

2017 / 2018 Status Report
Irrigation Rehabilitation Program



Alberta

**IRRIGATION REHABILITATION
PROGRAM**

2017/2018

STATUS REPORT

Prepared by



Irrigation Secretariat

**Lethbridge, Alberta
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ACKNOWLEDGEMENT

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LIST of ACRONYMS

IRP – Irrigation Rehabilitation Program
ICW – Irrigation Capital Works
MW – Major Works
PS – Planning Studies
IIMS – Irrigation Infrastructure Management System
17/18 – Construction Period August 1, 2017 to July 31, 2018

ABSTRACT

This annual Irrigation Rehabilitation Program (IRP) Status Report summarizes the expenditures and status of all IRP projects active during the construction period August 1, 2017 to July 31, 2018.

The IRP began in 1969 and is a cost shared program between Alberta Agriculture and Forestry and Alberta's irrigation districts. Since 1969, annual funding levels have varied between \$600,000 and \$33,400,000 per year.

The provincial/irrigation district cost share ratio has varied since 1969, starting at 86% province - 14 % irrigation district, changing to 80% - 20% in 1994/95 and to 75% - 25% in 1995/96 and remains at that ratio today.

The IRP funding is provided to the districts according to an inter-district allocation formula. The 2017 funding allocations are shown in Table 1.

Irrigation Rehabilitation Financing Agreements are prepared annually between the Minister and each irrigation district. Projects must be approved by Irrigation Council prior to any project costs being paid for with cost shared funds, and all eligible project expenditures must be documented by Progress Certificates.

Information contained in this report was gathered from random monitoring (field visits) of project construction sites, records from the Basin Water Management Section and the Irrigation Secretariat and information from irrigation districts.

AETNA IRRIGATION DISTRICT (AID)

During this reporting period, AID expended \$405 of IRP cost shared funds on one project in the ICW category, which involved engineering.



AID - IRP Project Construction Summary August 1, 2017 to July 31, 2018

IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	Rehabilitation Completed		Liners (metres)	Pipe (metres)	Earth (metres)
					% Completed in 17/18	% Completed to July 31/18			
2322	ICW	C10 Pipeline Enhancement	2016 02	2017 03	< 1	100			

BOW RIVER IRRIGATION DISTRICT (BRID)

During this reporting period, BRID expended \$4,293,654 of IRP cost shared funds on one project in the ICW category. Expenditures involved pipeline installation.



BRID - IRP Project Construction Summary August 1, 2017 to July 31, 2018

IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	% Completed in 17/18	% Completed to July 31/18	Rehabilitation Completed		
							Liners (metres)	Pipe (metres)	Earth (metres)
2319	ICW	Lateral B (West Block)	2016 02	2017 09	29	47		17,861	
								17,861	

EASTERN IRRIGATION DISTRICT (EID)

During this reporting period, EID expended \$1,043,133 of IRP cost shared funds on four projects in the ICW category. Expenditures involved engineering, liner installation and cleanup of previously completed IRP projects.



EID - IRP Project Construction Summary

August 1, 2017 to July 31, 2018

IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	% Completed		Rehabilitation Completed		
					in 17/18	to July 31/18	Liners (metres)	Pipe (metres)	Earth (metres)
2327	ICW	11B Springhill	2016 02	2016 09	< 2	99			
2338	ICW	Secondary 'A' Rolling Hills	2017 03	2017 10	99	99	2,410		
2342	ICW	09 Secondary 'A' Rolling Hills	2018 02	2018 10	< 2	< 2			
2343	ICW	09 Secondary 'A' Springhill	2018 04	N/A	< 2	< 2	2,410		

LEAVITT IRRIGATION DISTRICT (LID)

No funds were expended by LID during this reporting period.



LETHBRIDGE NORTHERN IRRIGATION DISTRICT (LNID)

During this reporting period, LNID expended \$2,737,888 of cost shared funds on three projects in the ICW category, which involved the installation of a pipeline and cleanup of previously completed IRP projects.



LNID - IRP Project Construction Summary

August 1, 2017 to July 31, 2018

IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	Rehabilitation Completed				
					% Completed in 17/18	% Completed to July 31/18	Liners (metres)	Pipe (metres)	Earth (metres)
2202	ICW	Laterals H3/H8	2011 02	2014 05	< 1	< 1			
2302	ICW	Laterals H9	2015 02	2016 10	6	99			
2330	ICW	Laterals B9	2016 07	2017 09	88	94		8,232	
								8,232	

MAGRATH IRRIGATION DISTRICT (MID)

During this reporting period, MID expended \$723,504 of cost shared funds on two projects in the ICW category, which involved the installation of a pipeline and a planning study.



