APPENDIX 3

FLOW SCHEMATICS

Flow schematics for each of the design areas where additional facilities are required for the Planning Period.

The flow schematics may differ from the design flow requirements shown in Appendix 2. This is because the detailed flow schematic information is taken directly from the hydraulic simulations whereas design flow requirements are estimated for the entire design area.

2009/10 GAS YEAR
NORTH OF BENS LAKE DESIGN AREA
WITH MAXIMUM DELIVERIES TO THE NORTH & EAST PROJECT AREA
WINTER CAPABILITY WITHOUT PROPOSED FACILITIES

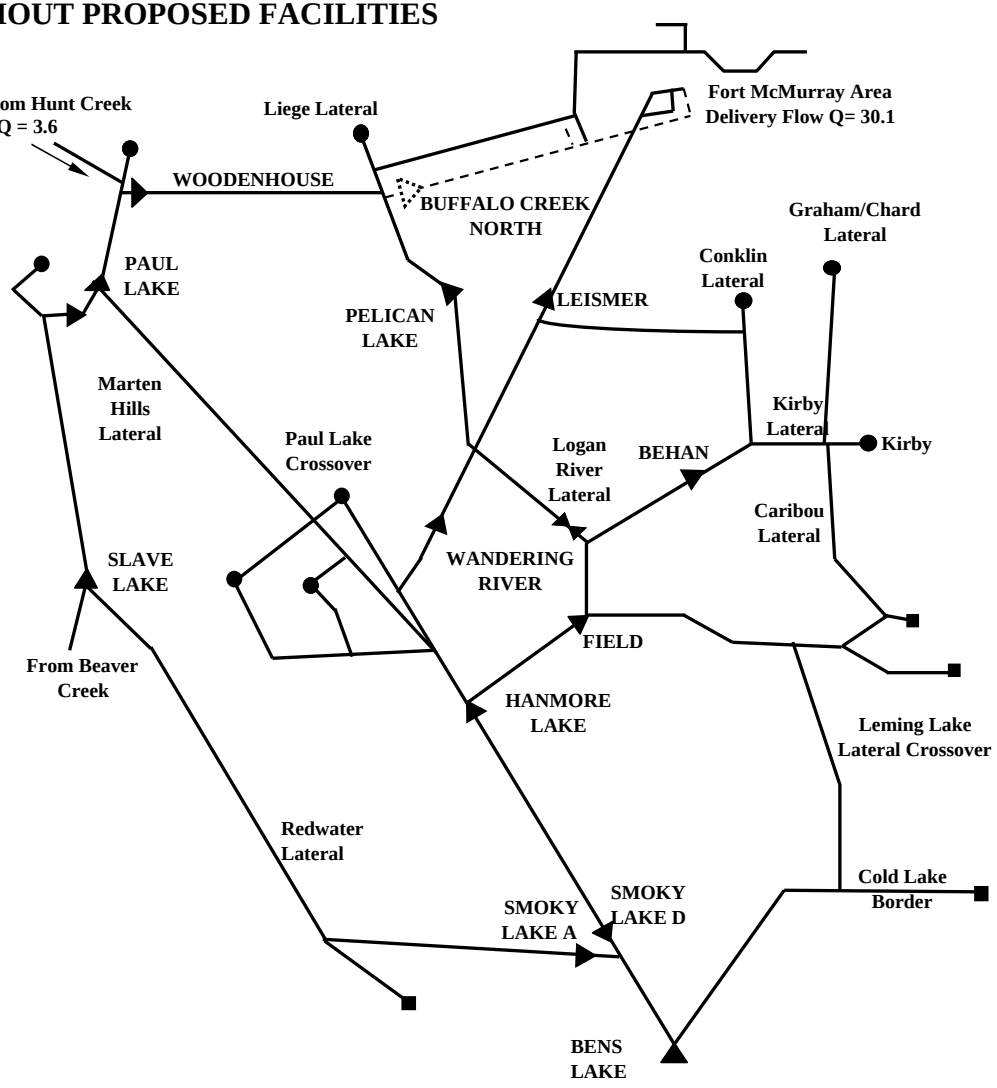
COMPRESSOR STATION SUMMARY

	FIELD LK	HANMORE LK B,C	BENS LK A	BENS LK B	BENS LK C,D	SMOKY LK D	PELICAN LK
$P_{sct}(kPa_g)$	5925	6036	6896	6896	6323	6473	5392
$P_{dis}(kPa_g)$	7949	6961	8188	8193	6952	6472	8441
Flow ($10^6m^3/d$)	14.2	31.9	0.0	10.6	42.6	-31.8	3.7
Fuel ($10^3m^3/d$)	55.4	59.9	0.0	27.9	65.1	0.0	23.2
Power Avail (MW)	6.3	6.6	3.5	3.2	7.4	15.2	3.2
Power Req (MW)	6.0	6.6	0.0	3.1	7.4	0.0	2.4
Compression Ratio	1.3	1.2	N/A	1.2	1.1	N/A	1.6
T_{sct} (˚C)	4.5	6.0	5.0	23.0	13.0	10.0	5.0
T_{dis} (˚C)	30.5	18.5	5.0	40.0	23.0	10.0	44.0
T_{amb} (˚C)	2.0	2.0	2.0	2.0	2.0	2.0	2.0

	PAUL LK B2	WOODENHOUSE #1	WOODENHOUSE #2	BUFFALO NORTH	WAND. RIVER	LEISMER	SLAVE LK
