
REGION 5 RAC2

REMEDIAL ACTION CONTRACT FOR

Remedial, Enforcement Oversight, and
Non-Time Critical Removal Activities at Sites of Release
or Threatened Release of Hazardous Substances in Region 5

BASIS OF DESIGN REPORT—DRAWINGS LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AOC

Prefinal Remedial Design
Sheboygan, WI

WA No. 150-RDRD-1507/Contract No. EP-S5-06-01

February 2012

PREPARED FOR

U.S. Environmental Protection Agency



PREPARED BY

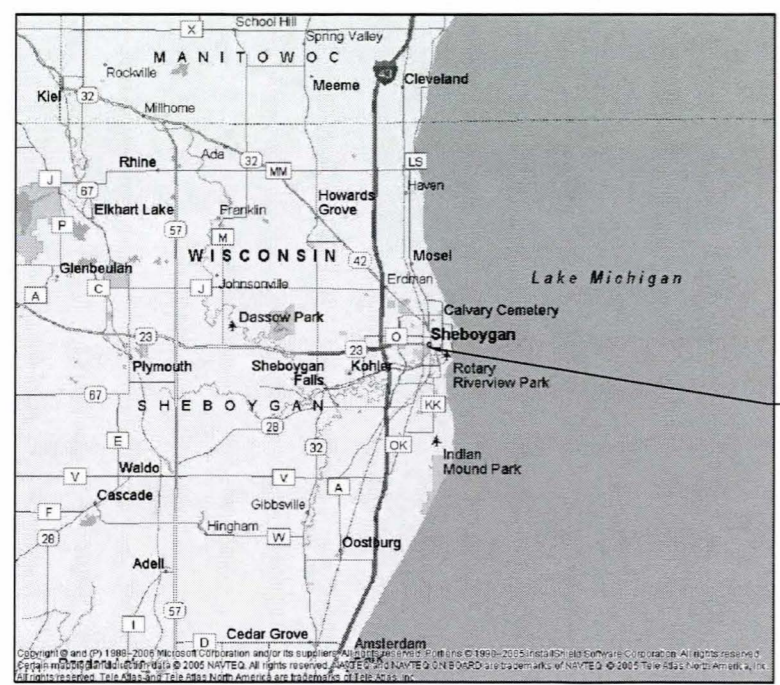
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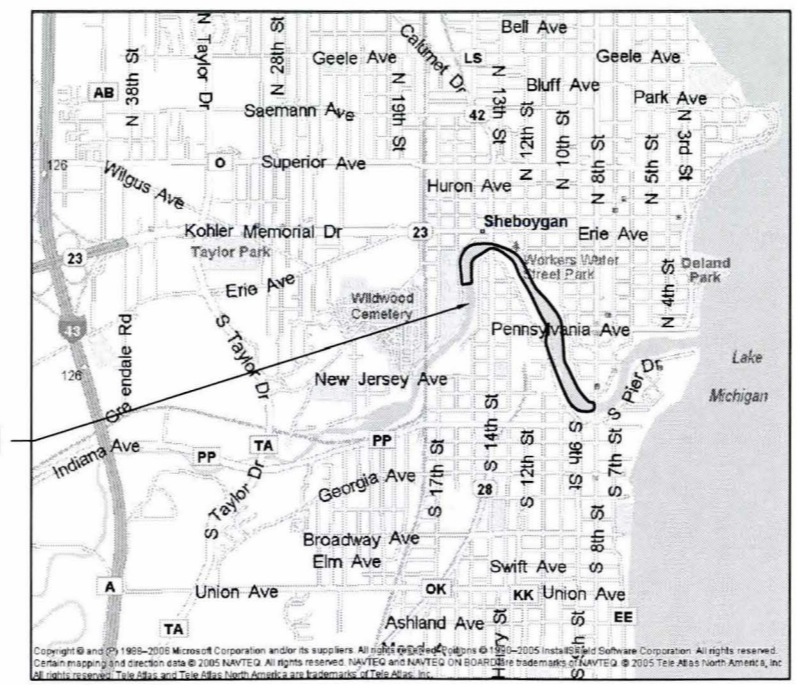
LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN

US ENVIRONMENTAL PROTECTION AGENCY
SHEBOYGAN, WISCONSIN

WORK ASSIGNMENT NO 150-RDRD-1507, CONTRACT NO EP-S5-06-01
FEBRUARY 2012



PROJECT LOCATION



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TITLE, LOCATION AND INDEX			
LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN		US ENVIRONMENTAL PROTECTION AGENCY SHEBOYGAN, WISCONSIN	
DATE	FEBRUARY 2012	PROJ	422259
DWG	G-001	SHEET	1 of 18
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"			
PRE-FINAL DESIGN			
DATE	FEBRUARY 2012	PROJ	422259
DWG	G-001	SHEET	1 of 18
NO.	DATE	REVISION	BY
DSGN		CHK	APVD
DR		CHK	APVD
H. RADDEMANN		D. SCHAUER	W. ANDRAE

