



Little Calumet River Basin Development Commission

6100 Southport Road

Portage, Indiana 46368

5-Enser public (219)763-0696
530- Fax (219)762-1653

12

12:20
Progr. Eng.

Nominating
Committee
Select early
per Hoffman
Apr. agenda

Put in
appt. status
in agenda
for #11

ROBERT HUFFMAN, Chairman
Governor's Appointment

ROBERT TRELO, Vice Chairman
Governor's Appointment

CHARLES AGNEW, Treasurer
Governor's Appointment

EMERSON DELANEY, Secretary
Governor's Appointment

GEORGE CARLSON
Mayor of Hammond's
Appointment

ROGER CHIABAI
Governor's Appointment

ARLENE COLVIN
Mayor of Gary's
Appointment

STEVE DAVIS
Dept. of Natural Resources'
Appointment

JOHN DEMEO
Governor's Appointment

NATHANIEL LEONARD
Lake County Commissioners'
Appointment

WILLIAM TANKE
Porter County's Commissioners'
Appointment

DAN GARDNER
Executive Director

LOUIS CASALE
Attorney

MEETING NOTICE

There will be a Retreat Meeting held this Saturday, March 22nd at 8:45 a.m. in the side dining room at Rigby's Restaurant, Highland. The meeting should conclude around 12 noon, with lunch being optional if you so choose to stay. Please let Sandy know if you will be able to attend this meeting.

DISCUSSION AGENDA

8:45 Coffee & Rolls

9:00

Federal Flood Control Project - Major Issues

- Upcoming year's schedule - commitments, issues
- Federal/State funding status
- Recreation plan construction — adv. 2 wk.
- Deep River Park - Big Maple Lake commitment finalization
- 179 acre transfer to Gary - status
- Burr St. levee/pump station
- Operation & Maintenance
- Other Issues

10:30

Break

10:40

Marina Development Issues

- Phase II funding status, plans, schedule
- Phase I issues:
 - fender pilings heaving - remedy
 - dock shift (4-5 ft)
 - circulation tube clearing
- Resolution regarding previous sheetpiling failure
- May committee meeting proposed

Ogden Dunes, Suarez lawsuits status

11:15

Commissioners' Issues, Discussion

12:00

Lunch - Informal Discussion

Exec. Session at 5:00

Flower fund

Appendix - do it in May - include example

Contract up for 1997

Imminence?

Are we clear w/ 179 acre everything?

And or bow - need additional 21-22 w/ 179 acre & 179 acre

Deep River Park sign requirements

Spin - check out the Deep River cont. last commitment

Gary Pt. Dept. wants us to coordinate ceremony

Check in plaque!

Pastor M.C. Call and know + check in their pilings how deep are they?

Marina - check out last claim - was it previously approved in contract? amounts?

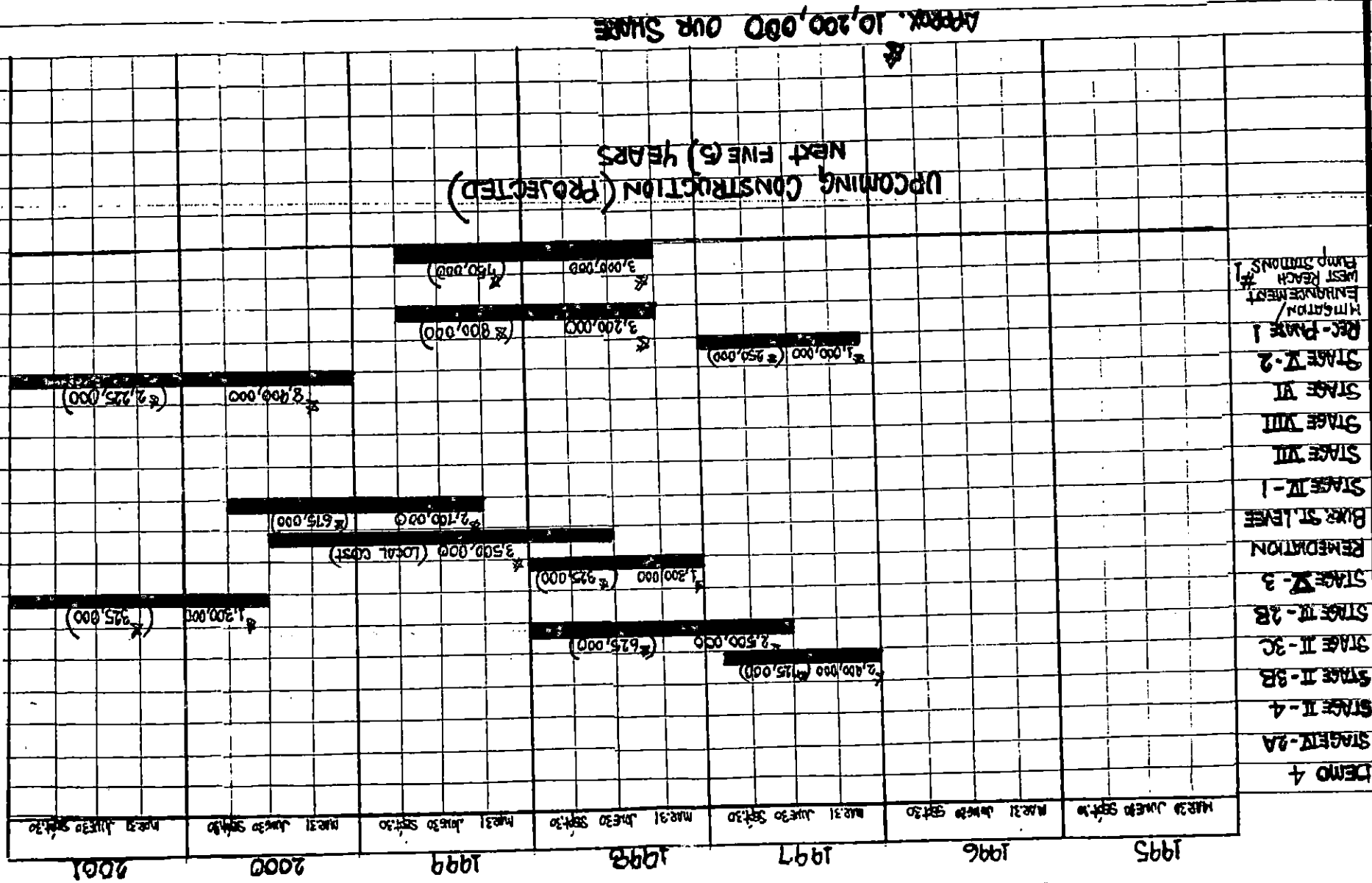
PROJECTED CONSTRUCTION IN GARY FOR 1997 (ONGOING/NEW)

NOTE:

THE INFORMATION PROVIDED HEREIN IS BASED UPON CURRENT INFORMATION AND AVAILABLE MONEY. SOME VARIATIONS MAY OCCUR WITH SCHEDULING.

