32-997

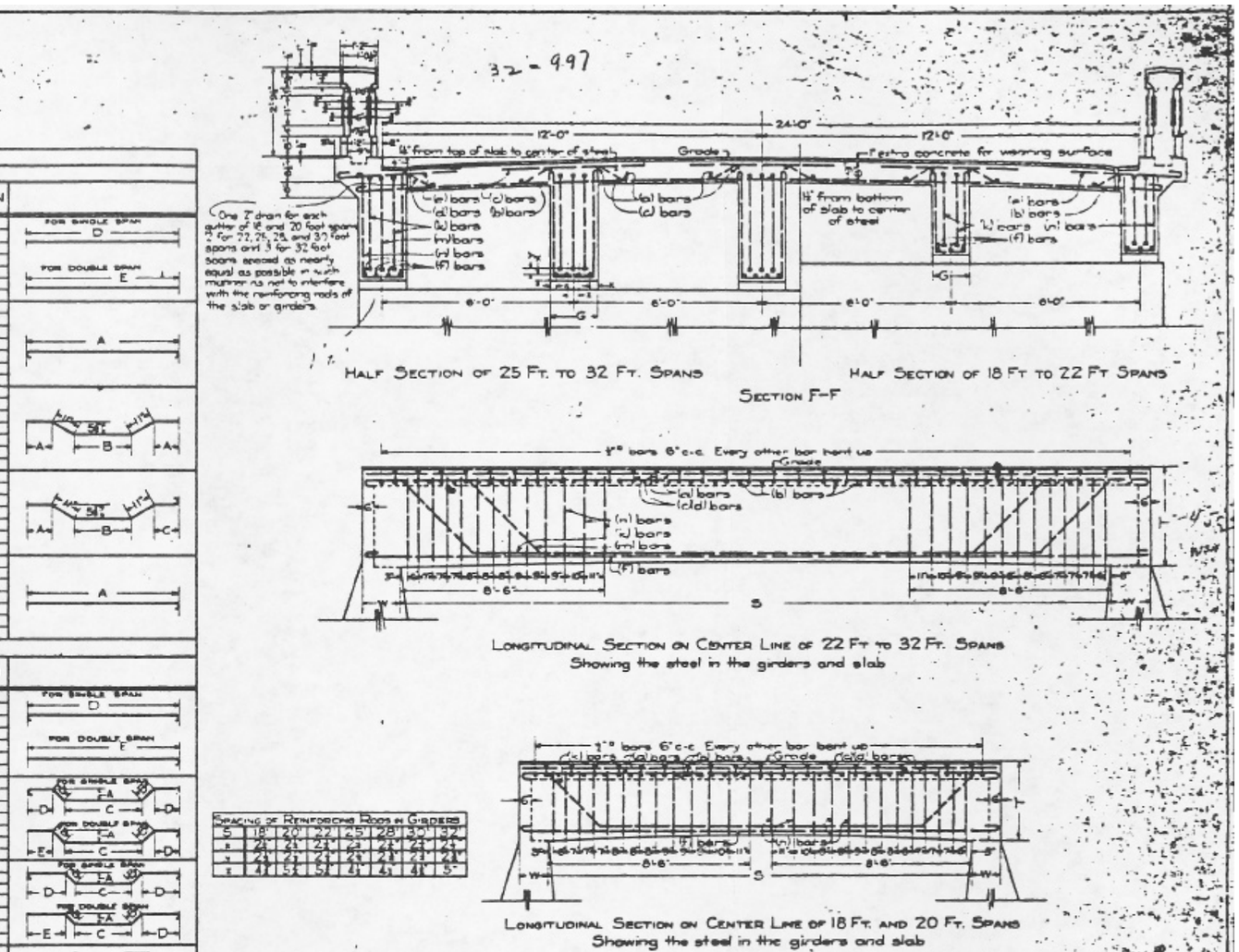
STEEL QUANTITIES

SLAB

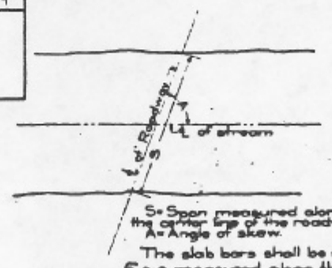
SPAN	NOTATION	A	B	C	D	E	SIZE	WEIGHT PER FOOT	SINGLE SPAN LENGTH	SINGLE SPAN NUMBER	SINGLE SPAN TOTAL LENGTH	SINGLE SPAN TOTAL WEIGHT	DOUBLE SPAN LENGTH	DOUBLE SPAN NUMBER	DOUBLE SPAN TOTAL LENGTH	DOUBLE SPAN TOTAL WEIGHT	SPAN
18'	a				20'-2"	21'-6"	1" ⌀	0.85*	20'-2"	16	323'	275*	21'-6"	32	688'	585*	18'
20	a				22'-6"	23'-8"	1" ⌀	0.85*	22'-6"	16	360'	306*	23'-8"	32	758'	644*	20'
22	a				24'-10"	25'-10"	1" ⌀	0.85*	24'-10"	16	397'	337*	25'-10"	32	827'	703*	22'
25	a				27'-10"	28'-10"	1" ⌀	0.85*	27'-10"	16	445'	378*	28'-10"	32	923'	785*	25
28	a				30'-10"	31'-10"	1" ⌀	0.85*	30'-10"	16	493'	419*	31'-10"	32	1020'	867*	28
30	a				33'-2"	34'-0"	1" ⌀	0.85*	33'-2"	16	531'	451*	34'-0"	32	1116	949*	30
32	a				35'-6"	36'-2"	1" ⌀	0.85*	35'-6"	16	568'	483*	36'-2"	32	1158	984*	32'
18	b	25'-2"					1" ⌀	0.85*	25'-10"	20	517'	439*	25'-10"	40	1033'	878*	18'
20	b	25'-4"					1" ⌀	0.85	26'-0"	22	572'	486*	26'-0"	44	1144'	972*	20
22	b	25'-4"					1" ⌀	0.85	26'-0"	24	624'	530*	26'-0"	48	1248'	1061*	22'
25	b	25'-6"					1" ⌀	0.85	26'-2"	27	707'	601*	26'-2"	54	1413'	1201*	25'
28	b	25'-6"					1" ⌀	0.85	26'-2"	29	759'	645*	26'-2"	58	1518'	1290*	28'
30	b	25'-6"					1" ⌀	0.85	26'-2"	32	837'	711*	26'-2"	64	1675'	1424*	30'
32	b	25'-6"					1" ⌀	0.85	26'-2"	35	916'	779*	26'-2"	70	1832'	1557*	32'
18	c	2'-9"	3'-3"				1" ⌀	0.85*	10'-9"	38	409'	348*	10'-9"	76	817'	695*	18'