MID - IRP Project Construction Summary

August 1, 2017 to July 31, 2018

IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	% Completed in 17/18	% Completed to July 31/18	Rehabilitation Completed		
							Liners (metres)	Pipe (metres)	Earth (metres)
2329	PS	MID Rehabilitation Study & Expansion Plan	2016 02	N/A	8	22			
2337	ICW	Lateral J	2017 04	2017 11	87	87		5,792	
								5,792	

MOUNTAIN VIEW IRRIGATION DISTRICT (MVID)

During this reporting period, MVID expended \$458,870 of IRP cost shared funds in the ICW category. All of the funds were used on the extension of three pipelines.



MVID - IRP Project Construction Summary

August 1, 2017 to July 31, 2018

							Rehabilitation Completed		
IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	% Completed in 17/18	% Completed to July 31/18	Liners (metres)	Pipe (metres)	Earth (metres)
2332	ICW	Completion of Pipelines 1026, 1029, 1030	2016 07	2018 02	100	100		2,040	
								2,040	

RAYMOND IRRIGATION DISTRICT (RID)

During this reporting period, RID expended \$543,333 of IRP cost shared funds on two ICW projects which involved the installation of a pipeline and cleanup of a previously completed IRP project.



RID - IRP Project Construction Summary

August 1, 2017 to July 31, 2018

IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	Rehabilitation Completed				
					% Completed in 17/18	% Completed to July 31/18	Liners (metres)	Pipe (metres)	Earth (metres)
2321	ICW	Welling Lateral #5 - Phase 5	2016 02	2016 11	< 1	99			
2334	ICW	Stirling Laterals #16 - 17	2017 03	2017 11	99	99		4,066	
						4,066		4,066	

ROSS CREEK IRRIGATION DISTRICT (RCID)

No new IRP projects were carried out by RCID during this reporting period.



ST. MARY RIVER IRRIGATION DISTRICT (SMRID)

During this reporting period, SMRID expended \$9,704,216 of IRP cost shared funds on eight projects in the ICW and PS categories. Expenditures involved cleanup of previously completed IRP projects, pipeline and structure installations, engineering and dam safety reviews.



SMRID - IRP Project Construction Summary

August 1, 2017 to July 31, 2018

IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	% Completed in 17/18	% Completed to July 31/18	Rehabilitation Completed		
							Liners (metres)	Pipe (metres)	Earth (metres)
1799	ICW	Bow Island Lateral 26	1998 06	2017 11	11	94		7,465	
2198	ICW	South Grassy Main	2010 02	2017 10	32	90		5,829	
2212	ICW	Cameron Lateral	2011 02	2017 11	11	34		4,709	
2271	ICW	Chin Lateral 10 Canal Armouring and structure replacement	2013 02	2017 10	33	99			4,000
2272	PS	Forty Mile Reservoir, Dam Safety Review	2013 02	N/A	4	99			
2310	PS	Dam Safety Reviews for Seven Persons, Klaudt and Stornham Reservoirs	2015 02	N/A	52	99			
2324	ICW	Aquatic Weed and Algae Control Structures Program 2016/2017	2016 02	2017 04	33	80		(4 Structures)	
2347	ICW	North Burdett Lateral 1 & 3 Pipeline	2018 02	2018 09	< 3	< 4			
							18.003	4,000	

TABER IRRIGATION DISTRICT (TID)

During this reporting period, TID expended \$219,617 of IRP cost shared funds on six projects in the ICW category. Expenditures involved cleanup of previously completed IRP projects and structure installations.



TID - IRP Project Construction Summary

August 1, 2017 to July 31, 2018

IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	% Completed in 17/18	% Completed to July 31/18	Rehabilitation Completed		
							Liners (metres)	Pipe (metres)	Earth (metres)
2239	ICW	Lateral E-3 Big Bend Pipeline	2012 03	2016 11	< 1	98			
2285	ICW	Overshot Control Gate Taber Main Canal at Lateral 11	2014 01	2016 04	< 1	97			
2286	ICW	Overshot Control Gate East Horsefly Main Canal at Lateral 10	2014 01	2016 04	< 1	92			
2303	ICW	Lateral 18 Taber	2015 02	2017 09	< 3	97			
2323	ICW	Lat 7 East Horsefly & Lat 20 Taber Structure Replacements	2016 02	2016 11	< 2	89			
2336	ICW	Automation, Gates and Controls (2018)	2017 03	2017 05	63	65	3 Structures		

UNITED IRRIGATION DISTRICT (UID)

During this reporting period, UID expended \$454,723 of IRP cost shared funds on five projects in the ICW category. Expenditures involved cleanup of previously completed IRP projects, installation of an emergency overflow drain and preliminary work for upcoming projects.