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ABBREVIATIONS

@	AT	E	EAST	MATL	MATERIAL	S	SOUTH
AB	ANCHOR BOLT	E	EXTERNAL	MAU	MAKE UP AIR UNIT	SA	SUPPLY AIR
ABDN	ABANDONED	EA	EACH	MAX	MAXIMUM	SAT	SUSPENDED ACOUSTICAL TILE
AC	ACRE	ELB	ELBOW	MB	MACHINE BOLT	SCHED	SCHEDULE
ACBD	ACOUSTICAL BOARD	EC	ELECTRIC CONVECTOR	MCC	MOTOR CONTROL CENTER	SD	SOAP DISPENSER OR SLOT DIFFUSER
ACCU	AIR-COOLED CONDENSING UNIT	ECC	ECCENTRIC	MD	MOTORIZED DAMPER	SECT	SECTION
ACST	ACOUSTICAL TILE	EDH	ELECTRIC DUCT HEATER	MECH	MECHANICAL	SG	SAFETY GLASS
ACT	ACOUSTICAL	EF	EACH FACE OR EXHAUST FAN	MFR	MANUFACTURER	SH	SHEET
ACU	AIR CONDITIONING UNIT	EFL	EFFLUENT	MGD	MILLION GALLONS PER DAY	SHTG	SHEETING
AD	AREA DRAIN	EL	ELEVATION	MG/L	MILLIGRAMS PER LITER	SIM	SIMILAR
ADDL	ADDITIONAL	ELEC	ELECTRICAL	MH	MANHOLE	SLV	SHORT LEG VERTICAL
ADJ	ADJACENT	EQL	EQUAL	MIN	MINIMUM	S.O.	SHUTOFF
AHR	ANCHOR	EQL SP	EQUALLY SPACED	MISC	MISCELLANEOUS	SPEC	SPECIFIED
AHU	AIR HANDLING UNIT	EQPT	EQUIPMENT	MO	MASONRY OPENING	SPECS	SPECIFICATIONS
AL	ALUMINUM	EW	EACH WAY	MON	MONUMENT	SPG	SPACING
ALTN	ALTERNATE	EXA	EXHAUST AIR	MTG	MOUNTING	SQ	SQUARE
ANOD	ANODIZED	EXP JT	EXPANSION JOINT	MTL	METAL	SST, SS	STAINLESS STEEL
APPROX	APPROXIMATE	EXT	EXTERIOR	MTRG	METERING	STA	STATION
APVD	APPROVED	EXST	EXISTING			STD	STANDARD
ARCH	ARCHITECTURAL			N	NORTH	STIF	STIFFENER
ARD	ACID RESISTANT DRAIN	FAB	FABRICATION	NAD	NORTH AMERICAN DATUM	STOR	STORAGE
ASSY	ASSEMBLY	F FL EL	FINISHED FLOOR ELEVATION	NAVD	NORTH AMERICAN VERTICAL DATUM	STR	STRAIGHT
ASU	AIR SUPPLY UNIT	FACIL	FACILITY	NIC	NOT IN CONTRACT	STRUCT	STRUCTURAL
AVG	AVERAGE	FC	FLEXIBLE CONNECTION	NO.	NUMBER	STL	STEEL
		FCA	FLANGED COUPLING ADAPTER	NOM	NOMINAL	SYMM	SYMMETRICAL
		FCTY, FACT.	FACTORY	NORM	NORMAL		
BC	BOOSTER HEATING COIL	FEXT	FIRE EXTINGUISHER	NRT	NATURAL RESOURCES TECHNOLOGY	T	TREAD OR TANGENT LENGTH
BETW	BETWEEN	FD	FLOOR DRAIN OR FIRE DAMPER	NTS	NOT TO SCALE	TAR	TRANSFER AIR REGISTER
BF	BOTTOM FACE	FDN	FOUNDATION			T&B	TOP AND BOTTOM
BG	LOW WALL GRILLE	FLEX	FLEXIBLE	OA	OUTSIDE AIR	TC	TOP OF CONCRETE
BLDG	BUILDING	FLG	FLANGE	OC	ON CENTER	TCU	TERMINAL CONTROL UNIT
BM	BEAM	FLR	FLOOR	OD	OUTSIDE DIAMETER OR OVERFLOW DRAIN	TEMP	TEMPERED
BOD	BOTTOM OF DUCT	FNSH	FINISH	OF	OUTSIDE FACE	TF	TOP FACE
BOD 5	BIOCHEMICAL OXYGEN DEMAND (5 DAY TEST)	FTC	FIN TUBE CONVECTOR	O/H	OVERHEAD	TG	TONGUE AND GROOVE
				O TO O	OUT TO OUT	THK	THICK
BOT	BOTTOM	G	GAS	OPNG	OPENING	THRD	THREADED
BRG	BEARING	GA	GAUGE	OPP	OPPOSITE	T.O.	TOP OF
		GB	GRAB BAR			TPD	TONS PER DAY
CAB.	CABINET	GBD	GRAVITY BACKDRAFT DAMPER	PC	POINT OF CURVATURE	TPI	TURNOUT POINT OF INTERSECTION
C/C	CHLORINE CONTACT	GAL	GALLON	PE	POLYETHYLENE	TRANSV	TRANSVERSE
CD	CEILING DIFFUSER	GALV	GALVANIZED	PI	POINT OF INTERSECTION	TSCA	TOXIC SUBSTANCE CONTROL ACT
CEM PLAS	CEMENT PLASTER	GALVS	GALVANIZED STEEL	P&ID	PROCESS AND INSTRUMENTATION DIAGRAM	TSS	TOTAL SUSPENDED SOLIDS
CF	CEILING FAN	GIV	GRAVITY INTAKE VENTILATOR	PJF	PREMOLDED JOINT FILLER	TST	TOP OF STEEL
CG	CEILING GRILLE	GPD	GALLONS PER DAY	PL	PLATE	TTD	TOILET TISSUE DISPENSER
CHEM	CHEMICAL	GPM	GALLONS PER MINUTE	PLAM	PLASTIC LAMINATE	TW	TOP OF WALL
CHKD	CHECKERED	GRV	GRAVITY RELIEF VENTILATOR	PLYWD	PLYWOOD	TYP	TYPICAL
CFM	CUBIC FEET PER MINUTE	GUH	GAS UNIT HEATER	POC	POINT ON CURVE	UH	UNIT HEATER
CJ	CONSTRUCTION JOINT	GVL	GRAVEL	POT	POINT ON TANGENT	UON	UNLESS OTHERWISE NOTED
CISP	CAST IRON SOIL PIPE	GW	GROUNDWATER	PR	PAIR	V	VENT
CL	CENTER LINE	GWB	GYP SUM WALLBOARD	PRCST	PRECAST	VAT	VINYL ASBESTOS TILE
CL 2	CHLORINE	GYP PLAS	GYP SUM PLASTER	PS	PUMP STATION	VERT	VERTICAL
CLDI	CEMENT LINED DUCTILE IRON	H.A.S	HEADED ANCHOR STUD	PSF	POUNDS PER SQUARE FOOT	VCP	VITRIFIED CLAY PIPE
CLG	CEILING	HCR	HIGH CAPACITY REGISTER	PT	POINT OF TANGENCY	VD	VOLUME DAMPER
CLP	CLAY PIPE	HD	HUB DRAIN	PTD	PAPER TOWEL DISPENSER/RECEPTACLE	VOC	VOLATILE ORGANIC COMPOUND
CLR	CLEAR	HDR	HARDENER	PTD/R	PAPER TOWEL DISPENSER/RECEPTACLE	VTR	VENT THRU ROOF
CMP	CORRUGATED METAL PIPE	HGT	HEIGHT	PVC	POLYVINYL CHLORIDE OR	VWC	VINYL WALL COVERING
CMU	CONCRETE MASONRY UNITS	HORIZ	HORIZONTAL	PVI	POINT OF VERTICAL CURVATURE	W	WEST
COL	COLUMN	HM	HOLLOW METAL	PVMT	POINT OF VERTICAL INTERSECTION	W/	WITH
CONC	CONCRETE	HR	HOUR	PVT	POINT OF VERTICAL TANGENCY	WD	WOOD
CONN	CONNECTION	HTR	HIGH THROW REGISTER			WG	WIRE GLASS
CONST	CONSTRUCTION	HV	HOSE VALVE	QDRNT	QUADRANT	WH	WATER HEATER
CONT	CONTINUOUS	I&C	INSTRUMENTATION AND CONTROL			WNSA	WISCONSIN NAVAL SHIP ASSOCIATION
COR	CORNER	ID	INSIDE DIAMETER	R OR RAD	RADIUS OR RISER	WK	WEEK
CP	CONCRETE PIPE	IF	INSIDE FACE	RC	REINFORCED CONCRETE	WPSC	WISCONSIN PUBLIC SERVICE CORPORATION
CPLG	COUPLING	INFL	INFLUENT	RC	REINFORCED CONCRETE PIPE	WR	WATER RESISTANT GYPSUM
CPVC	CHLORINATED POLYVINYL CHLORIDE	INSTL	INSTALL	RD	ROOF DRAIN	WR	WASTE RECEPTACLE
CR	CEILING REGISTER	INSUL	INSULATION	RDCR	REDUCER	WS	WATER STOP OR WATER SURFACE
C TO C	CENTER TO CENTER	INVT	INVERT	REHAB	REHABILITATION/REHABILITATED	WSG	WALL SUPPLY GRILLE
CTR	CENTER	ITG	INSULATED TEMPERED GLASS	REINF	REINFORCE	WSR	WALL SUPPLY REGISTER
CTRD	CENTERED	JT	JOINT	REQD	REQUIRED	WWM	WELDED WIRE MESH
CU FT	CUBIC FEET	L	LENGTH OF CURVE	RESIL	RESILIENT		
CW	COMPLETE WITH	LB	POUNDS	RM	ROOM	XFMR	TRANSFORMER
Δ	CENTRAL ANGLE	LB/D	POUNDS PER DAY	RO	ROUGH OPENING	YR	YEAR
		LG	LONG	RR	REDUCER		
DBA	DEFORMED BAR ANCHOR	LLV	LONG LEG VERTICAL	RST	REINFORCING STEEL		
DBL	DOUBLE	LNTL	LONGITUDINAL				
DECHLOR	DECHLORINATION	LR	LONG RADIUS				
DEG °	DEGREE	LT	LIGHT				
DET	DETAIL						
DG	DOOR GRILLE						
DIA	DIAMETER						
DIAG	DIAGONAL						
DIM	DIMENSION						
DIP	DUCTILE IRON PIPE						
DIR	DIRECTION						
DISCH	DISCHARGE						
DS	DOWNSPOUT						
DN	DOWN						
DRWR	DRAWER						
DWG	DRAWING						
DWL	DOWEL						

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LOWER RIVER AND INNER HARBOR OF
THE SHEBOYGAN RIVER AREA OF CONCERN
US ENVIRONMENTAL PROTECTION AGENCY
SHEBOYGAN, WISCONSIN

GENERAL
ABBREVIATIONS

NOTES:
1. CONTACT THE ENGINEER FOR ABBREVIATIONS NOT LISTED.
2. THIS IS A STANDARD ABBREVIATION SHEET. SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET, BUT NOT ON THE PLANS.

VERIFY SCALE	
DATE	FEBRUARY 2012
PROJ	422259
DWG	G-002
SHEET	2 of 18

PRE-FINAL DESIGN

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CIVIL LEGEND

EXISTING	THIS CONTRACT	
\times 157.7	\otimes 158.5	SPOT ELEVATION
		CONTOUR LINE
	3:1	EMBANKMENT AND SLOPE
		DRAINAGEWAY OR DITCH
	CB OR \odot	CATCH BASIN OR INLET
		TRENCH DRAIN
		SIGN
	\odot OR \odot	MANHOLE
	\blacksquare E	ELECTRICAL MANHOLE
	\blacksquare H	ELECTRIC HANDHOLE
	\bullet	POST OR GUARD POST
	\rightarrow	GUY ANCHOR
		FIRE HYDRANT
	\bullet	UTILITY POLE
		LIGHT POLE
	\circ BM	BENCH MARK
	\triangle	SURVEY CONTROL POINT OR POINT OF INTERSECTION
		BRUSH/TREE LINE
		TREE
		PROPERTY LINE
		CENTER LINE, BUILDING, ROAD, ETC.
		STAGING OR WORK AREA LIMITS
N 1000.00 E 1000.00		STRUCTURE, BUILDING OR FACILITY LOCATION POINT - COORDINATES
\oplus B-1		BORING LOCATION AND NUMBER
\boxtimes TP-2		TEST PIT LOCATION AND NUMBER
∇ P-3		PIEZOMETER LOCATION AND NUMBER
		DEMOLITION
		STRUCTURE, BUILDING OR FACILITY
		ASPHALT CONCRETE PAVEMENT
		GRAVEL SURFACING
		CONCRETE PAVEMENT
		CURB
		CURB AND GUTTER
		SINGLE SWING GATE
		DOUBLE SWING GATE
		SLIDING GATE
		GUARD RAIL
		CHAIN LINK FENCE
		ARCHITECTURAL FENCE
		WIRE FENCE
		CULVERT
		BERM
		UNDERGROUND COMMUNICATIONS CABLE
		UNDERGROUND ELECTRIC

YARD PIPING LEGEND

EXISTING	THIS CONTRACT	
		NOMINAL PIPE DIAMETER
		PIPE USE IDENTIFICATION
		PIPING < 30" DIAMETER
		PIPING >= 30" DIAMETER
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		NON-FREEZE HOSE VALVE (V-X) X = NO. IN SPECIFICATIONS
		NON-FREEZE HOSE VALVE WITH HOSE RACK (V-X) X = NO. IN SPECIFICATIONS
		INDICATOR POST VALVE
		GATE VALVE AND VALVE BOX
		BUTTERFLY VALVE AND VALVE BOX
		PLUG VALVE AND VALVE BOX
		FLEXIBLE COUPLING
		90° ELBOW UP
		90° ELBOW DOWN
		BEND < 90° UP
		BEND < 90° DOWN
		CONCENTRIC REDUCER
		CAP OR PLUG
		CLEANOUT

EROSION CONTROL LEGEND

COVER PRACTICES	SYMBOL
TEMPORARY SEEDING	
MULCHING AND MATTING	
CLEAR PLASTIC COVERING	
BUFFER ZONES	
PERMANENT SEEDING AND PLANTING	
CONSTRUCTION ENTRANCE	
INTERCEPTOR DIKE	
INTERCEPTOR SWALE	
CHECK DAMS	
OUTLET PROTECTION / RIPRAP	
FILTER FENCE	
STRAW BALE BARRIER (BIOFILTER)	
SEDIMENT TRAP (OR SUMP)	
SEDIMENT POND OR BASIN	

THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS MAY APPEAR ON THIS SHEET AND NOT ON THE PLANS.