$P_{sct}(kPa_g)$	5798	4993	4981	7606	5457	5510	5000
$P_{dis}(kPa_g)$	7614	7783	7784	7602	7657	5509	6179
Flow ($10^6m^3/d$)	19.0	0.0	22.8	13.3	4.8	1.7	2.8
Fuel ($10^3m^3/d$)	54.2	0.0	87.5	0.0	29.3	0.0	10.2
Power Avail (MW)	14.5	10.6	14.7	5.0	2.9	0.9	3.8
Power Req (MW)	6.3	0.0	12.5	0.0	2.3	0.0	0.9
Compression Ratio	1.3	N/A	1.6	N/A	1.4	N/A	1.2
T_{sct} (˚C)	3.0	1.0	1.0	10.0	2.0	5.0	10.0
T_{dis} (˚C)	24.0	1.0	35.0	10.0	32.0	5.0	31.0
T_{amb} (˚C)	2.0	2.0	2.0	2.0	2.0	2.0	3.0

LEGEND
- EXISTING RECEIPT POINTS
- EXISTING DELIVERY POINTS
- EXISTING COMPRESSION
- EXISTING PIPELINE (NGTL)
- EXISITING CONTROL VALVE
- OTHER PIPELINE SYSTEMS

NOTE:
- NOT ALL EXISTING RECIPT POINTS, DELIVERY POINTS, INTERCHANGES AND PIPELINE LOOPS ARE SHOWN HERE
- FLOW AND FUEL IS @ STP (101.325 kPa AND 15° C)
- POWER IS AT SITE CONDITIONS
- COMPRESSOR CONDITIONS FOR COMPRESSION AT PAUL LAKE, SMOKY LAKE 'A', HANMORE LAKE 'A', AND BEHAN NOT SHOWN
- COMPRESSION RATIO REPRESENTS UNIT CONDITIONS
- Q, FLOW IS IN 10^6 m^3/d

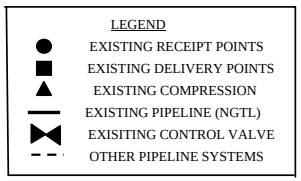


2009/10 GAS YEAR
NORTH OF BENS LAKE DESIGN AREA
WITH MAXIMUM DELIVERIES TO THE NORTH & EAST PROJECT AREA
WINTER DESIGN WITH PROPOSED FACILITIES

