

Note to Designer:  
 The information presented in this Standard Detail has been prepared in accordance with recognized engineering principles and is for general use. It should not be used for specific application without competent professional examination and verification of its suitability and applicability by a licensed professional engineer. Contents within the inner border line shall not be altered.

NO.	DESCRIPTION OF REVISIONS	DATE
1	Original Issue	2-12
2	Added 3'-4.5' height for existing box extensions only	5-15
3		
4		

Span 'S'	Height 'H'	Top Slab 'T'	Walls 'W'	aa		bb		cc	ee		ff		gg		hh		F					
				Bar Size	Spacing	Bar Size	Spacing		Bar Size	Spacing	Bar Size	Spacing	Bar Size	Spacing	Bar Size	Spacing		Bar Size	Spacing			
6'	3'	9 1/2"	8"	5	12"	4'-4"	5	12"	8'-9"	88	5	7"	26'-11"	5	7"	26'-11"	32	3'-0"	4	7"	5'-1"	2'-5"
	4'	9 1/2"	8"	5	12"	5'-4"	5	12"	10'-9"	98	5	7"	26'-11"	5	7"	26'-11"	32	3'-0"	4	7"	5'-7"	2'-5"
	5'	9 1/2"	8"	5	12"	6'-4"	5	12"	12'-9"	98	5	7"	26'-11"	5	7"	26'-11"	32	3'-0"	4	7"	6'-1"	2'-5"
	6'	9 1/2"	8"	5	12"	7'-4"	5	12"	14'-9"	108	5	7"	26'-11"	5	7"	26'-11"	32	3'-0"	4	7"	6'-7"	2'-5"
	7'	9 1/2"	8"	5	10"	8'-4"	5	12"	16'-9"	118	5	7"	26'-11"	5	6"	26'-11"	32	3'-0"	4	6"	7'-1"	2'-5"
8'	3'	12"	9"	5	12"	4'-9"	5	12"	9'-7"	88	5	7"	35'-1"	6	7"	35'-1"	40	4'-0"	4	7"	5'-5"	2'-6"
	4'	12"	9"	5	12"	5'-9"	5	12"	11'-7"	98	5	7"	35'-1"	6	7"	35'-1"	40	4'-0"	4	7"	5'-11"	2'-6"
	5'	12"	9"	5	12"	6'-9"	5	12"	13'-7"	98	5	7"	35'-1"	6	7"	35'-1"	40	4'-0"	4	7"	6'-5"	2'-6"
	6'	12"	9"	5	12"	7'-9"	5	12"	15'-7"	108	5	7"	35'-1"	6	7"	35'-1"	40	4'-0"	4	7"	6'-11"	2'-6"
	7'	12"	9"	5	12"	8'-9"	5	12"	17'-7"	118	5	7"	35'-1"	6	7"	35'-1"	40	4'-0"	5	7"	7'-5"	2'-6"
10'	3'	15"	11"	5	12"	5'-3"	5	12"	10'-5"	88	6	8"	43'-5"	7	7"	43'-5"	48	5'-0"	5	7"	6'-0"	2'-8"
	4'	15"	11"	5	12"	6'-3"	5	12"	12'-5"	98	6	8"	43'-5"	7	7"	43'-5"	48	5'-0"	5	7"	6'-6"	2'-8"
	5'	15"	11"	5	12"	7'-3"	5	12"	14'-5"	98	6	8"	43'-5"	7	7"	43'-5"	48	5'-0"	5	7"	7'-0"	2'-8"
	6'	15"	11"	5	12"	8'-3"	5	12"	16'-5"	108	6	8"	43'-5"	7	7"	43'-5"	48	5'-0"	5	7"	7'-6"	2'-8"
	7'	15"	11"	5	12"	9'-3"	5	12"	18'-5"	118	6	8"	43'-5"	7	7"	43'-5"	48	5'-0"	5	7"	8'-0"	2'-8"
12'	8'	18"	13"	5	12"	10'-9"	5	12"	21'-1"	118	6	6"	51'-9"	7	6"	51'-9"	56	6'-0"	5	6"	9'-6"	3'-5"
	9'	18"	13"	5	12"	11'-9"	5	12"	23'-1"	128	6	6"	51'-9"	7	6"	51'-9"	56	6'-0"	5	6"	10'-0"	3'-5"
	10'	18"	13"	5	10"	12'-9"	5	12"	25'-1"	138	6	6"	51'-9"	7	6"	51'-9"	56	6'-0"	5	6"	10'-7"	3'-5"
	11'	18"	13"	5	10"	13'-9"	5	12"	27'-1"	138	6	6"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	11'-1"	3'-5"
	12'	18"	13"	5	10"	14'-9"	5	12"	29'-1"	148	6	6"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	11'-7"	3'-5"

⊕ Total number of bars in the cross-section.

