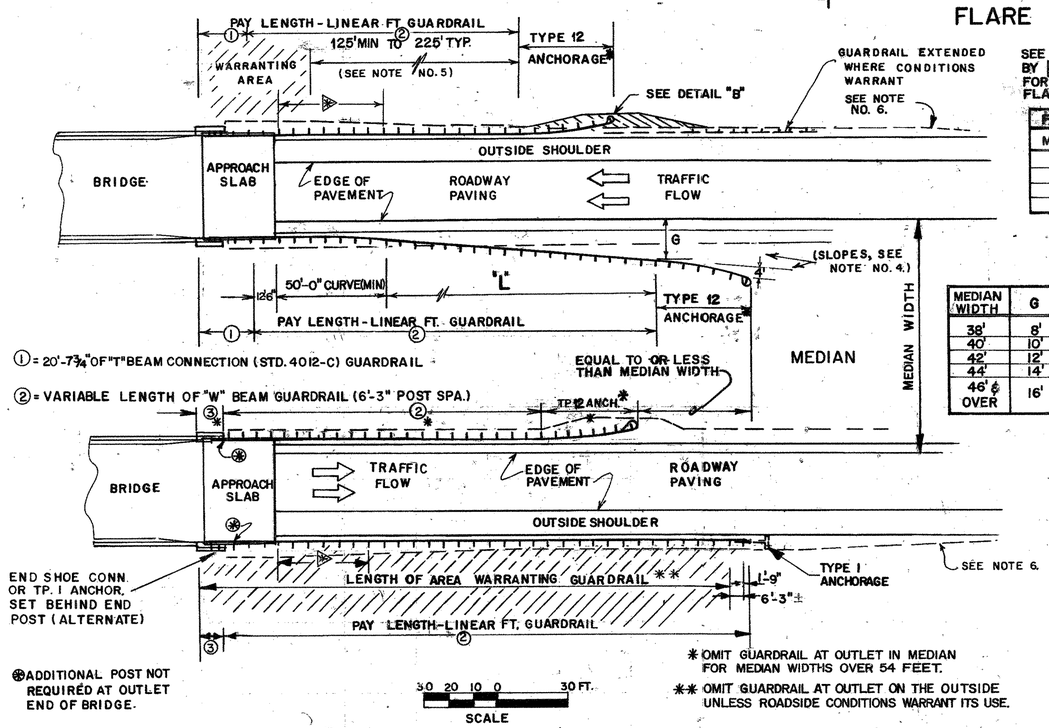
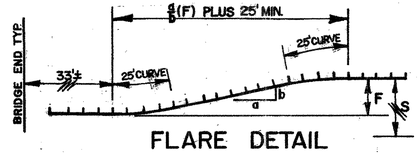
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	0009725	259	334

GUARDRAIL LOCATION AT BRIDGE ENDS



▶ WHERE THE OUTSIDE SHOULDER WIDTH IS REDUCED ACROSS BRIDGE:
a) SHORT INSTALLATION. (LESS THAN 200' TOTAL) OF GUARDRAIL SHALL HAVE STRAIGHT ALIGNMENT AS SHOWN;
b) LONGER INSTALLATION SHALL BE TRANSITIONED, STARTING 33½' FROM BRIDGE END, TO THE "S" OFFSET PER FLARE DETAIL.



FLARE DETAIL

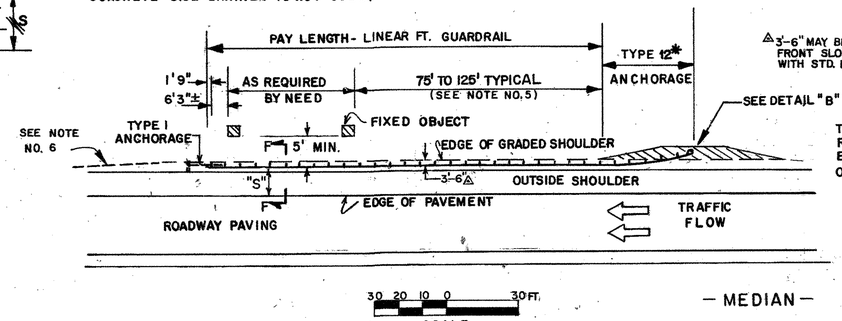
SEE NOTE INDICATED BY ▶, BELOW LEFT, FOR TYPICAL USE OF FLARE.

