

MD of Foothills

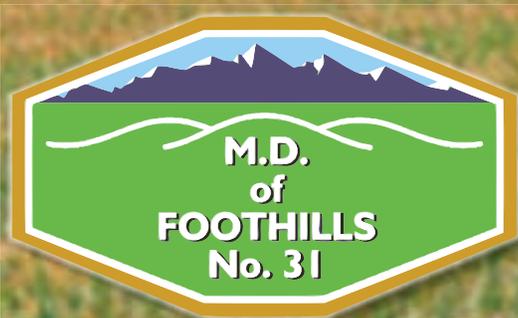
Dunbow Road Recreation Board

# Division 6 – Parks & Recreation

## Concept Plan

Heritage Pointe, Heritage Heights, Davisburg,  
Trails & Pathways

October 2009





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# Purpose

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To prepare a concept plan that allows the Dunbow Recreation Board and MD Council to effectively plan and implement facilities to meet the long term needs of Division 6 residents.

# Objectives

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1. Identify and analyze current and emergent needs and opportunities.
2. Determine all financial implications including capital costs, operational costs and revenue source options/alternatives.
3. Provide a conceptual design of recommended facility components.
4. Provide options, recommendations and strategies for retaining the best case facility scenario for each service area.
5. Provide options which are achievable and appropriate to the organization's needs and resources.

# 2004 Needs Assessment (CDC)

## Recommendations

### Policy Direction

- Develop a program/service delivery policy that supports funding partnerships for community initiatives
- Create one new recreation board

### Facility Development

- Provide financial support for redevelopment of the Okotoks Rec. Centre and High River Rec. Complex
- Provide development support to local/community organizations for facility upgrades and maintenance
- Support the investigation of a regional facility in the mid to long term
- Develop new community facilities (on demand basis) guided by Community Recreation Facility Standards

### Service Delivery

- Devise policy & governance model for program and service delivery
- Ensure that needs identification and planning continue annually with a community driven approach in strategic planning for 3 year periods

Source: MD of Foothills #31 Recreation Facility Needs Assessment (2004).  
Page 4.

# 2008 Division 6 Survey Results

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The Dunbow Recreation Board surveyed residents as to their recreation facility priorities. The following is a summary of the results (based on 311 completed surveys).

Survey respondents were given the opportunity to comment on what facilities they would like to see in Division 6. A range of facilities were mentioned, including the following, which surfaced several times:

- Trails and pathways to accommodate multiple uses (walking, cycling, horseback riding, cross-country skiing)
- Indoor and outdoor ice
- Off leash area
- Park/natural/picnic areas
- Baseball and soccer fields
- Indoor and outdoor tennis courts
- Swimming pool

# 2008 Division 6 Survey Results

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Other common themes/issues that arose in the survey comments included:

- Concern over tax implications of facility development
- Importance of equal opportunity and access in considering location of facilities
- Many people felt that pathways are needed and would provide the widest benefit; options to link into Calgary's pathway system were mentioned several times.
- Heritage School is recognized as a local "hub" and a practical location for further facility development.

# 2008 Division 6 Survey Results

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Respondents were asked to indicate their level of support for the following facilities:

Baseball Field; Walking Trail; Bike Trail; Indoor Tennis Courts; Outdoor Tennis Courts; Outdoor Ice Rink; Soccer Field; Community Hall; Playground; Leisure Centre.

They were also asked to indicate their preferred location of these facilities, given the options of Davisburg, Heritage Pointe and The Shannons/Norris Coulee/Heritage School. Respondents could indicate a preference to see a particular facility at any combination of the locations, or none at all.

## Data Summary

The three facilities which were ranked most often were:

1. Bike Trail
2. Walking Trail
3. Baseball Field

However, all facilities received a level of support great enough to indicate that they are viewed as important and desired amenities. In terms of location, Heritage Pointe received the most rankings in every facility category. Given this result, it is possible that a majority of the surveys were completed by Heritage Pointe residents.

# Dunbow Road Recreation Board

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## Mandate:

To identify and build recreational facilities in Division 6 and to do so using funding from sponsorship, lotto funds, casino funds and provincial grants, thus not creating a hardship on any MD taxpayers.

## Roles & Responsibilities:

- To determine facility development priorities from surveys and public consultation
- To develop a long term facilities plan to be carried out to completion within a 3 to 5 year time frame

# Vision 2014

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*Division 6 in the MD of Foothills now has an excellent level of parks and recreation amenities to meet resident needs. In addition to local users, residents from other parts of the MD also enjoy using the facilities.*

## Heritage Pointe

*This is a twenty acre park with 1.5 km of walking trails, ball diamond, soccer field, picnic shelter, playground and day use area.*

## Heritage Heights

*This thirty acre park is home to two schools, 2 ball diamonds, 2 soccer fields, a track, 3 km of pathways and an indoor arena.*

## Davisburg

*The excellent original facilities on 4 acres were enhanced with four more acres and the addition of a second ball diamond, soccer field, additional parking and a new playground.*

## Trails and Pathways

*A multi-level of pathway types (10 km) allows for easy non-vehicular access to Division 6 facilities and natural areas.*

# Division 6 – Master Development Plan



# Facility Standards and Needs

## Facility Standards - 2004

## Need based on Standards

	Standard	Inventory	2009 Pop. 4,000	2015 4,640	2020 5,382
Community Hall	1/3,000 - 1/5,000	1	0	0	0
Ball Diamond	1/1,000 - 1/3,500	1	0	1	0
Soccer Field	1/1,000 - 1/3,000	1	0	1	0
Outdoor Rink	1/2,000 - 1/5,000	0	0	1	0
Playground	1/2,000 - 1/5,000	3	0	0	0



# Heritage Pointe

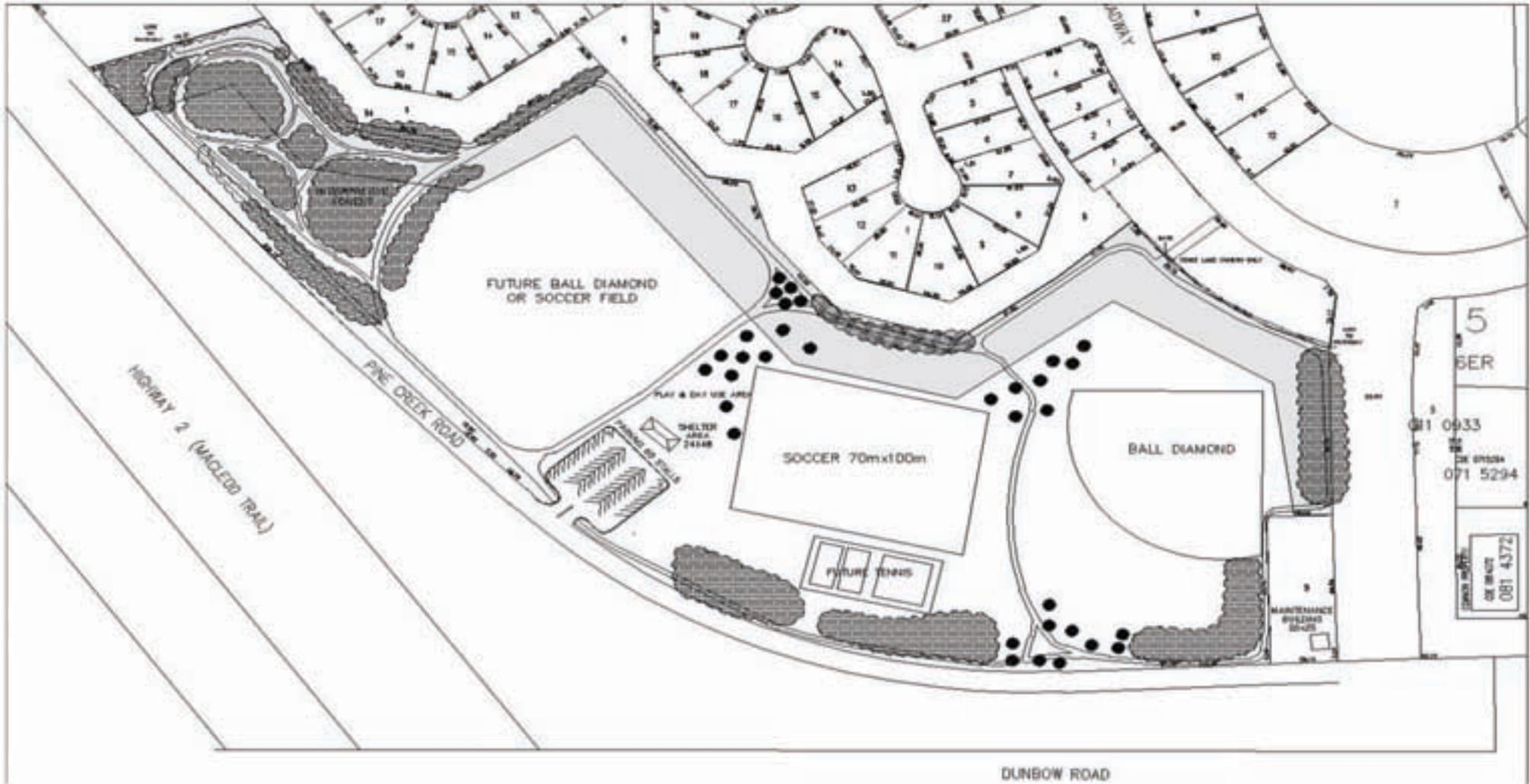
## Design Program - 2020

- Landscaping
- Parking
- Soccer
- Ball
- 1.8 m paved pathway (3 km)
- 1.2 m natural pathway (.8 km)
- Day use picnic area
- Tennis courts and pleasure skating area

## Servicing Requirements

- All utilities are available on the road (Heritage Lake Drive)

