

# SOUTH SHORE BREAKWATER REHABILITATION

## Lake Michigan • Milwaukee, Wisconsin

Bid Documents  
South Shore Breakwater Rehabilitation, Mil., WI  
Baird Project No. 9246.13 Date: 2006 Feb. 15

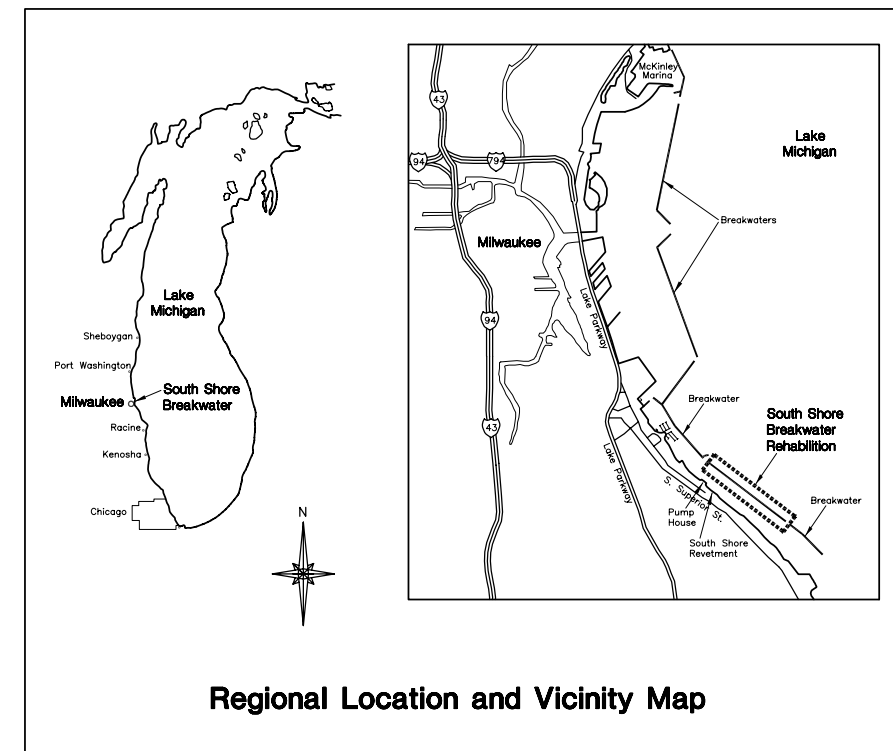
DRAWING INDEX

CONTRACT NO. 1 , BW CONSTRUCTION

BID DOCUMENTS

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DRAFT



Regional Location and Vicinity Map

Prepared By:

# Baird

Madison • Ottawa • Toronto • Santiago

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Oceans, Lakes & Rivers*

Prepared For:

MILWAUKEE COUNTY DEPARTMENT OF  
TRANSPORTATION AND PUBLIC WORKS

GIS SITE NUMBER 639

2006 Feb. 15

Project Number: 9246.13  
Drawing Number: 924613-BW-01  
Sheet Number: 01 of 25



MILWAUKEE COUNTY DEPARTMENT OF  
TRANSPORTATION AND PUBLIC WORKS  
CITY CAMPUS 2711 W. WELLS STREET MILWAUKEE, WI 53208

RECOMMENDED FOR APPROVAL BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
PROJECT APPROVAL BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
PROJECT MANAGER: \_\_\_\_\_  
REVIEW BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

REVISIONS:	

PROJECT NO.  
P447-06604

SHEET NO.  
1 OF 25  
FILE NO.

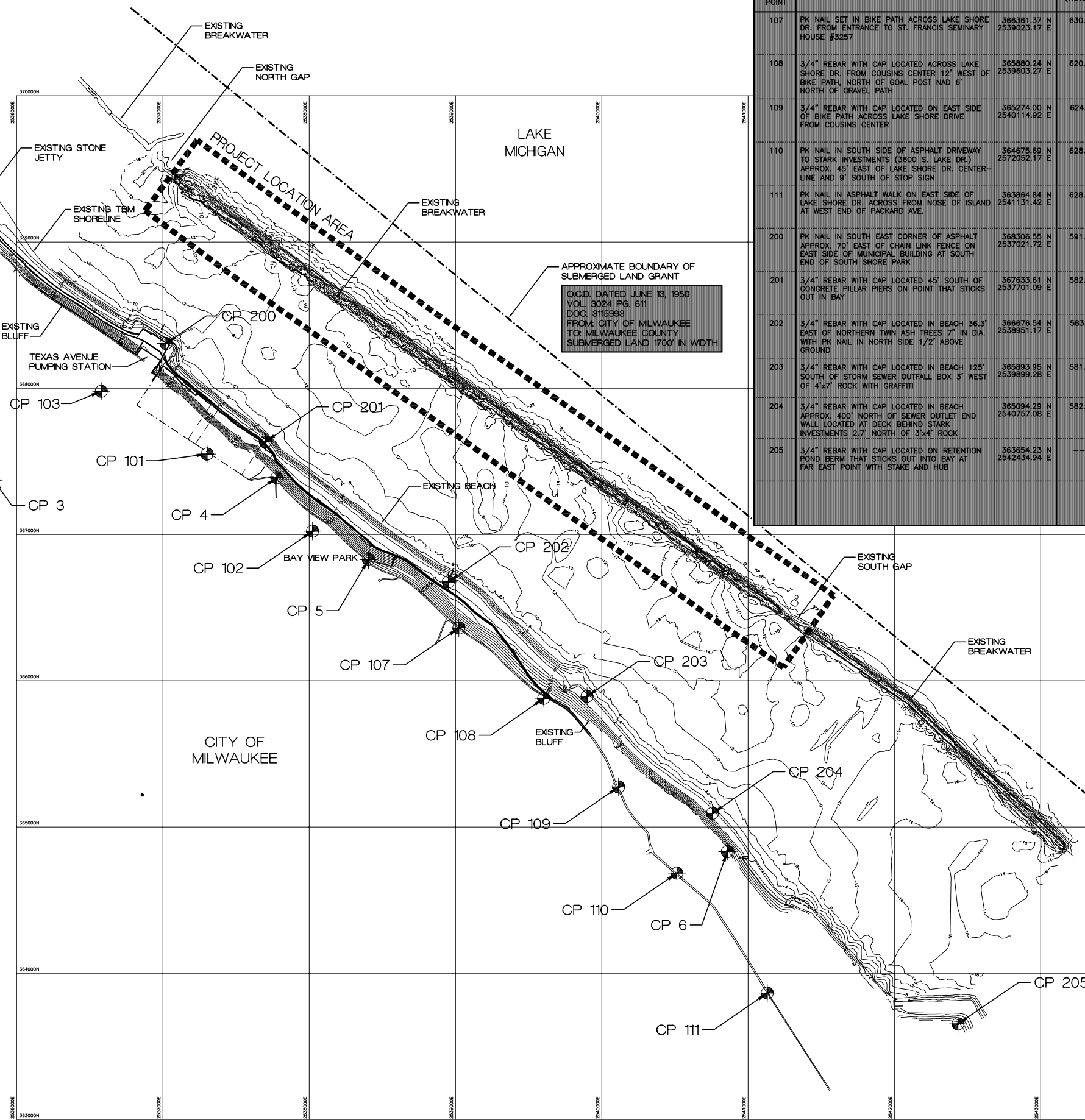
P:\9246.13 SOUTH SHORE\CAD0 FILES\09-BID-DOCUMENTS\BW\DWG\924613-BW-01-TITLE-SHEET.DWG

SURVEY CONTROL DATA				
SURVEY CONTROL POINT	DESCRIPTION	COORDS	ELEVATION (NGVD29)	ELEVATION (CMD)
107	PK NAIL SET IN BIKE PATH ACROSS LAKE SHORE DR. FROM ENTRANCE TO ST. FRANCIS SEMINARY HOUSE #3257	366361.37 N 2539023.17 E	630.82	50.22
108	3/4" REBAR WITH CAP LOCATED ACROSS LAKE SHORE DR. FROM COUSINS CENTER 12' WEST OF BIKE PATH, NORTH OF GOAL POST NAD 6' NORTH OF GRAVEL PATH	365880.24 N 2539603.27 E	620.82	40.22
109	3/4" REBAR WITH CAP LOCATED ON EAST SIDE OF BIKE PATH ACROSS LAKE SHORE DRIVE FROM COUSINS CENTER	365274.00 N 2540114.92 E	624.01	43.41
110	PK NAIL IN SOUTH SIDE OF ASPHALT DRIVEWAY TO STARK INVESTMENTS (3600 S. LAKE DR.) APPROX. 45' EAST OF LAKE SHORE DR. CENTER-LINE AND 9' SOUTH OF STOP SIGN	364675.69 N 2572052.17 E	628.88	48.28
111	PK NAIL IN ASPHALT WALK ON EAST SIDE OF LAKE SHORE DR. ACROSS FROM NOSE OF ISLAND AT WEST END OF PACKARD AVE.	363864.84 N 2541131.42 E	628.38	47.78
200	PK NAIL IN SOUTH EAST CORNER OF ASPHALT APPROX. 70' EAST OF CHAIN LINK FENCE ON EAST SIDE OF MUNICIPAL BUILDING AT SOUTH END OF SOUTH SHORE PARK	368306.55 N 2537021.72 E	591.58	10.98
201	3/4" REBAR WITH CAP LOCATED 45' SOUTH OF CONCRETE PILLAR PIERS ON POINT THAT STICKS OUT IN BAY	367633.61 N 2537701.09 E	582.35	1.75
202	3/4" REBAR WITH CAP LOCATED IN BEACH 36.3' EAST OF NORTHERN TWIN ASH TREES 7" IN DIA. WITH PK NAIL IN NORTH SIDE 1/2' ABOVE GROUND	366676.54 N 2538951.17 E	583.21	2.61
203	3/4" REBAR WITH CAP LOCATED IN BEACH 125' SOUTH OF STORM SEWER OUTFALL BOX 3' WEST OF 4'x7' ROCK WITH GRAFFITI	365893.95 N 2539899.28 E	581.27	0.67
204	3/4" REBAR WITH CAP LOCATED IN BEACH APPROX. 400' NORTH OF SEWER OUTLET END WALL LOCATED AT DECK BEHIND STARK INVESTMENTS 2.7' NORTH OF 3'x4' ROCK	365094.29 N 2540757.08 E	582.10	1.50
205	3/4" REBAR WITH CAP LOCATED ON RETENTION POND BERM THAT STICKS OUT INTO BAY AT FAR EAST POINT WITH STAKE AND HUB	363654.23 N 2542434.94 E	---	---

- NOTES**
1. TOPOGRAPHIC AND HYDROGRAPHIC SURVEY PERFORMED BY BAIRD & ASSOCIATES, MADISON, WI, EMCS DESIGN GROUP MILWAUKEE, WI AND SPATIAL DATA SURVEYS, VERONA, WI, AUGUST, 2002, USING HYPACK HYDROGRAPHIC SURVEY SOFTWARE, GPS RTK TECHNIQUES, AND CONVENTIONAL TOTAL STATION SURVEY TECHNIQUES.
  2. CONTROL POINT DATA PROVIDED BY EMCS DESIGN GROUP, MILWAUKEE, WI.
  3. HORIZONTAL DATUM IS REFERENCED TO WISCONSIN STATE PLANE COORDINATES, SOUTH ZONE, NAD83.
  4. VERTICAL DATUM REFERENCED TO CITY OF MILWAUKEE DATUM (CMD); CMD = IGLD85 - 579.81, CMD = NGVD29 - 580.60.
  5. EXISTING STRUCTURES SHOWN ARE BASED ON AERIAL PHOTOGRAPHY - TO BE FIELD VERIFIED BY THE CONTRACTOR.
  6. CONTOURS AS SHOWN HAVE BEEN SMOOTHED FOR APPEARANCE, AND ARE SHOWN FOR GENERAL INFORMATION ONLY.



SURVEY CONTROL DATA				
SURVEY CONTROL POINT	DESCRIPTION	COORDS	ELEVATION (NGVD29)	ELEVATION (CMD)
2	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP CENTER OF SECTION 10 T6N R22E	368909.07 N 2535826.24 E	618.60	38.00
3	U.S. PUBLIC LAND SURVEY CORNER MARKED BY OTHER MONUMENTATION SOUTH 1/4 CORNER OF SECTION 10 T6N R22E	367371.64 N 2535843.64 E	620.27	39.67
4	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP SE CORNER OF SECTION 10 T6N R22E	367388.63 N 2537778.96 E	627.65	47.05
5	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP SE CORNER OF SECTION 10 T6N R22E	366828.08 N 2538405.99 E	633.00	52.40
6	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP CENTER OF SECTION 14 T6N R22E	364832.03 N 2540858.50 E	623.89	43.29
7	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP SOUTH 1/4 CORNER OF SECTION 14 T6N R22E	362218.16 N 2541152.62 E	632.78	52.18
10	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP CENTER OF SECTION 10 T6N R22E	370014.83 N 2534798.69 E	605.24	24.69
101	3/4" REBAR WITH CAP LOCATED ON EAST SIDE OF SUPERIOR DRIVE 2' BEHIND BACK OF CURB, 3' NORTH OF DRIVEWAY TO HOUSE #3078	367550.12 N 2537302.55 E	625.04	44.44
102	3/4" REBAR WITH CAP LOCATED ON WEST SIDE OF LAKE SHORE DRIVE 2.8' BEHIND BACK OF CURB IN FRONT OF HOUSE #3161	367023.12 N 2538022.62 E	631.07	50.47
103	3/4" REBAR WITH CAP LOCATED ON WEST SIDE OF SUPERIOR DRIVE 2' BEHIND BACK OF CURB IN FRONT OF HOUSE #3029	367979.53 N 2536578.98 E	626.53	45.93
104	3/4" REBAR WITH CAP LOCATED APPROXIMATELY 20' BEHIND BACK OF WALK FROM SUPERIOR DR. AND 30' BEHIND BACK OF WALK ON MERIDITH ST. IN NORTHEAST QUADRANT	368598.28 N 2535796.42 E	623.28	42.68
105	3/4" REBAR WITH CAP LOCATED APPROXIMATELY 108' EAST OF NORTHEAST CORNER OF SOUTH SHORE PAVILION AND 15' WEST OF ROCK WALL AT SOUTH END OF BEACH	369591.53 N 2535397.38 E	590.33	9.73



**DRAFT**

Bid Documents  
**SOUTH SHORE BREAKWATER REHABILITATION**  
**MILWAUKEE, WISCONSIN**  
Prepared For:  
**MILWAUKEE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS**

Drawing Title:  
**Vicinity Map and Survey Control**

PROJECT NO. P447-06604	SHEET NO. 00 OF 00 FILE NO.
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Baird Project Number: 9246.13  
Date: 2006 Feb. 15  
Printed: \_\_\_\_\_  
Drawing Number: 924613-00  
Sheet Number: 00 of 00

