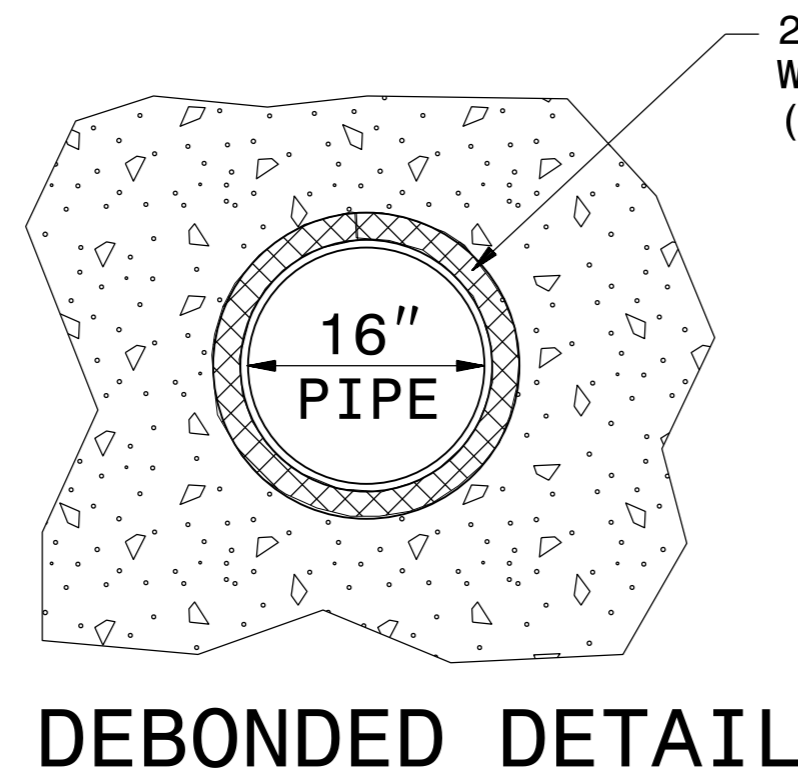
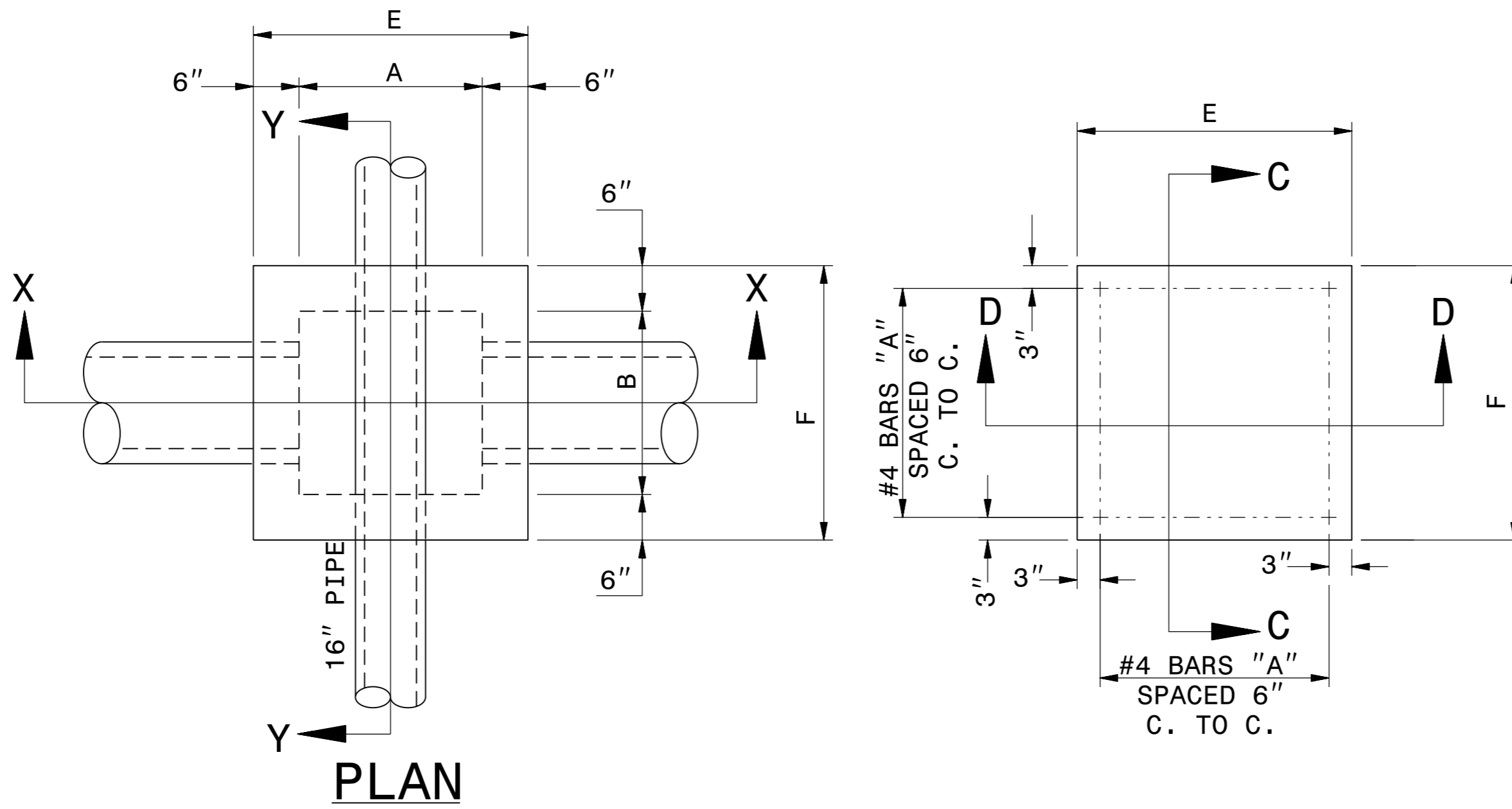


