

30M3-102

GEOCRES No.

CONT 70-013

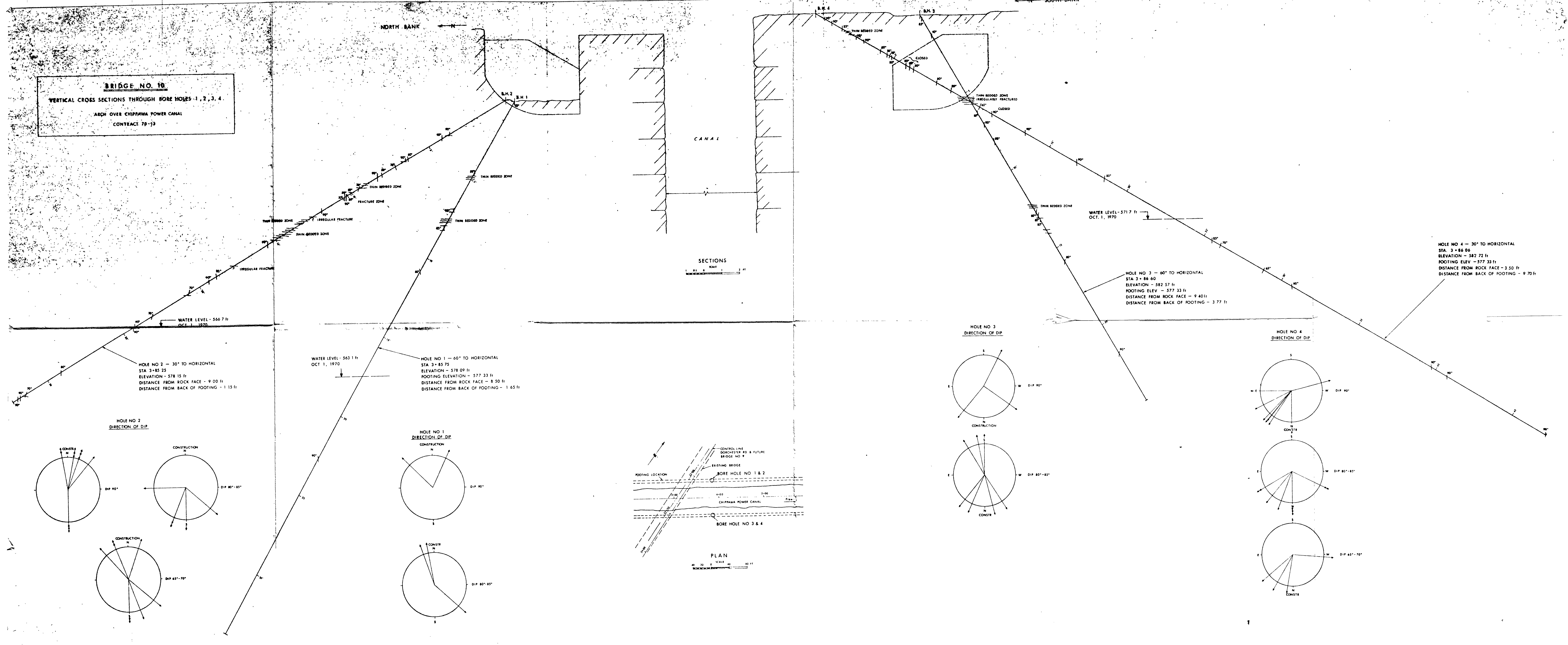
DEPARTMENT OF HIGHWAYS, ONTARIO

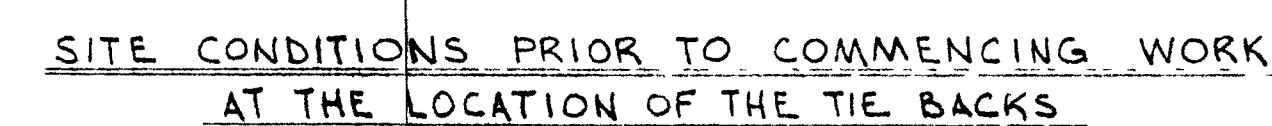
FOUNDATIONS FOR BRIDGE NO. 10

OVER THE CHIPPAWA CANAL

NIAGARA FALLS, ONTARIO

**BRIDGE NO. 10**  
**VERTICAL CROSS SECTIONS THROUGH BORE HOLES - 1, 2, 3, 4.**  
 ARCH OVER CHIPPAWA POWER CANAL  
 CONTRACT 70-13