**IN-PROGRESS NOT FOR CONSTRUCTION**

Drawn By: \_\_\_\_\_  
Checked By: \_\_\_\_\_  
Approved By: \_\_\_\_\_

Revisions:	Date:

**DRAFT**

Bid Documents  
**SOUTH SHORE  
BREAKWATER  
REHABILITATION**

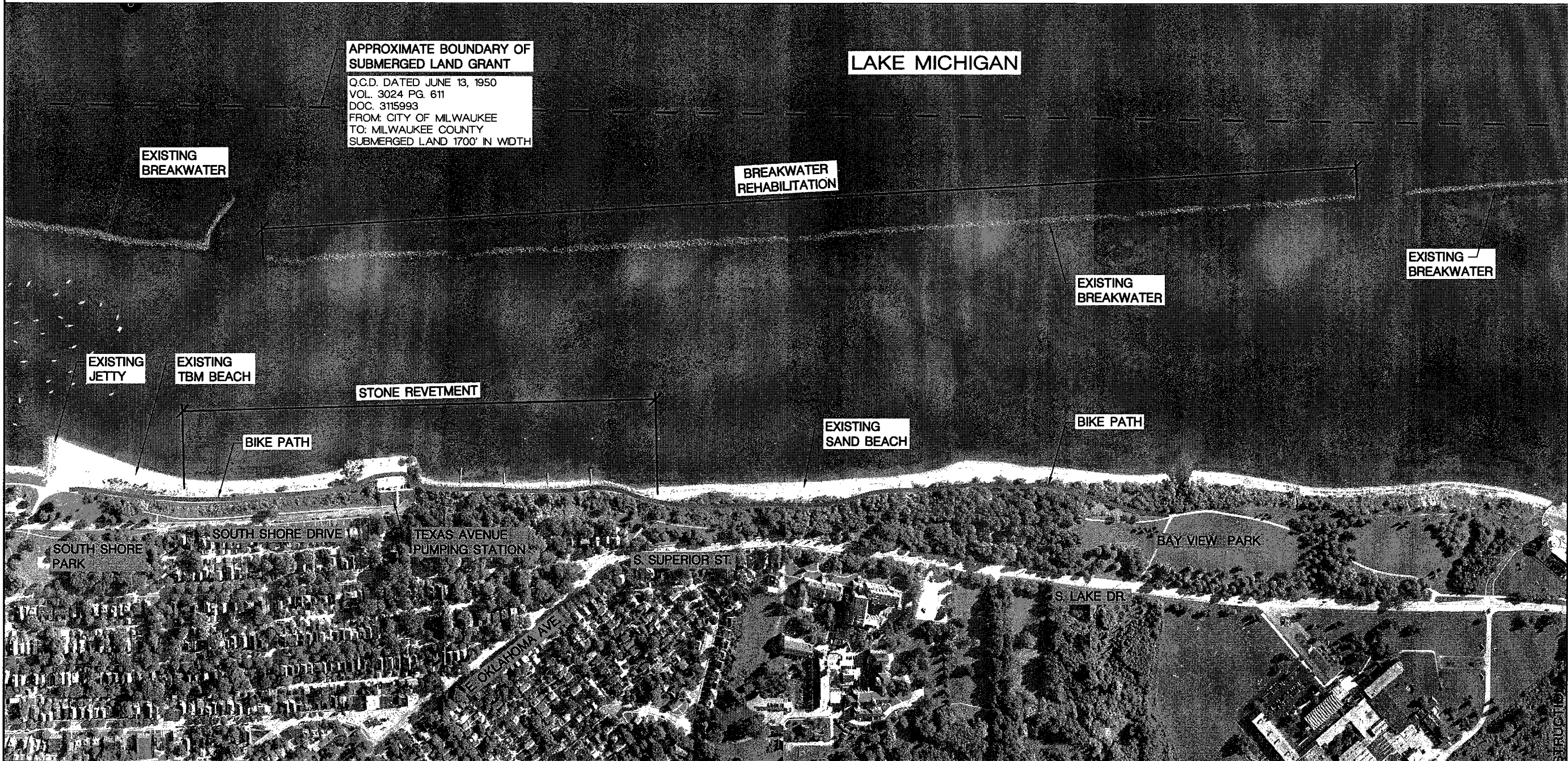
**MILWAUKEE,  
WISCONSIN**

Prepared For:  
**MILWAUKEE COUNTY  
DEPARTMENT OF  
TRANSPORTATION  
AND PUBLIC WORKS**

Drawing Title:  
**Existing Conditions -  
Aerial Photograph**

PROJECT NO. P447-06804	SHEET NO. __ OF __ FILE NO.
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Baird Project Number: 9246.13  
Date: 2006 Feb. 15  
Printed: \_\_\_\_\_  
Drawing Number: 924613-BW-00  
Sheet Number: 00 of 00



**APPROXIMATE BOUNDARY OF  
SUBMERGED LAND GRANT**  
Q.C.D. DATED JUNE 13, 1950  
VOL. 3024 PG. 611  
DOC. 3115993  
FROM: CITY OF MILWAUKEE  
TO: MILWAUKEE COUNTY  
SUBMERGED LAND 1700' IN WIDTH

**EXISTING  
BREAKWATER**

**LAKE MICHIGAN**

**BREAKWATER  
REHABILITATION**

**EXISTING  
BREAKWATER**

**EXISTING  
BREAKWATER**

**EXISTING  
JETTY**

**EXISTING  
TBM BEACH**

**STONE REVETMENT**

**BIKE PATH**

**EXISTING  
SAND BEACH**

**BIKE PATH**

**SOUTH SHORE  
PARK**

**SOUTH SHORE DRIVE**

**TEXAS AVENUE  
PUMPING STATION**

**S. SUPERIOR ST.**

**BAY VIEW PARK**

**S. LAKE DR.**

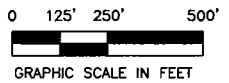
**E. OKLAHOMA AVE.**

## SOUTH SHORE WATERFRONT - EXISTING CONDITIONS - AERIAL PHOTOGRAPH

PREPARED FOR: MILWAUKEE COUNTY, DEPARTMENT OF PARKS AND PUBLIC INFRASTRUCTURE



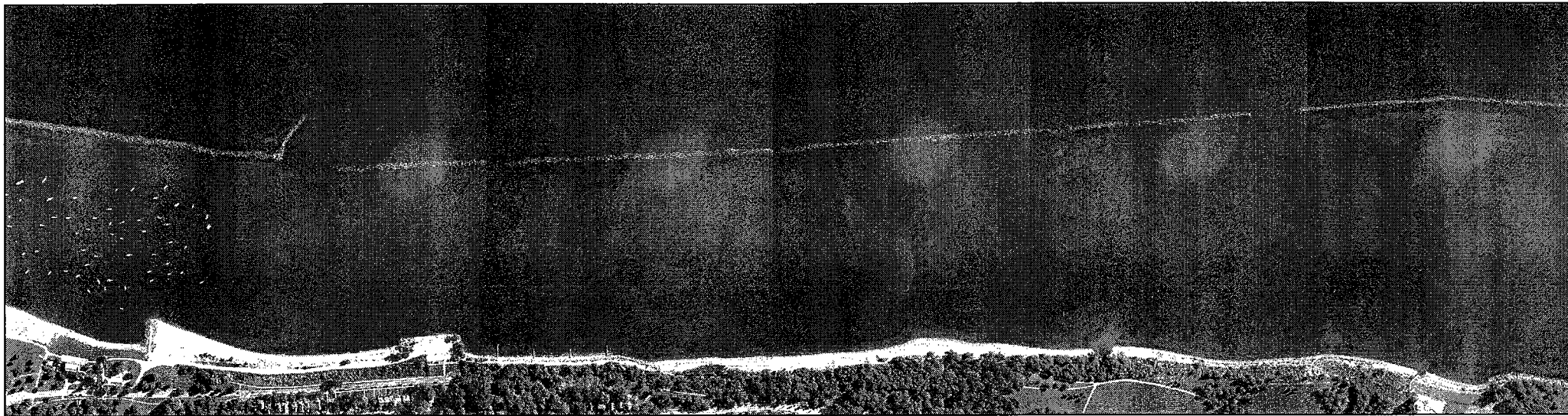
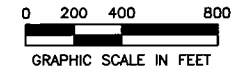
NORTH



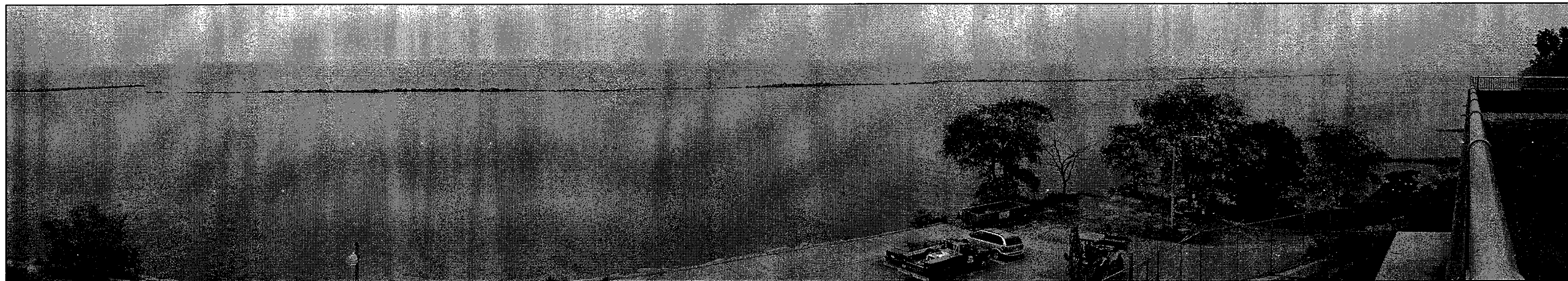
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Checked By: \_\_\_\_\_  
Approved By: \_\_\_\_\_

Revisions:	Date:

## AERIAL PHOTOGRAPH

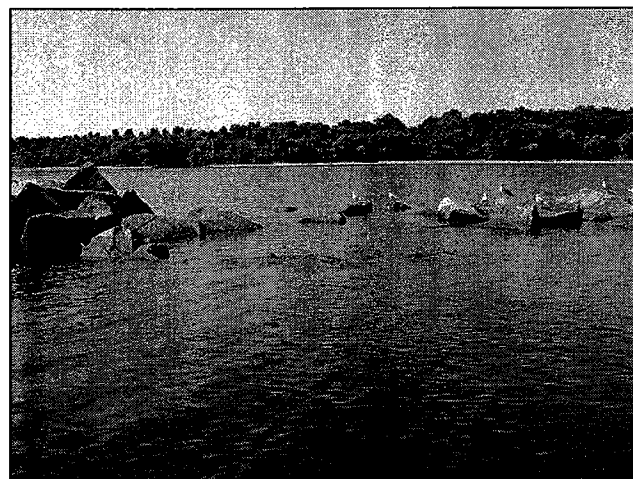


DATE OF PHOTOGRAPHS: 21 JULY 2004

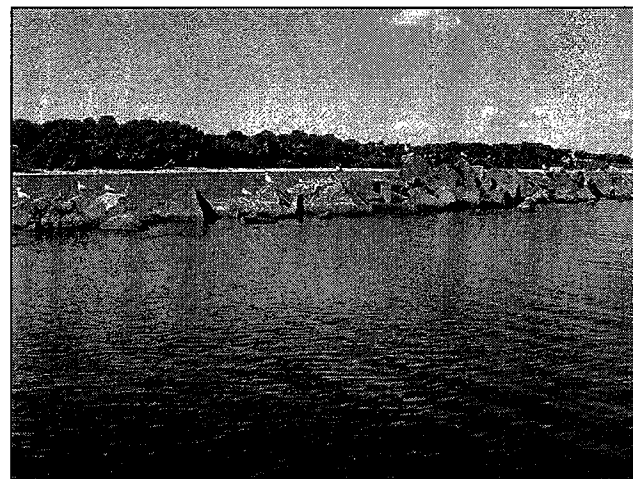


① OFFSHORE BREAKWATER LOOKING LAKEWARD

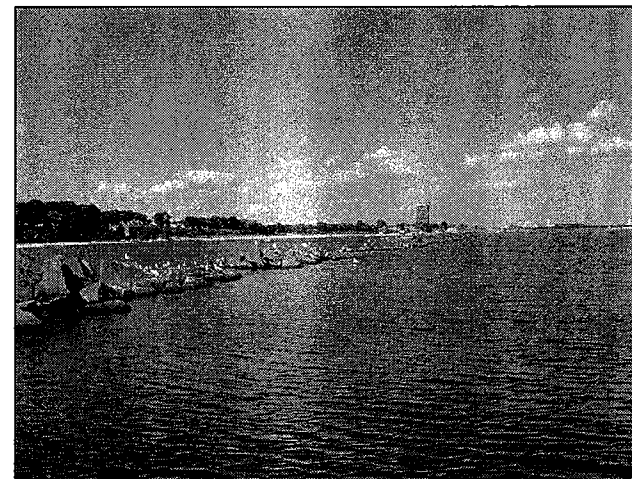
DATE OF PHOTOGRAPHS: 12 SEPT. 2002



② OFFSHORE BREAKWATER LOOKING LANDWARD



③ OFFSHORE BREAKWATER LOOKING LANDWARD



④ OFFSHORE BREAKWATER LOOKING LANDWARD



⑤ OFFSHORE BREAKWATER

DRAFT

Bid Documents

**SOUTH SHORE  
BREAKWATER  
REHABILITATION**

**MILWAUKEE,  
WISCONSIN**

Prepared For:

**MILWAUKEE COUNTY  
DEPARTMENT OF  
TRANSPORTATION  
AND PUBLIC WORKS**

Drawing Title:  
**Existing Conditions -  
Site Photographs**

PROJECT NO.  
P447-06804

SHEET NO.  
00 OF 00  
FILE NO.

