

# Eastern Irrigation District

Where Water Works Wonders



**REVISED DOCUMENT**  
**NEW INFORMATION INSIDE**

## IMPORTANT NOTICE TO ALL IRRIGATORS

Proposed Increase in the Irrigation Expansion Limit

Plebiscite

**2021**

Revision Date:  
December 3, 2020







# Eastern Irrigation District

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December 3, 2020

## **IMPORTANT NOTICE TO ALL IRRIGATORS**

### **RE: Proposed Increase in the Irrigation Expansion Limit for the Eastern Irrigation District**

Under the requirements of the Irrigation Districts Act [RSA 2000, c I-11] prior to a district changing its expansion limit by bylaw, the Board of Directors must:

- provide notice of their intention to do so and must provide an information package to its irrigators,
- hold at least one public meeting to explain the details of the proposed increase in the irrigation expansion limit,
- by resolution authorize the holding of a plebiscite to obtain the approval of the irrigators, and
- hold a plebiscite of the irrigators.

The Board of Directors of the Eastern Irrigation District is preparing to adopt a resolution that will authorize the holding of a plebiscite on the question of the proposed increase. The District is proposing to increase the irrigation expansion limit from 311,000 acres to 345,000 acres. The proposed increase in irrigation acres takes into account:

- continued improvements in the District's irrigation infrastructure,
- continued improvements in on-farm water use efficiencies, allowing for more acres to be irrigated within the existing irrigated parcels with no increase in water requirements, and
- significant expansion of Snake Lake Reservoir.

The District is confident that the increased acreage can be supported within the District's licensed water volume, without any unreasonable increase in risk to the existing irrigation acres. As additional security, the District is pursuing the Snake Lake Reservoir expansion. The expanded Snake Lake Reservoir will move over 1/3 of the existing unsupported areas (50,000 ac.) to the equivalent support as those acres supported downstream of Lake Newell.

**Please read the enclosed information carefully, particularly the new information added on pages 15 - 18.**

The District has tentatively scheduled a number of meetings (*dates, locations and times to be advertised*) to further explain the reasons for the proposed increase in the irrigation expansion limit, the plebiscite process and to answer any questions you may have. Additional information will be available.

The District encourages you to attend one of these meetings and have any questions or concerns addressed. Please feel free to discuss your concerns or questions with any of the District's Directors or with the District's General Manager, Ivan Friesen.

Yours truly,

EASTERN IRRIGATION DISTRICT

Jason Hale, Chairman  
Board of Directors

# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

## Public Meetings

Public meetings are scheduled as follows:

Location	Date	Time
<b>On-line</b> [ <a href="http://www.eid.ca">www.eid.ca</a> ]	Monday January 18, 2021	2:00 p.m.
<b>On-line</b> [ <a href="http://www.eid.ca">www.eid.ca</a> ]	Thursday January 21, 2021	7:00 p.m.
<b>In person</b> [venue TBD] <i>[if allowable under current COVID-19 public health orders or public gathering restrictions]</i>	Monday January 25, 2021	TBD

Meetings will be advertised on our web site, in newspapers and on the radio. Hosting of meetings will adhere to any applicable COVID-19 public health orders or public gathering restrictions which may be in place at such time.



# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District

### IMPORTANT NOTICE TO ALL IRRIGATORS

The Board of Directors of the Eastern Irrigation District intends to consider a resolution to hold a plebiscite to obtain the approval of irrigators to change by bylaw the District's expansion limit (the maximum number of acres of land that can be irrigated under the terms of the District's water diversion licenses) set out in the Irrigation Districts Act [RSA 2000, c 1-11]. Following the 2003 expansion, the present expansion limit is set at 311,000 acres. The present expansion limit is to be changed from 311,000 to 345,000 acres.

This document provides the information required to inform irrigators and the public about the proposed change in the irrigation expansion limit. It complies with the requirements of section 12 of the Irrigation Districts Act and the regulations issued under that Act.

- **Please read this information carefully.**
- A number of public information meetings will be held by the District to provide further explanation of the District's planned increase.
- Approval of the change in the irrigation expansion limit will take place following a plebiscite held by the District.

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# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District

### 1.0 The District's Water Diversion Licenses

The Eastern Irrigation District diverts water from the Bow River at the Bassano Dam. Diversions take place under the authority of the following licenses issued pursuant to the Water Act (RSA 2000, c W-3) and prior legislation (the detailed text of the licenses are in Appendix A):

**Priority Number:** 1903-09-04-02

**Issued:** 04 January 1963

This license allows for the diversion of water in two distinct time periods.

From May 01 to September 30 in each year, the District may:

- divert up to 1,000 cfs during low stage of flow periods (which typically occur between May 01 and May 24 and again following August 01) or
- divert up to 3,000 cfs during high stage of flow periods,
- with a total diversion during the period of 562,000 acre feet,
- so long as the District passes a minimum flow of 100 cfs below the Bassano Dam at all times.

From October 01 to the following April 30 in each year, the District may:

- divert up to 825 cfs at any flow stage of the river,
- with a total diversion during the period of 200,000 acre feet (to divert 200,000 acre feet during this period requires 122 days, the maximum volume diverted by the District under this portion of the license is 110,000 acre feet),
- so long as the District passes a minimum flow of 100 cfs below the Bassano Dam at all times.

**Priority Number:** 1998-07-13-002 "NEW LICENSE"

**Issued:** 19 June 2002

This license does not replace the District's 1903 license. It does vary the conditions under which the District may divert water. While this license does not add any volume to the 1903 priority license, it allows the District to divert water under a more flexible format as follows:

Between April 01 and October 31 the District may:

- divert up to 96.2 cubic meters per second (3,400 ft<sup>3</sup>/s) from April 1 to May 31, inclusively, and July 26 to October 31, inclusively, in each year; and
- divert up to 96.0 cubic meters per second (3,390 ft<sup>3</sup>/s) from June 1 to July 25, inclusively, in each year,
- with a total diversion during the period of 679,000 acre feet,
- so long as the District passes a minimum flow of 400 cfs below the Bassano Dam at all times.

#### Analysis:

The District may still operate under the terms of its 1903 priority license. The additional 1998 authorization, however, allows the District to divert a higher volume of water during the low and medium flow period in the river. This is the period of time when the supply of water to areas without reservoir support (the areas of Antelope Creek, Bassano, Bow City, Brooks, Cassils, Countess, Duchess, Rainier, Rosemary and Scandia) is the most critical. This is a significant improvement over operating only under the terms of the 1903 license.

The 10 years prior to 2003, through temporary diversion licenses, and the 18 years after this license was issued, the District has managed its diversions under the new license conditions. As such, the District is confident that the new license terms are a significant improvement to our 1903 license and that they meet the needs of the District.

# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District

### 2.0 On-Farm Water Management Efficiencies

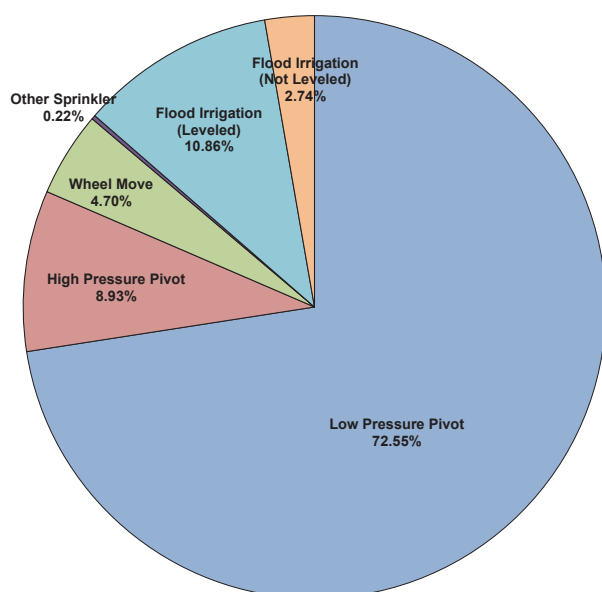
Alberta Agriculture and Forestry (AAF) conducted a detailed study that measured the on-farm irrigation efficiency (amount of water used by plant ÷ water delivered to farm) of the various methods of irrigation.

Based on this study, the District adopted a conservative estimate of on-farm efficiencies for the 2003 expansion plan. This allows for some increased confidence in the future acres proposed for the new irrigation expansion limit.

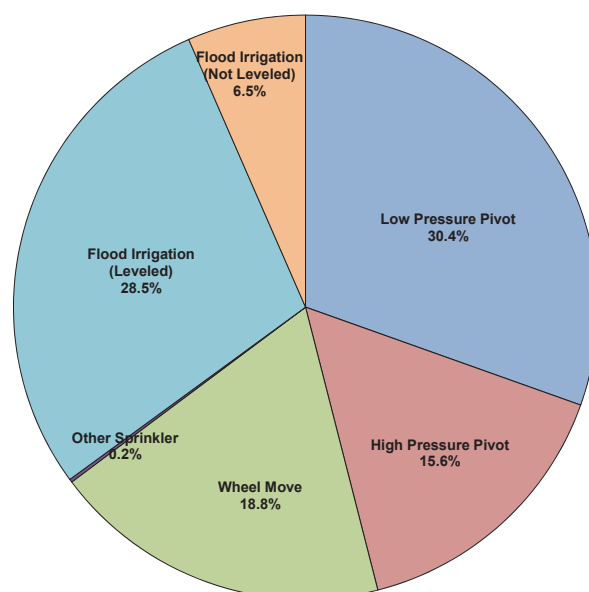
Method	Range of On-Farm Efficiency <sup>1</sup>	Efficiency the District Has Chosen <sup>2</sup>
Undeveloped	25% to 50%	40%
Levelled (steep slopes, short sets, light soils)	40% to 60%	53%
Levelled (well levelled, heavy soils)	55% to 75%	68%
Wheel move	60% to 72%	68%
Pivot, high pressure	70% to 78%	74%
Pivot, low or medium pressure	75% to 90%	83%

As irrigators change from a less efficient system to a more efficient system, more irrigation acres can be supported with the same amount of water.

Acres by Method of Irrigation: 2019



Acres by Method of Irrigation: 2002



<sup>1</sup> The detail of the report, Irrigation in the 21<sup>st</sup> Century, Volume 5, Summary Report is available online.

<sup>2</sup> The District has chosen an efficiency rating that is intended to err on the side of being conservative. This allows for some increased confidence in the future acres proposed for the new irrigation expansion limit.

# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District

### 3.0 2003 Expansion Plan

The 2003 expansion plan included:

- conversion of 71,500 acres of existing irrigation to a more efficient method, . . . . . 12,000 saving enough water to irrigate additional acres
- develop new acres of return flow channels that don't need to be fed. . . . . 3,000
- develop new acres below Crawling Valley and Lake Newell reservoirs. . . . . 10,000 (this was never used as efficiencies supplied all assessed new acres)

TOTAL. . . . . 25,000

### 4.0 Current Irrigation Assessment, Expansion Limit and What has Happened Since 2003

The District's assessment for irrigation purposes in 2019 was 306,697 acres. The method of irrigation relative to this acreage is as follows and compares the changes since the 2003 expansion plan. Over 40,000 more acres have converted to a more efficient method of irrigation than predicted would convert in 2003. Presently the efficiencies gained from these conversions more than supplies the additional 24,200 irrigation acres added to the assessment roll since 2003, requiring no additional reservoir support as was proposed and expected in 2003.

	2019	2003	Difference
<b>Assessment</b>	<b>306,697</b>	<b>282,500</b>	<b>+24,200</b>
<b>Method of Irrigating</b>			
Flood (wild)	8,303	18,500	-10,197
Flood (leveled)	33,352	80,500	-47,148
Wheel Move	15,060	53,000	-37,940
Pivot (high pressure)	27,328	44,000	-16,672
Pivot (low pressure)	222,654	86,500	+136,154
112,000 acres converted to a more efficient method			
<b>Average on-farm efficiency</b>	<b>79.5%</b>	<b>69.5%</b>	<b>+10%</b>
<b>Crops Grown</b>			
Forages	133,000 (43.5%)	176,000 (62.3%)	-18.8%
Cereals	97,000 (31.7%)	74,500 (26.4%)	+5.3%
Oil Seed	25,000 (8.1%)	6,500 (2.3%)	+5.9%
Specialty	51,000 (16.7%)	25,500 (9%)	+7.7%

The District's assessment is \*307,217 acres, leaving \*3,783 acres to the present expansion limit of 311,000 acres.

\*(Data as of August 20, 2020)



# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

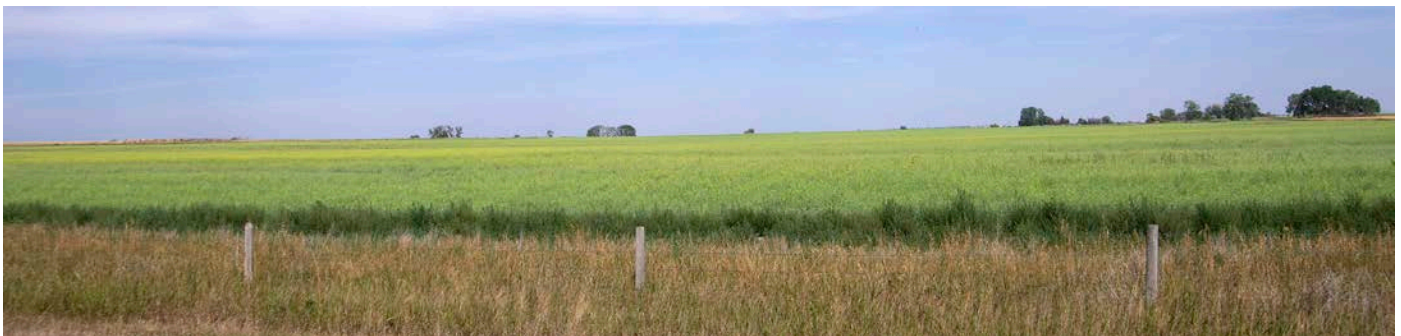
## 5.0 Water Balance for a Dry Year (like 2000 or 2019)

Below is a table comparing the water balance prior to the 2003 expansion, with the 2003 expansion plan, 2019 using 2003 conversions, and actual.