SECTION / DETAIL DESIGNATIONS LEGEND

ON DRAWING WHERE DETAIL IS CALLED OUT:		DETAIL NUMBER
ON DRAWING WHERE SECTION IS SHOWN:		DRAWING NUMBER WHERE DETAIL IS SHOWN
SECTION (LETTERS)	A	SCALE
DETAIL (NUMBERS)	1	SCALE

ON DRAWING WHERE ONLY A TITLE IS REQUIRED WITH NO REFERENCE (eg: ELEVATIONS)	DRAWING TITLE	SCALE
ON DRAWING WHERE SECTION CALLOUT CUT EXTENDS TO A FIXED LIMIT:		SECTION LETTER
ON DRAWING WHERE SECTION CALLOUT CUT EXTENDS THROUGHOUT ENTIRE SHEET:		DRAWING NUMBER WHERE SECTION IS SHOWN

DRAWING NUMBERING DESIGNATION LEGEND

	INDICATES DRAWING NUMBER
	INDICATES DISCIPLINE(S) OR CATEGORY:
C	= CIVIL
G	= GENERAL

STANDARD DETAILS DESIGNATION LEGEND

ON DRAWING WHERE STANDARD DETAIL IS CALLED OUT:	3125-130
ON DRAWING WHERE STANDARD DETAIL IS SHOWN:	3125-130

GENERAL NOTES:

- EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE DREDGING CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
- EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.
- HORIZONTAL DATUM: NORTH AMERICAN DATUM (NAD) 83 WISCONSIN STATE PLANE SOUTH ZONE.
- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM (NAVD) 88.
- LOW WATER DATUM (LWD) = 578 FT ABOVE MEAN SEA LEVEL.
- MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE DREDGING CONTRACTOR'S EXPENSE.
- STAGING AREA SHALL BE FOR PARKING, OFFICE TRAILERS, AND ON-SITE STORAGE OF MATERIALS.
- PROVIDE TEMPORARY FENCING AROUND THE STAGING AREA AS NECESSARY TO MAINTAIN SECURITY AT ALL TIMES.
- SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
- DREDGING CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION.
- DREDGING CONTRACTOR SHALL PREVENT EROSION MATERIALS FROM LEAVING THE SITE.
- DRAWING C-501 AND N-001 ARE CONCEPTUAL DIAGRAMS. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN AND CONSTRUCTION.

GENERAL YARD PIPING AND UTILITIES NOTES:

- EXISTING UTILITIES AS SHOWN IN THE DRAWINGS ARE APPROXIMATE AND MAY NOT BE ACCURATE. EXISTING UNDERGROUND UTILITIES ARE OBTAINED FROM AS-BUILTS AND FROM FIELD SURVEY. DREDGING CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION OF UTILITIES AND PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
- EXISTING PIPING AND EQUIPMENT ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW PIPING AND EQUIPMENT ARE SHOWN HEAVY-LINED.

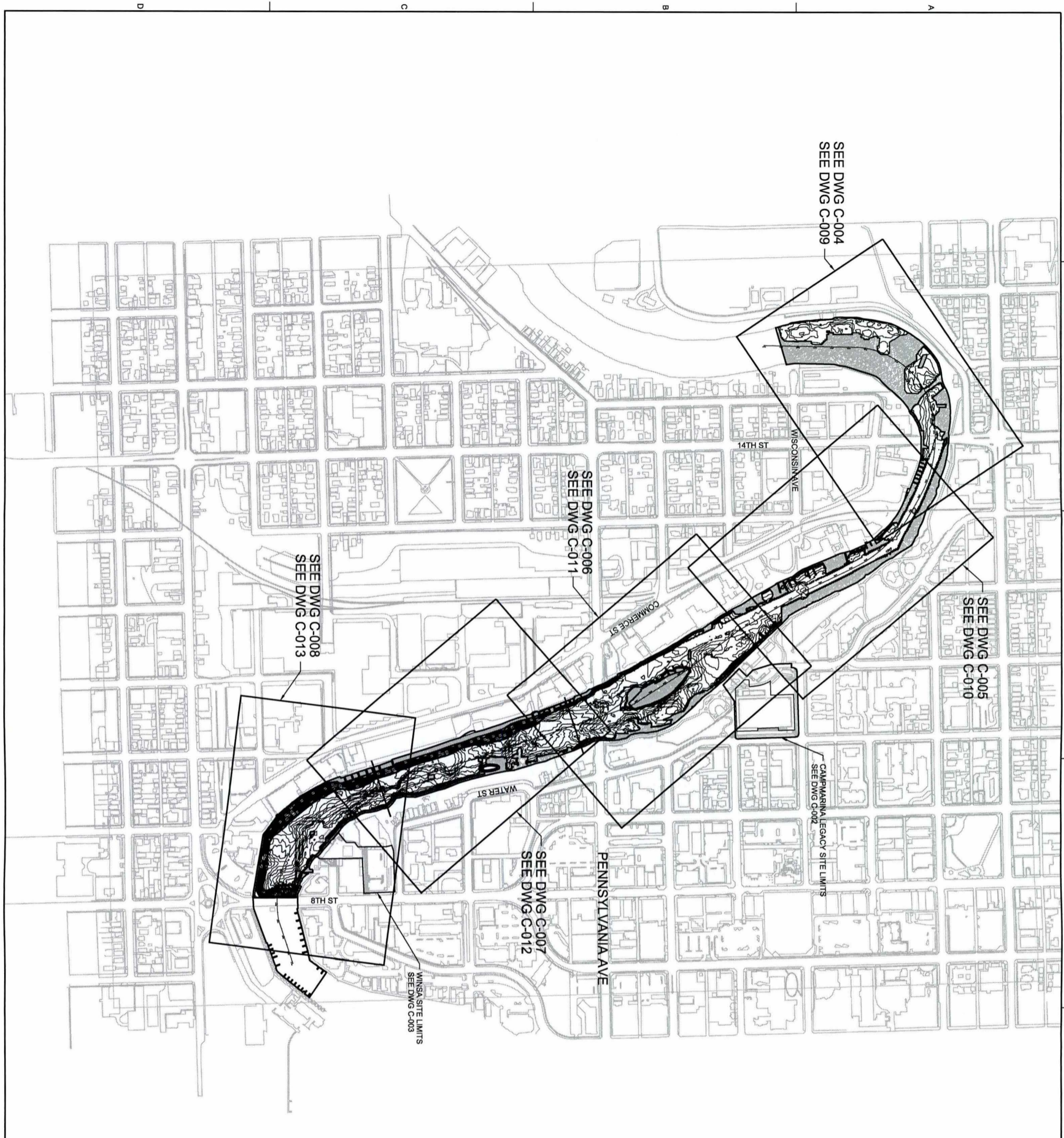
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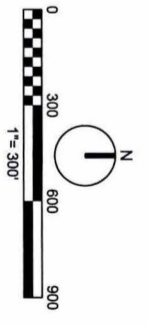
GENERAL	LEGEND
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VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2012
PROJ	422259
DWG	G-003
SHEET	3 of 18

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 D. SCHAUER, CHK
 W. ANDRAE, APVD



FILENAME: 005-C-001_422259.dgn PLOT DATE: 2012/02/14



VERIFY SCALE	DATE	FEBRUARY 2012
BASIS ONE INCH ON ORIGINAL DRAWING	PROJ	422259
0	DWG	C-007
1	SHEET	4 of 18
	PLOT TIME:	1:17:01 PM

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CIVIL
**DREDGING PLAN
 OVERALL SITE PLAN
 AND KEY PLAN**

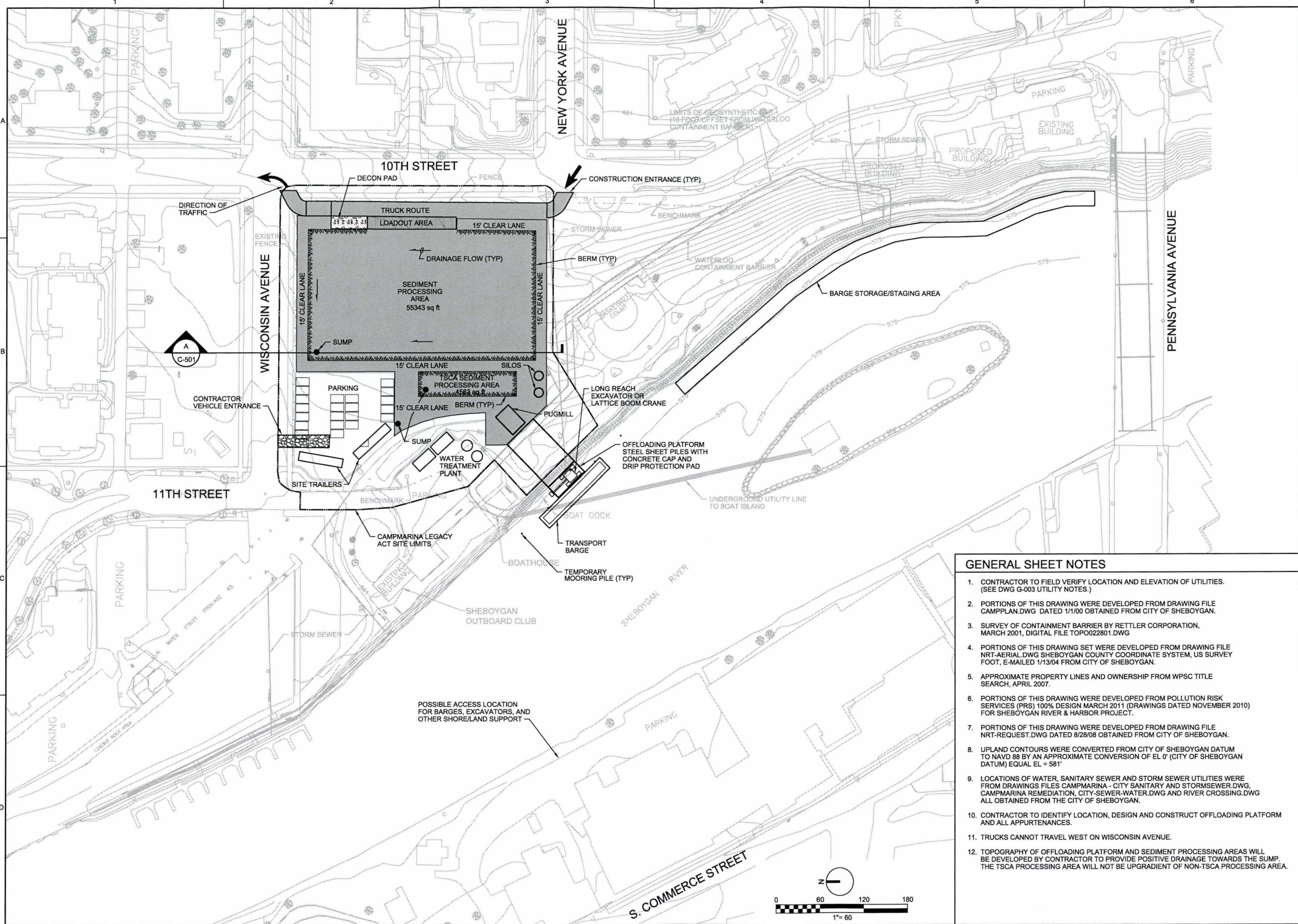
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 SHEBOYGAN, WISCONSIN

