

Agenda Report

Subject: **Engineering Fee Proposal – Northwest Winnetka Improvements**

Prepared By: Steven M. Saunders, Director of Public Works/Village Engineer

Date: September 26, 2012

Ref: September 11, 2012 Council Study Session

Previously, the Village has engaged Christopher B. Burke Engineering, Ltd. (CBBEL) to evaluate areas of the Village subject to significant flooding during moderate and heavy rainfall events. One such area is a portion of northwestern Winnetka along and north of Tower Road generally west of Vernon Avenue. This is a large watershed, with significant elevation change across the drainage area. In fact, the highest point in the watershed, near Scott Avenue and Lake Street, is over 50 feet higher in elevation than areas near Tower Road and Greenwood Avenue that experience flooding. Because of the significant topographic relief in the upper areas of the watershed, runoff from the higher intensity rainfalls can be conveyed through the watershed via overland flow, generally, but not always, via the roadway system. At the flatter, lower, western end of the watershed, conveyance improvements are needed. The recommended improvements for this area consist of new large storm sewers throughout the study area. These recommendations were presented to the Village Council in October, 2011.

After the July 2011 storm event, the Village completed a flooding survey to understand the extent and source of flooding that arose from that storm. That flooding survey revealed a cluster of overland flooding in the Forest Glen area of the watershed, upstream of the proposed improvements. As a result, the Village engaged CBBEL to update their drainage study to develop proposed improvements for the Forest Glen Area as well. CBBEL analyzed the drainage system (storm sewers, overland flow routes, depressional storage areas, etc.) using XP-SWMM hydrologic and hydraulic modeling software to identify the existing flood problem areas.

CBBEL developed conceptual drainage improvements to increase the level of flood protection for the study area to the 25-, 50-, and 100-year levels of flood protection. CBBEL presented the findings of the supplemental Forest Glen area analysis at the September 11, 2012 Council Study Session. The Agenda Report describing these proposed improvements is shown in Attachment #1. After discussion and public comment, the Village Council directed staff to obtain a fee proposal from CBBEL to perform detailed engineering services necessary to develop plans, specifications, and estimates so that the project can be bid for 2013 construction.

Pursuant to this direction, CBBEL prepared a fee proposal to complete the needed work. This proposal, dated September 24, 2012, is shown in Attachment #2. The scope of services provided includes all of the necessary work to bring the project from its current level of conceptual engineering to the point of awarding a construction contract.

Budget Information.

CBBEL has proposed a fee for this work of \$216,274, including \$2,680 for wetland mitigation plans and \$2,412 for wetland review agency coordination, (tasks 7.4 and 7.5 in CBBEL's Fee Proposal) which tasks may not be necessary pending US Army Corps review. The current fiscal year budget includes \$250,000 for detailed engineering on this project.

Recommendation:

Consider authorizing the Village Manger to sign an agreement with Christopher B. Burke Engineering, Ltd. to perform engineering services as outlined in their Proposal for Professional Engineering Services for Forest Glen and Greenwood Avenue Study Areas Stormwater Improvements dated September 24, 2012.

Attachments:

1. Agenda Report – Supplemental Flood Risk Reduction Analysis: Northwest Winnetka (Forest Glen Study Area), September 5, 2012
2. CBBEL Proposal for Professional Engineering Services for Forest Glen and Greenwood Avenue Study Areas Stormwater Improvements dated September 24, 2012

ATTACHMENT #1

Agenda Report – Supplemental Flood Risk Reduction Analysis: Northwest Winnetka (Forest Glen Study Area), September 5, 2012

Agenda Report

Subject: Supplemental Flood Risk Reduction Analysis: Northwest
Winnetka (Forest Glen Study Area)

Prepared By: Steven M. Saunders, Director of Public Works/Village Engineer

Date: September 5, 2012

Prior Study and Recommendations

Previously, the Village has engaged Christopher B. Burke Engineering, Ltd. (CBBEL) to evaluate areas of the Village subject to significant flooding during moderate and heavy rainfall events. One such area is a portion of northwestern Winnetka along and north of Tower Road generally west of Vernon Avenue. This is a large watershed, with significant elevation change across the drainage area. In fact, the highest point in the watershed, near Scott Avenue and Lake Street, is over 50 feet higher in elevation than areas near Tower Road and Greenwood Avenue that experience flooding. Because of the significant topographic relief in the upper areas of the watershed, runoff from the higher intensity rainfalls can be conveyed through the watershed via overland flow, generally, but not always, via the roadway system. At the flatter, lower, western end of the watershed, conveyance improvements are needed.

