



Pollution  
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Sheboygan River and Harbor Superfund Site  
Phase II

**Sediment Pre-Design  
Investigation Results**

April 2005

*Prepared for*  
United States Environmental Protection Agency  
Region 5  
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Chicago, Illinois 60604-3507

*Prepared By*  
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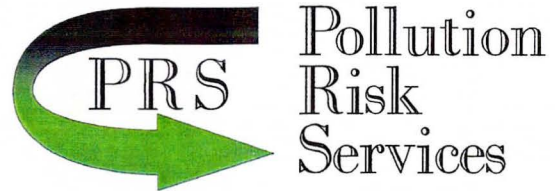
# Sheboygan River and Harbor Superfund Site Phase II

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*Prepared for*  
**United States Environmental Protection Agency  
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*Prepared By*  
**Pollution Risk Services**

April 2005



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## SEDIMENT PRE-DESIGN INVESTIGATIVE RESULTS

### 1.0 OVERVIEW

Sediment pre-design investigation activities associated with Phase II of the Sheboygan River and Harbor Superfund site were performed in the fall of 2004 to determine the location, volume, and mass of soft sediments greater than one foot thick as described in *Upper River Statement of Work* and the concentrations of PCBs in these sediments. This report presents the results of that investigation. Included in the investigation were the river sediments, near shore sediments and armored area sediments. The Sediment results are presented in Section 2.0, the near shore results in Section 3.0, while the armored area results are provided in Section 4.0. The data in Section 4.0 was obtained in previous investigations and is provided here for completeness. Copies of the analytical reports are provided in *Sediment Deposits PCB Chemical Data Reports, Volumes I and II*, PRS, 2005.

Included in the report are calculations of the sediment volume by each deposit (Table 2.1). Table 2.2.1 provides the mean concentrations of PCBs in the sediments of each deposit while Table 2.2.2 presents all of the PCB results for the sediments. Table 2.2.3 summarizes the volumes of sediment and the concentrations of the PCBs in these sediments. The near shore sediment PCB results are provided in Table 3.1 and Table 3.2 summarizes the volumes for those near shore sediments with concentrations in excess of 50 ppm. Table 4.1 summarizes the armored area results while Table 5.1 provides a summary of all results.

Sampling associated with this investigation was performed in general accordance with the approved Field Sampling Plan (2004). Laboratory testing associated with this investigation was performed in general accordance with the approved Quality Assurance Project Plan (2004).

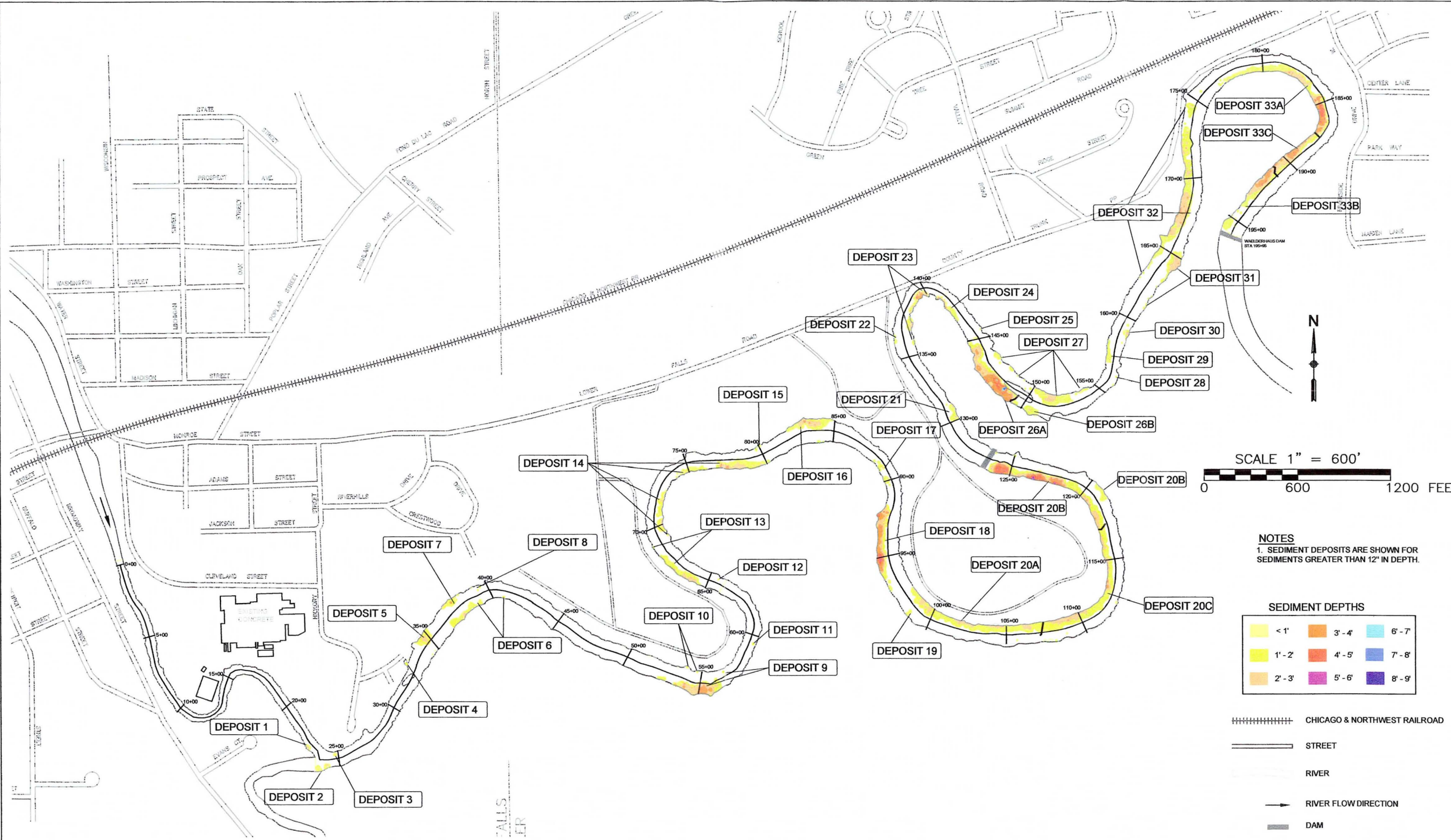
Please note sample duplicates were averaged to obtain a composite result. These composite results are provided in the tables. For samples with no detectable levels of PCBs, the results are reported at one-half of the detection limit and these were used in the statistical evaluation. Note that detection limits are different for the various aroclors. The largest detection limit of the aroclors (aroclor 1242) is selected when all aroclors are below the detection limit.

**Table 2.1**  
**Upper River Sediment Volume By Deposit**  
*Sheboygan River and Harbor Superfund Site ~ Phase II*

Deposit Number	Begin Station	End Station	Deposit Area (SF)	Deposit Average Depth (ft)	Volume (CY)
1	22+71	23+09	912	1.70	57
2	23+80	24+40	3115	1.23	142
3	24+69	24+95	68	1.05	2.6
4	32+81	33+08	225	1.03	8.6
5	34+23	35+41	6393	1.59	378
6	36+53	41+13	7242	1.43	384
7	36+98	38+26	3413	1.32	167
8	38+92	39+56	135	0.96	4.8
9	52+28	56+83	18923	2.18	1530
10	53+67	55+00	114	0.62	2.6
11	59+40	59+55	147	1.11	6.0
12	64+41	64+48	29	0.89	1.0
13	65+35	68+99	10653	1.50	591
14	69+12	80+28	25983	1.63	1569
15	79+60	80+20	326	1.10	13
16	82+04	85+00	13573	1.82	914
17	88+25	90+35	3400	1.22	153
18	91+67	97+10	26315	2.55	2489
19	98+62	98+83	890	1.15	38
20A	97+58	107+25	36970	1.68	2305
20B	117+33	126+50	47424	2.33	4093
20C	107+25	117+33	40601	1.72	2589
21	130+00	131+07	3753	1.55	215
22	136+03	136+59	925	0.77	26
23	135+64	140+43	8797	1.96	640
24	140+97	143+31	4732	1.78	312
25	144+50	144+61	81	0.50	1.5
26A	144+77	149+35	28975	2.73	2932
26B	149+35	150+94	11256	2.10	876
27	146+04	154+52	17662	1.48	967
28	155+65	156+15	135	1.02	5.1
29	156+93	158+29	3324	1.34	165
30	158+30	159+64	1767	1.51	99
31	160+93	165+36	11085	1.74	716
32	162+56	175+62	48419	1.69	3031
33A	176+65	187+50	38180	1.96	2777
33B	191+16	195+95	20041	1.97	1465
33C	187+50	191+16	16807	2.32	1443
<b>TOTAL SOFT SEDIMENT VOLUME (CY)</b>					<b>33108</b>

Note:

Source of Volume Data: URS, volumes based on isopach data provided in Figures 2.1.1-2.1.6



**NOTES**  
 1. SEDIMENT DEPOSITS ARE SHOWN FOR SEDIMENTS GREATER THAN 12" IN DEPTH.

SEDIMENT DEPTHS		
< 1'	3' - 4'	6' - 7'
1' - 2'	4' - 5'	7' - 8'
2' - 3'	5' - 6'	8' - 9'

- ||||| CHICAGO & NORTHWEST RAILROAD
- STREET
- RIVER
- RIVER FLOW DIRECTION
- DAM

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
0	UR SEDIMENT DEPOSIT INVESTIGATION	PRK	DPD	3/29/05

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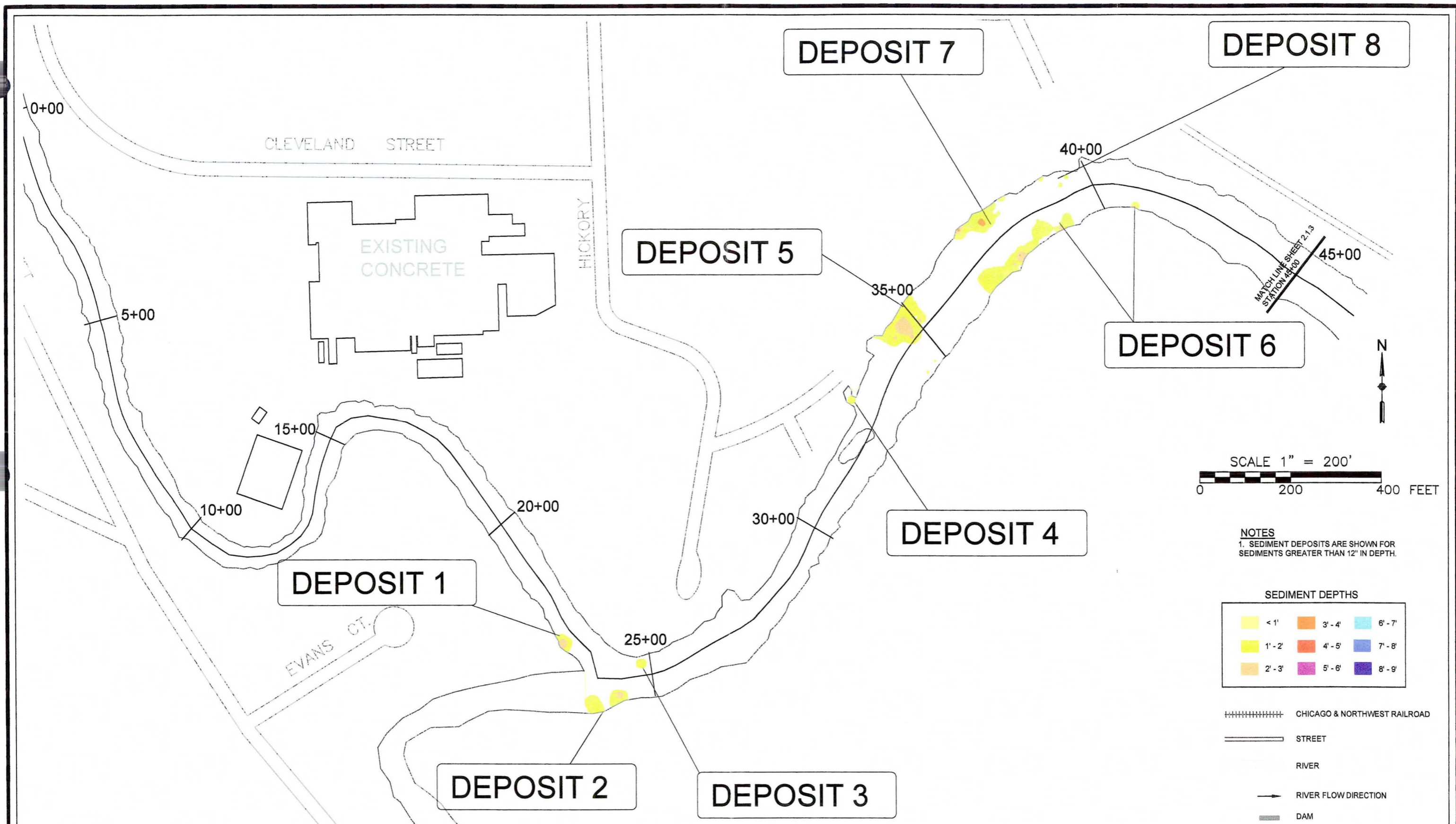
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PREPARED FOR:  
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 SHEBOYGAN FALLS, WISCONSIN