# Heritage Pointe – 10 Year Site Plan - 2020



# Heritage Pointe – Concept Plan



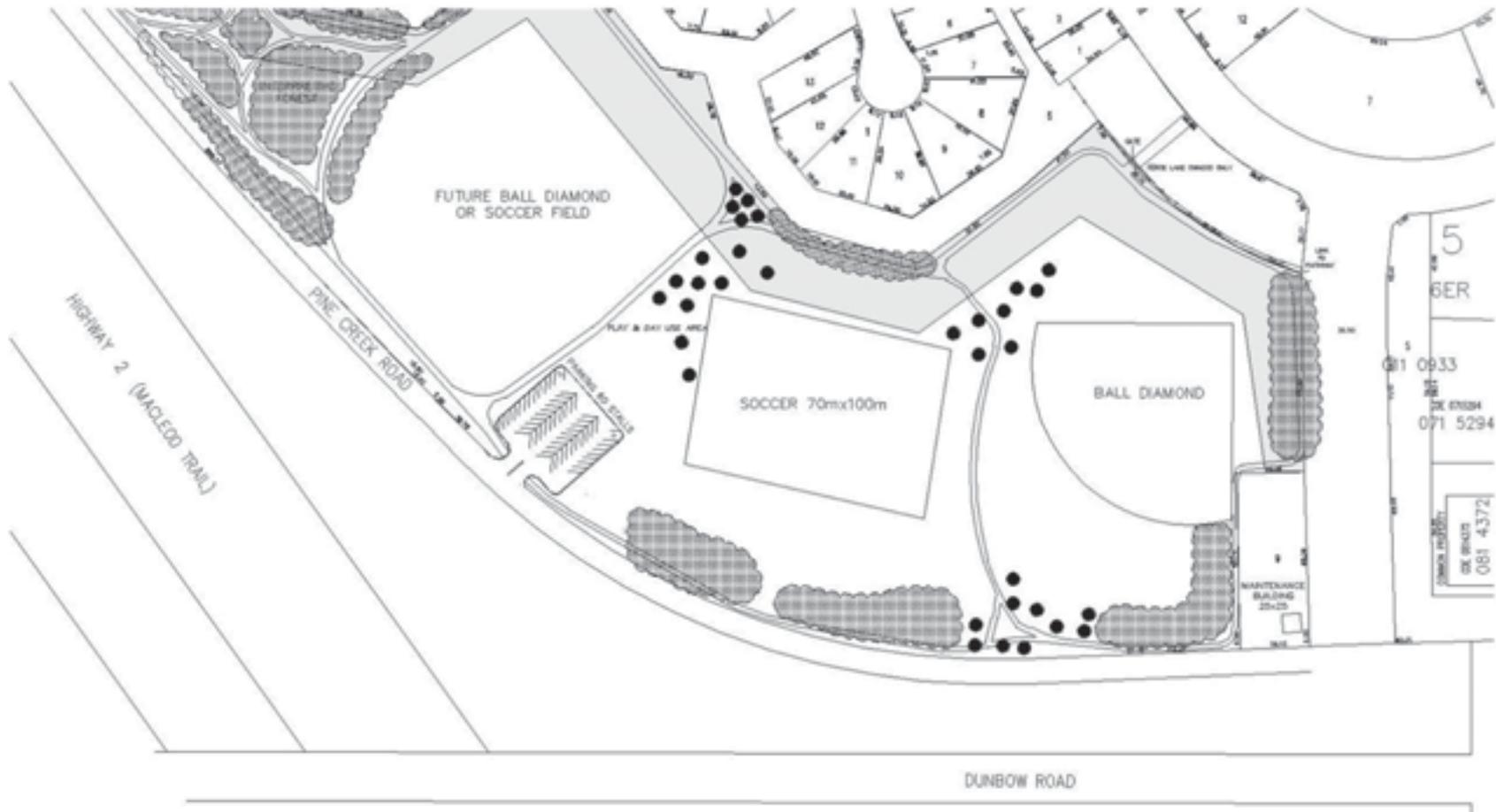
# Heritage Pointe – Concept Plan



# Heritage Pointe – Concept Plan



# Heritage Pointe – 5 Year Site Plan – 2014 (Phase 1)



# Heritage Pointe Park – Estimate of Potential Cost (2009)

## Phase 1: 2010-2014

Grading and seed	2,500/acre (20 acres)	\$ 50,000
Walking path	52.50/m <sup>2</sup> (1,000 x 1.8 = 1,800m <sup>2</sup> )	\$ 94,500
Parking and road access	47.75/m <sup>2</sup>	\$ 100,000
Landscaping	5,000/acre	\$ 100,000
Soccer		\$ 25,000
Ball diamond		\$ 50,000
Playground		\$ 50,000
Day use		\$ 25,000
Benches and garbage		\$ 15,000
Woodchip trail	1m x 500 m x 500 m <sup>2</sup>	\$ 35,000
<b>Sub Total</b>		<b>\$ 544,500</b>
Contingency – 15%		\$ 81,675
Consulting and Project Management – 10%		\$ 54,450
<b>Total</b>		<b>\$ 680,625</b>



# Heritage Heights Park

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## Design Program - 2020

- Soccer fields (2)
- Track
- Ball diamonds (2)
- Landscaping
- Road and parking
- Pathway
- Day use area
- Arena
- Water management system

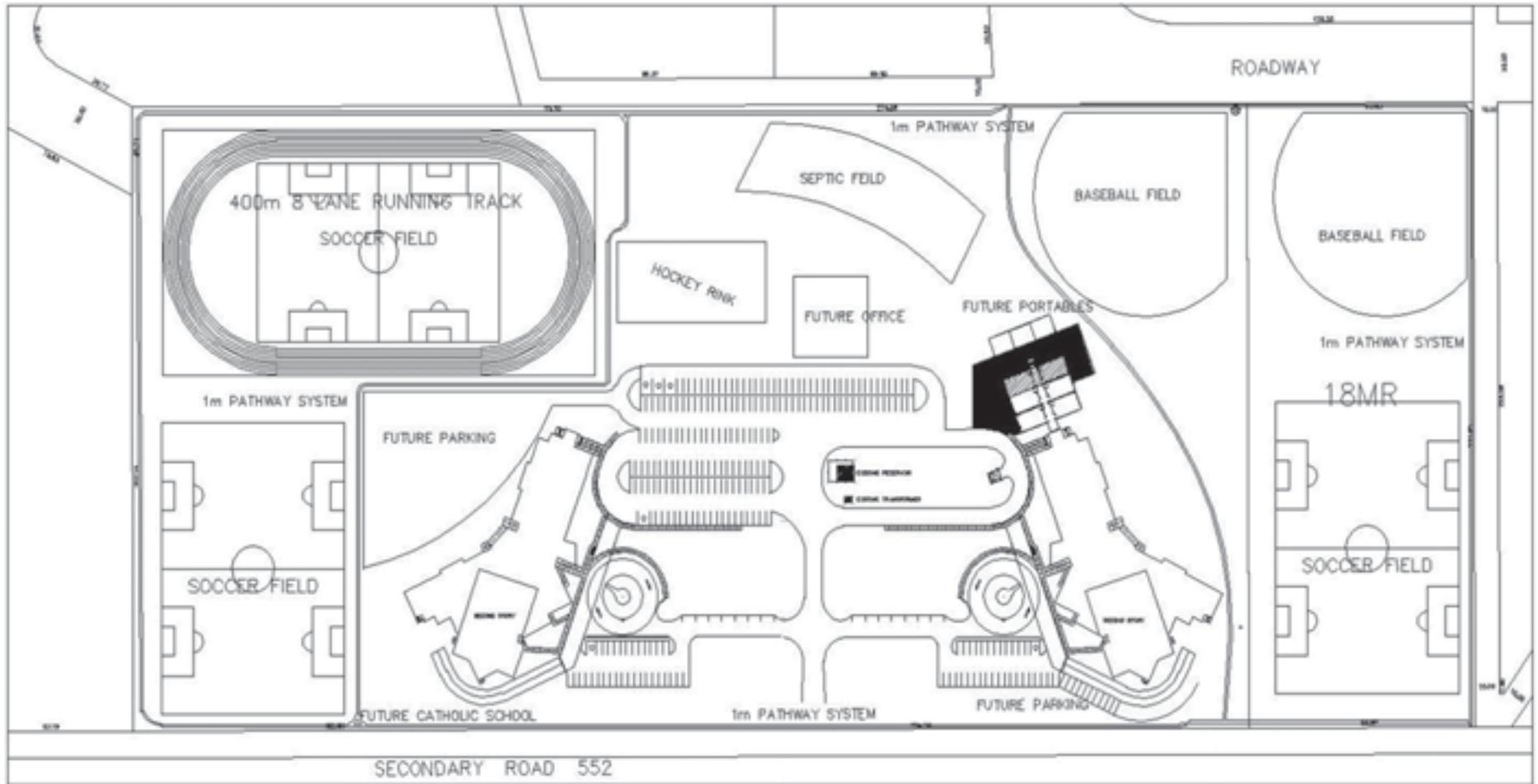
### Future:

- Catholic school
- Soccer field
- Administration building

## Servicing Requirements

The site is serviced by one well, a water treatment system and a sewage treatment plant. Gas and power are available on site.

# Heritage Heights Park – Site Plan (2020)



# Heritage Heights School – Concept Plan



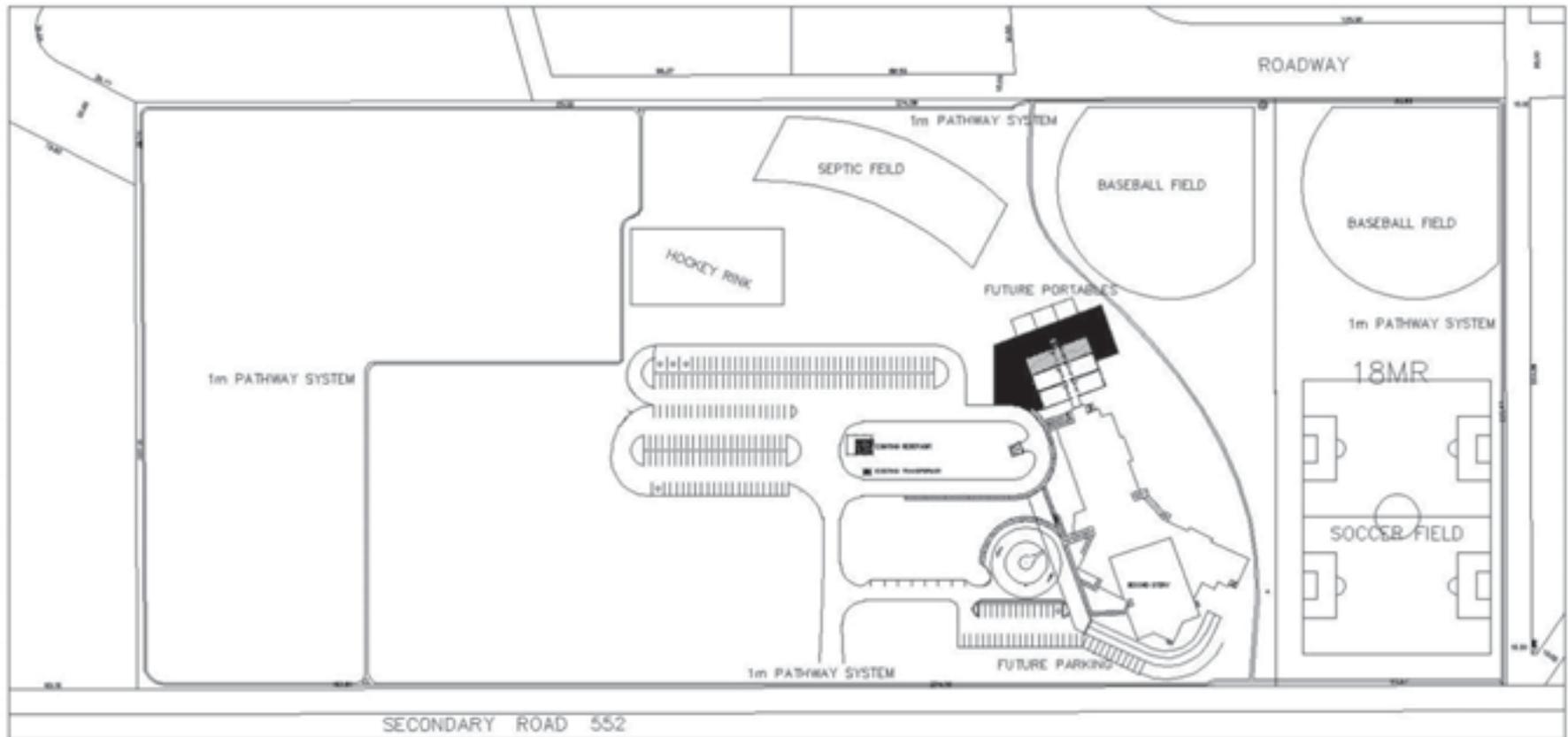
# Heritage Heights School – Concept Plan