Our License – 679,000 acre feet				
	286,000 acres Before 2003 Expansion Plan	311,000 acres With 2003 Expansion Plan	306,000 acres Estimate for 2019 using Conversion from 2003 Expansion	Actual 2019
Diversion	640,000	656,000	596,000	503,000
Evaporation off Reservoirs	80,000	80,000	80,000	78,000
Seepage & Conveyance Losses	20,000	20,000	10,000	10,000
Farmyards, Acreages & Livestock	6,000	6,000	6,000	6,300
Ducks Unlimited	30,000	30,000	25,000	24,700
Delivered to Farm Gate	453,000	470,000 (1.5 ft/ac)	430,000 (1.4 ft/ac)	339,000 (1.1 ft/ac)
Operational Spill	50,000	50,000	45,000	45,000
Return Flow	120,000	100,000	85,000	81,000
On-Farm Efficiency	.695	.74	.795	.795
Available for Plant	316,000 (1.1 ft/ac)	348,000 (1.12 ft/ac)	342,000 (1.12 ft/ac)	269,500 (.88 ft/ac)

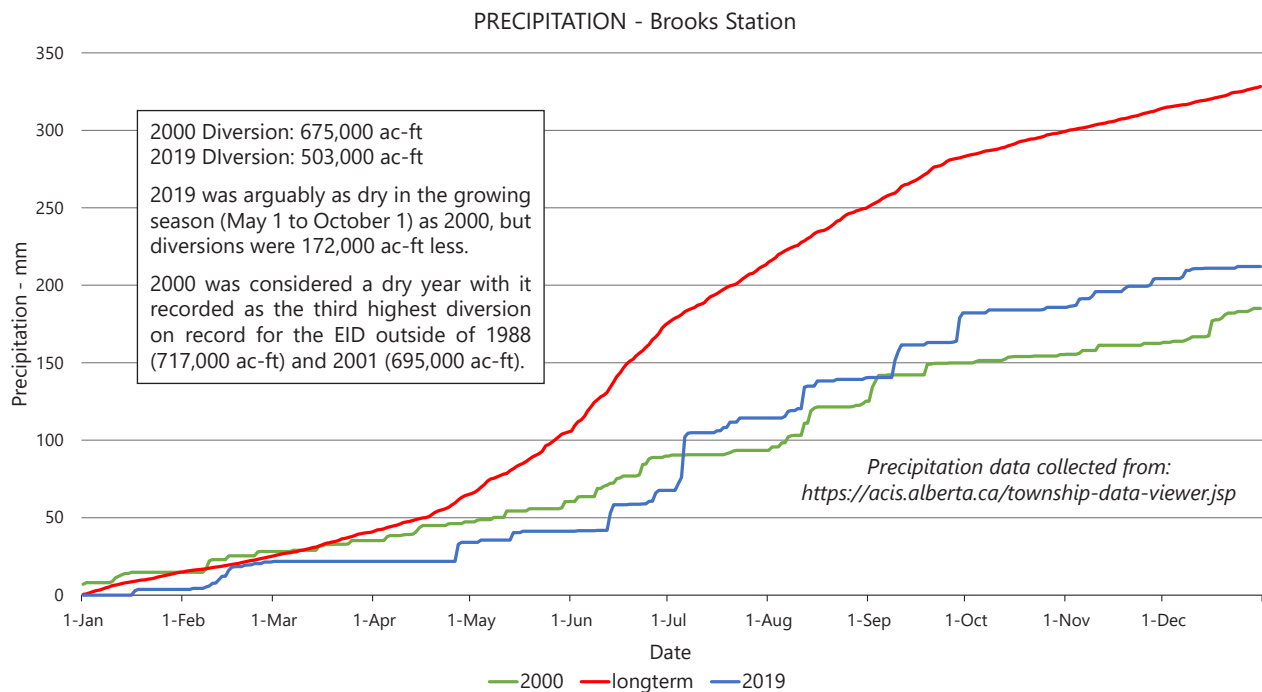
**Why the difference between the Estimated Farm Gate demand using the conversion factor in the 2003 expansion plan and the actual 2019 demand (430,000 – 339,000 ac-ft)?**

- 22% reduction in high water use crops (45,000 – 50,000 ac-ft)
- extra water saved because we used a too conservative conversion factor (10,000 – 15,000 ac-ft)
- pivots today are more efficient than were used in the 2000 study (5,000 – 6,000 ac-ft)
- 2019 heat units were a bit lower than 2000 (20,000 – 30,000 ac-ft)



# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District



## 6.0 Going Forward

Using the same crop mix and irrigation conversion factor as in the 2003 plan:

- 11,000 acres can be added from efficiencies already made, and
- 10,000 acres can still be added below major reservoirs, and
- 5,000 acres can be added on unsupported areas today, to be supported by Snake Lake Reservoir.

Doing this will bring our farm gate demand back up to 472,000 ac-ft (the same as it was in the 2003 expansion plan). If conversion trends continue, and a further 43,000 acres convert to a more efficient method of irrigation, an additional 8,000 acres can be added.

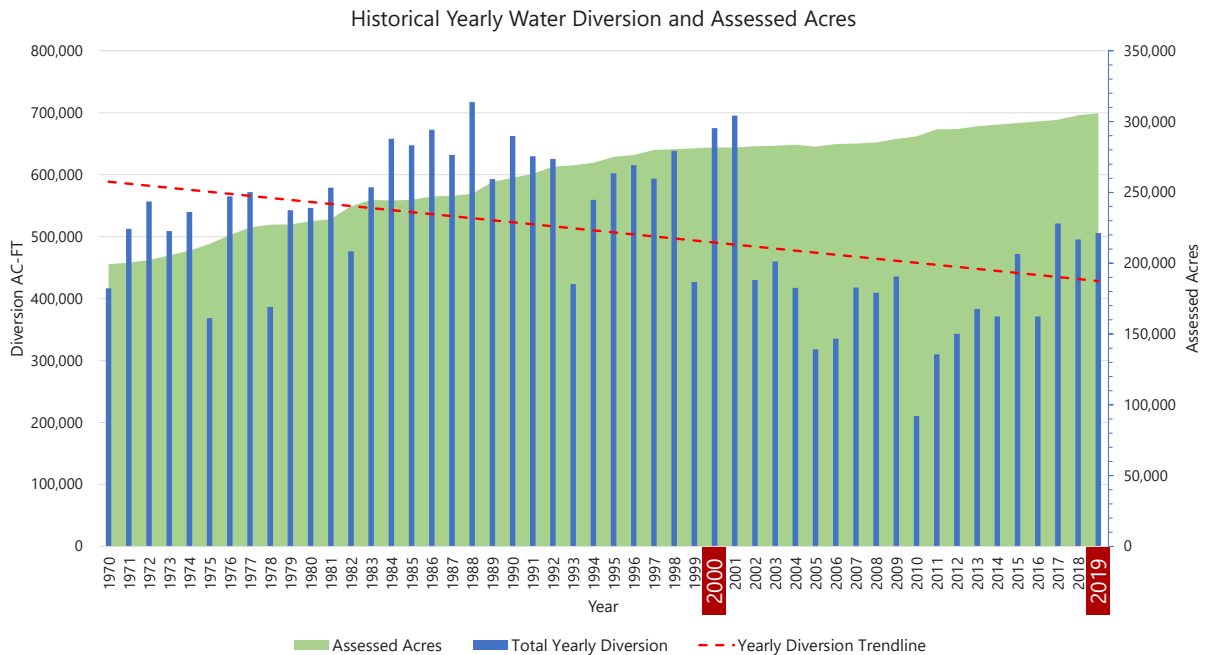
**This puts the District at a slightly lower level of risk than the 2003 expansion plan. In a dry year the District could deliver an additional 15% - 20% to the farm gate.**

Below is a table showing the areas in the District where the expansion acres will be allotted.