UPPER RIVER CHARACTERIZATION ISOPACH MAP

SCALE: 1" = 600'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 2.1.1



**NOTES**  
 1. SEDIMENT DEPOSITS ARE SHOWN FOR SEDIMENTS GREATER THAN 12" IN DEPTH.

**SEDIMENT DEPTHS**

< 1'	3' - 4'	6' - 7'
1' - 2'	4' - 5'	7' - 8'
2' - 3'	5' - 6'	8' - 9'

- +++++ CHICAGO & NORTHWEST RAILROAD
- ==== STREET
- ~~~~ RIVER
- RIVER FLOW DIRECTION
- ▬ DAM

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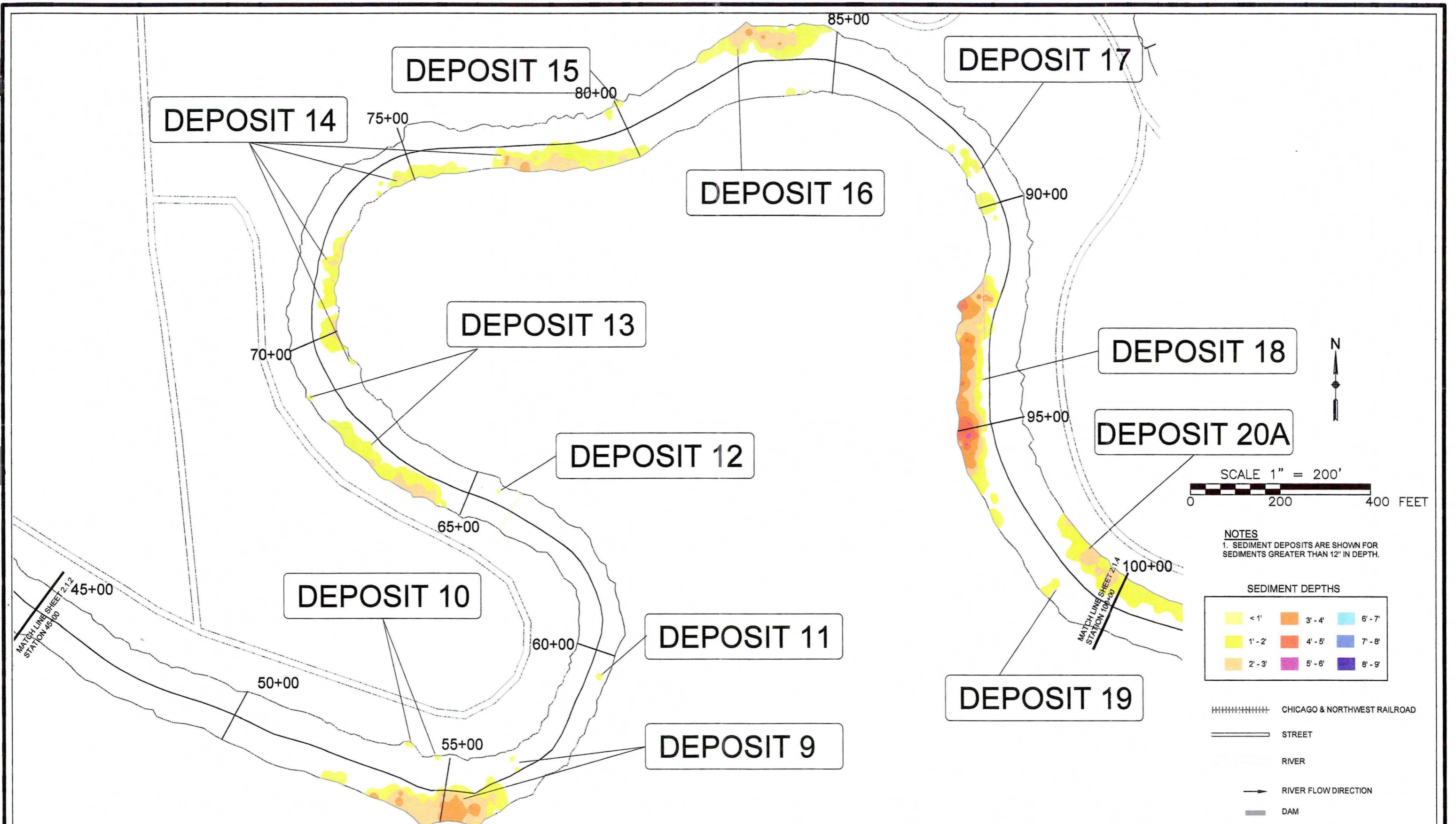
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UPPER RIVER CHARACTERIZATION  
 ISOPACH MAP  
 STA 0+00 TO STA 45+00

SCALE: 1" = 200'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 2.1.2





**NOTES**  
 1. SEDIMENT DEPOSITS ARE SHOWN FOR SEDIMENTS GREATER THAN 12" IN DEPTH.

**SEDIMENT DEPTHS**

< 1'	3' - 4'	6' - 7'
1' - 2'	4' - 5'	7' - 8'
2' - 3'	5' - 6'	8' - 9'

- ||||| CHICAGO & NORTHWEST RAILROAD
- STREET
- RIVER
- RIVER FLOW DIRECTION
- DAM

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SEDIMENT DEPOSIT INVESTIGATION

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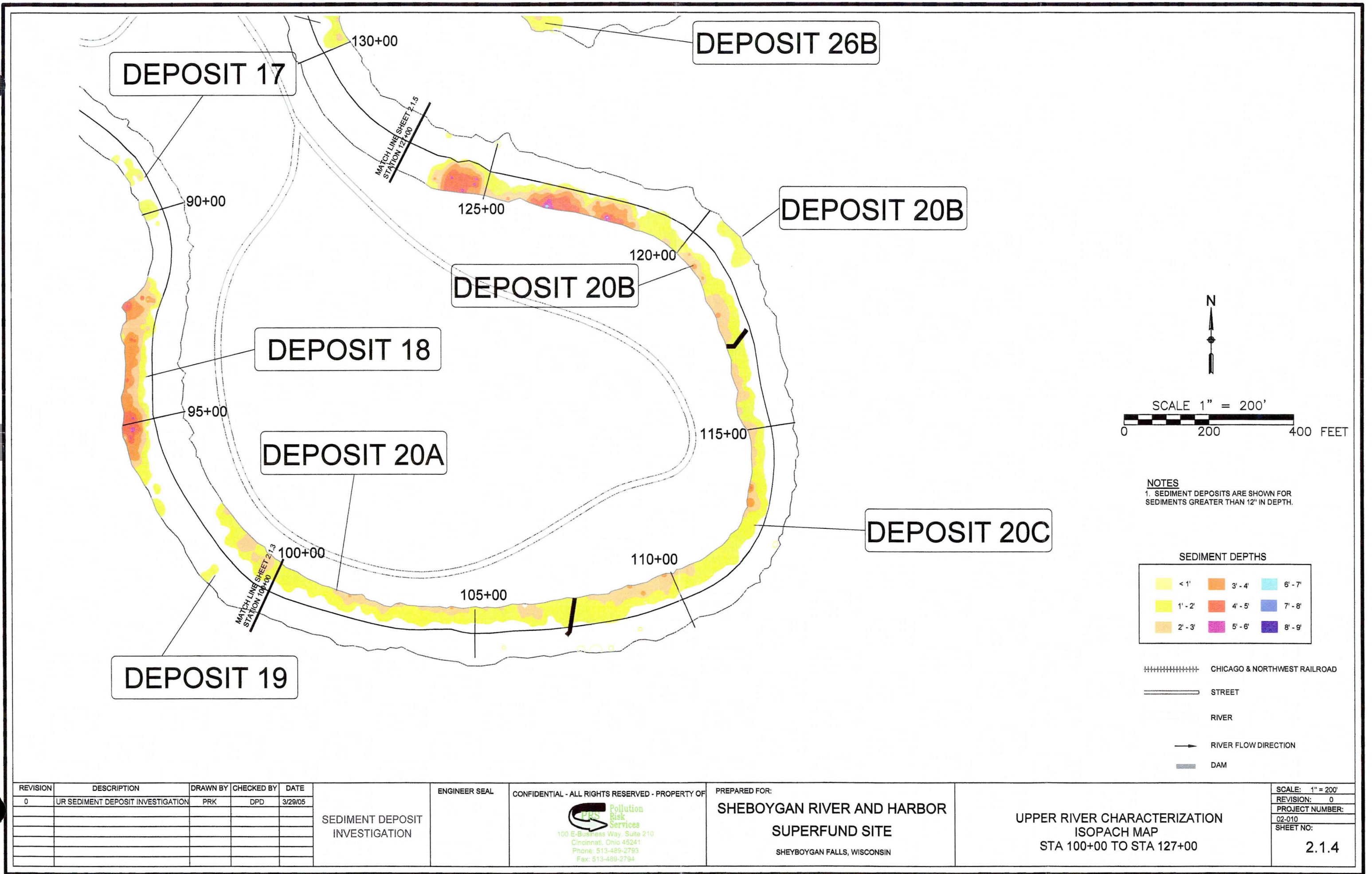
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UPPER RIVER CHARACTERIZATION ISOPACH MAP  
 STA 45+00 TO STA 100+00

SCALE: 1" = 200'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 2.1.3



**NOTES**  
 1. SEDIMENT DEPOSITS ARE SHOWN FOR SEDIMENTS GREATER THAN 12" IN DEPTH.

**SEDIMENT DEPTHS**

< 1'	3' - 4'	6' - 7'
1' - 2'	4' - 5'	7' - 8'
2' - 3'	5' - 6'	8' - 9'

- +++++ CHICAGO & NORTHWEST RAILROAD
- ==== STREET
- ~~~~ RIVER
- RIVER FLOW DIRECTION
- DAM

