Guidelines For Estimating

Cost of Raising Dairy Steers

For Weight Range of 100 - 530 lbs

Based on marketing 100 head per year

Date: February, 2002

The following budget is an estimate of the cost of production for raising dairy steer calves. The purpose of this budget is to assist Manitoba livestock producers in calculating their own costs and take into consideration the factors that should be included when budgeting to determine breakeven prices.

Raising and feeding dairy steers is more management intensive in the early stages than raising beef steers. Beef steer calves typically remain on the cow for several months, nurse 6 to 8 times a day and consume high intakes of milk; whereas dairy steer calves are removed from the mother soon after birth and become totally reliant upon the producer to feed it milk or milk replacer 2-3 times a day. A major challenge facing producers is keeping death losses below 5.0% and getting calves off to a quick start. Depending on average daily gains achieved, dairy steers can reach weights of 520-530 lbs. in 240-250 days.

It is also highly recommended that all users of this budget should consult with their nutritionist and veterinarian to develop feeding and herd health programs tailored to their individual farms.

Combining this budget with a steer finishing budget can assist producers in determining the profitability of finishing calves to market weights of 1200-1300 lbs. These budgets are available as Excel spreadsheets, and can be accessed on the Manitoba Agriculture and Food web site.

The assumptions on which costs are calculated are clearly defined in the supporting pages. When interpreting these costs for an individual situation, adjustments may be required. Note that on-farm feed costs are based on market prices at the farm. It is assumed that all feed is grown on the farm except supplements. Each assumption must be examined and adjustments made, where necessary, to apply to the producer's own situation.

Disclaimer: Economics and animal performance will vary among farms due to environment, management , nutrition, health, sanitation and biosecurity differences. Therefore, Manitoba Agriculture and Food (MAF) is not responsible for individual farm results that may differ from those assumed in this budget.

Dairy Steer Calf Rearing Production Costs

Assumptions

1. This budget outlines the cost of production for backgrounding cattle.
2. Buildings and equipment are valued at new cost.
3. All feed is purchased.

Group Profile

Number of calves purchased	**100**	head
Feeder calf mortality rate	**10.0**	%
Feeder calf purchased weight	**100**	lbs
Percent shrink on feeder calf	**5.0**	%
Feeder calf purchase price ($/cwt)	**$200.00**	/cwt
Weaned calf target weight	**130**	lbs
Pre weaning mortality	**10.0**	%
Average daily gain (pre weaning)	**0.76**	lbs/day
Post weaning target weight	**530**	lbs
Percent shrink post weaning target weight	**5.0**	%
Post weaning mortality	**2.0**	%
Feeder calf selling price	**$150.00**	/cwt
Average daily gain (post weaning)	**2.00**	lbs/day
Days on feed pre weaning	**46**	days
Days on feed post weaning	**200**	days

Footnote: 1 kilogram (kg) = 2.2046 pounds (lbs)

Feed Requirements and Costs

	Market Price	Feeder Calf Requirement	Days on Feed
Pre weaning			
Milk replacer	**$59.00** /20 kg bag	**1.2** lbs/day	**46**
Calf starter (with coccidiostat)	**$10.75** /25 kg	**1.2** lbs/day	**60**
Post weaning			
Barley	**$2.85** /bushel	**5.6** lbs/day	**200**
Protein (ie. 38% canola meal)	**$6.70** /25 kg	**1.0** lbs/day	**200**
Hay	**$80.00** /ton	**1.9** lbs/day	**200**
Vit/min premix with ionophore*	**$12.50** /25 kg	**0.2** lbs/day	**200**

Other Operating Costs

Feeder Purchase Costs

Feeder calf purchase price $/cwt)	**$200.00**	/cwt
Buying Commission	**$5.00**	/head
Trucking-in	**$1.25**	/cwt

Straw Bedding

lbs/day	**2.0**	lbs/head/day
cost	**$20.00**	/ton

Veterinary Medicine & Supplies

Cattle Medication	**Cost/head**
Vitamin A-D	**$0.10**
Vitamin E/Selenium	**$0.15**
Blackleg 8-way	**$0.54**
IBR,4-way	**$1.61**
Liquamycin LA	**$0.05**
Electrolyte Packets	**$4.24**
Growth Implants	**$1.65**
Scourguard	**$3.00**
B-12	**$0.02**
Internal/External Parasites	**$0.70**
Castration	**$1.00**
De-horning	**$1.00**

