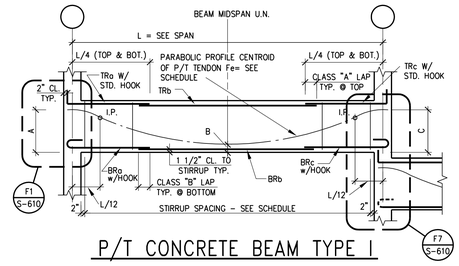
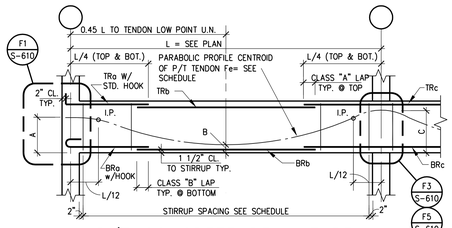


P/T CONCRETE BEAM TYPE I



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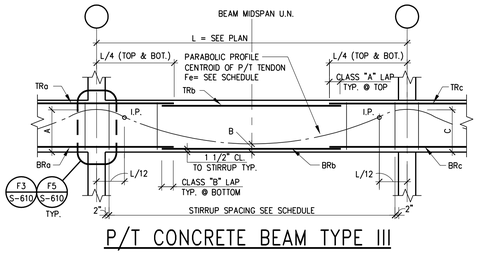

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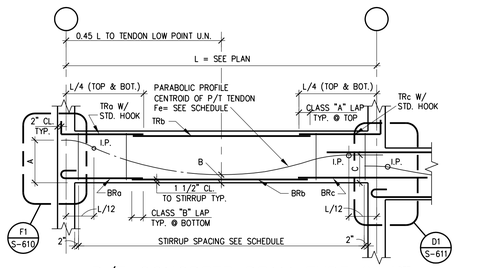


P/T CONCRETE BEAM TYPE IV

NOTE:
SEE FLOOR PLAN ELEVATIONS FOR BEAM OFFSET RELATIONSHIP

BEAM NOTES:

BN1. FOR GENERAL NOTES SEE SHEET S-001.

BN2. Fe = MINIMUM EFFECTIVE FORCE AFTER LOSES. Fe IS BASED ON 1/2" DIA., 270 ksi LOW RELAXATION STRANDS. THE MINIMUM NUMBER OF STRANDS PER BEAM MUST BE BASED ON Fe = 26.5 KIPS/STRAND.

BN3. I.P. = INFLECTION POINT.

BN4. FOR BEAMS OR GIRDERS THAT SUPPORT ANOTHER BEAM OR GIRDER, PROVIDE (8) #4 STIRRUPS @ 3" O.C. EACH SIDE OF INTERSECTION. SEE DETAIL F3/S-621.

BN5. ANCHORAGES FOR ADDED BEAM TENDONS SHALL BE LOCATED AT THE QUARTER POINT OF THE ADJACENT SPAN AND BE PLACED AT THE C.G. OF THE TEE BEAM SECTION. PROVIDE REINF. @ ANCHORAGE SIMILAR TO D5/S-621. STAGGER ANCHOR GROUP LOCATION 4'-0" O.C. WHERE MORE THAN 4 TENDONS ARE TO BE ADDED. DO NOT ANCHOR MORE THAN 4 TENDONS AT EACH LOCATION.

BN6. PROVIDE FOLLOWING STIRRUP SPACING EACH END U.N. IN BEAM/GIRDER SCHEDULE.
BEAM SECTION T: (3)@2", (8)@6", REM.@24".
BEAM SECTIONS L, U, & R:(3)@2", (8)@6", REM.@12".
GIRDER: 3 @ 2", 8 @ 6", REM. @ 12".

BN7. FOR BEAMS 36" OR GREATER IN DEPTH AND FOR ALL SECTION L AND R BEAMS PROVIDE #5 x CONT. @ 12" O.C. SIDE BARS E.F. U.N. SPACED EQUALLY BETWEEN TOP & BOTTOM BARS AND WITH HOOK AT EA. END.

