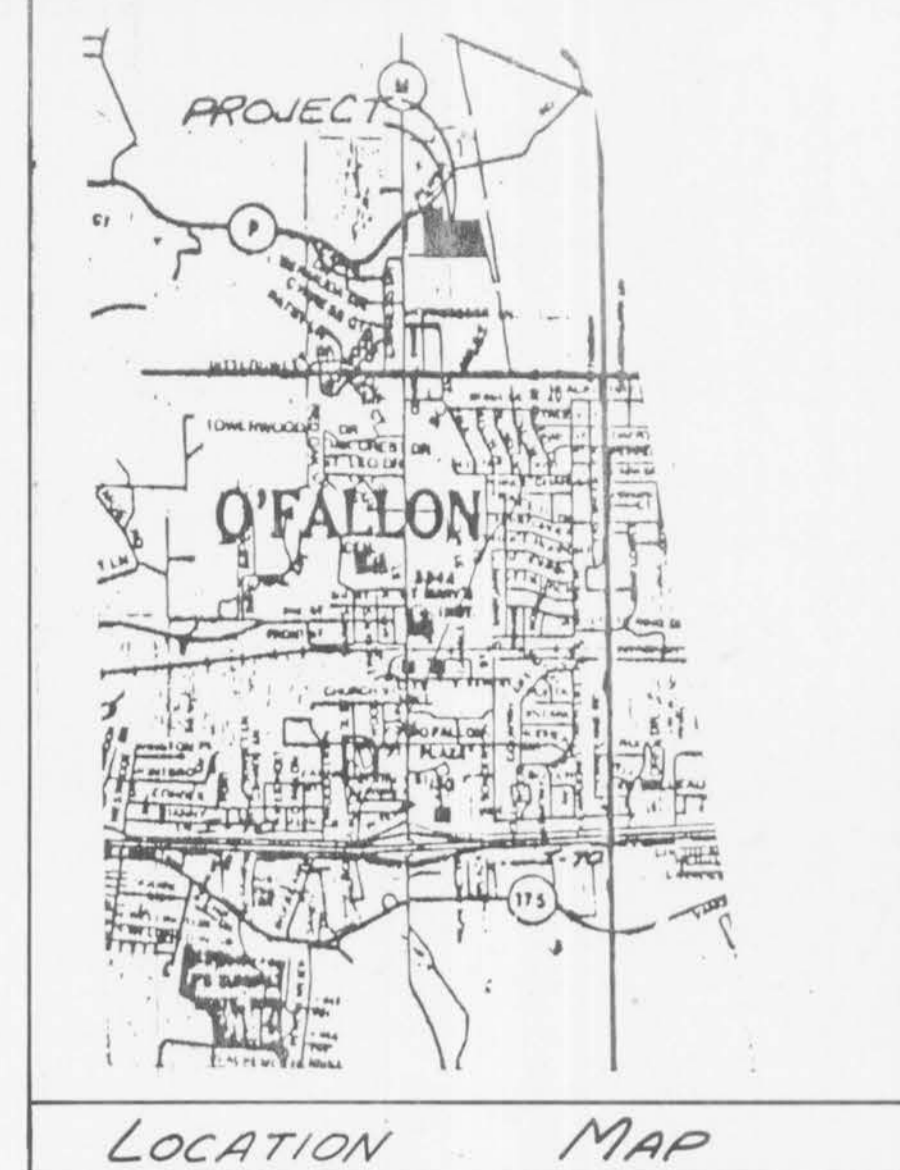
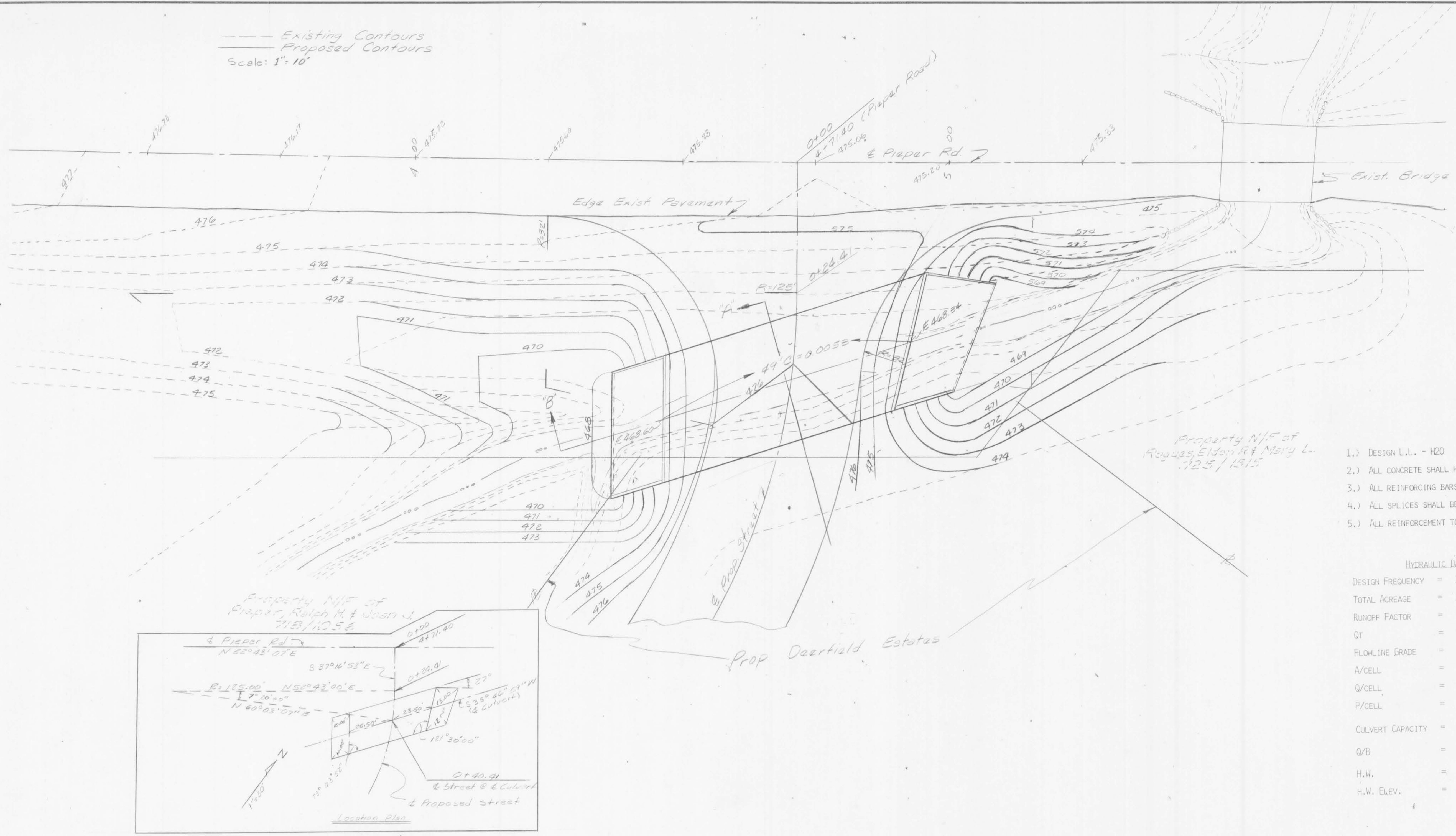