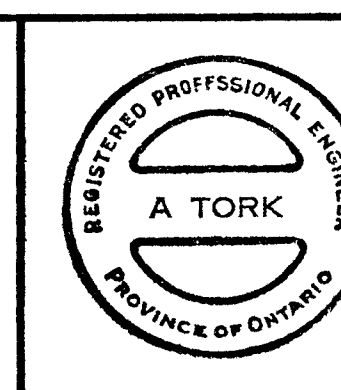
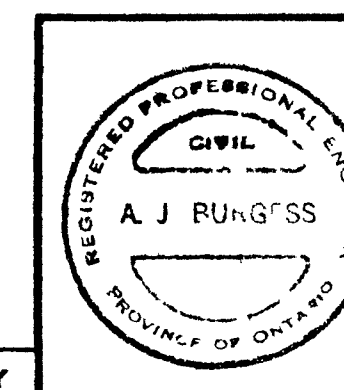




THE TIE BACKS ARE A PERMANENT PART OF CONSTRUCTION. THE WORKING LOAD MUST BE MAINTAINED IN THE COMPLETED STRUCTURE FOLLOW SPECIFIED STRESSING PROCEDURE OVER THE FULL LENGTH OF ARCH FOUNDATIONS. AT END SECTIONS THE REQUIREMENTS FOR STRESSING THE ADJACENT SECTIONS APPLY ON ONE SIDE ONLY.

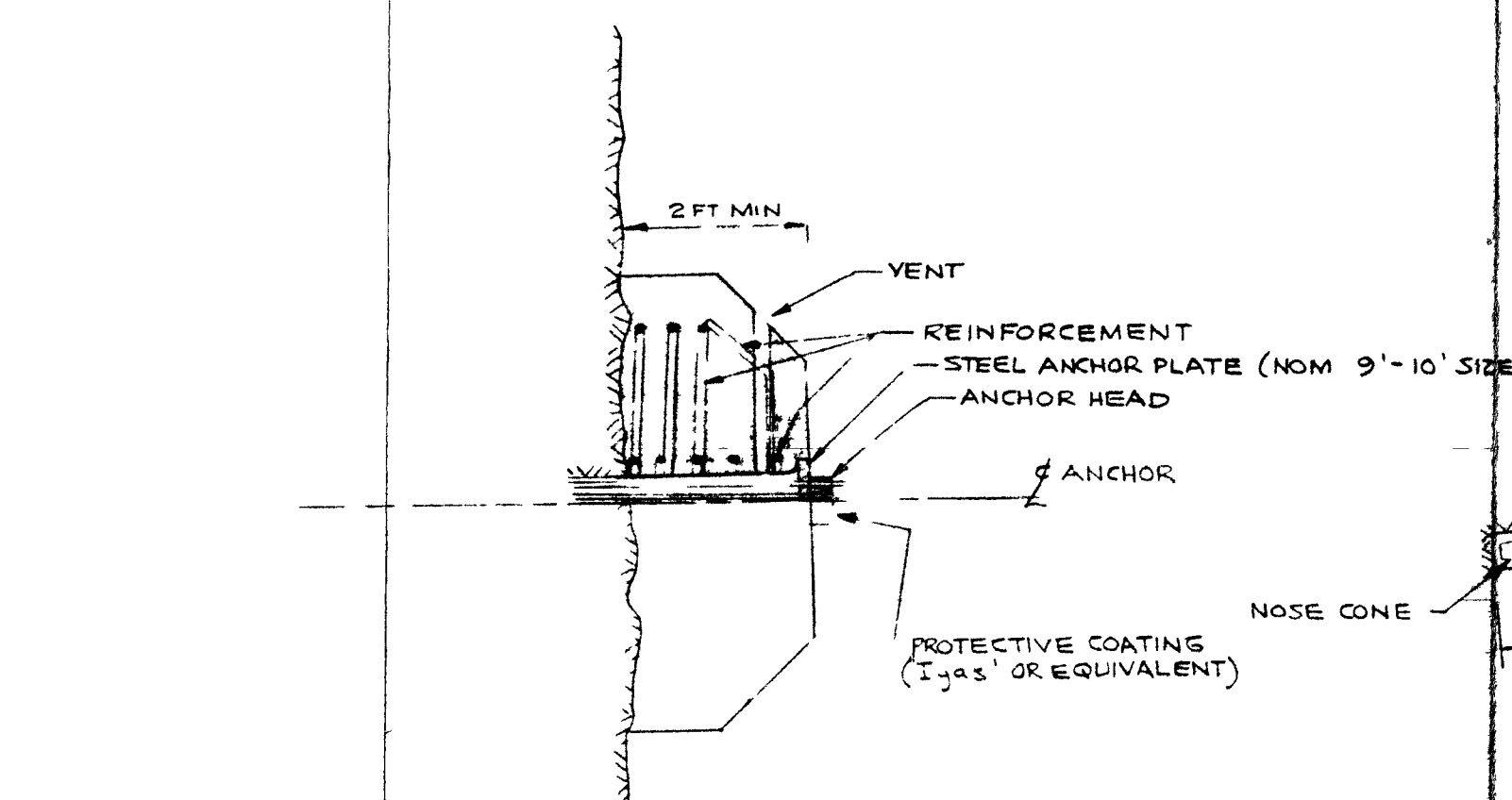
READ THIS DRAWING IN CONJUNCTION  
WITH DOCUMENTS ISSUED FOR THE  
ORIGINAL CONTRACT.