Annual Fuel & Repair Costs

Repairs (Machinery, Equipment & Facilities)	**$300**
Fuel Costs	**$100**

Utilities

Telephone, Hydro etc.	**$800**

Trucking Cost

Average Weight	530	lbs/head
Trucking Cost	**$1.25**	/cwt

Marketing Cost

Commission on Sales	**$15.00**	/head
Market Value	$150.00	/cwt
Insurance fee	**$0.75**	/head

Manure Removal

Annual Cost for Removal	**$500.00**	

Insurance

Cost per $100 Capital Invested in		
a) Livestock	**$0.40**	/$100
b) Building & Equipment	**$0.50**	/$100
Additional Coverage for Liability	**$48.00**	/year

Barn & Office Supplies

Total yearly expense relating to barn	**$200.00**	

Operating Interest Rate	**6.0**	%
Investment Interest Rate	**4.0**	%

Capital Costs

	Original Value	Salvage Value		Useful Life	
Land & Site Preparation Cost					
Land, 10 acres at $500/acre	**$5,000**				
Dairy Steer Facilities					
Calf hutches, 25 @ $335	**$8,375**				
Facility, 42'x64' @ $6.00 /sq ft	**$16,125**				
Concrete area, 1408 sq ft @ $3.55 /sq ft	**$5,000**				
Site prep, liquid manure collection pit, gravel/shale	**$5,500**				
Lower wall protective planking with 1/8" puckboard	**$1,125**				
Waterers, 2 @ $300 + installation	**$600**				
Electrical	**$1,500**				
Loading /chute (self-made)	**$3,500**				
Posts, 50 4"-5" PT spruce @ $6, wire etc. installed	**$500**				
Metal panel gates, 114' @ $6.50	**$750**				
Feed bunk, 64'x3' @ $3.50/ft	**$675**				
Water line, from yard source	**$1,500**				
Double layer vent. curtain	**$6,100**				
Total	**$51,250**	**10**	%	**20**	years
Machinery & Equipment					
Tractor & Loader (steer portion)	**$20,000**				
Feed Storage & Handling	**$10,000**				
Truck, Office Equipment & Miscellaneous	**$10,000**				
Total	**$40,000**	**10**	%	**20**	years
Total Investment	**$96,250**				

Labour Costs	**Total**	
Hours/Head	**8.0**	hours
Labour Rate	**$10.00**	/hour

Cost of Raising Dairy Steers to 530 lbs - February, 2002

A. Operating Costs	Cost/Head	Total Cost	Your Cost
1. Feed Costs			
1.01 Milk Replacer	$73.97	7,397	
1.02 Calf Starter	$14.40	1,440	
1.03 Barley	$67.20	6,720	
1.04 Protein	$24.00	2,400	
1.05 Hay	$15.20	1,520	
1.06 Vit/Min Premix with Ionophore	$9.20	920	
Total Feed Costs	**$203.97**	**$20,397**	
2. Other Operating Costs			
2.01 Feeder Cost	$206.25	20,625	
2.02 Straw	$4.92	492	
2.03 Veterinary Medicine & Supplies	$6.69	669	
2.04 Annual Fuel & Repair Costs	$4.00	400	
2.05 Utilities	$8.00	800	
2.06 Feeder Selling Cost	$22.38	2,238	
2.07 Insurance	$6.58	658	
2.08 Manure Removal	$5.00	500	
2.09 Barn & Office Supplies	$2.00	200	
2.10 Death Loss	$15.64	1,564	
Subtotal Operating Costs	$485.43	48,543	
2.11 Operating Interest	$13.99	1,399	
Total Operating Costs	**$499.42**	**$49,942**	
B. Fixed Costs			
3. Depreciation			
3.01 Buildings	$23.06	2,306	
3.02 Machinery & Equipment	$18.00	1,800	
4. Investment			
4.01 Land	$2.00	200	
4.02 Buildings	$11.28	1,128	
4.03 Machinery & Equipment	$8.80	880	
Total Fixed Costs	**$63.14**	**$6,314**	
Total Operating and Fixed Costs	**$562.55**	**$56,256**	
C. Labour	$80.00	$8,000	
Total Cost of Production	**$642.55**	**$64,256**	