Span 'S'	Height 'H'	Top Slab 'T'	Walls 'W'	aa		bb		cc	ee		ff		gg		hh		F					
				Bar Size	Spacing	Bar Size	Spacing		Bar Size	Spacing	Bar Size	Spacing	Bar Size	Spacing	Bar Size	Spacing						
6'	3'	12 1/2"	8"	5	12"	4'-10"	5	12"	9'-10"	88	5	7"	26'-11"	5	6"	26'-11"	32	3'-0"	4	6"	5'-4"	2'-5"
	4'	12 1/2"	8"	5	12"	5'-10"	5	12"	11'-10"	98	5	7"	26'-11"	5	6"	26'-11"	32	3'-0"	4	6"	5'-10"	2'-5"
	5'	12 1/2"	8"	5	12"	6'-10"	5	12"	13'-10"	98	5	7"	26'-11"	5	6"	26'-11"	32	3'-0"	4	6"	6'-4"	2'-5"
	6'	12 1/2"	8"	5	12"	7'-10"	5	12"	15'-10"	108	5	7"	26'-11"	5	6"	26'-11"	32	3'-0"	4	6"	6'-10"	2'-5"
	7'	12 1/2"	8"	5	10"	8'-10"	5	12"	17'-10"	118	5	7"	26'-11"	5	6"	26'-11"	32	3'-0"	5	6"	7'-4"	2'-5"
8'	3'	16"	9"	5	12"	5'-5"	5	12"	10'-11"	88	5	6"	35'-1"	6	6"	35'-1"	40	4'-0"	4	6"	6'-0"	2'-6"
	4'	16"	9"	5	12"	6'-5"	5	12"	12'-11"	98	5	6"	35'-1"	6	6"	35'-1"	40	4'-0"	4	6"	6'-6"	2'-6"
	5'	16"	9"	5	12"	7'-5"	5	12"	14'-11"	98	5	6"	35'-1"	6	6"	35'-1"	40	4'-0"	4	6"	6'-9"	2'-6"
	6'	16"	9"	5	12"	8'-5"	5	12"	16'-11"	108	5	6"	35'-1"	6	6"	35'-1"	40	4'-0"	4	6"	7'-3"	2'-6"
	7'	16"	9"	5	10"	9'-5"	5	12"	18'-11"	118	5	6"	35'-1"	6	6"	35'-1"	40	4'-0"	5	6"	7'-9"	2'-6"
10'	3'	19"	11"	5	12"	5'-11"	5	12"	11'-6"	88	6	6"	43'-5"	7	6"	43'-5"	48	5'-0"	5	6"	6'-6"	2'-9"
	4'	19"	11"	5	12"	6'-11"	5	12"	13'-6"	98	6	6"	43'-5"	7	6"	43'-5"	48	5'-0"	5	6"	7'-0"	2'-9"
	5'	19"	11"	5	12"	7'-11"	5	12"	15'-6"	98	6	6"	43'-5"	7	6"	43'-5"	48	5'-0"	5	6"	7'-6"	2'-9"
	6'	19"	11"	5	12"	8'-11"	5	12"	17'-6"	108	6	6"	43'-5"	7	6"	43'-5"	48	5'-0"	5	6"	8'-0"	2'-9"
	7'	19"	11"	5	12"	9'-11"	5	12"	19'-6"	118	6	6"	43'-5"	7	6"	43'-5"	48	5'-0"	5	6"	8'-6"	2'-9"
12'	8'	23"	13"	5	12"	11'-7"	5	12"	22'-7"	118	7	7"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	10'-0"	3'-5"
	9'	23"	13"	5	10"	12'-7"	5	12"	24'-7"	128	7	7"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	10'-6"	3'-5"
	10'	23"	13"	5	10"	13'-7"	5	12"	26'-7"	138	7	7"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	11'-0"	3'-5"
	11'	23"	13"	5	10"	14'-7"	5	12"	28'-7"	138	7	7"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	11'-6"	3'-5"
	12'	23"	13"	5	7"	15'-7"	5	12"	30'-7"	148	7	7"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	12'-0"	3'-5"

New box culverts shall not be constructed using 3' or 4' heights without special approval from ADOT Bridge Group. Tables referencing these sizes are provided for extension of existing box culverts only.