CONSTRUCTION (ONGOING/NEW)	LOCATION	SCOPE OF WORK (GENERAL)	STAGE/PHASE (REFERENCE)	SCHEDULED AWARD	PROJECTED COMPLETION
ONGOING	HARRISON ST.- GEORGIA ST. (SOUTH OF THE RIVER)	CONSTRUCT LEVEES FOR FLOOD CONTROL	II-3B	-	6/30/97
ONGOING	BROADWAY TO GEORGIA (S. OF I-80/54), GEORGIA TO MLK DR. (BOTH SIDES OF I-80/54 & N. TO U.S. RAILROAD)	CONSTRUCT LEVEES FOR FLOOD CONTROL/PUMP STATION NEAR IRONWOOD DR. N. OF RAILROAD	II-4	-	4/3/98
ONGOING	ALL COMPLETED LEVEE SEGMENTS IN GARY	ADD DIRT TO LEVEES TO ALLOW PLANTING OF GRASS & FOR TREES & SHRUBS	LANDSCAPING	-	9/6/97
ONGOING	LAKE ETTA - BURR ST. TO CLARK ST. (NORTH OF THE LITTLE CAL. RIVER)	CONSTRUCT LEVEE FOR FLOOD CONTROL, RETENTION AREA, AND PUMP STATION	IV-2A	-	9/15/97
NEW	GRANT ST. TO HARRISON ST. (SOUTH OF THE LITTLE CALUMET RIVER)	CONSTRUCT LEVEE FOR FLOOD CONTROL, PUMP STATION E. OF GRANT	II-3C-2	9A CONTRACT (MINORITY SET ASIDE)	12/30/98
NEW	CLARK ST. TO CHASE ST. (NORTH OF THE LITTLE CALUMET RIVER)	CONSTRUCT LEVEE FOR FLOOD CONTROL.	IV-2B	MARCH 3, 1997 (ADVERTISE)	12/30/98
NEW	GLEASON PARK (HARRISON TO BROADWAY), E. 50. CHASE ST. & LEVEE (CHASE TO GRANT)	PROVIDE RECREATION FEATURES INCLUDES TRAILS, FISHING PIER, CANOE LAUNCH, OBSERVATION DECK	RECREATION- PHASE 1	FEB. 17, 1997 (ADVERTISE)	12/30/98

JAN. 22, 1997



2. BURR STREET BETTERMENT LEVEE

a. COE cannot direct LCRBDC to acquire real estate since this is a betterment levee.

b. COE does recommend that an aggressive real estate acquisition course be pursued due to the impact of the IV/2B levee, construction schedules, etc.

c. LCRBDC comments on draft Design Memorandum.

3. II/4.

a. Status of Real Estate required for new pump station location?

b. Permanent Railroad Easement?

4. REVISED SCHEDULE:

<u>STAGE</u>	<u>RE AVAIL</u>	<u>ADVERTISE</u>	<u>CONT AWARD</u>
REC 1	AVAIL	18 FEB 97	10 MAY 97
II/3C	AVAIL	22 NOV 96	2 MAY 97
IV/2B	AVAIL	3 MAR 97	3 JUN 97
ERR	1 SEP 97	1 OCT 97	1 JAN 98
IV/1	1 NOV 98	1 JAN 99	31 MAR 99
BURR	15 FEB 98	15 MAR 98	15 JUN 98
V/2	1 SEP 99	1 OCT 99	1 JAN 00
V/3	1 JAN 00	1 FEB 00	1 JUN 00

5. CREDITING

a. Administrative/Legal costs may be submitted by Stage/Phase as they are completed.

b. COE acknowledges that a lot of data has been entered into the Real Estate Tracking System, but it appears that we are lagging to meet our target goal of 60 submissions per quarter.

c. Most pressing problem currently appears to be lack of valid appraisal data and the need to update this data to date of first construction contract (9-16-90) for lands acquired prior to project approval.

Don't have time to make drawings - would like to send this out by mid-March

REQUEST FOR PROPOSALS

Sponsor: City of Portage in partnership with the Little Calumet River Basin Development Commission.

Proposed Project: Preparation of Contract Documents and assistance with construction of Phase II of the Portage Public Marina on the Burns Waterway in Portage, Indiana.

INTRODUCTION

The City of Portage and the Little Calumet River Basin Development Commission have agreed to jointly finance and construct Phase II of the Portage Public Marina in Portage, Indiana. Engineers are hereby invited to submit proposals to provide design and construction services for the proposed project.

SCOPE OF SERVICES

The selected ENGINEER shall be prepared to negotiate a contract to perform the following services:

1. Preliminary Design - In consultation with the OWNER and on the basis of the preliminary engineering plans and the State and Federal permits for Phase II, the ENGINEER shall determine the general scope, extent and character of the Project. The ENGINEER shall then refine the Preliminary Design Documents for the project, including review and any necessary revisions of the existing Final Design criteria, preliminary drawings, outline specifications, written descriptions of the Project and opinion of the probable Total Project Cost.
2. Final Design - On the basis of the accepted revised Preliminary Design Documents, prepare final drawings and specifications to describe the scope, extent and character of the work to be furnished and performed by Contractor(s). Prepare for review, execution and submission by the OWNER, technical criteria, written descriptions and support data for any and all applications for permits and/or approvals of government authorities with jurisdiction to approve the design of the Project, and assist OWNER in consultations with appropriate authorities. Prepare final opinion of probable Total Project Cost and prepare for review and approval by the OWNER of necessary contract agreement forms, general conditions, bid forms, etc.
3. Bidding Phase Services - Assist OWNER in all phases of bid letting including advertising, receiving and review of bids for complete construction of the project.

*wood piling repair
\$12,000. est.*

4. Construction Phase Services - Assist OWNER in general administration of the Construction contract and provide such site visitation and resident project representation as deemed necessary to assure that the constructed project is in keeping with the design plans and specifications.