Cost per lb of gain sold	$/lb	Your Cost
Feed Costs	$0.50	
Operating Costs	$0.73	
Operating & Fixed Costs	$0.89	
Total Costs (including labour)	$1.08	
Breakeven Selling Price		
Operating Costs	$0.99	
Operating & Fixed Costs	$1.12	
Total Costs (including labour)	$1.28	

Disclaimer: This budget is only a guide and is not intended as an in-depth study of the cost of production of this industry. Interpretation and utilization of this information is the responsibility of the user. No liability for decisions based on this publication is assumed. If you require assistance with developing your individual budget, please contact your loca MAF Office or the Farm Management Section in Winnipeg at 204-945-4937.

Assumptions

1. The average daily gain (ADG) was assumed to be 0.76 lbs/day for the pre weaning period (95 to 130 lbs) and 2 lbs/day for the post weaning period (130 to 530 lbs).

2. Feeder calf weighed 95 lbs. shrunk weight and was marketed at 504 lbs shrunk weight.

3. Total feeding period (246) days includes 46 days (pre weaning) and 200 days (post weaning).

Group Profile

Number of calves purchased	**100**	head
Feeder calf purchased weight	**100**	lbs
Percent shrink on feeder calf	**5.0**	%
Feeder calf purchase price ($/cwt)	**$200.00**	/cwt
Weaned calf target weight	**130**	lbs
Pre weaning mortality	**10.0**	%
Average daily gain (pre weaning)	**0.76**	lbs/day
Post weaning target weight	**530**	lbs
Percent shrink on post weaning target weight	**5.0**	%
Post weaning mortality	**2.0**	%
Feeder calf selling price	**$150.00**	/cwt
Average daily gain (post weaning)	**2.0**	lbs/day
Days on feed pre weaning	**46**	days
Days on feed post weaning	**200**	days

Feed Requirements, Costs & Days on Feed

	Market Price		Amount Fed	Days on Feed
Pre weaning				
Milk replacer	**$59.00**	**20 kg**	**1.2 lbs/day**	**46**
Calf starter	**$10.75**	**25 kg**	**1.2 lbs/day**	**60**
Post weaning				
Barley	**$2.85**	**bu.**	**5.6 lbs/day**	**200**
Protein (i.e. 36% canola meal)	**$6.70**	**25 kg**	**1.0 lbs/day**	**200**
Hay	**$80.00**	**ton**	**1.9 lbs/day**	**200**
Vit/Min Premix with Ionophore*	**$12.50**	**25 kg**	**0.2 lbs/day**	**200**

*** Caution: Premixes are intended to be mixed according to "product label directions" with other feeds (ie. grains; silages) prior to being fed to animals. It is assumed that a commercial vit/min premix, with ionophore, is mixed with other feeds and that the total quantity required up to 530 lbs body weight averaged 0.2 lbs/head/day. This will vary from one commercial product to another.**

A. Operating Costs

Your Cost

1. Feed Costs

1.01 Milk Replacer

	46	days on milk replacer	
x	1.20	lbs/day	
x	$1.34	$/lb	
=	**$73.97**	**/feeder**	

1.02 Calf Starter

	60	days on calf starter	
x	1.2	lbs/day	
x	$0.20	$/lb	
=	**$14.40**	**/feeder**	

1.03 Barley

	200	days (130 to 530 lbs)	
x	5.6	lbs/day (averaged)	
x	$0.06	$/lb	
=	**$67.20**	**/feeder**	

1.04 Protein Source

	200	days (130 to 530 lbs)	
x	1.0	lbs/day (averaged)	
x	$0.12	$/lb	
=	**$24.00**	**/feeder**	

1.05 Hay

	200	days (130 to 530 lbs)	
x	1.90	lbs/day (averaged)	
x	$80.00	/ton	
=	**$15.20**	**/feeder**	

1.06 Vit/Min Premix with Ionophore

	200	days (130 to 530 lbs)	
x	0.2	lbs/day (averaged)	
x	$0.23	/lb	
=	**$9.20**	**/feeder**	