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|  | H.Q. GOLDER & ASSOCIATES, LTD.<br>CONSULTING GEOTECHNICAL ENGINEERS  |  |
| MORRISON, HERSHFELD, MILLMAN & HUGGINS, LTD.<br>CONSULTING ENGINEERS - TORONTO, ONT. | DESIGNED A T<br>DRAWN R P  |  |
| BRIDGE NO 10<br>OVER CHIPPAWA POWER CANAL<br>TIE BACK THROUGH FOOTINGS               | PROJ ENG <i>AJT</i><br>DRAWING <i>AJB</i><br>APPROVED Ho<br>70-195-2 |  |
| SCALE 1/2" = 1'-0"   | DATE SEPT 25/70  |  |

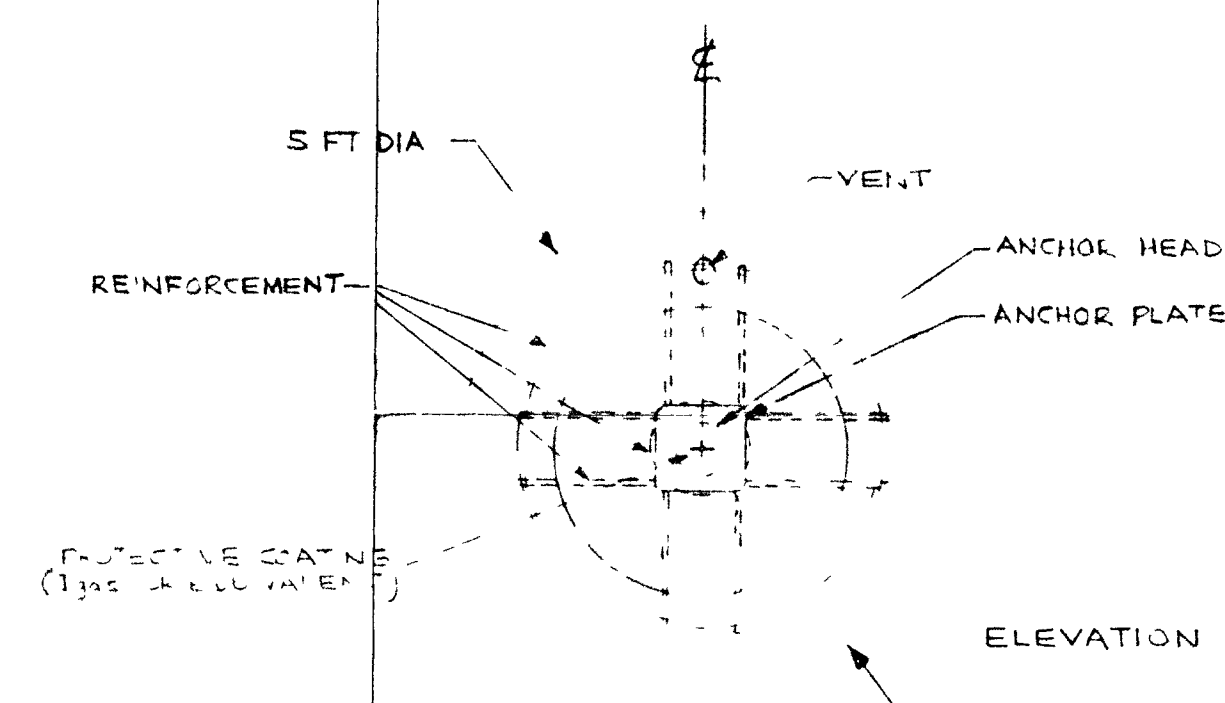


| No | DATE | REVISION | BY |
|----|------|----------|----|
|----|------|----------|----|

SCALE 1" TO 4'



