woodlands neighborhood. The concept of handling stormwater runoff beginning at the upstream side and continuing throughout the area will provide the same level of protection as a conventional stormwater system. The advantages of green technology over conventional include reduced construction costs and water quality improvements. Conventional stormwater design captures and quickly discharges stormwater at the downstream side, which requires expensive and vast facilities to store the water prior to its discharge. Green infrastructure utilizes the current hydrologic aspects of the neighborhood to successfully reduce the total amount of runoff reaching the downstream area and increase the total travel time. Clark Dietz is confident that our expertise can be used to make this a successful project which will become a model for stormwater innovation in the Village of Hinsdale.

Our project team has experience in both the traditional municipal engineering aspects of the desired improvements and unique qualifications in the newer green stormwater management aspects of the neighborhood improvements. Our project team includes:

Clark Dietz design and construction engineers;

Huff & Huff environmental scientists;

Testing Service Corporation (TSC) geotechnical engineers; and

National Power Rodding sewer televising specialists.

Our approach to managing the design process will be based on integrating the roadway, watermain, sanitary sewer, and stormwater management aspects into one comprehensive set of engineering drawings and specifications that can be successfully bid and constructed. Clark Dietz's successful experience in reconstructing and rehabilitating municipal infrastructure, including roadways, watermain, and sewers, directly applies to the Woodlands neighborhood improvements. Clark Dietz's successful collaborations with Huff & Huff include the *Woodlands Green Initiatives* study that provides the conceptual basis for the upcoming design and construction.

Our team's services will begin with topographic survey of the right-of-way in the entire Woodlands neighborhood. Topographic survey, in conjunction with the Village's watermain atlases, will provide the basis for modeling of the Village's water distribution system in this neighborhood. Topographic survey will also provide the starting point for modeling and design of the green stormwater management system for the neighborhood.

To analyze the infiltration capacity of the existing soils, we will coordinate TSC's geotechnical engineering services with design of the stormwater management system. Although the design proposed in the *Woodlands Green Initiatives* study provides for the management of a 100-year design storm, we propose to evaluate geotechnical infiltration data for the purpose of increasing the level of stormwater management or providing more design flexibility. The *Woodlands Green Initiatives* study assumed infiltration rates that are close to zero. The presence of sand or gravel layers and seams within the neighborhood's clayey and silty soils would provide additional stormwater protection, if these layers and seams can be accessed by green infrastructure. Likewise, these layers and seams can provide for more design flexibility. For example, a reduction in the size of a rain garden to avoid existing trees could be offset by the underlying soil's additional infiltration capacity.

The green stormwater management system proposed for the Woodlands neighborhood is uniquely suited to maintaining and enhancing community aesthetics. Construction cost will be minimized by constructing this green infrastructure near each of the tributary private properties. This approach lends itself to minimizing disturbed area by capturing, infiltrating, and storing stormwater runoff near the source. We will continue to follow and improve the approach proposed in the *Woodlands Green Initiatives* study by utilizing small areas of available open space to provide functional rain gardens and avoiding the clearing of large areas to provide stormwater detention.

Our design methodology will rely on the use of XP-SWMM, an industry-standard dynamic model that is uniquely suited to design of stormwater management systems in urbanized areas with poor drainage. To build on services previously provided to the Village, we intend to use the XP-SWMM model developed for the *Woodlands Green Initiatives* study and expand the model to study the entire neighborhood. Huff & Huff will provide critical support for green infrastructure design by providing expertise in the native plantings and permeable pavers. Huff & Huff's expertise in the soils and hydrology required by the native plants that are integral to aesthetic rain gardens will guide design. Likewise, Huff & Huff's experience with permeable pavers and stormwater storage in the pavers' stone base will be integrated into the design of the street parking component of the project.

We will integrate the roadway reconstruction, watermain replacement, sanitary sewer system rehabilitation, and green stormwater management system design components into one comprehensive set of construction documents, consisting of drawings and specifications. We will work with the Village to include phasing requirements in the construction documents, and to minimize inconveniences to the residents during construction. We will assist the Village in bidding these construction documents and awarding the construction contract.

After the construction contract is awarded, we will provide full-time construction observation and assist the Village with the administration of the construction contract.

Roadways

The existing roadways contain a rural cross section and narrow roadway widths with intermittent parking areas. The residents wish to preserve the aesthetics of the neighborhood, while improving the condition of the existing roadways. The proposed roadway cross section will provide a consistent (20-foot) roadway width and maintain existing parking areas. All existing parking areas will be replaced with permeable pavers. A depressed curb will provide edge protection along the roadway, while also providing conveyance of stormwater runoff. Barrier curbs with curb openings will be provided to protect the proposed rain gardens. Geotechnical investigations will be performed and will be used for the pavement design.

Water Infrastructure

Data for the existing infrastructure will be obtained from Village utility atlases and supplemented by field survey. The entire neighborhood will be modeled to determine the water infrastructure improvements needed throughout the entire neighborhood. The model will be calibrated to flow and pressure test data available from the Village. This model will analyze system improvements and pipe size upgrades to provide a design that maintains the proper pressure ratings for the neighborhood. An exhibit and a report showing and describing the needed water infrastructure improvements will be provided to the Village for future planning. The improvements within the Phase I limits will be incorporated into the construction documents. Service connections will be transferred to new watermain as it is being replaced. This will limit interruptions in water service to the residences.

The Village Water Atlas will be utilized to determine the connections within the neighborhood. Phasing and notice requirements will be incorporated into the construction documents.

Sanitary Sewer Infrastructure

All sanitary sewers within the neighborhood will be cleaned and televised. Lining of the existing sewers will be maximized to reduce costs. All segments of sanitary sewer which appear severely degraded, or as determined by the Village, will be replaced in kind. The lining or replacement of sanitary sewers will be included in the construction documents.

Stormwater (Green) Infrastructure

The preliminary 7th Street Basin XP-SWMM model will be updated to incorporate topographic survey. The model will be developed to include the entire Woodlands neighborhood. Modeling the entire neighborhood at one time will be more efficient for the project as a whole and will allow adjustments to the limits of Phase I, II and III without triggering the need for model revisions.

The modeling results will be incorporated into the roadway and green infrastructure design. The intent is to maintain the original rural roadway cross sections and incorporate green infrastructure throughout the neighborhood. This approach will infiltrate and store runoff from the 100-year design storm by providing rain gardens in areas that are currently open space within the right-of-way. These areas are located throughout the neighborhood either on the side of the roadway, or within a median between the two driving lanes. In order to protect the rain garden from vehicular traffic, a barrier curb is proposed between the edge of the roadway and the rain garden. Depressed curb upstream of the rain garden directs stormwater runoff from the roadway into the rain garden. The rain garden provides water quality benefits by filtering the runoff through use of native plantings and

base soil layers. Where underground storage is proposed, a PVC inlet is proposed to provide an overflow point for the stormwater into the underground storage unit during large rain events. Since the inlet is set at an overflow elevation above the base of the rain garden, removal of sediment will occur in the ponding stormwater, thus reducing the sediment entering the underground detention/infiltration basin and decreasing required maintenance. The inlet would discharge to a filtration unit before outletting to the detention basin. Due to the design of the D-Raintank[®] system, a portion of the stormwater is able to infiltrate into surrounding native soils, while the remainder is slowly released through a small diameter restrictor pipe and routed to the downstream target area.

In addition to the proposed rain gardens, any existing parking areas within the neighborhood will be replaced with permeable pavers. The paver parking areas will also have underground detention/infiltration basins in areas where existing trees will not be impacted. The permeable paver parking areas have barrier curb around the perimeter and an overflow inlet in the curb line. All three types of improvements are outlined in the *Woodlands Green Initiatives* study.

Construction Cost Estimates

Detailed construction cost estimates for Phase I will be developed upon completion of the construction documents. These estimates will be used during the bidding process for Phase I. Due to the proposed upfront approach for surveying and modeling, more accurate preliminary construction cost estimates for Phase II and Phase III can be generated upon completion and analysis of the modeling results.

Geotechnical and Topographic Survey

Due to the previous experience Clark Dietz has with this project, a preliminary model for most of Phase I has already been completed. Therefore, there will be a reduced effort associated with identifying target areas for green infrastructure techniques. Geotechnical investigation can be performed almost immediately to determine the best locations for the green infrastructure and identify the existing infiltration rates of the soil. Soil borings will also be required along the existing pavement to ensure a proper pavement design is achieved.

Topographic survey will be performed for the entire Woodlands neighborhood at the beginning of Phase I. This will allow full watermain and stormwater modeling to occur, resulting in a more cohesive improvements concept for the entire neighborhood. Survey will include road cross sections every 50 feet and topographic details within the right-of-way of all streets (approximately 3.6 miles of roadway). Additionally, major drainage patterns and structures located within 5'± of the right-of-way on private property which may be important to the overall understanding of the stormwater runoff routes will be included.

Permitting

The Village of Hinsdale has adopted DuPage County stormwater regulations for all areas within the corporate boundaries of the Village; therefore, it is assumed that no MWRDGC permit will be required. Due to the unique nature of this project and the cutting edge green infrastructure techniques being used, minimal coordination may be necessary to ensure agreement from all agencies. In order to promote a cohesive project concept for the purpose of permitting, the upfront approach for surveying and modeling will streamline the permitting process. Although detailed construction documents will only be available for Phase I, an overall concept with regards to stormwater management and green infrastructure will be conveyed. Clark Dietz will utilize the previously developed stormwater model for existing conditions to reduce the costs associated with pre-/post-construction comparative analysis which may be required by the permitting agencies. The project will not increase impervious area of the Woodlands neighborhood and can be considered redevelopment.

In order to reduce permit costs, improvements will not be located within the Illinois Tollway Authority right-of-way and therefore will not require a permit. A permit will be required from the Flagg Creek Sanitary District. Permits will be required from IEPA for watermain and sanitary sewer.

Construction Documents

Construction Documents for Phase I will be developed in AutoCAD Civil 3D software and will include plan and profiles, grading, utility locations, erosion control plan, typical sections, and details. Planting plans for green infrastructure will be developed by Huff and Huff to include native and aesthetically pleasing species. Specifications will be developed for all aspects of the project including pre-qualified Contractors for green infrastructure construction. As a requirement of the IEPA Illinois Green Infrastructure Grant, a 10-year Operations and Maintenance Plan will be developed by Huff & Huff for the green infrastructure.

Meetings

Status meetings are a crucial portion of this project. Due to the unique nature of the proposed green infrastructure improvements, the Village staff will have necessary feedback and input to make this project a success. Clark Dietz has previously presented proposed improvement concepts to select members of the Environment and Public Services Committee, thus expediting our ability to develop construction documents in a timely fashion. The following will be conducted as part of our services:

- Bi-weekly status meetings
- Monthly EPS Committee meetings
- Bid solicitation support (distribute plans and specifications, collect fees, etc.)
- Pre-bid meeting
- Bid opening meeting
- Weekly construction meetings (during construction)

Our staff is experienced in public participation and will be available to provide additional services upon request by the Village if determined necessary during the progression of the project.

Construction Engineering Services

Construction observation services will be furnished by Clark Dietz on a full-time basis during the entire construction period. The on-site inspector will perform the following tasks:

- Attend weekly construction meetings
- Perform full-time, on-site construction observation (assumes 9 hours per day) to verify that the construction of the project is in substantial compliance with the Construction Documents.
- Maintain a project diary and provide weekly progress reports. Keep field notes for documentation of payable work as well as allow for verification of the Contractor's submitted Record Drawings. Advise the Village of any changes or conditions that impact the project in a timely manner.
- Serve as the Village's liaison with the Contractor, public/private utilities, various jurisdictional agencies, and the general public.

- Documentation of quantities, quality assurance, arranging for materials testing, and other documentation as may be required.
- Daily review and inspection of traffic control items and erosion control plan implementation and maintenance.
- Alert the Contractor's field superintendent when un-approved materials or equipment are being used and advise Village of such occurrences.
- Provide on-site representation so that the Contractor can meet the necessary requirements of Public Act 96-1416 to include environmental assessments and PE Certification of the site of origin.
- Review and provide recommendation to the Village concerning applications for payment by the Contractor and Change Order requests.
- Upon substantial completion, prepare a final punch list and follow-up with Contractor to complete punch list items.
- Coordinate with the Contractor to provide a complete set of Record Drawings.

Woodlands Infrastructure Improvements Project Phase I Schedule

	Tasks	2011												2012												2013												2014												
		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	
Initial High Level	Field Survey																																																	
	Watermain Modeling																																																	
	Sewermain Modeling																																																	
	Civil/Structural Engineering (Utilities)																																																	
Phase I Design	Civil/Structural Engineering (Road)																																																	
	Transiting Sanitary Sewer																																																	
	Construction Documents																																																	
	Permitting																																																	
	Bidding and Award Support																																																	
Phase I Construction	Sanitary Sewer Lining																																																	
	Underground Utilities																																																	
	Green Infrastructure																																																	
	Roadway																																																	
	Restoration & Native Plantings																																																	
Phase II Design	Geotechnical Engineering (Road)																																																	
	Transiting Sanitary Sewer																																																	
	Construction Documents																																																	
	Permitting																																																	
	Bidding and Award Support																																																	
Phase II Construction	Sanitary Sewer Lining																																																	
	Underground Utilities																																																	
	Green Infrastructure																																																	
	Roadway																																																	
	Restoration & Native Plantings																																																	
Phase III Design	Civil/Structural Engineering (Road)																								</																									

PRP ESTIMATE
VILLAGE OF HUNTSVILLE
WATERLINES INFRASTRUCTURE IMPROVEMENTS PROJECT PHASE I
ENGINEERING DESIGN, PERMITTING & BIDDING
JANUARY 7, 2023

	BLT		PDC		EPF		SBU		EAT		B&I		R&D		D&S		CIC		T&S/TF		A/T		LABOR SUBTOTALS		TRIPS		SUBCONSULTANTS	
	QUAKE		Project Manager		Lead Engineer		Lead Engineer		Tech Lead Eng		Tech Lead Eng		Project Engineer		Project Engineer		Project Engineer		Project Engineer		Project Engineer				STG/Trp			
	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal	Hours	Subtotal
Kick-off, Site Recon, Data Collection & Research	22	22	22	22,000	18	22,000	18	22,000	20	22,000	20	22,000	20	22,000	20	22,000	20	22,000	20	22,000	20	22,000	20	22,000	20	22,000	20	22,000
Field Topographic Survey	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Geotechnical Investigation	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Asset Counting & Tagging	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Asset Modeling	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Asset Classification Modeling	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Engineering Review, Specifications & Cost Estimates	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Green Stormwater Infrastructure	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Roads	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Water	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Sanitary Sewer	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Electricity	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Storm	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Tree Estimates for Phases B & C	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
DAVID	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
Single Annual Meetings	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
GPS Device Fee	22	22	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000
TOTAL	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000	22	22,000

SUMMARY	
LABOR	\$187,888
TRIPS	\$6,650
IN-DC EXPENSES @ 7.5%	\$12,778
SUBTOTAL - CLARK DIERZ, INC.	\$496,296
SUBCONSULTANTS	\$11,000
TOTAL/ESTIMATE	\$496,296





ENGINEERING RESOURCE ASSOCIATES, INC.
Consulting Engineers, Scientists, & Surveyors

February 4, 2011

Mr. Dan Deeter, PE
Village Engineer
Village of Hinsdale
19 East Chicago Avenue
Hinsdale, Illinois 60521-3489

Subject: Updated Proposal for Engineering and Environmental Services
Woodlands Infrastructure Improvements
Hinsdale, Illinois

Dear Dan:

Engineering Resource Associates, Inc. (ERA) is pleased to submit this updated proposal for engineering and environmental services for the Woodlands Infrastructure Improvements project. The proposal has been updated to supplement our original proposal dated January 7, 2011. The updated proposal has been prepared in accordance with your email dated January 31, 2011, our recent discussions and our experience on similar assignments.

Project Understanding

The Woodlands-Highlands neighborhood is located in southeast Hinsdale. It is bounded by County Line Road on the west, 55th Street on the south, Interstate 294 on the east and Woodside Avenue on the north. The neighborhood has a long history of storm water problems related to inadequate surface water management facilities. These problems include poorly drained roadways, rear yard flooding and damages to homes and other personal property. The poor drainage has also contributed to the deterioration of the existing roadways in the project area.

Two storm water management studies were performed from 2007 to 2009 to analyze the existing conditions and alternative improvements. The first study advocated extensive storm sewers and underground storage facilities. The second study advocated a "green" approach including a combination of rain gardens, bio-swales and other best management practices. The Village of Hinsdale now desires to retain an engineering and environmental consultant to develop a "green" plan that meets the primary goals of the project including a higher level of protection against stormwater damage, preservation of the neighborhood's rural character and preservation of existing trees. It is anticipated that the project will be constructed in three phases over three years.

The Village of Hinsdale has budgeted \$4.8 million for the first phase of construction. This budget includes a potential \$750,000 Illinois Green Initiatives Grant.

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Topographic survey, geotechnical analysis and the stormwater management study will be performed for the entire project area. Upon acceptance of the proposed scope and limits of improvements, final engineering and construction engineering will be performed for the first phase of the project.

The first phase of the project, entitled The Seventh Street Basin, will extend from the north side of the watershed boundary which is located north of 7th Street to the north side of Woodland Avenue. The project limits may be shifted further north of Woodland Avenue to conform to drainage boundaries and budgetary limitations. According to the original request for proposals, the first phase will consist of the reconstruction of approximately 6,600 feet of roads, 6,100 feet of new water mains, 2,900 feet of cleaning and lining of sanitary sewers and "green" stormwater infrastructure improvements.

The roadways will be reconstructed with an HMA pavement and a PCC edging. Sanitary sewers will be cleaned and televised within the first phase area to determine the extent and location of repairs and internal lining. The existing water mains are undersized by current standards and will be replaced by 8" and 10" diameter PVC pipe. A limited analysis of the water main system within the entire Woodlands system will be performed. The evaluation will be based upon the static pressure values of the existing system adjacent to the Woodlands neighborhood provided by the Village. The water main system will be evaluated using EPANET under dynamic fire flow conditions to ensure that adequate pressure is provided for fire protection throughout the system.

The proposed stormwater management system will incorporate best management practices (BMPs) as described in the report entitled Woodlands Green Initiatives or Stormwater Management Feasibility Study (December 2009). Utilizing BMPs such as rain gardens, bio-swales, and other BMPs will provide the opportunity to reduce the volume of runoff that is conveyed downstream and will allow for the capture of pollutants prior to being conveyed off-site. The design of the BMPs will be affected by numerous factors including existing soil characteristics for infiltration capacity, amount of tributary area contributing to each BMP, and the amount of area available for installation. Other stormwater improvements may also be implemented to provide a higher level of protection such as storm sewers and underground storage facilities.

The feasibility study included a preliminary stormwater management system layout for the 7th Street Basin. The criteria used for the layout of the BMPs and other stormwater infrastructure within the 7th Street Basin will be extended to the other phases in order to develop a green infrastructure approach that provides the similar benefits throughout the entire project area. These facilities will be sized using XP-SWMM which has the ability to dynamically simulate the performance of the various BMPs, stormwater storage areas, and pipe systems.

It is anticipated that the first phase of construction will begin in March/April 2012 and it will be completed in November/December 2012. The consultant will provide full-time resident engineering services during this period.

A listing of anticipated project limits for each phase is provided on the following page. As discussed above, phase limits may be adjusted based upon drainage divides and budgetary constraints.



Table One – Project Limits

Location	From	To	Length
Phase I Limits			
East 7 th Street	County Line Road	McKinley Lane	850'
East 7 th Street	Taft Road	Harding Road	1,040'
Cleveland Road	East 7 th Street	Woodland Avenue	850'
McKinley Lane	East 7 th Street	Woodland Avenue	1,050'
Taft Road	East 7 th Street	Woodland Avenue	1,090'
Wilson Lane	East 7 th Street	Woodland Avenue	1,300'
Harding Road	East 7 th Street	Woodland Avenue	1,120'
Sideyard between	707 and 723 Taft	720 and 736 Wilson	450'
Sideyard between	805 and 811 Taft	806 and 814 Wilson	450'
Sideyard between	651 Dlwd/705 McK	708 Taft and 707 7th	460'
Woodland Park	East of Harding	Adjacent to Phase I	800'
Phase I Subtotal			8,560
Phase II Limits			
Woodland Avenue	County Line Road	Harding Road	2,325'
Cleveland Road	Woodland Avenue	55 th Street	1,330'
Taft Road	Woodland Avenue	Harding Road	860'
Harding Road	Woodland Avenue	Taft Road	1,355'
Sideyards &	708, 712, 730 and	955 Taft	1,000'
Backyards between	738 Woodland		
Sideyard between	902 Harding	906 Harding	250'
South of Lot 955	Cleveland Road	Taft/Harding/55 th	450'
Woodland Park	East of Harding	Adjacent to Phase II	1,650'
Phase II Subtotal			9,220
Phase III Limits			
Woodside Avenue	County Line Road	I 294	2,355'
6 th Street	County Line Road	Princeton Road	1,390'
Princeton Road	6 th Street	Harding Road	1,475'
Princeton Road	Woodside Avenue	6 th Street	335'
Dalewood Lane	6 th Street	East Terminus	830'
Bittersweet Lane	West Terminus	I 294	1,015'
Phase III Subtotal			7,400'
Project Grand Total			25,180'



Scope of Services

ERA will provide engineering and environmental services in accordance with the following work plan.