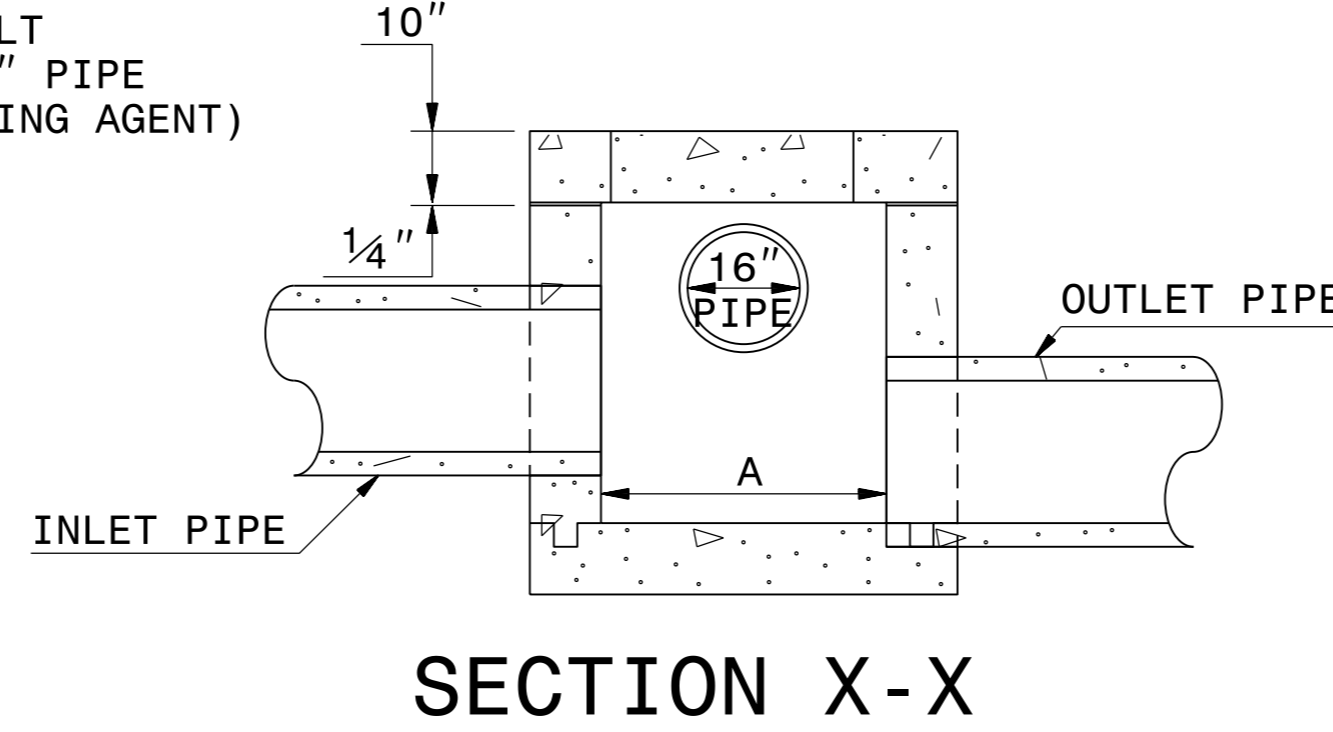
STATE OF  
NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**CONCRETE JUNCTION BOX WITH  
16" PIPE PASSING THRU  
12" THRU 66" PIPE**

