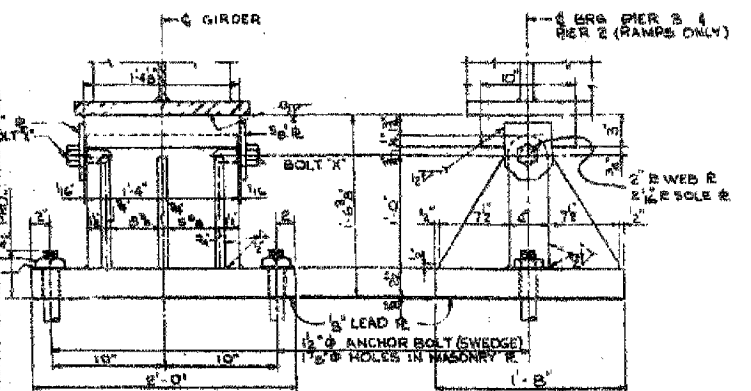


**MATERIAL - TYPE 'A'**

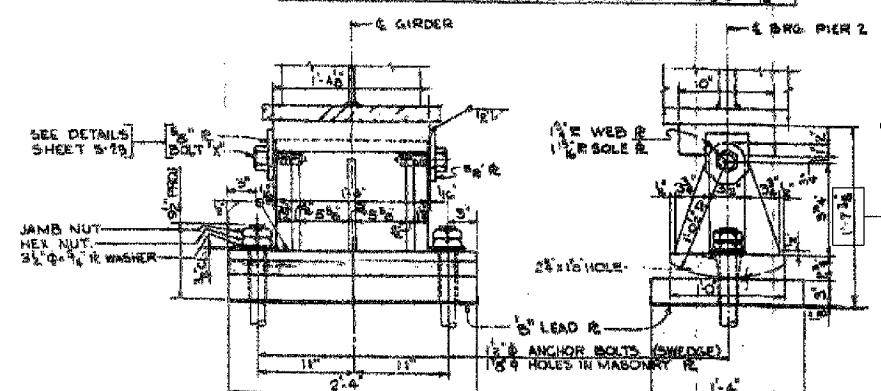
|           |                    |                  |                 |
|-----------|--------------------|------------------|-----------------|
| SOLE R    | 10' - 3" x 14"     | 2 - 5/8" R       | 5' - 8" x 8"    |
| MASONRY R | 20' - 2" x 2'-0"   | 2 - BOLT "A"     | 1 1/2" x 3"     |
| WEB R     | 14" x 2" x 1/4"    | 2 - ANCHOR BOLTS | 1 1/2" x 2'-0"  |
| ROCKER R  | 7 1/2" x 3" x 1/4" | 2 - R WASHERS    | 3 1/2" x 5 1/2" |
| 1" LEAD R | 20' - 0" x 2'-0"   |                  |                 |



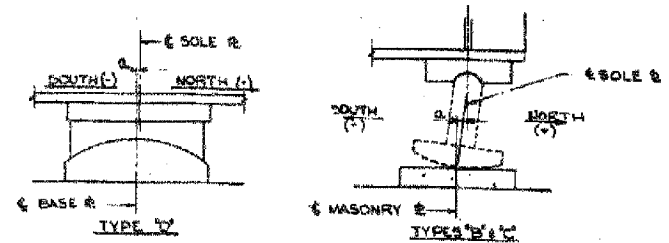
**FIXED BRG TYPE 'A' (32 REQ)**  
SCALE: 1/2" = 1'-0"

**MATERIAL - TYPE 'B'**

|                |                      |                  |                 |
|----------------|----------------------|------------------|-----------------|
| SOLE R         | 10' - 3" x 14"       | 1 LEAD R         | 14" x 2" x 1/4" |
| MASONRY R      | 16' - 3" x 2'-4"     | 2 - 5/8" R       | 5' - 8" x 8"    |
| WEB R          | 14" x 2" x 1/4"      | 2 - BOLT "A"     | 1 1/2" x 3"     |
| ROCKER R       | 12" x 2 1/2" x 2'-0" | 2 - ANCHOR BOLTS | 1 1/2" x 2'-0"  |
| 6" STIFFENER R | 24" x 3" x 1/4"      | 2 - R WASHERS    | 3 1/2" x 5 1/2" |