UID - IRP Project Construction Summary

August 1, 2017 to July 31, 2018

IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	% Completed in 17/18	% Completed to July 31/18	Rehabilitation Completed		
							Liners (metres)	Pipe (metres)	Earth (metres)
2263	ICW	Lateral E	2013 02	2015 03	< 1	97			
2298	ICW	Lateral B8	2016 02	2018 10	6	8			
2301	ICW	Lateral A1	2016 02	2016 10	< 1	98			
2320	ICW	Lateral A4.5	2016 04	2016 09	< 1	91			
2331	ICW	Leveling Pond Emergency Overflow & Drain	2016 06	2017 11	89	92			692
									692

WESTERN IRRIGATION DISTRICT (WID)

During this reporting period, WID expended \$3,031,539 of IRP cost shared funds on two projects in the ICW category. Expenditures involved cleanup of a previously completed IRP project, pipeline installation and canal rehabilitation.



WID - IRP Project Construction Summary

August 1, 2017 to July 31, 2018

IRP #	ICW MW PS	Project Name	Project Approved	Construction Start	% Completed in 17/18		Rehabilitation Completed		
					% Completed to July 31/18	Liners (metres)	Pipe (metres)	Earth (metres)	
2305	ICW	Standard Lateral 85N6	2016 02	2017 02	< 3	81			
2333	ICW	North Cluny Tailout	2017 03	2017 09	63	74	968	5,256	
						968	5,256		

TABLES

The following tables summarize the results of district activities for 2017/2018:

- Table 1: Irrigation Rehabilitation Program – Funding**
o Lists the IRP grant funding received by each district and the district's contribution.
- Table 2: Irrigation Rehabilitation Program – Project Construction**
o Lists the IRP projects having substantial construction in each district with statistical data for each project.
- Table 3: Irrigation Rehabilitation Program – Summary of Funding and Expenditures**
o Lists each district's Major Works (MW), Irrigation Capital Works (ICW) and Planning Study (PS) expenditures, total funding allocation, and total expenditures. The expenditures are calculated from progress certificates submitted for the construction period.
- Table 4: Irrigation Rehabilitation Program – Summary of Existing Rehabilitated Lengths**
o Lists the length of the irrigation districts' current distribution systems, rehabilitated lengths in each district to July 31, 2017, the length of rehabilitation within the 2017/2018 construction period, and the total length rehabilitated to July 31, 2018.
- Table 5: Irrigation Rehabilitation Program – Summary of Lengths and Type of Rehabilitation**
o Historical summary of total length and type of rehabilitation completed from 1969 to July 31, 2018.

Table 1. Irrigation Rehabilitation Program Funding 2017

District	Base Funding Provincial Grant	Special Funding	Base Funding District Contribution	Total Program
AID	\$66,584	\$0	\$22,195	\$88,779
BRID	\$3,040,060	\$0	\$1,013,353	\$4,053,413
EID	\$4,558,019	\$0	\$1,519,340	\$6,077,359
LID	\$74,359	\$0	\$24,786	\$99,145
LNID	\$2,082,255	\$0	\$694,085	\$2,776,340
MID	\$221,064	\$0	\$73,688	\$294,752
MVID	\$71,479	\$0	\$23,826	\$95,305
RID	\$534,450	\$0	\$178,150	\$712,600
RCID	\$19,616	\$0	\$6,539	\$26,155
SMRID	\$5,012,274	\$0	\$1,670,757	\$6,683,031
TID	\$1,034,826	\$0	\$344,942	\$1,379,768
UID	\$499,595	\$0	\$166,532	\$666,127
WID	\$1,785,419	\$0	\$595,140	\$2,380,559
TOTALS	\$19,000,000	\$0	\$6,333,333	\$25,333,333

NOTE: Base Funding Grants are cost shared 75% provincial/25% irrigation district

Base Funding Grants are based on the Inter-District Allocation Formula as follows:

- 50% of the funds allocated on the basis of the number of irrigation acres in each district, and
- 50% of the funds allocated on the basis of the infrastructure replacement cost of specified infrastructure in each district

Special Funding is only an option when the Provincial grant exceeds \$21 million

**Table 2. Irrigation Rehabilitation Program Project Construction –
August 1, 2017 to July 31, 2018**

District	Project #	ICW MW	Project Name	Project Approval	Construction Start	% Completed In 17/18	% Complete To July 31/18	Rehabilitation Completed			
								Liners	Pipe	Earth (Length In Metres)	
BRID	2319	ICW	Lateral B (West Block)	2016 02	2017 09	29	47			17,681	
EID	2338	ICW	Secondary 'A' Rolling Hills	2017 03	2017 10	99	99		2,410		
LNID	2330	ICW	Lateral B9	2016 07	2017 09	88	94			8,232	
MID	2337	ICW	Lateral J	2017 04	2017 11	87	87			5,792	
MVID	2332	ICW	Completion of Pipelines 1026, 1029, 1030	2016 07	2018 02	100	100			2,040	
RID	2334	ICW	Stirling Laterals # 16 - 17	2017 03	2017 11	99	99			4,066	
SMRID	1799	ICW	Bow Island Lateral 26	1998 06	2017 11	11	94			7,465	
	2198	ICW	South Grassy Main Lateral	2010 02	2017 10	32	90			5,829	
	2212	ICW	Cameron Lateral Chin Lateral 10	2011 02	2017 11	11	34			4,709	
	2271	ICW	Canal Armouring and structure replacement	2013 02	2017 10	33	99			4,000	
	2324	ICW	Aquatic Weed and Algae Control Structures Program 2016/17	2016 02	2017 04	33	80			4 structures	
TID	2336	ICW	Automation, Gates & Controls (2018)	2017 03	2017 05	63	65			3 structures	
UID	2331	ICW	Leveling Pond Emergency Overflow & Drain	2016 06	2017 11	89	92			692	
WID	2333	ICW	North Cluny Tailout	2017 03	2017 09	63	74	968		5,256	
								TOTALS:	3,378	61,762	4,000

**Table 3. Irrigation Rehabilitation Program Summary of Funding and Expenditures –
August 1, 2017 to July 31, 2018**

District	2017 Total Funding Gov't & District	2017/18 MW Expenditures	2017/18 ICW + PS Expenditures	2017/18 Total Expenditures
AID	\$88,779	\$0	\$405	\$405
BRID	\$4,053,413	\$0	\$4,293,654	\$4,293,654
EID	\$6,077,359	\$0	\$1,043,133	\$1,043,133
LID	\$99,145	\$0	\$0	\$0
LNID	\$2,776,340	\$0	\$2,737,888	\$2,737,888
MID	\$294,752	\$0	\$723,504	\$723,504
MVID	\$95,305	\$0	\$458,870	\$458,870
RID	\$712,600	\$0	\$543,333	\$543,333
RCID	\$26,155	\$0	\$0	\$0
SMRID	\$6,683,031	\$0	\$9,704,216	\$9,704,216
TID	\$1,379,768	\$0	\$219,617	\$219,617
UID	\$666,127	\$0	\$454,723	\$454,723
WID	\$2,380,559	\$0	\$3,031,539	\$3,031,539
Total	\$25,333,333	\$0	\$23,210,882	\$23,210,882

- NOTE:** (1) The total expenditures do not equal the total program funding as construction may occur in a different year (or years) than the year the funds were allocated.
 (2) Some districts accrue funds over a number of years to fund a project..
 (3) Expenditures are categorized as:

MW (Major Works) - includes storage reservoirs and dams or conveyance works and seepage control where the design capacity is 6 m³/s or greater,

ICW (Irrigation Capital Works) - all other irrigation district infrastructure

PS (Planning Studies) - studies and digital or photographic imagery used in an irrigation district's overall rehabilitation planning.