# Heritage Heights School – Concept Plan



# Heritage Heights Park – 5 Year Plan - 2014 (Phase 1)



# Heritage Heights Park - 2014

Design Program and Servicing	\$ 50,000
Grading	\$ 50,000
Water Collection System	
Landscaping	\$ 150,000
Soccer	\$ 50,000
Ball diamonds	\$ 50,000
Day use area	\$ 25,000
Benches and garbage	\$ 15,000
Indoor Arena	\$ 2,000,000
<b>Subtotal</b>	<b>\$ 2,390,000</b>
Contingency 15%	\$ 358,500
Consulting and Project Management	\$ 239,000
<b>Total</b>	<b>\$ 2,987,500</b>



# Davisburg Hall - Park

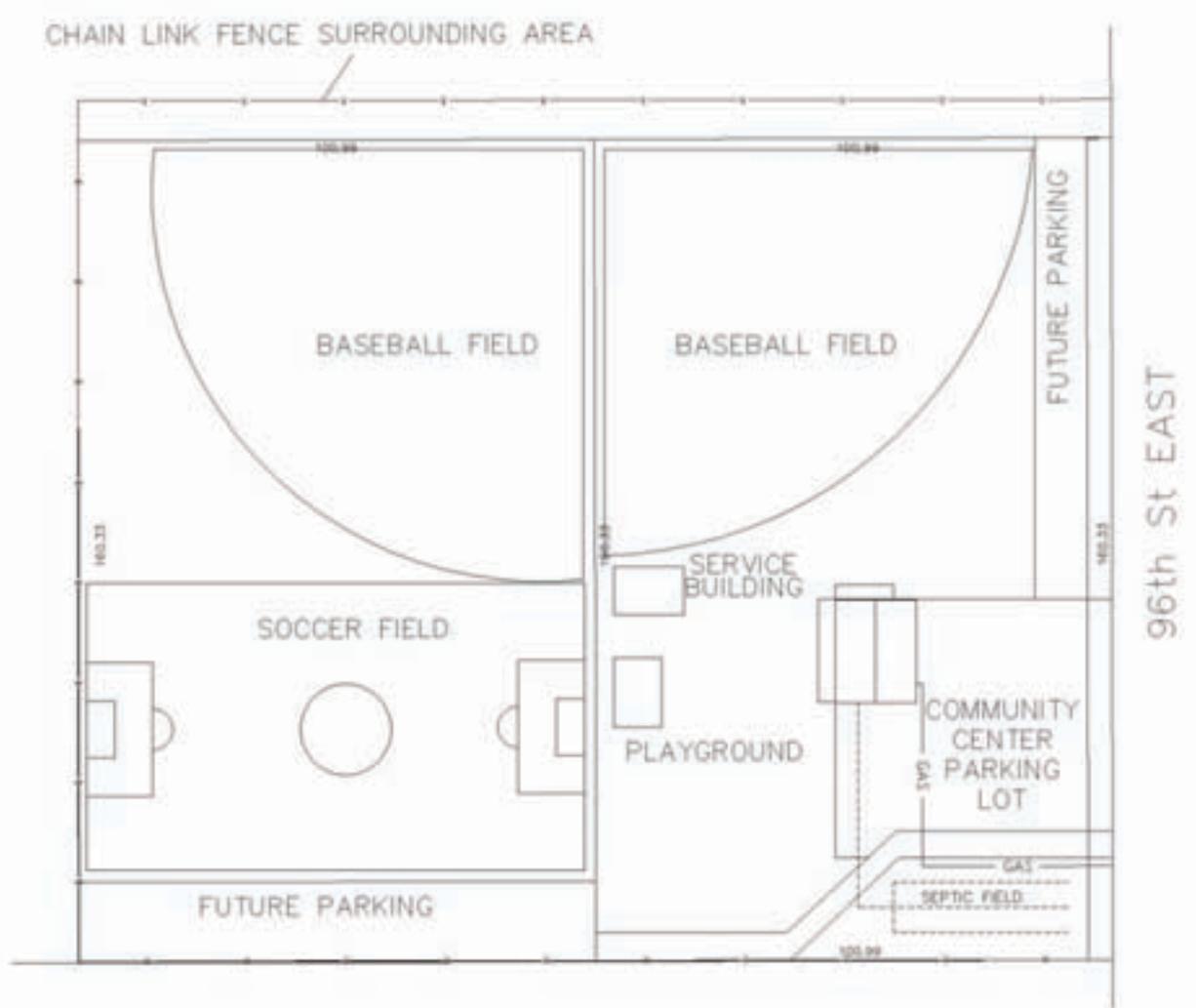
## Design Program (added 4 acres for a total of 8) (2020)

- 2<sup>nd</sup> ball diamond
- Soccer field
- Road and parking
- New Playground
- Service Building

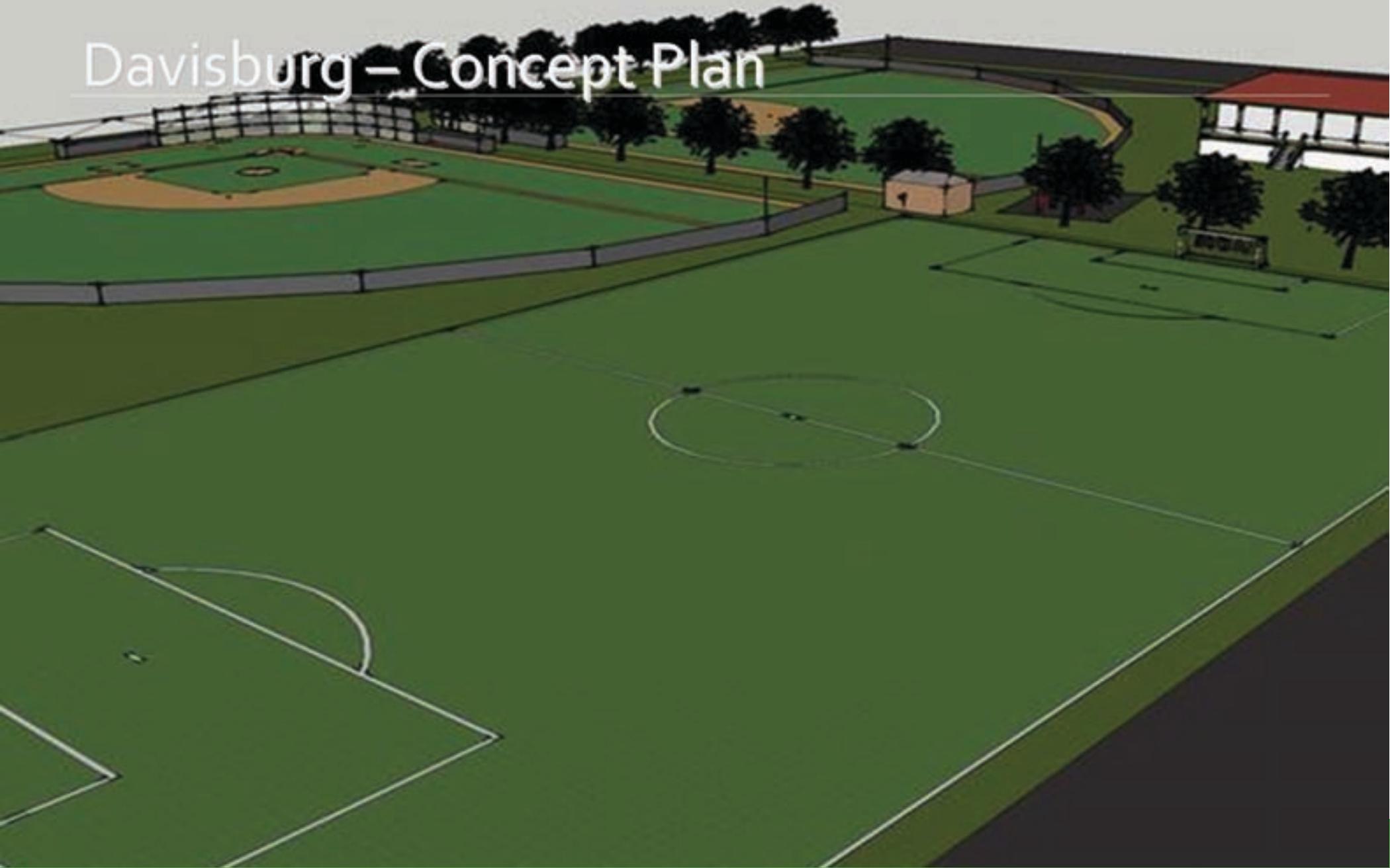
## Servicing Requirements

Gas and power are available on site. Water is not usable for irrigation. Septic field has the capacity to service a washroom/change/storage facility.

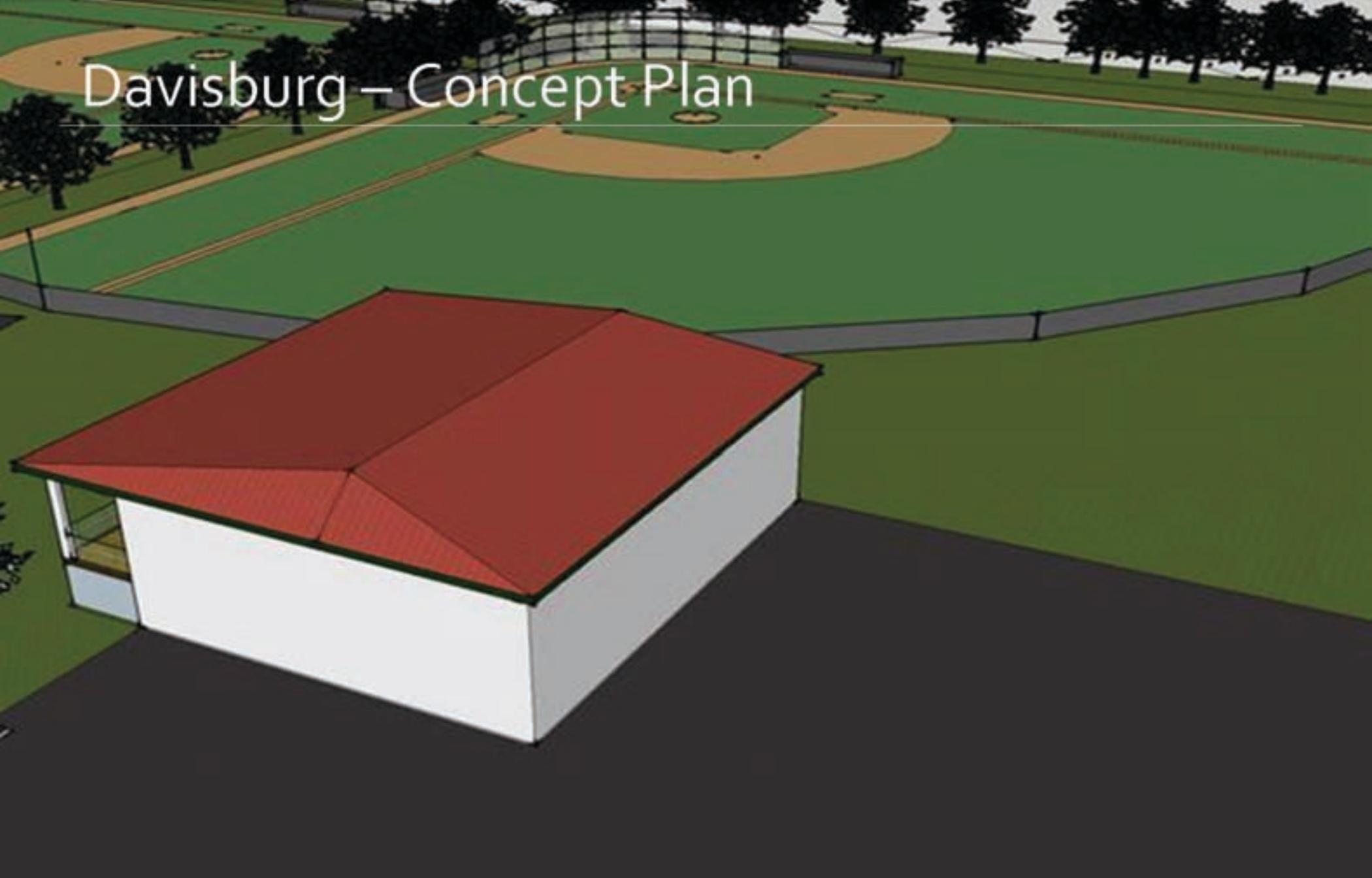
# Davisburg Hall – Site Plan (2020)