EXISTING INFORMATION

Background information for the proposed project may be reviewed by appointment at the office of the City Engineer. Appointments may be arranged by calling (219) 762-1815.

PROPOSAL CONTENTS

Interested qualified engineers shall submit proposals to the City of Portage/Little Calumet River Basin Development Commission c/o Portage City Engineer's Office, 6070 Central Avenue, Portage, Indiana 46368 before 4:30 P.M. local time on May 1, 1997. Twenty (20) copies shall be submitted for distribution to members of both sponsoring parties. Proposals shall address the following areas of interest:

1. Experience in design and construction of marinas.
2. Proposed personnel to be assigned to the project showing applicable experience and proposed project team organization responsibilities.
3. Proposed schedule for completion of design phase of the project.
4. Description of expected tasks to be completed and estimated level of effort (manhours) to be budgeted for each task (by discipline and by level of responsibility).

SELECTION PROCESS

Selection will be made based on qualifications, relevant experience, and responsiveness to this RFP. Interviews may be held with any or all firms submitting proposals. Upon selection of the preferred firm, a contract for services will be negotiated. If such negotiations fail, one of the other interested firms may be selected for negotiation.



THE BOARD OF COMMISSIONERS
OF THE COUNTY OF LAKE

Rudolph CLAY

NORTH MAIN STREET
CROWN POINT, INDIANA 46307
219-755-3204

400 BROADWAY
GARY, INDIANA 46402
219-881-6078

3711 MAIN STREET
EAST CHICAGO, INDIANA 46312
219-397-6728

March 12, 1997

Mr. Dan Gardner, Chief Deputy
Little Calumet River Basin Commission
6100 Southport Road
Portage, IN 46368

Dear Mr. Gardner:

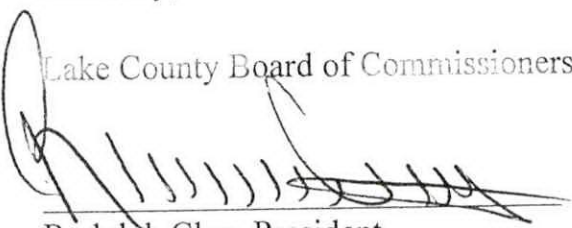
Please be advised that board member Nathan Leonard is currently on disability. During his absence, I am hereby appointing Mr. Marion Williams as his replacement.

Mr. Williams appointment will take place effective immediately.

Thank you for your attention in this matter.

Sincerely,

Lake County Board of Commissioners


Rudolph Clay, President
Lake County Commissioner

LCBC/tlm

cc: Mr. Marion Williams

*Table
move?*



LAKE COUNTY

parks and recreation department

2293 NORTH MAIN STREET
CROWN POINT, INDIANA 46307

PHONE: 219-755-3685
FAX: 219-755-3693

March 18, 1997

Dan Gardner
Little Calumet River Basin Commission
6100 Southport Road
Portage, In 46368

*talk to Nickovich
set up mtg w/
land committee*

Dear Dan:

I have enclosed for your review copies of the Big Maple Lake master plan and cost estimate. Please contact Mr. Nickovich or myself when you wish to meet and discuss the completion of the borrow site. Feel free to call if you have questions (219) 980-2167.