2. Other Operating Costs

2.01 Feeder Purchase

Commission		$5.00	/feeder	
Trucking-in		$1.25	/cwt	
	x	100	lbs/feeder	
	÷	100	lbs/cwt	
	=	$1.25	/feeder	
Feeder		100	lbs/feeder	
	x	$200.00	/cwt	
	÷	100	lbs/cwt	
	=	$200.00	/feeder	
Total	**=**	**$206.25**	**/feeder**	

2.02 Straw Bedding

	2.0	lbs/day	
x	246	days (rearing period)	
x	$20.00	/ton	
=	**$4.92**	**/feeder**	

2.03 Veterinary Medicine & Supplies

Cattle Medication

	$0.10	Vitamin A-D	
+	$0.15	Vitamin E/Selenium	
+	$0.54	Blackleg 8-way	
+	$1.61	IBR,4-way	
+	$0.05	Liquamycin LA	
+	$4.24	Electrolyte Packets	
+	$1.65	Growth Implants	
+	$3.00	Scourguard	
+	$0.02	B-12	
+	$0.70	Internal/External Parasites	
+	$1.00	Castration	
+	$1.00	De-horning	
=	**$6.69**	**/feeder**	

2.04 Annual Fuel & Repair Costs

$300.00	repairs	
+ $100.00	fuel costs	
÷ 100	feeders	
= $4.00	**/feeder**	

2.05 Utilities

$800.00	cost/year	
÷ 100	feeders	
= $8.00	**/feeder**	

2.06 Feeder Selling Cost

Trucking

530	lbs/feeder	
÷ 100	lbs/cwt	
x $1.25	trucking cost/cwt	
= $6.63	/feeder	

Selling Commission

$15.00	commission	
+ $0.75	insurance	
= $15.75	/feeder	

Total = $22.38 /feeder

2.07 Insurance

$96,250	building & equipment investment	
x $0.50	/$100 capital	
÷ 100	/$100	
÷ 100	feeders	
= $4.81	/feeder	
$206.25	feeder purchase	
+ $101.99	½ of feed	
+ $15.31	½ other (excluding selling & death loss)	
= $323.54	total input costs	
x $0.40	/$100 capital	
÷ 100	/$100	
= $1.29	/feeder	
$48.00	additional coverage for liability	
÷ 100	feeders	
= $0.48	/feeder	

Total = $6.58 /feeder

2.08 Manure Removal

	$500	annual removal cost	
÷	100	feeders	
=	**$5.00**	**/feeder**	

2.09 Barn & Office Supplies

	$200	total barn expenses	
÷	100	feeders	
=	**$2.00**	**/feeder**	

2.10 Death Loss

	$447.41	exclude selling costs & death loss	
x	10.0	pre weaning % mortality	
x	46	days on feed	
÷	246	total days on feed	
=	$8.37	**/feeder pre weaning**	
	$447.41	exclude selling costs & death loss	
x	2.0	post weaning % mortality	
x	200	days on feed	
÷	246	total days on feed	
=	$7.27	**/feeder post weaning**	
=	**$15.64**	**/feeder**	

2.11 Operating Interest

(Operating interest is charged on one half the subtotal operating costs)

	$206.25	feeder cost	
+	$139.59	½ of feed & other costs	
x	6.0	% operating interest	
x	246	days on feed	
÷	365	days /year	
=	**$13.99**	**/feeder**	

Capital Costs

See appendix 1 for details on building design and farm site layout for 100 head operation. Also included as appendix 2 and 3 are suggested layouts for possible expansion to 200 and 400 head respectively.

Land Cost

Land, 10 acres at $500/acre	**$5,000**

Dairy Steer Facilities

Calf hutches, 25 @ $335	$8,375
Facility, 42'x64' @ $6.00 /sq ft	$16,125
Concrete area, 1408 sq ft @ $3.55 /sq ft	$5,000
Site prep, liquid manure collection pit, gravel/shale	$5,500
Lower wall protective planking with 1/8" puckboard	$1,125
Waterers, 2 @ $300 + installation	$600
Electrical	$1,500
Loading /chute (self-made)	$3,500
Posts, 50 4"-5" PT spruce @ $6, wire etc. installed	$500
Metal panel gates, 114' @ $6.50	$750
Feed bunk, 64'x3' @ $3.50/ft	$675
Water line, from yard source	$1,500
Double layer vent. curtain	$6,100
Total	**$51,250**