NO.	DATE	REVISION	BY	APVD
DSGN				
H RADDEMANN		DR	D SCHAUER	CHK
			W ANDRAE	APVD

PRE-FINAL DESIGN

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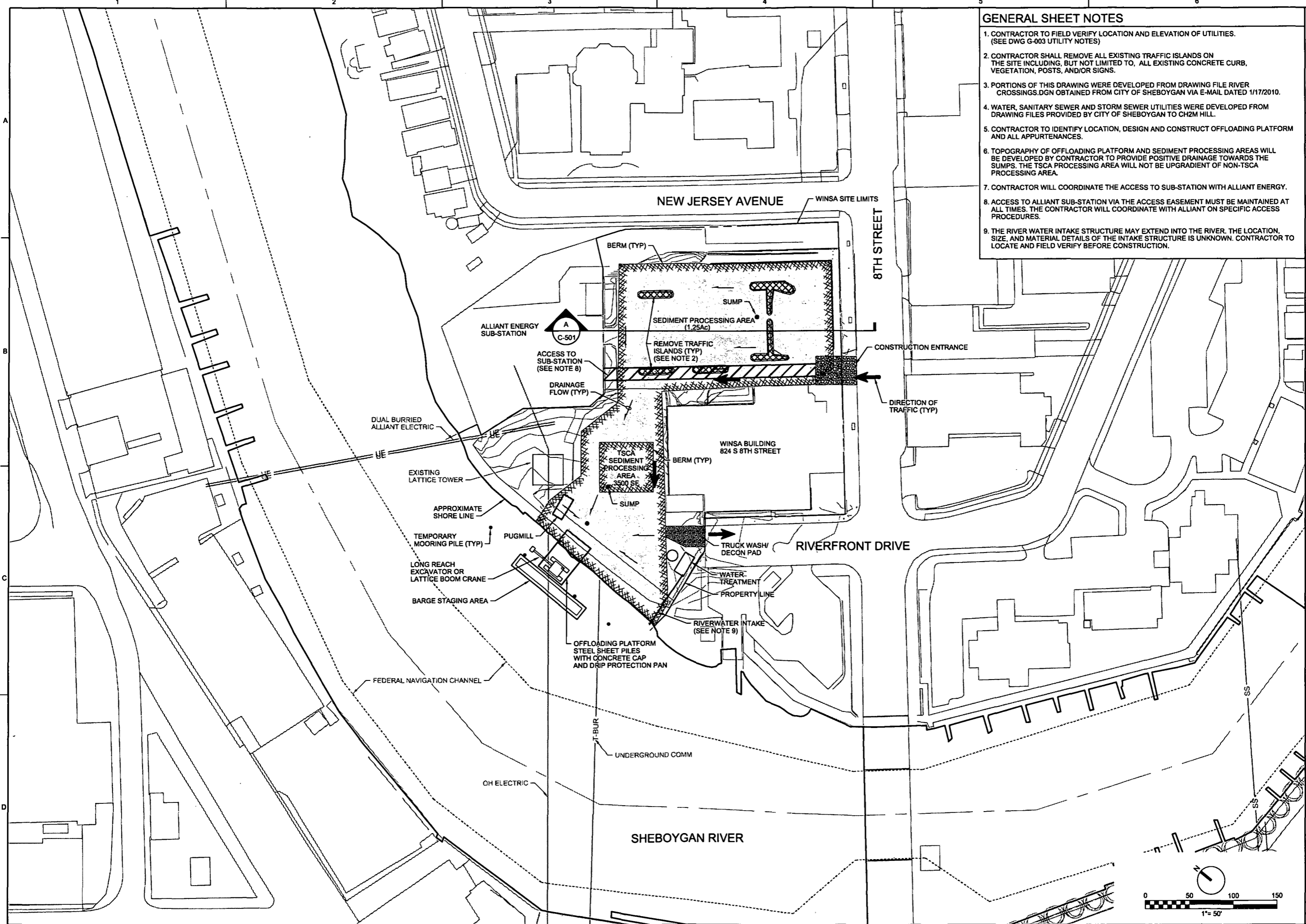
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GENERAL SHEET NOTES

- CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF UTILITIES. (SEE DWG G-003 UTILITY NOTES.)
- PORTIONS OF THIS DRAWING WERE DEVELOPED FROM DRAWING FILE CAMPPLAN.DWG DATED 1/1/00 OBTAINED FROM CITY OF SHEBOYGAN.
- SURVEY OF CONTAINMENT BARRIER BY RETTLER CORPORATION, MARCH 2001, DIGITAL FILE TOPO022801.DWG
- PORTIONS OF THIS DRAWING SET WERE DEVELOPED FROM DRAWING FILE NRT-AERIAL.DWG SHEBOYGAN COUNTY COORDINATE SYSTEM, US SURVEY FOOT, E-MAILED 1/13/04 FROM CITY OF SHEBOYGAN.
- APPROXIMATE PROPERTY LINES AND OWNERSHIP FROM WPSC TITLE SEARCH, APRIL 2007.
- PORTIONS OF THIS DRAWING WERE DEVELOPED FROM POLLUTION RISK SERVICES (PRS) 100% DESIGN MARCH 2011 (DRAWINGS DATED NOVEMBER 2010) FOR SHEBOYGAN RIVER & HARBOR PROJECT.
- PORTIONS OF THIS DRAWING WERE DEVELOPED FROM DRAWING FILE NRT-REQUEST.DWG DATED 8/28/08 OBTAINED FROM CITY OF SHEBOYGAN.
- UPLAND CONTOURS WERE CONVERTED FROM CITY OF SHEBOYGAN DATUM TO NAVD 88 BY AN APPROXIMATE CONVERSION OF EL 0' (CITY OF SHEBOYGAN DATUM) EQUAL EL = 58'1"
- LOCATIONS OF WATER, SANITARY SEWER AND STORM SEWER UTILITIES WERE FROM DRAWINGS FILES CAMPMARINA - CITY SANITARY AND STORMSEWER.DWG, CAMPMARINA REMEDIATION, CITY-SEWER-WATER.DWG AND RIVER CROSSING.DWG ALL OBTAINED FROM THE CITY OF SHEBOYGAN.
- CONTRACTOR TO IDENTIFY LOCATION, DESIGN AND CONSTRUCT OFFLOADING PLATFORM AND ALL APPURTENANCES.
- TRUCKS CANNOT TRAVEL WEST ON WISCONSIN AVENUE.
- TOPOGRAPHY OF OFFLOADING PLATFORM AND SEDIMENT PROCESSING AREAS WILL BE DEVELOPED BY CONTRACTOR TO PROVIDE POSITIVE DRAINAGE TOWARDS THE SUMP. THE TSCA PROCESSING AREA WILL NOT BE UPGRADIENT OF NON-TSCA PROCESSING AREA.

<p>LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN US ENVIRONMENTAL PROTECTION AGENCY SHEBOYGAN, WISCONSIN</p>		NO.	DATE	DR	REVISION	BY
		DSGN			CHK	APVD
<p>CIVIL CAMPMARINA CONCEPTUAL SITE DEVELOPMENT PLAN</p>		<p>REUSE OF DOCUMENTS: THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, WILL BE THE PROPERTY OF CH2MHILL AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CH2MHILL.</p>		<p>W. ANDRAE D. SCHAUER</p>		APVD
		<p>CH2MHILL.</p>		<p>H. RADEDMANN D. SCHAUER</p>		CHK
<p>VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"</p>		<p>DATE FEBRUARY 2012</p>		<p>PROJ 422259</p>		BY
<p>DWG C-002</p>		<p>PLOT DATE: 2012/02/14</p>		<p>PLOT TIME: 1:17:55 PM</p>		
<p>SHEET 5 of 18</p>		<p>FILENAME: 005-C-002_422259.dgn</p>		<p>PLOT DATE: 2012/02/14</p>		



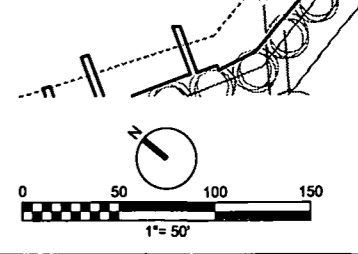
- GENERAL SHEET NOTES**
- CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF UTILITIES. (SEE DWG G-003 UTILITY NOTES)
 - CONTRACTOR SHALL REMOVE ALL EXISTING TRAFFIC ISLANDS ON THE SITE INCLUDING, BUT NOT LIMITED TO, ALL EXISTING CONCRETE CURB, VEGETATION, POSTS, AND/OR SIGNS.
 - PORTIONS OF THIS DRAWING WERE DEVELOPED FROM DRAWING FILE RIVER CROSSINGS.DGN OBTAINED FROM CITY OF SHEBOYGAN VIA E-MAIL DATED 1/17/2010.
 - WATER, SANITARY SEWER AND STORM SEWER UTILITIES WERE DEVELOPED FROM DRAWING FILES PROVIDED BY CITY OF SHEBOYGAN TO CH2M HILL.
 - CONTRACTOR TO IDENTIFY LOCATION, DESIGN AND CONSTRUCT OFFLOADING PLATFORM AND ALL APPURTENANCES.
 - TOPOGRAPHY OF OFFLOADING PLATFORM AND SEDIMENT PROCESSING AREAS WILL BE DEVELOPED BY CONTRACTOR TO PROVIDE POSITIVE DRAINAGE TOWARDS THE SUMPS. THE TSCA PROCESSING AREA WILL NOT BE UPGRADIENT OF NON-TSCA PROCESSING AREA.
 - CONTRACTOR WILL COORDINATE THE ACCESS TO SUB-STATION WITH ALLIANT ENERGY.
 - ACCESS TO ALLIANT SUB-STATION VIA THE ACCESS EASEMENT MUST BE MAINTAINED AT ALL TIMES. THE CONTRACTOR WILL COORDINATE WITH ALLIANT ON SPECIFIC ACCESS PROCEDURES.
 - THE RIVER WATER INTAKE STRUCTURE MAY EXTEND INTO THE RIVER. THE LOCATION, SIZE, AND MATERIAL DETAILS OF THE INTAKE STRUCTURE IS UNKNOWN. CONTRACTOR TO LOCATE AND FIELD VERIFY BEFORE CONSTRUCTION.