# Davisburg – Concept Plan



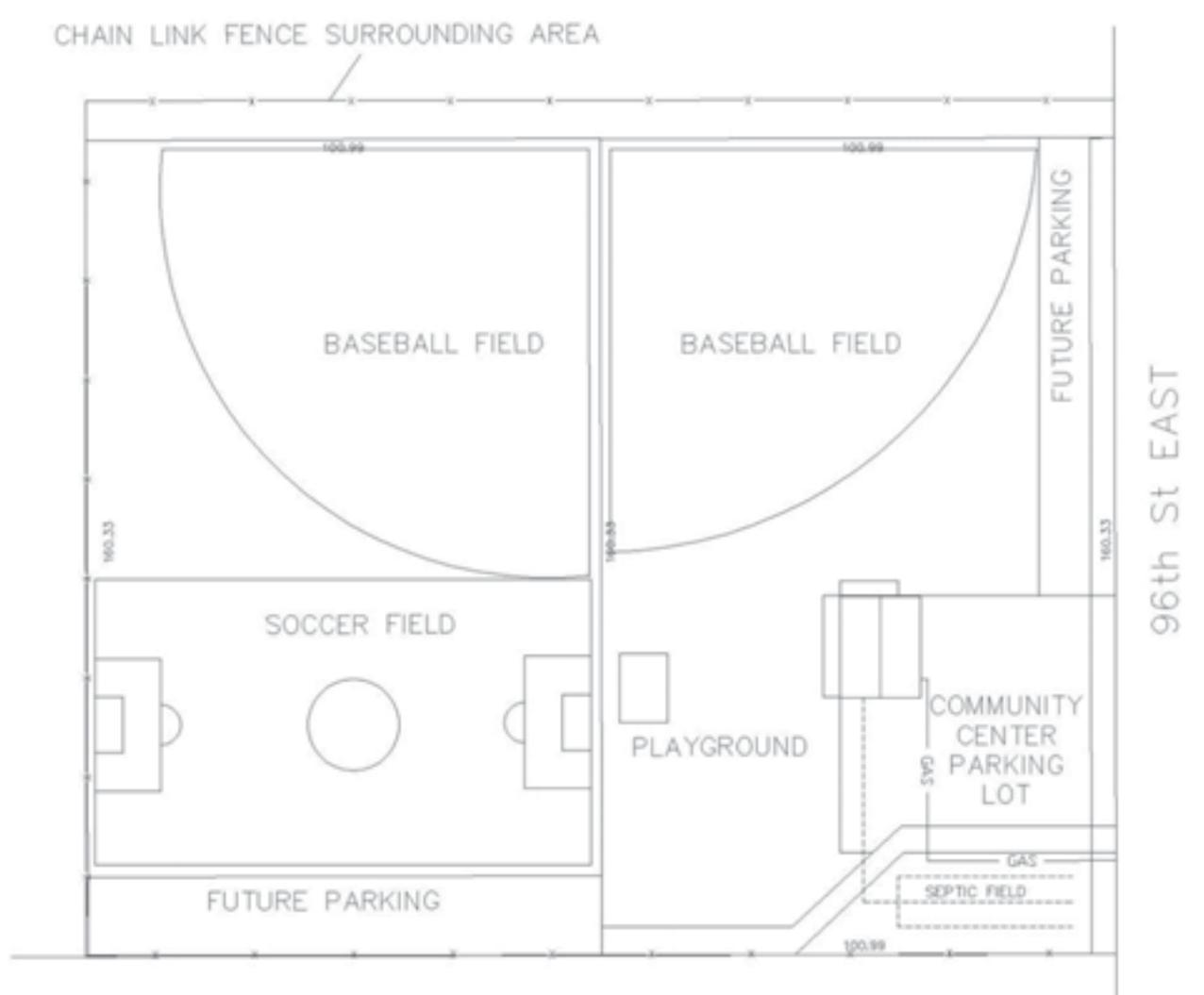
# Davisburg – Concept Plan



# Davisburg – Concept Plan



# Davisburg – Site Plan (2014)



# Davisburg

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## Capital Cost - 2014

• Grading & seeding	\$ 25,000
• Ball diamond	\$ 50,000
• Soccer Field	\$ 25,000
• Fencing	\$ 50,000
• Road & Parking	\$ 50,000
• Playground	\$ 35,000
<b>Sub Total</b>	<b>\$ 235,000</b>
Contingency – 15%	\$ 35,250
Consulting & PM	<u>\$ 23,500</u>
<b>Total</b>	<b>\$ 293,750</b>



# Trail and Pathway Standards

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The design of a comprehensive pathway system should include the following elements:

a) **Connections:**

- between important destinations and major residential enclaves, by means of a non-motorized transportation system, i.e. pathway which can accommodate walking, wheelchairs, cycling, in-line skating and strollers;
- which are as direct as possible, while taking into account that the journey can be as satisfying as the destination.

b) **Accessibility:**

- Modes of non-motorized transportation can be accommodated while reducing the possibility of conflict/accidents.

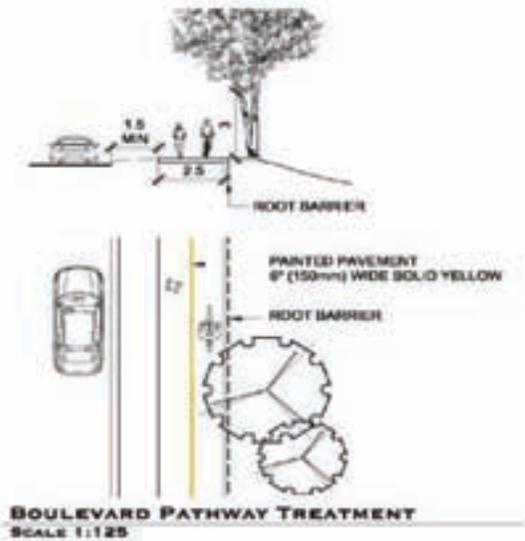
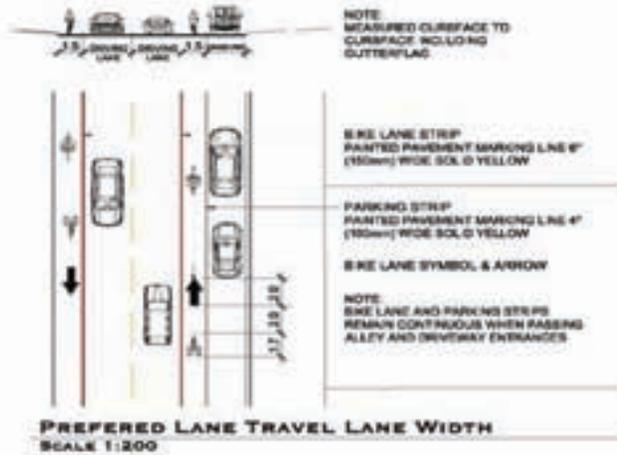
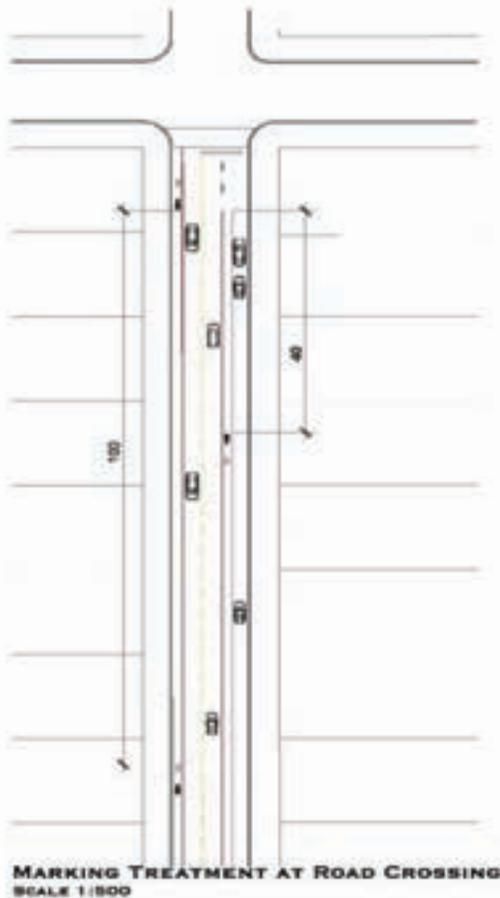
c) **Users' experience - design based on an hierarchy of experiences, starting with the best:**

- traveling through an unspoiled natural environment;
- through a natural area where there is a sense of surrounding human presence;
- through a manicured park;
- on a boulevard of a low-volume road;
- on a boulevard of a heavily-traveled road;
- on a low-volume road;
- on a high-volume road (should be avoided).