Machinery & Equipment

Tractor & Loader (steer portion)	$20,000
Feed Storage & Handling	$10,000
Truck, Office Equipment & Miscellaneous	$10,000
Total	**$40,000**

Total Investment	**$96,250**

B. Fixed Costs

3. Depreciation $\frac{\textit{Original Cost - Salvage Value}}{\textit{Useful Life}}$

3.01 Buildings

	$51,250	original cost
-	$5,125	salvage value 10%
÷	20	years useful life
÷	100	feeders
=	**$23.06**	**/feeder**

3.02 Machinery & Equipment

	$40,000	original cost
-	$4,000	salvage value 20%
÷	20	years useful life
÷	100	feeders
=	**$18.00**	**/feeder**

4. Investment ***Original Value + Salvage Value x Investment Rate***
2

4.01 Land

	$5,000	land
x	4.0	% investment rate
÷	100	feeders
=	**$2.00**	**/feeder**

4.02 Buildings

+	$51,250	buildings
+	$5,125	salvage value 10%
÷	2	average
x	4.0	% investment rate
÷	100	feeders
=	**$11.28**	**/feeder**

4.03 Machinery & Equipment

	$40,000	original cost
+	$4,000	salvage value 20%
÷	2	average
x	4.0	% investment rate
÷	100	feeders
=	**$8.80**	**/feeder**

C. Labour

	8.0	hours/feeder
÷	$10.00	/hour
=	**$80.00**	**/feeder**

Breakeven Calculations

Cost per lb of gain sold (shrunk weight)			
Feed Costs		$203.97	feed cost
	÷	409	lbs gained weight
	=	**$0.50**	**/lb (gain sold)**
Operating Costs		$499.42	operating costs
	-	$200.00	feeder cost
	÷	409	lbs gained weight
	=	**$0.73**	**/lb (gain sold)**
Operating & Fixed		$562.55	operating & fixed costs
	-	$200.00	feeder cost
	÷	409	lbs gained weight
	=	**$0.89**	**/lb (gain sold)**
Total Costs		$642.55	total costs
	-	$200.00	feeder cost
	÷	409	lbs gained weight
	=	**$1.08**	**/lb (gain sold)**
Breakeven selling price (shrunk weight)			
Operating Costs		$499.42	operating costs
	÷	504	lbs shrunk weight
	=	**$0.99**	**/lb**
Operating & Fixed		$562.55	operating & fixed costs
	÷	504	lbs shrunk weight
	=	**$1.12**	**/lb**
Total Costs		$642.55	total costs
	÷	504	lbs shrunk weight
	=	**$1.28**	**/lb**

For more information contact your local Manitoba Agriculture and Food Office.