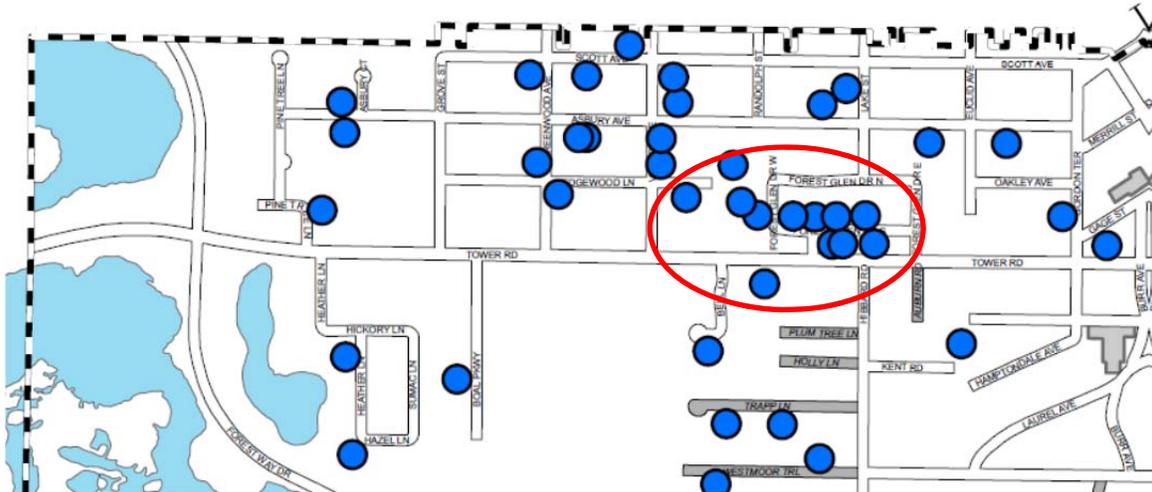
CBBEL evaluated 2 different options to address flooding in the lower regions of the watershed. The first option evaluated was to simply provide increased conveyance all the way into the existing wet-bottom storage reservoir to the south of Tower Road near Forest Way Drive. This alternative relies on very large conveyance pipes under Tower Road to carry the runoff volumes to the pond. The second option consisted of a combination of conveyance improvements and additional flood storage on the site of Corwin Park, near Grove Street and Edgewood Lane. While this option reduces the scope of some of the conveyance improvements needed, the cost associated with constructing underground detention at heavily-used Corwin Park exceeds the savings associated with reduced conveyance requirements.

The improvements for this area consist of new large storm sewers throughout the study area for the 25-, 50- and 100-year level of protection. For the 25- and 50-year level of protection, the recommendations are similar to the 100-year design except smaller diameter storm sewers. The engineer's estimate of probable cost for the 25-, 50- and 100-year level of protection is \$2.2 million, \$2.3 million and \$2.9 million, respectively. These recommendations were presented to the Village Council in October, 2011, and are shown in Attachment #1.

Need to Evaluate Other Areas

After the July 2011 storm event, the Village completed a flooding survey to understand the extent and source of flooding that arose from that storm. That flooding survey

revealed a cluster of overland flooding in the Forest Glen area of the watershed, upstream of the proposed improvements. The flooding results are shown graphically below:



As a result, the Village engaged CBBEL to update their drainage study develop proposed improvements for the Forest Glen Area as well. CBBEL analyzed the drainage system (storm sewers, overland flow routes, depressional storage areas, etc.) using XP-SWMM hydrologic and hydraulic modeling software to identify the existing flood problem areas. CBBEL developed conceptual drainage improvements to increase the level of flood protection for the study area to the 25-, 50-, and 100-year levels of flood protection. Conceptual cost estimates were developed for each of the proposed flood reduction alternatives.