	Unsupported Area	Below Major Reservoir (Newell / Crawling Valley)	Total
From Efficiencies Already Gained	5,500	5,500	11,000
New Acres Supported by Reservoir	5,000	10,000	15,000
Acres from Additional Conversions			
16,000 flood			
7,000 wheels	4,000	4,000	8,000
20,000 high pressure pivot			
<b>Total</b>	<b>14,500</b>	<b>19,500</b>	<b>34,000</b>

# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District



**In further support of advancements derived from irrigation efficiencies when comparing the 2 dry years of 2000 and 2019, the above table reflects less water being diverted and more acres being irrigated in 2019 than from 19 years earlier.**

Below is a table showing our current water balance compared to possible future conditions with the 29,000 additional acres. Even in an extremely dry year diversions are within our licensed amount.

Our License – 679,000 acre feet				
	2019 Water Balance	345,000 acres with 2020 Expansion	Increase 20% High Water Crops	Add 20% to Farm Gate for Extremely Dry Year
Diversion	503,000	550,500	605,700	673,500
Evaporation off Reservoirs	78,000	85,000	85,000	85,000
Seepage & Conveyance Losses	10,000	10,000	10,000	10,000
Farmyards, Acreages & Livestock	6,300	6,000	6,000	6,300
Ducks Unlimited	24,700	25,000	25,000	14,700
Delivered to Farm Gate	339,000 (1.1 ft/ac)	379,500 (1.1 ft/ac)	434,700 (1.26 ft/ac)	517,500 (1.5 ft/ac)
Operational Spill	45,000	45,000	45,000	40,000
Return Flow	81,000	78,000	78,000	78,000
On-Farm Efficiency	.795	.80	.80	.80
Available for Plant	269,500 (.88 ft/ac)	303,600 (.88 ft/ac)	348,450 (1.01 ft/ac)	414,000 (1.2 ft/ac)



# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District

In an extremely dry year like a 2001 we can deliver 1.5 ft/ac to the farm gate still under our license. If the river did not allow us to divert the required 673,000 ac ft and we were held to 650,000 we can draw the extra from reservoirs (23,000 ac ft). If we did this 3 years in a row, Lake Newell, Crawling Valley and Snake Lake would only be down 25%.

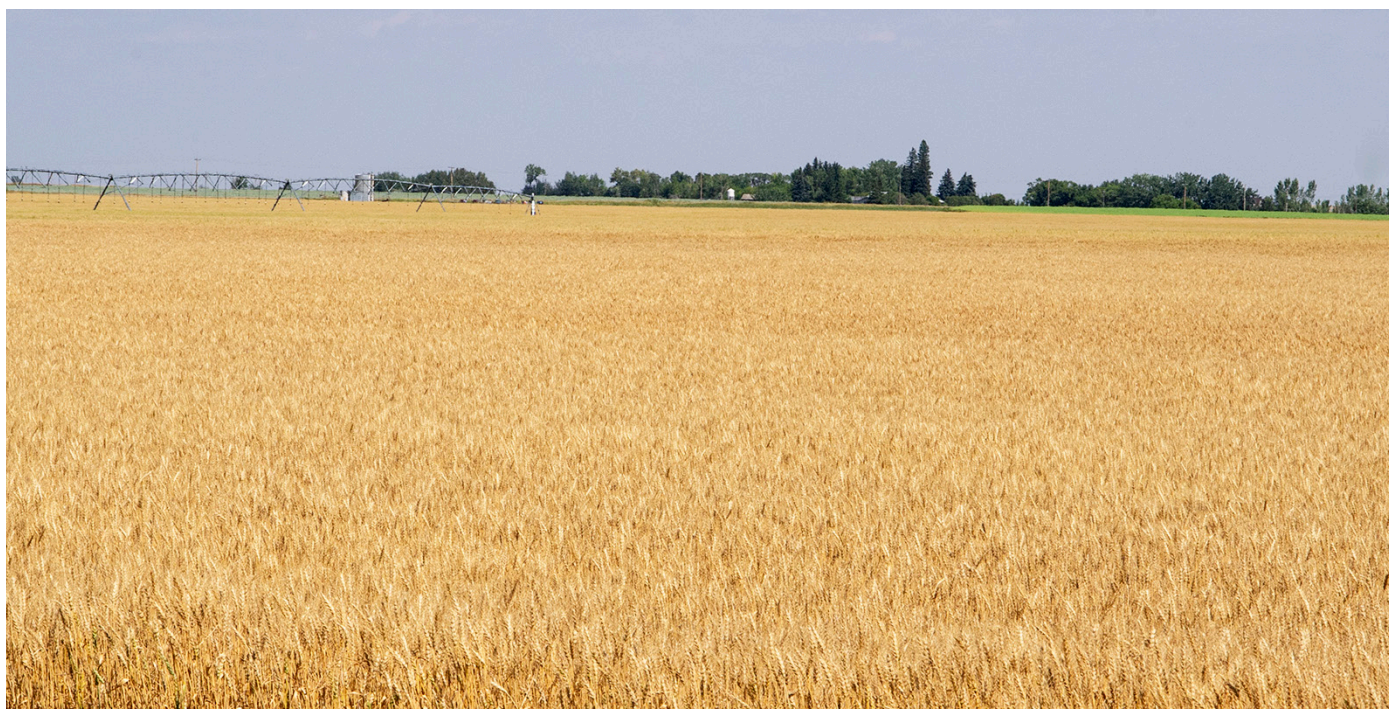
This is all the water required for the proposed 15,000 new acres of development supported by reservoirs.

### 7.0 Risk Assessment (done by Alberta Agriculture and Forestry)

Based on previous Farm Financial Impact and Risk Models analysis work, a diversion deficit of 100 mm (~4 inches) or less in a given irrigation season is considered to not cause serious financial risk for most producers.<sup>3</sup> A diversion deficit of 100 mm would correspond to a smaller deficit at the crop level because the modelled irrigation diversion includes on-farm system application losses that would not occur if the water is not applied. The below table summarizes Alberta Agriculture and Forestry's (AAF) guideline for risk assessment associated with a modelling scenario given the magnitude of a deficit in a single irrigation season.

AAF risk assessment guideline of annual diversion deficits

Deficit per Irrigation Season		Risk Assessment
(mm)	(inches)	
<25	<1	No Concern
25-100	1-4	Minor Concern
>100	>4	Significant Concern



# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District

- No Concern - Deficits less than 25 millimeters of total diversion during an irrigation season are of no concern in the risk analysis as they are considered to have negligible financial implications.
- Minor Concern - Diversion deficits between 25 and 100 millimeters during an irrigation season are noted as a minor concern. These deficits would be expected to have minimal financial implications for most irrigators.
- Significant Concern - Diversion deficits greater than 100 millimeters in an irrigation season are considered significant because such deficits may have a significant negative impact on on-farm economic viability.

