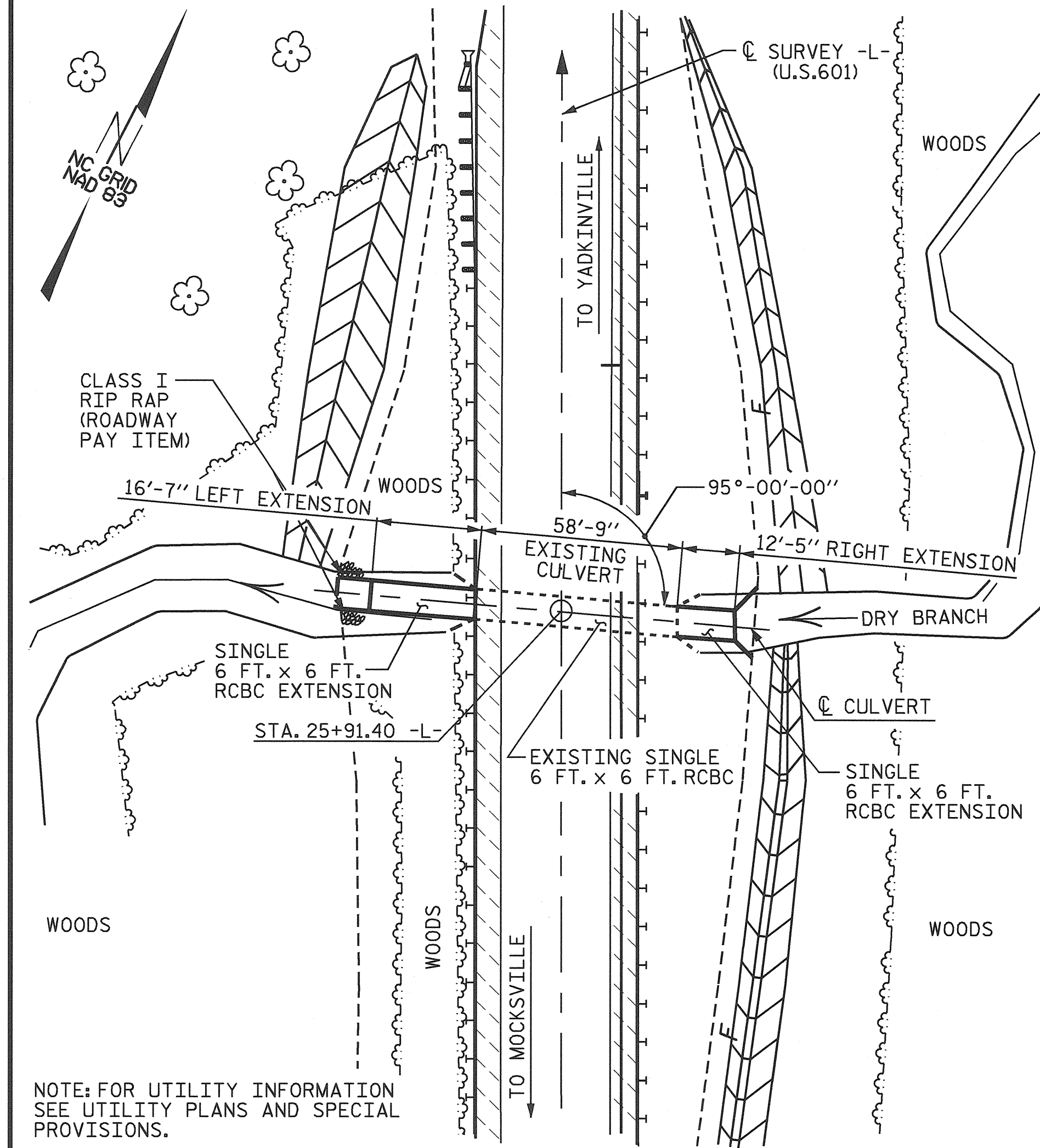
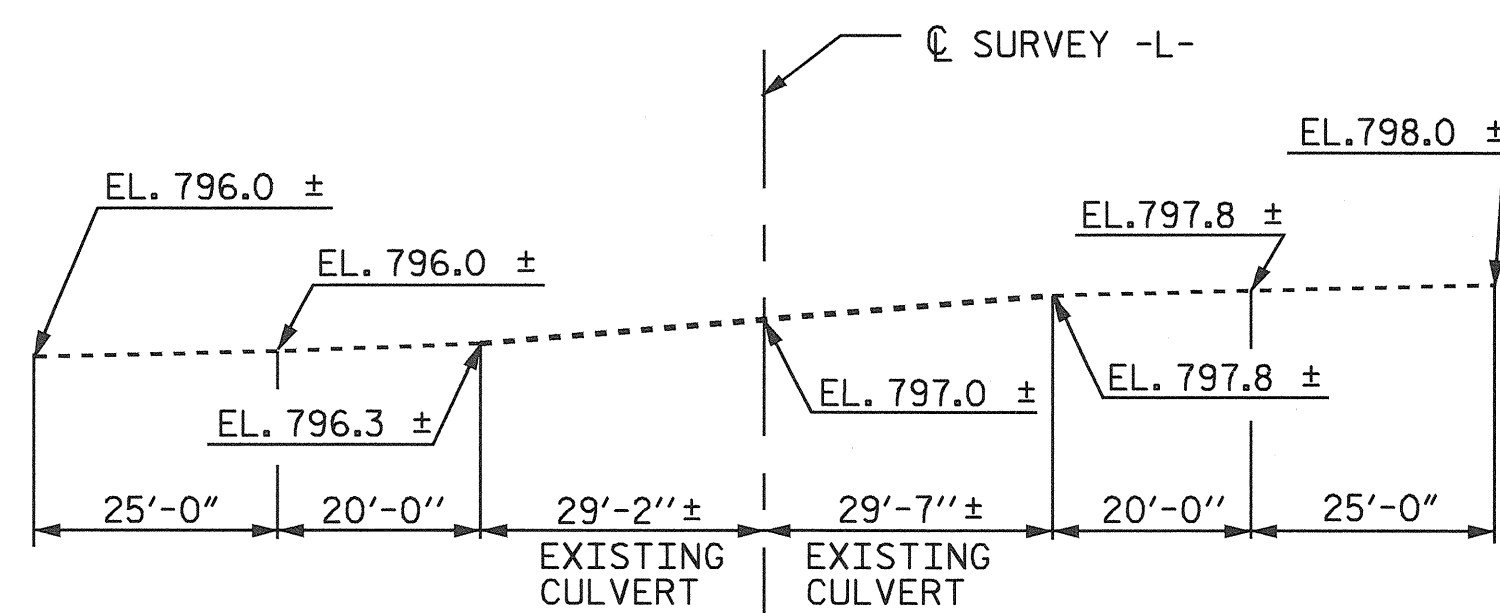