Existing Conditions

CBBEL identified the following conditions in the study area:

- The Forest Glen storm sewer system has less than a 5-year capacity. For storm events greater than or equal to the magnitude of a 5-year return interval, the system will surcharge and stormwater ponding will occur.
- When the capacity of the storm sewer system along Forest Glen Drive North is exceeded, the surcharged flow is directed towards the homes between Forest Glen Drive North and Forest Glen Drive South.
- Ponding occurs at the low spot along Forest Glen Drive East for storm events equal to or greater than a 5-year frequency. There is approximately 0.6 feet of depth between the low spot in the road and the overtopping elevation between the houses on the west side of the street.

Proposed Improvements

CBBEL evaluated two potential approaches to address the existing flooding conditions. The first approach consists of installing larger storm sewers along Forest Glen Drive, and increasing the capacity of Tower Road storm sewer to convey the additional flow from

the Forest Glen area west to the proposed Northwest Winnetka Improvements. The estimated cost of these improvements ranges from \$631,000 to \$685,000 depending on the level of protection provided. This alternative relies upon constructing the previously proposed improvements for Northwest Winnetka, and is in addition to the estimated \$2.2 million to \$2.9 million for those improvements.

The second approach evaluated consists of conveying the stormwater runoff from the Forest Glen area to a proposed detention facility located at Bell Woods, which is the only open space in the area. This second approach would significantly disrupt the natural area at Bell Woods and is not recommended.

The existing conditions, proposed improvements, and conceptual cost estimates are shown in CBBEL's report, which is included as Attachment #2.

Stormwater Improvement Budget

The 5-Year Capital Improvement Program for stormwater improvements is shown in Attachment #3 (source p. 79 of FY 2012-13 Budget). The Northwest Winnetka Improvements are scheduled for engineering in 2012 (\$250,000) and construction in 2013 (\$2,650,000), for a total investment of \$2,900,000. The Forest Glen improvements would add about \$685,000 to this cost. The Village could proceed along one of three lines:

1. Add the Forest Glen Improvements to the previously proposed Northwest Winnetka (Greenwood) Improvements and proceed with engineering and construction in 2012 and 2013, respectively.
2. Proceed with the previously proposed Northwest Winnetka Improvements, without constructing the Forest Glen Improvements, as anticipated in the budget.
3. Wait for the results of the Baxter and Woodman study of 6 additional drainage areas, and the CBBEL Area F study, to determine how the Forest Glen Improvements should fit in the context of the overall stormwater drainage program. This course of action will likely delay implementation of the previously proposed Northwest Winnetka Improvements by one construction season.

Recommendation:

Provide policy direction.

Attachments:

1. Proposed Northwest Winnetka Improvements
2. CBBEL Report
3. Stormwater Fund Budget

ATTACHMENT #2

**CBBEL Proposal for Professional Engineering
Services for Forest Glen and Greenwood Avenue
Study Areas Stormwater Improvements dated
September 24, 2012**



CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 West Higgins Road Suite 600 Rosemont, Illinois 60018 TEL (847) 823-0500 FAX(847) 823-0520

September 24, 2012

Village of Winnetka
510 Green Bay Road
Winnetka, IL 60093

Attention: Mr. Steven Saunders
Director of Public Works / Village Engineer

Subject: Proposal for Professional Engineering Services for
**Forest Glen and Greenwood Avenue Study Areas (Area B) Stormwater
Improvements**

Dear Mr. Saunders:

Christopher B. Burke Engineering, Ltd. (CBBEL) is pleased to submit this proposal to provide professional engineering services for the design of storm sewer improvements for the Forest Glen and Greenwood Avenue Study Areas identified in the CBBEL 2011 Flood Risk Reduction Assessment and the Special Study for the Forest Glen Area. This proposal includes our Understanding of the Assignment, Scope of Services and Estimated Fee.

UNDERSTANDING OF ASSIGNMENT

CBBEL previously completed the October 2011 Flood Risk Reduction Assessment and Forest Glen analysis for the Village of Winnetka (Village). Those assessments determined the improvements required to provide 25-, 50- or 100-year level of protection in the subject study areas. We understand that the Village would like to move forward with the improvements identified for the Greenwood Avenue and Forest Glen Study Areas calculated to provide 100-year level of protection. The projects are generally described as follows:

- Greenwood Avenue and Forest Glen Study Areas
 - Greenwood Avenue Study Area
 - Additional 30-inch sewer on Greenwood Avenue (approximately 150 ft.)
 - Additional 30-inch sewer along Edgewood Lane between Greenwood Avenue and Grove Street (approximately 650 ft.)
 - New 54-inch sewer along Grove Street between Edgewood Lane and Tower Road (approximately 450 ft.)
 - New 36-inch sewer along Tower Road east of Vernon Avenue to Forest Glen Drive (approximately 1,000 ft.)