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
0	UR SEDIMENT DEPOSIT INVESTIGATION	PRK	DPD	3/29/05

SEDIMENT DEPOSIT INVESTIGATION

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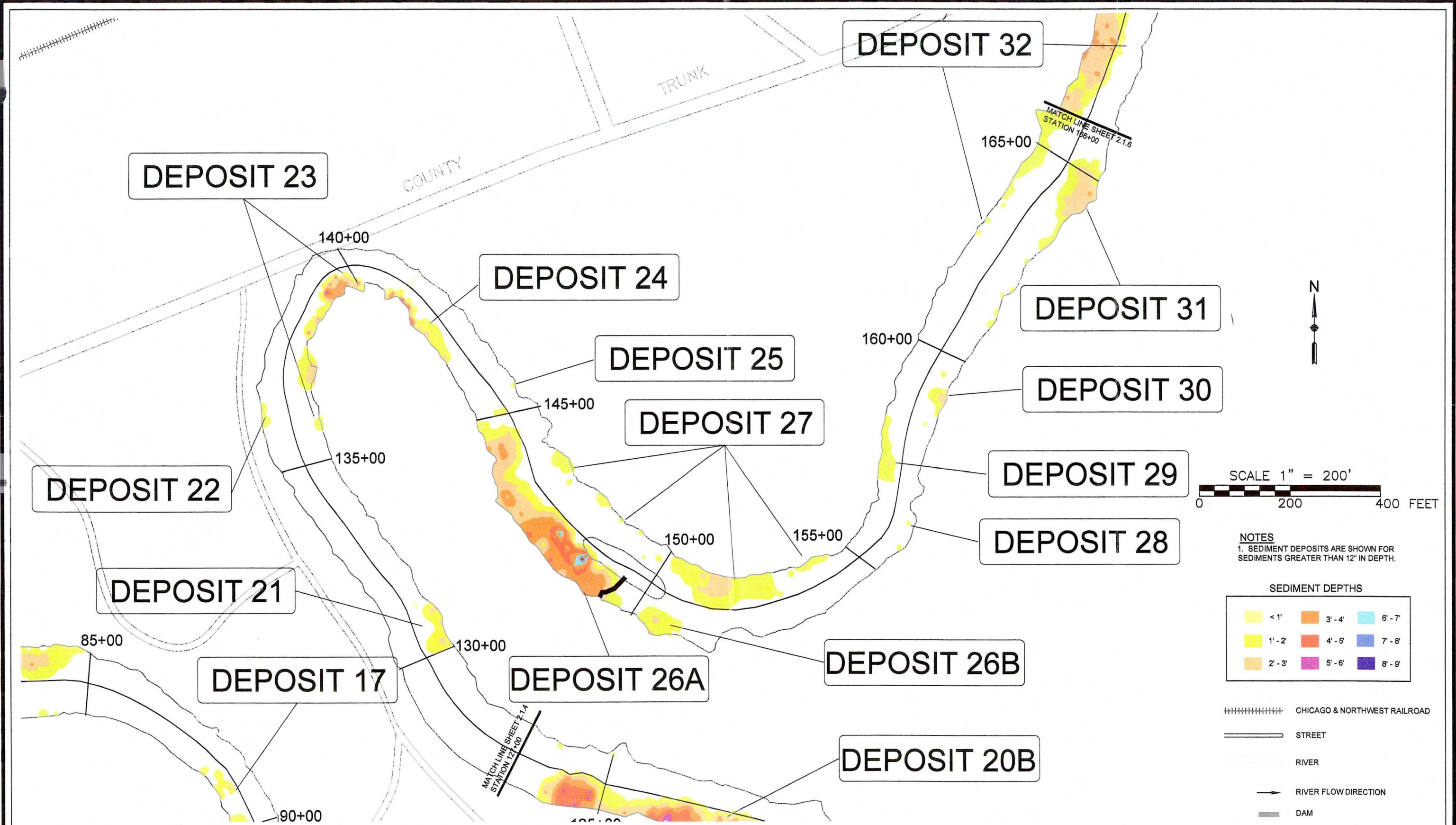
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UPPER RIVER CHARACTERIZATION  
 ISOPACH MAP  
 STA 100+00 TO STA 127+00

SCALE: 1" = 200'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 2.1.4



**NOTES**  
 1. SEDIMENT DEPOSITS ARE SHOWN FOR SEDIMENTS GREATER THAN 12" IN DEPTH.

SEDIMENT DEPTHS		
<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	< 1'	<span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> 6' - 7'
<span style="background-color: yellowgreen; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	1' - 2'	<span style="background-color: blue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> 7' - 8'
<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	2' - 3'	<span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> 8' - 9'
<span style="background-color: darkorange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	3' - 4'	
<span style="background-color: redorange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	4' - 5'	
<span style="background-color: red; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	5' - 6'	

- +++++ CHICAGO & NORTHWEST RAILROAD
- STREET
- RIVER
- RIVER FLOW DIRECTION
- DAM

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
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SEDIMENT DEPOSIT INVESTIGATION

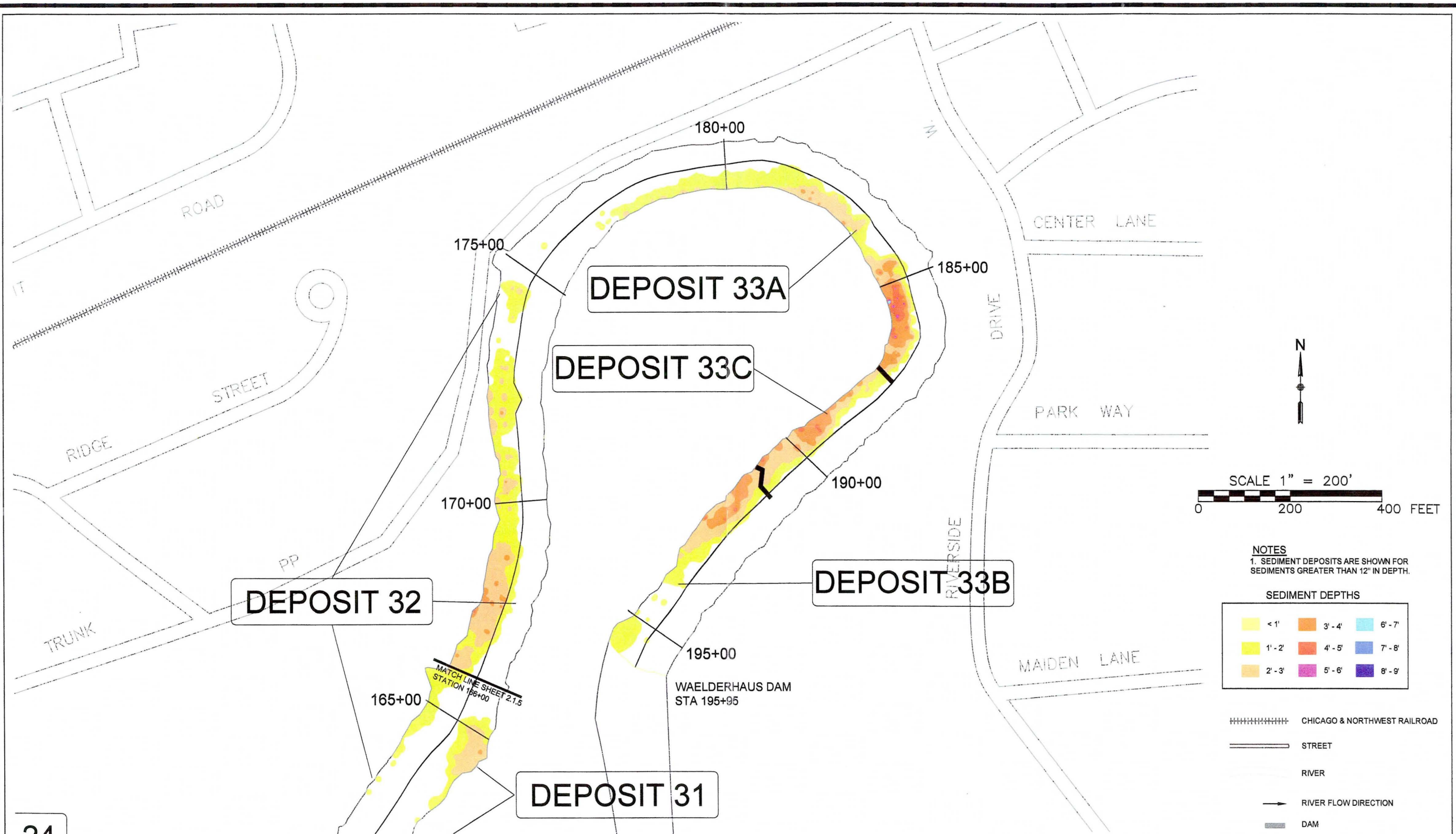
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UPPER RIVER CHARACTERIZATION ISOPACH MAP  
 STA 127+00 TO STA 166+00

SCALE: 1" = 200'  
 REVISION: 0  
 PROJECT NUMBER: 02-010  
 SHEET NO: 2.1.5



**NOTES**  
 1. SEDIMENT DEPOSITS ARE SHOWN FOR SEDIMENTS GREATER THAN 12" IN DEPTH.

**SEDIMENT DEPTHS**

	< 1'		3' - 4'		6' - 7'
	1' - 2'		4' - 5'		7' - 8'
	2' - 3'		5' - 6'		8' - 9'

- +++++ CHICAGO & NORTHWEST RAILROAD
- ==== STREET
- RIVER
- RIVER FLOW DIRECTION
- DAM

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
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UPPER RIVER CHARACTERIZATION ISOPACH MAP  
 STA 166+00 TO STA 195+95

SCALE: 1" = 200'  
 REVISION: 0  
 PROJECT NUMBER: 02-010  
 SHEET NO.: 2.1.6

**Table 2.2.1**  
**Sediment PCB Sample Results By Deposit**  
*Sheboygan River and Harbor Superfund Site - Phase II*

SEDIMENT DEPOSIT NUMBER	MEAN CONC. (PPM)	NUMBER OF SAMPLES
1	12	1
2	2.8	1
3	7.1	1
4	1.7	1
5	8.7	4
6	4.8	6
7	6.0	3
8	1.0	2
9	2.6	17
10	1.2	1
11	2.6	1
12	1.2	1
13	53	6
14	18	25
15	2.1	1
16	1.3	5
17	2.4	6
18	8.2	27
19	2.29	1
20A	2.2	20
20C	1.5	21
20B	5.9	40
21	2.2	3
22	0.64	1
23	1.5	8
24	2.5	5
25	2.7	1
26A	3.8	20
26B	9.1	20
27	3.7	16
28	0.25	2
29	1.8	2
30	0.36	3
31	1.4	10
32	0.75	35
33A	0.72	17
33C	6.0	16
33B	1.1	35

Range? Max?