NO.	DATE	DR	REVISION	CHK	BY

LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN
 US ENVIRONMENTAL PROTECTION AGENCY
 SHEBOYGAN, WISCONSIN

CH2MHILL®
 CIVIL
**WINSA
 CONCEPTUAL SITE
 DEVELOPMENT PLAN**

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING
DATE	FEBRUARY 2012
PROJ	422259
DWG	C-003
SHEET	6 of 18



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 W. ANDRAE
 D. SCHAUER
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 PRE-FINAL DESIGN

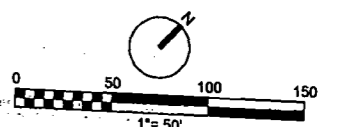
GENERAL SHEET NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF UTILITIES REGARDLESS AS SHOWN IN THE DRAWING.
2. ELEVATIONS ARE BASED ON NAVD 88.
3. LOCATION CONTROL POINTS WILL BE PROVIDED TO DREDGING CONTRACTOR IN ELECTRONIC FORMAT.
4. CONTRACTOR TO COORDINATE WITH PIER OWNERS FOR TEMPORARY RELOCATION OF THE PIERS.



LEGEND

- TSCA AREA
- NO DREDGE AREA



NO.	DATE	DR	REVISION	CHK	BY	APVD

CH2MHILL

DREDGING PLAN ELEVATION
STATION 10+00 TO STATION 26+00

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING
DATE	FEBRUARY 2012
PROJ	422259
DWG	C-004
SHEET	7 of 18

PRE-FINAL DESIGN

LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN
US ENVIRONMENTAL PROTECTION AGENCY
SHEBOYGAN, WISCONSIN

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W ANDRAE
D SCHAUER
H RADDEMANN

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NO.	DATE	DR	REVISION	BY	APVD

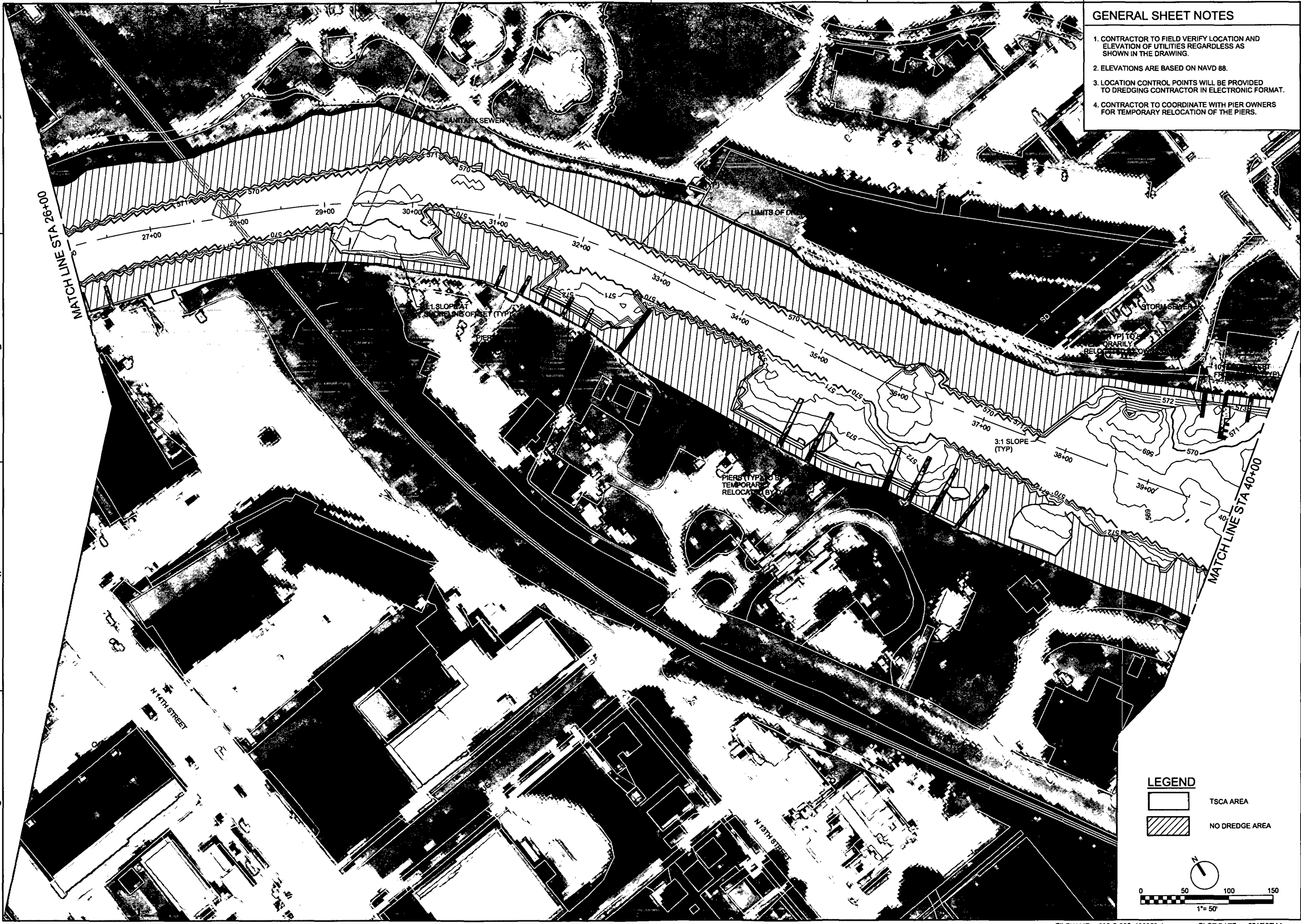
LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN
 US ENVIRONMENTAL PROTECTION AGENCY
 SHEBOYGAN, WISCONSIN

CH2MHILL.
 CIVIL
**DREDGING PLAN ELEVATION
 STATION 26+00 TO STATION 40+00**

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.
 DATE FEBRUARY 2012
 PROJ 422259
 DWG C-005
 SHEET 8 of 18

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PRE-FINAL DESIGN



LEGEND

[White Box] TSCA AREA

[Hatched Box] NO DREDGE AREA

0 50 100 150

1" = 50'

↑

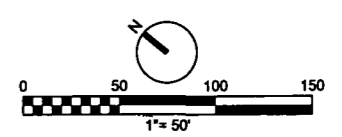
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LEGEND

[White Box] TSCA AREA

[Hatched Box] NO DREDGE AREA



NO.	DATE	DR	REVISION	CHK	BY

LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN
 US ENVIRONMENTAL PROTECTION AGENCY
 SHEBOYGAN, WISCONSIN

CH2MHILL.

CIVIL
**DREDGING PLAN ELEVATION
 STATION 40+00 TO STATION 52+00**

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"

DATE	FEBRUARY 2012
PROJ	422259
DWG	C-006
SHEET	9 of 18

GENERAL SHEET NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF UTILITIES REGARDLESS AS SHOWN IN THE DRAWING.
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4. CONTRACTOR TO COORDINATE WITH PIER OWNERS FOR TEMPORARY RELOCATION OF THE PIERS.

