

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		

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.

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"	48	5	7"	13'-7"	5	7"	13'-7"	16	3'-0"	4	7"	5'-1"	2'-5"
	4'	9 1/2"	8"	5	12"	5'-4"	5	12"	10'-9"	54	5	7"	13'-7"	5	7"	13'-7"	16	3'-0"	4	7"	5'-7"	2'-5"
	5'	9 1/2"	8"	5	12"	6'-4"	5	12"	12'-9"	54	5	7"	13'-7"	5	7"	13'-7"	16	3'-0"	4	7"	6'-1"	2'-5"
	6'	9 1/2"	8"	5	12"	7'-4"	5	12"	14'-9"	60	5	7"	13'-7"	5	7"	13'-7"	16	3'-0"	4	7"	6'-7"	2'-5"
	7'	9 1/2"	8"	5	10"	8'-4"	5	12"	16'-9"	66	5	7"	13'-7"	5	6"	13'-7"	16	3'-0"	4	6"	7'-1"	2'-5"
8'	3'	12"	9"	5	12"	4'-9"	5	12"	9'-7"	48	5	7"	17'-9"	6	7"	17'-9"	20	4'-0"	5	7"	5'-5"	2'-6"
	4'	12"	9"	5	12"	5'-9"	5	12"	11'-7"	54	5	7"	17'-9"	6	7"	17'-9"	20	4'-0"	5	7"	5'-11"	2'-6"
	5'	12"	9"	5	12"	6'-9"	5	12"	13'-7"	54	5	7"	17'-9"	6	7"	17'-9"	20	4'-0"	4	7"	6'-5"	2'-6"
	6'	12"	9"	5	12"	7'-9"	5	12"	15'-7"	60	5	7"	17'-9"	6	7"	17'-9"	20	4'-0"	4	7"	6'-11"	2'-6"
	7'	12"	9"	5	12"	8'-9"	5	12"	17'-7"	66	5	7"	17'-9"	6	7"	17'-9"	20	4'-0"	5	7"	7'-5"	2'-6"
10'	3'	15"	11"	5	12"	5'-3"	5	12"	10'-5"	48	6	8"	22'-1"	7	7"	22'-1"	24	5'-0"	5	7"	6'-0"	2'-8"
	4'	15"	11"	5	12"	6'-3"	5	12"	12'-5"	54	6	8"	22'-1"	7	7"	22'-1"	24	5'-0"	5	7"	6'-6"	2'-8"
	5'	15"	11"	5	12"	7'-3"	5	12"	14'-5"	54	6	8"	22'-1"	7	7"	22'-1"	24	5'-0"	5	7"	7'-0"	2'-8"
	6'	15"	11"	5	12"	8'-3"	5	12"	16'-5"	60	6	8"	22'-1"	7	7"	22'-1"	24	5'-0"	5	7"	7'-6"	2'-8"
	7'	15"	11"	5	12"	9'-3"	5	12"	18'-5"	66	6	8"	22'-1"	7	7"	22'-1"	24	5'-0"	5	7"	8'-0"	2'-8"
12'	8'	18"	13"	5	12"	10'-9"	5	12"	21'-1"	66	6	6"	26'-5"	7	6"	26'-5"	28	6'-0"	5	6"	9'-6"	3'-5"
	9'	18"	13"	5	12"	11'-9"	5	12"	23'-1"	72	6	6"	26'-5"	7	6"	26'-5"	28	6'-0"	5	6"	10'-0"	3'-5"
	10'	18"	13"	5	10"	12'-9"	5	12"	25'-1"	78	6	6"	26'-5"	7	6"	26'-5"	28	6'-0"	6	6"	10'-7"	3'-5"
	11'	18"	13"	5	10"	13'-9"	5	12"	27'-1"	78	6	6"	26'-5"	7	6"	26'-5"	28	6'-0"	6	6"	11'-1"	3'-5"
	12'	18"	13"	5	10"	14'-9"	5	12"	29'-1"	84	6	6"	26'-5"	7	6"	26'-5"	28	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"	48	5	7"	13'-7"	5	6"	13'-7"	16	3'-0"	4	6"	5'-4"	2'-5"