**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 1</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED 1	12
MEAN CONC. (PPM)	12
<b>SEDIMENT DEPOSIT 2</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED5	2.8
MEAN CONC. (PPM)	2.8
<b>SEDIMENT DEPOSIT 3</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED7	7.1
MEAN CONC. (PPM)	7.1
<b>SEDIMENT DEPOSIT 4</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED8	1.7
MEAN CONC. (PPM)	1.7
<b>SEDIMENT DEPOSIT 5</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED10	9.9
PI-SED11	15
PI-SED15	8.7
PI-SED17	1.3
MEAN CONC. (PPM)	8.7
<b>SEDIMENT DEPOSIT 6</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED18	2.6
PI-SED19	1.8
PI-SED20	8.3
PI-SED21	1.1
PI-SED22	1.7
PI-SED26	13.2
MEAN CONC. (PPM)	4.8
<b>SEDIMENT DEPOSIT 7</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED23	3.8
PI-SED24	14
PI-SED25	0.22
MEAN CONC. (PPM)	6.0
<b>SEDIMENT DEPOSIT 8</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED27	0.93
PI-SED28	1.1
MEAN CONC. (PPM)	1.0

NOTE: Numbers in italics represent non-detect results

**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 9</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED33	5.4
PI-SED37	1.1
PI-SED50	3.9
PI-SED54	1.3
PI-SED56	1.8
PI-SED61	5.3
PI-SED65	1.6
PI-SED67	5.3
PI-SED72	0.49
PI-SED73	1.5
PI-SED77	0.54
PI-SED78	3.2
PI-SED83	1.4
PI-SED87	0.81
PI-SED89	1.2
PI-SED94	3.8
PI-SED95	4.8
MEAN CONC. (PPM)	2.6
<b>SEDIMENT DEPOSIT 10</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED93	1.2
MEAN CONC. (PPM)	1.2
<b>SEDIMENT DEPOSIT 11</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED96	2.6
MEAN CONC. (PPM)	2.6
<b>SEDIMENT DEPOSIT 12</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED97	1.2
MEAN CONC. (PPM)	1.2
<b>SEDIMENT DEPOSIT 13</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED98	3.7
PI-SED101	140
PI-SED102	5.7
PI-SED103	84
PI-SED104	74
PI-SED105	9.7
MEAN CONC. (PPM)	52.9

NOTE: Numbers in italics represent non-detect results

**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 14</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED106	16.6
PI-SED107	9.3
PI-SED108	0.98
PI-SED109	1.68
PI-SED110	0.8
PI-SED112	370
PI-SED113	0.88
PI-SED114	13
PI-SED117	0.73
PI-SED118	0.4
PI-SED119	0.89
PI-SED120	2.6
PI-SED121	2.3
PI-SED122	1.4
PI-SED123	1.5
PI-SED124	1.4
PI-SED125	1.0
PI-SED126	2.2
PI-SED127	0.3
PI-SED245	7.8
PI-SED246	4.0
PI-SED247	3.7
PI-SED248	1.3
PI-SED249	1.3
PI-SED250	6.0
MEAN CONC. (PPM)	18.1
<b>SEDIMENT DEPOSIT 15</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED128	2.1
MEAN CONC. (PPM)	2.1
<b>SEDIMENT DEPOSIT 16</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED129	0.7
PI-SED130	1.2
PI-SED131	1.1
PI-SED132	2.1
PI-SED133	1.6
MEAN CONC. (PPM)	1.3
<b>SEDIMENT DEPOSIT 17</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED 134	1.9
PI-SED135	1.9
PI-SED136	5.75
PI-SED137	1.2
PI-SED138	0.99
PI-SED139	2.4
MEAN CONC. (PPM)	2.4

NOTE: Numbers in italics represent non-detect results



**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 18</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED140	<i>38</i>
PI-SED141	2.4
PI-SED142	5.8
PI-SED143	<i>42</i>
PI-SED144	2.8
PI-SED145	13
PI-SED146	1.9
PI-SED147	30
PI-SED148	<i>0.39</i>
PI-SED149	2.6
PI-SED150	2.1
PI-SED151	2.5
PI-SED152	6.8
PI-SED153	8.7
PI-SED154	5.1
PI-SED155	11
PI-SED156	10.5
PI-SED157	9.1
PI-SED158	7.0
PI-SED159	2.9
PI-SED251	6.4
PI-SED252	4.5
PI-SED253	1.5
PI-SED254	1.4
PI-SED255	1.6
PI-SED256	1.0
PI-SED257	1.5
MEAN CONC. (PPM)	8.2
<b>SEDIMENT DEPOSIT 19</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED160	2.29
MEAN CONC. (PPM)	2.29

NOTE: Numbers in italics represent non-detect results

**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 20A</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED161	0.52
PI-SED162	0.9
PI-SED163	0.67
PI-SED164	1.68
PI-SED165	1.1
PI-SED166	3.02
PI-SED167	2.67
PI-SED168	0.49
PI-SED169	0.74
PI-SED170	1.24
PI-SED171	3.17
PI-SED172	2.32
PI-SED173	2.2
PI-SED174	6.2
PI-SED175	6.8
PI-SED176	2.1
PI-SED177	2.9
PI-SED178	1.4
PI-SED179	3.34
PI-SED180	0.6
MEAN CONC. (PPM)	2.2
<b>SEDIMENT DEPOSIT 20C</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED181	3.3
PI-SED182	2.45
PI-SED183	0.71
PI-SED184	1.9
PI-SED185	0.17
PI-SED186	0.14
PI-SED187	0.24
PI-SED188	0.39
PI-SED189	2.2
PI-SED190	0.66
PI-SED191	1.9
PI-SED192	1.1
PI-SED193	1.1
PI-SED194	0.81
PI-SED195	0.62
PI-SED196	0.6
PI-SED197	2.3
PI-SED198	1.9
PI-SED199	5.2
PI-SED200	1.3
PI-SED240	1.6
MEAN CONC. (PPM)	1.5

NOTE: Numbers in italics represent non-detect results

**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 20B</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED201	3.7
PI-SED202	2.8
PI-SED203	4.8
PI-SED204	1.4
PI-SED205	4.4
PI-SED206	0.55
PI-SED207	2.5
PI-SED208	2.8
PI-SED209	6.0
PI-SED210	11
PI-SED211	12
PI-SED212	1.6
PI-SED213	4.4
PI-SED214	0.49
PI-SED215	3.3
PI-SED216	0.25
PI-SED217	0.45
PI-SED218	1.6
PI-SED219	20
PI-SED220	1.6
PI-SED221	1.8
PI-SED222	1.7
PI-SED223	1.7
PI-SED224	1.5
PI-SED225	1.7
PI-SED226	1.7
PI-SED227	4.9
PI-SED228	2.1
PI-SED229	4.7
PI-SED230	1.95
PI-SED231	93
PI-SED232	1.8
PI-SED233	0.4
PI-SED234	18
PI-SED235	4.1
PI-SED236	1.6
PI-SED237	0.89
PI-SED238	1.7
PI-SED239	1.7
PI-SED241	2.4
MEAN CONC. (PPM)	5.9
<b>SEDIMENT DEPOSIT 21</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED242	3.2
PI-SED243	2.1
PI-SED244	1.2
MEAN CONC. (PPM)	2.2

NOTE: Numbers in italics represent non-detect results

**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 22</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED258	0.64
MEAN CONC. (PPM)	0.64
<b>SEDIMENT DEPOSIT 23</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED259	1.7
PI-SED260	2.16
PI-SED261	2.12
PI-SED262	0.53
PI-SED263	0.93
PI-SED264	1.12
PI-SED265	1.22
PI-SED266	2.6
MEAN CONC. (PPM)	1.5
<b>SEDIMENT DEPOSIT 24</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED267	3.9
PI-SED268	2.1
PI-SED269	3.6
PI-SED270	1.56
PI-SED271	2.3
MEAN CONC. (PPM)	2.5
<b>SEDIMENT DEPOSIT 25</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED272	2.7
MEAN CONC. (PPM)	2.7
<b>SEDIMENT DEPOSIT 26A</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED273	2.07
PI-SED276	2.28
PI-SED277	2.0
PI-SED278	3.6
PI-SED279	0.8
PI-SED280	0.41
PI-SED281	4.8
PI-SED282	2.37
PI-SED283	5.0
PI-SED284	3.0
PI-SED285	4.4
PI-SED286	3.4
PI-SED287	4.8
PI-SED288	7.3
PI-SED289	13.8
PI-SED290	2.8
PI-SED291	2.15
PI-SED292	3.4
PI-SED293	5.7
PI-SED294	2.3
MEAN CONC. (PPM)	3.8

NOTE: Numbers in italics represent non-detect results

**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 26B</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED295	2.9
PI-SED296	1.8
PI-SED297	1.3
PI-SED298	2.2
PI-SED299	3.4
PI-SED300	110
PI-SED301	1.95
PI-SED302	8.6
PI-SED303	2.05
PI-SED304	0.2
PI-SED305	0.75
PI-SED306	3.1
PI-SED307	4.1
PI-SED308	2.2
PI-SED309	1.0
PI-SED310	33
PI-SED311	0.3
PI-SED324	0.07
PI-SED325	0.08
PI-SED326	3.2
<b>MEAN CONC. (PPM)</b>	9.1
<b>SEDIMENT DEPOSIT 27</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED274	2.6
PI-SED275	5.8
PI-SED312	2.3
PI-SED313	1.1
PI-SED314	0.76
PI-SED315	0.96
PI-SED316	0.8
PI-SED317	1.0
PI-SED318	0.92
PI-SED319	1.2
PI-SED320	1.0
PI-SED321	0.96
PI-SED322	0.35
PI-SED323	0.75
PI-SED327	12
PI-SED328	26
<b>MEAN CONC. (PPM)</b>	3.7
<b>SEDIMENT DEPOSIT 28</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED329	0.41
PI-SED330	0.08
<b>MEAN CONC. (PPM)</b>	0.25
<b>SEDIMENT DEPOSIT 29</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED331	2.5
PI-SED332	1.1
<b>MEAN CONC. (PPM)</b>	1.8

NOTE: Numbers in italics represent non-detect results

**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 30</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED333	0.11
PI-SED334	0.4
PI-SED335	0.58
MEAN CONC. (PPM)	0.36
<b>SEDIMENT DEPOSIT 31</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED336	1.0
PI-SED337	1.0
PI-SED338	1.4
PI-SED339	3.3
PI-SED340	1.4
PI-SED341	1.8
PI-SED342	0.88
PI-SED343	0.22
PI-SED344	1.8
PI-SED345	1.2
MEAN CONC. (PPM)	1.4

NOTE: Numbers in italics represent non-detect results

**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 32</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED346	0.77
PI-SED347	1.2
PI-SED348	0.66
PI-SED349	0.46
PI-SED350	0.89
PI-SED351	0.61
PI-SED352	1.6
PI-SED353	0.36
PI-SED354	0.41
PI-SED355	1.7
PI-SED356	2.5
PI-SED357	0.82
PI-SED358	0.84
PI-SED359	0.55
PI-SED360	0.74
PI-SED361	0.86
PI-SED362	0.59
PI-SED363	1
PI-SED364	0.8
PI-SED365	0.44
PI-SED366	1.3
PI-SED367	0.44
PI-SED368	0.68
PI-SED369	0.58
PI-SED370	0.82
PI-SED371	0.46
PI-SED372	0.75
PI-SED373	0.64
PI-SED374	0.47
PI-SED375	0.65
PI-SED376	0.48
PI-SED377	0.24
PI-SED378	0.56
PI-SED379	0.2
PI-SED380	0.14
<b>MEAN CONC. (PPM)</b>	<b>0.75</b>

NOTE: Numbers in italics represent non-detect results

**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 33A</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED381	0.49
PI-SED382	0.53
PI-SED383	0.06
PI-SED384	0.003
PI-SED385	1.4
PI-SED386	0.05
PI-SED387	0.19
PI-SED388	0.53
PI-SED389	0.52
PI-SED390	0.64
PI-SED391	0.18
PI-SED392	2.1
PI-SED393	0.7
PI-SED394	0.96
PI-SED395	1.6
PI-SED396	1.7
PI-SED397	0.52
<b>MEAN CONC. (PPM)</b>	<b>0.72</b>
<b>SEDIMENT DEPOSIT 33C</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED398	5.2
PI-SED399	1.8
PI-SED400	23
PI-SED401	6.9
PI-SED402	4.3
PI-SED403	12
PI-SED404	3.4
PI-SED405	12
PI-SED406	0.95
PI-SED407	13
PI-SED408	1.3
PI-SED409	2.1
PI-SED410	3.2
PI-SED411	3.5
PI-SED412	1.7
PI-SED413	0.97
<b>MEAN CONC. (PPM)</b>	<b>6.0</b>

NOTE: Numbers in italics represent non-detect results



**Table 2.2.2**  
**Sediment PCB Sample Results By Deposit Detail**  
*Sheboygan River and Harbor Superfund Site - Phase II*

<b>SEDIMENT DEPOSIT 33B</b>	
<i>SAMPLE ID NUMBER</i>	<i>PCB CONC. (PPM)</i>
PI-SED414	2.6
PI-SED415	<i>0.55</i>
PI-SED416	<i>0.43</i>
PI-SED417	3.2
PI-SED418	<i>0.21</i>
PI-SED419	<i>0.23</i>
PI-SED420	4.7
PI-SED421	0.97
PI-SED422	<i>0.025</i>
PI-SED423	0.9
PI-SED424	0.9
PI-SED425	1.8
PI-SED426	2.5
PI-SED427	<i>0.95</i>
PI-SED428	0.88
PI-SED429	0.35
PI-SED430	1.4
PI-SED431	<i>0.37</i>
PI-SED432	0.89
PI-SED433	0.81
PI-SED434	4.1
PI-SED435	0.56
PI-SED436	0.89
PI-SED437	0.84
PI-SED438	0.43
PI-SED439	<i>0.047</i>
PI-SED440	0.48
PI-SED441	0.62
PI-SED442	0.49
PI-SED443	0.77
PI-SED444	1.1
PI-SED445	0.51
PI-SED446	0.76
PI-SED447	0.87
PI-SED448	0.55
<b>MEAN CONC. (PPM)</b>	<b>1.1</b>

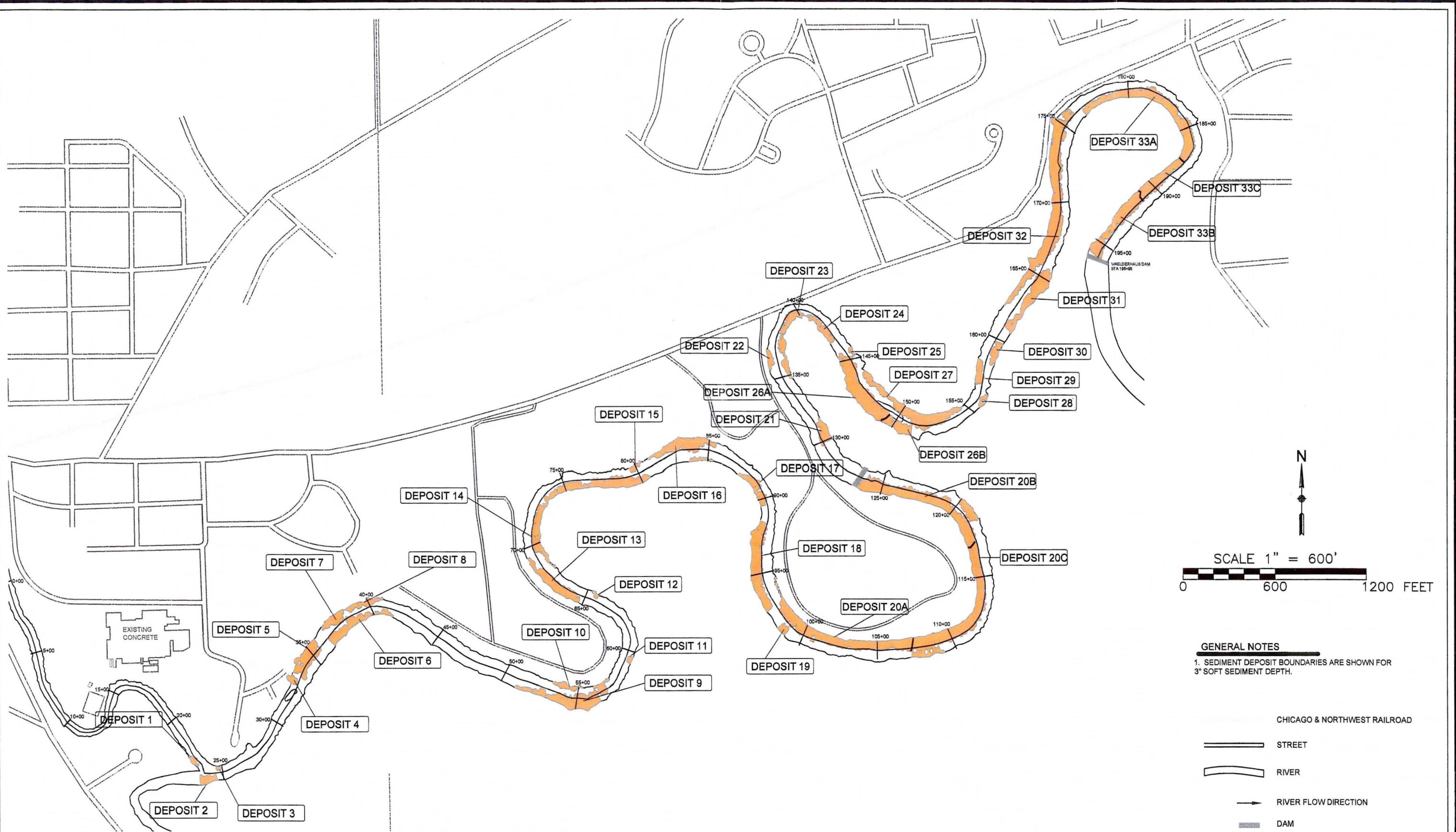
NOTE: Numbers in italics represent non-detect results

**Table 2.2.3**  
**Upper River Volumes and Concentrations By Deposit**  
*Sheboygan River and Harbor Superfund Site ~ Phase II*

Deposit Number	Begin Station	End Station	Volume (CY)	Average Concentration (PPM)
1	22+71	23+09	57	12
2	23+80	24+40	142	2.8
3	24+69	24+95	2.6	7.1
4	32+81	33+08	8.6	1.7
5	34+23	35+41	378	8.7
6	36+53	41+13	384	4.8
7	36+98	38+26	167	6.0
8	38+92	39+56	4.8	1.0
9	52+28	56+83	1530	2.6
10	53+67	55+00	2.6	1.2
11	59+40	59+55	6.0	2.6
12	64+41	64+48	1.0	1.2
13	65+35	68+99	591	53
14	69+12	80+28	1569	18
15	79+60	80+20	13	2.1
16	82+04	85+00	914	1.3
17	88+25	90+35	153	2.4
18	91+67	97+10	2489	8.2
19	98+62	98+83	38	2.29
20A	97+58	107+25	2305	2.2
20B	117+33	126+50	4093	1.5
20C	107+25	117+33	2589	5.9
21	130+00	131+07	215	2.2
22	136+03	136+59	26	0.64
23	135+64	140+43	640	1.5
24	140+97	143+31	312	2.5
25	144+50	144+61	1.5	2.7
26A	144+77	149+35	2932	3.8
26B	149+35	150+94	876	9.1
27	146+04	154+52	967	3.7
28	155+65	156+15	5.1	0.25
29	156+93	158+29	165	1.8
30	158+30	159+64	99	0.36
31	160+93	165+36	716	1.4
32	162+56	175+62	3031	0.75
33A	176+65	187+50	2777	0.72
33B	191+16	195+95	1465	6.0
33C	187+50	191+16	1443	1.1

Note:

1. PCB Mass calculated using a wet sediment density of 2676 lb/cy



**GENERAL NOTES**  
 1. SEDIMENT DEPOSIT BOUNDARIES ARE SHOWN FOR 3" SOFT SEDIMENT DEPTH.

- CHICAGO & NORTHWEST RAILROAD
- STREET
- RIVER
- RIVER FLOW DIRECTION
- DAM

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
0	UR SEDIMENT DEPOSIT INVESTIGATION	PRK	DPD	3/29/05

SEDIMENT DEPOSIT INVESTIGATION

ENGINEER SEAL

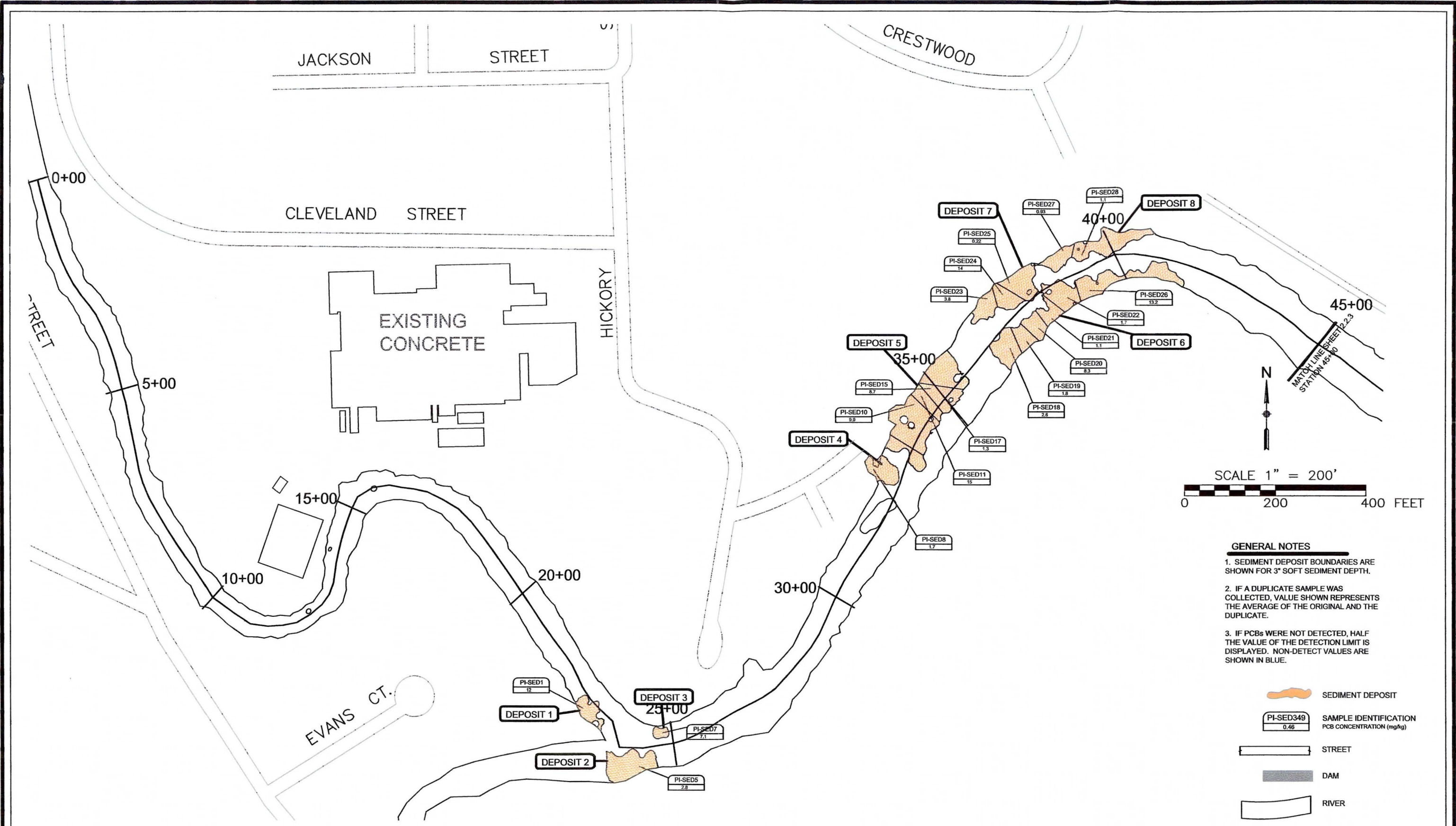
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PREPARED FOR:  
**SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE**  
 SHEBOYGAN FALLS, WISCONSIN