Design Phase

1. **Meetings and Coordination** - The following meetings are anticipated during the design phase of this project:
 - a. Kick-Off Meeting - Meet with Village of Hinsdale staff to discuss project issues, compile background information and initiate project. (1 meeting)
 - b. Status Meetings - Meet with Village staff during design period to review status and discuss relevant issues. It is anticipated that we will meet on a monthly basis.(8 meetings)
 - c. Public Meetings - It is assumed we will not be required to attend any public meetings during the design phase.
2. **Data Gathering** - This task includes the acquisition of data available from various sources to aid in the inventory and delineation of existing conditions. The following items will be obtained:
 - a. Existing and Proposed XP-SWMM models will be provided by the Village
 - b. GIS Data from Village
 - c. Tax maps
 - d. Utility Atlases (Storm, Sanitary, Water)
 - e. Private Utility Atlases (Gas, Electric, Telephone, Cable T.V.)
 - f. DuPage County Topographic Mapping
 - g. 2ft. Contour Mapping by Aerometric
 - h. Benchmarks from Village of Hinsdale
 - i. Aerial photos of the project area
 - j. Village of Hinsdale standard contract documents, forms, and construction details
3. **Geotechnical Analysis** - This task includes obtaining pavement cores and soil borings within rights of way throughout the Phase I, Phase II and Phase III project limits. It is anticipated that corings/borings will be acquired every 500 feet. 10 feet deep borings will be acquired at potential rain garden and bio swale locations. We have included 25 corings and 25 borings in the project scope. In addition to standard soils testing, this work also includes an evaluation of soil infiltration rates at boring locations using piezometers. Soil borings will be reviewed to assess the potential paths of subsurface flow. This work does not include modeling or evaluation of groundwater flows in the project area. This work will be performed by our geotechnical sub-consultant, Rubino Engineering.
4. **Field Survey** - This task will include a topographic survey along the Phase I, Phase II and Phase III project limits as described on Table One - Project Limits. Along streets, the survey will extend from right of way to right of way. Along side yards and rear yards, the survey will extend from house to house. For Woodland Park, the survey will be performed within the limits of the park property. The field survey will be performed using our in-house electronic total stations and data recorders. Survey information will be downloaded directly into our AutoCAD based electronic drafting system. The following planimetric features will be surveyed:
 - a. Vertical and horizontal locations of topographic features within the rights-of-way including hydrants, valves, manholes, inlets, power poles, trees, edge of pavement, sidewalks, signs, driveways and found property corners.
 - b. Cross sections will be taken every 50 feet and at every driveway.



- c. Scope of services does not include plats of survey, plats of easement or acquisition related services
- 5. **Base Plans and Profiles** - Information compiled from the field survey and data gathering tasks will be combined to produce base plans at a scale of 1" = 20'. Base Plans and Profiles will be prepared on our CAD system conforming to Village of Hinsdale graphic standards. Base plans will be submitted to the Village and private utility companies for review and comments.
- 6. **Analysis and Evaluation** - ERA will analyze and evaluate the following design elements for this project.
 - a. **Water Main Replacement** - This task includes the modeling of the water system within the Phase I project limits using EPANET. It is anticipated that the first phase will require the installation of approximately 3,900 feet of 8" diameter PVC water main and 2,200 feet of 10" diameter PVC water main.
 - b. **Sanitary Sewers** - This task includes light cleaning and televising of existing sanitary sewers within the Phase I project limits. Based upon the request for proposals, it is anticipated that this work will be performed along 2,900 feet of 10" and 12" diameter sanitary sewers. This work does not include heavy cleaning which may be required depending upon existing conditions within the sewers. Heavy cleaning and televising beyond the lengths described herein may require additional fees. This task also includes review of television tapes and logs to determination of sewer repair locations.
 - c. **Roadways** - It is understood that all the existing roads within the Phase I limits will be reconstructed with HMA pavement and a concrete edge protection. This task includes the design of pavement sections based on geotechnical conditions and vertical profile design. It is our understanding that there will be no new sidewalks constructed as part of this project.
 - d. **Storm Water** - This task includes the development of a stormwater management plan using the previous studies as a guide. The goal will be to develop a "green" plan that provides a high level of protection (up to a 100-yr level) while preserving the rural character of the Woodlands area and maximum preservation of trees. The existing conditions XP-SWMM model prepared by others will be reviewed and updated for the Woodlands project area (Phases I, II, and III). Critical duration analyses will be performed for the 2-year, 10-year, and 100-year storm events (Bulletin 70 rainfall with Circular 173 Huff quartile distributions) to determine the critical existing condition flows and elevations at selected locations throughout the project area. These locations will be used as a point of comparison to evaluate the performance of the following proposed alternatives against the existing conditions.
 - i. **Alternative One** - Extend the Green Initiatives Concept throughout the project area (Phases I, II and III)
 - ii. **Alternative Two** - Combine the Green Initiatives Concept with additional storm sewers and underground storage to provide a higher level of protection
 - iii. **Alternative Three** - Combine the Green Initiatives Concept with additional storage within streets and median areas to provide a higher level of protection
 - iv. **Alternative Four** - This alternative may include combinations of the above and consideration of a lower level of protection to conform to budgetary limitations.
 - v. Each BMP will be sized using XP-SWMM. This task includes an evaluation of the relative cost and effectiveness of each alternative. We will prepare a summary memorandum detailing the analysis, presenting results and providing a recommended course of action. Upon selection of the preferred alternative, we will prepare a proposed condition model for all three phases



that will be used during design. The current assumption is that there will be no new (added) impervious area or significant regrading of the pervious areas. Since new impervious area is anticipated to be less than one acre, our scope of services does not include preparation of a DuPage County Stormwater and Flood Plain permit application.

- e. **Cost Opinions** – We will measure proposed quantities, and, using our extensive data base of recent unit prices, develop a preliminary engineer's opinion of probable construction cost for the proposed improvements for Phases I, II and III.
- 7. **Permitting and Grant Assistance** – The following permit and grant assistance services are anticipated. It is anticipated that all permit fees will be paid by the Village of Hinsdale.
 - a. **Stormwater Permitting (Phase I)**
 - i. Currently, the Village applies the DuPage County Countywide Stormwater and Flood Plain Ordinance for use in both the DuPage and Cook County portions of the Village. The MWRDGC is in the process of preparing a Countywide (Cook County) stormwater watershed management ordinance. For the purposes of this proposal, it is assumed that the MWRDGC ordinance will not be adopted and enforced until after this project begins.
 - ii. The following regulatory stormwater stakeholders that might be involved with the management of stormwater through the site will be contacted as part of the design process.
 - 1. Village of Hinsdale
 - 2. Metropolitan Water Reclamation District of Greater Chicago – no permit anticipated
 - 3. Illinois State Toll Highway Authority– Tri-State Tollway (I-294) – permit to discharge to ISTHA right of way
 - 4. Illinois Environmental Protection Agency – NOI permit
 - 5. Flagg Creek Water Reclamation District – May need a permit for disconnection of storm water flows.
 - 6. United States Army Corps of Engineers – no permit anticipated
 - 7. Illinois Department of Natural Resources – Office of Water Resources – no permit anticipated
 - b. **Sanitary Infrastructure (Phase I)**
 - i. Since this work involves lining and maintenance of existing sewers and no new sewers will be constructed, it is anticipated that no permit will be required.
 - c. **Water Infrastructure (Phase I)**
 - i. This task includes preparation of an IEPA water main construction permit.
 - d. **IGIG grant coordination (Phase II)**
 - i. ERA will provide support to the Village for developing the Illinois Green Initiatives Grant for Phase II of the project. This includes preparation of text and exhibits in accordance with grant guidelines.
- 8. **Plans, Specifications, & Estimates (PS&E)** - This task includes the preparation of PS&E for Phase I in accordance with Village of Hinsdale and IDOT standards and requirements.
 - a. Final Phase I plans will include the following sheets.

i. Cover Sheet and Location Map	1 sheet
ii. General Notes and Typical Sections	2 sheets
iii. Summary and Schedules of Quantities	3 sheet
iv. Alignment and Ties	1 sheet
v. Proposed Plan and Profile Sheets	15 sheets
vi. Drainage and Utility Sheets	15 sheets
vii. Stormwater Pollution Prevention Plans	3 sheets



- viii. Landscaping/BMP Plans and Details 5 sheets
 - ix. Construction Details 3 sheets
 - x. Cross Sections 30 sheets
 - xi. Total Sheets 78 sheets
 - b. Specifications will be prepared in the format required for IDOT projects. The specifications will reference IDOT standard specifications and the Village's standards. Bid documents and unit price bid item quantities will be included. Contract documents will conform to the standard IDOT format and will include bid forms, instruction to bidders, contract forms, bonding and insurance requirements, and state and federal compliance requirements.
 - c. This task also includes the preparation of a final engineer's opinion of probable construction cost for the proposed Phase I improvements.
 - d. PS&E will be submitted for review and approval at the 75%, 90% and 100% stages of completion.
- 9. Bidding Assistance** – This task includes the following tasks required to successfully bid the project.
- a. We will provide reproducible plans and specifications for printing and distribution by ERA. We will charge a pickup fee to potential contractors to offset printing and distribution costs.
 - b. We will respond to bidder questions and preparing addenda and distribute addenda as required
 - c. We will attend the pre-bid meeting and the bid opening
 - d. We will tabulate bids and check for accuracy
 - e. We will review bids, contact references and provide an award recommendation

Construction Phase – Phase I – ERA will provide full time construction engineering and material testing services in accordance with the following work plan.

- 1. Meetings and Coordination** - The following meetings are anticipated during the construction phase of this project:
- a. Pre-Construction meeting with contractor, sub-contractors, Village of Hinsdale staff, testing sub-consultant staff, utility companies and others.
 - b. Weekly project meetings to review contractor progress, discuss project issues, coordinate with other contractors and review upcoming operations.
 - c. Distribute meeting summaries to attendees and other interested parties.
 - d. Coordinate with testing consultant and contractor to ensure material testing conforms to contract requirements.
 - e. Environment and Public Services Committee Meetings – Attend monthly meeting during construction phase to update the progress of the project.(11 meetings)
- 2. Shop Drawings & Submittals**
- a. Record data received, maintain a file of drawings and submissions, and check construction for compliance with them.
 - b. Review shop drawings and other submittals from the project contractor for conformance with the requirements of the contract documents. Notify the Village of any deviations or substitutions. With the notification, provide the Village with a recommendation for acceptance or denial, and request direction from the Village regarding the deviation or substitution.
- 3. Scheduling**
- a. Monitor contractor's progress and adherence to project schedule.



- b. Review schedule with contractor on a daily basis and require contractor to update schedule on a weekly basis as necessary.
- c. Track and record calendar and working days as they are expended.

4. Construction Observation

- a. Provide one, full-time resident engineer for the anticipated construction period from March, 2012 through November, 2012.
- b. Serve as the Village's liaison with the contractor primarily through the contractor's superintendent, public/private utilities and various jurisdictional agencies.
- c. Arrange required material testing with the testing sub-consultant.
- d. Review weekly progress, prepare a weekly summary to be approved by the Village and distributed by mail to the interested parties.
- e. Daily review and inspection of traffic and erosion control items including completion of a weekly barricade check report.
- f. Maintain a database of names, addresses and telephone numbers of subcontractors, contractors, suppliers, and utility companies and other entities involved with the project.
- g. Alert the Contractor's field superintendent when un-approved materials or equipment are being used and advise the Village of such occurrences.

5. Documentation

- a. Track and measure contract pay item quantities using Inspector's Daily Reports.
- b. Keep and maintain a daily diary summarizing contractor operations, coordination activities, weather, project issues, etc.
- c. Collect and file material tickets.
- d. Prepare weekly reports.
- e. Submit project documentation to ERA office for use in reviewing contractor pay request.
- f. Track contractor time and materials expended on extra work items.

6. Material Testing

- a. Our sub-consultant, Rubino Engineering, will be on site and at the plant during paving operations to ensure all HMA and PCC materials meet the requirements of the specifications.

7. Pay Request & Change Order Review

- a. Review applications for payment and compare to documentation records on a monthly basis.
- b. Forward recommendations for payment to Village staff.
- c. Review change order documentation and justifications.
- d. Forward change order recommendations to Village staff.

8. Project Close-Out

- a. Prepare a list of items for correction by the contractor.
- b. Review testing results and incorporate into punch list.
- c. Work with Village staff to incorporate items into the punch list.
- d. Work with contractor to complete all punch list items in a timely, responsive manner.

9. Construction Layout and Record Drawings

- a. The project contractor will be required to provide construction layout services and to provide accurate, complete record drawings at the completion of construction.
- b. ERA will provide control information and spot check contractor layout. We will also work with the contractor to ensure a complete set of record drawings is completed.



Schedule

A graphical representation of the anticipated project schedule is included on the following page. It is anticipated that the design phase will begin in early March, 2011 and final Phase I PS&E will be delivered in mid December, 2011. Construction of Phase I will begin in March, 2012 and will be completed by the end of November, 2012. Anticipated review times for preliminary, pre-final and final documents is approximately 2 weeks per review.

Fees

Fees for engineering and environmental services described in this updated proposal are proposed on a direct labor multiplier, not to exceed basis. Our direct labor multiplier for this assignment will be 2.80 times direct employee hourly rates. Direct costs will be charged at their actual rate incurred with no markup. Proposed fees are summarized as follows:

Task	Estimated Hours	Estimated Fee
Design Phase	2,829	\$277,013
Construction Phase	1,982	\$197,112
Direct Costs		\$53,565
Total, Not To Exceed	4,811	\$527,690

A detailed summary of anticipated hours and fees and average hourly payroll rates is included on the following page.

We appreciate the opportunity to provide this updated proposal and we trust that it meets with your approval. We look forward to working with you and your staff on this important assignment. Please advise if you have any questions or comments.

Sincerely,
ENGINEERING RESOURCE ASSOCIATES, INC.



Rodney A. Beadle, PE, CFM
President



2011-2012 PROJECT SCHEDULE

[illegible]

PO = Project Director
 DES = Director of Environmental Services
 PM = Project Manager
 PE = Project Engineer
 DF = Design Engineer
 ES = Environmental Specialist
 LS = Land Surveyor
 GC = Survey Crew Chief
 FT = Survey Field Technician
 GT = Gantt Technician

Multipler Rate: 2.50

	Start Date: Pay Rate:	DES	PM	PE	DE	EB	LB	DO	FT	OT	CI	Total	Total	
Task	Change Rate:	\$186.00	\$151.20	\$154.00	\$125.00	\$29.10	\$85.20	\$98.00	\$26.75	\$22.00	\$35.00	\$22.10	Total \$81.66 Hours	Price
DESIGN ENGINEERING PHASE														
1. Meetings/ Coordination		2	0	16	8	5	0	0	0	0	4	30	\$4,806	
2. Data Acquisition		0	0	0	0	5	5	0	0	0	4	20	\$1,737	
3. Geotechnical Report Analysis		0	2	1	2	4	8	0	0	0	0	17	\$1,786	
4. Field Survey		0	0	2	0	5	0	5	244	244	0	508	\$35,143	
5. Base Plans		0	0	2	0	4	0	0	0	0	250	256	\$25,100	
6. Analysis and Evaluation														
Water Main Replacement		2	0	4	0	6	0	0	0	0	0	14	\$1,703	
Sanitary Sewer		1	0	4	0	32	0	0	0	24	0	60	\$7,151	
Roadways		0	0	2	0	16	0	0	0	0	0	20	\$2,582	
Storm Water		22	0	164	0	214	39	0	0	0	121	650	\$74,011	
Cost Options		1	0	2	0	16	1	0	0	0	0	21	\$2,200	
7. Permit Assistance		2	0	4	0	5	0	0	0	0	0	14	\$1,763	
Storm Water		3	0	9	0	19	4	0	0	0	3	42	\$4,627	
ILWA Water Main		0	0	2	0	10	0	0	0	15	4	38	\$5,613	
ICIG Grant coordination		0	2	1	0	0	5	0	0	0	2	9	\$933	
8. Plans, Specifications and Estimates														
75% Submittal		2	2	15	24	120	40	0	0	0	203	16	470	\$46,372
90% Submittal		2	2	12	16	95	24	0	0	0	103	0	350	\$34,720
100% Submittal		4	4	6	12	40	16	0	0	0	100	4	225	\$34,216
9. Bidding Assistance		2	0	8	0	24	0	0	0	0	0	42	\$4,363	
Design Engineering Subtotal		43	12	257	71	741	139	8	244	244	1018	54	2828	\$277,013
CONSTRUCTION PHASE														
1. Meetings/ Coordination		4	2	45	24	40	4	0	0	0	0	130	\$16,074	
2. Shop Drawings & Submittals		0	0	16	24	10	8	0	0	0	4	52	\$7,372	
3. Scheduling		0	0	16	32	40	0	0	0	0	0	88	\$10,220	
4. Construction Observation		0	0	32	48	1200	24	0	0	0	10	1340	\$127,665	
5. Documentation		0	0	0	0	160	16	0	0	0	0	196	\$18,168	
6. Pay Request & Change Order Review		2	0	16	32	46	0	0	0	0	16	111	\$12,080	
7. Project Close Out		2	0	4	8	25	8	0	0	0	0	55	\$5,544	
Resident Engineering Subtotal		8	2	132	160	1560	60	0	0	0	0	52	1962	\$187,112
Direct Costs														
Mobilization														\$1,500
Paving														\$750
Sanitary Sewer														\$12,200
Silt Basins														\$27,850
Material Testing														\$11,200
Shipping														\$65
Subtotal, Direct Costs													\$53,665	
Project Totals													\$627,690	



February 7, 2011

To: Stephen Wegner, PE
Principal
Engineering Resource Associates, Inc.
Office: (630) 393-3060
Facsimile: (630) 393-2152
Mobile: (630) 918-7281

Re: Proposal - Geotechnical Exploration
Proposed 7th Street Basin Improvements
Hinsdale, Illinois

Proposal No. Q10202g REV1

Via email: swegner@eraconsultants.com

Dear Mr. Wegner,

Rubino Engineering, Inc. (Rubino) is pleased to submit the following proposal to provide geotechnical engineering services for the above referenced project.

PROJECT UNDERSTANDING

Rubino received from ERA the RFP dated December 22, 2010 and prepared by the Village of Hinsdale. An updated scope request was provided by ERA on February 4, 2011. The total scope of the project includes the reconstruction of approximately 6,600 linear feet of bituminous roadway with PCC edge protection. Additionally, the project will include water main replacement and reconstruction of the stormwater system.

Plans received: "7th Street Basin" aerial photo prepared by Clark Dietz in 2009.

Should any of the information on which this proposal has been based, including as described above, be inconsistent with the planned construction, Rubino requests to be contacted immediately in order to make any necessary changes to this proposal and scope of work.

SCOPE OF SERVICES

The following sections outline the scope of services developed based on the information provided by the client and the information listed above in order to provide a geotechnical exploration the planned project. The exploration will be performed in general accordance with both the requested proposal information and Rubino's current understanding of the project.

Site Access and Traffic Control

Based on current site topography, surface conditions, and project discussions, Rubino anticipates that the project site will be accessible to both truck-mounted drilling equipment and all-terrain vehicle (ATV) depending on the location of the borings. ATV usage for 3 days has been budgeted.

Traffic control will be provided on an as-needed basis and could include signage, flaggers, and partial or full lane closure.

Boring Depths

To obtain data to evaluate subsurface conditions within the proposed development/construction areas, Rubino proposes to drill soil test borings as specified below.

Number of Borings	Depth (feet BEG*)	Location
25	10	To be determined

*BEG = below existing grade

The borings will be located in the field by measuring distances from known, fixed site features.

Sampling

Soil sampling will include split-barrel samples (ASTM D 1586) or thin-walled tube samples on cohesive soils (ASTM D 1587) at 2 ½ - foot intervals to a depth of 10 feet and 5 - foot intervals thereafter.

If unsuitable bearing soils are encountered within the borings as proposed herein, the borings will be extended an additional 5 feet to attempt to end the borings in suitable soils. If unsuitable soils persist at the end of an additional 5 feet the client will be contacted prior to demobilizing.

Unsuitable soils will be defined by field personnel using the following criteria:

- Cohesive soils with an N value less than or equal to 4
- Granular soils with an N-value less than 10.
- Black cohesive or silty soil with visible signs of organic matter and / or organic odor and low blow counts as described above

Temporary Piezometers and Insitu Permeability Testing – 25 Locations

Temporary piezometers will be installed at each of the designated locations to a depth of approximately 10 feet below existing grade. The temporary piezometers will consist of approximately 5 feet of 1- to 2-inch screen at the base of the hole, with 1- to 2-inch PVC pipe extending from the screen to the top of the borehole and clean sand used as a backfill material.