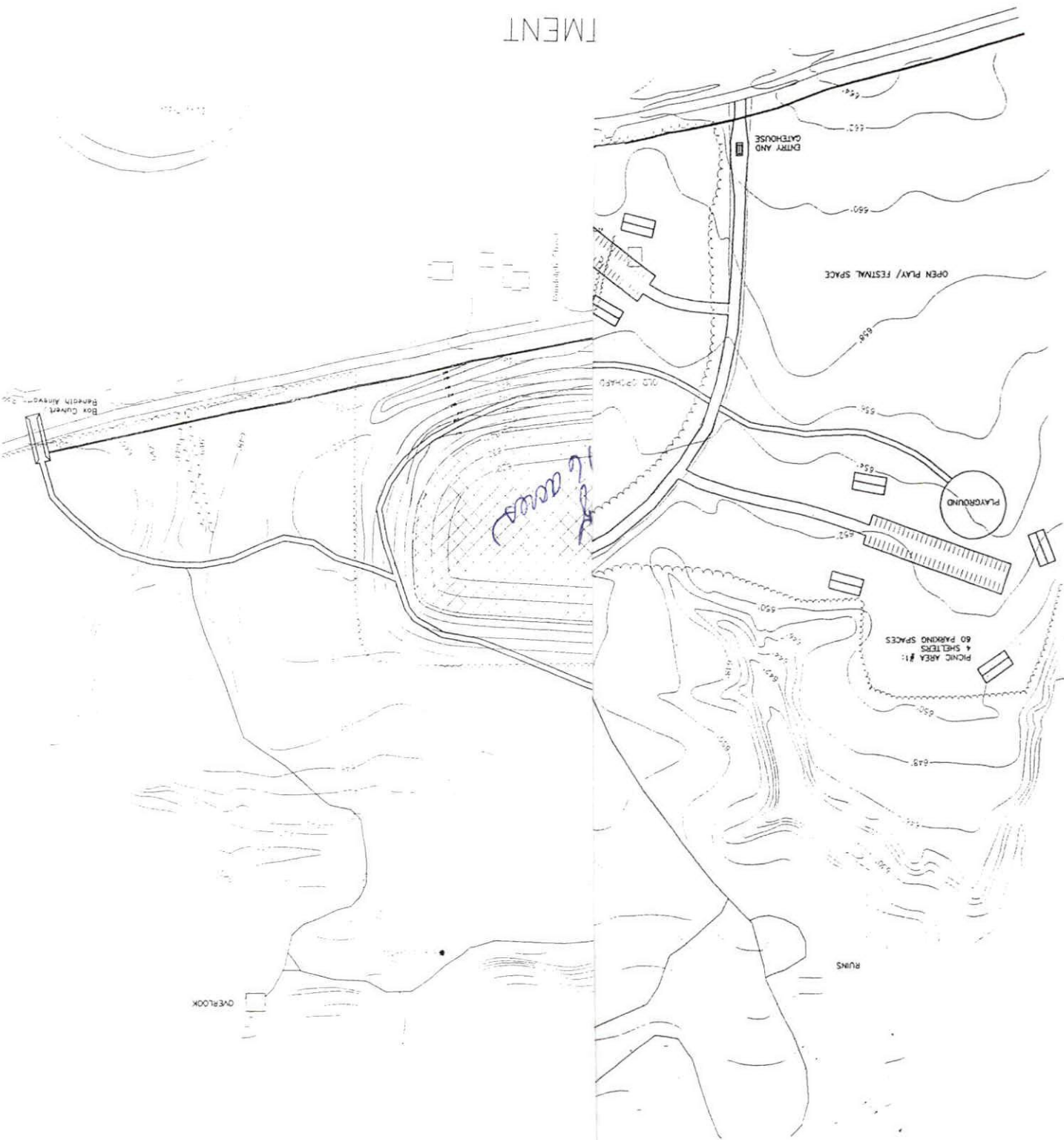
Sincerely,

Chris Baas

Christopher Baas
Chief Landscape Architect
Lake County Parks
Planning and Development Division
6400 Harrison Street
Merrillville, IN 46410
(219) 980-2167
Fax 887-2768

cc: **Jim Pokrajac**

MENT



**LITTLE CALUMET RIVER EAST REACH LEVEE SYSTEM
OPERATIONS SCHEDULE**

08 FEB 97
Page 1 of 1

ITEM

1 LEVEES & OVERFLOW EMBANKMENTS

(PER 1000 FEET OF LEVEE)

Type of Operation*	Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Annual Operating Cost	Total Annual Operations Cost	Replacement Cost Present Value	Type of Crew	Comments
E	Patrolling	0.1	1000	LF	2	8000	1	\$79.50	\$7.95	\$0.00	\$0.81	n/a	\$9		Inspectors	Crew from Page 1 of Maint. Sched. Backup

2 FLOODWALLS

(PER FLOODWALL)

Type of Operation*	Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Annual Operating Cost	Total Annual Operations Cost	Present Value	Type of Crew	Comments
E	Patrolling	0.1	1000	LF	2	8000	1	\$79.50	\$7.95	\$0.00	\$0.81	n/a	\$9		Inspectors	Crew from Page 8 of Maint. Sched. Backup

3 GATES

(PER GATE)

Type of Operation*	Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Annual Operating Cost	Total Annual Operations Cost	Present Value	Type of Crew	Comments
E	Inspection	1	1	EA	2	18	0.5	\$79.50	\$39.75	\$0.00	\$4.08	n/a	\$44		Inspectors	Same crew as used for all patrolling
E	Debris Removal	1	0.1	TONS	4	1.8	0.5	\$185.03	\$82.52	\$3.75	\$18.88	n/a	\$103		Laborers	Crew from Page 14 of Maint. Sched. Backup
E	Open / Close Gate	1	1	EA	1	32	0.25	\$40.75	\$10.19	\$0.00	\$2.01	n/a	\$12		Laborer	

4 GATEWELLS

(PER GATEWELL)

Type of Operation*	Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Annual Operating Cost	Total Annual Operations Cost	Present Value	Type of Crew	Comments
E	Inspection	0.1	1	EA	2	12	0.67	\$79.50	\$5.33	\$0.00	\$0.55	n/a	\$6		Inspectors	Same crew as used for all patrolling
E	Debris Removal	0.1	0.25	TONS	4	4	0.5	\$185.04	\$8.25	\$0.84	\$1.56	n/a	\$11		Laborers	Crew from Page 14 of Maint. Sched. Backup

5 CLOSURE STRUCTURES

(PER STRUCTURE / LOCATION)

Type of Operation*	Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Annual Operating Cost	Total Annual Operations Cost	Present Value	Type of Crew	Comments
E	Inspection	1	1	EA	2	12	0.67	\$79.50	\$53.27	\$0.00	\$5.45	n/a	\$59		Inspectors	Crew from Page 14 of Maint. Sched. Backup
E	Install Wall Closure	0.1	1	EA	8	2.87	3	\$258.14	\$77.44	\$0.00	\$32.04	n/a	\$109		Laborers	See Page 1
E	Sandbag Closure	0.1	1500	BAGS	18	2	4	\$850.72	\$260.29	\$44.65	\$25.75	n/a	\$331		Laborers	See Page 2
N	Stow Wall Closure	0.1	1	EA	8	3	2.87	\$258.14	\$88.82	\$0.00	\$28.59	n/a	\$98		Laborers	See Page 1
N	Remove Sandbags	0.1	1500	BAGS	12	1.8	5	\$489.77	\$244.89	\$0.00	\$31.25	n/a	\$276		Laborers	See Page 3
N	Practice Install Wall..	0.5	1	EA	8	2.87	3	\$258.14	\$387.21	\$0.00	\$180.22	n/a	\$547		Laborers	See Page 1

6 CULVERTS

(PER CULVERT)

Type of Operation*	Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Annual Operating Cost	Total Annual Operations Cost	Present Value	Type of Crew	Comments
E	Inspection	1	1	EA	2	18	0.5	\$79.50	\$39.75	\$0.00	\$4.08	n/a	\$44		Inspectors	Crew from Page 18 of Maint. Sched. Backup
E	Debris Removal	1	0.1	TONS	4	1.8	0.5	\$185.04	\$82.52	\$3.75	\$18.88	n/a	\$103		Laborers	Crew from Page 18 of Maint. Sched. Backup

7 MISCELLANEOUS FEATURES

(PER 1000 FEET)

Type of Operation*	Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Annual Operating Cost	Total Annual Operations Cost	Present Value	Type of Crew	Comments
E	Inspection	1	1	EA	2	18	0.5	\$79.50	\$39.75	\$0.00	\$4.08	n/a	\$44		Inspectors	Crew from Page 1 of Maint. Sched. Backup
E	Drainage Ditches Debris Removal	1	0.1	TONS	4	12	1.33	\$187.30	\$222.51	\$75.00	\$43.33	n/a	\$341		Laborers	Crew from Page 3 of Maint. Sched. Backup

**LITTLE CALUMET RIVER EAST REACH LEVEE SYSTEM
OPERATIONS SCHEDULE, continued**

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ITEM

8 BRIDGES

(PER BRIDGE)															Present Value	Type of Crew	Comments
Type of Operation*	Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Annual Operating Cost	Total Annual Operations Cost				
E	Inspection	1	1	EA	2	12	0.87	\$78.50	\$53.27	\$0.00	\$5.44	n/a	\$59	Inspectors	Crew from Page 8 of Maint Sched Backup		
E	Debris Removal	1	2	TONS	4	6	2.67	\$185.04	\$440.68	\$0.00	\$0.00	n/a	\$441	Laborers	Crew from Page 3 of Maint Sched Backup		