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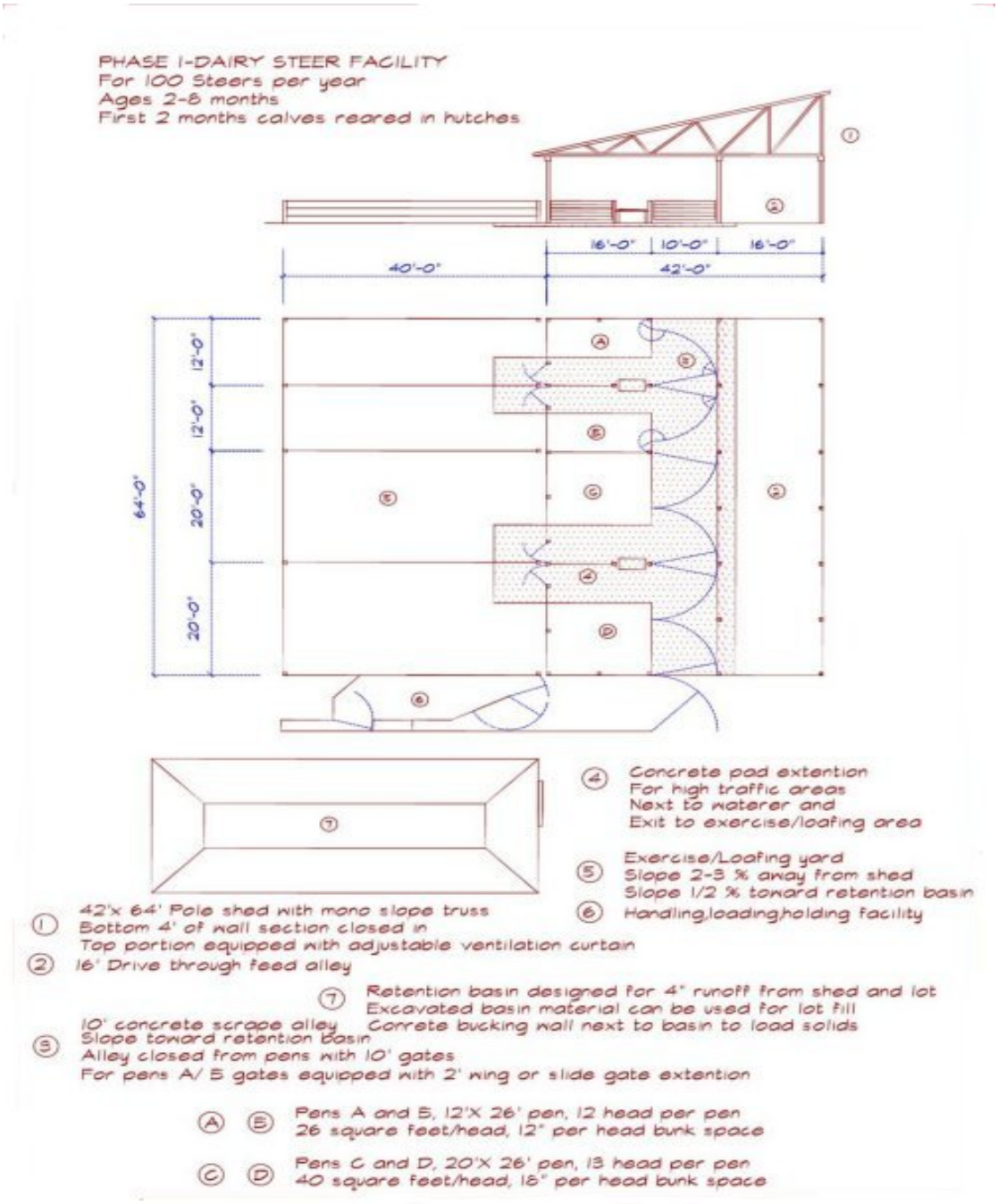