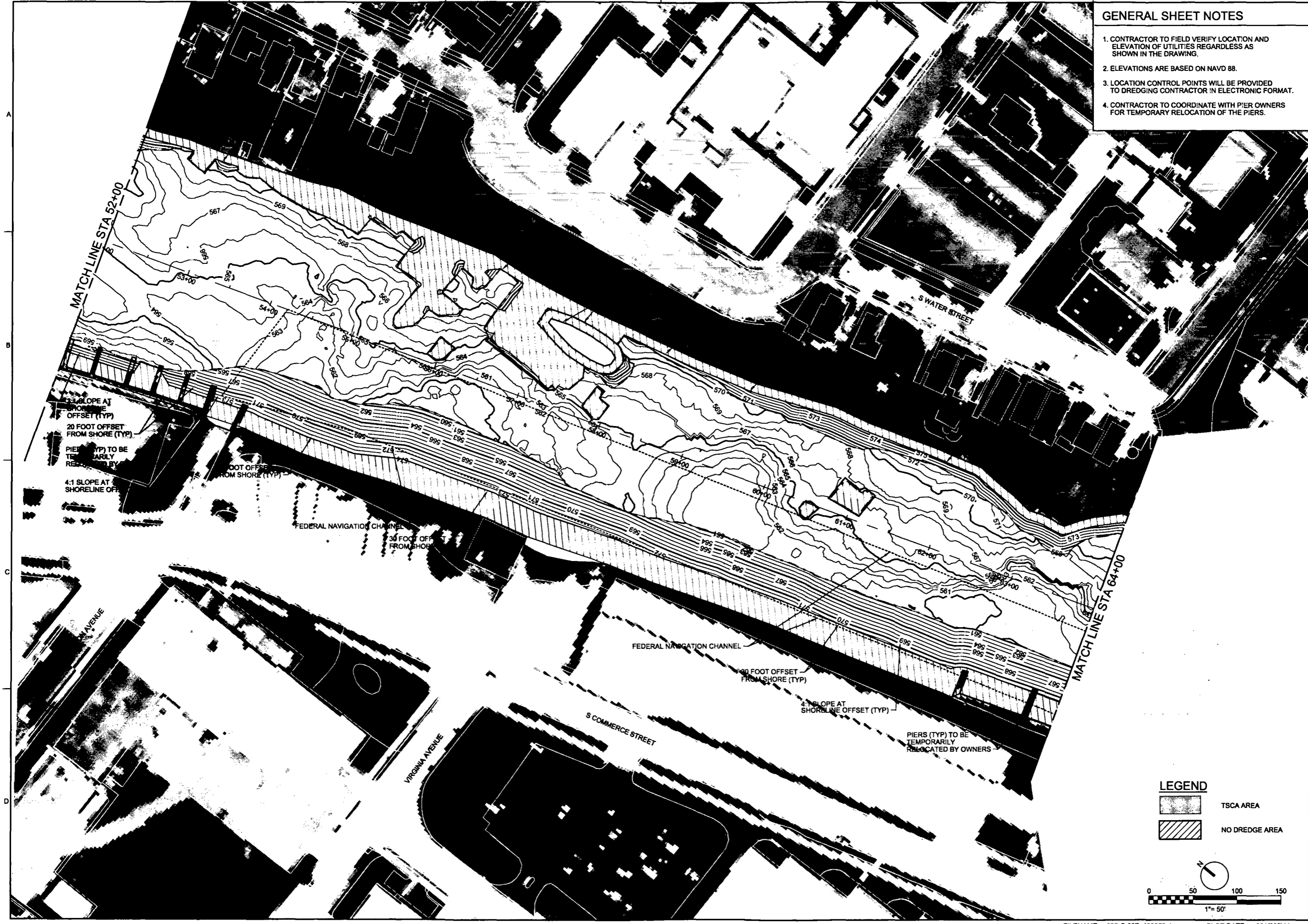
NO.	DATE	REVISION	BY

LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN
 US ENVIRONMENTAL PROTECTION AGENCY
 SHEBOYGAN, WISCONSIN

CH2MHILL
 CIVIL
**DREDGING PLAN ELEVATION
 STATION 52+00 TO STATION 64+00**

VERIFY SCALE	
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DATE	FEBRUARY 2012
PROJ	422259
DWG	C-007
SHEET	10 of 18

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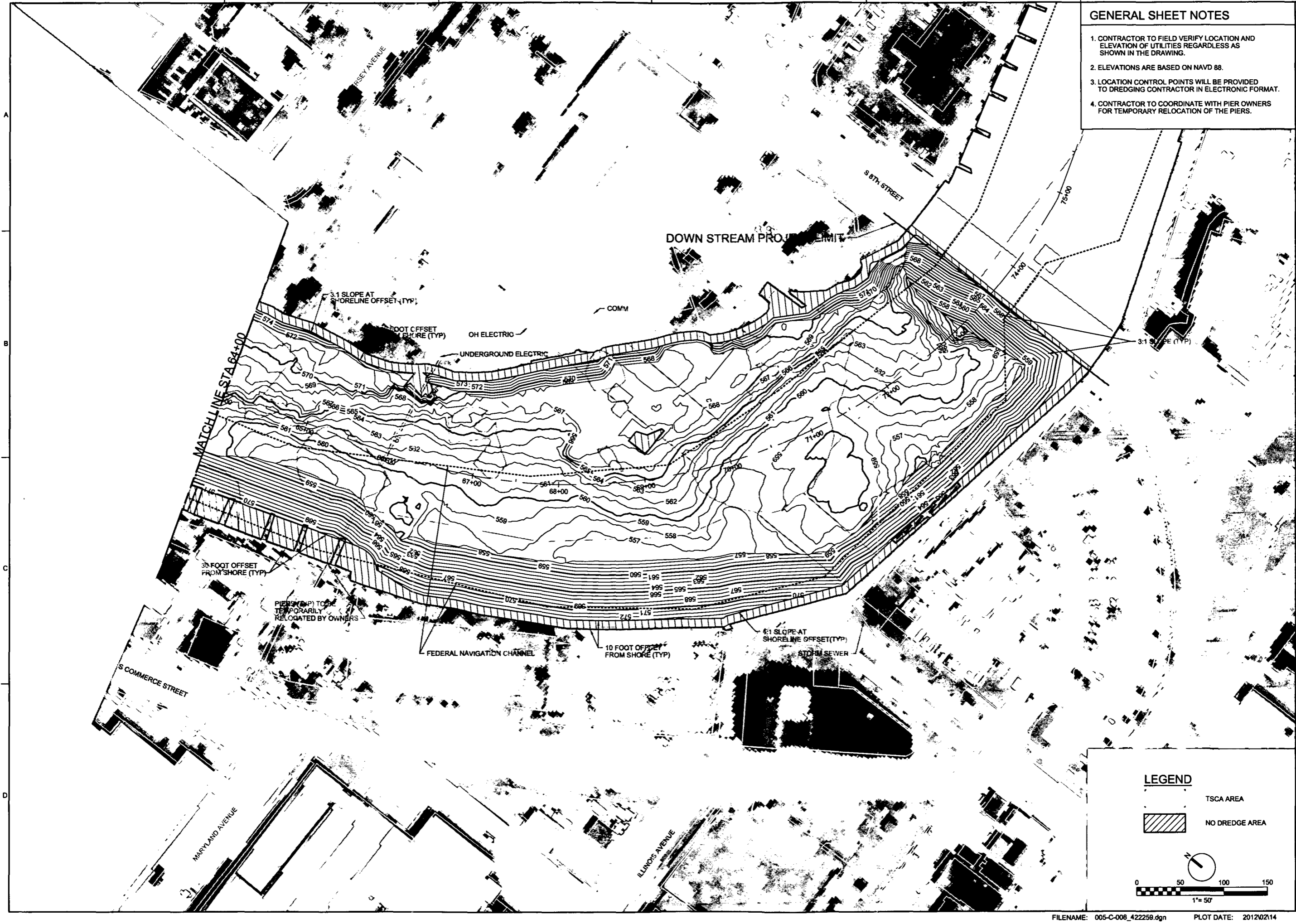
NO.	DATE	DR	REVISION	BY

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 US ENVIRONMENTAL PROTECTION AGENCY
 SHEBOYGAN, WISCONSIN

CH2MHILL
 CIVIL
**DREDGING PLAN ELEVATION
 STATION 64+00 TO STATION 75+00**

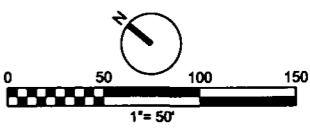
DATE	FEBRUARY 2012
PROJ	422258
DWG	C-008
SHEET	11 of 18

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LEGEND

- TSCA AREA
- NO DREDGE AREA



GENERAL SHEET NOTES

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NO.	DATE	DR	CHK	BY	APVD
		H. RADDEMANN	D. SCHAUER		W. ANDRAE

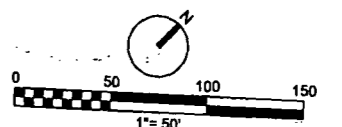
LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN
 US ENVIRONMENTAL PROTECTION AGENCY
 SHEBOYGAN, WISCONSIN

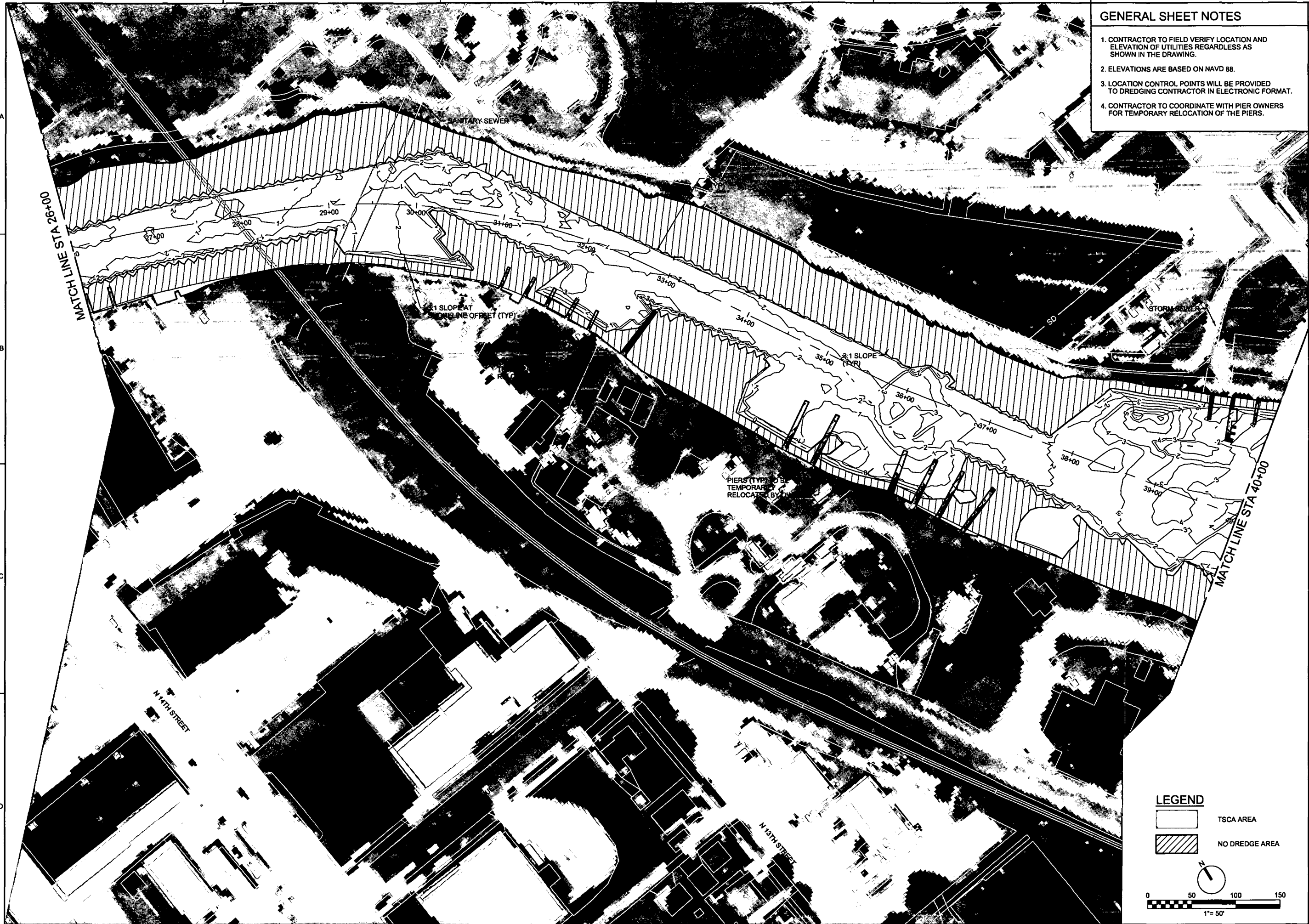
CH2MHILL
 CIVIL
DREDGING PLAN DEPTH OF CUT STATION 10+00 TO STATION 26+00

PRE-FINAL DESIGN

LEGEND

	TSCA AREA
	NO DREDGE AREA





GENERAL SHEET NOTES

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MATCH LINE STA 26+00

MATCH LINE STA 40+00

2:1 SLOPE AT
CORNER OF SET (TYP)