Water will be pumped into the temporary piezometers pipe to saturate the soil and water level readings will be taken once a sustained positive head is established. If a sustained positive head cannot be established, a maximum permeability rate will be provided.

Optional - Laboratory Permeability Testing

As a supplement to the field permeability data, laboratory permeability testing can be performed as part of the scope of services. If laboratory testing is performed in replacement of a field permeability test in a single boring, there will be no additional charge. If laboratory testing is performed in a single boring in addition to field permeability testing, an additional charge will apply.

Asphalt Cores (25 Locations)

Rubino will perform twenty-five (25) asphalt cores within existing pavement areas to be determined by the client. The cores will be measured for thickness and photo-documented.

Completion of Field Work

Upon completion of drilling, the borings will be backfilled with soil cuttings and capped with asphalt cold patch (where applicable). Some damage to ground surface may result from the drilling operations near the work areas and along ingress/egress pathways. Rubino will attempt to minimize such damage, but no restoration other than backfilling the soil test borings is included.

It should be noted that over time, some settlement may occur in the bore hole. If Rubino is requested to return to the site for the purpose of filling any bore holes that may have settled, additional time and material charges may apply.

Soil Laboratory Testing

The soil samples obtained during the field exploration program will be transported to the laboratory for classification and a limited number of laboratory tests. The nature and extent of the laboratory testing program is at the discretion of Rubino Engineering, Inc. and will depend upon the subsurface conditions encountered during drilling.

Laboratory testing will be performed in accordance with ASTM procedures and may include examination of selected samples to evaluate the soils' index properties, grain size for permeability estimates (up to 5 hydrometer tests are included), and relative strength characteristics.

GEO REPORT

Upon completion of field and laboratory work, Rubino will prepare a geotechnical engineering report using the collected data. The geo report will include the following:

- *Summary of client-provided project information and report basis*
- *Overview of encountered subsurface conditions*
- *Overview of field and laboratory tests performed including results*
- *Overview of pavement thickness (where applicable)*
- *Geotechnical recommendations pertaining to:*
 - *Subgrade preparation and cut / fill recommendations*
 - *Permeability – calculated based on field and laboratory testing*
- *Construction considerations, including temporary excavation and construction control of water*

Two (2) copies of the report will be provided. The report will be addressed to Engineering Resource Associates.

PROJECT SCHEDULE

Rubino proposes to initiate work on this project within 5 working days after receiving written authorization to proceed and we will follow the schedule below in order to complete the project:

Task	Number of Working Days
Utility clearance and rig mobilization	10
Field work including site layout and drilling	12
Laboratory Testing (Additional days required for laboratory permeability testing)	15
Preparation of the Geotechnical Report	12

Project schedules can be affected by weather conditions and changes in scope. If the report needs to be delivered by a specific day, please notify us as soon as possible. Preliminary verbal recommendations can be made to appropriate parties upon completion of the field investigation and laboratory testing. Rubino will need to receive a signed copy of this proposal intact prior to mobilizing the drill rig.

SPECIAL INSTRUCTIONS

Rubino will coordinate contacting the Utility "One-Call" for public utility clearance prior to the start of drilling activities. It is Rubino's experience that this service does not mark the locations of privately owned utilities. This proposal is based on private utility lines and other subsurface appurtenances being located in the field by others prior to our mobilization.

FEES

Rubino proposes to charge the fee for performance of the outlined scope of services on a lump-sum basis. Based on the scope of services outlined above, the lump-sum fee will be **\$27,850.00**.

Please see the attached fee schedule for additional unit rates for services requested after issuing the geotechnical report (drawing / spec review, scope or site layout change, etc.).

Scope Limitations

Project services do not include a site evaluation to determine the presence or absence of wetlands, hazardous substances, or toxic materials.

Rock coring is not included in the scope of this exploration, therefore, the character and continuity of refusal materials, if encountered, can be determined only with a more comprehensive scope of services. Therefore, the borings will be advanced to the depths referenced above, or to refusal, whichever is shallower.

Boring, sampling and testing requirements are a function of the subsurface conditions encountered. The proposed lump-sum fee is based on the use of shallow foundations to support the planned construction and the existence of adequate bearing materials being encountered within the proposed boring depths. Should conditions be encountered which require a deepening of borings or additional investigation, Rubino will notify you to discuss

modifying the outlined scope of services. Additional work beyond the lump-sum fee will not be performed without your prior authorization.

AUTHORIZATION

If this proposal is acceptable to you, Rubino will perform the work in accordance with the attached General Conditions that are incorporated into and made a part of this proposal. Please sign below as notice to proceed and return one copy of this proposal intact to our office. Rubino will proceed with the work upon receipt of authorization.

We appreciate the opportunity to offer our services for this project and we look forward to working with your company. Please contact Rubino with questions pertaining to this proposal or requests for additional services.

Respectfully submitted,

RUBINO ENGINEERING, INC.



Michelle A. Lipinski, PE
President

MAL/file

Attachments: Proposal Acceptance and Data Sheet
 Schedule of Services and Fees
 General Conditions

**This is an electronic copy. Hard Copies of this proposal are available upon request.

PROPOSAL ACCEPTANCE:

AGREED TO, THIS _____	DAY OF _____	, 2011.
BY (please print): _____		
TITLE: _____		
COMPANY: _____		
SIGNATURE: _____		

PROJECT INFORMATION:

1. Project Name: _____
2. Project Location: _____
3. Your Job No: _____ Purchase Order No.: _____
4. Project Manager: _____ Telephone No.: _____
5. Site Contact: _____ Telephone No.: _____
6. Number and Distribution of Reports:
() Copies To: _____ () Copies To: _____

Attn: _____ Attn: _____
Email: _____ Email: _____

() Copies To: _____ () Copies To: _____

Attn: _____ Attn: _____
Email: _____ Email: _____
7. Invoicing Address: _____

Attn: _____
Email: _____
8. Other Pertinent Information Or Previous Subsurface Information Available:

Rubino Engineering, Inc.
2011 Schedule of Geotechnical Services & Fees

ENGINEERING

Professional and Technical Services for site evaluation, field supervision, analysis of test data and engineering recommendations and consultation:

Chief Engineer	Per Hour	\$	185.00
Project Engineer/Manager	Per Hour	\$	104.00
Engineering/Lab Technician	Per Hour	\$	78.63
Secretarial Services	Per Hour	\$	54.00

SUBSURFACE EXPLORATION

Mobilization and moving of truck-mounted drilling equipment and crew	Per Trip	\$	510.00
Mobilization and moving of All-Terrain-Vehicle (ATV) - mounted drilling equipment and crew	Per Trip	\$	660.00
All-Terrain Vehicle (ATV) Usage Surcharge	Per Day	\$	195.00
Boring Layout - Two-man crew (2 hour minimum)	Per Hour	\$	166.00
Soil Sampling using split-barrel sampler (ASTM D-1586) 2.5-foot intervals to 15 feet and 5-foot intervals thereafter, 3-1/4" E.D. HAS:			

Depth Range		
Feet	Easy Drilling*	Hard Drilling**
0 - 25	\$20.50	\$23.00
25 - 50	\$22.50	\$25.00
50 - 72	\$24.50	\$27.00
75 - 100	\$27.00	\$29.50

* Less than 50 blows per foot or a Qp of 4 tsf

** 50 blows or more per foot, Qp more than 4 tsf, or strata containing coarse gravel or cobbles

Hourly Rate Drilling (difficult or unusual conditions, hard material, boulders, rubble, etc.)	Per Hour	\$	275.00
Auger Drilling with profile sampling	Per Foot	\$	13.50
Field permeability testing including installation of temporary casing	Per Test	\$	500.00
Set Up Time per hole in excess of 1/2 hour, stand-by time, or delays	Per Hour	\$	190.00
Thin Wall Tubes (ASTM D-1587)	Each	\$	50.00

LABORATORY TESTING

Moisture Content Test / Visual Classification	Each	\$	6.00
Atterberg Limits Determination (LL, PL)	Each	\$	85.00
Combined Hydrometer & Sieve Analysis	Each	\$	130.00
Sieve Analysis (washed)	Each	\$	85.00
Unconfined Compression Test, Tube Sample	Each	\$	35.00
Unconfined Compression Test, with Stress-Strain Curve	Each	\$	55.00
Density Determination	Each	\$	15.00
Specific Gravity Determination	Each	\$	65.00
Organic Content Determination Test (wet combustion)	Each	\$	25.00
ASTM D698 - AASHTO T99 (Standard Proctor)	Each	\$	195.00
ASTM D1557 - AASHTO T180 (Modified Proctor)	Each	\$	215.00
One-Dimensional Consolidation Test (ASTM D-2435)	Each	\$	750.00

REMARKS

- 1) All fees and services are provided in accordance with the attached Rubino General Conditions.
- 2) Unit prices/rates are in effect for 12 months from the date of this proposal and are subject to change without notice thereafter.
Overtime rates are applicable for services performed in excess of 8 hours per day Monday through Friday, before 8:00 AM or after 5:00 PM, and for all hours worked on Saturdays, Sundays and holidays. The overtime rate is 1.5 times the applicable hourly rate.
- 3) All rates are billed on a portal-to-portal basis.
- 4) Standby time due to delays beyond Rubino's control will be charged at the applicable hourly rate.
- 5) Transportation and per diem are charged at the applicable rates.
- 6) Rates involving mileage (including transportation, mobilization, vehicle and trip charges) are subject to change based upon increases in the national average gasoline price.
- 7) A minimum charge of 4 hours applies to field testing and observation services.
Scheduling or cancellation of field testing and observation services is required no less than the working day prior to the date the services are to be performed. Services cancelled without advance and/or inadequate notice will be assessed a minimum charge of 4 hours.
- 8) For all Rubino services, a project management/engineering review charge will be billed for all reports issued for the scheduling/supervision of personnel and the evaluation/review of data and reports.
- 9) The minimum billing increment for time is a half hour.
- 10) A project set-up charge of a minimum of two hours applies to all projects.
- 11) Professional services rates are exclusive of expert deposition or testimony time.
- 12) Drilling and field service rates are based on OSHA Level D personnel protection.
- 13) For sites where drilling is to occur that are not readily accessible to a truck mounted drill rig, rates for rig mobility, site clearing, crew stand-by time, etc. will be charged as applicable.
- 14) If applicable the prevailing wage fees charged under this agreement will be adjusted if there is any change in the applicable prevailing wage rate established by the Illinois Department of Labor.
- 15) Services and fees not listed on this schedule may be quoted on request.

GENERAL CONDITIONS

1. PARTIES AND SCOPE OF WORK: Rubino Engineering, Inc. shall include said company or its particular division, subsidiary or affiliate performing the work. "Work" means the specific geotechnical, analytical, testing or other service to be performed by Rubino Engineering, Inc. as set forth in Rubino Engineering, Inc.'s proposal, Client's acceptance thereof and these General Conditions. Additional work ordered by Client shall also be subject to these General Conditions. "Client" refers to the person or business entity ordering the work to be done by Rubino Engineering, Inc. If Client is ordering the work on behalf of another, Client represents and warrants that it is the duly authorized agent of said party for the purpose of ordering and directing said work. Unless otherwise stated in writing, Client assumes sole responsibility for determining whether the quantity and the nature of the work ordered by the client is adequate and sufficient for Client's intended purpose. Client shall communicate these General Conditions to each and every third party to whom Client transmits any part of Rubino Engineering, Inc.'s work. Rubino Engineering, Inc. shall have no duty or obligation to any third party greater than that set forth in Rubino Engineering, Inc.'s proposal. Client's acceptance thereof and these General Conditions. The ordering of work from Rubino Engineering, Inc., or the reliance on any of Rubino Engineering, Inc.'s work, shall constitute acceptance of the terms of Rubino Engineering, Inc.'s proposal and these General Conditions, regardless of the terms of any subsequently issued document.

2. TESTS AND INSPECTIONS: Client shall cause all tests and inspection of the site, materials and work performed by Rubino Engineering, Inc. or others to be timely and properly performed in accordance with the plans, specifications and contract documents and Rubino Engineering, Inc.'s recommendations. No claims for loss, damage or injury shall be brought against Rubino Engineering, Inc. by Client or any third party unless all tests and inspections have been so performed and unless Rubino Engineering, Inc.'s recommendations have been followed. Client agrees to indemnify, defend and hold RUBINO ENGINEERING, INC., its officers, employees and agents harmless from any and all claims, suits, losses, costs and expenses, including, but not limited to, court costs and reasonable attorney's fees in the event that all such tests and inspections are not so performed or Rubino Engineering, Inc.'s recommendations are not so followed except to the extent that such failure is the result of the negligence, willful or wanton act or omission of Rubino Engineering, Inc., its officers, agents or employees, subject to the limitation contained in paragraph 9.

3. SCHEDULING OF WORK: The services set forth in Rubino Engineering, Inc.'s proposal and Client's acceptance will be accomplished in a timely, workmanlike and professional manner by RUBINO ENGINEERING, INC. personnel at the prices quoted. If Rubino Engineering, Inc. is required to delay commencement of the work or if, upon embarking upon its work, Rubino Engineering, Inc. is required to stop or interrupt the progress of its work as a result of changes in the scope of the work requested by Client, to fulfil the requirements of third parties, interruptions in the progress of construction, or other causes beyond the direct reasonable control of Rubino Engineering, Inc., additional charges will be applicable and payable by Client.

4. ACCESS TO SITE: Client will arrange and provide such access to the site as is necessary for Rubino Engineering, Inc. to perform the work. Rubino Engineering, Inc. shall take reasonable measures and precautions to minimize damage to the site and any improvements located thereon as the result of its work or the use of its equipment; however, Rubino Engineering, Inc. has not included in its fee the cost of restoration of damage which may occur. If Client desires or requires Rubino Engineering, Inc. to restore the site to its former condition, upon written request Rubino Engineering, Inc. will perform such additional work as is necessary to do so and Client agrees to pay Rubino Engineering, Inc. for the cost.

5. CLIENT'S DUTY TO NOTIFY ENGINEER: Client represents and warrants that it has advised Rubino Engineering, Inc. of any known or suspected hazardous materials, utility lines and pollutants at any site at which Rubino Engineering, Inc. is to do work hereunder, and unless Rubino Engineering, Inc. has assumed in writing the responsibility of locating subsurface objects, structures, lines or conduits. Client agrees to defend, indemnify and save Rubino Engineering, Inc. harmless from all claims, suits, losses costs and expenses, including reasonable attorney's fees as a result of personal injury, death or property damage occurring with respect to Rubino Engineering, Inc.'s performance of its work and resulting to or caused by contact with subsurface of latent objects, structures, lines or conduits where the actual or potential presence and location thereof were not revealed to Rubino Engineering, Inc. by Client.

6. RESPONSIBILITY: Rubino Engineering, Inc.'s work shall not include determining, supervising or implementing the means, methods, techniques, sequences or procedures of construction. Rubino Engineering, Inc. shall not be responsible for evaluating, reporting or affecting job conditions concerning health, safety or welfare. Rubino Engineering, Inc.'s work or failure to perform same shall not in any way excuse any contractor, subcontractor or supplier from performance of its work in accordance with the contract documents. Rubino Engineering, Inc. has no right or duty to stop the contractor's work.

7. SAMPLE DISPOSAL: Unless otherwise agreed in writing, test specimens or samples will be disposed immediately upon completion of the test. All drilling samples or specimens will be disposed sixty (60) days after submission of Rubino Engineering, Inc.'s report.

8. PAYMENT: Client shall be invoiced once each month for work performed during the preceding period. Client agrees to pay each invoice within thirty (30) days of its receipt. Client further agrees to pay interest on all amounts invoiced and not paid or objected to for valid cause in writing with said thirty (30) day period at the rate of eighteen (18) percent per annum (or the maximum interest rate permitted under applicable law), until paid. Client agrees to pay Rubino Engineering, Inc.'s cost of collection of all amounts due and unpaid after sixty (60) days, including court costs and reasonable attorney's fees. Rubino Engineering, Inc. shall not be bound by any provision or agreement requiring or providing for arbitration or disputes or controversies arising out of this agreement, any provision wherein Rubino Engineering, Inc. waives any rights to a mechanic's lien, or any provision conditioning Rubino Engineering, Inc.'s right to receive payment for its work upon payment to Client by any third party. These General Conditions are notice, where required, that Rubino Engineering, Inc. shall file a lien whenever necessary to collect past due amounts. Failure to make payment within thirty (30) days of invoice shall constitute a release of Rubino Engineering, Inc. from any and all claims which Client may have, whether in tort, contract or otherwise and whether known or unknown at the time.

9. WARRANTY: RUBINO ENGINEERING, INC.'S SERVICES WILL BE PERFORMED, ITS FINDINGS OBTAINED AND ITS REPORTS PREPARED IN ACCORDANCE WITH ITS PROPOSAL, CLIENT'S ACCEPTANCE THEREOF, THESE GENERAL CONDITIONS AND WITH GENERALLY ACCEPTED PRINCIPLES AND PRACTICES. IN PERFORMING ITS PROFESSIONAL SERVICES, RUBINO ENGINEERING, INC. WILL USE THAT DEGREE OF CARE AND SKILL ORDINARILY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY MEMBERS OF ITS PROFESSION. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR REPRESENTATIONS, EITHER EXPRESSED OR IMPLIED. STATEMENTS MADE IN RUBINO ENGINEERING, INC. REPORTS ARE OPINIONS BASED UPON ENGINEERING JUDGMENT AND ARE NOT TO BE CONSTRUED AS REPRESENTATIONS OF FACT.

SHOULD RUBINO ENGINEERING, INC. OR ANY OF ITS PROFESSIONAL EMPLOYEES BE FOUND TO HAVE BEEN NEGLIGENT IN THE PERFORMANCE OF ITS WORK, OR TO HAVE MADE AND BREACHED ANY EXPRESSED OR IMPLIED WARRANTY, REPRESENTATION OR CONTRACT, CLIENT, ALL PARTIES CLAIMING THROUGH CLIENT AND ALL PARTIES CLAIMING TO HAVE IN ANY WAY RELIED UPON RUBINO ENGINEERING, INC.'S WORK, AGREE THAT THE MAXIMUM AGGREGATE AMOUNT OF THE LIABILITY OF RUBINO ENGINEERING, INC., ITS OFFICERS, EMPLOYEES AND AGENTS SHALL BE LIMITED TO \$25,000.00 OR THE TOTAL AMOUNT OF THE FEE PAID TO RUBINO ENGINEERING, INC. FOR ITS WORK PERFORMED WITH RESPECT TO THE PROJECT, WHICHEVER AMOUNT IS GREATER.

NO ACTION OR CLAIM, WHETHER IN TORT, CONTRACT OR OTHERWISE, MAY BE BROUGHT AGAINST RUBINO ENGINEERING, INC., ARISING FROM OR RELATED TO RUBINO ENGINEERING, INC.'S WORK, MORE THAN TWO (2) YEARS AFTER THE CESSATION OF RUBINO ENGINEERING, INC.'S WORK HEREUNDER.

10. INDEMNITY: Subject to the foregoing limitations, Rubino Engineering, Inc. agrees to indemnify and hold Client harmless from and against any and all claims, suits, costs and expenses including reasonable attorney's fees and court costs arising out of Rubino Engineering, Inc.'s negligence to the extent of RUBINO ENGINEERING, INC.'s negligence. Client shall provide the same protection to the extent of its negligence. In the event that Client or Client's principal shall bring any suit, cause of action, claim or counterclaim against Rubino Engineering, Inc., the party initiating such action shall pay to Rubino Engineering, Inc. the costs and expenses incurred by Rubino Engineering, Inc. to investigate, answer and defend it, including reasonable attorney's and witness fees and court costs to the extent that Rubino Engineering, Inc. shall prevail in such suit.

11. TERMINATION: This Agreement may be terminated by either party upon seven (7) days' prior written notice. In the event of termination, Rubino Engineering, Inc. shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses and for the completion of such services and records as are necessary to place Rubino Engineering, Inc.'s files in order and/or protect its professional reputation.

12. EMPLOYEES/WITNESS FEES: Rubino Engineering, Inc.'s employees shall not be retained as expert witnesses except by separate written agreement. Client agrees to pay Rubino Engineering, Inc.'s legal expenses, administrative costs and fees pursuant to Rubino Engineering, Inc.'s then current fee schedule for Rubino Engineering, Inc. in response to any subpoena. Client agrees not to hire Rubino Engineering, Inc.'s employees except through Rubino Engineering, Inc. In the event Client hires a Rubino Engineering, Inc. employee, Client shall pay Rubino Engineering, Inc. an amount equal to one-half of the employee's annualized salary, with Rubino Engineering, Inc. waiving other remedies it may have.

13. HAZARDOUS MATERIALS: Nothing contained within this agreement shall be construed or interpreted as requiring Rubino Engineering, Inc. to assume the status of an owner, operator, generator, storer, transporter, handler or disposal facility as those terms appear within RCRA of within any Federal or State statute or regulation governing the generation, transportation, treatment, storage and disposal of pollutants. Client assumes full responsibility for compliance with the provisions of RCRA and any other Federal or State statute or regulation governing the handling, treatment, storage and disposal of pollutants.