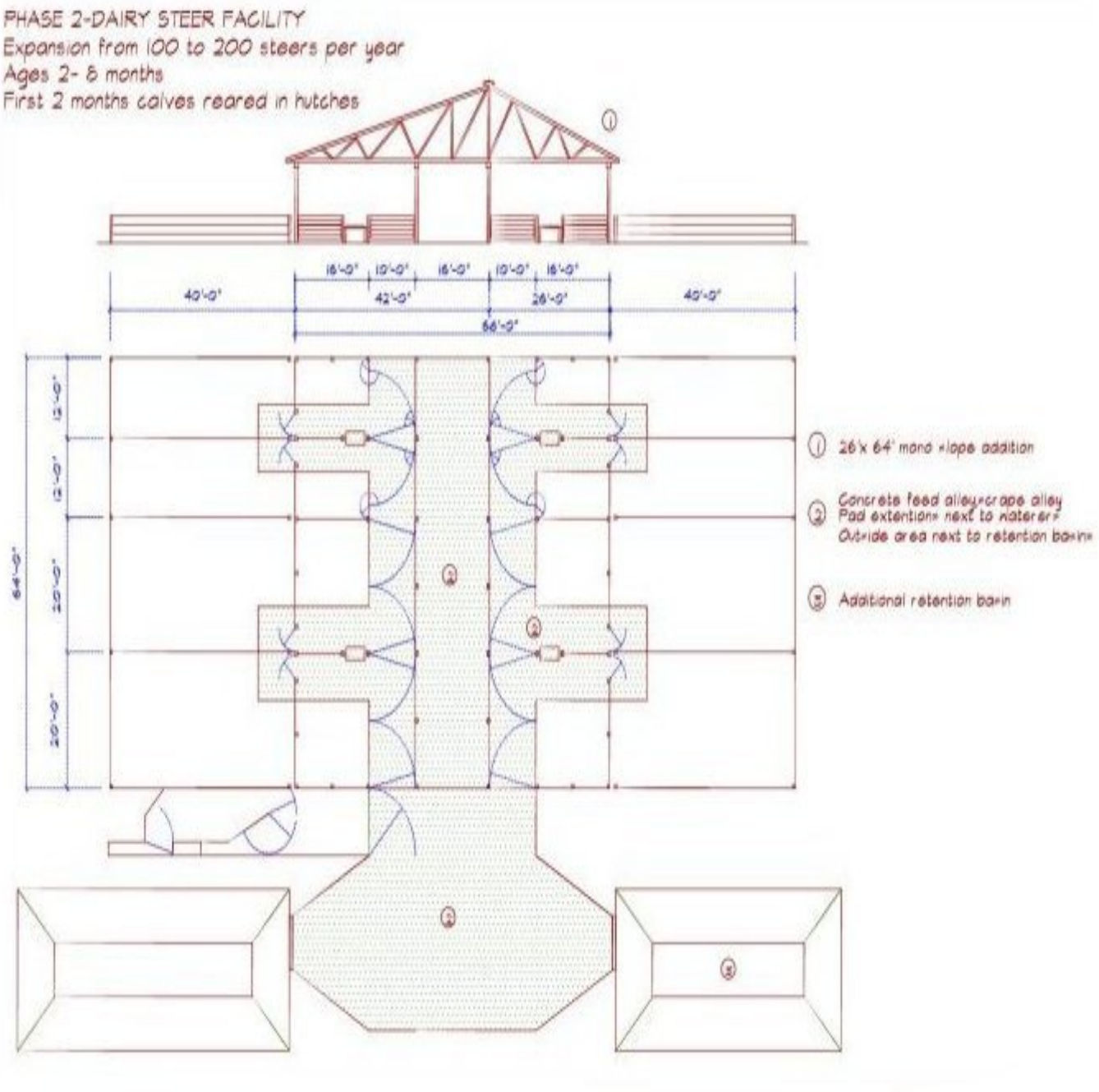
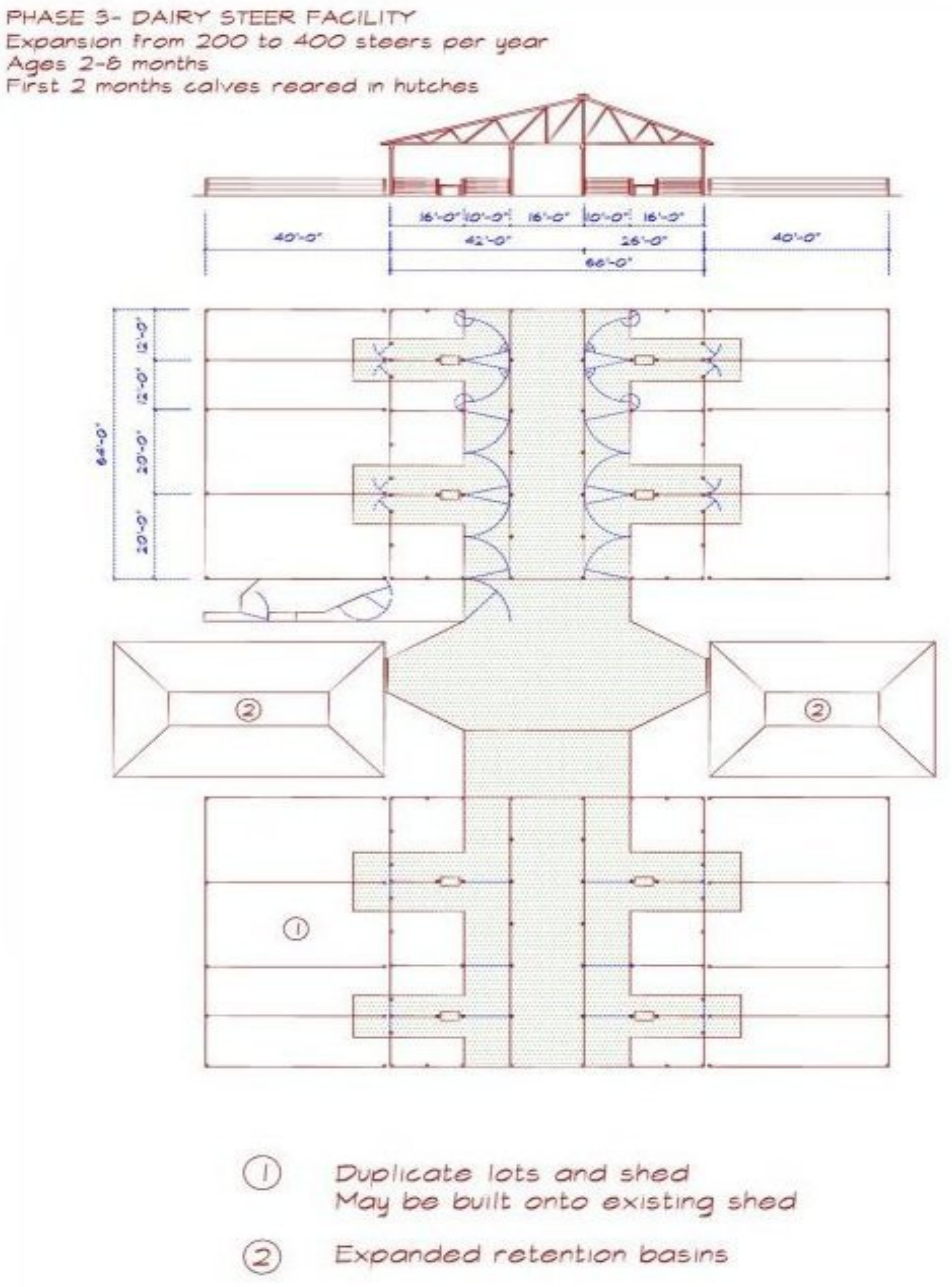
Appendix 1