20	c	2'-11"	3'-1"				1" ⌀	0.85*	10'-9"	42	452'	384*	10'-9"	84	903'	768*	20'
22	c	2'-11"	3'-1"				1" ⌀	0.85*	10'-9"	48	516'	439*	10'-9"	96	1032'	878*	22'
25	c	3'-0"	2'-11"				1" ⌀	0.85	10'-9"	54	581'	494*	10'-9"	108	1161'	987*	25
28	c	3'-0"	2'-11"				1" ⌀	0.85	10'-9"	60	645'	548*	10'-9"	120	1290'	1097*	28
30	c	3'-0"	2'-11"				1" ⌀	0.85	10'-9"	64	688'	585*	10'-9"	128	1376'	1170*	30
32	c	3'-0"	2'-11"				1" ⌀	0.85	10'-9"	68	731'	621*	10'-9"	136	1462'	1243*	32
18	d	2'-9"	3'-3"	2'-0"			1" ⌀	0.85*	10'-3"	38	386'	328*	10'-3"	76	773'	657*	18'
20	d	2'-11"	3'-1"	2'-1"			1" ⌀	0.85*	10'-3"	42	431'	366*	10'-3"	84	861'	732*	20'
22	d	2'-11"	3'-1"	2'-1"			1" ⌀	0.85*	10'-3"	48	492'	418*	10'-3"	96	984'	836*	22
25	d	3'-0"	2'-11"	2'-2"			1" ⌀	0.85*	10'-3"	54	554'	471*	10'-3"	108	1107'	941*	25'
28	d	3'-0"	2'-11"	2'-2"			1" ⌀	0.85*	10'-3"	60	615'	523*	10'-3"	120	1230'	1046*	28'
30	d	3'-0"	2'-11"	2'-2"			1" ⌀	0.85*	10'-3"	64	656'	558*	10'-3"	128	1312'	1115*	30'
32	d	3'-0"	2'-11"	2'-2"			1" ⌀	0.85*	10'-3"	68	697'	592*	10'-3"	136	1394'	1185*	32'
18	e	2'-9"					1" ⌀	0.85*	4'-0"	38	152'	129*	4'-0"	76	304'	258*	18'
20	e	2'-9"					1" ⌀	0.85*	4'-0"	42	168'	143*	4'-0"	84	336'	285*	20'
22	e	2'-9"					1" ⌀	0.85*	4'-0"	48	192'	163*	4'-0"	96	384'	326*	22'
25	e	2'-9"					1" ⌀	0.85*	4'-0"	54	216'	184*	4'-0"	108	432'	367*	25'
28	e	2'-9"					1" ⌀	0.85*	4'-0"	60	240'	204*	4'-0"	120	480'	408*	28'
30	e	2'-9"					1" ⌀	0.85*	4'-0"	64	256'	218*	4'-0"	128	512'	435*	30
32	e	2'-9"					1" ⌀	0.85*	4'-0"	68	272'	231*	4'-0"	136	544'	462*	32