Existing Contours  
Proposed Contours  
Scale: 1" = 10'

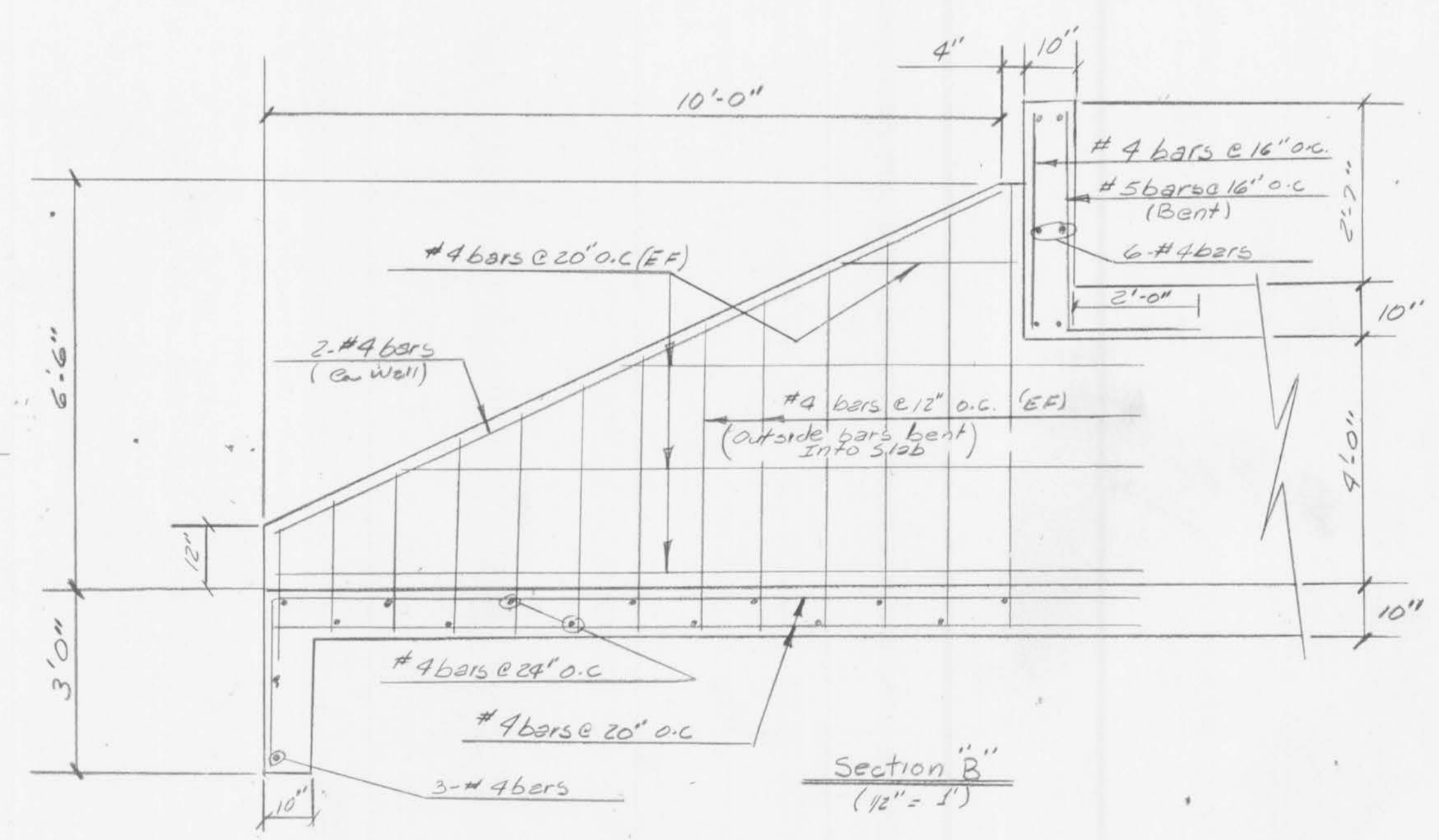
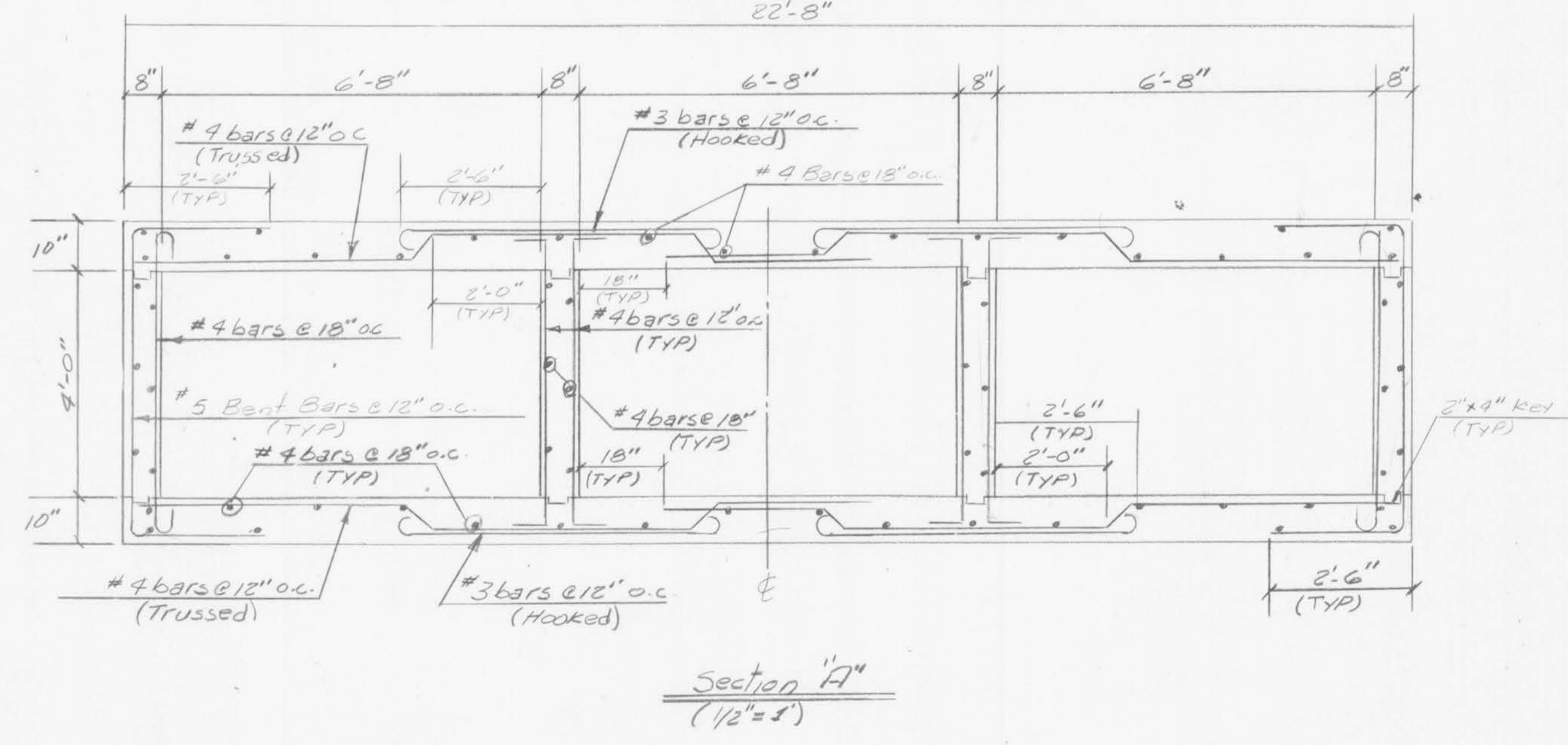