9 PUMP STATIONS

(PER PUMP STATION)					Crew Daily	Labor (MH)	TOTAL Crew	Annual	Annual	Annual	Annual	Total Annual	Present	Type of	Comments
Type of	Task	Annual	Quantity	Unit	Output	EACH Worker	Labor Cost	Labor	Materials	Equipment	Operating	Operations			
Operation*		Frequency			Quant./Unit	per Quantity		Cost	Cost	Cost	Cost	Cost	Value	Crew	
North 5th Street Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$929.25	\$929			See Page 5
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$2,787.75	\$2,788			See Page 5
South Kennedy Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$681.50	\$682			See Page 5
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$2,044.50	\$2,045			See Page 5
Kennedy Apartments Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$47.50	\$48			See Page 5
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$142.50	\$143			See Page 5
Jackson Avenue Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$1,053.00	\$1,053			See Page 6
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$3,159.00	\$3,159			See Page 6
Southside Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$232.50	\$233			See Page 6
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$697.50	\$698			See Page 6
Calumet Avenue Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$2,460.00	\$2,460			See Page 7
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$7,380.00	\$7,380			See Page 7
Indianapolis Boulevard Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$327.50	\$328			See Page 7
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$982.50	\$983			See Page 7
Southeast Hessville Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$1,063.25	\$1,063			See Page 7
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$3,169.75	\$3,190			See Page 7
Baring Avenue Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$120.75	\$121			See Page 8
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$362.25	\$362			See Page 8
Tepper Avenue Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$137.50	\$138			See Page 8
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$412.50	\$413			See Page 8
81st Street Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$351.50	\$352			See Page 8
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$1,054.50	\$1,055			See Page 8
Forest Avenue Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$177.25	\$177			See Page 8
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$531.75	\$532			See Page 8
Homan / Munster Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$770.25	\$770			See Page 8
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$2,310.75	\$2,311			See Page 8
Walnut Street Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$1,351.00	\$1,351			See Page 8
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$4,053.00	\$4,053			See Page 8
South Homan Avenue Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$1,173.25	\$1,173			See Page 9
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$3,519.75	\$3,520			See Page 9
Outlet "A" Pump Station															
N	Pumping	1	1	DAY	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$929.25	\$929			See Page 10
E	Pumping	1	3	DAYS	continuous (24 Hrs)	n/a	n/a	n/a	n/a	n/a	\$2,787.75	\$2,788			See Page 10

**LITTLE CALUMET RIVER EAST REACH LEVEE SYSTEM
OPERATIONS SCHEDULE, continued**

08 FEB 97
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ITEM

9 PUMP STATIONS, continued

(PER PUMP STATION)					Crew Daily	Labor (MH)	TOTAL Crew	Annual	Annual	Annual	Annual	Total Annual	Present	Type of	Comments
Type of	Task	Annual	Quantity	Unit	Output	EACH Worker	Labor Cost	Labor	Materials	Equipment	Operating	Operations			
Operation*		Frequency			Quant./Unit	per Quantity	(per Crew MH)	Cost	Cost	Cost	Cost	Cost			
North Grace Street Pump Station															
N	Pumping	1	1 DAY	continuous (24 Hrs)		n/a	n/a	n/a	n/a	n/a	\$236.25	\$236			See Page 10
E	Pumping	1	3 DAYS	continuous (24 Hrs)		n/a	n/a	n/a	n/a	n/a	\$708.75	\$709			See Page 10
Dowling Park Pump Station															
N	Pumping	1	1 DAY	continuous (24 Hrs)		n/a	n/a	n/a	n/a	n/a	\$472.50	\$473			See Page 10
E	Pumping	1	3 DAYS	continuous (24 Hrs)		n/a	n/a	n/a	n/a	n/a	\$1,417.50	\$1,418			See Page 10
Burr Street (LOCAL IV-2A) Pump Station															
N	Pumping	1	1 DAY	continuous (24 Hrs)		n/a	n/a	n/a	n/a	n/a	\$157.50	\$158			See Page 10
E	Pumping	1	3 DAYS	continuous (24 Hrs)		n/a	n/a	n/a	n/a	n/a	\$472.50	\$473			See Page 10
Burr Street (Non-Federal) Pump Station															
N	Pumping	1	1 DAY	continuous (24 Hrs)		n/a	n/a	n/a	n/a	n/a	\$425.00	\$425			See Page 11
E	Pumping	1	3 DAYS	continuous (24 Hrs)		n/a	n/a	n/a	n/a	n/a	\$1,275.00	\$1,275			See Page 11
Unknown / unnamed Pump Station															
N	Pumping	1	1 DAY	continuous (24 Hrs)		n/a	n/a	n/a	n/a	n/a	\$38.00	\$38			See Page 11
E	Pumping	1	3 DAYS	continuous (24 Hrs)		n/a	n/a	n/a	n/a	n/a	\$114.00	\$114			See Page 11

ASSUMPTIONS: No General & Administrative Expenses are Included

***NOTES: E=Emergency Operation; N=Normal Operation; n/a = not applicable**

Pump Station Operating Costs are electric power costs;
they are based on 1KW-hr/HP @ \$0.05/KW-hr, plus a demand charge of \$0.12/KW-hr per year.