2:1 SLOPE
(TYP)

PIERS (TYPE) TO BE
TEMPORARILY
RELOCATED BY

N 4TH STREET

N 10TH STREET

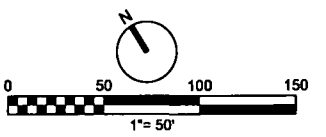
LEGEND



TSCA AREA



NO DREDGE AREA



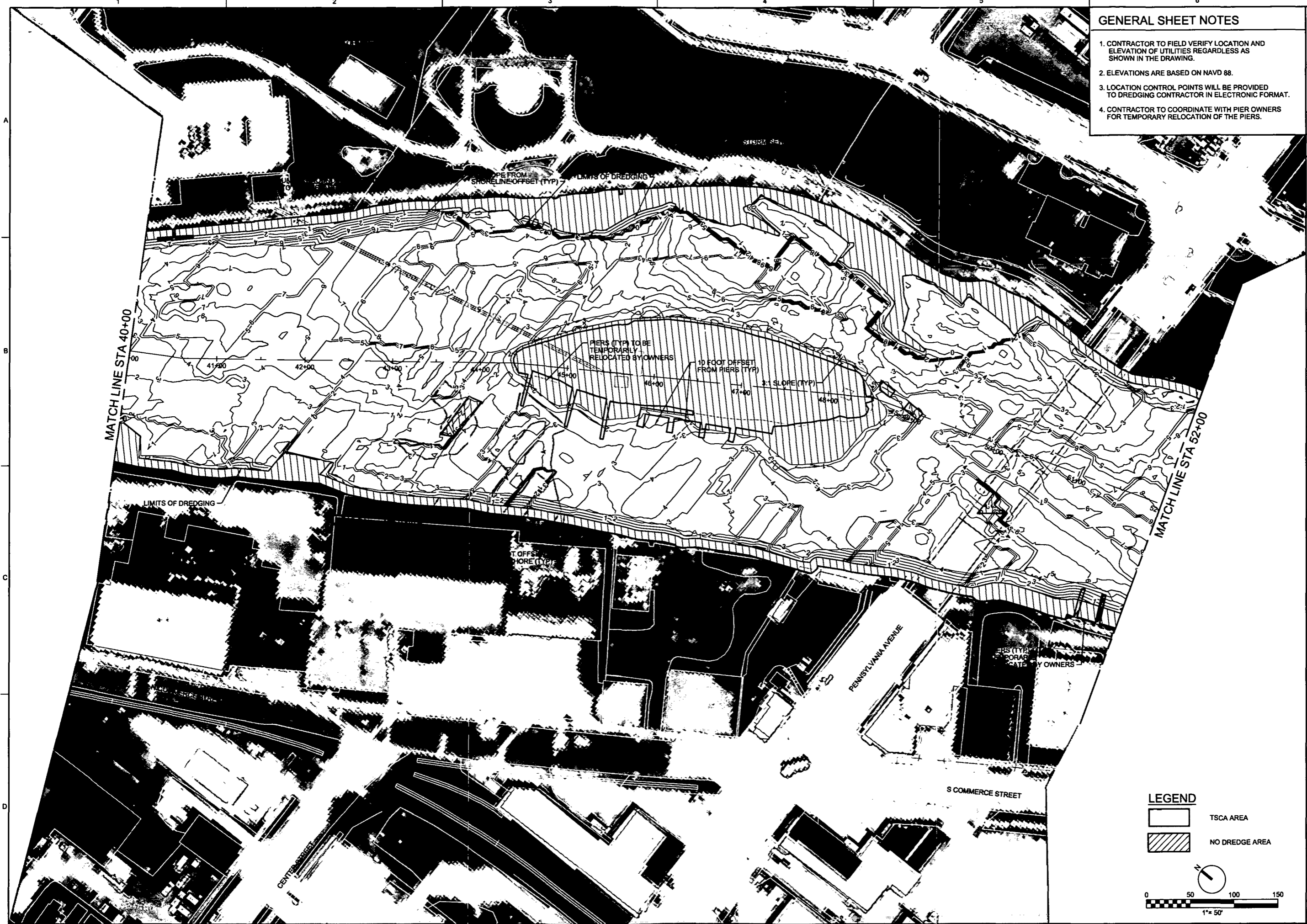
LOWER RIVER AND INNER HARBOR OF
THE SHEBOYGAN RIVER AREA OF CONCERN
US ENVIRONMENTAL PROTECTION AGENCY
SHEBOYGAN, WISCONSIN

CH2MHILL
CIVIL
DREDGING PLAN DEPTH OF CUT
STATION 26+00 TO STATION 40+00

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING
DATE	FEBRUARY 2012
PROJ	422259
DWG	C-010
SHEET	13 of 18

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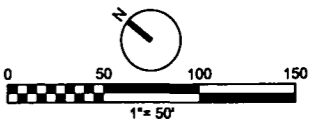
NO.	DATE	DR	REVISION	BY

LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN
 US ENVIRONMENTAL PROTECTION AGENCY
 SHEBOYGAN, WISCONSIN

CH2MHILL.
 CIVIL
**DREDGING PLAN DEPTH OF CUT
 STATION 40+00 TO STATION 52+00**

LEGEND

- [White Box] TSCA AREA
- [Hatched Box] NO DREDGE AREA



DATE	FEBRUARY 2012
PROJ	422259
DWG	C-011
SHEET	14 of 18

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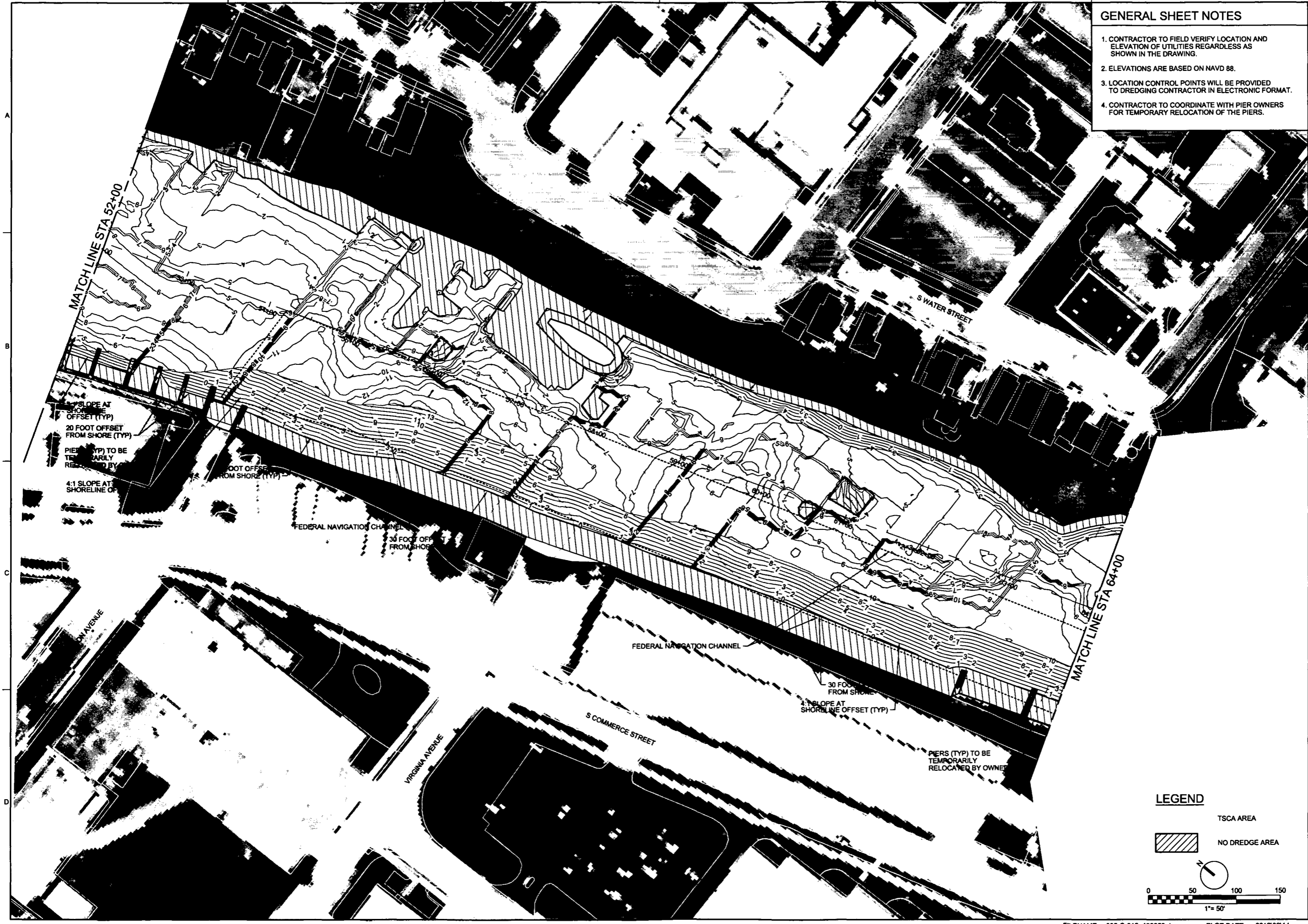
NO.	DATE	DR	REVISION	CHK	BY

LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN
 US ENVIRONMENTAL PROTECTION AGENCY
 SHEBOYGAN, WISCONSIN

CH2MHILL.
 CIVIL
**DREDGING PLAN DEPTH OF CUT
 STATION 52+00 TO STATION 64+00**

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING	
DATE	FEBRUARY 2012
PROJ	422259
DWG	C-012
SHEET	15 of 18

PRE-FINAL DESIGN
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NO.	DATE	DR	REVISION	BY

LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN
 US ENVIRONMENTAL PROTECTION AGENCY
 SHEBOYGAN, WISCONSIN

CH2MHILL.
 CIVIL
**DREDGING PLAN DEPTH OF CUT
 STATION 64+00 TO STATION 75+00**

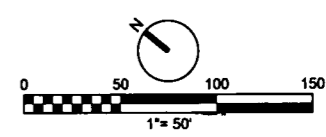
DATE	FEBRUARY 2012
PROJ	422258
DWG	C-013
SHEET	16 of 18

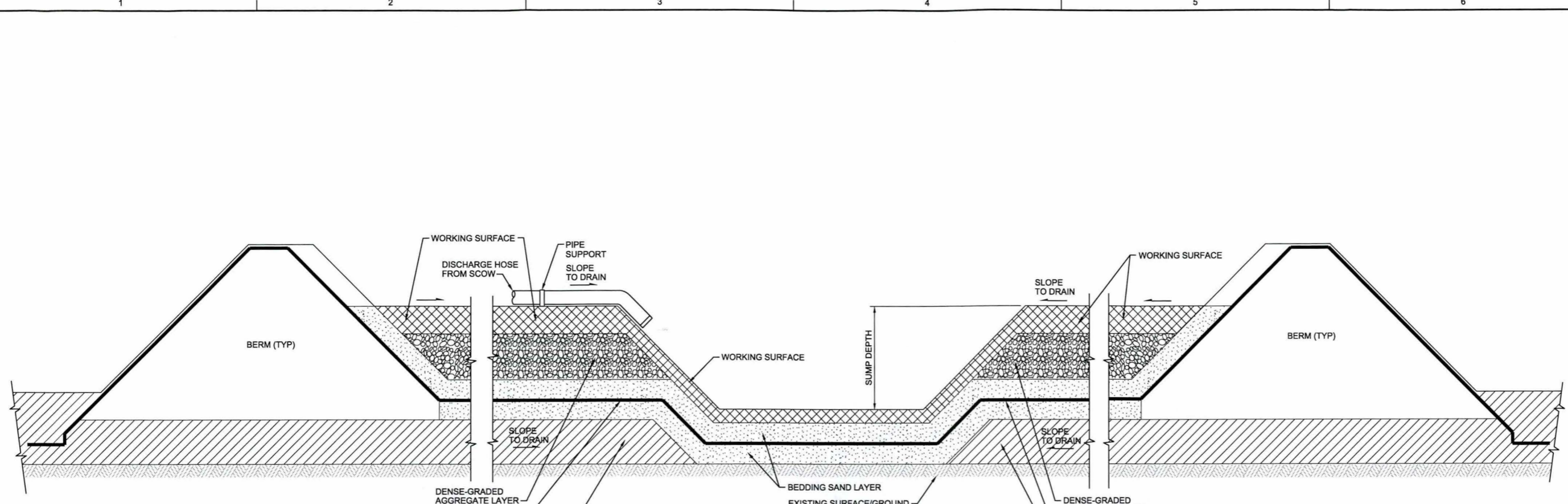
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LEGEND

- TSCA AREA
- NO DREDGE AREA

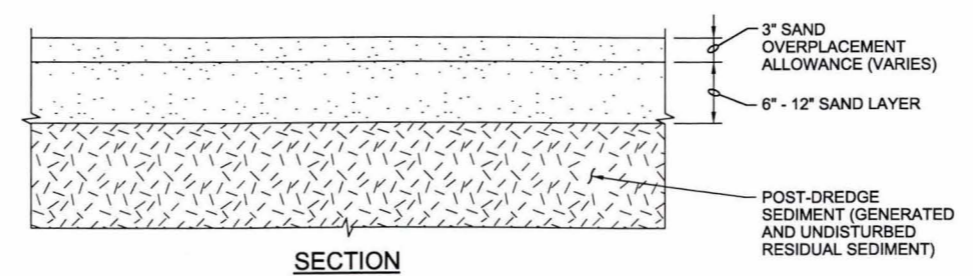




NOTES:

1. CONTRACTOR TO PROVIDE PROPOSED MATERIAL FOR WORKING SURFACE, AGGREGATE AND STRUCTURAL FILL LAYERS AND SHALL SUBMIT TO THE USEPA FOR APPROVAL.
2. THE IMPORTED STRUCTURAL FILL AND DENSE GRADED AGGREGATE SHALL BE TESTED FOR PCB'S AND PAH'S.
3. FLEXIBLE MEMBRANE LINER REQUIRED FOR TSCA PAD OPTIONAL FOR NON-TSCA PAD.

A CONCEPTUAL SEDIMENT PROCESSING AREA WITH SUMP SECTION
NTS



NOTES:

1. SAND SHALL MEET FINE AGGREGATE SPECIFICATIONS, PER SECTION 02 30 20, RESIDUALS MANAGEMENT.
2. TO BE PLACED WHERE DIRECTED BY THE USEPA.

1 RESIDUAL MANAGEMENT LAYER - SAND COVER DETAIL
NTS

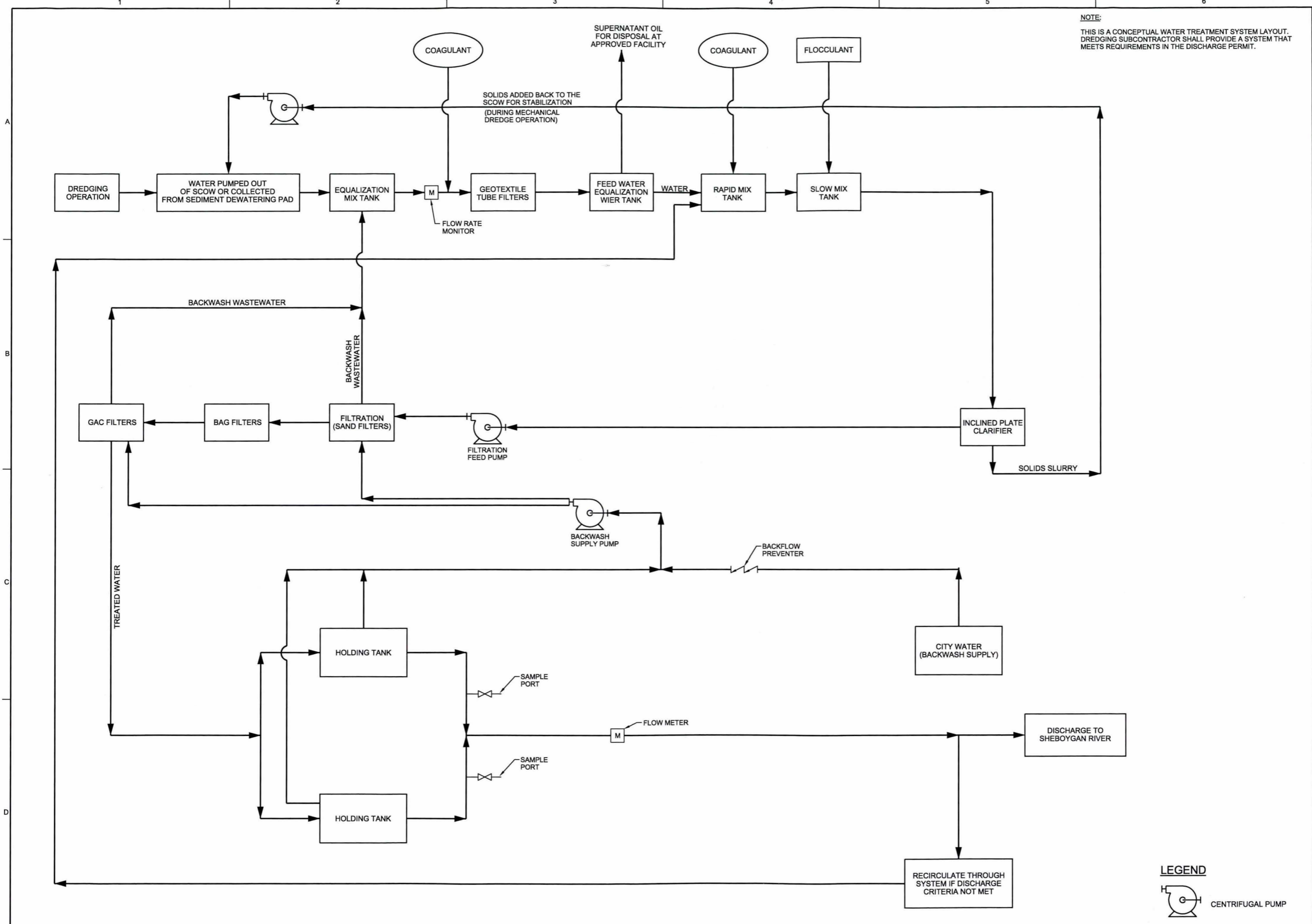
CH2MHILL		CIVIL		SECTION AND DETAIL		CONCEPTUAL	
LOWER RIVER AND INNER HARBOR OF THE SHEBOYGAN RIVER AREA OF CONCERN				US ENVIRONMENTAL PROTECTION AGENCY			
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NO.	DATE	DR	REVISION	CHK	BY	APVD	
DSGN		R BLUE		D SCHAUER	W ANDRE		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE
PROJ 422259
DWG C-501
SHEET 17 of 18

PRE-FINAL DESIGN

FILENAME: 005-C-501_422259.dgn PLOT DATE: 2012/02/14 PLOT TIME: 1:27:51 PM



NOTE:
THIS IS A CONCEPTUAL WATER TREATMENT SYSTEM LAYOUT. DREDGING SUBCONTRACTOR SHALL PROVIDE A SYSTEM THAT MEETS REQUIREMENTS IN THE DISCHARGE PERMIT.

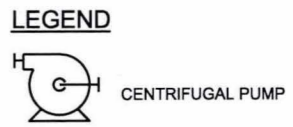
NO.	DATE	REVISION	BY

LOWER RIVER AND INNER HARBOR OF
THE SHEBOYGAN RIVER AREA OF CONCERN
US ENVIRONMENTAL PROTECTION AGENCY
SHEBOYGAN, WISCONSIN

CH2MHILL
INSTRUMENTATION AND CONTROL
CONCEPTUAL
WATER TREATMENT SYSTEM
PROCESS FLOW DIAGRAM

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	FEBRUARY 2012
PROJ	422259
DWG	N-001
SHEET	49 of 49



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