BENCH MARK: TBM #1 -L- STA. 28+80, 155' LT., 12"
SPIKE SET IN ROOT OF 24" CHESTNUT OAK, ELEV. 803.83



LOCATION SKETCH



PROFILE ALONG CULVERT

LEFT EXTENSION REINFORCING STEEL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A100	29	4	STR	6-11	134
A200	24	5	STR	6-11	173
A1	54	4	6	4-1	147
A2	54	4	6	4-0	144
B1	34	4	STR	6-10	155
B2	54	4	STR	5-4	192
C1	30	4	STR	16-3	326
D1	16	6	STR	2-6	60
D2	21	6	STR	3-0	95
G1	2	4	STR	7-0	9

REINFORCING STEEL LBS. 1,435

SPLICE LENGTHS CHART

BAR	SIZE	SPLICE LENGTH
B1	#4	1'-9"
C1	#4	1'-11"

LEFT EXTENSION QUANTITIES

CLASS A CONCRETE	
BARREL @ 0.663 CY/FT	11.0 C.Y.
WING ETC.	6.0 C.Y.
TOTAL	17.0 C.Y.

REINFORCING STEEL	
BARREL	1,435 LBS.
WINGS ETC.	606 LBS.
TOTAL	2,041 LBS.

CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MAT'L	15 TONS

RIGHT EXTENSION REINFORCING STEEL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A100	22	4	STR	6-11	102
A200	18	5	STR	6-11	130
A1	40	4	6	4-1	109
A2	40	4	6	4-0	107
B1	26	4	STR	6-10	119
B2	40	4	STR	5-4	143
C2	30	4	STR	12-1	242
D1	16	6	STR	2-6	60
G1	2	4	STR	7-0	9

REINFORCING STEEL LBS. 1021

SPLICE LENGTHS CHART

BAR	SIZE	SPLICE LENGTH
B1	#4	1'-9"
C2	#4	1'-11"

RIGHT EXTENSION QUANTITIES

CLASS A CONCRETE	
BARREL @ 0.663 CY/FT	8.2 C.Y.
WING ETC.	7.5 C.Y.
TOTAL	15.7 C.Y.

REINFORCING STEEL	
BARREL	1021 LBS.
WINGS ETC.	396 LBS.
TOTAL	1,417 LBS.