SHEET 1 OF 1  
**840D31**



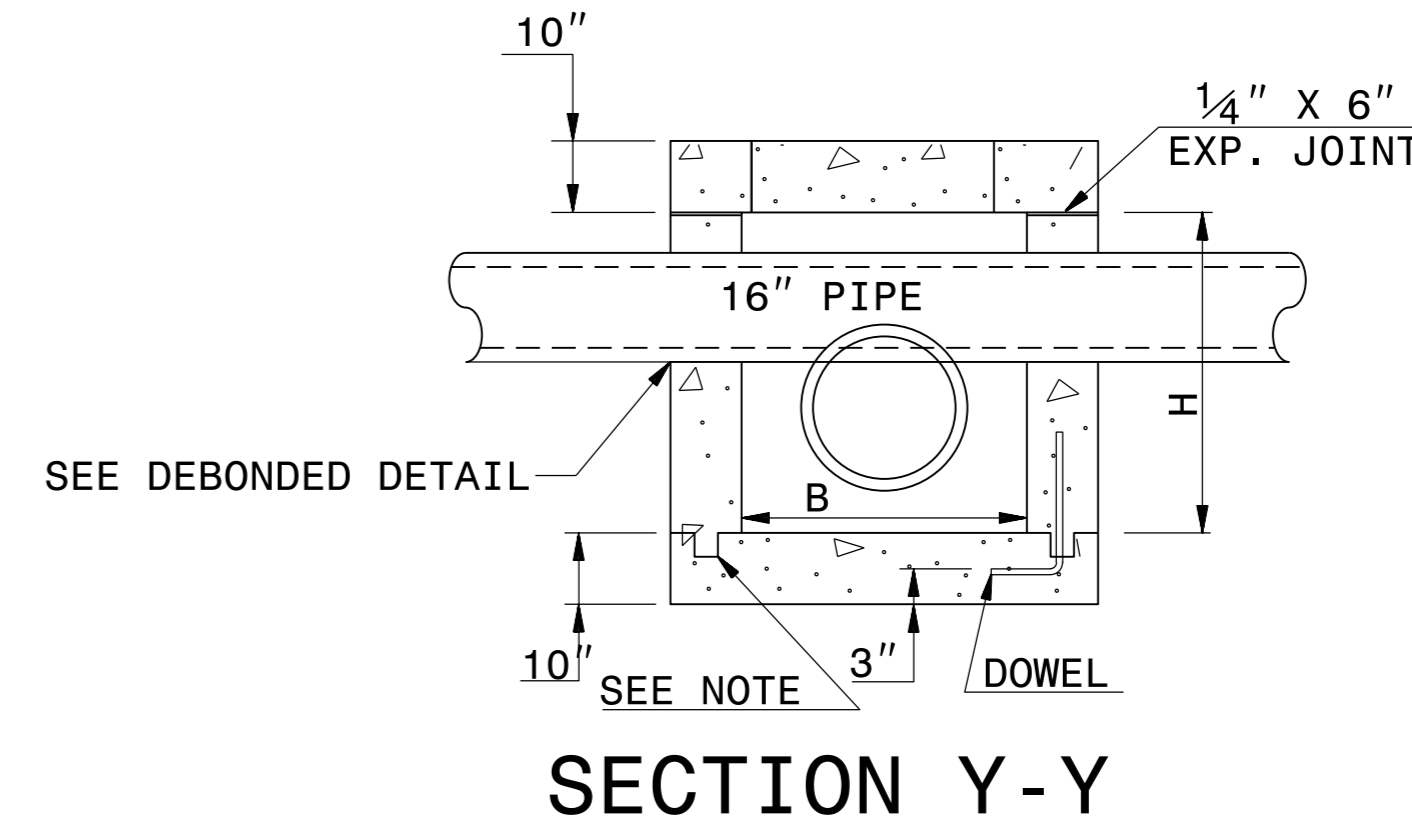
2 PIECES 30 lb FELT  
WRAPPED AROUND 16" PIPE  
(USED AS A DEBONDING AGENT)