	4'	12 1/2"	8"	5	12"	5'-10"	5	12"	11'-10"	54	5	7"	13'-7"	5	6"	13'-7"	16	3'-0"	4	6"	5'-10"	2'-5"
	5'	12 1/2"	8"	5	12"	6'-10"	5	12"	13'-10"	54	5	7"	13'-7"	5	6"	13'-7"	16	3'-0"	4	6"	6'-4"	2'-5"
	6'	12 1/2"	8"	5	12"	7'-10"	5	12"	15'-10"	60	5	7"	13'-7"	5	6"	13'-7"	16	3'-0"	4	6"	6'-10"	2'-5"
	7'	12 1/2"	8"	5	10"	8'-10"	5	12"	17'-10"	66	5	7"	13'-7"	5	6"	13'-7"	16	3'-0"	5	6"	7'-4"	2'-5"
8'	3'	16"	9"	5	12"	5'-5"	5	12"	10'-11"	48	5	6"	17'-9"	6	6"	17'-9"	20	4'-0"	4	6"	5'-9"	2'-6"
	4'	16"	9"	5	12"	6'-5"	5	12"	12'-11"	54	5	6"	17'-9"	6	6"	17'-9"	20	4'-0"	4	6"	6'-3"	2'-6"
	5'	16"	9"	5	12"	7'-5"	5	12"	14'-11"	54	5	6"	17'-9"	6	6"	17'-9"	20	4'-0"	4	6"	6'-9"	2'-6"
	6'	16"	9"	5	12"	8'-5"	5	12"	16'-11"	60	5	6"	17'-9"	6	6"	17'-9"	20	4'-0"	4	6"	7'-3"	2'-6"
	7'	16"	9"	5	10"	9'-5"	5	12"	18'-11"	66	5	6"	17'-9"	6	6"	17'-9"	20	4'-0"	5	6"	7'-9"	2'-6"
10'	3'	19"	11"	5	12"	5'-11"	5	12"	11'-6"	48	6	6"	22'-1"	7	6"	22'-1"	24	5'-0"	5	6"	6'-6"	2'-9"
	4'	19"	11"	5	12"	6'-11"	5	12"	13'-6"	54	6	6"	22'-1"	7	6"	22'-1"	24	5'-0"	5	6"	7'-0"	2'-9"
	5'	19"	11"	5	12"	7'-11"	5	12"	15'-6"	54	6	6"	22'-1"	7	6"	22'-1"	24	5'-0"	5	6"	7'-6"	2'-9"
	6'	19"	11"	5	12"	8'-11"	5	12"	17'-6"	60	6	6"	22'-1"	7	6"	22'-1"	24	5'-0"	5	6"	8'-0"	2'-9"
	7'	19"	11"	5	12"	9'-11"	5	12"	19'-6"	66	6	6"	22'-1"	7	6"	22'-1"	24	5'-0"	5	6"	8'-6"	2'-9"
12'	8'	23"	13"	5	12"	11'-7"	5	12"	22'-7"	66	7	7"	26'-5"	7	6"	26'-5"	28	6'-0"	6	6"	10'-0"	3'-5"
	9'	23"	13"	5	10"	12'-7"	5	12"	24'-7"	72	7	7"	26'-5"	7	6"	26'-5"	28	6'-0"	6	6"	10'-6"	3'-5"
	10'	23"	13"	5	10"	13'-7"	5	12"	26'-7"	78	7	7"	26'-5"	7	6"	26'-5"	28	6'-0"	6	6"	11'-0"	3'-5"
	11'	23"	13"	5	10"	14'-7"	5	12"	28'-7"	78	7	7"	26'-5"	7	6"	26'-5"	28	6'-0"	6	6"	11'-6"	3'-5"
	12'	23"	13"	5	7"	15'-7"	5	12"	30'-7"	84	7	7"	26'-5"	7	6"	26'-5"	28	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"	48	5	7"	13'-7"	5	7"	13'-7"	16	3'-0"	4	7"	5'-3"	2'-5"
	4'	11"	8"	5	12"	5'-7"	5	12"	11'-2"	54	5	7"	13'-7"	5	7"	13'-7"	16	3'-0"	4	7"	5'-9"	2'-5"
	5'	11"	8"	5	12"	6'-7"	5	12"	13'-2"	54	5	7"	13'-7"	5	7"	13'-7"	16	3'-0"	4	7"	6'-3"	2'-5"
	6'	11"	8"	5	12"	7'-7"	5	12"	15'-2"	60	5	7"	13'-7"	5	7"	13'-7"	16	3'-0"	4	7"	6'-9"	2'-5"