HALF SECTION



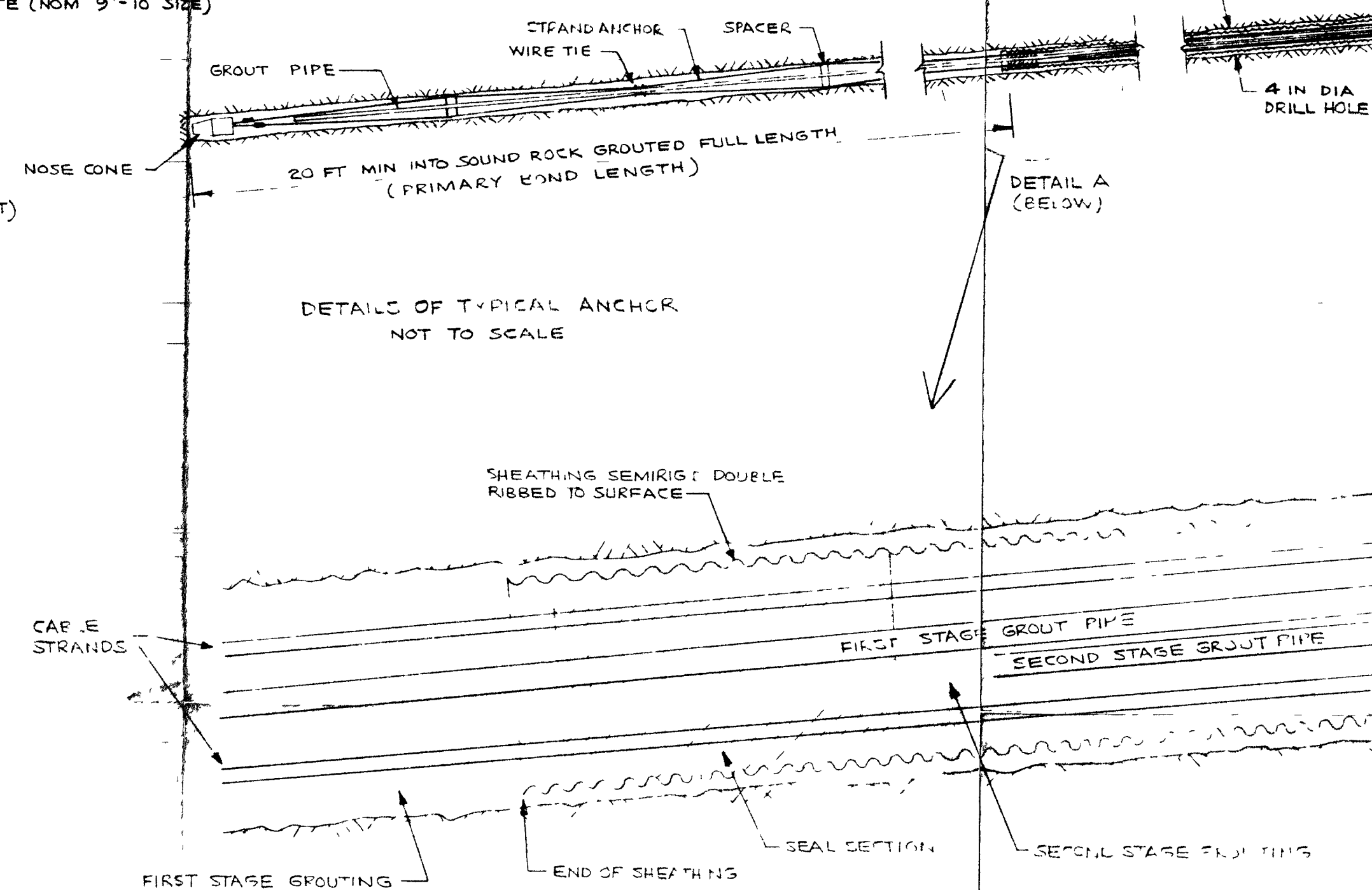
ELEVATION

TYPICAL REINFORCED ANCHOR HEAD FOR  
ROCK FACE (MAY NOT BE REQUIRED WHERE  
REINFORCED CONCRETE FACEWORK ALREADY EXISTS)

NOT TO SCALE

- NOTE 7'-0" SHOWN IS MINIMUM DEPTH FROM CREST TO UPPER ANCHOR LEVEL AT FACE, DEPTH OF ANCHOR BELOW FOOTING TO BE MAINTAINED AT 5'-6"