d) **Reduce dependence on motor vehicles and in doing so:**

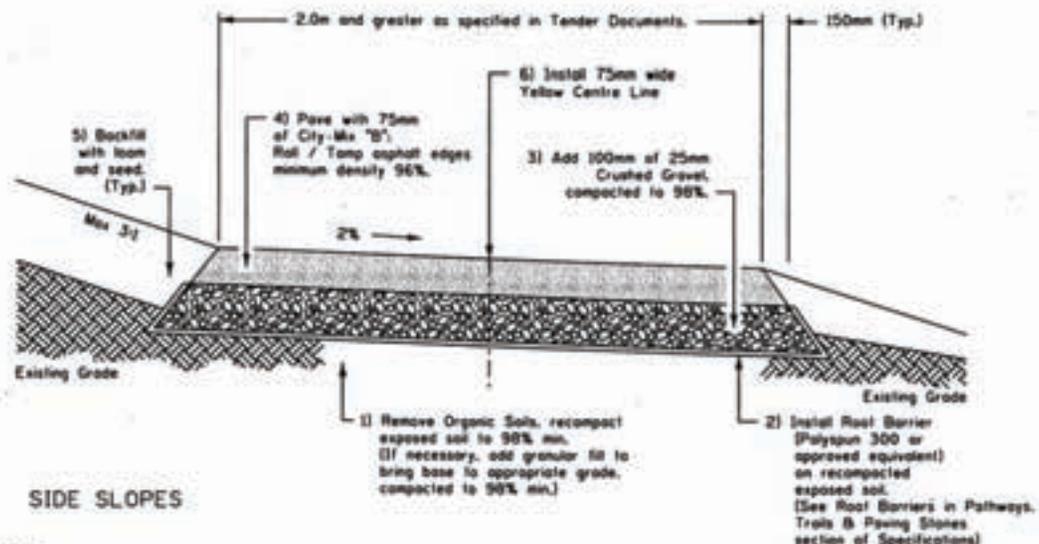
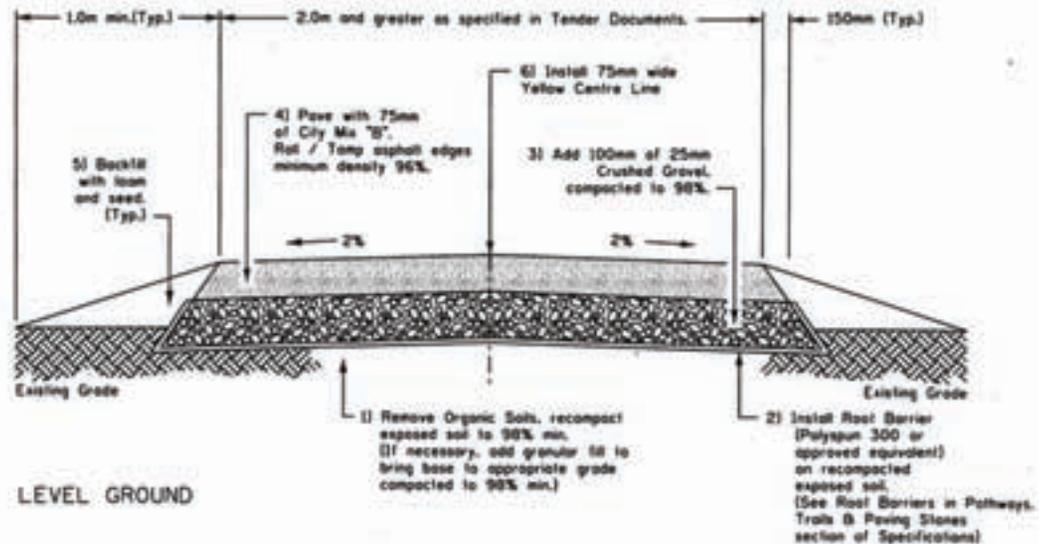
- improve users' health through exercise;
- reduce pollution.

# Typical Pathway Details



- Natural trail 1.2 m
- Horse trail 3.0 m
- Regional path 2.5 m
- Connector path 1.8 m





**NOTES:**

Asphalt type "B" mix. Refer to the current edition City of Calgary Standard Specifications, Roads Construction.

All dimensions are in metres unless otherwise noted.



# Trails and Pathways

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## Existing:

- 15 km of paved pathways

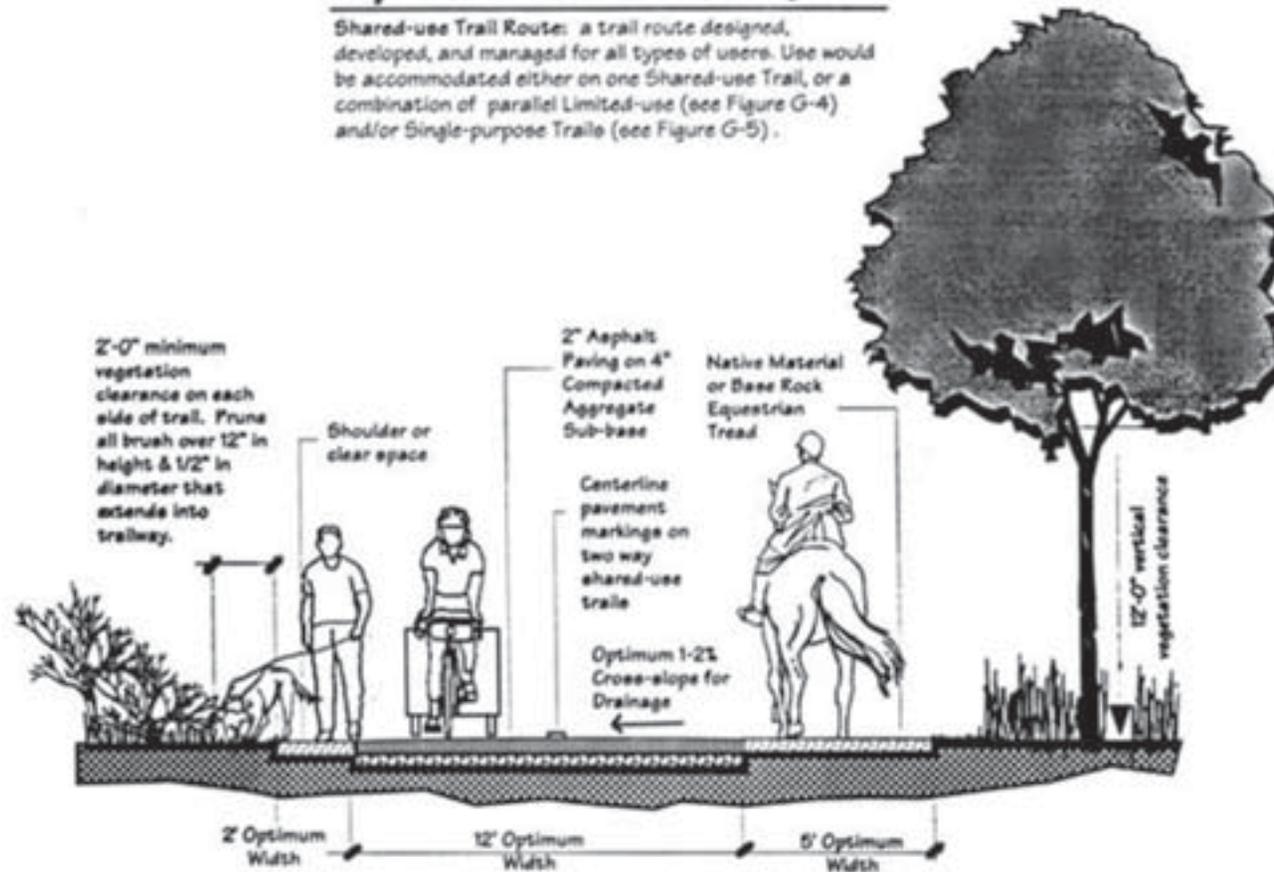
## Planned:

- 5 km of Regional (2.5m paved)
- 5 km of Connector (1.8m paved/natural)
- 3 km of Natural (1.2m natural)
- 5 km of Horse Trail (3.0m horse trail)

# Horse Trail Specifications

## Paved Tread - Double Track Trail Equestrians, Hikers & Bicycles

Shared-use Trail Route: a trail route designed, developed, and managed for all types of users. Use would be accommodated either on one Shared-use Trail, or a combination of parallel Limited-use (see Figure G-4) and/or Single-purpose Trails (see Figure G-5).