BN8. MINIMUM INITIAL CONCRETE STRENGTH AT TIME OF STRESSING, f'ci, SHALL BE 2500 PSI U.N.

BN9. TO AVOID INTERFERENCE, PLACE TOP BEAM BARS JUST BELOW TOP GIRDER BARS AND BOTTOM BEAM BARS JUST ABOVE BOTTOM GIRDER BARS AS REQUIRED.

BN10. FOR PENETRATIONS THROUGH BEAMS OR GIRDERS SEE F7/S-621. SEE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR THE LOCATION OF BEAM PENETRATIONS.

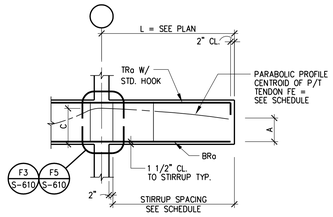
BN11. BEAM REINFORCING SHALL NOT BE USED TO SUPPORT THE SLAB TENDONS.

BN12. P/T AND REBAR DETAILER SHALL ALSO SHOW THE GRID DESIGNATION AND THE GRID DIMENSIONS TO EXPEDITE THE SHOP DRAWING REVIEW PROCESS.

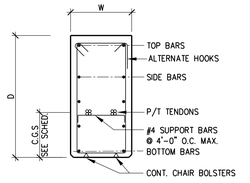
BN13. PROVIDE SKEWED STRESSING END AS REQUIRED.

BN14. FOR GIRDER "G9" AND "G10", THE STRESSING END IS AT GRID B/21 AND MUST BE PRIOR TO STAIR/ELEVATOR WALL CONSTRUCTION. G.C. TO COORDINATE.

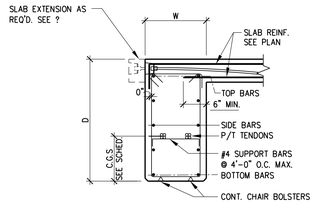
BN15. BETWEEN GRID A AND B, AT GRID 4, 9 AND 10, FOR BEAM "B1" AND "B4", THE BEAM TYPE IS "P/T CONCRETE BEAM TYPE IV" AT ALL LEVELS.