**EXPANSION BEARING TYPE 'B' (16 REQ)**  
SCALE: 1/2" = 1'-0"



**SOLE R SETTING DIAGRAM**

**TABLE OF SETTINGS (d)**

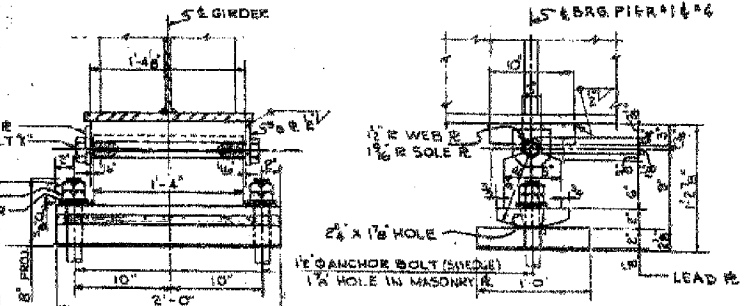
| TEMPERATURE          | 110°    | 90°     | 70°     | 50°     | 30° | 10°     |
|----------------------|---------|---------|---------|---------|-----|---------|
| LOCATION OF BEARINGS | ROADWAY |         |         |         |     |         |
| PIER #1 (NORTH)      | C       | -1 1/2" | -3 1/2" | -5 1/2" | 0   | -1 1/2" |
| PIER #2              | B       | -5 1/2" | -7 1/2" | -5 1/2" | 0   | -1 1/2" |
| PIER #3 (FIXED)      | A       | 0       | 0       | 0       | 0   | 0       |
| PIER #4 (SOUTH)      | C       | -1 1/2" | -3 1/2" | -5 1/2" | 0   | -1 1/2" |
| LOCATION OF BEARINGS | RAMP    |         |         |         |     |         |
| PIER #1 (NORTH)      | C       | -1 1/2" | -3 1/2" | -5 1/2" | 0   | -1 1/2" |
| PIER #2 (FIXED)      | A       | 0       | 0       | 0       | 0   | 0       |
| SUSPENDED SPAL       | A       | 0       | 0       | 0       | 0   | 0       |
| SOUTH END (FIXED)    | E       | 0       | 0       | 0       | 0   | 0       |
| NORTH END            | D       | -2 1/2" | -1 1/2" | -3 1/2" | 0   | -1 1/2" |
| PIER #3 (FIXED)      | A       | 0       | 0       | 0       | 0   | 0       |
| PIER #4 (SOUTH)      | C       | -1 1/2" | -3 1/2" | -5 1/2" | 0   | -1 1/2" |

**SCHEDULE OF BEARINGS**

| BEARING TYPE | NUMBER REQUIRED | WEIGHT OF STEEL PER BRG. (LBS) | TOTAL STEEL (LBS) |
|--------------|-----------------|--------------------------------|-------------------|
| A            | 32              | 871                            | 27,872            |
| B            | 16              | 1,070                          | 17,120            |
| C            | 48              | 546                            | 26,208            |
| D            | 8               | 703                            | 5,624             |
| E            | 8               | 172                            | 1,376             |
| <b>TOTAL</b> |                 |                                | <b>87,800</b>     |

**MATERIAL - TYPE 'C'**

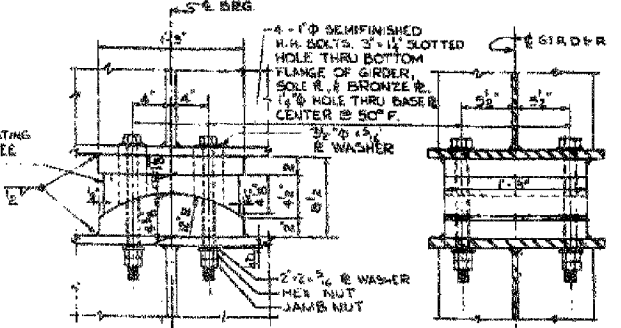
|           |                     |                  |                 |
|-----------|---------------------|------------------|-----------------|
| SOLE R    | 10' - 3" x 14"      | 2 - 5/8" R       | 5' - 8" x 8"    |
| MASONRY R | 12' - 2" x 2'-0"    | 2 - BOLT "A"     | 1 1/2" x 3"     |
| WEB R     | 8 1/2" x 5" x 1/4"  | 2 - ANCHOR BOLTS | 1 1/2" x 2'-0"  |
| ROCKER R  | 8 1/2" x 2" x 2'-0" | 2 - R WASHERS    | 3 1/2" x 5 1/2" |
| 1" LEAD R | 12' - 0" x 2'-0"    |                  |                 |