An unacceptable level of risk is defined as a diversion deficit greater than 100 mm, occurring more frequently than 1 in 10 years.

AAF and Alberta Environment and Parks ran computer model runs for an expansion to 340,000 acres with:

- an increase of 20% in high water use crops
- the expansion to BRID that took place (2019)

for the years 1928 to 2001 (74 years). It shows:

- areas supported by Crawling Valley Reservoir:
  - in all 74 years there were no shortages below Crawling Valley Reservoir
- areas supported by Lake Newell Reservoir:
  - 68 years with no shortages below Lake Newell Reservoir
  - 4 years with a shortage of less than 1" below Lake Newell Reservoir
  - 2 years with a shortage between 1" and 2" below Lake Newell Reservoir (1936 and 2001)
- unsupported areas (river supplied areas):
  - 64 years with no deficit . . . . . with Snake Lake 65 years
  - 6 years with less than 1" (<25 mm) shortage . . . . . 6 year
  - 1 year with 1" (25 mm) to 2" (50 mm) shortage. . . . . 2 year
  - 2 years with 2" (50 mm) to 4" (100 mm) shortage (1937, 2001) . . . . . 1 year
  - 1 year with >4" (100 mm) shortage – (actual modelled shortage 106 mm – 1936) . . . . . 0 years

There were no occurrences where a diversion deficit was greater than 100 mm occurring more frequently than 1 in 10 years. **Based on the above modelling there appears to be minimal risk associated with an expansion to 345,000 acres.**





# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

## 8.0 Summary / Recommendation

In summary the analysis shows:

- The District’s on-farm efficiencies have increased from 69.5% in 2003 to 79.5% in 2020.
- The proposed increase is at a lower level of risk to users than the 2003 expansion plan.
- The District is able to add 20% more high water use crops to the present 2019 demand even after the 34,000 acre expansion, while still diverting 80,000 ac-ft below our licensed amount. The licensed amount still provides added flexibility to deliver 20% more to the farm gate in an extremely dry year.
- Alberta Agriculture and Forestry (AAF) modelling of a 29,000 acre expansion has few water deficits and at a low frequency rate which demonstrates minimal risk is associated with an expansion to 340,000 acres. With Snake Lake Reservoir expansion, the risk remains low with an expansion to 345,000 acres.

Based on this analysis, the District is recommending the irrigation expansion limit be increased **34,000** acres, from 311,000 acres to **345,000** acres. It is proposed that this increase be allocated as follows:

- 12,000 of the 34,000 acres are reserved for Infill Applications (increases in irrigated acres on parcels that already have some irrigation). This could include:
  - corner systems on pivots
  - conversions from flood to pivot adding acres
  - larger sprinkler systems than are presently in place
- New Parcels
  - a maximum of 2,000 acres of new acres will be allocated in a calendar year
  - applications will be rated and allocated on a 60% below major reservoirs (Newell & Crawling Valley) and 40% on areas not below Newell and Crawling Valley
- applications will be rated using the following criteria:

	Weighting
• ability to deliver water . . . . .	(0 to 25)
• land classification . . . . .	(0 to 15)
• size of parcel being irrigated as one field . . . . .	(0 to 15)
• intensification & on-farm efficiency changes . . . . .	(0 to 50)
• efficiency of overall delivery . . . . .	(0 to 30)



# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District

### 9.0 Funding Announcement

On October 9th, 2020 the Government of Alberta (GOA) announced a historic investment to expand irrigation with a total investment of \$815 million coming from the GOA, 8 irrigation districts, and the Canadian Infrastructure Bank providing long term loans at favorable interest rates. The GOA will contribute \$244.5 million (30%), the districts will contribute initially \$163 million (20%) and the CIB will provide \$407.5 million in financing arrangements. Included in this funding model are “Modernization” projects and “Off-Stream Storage” projects (see map on page 18).

- **EID Modernization projects:**
  - C-Springhill
  - 01-C Springhill
  - 9-H West Bantry
  - 10-H West Bantry
  - 16-H West Bantry
  - 08-B Springhill Extension
  - 13 Springhill (12 Springhill)
- **Off Stream Storage project:**
  - Snake Lake Reservoir Expansion

#### Snake Lake

The proposed Snake Lake Reservoir expansion plan would increase the live storage by approximately 53,000 ac-ft from the current 14,000 ac-ft for a total of approximately 67,000 ac-ft.

Currently the District considers 140,000 acres to be “river supported” or those acres that are unsupported by a reservoir or limited reservoir support (see map on page 16). Approximately 50,000 irrigated acres are downstream of the Snake Lake Reservoir. With the proposed expanded Snake Lake Reservoir to a capacity of 64,000 ac-ft, this will provide similar support to these acres now supported downstream of Lake Newell Reservoir. **The construction of the expanded Snake Lake Reservoir would reduce the unsupported area in the District by 35%.**

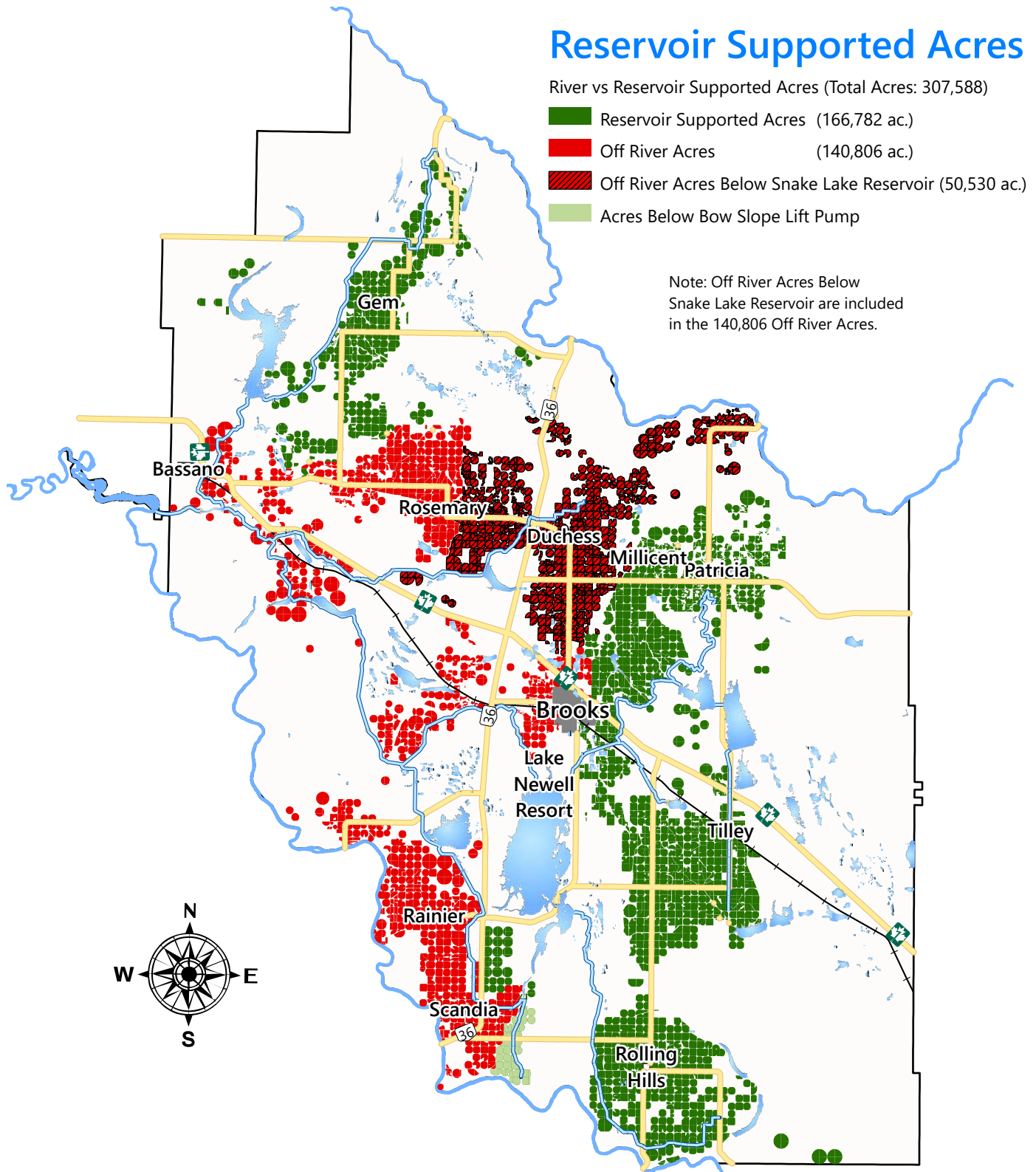
The reduction of 50,000 acres from the river supported acres would provide the remaining 90,000 acres with significant indirect support. In drought conditions Snake Lake Reservoir will feed the current 50,000 acres directly below it and allow river diversions to feed the remaining 90,000 unsupported irrigated acres.