**SECTION X-X**

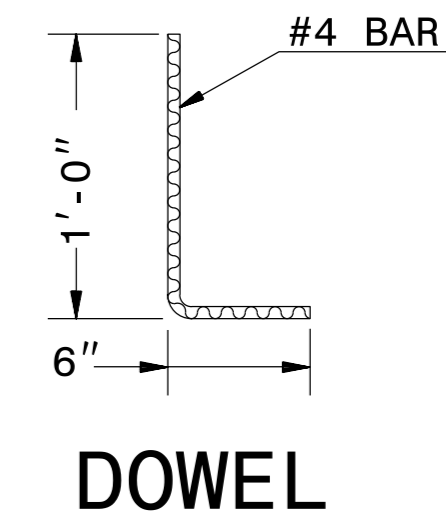
**GENERAL NOTES:**

- USE CLASS "B" CONCRETE THROUGHOUT.
- OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
- USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
- IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.
- REFER TO R.S.D.N. 840.31 FOR PLACEMENT OF MANHOLE COVER IN JUNCTION BOX.



**SECTION Y-Y**

| DIMENSIONS AND QUANTITIES FOR CONCRETE JUNCTION BOXES |       |       |        |                        |        |                  |       |                    |       |                  |                                |                   |                                 |       |
|---|-------|-------|--------|------------------------|--------|------------------|-------|--------------------|-------|------------------|--------------------------------|-------------------|---------------------------------|-------|
| DIMENSIONS OF BOX AND PIPE                            |       |       |        | REINFORCEMENT BARS "A" |        | COVER DIMENSIONS |       | CUBIC YARDS IN BOX |       |                  | TOTAL QUANTITIES BOX AND COVER |                   | DEDUCTIONS FOR ONE PIPE CU.YDS. |       |
| PIPE  | SPAN  | WIDTH | HEIGHT | NO.                    | LENGTH | E                | F     | COVER              | FLOOR | WALL/ FT. OF HT. | LBS. REINF                     | CU. YDS. MIN. "H" | C.S.                            | R.C.  |
| 12"   | 2'-4" | 2'-0" | 3'-0"  | 12                     | 2'-9"  | 3'-0"            | 3'-0" | 0.222              | 0.222 | 0.185            | 22                             | 0.750             | 0.015                           | 0.024 |
| 15"   | 2'-4" | 2'-4" | 3'-0"  | 12                     | 3'-0"  | 3'-3"            | 3'-3" | 0.261              | 0.261 | 0.204            | 24                             | 0.902             | 0.023                           | 0.036 |
| 18"   | 2'-6" | 2'-6" | 3'-0"  | 14                     | 3'-3"  | 3'-6"            | 3'-6" | 0.302              | 0.302 | 0.222            | 30                             | 1.065             | 0.033                           | 0.049 |
| 24"   | 3'-0" | 3'-0" | 3'-3"  | 16                     | 3'-9"  | 4'-0"            | 4'-0" | 0.395              | 0.395 | 0.259            | 40                             | 1.434             | 0.059                           | 0.091 |