**LITTLE CALUMET RIVER EAST REACH LEVEE SYSTEM
MAINTENANCE SCHEDULE**

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**1 LEVEES & OVERFLOW EMBANKMENTS
(PER 1000 FEET OF LEVEE)**

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	4	1000	LF	2	8000	1	\$79.50	\$318.00	\$0.00	\$32.50	\$351		Inspectors	See Page 1
Mowing	6	1	ACRE	1	8	1	\$47.80	\$288.80	\$0.00	\$81.00	\$368		Laborers	See Page 1
Burning	0.5	1	ACRE	8	4	2	\$245.28	\$245.28	\$0.00	\$51.25	\$297		Landscapers	See Page 1
Weed Control	1	1	ACRE	3	4	2	\$127.08	\$254.12	\$50.00	\$21.25	\$325		Landscapers	See Page 2
Fertilizing	1	1	ACRE	3	4	2	\$131.79	\$263.58	\$50.00	\$70.00	\$384		Landscapers	See Page 2
Reseeding	0.2	1	ACRE	3	1	8	\$124.22	\$198.75	\$175.00	\$3.00	\$377		Landscapers	See Page 3
Fill / Repair	0.2	50	CY	two crews; one at levee site, one at borrow site				\$116.32	\$0.00	\$59.17	\$175		Earthwork	See Page 13
Debris Removal	1	1	TONS	4	12	0.67	\$167.30	\$112.09	\$37.50	\$21.78	\$171		Dump Truck and Laborers	See Page 3
Vermin Control	1	1000	LF	1	8000	1	\$40.24	\$40.24	\$3.00	\$8.13	\$51		Laborers	See Page 3
Toe Drains														
Inspect	0.2	1000	LF	2	4000	2	\$79.50	\$31.80	\$0.00	\$3.25	\$35		Inspectors	See Page 3
Flush	0.1	1	EA	3	2	4	\$123.55	\$49.42	\$0.80	\$21.93	\$72		Water Truck & Laborers	See Page 4
Access Roads														
Regrade	1	1000	LF	3	8000	1	\$154.08	\$154.08	\$0.00	\$79.91	\$234		Grader, Roller & Laborers	See Page 4
Repair	1	1000	LF	7	4000	2	\$315.01	\$630.02	\$312.50	\$159.82	\$1,102		Grader, Roller & Laborers	See Page 5
Survey, incl. Settlement Gauges	0.1	1000	LF	3	2000	4	\$105.00	\$42.00	\$0.00	\$3.75	\$48		Survey Crew	See Page 5
Landscaping														
Trees / Brush Removal	1	1000	LF	5	5714	14	\$202.44	\$283.42	\$0.00	\$95.80	\$379		Landscapers	See Page 6
Litter Control	1	1	ACRE	5	8	1	\$205.30	\$205.30	\$0.00	\$37.50	\$243		Landscapers	See Page 6
Weed	1	1	ACRE	3	4	2	\$127.08	\$254.12	\$50.00	\$21.25	\$325		Landscapers	See Page 7
Trim	1	1	LS	3	2	4	\$123.55	\$494.20	\$0.80	\$21.93	\$517		Landscapers	See Page 7
Mulch	1	5	MSF	3	200	0.025	\$127.06	\$3.18	\$21.25	\$1.45	\$26		Landscapers	See Page 7

**2 FLOODWALLS
(PER FLOODWALL)**

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	4	1000	LF	2	8000	1	\$79.50	\$318.00	\$0.00	\$32.50	\$351		Inspectors	See Page 8
Cleaning / Treating														
Concrete	1	1000	SF	4	1000	8	\$169.76	\$1,358.08	\$9.00	\$412.20	\$1,779		Sandblast	See Page 8
Metal	0.2	10	SF	6	20	4	\$265.31	\$212.25	\$54.20	\$41.22	\$308		Painters and Laborers	See Page 9
Repairs														
Waterstops	0.05	100	LF	multiple crews; several days work				\$3,071.00	\$235.00	\$169.18	\$3,475		Masons, Carpenters & Laborers	See Pages 10 & 11
Cracks	0.05	1000	LF	multiple crews; several days work				\$292.13	\$2.03	\$27.35	\$322		Masons and Laborers	See Page 12
Railings / Walkways	0.1	1	LS	** insufficient information provided/available to estimate this work **						ALLOW:	\$450		Sandblast and Paint	See Page 13

**3 PUMP STATIONS
(PER PUMP STATION)**

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Semi-annual Report (all features)	2	1	EA	2	0.025	40	\$44.00	\$3,520.00	\$40.00	\$0.00	\$3,560		Office Personnel	-----
Inspection	4	1	EA	2	2	4	\$79.50	\$1,272.00	\$0.00	\$0.00	\$1,272		Mechanic and Oilier	See Page 17
Oil & Grease	1	1	PUMP	2	4	2	\$87.50	\$175.00	\$0.00	\$0.00	\$175		Mechanical (Oiliers)	See Page 17
Trash Rack Equipment Maint.	1	1	RACK	2	4	2	\$87.50	\$175.00	\$0.00	\$0.00	\$175		Mechanical (oiliers)	See Page 17
Recondition / Rehab.	0.04	1	LS	Assumes 20% of all Pump Stations present value replacement cost.					ALLOW:		\$50,000		various	-----
Replacement	0.02	1	LS	From FDM 5, Table J4-1: Total of all Pump Station Present Values/50 years					ALLOW:		\$250,000		various	-----

**4 GATES
(PER GATE)**

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspect, Clean and Lube	4	1	EA	2	2.67	3	\$93.75	\$1,125.00	\$0.00	\$0.00	\$1,125		Mechanical (Oiliers)	See Page 17
Gate Operator; Insp, Clean & Lube	1	1	EA	1	4	2	\$43.75	\$87.50	\$0.00	\$0.00	\$88		Mechanic and Oilier	See Page 17
Debris Removal	2	0.1	TONS	4	12	0.1667	\$121.95	\$40.66	\$7.50	\$3.13	\$51		Pickup and Laborers	Adapted from Page 14
Repair / Replace	0.05	1	EA	** Due to the varied sizes/types, insufficient info. was provided/avail. for estimate **					ALLOW:		\$600		-----	

LITTLE CALUMET RIVER EAST REACH LEVEE SYSTEM
MAINTENANCE SCHEDULE, continued

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5 GATEWELLS

(PER GATEWELL)

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	4	1	EA	2	8	1	\$79.50	\$318.00	\$0.00	\$32.50	\$351		Inspectors	See Page 14
Survey for Settlement	0.1	1	EA	3	4	2	\$105.00	\$21.00	\$0.00	\$1.88	\$23		Survey Crew	Adapted from Page 5
Debris Removal	2	0.25	TONS	4	12	0.25	\$121.96	\$60.98	\$18.75	\$4.69	\$84		Pickup and Laborers	See Page 14
Bar Screen Maintenance	1	1	RACK	1	8	1	\$40.24	\$40.24	\$0.00	\$0.00	\$40		Laborer	See Page 17
Riprap Replacement														
Riprap Bedding	0.2	50	TONS	3	200	2	\$144.48	\$57.79	\$375.00	\$15.30	\$448		Backhoe & Laborers	See Page 14
Clear Vegetation	0.2	10	TONS	5	34.25	2.333	\$202.44	\$94.46	\$25.00	\$2.33	\$122		Backhoe & Laborers	See Page 15
Cleaning / Treating							The costs for this item are included within the "Debris Removal" item listed above.						Laborers	See Page 15
Concrete	0.2	1000	SF	4	1000	8	\$169.78	\$271.62	\$1.80	\$82.44	\$356		Sandblast	See Page 15
Metal	0.2	10	SF	2	60	1	\$88.01	\$17.60	\$1.25	\$0.20	\$19		Painters and Laborers	See Page 16
Repairs														
Waterstops	0.05	100	LF	multiple crews; several days work				\$3,071.11	\$235.00	\$169.20	\$3,475		Masons, Carpenters & Laborers	See Page 16
Cracks	0.05	20	LF	multiple crews; several days work				\$60.21	\$0.41	\$5.50	\$66		Masons and Laborers	Adapted from Page 12