FLARE RATE	
MPH	S/b (MIN)
70	15:1
60	13:1
50	11:1
40	9:1

MEDIAN WIDTH	G	MIN. L
38'	8'	200'
40'	10'	175'
42'	12'	150'
44'	14'	137.5'
46' & OVER	16'	125'

GUARDRAIL LOCATION IN FRONT OF FIXED OBJECTS

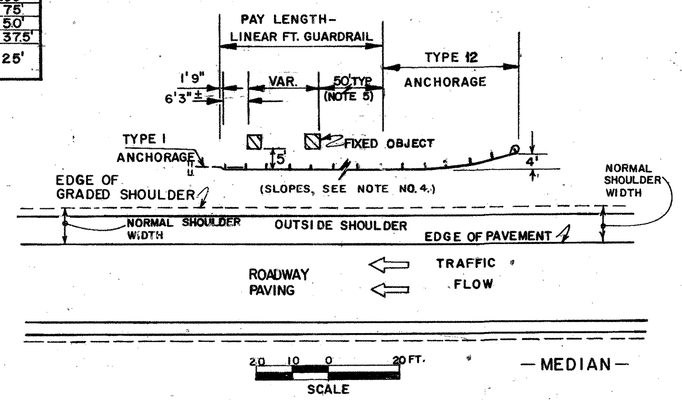
(FOR USE WHERE FIXED ALONG THE OUTSIDE OF THE ROADWAY ARE WITHIN THE CLEAR ZONE WIDTH AND CONCRETE SIDE BARRIER IS NOT USED)



THIS DETAIL IS FOR USE WHERE FIXED OBJECTS REQUIRE GUARDRAIL AND SLOPES ARE NOT FLAT ENOUGH TO PERMIT GUARDRAIL ERECTION BACK OF GRADED SHOULDER, AS IN DETAIL BELOW.

"S" = WIDTH OF USABLE SHOULDER PLUS 2FT. (SEE GEN. NOTE No. 8)

NOTE;
FOR DETAILS OF GUARDRAIL PROTECTION OF FIXED OBJECTS IN THE MEDIAN, SEE STANDARD #4055.
FOR DETAILS OF CONCRETE BARRIERS, SEE STANDARDS 4940, 4948, OR OTHER APPLICABLE DETAILS.

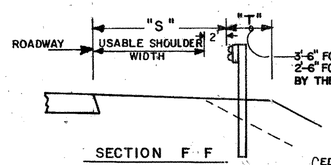


NOTE: DETAIL ABOVE APPLIES WHERE OBJECT FALLS WITHIN THE CLEAR ZONE WIDTH AND SLOPES IN FRONT OF THE OBJECT ALLOW GUARDRAIL INSTALLATION BACK OF THE GRADED SHOULDER. SEE GENERAL NOTE NO. 4.

GENERAL NOTES:

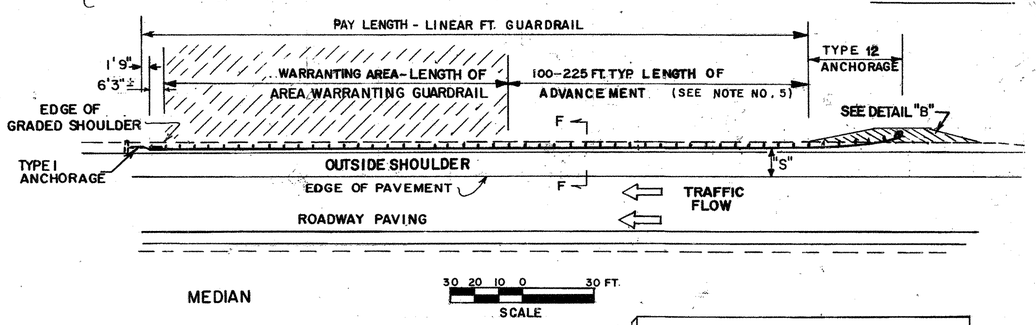
1. SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION & SUPPLEMENTS THERETO.
2. POST SPACINGS SHALL BE 6'-3" C. TO C. EXCEPT WHERE REDUCED SPACINGS ARE SPECIFIED AT BRIDGE ENDS OR AT FIXED HAZARDS.
3. FOR DETAILS OF GUARDRAIL, ACCESSORIES, POSTS, OFFSET BLOCKS, ANCHORAGES, ETC., SEE APPLICABLE STANDARD AND/OR CONSTRUCTION DETAILS.
4. NEGATIVE SLOPES IN FRONT OF GUARDRAIL AND TYPE 12 ANCHORAGES SHALL BE 10:1 OR FLATTER, ON ALL NEW INSTALLATIONS.
5. GUARDRAIL SHALL BEGIN IN ADVANCE OF AN OBJECT OR WARRANTING AREA SUFFICIENT LENGTH TO PREVENT VEHICLE PENETRATION BEHIND THE RAIL INTO PROTECTED AREA. THE TYPICAL LENGTHS OF ADVANCEMENT SHOWN MAY BE INCREASED OR DECREASED WHEN SHOWN IN THE PLANS, OR WHERE DIRECTED BY THE ENGINEER BECAUSE OF SPEED DESIGN, ROADSIDE GEOMETRICS, GRADES, SIZE OF HAZARD, OR OTHER CONDITIONS; IF FURTHER INFORMATION IS DESIRED, SEE GA. D.O.T. "GUIDELINES FOR DETERMINING GUARDRAIL NEED, LOCATION AND STANDARDS" OR AASHTO "ROADSIDE DESIGN GUIDE."
6. WHERE GUARDRAIL IS REQUIRED ON THE SHOULDER, THE SHOULDER WILL BE GRADED WIDER AS SHOWN IN DETAIL "B".
7. GAPS OF LESS THAN 200 FT. BETWEEN GUARDRAIL INSTALLATIONS SHOULD BE AVOIDED EXCEPT WHERE JUSTIFIED BY LOCAL CONDITIONS.
8. "S" IS THE OFFSET TO FACE OF GUARDRAIL. THIS WILL BE TWO FT. GREATER THAN THE NORMAL USABLE SHOULDER WIDTH (WITHOUT GUARDRAIL). HOWEVER, IF THE NORMAL GRADED SHOULDER WIDTH (WITHOUT GUARDRAIL) IS GREATER THAN REQUIRED BY AASHTO, "S" DISTANCE MAY BE ESTABLISHED AS TWO (2) FT. GREATER THAN THE AASHTO SHOULDER WIDTH.
9. OFFSET FROM RAIL FACE TO HAZARD FACE SHALL BE 5'± DESIRABLE AND 4'-3" MINIMUM. THIS OFFSET MAY BE REDUCED TO 3'-0" MIN. BY USING 3'-1-1/2" POST SPACINGS IN FRONT OF HAZARD WITH A MINIMUM OF 7 SUCH SPACINGS IN ADVANCE OF HAZARD.

