CONTINUOUS BEAM ANALYSIS

GEORGIA DEPARTMENT OF TRANSPORTATION 7-15-74
BRIDGE DESIGN OFFICE

DESIGN DATA

IDENTIFICATION

ENTER "CONT" IF ADDITIONAL CARD OF REMARKS IS USED.

	PGM.	PROB NO.	REMARKS, PROJECT NUMBER, DATE, COUNTY, NAME, ETC.
*	B,O,I		
*			

BEAM CONSTANTS

"I" = NON-COMP. BM.
"O" = COMP. BM.

INFLUENCE LINE DATA:
ENTER "1" TO OBTAIN INFLUENCE LINE DATA.
OTHERWISE, LEAVE BLANK.

	BEAM IDENTITY	Ns	℄ CLASS	TYPE	WDLnc	WDLc	Wsw	Wc	E	BM. SPAC.	Σ Zr	I
1												

"I" = CONC. BM.
"O" = STEEL BM.

"I" = EXT. BM.
"O" = INT. BM.

OPTIONAL BEAM CONSTANTS

	D^F_M	D^F_{Ve}	D^F_D	n = Es/Ec 1n	n = Es/Ec 3n	℄ SKIP T	L	M	NO. ℄ CYCLES	Fy	Fu	Fc	Fs
2													

Fy & Fu NOT REQUIRED WITH CONCRETE BEAM.

Fc & Fs NOT REQUIRED WITH STEEL BEAM.

BEAM CONSTANTS

BEAM IDENTITY – BEAM NAME, i.e., Bm. A LT.

Ns – NUMBER OF SPANS ($2 \leq Ns \leq 8$).

℄ CLASS – A.A.S.H.O. ℄ DESIGNATION, HS 20, H15, etc.

W_{DLnc} – UNIFORM NON-COMPOSITE DEAD LOAD, kips/ft.

W_{DLc} – UNIFORM COMPOSITE DEAD LOAD, kips/ft.

Wsw – UNIFORM SIDEWALK LIVE LOAD, kips/ft.

Wc – UNIT WEIGHT OF BEAM MATERIAL, lbs./ft.^{3}

E – MODULUS OF ELASTICITY OF BEAM MATERIAL, million lbs./in.^{2}

BM. SPAC. – BEAM SPACING, ft.

Σ Zr – SHEAR CONNECTOR CAPACITY, ONE TRANSVERSE ROW, kips.

DO NOT INCLUDE BEAM WEIGHT IN W_{DLnc}.

OPTIONAL BEAM CONSTANTS

D^F_M – DISTRIBUTION FACTOR FOR MOMENT, SHEAR.

D^F_{Ve} – DISTRIBUTION FACTOR FOR END SHEAR.

D^F_D – DISTRIBUTION FACTOR FOR ℄ DEFLECTIONS.

n – MODULAR RATIO SHORT (1n) AND LONG (3n) TERM VALUES. (10 and 30 assumed if not given)

℄ SKIP – ENTER DIGIT "1" TO SKIP TRUCK (T), LANE (L), OR MILITARY (M) LIVE LOAD.

	VALUES ASSUMED IF NOT GIVEN
NO. ℄ CYCLES – NUMBER CYCLES MAXIMUM STRESS.	500,000
Fy – MIN. YIELD STRENGTH BEAM MATERIAL, kips/in.^{2}	36.0
Fu – MIN. TENSILE STRENGTH BEAM MATERIAL, kips/in.^{2}	58.0
Fc – ALLOWABLE CONCRETE FLEXURE STRESS, kips/in.^{2}	1.200
Fs – ALLOWABLE REINFORCING STEEL STRESS, kips/in.^{2}	20.0

CONTINUOUS BEAM ANALYSIS

SPAN DATA

SPAN ___ OF ___.

SHEET ___ OF ___.

GEORGIA DEPARTMENT OF TRANSPORTATION
BRIDGE DESIGN OFFICE
1-4-71

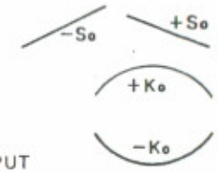
SPAN CARD

	REPEAT SPAN "S"		NUMBER OF RANGES								BEAM TYPE		
1	M	S	4 L ft.	Bm.	T.Rs	B.Rs	CS	PN	Pc	WPN	WPC	WF	N	G
3														

M = SPAN NUMBER. IF SPAN "M" (always give) IS IDENTICAL (symm.) TO SOME PREVIOUSLY DEFINED SPAN "S", ENTER SPAN NO. "S" UNDER S. NO FURTHER INPUT
L = SPAN LENGTH. REQUIRED FOR SPAN "M".

INDICATE BEAM TYPE WITH DIGIT ONE, 1.
BEAM TYPE: WF – WIDE FLANGE ROLLED BEAM – 400, 401
N – NON-STANDARD BEAM – 400, 411, 412, 413
G – GIRDER (Conc. or Steel) – 400, 421, 422, 423, 424, 425

LOAD CARDS REQUIRED



LOAD CARDS

		CODE	4 RANGE 1	11 RANGE 2	18 RANGE 3	25 RANGE 4	32 RANGE 5	39 RANGE 6	46 RANGE 7	53 RANGE 8	60 RANGE 9	67 RANGE 10	74
BEAM OR WEB	RANGE	4,0,0											ft.
	WF Bm.	4,0,1	W1 X1	W1 X1	W1 X1	W1 X1	W1 X1	W1 X1	W1 X1	W1 X1	W1 X1	W1 X1	in. & lbs.
	NON-STD. BM/WEB D	4,1,1											in.
	NON-STD. BM/WEB A	4,1,2											in.²
	NON-STD. BM/WEB I	4,1,3											in.⁴
	GIRDER WEB CONC. OR STEEL So	4,2,1											in./ft.
	GIRDER WEB CONC. OR STEEL Ko	4,2,2											in./ft.²
	GIRDER WEB CONC. OR STEEL Do	4,2,3											in.
	GIRDER WEB CONC. OR STEEL T	4,2,4											in.
	GIRDER WEB CONC. OR STEEL Xo	4,2,5											ft.
TOP PLATES	R	4,3,1											ft.
TOP PLATES	W	4,3,2											in.
TOP PLATES	T	4,3,3											in.
BOTTOM PLATES	R	4,4,1											ft.
BOTTOM PLATES	W	4,4,2											in.
BOTTOM PLATES	T	4,4,3											in.
COMPOSITE SLAB	R	4,5,1											ft.
COMPOSITE SLAB	W	4,5,2											in.
COMPOSITE SLAB	T	4,5,3											In.
COMPOSITE SLAB	e	4,5,4											in.
COMPOSITE SLAB	As	4,5,5											in.²
NON-COMP. P-LOADS	X	4,6,1											ft.
NON-COMP. P-LOADS	X	0,0,0											ft.
NON-COMP. P-LOADS	P	4,6,2											kips
NON-COMP. P-LOADS	P	0,0,0											kips
COMP. P-LDS.	X	4,7,1											ft.
COMP. P-LDS.	P	4,7,2											kips
NON-C Wp	X	4,8,1											ft.
NON-C Wp	W	4,8,2											kips/ft.
COMP Wp	X	4,9,1											ft.
COMP Wp	W	4,9,2											kips/ft.