Table 4. Irrigation Rehabilitation Program Summary of Rehabilitated Lengths to July 31, 2018

District	Total District Systems (km)	Total Systems Rehabilitated To July 31, 2017 (km)	2017/2018 Rehabilitation (km)	To July 31, 2018 (km)	% Of Total District System Rehabilitation
AID	37.89	24.61	-	24.61	65
BRID	995.77	818.43	17.68	836.11	84
EID	1,920.04	833.51	2.41	835.92	44
LID	54.75	41.34	-	41.34	76
LNID	764.17	586.27	8.23	594.50	77
MID	101.08	90.93	5.79	96.72	93
MVID	41.54	35.73	2.04	37.77	86
RID	242.72	224.87	4.07	228.94	94
RCID	14.65	14.65	-	14.65	100
SMRID	1,806.09	1,260.48	22.00	1,282.48	71
TID	345.72	321.38	-	321.38	93
UID	230.92	167.67	0.69	168.36	73
WID	1,038.43	358.03	6.22	364.25	35
TOTALS	7,593.77	4,777.90	69.13	4,847.03	63

NOTES:

- (1) Lengths in AID, BRID, EID, LNID, SMRID, UID, & WID exclude Main Canals that were rehabilitated under Alberta Environment and Parks Water Management Systems Improvement Program.
- (2) Total Systems Rehabilitated value for EID does not include Bank Rebuilding Projects constructed from 1977 to 1982.
- (3) Total Systems Rehabilitated value for WID does not include "Tree Removal" Projects.
- (4) Totals do not include drainage works.
- (5) Totals do not include works rehabilitated by a district using its own funds.
- (6) Total length differs from Table 5 (Totals) due to recurrent rehabilitation.
- (7) Total Systems Rehabilitated under the IRP to July 31, 2018, and Total District Systems are based on the Basin Water Management Section current 2018 IIMS database.

Table 5. Irrigation Rehabilitation Program Summary of Length and Type of Rehabilitation 1969 to July 31, 2018

	Concrete Lining (Km)	Membrane Liners (Km)	Pipelines (Km)	Earth Canals (Km)	Total Conveyance (Km)	Open Drains (Km)
69/80	219.14	36.07	83.41	211.30	549.92	205.85
80/81	20.04	19.50	24.18	73.19	136.91	41.16
81/82	13.12	18.50	30.27	45.78	107.67	72.89
82/83	15.52	29.13	97.63	103.98	246.26	36.02
83/84	7.01	56.63	56.48	106.52	226.64	16.33
84/85	7.05	48.92	53.09	87.02	196.08	26.68
85/86	7.71	28.08	94.39	94.93	225.11	7.05
86/87	4.58	32.44	85.61	75.00	197.63	15.58
87/88	2.79	37.80	49.75	55.45	145.79	12.83
88/89	0.04	43.16	60.68	47.27	151.15	47.08
89/90	-	18.96	54.27	49.03	122.26	3.12
90/91	-	34.09	64.54	51.49	150.12	4.21
91/92	-	15.86	95.59	43.30	154.75	3.18
92/93	-	11.20	76.44	28.33	115.97	7.64
93/94	-	26.32	78.22	75.29	179.83	8.58
94/95	-	23.31	69.97	15.31	108.59	8.44
95/96	-	18.63	92.62	23.28	134.53	8.58
96/97	-	11.85	138.74	26.24	176.83	-
97/98	-	23.71	88.52	16.87	129.10	0.29
98/99	-	21.68	86.53	16.57	124.78	-
99/00	-	11.00	116.57	24.76	152.33	4.59
00/01	-	11.65	91.22	9.15	112.02	0.15
01/02	-	1.37	96.40	14.55	112.32	-
02/03	-	4.20	129.31	18.56	152.07	1.70
03/04	-	6.37	157.23	8.72	172.32	2.45
04/05	-	15.74	97.62	12.94	126.30	1.42
05/06	-	1.24	117.86	16.02	135.12	1.42
06/07	-	0.70	123.11	13.25	137.06	-
07/08	-	2.91	73.89	7.17	83.97	-
08/09	-	2.85	89.20	23.06	115.11	0.50
09/10	-	3.32	137.48	18.87	159.67	-
10/11	-	13.21	99.63	10.51	123.35	-
11/12	-	0.58	87.31	17.36	105.25	1.80
12/13	-	3.10	62.18	6.24	71.52	-
13/14	-	6.79	54.33	15.03	76.15	-
14/15	-	0.59	83.33	-	83.92	0.55
15/16	-	0.65	76.94	3.04	80.63	-
16/17	-	-	66.23	-	66.23	-
17/18	-	3.38	56.39	4.00	63.77	-
TOTALS	297.00	645.49	3,297.16	1,469.38	5,709.03	540.09

NOTES: (1) Open drains designate earth drains used to channel irrigation spill water: lengths do not include deep interceptors, toe drains, tile drains or tile grid systems.
(2) Drains are not included in Total.
(3) Total length differs from Table 4 due to recurrent rehabilitation.