SPECIAL NOTE:
LOCATION AND QUANTITIES GIVEN IN THE PLANS FOR GUARDRAIL AND ANCHORAGES ARE ESTIMATES MADE FROM OFFICE COMPUTATIONS. A FINAL DETERMINATION AS TO LOCATIONS AND QUANTITIES OF GUARDRAIL AND ANCHORAGES WILL BE MADE BY THE ENGINEER OR A REPRESENTATIVE FROM THE OFFICE OF TRAFFIC OPERATIONS AFTER CONSTRUCTION OF ROADWAY.



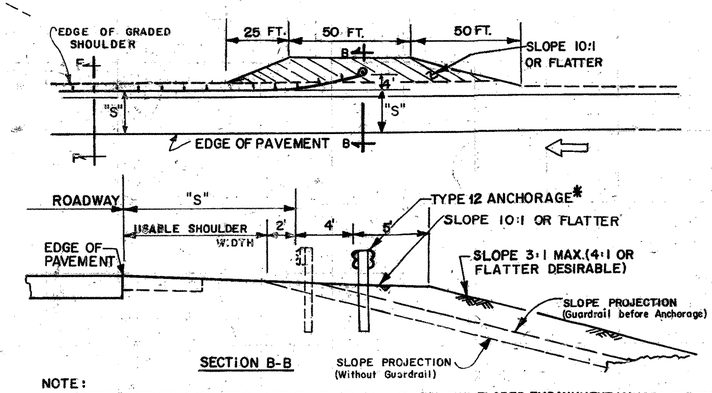
SECTION F-F

GUARDRAIL LOCATION ALONG ROADWAY



"S" = WIDTH OF USABLE SHOULDER PLUS 2FT. (SEE GEN NOTE No 8)

DETAIL "B"



SECTION B-B

NOTE:
WHERE CONDITIONS PROHIBIT CONSTRUCTION AS HERE SHOWN, THE FLARED EMBANKMENT MAY BE MODIFIED AT THE DIRECTION OF THE ENGINEER OR AS SHOWN ON THE PLANS IN ORDER TO PROVIDE THE 10:1 OR FLATTER SLOPES AROUND THE TP. 12 ANCHORAGE & TO GIVE THE CONSTANT 27" TOP OF RAIL HEIGHT WITH A 4 FT. OFFSET AS SHOWN.

*OR APPROVED ALTERNATE, MEETING NCHRP 350 REQUIREMENTS

REVISIONS	
REV. ANCH. TYPE	10-2-97
GEN. REV.	10-8-96
CHANGE TP. 9 TO TP. 11	12-16-94
ADD. MED. GR. FLARE	4-28-90
ADDED SEC. F-F	6-8-89
Grad. Shldr. Wider	8-13-85

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD

GUARDRAIL LOCATION DETAILS
FOR MULTI-LANE DIVIDED HIGHWAYS
(WITH SHOULDERS ADJACENT TO ROADWAY)

SCALE: AS SHOWN — REV. & REDR. DEC. 1984

DES. R.M.U. DRW. R.M.U. DRA. G.M.E. CHK. R.K.C.

(SUBMITTED) Floyd E. Hardy — STATE ROAD & AIRPORT DESIGN ENGR.
(APPROVED) Hal Reagan — STATE HIGHWAY ENGINEER

NUMBER 4051

FORM EF00003