**EXPANSION BRG TYPE 'C' (48 REQ)**  
SCALE: 1/2" = 1'-0"

**MATERIAL - TYPE 'D'**

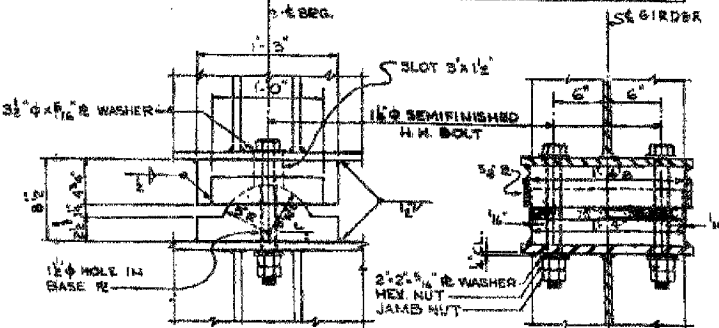
|          |                      |               |                  |
|----------|----------------------|---------------|------------------|
| SOLE R   | 15' - 2" x 1'-3"     | 4 - BOLTS     | 1" x 1'-3"       |
| BRONZE R | 14" x 4 1/2" x 1'-3" | 4 - R WASHERS | 3 1/2" x 5 1/2"  |
| BASE R   | 15' - 4 1/2" x 1'-2" | 4 - R WASHERS | 2' - 2" x 5 1/2" |



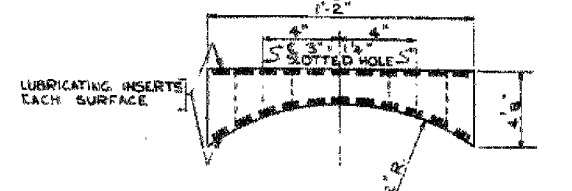
**EXPANSION BRG. TYPE 'D' (8 REQ)**  
SCALE: 1/2" = 1'-0"

**MATERIAL - TYPE 'E'**

|            |                      |               |                  |
|------------|----------------------|---------------|------------------|
| SOLE R     | 15' - 4 1/2" x 1'-3" | 2 - BOLTS     | 1" x 1'-3"       |
| BASE R     | 15' - 4 1/2" x 1'-4" | 2 - R WASHERS | 3 1/2" x 5 1/2"  |
| 2 - 5/8" R | 5 1/2" x 5" x 1'-0"  | 2 - R WASHERS | 2' - 2" x 5 1/2" |



**FIXED BRG. TYPE 'E' (8 REQ)**  
SCALE: 1/2" = 1'-0"



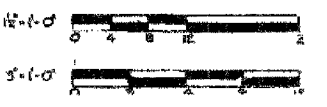
**DETAIL OF SELF LUBRICATING BRONZE R**  
SCALE: 3" = 1'-0"

NOTE: SEE ANCHOR BOLT SETTING DETAIL SHY. 523  
ALL WELDED PLATES TO BE A-7 STEEL  
ROCKER R & WEB R FOR EXPANSION BRG TYPES  
SHY. 523 CAN BE GRADE 60-80 CARBON STEEL  
CASTING

**BILL OF MATERIAL**

| ITEM             | UNIT | QUANTITY |
|------------------|------|----------|
| STRUCTURAL STEEL | LBS. | 87,800   |

INCLUDED IN W.T. OF SHY. 511  
SCALE OF TRACING



Designed: N.S.W.  
Drawn: M.M.M.  
Checked: R.J.V.  
In Charge: N.S. WULF  
Approved: L.N. RIAN

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
SOUTH ROUTE SUPERHIGHWAY  
ELEVATED HIGHWAY

W. 16 TH. ST. TO W. 15 TH. ST.

SECTION 3-2522.3-2H  
BEARINGS UNIT I

DE LEUW, CATHER & COMPANY  
CONSULTING ENGINEERS CHICAGO  
SCALE: AS NOTED DATE: AUGUST, 1961

Sheet S17 of 56

REVISIONS

| NAME | DATE |
|------|------|
|      |      |
|      |      |
|      |      |
|      |      |
|      |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
DAN RYAN ELEVATED BRIDGE  
BEARING REPLACEMENT & STEEL REPAIR  
EXISTING PLAN INFORMATION  
SN 016-1110

SCALE: NTS  
DATE: 5/18/2007  
DRAWN BY: LAM  
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
Chicago, Illinois  
312.228.0100  
www.bbainc.com

FOR INFORMATION ONLY