Baird Project Number: 9248.13

Date: 2006 Feb. 15

Printed:

Drawing Number: 9248.13-00

Sheet Number: 00 of 00

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# Baird

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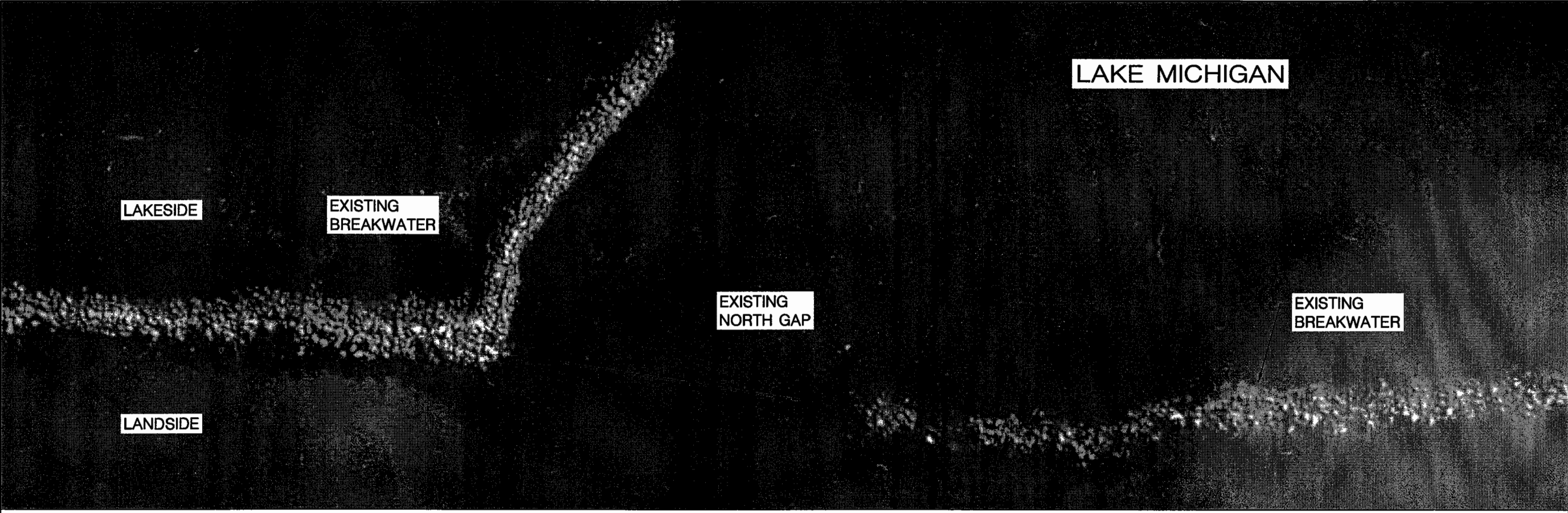
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608 273-2010 Fax

Innovation, Excellence & Service  
Oceans, Lakes & Rivers

Drawn By: \_\_\_\_\_  
Checked By: \_\_\_\_\_  
Approved By: \_\_\_\_\_

Revisions:	Date:



**DRAFT**

Bid Documents  
**SOUTH SHORE  
BREAKWATER  
REHABILITATION**  
MILWAUKEE,  
WISCONSIN

Prepared For:  
MILWAUKEE COUNTY  
DEPARTMENT OF  
TRANSPORTATION  
AND PUBLIC WORKS

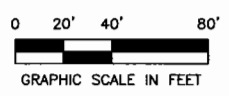
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**Existing Conditions -  
Enlargement Aerial**

PROJECT NO. P447-06804	SHEET NO. 00 OF 00 FILE NO.
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Baird Project Number: 924613  
Date: 2006 Feb. 15  
Printed: \_\_\_\_\_  
Drawing Number: 924613-BW-00  
Sheet Number: 00 of 00

## SOUTH SHORE WATERFRONT - EXISTING CONDITIONS - ENLARGEMENT AERIAL

PREPARED FOR: MILWAUKEE COUNTY, DEPARTMENT OF PARKS AND PUBLIC INFRASTRUCTURE



P:\0924613 SOUTH SHORE\CAAD FILES\09-BID-DOCUMENTS\BW\DWG\924613-BW-05-ACRIM-ENLARGEMENT.DWG

IN-PROGRESS NOT FOR CONSTRUCTION

## LAKE MICHIGAN

APPROXIMATE BOUNDARY OF SUBMERGED LAND GRANT

REFER TO SHEET 000

REFER TO SHEET 000

REFER TO SHEET 000

EXISTING BREAKWATER

NORTH GAP

BREAKWATER REHABILITATION

SURVEY CONTROL LINE (SCL)

EXISTING BREAKWATER

SOUTH GAP

SEBASTOPOL

CONTRACTOR SHALL TEMPORARILY MARK THEIR LOCATIONS AS SPECIFIED IN SECTION 01500 OF THE PROJECT MANUAL.

VOLUNTEER

STONE REVETMENT

EXISTING SHORELINE

EXISTING BIKE PATH

EXISTING BLUFF

EXISTING ROADWAY

TEXAS AVENUE PUMPING STATION

BAY VIEW PARK

EXISTING BLUFF

## CITY OF MILWAUKEE

HORIZONTAL ALIGNMENT AND STATION REPORT				
ALIGNMENT 1: BREAKWATER STRUCTURE				
DESCRIPTION: SURVEY CONTROL LINE (SCL)				
Desc.	Station	Spiral/Curve Data	Northing	Easting
START	000+00		368000.00	2536000.00
PI	100+00.00		368000.00	2536000.00
PI	100+00.00		368000.00	2536000.00
PI	100+00.00		368000.00	2536000.00
PI	100+00.00		368000.00	2536000.00
PI	100+00.00		368000.00	2536000.00
PI	100+00.00		368000.00	2536000.00
PI	100+00.00		368000.00	2536000.00
PI	100+00.00		368000.00	2536000.00
PI	100+00.00		368000.00	2536000.00
END	100+00		368000.00	2536000.00



### NOTES

1. TOPOGRAPHIC AND HYDROGRAPHIC SURVEY PERFORMED BY BAIRD & ASSOCIATES, MADISON, WI, EMCS DESIGN GROUP MILWAUKEE, WI AND SPATIAL DATA SURVEYS, VERONA, WI, AUGUST, 2002, USING HYPACK HYDROGRAPHIC SURVEY SOFTWARE, GPS RTK TECHNIQUES, AND CONVENTIONAL TOTAL STATION SURVEY TECHNIQUES.
2. CONTROL POINT DATA PROVIDED BY EMCS DESIGN GROUP, MILWAUKEE, WI.
3. HORIZONTAL DATUM IS REFERENCED TO WISCONSIN STATE PLANE COORDINATES, SOUTH ZONE, NAD83.
4. VERTICAL DATUM REFERENCED TO CMD; CMD = IGLD85 - 579.81, CMD = NGVD29 - 580.60.
5. EXISTING STRUCTURES SHOWN ARE BASED ON AERIAL PHOTOGRAPHY - TO BE FIELD VERIFIED BY THE CONTRACTOR.
6. CONTOURS AS SHOWN HAVE BEEN SMOOTHED FOR APPEARANCE, AND ARE SHOWN FOR GENERAL INFORMATION ONLY.

**DRAFT**

Bid Documents  
**SOUTH SHORE BREAKWATER REHABILITATION**

**MILWAUKEE, WISCONSIN**

Prepared For:  
**MILWAUKEE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS**

Drawing Title:  
**Improvement Plan - Overall Project Site**

PROJECT NO.  
P447-06604

SHEET NO.  
00 OF 00  
FILE NO.

Baird Project Number: 9246.13  
Date: 2006 Feb. 15  
Printed:  
Drawing Number: 924613-BW-00  
Sheet Number: 00 of 00

IN-PROGRESS NOT FOR CONSTRUCTION

APPROXIMATE BOUNDARY OF SUBMERGED LAND GRANT

LAKE MICHIGAN

MATCH LINE - A

REACH 1

REACH 2

REACH 3

EXISTING BREAKWATER

NORTH GAP

START 1+33.81

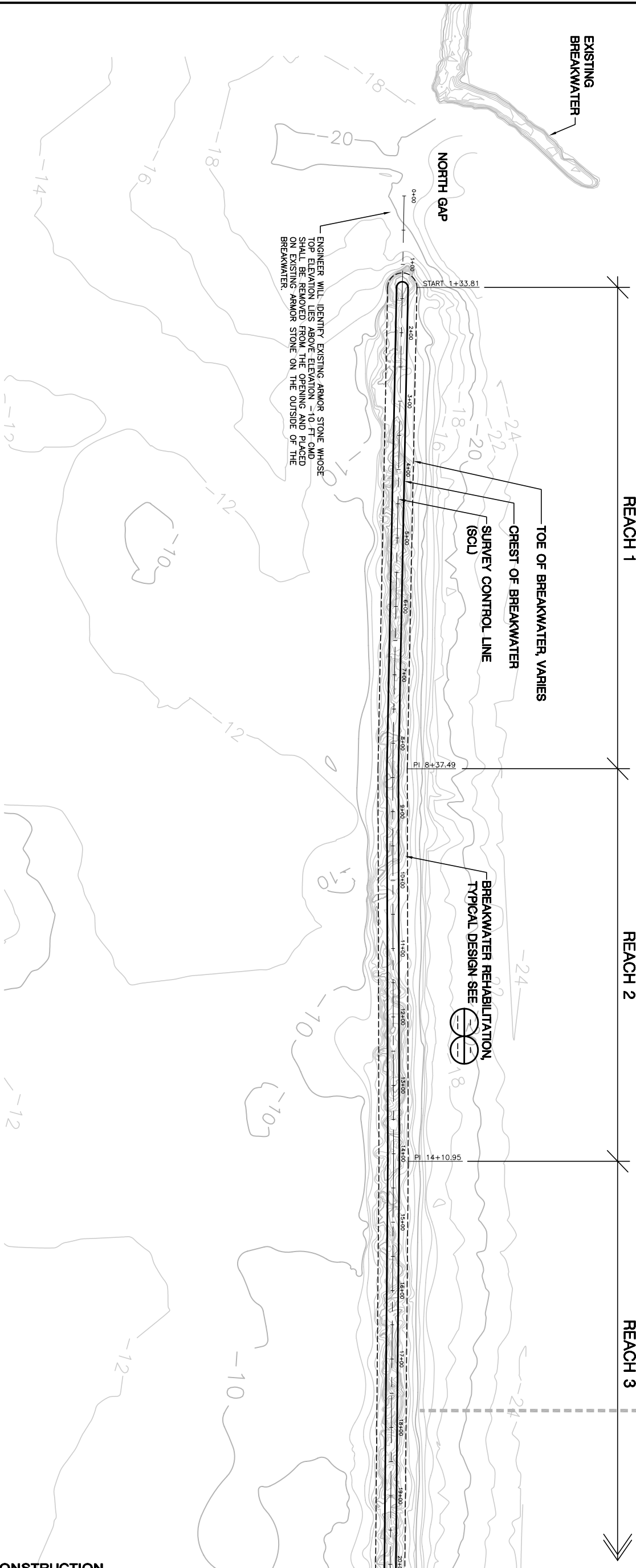
ENGINEER WILL IDENTIFY EXISTING ARMOR STONE WHOSE TOP ELEVATION LIES ABOVE ELEVATION -10 FT GMD AND SHALL BE REMOVED FROM THE OPENING AND PLACED ON EXISTING ARMOR STONE ON THE OUTSIDE OF THE BREAKWATER.

TOE OF BREAKWATER, VARIES  
CREST OF BREAKWATER  
SURVEY CONTROL LINE (SCL)

BREAKWATER REHABILITATION, TYPICAL DESIGN SEE [Symbol]

PI 8+37.49

PI 14+10.95



CITY OF MILWAUKEE

**NOTES:**

1. REFER TO DRAWING 000 FOR SURVEY AND ALIGNMENT INFORMATION.
2. SEE DRAWING 000 FOR SURVEY AND ALIGNMENT INFORMATION.

**IN-PROGRESS NOT FOR CONSTRUCTION**

**Baird**

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Checked By: \_\_\_\_\_  
Approved By: \_\_\_\_\_

Revisions: \_\_\_\_\_ Date: \_\_\_\_\_

Revisions:	Date:

**DRAFT**

Bid Documents  
SOUTH SHORE  
BREAKWATER  
REHABILITATION

MILWAUKEE,  
WISCONSIN

Prepared For:  
MILWAUKEE COUNTY  
DEPARTMENT OF  
TRANSPORTATION  
AND PUBLIC WORKS

Drawing Title:  
Improvement Plan -  
Site Plan

PROJECT NO. P447-06604	SHEET NO. 00 OF 00
FILE NO.	

Baird Project Number: 924613  
Date: 2006 Feb. 15  
Printed: \_\_\_\_\_  
Drawing Number: 924613-BW-00  
Sheet Number: 00 of 00

APPROXIMATE BOUNDARY OF  
SUBMERGED LAND GRANT

LAKE  
MICHIGAN

MATCH LINE - A

REACH 3

REACH 4

REACH 5

REACH 6

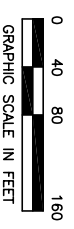
MATCH LINE - B

TOE OF BREAKWATER, VARIES  
CREST OF BREAKWATER  
SURVEY CONTROL LINE  
(SCL)

BREAKWATER REHABILITATION,  
TYPICAL DESIGN SEE



SEBASTOPOL



CITY OF  
MILWAUKEE

- NOTES:**
1. REFER TO DRAWING 000 FOR SURVEY AND ALIGNMENT INFORMATION.
  2. SEE DRAWING 000 FOR SURVEY AND ALIGNMENT INFORMATION.

**IN-PROGRESS NOT FOR CONSTRUCTION**

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Checked By: \_\_\_\_\_  
Approved By: \_\_\_\_\_

Revisions: \_\_\_\_\_ Date: \_\_\_\_\_

**DRAFT**

Bid Documents  
**SOUTH SHORE  
BREAKWATER  
REHABILITATION**  
MILWAUKEE,  
WISCONSIN

Prepared For:  
**MILWAUKEE COUNTY  
DEPARTMENT OF  
TRANSPORTATION  
AND PUBLIC WORKS**

Drawing Title:  
**Improvement Plan -  
Site Plan**

PROJECT NO. P447-06604	SHEET NO. 00 OF 00
FILE NO.	

Baird Project Number: 924613  
Date: 2006 Feb. 15  
Printed: \_\_\_\_\_  
Drawing Number: 924613-BW-00  
Sheet Number: 00 of 00

APPROXIMATE BOUNDARY OF SUBMERGED LAND GRANT

LAKE MICHIGAN

REACH 6

REACH 7

REACH 8

BREAKWATER REHABILITATION TYPICAL DESIGN SEE



PI 40+22.91

TOE OF BREAKWATER VARIES  
CREST OF BREAKWATER  
SURVEY CONTROL LINE (SCL)

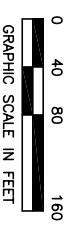
PI 47+98.57

ENGINEER WILL IDENTIFY EXISTING ARMOR STONE WHOSE TOP ELEVATION LIES ABOVE ELEVATION -10 FT CMD SHALL BE REMOVED FROM THE OPENING AND PLACED ON EXISTING ARMOR STONE ON THE OUTSIDE OF THE BREAKWATER.

END 51+74.42

SOUTH GAP

EXISTING BREAKWATER



CITY OF MILWAUKEE



VOLUNTEER

- NOTES:**
1. REFER TO DRAWING 000 FOR SURVEY AND ALIGNMENT INFORMATION.
  2. SEE DRAWING 000 FOR SURVEY AND ALIGNMENT INFORMATION.