## Eastern Irrigation District

## Eastern Irrigation District



# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

## Capital Assets

The District's most current but preliminary estimate pegs the cost of the Snake Lake Reservoir expansion at \$170 million. With our current estimate as a basis, the proposed financing arrangement would see the GOA contributing 30% (\$51 million), the EID providing 20% down (\$34 million) and the remaining 50% (\$85 million) plus interest loaned by the Canadian Infrastructure Bank (CIB) to the EID.

The CIB's security focuses on revenues that are generated from the sale of new irrigation acres through capital asset charges or other revenues generated from the irrigation acres, particularly the expansion acres created by these projects to fund the loaned amounts.

The Board by motion 2020-10-314 which passed put forward for discussion a capital asset charge of \$2,600/ac for new parcels and \$1,000/ac for infill acres.

*2020-10-314 Moved by T. Hemsing that for presentations to Water Users, and for their input, the proposed Capital Asset values be set at:*

- *Infill and Efficiency acres up to a maximum of 50 irrigation acres be set at \$1,000/acre; and*
- *Infill and Efficiency acres over a maximum of 50 irrigation acres, and New Acres, be set at \$2,600/acre.*

*Seconded by D. Jacobson. CARRIED*

The rationale for this is supported in the below charts.

LAND	COST	AVERAGE
Irrigated Land	\$7,000 - \$10,000	\$8,500/acre
Dryland that Could be Irrigated	\$2,000 - \$3,000	\$2,500/acre
Cost to Develop New Land	\$2,000 - \$2,500	\$2,250/acre
<b>Difference</b>		<b>\$3,750</b>

CAPITAL ASSET	% of DIFFERENCE
\$2,000	53%
\$2,600	69%
\$3,000	80%

On average a \$2,600 capital asset charge leaves \$1,150/ac. unrealized value or is 69% of the difference between irrigated land values and dryland values, less development costs.

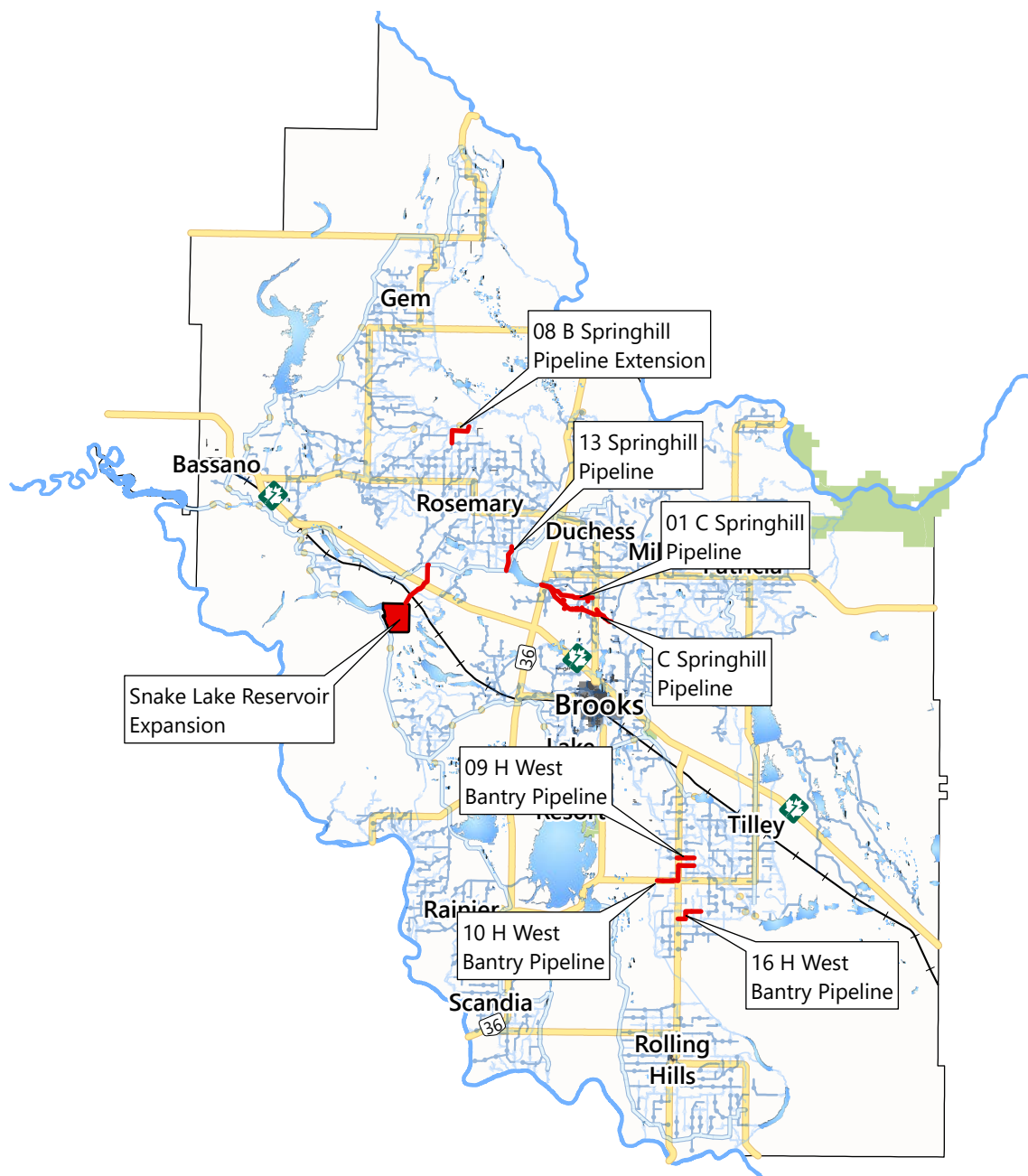
OPTION	CAPITAL ASSET NEW	CAPITAL ASSET INFILL	22,000 NEW ACRES	12,000 INFILL ACRES	TOTAL	% of SNAKE LAKE & \$10 M INTEREST
1	\$2,000	\$750	\$44.0 M	\$9 M	\$53 M	41%
2	\$2,600	\$1,000	\$57.2 M	\$12 M	\$69.2 M	53.6%
3	\$3,000	\$1,000	\$66.0 M	\$12 M	\$78 M	60.0%

# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District

A \$2,600/ac (new) and \$1,000/ac (infill) capital asset charge under the current expansion proposal would generate approximately \$69.2 million or 54% of the District's total costs (principle and interest) of the Snake Lake Reservoir expansion and the remaining approximate 46% would be paid by other District revenues.

The capital assets charges are meant to pay for a portion of the District's infrastructure and must be relative to the increase in value of irrigated land versus dryland. The capital asset charge will be reviewed annually by the Board and subject to change as land values change.







# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

## APPENDIX A

# Proposed Increase in the Irrigation Expansion Limit

## Eastern Irrigation District

### APPENDIX A

#### A-1.0 REGULATORY REQUIREMENTS

The following regulatory requirements govern the approval of an increase in the District's irrigation expansion limit:

Irrigation Districts Act [RSA 2000, c I-11]

##### **Expansion Limit**

- 12 (1) The sum of the irrigation acres plus the acres subject to terminable agreements in a district must not exceed the expansion limit for that district.
- (2) Subject to subsection (3), the expansion limit for a district is
  - (a) in the case of a district listed in Table 2 in the Schedule, the expansion limit specified in Table 2;
  - (b) in the case of a district that is formed after the coming into force of this Act, the expansion limit specified in the order under section 79(1)(a);
  - (c) in the case of an amalgamated district, the expansion limit specified in the order under section 79(1)(c).
- (3) Notwithstanding subsection (2), a district may by bylaw change the expansion limit.
- (4) If a district proposes to make a bylaw under subsection (3), the board must
  - (a) hold a meeting with the public, and
  - (b) by resolution authorize the holding of a plebiscite to obtain the approval of the irrigators.
- (5) A board of a district, not less than 30 days before the board intends to consider a resolution referred to in subsection (4)(b), must give public notice of its intention to consider the resolution and the date, time and location of the meeting with the public.
- (6) the question that the plebiscite shall determine must be
  - (a) in accordance with the regulations, and
  - (b) included in a resolution of the board of the district.
- (7) The provisions of Part 3 governing an election apply to the holding of a plebiscite unless otherwise provided by regulations under this Act.
- (8) The bylaw referred to in subsection (3) is approved by plebiscite if more than 50% of the irrigators voting vote in favour of the bylaw.
- (9) Notwithstanding subsection (4), the Minister may waive the requirement for a plebiscite under this section if the board establishes to the Minister's satisfaction that
  - (a) the proposed change to the expansion limit will have no significant effect on the risk of water shortage to the irrigators of the district, or
  - (b) the allocation of water licensed to the district under the Water Act has increased in an amount sufficient to service the number of acres in the proposed increased expansion limit.
- (10) The Minister may not waive the requirement for a plebiscite until the board has made information available to the public as required by the regulations and the meeting with the public referred to in subsection (4)(a) has been held.
- (11) Where the board gives public notice under subsection (5) it shall also give notice to the Council.

# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

## APPENDIX A

ALBERTA REGULATION 79/2000

Irrigation Districts Act

IRRIGATION PLEBISCITE REGULATION

### Public notice

- 1 (1) A public notice under sections 7(2), 11(2) and 12(5) of the Act must be in the form set out in the Schedule to this Regulation.

### Public information respecting expansion limit

- 4 (1) Before a board of a district holds a meeting with the public as required under section 12(4)(a) of the Act, the board must make the following information available to the public:
- (a) the volume of water allocated to the district under all of the district's existing water licences;
  - (b) the volume of water lost from canals and reservoirs;
  - (c) the return flow volume;
  - (d) the volume of water allocated under the district's water licences that is required for uses other than irrigation;
  - (e) the remaining volume of water available for crop use;
  - (f) the gross volume of water required per acre at the farm turnout for crops, including data on
    - (i) the average net depth of water required per acre,
    - (ii) the percentage of each crop type, and
    - (iii) the level of risk of a water shortage (deficit and frequency);
  - (g) the total acres that could be irrigated based on the calculations made under clause (f);
  - (h) the present expansion limit;
  - (i) the number of acres on the current assessment roll;
  - (j) the proposed expansion limit;
  - (k) a description of the areas of the district where additional irrigation will be allowed if the district will not allow additional irrigation in all areas of the district.

### Ballot


- 5 (1) A ballot must,
- (c) for a plebiscite under section 12 of the Act,
    - (i) set out the present expansion limit,
    - (ii) state the estimated number of acres that could be irrigated with the water allocated under the present district water licences issued under the Water Act, and
    - (iii) set out the proposed expansion limit.
  - (2) A ballot used in a plebiscite under section 7, 11 or 12 of the Act shall be in the form set out in the Schedule to this Regulation.

# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

## APPENDIX A

### Form 3A



**FORM 3A**  
**NOTICE OF PUBLIC MEETINGS**  
Irrigation Districts Act [RSA 2000, c I-11] Sec 12

**EASTERN IRRIGATION DISTRICT**  
**CHANGE TO THE EXPANSION LIMIT**

TAKE NOTICE that public meetings will be held at:

Location	Date	Time
On-line [www.eid.ca]	Monday January 18, 2021	2:00 p.m.
On-line [www.eid.ca]	Thursday January 21, 2021	7:00 p.m.
In person [venue TBD] [if allowable under current COVID-19 public health orders or public gathering restrictions]	Monday January 25, 2021	TBD


to discuss a proposed change to the expansion limit of the Eastern Irrigation District from the existing limit of **311,000** acres to **345,000** acres.

Additional information regarding this proposed change is available to the public at the offices of the District.

DATED at the City of Brooks in the Province of Alberta, this \_\_\_\_ day of \_\_\_\_\_, 2020.

Ivan Friesen, General Manager  
Eastern Irrigation District

### Form 3C



**FORM 3C**  
**NOTICE OF PLEBISCITE**  
Irrigation Districts Act [RSA 2000, c I-11] Sec 12

**EASTERN IRRIGATION DISTRICT**  
**Province of Alberta**

TAKE NOTICE that a plebiscite will be held for the purpose of seeking approval of the irrigators to change the expansion limit of the Eastern Irrigation District from the existing limit of **311,000** acres to **345,000** acres.

Additional information regarding the proposed change is available to the public at the offices of the District.

The plebiscite will take place on the **23<sup>rd</sup>** day of **February** 2021, between the hours of 10:00 a.m. and 8:00 p.m.