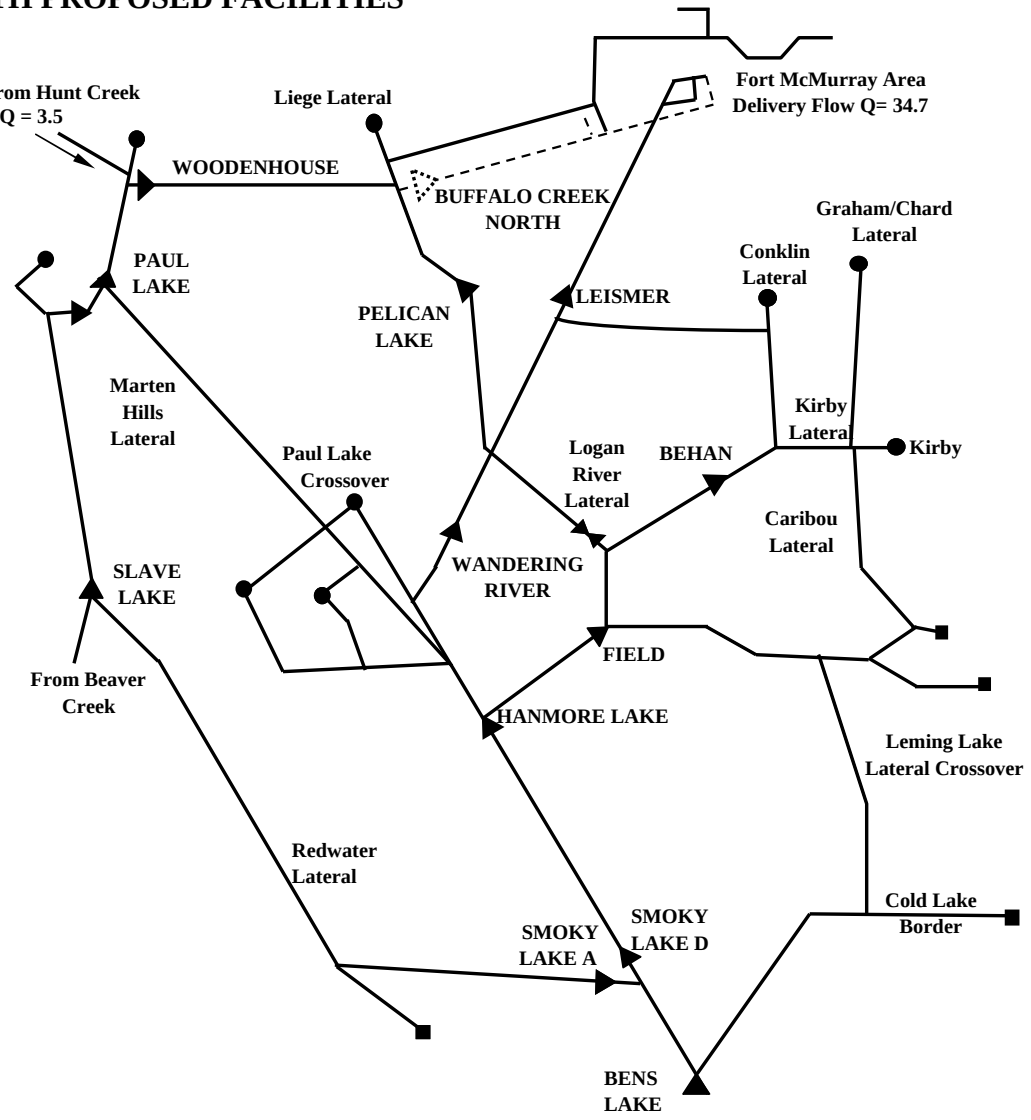
COMPRESSOR STATION SUMMARY

	FIELD LK	HANMORE LK B,C	BENS LK A	BENS LK B	BENS LK C,D	SMOKY LK D	PELICAN LK
P_{sct}(kPa$_g$)	7102	7830	6969	6969	6962	7384	7029
P_{dis}(kPa$_g$)	8271	8271	6969	7860	7894	8276	9930
Flow ($10^6 m^3/d$)	13.5	22.6	0.0	0.0	36.9	35.8	4.7
Fuel ($10^3 m^3/d$)	31.6	26.0	0.0	0.0	64.1	73.0	21.9
Power Avail (MW)	6.3	6.6	3.5	3.2	7.4	15.2	3.2
Power Req (MW)	2.9	1.1	0.0	0.0	7.4	5.6	2.2
Compression Ratio	1.2	1.1	N/A	N/A	1.1	1.1	1.4
T_{sct} (˚C)	4.5	13.0	5.0	5.0	13.0	11.0	5.0
T_{dis} (˚C)	17.5	18.5	11.0	5.0	25.0	21.0	34.0
T_{amb} (˚C)	2.0	2.0	2.0	2.0	2.0	2.0	2.0

	PAUL LK B2	WOODENHOUSE #1	WOODENHOUSE #2	BUFFALO NORTH	WAND. RIVER	LEISMER	SLAVE LK
P_{sct}(kPa$_g$)	6716	5530	5526	8794	6367	7185	5000
P_{dis}(kPa$_g$)	8800	9000	9000	9504	9650	7184	6179
Flow ($10^6 m^3/d$)	22.8	10.5	15.8	39.6	5.8	1.7	2.8