**IN-PROGRESS NOT FOR CONSTRUCTION**

**Baird**

W.R. Baird & Associates, Ltd.

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Innovation, Excellence & Service  
Oceans, Lakes & Rivers

Drawn By: \_\_\_\_\_  
Checked By: \_\_\_\_\_  
Approved By: \_\_\_\_\_

Revisions: \_\_\_\_\_ Date: \_\_\_\_\_

**DRAFT**

Bid Documents  
**SOUTH SHORE  
BREAKWATER  
REHABILITATION**  
MILWAUKEE,  
WISCONSIN

Prepared For:  
**MILWAUKEE COUNTY  
DEPARTMENT OF  
TRANSPORTATION  
AND PUBLIC WORKS**

Drawing Title:  
**Improvement Plan -  
Site Plan**

PROJECT NO. P447-06604	SHEET NO. 00 OF 00
FILE NO.	

Baird Project Number: 924613  
Date: 2006 Feb. 15  
Printed: \_\_\_\_\_  
Drawing Number: 924613-BW-00  
Sheet Number: 00 of 00

Drawn By: \_\_\_\_\_  
 Checked By: \_\_\_\_\_  
 Approved By: \_\_\_\_\_  
 Revisions: \_\_\_\_\_ Date: \_\_\_\_\_

Revisions:	Date:

**DRAFT**

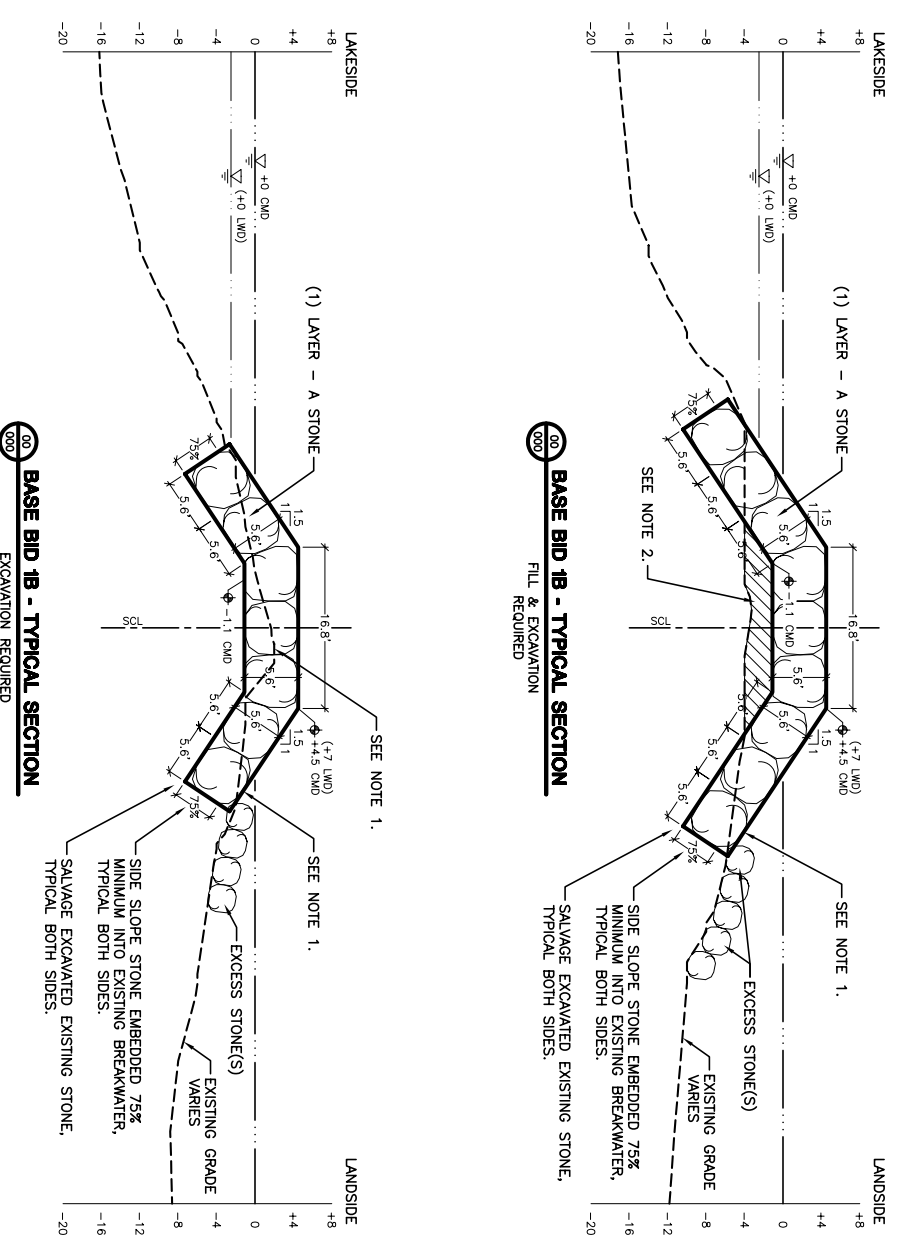
Bid Documents  
**SOUTH SHORE  
 BREAKWATER  
 REHABILITATION**  
**MILWAUKEE,  
 WISCONSIN**

Prepared For:  
**MILWAUKEE COUNTY  
 DEPARTMENT OF  
 TRANSPORTATION  
 AND PUBLIC WORKS**

Drawing Title:  
**Base Bid 1B -  
 Typical Breakwater Designs**

PROJECT NO. P447-06504	SHEET NO. 00 OF 00
FILE NO.	

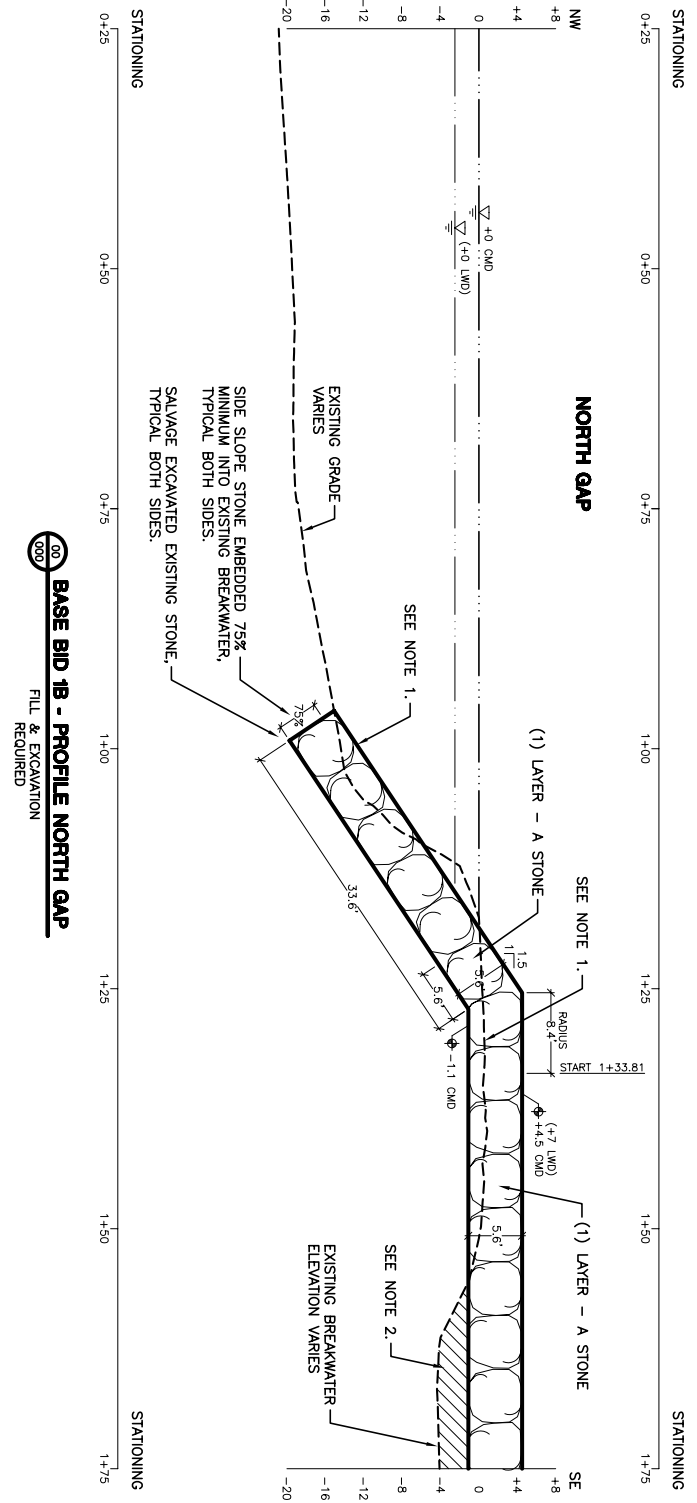
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 Date: 2006 Feb. 15  
 Printed: \_\_\_\_\_  
 Drawing Number: 924613-00  
 Sheet Number: 00 of 00



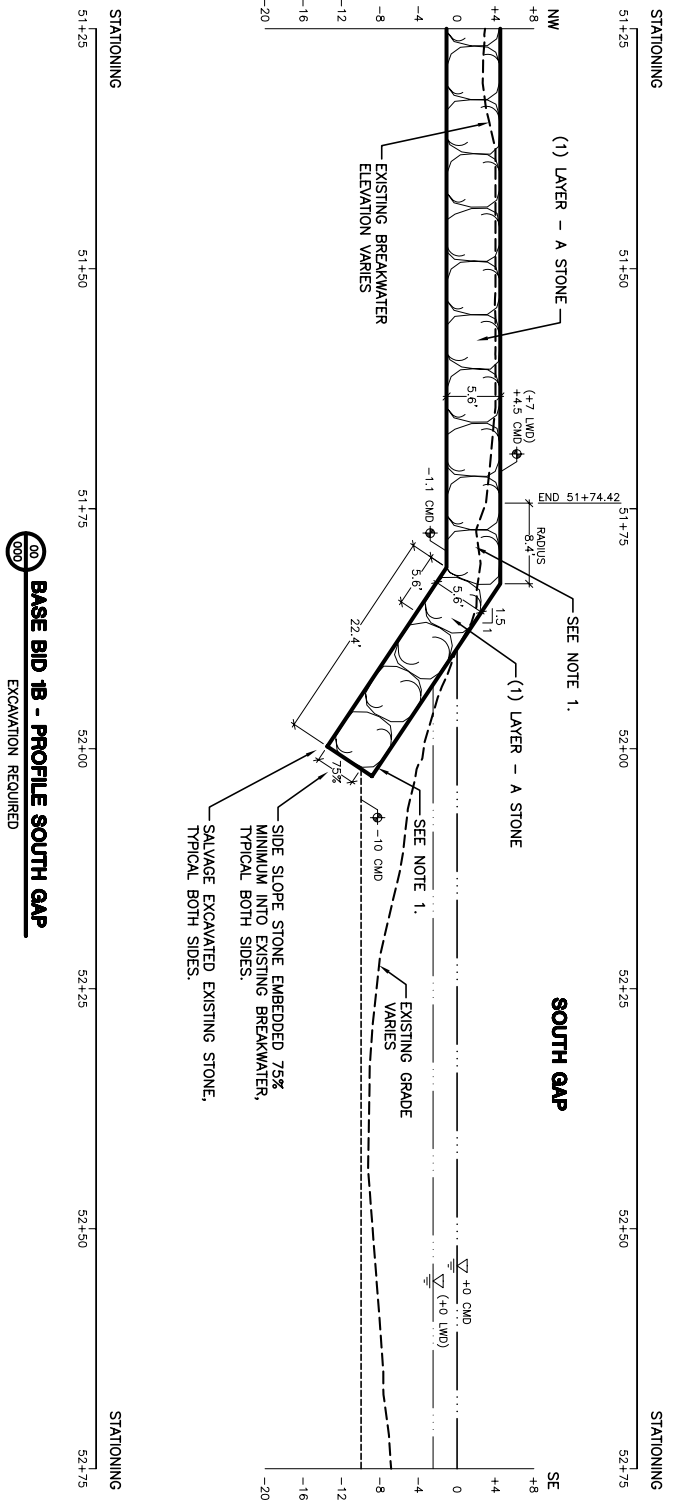
- NOTES:**
1. REMOVE EXISTING STONE ABOVE ELEVATION -1.1 FT CMD AND AS REQUIRED TO PLACE A SINGLE LAYER OF NEW ARMOR STONE. TOE-IN SIDE SLOPE ARMOR UNITS. STONE REMOVED FROM THE EXISTING BREAKWATER TO ACHIEVE A PROPER SETTING BED FOR THE NEW ARMOR STONE SHALL BE USED TO RAISE OTHER CROSS SECTIONS, IF REQUIRED. TO ELEVATION -1.1 FT CMD. EXCESS STONE NOT USED TO RAISE OTHER CROSS SECTIONS SHALL BE PLACED ON THE LANDWARD SIDE SLOPE OF THE EXISTING BREAKWATER, IMMEDIATELY ADJACENT TO THE TOE OF THE NEW ARMOR STONE.
  2. USE STONE EXCAVATED FROM OTHER AREAS OF THE BREAKWATER AS FILL TO CREATE INTERLOCKING BEDDING FOR NEW ARMOR STONE.

- NOTES:**
1. ALL ELEVATIONS ARE IN FEET TO CMD.
  2. ALL DIMENSIONS ARE IN FEET.





**BASE BID 1B - PROFILE NORTH GAP**  
FILL & EXCAVATION REQUIRED



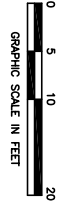
**BASE BID 1B - PROFILE SOUTH GAP**  
EXCAVATION REQUIRED

**NOTES:**

1. REMOVE EXISTING STONE ABOVE ELEVATION -1.1 FT CMD AND AS REQUIRED TO PLACE A SINGLE LAYER OF NEW ARMOR STONE. TOE-IN SIDE SLOPE ARMOR UNITS. STONE REMOVED FROM THE EXISTING BREAKWATER TO ACHIEVE A PROPER SETTING BED FOR THE NEW ARMOR STONE SHALL BE USED TO RAISE OTHER CROSS SECTIONS, IF REQUIRED. TO ELEVATION -1.1 FT CMD. EXCESS STONE NOT USED TO RAISE OTHER CROSS SECTIONS SHALL BE PLACED ON THE LANDWARD SIDE SLOPE OF THE EXISTING BREAKWATER, IMMEDIATELY ADJACENT TO THE TOE OF THE NEW ARMOR STONE.
2. USE STONE EXCAVATED FROM OTHER AREAS OF THE BREAKWATER AS FILL TO CREATE INTERLOCKING BEDDING FOR NEW ARMOR STONE.

**NOTES:**

1. ALL ELEVATIONS ARE IN FEET TO CMD.
2. ALL DIMENSIONS ARE IN FEET.

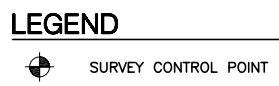


**IN-PROGRESS NOT FOR CONSTRUCTION**

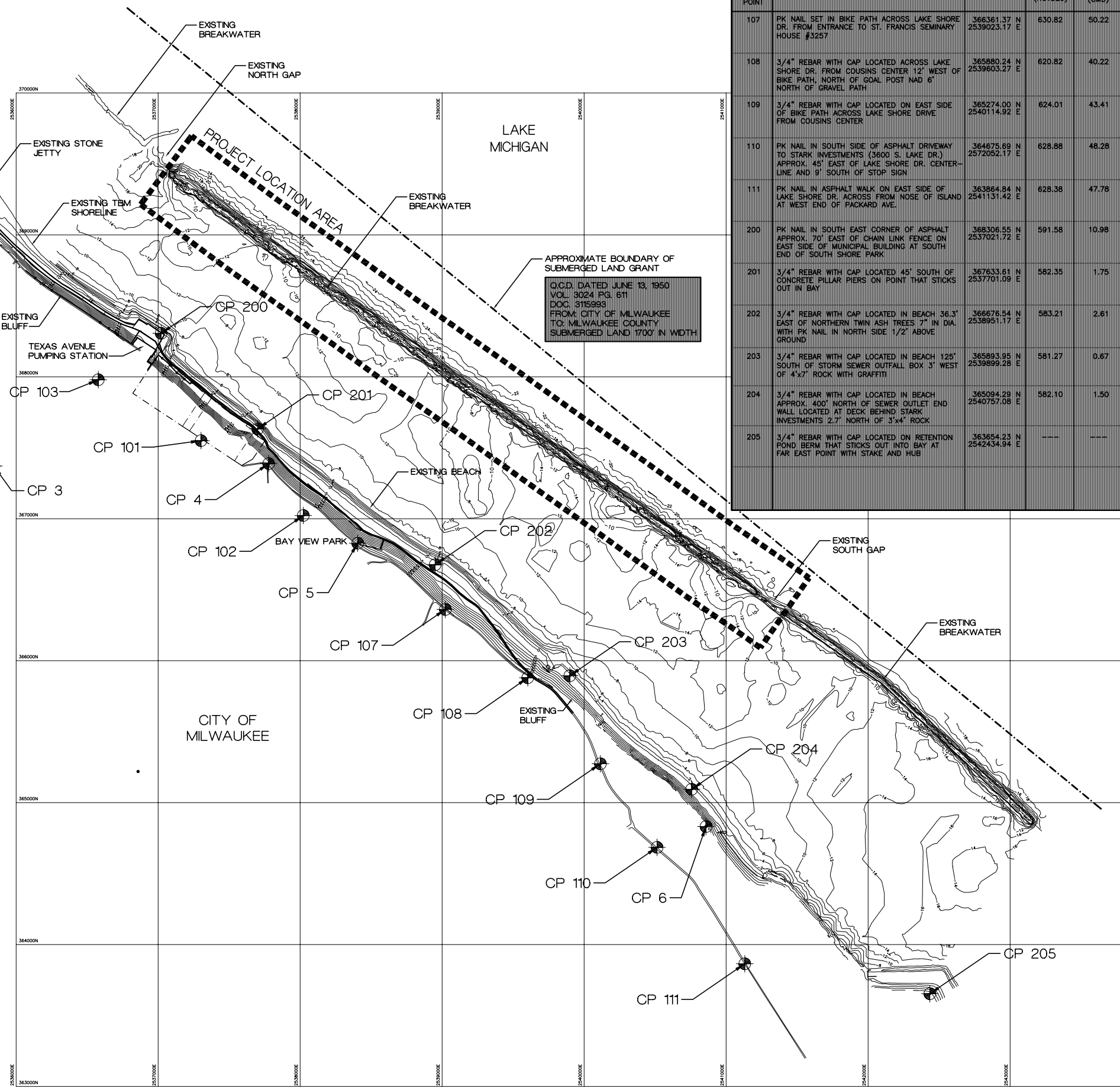
<h1 style="font-size: 2em; margin: 0;">DRAFT</h1>									
<p>Bid Documents</p> <p><b>SOUTH SHORE BREAKWATER REHABILITATION</b></p> <p><b>MILWAUKEE WISCONSIN</b></p> <p>Prepared For:</p> <p><b>MILWAUKEE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS</b></p>	<div style="text-align: right;"> <p><b>W.R. Baird &amp; Associates, Ltd</b></p> <p>Madison • Ottawa • Toronto • Santiago</p> <p>2981 Yarmouth Greenway Madison, WI 53711, USA 53711</p> <p>608-273-2000 608 273-2010 Fax</p> <p>Innovation, Excellence &amp; Service Oceans, Lakes &amp; Rivers</p> </div> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Drawn By: _____</td> <td style="width: 50%;">Date: _____</td> </tr> <tr> <td>Checked By: _____</td> <td></td> </tr> <tr> <td>Approved By: _____</td> <td></td> </tr> <tr> <td>Revisions: _____</td> <td>Date: _____</td> </tr> </table>	Drawn By: _____	Date: _____	Checked By: _____		Approved By: _____		Revisions: _____	Date: _____
Drawn By: _____	Date: _____								
Checked By: _____									
Approved By: _____									
Revisions: _____	Date: _____								
<p>Drawing Title:</p> <p><b>Base Bid 1B - Profile Designs</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">PROJECT NO. P447-06804</td> <td style="width: 50%;">SHEET NO. 00 OF 00</td> </tr> <tr> <td>FILE NO.</td> <td></td> </tr> </table> <p>Baird Project Number: 924613</p> <p>Date: 2006 Feb. 15</p> <p>Printed: _____</p> <p>Drawing Number: 924613-00</p> <p>Sheet Number: 00 of 00</p>	PROJECT NO. P447-06804	SHEET NO. 00 OF 00	FILE NO.						
PROJECT NO. P447-06804	SHEET NO. 00 OF 00								
FILE NO.									

SURVEY CONTROL DATA				
SURVEY CONTROL POINT	DESCRIPTION	COORDS	ELEVATION (NGVD29)	ELEVATION (CMD)
107	PK NAIL SET IN BIKE PATH ACROSS LAKE SHORE DR. FROM ENTRANCE TO ST. FRANCIS SEMINARY HOUSE #3257	366361.37 N 2539023.17 E	630.82	50.22
108	3/4" REBAR WITH CAP LOCATED ACROSS LAKE SHORE DR. FROM COUSINS CENTER 12' WEST OF BIKE PATH, NORTH OF GOAL POST NAD 6' NORTH OF GRAVEL PATH	365880.24 N 2539603.27 E	620.82	40.22
109	3/4" REBAR WITH CAP LOCATED ON EAST SIDE OF BIKE PATH ACROSS LAKE SHORE DRIVE FROM COUSINS CENTER	365274.00 N 2540114.92 E	624.01	43.41
110	PK NAIL IN SOUTH SIDE OF ASPHALT DRIVEWAY TO STARK INVESTMENTS (3600 S. LAKE DR.) APPROX. 45' EAST OF LAKE SHORE DR. CENTER-LINE AND 9' SOUTH OF STOP SIGN	364675.69 N 2572052.17 E	628.88	48.28
111	PK NAIL IN ASPHALT WALK ON EAST SIDE OF LAKE SHORE DR. ACROSS FROM NOSE OF ISLAND AT WEST END OF PACKARD AVE.	363864.84 N 2541131.42 E	628.38	47.78
200	PK NAIL IN SOUTH EAST CORNER OF ASPHALT APPROX. 70' EAST OF CHAIN LINK FENCE ON EAST SIDE OF MUNICIPAL BUILDING AT SOUTH END OF SOUTH SHORE PARK	368306.55 N 2537021.72 E	591.58	10.98
201	3/4" REBAR WITH CAP LOCATED 45' SOUTH OF CONCRETE PILLAR PIERS ON POINT THAT STICKS OUT IN BAY	367633.61 N 2537701.09 E	582.35	1.75
202	3/4" REBAR WITH CAP LOCATED IN BEACH 36.3' EAST OF NORTHERN TWIN ASH TREES 7" IN DIA. WITH PK NAIL IN NORTH SIDE 1/2' ABOVE GROUND	366676.54 N 2538951.17 E	583.21	2.61
203	3/4" REBAR WITH CAP LOCATED IN BEACH 125' SOUTH OF STORM SEWER OUTFALL BOX 3' WEST OF 4'x7' ROCK WITH GRAFFITI	365893.95 N 2539899.28 E	581.27	0.67
204	3/4" REBAR WITH CAP LOCATED IN BEACH APPROX. 400' NORTH OF SEWER OUTLET END WALL LOCATED AT DECK BEHIND STARK INVESTMENTS 2.7' NORTH OF 3'x4' ROCK	365094.29 N 2540757.08 E	582.10	1.50
205	3/4" REBAR WITH CAP LOCATED ON RETENTION POND BERM THAT STICKS OUT INTO BAY AT FAR EAST POINT WITH STAKE AND HUB	363654.23 N 2542434.94 E	---	---

- NOTES**
1. TOPOGRAPHIC AND HYDROGRAPHIC SURVEY PERFORMED BY BAIRD & ASSOCIATES, MADISON, WI, EMCS DESIGN GROUP MILWAUKEE, WI AND SPATIAL DATA SURVEYS, VERONA, WI, AUGUST, 2002, USING HYPACK HYDROGRAPHIC SURVEY SOFTWARE, GPS RTK TECHNIQUES, AND CONVENTIONAL TOTAL STATION SURVEY TECHNIQUES.
  2. CONTROL POINT DATA PROVIDED BY EMCS DESIGN GROUP, MILWAUKEE, WI.
  3. HORIZONTAL DATUM IS REFERENCED TO WISCONSIN STATE PLANE COORDINATES, SOUTH ZONE, NAD83.
  4. VERTICAL DATUM REFERENCED TO CITY OF MILWAUKEE DATUM (CMD); CMD = IGLD85 - 579.81, CMD = NGVD29 - 580.60.
  5. EXISTING STRUCTURES SHOWN ARE BASED ON AERIAL PHOTOGRAPHY - TO BE FIELD VERIFIED BY THE CONTRACTOR.
  6. CONTOURS AS SHOWN HAVE BEEN SMOOTHED FOR APPEARANCE, AND ARE SHOWN FOR GENERAL INFORMATION ONLY.



SURVEY CONTROL DATA				
SURVEY CONTROL POINT	DESCRIPTION	COORDS	ELEVATION (NGVD29)	ELEVATION (CMD)
2	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP CENTER OF SECTION 10 T6N R22E	368909.07 N 2535826.24 E	618.60	38.00
3	U.S. PUBLIC LAND SURVEY CORNER MARKED BY OTHER MONUMENTATION SOUTH 1/4 CORNER OF SECTION 10 T6N R22E	367371.64 N 2535843.64 E	620.27	39.67
4	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP SE CORNER OF SECTION 10 T6N R22E	367388.63 N 2537778.96 E	627.65	47.05
5	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP SE CORNER OF SECTION 10 T6N R22E	366828.08 N 2538405.99 E	633.00	52.40
6	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP CENTER OF SECTION 14 T6N R22E	364832.03 N 2540858.50 E	623.89	43.29
7	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP SOUTH 1/4 CORNER OF SECTION 14 T6N R22E	362218.16 N 2541152.62 E	632.78	52.18
10	U.S. PUBLIC LAND SURVEY CORNER MARKED BY 6"x6"x36" SEWRPC CONC. MONUMENT WITH BRASS CAP CENTER OF SECTION 10 T6N R22E	370014.83 N 2534798.69 E	605.24	24.69
101	3/4" REBAR WITH CAP LOCATED ON EAST SIDE OF SUPERIOR DRIVE 2' BEHIND BACK OF CURB, 3' NORTH OF DRIVEWAY TO HOUSE #3078	367550.12 N 2537302.55 E	625.04	44.44
102	3/4" REBAR WITH CAP LOCATED ON WEST SIDE OF LAKE SHORE DRIVE 2.8' BEHIND BACK OF CURB IN FRONT OF HOUSE #3161	367023.12 N 2538022.62 E	631.07	50.47
103	3/4" REBAR WITH CAP LOCATED ON WEST SIDE OF SUPERIOR DRIVE 2' BEHIND BACK OF CURB IN FRONT OF HOUSE #3029	367979.53 N 2536578.98 E	626.53	45.93
104	3/4" REBAR WITH CAP LOCATED APPROXIMATELY 20' BEHIND BACK OF WALK FROM SUPERIOR DR. AND 30' BEHIND BACK OF WALK ON MERIDITH ST. IN NORTHEAST QUADRANT	368598.28 N 2535796.42 E	623.28	42.68
105	3/4" REBAR WITH CAP LOCATED APPROXIMATELY 108' EAST OF NORTHEAST CORNER OF SOUTH SHORE PAVILION AND 15' WEST OF ROCK WALL AT SOUTH END OF BEACH	369591.53 N 2535397.38 E	590.33	9.73



**DRAFT**

Bid Documents  
**SOUTH SHORE BREAKWATER REHABILITATION**  
**MILWAUKEE, WISCONSIN**  
Prepared For:  
**MILWAUKEE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS**

Drawing Title:  
**Vicinity Map and Survey Control**

PROJECT NO. P447-06604	SHEET NO. 00 OF 00 FILE NO.
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Baird Project Number: 9246.13  
Date: 2006 Feb. 15  
Printed:  
Drawing Number: 924613-00  
Sheet Number: 00 of 00

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608 273-2010 Fax

Innovation, Excellence & Service  
Oceans, Lakes & Rivers

Drawn By: \_\_\_\_\_  
Checked By: \_\_\_\_\_  
Approved By: \_\_\_\_\_

Revisions:	Date:

## DRAFT

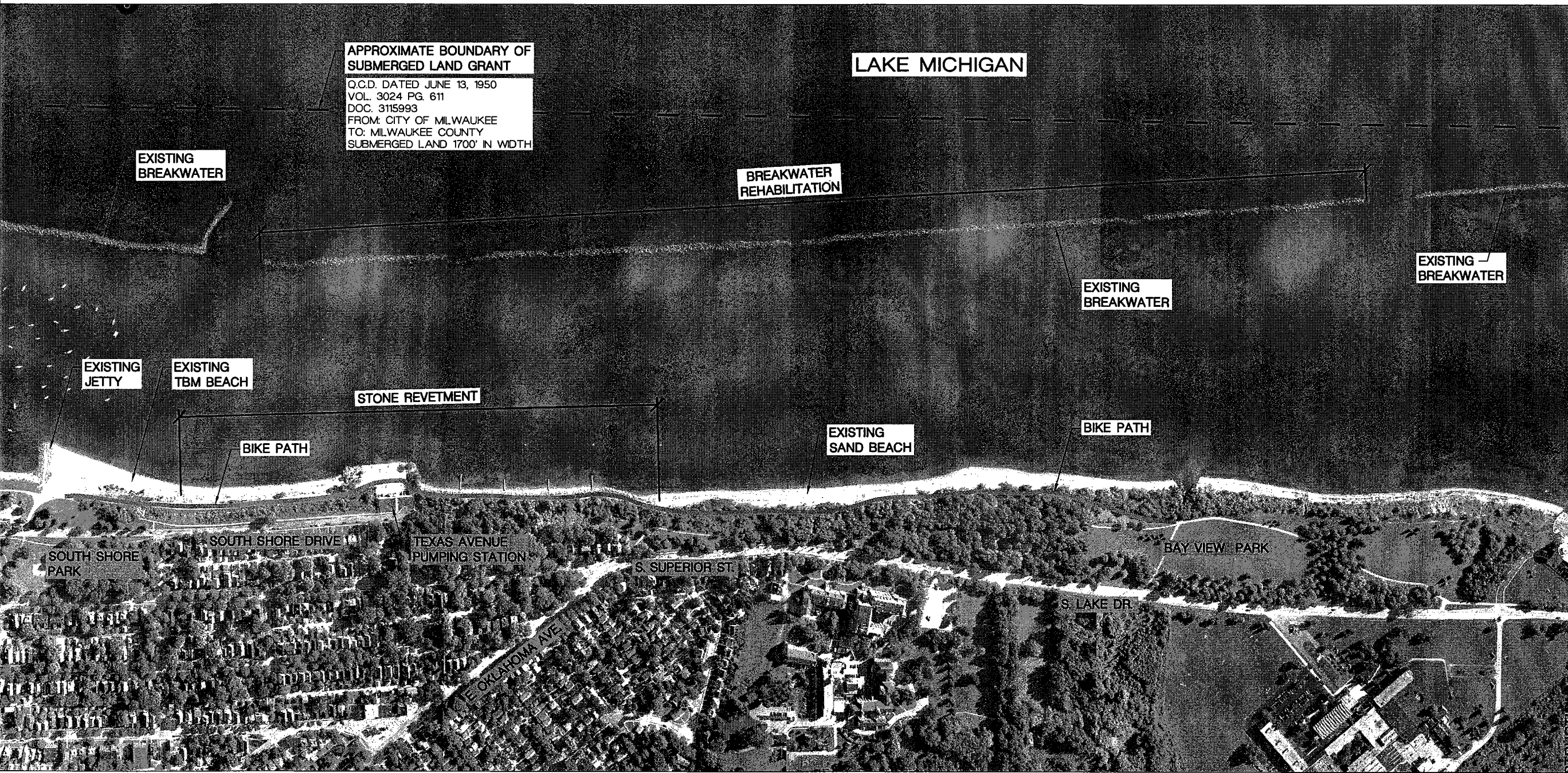
Bid Documents  
**SOUTH SHORE  
BREAKWATER  
REHABILITATION**  
**MILWAUKEE,  
WISCONSIN**

Prepared For:  
**MILWAUKEE COUNTY  
DEPARTMENT OF  
TRANSPORTATION  
AND PUBLIC WORKS**

Drawing Title:  
**Existing Conditions -  
Aerial Photograph**

PROJECT NO. P447-06804	SHEET NO. __ OF __ FILE NO.
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Baird Project Number: 9246.13  
Date: 2006 Feb. 15  
Printed: \_\_\_\_\_  
Drawing Number: 924613-BW-00  
Sheet Number: 00 of 00



APPROXIMATE BOUNDARY OF  
SUBMERGED LAND GRANT  
Q.C.D. DATED JUNE 13, 1950  
VOL. 3024 PG. 611  
DOC. 3115993  
FROM: CITY OF MILWAUKEE  
TO: MILWAUKEE COUNTY  
SUBMERGED LAND 1700' IN WIDTH

LAKE MICHIGAN

EXISTING  
BREAKWATER

BREAKWATER  
REHABILITATION

EXISTING  
BREAKWATER

EXISTING  
BREAKWATER

EXISTING  
JETTY

EXISTING  
TBM BEACH

STONE REVETMENT

BIKE PATH

EXISTING  
SAND BEACH

BIKE PATH

SOUTH SHORE  
PARK

SOUTH SHORE DRIVE

TEXAS AVENUE  
PUMPING STATION

S. SUPERIOR ST.

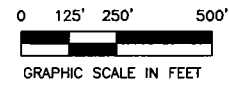
BAY VIEW PARK

S. LAKE DR.

E. OKLAHOMA AVE.

## SOUTH SHORE WATERFRONT - EXISTING CONDITIONS - AERIAL PHOTOGRAPH

PREPARED FOR: MILWAUKEE COUNTY, DEPARTMENT OF PARKS AND PUBLIC INFRASTRUCTURE



P:\09246.13 SOUTH SHORE\CAAD FILES\09-BID-DOCUMENTS\BW\DWG\924613-BW-03-AERIAL-PHOTO.DWG

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608 273-2010 Fax

*Innovation, Excellence & Service  
Oceans, Lakes & Rivers*

Drawn By: \_\_\_\_\_

Checked By: \_\_\_\_\_

Approved By: \_\_\_\_\_

Revisions: \_\_\_\_\_ Date: \_\_\_\_\_

Revisions:	Date:

## DRAFT

Bid Documents

**SOUTH SHORE  
BREAKWATER  
REHABILITATION**

**MILWAUKEE,  
WISCONSIN**

Prepared For:  
**MILWAUKEE COUNTY  
DEPARTMENT OF  
TRANSPORTATION  
AND PUBLIC WORKS**

Drawing Title:  
**Existing Conditions -  
Site Photographs**

PROJECT NO. P447-06804	SHEET NO. 00 OF 00
FILE NO.	

Baird Project Number: 9248.13

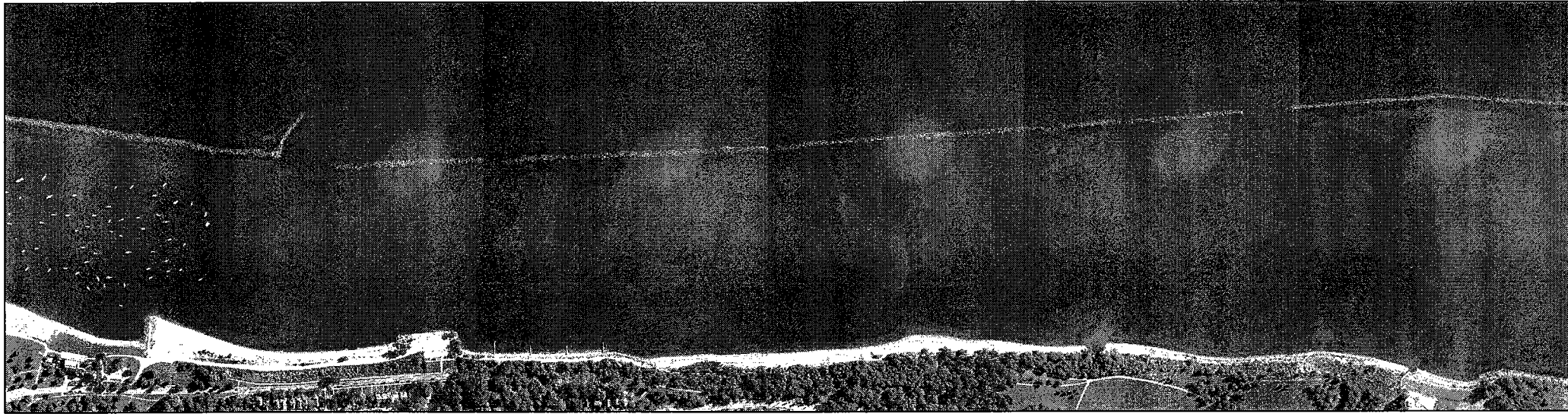
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Printed: \_\_\_\_\_

Drawing Number: 9248.13-00

Sheet Number: 00 of 00

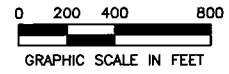
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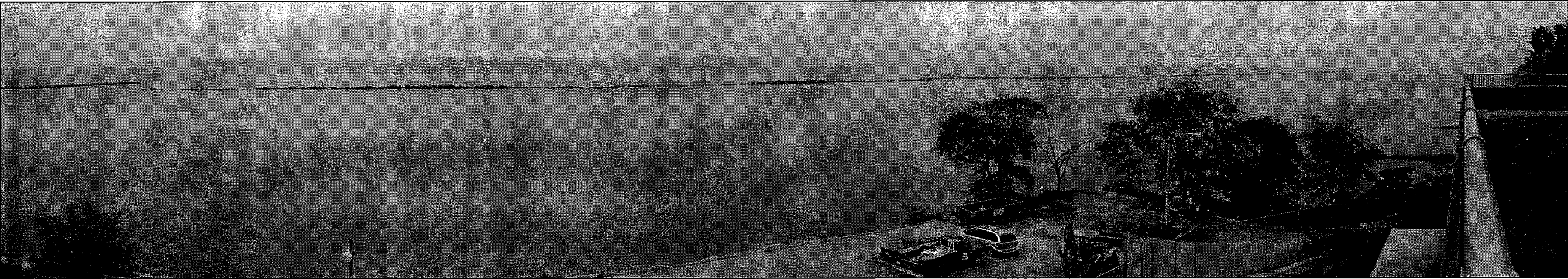
AERIAL PHOTOGRAPH



NORTH

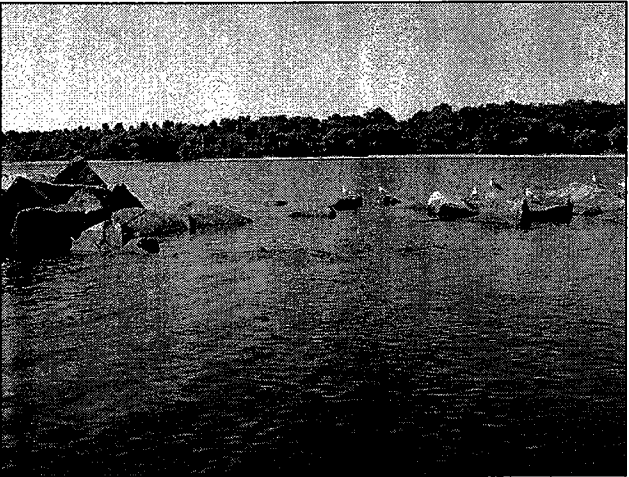


DATE OF PHOTOGRAPHS: 21 JULY 2004



① OFFSHORE BREAKWATER LOOKING LAKEWARD

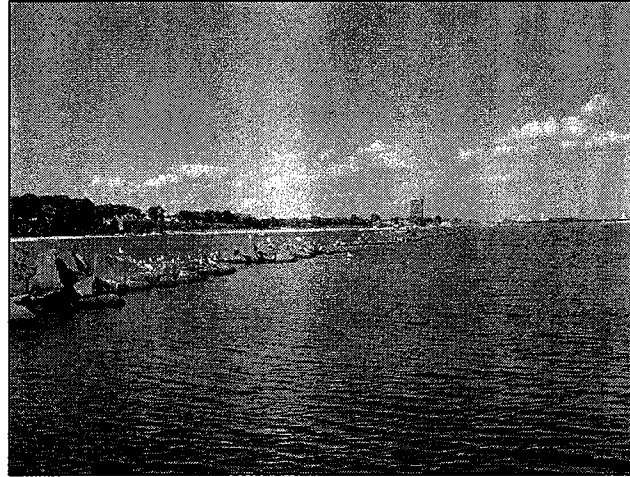
DATE OF PHOTOGRAPHS: 12 SEPT. 2002



② OFFSHORE BREAKWATER LOOKING LANDWARD



③ OFFSHORE BREAKWATER LOOKING LANDWARD



④ OFFSHORE BREAKWATER LOOKING LANDWARD



⑤ OFFSHORE BREAKWATER

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# Baird

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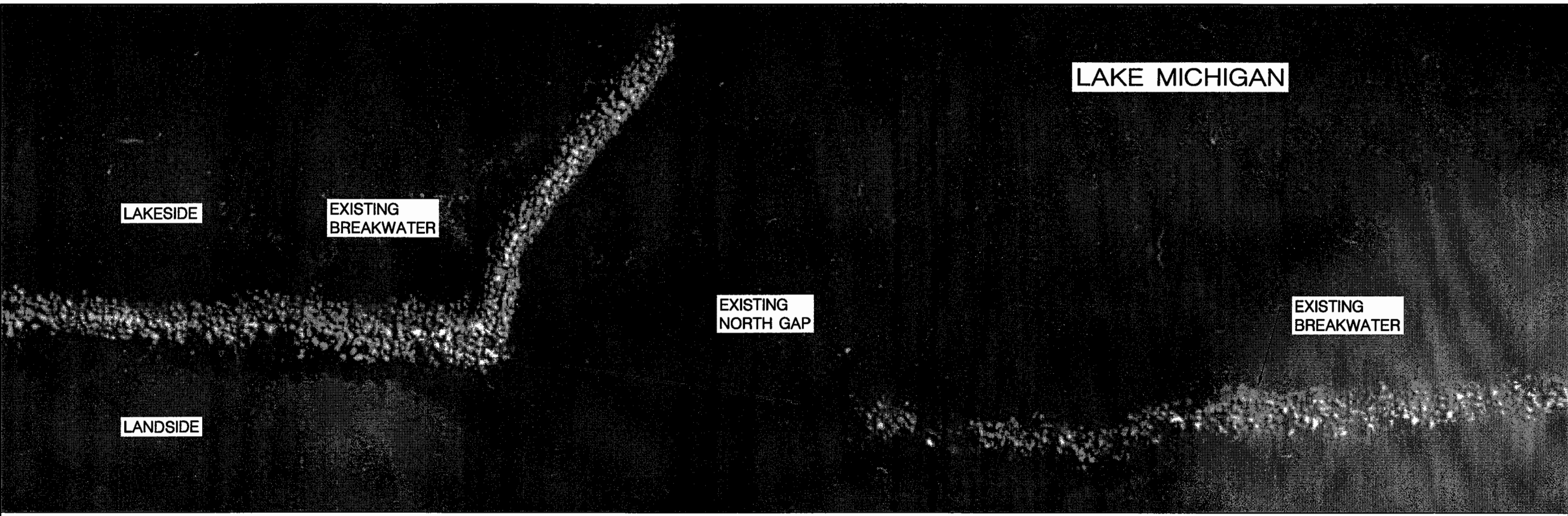
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Innovation, Excellence & Service  
Oceans, Lakes & Rivers