6 CLOSURE STRUCTURES

(PER STRUCTURE)

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	4	1	EA	2	12	0.67	\$79.50	\$213.06	\$0.00	\$21.78	\$235		Inspectors	Adapted from Pages 8, or 14
Clean	4	100	LF	2	1600	0.5	\$63.31	\$168.82	\$0.00	\$91.25	\$258		Laborers	See Page 23
Repair / Replace	0.05	1	EA	** insufficient information provided / available to estimate this work **						ALLOW:	\$500		Masons and Laborers	----

7 CULVERTS / DRAINAGE STRUCTURES

(PER ITEM)

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	4	1	EA	2	18	0.5	\$79.50	\$159.00	\$0.00	\$18.25	\$175		Inspectors	See Page 18
Debris Removal	1	0.1	TONS	4	12	0.1667	\$121.96	\$20.33	\$3.75	\$1.56	\$28		Pickup and Laborers	See Page 18
Replace Riprap	0.05	1	TONS	4	8	1	\$171.99	\$8.60	\$1.88	\$1.47	\$12		Backhoe & Laborers	See Page 18
Replace Bedding	0.05	0.25	TONS	4	32	0.25	\$171.99	\$2.15	\$0.16	\$0.39	\$3		Backhoe & Laborers	See Page 19
Interlocking Conc. Block Repair	0.05	100	SF	** insufficient information provided / available to estimate this work **						ALLOW:	\$25			----

8 RECREATION FACILITIES

(PER 100 FEET OR PER FEATURE)

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	1	1	EA	2	16	0.5	\$79.50	\$39.75	\$0.00	\$4.06	\$44		Inspectors	Adapted from Page 1
Trails														
Bituminous														
Patch / Seal (per pothole)	0.2	50	LBS	2	800	0.5	\$80.48	\$8.05	\$2.50	\$0.94	\$11		Asphalt Pavers	See Page 20
Resurface	0.05	1000	SF	7	3000	2.67	\$300.28	\$40.08	\$28.13	\$9.35	\$78		Asphalt Pavers	See Page 20
Aggregate														
Smooth / Regrade	1	1000	SF	3	16000	0.5	\$148.78	\$74.38	\$82.50	\$39.96	\$177		Grader and Roller	See Page 21
Replace	0.2	18	CY	8	144	1	\$285.81	\$57.18	\$188.75	\$49.89	\$276		Loader, Grader, & Roller	See Page 21
Prefabricated Bridges														
Strip and Reseal Wooden Deck	0.25	800	SF	2	400	16	\$90.25	\$381.00	\$25.00	\$41.20	\$427		Painters	See Page 51
Sandblast & Repaint Steel Struct.	0.2	100	LF	multiple crews; approx. two days work				\$448.19	\$91.50	\$86.38	\$606		Painters & Laborers	See Pages 51 and 52
Boardwalk														
Strip and Reseal Wooden Deck	0.25	800	SF	2	400	16	\$90.25	\$381.00	\$25.00	\$41.20	\$427		Painters	See Page 53
Replace	0.02	800	SF	multiple crews; approx. three days work (incl. demo)				\$59.25	\$82.00	\$8.82	\$130		Carpenters	See Page 53
Signage														
Inspect / Clean	2	1	EA	1	16	0.5	\$45.13	\$45.13	\$0.50	\$8.13	\$54		Painter	See Page 22
Replace	0.05	1	EA	3	4	2	\$129.23	\$12.92	\$26.63	\$1.00	\$40		Laborers	See Page 22
Vehicle Barriers (Bollards)														
Inspect	2	1	SET	1	16	0.5	\$40.24	\$40.24	\$0.00	\$8.13	\$48		Laborer	See Page 23
Replace (set of three)	0.05	1	SET	4	1.6	3	\$171.99	\$43.00	\$15.13	\$10.63	\$69		Backhoe and Laborers	See Page 24
Docks / Piers														
Repair	0.2	400	SF	4	2667	12	\$183.84	\$441.22	\$160.00	\$19.50	\$621		Carpenters	See Page 25
Clean / Treat	0.2	400	SF	2	1000	32	\$90.25	\$577.60	\$140.00	\$68.00	\$786		Painters	See Page 23
Parking														
Slope Erosion	0.1	1	CY	3	4	2	\$121.96	\$24.39	\$1.56	\$2.00	\$28		Earthwork	See Page 28
Pavement	0.05	10000	SF	multiple crews; two days work (incl. demo)				\$140.59	\$808.13	\$83.98	\$833		Asphalt Pavers	See Pages 27 - 30
Pavement Markings Repainted	0.25	10000	SF	4	20000	4	\$165.04	\$165.04	\$125.00	\$64.68	\$355		Pavement Strippers	See Page 54
Snow Plowing & Salt Application	5	10000	SF	1	8	1	\$43.08	\$215.40	\$250.00	\$187.50	\$653		Teamster	See Page 55

LITTLE CALUMET RIVER EAST REACH LEVEE SYSTEM
MAINTENANCE SCHEDULE, continued

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9 PRECIPITATION / STREAM GAGE NETWORK
(PER GAGE)

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	1	1	EA		Obtained per ED-HF (Davis) Memo to ED-P, dated 13 NOV 96						\$25,000			
Clean / Flush	1	1	EA		INCLUDED in Total Annual Maintenance Cost listed above									
Repair	0.2	1	EA		INCLUDED in Total Annual Maintenance Cost listed above									