14. PROVISIONS SEVERABLE: The parties have entered into this agreement in good faith and it is the specific intent of the parties that the terms of the General Conditions be enforced as written. In the event any of the provisions of these General Conditions should be found to be unenforceable, it shall be stricken and the remaining provisions shall be enforceable.

15. ENTIRE AGREEMENT: This agreement constitutes the entire understanding of the parties, and there are no representations, warranties or undertakings made other than as set forth herein. This agreement may be amended, modified or terminated only in writing, signed by each of the parties hereto.



ENGINEERING RESOURCE ASSOCIATES, INC.

Consulting Engineers, Scientists & Surveyors

January 7, 2011

Mr. Dan Deeter, PE
Village Engineer
Village of Hinsdale
19 East Chicago Avenue
Hinsdale, IL 60521-3489

SUBJECT: Request for Proposal for the Woodlands Infrastructure Improvements Project Phase I Hinsdale, IL

Dear Mr. Deeter:

Engineering Resource Associates, Inc. (ERA) appreciates the opportunity to submit this proposal to perform preliminary engineering, final design, bidding support, and construction observation services for the Village of Hinsdale. We have prepared this proposal in accordance with the instructions provided in the request for proposal entitled ***Request for Proposal for the Woodlands Infrastructure Improvements Project Phase I Hinsdale, IL*** as well as direction received during our meeting with you on December 20, 2010. It is our understanding that:

- The Woodlands Infrastructure Improvements Project has been divided into three phases and that this proposal is limited to Phase I (that is, the 7th Street Basin and a portion of the Woodland Avenue Basin); and
- It is the Village's intention to request bids for construction of Phase I in August / September 2011; and
- The Woodlands Infrastructure Improvements project must incorporate green infrastructure techniques in the design of the new stormwater management system.

ERA has successfully designed several projects that incorporate sanitary sewer, water main, and stormwater management improvements. These successful projects can be found in communities throughout Northeastern Illinois including, but not limited to, Glen Ellyn, Lombard, Unincorporated DuPage County, and Glencoe. In order to meet the August / September 2011 deadline for bidding, the consultant performing this design must have a clear understanding of the regulatory constraints driving the design of the stormwater management systems. In addition, the consultant must have a proven track record of incorporating green infrastructure into drainage improvement projects and utilizing approaches and technologies that will reduce the cost of construction. ERA possesses these attributes which will ensure the delivery of a design, and ultimately a constructed project, that meets the expectations of Village staff and residents.

Expertise in Green Infrastructure

ERA's engineers and environmental professionals have extensive experience in the design of green infrastructure, for both private and public development projects, such as rain gardens, bioswales, infiltration trenches, constructed wetlands, and porous pavement systems. Our success designing green infrastructure can be attributed to our depth of knowledge related to the design and permitting requirements associated with green infrastructure in Northeastern Illinois. ERA essentially "wrote the book" in both DuPage County and Cook County regarding the permit requirements related to the design and permitting of green infrastructure. Specifically, ERA developed ***DuPage County's Water Quality Best Management Practice Technical Guidance*** and the draft ***Cook County Watershed Management Ordinance (WMO)*** and ***Technical Guidance Manual (TGM)***. We

www.eraconsultants.com

Warrenville
38701 West Avenue, Suite 152
Warrenville, IL 60555
T 630.393.3060
F 630.393.2152

Geneva
501 West State Street, Suite 203
Geneva, IL 60134
T 630.262.8880
F 630.262.8888

Chicago
10 South Riverside Plaza, Suite 1800
Chicago, IL 60605
T 312.683.0110
F 312.474.6059

Champaign
3002 Crossing Court
Champaign, IL 61822
T 217.351.6268
F 217.355.1502



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COVER LETTER

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COMPANY PROFILE

Engineering Resource Associates, Inc.

Founded in 1990, Engineering Resource Associates, Inc. (ERA) is a full-service civil engineering, structural design, environmental science and surveying firm serving clients throughout the Midwest. With offices in Warrenville, Geneva, Chicago and Champaign, ERA offers diverse experience on a wide variety of projects for public, institutional and private sector clients.

Our professional staff includes licensed professional engineers, structural engineers, environmental scientists, engineers-in-training, surveyors, engineering technicians, and support personnel. We use a project team approach in completing assignments. Teams consist of qualified professionals experienced in the review, design and construction of public works projects. ERA is fully equipped with state-of-the-art CAD and GIS workstations and design software. We perform survey assignments using in-house electronic total stations and GPS equipment.

- **Address of Corporate Headquarters and Chicago Area Locations**

Warrenville/Corporate:

3S701 West Avenue, Suite 150
Warrenville, IL 60555
(630) 393-3060 phone
(630) 393-2152 fax

Chicago/Downtown Office:

10 S. Riverside Plaza, Suite 1800
Chicago, IL 60606
(312) 683-0110 phone
(312) 474-6099 fax

Geneva Office:

501 West State Street, Suite 203
Geneva, IL 60134
(630) 262-8689 phone
(630) 262-8698 fax

Champaign Office:

3002 Crossing Court
Champaign, IL 61822
(217) 351-6268 phone
(217) 355-1902 fax

- **Firm Licensed to Practice:** Illinois, Indiana, and Wisconsin



ENGINEERING RESOURCE ASSOCIATES, INC.



Our Experience

Engineering Resource Associates, Inc. (ERA) is a full-service engineering, environmental and surveying firm which specializes in providing comprehensive municipal engineering review, transportation engineering, traffic and lighting engineering, stormwater management, environmental, structural design, structural inspection and construction engineering services to municipal, county, state and other governmental clients. Our firm was founded in 1990 and has steadily grown over 20 years.

Our Management Team

- Rodney A. Beadle, PE, CFM – President and Founder
- Stephen R. Wegner, PE – Principal
- John F. Mayer, PE, CFM – Principal
- Jon P. Green, PE, CFM – Principal
- Bruce W. Maki, CFM – Director of Environmental Services
- John A. Fraunhofer, PE, SE – Director of Structural Engineering Services

Project Contact

- Stephen R. Wegner, PE – Principal/Project Manager
Phone: (630) 393-3060
Fax: (630) 393-2152
Email: swegner@eraconsultants.com

Professional Affiliations

- American Public Works Association (APWA)
- American Society of Civil Engineers (ASCE)
- Association of State Wetland Managers
- Conservation Foundation
- Illinois Association for Floodplain and Stormwater Management (IASFM)
- Illinois Association of Environmental Professionals
- Illinois Association of State Floodplain Managers
- Illinois Park and Recreation Association (IPRA)
- Illinois Society of Professional Engineers (ISPE)
- Kane-DuPage Soil and Water Conservation District
- National Association of Professional Engineers
- National Association of State Floodplain Managers
- U.S. Green Building Council (USGBC)





Our Firm's Services:

Engineering Resource Associates, Inc. (ERA), was founded in 1990 and is a full-service civil engineering, structural design, environmental science and surveying firm which specializes in providing comprehensive design engineering, environmental restoration, stormwater management and construction engineering services to municipal, county, state and other governmental clients.

Primary Services

- Transportation and Infrastructure Design
- Construction Engineering and Observation Services
- Downtown/Streetscape Design
- Streetlight and Ornamental Lighting Design
- Traffic Studies and Signalization Design
- Recreational Facility Design
- Engineering Feasibility Studies
- Site Development Design
- Land Planning
- Stormwater Utility Assistance
- Stormwater Management Analysis and Design
- Wetland/Environmental Delineation, Permitting, and Mitigation Design
- Best Management Practices Development and Design
- GIS Development and Database Management
- Floodplain Modeling and Permitting
- FEMA Map Revisions and Amendments
- Structural Engineering Design and Inspection
- Streambank and Shoreline Stabilization Design
- Municipal Engineering, Wetland/Riparian and Review Services
- Location Drainage Studies
- Hydraulic Bridge Reports
- Water System Analysis and Design
- Sanitary System Analysis and Design
- Plats of Subdivision, Annexation, Easement, Etc.
- Boundary, Topographic and Route Surveying
- Construction Layout and Staking





ERA'S QUALIFICATIONS

Staff Qualifications:

ERA has a highly-qualified staff of professionals registered in the following areas:

- Illinois Registered Professional Engineers
- Illinois Registered Structural Engineers
- Illinois Registered Professional Surveyors
- Certified Floodplain Managers
- SWS Certified Professional Wetland Specialist
- Erosion and Sediment Control Professional

Illinois Department of Transportation Pre-qualifications (IDOT):

- Plans, Specifications and Estimates – Roads and Streets
- Plans, Specifications and Estimates – Traffic Signals
- Plans, Specifications and Estimates – Highway Structure: Simple
- Plans, Specifications and Estimates – Highway Structure: Typical
- Studies – Location Drainage
- Hydraulic Reports – Waterways Typical
- Hydraulic Reports – Waterways Complex
- Hydraulic Reports – Pump Station
- Location and Design Studies – Rehabilitation
- Location and Design Studies – Construction/Major Rehabilitation
- Special Services – Route Survey
- Special Services – Land Survey
- Special Services – Construction Inspection



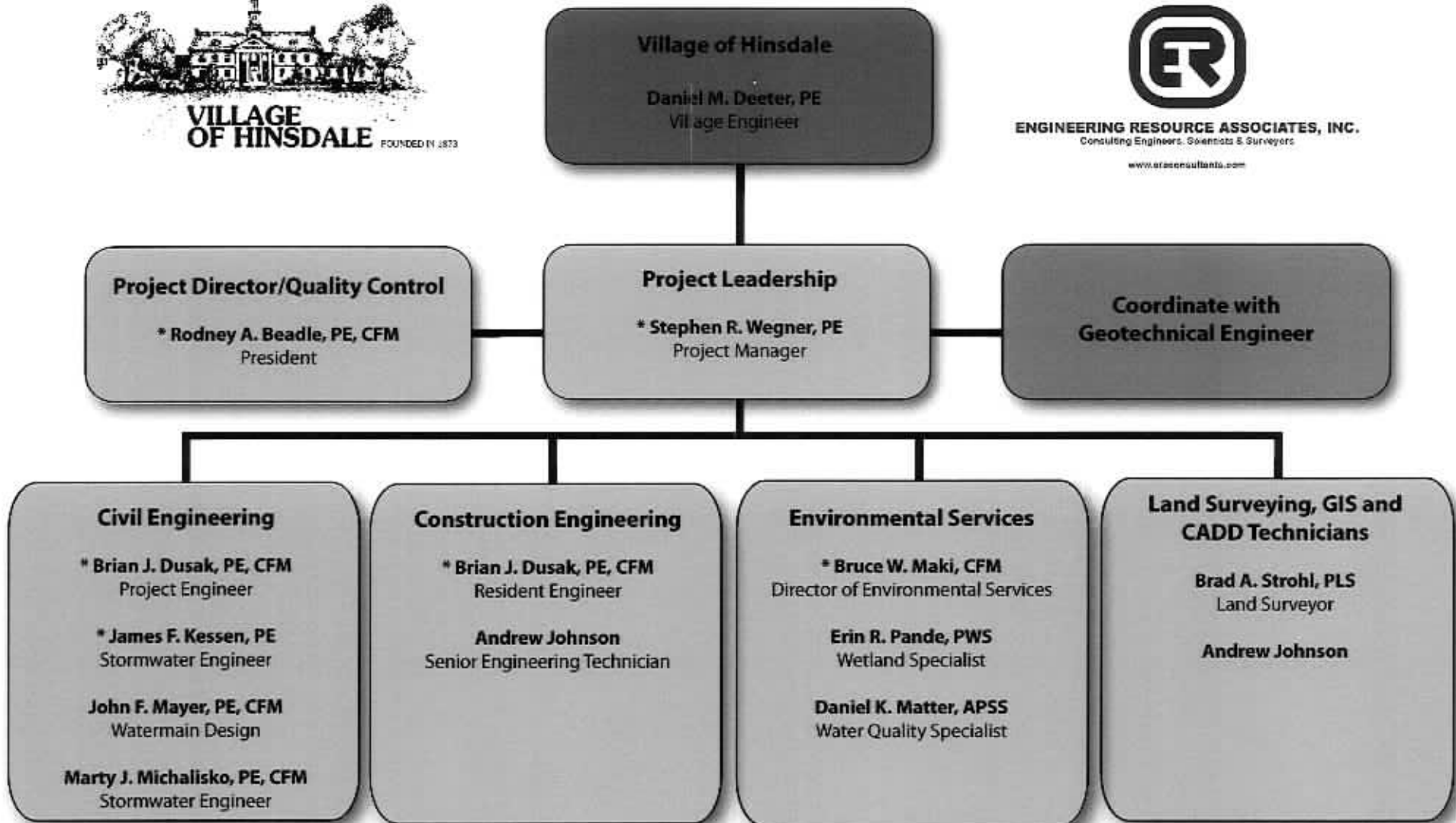
ENGINEERING RESOURCE ASSOCIATES, INC.

Paving and Roadway Improvements Team Chart

Village of Hinsdale



ENGINEERING RESOURCE ASSOCIATES, INC.
Consulting Engineers, Scientists & Surveyors
www.erasconsultants.com



* Resumes included



Stephen R. Wegner, PE **Project Manager**

Steve Wegner serves as project manager for the design and construction of transportation and infrastructure improvements for state agencies, county agencies and municipalities throughout Illinois. He directs the activities of project engineers, design engineers and CAD technicians. He serves as the primary contact for numerous governmental clients. He has a strong knowledge of IDOT, IEPA and IDNR standards and permitting requirements.

Mr. Wegner also directs the activities of our resident engineers and resident inspectors on construction projects. He oversees the training and certification of ERA personnel in IDOT documentation and inspection requirements.

Education:

*Bachelor of Science
Civil Engineering
University of Illinois - 1983*

Registration:

*Professional Engineer
Illinois - 062-044445*

Affiliations:

*American Council of Engineering
Companies*

Representative Projects:

Special Assessment 217 - Lombard Lagoons, Lombard, IL – Project manager for the reconstruction of 8,500 feet of residential roadways. Project also includes new storm sewers, new sanitary sewers and storm water detention. Project was phased over several years.

SACROW and Wingate Basin Improvements, Glen Ellyn, IL – Project manager for two projects for the Village of Glen Ellyn. Both projects evolved from storm water issues in several residential subdivisions. The projects also included the reconstruction and rehabilitation of over 28,500 feet of PCC and HMA streets, new watermain and sanitary sewer lining.

Bryant Avenue Reconstruction Project, Glen Ellyn, IL – Project manager for the reconstruction and rehabilitation of over 11,000 feet of HMA and PCC streets within a residential neighborhood. The project was driven by the frequent flooding in the subdivision. ERA analyzed the watershed to determine how to reduce flooding in the area. The project includes storm sewer replacement, water main replacement, sanitary sewer point repairs, lining and service replacement.

Parkside-Summerdale Road Reconstruction, Glen Ellyn, IL – Project manager for the reconstruction project located within the Village of Glen Ellyn. Project involves the storm sewer, water main, lining of existing sanitary sewer, road reconstruction and resurfacing within a residential neighborhood. Project awarded APWA 2010 Project of the Year.

Wood Dale Various Street Improvements, Wood Dale, IL – Project manager responsible for Phase I, II and III engineering for the reconstruction of several local streets for over 10 years. The improvements included the installation of new storm, sanitary and watermain. Several projects utilized railroad coordination and permitting for a sanitary sewer crossing. Our latest project is Phase II and III for the replacement of the existing watermain on Potter Street and Oak Avenue was constructed during fall 2009.

Lambert Farms Infrastructure Improvements, Glen Ellyn, IL – Project manager for project involving providing new sanitary sewers, storm sewers, and water mains for a subdivision that was served by wells and septic fields. The proposed storm sewers were designed to provide storage for future expansion of the roadways. The sanitary sewer design included force main replacement and rehabilitation of lift station. ERA analyzed stormwater design and storage for future roadway widening.

North Dundee Relief Sewer, Glencoe, IL – Project manager for the Phase I, II and III engineering services for the installation of a storm sewer designed to carry the 100-year storm through a residential neighborhood. The project required an IDOT permit and easements from some of the residents.





Rodney A. Beadle, PE, CFM President

Rod Beadle, PE is the president and founder of Engineering Resource Associates, Inc. He has extensive experience in the design and construction of transportation, infrastructure and stormwater management improvement projects for public and private sector clients. He has served as project director and project manager on major projects for state agencies, county departments and municipalities throughout the Midwest.

Mr. Beadle has managed the steady growth of the firm from a staff of one in 1990 to our current staff of professionals in four offices. He is responsible for the implementation of the firm's quality control and quality assurance plan on all projects.

Education:

*Bachelor of Science
Civil Engineering
University of Wisconsin -
Milwaukee, 1984*

Registration:

*Professional Engineer
Illinois - 062-045076
Wisconsin - E25883*

Certified Floodplain Manager

Affiliations:

*Engineers Without Borders
Engineering Ministries International
American Public Works Association
National Society of Professional Engineers
Illinois Society of Professional Engineers
American Society of Civil Engineers
American Council of Engineering Companies
Illinois Association for Floodplain and Stormwater Management
Association of State Floodplain Managers*

Representative Projects:

Western Avenue Streetscape, Lake Forest, IL - Project director for the planning and design of major infrastructure and streetscape enhancements in an historic central business district.

Cook County Watershed Management Ordinance, MWRDGC - Project director for a comprehensive stormwater and environmental development ordinance across Cook County, Illinois. Services include white paper research, coordination with Watershed Councils and other agencies, ordinance authorship, preparation of a Technical Reference Manual and public coordination/outreach.

Riverwalk Consultant, Naperville, IL - Project director for engineering, surveying and environmental services as part of a six year assignment as special consultant for the Naperville Riverwalk. Project assignments include fishing pier replacement, reconstruction of several sections of the riverwalk and parking lot reconstruction.

Overseas Clean Water Projects, Various - Volunteer civil engineer for several global partnership projects in developing nations including:

- Disaster Response Team - Port Au Prince, Haiti
- CEBCE Ministry Centre - Goma, D. R. Congo
- Royal Poultry Microenterprise - Ngolo, Zambia
- Angola YFC Campus Plan - Lubango, Angola
- Tien Shan School Master Plan - Almaty, Kazakhstan
- Home of Hope Orphanage - Kigali, Rwanda
- Post Flood Analysis - Las Cruces, Guatemala
- Stormwater Collection Study - Niono, Mali
- Children of Promise Orphanage and School - Malakal, Sudan

Work has included site survey, master planning, design of water supply and sanitation systems, grading design and drainage design.

US Route 45, Rantoul, IDOT, District 5 - Project director for the Phase II design for the reconstruction and realignment of a 0.8 mile section of US 45 from Chanute AFB to US 136. Services include land survey, row plats, Phase II design, drainage design, lighting design and channelization and signalization at Century Boulevard intersection.

Wingate Basin Improvements, Glen Ellyn, IL - Project director for the analysis and design of roadway and infrastructure improvements along over 20,000 ft. of pavement. Project includes pavement rehabilitation, storm sewer upgrades, stormwater storage facilities, and pavement reconstruction.





James F. Kessen, PE
Water Resources Engineer

Jay Kessen serves as water resources engineer on a wide variety of water resources projects. His experience includes watershed planning, hydrologic and hydraulic modeling and stormwater permitting assistance.

Education:

*Bachelor of Science
Civil Engineering
University of Iowa, Iowa City - 1988*

Registration / Training:

*Professional Engineer
Illinois - 062-051612*

*Professional Engineer
Iowa - 13655*

*Design of Stormwater Management
Systems / BMPs
Water Resources Learning Center*

*WinSLAMM (Source Loading and
Management Model)
University of Wisconsin-Madison*

*HEC-RAS, University of Wisconsin-
Madison Cost-Effective Storm
Sewer Design
University of Wisconsin-Madison*

*TR-20 Workshop
Illinois Section of ASCE*

Introduction to ArcGIS I

Representative Projects:

Woodlands-Highlands Drainage Investigation, Hinsdale, IL – Managed the evaluation of existing problems and alternative solutions related to poor surface water management within a 181-acre residential area located in southeastern Hinsdale. Problems included poorly drained roadways as well as yard and house flooding. Major project tasks included: (1) public involvement including public meetings, presentations, and questionnaire evaluation; (2) field survey including collection of drainage system data as well as a right-of-way tree survey; (3) hydrologic and hydraulic modeling using XP-SWMM to evaluate the performance of the existing and proposed stormwater management systems; and (4) preparation of cost estimates for final design and construction.

Flagg Creek Watershed Plan, DuPage County, IL – (work performed while an employee of the DuPage County Department of Environmental Concerns). Coordinated the development of a watershed plan for the 11-mi² watershed comprised primarily of residential and light commercial land uses. The watershed planning models for the Flagg Creek main stem and its tributaries were created using FEQ except for two special study area models created using XP-SWMM. Responsibilities included providing modeling and other technical support as well as participating in the following planning tasks: public involvement (leading steering committee and public meetings), development of alternatives and recommendations regarding flood damage reduction, identification of natural storage areas, identification of groundwater recharge areas, recommendations for site runoff and watershed storage criteria, and water quality enhancements.