Span 'S'	Height 'H'	Top Slab 'T'	Walls 'W'	aa		bb		cc	ee		ff		gg		hh		F					
				Bar Size	Spacing	Bar Size	Spacing		Bar Size	Spacing	Bar Size	Spacing	Bar Size	Spacing	Bar Size	Spacing						
6'	3'	11"	8"	5	12"	4'-7"	5	12"	9'-2"	88	5	7"	26'-11"	5	7"	26'-11"	32	3'-0"	4	7"	5'-3"	2'-5"
	4'	11"	8"	5	12"	5'-7"	5	12"	11'-2"	98	5	7"	26'-11"	5	7"	26'-11"	32	3'-0"	4	7"	5'-9"	2'-5"
	5'	11"	8"	5	12"	6'-7"	5	12"	13'-2"	98	5	7"	26'-11"	5	7"	26'-11"	32	3'-0"	4	7"	6'-3"	2'-5"
	6'	11"	8"	5	12"	7'-7"	5	12"	15'-2"	108	5	7"	26'-11"	5	7"	26'-11"	32	3'-0"	4	7"	6'-9"	2'-5"
	7'	11"	8"	5	10"	8'-7"	5	12"	17'-2"	118	5	7"	26'-11"	5	7"	26'-11"	32	3'-0"	5	7"	7'-3"	2'-5"
8'	3'	14"	9"	5	12"	5'-1"	5	12"	10'-1"	88	5	7"	35'-1"	6	7"	35'-1"	40	4'-0"	4	7"	5'-7"	2'-6"
	4'	14"	9"	5	12"	6'-1"	5	12"	12'-1"	98	5	7"	35'-1"	6	7"	35'-1"	40	4'-0"	4	7"	6'-1"	2'-6"
	5'	14"	9"	5	12"	7'-1"	5	12"	14'-1"	98	5	7"	35'-1"	6	7"	35'-1"	40	4'-0"	4	7"	6'-7"	2'-6"
	6'	14"	9"	5	12"	8'-1"	5	12"	16'-1"	108	5	7"	35'-1"	6	7"	35'-1"	40	4'-0"	4	7"	7'-1"	2'-6"
	7'	14"	9"	5	10"	9'-1"	5	12"	18'-1"	118	5	7"	35'-1"	6	7"	35'-1"	40	4'-0"	5	7"	7'-7"	2'-6"
10'	3'	17"	11"	5	12"	5'-7"	5	12"	10'-11"	88	6	7"	43'-5"	7	7"	43'-5"	48	5'-0"	5	7"	6'-3"	2'-9"
	4'	17"	11"	5	12"	6'-7"	5	12"	12'-11"	98	6	7"	43'-5"	7	7"	43'-5"	48	5'-0"	5	7"	6'-9"	2'-9"
	5'	17"	11"	5	12"	7'-7"	5	12"	14'-11"	98	6	7"	43'-5"	7	7"	43'-5"	48	5'-0"	5	7"	7'-3"	2'-9"
	6'	17"	11"	5	12"	8'-7"	5	12"	16'-11"	108	6	7"	43'-5"	7	7"	43'-5"	48	5'-0"	5	7"	7'-9"	2'-9"
	7'	17"	11"	5	12"	9'-7"	5	12"	18'-11"	118	6	7"	43'-5"	7	7"	43'-5"	48	5'-0"	5	7"	8'-3"	2'-9"
12'	8'	20 1/2"	13"	5	12"	11'-2"	5	12"	22'-1"	118	6	6"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	9'-3"	2'-11"
	9'	20 1/2"	13"	5	12"	12'-2"	5	12"	24'-1"	128	6	6"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	9'-9"	2'-11"
	10'	20 1/2"	13"	5	10"	13'-2"	5	12"	26'-1"	138	6	6"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	10'-3"	2'-11"
	11'	20 1/2"	13"	5	10"	14'-2"	5	12"	28'-1"	138	6	6"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	11'-3"	2'-11"
	12'	20 1/2"	13"	5	9"	15'-2"	5	12"	30'-1"	148	6	6"	51'-9"	7	6"	51'-9"	56	6'-0"	6	6"	11'-9"	2'-11"

Span 'S'	Height 'H'	Table I		Table II		Table III		Table IV		Table V	
		Concrete C.Y.	Reinf. Steel Lbs.	Concrete C.Y.	Reinf. Steel Lbs.	Concrete C.Y.	Reinf. Steel Lbs.	Concrete C.Y.	Reinf. Steel Lbs.	Concrete C.Y.	Reinf. Steel Lbs.
6'	3'	2.179	310.7	1.926	317.9	2.179	332.3	2.432	334.9	2.685	358.0
	4'	2.302	327.8	2.049	335.2	2.302	349.6	2.556	352.2	2.809	375.7
	5'	2.426	338.1	2.173	345.8	2.426	360.3	2.679	362.9	2.932	386.8
	6'	2.549	355.1	2.296	363.1	2.549	377.6	2.802	380.2	3.056	404.5
	7'	2.673	372.2	2.420	380.4	2.673	419.9	2.926	419.7	3.179	447.8
8'	3'	2.727	450.3	2.946	453.4	3.275	456.3	3.713	459.3	4.151	518.8
	4'	2.856	468.4	3.076	470.7	3.404	473.6	3.843	476.6	4.281	536.5
	5'	2.986	479.9	3.205	481.4	3.534	48				