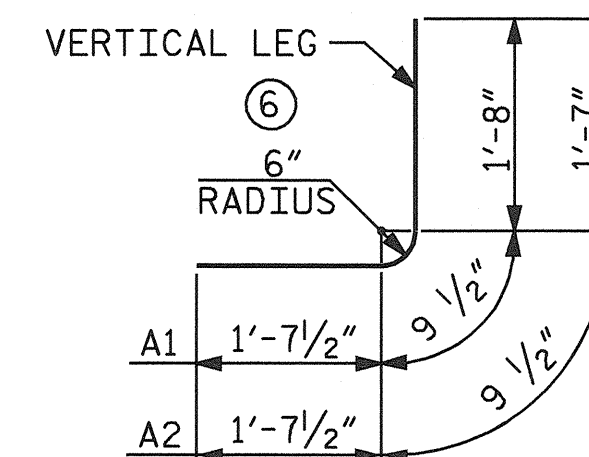
CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MAT'L	6 TONS

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE	
LEFT EXTENSION	17.0 C.Y.
RIGHT EXTENSION	15.7 C.Y.
TOTAL	32.7 C.Y.

REINFORCING STEEL	
LEFT EXTENSION	2,041 LBS.
RIGHT EXTENSION	1,417 LBS.
TOTAL	3,458 LBS.

FOUNDATION CONDITIONING MAT'L	
LEFT EXTENSION	15 TONS
RIGHT EXTENSION	6 TONS
TOTAL	21 TONS
CULVERT EXCAVATION	LUMP SUM



BAR TYPE

BAR DIMENSIONS ARE OUT TO OUT

HYDROGRAPHIC DATA

DESIGN DISCHARGE	350 CFS
FREQUENCY OF DESIGN FLOOD	50 YRS.
DESIGN HIGH WATER ELEVATION	805.12
DRAINAGE AREA	0.46 SQ. MI.
BASIC DISCHARGE (Q100)	420 CFS
BASIC HIGH WATER ELEVATION	806.26

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	750 CFS
FREQUENCY OF OVERTOPPING FLOOD	>500 YR.
OVERTOPPING FLOOD ELEVATION	814.34

GRADE DATA

GRADE POINT ELEVATION @	
STA. 25+91.40 -L-	814.74
BED ELEVATION @	
STA. 25+91.40 -L-	797.00
ROADWAY SLOPE (RIGHT SIDE)	2:1
ROADWAY SLOPE (LEFT SIDE)	2:1

NOTES

ASSUMED LIVE LOAD -----HS20-44 OR ALTERNATE LOADING.

DESIGN FILL-----=11.13

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.

3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

- 1.) WING FOOTINGS, FLOOR SLAB INCLUDING 4" OF VERTICAL WALLS.
- 2.) THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT. FOLLOWED BY ROOF SLAB AND HEADWALLS.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

DIMENSIONS FOR WING LAYOUTS AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEETS.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED AND FOR PROJECTS OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SAME SIZE AND LENGTH OF SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

AT THE CONTRACTOR'S OPTION THE VERTICAL CONSTRUCTION JOINT BETWEEN THE OUTLET WINGS AND THE BARREL MAY BE ELIMINATED AND THE "C" BARS IN THE BARREL MAY BE EXTENDED TO REPLACE THE "D" AND "H" BARS IN THE WINGS AND SLAB.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY USE THE EXISTING WINGS AS TEMPORARY SHORING FOR THE CONSTRUCTION OF THE CULVERT EXTENSION. IN THIS CASE, THE BOTTOM SLAB OF THE EXTENSION SHALL BE POURED AT LEAST 72 HOURS PRIOR TO CUTTING THE WINGS. THE WINGS MAY BE CUT EARLIER PROVIDED THE SLAB CONCRETE STRENGTH HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI.

DOWELS SHALL BE USED TO CONNECT THE CULVERT EXTENSION TO THE EXISTING CULVERT AS SHOWN. FOR NOTE REGARDING SETTING OF DOWELS, SEE SHEET SN.

A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

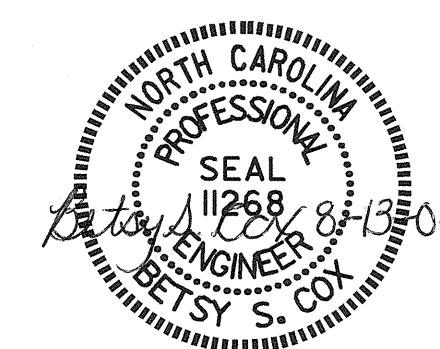
F.A. PROJECT NO. STP-601(14)

PROJECT NO. R-3427
YADKIN COUNTY
STATION: 25+91.40 -L-

SHEET 1 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SINGLE 6 FT. X 6 FT.
CONCRETE BOX CULVERT
EXTENSION
95°-00'-00" SKEW



ADDED 8-22-89
ASSEMBLED BY: DAN PLATICA DATE: 3/12/03
CHECKED BY: S.B. WILLIAMS DATE: 4/24/03
DRAWN BY: J. E. MANGUM DATE: 10/25/89
CHECKED BY: A.R. BISSETTE DATE: AUG. 1989

SPECIAL

STANDARD

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. C-1

TOTAL SHEETS 9