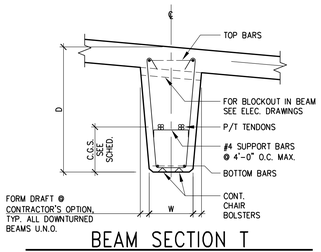
P/T CONCRETE BEAM TYPE VII



BEAM SECTION R



BEAM SECTION L



BEAM SECTION T

P/T CONCRETE BEAM / GIRDER SCHEDULE

MARK	SECT	TYPE	SIZE (INCHES) W	SIZE (INCHES) D	P/T FORCE Fe (KIPS)	TENDON LOCATION (INCHES) A	B	C	REINFORCEMENT TOP REINF. TRa	TRb	TRc	BOTTOM REINF. BRa	BRb	BRc	SIDE BARS EA. FACE(NOTE BN7 U.N.)	#4 STIRRUPS U.N. SPACING EA. END (NOTE BN6 U.N.)	REMARKS
B1	T	I	16	36	371	25	4	25	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			see beam note BN15
B2	T	II	16	36	318	25	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B3	T	II	16	36	371	25	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B4	T	I	16	36	424	25	4	25	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			see beam note BN15
B5	T	II	16	36	318	23.5	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B6	L	I	16	36	159	22	6.5	22	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B7	T	II	16	36	397.5	25	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B8	T	II	16	36	397.5	23.5	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B9	T	II	16	36	424	25	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B10	T	II	16	36	503	25	7	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B11	T	II	16	36	503	25	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B12	T	II	16	36	291.5	25	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B13	T	III	16	36	291.5	30	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B14	T	II	16	36	291.5	22	16	30	3 #9	2 #6	3 #9	3 #6	2 #9	3 #6			
B15	T	I	16	36	238.5	25	4	25	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B16	T	I	16	36	318	25	4	22	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			"A" is at grid A/13
B17	L	II	16	36	212	22	18	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B18	L	II	24	36	212	22	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B19	L	I	16	36	291.5	22	4	22	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B20	T	I	16	36	530	25	4	25	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6		3@2", 8@6", Rem. @16"	
B21	L	II	16	36	185.5	22	4	22	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B22	L	III	16	36	185.5	22	8	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			"A" is at grid B/1
B23	L	II	16	36	185.5	22	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B24	T	II	16	36	318	25	4	25	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B25	T	II	16	36	318	25	4	25	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B26	T	II	16	36	397.5	25	4	25	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B27	T	II	16	36	397.5	25	4	25	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B28	T	II	16	36	371	25	4	25	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B29	T	III	16	36	371	25	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			"A" is at grid B/3
B30	T	II	16	36	371	25	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B31	T	II	16	36	450.5	25	4	25	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B32	T	III	16	36	450.5	25	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			"A" is at grid B/3
B33	T	II	16	36	450.5	25	4	30	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B34	T	II	18	36	344.5	25	4	29	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B35	T	III	16	36	344.5	29	14	30	3 #9	2 #4	3 #9	3 #6	2 #9	2 #9			"A" is at grid C/10, "BRc" is at grid D/10
B36	T	VII	16	36	397.5	25	-	30	3 #9	3 #9	3 #9	2 #9	2 #9	2 #9			
B37	T	II	16	36	371	25	4	29	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B38	T	III	18	36	371	29	12	30	3 #9	2 #4	3 #9	3 #6	2 #9	2 #9			"A" is at grid C/10, "BRc" is at grid D/10
B39	T	VII	16	36	450.5	25	-	30	3 #9	3 #9	3 #9	2 #9	2 #9	2 #9			
B40	T	II	16	36	344.5	25	4	29	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B41	T	III	16	36	344.5	29	4	26.5	3 #9	2 #4	3 #9	3 #6	2 #9	2 #9			"A" is at grid C/8, "BRc" is at grid D/8
B42	T	VII	16	36	344.5	25	-	26.5	3 #9	3 #9	3 #9	2 #9	2 #9	2 #9			
B43	T	II	16	36	450.5	25	4	29	3 #9	2 #4	3 #9	3 #6	2 #9	3 #6			
