

# Lake Erie Diving, Inc.

546 Hoyt St. Unit #5  
Painesville, OH 44077

Office (440) 942-3814

RECEIVED

SEP 19 2001

HNTB Ohio, Inc.  
Fax (440) 352-8471

## UNDERWATER BRIDGE INSPECTION REPORT

### Location:

Bridge #: CUY-6-1499  
Detroit-Superior  
Waterway: Cuyahoga River  
City: Cleveland, Ohio

### Inspected By:

Diver: Jason Fischer  
Tender: Pat Murphy - Mark Maquire  
Date: 11 September 2001

### Inspection Performed For:

Name: HNTB  
Address: 55 Erieview Plaza Suite 500  
Cleveland, Ohio 44114-1816  
Field Representative: Byron Sah  
Telephone #: (216) 522-1140

### Water Elevation:

Reference Location: Pier #4-East Bank From the top of the concrete cap to the  
waterline, just downstream of the pier column corner. (See Sketch)  
Water Elevation (Field Measurement): 5.5'

Weather Conditions: Sunny

Water Conditions: Calm - 74 Degrees

Soundings: Equipment Used: Weighted Tape Measure  
*(See Attached Print)*

Number of Piers Inspected: 2  
*(See Attached For Detailed Observations)*

Number of Abutments Inspected: 0  
*(See Attached For Detailed Observations)*

Culvert: N/A  
*(See Attached For Detailed Observations)*

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## PIER OBSERVATIONS

**Bridge #:** CUY-6-1499

**Inspection Date:** 11 September 2001

**Pier Number:** West Bank - Pier #3

*(Reference Attached Print)*

**Type of Construction:** Concrete:  Cut-Stone:  Timber:  Steel:   
Other:

**Bottom Material:** Concrete rubble & rebar

**Debris Around Pier:** Concrete rubble & rebar

**Scour:** None

**Exposed Footer:** None

**Footer Undermining:** None

**Exposed Piling Under Footer:** N/A

**Piling Condition:** N/A

**Cracks & Spalls:** Yes - See sketch

**Fender Condition:** N/A

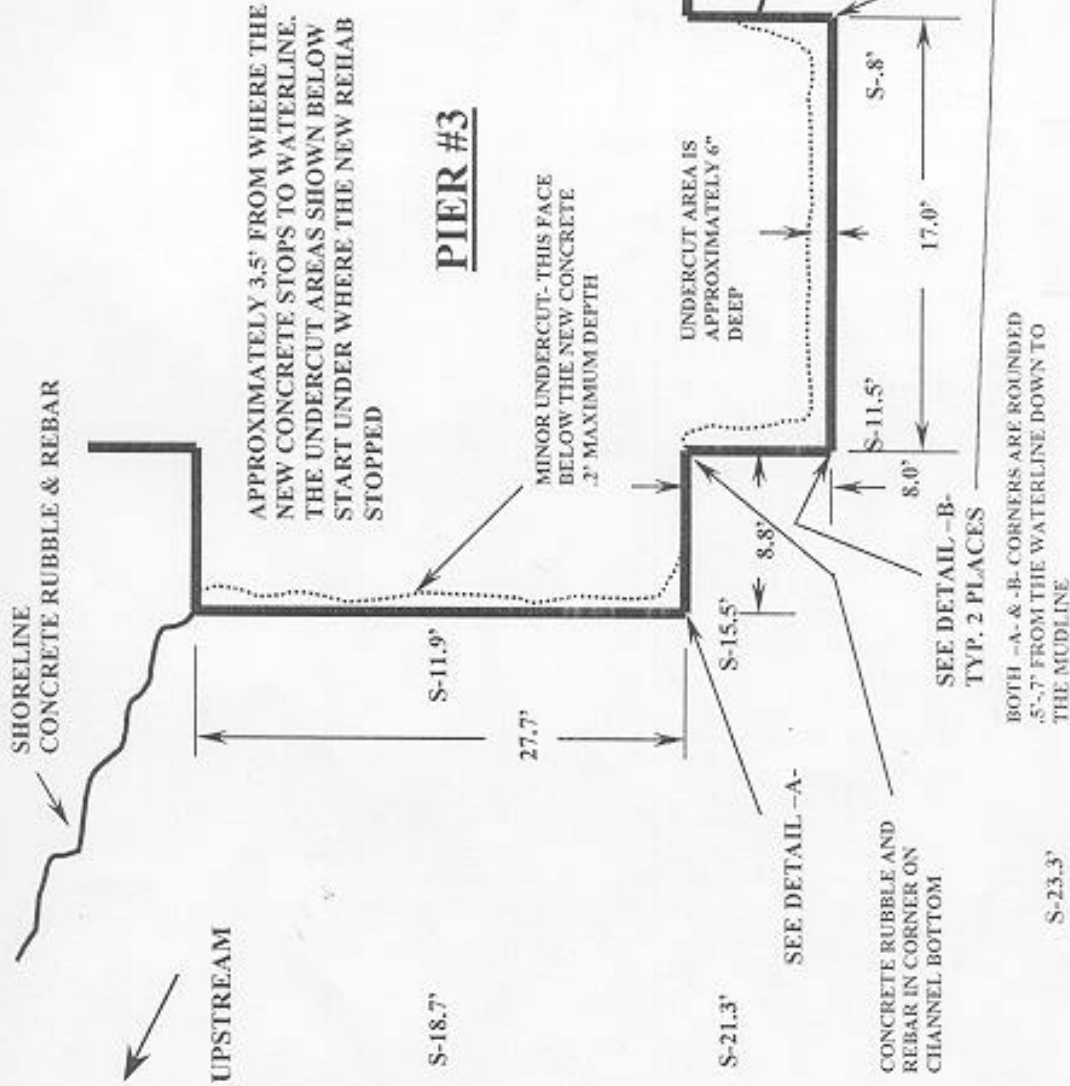
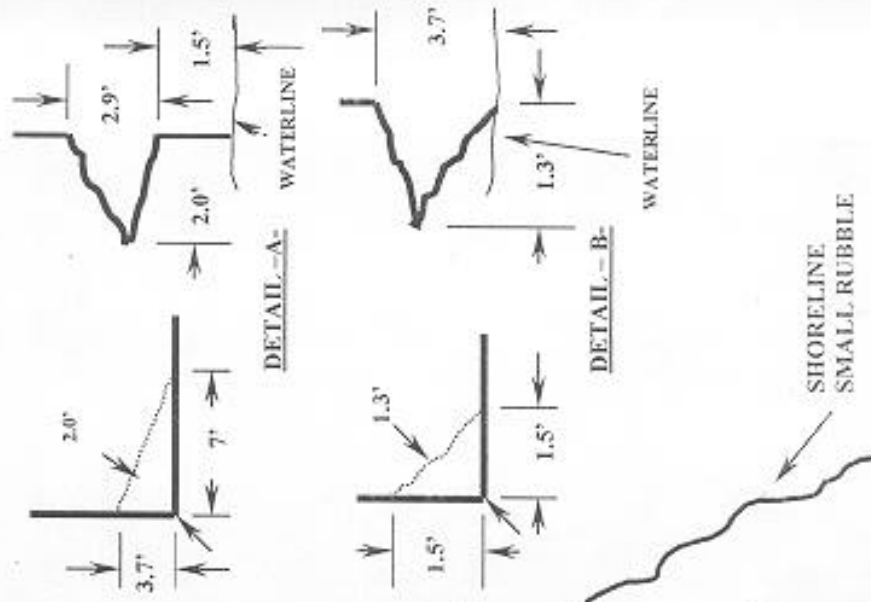
**Impact Damage:** Pier corners are spalled above the waterline - see detail. Corners are rounded and spalled below the waterline.