Cook County Watershed Management Ordinance (WMO) Technical Guidance Manual, Cook County, IL – Developed technical examples and performed quality checking of the Technical Guidance Manual developed for the Metropolitan Water Reclamation District of Great Chicago (MWRDGC). The WMO and associated Technical Guidance Manual form the basis for stormwater regulation in Cook County.

Countywide Stormwater and Flood Plain Ordinance Appendix E Revisions, DuPage County, IL – Provided technical assistance during the first phase of revisions of the revised technical guidance manual in 1999. Developed detailed guidance and provided technical and editorial comments regarding work performed by others.

Stormwater Permit Reviews, DuPage County, IL – Performed and coordinated the review of stormwater permit applications for the DuPage County Department of Development and Environmental Concerns. Tasks included addressing specific design and regulatory questions with respect to the DuPage County Countywide Stormwater and Flood Plain Ordinance, attending pre-application meetings, performing stormwater permit reviews, and assisting with the development of checklists, flow charts, and procedures to streamline the County's stormwater permit review process.





Bruce W. Maki, CFM
Director of Environmental Services

Bruce Maki is Director of Environmental Services with ERA. He has over 25 years of experience in water resource management.

His work experience includes the preparation and amendment of local and regional ordinances and technical guidance documents; design and implementation of water quality best management practices; directing the rehabilitation and restoration of natural areas; ensuring local government compliance with federal and state water resource regulations; overseeing site plan and stormwater review of municipal permit applications; providing expert testimony in public hearings and court proceedings.

Education:

*Bachelor of Science - Geology
Northern Illinois University, 1984*

*Bachelor of Science
Business Administration
Northern Michigan University, 1980*

Registration:

*Certified Floodplain Manager
Illinois Association for
Floodplain and Stormwater
Management
Certified Wetland Delineator
U.S. Army Corps of Engineers
Chicago District
FEMA/NFIP
Community Rating System
(CRS) Train-the-Trainer*

Affiliations:

*Illinois Association of Environmental
Professionals*

Society of Wetland Scientists

*Illinois Association for Floodplain
and Stormwater Management
The Conservation Foundation*

*Association of State Wetland
Managers*

Representative Projects:

Cook County Watershed Management Ordinance, Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), IL – Project manager for the development of the first comprehensive, countywide watershed management ordinance (WMO) for Cook County. The WMO regulates over 130 communities of diverse economic backgrounds and includes stormwater, flood plain and water quality development regulations. Services include white paper research and coordination with stakeholders, watershed planning organizations and governmental agencies in the development of the ordinance standards. In addition, the project includes writing the WMO Technical Guidance Manual, regulatory program implementation resource assessment and development of regulatory and educational materials.

Water Quality BMP Manual, DuPage County, IL – Project manager for the writing of a water quality best management practices manual for countywide implementation. The project involves the writing of the document in draft sections for review by County staff and leading monthly meetings with stakeholder groups. The manual provides guidance on cost effective BMPs for a highly urbanized county that are also appropriate for the county's physical geographic characteristics.

DuPage County Stormwater and Flood Plain Ordinance, DuPage County Stormwater Management Division – Founding staff member for the drafting of a comprehensive, watershed based regional stormwater ordinance that included stormwater and floodplain development regulations, riparian, and wetland protection measures affecting a county population of close to one million. Participated in public meetings to obtain comments on ordinance drafts. Participated in the writing of subsequent revisions. The DuPage ordinance became a national, award-winning, model ordinance most recently winning the James Lee Whitt Local Award for Excellence from the Association of State Flood Plain Managers.

Lyman Woods Restoration, Downers Grove, IL – Project manager for the design of stream bank stabilization and woodland restoration of a valuable natural area containing threatened and endangered species. The project involved wetland delineations, field tile survey and the inventory of over 2,000 trees. The plan incorporated several bio-engineering stream bank techniques. A major challenge was developing a design that could be built without negatively impacting the rare plant species or woodland. Final plans required approval from several public agencies including the preparation of public meeting presentations.

Cantigny Foundation, Wheaton, IL – Project manager for the development of a master stormwater management plan for Robert R. McCormick's 500-acre public park and recreation area. The master plan will guide future development of the park by identifying suitable areas for stormwater detention, suitable best management practices and identifying and delineating wetlands and riparian areas. The master plan allows the foundation to expedite planning and permitting of improvements thereby realizing significant cost savings.





Brian J. Dusak, PE, CFM
Design Engineer / Resident Engineer

Brian Dusak serves as a design engineer on transportation, infrastructure and drainage engineering projects. He also serves as a resident engineer on municipal infrastructure projects.

Education:

*Bachelor of Science
Civil Engineering
University of Illinois at Urbana-
Champaign, 2004*

Registration/Certifications:

*Professional Engineer
062-062144*

*IDOT, Documentation of Contract
Quantities Course
December, 2008
09-0054*

Certified Floodplain Manager

*American Public Works Association
(APWA)*

*APWA – Fox Valley Branch
Education Committee*

*Institute of Transportation
Engineers (ITE)*

Experience:

2004-Present

*Engineering Resource Assoc.
Design/Resident Engineer*

2002, 2003

*Engineering Resource Assoc.
Engineering Internship*

Representative Projects:

DuPage River Trail Improvements, Plainfield, IL – Resident engineer for the construction of a pedestrian bridge and a mile long bike trail along the DuPage River. Project is funded through the American Recovery and Reinvestment Act (ARRA) of 2009. Tasks include coordinating with IDOT Bureau of Local Roads, IDOT Bureau of Materials, Federal Highway Administration, and Village of Plainfield to ensure compliance with all local and federal requirements.

West Dundee Streetscape Project, West Dundee, IL – Resident supervisor for an American Recovery and Reinvestment Act of 2009 (ARRA) project. This project included the construction and installation of 12-25 foot long pre-cast concrete planters, the installation of new benches and trash receptacles, the removal of existing bluestone pavers, and the installation of new brick pavers along IL RTE. 72 in downtown West Dundee. Also responsible for all documentation required using ICORS for project. This project was completed in the fall of 2010.

St. Charles Road Reconstruction, Berkeley, IL – Resident inspector of the St. Charles Road project for the Village of Berkeley. Project elements include new water main and storm sewer, roadway reconstruction, new street lighting, construction layout, new traffic signals and removal of contaminated soils.

North Main Basin Resident Engineer, Glen Ellyn, IL – Resident inspector of North Main Basin project for Village of Glen Ellyn. Project elements include new water main and storm sewer, sanitary sewer replacement and roadway reconstruction.

Prairie Path Structure Improvements, DuPage County, IL – Resident inspector for the removal and the replacement of seven box culverts along the Illinois Prairie Path and Great Western Trail.

IDOT Maintenance Facility - Connection to City Sewer and Water, Bolingbrook, IL - Project engineer for a Capital Development Board (CDB) project consisting of the installation and connection of water and sewer service lines from Illinois American Water water main and sanitary sewer facilities to an Illinois Department of Transportation (IDOT) maintenance facility. The project also includes abandoning an existing triple basin and septic system, installing a new triple basin, adding a new fire hydrant, disconnecting building water lines from the existing well pump/pressure regulator except in the truck washing area and installing a RPZ and water meter inside the existing building.

Bryant Avenue / Thain's Addition Reconstruction Project, Glen Ellyn, IL - Project engineer for the reconstruction and rehabilitation of over 11,000 feet of HMA and PCC streets within a residential neighborhood. The project includes storm sewer replacement, water main replacement, sanitary sewer point repairs, lining and service replacement. This project is scheduled to be complete in 2010.





SCOPE OF SERVICES

Woodlands Infrastructure Improvements Project, Phase I

ERA will provide professional design engineering services in accordance with the following work plan.

1. **Meetings and Coordination** - The following meetings are anticipated for this project:
 - Kick-Off Meeting - Meet with Village of Hinsdale staff to discuss project issues, compile background information and initiate project. (1 meeting)
 - Status Meetings - Meet with Village staff during design period to review status and review comments regarding construction documents. Meet once a month. (8 meetings)
 - Public Meetings - It is assumed ERA will not be required to attend any public meetings.
2. **Data Gathering** - This task includes the acquisition of data available from various sources to aid in the inventory and delineation of existing conditions. The following items will be obtained:
 - Existing and Proposed XP-SWMM models will be provided by the Village
 - GIS Data from Village
 - Tax maps
 - Utility Atlases (Storm, Sanitary, Water)
 - Private Utility Atlases (Gas, Electric, Telephone, Cable T.V.)
 - DuPage County Topographic Mapping
 - USGS Benchmarks from Village of Hinsdale
 - Aerial photos of the project area
 - Village of Hinsdale standard contract documents, forms, and construction details
3. **Geotechnical Report Analysis** - This task includes reviewing pavement cores and soil borings taken by the sub-consultant at the locations of the proposed rain gardens shown in the Clark Dietz report to determine the infiltration rates. These will be done in the Phase I project limits. This task does not include any Hydro-geological studies.





SCOPE OF SERVICES

4. **Field Survey** – This task will include a topographic survey along the 21,000 feet of right-of-way listed in the project understanding and a 50' wide path along the drainage routes - patterns listed in the project understanding.
- Vertical and horizontal locations of topographic features within the rights-of-way including hydrants, valves, manholes, inlets, power poles, trees, edge of pavement, sidewalks, signs, driveways and found property corners.
 - Cross sections will be taken every 50 feet and at every driveway.
 - Scope of services does not include plats of survey, plats of easement or acquisition related services

The field survey will be performed using our in-house electronic total stations and data recorders. Survey information will be downloaded directly into our CAD system to ensure the highest degree of accuracy.

5. **Base Plans and Profiles** - Information compiled from the field survey and data gathering tasks will be combined to produce base plans at a scale of 1" = 20'. Base Plans and Profiles will be prepared on our CAD system conforming to Village of Hinsdale graphic standards. Base plans will be submitted to the Village and private utility companies for review and comments.
6. **Analysis and Evaluation** - ERA will analyze and evaluate the following design elements for this project.
- A. **Water Main Replacement** – This task includes the modeling of the Woodlands system using EPANET. It is anticipated that the first phase will require the installation of approximately 3,900 feet of 8" diameter PVC water main and 2,200 feet of 10" diameter PVC water main.
 - B. **Sanitary Sewers** – The contractor will be required to clean and video the existing sanitary mains. The mains will be lined and it is assumed that approximately 15% of the mains will need replacement. ERA will not be required to review the video of the mains.
 - C. **Roadways** – It is understood that all the existing roads will be reconstructed with HMA pavement and a concrete edge protection. There will be no significant profile changes. No sidewalks will be constructed.
 - D. **Storm Water** – The existing conditions XP-SWMM model will be updated so that an appropriate infiltration methodology is applied throughout the Woodlands project area (phases I, II, and III). Critical duration analyses will be performed for





SCOPE OF SERVICES

the 2-year, 10-year, and 100-year storm events (Bulletin 70 rainfall with Circular 173 Huff quartile distributions) to determine the critical existing condition flows and elevations at selected locations throughout the project area. These locations will be used as a point of comparison to evaluate the performance of the proposed alternative against the existing conditions. A layout of selected best management practices (BMPs) including rain gardens, permeable pavers, and underground storage will be completed for phases II, III, and the portion of phase I to the south of the 7th Street Basin to the north side of Woodland Avenue. The layout developed for the 7th Street Basin will be used as provided in the feasibility study performed by Clark Dietz. ERA will utilize a similar approach to identify optimal locations for the proposed green infrastructure within each phase. After the layout is performed, each BMP will be sized using XP-SWMM. This will provide a proposed condition model for all three phases that will be used during design. The current assumption is that there will be not new (added) impervious area or significant regarding of the pervious areas. This must be verified during final design when the roadway layout is completed. Additional stormwater storage may be required if new impervious area or regarding exceeds 1.0 acre.

- E. Cost Estimates – ERA will measure proposed quantities, and, using our extensive data base of recent unit prices, develop a preliminary engineer's opinion of probable construction cost for the proposed improvements. In addition a design and construction estimate for Phase II and Phase III will be submitted.

7. Permitting

- A. Stormwater Permitting (Phase I) - Currently, the Village utilizes the *DuPage County Countywide Stormwater and Flood Plain Ordinance* for use in both the DuPage and Cook County portions of the Village. The MWRDGC is in the process of preparing a Countywide (Cook County) stormwater watershed management ordinance (MWRDGC-WMO). The MWRDGC-WMO may include regulatory requirements that are more restrictive than those used to define the minimum criteria for this project. If the project is not permitted (and grandfathered) prior to the adoption of the MWRDGC-WMO, the project will be required to meet these new requirements.





SCOPE OF SERVICES

All regulatory stormwater stakeholders that might be involved with the management of stormwater through the site must be contacted as part of the design process. Specific regulatory criteria may change as a result of final design layout and grading requirements. The following list summarizes the potential stakeholders.

- Village of Hinsdale
- Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)
- Illinois Department of Transportation (IDOT) – 55TH Street
- Illinois State Toll Highway Authority (ISTHA) – Tri-Sate Tollway (I-294)
- Illinois Environmental Protection Agency (IEPA)
- Flagg Creek Water Reclamation District (FCWRD)

As a courtesy, the following agencies should be contacted, but permits will not likely be required:

- United States Army Corps of Engineers (USACE)
- Illinois Department of Natural Resources – Office of Water Resources (IDNR-OWR)

- B. Sanitary Infrastructure – No permit will be required.
- C. Water Infrastructure – IEPA permit will be required.
- D. IGIG grant coordination – No work will be required for phase I
- E. All permit fees will be paid for by the Village.





SCOPE OF SERVICES

8. Plans, Specifications, & Estimates (PS&E)

This task includes the preparation of PS&E in accordance with Village of Hinsdale and IDOT standards and requirements. Plans will include the following sheets.

•	<i>Cover Sheet and Location Map</i>	<i>1 sheet</i>
•	<i>General Notes and Typical Sections</i>	<i>2 sheets</i>
•	<i>Summary and Schedule of Quantities</i>	<i>1 sheet</i>
•	<i>Plan and Profile Sheets (1"=20')</i>	<i>15 sheets</i>
•	<i>Cross Section Sheets</i>	<i>20 sheets</i>
•	<i>Pollution Prevention Plan</i>	<i>1 sheet</i>
•	<i>Planting Plans & Construction Details</i>	<i>2 sheets</i>

Total	42 sheets
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Specifications will be prepared in the format required for IDOT projects. The specifications will reference IDOT standard specifications, and the Village's standards. Bid documents and unit price bid item quantities will be included. Contract documents will conform to the standard IDOT format and will include bid forms, instruction to bidders, contract forms, bonding and insurance requirements, and state and federal compliance requirements.

This task also includes the preparation of a final engineer's opinion of probable construction cost for the proposed improvements as well as Phase II and III. Plans, specifications, and estimates will be submitted for review and approval at the 75%, 90% and 100% stages of completion.

9. Bidding Assistance – This task includes the following items required to successfully bid the project.

- Provide reproducible plans and specifications for printing and distribution by Village staff
- Respond to bidder questions and assist in preparing addenda
- Attend Pre-Bid meeting and Bid Opening
- Village will review bids and provide award contract





Construction Phase Services

The following scope is based upon ERA staff being on site 1 day a week for 4 hours.

1. **Meetings and Coordination** - The following meetings are anticipated for this project:
 - Pre-construction Meeting - Meet with Village staff, Village resident engineer, utility company representatives and the project contractor to discuss project issues and proposed improvements.(1meeting)
 - Progress Meetings - Meet weekly with Village staff and contractor to ensure the project is staying on time and on budget.(42 meetings)
 - Environment and Public Services Committee Meetings – Attend monthly meeting during construction phase to update the progress of the project.(11 meetings)
2. **Site Visits** - This task involves a site visit once a week for 4 hours to answer questions from Village staff and the contractor. ERA will not be responsible for Quantities, Documentation or Pay Requests.
3. **Material Testing** – Our sub-consultant will be on site and at the plant during paving operations to ensure all HMA and PCC materials meet the requirements of the specifications. This will be a direct cost.
4. **Project Close-Out** - Prior to substantial completion, ERA will prepare a list of items for correction by the contractor. Upon substantial completion of the project, ERA will inspect the improvements and prepare a punch list of items to be completed. This task also includes creating as-built drawing of the project.



SACROW & Wingate Basin Improvements

Project Elements

- ✓ Storm Sewer Updated To Reroute Overland Flow Problems



Project Specifics

SACROW

- 8,500 LF of roadway reconstruction/rehabilitation
- Project Area: 53 Acres
- Review and analysis of sanitary sewer televising (8,500 LF)
- Sanitary point repairs (30 LF)
- Sanitary sewer replacement (1,918 LF)
- New storm sewer (5,520 LF)
- DuPage County Stormwater permit

WINGATE

- 20,000 LF of roadway reconstruction/rehabilitation
- Project Area: 207 Acres
- Review of sanitary sewer televising (22,000 LF)
- Sanitary sewer point repairs and lining (1,350 LF)
- Sanitary sewer replaced (8,000 LF)
- New storm sewer (17,900 LF)
- DuPage County Stormwater permit
- Design of detention pond and overflow routes

Project Team

Stephen R. Wegner, PE*
Principal - Project Manager

Rodney A. Beadle, PE, CFM*
President - Project Director

Marty J. Michalsko, PE, CFM*
Project Engineer - Drainage

* Self all with ERA

Client Reference

Robert J. Minix, PE
Village of Glen Ellyn
(630) 489-6358



ENGINEERING
RESOURCE
ASSOCIATES, INC.
CONSULTING ENGINEERS, SCIENTISTS
& SURVEYORS

Special Assessment 217 - Lombard Lagoons

Project Elements

- ✓ Project Funded By Special Assessment
- ✓ Sanitary Sewer Relocated From Rear Yards To Village ROW
- ✓ Project Phased To Meet Budgets
- ✓ Conversion Of Rural Cross Section With Ditch Draining To Curb And Gutter Pavements And Storm Sewer



Project Specifics

- Project Area: 60 Acres
- Review of existing sanitary sewer televising (8,000 LF)
- Reconstructed Streets (8,500 LF)
- New sanitary sewers (9,300 LF)
- New storm sewers (7,840 LF)
- DuPage County Stormwater Permit
- Retention pond expansion
- Detention Pond Constructed

Project Team

Stephen R. Wegner, PE*
Principal - Project Manager

Rodney A. Beadle, PE, CFM*
President - Project Director

John F. Mayer, PE, CFM*
Senior Project Engineer - Lighting

Marty J. Michalisko, PE, CFM*
Project Engineer - Drainage

Brian J. Dusak, PE, CFM*
Project Engineer - Sanitary and Water Main

* Staff still with ERA

Client Reference

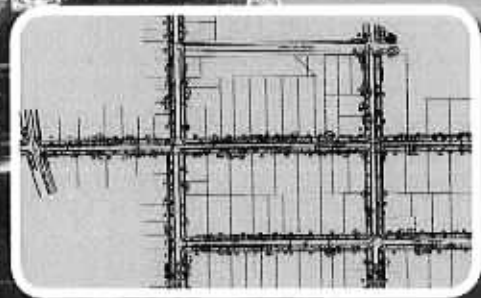
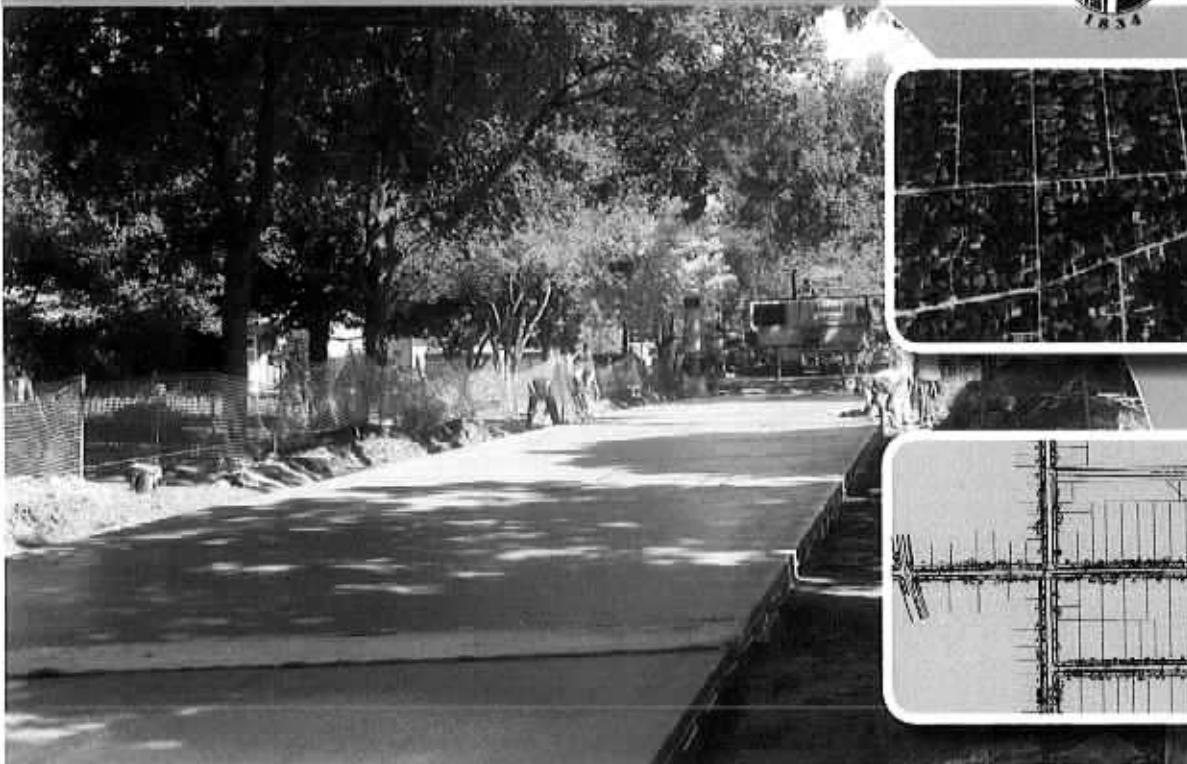
Ray Schwab
Village of Lombard
(630) 620-5700



ENGINEERING
RESOURCE
ASSOCIATES, INC.
CONSULTING ENGINEERS, SURVEYORS
& SURVEYORS

Bryant Avenue/Thain's Addition Improvements Project

Village of Glen Ellyn, Illinois



ERA provided design engineering services for this major stormwater, roadway and infrastructure improvement project. The project was driven by the results of ERA's watershed study for this area known as Taylor Basin Study. The report analyzed the existing storm sewer system and recommended various alternates to alleviate severe drainage problems throughout the basin. In addition to adding storm sewers, the existing profile of several streets were lowered to keep the excess storm water from utilizing its normal overland route through private property.