GIRDERS

SPAN	NOTATION	A	B	C	D	E	SIZE	WEIGHT PER FOOT	SINGLE SPAN LENGTH	SINGLE SPAN NUMBER	SINGLE SPAN TOTAL LENGTH	SINGLE SPAN TOTAL WEIGHT	DOUBLE SPAN LENGTH	DOUBLE SPAN NUMBER	DOUBLE SPAN TOTAL LENGTH	DOUBLE SPAN TOTAL WEIGHT	SPAN
18	f				20'-2"	21'-6"	1" ⌀	3.40*	21'-2"	15	318'	1081*	22'-0"	30	660'	2,224*	18'
20	f				22'-6"	23'-8"	1" ⌀	3.40*	23'-6"	15	353'	1200*	24'-2"	30	725'	2465*	20
22	f				24'-10"	25'-10"	1" ⌀	3.40*	25'-10"	20	517'	1344*	26'-4"	40	1053'	2738*	22
25	f				27'-10"	28'-10"	1" ⌀	3.40*	28'-10"	20	577'	1967*	29'-4"	40	1173'	3998*	25
28	f				30'-10"	31'-10"	1" ⌀	3.40*	31'-10"	20	637'	2169*	32'-4"	40	1293'	4400*	28
30	f				33'-2"	34'-0"	1" ⌀	3.40*	34'-2"	20	683'	2326*	34'-6"	40	1380'	4725*	30
32	f				35'-6"	36'-2"	1" ⌀	3.40*	36'-6"	20	730'	2484*	36'-8"	40	1467'	4933*	32
18	g	2'-2"	3'-11"	3'-9"	1'-0"	8'-0"	1" ⌀	1.91*	23'-0"	10	230'	439*	23'-6"	20	590'	1127*	18'
20	g	2'-4"	3'-4"	5'-5"	1'-2"	8'-8"	1" ⌀	1.91*	25'-6"	10	255'	487*	26'-0"	20	650'	1242*	20
22	g	2'-6"	3'-7"	7'-1"	1'-4"	9'-3"	1" ⌀	1.91*	27'-11"	10	279'	520*	28'-4"	20	707'	1350*	22
25	g	2'-8"	3'-10"	10'-9"	1'-4"	10'-3"	1" ⌀	1.91*	31'-1"	10	311'	594*	31'-16"	20	790'	1509*	25
28	g	2'-10"	4'-1"	12'-5"	1'-4"	11'-3"	1" ⌀	3.40*	34'-3"	10	343'	1166*	34'-8"	20	873'	2968*	28
30	g	2'-10"	4'-3"	14'-2"	1'-6"	11'-11"	1" ⌀	3.40*	36'-8"	10	367'	1248*	37'-0"	20	940'	3196*	30
32	g	3'-2"	4'-6"	15'-9"	1'-6"	12'-7"	1" ⌀	3.40*	39'-2"	10	392'	1333*	39'-7"	20	992'	3531	32
18																	18
20																	20
22	h	2'-6"	3'-7"	7'-8"	3'-4"	11'-6"	1" ⌀	1.91*	27'-11"	5	140'	267*	30'-4"	10	353'	674*	22
25	h	2'-8"	3'-10"	9'-0"	3'-4"	12'-6"	1" ⌀	1.91*	31'-1"	5	155'	296*	32'-6"	10	395'	754*	25
28	h	2'-10"	4'-1"	7'-2"	3'-11"	13'-9"	1" ⌀	3.40*	34'-3"	5	171'	581*	43'-8"	10	437'	1485*	28
30	h	3'-0"	4'-3"	8'-8"	4'-4"	14'-8"	1" ⌀	3.40*	36'-8"	5	183'	622*	46'-7"	10	466'	1582*	30