Drawn By: \_\_\_\_\_  
Checked By: \_\_\_\_\_  
Approved By: \_\_\_\_\_

Revisions:	Date:



**DRAFT**

Bid Documents  
**SOUTH SHORE  
BREAKWATER  
REHABILITATION**

MILWAUKEE,  
WISCONSIN

Prepared For:  
MILWAUKEE COUNTY  
DEPARTMENT OF  
TRANSPORTATION  
AND PUBLIC WORKS

Drawing Title:  
**Existing Conditions -  
Enlargement Aerial**

PROJECT NO. P447-06804	SHEET NO. 00 OF 00 FILE NO.
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Baird Project Number: 924613  
Date: 2006 Feb. 15  
Printed: \_\_\_\_\_  
Drawing Number: 924613-BW-00  
Sheet Number: 00 of 00

## SOUTH SHORE WATERFRONT - EXISTING CONDITIONS - ENLARGEMENT AERIAL

PREPARED FOR: MILWAUKEE COUNTY, DEPARTMENT OF PARKS AND PUBLIC INFRASTRUCTURE



NORTH

0 20' 40' 80'



GRAPHIC SCALE IN FEET

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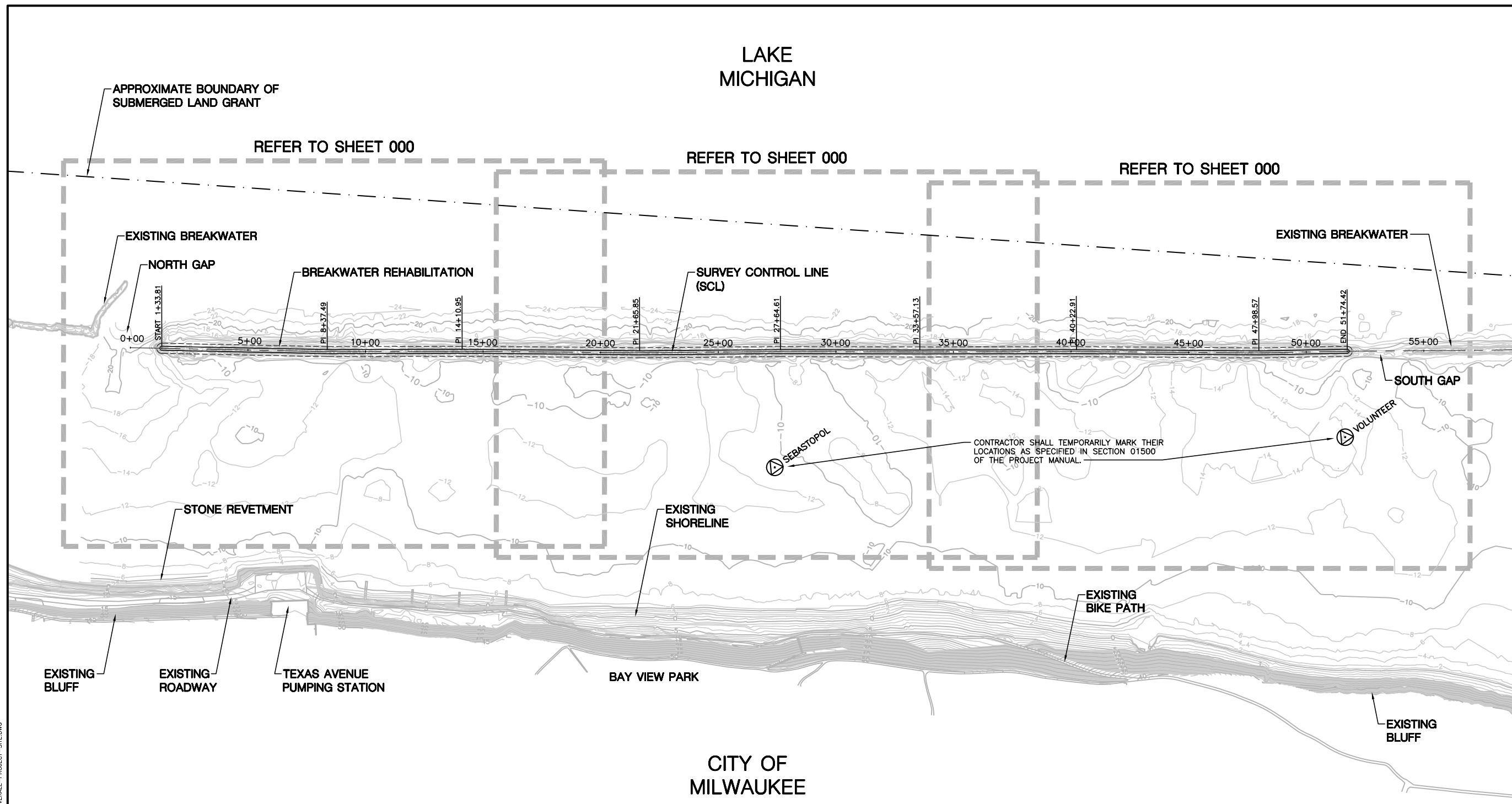
## LAKE MICHIGAN

REFER TO SHEET 000

REFER TO SHEET 000

REFER TO SHEET 000

APPROXIMATE BOUNDARY OF SUBMERGED LAND GRANT



**DRAFT**

Bid Documents  
**SOUTH SHORE BREAKWATER REHABILITATION**  
 MILWAUKEE, WISCONSIN  
 Prepared For:  
**MILWAUKEE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS**

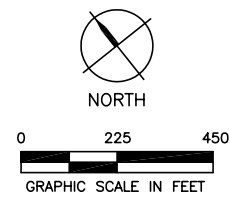
Drawing Title:  
**Improvement Plan - Overall Project Site**

PROJECT NO. P447-06604	SHEET NO. 00 OF 00 FILE NO.
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Baird Project Number: 9246.13  
 Date: 2006 Feb. 15  
 Printed:  
 Drawing Number: 924613-BW-00  
 Sheet Number: 00 of 00

HORIZONTAL ALIGNMENT AND STATION REPORT			
ALIGNMENT 1: BREAKWATER STRUCTURE			
DESCRIPTION: SURVEY CONTROL LINE (SCL)			
Desc.	Station	Spiral/Curve Data	North/Easting
START	000+00		368000.00 2536000.00
PI	100+00.00		368000.00 2536000.00
PI	100+00.00		368000.00 2536000.00
PI	100+00.00		368000.00 2536000.00
PI	100+00.00		368000.00 2536000.00
PI	100+00.00		368000.00 2536000.00
PI	100+00.00		368000.00 2536000.00
PI	100+00.00		368000.00 2536000.00
PI	100+00.00		368000.00 2536000.00
END	100+00		368000.00 2536000.00

- NOTES**
- TOPOGRAPHIC AND HYDROGRAPHIC SURVEY PERFORMED BY BAIRD & ASSOCIATES, MADISON, WI, EMCS DESIGN GROUP MILWAUKEE, WI AND SPATIAL DATA SURVEYS, VERONA, WI, AUGUST, 2002, USING HYPACK HYDROGRAPHIC SURVEY SOFTWARE, GPS RTK TECHNIQUES, AND CONVENTIONAL TOTAL STATION SURVEY TECHNIQUES.
  - CONTROL POINT DATA PROVIDED BY EMCS DESIGN GROUP, MILWAUKEE, WI.
  - HORIZONTAL DATUM IS REFERENCED TO WISCONSIN STATE PLANE COORDINATES, SOUTH ZONE, NAD83.
  - VERTICAL DATUM REFERENCED TO CMD; CMD = IGLD85 - 579.81, CMD = NGVD29 - 580.60.
  - EXISTING STRUCTURES SHOWN ARE BASED ON AERIAL PHOTOGRAPHY - TO BE FIELD VERIFIED BY THE CONTRACTOR.
  - CONTOURS AS SHOWN HAVE BEEN SMOOTHED FOR APPEARANCE, AND ARE SHOWN FOR GENERAL INFORMATION ONLY.

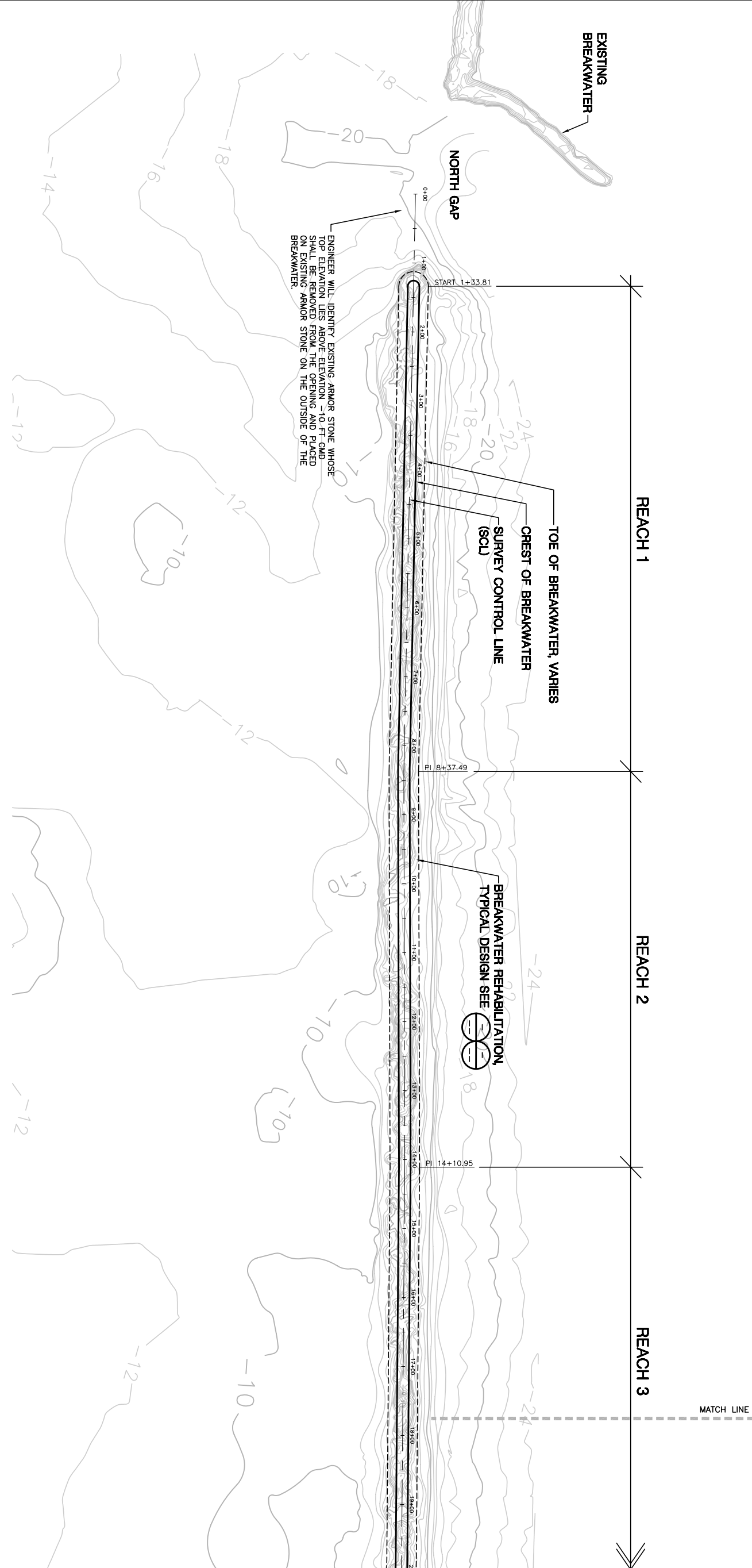


P:\09246.13 SOUTH SHORE CAD FILES\09-BID-DOCUMENTS\BW\DWG\9246.13-BW-06-OVERALL-PROJECT-SITE.DWG

IN-PROGRESS NOT FOR CONSTRUCTION

APPROXIMATE BOUNDARY OF  
SUBMERGED LAND GRANT

LAKE  
MICHIGAN



CITY OF  
MILWAUKEE



- NOTES:**
1. REFER TO DRAWING 000 FOR SURVEY AND ALIGNMENT INFORMATION.
  2. SEE DRAWING 000 FOR SURVEY AND ALIGNMENT INFORMATION.

**IN-PROGRESS NOT FOR CONSTRUCTION**

**Baird**

**W.R. Baird & Associates, Ltd**

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 608 273-2010  
 608 273-2010 Fax  
 Innovation, Excellence & Service  
 Oceans, Lakes & Rivers

Drawn By: \_\_\_\_\_  
 Checked By: \_\_\_\_\_  
 Approved By: \_\_\_\_\_

Revisions: \_\_\_\_\_ Date: \_\_\_\_\_


**DRAFT**

Bid Documents  
**SOUTH SHORE  
 BREAKWATER  
 REHABILITATION**  
**MILWAUKEE,  
 WISCONSIN**

Prepared For:  
**MILWAUKEE COUNTY  
 DEPARTMENT OF  
 TRANSPORTATION  
 AND PUBLIC WORKS**

Drawing Title:  
**Improvement Plan -  
 Site Plan**

PROJECT NO. P447-06604  
 SHEET NO. 00 OF 00  
 FILE NO. \_\_\_\_\_

Baird Project Number: 924613  
 Date: 2006 Feb. 15  
 Printed: \_\_\_\_\_  
 Drawing Number: 924613-BW-00  
 Sheet Number: 00 of 00

APPROXIMATE BOUNDARY OF  
SUBMERGED LAND GRANT

LAKE  
MICHIGAN

MATCH LINE - A

REACH 3

REACH 4

REACH 5

REACH 6

MATCH LINE - B

TOE OF BREAKWATER, VARIES  
CREST OF BREAKWATER  
SURVEY CONTROL LINE  
(SCL)

BREAKWATER REHABILITATION,  
TYPICAL DESIGN SEE



PI 21+65.85

PI 27+64.61

PI 33+57.13

SEBASTOPOL



0 40 80 160  
GRAPHIC SCALE IN FEET

CITY OF  
MILWAUKEE

- NOTES:**
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Approved By: \_\_\_\_\_

Revisions: \_\_\_\_\_ Date: \_\_\_\_\_

**DRAFT**

Bid Documents  
**SOUTH SHORE  
BREAKWATER  
REHABILITATION**  
MILWAUKEE,  
WISCONSIN

Prepared For:  
**MILWAUKEE COUNTY  
DEPARTMENT OF  
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Drawing Title:  
**Improvement Plan -  
Site Plan**

PROJECT NO. P447-06604	SHEET NO. 00 OF 00
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Baird Project Number: 924613  
Date: 2006 Feb. 15  
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Drawing Number: 924613-BW-00  
Sheet Number: 00 of 00

APPROXIMATE BOUNDARY OF SUBMERGED LAND GRANT

LAKE MICHIGAN

REACH 6

REACH 7

REACH 8

BREAKWATER REHABILITATION TYPICAL DESIGN SEE



PI 40+22.91

TOE OF BREAKWATER VARIES  
CREST OF BREAKWATER  
SURVEY CONTROL LINE (SCL)

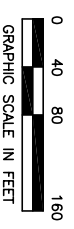
PI 47+98.57

ENGINEER WILL IDENTIFY EXISTING ARMOR STONE WHOSE TOP ELEVATION LIES ABOVE ELEVATION -10 FT CMD SHALL BE REMOVED FROM THE OPENING AND PLACED ON EXISTING ARMOR STONE ON THE OUTSIDE OF THE BREAKWATER.