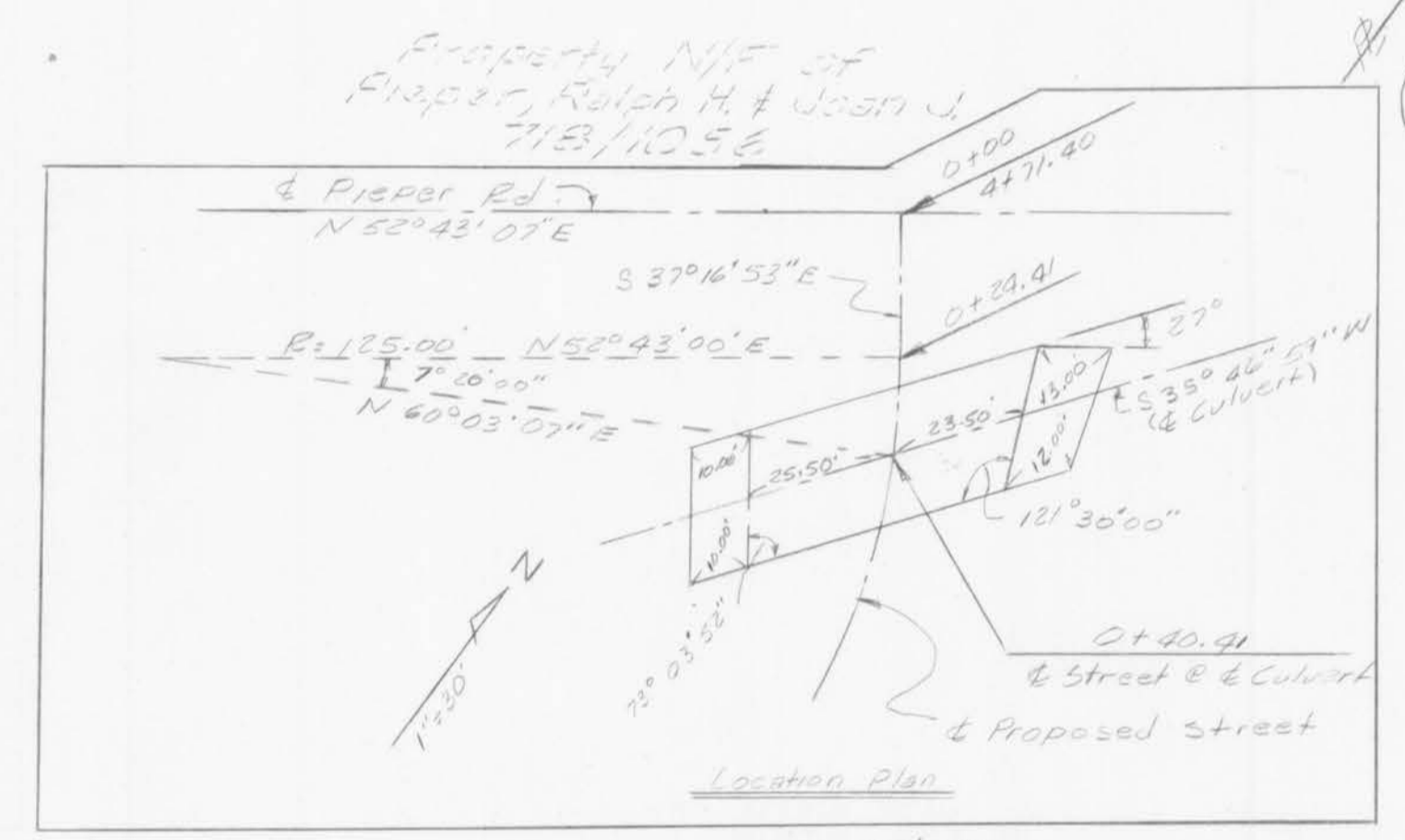