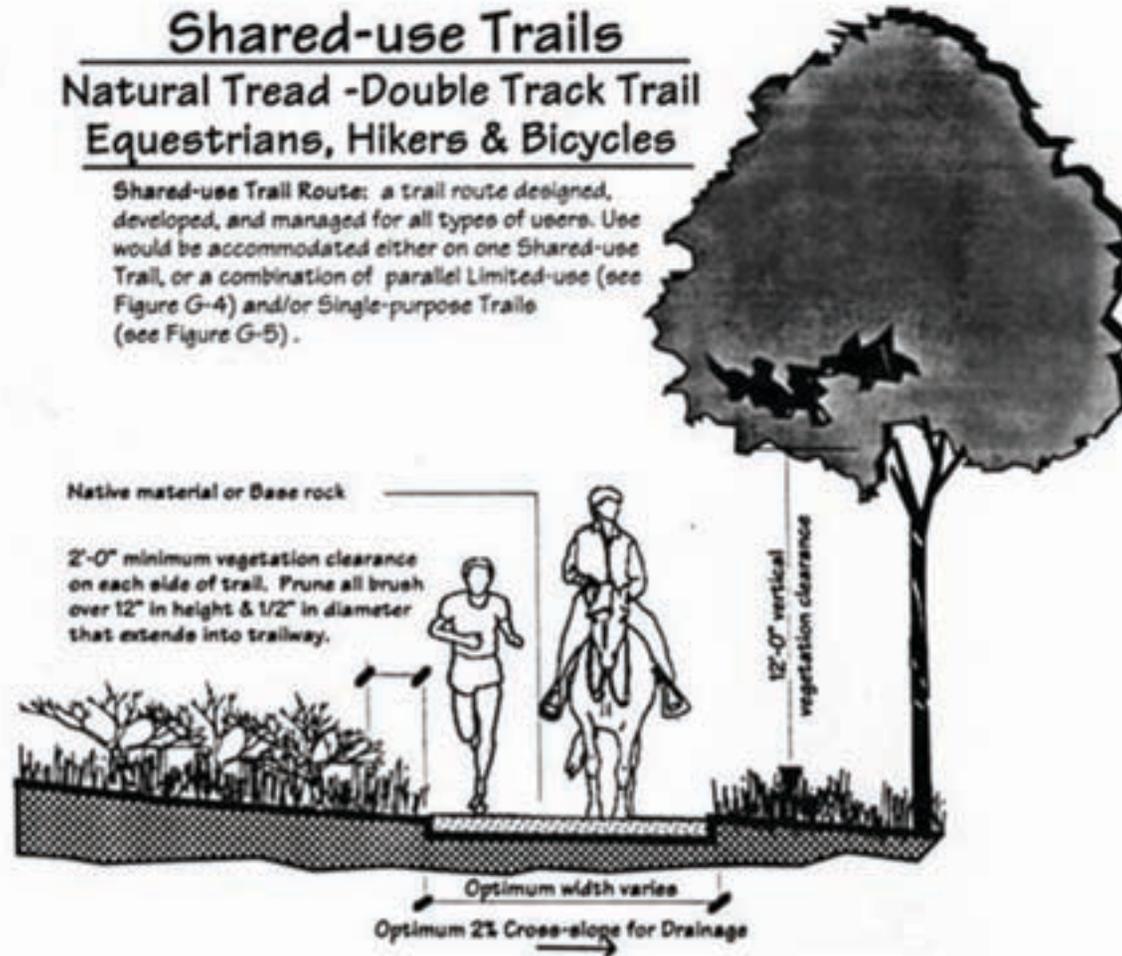


# Shared-use Trails

## Natural Tread -Double Track Trail

### Equestrians, Hikers & Bicycles

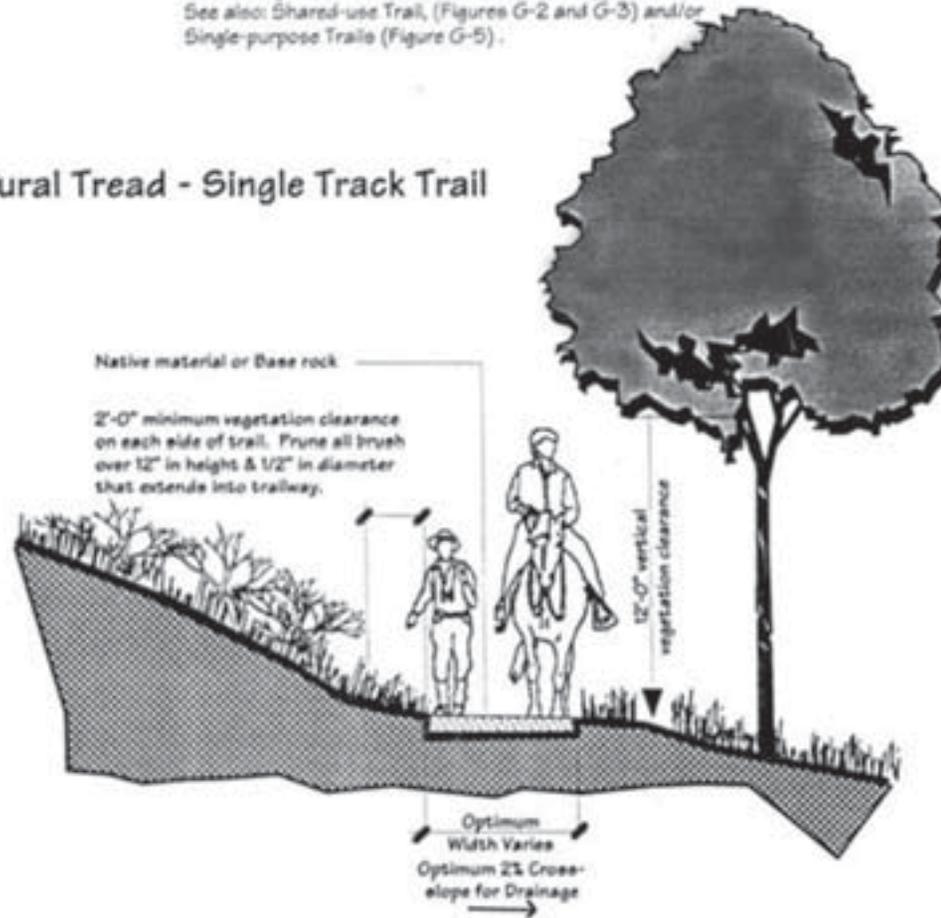
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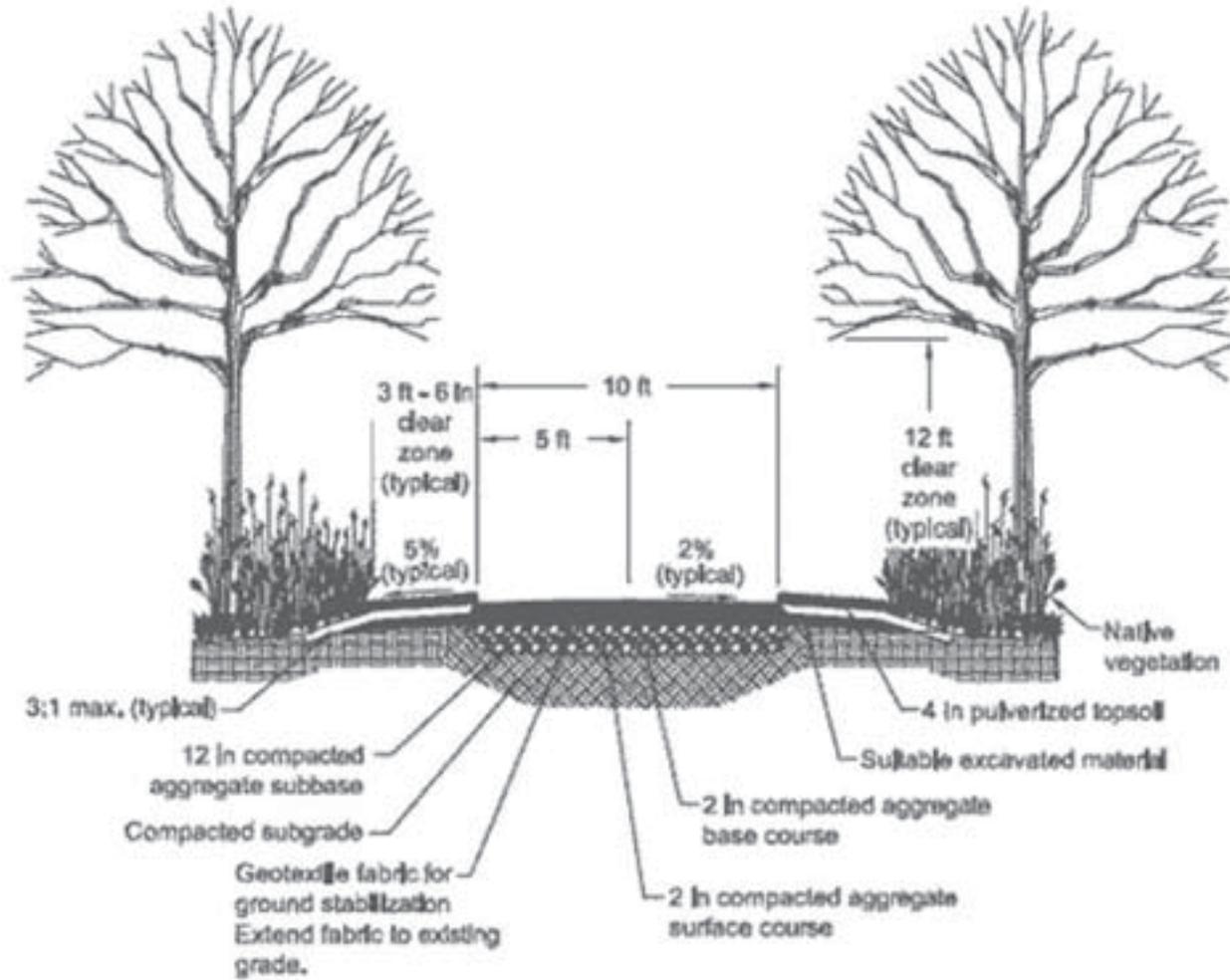


## Limited-use Trails

**Limited-use Trail Route:** a trail route designed, developed, and managed for more than one, but not all types of users. See also: Shared-use Trail, (Figures G-2 and G-3) and/or Single-purpose Trails (Figure G-5).

### Natural Tread - Single Track Trail





# Capital and Operating Costs

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## Capital - 2020

Regional	12500m <sup>2</sup>	@	\$55/m <sup>2</sup>	\$687,500
Connector	9000m <sup>2</sup>	@	\$52.50/m <sup>2</sup>	\$472,500
Natural	3600m <sup>2</sup>	@	\$70/m <sup>2</sup>	\$252,000
Horse	15000m	@	\$25/m	\$375,000
<b>Total</b>				<b>\$1,787,000</b>

## Operating

Summer only for garbage removal and maintenance

500 km @ \$350/km per year

# Capital Cost Summary – 5 Year Plan (2014)

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• Heritage Pointe Park	\$	680,625
• Heritage Heights Park	\$	2,987,500
• Davisburg Hall Park	\$	293,750
• Trails & Pathways	\$	<u>500,000</u>
Total	\$	4,461,875



# Implementation

	Total	Total*	2010	2011	2012	2013	2014
<b>Heritage Pointe</b>							
grading & seed	\$ 50,000	\$ 62,500	\$ 62,500				
walking path	\$ 94,500	\$ 118,125	\$ 118,125				
parking & road access	\$ 100,000	\$ 125,000					\$ 125,000
landscaping	\$ 100,000	\$ 125,000		\$ 125,000			
soccer field	\$ 25,000	\$ 31,250				\$ 31,250	
ball diamond	\$ 50,000	\$ 62,500				\$ 62,500	
playground	\$ 50,000	\$ 62,500				\$ 62,500	
day use area	\$ 25,000	\$ 31,250			\$ 31,250		
benches & garbage receptacles	\$ 15,000	\$ 18,750			\$ 18,750		
wood chip trail	\$ 35,000	\$ 43,750			\$ 43,750		
	\$ 544,500	\$ 680,625	\$ 180,625	\$ 125,000	\$ 93,750	\$ 156,250	\$ 125,000

<b>Funding Sources</b>							
<b>MD</b>		\$ 231,412.50	\$ 61,412.50	\$ 42,500.00	\$ 31,875.00	\$ 53,125.00	\$ 42,500.00
<b>Grants</b>		\$ 224,606.25	\$ 59,606.25	\$ 41,250.00	\$ 30,937.50	\$ 51,562.50	\$ 41,250.00
<b>Fundraising/In-kind Donations</b>		\$ 224,606.25	\$ 59,606.25	\$ 41,250.00	\$ 30,937.50	\$ 51,562.50	\$ 41,250.00

\* Includes contingency and consulting fees

# Implementation

	Total	Total*	2010	2011	2012	2013	2014
<b>Heritage Heights</b>							
design program & servicing	\$ 50,000	\$ 62,500	\$ 62,500				
grading	\$ 50,000	\$ 62,500	\$ 62,500				
landscaping	\$ 150,000	\$ 187,500		\$ 187,500			
soccer field	\$ 50,000	\$ 62,500			\$ 62,500		
ball diamonds	\$ 50,000	\$ 62,500			\$ 62,500		
day use area	\$ 25,000	\$ 31,250				\$ 31,250	
bendhes & garbage receptacles	\$ 15,000	\$ 18,750					\$ 18,750
indoor arena	\$ 2,000,000	\$ 2,500,000	\$ 2,500,000				
	\$ 2,390,000	\$ 2,987,500	\$ 2,625,000	\$ 187,500	\$ 125,000	\$ 31,250	\$ 18,750

<b>Funding Sources</b>							
<b>MD</b>		\$ 1,015,750.00	\$ 892,500.00	\$ 63,750.00	\$ 42,500.00	\$ 10,625.00	\$ 6,375.00
<b>Grants</b>		\$ 985,875.00	\$ 866,250.00	\$ 61,875.00	\$ 41,250.00	\$ 10,312.50	\$ 6,187.50
<b>Fundraising/In-kind Donations</b>		\$ 985,875.00	\$ 866,250.00	\$ 61,875.00	\$ 41,250.00	\$ 10,312.50	\$ 6,187.50