- Replace 36-inch sewer with an 83-inch by 53-inch elliptical sewer and 66-inch sewer along Tower Road between Greenwood Avenue and Grove Street (approximately 650 ft.)
- Additional 83-inch by 53-inch elliptical sewer along Tower Road from Grove Street to the lagoon (approximately 1,000 ft.)
- Remove 36-inch sewer and replace with a 60-inch outlet into the lagoon
- New 66-inch outlet into the lagoon (approximately 150 ft.)
- Forest Glen Study Area
 - Replace 10-inch sewer along Forest Glen Drive North with 24-inch storm sewer (approximately 650 ft.)
 - Replace 12-inch sewer along Forest Glen Drive West with 30-inch and 36-inch storm sewer (approximately 300 ft.)
 - New 36-inch storm sewer along Forest Glen Drive and Forest Glen Drive South (approximately 400 ft.)
 - Berm/regrade three areas along Forest Glen Drive North and Forest Glen Drive West and review the need at the south corner of west and south.
 - Raise and seal three sanitary manholes in stormwater ponding areas

We will complete a full topographic survey of the right of way along the project routes. We will also complete a utility survey for an extended area so that the sewer modeling completed in the conceptual analysis can be enhanced with surveyed sewer sizes and inverts. The modeling will be updated with the surveyed information and the proposed sewer improvements will be evaluated in greater detail to determine the required sewer sizes and alignments. Once the proposed sewer criteria are confirmed, we will develop preliminary engineering plans which will be provided to the Village for review. The new outlet to the lagoon on the Cook County Forest Preserve District (CCFPD) property will require approval from the CCFPD and the Army Corps of Engineers. We will begin discussions with the necessary permitting agencies upon initiation of this proposal. When preliminary engineering plans are complete, formal permitting will be initiated. Finally, we will create final engineering plans, an engineer's opinion of probable cost, and bid documents. We will also assist the Village with the bid process.

SCOPE OF SERVICES

Based on our experience with similar projects, our anticipated scope of services is detailed below:

Task 1 – Topographic Survey: The survey will be used as a base map for design purposes. Included are the following survey tasks:

1. Horizontal Control: Utilizing state plane coordinates (NAD '83, Illinois East Zone, 1997 Adjustment); CBBEL will establish recoverable primary control.
2. Vertical Control: Establish site benchmarks for construction purposes, tied to the NAVD 88 Vertical Datum. A level circuit will be run throughout the project, establishing

benchmarks and assigning a vertical datum on the horizontal control points.

3. Research at the Cook County Recorder's Office.
4. Field recon and survey to locate existing monumentation and Right-of-way evidence.
5. Analyze Record and Field Data necessary to compute approximate Right-of-Way throughout project limits.
6. Spot elevations and cross sections at 50' (ft) stations for approximately 6,500 feet of roadway from Right of Way to Right of Way at Forest Glen Drive North from just east of Lake Street to Forest Glen Drive West, Forest Glen Drive West from Forest Glen Drive North to Forest Glen Drive South, Forest Glen Drive South from Glen Drive West to the west leg of Forest Glen Drive, Forest Glen Drive from Forest Glen Drive South to Tower Road, Tower Road from the west leg of Forest Glen Drive to the Forest Preserve Pond, Edgewood Lane from Greenwood Avenue to Grove Street and Grove Street from Edgewood Lane to Tower Road. Also full topographic survey of the 5 selected rear yard areas.
7. All trees of 6 inch caliper or greater to be surveyed. Provide tree size, location and elevation on survey.
8. All above and below ground utilities including, but not limited to: water, sanitary sewer, storm sewer, telephone, electric, cable and gas, etc. Identify size, type, rim, and invert elevations.
9. Existing hardscape improvements located in the project limits including paving, curbs, light fixtures, walks, street signs, parking, fencing and gates, approximate R-O-W, and adjacent building façade & overhangs (if any).
10. Office calculations and plotting of field and record data.
11. Office contouring of field data and one foot contour intervals.
12. Drafting of existing conditions Plan at a scale of 1"=20'.