PHASE I-DAIRY STEER FACILITY
For 100 Steers per year
Ages 2-8 months
First 2 months calves reared in hutches
16'-0"
10'-0"
16'-0"
40'-0"
42'-0"
64'-0"
12'-0"
12'-0"
20'-0"
20'-0"
A
B
C
D
E
1
2
3
4
5
6
7
Concrete pad extention
For high traffic areas
Next to waterer and
Exit to exercise/loafing area
Exercise/Loafing yard
Slope 2-3 % away from shed
Slope 1/2 % toward retention basin
Handling,loading,holding facility
42'x 64' Pole shed with mono slope truss
Bottom 4' of wall section closed in
Top portion equipped with adjustable ventilation curtain
16' Drive through feed alley
Retention basin designed for 4" runoff from shed and lot
Excavated basin material can be used for lot fill
Concrete bucking wall next to basin to load solids
10' concrete scrape alley
Slope toward retention basin
Alley closed from pens with 10' gates
For pens A/ B gates equipped with 2' wing or slide gate extention
Pens A and B, 12'X 26' pen, 12 head per pen
26 square feet/head, 12" per head bunk space
Pens C and D, 20'X 26' pen, 13 head per pen
40 square feet/head, 18" per head bunk space

Appendix 2


PHASE 2-DAIRY STEER FACILITY
Expansion from 100 to 200 steers per year
Ages 2- 8 months
First 2 months calves reared in hutches
16'-0"
10'-0"
16'-0"
10'-0"
16'-0"
40'-0"
42'-0"
26'-0"
40'-0"
84'-0"
64'-0"
13'-0"
13'-0"
29'-0"
29'-0"
① 26'x 64' mono-slope addition
② Concrete feed alley-scrape alley
Pad extention next to waterer
Outside area next to retention basin
③ Additional retention basin

Appendix 3


PHASE 3- DAIRY STEER FACILITY
Expansion from 200 to 400 steers per year
Ages 2-6 months
First 2 months calves reared in hutches
16'-0"
10'-0"
16'-0"
10'-0"
16'-0"
40'-0"
42'-0"
26'-0"
40'-0"
66'-0"
64'-0"
12'-0"
12'-0"
20'-0"
20'-0"
②
②
①
① Duplicate lots and shed
May be built onto existing shed
② Expanded retention basins