\* Includes contingency and consulting fees

# Implementation

	Total	Total*	2010	2011	2012	2013	2014
<b>Davisburg</b>							
grading & seeding	\$ 25,000	\$ 31,250	\$ 31,250				
ball diamond	\$ 50,000	\$ 62,500				\$ 62,500	
soccer field	\$ 25,000	\$ 31,250			\$ 31,250		
fencing	\$ 50,000	\$ 62,500	\$ 62,500				
road & parking	\$ 50,000	\$ 62,500	\$ 62,500				
playground	\$ 35,000	\$ 43,750		\$ 43,750			
	\$ 235,000	\$ 293,750	\$ 156,250	\$ 43,750	\$ 31,250	\$ 62,500	\$ -

Funding Sources							
<b>MD</b>		\$ 99,875.00	\$ 51,125.00	\$ 14,875.00	\$ 10,625.00	\$ 21,250.00	\$ -
<b>Grants</b>		\$ 96,937.50	\$ 51,562.50	\$ 14,437.50	\$ 10,312.50	\$ 20,625.00	\$ -
<b>Fundraising/in-kind Donations</b>		\$ 96,937.50	\$ 51,562.50	\$ 14,437.50	\$ 10,312.50	\$ 20,625.00	\$ -

\* Includes contingency and consulting fees

# Implementation

	Total	Total	2010	2011	2012	2013	2014
Trails & Pathways	planning with future implementation						

## Implementation Summary

	Total	Total*	2010	2011	2012	2013	2014
Heritage Pointe	\$ 544,500	\$ 680,625	\$ 180,625	\$ 125,000	\$ 93,750	\$ 156,250	\$ 125,000
Heritage Heights	\$ 2,390,000	\$ 2,987,500	\$ 2,625,000	\$ 187,500	\$ 125,000	\$ 31,250	\$ 18,750
Davidburg	\$ 235,000	\$ 293,750	\$ 156,250	\$ 43,750	\$ 31,250	\$ 62,500	\$ -
Trails & Pathways	Planning with future implementation						
<b>Total</b>	<b>\$ 3,169,500</b>	<b>\$ 3,961,875</b>	<b>\$ 2,961,875</b>	<b>\$ 356,250</b>	<b>\$ 250,000</b>	<b>\$ 250,000</b>	<b>\$ 143,750</b>

\* Includes contingency and consulting fees

# Appendix One: 2008 Division 6 Survey Results

## Dunbow Recreation Board Questionnaire-Summary

1 is Least Important → 5 is Most Important.

311 Completed Surveys	Rating	Davisburg	Heritage Pointe Development	The Shannon's/Norris Coulee/Heritage School
Baseball Field	1	64	101	46
	2	17	34	16
	3	29	37	25
	4	10	22	28
	5	24	19	38
	Total Resp		144	213
Walking Trail	1	47	32	32
	2	11	10	15
	3	17	21	23
	4	13	28	16
	5	57	132	60
	Total Resp		145	223
Bike Trail	1	40	27	31
	2	13	16	15
	3	20	26	20
	4	14	30	19
	5	60	123	61
	Total Resp		147	222
Indoor Tennis Courts	1	102	130	89
	2	11	21	14
	3	12	23	19
	4	2	15	7
	5	3	27	17
	Total Resp		130	216
Outdoor Tennis Courts	1	64	77	52
	2	24	37	25
	3	22	39	33
	4	14	24	15
	5	14	37	24
	Total Resp		138	214
Outdoor Ice Rink	1	38	62	26
	2	15	27	17
	3	32	33	23
	4	10	29	23
	5	42	46	50
	Total Resp		137	197
Soccer Field	1	52	60	36
	2	11	21	13
	3	29	49	18
	4	21	24	26
	5	21	40	53
	Total Resp		134	194
Community Hall	1	57	99	65
	2	9	26	19
	3	21	36	18
	4	9	13	12
	5	37	19	25
	Total Resp		133	193

311 Completed Surveys	Rating	Davisburg	Heritage Pointe Development	The Shannon's/Norris Coulee/Heritage School
Playground	1	57	69	47
	2	9	16	10
	3	26	40	17
	4	12	24	17
	5	31	46	47
	Total Resp		135	195
Leisure Centre	1	60	45	40
	2	9	10	9
	3	16	27	22
	4	11	27	17
	5	37	93	52
	Total Resp		133	202

## Dunbow Recreation Board Survey Comments

e01

If an outdoor ice rink is important to residents, perhaps we should explore access during the winter months to the Lake ice and ask non LAHP residents to contribute a small fee to assist with ice maintenance. Let's not duplicate what we already have!

e06

Hawkeidge is a 3-c ski club just South of 22X on 69th St. I am including this info as they may have some information on what is required to make nordic trails last in the winter months

e09

Good for all ages

e10

Gym and Fitness Club at a reasonable price will likely get the most use in addition to walking and biking trails in any of the locations.

e16

Over the years I have seen many tennis courts both private or public and most of these have fallen into disrepair and are no longer used. Don't waste taxpayers money on tennis courts

e22

A bike trail/walking trail in the Davisburg community would be an asset and would help with a safety concern as there are a lot of cyclists on the 562 highway, this would help eliminate that safety concern plus provide an avenue for biking, jogging, walking, pet walking while living in the country without having to be on the highways!

e27

Location is key.

e28

If facilities for walking/running/biking trails are put in place in the Shannon/Harris Coulee I would expect that everyone would be content with the idea that they would be used by the students of Heritage Heights during the school day, without complaint!

e31

We already have a Riding Path along Dunbow Rd. that has not maintained, I'm not sure what the MD will do with additional area's to maintain. It would be nice to have walking paths along the main roads for safer places for people to walk to the mail boxes, jog or walk their dogs (and clean up after them).

m101

Bike trail connecting to Calgary would be great !! Or Okotoks

m102

I would like to see a multipurpose facility developed on the same grounds as Heritage Heights school. Some of the infrastructure is already there and the school is a central point in our community. My concern about development at Heritage Pt Heritage lake is that facilities there are not and will not be open to the broader community

m108

With the present downturn in the economy - people losing jobs and homes, savings, the rising cost of food, utilities, health care, taxes, etc - just being able to survive is a top priority for everyone. To even think about a possible tax increase to pay for frivolous things such as recreation facilities right now is LUDICROUS!

m109

Heritage school should have playground/soccer/baseball fields already there - so community could help maintain, mark etc

m11

Wednesday, March 18, 2009

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I have commented only on my neighbourhood as I feel the Davisburg & Shannon/Harris Coulee residents are more informed on their immediate neighbourhood requirements.

m117

MD taxes are already ridiculously high. I would hope any of these facilities will be financed privately and not impact taxes.

m119

I feel that, it is a comprehensive list of undertaking and some degree of prioritization is required to tackle the projects to be financed/undertaken to achieve any results.

m120

I think it is wonderful you are working towards recreational facilities in our area. Thank you

m127

Build our central recreation centre if it is necessary. We are to close to Calgary and Okotoks. The children are used once they finish school at the country school on 562 to Okotoks.

m13

I don't want to see any of these facilities if it means a tax hike to our already overburdened rates we already pay in Heritage Point.

m131

Don't raise my taxes

m132

We live at Heritage Pointe, so only commented for that area. Thank you!

m134

I live in behind this area and my biggest concern is noise. A walking or bike trail would be the best with that in mind.

m135

There is no preference as to actual location of the above facilities as long as there is room, equal opportunity around Division 6 for access and available parking these facilities may provide more cohesiveness between the above communities! I would be interested in providing help to the committee

m136

Heritage Point is in desperate need of walking and biking trails, this would be great for all the young families in our neighborhood. We have a lake already for skating. No safe place for kids to ride bikes and run free.

m137

Glad to see this action moving forward. Thank you.

m14

We chose country living and have a strong opinion not to develop city amenities (recreational). Use this city & town facilities - 10 min each way to Calgary or Okotoks. Need to have more fireman & Police Men.

m142

A network of pathways (for walking/riding/biking) would enable people to enjoy the countryside safely and maintain a healthy lifestyle. I would be willing to contribute 20 feet along my property to facilitate this type of initiative. I'm sure others would be willing to do the same.

m145

\*Please no more encroachment on our wildlife habitat. The open space natural environment and beautiful wildlife and birds are the reason we moved here. Preserve and protect them for the sake of the and people leave this area for its nature and open space. Thanks for the opportunity to input

m146

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There must be something wrong when these areas as noted require competing or identified facilities. Even larger are not able to sustain facilities listed on the document.

m.148

**STOP PAMPERING THESE PEOPLE.** We live in the country and should make use of the road for walks and bike trails. There is no need to make the country into city living facilities. Stop wasting tax payers money for these things and let the Fat A\*\* and lazy people get of their butts and explore their neighborhoods. I have walked, run and cycled all the way to 2A, 552 to the overpass, to south calgary airport and around my neighbourhood of 72 st. Maybe there should be an awareness promotion to get people out of their homes and walk around their blocks? What a waste of your time this is and our tax payers money.

m.152

I strongly feel that Heritage Points needs ice clearing equipment to maximize use of the lake. It would be used more if it were maintained well.

m.156

We would like to see a collector bus, leaving and arriving at the Kimmier parking lot to take residents to the Somerset LRT station a few times a day (maybe 7 & 8 am and 5 & 6 pm)

m.167

Soccer fields and ball fields located near Heritage school would be well used.

m.169

Although facilities like leisure centres and indoor tennis are appealing, I am sure that they are too expensive. I do not want to pay significantly more taxes. Taxes are very high now, considering how little is available.

m.17

Living on 80th St. & 201 Avenue east. I don't know what area we exactly belong to.

m.174

Bike path, or walking path - Dunbow area and outdoor hockey rink Davisberg is "badly needed"

m.193

If there is to be a leisure centre why not have it for indoor soccer, LeCrosse and hockey and have it near the Heritage school.

m.194

It's busy enough in Harris Coulee as it is. We have the school let the other 2 communities have the above.

m.203

If you put in a leisure centre, make it expandable eg swimming, bowling (Glendora type facility)

m.209

Great work!

m.217

Thank you for asking.

m.22

Should think of a swimming pool & gym facility that this area is growing it's a must.

m.223

Why would you invest so much money in an area that will be annexed by the city of calgary. It seems a fruitless effort.

m.226

Put recreational at the Shannon's/NC 1 Heritage school. Calgary will be annexing Heritage Point keep facilities in our Division. Keep by school to encourage young people to get active. This is acreage benefit to Division 65a keep it here as Calgary is moving south.

m.23

All facilities must be accessible to MD residents and not exclusively for Heritage Points. Thank you.

m.233

I am not familiar with Davisburg or Harris Coulee so I could not comment. Thank you.

m.234

With the price of our taxes garbage collection should be done by the M.D. not private (at Heritage point)

m.236

Love playing softball and outdoor hockey. Nature walks, and bike trails.

m.237

Not sure where this would be located (leisure centre) but it would be nice to have it accessible from the area around Heritage Lake.

m.238

We live on DelWinton riding club road.

m.239

Having these facilities such as bik path, tennis courts walking trail close by would be wonderful!

m.24

Love to have interconnecting bike/horse/walking/hunting paths that go for miles.

m.241

I am very pleased to see that these facilities being considered. Would be interested in the progress.

m.246

Would love to see more horse riding trails in community. We live on 48th Street and see many people riding in area and see which is becoming more dangerous as area is developed.