	7'	11"	8"	5	10"	8'-7"	5	12"	17'-2"	66	5	7"	13'-7"	5	7"	13'-7"	16	3'-0"	5	7"	7'-3"	2'-5"
8'	3'	14"	9"	5	12"	5'-1"	5	12"	10'-1"	48	5	7"	17'-9"	6	7"	17'-9"	20	4'-0"	4	7"	5'-7"	2'-6"
	4'	14"	9"	5	12"	6'-1"	5	12"	12'-1"	54	5	7"	17'-9"	6	7"	17'-9"	20	4'-0"	4	7"	6'-1"	2'-6"
	5'	14"	9"	5	12"	7'-1"	5	12"	14'-1"	54	5	7"	17'-9"	6	7"	17'-9"	20	4'-0"	4	7"	6'-7"	2'-6"
	6'	14"	9"	5	12"	8'-1"	5	12"	16'-1"	60	5	7"	17'-9"	6	7"	17'-9"	20	4'-0"	4	7"	7'-1"	2'-6"
	7'	14"	9"	5	10"	9'-1"	5	12"	18'-1"	66	5	7"	17'-9"	6	7"	17'-9"	20	4'-0"	5	7"	7'-7"	2'-6"
10'	3'	17"	11"	5	12"	5'-7"	5	12"	10'-11"	48	6	7"	22'-1"	7	7"	22'-1"	24	5'-0"	5	7"	6'-3"	2'-9"
	4'	17"	11"	5	12"	6'-7"	5	12"	12'-11"	54	6	7"	22'-1"	7	7"	22'-1"	24	5'-0"	5	7"	6'-9"	2'-9"
	5'	17"	11"	5	12"	7'-7"	5	12"	14'-11"	54	6	7"	22'-1"	7	7"	22'-1"	24	5'-0"	5	7"	7'-3"	2'-9"
	6'	17"	11"	5	12"	8'-7"	5	12"	16'-11"	60	6	7"	22'-1"	7	7"	22'-1"	24	5'-0"	5	7"	7'-9"	2'-9"
	7'	17"	11"	5	12"	9'-7"	5	12"	18'-11"	66	6	7"	22'-1"	7	7"	22'-1"	24	5'-0"	5	7"	8'-3"	2'-9"
12'	8'	20 1/2"	13"	5	12"	11'-2"	5	12"	22'-1"	66	6	6"	26'-5"	7	6"	26'-5"	28	6'-0"	6	6"	9'-3"	2'-11"
	9'	20 1/2"	13"	5	12"	12'-2"	5	12"	24'-1"	72	6	6"	26'-5"	7	6"	26'-5"	28	6'-0"	6	6"	9'-9"	2'-11"
	10'	20 1/2"	13"	5	10"	13'-2"	5	12"	26'-1"	78	6	6"	26'-5"	7	6"	26'-5"	28	6'-0"	6	6"	10'-3"	2'-11"
	11'	20 1/2"	13"	5	10"	14'-2"	5	12"	28'-1"	78	6	6"	26'-5"	7	6"	26'-5"	28	6'-0"	6	6"	11'-3"	2'-11"
	12'	20 1/2"	13"	5	9"	15'-2"	5	12"	30'-1"	84	6	6"	26'-5"	7	6"	26'-5"	28	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'	1.148	186.5	1.019	188.3	1.148	181.3	1.278	183.0	1.407	196.8
	4'	1.222	197.8	1.093	199.6	1.222	191.8	1.352	193.5	1.481	207.7
	5'	1.296	205.1	1.167	206.9	1.296	198.3	1.426	200.0	1.556	214.5
	6'	1.370	216.4	1.241	218.2	1.370	208.7	1.500	210.4	1.630	225.4
	7'	1.444	227.7	1.315	229.5	1.444	236.2	1.574	243.1	1.704	261.9
8'	3'	1.437	268.8	1.549	262.6	1.717	258.9	1.941	244.3	2.166	279.5
	4'	1.517	281.1	1.629	273.9	1.797	270.7	2.022	254.8	2.246	290.4
	5'	1.597	289.5	1.709	281.2	1.878	261.9	2.102	263.9	2.326	297.2
	6'	1.677	301.8	1.790	292.5						