UPPER RIVER CHARACTERIZATION  
 SEDIMENT DEPOSITS AND LOCATIONS  
 PLAN VIEW

SCALE: 1" = 600'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 2.2.1



- GENERAL NOTES**
1. SEDIMENT DEPOSIT BOUNDARIES ARE SHOWN FOR 3" SOFT SEDIMENT DEPTH.
  2. IF A DUPLICATE SAMPLE WAS COLLECTED, VALUE SHOWN REPRESENTS THE AVERAGE OF THE ORIGINAL AND THE DUPLICATE.
  3. IF PCBs WERE NOT DETECTED, HALF THE VALUE OF THE DETECTION LIMIT IS DISPLAYED. NON-DETECT VALUES ARE SHOWN IN BLUE.

SEDIMENT DEPOSIT

SAMPLE IDENTIFICATION  
PCB CONCENTRATION (mg/kg)

STREET

DAM

RIVER

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
0	UR SEDIMENT DEPOSIT INVESTIGATION	PRK	DPD	3/29/05

SEDIMENT DEPOSIT INVESTIGATION

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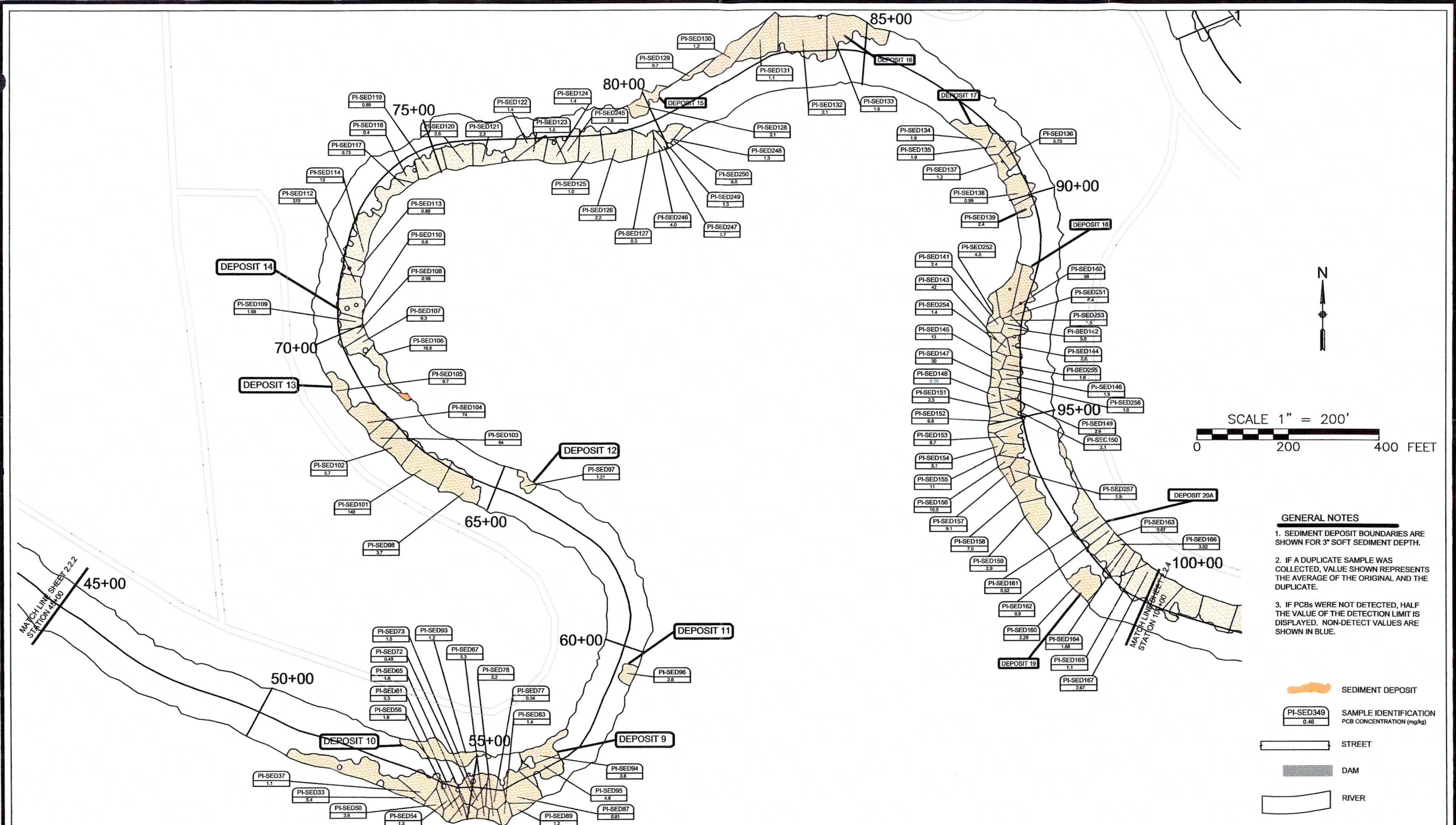
PREPARED FOR:

**SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE**

SHEBOYGAN FALLS, WISCONSIN

UPPER RIVER CHARACTERIZATION SAMPLE LOCATIONS  
STA 0+00 TO STA 45+00

SCALE: 1" = 200'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 2.2.2



- GENERAL NOTES**
1. SEDIMENT DEPOSIT BOUNDARIES ARE SHOWN FOR 3" SOFT SEDIMENT DEPTH.
  2. IF A DUPLICATE SAMPLE WAS COLLECTED, VALUE SHOWN REPRESENTS THE AVERAGE OF THE ORIGINAL AND THE DUPLICATE.
  3. IF PCBs WERE NOT DETECTED, HALF THE VALUE OF THE DETECTION LIMIT IS DISPLAYED. NON-DETECT VALUES ARE SHOWN IN BLUE.

SEDIMENT DEPOSIT

SAMPLE IDENTIFICATION  
PCB CONCENTRATION (mg/kg)

STREET

DAM

RIVER

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
0	UR SEDIMENT DEPOSIT INVESTIGATION	PRK	DPD	3/29/05

SEDIMENT DEPOSIT INVESTIGATION

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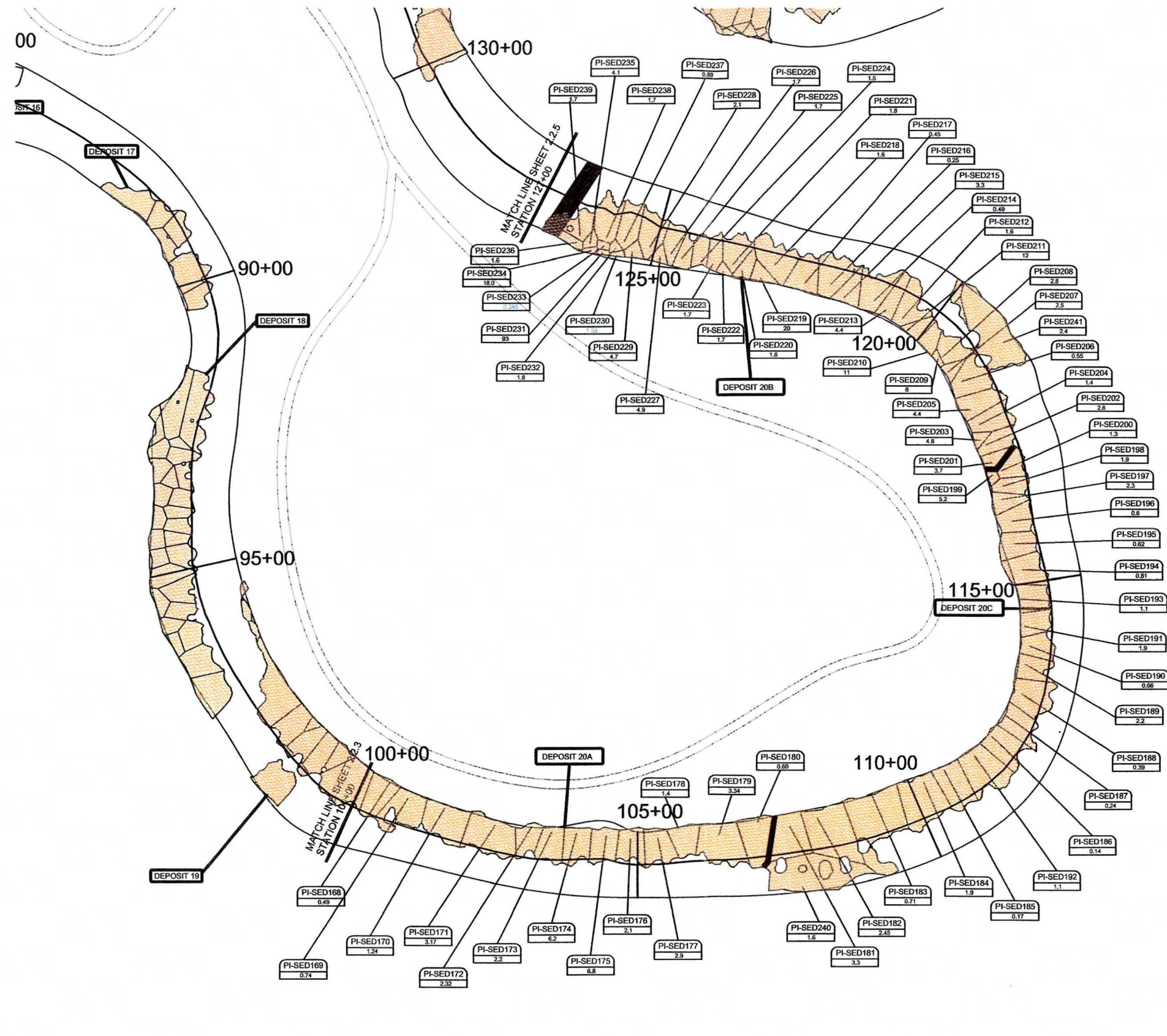
PREPARED FOR:

**SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE**



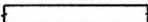


SHEBOYGAN FALLS, WISCONSIN

UPPER RIVER CHARACTERIZATION SAMPLE LOCATIONS  
STA 45+00 TO STA 100+00

SCALE: 1" = 200'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 2.2.3



- GENERAL NOTES**
1. SEDIMENT DEPOSIT BOUNDARIES ARE SHOWN FOR 3" SOFT SEDIMENT DEPTH.
  2. IF A DUPLICATE SAMPLE WAS COLLECTED, VALUE SHOWN REPRESENTS THE AVERAGE OF THE ORIGINAL AND THE DUPLICATE.
  3. IF PCBs WERE NOT DETECTED, HALF THE VALUE OF THE DETECTION LIMIT IS DISPLAYED. NON-DETECT VALUES ARE SHOWN IN BLUE.