Fuel ($10^3 m^3/d$)	60.9	55.2	72.0	20.6	36.2	0.0	10.2
Power Avail (MW)	14.5	10.6	14.7	5.0	2.9	0.9	3.8
Power Req (MW)	7.5	6.4	9.8	1.8	3.3	0.0	0.9
Compression Ratio	1.3	1.6	1.6	1.1	1.5	N/A	1.2
T_{sct} (˚C)	6.0	2.0	1.0	13.0	1.0	5.0	10.0
T_{dis} (˚C)	26.0	39.0	39.0	22.9	36.0	5.0	31.0
T_{amb} (˚C)	2.0	2.0	2.0	2.0	2.0	2.0	3.0



NOTE:
- NOT ALL EXISTING RECIPT POINTS, DELIVERY POINTS, INTERCHANGES AND PIPELINE LOOPS ARE SHOWN HERE
- FLOW AND FUEL IS @ STP (101.325 kPa AND 15° C)
- POWER IS AT SITE CONDITIONS
- COMPRESSOR CONDITIONS FOR COMPRESSION AT PAUL LAKE, SMOKY LAKE 'A', HANMORE LAKE 'A', AND BEHAN NOT SHOWN
- COMPRESSION RATIO REPRESENTS UNIT CONDITIONS
- Q, FLOW IS IN 10^6 m^3/d



2009/10 GAS YEAR
SOUTH OF BENS LAKE DESIGN AREA
WITH MAXIMUM DELIVERIES TO THE NORTH & EAST PROJECT AREA
WINTER CAPABILITY WITHOUT PROPOSED FACILITIES