DESIGN DATA

- 1.) DESIGN L.L. - H20
- 2.) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,750 P.S.I. @ 28 DAYS
- 3.) ALL REINFORCING BARS SHALL BE ASTM - GRADE 60 DEFORMED BARS (FY = 60,000 P.S.I.)
- 4.) ALL SPLICES SHALL BE A MINIMUM OF 36 BAR DIAMETERS AND STAGGERED.
- 5.) ALL REINFORCEMENT TO HAVE 2" CLEAR COVER UNLESS OTHERWISE NOTED.

HYDRAULIC DATA

DESIGN FREQUENCY	=	15 YEAR STORM
TOTAL ACREAGE	=	173.5 AC.
RUNOFF FACTOR	=	3.0 C.F.S.
QT	=	520.5 C.F.S.
FLOWLINE GRADE	=	0.0053
A/CELL	=	26.68 SQUARE FOOT/CELL
Q/CELL	=	173.5 C.F.S./CELL
P/CELL	=	21.34'; R/CELL = 1.25'
CULVERT CAPACITY	=	$\left[ \frac{1.486 (s)^{1/2} (R)^{2/3}}{N} \right] 26.68 (3) = 773.2 \text{ C.F.S.}$
Q/B	=	$\frac{173.5}{6.67} = 26.01 \frac{H^3}{D} = 1.2$
H.W.	=	1.2 (4) = 4.80'
H.W. ELEV.	=	468.60 + 4.80 = 473.40



**BOX CULVERT DETAILS**

Prepared For: **Daerfield Development Corp.**  
 c/o Mr. Ted Kulaga  
 3829 Old Highway 94 South  
 St. Charles, Mo. 63301  
 Phone: 441-7555

**THE STERLING COMPANY**  
 ENGINEERS - SURVEYORS - PLANNERS  
 3460 HOLLENBERG DRIVE, BRIDGETON, MO 63044  
 314-739-0440

JOB NO: 82-10-369	DESIGNER / DRAFTSMAN:	CHECKED BY:	REVISION:
DATE: 11-9-83			DATE: 11/21