 SEDIMENT DEPOSIT  
 SAMPLE IDENTIFICATION  
 PCB CONCENTRATION (mg/kg)  
 STREET  
 DAM  
 RIVER

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
0	UR SEDIMENT DEPOSIT INVESTIGATION	PRK	DPD	3/29/05

SEDIMENT DEPOSIT INVESTIGATION

ENGINEER SEAL

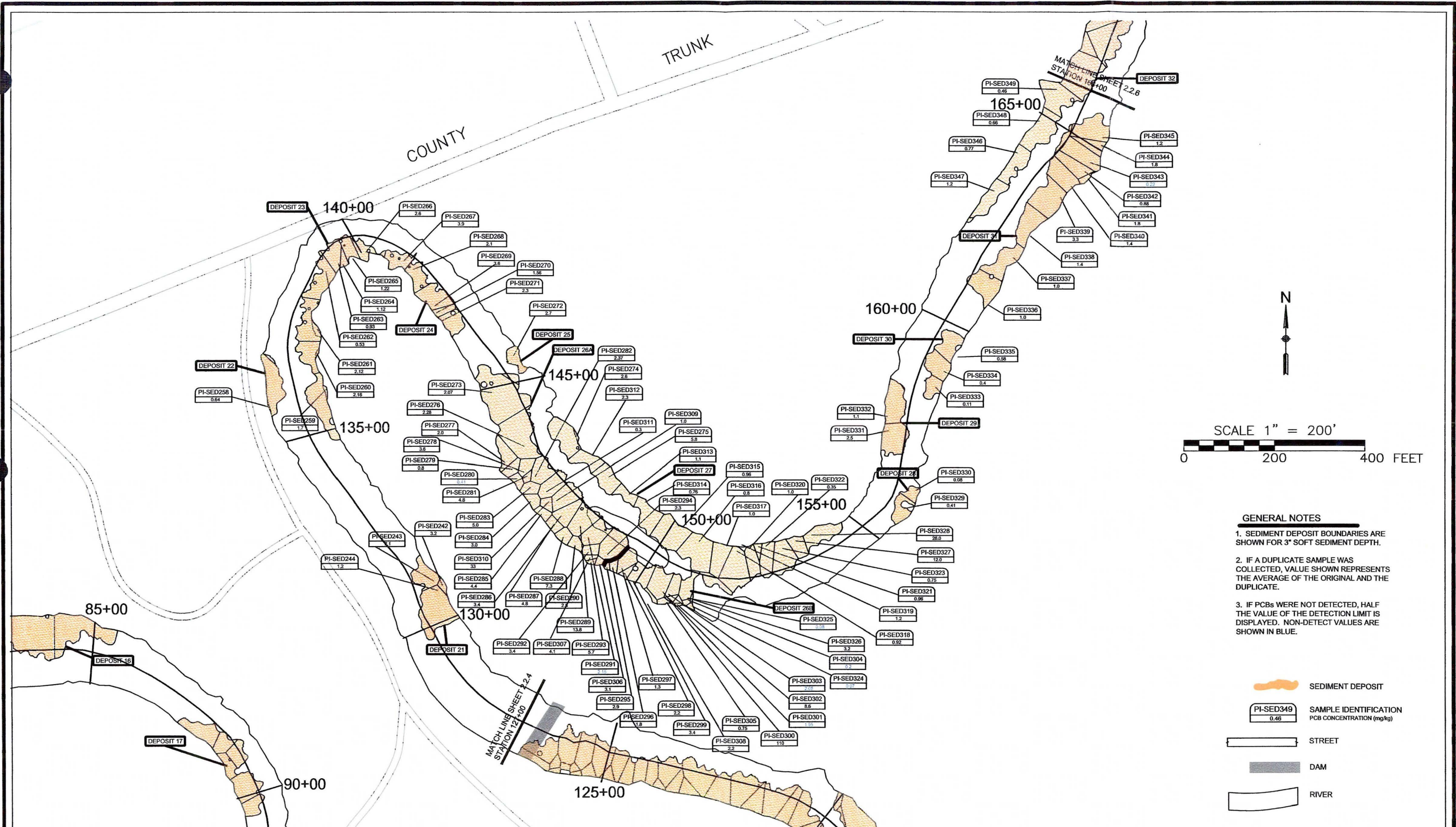
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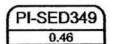



PREPARED FOR:  
**SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE**  
 SHEBOYGAN FALLS, WISCONSIN

UPPER RIVER CHARACTERIZATION  
 SAMPLE LOCATIONS  
 STA 100+00 TO STA 127+00

SCALE: 1" = 200'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 2.2.4



- GENERAL NOTES**
1. SEDIMENT DEPOSIT BOUNDARIES ARE SHOWN FOR 3" SOFT SEDIMENT DEPTH.
  2. IF A DUPLICATE SAMPLE WAS COLLECTED, VALUE SHOWN REPRESENTS THE AVERAGE OF THE ORIGINAL AND THE DUPLICATE.
  3. IF PCBs WERE NOT DETECTED, HALF THE VALUE OF THE DETECTION LIMIT IS DISPLAYED. NON-DETECT VALUES ARE SHOWN IN BLUE.

 SEDIMENT DEPOSIT  
 SAMPLE IDENTIFICATION  
 PCB CONCENTRATION (mg/kg)  
 STREET  
 DAM  
 RIVER

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
0	UR SEDIMENT DEPOSIT INVESTIGATION	PRK	DPD	3/29/05

SEDIMENT DEPOSIT INVESTIGATION

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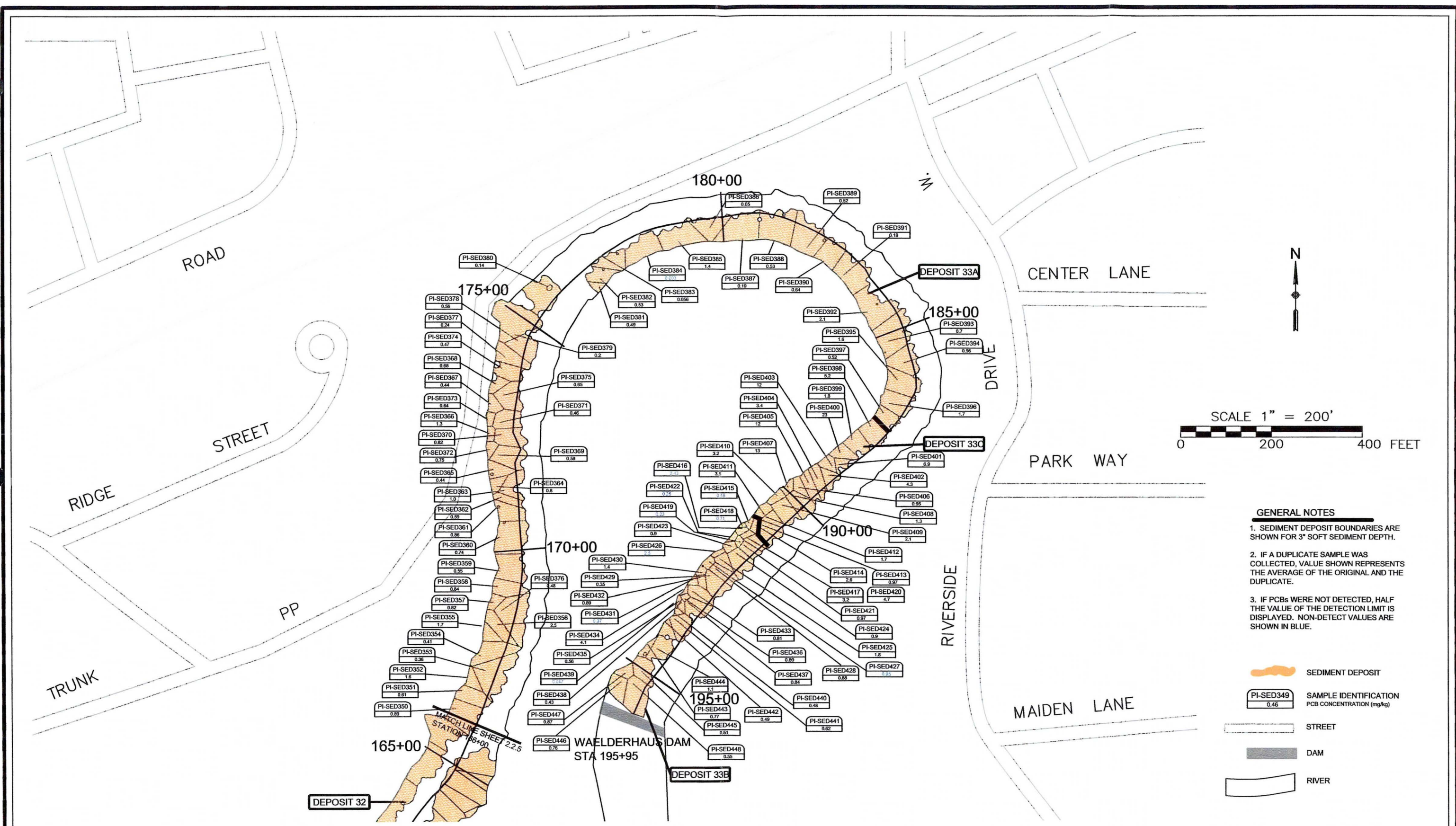


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
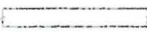


PREPARED FOR:  
**SHEBOYGAN RIVER AND HARBOR  
 SUPERFUND SITE**  
 SHEBOYGAN FALLS, WISCONSIN

UPPER RIVER CHARACTERIZATION  
 SAMPLE LOCATIONS  
 STA 127+00 TO STA 166+00

SCALE: 1" = 200'  
 REVISION: 0  
 PROJECT NUMBER:  
 02-010  
 SHEET NO:  
**2.2.5**



- GENERAL NOTES**
1. SEDIMENT DEPOSIT BOUNDARIES ARE SHOWN FOR 3" SOFT SEDIMENT DEPTH.
  2. IF A DUPLICATE SAMPLE WAS COLLECTED, VALUE SHOWN REPRESENTS THE AVERAGE OF THE ORIGINAL AND THE DUPLICATE.
  3. IF PCBs WERE NOT DETECTED, HALF THE VALUE OF THE DETECTION LIMIT IS DISPLAYED. NON-DETECT VALUES ARE SHOWN IN BLUE.