| 30"   | 3'-6" | 3'-6" | 3'-9"  | 18                     | 4'-3"  | 4'-6"            | 4'-6" | 0.500              | 0.500 | 0.296            | 51                             | 1.860             | 0.092                           | 0.138 |
| 36"   | 4'-0" | 4'-0" | 4'-3"  | 20                     | 4'-9"  | 5'-0"            | 5'-0" | 0.617              | 0.617 | 0.333            | 64                             | 2.341             | 0.132                           | 0.196 |
| 42"   | 4'-6" | 4'-6" | 4'-9"  | 22                     | 5'-3"  | 5'-6"            | 5'-6" | 0.747              | 0.747 | 0.370            | 77                             | 2.878             | 0.180                           | 0.284 |
| 48"   | 5'-0" | 5'-0" | 5'-3"  | 24                     | 5'-9"  | 6'-0"            | 6'-0" | 0.889              | 0.889 | 0.407            | 92                             | 3.471             | 0.235                           | 0.364 |
| 54"   | 5'-6" | 5'-6" | 5'-9"  | 26                     | 6'-3"  | 6'-6"            | 6'-6" | 1.043              | 1.043 | 0.444            | 109                            | 4.283             | 0.297                           | 0.440 |
| 60"   | 6'-0" | 6'-0" | 6'-3"  | 28                     | 6'-9"  | 7'-0"            | 7'-0" | 1.210              | 1.210 | 0.481            | 127                            | 5.090             | 0.367                           | 0.546 |
| 66"   | 6'-6" | 6'-6" | 6'-9"  | 30                     | 7'-3"  | 7'-6"            | 7'-6" | 1.389              | 1.389 | 0.518            | 146                            | 5.917             | 0.444                           | 0.655 |

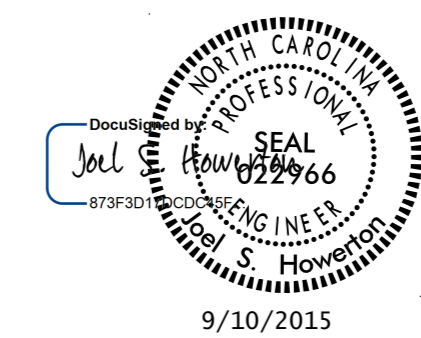


**DOWEL**

STATE OF  
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ENGLISH DETAIL DRAWING FOR  
**CONCRETE JUNCTION BOX WITH  
16" PIPE PASSING THRU  
12" THRU 66" PIPE**

SHEET 1 OF 1  
**840D31**



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**CONTRACT STANDARDS  
AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**SEE PLATE FOR TITLE**

ORIGINAL BY: E.E. WARD DATE: 3-12-98  
MODIFIED BY: DATE:  
CHECKED BY: DATE:  
FILE SPEC.:usr/details/stand/conflict\_box.dgn

C:\TIME\DESIGN\CONFLICT\CONFLICT\_BOX.DGN  
 USER: JHWARD  
 DATE: 5/14/99 10:58 AM