ERA Project Management

Stephen R. Wegner, PE | Principal / Project Manager
Rodney A. Beadle, PE, CFM | President / Project Director

Project Reference

Robert J. Minix, PE | Professional Engineer
Village of Glen Ellyn - Public Works Department
30 South Lambert Road
Glen Ellyn, IL 60137
(630) 469-6756

Construction Cost: \$6.1 million

Project Highlights

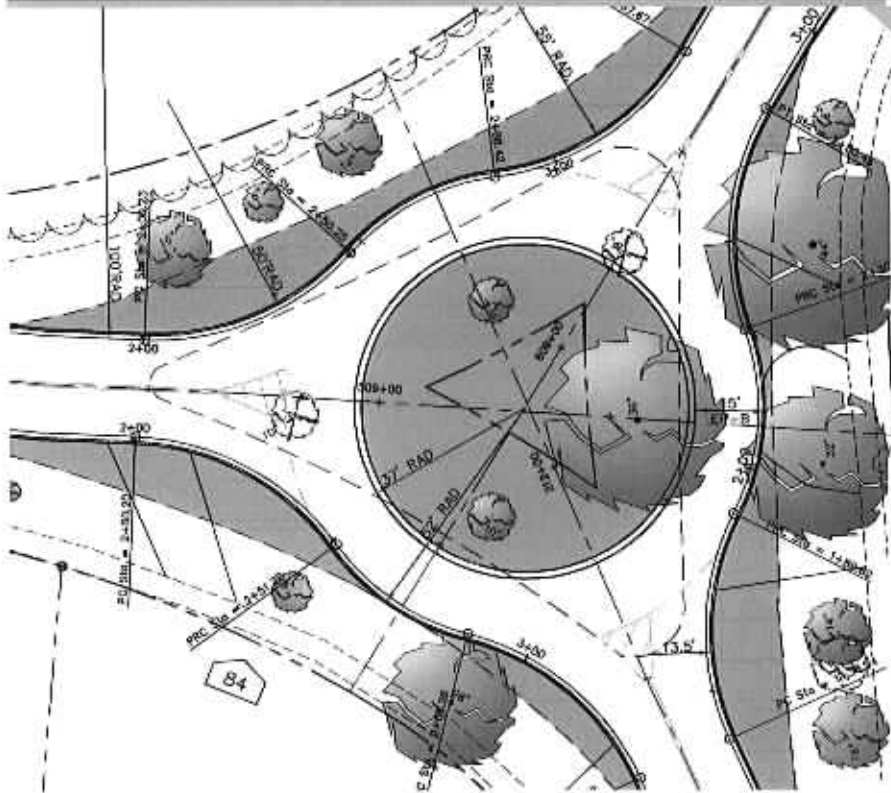
- Replacement of 5,700' of water mains and the installation of 6,000' of new storm sewers
- Analyzed existing pavement
- Enhanced resurfacing or the complete reconstruction of over 8,800 feet of HMA pavement
- Complete replacement of 2,500 feet of Bryant Avenue using High-Early PCC concrete pavement
- Coordination with the school district for the design of Benjamin Franklin School's kiss-n-ride, new sidewalk and scheduling of the project
- Sanitary repairs and lining



ENGINEERING RESOURCE ASSOCIATES, INC.
Consulting Engineers, Scientists & Surveyors
www.eraconsultants.com

Warrenville | Geneva | Chicago | Champaign

Village of Glen Ellyn, Illinois



ERA provided design engineering services for the Parkside/ Summerdale roadway and infrastructure improvement project. The project involved the storm sewer, water main, lining of existing sanitary sewer, road reconstruction and resurfacing within a residential neighborhood. Coordination was required to meet the demands of the property and business owners. The project was completed in one year. This project was recognized as the APWA 2010 Project of the Year.

ERA Project Management

Stephen R. Wegner, PE | Principal / Project Manager
Rodney A. Beadle, PE, CFM | President / Project Director

Project Reference

Robert J. Minix, PE | Professional Engineer
Village of Glen Ellyn - Public Works Department
30 South Lambert Road
Glen Ellyn, IL 60137
(630) 469-6756

Construction Cost: \$3.86 million

Project Highlights

- **APWA 2010 Project of the Year**
- 3,800 ft. of new storm sewers
- HMA & PCC pavement rehabilitation and reconstruction
- Traffic calming via roundabout
- 5,600 ft. PVC water main
- Sanitary repairs and lining including services
- Incorporation of parking design for commercial and residential alley



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Street Improvements Program

City of Wood Dale, Illinois



For over 10 years, Engineering Resource Associates, Inc. (ERA) has provided Phase I, II and III engineering services on numerous roadway and infrastructure projects for the City of Wood Dale. ERA was instrumental in helping the City convert over 6 miles of rural cross section roadways to the City standard urban cross section. The projects typically included replacing the existing ditch drainage with curb and gutters with new storm sewers, new sidewalks and required storm water management facilities. To ensure positive drainage the existing roadway was lowered up to two feet, this required the lowering of the existing water main to maintain proper cover. Four of the projects utilized Motor Fuel Taxes (MFT) funds and several permits from IDOT were required for work in the Irving Park Road (IL 19) Right-of-Way

In addition to reconstruction projects, ERA has worked with the City on their annual roadway maintenance projects, storm water drainage studies, storm sewer projects, water main replacement projects and sanitary lining and replacement projects and the design of a salt dome. One of these projects required the horizontal drilling of a sanitary sewer main under the Milwaukee District West Line Rail Road.

Our two most recent projects for the city include a storm water study and a water main replacement project. The storm water study will examine the causes of flooding along Cedar Street south of Spring Oaks Drive during moderate and heavy rainfalls. The neighborhood experiences structural damage as well as making the roadway impassable due to flooding. ERA will evaluate various alternates to reduce the extent of the flooding, determine the associated costs for each alternate and present our findings to the City Board. The water main project consisted of the design and construction observation of replacing approximately 2,000 feet of 8" diameter water main along Oak Avenue and Potter Street. Because of the number of conflicts in the roadway and the number of trees in the parkway, the water main along Oak Street was directionally bored.

ERA Project Management

Stephen R. Wegner, PE | Project Manager

Rodney A. Beadle, PE, CFM | President / Project Director

Project Reference

John Kramer | Director of Public Works

City of Wood Dale

404 N. Wood Dale Road

Wood Dale, IL 60191

(630) 787-3765

Project Highlights

- Analyzed existing pavement
- Over 6 miles of roadway reconstruction and rehabilitation
- Approximately 14,000' of new storm sewer
- Approximately 14,000' of new water main
- Approximately 6,500' of new sanitary sewer
- Approximately 7.5 miles of new sidewalks
- Use of recycled material
- Stormwater management facilities
- Location drainage studies
- MFT funds were utilized on four projects



ENGINEERING RESOURCE ASSOCIATES, INC.

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Cosley Zoo Parking Lot Expansion

Wheaton Park District, Illinois



ERA provided design engineering, permitting, and as-built survey services for the parking lot expansion at Cosley Zoo. ERA retrofitted a rain garden into the existing lot, and used permeable brick pavers for the expansion to enhance stormwater quality.

ERA Project Management

John F. Mayer, PE, CFM | Principal / Project Manager
Rodney A. Beadle, PE, CFM | President / Project Director

Project Reference

Steve Hinchee | Park Planner
Wheaton Park District
1000 Manchester Road
Wheaton, IL 60187
(630) 510-4976

Project Budget / Date: \$500,000 (2009)

Project Highlights

- Permeable brick paver parking lot
- Existing parking lot improved with native planted rain garden
- New rain garden islands
- Enhanced accessible parking area



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PROJECT UNDERSTANDING

Project Understanding

The Woodlands-Highlands neighborhood is located in southeast Hinsdale. The neighborhood has a long history of storm water problems related to inadequate surface water management. These problems include poorly drained roadways, rear yard flooding and damages to homes and other personal property. The poor drainage has also contributed to the deterioration of the existing roadways in the project area. Two storm water management studies were performed to analyze the existing conditions and recommend solutions. The Village has elected to incorporate a "green" approach to the storm water infrastructure for this project.

The Village of Hinsdale desires to retain a consultant to provide design and limited resident engineering services for the reconstruction of the Woodlands project area. The project is estimated to cost approximately \$15 million dollars and will be phased over three years.

The entire 21,000 feet of right-of-way will be surveyed along with an existing utility easement between McKinley Avenue and Taft Road at 7th street and along 55th Street between Cleveland Road and Taft road. Contour maps will be utilized to determine the other overflow routes. The storm water infrastructure for the entire area will be designed utilizing a "green" approach as detailed in the 2009 Clark Dietz report.

The first phase of the project titled The Seventh Street Basin will extend from the north side of the watershed boundary which is located north of 7th Street to the north side of Woodland Avenue. The first phase will consist of the reconstruction of approximately 6,600 feet of roads, 6,100 feet of new water mains, 2,900 feet of cleaning and lining of sanitary sewers and green infrastructure improvements.

The roadways will be reconstructed with an HMA pavement and a PCC edging with no significant change in profile. The contractor will be required to clean, video tape and line the sanitary sewers with a small percentage of the mains replaced. The existing water main is too small by current standards and will be replaced by 8" and 10" diameter PVC pipe. A limited analysis of the water main system within the entire Woodlands system will be performed. The evaluation will be based upon the static pressure values of the existing system adjacent to the Woodlands neighborhood provided by the Village. The water main system will be evaluated using EPANET under dynamic fire flow conditions to ensure that adequate pressure is provided for fire protection throughout the system.

The proposed stormwater management system will incorporate best management practices (BMPs) as described in the report prepared by Clark Dietz, Inc. and Huff & Huff, Inc. entitled Woodlands Green Initiatives or Stormwater Management Feasibility Study (December 2009). Utilizing BMPs such as rain gardens, permeable pavers, and underground storage will provide the opportunity to reduce the volume of runoff that is conveyed downstream and will allow for the





PROJECT UNDERSTANDING

capture of pollutants prior to being conveyed off-site. The design of the BMPs will be affected by numerous factors including existing soil characteristics for infiltration capacity, amount of tributary area contributing to each BMP, possibility for inadvertent "piping" to basements through existing granular seams located down-slope of each BMP, and the amount of area available for installation.

The plans developed for the first phase be based upon the location of the storm sewers, rain garden and storage shown in the feasibility study performed by Clark Dietz.

The feasibility study performed by Clark Dietz included a preliminary stormwater management system layout for the 7th Street Basin. The criteria used for the layout of the BMPs and other stormwater infrastructure within the 7th Street Basin will be extended to the other five basins in order to develop a green infrastructure approach that provides the same benefits throughout the entire project area. These facilities will be sized using XP-SWMM which has the ability to dynamically simulate the performance of the various BMPs, stormwater storage areas, and pipe systems.

The first phase is planned to be bid in August / September 2011 to allow the underground work to begin in the fall of 2011. The consultant will provide limited resident engineering services to be on sight to oversee the major aspects of the project.

Table of roads follow on the next page.





PROJECT UNDERSTANDING

Phase I - Streets

<u>Street Name</u>	<u>From</u>	<u>To</u>	<u>Length (LF)</u>
East 7 th Street	County Line Road	McKinley Lane	850
East 7 th Street	Taft Road	Harding Road	1,040
Cleveland Road	East 7 th Street	Terminus	850
McKinley Lane	East 7 th Street	Woodland Avenue	1,050
Taft Road	East 7 th Street	Woodland Avenue	1,090
Wilson Lane	East 7 th Street	Woodland Avenue	1,300
Harding Road	East 7 th Street	Woodland Avenue	1,120
Subtotal			7,300

Phase I – Drainage Routes

	<u>From</u>	<u>To</u>	<u>Length (LF)</u>
Utility Easement	McKinley Lane	Taft Road	460
Park Outflow	Harding Road	I-294 Ditch	200
Subtotal			660





PROJECT UNDERSTANDING

Phase II - Streets			
<u>Street Name</u>	<u>From</u>	<u>To</u>	<u>Length (LF)</u>
Woodland Avenue	County Line Road	Harding Road	2,325
Cleveland Road	Woodland Avenue	Terminus	1,330
Taft Road	Woodland Avenue	Harding Road	860
Harding Road	Woodland Avenue	Taft Road	1,355
Subtotal			5,870

Phase II – Drainage Routes			
	<u>From</u>	<u>To</u>	<u>Length (LF)</u>
Park Outflow	Harding Road	I-294 Ditch	200
Park Outflow	Woodland Avenue	I-294 Ditch	150
Subtotal			350





PROJECT UNDERSTANDING

Phase III – Streets			
Street Name	From	To	Length (LF)
Woodside Avenue	County Line Road	Terminus	2,240
6 th Street	County Line Road	Princeton Road	1,390
Princeton Road	6 th Street	Harding Road	1,475
Princeton Road	Woodside Avenue	6 th Street	335
Dalewood Lane	6 th Street	Terminus	830
Bittersweet Lane	Terminus	Terminus	890
Subtotal			10,160

Phase III – Drainage Routes			
	From	To	Length (LF)
Park Outflow	Bittersweet Lane	I-294 Ditch	125
Park Outflow	Woodside Avenue	I-294 Ditch	115
Subtotal			240
Grand Total			24,580



[illegible]



ENGINEERING FEES

Fees for the services described in this proposal are proposed on a cost plus, not-to-exceed basis using an hourly rate multiplier of 2.80 times direct staff payroll rates. Our total not to exceed fee for this assignment is \$281,213. The not-to-exceed fee includes direct costs. Direct costs will be charged at their actual rate incurred with no markup.

A detailed summary of anticipated hours and fees and average hourly payroll rates is included on the following page.

We appreciate the opportunity to submit this proposal and we look forward to working with you on this important project.



ENGINEERING RESOURCE ASSOCIATES, INC.

PD = Project Director
 DES = Director of Environmental Services
 PM = Project Manager
 PE = Project Engineer
 DE = Design Engineer
 ES = Environmental Specialist
 LS = Land Surveyor
 CC = Survey Crew Chief
 FT = Survey Field Technician
 CT = Cost Technician

[illegible]

DATE: February 14, 2011


REQUEST FOR BOARD ACTION

AGENDA	ORIGINATING
SECTION NUMBER Village Board Consent Agenda Item	DEPARTMENT Community Development
ITEM Request for Village Participation in Addressing Engineering Investigation into Flooding at the Graue Mill Country Condominiums	APPROVAL Daniel M. Deeter Village Engineer

The Graue Mill Country Condominium area has experienced major flooding from Salt Creek in August 1987, November 2007, and July 2010. These floods have cause extensive damage to homes and property. In coordination with the DuPage County Department of Economic Development and Planning, the Graue Mill Homeowners Association has engaged Christopher B. Burke Engineering Ltd. (CBBEL) to conduct hydrologic and hydraulic investigations and to provide recommendations to address the flooding from Salt Creek. The current professional services contracts with CBBEL are for \$44,250.00

Under the Village's Localized Drainage Plan, the cost of projects established solely to alleviate private property flooding can be split 80/20 where the residents' are responsible for 80%. Per the Localized Drainage Plan, the Village can contribute \$8,850 of the CBBEL contract. The Graue Mill Homeowners Association is requesting that the Village provide \$10,000 to address this flooding issue. The Village will provide the funding when residents have presented all invoices at the end of the engineering investigation.

Motion: To Approve the Payment of 20% of the Engineering Costs or No More Than \$8,850 to Graue Mill Homeowners Association to conduct Hydrologic and Hydraulic Investigations and Make Recommendations to Alleviate Flooding on Private Property Known as Graue Mill Country Condominiums Once the Village has Received and Approved the Engineering Invoices.

APPROVAL	APPROVAL	APPROVAL	APPROVAL	MANAGER'S APPROVAL 
COMMITTEE ACTION:				
BOARD ACTION:				

Lawrence E. Klinger
1218 Indian Trail
Hinsdale, Ill. 60521
630-323-7111

February 7, 2011

Chris:

Enclosed please find the Packet for the meetings of the Environment and Public Safety Committee on February 14 and the Board of Trustees on February 15, 2011. Included are

Presentations by Peter Schroth, Myself and Thomas Burke. Mr Burke will talk from a Board which will show an aerial map of Graue Mill with Floodway and Floodplain Lines and also from their revised Proposal of 1/25/2011.

A Site Plan for Graue Mill showing the Sources of water in the July 24 flood.

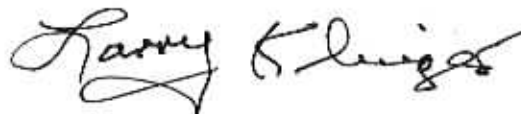
A 2 page summary of the Survey listing the damages from the flood.

A copy of a Booklet we prepared describing what happened on July 24th and the effects of that flood.

The only change for the Trustees Meeting is that I will be on vacation and my comments will be presented by John Donaker, a member of our Long Term Commission.

If an additional copy of the Booklet is needed, please contact me and I will get it to you.

Thanks for your help.

A handwritten signature in cursive script, reading "Larry Klinger". The signature is written in black ink and is positioned in the lower center of the page.

February 14, 2011

Presentation by Peter Schroth, President, Graue Mill Homeowners Association to the Hinsdale Environment and Public Safety Committee

I would like to introduce our community to you, realizing that some of you may be familiar with us, while others may not be. We are a little bit of a step child to the Village since we are on the northernmost property line butting up directly against Oak Brook. Access to Graue Mill Country Condominiums is via Old Mill Road, which branches off York Road.

Graue Mill Country Condominiums is a true mixed use community. It consists of mid-rise condominium buildings, town houses, villas and individual family homes. It is a gated community within the confines of the Village of Hinsdale. Graue Mill has a total of 243 units and almost as many owners.

The Graue Mill Homeowners Association and its Board of Directors oversee and maintain the common areas of the community. Additionally, there are five individual Condominium Associations, each with its own Board, which are responsible for the buildings proper.

The development of Graue Mill began in 1977. It proceeded in several steps with intervals in between and the last buildings were finished only in the mid-1990s.

There are several man-made ponds on the property, which all serve as storm water retention areas. In addition, there are tennis courts, a small park and a low lying parking area to the Club House, which all double up as storm water detention facilities.

In the almost 35 year history of the Graue Mill community there has been only one flood event prior to the recent July 2010 calamity. This was in the summer of 1987. However, only one home was affected as a result of this previous flood whereas during last year's disaster 17 homes had up to approximately 1 foot of

water in their ground level sections, 26 cars were destroyed and total damages are estimated between 4 and 5 million dollars.

We are here today to ask your financial support for a study by Christopher B.Burke Engineering, a company with outstanding credentials in the field of hydrology, which is very experienced with the flooding problems of Salt Creek. In your deliberations we hope that you will also not forget that we are predominately a community of retirees and in many cases elderly widows.

With this in mind the Graue Mill Homeowners Association Board already has approved \$5000 as its contribution to the work by Burke Engineering, hoping that it will lead to the avoidance of another flood event, which would traumatize again the elderly Graue Mill population.

I thank you for your attention.

I will now introduce Larry Klinger, Chairman of the Graue Mill Long Term Commission, which was established in the aftermath of the July 2010 flood to deal with mitigation efforts for possible future emergencies.

Presentation by Larry Klinger, Graue Mill Long Term Commission

To the Hinsdale Environment and Public Safety Committee

Purpose – Request for Financial Support

During the night of July 23, 2010 Hinsdale experienced an extremely heavy rainstorm which was reported to be 7.5 inches.

At 6:30 A.M. the next morning, a resident reported a build-up of water on South Indian Trail Road.

By 8:00 A.M. the flood water which was coming from Salt Creek onto South Indian Trail Road was moving up the driveways, had started to collect in the Tennis Courts and was about 15 inches deep at the intersection of Indian Trail and Old Mill Roads.

By 9:00 A.M. an Evacuation Order for Graue Mill was issued by Hinsdale due to the loss of electricity, phones and access. The Hinsdale Police and Fire Depts. were extremely helpful and Dave Cook was present to help.

From this situation our community of 243 owners experienced:

An evacuation of our homes for at least 3 days.

17 Villas on Indian Trail Road were completely flooded resulting in at least 3 months work to completely rebuild the interiors of the homes and garages. Several of these homes are still being worked on.

Flooding of 3 of the 4 underground garages and some of the Villa Garages resulting in 26 cars totally lost and more than 10 damaged.

Total damages estimated at more than \$4.6 Million of which \$3 Million is from the 17 Flooded Villas.

Sources of the flood water included the rain water, Salt Creek, overflows of the Storm and Sanitary Sewers and runoff from the Oak Brook property West of Graue Mill.

Since the formation of our Long Term Commission we have completed a Survey to identify damages from the flood and conducted 16 meetings with the following to identify opportunities for assistance and to understand local, county, state and federal

Rules and Regulations which apply to floods from stormwater:

State Representative Patti Bellock
Dave Cook
DP County Stormwater Management Staff
DP County Board Stormwater Committee Chairman Jim Zay
Flagg Creek Water Reclamation District
DP County Forest Preserve District
Commonwealth Edison
Two of our three elected Representatives to the DP County Board
State Senator Ron Sandack and Representative Chris Nybow

In addition, we evaluated a number of potential consultants and selected Christopher B. Burke Engineering, Ltd. which has completed an initial study at our expense of our situation and now has given us a Proposal for a Continuation project at a cost of \$41,860. In addition to the \$5,000 approved by the Graue Mill Homeowners Association; today we are asking the Village of Hinsdale to approve an expense of \$10,000 for this project and we will be asking DP County to fund the remainder.

Thank you

Now, I would like to introduce Thomas Burke, V.P. of C.B.Burke Engineering, Ltd..



CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 West Higgins Road Suite 600 Rosemont, Illinois 60018 TEL (847) 823-0500 FAX(847) 823-0520

December 8, 2010

Graue Mill Homeowners Association
c/o Peter Schroth
1401 Burr Oak Road
Hinsdale, IL 60521

Attention: Long Term Commission
Board of Directors

Subject: Professional Services Proposal to Prepare Flood Exhibits
and Conceptual Flood Investigation for the Graue Mill
Homeowners Association Property in Hinsdale

Dear Board of Directors:

Christopher B. Burke Engineering, Ltd. (CBBEL) has prepared this proposal to provide professional consulting services to prepare flood exhibits and conduct a conceptual flood investigation of the Graue Mill Homeowners Association (Graue Mill HOA) property located east of York Road, west of Salt Creek and north of Ogden Avenue in Hinsdale, IL. The flood exhibits will be aerial maps of the Graue Mill HOA property with the regulatory floodplain and floodway shown. In addition, we will discuss conceptual projects that will and will not be permittable. The purpose of this work is to assist the Graue Mill HOA in moving forward with the Concept Flood Investigation which was described in a proposal by CBBEL dated October 28, 2010.

SCOPE OF SERVICES

Task 1 – Prepare Floodplain/Floodway Exhibits: CBBEL will prepare floodplain and floodway exhibits of the Graue Mill HOA property and will include the Graue Mill Forest Preserve. The maps will help identify which portions of the property are in the floodway. We will also use the DuPage County 2006 2-foot aerial topography

Task 2 – Recommendations: Based on the maps prepared in Task 1, we will make recommendations of concept projects worth pursuing. The floodway will limit improvements that can be made. We will also use the DuPage County topographic information to discuss the floodplain impact on conceptual projects.

Task 3 – Presentation of Results: CBEL will meet with the Graue Mill Homeowners Association Long Term Commission to discuss Tasks 1 and 2. Any additional meetings with the Village, County or Forest Preserve District will be billed on a Time and Material basis as it is not possible to quantify the number or length of the meetings.

FEE ESTIMATE

We estimate the cost of services to be the following:

TASK	DESCRIPTION	COST
1	Prepare Floodplain/Floodway Exhibits	\$ 650
2	Recommendations	\$ 900
3	Presentation of Results	\$ 840
TOTAL:		\$ 2,390

We will bill you at the hourly rates specified on the attached Schedule of Charges. Direct costs for blueprints, photocopying, mailing, mileage, overnight delivery, messenger services and report binding are not included in the Fee Estimate. We will establish our contract in accordance with the attached General Terms and Conditions. These General Terms and Conditions are expressly incorporated into and are an integral part of this contract for professional services. Please note that services performed by CBEL that are not included as part of this proposal will be billed on a time and materials basis.

Please sign and return one copy of this agreement as an indication of acceptance and notice to proceed. Please feel free to contact us anytime.

Sincerely,


Christopher B. Burke, PhD, PE, D. WRE, F.ASCE
President

Encl. Schedule of Charges
General Terms and Conditions

THIS PROPOSAL, SCHEDULE OF CHARGES AND GENERAL TERMS & CONDITIONS ACCEPTED FOR GRAUE MILL HOMEOWNERS ASSOCIATION:

BY: _____
TITLE: _____
DATE: _____

Approved by
Robert Schwartz
12/12/10

MEMORANDUM

January 11, 2011

TO: Long Term Commission Board of Directors

FROM: Thomas T. Burke, PhD, PE
Gerald L. Robinson, PE, CFM

SUBJECT: Conceptual Recommendations for the Graue Mill Homeowners Association
(CBBEL Project Number 10-0628)

This memorandum will discuss the types of projects that should be considered to assist in protecting the buildings located on the Graue Mill property from flooding. Some of the buildings are located within the floodway of Salt Creek and have additional restrictions that limit the types of activities that can be completed to remove the building from the floodplain. The location of the current regulatory floodway of Salt Creek on the property is shown in pink on Exhibit 1. As shown on the Exhibit, Building 1 is located entirely within the floodway and Building 2 is partially located within the floodway. The floodplain of Salt Creek is also depicted on Exhibit 1, and it encompasses all of Building 3 and clips the corners of some units on the east end of Hawthorne Lane and units on the building at the northwest corner of the intersection of Hawthorne Court and Hawthorne Lane.

Floodway Project

Buildings 1 and 2 will require that either the entire structure be elevated above the floodplain elevation of Salt Creek (similar to a building on stilts) or that residential floodproofing be constructed around the perimeter of the buildings. The floodproofing would consist of a concrete wall that would need to be constructed no more than 10' away from the existing building. The reason that the wall needs to be constructed within 10' is that the DuPage County Countywide Stormwater and Floodplain Ordinance (Ordinance) allows residential floodproofing to be constructed within 10' of the building and that there is no compensatory storage required for the floodplain that would be displaced by the construction of the wall. It is our opinion that this is the only feasible project that would meet all of the requirements of the Ordinance. The concern is how to flood protect the buildings and yet allow them to be easily accessible for the residents. Clearly a concrete wall in front of the garage of the units in Buildings 1 and 2 will not be acceptable. There are other alternates that allow gates to be raised based on the elevation of the floodwaters. These alternatives can be studied in the next phase of the project.

Areas located within the floodproofed area would need to have adequate drainage provided and would require that a small pump station be constructed to lift water that would collect behind the wall into Salt Creek. A detailed study would need to be completed to see if a single station would be sufficient to drain both buildings or if 2 separate stations would be required. A backup power source would also need to be part of the lift station installation.



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

MEMORANDUM

Floodplain Projects

The remaining buildings that are located within the floodplain may also be floodproofed in the same manner as discussed for the floodway portions (walls constructed within 10' of the existing building). The structures may also be removed using other methods (e.g. earthen levees, elevating portions of the roadway, etc.), but then compensatory storage would be required to be constructed somewhere in the immediate vicinity of the property or on-site. It is our understanding that the Forest Preserve District of DuPage County (FPDDC) has indicated that it may be possible to excavate portions of their properties to provide the required compensatory storage. There would need to be a detailed engineering analysis completed to see if the FPDDC property could be utilized to provide the compensatory storage required by the Ordinance. Compensatory storage may also be available on the Graue Mill site that would also need to be evaluated in a detailed engineering analysis of the property and Salt Creek.

The internal drainage behind any areas removed from the floodplain would require the construction of a lift station. The larger the area that is removed from the floodplain, the lift station (and cost of the station) will also increase in size and complexity. The size and location of the stations would depend on the areas removed from the floodplain for each of the affected buildings. A backup power source would be required for any lift station installation.

The off-site drainage coming from the Village of Oak Brook development located on the western property line would also need to be studied in detail to see if a drainage swale could be constructed that would direct excess stormwater around the edge of Building 3 and safely deliver it to Salt Creek. This construction would need to be carefully coordinated with any floodproofing efforts in the vicinity of Building 3.

A survey of the existing utility boxes and detention pond pump stations will need to be performed to determine the risk associated with flooding and how high they would need to be raised to protect them from being inundated from design storm events. In addition, several of the units low entry elevations will be surveyed to determine if the units are in the floodplain as the floodplain maps indicate.

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CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 West Higgins Road Suite 600 Rosemont, Illinois 60018 TEL (847) 823-0500 FAX(847) 823-0520

October 28, 2010

Revised January 25, 2011

Graue Mill Homeowners Association
c/o Peter Schroth
1401 Burr Oak Road
Hinsdale, IL 60521

Attention: Long Term Commission
Board of Directors

Subject: Professional Services Proposal for a Continuation of a Flood Investigation
for the Graue Mill Homeowners Association Property in Hinsdale

Dear Board of Directors:

Christopher B. Burke Engineering, Ltd. (CBBEL) has prepared this proposal to provide professional consulting services to conduct a flood study of the Graue Mill Homeowners Association property located east of York Road, west of Salt Creek and north of Ogden Avenue in Hinsdale, IL. This proposal will be a continuation of the work CBBEL completed for the Graue Mill property that was financed by the Board. The results of the flood study will be an evaluation program to implement flood protection measures for the residential properties. Included in this proposal are our Understanding of the Assignment, Scope of Services, and Estimated Fee.

UNDERSTANDING OF THE ASSIGNMENT

We understand the Graue Mill property suffered significant damages as a result of the July 2010 storm event. We understand the area also flooded in August 1987 and had significant street flooding around November 2007. The July 2010 flooding was a result of a significant storm event that caused Salt Creek to overtop its banks, internal storm drains could not convey the runoff away from the property and many of the internal detention basins reached historic elevations. We also understand that homes were built in Oak Brook after 1987 that are immediately west of the Graue Mill property and drain towards the subject property. We understand that as a result of the July 2010 storm event, 17 Villas in Graue Mill were flooded, numerous cars were damaged, many of the internal streets were impassable because of the inundation depths and several of the garages were inundated. Residents were evacuated by local fire departments using boats.

We also understand that Graue Mill is requesting funding from the Village of Hinsdale and DuPage County. Graue Mill would like CBBEL's assistance in preparing the necessary presentation and supporting material for the funding requests.

CBBEL is well aware of the July 2010 storm event and the significant damage it caused in many communities located in southern Cook, northern and central DuPage Counties. CBBEL engineers were out witnessing and working with several of the flooded communities starting early Saturday morning, July 24, 2010. We will apply our knowledge of the flood event, the data we obtained from the event, as well as the hundreds of previous flood studies we have completed throughout the Chicagoland area to help the Graue Mill Homeowners Association address the flooding problems by evaluating alternatives that will have various levels of protection. The higher levels of protection may require more intrusive and expensive improvements. In addition, all alternatives will need to consider local, county and state stormwater management ordinances and be permissible.

The main source of flooding within the Graue Mill property is from Salt Creek. CBBEL has been involved with the hydraulic modeling of Salt Creek for over 20 years. CBBEL is currently working for DuPage County to develop new floodplain maps for Salt Creek that show the inundation areas associated with the 100-year design storm event. We have performed many studies on Salt Creek and are more familiar with Salt Creek than any other stormwater consultant. When Salt Creek rises, the internal drainage system of Graue Mill can be affected, especially when the creek overtops its banks. We understand the main detention ponds on the Graue Mill property are drained by pumps. It is imperative that the pump controls be elevated so that they are not inundated by flood waters. In addition, we recommend the use of emergency generators because quite often during severe storms, power can be lost.

We understand that Graue Mill Homeowners Association has had conversations with the Forest Preserve District of DuPage County (FPD) about possible excavation of the Fullersberg property for additional storage. This possible storage could be very significant to offsetting compensatory storage requirements for floodplain fill on the Graue Mill property that would be constructed as part of the flood protection alternatives. CBBEL has performed many projects for the FPD and has an excellent working relationship with them. In addition to the FPD property, we will analyze the use of the Graue Mill property east of Hawthorn Lane for compensatory storage.

The following Scope of Services outline the steps we will perform to develop the proposed flood protection alternatives.

SCOPE OF SERVICES

Task 1 – Funding Request: CBBEL will assist Graue Mill with a presentation and supporting material to the Village of Hinsdale to request \$10,000 from the Environment and Public Services Committee. We can prepare a Power Point presentation or boards depending on the desire of Graue Mill.

Task 2 –Request Information from Villages and Site Review: CBBEL will contact the Villages of Hinsdale and Oak Brook to request any storm sewer information they have as it relates to the study area. We have the most current hydraulic model of Salt Creek from the work we are performing for DuPage County. We will request plans and stormwater calculations for the subdivision in Oak Brook that was built immediately west of Graue Mill. A CBBEL Water Resources Engineer has walked the Graue Mill site during the initial meeting. We will revisit the site during the study to obtain any additional information on the existing drainage system necessary for the hydraulic analysis.

Task 3 – Supplemental Survey: Based on our initial meeting, it appears Graue Mill has limited topographic information. We contacted McBride Engineering to request any topographic information they may have. We have been informed that they have nothing in terms of electronic data that we could use. We have budgeted for five days of a survey crew to obtain detailed information on the subject site. We will not have detailed topography of the entire site. We will use DuPage County 2-foot aerial topography to assist us in the study. In addition, we will survey low entry elevations randomly of units in Buildings 1, 2, 3 and some on Hawthorne Lane and Hawthorne Court. These elevations will be compared to the FEMA Elevation certificates previously prepared by others and will identify if the units are in the floodplain.

Task 4 – Hydrologic and Hydraulic Modeling: CBBEL will use the XP-SWMM program to model the hydrologic and hydraulic characteristics of the storm sewers in the flooding problem locations around the Graue Mill property. The topographic survey and site specific survey will be used to develop the XP-SWMM model. We will analyze the July 2010 and 100-year design storm event for baseline conditions. We will also use the Salt Creek FEQ hydraulic model as it relates to impacting the Graue Mill property.

Task 5 – Evaluation Program and Proposed Condition Modeling: Utilizing the information gained in Tasks 1-4, we will evaluate drainage improvements that will be incorporated into a proposed XP-SWMM model to determine the affects of the proposed improvements. The improvements may include grading changes, the use of retaining walls and other materials and pumps. We will consider several different options to protect the buildings from flooding. The storm sewer system will be analyzed to determine if improvements to the system can alleviate the garage flooding. We will study the impact of the area from Oak Brook that is tributary to the site. We will consider additional storage on-site, including the area east of Hawthorn Lane, and on the Fullersberg property. The drainage improvements, along with the concept costs for implementation, will be developed for the selected options.

Task 6 – Summary and Recommendations: We will summarize the work performed in Tasks 1 through 4 and make recommendations to correct the flooding problems. Our work will be summarized in a letter report with appropriate exhibits, tables, estimates of probable cost and computer modeling. The results of our study will be the basis to move forward with engineering design which can be followed with the construction of recommendations.

Task 7 – Presentation of Results: CBBEL will meet with the Graue Mill Homeowners Association Long Term Commission to discuss the status of our study at a mid-point and at the conclusion of the study to present the results and proposed drainage improvements for the study area. Any additional meetings with the Village, County or FPD will be billed on a Time and Material basis as it is not possible to quantify the number or length of the meetings.

FEE ESTIMATE


We estimate the cost of services to be the following:

TASK	DESCRIPTION	COST
1	Funding Request	\$ 3,360
2	Request Information from Villages and Site Review	\$ 1,200
3	Supplemental Survey	\$ 9,500
4	Hydrologic and Hydraulic Modeling	\$ 6,000
5	Evaluation Program and Proposed Condition Modeling	\$ 15,500
6	Summary and Recommendations	\$ 3,500
7	Presentation of Results	\$ 2,800
	TOTAL:	\$ 41,860

We will bill you at the hourly rates specified on the attached Schedule of Charges. Direct costs for blueprints, photocopying, mailing, mileage, overnight delivery, messenger services and report binding are not included in the Fee Estimate. We will establish our contract in accordance with the attached General Terms and Conditions. These General Terms and Conditions are expressly incorporated into and are an integral part of this contract for professional services. Please note that services performed by CBBEL that are not included as part of this proposal will be billed on a time and materials basis.

Please sign and return one copy of this agreement as an indication of acceptance and notice to proceed. Please feel free to contact us anytime.

Sincerely,

 for
Christopher B. Burke, PhD, PE, D. WRE, F.ASCE
President

Encl. Schedule of Charges
General Terms and Conditions

THIS PROPOSAL, SCHEDULE OF CHARGES AND GENERAL TERMS &
CONDITIONS ACCEPTED FOR GRAUE MILL HOMEOWNERS ASSOCIATION:

BY: _____
TITLE: _____
DATE: _____

CHRISTOPHER B. BURKE ENGINEERING, LTD.
STANDARD CHARGES FOR PROFESSIONAL SERVICES
JANUARY, 2009

<u>Personnel</u>	<u>Charges*</u> <u>(\$/Hr)</u>
Principal	240
Engineer VI	210
Engineer V	173
Engineer IV	138
Engineer III	125
Engineer I/II	102
Survey V	178
Survey IV	132
Survey III	127
Survey II	100
Survey I	78
Resource Planner V	112
Resource Planner IV	108
Resource Planner III	100
Resource Planner I/II	88
Engineering Technician V	150
Engineering Technician IV	132
Engineering Technician III	107
Engineering Technician I/II	97
CAD Manager	138
Assistant CAD Manager	126
CAD II	125
CAD I	98
GIS Specialist III	120
GIS Specialist I/II	67
Landscape Architect	138
Environmental Resource Specialist V	154
Environmental Resource Specialist IV	134
Environmental Resource Specialist III	114
Environmental Resource Specialist I/II	94
Environmental Resource Technician	90
Administrative	88
Engineering Intern	53
Survey Intern	53
Information Technician III	97
Information Technician I/II	62

Direct Costs

Outside Copies, Blueprints, Messenger, Delivery Services, Mileage Cost + 12%

*Charges include overhead and profit

Christopher B. Burke Engineering, Ltd. reserves the right to increase these rates and costs by 5% after December 31, 2009

Please note: In recognition of the economic challenges facing our clients, we have not increased our schedule of charges since January 2009.

CHRISTOPHER B. BURKE ENGINEERING, LTD.
GENERAL TERMS AND CONDITIONS

1. Relationship Between Engineer and Client: Christopher B. Burke Engineering, Ltd. (Engineer) shall serve as Client's professional engineer consultant in those phases of the Project to which this Agreement applies. This relationship is that of a buyer and seller of professional services and as such the Engineer is an independent contractor in the performance of this Agreement and it is understood that the parties have not entered into any joint venture or partnership with the other. The Engineer shall not be considered to be the agent of the Client. Nothing contained in this Agreement shall create a contractual relationship with a cause of action in favor of a third party against either the Client or Engineer.

Furthermore, causes of action between the parties to this Agreement pertaining to acts of failures to act shall be deemed to have accrued and the applicable statute of limitations shall commence to run not later than the date of substantial completion.

2. Responsibility of the Engineer: Engineer will ~~strive to~~ perform services under this Agreement in accordance with generally accepted and currently recognized engineering practices and principles, and in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, express or implied, and no warranty or guarantee is included or intended in this Agreement, or in any report, opinion, document, or otherwise.

Notwithstanding anything to the contrary which may be contained in this Agreement or any other material incorporated herein by reference, or in any Agreement between the Client and any other party concerning the Project, the Engineer shall not have control or be in charge of and shall not be responsible for the means, methods, techniques, sequences or procedures of construction, or the safety, safety precautions or programs of the Client, the construction contractor, other contractors or subcontractors performing any of the work or providing any of the services on the Project. Nor shall the Engineer be responsible for the acts or omissions of the Client, or for the failure of the Client, any architect, engineer, consultant, contractor or subcontractor to carry out their respective responsibilities in accordance with the Project documents, this Agreement or any other agreement concerning the Project. Any provision which purports to amend this provision shall be without effect unless it contains a reference that the content of this condition is expressly amended for the purposes described in such amendment and is signed by the Engineer.