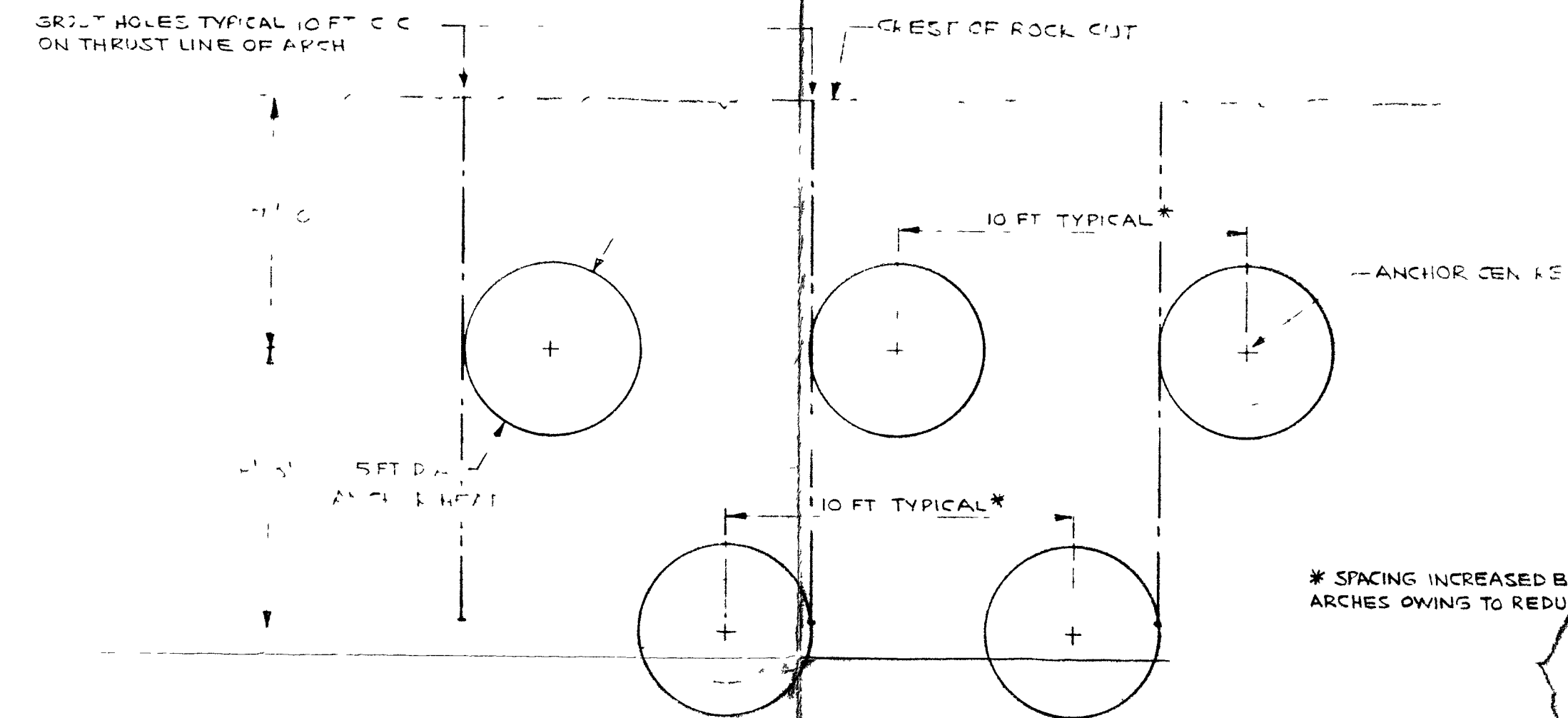
DESIGN ANCHOR LOAD 300 KIPS



DETAILS OF TYPICAL ANCHOR  
NOT TO SCALE

DETAIL A  
NOT TO SCALE

SCALE 1" TO 4'



\* SPACING INCREASED BEYOND  
ARCHES OWING TO REDUCED

END OF DRILLING  
PLACE CABLES, FLUSH OUT HOLE  
WEDGE TRUMPET & REINFORCEMENT FOR ANCHOR HEAD  
CAST CONCRETE HEAD USING FORMWORK ATTACHED  
TO TRUMPET  
FIRST STAGE GROUTING  
3 - 4 DAY SETTING PERIOD  
STRESSING  
1 DAY RELAXATION PERIOD  
TEST AND RE-STRESS IF REQUIRED  
SECOND STAGE GROUTING

\* FURTHER RE-STRESSING OPERATIONS MAY BE REQUIRED  
IF SIGNIFICANT RELAXATION IS OBSERVED