32	h	3'-2"	4'-6"	9'-0"	4'-4"	15'-6"	1" ⌀	3.40*	39'-2"	5	196'	665*	49'-7"	10	496'	1686*	32
18	n	2'-9"	18"				1" ⌀	0.85*	6'-3"	30	189'	530*	6'-3"	260	1625'	4550*	18'
20	n	2'-9"	18"				1" ⌀	0.85*	6'-9"	30	203'	421*	6'-9"	260	1756'	3643*	20
22	n	2'-9"	18"				1" ⌀	0.85*	7'-1"	30	214'	445*	7'-1"	260	1842'	3834*	22
25	n	2'-9"	18"				1" ⌀	0.85*	7'-7"	30	228'	473*	7'-7"	260	1972'	4104*	25
28	n	2'-11"	18"				1" ⌀	0.85*	7'-11"	30	239'	494*	7'-11"	260	2058'	4283*	28
30	n	3'-0"	18"				1" ⌀	0.85*	8'-3"	30	248'	515*	8'-3"	260	2145'	4460*	30
32	n	3'-2"	18"				1" ⌀	0.85*	8'-7"	30	258'	536*	8'-7"	260	2232'	4641*	32



Spacing of Reinforcing Rods in Girders							
S	18'	20'	22'	25'	28'	30'	32'
a	4"	4"	4"	4"	4"	4"	4"
b	4"	4"	4"	4"	4"	4"	4"
c	4"	4"	4"	4"	4"	4"	4"
d	4"	5"	5"	4"	4"	4"	5"



S = Span measured along the center line of the roadway.
A = Angle of skew.

The slab bars shall be spaced 6" c-c measured along the center line of the roadway and so placed as to make the angle 'A' with the center line of the roadway.

For Skew Bridges.

NOTE

This table does not hold good for bridges below or of more than two spans. Bridges of spans greater than 32 feet in the clear, or of more than two spans, and instances where good footings can not be found within four feet of the bottom of the stream shall be referred to the Bridge Department for special consideration.

In bridges of two spans the first three stirrups on each side of the pier shall be inverted.

APPROVED: J. H. Mackall — MAY 20, 1919 — CHIEF ENGINEER.

REVISION APPROVED: [illegible] — DECEMBER 11, 1919 — CHIEF ENGINEER

STATE ROADS COMMISSION

STANDARD GIRDER BRIDGES DETAILS

J. N. MACKALL, CHIEF ENGINEER

BALTIMORE, MD., MAY 20, 1919

DESIGNED BY W.L.R.
TRACED BY M.J.K.
CHECKED BY W.L.R.
REVISION 1 BY H.S.T. DEC. 1919

SHEET NO. 2 OF 2