Voting stations will be located at:

Division	Location
1 Gem / Bassano	
2 Rosemary / Duchess	
3 Patricia / Millicent	
4 Cassils / Brooks	
5 Scandia / Rainier	
6 Tilley	
7 Rolling Hills	

DATED at the City of Brooks in the Province of Alberta, this \_\_\_\_ day of \_\_\_\_\_, 2021.

Ivan Friesen, General Manager  
Eastern Irrigation District

# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

## APPENDIX A

### Form 3B



FORM 3B

### SAMPLE BALLOT

Irrigation Districts Act [RSA 2000, c I-11] Sec 12

The Eastern Irrigation District presently has an expansion limit of 311,000 acres. The Board of Directors has determined that 345,000 acres could be served with its existing water licences. The Board of Directors is seeking the approval of the irrigators to change the expansion limit to 345,000 acres.

Do you approve:

- ☐ Yes, I am in favour of changing the expansion limit to 345,000 acres.
- ☐ No, I am against changing the expansion limit.



# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

## APPENDIX A

### A-2.0 LICENSES HELD BY THE EASTERN IRRIGATION DISTRICT

#### Licence to Divert and Use Water

##### Pursuant to the Water Resources Act

File No. 631-A  
Licence No. 00071066-00-00  
Priority No. 1998-07-13-002

Eastern Irrigation District  
(the "Licensee")

WHEREAS THE LICENSEE HOLDS A LICENCE TO DIVERT AND USE WATER AND HAS APPLIED TO INCREASE THE RATE OF DIVERSION AND THE TIMES THAT IT CAN DIVERT WATER;

IS HEREBY LICENSED under the Water Resources Act, RSA 1980, c. W5 (the "Act") to divert at the rate and times specified herein:

PURPOSE:	Irrigation and Agriculture (Stockwatering) Purposes
SOURCE OF SUPPLY:	Bow River
POINT OF DIVERSION:	SW 01-021-19-W4
RATE OF DIVERSION:	Up to 96.2 cubic meters per second (3,400 ft <sup>3</sup> /s) from April 1 to May 31, inclusively, and July 26 to October 31, inclusively, in each year
RATE OF DIVERSION:	Up to 96.0 cubic meters per second (3,390 ft <sup>3</sup> /s) from June 1 to July 25, inclusively, in each year
MAXIMUM ANNUAL DIVERSION:	This licence does not authorize any additional allocation of water.

This licence is subject to the attached conditions.

[signed by] Designated Director under the Act [dated] June 19, 2002

#### CONDITIONS

##### DIVERSION OF WATER

- 1 This license must be read and operates together with the license issued to the licensee dated January 4, 1963, priority 1903-09-04-02.
- ~~2~~ ~~[deleted as per Licence Amendment 00071066-00-01]~~
- 3 This license is in effect in each year from April 01 to October 31 [the "period of the license"].
- 4 The licensee may only divert water at the rates prescribed in this licence when the total volume of water diverted during the period of the licence (the "diverted volume") is less than the permitted volume for this licence (the "permitted volume").

In the first year that this licence is used, the permitted volume is 838,768 dam<sup>3</sup> (680,000 acre-feet)

In any subsequent year the permitted volume is:

- a) 837,534 dam<sup>3</sup> (679,000 acre-feet) where the diverted volume in the preceding year was not in excess of the permitted volume for that year, or
- b) the permitted volume for the preceding year less the amount by which the diverted volume exceeded the permitted volume in that year.

# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

## APPENDIX A

- 5 The licensee may only divert water at the diversion rate authorized herein when a minimum flow of 11.3 cubic meters per second [400 cubic feet per second] or more is maintained in the Bow River passing the Bassano Dam, and after downstream prior licensees water needs have been fulfilled.
- 6 If during the period of the license, the minimum flow rate in the Bow River passing the Bassano Dam is reduced below 11.3 cubic meters per second [400 cubic feet per second] as a result of diversions undertaken by the licensee, then the licensee cannot during the period of the license, recommence or continue the diversion of water pursuant to the rate authorized herein during that calendar year.
- 7 The Controller of Water Resources ["Controller"] reserves the right to amend the minimum flow in Condition 5. Written notice of the amendment shall be provided to the licensee three years prior to the effective date.
- 8 The license is based on knowledge available at the time of issue, and therefore the Controller reserves the right to amend the
  - a) monitoring systems and the annual water monitoring information requirements,
  - b) rate of water diversion,anytime there is information indicating unreasonable interference due to the operation of the project on
  - (i) the source of water supply,
  - (ii) other water users,
  - (iii) instream objectives, and
  - (iv) the aquatic environmentwhich cannot be satisfactorily remedied.
- 9 To protect the aquatic environment, the licensee shall reduce the rate of water diversion or cease diverting when ordered by the Controller or other authorized officer of the department.

### MONITORING AND REPORTING

- 10 The licensee shall submit an annual water monitoring report to the Controller on or before December 1 in each year for that calendar year indicating
  - a) periods and rates of water diversion
  - b) daily minimum flow passing Bassano Dam
  - c) total monthly quantity of water diverted
  - d) total monthly quantity of water returned
  - e) total annual quantity of water diverted
  - f) total annual quantity of water returned
  - g) total area irrigatedand any other information requested by the Director.

### GENERAL

- 11 The licensee shall hold harmless the Minister of Environment or any other agent of the Government of Alberta for damage or damage claims arising out of the water diversion.

# Proposed Increase in the Irrigation Expansion Limit

Eastern Irrigation District

## APPENDIX A

- 12 The licensee shall obtain the approval of the Controller
- a) before any periodic maintenance of the intake works such as removal of debris, silt, etc., is carried out, and
  - b) before any design and/or modification to the permanent intake works take place.
- 13 The rights and privileges granted are subject to periodic review by the Controller to ensure the most beneficial use of the water in the public interest.
- 14 To comply with Alberta's South Saskatchewan River basin apportionment commitments to Saskatchewan, the licensee shall reduce the rate of water diversion when ordered by the Controller or other authorized officer of the department.
- 15 The Licence is appurtenant to the undertaking described in Plan No. 631-P629, including the diversion works located at the actual point of removal from the Bow River on SW 01-021-19-W4M, the water supply canals and pipelines, storage reservoir(s) and water distribution network in association with the Eastern Irrigation District within the district boundary of the Eastern Irrigation District.
- 16 The Licensee may deliver water as part of the existing allocation, to the following purposes, up to the following maximum volumes for each purpose:

Purpose	Maximum Volume (Acre-Feet)
Municipal	2,000
Agricultural	1,200
Commercial	500
Industrial	750
Habitat Enhancement	500
Recreation	50

- 17 On or before February 28th of each year following the calendar year in which the information was collected the licensee shall submit a report and map that includes the location, names, volumes and purposes of the projects that receive water for non-irrigation set out in Condition 16.

Dated the 19th day of June, 2002

Issued by Alan Pentney, P.Eng., Designated Director under the Act

**Licence Amendment No.** 00071066-00-01

Kevin Wilkinson, Designated Director under the Act

November 18, 2010

**Licence Amendment No.** 00071066-00-02

Brock Rush, M.Eng., P.Eng., Designated Director under the Act

May 28, 2013

## Eastern Irrigation District

## NOTES

[illegible]



Eastern Irrigation District  
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[www.eid.ca](http://www.eid.ca)