 SEDIMENT DEPOSIT  
 SAMPLE IDENTIFICATION  
 PCB CONCENTRATION (mg/kg)  
 STREET  
 DAM  
 RIVER

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
0	UR SEDIMENT DEPOSIT INVESTIGATION	PRK	DPD	3/29/05

SEDIMENT DEPOSIT INVESTIGATION

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PREPARED FOR:

**SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE**

SHEBOYGAN FALLS, WISCONSIN

UPPER RIVER CHARACTERIZATION  
SAMPLE LOCATIONS  
STA 166+00 TO STA 195+95

SCALE: 1" = 200'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 2.2.6



**Table 3.1**  
**Near-Shore Sediment Sample Results**  
*Sheboygan River and Harbor Superfund Site ~ Phase II*

SAMPLE ID	SAMPLE DEPTH (IN)	PCB CONC. (PPM)
ASD #1	0-1	0.3
ASD #2	0-1	<0.1
ASD #3	0-1	0.38
ASD #4	0-1	0.9
ASD #5	0-1	3.4
ASD #6	0-1	140
ASD #8	0-1	95
ASD #9	0-1	840
ASD #10	0-1	132
ASD #11	0-1	3.65
ASD #13	0-1	1.29
ASD #14	0-1	5
ASD #15	0-1	0.084
ASD #16	0-1	<0.088
ASD #17	0-1	0.54
ASD #18	0-1	2.4
ASD #19	0-1	0.079
ASD #20	0-1	3.2
ASD DUP	0-1	<0.087

←  
 ↓  
 ↓  
 ↓

*depth of sediment?  
 0 to 1"!*

Note:  
 Source of Data: Tecumseh External Source Assessment, Table 12 (BBL 1999)

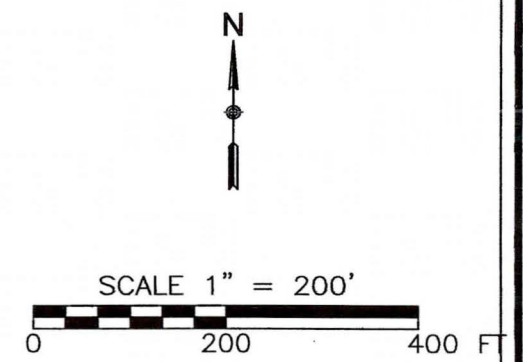
Wow!

**Table 3.2**  
**Near-Shore Sediment Volume and Concentration Table**  
*Sheboygan River and Harbor Superfund Site ~ Phase II*

NSS Sample Number	Area (SF)	Area Average Depth (ft)	Volume (CY)	Average Concentration (PPM)
ASD #6	1500.00	0.2	11.1	140
ASD #8	1500.00	0.2	11.1	95
ASD #9	1000.00	0.2	7.4	840
ASD #10	1000.00	0.2	7.4	132
<b>VOLUME AND MASS TOTALS:</b>			<b>37.04</b>	

Note:

Source of Data: Tecumseh External Source Assessment, Table 12 (BBL 1999)  
12 (BBL 1999)



- NOTES**
1. BASEMAP DEVELOPED FROM UNCORRECTED, UNCONTROLLED AERIAL PHOTOGRAPHS (1988) AND SHOULD BE CONSIDERED FOR PICTORIAL PURPOSES ONLY.
  2. RIVER WIDTH ILLUSTRATED ON THESE FIGURES IS REPRESENTATIVE OF SITE CONDITIONS ENCOUNTERED ON DATE OF SAMPLING.
  3. LOCATIONS AND DIMENSIONS OF SEDIMENT AREAS, PROBING POINTS, AND STRUCTURES ARE APPROXIMATE.

- LEGEND**
- ASD #11 NEAR-SHORE SEDIMENT SAMPLE
  - NEAR-SHORE SEDIMENT AREA
  - TYP. TYPICAL
  - AREA AS IDENTIFIED DURING 1987 RI ACTIVITIES (PICTORIAL ONLY, ACTUAL DIMENSIONS MAY NOT BE ACCURATE)

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
0	UR SEDIMENT DEPOSIT INVESTIGATION	PRK	DPD	3/29/05

SEDIMENT DEPOSIT INVESTIGATION

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PREPARED FOR:  
**SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE**  
 SHEBOYGAN FALLS, WISCONSIN

UPPER RIVER CHARACTERIZATION  
 NEAR SHORE SEDIMENT  
 SAMPLE LOCATIONS

SCALE: 1" = 200'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 3.1

**Table 4.1**  
**Armored Area Sediment Sample Results**  
*Sheboygan River and Harbor Superfund Site ~ Phase II*

Deposit Number	SAMPLE ID	PCB Concentration (PPM)
1	A-17-19	295
2	A-2-3-8	26.5
2	A2-9/10	136
2	A2-12	7.7
3	A3-1/2	148
4	A4-1-4	63
5A	R-5	59
7	Cap/Armor Port	36
8	R-207	23.4
10	R-208	208
11	R-8	0.4
11	R-209	75.4

*Based on table 3.1 I'd say the armor is failing!*

**Note:**

Source of Data: Feasibility Study Report, Table D-2 (ASRI Removal Sampling) (BBL 1998)

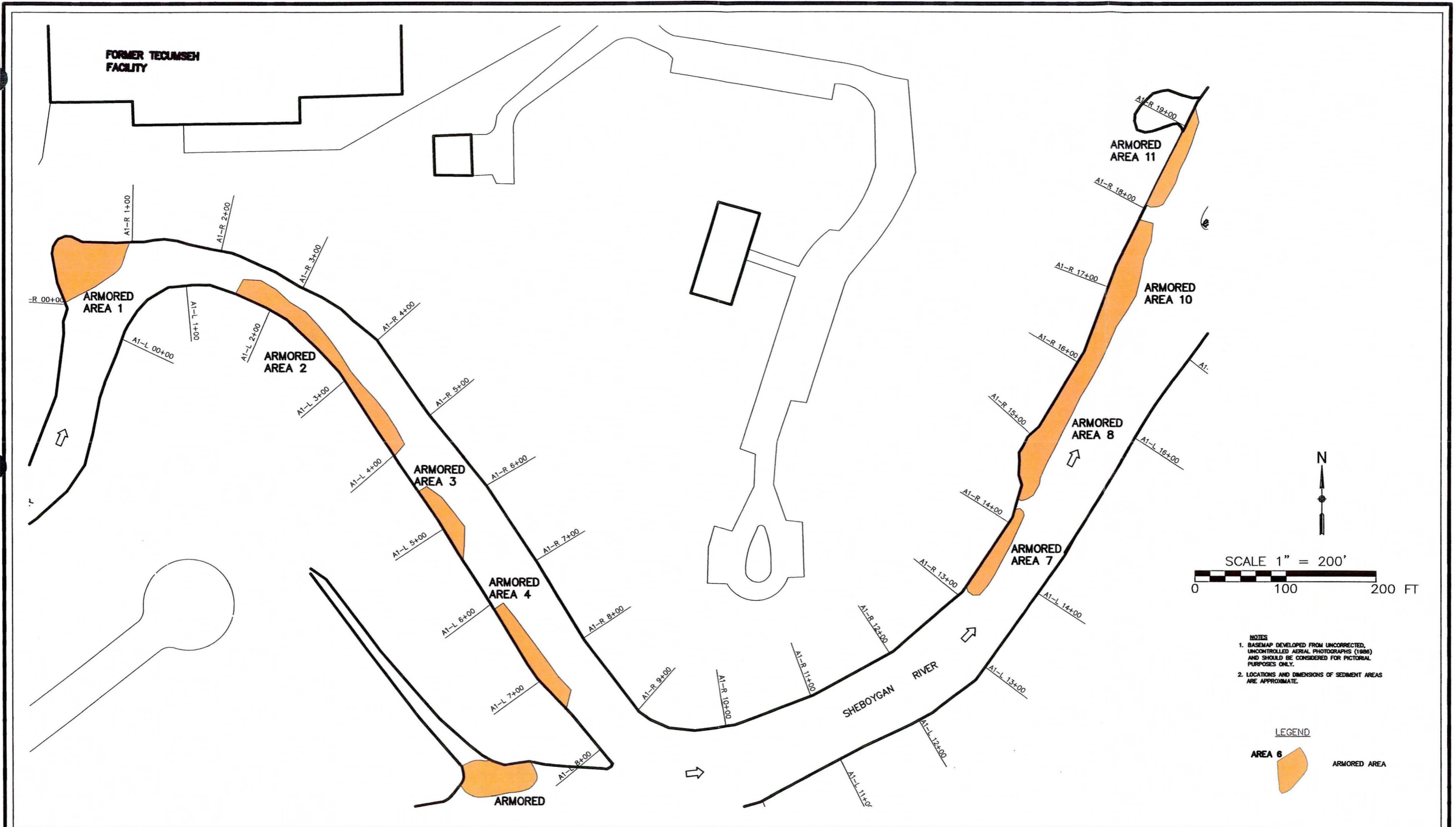
PCB concentrations represent sediments located under the armor

**Table 4.2**  
**Armored Area Volume and Concentration Table**  
*Sheboygan River and Harbor Superfund Site ~ Phase II*

Deposit Number	Volume (CY)	Average Concentration (ppm)	Total Volume Including Armor (CY)
1	25.9	295	263
2	13.9	56.7	47.5
3	3.3	148	34.2
4	11.1	63	80.2
5A	291.7	59	486
7	15	36	59.8
8	111.1	23	205
10	259.3	208	501
11	151.1	37.9	241
<b>VOLUME &amp; MASS TOTALS:</b>		<b>882.4</b>	<b>1917</b>

Note:

Source of Data: Feasibility Study Report, Tables 2-2 and D-2 (BBL 1999)



NOTES  
 1. BASEMAP DEVELOPED FROM UNCORRECTED, UNCONTROLLED AERIAL PHOTOGRAPHS (1986) AND SHOULD BE CONSIDERED FOR PICTORIAL PURPOSES ONLY.  
 2. LOCATIONS AND DIMENSIONS OF SEDIMENT AREAS ARE APPROXIMATE.

LEGEND  
 AREA 6 ARMORED AREA

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
0	UR SEDIMENT DEPOSIT INVESTIGATION	PRK	DPD	3/29/05

SEDIMENT DEPOSIT INVESTIGATION

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PREPARED FOR:  
**SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE**  
 SHEBOYGAN FALLS, WISCONSIN

UPPER RIVER CHARACTERIZATION  
 ARMORED AREA  
 PLAN VIEW

SCALE: 1" = 100'
REVISION: 0
PROJECT NUMBER: 02-010
SHEET NO: 4.1

**Table 5.1**  
**Summary of PCB Data**  
*Sheboygan River and Harbor Superfund Site - Phase II*

*Plants etc*  
↓

Deposit	Average Concentration	Sediment Volume (CY)
<b>NEAR-SHORE SEDIMENTS</b>		
ASD #6	140	11.1
ASD #8	95	11.1
ASD #9	840	7.4
ASD #10	132	7.4
<b>ARMORED AREAS</b>		
Armored Area 1	295	25.9
Armored Area 2	56.7	13.9
Armored Area 3	148	3.3
Armored Area 4	63	11.1
Armored Area 5A	59	292
Armored Area 7	36	15.0
Armored Area 8	23.4	111
Armored Area 10	208	259
Armored Area 11	37.9	151
<b>SEDIMENT DEPOSITS</b>		
1	12	57.4
2	2.8	142
3	7.1	2.6
4	1.7	8.6
5	8.7	378
6	4.8	384
7	6.0	167
8	1.0	4.8
9	2.6	1530
10	1.2	2.6
11	2.6	6.0
12	1.2	1.0
13	53	591
14	18	1569
15	2.1	13.3
16	1.3	914
17	2.4	153
18	8.2	2489
19	2.29	37.9
20A	2.2	2305
20B	1.5	4093
20C	5.9	2589
21	2.2	215
22	0.64	26.3
23	1.5	640
24	2.5	312
25	2.7	1.5
26A	3.8	2932
26B	9.1	876
27	3.7	967
28	0.25	5.1
29	1.8	165
30	0.36	98.8
31	1.4	716
32	0.75	3031
33A	0.72	2777
33B	6.0	1465
33C	1.1	1443
<b>VOLUME TOTAL:</b>		<b>34027</b>

Note:

Volume of armoring materials are not included in the volumes of the armored areas in this table.

*Down to Waelderhaus Dam* ↑