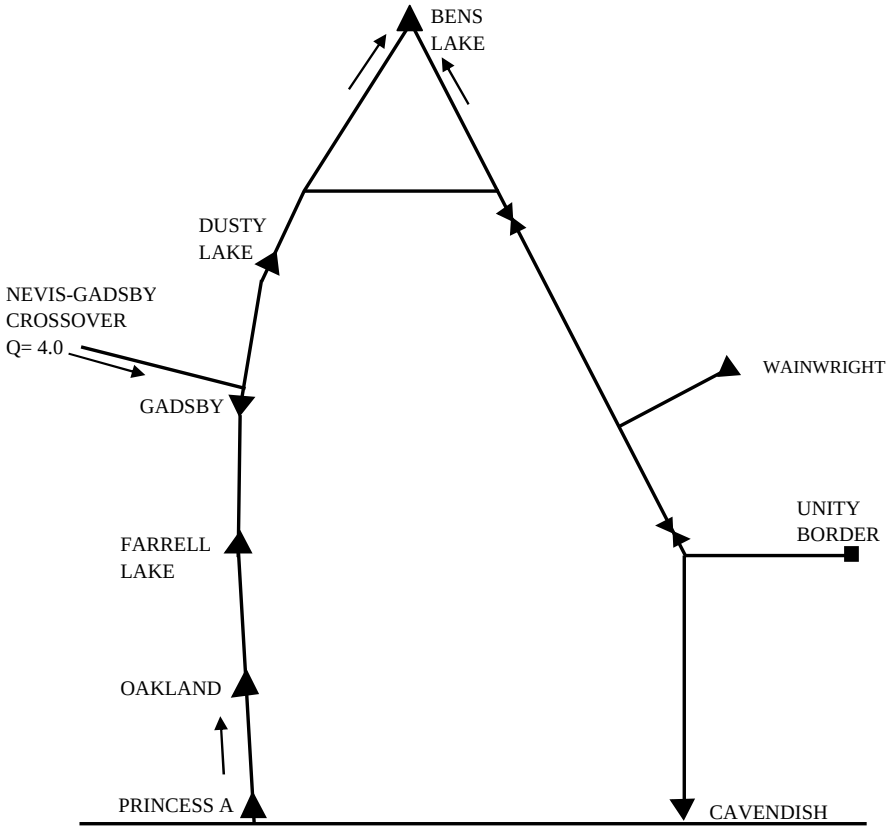
COMPRESSOR STATION SUMMARY

	DUSTY LAKE	GADSBY	FARRELL LAKE	OAKLAND
P_{sct}(kPa$_g$)	5547	6993	5292	5053
P_{dis}(kPa$_g$)	8227	6992	7797	6128
Flow ($10^6 m^3/d$)	41.3	-37.2	35.4	34.7
Fuel ($10^3 m^3/d$)	177.6	0.0	163.2	82.7
Power Avail (MW)	29.0	28.8	27.6	13.8
Power Req (MW)	21.6	0.0	19.0	12.2
Compression Ratio	1.5	N/A	1.5	1.2
T_{sct} (˚C)	9.0	5.0	9.0	7.0
T_{dis} (˚C)	41.0	5.0	42.0	28.0
T_{amb} (˚C)	2.0	3.0	4.0	4.0

	PRINCESS A	CAVENDISH
P_{sct}(kPa$_g$)	5000	4399
P_{dis}(kPa$_g$)	5695	5045
Flow ($10^6 m^3/d$)	29.6	4.0
Fuel ($10^3 m^3/d$)	29.8	7.1
Power Avail (MW)	17.0	4.5
Power Req (MW)	6.2	0.8
Compression Ratio	1.1	1.1
T_{sct} (˚C)	5.6	4.0
T_{dis} (˚C)	23.0	17.0
T_{amb} (˚C)	6.0	5.0

LEGEND
- EXISTING DELIVERY POINTS
- EXISTING COMPRESSION
- EXISTING PIPELINE (NGTL)
- EXISTING CONTROL VALVE

NOTE:
- NOT ALL EXISTING RECIPT POINTS, DELIVERY POINTS, INTERCHANGES AND PIPELINE LOOPS ARE SHOWN HERE
- FLOW AND FUEL @ STP (101.325 kPa AND 15° C)
- POWER IS AT SITE CONDITIONS
- COMPRESSOR CONDITIONS FOR LATERAL COMPRESSION AT WAINWRIGHT NOT SHOWN
- COMPRESSION RATIO REPRESENTS UNIT CONDITIONS
- Q, FLOW IS IN 10^6 m^3/d



Eastern Alberta Mainline

2009/10 GAS YEAR
SOUTH OF BENS LAKE DESIGN AREA
WITH MAXIMUM DELIVERIES TO THE NORTH & EAST PROJECT AREA
WINTER DESIGN WITH PROPOSED FACILITIES