10 BASE STATION
(PER STATION)

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Replacement	0.05	1	EA		INCLUDED in Precip./Stream Gauge Network Total Annual Maintenance Costs listed above, obtained per ED-HF (Davis) Memo to ED-P, dated 13 NOV 96									

10 FIELD STATION
(PER STATION)

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Replacement	0.01	1	EA		Both "Replacement" and "Repairs" per ED-HF (Davis) Memo to ED-P, dated 21 DEC 94						\$6,000		various	
Repairs	12	1	LS	1		6	\$225.00	\$2,700.00	\$0.00	\$0.00	\$2,700		various	

11 MISCELLANEOUS FEATURES
(PER 1000 FEET)

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	4	1	EA	2	16	0.5	\$75.00	\$159.00	\$0.00	\$16.25	\$175		Inspectors	Adapted from Page 1
Access Control														
Fencing														
Repair (5% damaged)	0.2	50	FT	3	100	4	\$121.96	\$97.57	\$48.75	\$8.00	\$154		Laborers	See Page 31
Replace	0.025	100	LF	4	100	8	\$165.16	\$33.03	\$25.94	\$6.86	\$66		Laborers	See Page 32
Gates														
Repair / Grease	0.5	1	EA	3	2.67	3	\$121.96	\$182.94	\$102.50	\$15.00	\$300		Laborers	See Page 33
Replace	0.025	1	EA	4	1.6	5	\$171.99	\$21.50	\$41.85	\$7.57	\$71		Laborers	See Page 34
Guardrail Repair	0.1	50	LF	4	50	8	\$171.99	\$137.59	\$38.75	\$27.50	\$204		Laborers	See Page 35
Roads														
Bituminous														
Reseal	0.2	3000	SF	4	12600	2	\$182.20	\$84.88	\$90.00	\$20.25	\$175		Asphalt Pavers	See Page 36
Patch / Seal (per pothole)	0.2	50	LBS	5	800	0.5	\$212.84	\$21.28	\$2.50	\$5.19	\$29		Asphalt Pavers	See Page 37
Resurface	0.05	3000	SF	7	8000	3	\$300.28	\$45.04	\$45.03	\$84.39	\$174		Asphalt Pavers	See Page 38
Unpaved														
Smooth / Regrade	1	3000	SF	3	16000	1.5	\$148.76	\$223.14	\$225.00	\$119.88	\$568		Grader and Roller	Adapted from Page 21
Replace	0.2	75	CY	6	150	4	\$285.91	\$228.65	\$351.56	\$196.36	\$779		Loader, Grader & Roller	Adapted from Page 21
Concrete														
Patch	0.2	300	SF					\$1,580.12	\$317.75	\$175.61	\$2,077		Concrete Pavers	See Pages 39 thru 42
Replace	0.025	1	LS								n/a		Concrete Pavers	
Railroad Crossings - replace	0.1	1	EA					\$1,430.05	\$942.25	\$346.77	\$2,721		Crews, Loader & Laborers	See Pages 43 thru 47
Drainage Ditches														
Debris Removal	1	0.1	TONS	4	12	0.1667	\$121.96	\$20.33	\$3.75	\$1.56	\$26		Pickup and Laborers	Adapted from Page 18
Riprap	0.05	1	TONS	4	8	1	\$171.99	\$8.60	\$1.88	\$1.47	\$12		Backhoe and Laborers	Adapted from Page 18
Clear Vegetation	1	2	CY	5	48	0.33	\$205.28	\$67.74	\$75.00	\$22.78	\$166		Laborers	See Page 48
Drudge	0.02	5	CY	5	80	0.5	\$221.18	\$2.21	\$0.00	\$1.09	\$3		Backhoe and Dump Trucks	See Page 49

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MAINTENANCE SCHEDULE, continued**

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**12 CHANNELS
(PER 1000 FEET OF CHANNEL)**

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspect	4	1000	LF	2	6000	1	\$79.50	\$318.00	\$0.00	\$32.50	\$351		Inspectors	Adapted from Pages 8, 14, or 18
Debris Removal	1	1	TON	4	12	0.67	\$167.30	\$112.00	\$37.50	\$21.78	\$171		Dump Truck and Laborers	Adapted from Page 3
Sediment Dredging	0.1	320	CY	10	650	4	\$453.26	\$181.30	\$0.00	\$168.42	\$350		Dragline Operation	See Page 50
Clear Vegetation	1	40	CY	5	48	6.67	\$205.28	\$1,389.22	\$1,500.00	\$455.60	\$3,325		Laborers	Adapted from Page 4P

**13 RELOCATIONS
(PER FEATURE)**

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	4	1	EA	2	12	0.67	\$79.50	\$213.06	\$0.00	\$21.78	\$235		Inspectors	Adapted from Pages 8, 14, or 18
Repair	0.04	1	EA	** Due to the varied types, insufficient info. was provided/avail. for estimate **				ALLOW:			\$300		unknown	
Clean	0.2	1	EA	1	8	1	\$40.24	\$8.05	\$0.00	\$8.12	\$16		Laborer	

**14 BRIDGES
(PER BRIDGE)**

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	4	1	EA	2	12	0.67	\$79.50	\$213.06	\$0.00	\$21.78	\$235		Inspectors	Adapted from Pages 8, 14, or 18
Debris Removal	2	2	TONS	4	12	1.33	\$167.30	\$445.02	\$150.00	\$86.67	\$682		Dump Truck and Laborers	Adapted from Page 3
Clear Vegetation	1	2	CY	5	48	0.33	\$205.28	\$67.74	\$75.00	\$22.78	\$166		Laborers	Adapted from Page 4B

**15 FLOWAGE EASEMENTS
(PER PONDING AREA)**

Task	Annual Frequency	Quantity	Unit	Crew	Crew Daily Output Quant./Unit	Labor (MH) EACH Worker per Quantity	TOTAL Crew Labor Cost (per Crew MH)	Annual Labor Cost	Annual Materials Cost	Annual Equipment Cost	Total Annual Maintenance Cost	Replacement Cost Present Value	Type of Crew	Comments
Inspection	1	1	EA	2	12	0.67	\$79.50	\$53.27	\$0.00	\$5.44	\$59		Inspectors	Adapted from Pages 8, 14, or 18
Debris Removal	1	10	TONS	4	12	6.67	\$167.30	\$1,115.89	\$375.00	\$216.78	\$1,708		Dump Truck and Laborers	Adapted from Page 3

ASSUMPTIONS: No General & Administrative Expenses are included