B44	T	III	16	36	450.5	29	4	26.5	3 #9	2 #4	3 #9	3 #6	2 #9	2 #9			"A" is at grid C/8, "BRc" is at grid D/8
B45	T	VII	16	36	450.5	25	-	26.5	3 #9	3 #9	3 #9	2 #9	2 #9	2 #9			
B46	L	II	24	36	291.5	21	15	30	3 #9	2 #4	3 #9	3 #6	2 #9	2 #9			"BRc" is at grid D/20
B47	L	VII	24	36	450.5	21	-	30	3 #9	3 #9	3 #9	2 #9	2 #9	2 #9			
B48	L	II	16	36	159	22	22	28	2 #9	2 #9	2 #9	2 #9	2 #9	2 #9			
B49	L	III	18	36	159	28	22	28	2 #9	2 #9	2 #9	2 #9	2 #9	2 #9			
B50	T	I	16	36	212	22	18	22	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			
B51	T	I	16	36	N/A	-	-	-	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			beam with mild reinforcement only, no P/T force.
B52	T/L	I	16	36	159	22	16	22	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			
B53	L/R	I	24	36	450.5	18	4	21	3 #9	2 #4	3 #9	3 #6	3 #9	3 #6			"A" is at grid C/4
B54	T	II	16	36	477	25	4	30	3 #9	3 #6	3 #9	2 #9	2 #9	2 #9			
B55	T	I	56	36	N/A	-	-	-	6 #9	6 #9	6 #9	6 #9	6 #9	6 #9		provide #4 closed stirrups with 4 legs.	beam with mild reinforceemnt only, no P/T force.
B56	R	I	24	32	185.5	16	4	16	3 #9	2 #4	3 #9	3 #6	3 #9	3 #6			
G1	T	III	24	38	583	32	5.25	32	4 #9	2 #4	4 #9	3 #6	3 #9	3 #9			"BRc"is at grid C/8
G2	T	III	24	38	265	32	18	32	4 #9	2 #4	4 #9	3 #6	3 #9	3 #9			"BRc" is at grid C/20
G3	T	II	24	38	265	20	23	32	4 #9	4 #9	4 #9	3 #9	3 #9	3 #9			
G4	T	III	24	38	662.5	32	5.25	32	4 #9	2 #4	4 #9	3 #6	3 #9	3 #9			"BRc" is at grid C/8
G5	T	III	24	38	265	32	16	32	4 #9	2 #4	4 #9	3 #6	3 #9	3 #9			"BRc" is at grid C/20
G6	T	II	24	38	265	20	23	32	4 #9	4 #9	4 #9	3 #9	3 #9	3 #9			
G7	T	II	24	38	662.5	22	26	32	4 #9	4 #9	4 #9	3 #9	3 #9	3 #9			
G8	T	II	24	38	583	22	26	32	4 #9	4 #9	4 #9	3 #9	3 #9	3 #9			
G9	T	I	24	38	689	25	5.25	25	4 #9	2 #4	4 #9	3 #6	3 #9	3 #6			See note BN14
G10	T	I	24	38	636	25	5.25	25	4 #9	2 #4	4 #9	3 #9	3 #9	3 #9			See note BN14
G11	T	I	24	38	477	22	5.25	22	4 #9	2 #4	4 #9	3 #9	3 #9	3 #9			
G12	T	I	24	38	583	22	5.25	22	4 #9	2 #4	4 #9	3 #6	3 #9	3 #6			
G13	T	I	24	38	371	24	5.25	24	4 #9	3 #6	4 #9	3 #9	3 #9	3 #9			
G14	T	II	24	38	265	22	22	30	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			
G15	T	III	24	38	265	30	30	32	3 #9	3 #9	4 #9	3 #9	3 #9	3 #9			"C' and "TRc" is at grid C/3.2
G16	T	II	24	38	344.5	24	5.25	32	4 #9	3 #6	4 #9	3 #9	3 #9	3 #9			
G17	L	II	24	36	265	20	20	30	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			
G18	L	III	24	36	265	30	16	30	3 #9	2 #4	3 #9	3 #9	3 #9	3 #9			
G19	L	III	24	36	265	30	5.25	30	3 #9	2 #4	3 #9	3 #9	3 #9	3 #9			
G20	T/L	II	24	36	265	20	20	30	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			"L" section is at top tier
G21	T	II	24	38	238.5	21	24	30	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			
G22	T	III	24	38	238.5	30	24	32	3 #9	3 #9	4 #9	3 #9	3 #9	3 #9			"A" and "TRa" is at grid D/10
G23	T	II	24	38	238.5	21	5.25	32	4 #9	2 #4	4 #9	3 #9	3 #9	3 #9			
G24	L/R	I	24	36	159	22.5	12	18	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			"A" is at grid C/5
G25	L	II	16	36	159	22	22	22	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			
G26	L	III	16	36	159	22	22	22	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			
G27	L	I	16	36	159	22	22	22	3 #9	3 #9	3 #9	3 #9	3 #9	3 #9			

Revisions:	Date
FINAL CONSTRUCTION DOCUMENTS	06/10/11
100% REVIEW SUBMISSION (NOT FOR CONSTRUCTION)	04/11/11
75% REVIEW SUBMISSION (NOT FOR CONSTRUCTION)	02/03/11
75% REVIEW SUBMISSION (NOT FOR CONSTRUCTION) - COST ESTIMATE	01/19/11
35% REVIEW SUBMISSION (NOT FOR CONSTRUCTION)	11/22/10

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Drawing Title: BEAM AND GIRDER SCHEDULE AND DETAILS

Project Title: 400 CAR PARKING GARAGE

Project Number: 636-402

Building Number: 43

Approved: Project Director
Iowa City VA Healthcare System
Department of Veterans Affairs Medical Center

Location: IOWA CITY, IA

Date: 06/10/2011

Checked: BFN

Drawn: MJK

Drawing Number: S-620

Dwg. 114 of 152

Office of Construction and Facilities Management
Department of Veterans Affairs

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