Task 2 – Easement Documents: This task will include the following scope of items:

1. Initial coordination with Client.
2. Research at the Cook County Recorder's Office.
3. Office calculations and plotting of field and record data.
4. CAD drafting of the permanent drainage easement plats for the proposed easement areas.
5. Write legal description's for the proposed easement areas.
6. Final review and submittal by an Illinois Professional Land Surveyor.

Task 3 – Hydraulic Analysis: We will use the sewer size and invert information obtained in Task 1 to enhance the sewer modeling completed in the Flood Reduction Assessment. Incorporating the surveyed sizes and elevations will increase the accuracy of the model and may cause the originally proposed sewer sizes to be modified. In addition, the sewer modeling may have to be altered to avoid utility conflicts, including the anticipated conflict with the Village’s underground electric corridor. We will review the proposed sewer sizes and alignments for each project area to verify the feasibility of each project and to determine the required sewer sizing criteria. This task will be an iterative process while additional conflicts are identified in Tasks 4-8.

Task 4 – Utility Coordination: CBBEL will identify utilities that may have facilities within the project limits and send a Preliminary Utility Request to all known utility companies to obtain pertinent information. Based on the information received from the utility companies, CBBEL will include locations of all facilities on the plans, identify potential conflicts with the proposed project and design the proposed improvements to minimize utility conflicts.

Task 4A – Electrical Utility Coordination: CBBEL will coordinate with the existing ComEd utility cross-connect with the Village’s electrical system Tower Road at the location of the proposed elliptical pipe.

Task 5 – Geotechnical Engineering/Soil Testing: A geotechnical investigation will be performed by CBBEL’s subconsultant, Testing Service Corporation (TSC). The geotechnical investigation will include five pavement cores/soil borings to determine the existing cross-section of the pavements and underlying soil conditions. The soil will also be tested for potential contaminants. The report will be performed by a soils engineer and reviewed by CBBEL.

Task 6 – Preliminary Engineering: CBBEL will prepare the preliminary plans, specifications and cost estimates for the project.

We estimate the following plan sheets will be required with associated work hours:

SHEET HOURS	No. OF SHEETS	AVG. HOURS PER SHEET	HOURS
Title Sheet	1	8	8
General Notes	1	8	8
Summary of Quantities	1	16	16
Alignment Ties & Benchmarks	2	12	24
Typical Sections	1	16	16
Detour Plan	2	16	32
Existing Conditions/Removal Plan	7	12	84
Proposed Plan & Profile (scale 1"=-20')	14	18	252
Traffic Control & Protection (Typ Sects & Notes)	5	18	90
Junction Chambers	2	32	64
Construction Details	2	18	36
Water Quality Structure	1	32	32
Specifications	-	-	50
Cost Estimates/Quantity Calculations	-	-	80
QA/QC Reviews	-	-	32
Total	39		824*

* Represents hours to complete Tasks 6 and 9.

Preliminary Plans, Specifications and a Cost Estimate will be submitted to the Village for review. This task includes one review meeting with Village Staff.

Task 7 – Permitting (USCOE and CCFPD): The proposed improvements associated with the new outlet to the lagoon on the CCFPD property near the southeast corner of Forest Way Drive and Tower Road Pond will require the following services. A wetland assessment and report will be completed and submitted to the U.S. Army Corps of Engineers to comply with Section 404 of the Clean Water Act. This task includes the preparation of the materials submitted to the CCFPD for approval of the new outlet.

Task 7.1 – Field Reconnaissance: An investigation of the project site will be completed to determine the limits of any wetlands or waters of the United States present. The delineation will be completed based on the methodology established by the U.S. Army Corps of Engineers. Also during the site visit, wildlife and plant community qualities will be assessed. The limits of the wetland community will be field staked so that they can be located in relation to the project coordinate system.

Task 7.2 – Letter Report: The results of the field reconnaissance will be summarized in a letter report. The wetlands' generalized quality ratings, according to the Swink and Wilhelm Methodology (1994), will be included along with exhibits depicting the approximate wetland and project boundaries, National Wetland Inventory, Soil Survey, floodplain, USGS topography, site photographs and their locations, and the U.S. Army Corps of Engineers (COE) Routine On-Site Data Forms. If the delineation is field surveyed, that will be used as our base wetland boundary map, otherwise we will use the best available aerial photograph.