**Unusual Conditions:** New concrete placed during rehab stopped 3.5' above waterline. Existing concrete below the new has spalling on the face with the corners rounded below the waterline.

**Overall Condition Rating:** Good

ALL NUMBERS PRECEDED BY AN S-  
REPRESENT SOUNDINGS TAKEN  
AGAINST THE PIER AND 25' OUT

NO ZEBRA MUSSEL COVERAGE ON  
CONCRETE FACES UNDERWATER



EXISTING STEEL  
SHEET PILING  
POOR CONDITION

S-19.7'

CUYAHOGA RIVER  
DOWNSTREAM

DETROIT SUPERIOR  
PIER #3 WEST BANK

LAKE ERIE DIVING, INC.

CLIENT: HNTB

SUBJECT: UNDERWATER BRIDGE INSPECTION

SCALE: NONE | STRUCTURE I.D.: CUY-6-1499

DRAWN BY: PM | INSPECTION DATE: 11 SEPT. 2001

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## PIER OBSERVATIONS

**Bridge #:** CUY-6-1499

**Inspection Date:** 11 September 2001

**Pier Number:** East Bank - Pier #4

*(Reference Attached Print)*

**Type of Construction:** Concrete:  Cut-Stone:  Timber:  Steel:   
Other:

**Bottom Material:** Soft silt

**Debris Around Pier:** None

**Scour:** None

**Exposed Footer:** None

**Footer Undermining:** None

**Exposed Piling Under Footer:** None

**Piling Condition:** N/A

**Cracks & Spalls:** Yes - see sketch

**Fender Condition:** N/A

**Impact Damage:** None

**Unusual Conditions:** None

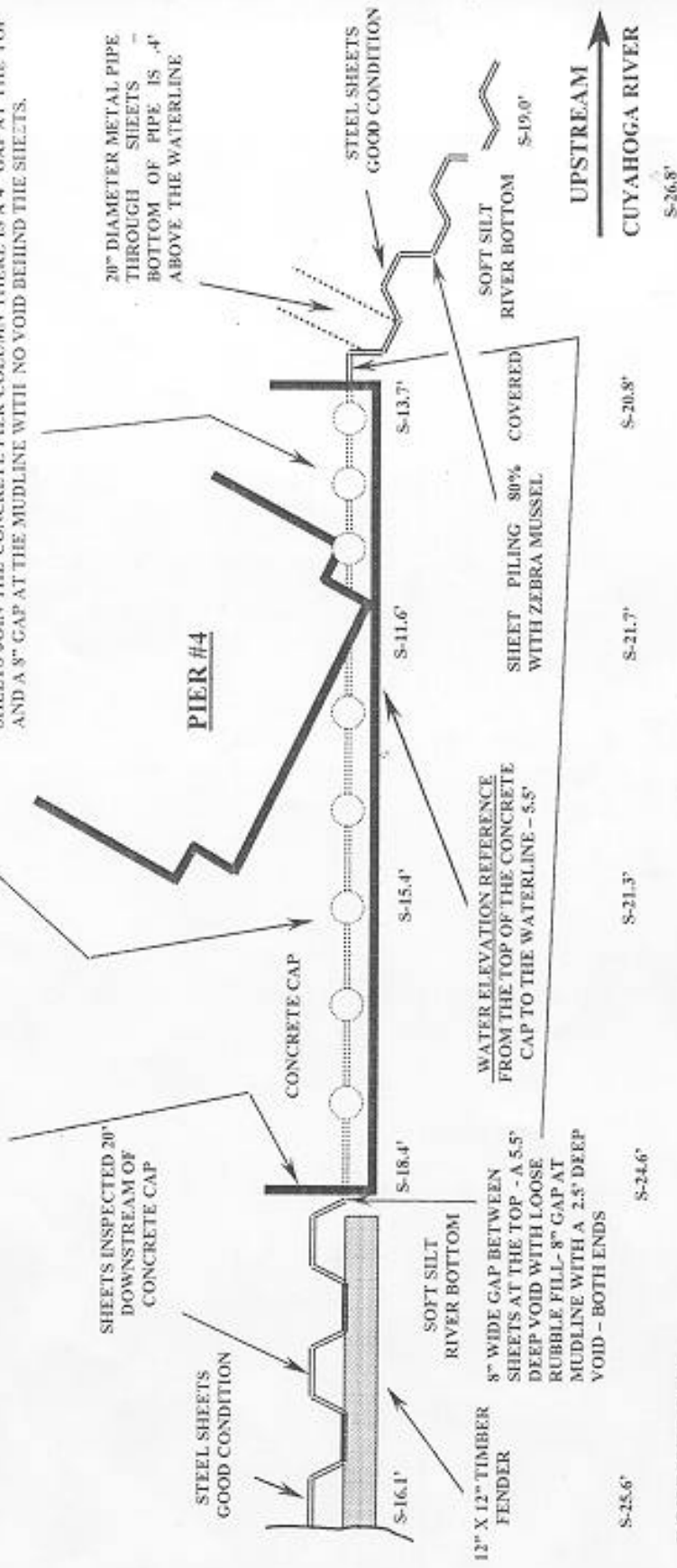
**Overall Condition Rating:** Good

THE SHEET PILING UNDER THE CONCRETE CAP WAS FOUND NOT TO BE Z-SHAPED. WE BELIEVE THAT IT WAS CONSTRUCTED USING EIGHT CIRCULAR PILING WITH FLAT SHEETS BETWEEN. ALL SHEETS AND ROUND PILING ARE IN GOOD CONDITION AT THIS TIME.

**CONCRETE CAP**  
 CONCRETE CAP HAS MINOR SPALLING ON THE LOWER HALF WITH NO EXPOSED REBAR. EXCEPT WHERE THE PIER COLUMN JOINS THE CONCRETE CAP THERE IS HEAVY SPALLING THE ENTIRE HEIGHT. EIGHT HORIZONTAL REBAR ARE EXPOSED 3' DOWNSTREAM AND 10' UPSTREAM FROM THE PIER COLUMN CORNER. THE BOTTOM OF THE CONCRETE CAP IS 1.5' BELOW THE SURFACE AND EXTENDS OUT APPROXIMATELY 2' FROM THE STEEL SHEETS.

WHERE THE DOWNSTREAM SHEETS JOIN THE CONCRETE PIER COLUMN THERE IS APPROXIMATELY 5" OF THE CONCRETE FACE EXPOSED. WHERE THE STEEL SHEETS JOIN THE CONCRETE PIER COLUMN THERE IS 3" GAP AT THE TOP WITH A 6" DEEP VOID AND A 6" GAP AT THE MUDLINE WITH A 3" DEEP VOID BEHIND THE SHEETS.

WHERE THE UPSTREAM SHEETS JOIN THE CONCRETE PIER COLUMN THERE IS APPROXIMATELY 1" OF THE CONCRETE FACE EXPOSED. WHERE THE STEEL SHEETS JOIN THE CONCRETE PIER COLUMN THERE IS A 4" GAP AT THE TOP AND A 8" GAP AT THE MUDLINE WITH NO VOID BEHIND THE SHEETS.



DOWNSTREAM  
 CUYAHOGA RIVER

UPSTREAM  
 CUYAHOGA RIVER

ALL NUMBERS PRECEDED BY AN S- REPRESENT SOUNDINGS TAKE AT THE LOCATIONS SHOWN

<b>LAKE ERIE DIVING, INC.</b>	
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**DETROIT - SUPERIOR  
 PIER #4 - EAST BANK**





