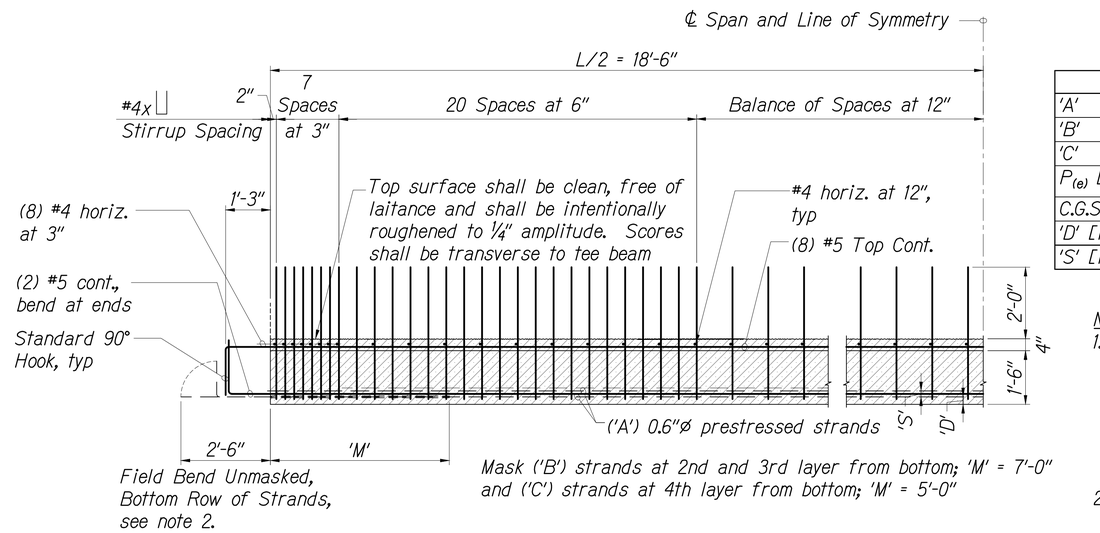
DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MAUI	HAW.	BR-030-1(37)	2024	37	42

Prestressed Tee Beam Notes:

1. *Prestressed concrete 28 day strength f'c = 8,000 psi. Prestressed concrete strength at time of release fci = 6,400 psi.*
2. *Prestressing strands shall be (7) wire 0.6"ø low relaxation steel strands (Area = 0.217 in^2) conforming to ASTM A416 with an ultimate tensile strength of 270 ksi. Initial strand stress (immediately prior to release of prestress) = 0.75 f_{pu} = 202.5 ksi.*
3. *Non-prestressed reinforcing steel shall be deformed bars conforming to ASTM A615 or A706, Grade 60, unless noted otherwise.*
4. *Strand pattern shall be symmetrical about the longitudinal centerline of the tee beam.*
5. *Strand release sequence shall not induce any lateral deflection of the tee beam.*
6. *Contractor shall submit shop drawings indicating proposed strand pattern, releasing sequence, reinforcing details and hold down device details to the engineer prior to fabrication.*
7. *During curing, care shall be taken to avoid any lateral deflection to the tee beam due to improper orientation. Steam curing may be used to accelerate strength gain.*
8. *Lifting devices shall be placed as close as possible to the centerline of bearings of the tee beam. Details and locations of lifting devices shall be submitted to the engineer for approval. Such approval does not relieve the contractor of responsibilities if tee beam is damaged due to failure of the lifting device.*
9. *$P_{(e)}$ = effective prestress force after all losses (kips)*
10. *Tee beam stirrups shall be placed perpendicular to the bridge span.*
11. *Top row of unmasked strands shall be cut flush with the face of tee beam web.*



TYPICAL PRESTRESSED TEE BEAM (INTERIOR/EXTERIOR) ELEVATION — 1 — S6.1 | S6.1

Scale: 1/2" = 1'-0"

	Beam Int	Beam Ext
'A'	18	20
'B'	2	2
'C'	0	2
$P_{(e)}$ [kips]	604	660
C.G.S. [in]	6.00	6.30
'D' [in]	3	3
'S' [in]	2	2

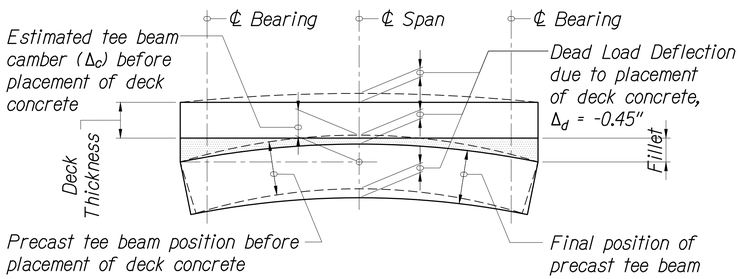
Notes:

1. *The tee beam lengths shown do not include changes in length increase due to elastic and time dependent shortening effects and longitudinal slope of the tee beam.*
2. *The unmasked strands shall have 2'-6" extension at both ends of each tee beam.*

CAMBER DIAGRAM NOTES:

1. *The contractor shall control and measure the actual camber of each tee beam immediately after the release of prestress and just before erection in the field. Actual camber immediately after release shall not vary from the calculated values by +0.50". The actual camber just before erection in the field shall not exceed the calculated value by +0.75". If the camber limits are exceeded for any tee beam, the engineer shall be notified immediately to evaluate camber and provide recommendation. Prescribed recommendations shall be at no additional cost to the Owner.*
2. *Dead load deflection, Δ_d , is due to the weight of the concrete deck.*
3. *Set the deck forms and camber the deck machine screed rails to offset the dead load deflection (Δ_d) due to deck placement.*

	Calculated Camber, Δ_c
Immediately After Release of Prestress	1.70"
Just Before Erection in the Field	3.04"



PRESTRESSED TEE BEAM CAMBER DIAGRAM — 2 — S6.1 | S6.1

Not to Scale

KEN KAZUO HAYASHIDA — LICENSED PROFESSIONAL ENGINEER — No. 6818-S — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

APRIL 30, 2026
LIC. EXP. DATE

0' 1' 2' 3' 4' 5' 6'
1/2" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Prestressed Tee Beam Longitudinal Sections

Honoapi'ilani Highway
Rehabilitation of Honolua Bridge
F.A.P No. BR-030-1(37)

Scale: As Shown *Date: August 2024*

SHEET No. *S6.1* OF *42* SHEETS

ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE