

1. Abandoned culverts should have the ends backfilled and left in place
2. Remove indicates that culverts should be dug out and a ditch left in its place
3. New culverts are to be installed as per H349000-1000-10-041-0003
4. Replace indicates that culvert existing at the same chainage is to be removed and replaced as per H349000-1000-10-041-0003
5. No Change indicates that the culvert should be left as is
6. For fish bearing culverts, refer to drawing H349000-4138-10-035-0002
7. Invert elevations are approximate. Culverts should be placed to match field conditions
8. CSP culverts to be used throughout
9. Erosion Control Measures will be installed as directed by the site environmental engineer or designate
10. Before beginning any construction for installation works adjacent to a fish bearing culvert stream or other adjacent water body, the site environmental engineer or designate will be consulted as to what erosion mitigation measures are to be installed to protect the water from contamination by soil

D	CULVERT DIAMETER
E	EMBEDMENT DEPTH
C	CULVERT SPACING AND BEDDING CLEARANCE C=500 WHILE D>900mm C=300 WHILE D<=900mm
W	CULVERT BACKFILL TOP WIDTH W=n*D+(n-1)*C
TYPE	CULVERT MATERIAL
U/S INV. ELV.	CULVERT UPSTREAM INVERT ELEVATION
D/S INV. ELV.	CULVERT DOWNSTREAM INVERT ELEVATION
L	RIPRAP APRON LENGTH L=4*D (APPROX.)
S	CULVERT SLOPE
LENGTH	CULVERT LENGTH

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Culvert ID	KP Chainage	Hatch Chainage	Distance	Fish Bearing Status	Number of Pipes	Existing Diameter	Proposed Diameter	Existing Length	Proposed Length	E	W	Culvert C/L At Upstream		U/S INV. ELV.	Rip Rap Required	Culvert C/L At Downstream		D/S INV. ELV.	Rip Rap Required	C	Rip Rap Apron Length	Slope	Skew Degree	What To Do	Comments
	(m)	(m)	(km)	(Y/N/P)	(n)	(m)	(m)	(m)	(m)	(mm)	(mm)	Northing	Easting	(m)	(Y/N)	Northing	Easting	(m)	(Y/N)	(mm)	(m)	(%)			
CV007	A90+510	158+599	89+657	NO	1	0.25	0.5	12	11		500			161.368	N			161.280	N	300		0.90		Replace	Replace with new length of 11m
BG13	A90+846	158+948	90+006	NO	1	0.25	0.5	12	17.5		500			161.993	N			161.598	N	300		3.29		Replace	Replace with new length of 17.5m
BG11A	A91+430	159+528	90+586	NO	1	0.25	0.5	12	32.5		500			172.201	N			171.593	Y	300	2	5.07		Replace	Abandon and replace with new length of 32.5m
BG11B		159+895	90+953	NO	1		0.5		15.5		500				N				N	300				New	
CV219	A91+949	160+046	91+104	NO	1	0.15	0.5	9.9	10.5		500			162.986	N			162.832	N	300		1.56		Replace	Replace with new length of 10.5m
CV004	A92+477	160+561	91+619	NO	1	0.15	0.5	9.9	14.5		500			162.725	N			162.425	N	300		3.03		Replace	Replace with new length of 14.5m
BG07	A92+956	161+039	92+097	NO	1	0.15	0.5	9.4	20.5		500			163.340	N			163.113	N	300		2.41		Replace	Replace with new length of 20.5m
CV002A	A93+022	161+117	92+175	NO	1	0.15		9.6						165.485	N			165.298	N			1.95		Abandon	
CV002B	A93+492	161+585	92+643	NO	1	0.15		11.2						164.790	N			164.714	N			0.68		Abandon	
CV002C	A93+782	161+862	92+920	NO	1	0.15		9.7						167.495	N			164.429	N			31.61		Abandon	
BG04A	A93+992	162+086	93+144	YES	2	1.2		15	24		2900			163.785	N			163.648	N	500		0.91		Extend	Extend 5.5m left & 3.5m right
BG04B	A93+993	162+087	93+145	YES	2	1.2		15	24	120	2900			163.570	N			163.463	N	500		0.71		Extend	Extend 5m left & 4m right
CV001A	A94+606	162+690	93+748	YES	1	0.5		15			500			166.546	N			166.299	N	300		1.65		No Change	
CV001B	A94+351	162+434	93+492	YES	2	1		15		100	2000			166.333	N			166.159	N	500		1.16		No Change	
CV001C	A94+353	162+437	93+495	YES	2	0.5		15		50	2000			166.547	N			166.305	N	300		1.61		No Change	
BG03A	A95+585	163+673	94+731	NO	1	0.25	0.5	18	30.5		500			164.307	N			163.840	N	300		2.59		Replace	Replace with new length of 30.5m
BG03B	A96+817	164+930	95+988	NO	1	0.15		13.9						153.743	N			153.309	N			3.12		Abandon	
CV223A	A97+007	165+117	96+175	YES	1	2		10	24		2000				N				Y	500	8			Extend	Extend 14m left
CV223B	A96+981	165+088	96+146	YES	3	1.2		15	28	120	4600			151.827	N			151.314	Y	500	4.8	3.42		Extend	Extend 13m left
CV223C	A96+983	165+090	96+148	YES	3	1.2		15	28	120	4600			151.792	N			151.337	Y	500	4.8	3.03		Extend	Extend 13m left
CV223D	A96+985	165+092	96+150	YES	3	1.2		15	29	120	4600			151.859	N			151.313	Y	500	4.8	3.64		Extend	Extend 14m left
CV223E	A97+072	165+181	96+239	YES	2	1.2		15	19.5	120	2900			152.629	N			152.615	N	500		0.09		Extend	Extend 4.5m left
CV223F	A97+074	165+183	96+241	YES	2	1.2		15	19	120	2900			152.784	N			152.669	N	500		0.77		Extend	Extend 4m left
CV224A	A97+576	165+695	96+753	YES	1	1		15	26		1000			153.289	N			153.131	N	500		1.05		Extend	Extend 6m left & 5m right
CV224B	A98+568	166+685	97+743	YES	1	1		15	26.5		1000			153.466	N			153.317	N	500		0.99		Extend	Extend 6.5m left & 6m right
CV225A	A98+845	166+950	98+008	YES	1	1	1	15	18.5		1000				N				Y	500	4			Replace	Replace with new length of 18.5m
CV225B	A98+804	166+915	97+973	YES	1	1.2	1.2	18	18	120	1200			151.682	N			151.505	N	500		0.98		Replace	Replace with new length of 18m
BG01A	A99+483	167+610	98+668	YES	3	1.2		18	36.5		4600				N				Y	500	4.8			Extend	Extend 11.5m left & 7m right
BG01B	A99+483	167+610	98+668	YES	3	1.2		18	37	120	4600			159.688	N			159.016	Y	500	4.8	3.73		Extend	Extend 12m left & 7m right
BG01C		167+596	98+654	YES	3	1.2		18	37	120	4600				N				Y	500	4.8			Extend	Extend 11m left & 8m right
BG01G		169+026	100+084	NO	1		0.5		12.5		500				N				N	300				New	
BG01D		169+158	100+216	YES	1		0.5		10		500				N				N	300				New	
BG01E		169+281	100+339	YES	1		1		10		1000				N				Y	500	4			New	
BG01F		169+535	100+593	YES	1		0.5		18		500				N				N	300				New	
CV186		170+745	101+803	YES	1	1		21	27		1000				N				Y	500	4			Extend	Extend 6m left
CV187A		170+956	102+014	POTENTIAL	1	0.5		10	26		500				N				N	300				Extend	Extend 6m left & 10m right
CV187B		171+221	102+279	POTENTIAL	1		0.5		16		500				N				N	300				New	
CV187C		171+458	102+516	NO	1		0.5		35.5		500				N				N	300				New	

[illegible]