Task 7.3 – Corps of Engineers Joint Permit Application: CBBEL Environmental Resources Staff will prepare Corps Joint Permit Application. This information will include the required exhibits, specifications, data and project information. If necessary, this information will also be compiled and assembled for placement in permit application packages to the Illinois Environmental Protection Agency.

Task 7.4 – Preparation of Conceptual Mitigation Plans (if necessary): If necessary, based on the proposed site plan and impacts to wetland or buffer, an appropriate conceptual mitigation plan will be prepared. We will meet with the project team during the design of required mitigation to interface the conceptual wetland mitigation plan with other facets of the proposed development. This task will include preparation of the required Maintenance and Monitoring Plan.

Task 7.5 – Wetland Review Agency Coordination (if necessary): Before and during the permit review process, we expect to have meetings with the regulatory agencies, project engineer, and client. We also expect to have to prepare responses to comments received during the review process. We have budgeted for attendance at three meetings and included budget to cover the cost of submittal of one response to comments. If additional meetings, or responses to comments, are required they will be billed on a time and materials basis.

Task 8 - Village Board Presentation: Prior to finalizing the engineering plans, we will prepare a presentation for the Village Council and residents explaining the proposed project, timeline and discuss any concerns.

Task 9 – Final Engineering: Upon meeting with the Village staff to review their comments on the preliminary submittal, CBBEL will revise and finalize the contract documents and cost estimates. During this task the exact letting dates will be determined and estimated construction schedules will be provided.

Task 10 – Bid Assistance: CBBEL will assist the Village in advertising for bids, distribute plans and specifications to all bidders, and be present at the bid openings. CBBEL will review and tabulate all of the bids and make recommendations of award.

Task 11 – Agency Coordination and Project Meetings: Follow-up meetings with the project team, client and regulatory agencies can be expected to finalize required information and documentation. We have budgeted for 3 meetings that will be attended by a water resources engineer, environmental scientist and civil engineer. If more than 3 meetings are necessary, they will be billed as out of scope services on a Time and Materials basis.

FEE

The costs of the services provided are as follows and will not be exceeded without prior approval:

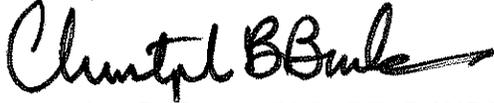
Task	Description	Cost
1	Topographic Survey	\$ 28,536
2	Easement Documents	\$ 11,932
3	Hydraulic Analysis	\$ 14,596
4	Utility Coordination	\$ 5076
4A	Electrical Utility Coordination	\$ 6,114
5	Geotechnical Engineering/Soil Testing	\$ 6,000
6	Preliminary Engineering	\$ 72,620
7	Permitting	\$ 3032
7.1	Field Reconnaissance	\$ 938
7.2	Letter Report	\$ 1,800
7.3	Corps of Engineers Joint Permit Application	\$ 2,412
7.4	Preparation of Conceptual Mitigation Plans (if necessary)*	\$ 2,680*
7.5	Wetland Review Agency Coordination (if necessary)*	\$ 2,412*
8	Village Board Presentation	\$ 3756
9	Final Engineering	\$ 36,738
10	Bid Assistance	\$ 3,286
11	Agency Coordination and Project Meetings	\$ 6,846
	Direct Costs	\$ 7,500
	Total:	\$216,274

*If Necessary.

We will bill you at the hourly rates specified on the attached Schedule of Charges and establish our contract in accordance with the attached General Terms and Conditions. The General Terms and Conditions are expressly incorporated into and are an integral part of this contract for professional services.

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

Attachment: Standard Charges
General Terms and Conditions

THIS PROPOSAL, SCHEDULE OF CHARGES AND GENERAL TERMS & CONDITIONS
ACCEPTED FOR THE VILLAGE OF WINNETKA:

BY: _____

TITLE: _____

DATE: _____

CHRISTOPHER B. BURKE ENGINEERING, LTD.
STANDARD CHARGES FOR PROFESSIONAL SERVICES
JANUARY, 2012

<u>Personnel</u>	Charges* (\$/Hr)
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

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.

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.