3. Changes: Client reserves the right by written change order or amendment to make changes in requirements, amount of work, or engineering time schedule adjustments, and Engineer and Client shall negotiate appropriate adjustments acceptable to both parties to accommodate any changes, if commercially possible.
4. Suspension of Services: Client may, at any time, by written order to Engineer (Suspension of Services Order) require Engineer to stop all, or any part, of the services required by this Agreement. Upon receipt of such an order, Engineer shall immediately comply with its terms and take all reasonable steps to minimize the costs associated with the services affected by such order. Client, however, shall pay all costs incurred by the suspension, including all costs necessary to maintain continuity and for the resumptions

of the services upon expiration of the Suspension of Services Order. Engineer will not be obligated to provide the same personnel employed prior to suspension, when the services are resumed, in the event that the period of suspension is greater than thirty (30) days.

5. Termination: This Agreement may be terminated by either party upon thirty (30) days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party. This Agreement may be terminated by Client, under the same terms, whenever Client shall determine that termination is in its best interests. Cost of termination, including salaries, overhead and fee, incurred by Engineer either before or after the termination date shall be reimbursed by Client.
6. Documents Delivered to Client: Drawings, specifications, reports, and any other Project Documents prepared by Engineer in connection with any or all of the services furnished hereunder shall be delivered to the Client for the use of the Client. Engineer shall have the right to retain originals of all Project Documents and drawings for its files. Furthermore, it is understood and agreed that the Project Documents such as, but not limited to reports, calculations, drawings, and specifications prepared for the Project, whether in hard copy or machine readable form, are instruments of professional service intended for one-time use in the construction of this Project. These Project Documents are and shall remain the property of the Engineer. The Client may retain copies, including copies stored on magnetic tape or disk, for information and reference in connection with the occupancy and use of the Project.

When and if record drawings are to be provided by the Engineer, Client understands that information used in the preparation of record drawings is provided by others and Engineer is not responsible for accuracy, completeness, nor sufficiency of such information. Client also understands that the level of detail illustrated by record drawings will generally be the same as the level of detail illustrated by the design drawing used for project construction. If additional detail is requested by the Client to be included on the record drawings, then the Client understands and agrees that the Engineer will be due additional compensation for additional services.

It is also understood and agreed that because of the possibility that information and data delivered in machine readable form may be altered, whether inadvertently or otherwise, the Engineer reserves the right to retain the original tapes/disks and to remove from copies provided to the Client all identification reflecting the involvement of the Engineer in their preparation. The Engineer also reserves the right to retain hard copy originals of all Project Documentation delivered to the Client in machine readable form, which originals shall be referred to and shall govern in the event of any inconsistency between the two.

The Client understands that the automated conversion of information and data from the system and format used by the Engineer to an alternate system or format cannot be accomplished without the introduction of inexactitudes, anomalies, and errors. In the event Project Documentation provided to the Client in machine readable form is so converted, the Client agrees to assume all risks associated therewith and, to the fullest

~~extent permitted by law, to hold harmless and indemnify the Engineer from and against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees, arising therefrom or in connection therewith.~~

The Client recognizes that changes or modifications to the Engineer's instruments of professional service introduced by anyone other than the Engineer may result in adverse consequences which the Engineer can neither predict nor control. ~~Therefore, and in consideration of the Engineer's agreement to deliver its instruments of professional service in machine readable form, the Client agrees, to the fullest extent permitted by law, to hold harmless and indemnify the Engineer from and against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees, arising out of or in any way connected with the modification, misinterpretation, misuse, or reuse by others of the machine readable information and data provided by the Engineer under this Agreement. The foregoing indemnification applies, without limitation, to any use of the Project Documentation on other projects, for additions to this Project, or for completion of this Project by others, excepting only such use as may be authorized, in writing, by the Engineer.~~ and for which the client assumes all risks.

7. Reuse of Documents: All Project Documents including but not limited to reports, opinions of probable costs, drawings and specifications furnished by Engineer pursuant to this Agreement are intended for use on the Project only. They cannot be used by Client or others on extensions of the Project or any other project. Any reuse, without specific written verification or adaptation by Engineer, shall be at Client's sole risk, and Client shall indemnify and hold harmless Engineer from all claims, damages, losses, and expenses including attorney's fees arising out of or resulting therefrom.

The Engineer shall have the right to include representations of the design of the Project, including photographs of the exterior and interior, among the Engineer's promotional and professional materials. The Engineer's materials shall not include the Client's confidential and proprietary information if the Client has previously advised the Engineer in writing of the specific information considered by the Client to be confidential and proprietary.

8. Standard of Practice: The Engineer will ~~strive to~~ conduct services under this agreement in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as of the date of this Agreement.
9. Compliance With Laws: The Engineer will ~~strive to~~ exercise usual and customary professional care in his/her efforts to comply with those laws, codes, ordinance and regulations which are in effect as of the date of this Agreement.

With specific respect to prescribed requirements of the Americans with Disabilities Act of 1990 or certified state or local accessibility regulations (ADA), Client understands ADA is a civil rights legislation and that interpretation of ADA is a legal issue and not a design issue and, accordingly, retention of legal counsel (by Client) for purposes of interpretation is advisable. As such and with respect to ADA, Client agrees to waive any action against Engineer, and to indemnify and defend Engineer against any claim arising from Engineer's alleged failure to meet ADA requirements prescribed.

Further to the law and code compliance, the Client understands that the Engineer will ~~strive to~~ provide designs in accordance with the prevailing Standards of Practice as previously set forth, but that the Engineer does not warrant that any reviewing agency having jurisdiction will not for its own purposes comment, request changes and/or additions to such designs. In the event such design requests are made by a reviewing agency, but which do not exist in the form of a written regulation, ordinance or other similar document as published by the reviewing agency, then such design changes (at substantial variance from the intended design developed by the Engineer), if effected and incorporated into the project documents by the Engineer, shall be considered as Supplementary Task(s) to the Engineer's Scope of Service and compensated for accordingly.

10. Indemnification: Engineer shall indemnify and hold harmless Client ~~up to the amount of this contract fee (for services)~~ from loss or expense, including reasonable attorney's fees for claims for personal injury (including death) or property damage to the extent caused by the sole negligent act, error or omission of Engineer.

Client shall indemnify and hold harmless Engineer under this Agreement, from loss or expense, including reasonable attorney's fees, for claims for personal injuries (including death) or property damage arising out of the sole negligent act, error omission of Client.

In the event of joint or concurrent negligence of Engineer and Client, each shall bear that portion of the loss or expense that its share of the joint or concurrent negligence bears to the total negligence (including that of third parties), which caused the personal injury or property damage.

Engineer shall not be liable for special, incidental or consequential damages, including, but not limited to loss of profits, revenue, use of capital, claims of customers, cost of purchased or replacement power, or for any other loss of any nature, whether based on contract, tort, negligence, strict liability or otherwise, by reasons of the services rendered under this Agreement.

11. Opinions of Probable Cost: Since Engineer has no control over the cost of labor, materials or equipment, or over the Contractor(s) method of determining process, or over competitive bidding or market conditions, his/her opinions of probable Project Construction Cost provided for herein are to be made on the basis of his/her experience and qualifications and represent his/her judgement as a design professional familiar with the construction industry, but Engineer cannot and does not guarantee that proposal, bids or the Construction Cost will not vary from opinions of probable construction cost prepared by him/her. If prior to the Bidding or Negotiating Phase, Client wishes greater accuracy as to the Construction Cost, the Client shall employ an independent cost estimator Consultant for the purpose of obtaining a second construction cost opinion independent from Engineer.
12. Governing Law & Dispute Resolutions: This Agreement shall be governed by and construed in accordance with Articles previously set forth by (Item 9 of) this Agreement, together with the laws of the **State of Illinois**.

Any claim, dispute or other matter in question arising out of or related to this Agreement, which can not be mutually resolved by the parties of this Agreement, shall be subject to mediation as a condition precedent to arbitration (if arbitration is agreed upon by the parties of this Agreement) or the institution of legal or equitable proceedings by either party. If such matter relates to or is the subject of a lien arising out of the Engineer's services, the Engineer may proceed in accordance with applicable law to comply with the lien notice or filing deadlines prior to resolution of the matter by mediation or by arbitration.

The Client and Engineer shall endeavor to resolve claims, disputes and other matters in question between them by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect. Requests for mediation shall be filed in writing with the other party to this Agreement and with the American Arbitration Association. The request may be made concurrently with the filing of a demand for arbitration but, in such event, mediation shall proceed in advance of arbitration or legal or equitable proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order.

The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

13. Successors and Assigns: The terms of this Agreement shall be binding upon and inure to the benefit of the parties and their respective successors and assigns: provided, however, that neither party shall assign this Agreement in whole or in part without the prior written approval of the other.
14. Waiver of Contract Breach: The waiver of one party of any breach of this Agreement or the failure of one party to enforce at any time, or for any period of time, any of the provisions hereof, shall be limited to the particular instance, shall not operate or be deemed to waive any future breaches of this Agreement and shall not be construed to be a waiver of any provision, except for the particular instance.
15. Entire Understanding of Agreement: This Agreement represents and incorporates the entire understanding of the parties hereto, and each party acknowledges that there are no warranties, representations, covenants or understandings of any kind, matter or description whatsoever, made by either party to the other except as expressly set forth herein. Client and the Engineer hereby agree that any purchase orders, invoices, confirmations, acknowledgments or other similar documents executed or delivered with respect to the subject matter hereof that conflict with the terms of the Agreement shall be null, void and without effect to the extent they conflict with the terms of this Agreement.
16. Amendment: This Agreement shall not be subject to amendment unless another instrument is duly executed by duly authorized representatives of each of the parties and entitled "Amendment of Agreement".

17. Severability of Invalid Provisions: If any provision of the Agreement shall be held to contravene or to be invalid under the laws of any particular state, county or jurisdiction where used, such contravention shall not invalidate the entire Agreement, but it shall be construed as if not containing the particular provisions held to be invalid in the particular state, country or jurisdiction and the rights or obligations of the parties hereto shall be construed and enforced accordingly.
18. Force Majeure: Neither Client nor Engineer shall be liable for any fault or delay caused by any contingency beyond their control including but not limited to acts of God, wars, strikes, walkouts, fires, natural calamities, or demands or requirements of governmental agencies.
19. Subcontracts: Engineer may subcontract portions of the work, but each subcontractor must be approved by Client in writing.
20. Access and Permits: Client shall arrange for Engineer to enter upon public and private property and obtain all necessary approvals and permits required from all governmental authorities having jurisdiction over the Project. Client shall pay costs (including Engineer's employee salaries, overhead and fee) incident to any effort by Engineer toward assisting Client in such access, permits or approvals, if Engineer perform such services.
21. Designation of Authorized Representative: Each party (to this Agreement) shall designate one or more persons to act with authority in its behalf in respect to appropriate aspects of the Project. The persons designated shall review and respond promptly to all communications received from the other party.
22. Notices: Any notice or designation required to be given to either party hereto shall be in writing, and unless receipt of such notice is expressly required by the terms hereof shall be deemed to be effectively served when deposited in the mail with sufficient first class postage affixed, and addressed to the party to whom such notice is directed at such party's place of business or such other address as either party shall hereafter furnish to the other party by written notice as herein provided.
23. Limit of Liability: The Client and the Engineer have discussed the risks, rewards, and benefits of the project and the Engineer's total fee for services. In recognition of the relative risks and benefits of the Project to both the Client and the Engineer, the risks have been allocated such that the Client agrees that to the fullest extent permitted by law, the Engineer's total aggregate liability to the Client for any and all injuries, claims, costs, losses, expenses, damages of any nature whatsoever or claim expenses arising out of this Agreement from any cause or causes, including attorney's fees and costs, and expert witness fees and costs, shall not exceed the total Engineer's fee for professional engineering services rendered on this project as made part of this Agreement. Such causes included but are not limited to the Engineer's negligence, errors, omissions, strict liability or breach of contract. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law.

24. Client's Responsibilities: The Client agrees to provide full information regarding requirements for and about the Project, including a program which shall set forth the Client's objectives, schedule, constraints, criteria, special equipment, systems and site requirements.

~~The Client agrees to furnish and pay for all legal, accounting and insurance counseling services as may be necessary at any time for the Project, including auditing services which the Client may require to verify the Contractor's Application for Payment or to ascertain how or for what purpose the Contractor has used the money paid by or on behalf of the Client.~~

~~The Client agrees to require the Contractor, to the fullest extent permitted by law, to indemnify, hold harmless, and defend the Engineer, its consultants, and the employees and agents of any of them from and against any and all claims, suits, demands, liabilities, losses, damages, and costs ("Losses"), including but not limited to costs of defense, arising in whole or in part out of the negligence of the Contractor, its subcontractors, the officers, employees, agents, and subcontractors of any of them, or anyone for whose acts any of them may be liable, regardless of whether or not such Losses are caused in part by a party indemnified hereunder. Specifically excluded from the foregoing are Losses arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs, or specifications, and the giving of or failure to give directions by the Engineer, its consultants, and the agents and employees of any of them, provided such giving or failure to give is the primary cause of Loss. The Client also agrees to require the Contractor to provide to the Engineer the required certificate of insurance.~~

~~The Client further agrees to require the Contractor to name the Engineer, its agents and consultants as additional insureds on the Contractor's policy or policies of comprehensive or commercial general liability insurance. Such insurance shall include products and completed operations and contractual liability coverages, shall be primary and noncontributing with any insurance maintained by the Engineer or its agents and consultants, and shall provide that the Engineer be given thirty days, unqualified written notice prior to any cancellation thereof.~~

~~In the event the foregoing requirements, or any of them, are not established by the Client and met by the Contractor, the Client agrees to indemnify and hold harmless the Engineer, its employees, agents, and consultants from and against any and all Losses which would have been indemnified and insured against by the Contractor, but were not.~~

~~When Contract Documents prepared under the Scope of Services of this contract require insurance(s) to be provided, obtained and/or otherwise maintained by the Contractor, the Client agrees to be wholly responsible for setting forth any and all such insurance requirements. Furthermore, any document provided for Client review by the Engineer under this Contract related to such insurance(s) shall be considered as sample insurance requirements and not the recommendation of the Engineer. Client agrees to have their own risk management department review any and all insurance requirements for adequacy and to determine specific types of insurance(s) required for the project. Client further agrees that decisions concerning types and amounts of insurance are~~

~~specific to the project and shall be the product of the Client. As such, any and all insurance requirements made part of Contract Documents prepared by the Engineer are not to be considered the Engineer's recommendation, and the Client shall make the final decision regarding insurance requirements.~~

25. Information Provided by Others: The Engineer shall indicate to the Client the information needed for rendering of the services of this Agreement. The Client shall provide to the Engineer such information as is available to the Client and the Client's consultants and contractors, and the Engineer shall be entitled to rely upon the accuracy and completeness thereof. The Client recognizes that it is impossible for the Engineer to assure the accuracy, completeness and sufficiency of such information, either because it is impossible to verify, or because of errors or omissions which may have occurred in assembling the information the Client is providing. ~~Accordingly, the Client agrees, to the fullest extent permitted by law, to indemnify and hold the Engineer and the Engineer's subconsultants harmless from any claim, liability or cost (including reasonable attorneys' fees and cost of defense) for injury or loss arising or allegedly arising from errors, omissions or inaccuracies in documents or other information provided by the Client to the Engineer.~~

26. Payment: Client shall be invoiced once each month for work performed during the preceding period. Client agrees to pay each invoice within thirty (30) days of its receipt. The client further agrees to pay interest on all amounts invoiced and not paid or objected to for valid cause within said thirty (30) day period at the rate of eighteen (18) percent per annum (or the maximum interest rate permitted under applicable law, whichever is the lesser) until paid. ~~Client further agrees to pay Engineer's cost of collection of all amounts due and unpaid after sixty (60) days, including court costs and reasonable attorney's fees, as well as costs attributed to suspension of services accordingly and as follows:~~

~~Collection Costs. In the event legal action is necessary to enforce the payment provisions of this Agreement, the Engineer shall be entitled to collect from the Client any judgement or settlement sums due, reasonable attorneys' fees, court costs and expenses incurred by the Engineer in connection therewith and, in addition, the reasonable value of the Engineer's time and expenses spent in connection with such collection action, computed at the Engineer's prevailing fee schedule and expense policies.~~

Suspension of Services. If the Client fails to make payments when due or otherwise is in breach of this Agreement, the Engineer may suspend performance of services upon five (5) calendar days' notice to the Client. The Engineer shall have no liability whatsoever to the Client for any costs or damages as a result of such suspension caused by any breach of this Agreement by the Client. Client will reimburse Engineer for all associated costs as previously set forth in (Item 4 of) this Agreement.

- ~~27. When construction observation tasks are part of the service to be performed by the Engineer under this Agreement, the Client will include the following clause in the construction contract documents and Client agrees not to modify or delete it:~~

~~Kotecki Waiver. Contractor (and any subcontractor into whose subcontract this clause is incorporated) agrees to assume the entire liability for all personal injury claims suffered by its own employees, including without limitation claims under the Illinois Structural Work Act, asserted by persons allegedly injured on the Project; waives any limitation of liability defense based upon the Worker's Compensation Act, court interpretations of said Act or otherwise; and to the fullest extent permitted by law, agrees to indemnify and hold harmless and defend Owner and Engineer and their agents, employees and consultants (the "Indemnitees") from and against all such loss, expense, damage or injury, including reasonable attorneys' fees, that the Indemnitees may sustain as a result of such claims, except to the extent that Illinois law prohibits indemnity for the Indemnitees' own negligence. The Owner and Engineer are designated and recognized as explicit third party beneficiaries of the Kotecki Waiver within the general contract and all subcontracts entered into in furtherance of the general contract.~~

- ~~28. Job Site Safety/Supervision & Construction Observation: The Engineer shall neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences of procedures, or for safety precautions and programs in connection with the Work since they are solely the Contractor's rights and responsibilities. The Client agrees that the Contractor shall supervise and direct the work efficiently with his/her best skill and attention; and that the Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of construction and safety at the job site. The Client agrees and warrants that this intent shall be carried out in the Client's contract with the Contractor. The Client further agrees that the Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work; and that the Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees on the subject site and all other persons who may be affected thereby. The Engineer shall have no authority to stop the work of the Contractor or the work of any subcontractor on the project.~~

~~When construction observation services are included in the Scope of Services, the Engineer shall visit the site at intervals appropriate to the stage of the Contractor's operation, or as otherwise agreed to by the Client and the Engineer to: 1) become generally familiar with and to keep the Client informed about the progress and quality of the Work; 2) to strive to bring to the Client's attention defects and deficiencies in the Work and; 3) to determine in general if the Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Engineer shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. If the Client desires more extensive project observation, the Client shall request that such services be provided by the Engineer as Additional and Supplemental Construction Observation Services in accordance with the terms of this Agreement.~~

~~The Engineer shall not be responsible for any acts or omissions of the Contractor, subcontractor, any entity performing any portions of the Work, or any agents or employees of any of them. The Engineer does not guarantee the performance of the~~

~~Contractor and shall not be responsible for the Contractor's failure to perform its Work in accordance with the Contract Documents or any applicable laws, codes, rules or regulations.~~

~~When municipal review services are included in the Scope of Services, the Engineer (acting on behalf of the municipality), when acting in good faith in the discharge of its duties, shall not thereby render itself liable personally and is, to the maximum extent permitted by law, relieved from all liability for any damage that may accrue to persons or property by reason of any act or omission in the discharge of its duties. Any suit brought against the Engineer which involve the acts or omissions performed by it in the enforcement of any provisions of the Client's rules, regulation and/or ordinance shall be defended by the Client until final termination of the proceedings. The Engineer shall be entitled to all defenses and municipal immunities that are, or would be, available to the Client.~~

29. ~~Insurance and Indemnification: The Engineer and the Client understand and agree that the Client will contractually require the Contractor to defend and indemnify the Engineer and/or any subconsultants from any claims arising from the Work. The Engineer and the Client further understand and agree that the Client will contractually require the Contractor to procure commercial general liability insurance naming the Engineer as an additional named insured with respect to the work. The Contractor shall provide to the Client certificates of insurance evidencing that the contractually required insurance coverage has been procured. However, the Contractor's failure to provide the Client with the requisite certificates of insurance shall not constitute a waiver of this provision by the Engineer.~~

~~The Client and Engineer waive all rights against each other and against the Contractor and consultants, agents and employees of each of them for damages to the extent covered by property insurance during construction. The Client and Engineer each shall require similar waivers from the Contractor, consultants, agents and persons or entities awarded separate contracts administered under the Client's own forces.~~

30. Hazardous Materials/Pollutants: Unless otherwise provided by this Agreement, the Engineer and Engineer's consultants shall have no responsibility for the discovery, presence, handling, removal or disposal of or exposure of persons to hazardous materials/pollutants in any form at the Project site, including but not limited to mold/mildew, asbestos, asbestos products, polychlorinated biphenyl (PCB) or other toxic/hazardous/pollutant type substances.

Furthermore, Client understands that the presence of mold/mildew and the like are results of prolonged or repeated exposure to moisture and the lack of corrective action. Client also understands that corrective action is a operation, maintenance and repair activity for which the Engineer is not responsible.