END 51+74.42

SOUTH GAP

EXISTING BREAKWATER



CITY OF MILWAUKEE



VOLUNTEER

- NOTES:**
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Approved By: \_\_\_\_\_

Revisions: \_\_\_\_\_ Date: \_\_\_\_\_

**DRAFT**

Bid Documents  
**SOUTH SHORE  
BREAKWATER  
REHABILITATION**  
MILWAUKEE,  
WISCONSIN

Prepared For:  
**MILWAUKEE COUNTY  
DEPARTMENT OF  
TRANSPORTATION  
AND PUBLIC WORKS**

Drawing Title:  
**Improvement Plan -  
Site Plan**

PROJECT NO. P447-06604	SHEET NO. 00 OF 00
FILE NO.	

Baird Project Number: 924613  
Date: 2006 Feb. 15  
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Drawing Number: 924613-BW-00  
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Drawn By: \_\_\_\_\_  
 Checked By: \_\_\_\_\_  
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Revisions: \_\_\_\_\_ Date: \_\_\_\_\_


DRAFT

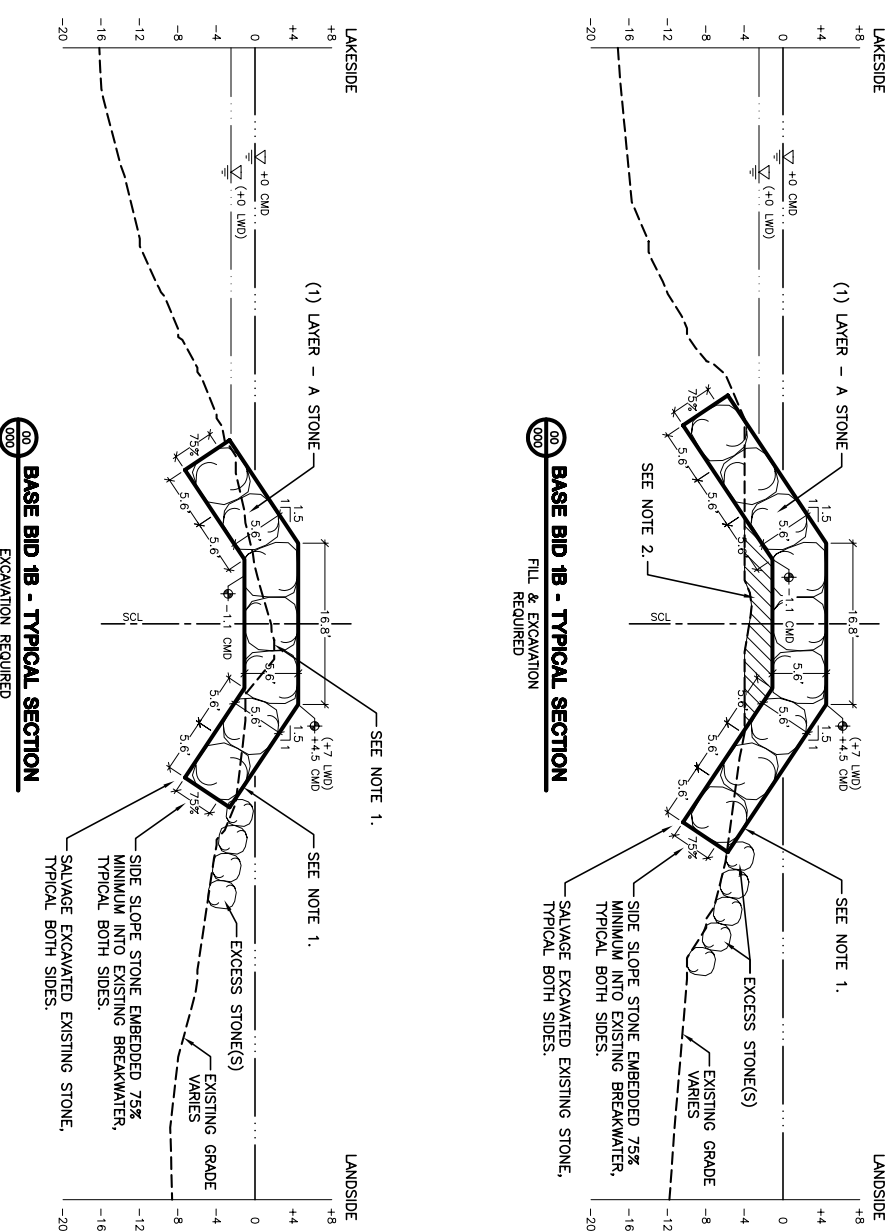
Bid Documents  
**SOUTH SHORE  
 BREAKWATER  
 REHABILITATION**  
**MILWAUKEE,  
 WISCONSIN**

Prepared For:  
**MILWAUKEE COUNTY  
 DEPARTMENT OF  
 TRANSPORTATION  
 AND PUBLIC WORKS**

Drawing Title:  
**Base Bid 1B -  
 Typical Breakwater Designs**

PROJECT NO. P447-06504	SHEET NO. 00 OF 00
FILE NO.	

Baird Project Number: 924613  
 Date: 2006 Feb. 15  
 Printed: \_\_\_\_\_  
 Drawing Number: 924613-00  
 Sheet Number: 00 of 00

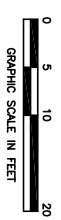


**NOTES:**

1. REMOVE EXISTING STONE ABOVE ELEVATION -1.1 FT CMD AND AS REQUIRED TO PLACE A SINGLE LAYER OF NEW ARMOR STONE. TOE-IN SIDE SLOPE ARMOR UNITS. STONE REMOVED FROM THE EXISTING BREAKWATER TO ACHIEVE A PROPER SETTING BED FOR THE NEW ARMOR STONE SHALL BE USED TO RAISE OTHER CROSS SECTIONS, IF REQUIRED. TO ELEVATION -1.1 FT CMD. EXCESS STONE NOT USED TO RAISE OTHER CROSS SECTIONS SHALL BE PLACED ON THE LANDWARD SIDE SLOPE OF THE EXISTING BREAKWATER, IMMEDIATELY ADJACENT TO THE TOE OF THE NEW ARMOR STONE.
2. USE STONE EXCAVATED FROM OTHER AREAS OF THE BREAKWATER AS FILL TO CREATE INTERLOCKING BEDDING FOR NEW ARMOR STONE.

**BASE BID 1B - TYPICAL SECTION**  
 EXCAVATION REQUIRED

- NOTES:**
1. ALL ELEVATIONS ARE IN FEET TO CMD.
  2. ALL DIMENSIONS ARE IN FEET.



Drawn By:	_____	Date:	_____
Checked By:	_____		
Approved By:	_____		
Revisions:	_____	Date:	_____

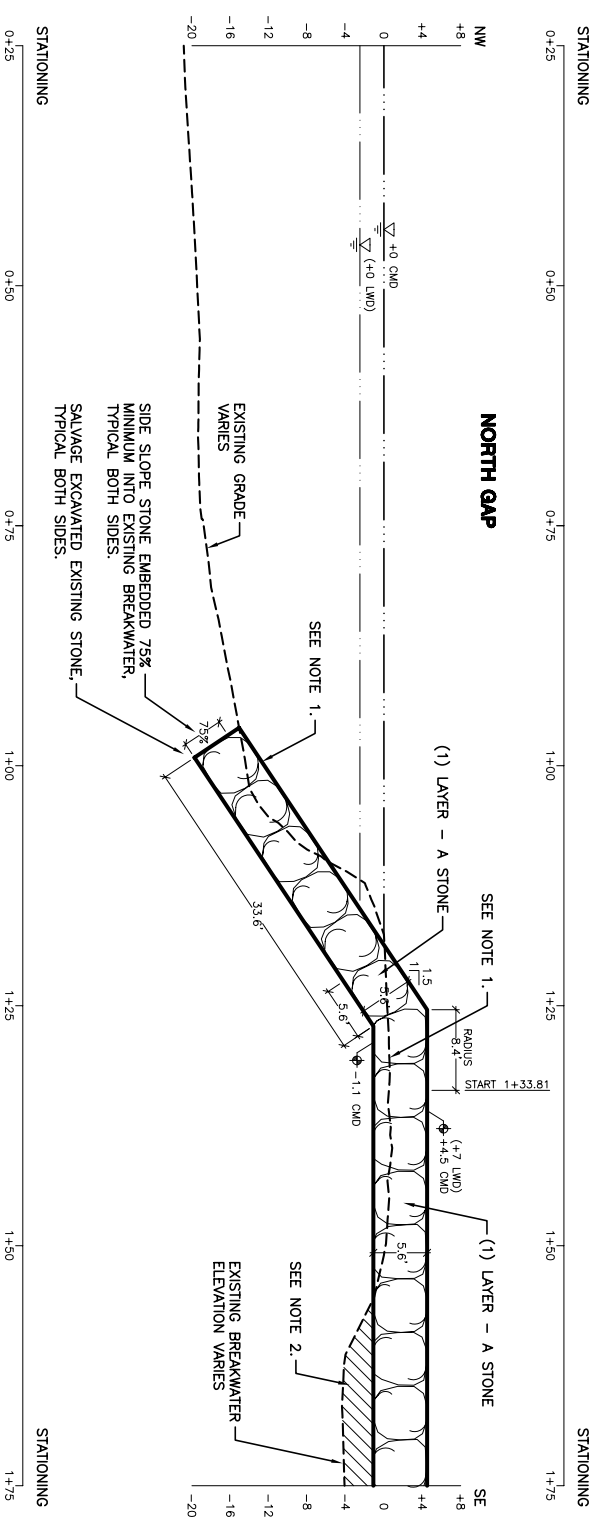

DRAFT

Bid Documents  
**SOUTH SHORE  
 BREAKWATER  
 REHABILITATION**  
**MILWAUKEE,  
 WISCONSIN**

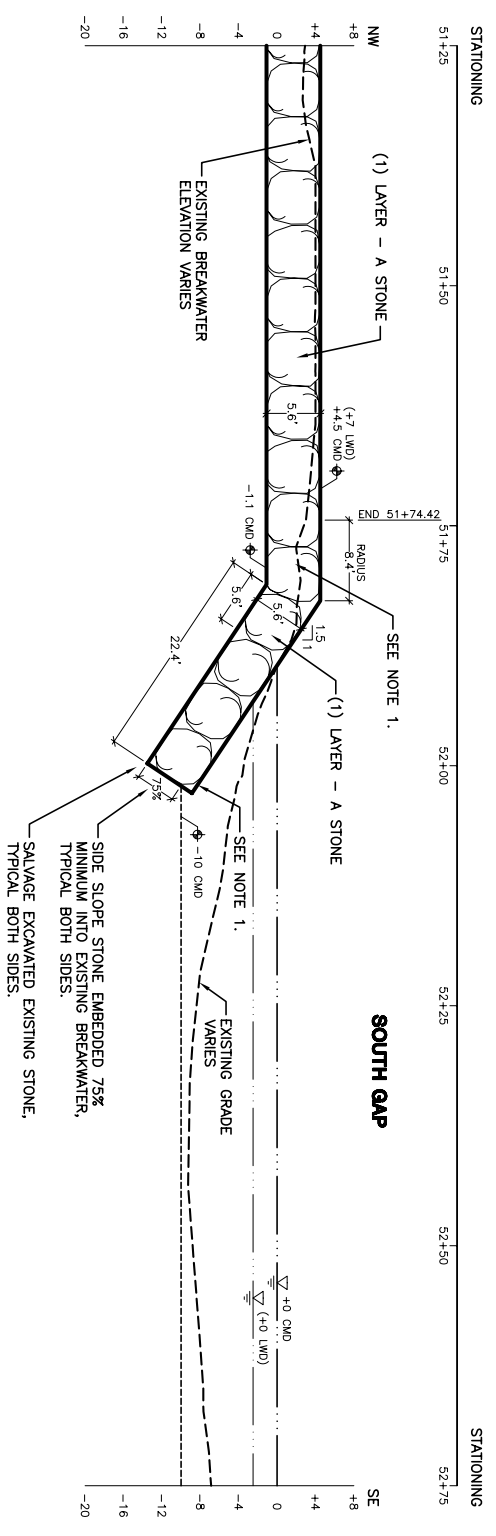
Prepared For:  
**MILWAUKEE COUNTY  
 DEPARTMENT OF  
 TRANSPORTATION  
 AND PUBLIC WORKS**

Drawing Title: <b>Base Bid 1B - Profile Designs</b>	
PROJECT NO. P447-06504	SHEET NO. 00 OF 00
FILE NO.	

Baird Project Number: **924613**  
 Date: **2006 Feb. 15**  
 Printed: \_\_\_\_\_  
 Drawing Number: **924613-00**  
 Sheet Number: **00** of **00**



**BASE BID 1B - PROFILE NORTH GAP**  
 FILL & EXCAVATION  
 REQUIRED



**BASE BID 1B - PROFILE SOUTH GAP**  
 EXCAVATION REQUIRED

**NOTES:**

1. REMOVE EXISTING STONE ABOVE ELEVATION -1.1 FT CMD AND AS REQUIRED TO PLACE A SINGLE LAYER OF NEW ARMOR STONE. TOE-IN SIDE SLOPE ARMOR UNITS. STONE REMOVED FROM THE EXISTING BREAKWATER TO ACHIEVE A PROPER SETTING BED FOR THE NEW ARMOR STONE SHALL BE USED TO RAISE OTHER CROSS SECTIONS, IF REQUIRED. TO ELEVATION -1.1 FT CMD. EXCESS STONE NOT USED TO RAISE OTHER CROSS SECTIONS SHALL BE PLACED ON THE LANDWARD SIDE SLOPE OF THE EXISTING BREAKWATER, IMMEDIATELY ADJACENT TO THE TOE OF THE NEW ARMOR STONE.
2. USE STONE EXCAVATED FROM OTHER AREAS OF THE BREAKWATER AS FILL TO CREATE INTERLOCKING BEDDING FOR NEW ARMOR STONE.

**NOTES:**

1. ALL ELEVATIONS ARE IN FEET TO CMD.
2. ALL DIMENSIONS ARE IN FEET.