COMPRESSOR STATION SUMMARY

	DUSTY LAKE	GADSBY	FARRELL LAKE	OAKLAND
P_{sct}(kPa$_g$)	6871	6229	5033	4828
P_{dis}(kPa$_g$)	8364	8450	7389	6147
Flow ($10^6 m^3/d$)	46.0	41.8	40.7	39.7
Fuel ($10^3 m^3/d$)	130.0	161.6	174.0	90.4
Power Avail (MW)	29.0	28.8	27.6	13.8
Power Req (MW)	12.4	18.7	21.3	13.8
Compression Ratio	1.2	1.4	1.5	1.3
T_{sct} (˚C)	21.0	19.0	9.0	7.0
T_{dis} (˚C)	38.0	45.0	41.0	28.0
T_{amb} (˚C)	2.0	3.0	4.0	4.0

	PRINCESS A	CAVENDISH
P_{sct}(kPa$_g$)	5000	4399
P_{dis}(kPa$_g$)	5695	5045
Flow ($10^6 m^3/d$)	34.6	4.0
Fuel ($10^3 m^3/d$)	33.9	7.1
Power Avail (MW)	17.0	4.5
Power Req (MW)	7.2	0.8
Compression Ratio	1.1	1.1
T_{sct} (˚C)	5.6	4.0
T_{dis} (˚C)	23.0	17.0
T_{amb} (˚C)	6.0	5.0

LEGEND
- EXISTING DELIVERY POINTS
- EXISTING COMPRESSION
- EXISTING PIPELINE (NGTL)
- EXISTING CONTROL VALVE

NOTE:
- NOT ALL EXISTING RECIPT POINTS, DELIVERY POINTS, INTERCHANGES AND PIPELINE LOOPS ARE SHOWN HERE
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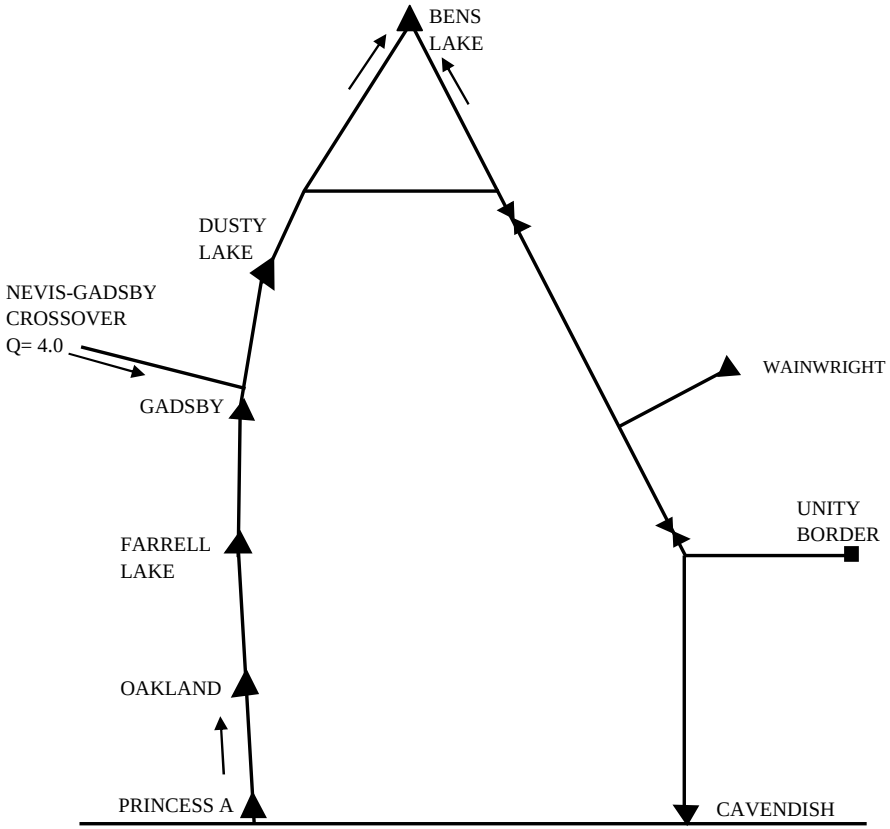

Eastern Alberta Mainline