m.247

Have community hall, and sufficient playgrounds which are usually unused. Bike, jogging and walking paths would have the best benefits for majority of residences. Thank you for the survey.

m.248

If you want to discuss in detail please contact me.

m.249

Tennis courts - surface needs repaired would recommend separate basketball and tennis courts area so nets can stay up all summer.

m.250

We feel it is the developer's responsibility to put many of these things (e.g. playground) in newly developed areas/communities. Most facilities are close enough to access in Calgary or Okotoks for employment so use rec facilities there.

m.251

I would like to see bike trails connecting Harris Coulee to Deer Creek development. To Harmony Ridge with all the development in the last few years it's very dangerous walking on the roads and guess what we have no such things as side walks.

m.256

The leisure centre should have squash courts. It should also be a gathering place for youth (games rooms etc.) and adults (restaurant and pub).

m.26

We would like to see a connecting trail walk/bike from Heritage school to Dunbow Road. i.e. 32nd street.

m267

It would be great to have walking/biking trails through Lake at Heritage Point then a trail to connect Heritage Point community as well. Thanks for asking.

m263

Absolutely no off leash dog area at the Heritage Point Development.

m263

I would love to see a leisure center in Harris Coulee and would use it quite frequently.

m270

No new facilities. No new taxes! You should look at ways to reduce taxes Larry, not increase them.

m278

By far a walking/bike trail along 274/552 is the most important to us as we walk along the highway until we get to a secondary street. I think a indoor/outdoor soccer facility would benefit all communities. Please start your development before the potential limitations are in place via calgary metropolitan plan. Is your committee of value with the CMP. Agenda likely to be pushed forward as a priority?

m279

Thank you for doing this.

m28

We appreciate the opportunity to provide input! Denotes important activities utilized in our household.

m282

I would like to see the residents of Heritage Pointe have discounted golf rates (i.e. 50% of the Heritage Pointe golf course since I am sure we have contributed towards its construction.

m30

I really feel that Heritage Heights School could benefit with all of these facilities. Why can we not get funding from the Catholic board to help as by the time they build all these services come in they will be off the hook to pay for it but will use it

m33

Connecting walking and biking paved paths are most useable by all. In all locations Davisburghome

m34

Indoor running track, rollerblading indoors. Swimming pool.

m37

Thank you for providing us opportunity for feedback

m39

Great initiative and is very needed in the south. Could you need any more help, please advise.

m40

My husband and myself are looking forward to see this happen ASAP. Thank you.

m43

Great idea!!

m44

With the way the economy is, it would be nice to see some of the least expensive facilities be put in place. Things like leisure centres and community trails and indoor ice rinks and indoor tennis courts would be too costly at this time. We should put the taxes to better use

m53

It is great to see these questions being asked.

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m59

I would not like to see these in Heritage Point as I feel only residents of Heritage Point would use it and the rest of us would feel left out. The area around Davisburg Com. Hall is very low and subject to a bit of water in ditches and the ground is wet. The area close to the school I think would get the most use as there is parking and the school children would also have access to the facilities.

m60

Could you contact me if you start a Community Center Leisure Centre Thanks so much.

m63

Thank you for forming the Dunbow Recreation Board. I think it is a valuable board to have in our community!

m72

Most team sports should be in conjunction with the school (Heritage)

m74

It would be wonderful to see any of these facilities.

m77

If space is a problem then have the hockey rinks over top the soccer and baseball fields. Year round tennis would be nice, but if too expensive to build and maintain then couple of outdoor tennis is good perhaps there too act as a base for ice rinks

m79

Dry cleaners and post office

m8

Larry! A large part of your work is to ensure taxes are lowered during these economic times. Please cancel spending. Thanks

m83

Really need a biking/running path, golf course, and up to Calgary's Fish Creek Park pathways. Nowhere but the road to bike and run and walk with our family.

m89

Having facilities is great but we also need the people to lead the programs (i.e. soccer coaches). I think anything that keeps families active and healthy and doesn't make us travel into Oakdoks or Calgary is important.

m92

Would love to see INDOOR tennis courts. Indoor so we could play YEARROUND. Thanks

m93

Anything that gets developed in the Heritage Pointe Development outside the community centre should be developed in such a way that it does not become an unsupervised area that the deviants take over because they can congregate there without supervision or be seen by nearby residents. Also bathroom facilities need to be part of any development there.

m97

Indoor gymnasium - Volleyball basketball. Etc. during winter months. (Heritage Pointe common)

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## Dunbow Recreation Board Facility Notes

e01

If a leisure centre is considered viable, it would be important to include an indoor swimming pool. Not sure that racquetball/squash would be as widely used/family oriented as a pool/gym/fitness centre. ROI for all users is essential.

e04

Any hiking trails should also be equestrian trails. One leisure centre to serve the district would be adequate.

e05

Outdoor rink, baseball and soccer at De Winton community Hall.

e06

If possible, consider tying in an x-c ski trail with either the bike or walking paths for the winter months.

e07

More of a family park area with trees and benches for residents just to sit and watch or take a breather from walking. Residents just want the area cleaned up, even if it just had grass and that was maintained would be nice! Linda Michl Board member Lake at Heritage Pointe.

e09

Curling rink.

e16

There are already two community centres in the area that are not fully used, no need for one more.

e18

This has been covered well.

e24

An outdoor skating rink would be my first priority.

e27

Outdoor rinks only work if they have multiple uses for all seasons and an ice plant (similar to Black Diamond). Walking and cycling trail should be paved and should link up to old gravel pathway east of Deerfoot to the Village Center at the Lake at Heritage Pointe. Adequate time and resources need to be directed to this very important community task.

e28

Running Track - Heritage Heights School \* I would be happy with any facilities that would be developed at any location as long as these facilities were seen as for the larger community & it was accepted that all would utilize them, and not for it to become a specific area facility. I feel that developments at the school would get the most use. </p></div>

e30

BMX track at any of the locations.

m102

The Heritage Heights grounds and surrounding Harris Coulee would be great to be developed as a natural area with the opportunities.

m11

Off-leash dog park, Baseball/Softball Diamond.

m112

Room & possible grooming of cross-country ski trails and Harris Coulee.

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m114

Bruce Myers  
Dunbow Road

m119

A common library/interpretive centre, where places of interest, habitat conservation type of information can be made available.

m123

A swimming facility at the leisure centre.

m135

There is a trampoline and tumbling club in Okotoks that is looking for a larger location. Having a rec centre with this activity would be great.

m137

Picnic area.

m142

Bride path/hiking trails/walking trails away from highways or major roads (such as Dunbow).

m145

NONE.

m148

NOTHING - WE LIVE IN THE COUNTRY DAMN IT !

m149

Indoor ice rink - central between 2 areas.

m156

Off-leash area.

m161

Designated off-leash dog park - Heritage Pointe yoga studio.

m165

Indoor pad.

m167

In leisure centre-squash court and indoor walking track near Heritage development, any chance of a library?

m174

Park down by Hiwood river - 552 bridge area.

m18

Riding trail - horseback.

m185

Swimming pool indoor Heritage Pointe or the Shermans.

m186

Swimming pool for the DeWinton, residents and for students at Heritage Height school.

m198

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Replace/locate playground between meadows and ridge at Heritage Pointe onto new property on SW corner of Heritage Ranch development.

m.199

Horseback riding trails. Outdoor swimming pool.

m.20

Indoor Pool in Norms Coulee

m.209

Basketball courts that don't second a tennis court.

m.211

Outdoor and indoor tennis anywhere.

m.214

A place to have picnics and picnic tables.

m.219

Outdoor swimming pool/water park

m.22

Definitely a horse ride trail this area is still rural country.

m.220

\*trusty thukickboosing. Swimming, indoor skating

m.226

Curling rink, indoor hockey arena.

m.227

Swimming pool in leisure centre.

m.228

Swimming pool

m.23

Please consider multi use of pathways and include horseback riding trails.

m.236

Palomero's feds along bird sanctuary or similar nature walk along river would be nice if land available.

m.241

Not sure.

Alison Jenner 403-278-3368

m.243

A swimming pool and a waterlid. Inside leisure centre would be nice at the Heritage Point development. If space be allowed, it would be nice to see a leisure centre built, and next to it will be one or two soccer fields. These fields can be used for!

m.245

Indoor swimming pool

m.247

Connector bike path to City of Calgary.

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m.248

Indoor riding (horse) facility. Open to pony clubs, gym groups, 4-H and general interest groups.

m.250

Makes sense to centre activities/facilities near the school.

m.260

Bike path connecting to City Bike paths.

m.265

Swimming pool/hot tub/sauna.

m.268

I would like to see a bike path through our Division # that links up with City of Calgary.

m.270

None.

m.271

Some kind of pathway from the lake side to the golf side. (to walk over)

m.272

Off leash dog walking area at Heritage Pointe. Best location would be along Pine Creek Road on the east side of road next to the burn & Heritage Pointe but it must be fenced to prevent accidents.

m.273

Indoor BMX facility for Okotoks BMX club (all 4 members of our family race)

m.274

Horse riding trails Norms Coulee. As it is kind of set up.

m.277

An off-leash dog park. To live in the Country yet have to drive into the City to access an off-leash dog park is ridiculous!. Thank you

m.28

Indoor walking/hunting track (in leisure centre).

m.280

Swimming pool - at any of above locations. Lap pool preferably.

m.30

Davidburg/Norms Coulee riding arena indoor and outdoor.

m.31

Outdoor basketball courts. All locations.

m.34

Another indoor ice rink, Okotoks is always full. Another rec centre like Okotoks with swimming pool.

m.38

Walking trails and bike trails extended to Bow River and connect with City of Calgary trails.

m.39

Other ideas: 25m indoor pool  
400 m outdoor track

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m52

Off leash dog park at Heritage Point

m54

We like being in the "Country". The city is for city folks!

m58

Horseback riding trails

m6

A leisure centre w/ pool/gym facilities would be fantastic! Of course, I believe this should be located near Heritage Point.

m60

I have a fencing club that would like to have a facility to fence in right now we are in Okotoks with the school gyms.  
My name is Beverly Besuire Okotoks Gladiator Fenc!

m64

Swimming pool/leisure centre.

m69

Indoor hockey/soccer facility somewhere in the M.D. of Foothills located anywhere with easy access off HWY 2.

m74

Bridal path/hiking trail would be fantastic.

m76

Indoor ice rink

m77

Hockey and separate free skate rinks. Outdoor volleyball or sand court.

m78

Indoor horse back riding arena - DeWinton II

m79

"FIRE DEPARTMENT" More restaurants and a travel agency  
"FIRE DEPARTMENT"

m81

Teresa Morton 403-294-8204. If you have any question, please call

m82

Swimming pool - Heritage Point

m83

Picnic area

m9

Swimming Pool - Indoor - Heritage Point  
Bowling Alley - Indoor - Heritage Point

m94

Multi use pathway along both sides of HWY 552 as the roadway is very narrow. From HWY 2 to at least 274 Avenue/ (turn off to Nature's Hideaway turn)

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m93

Running track at Heritage school

m96

Indoor hockey arena in the Shannons/Karris coulee

m97

Volleyball courts (Heritage Point); Lake-common. A bike/walking trail between the lake at Heritage Point and Heritage Point (golf course community).

m99

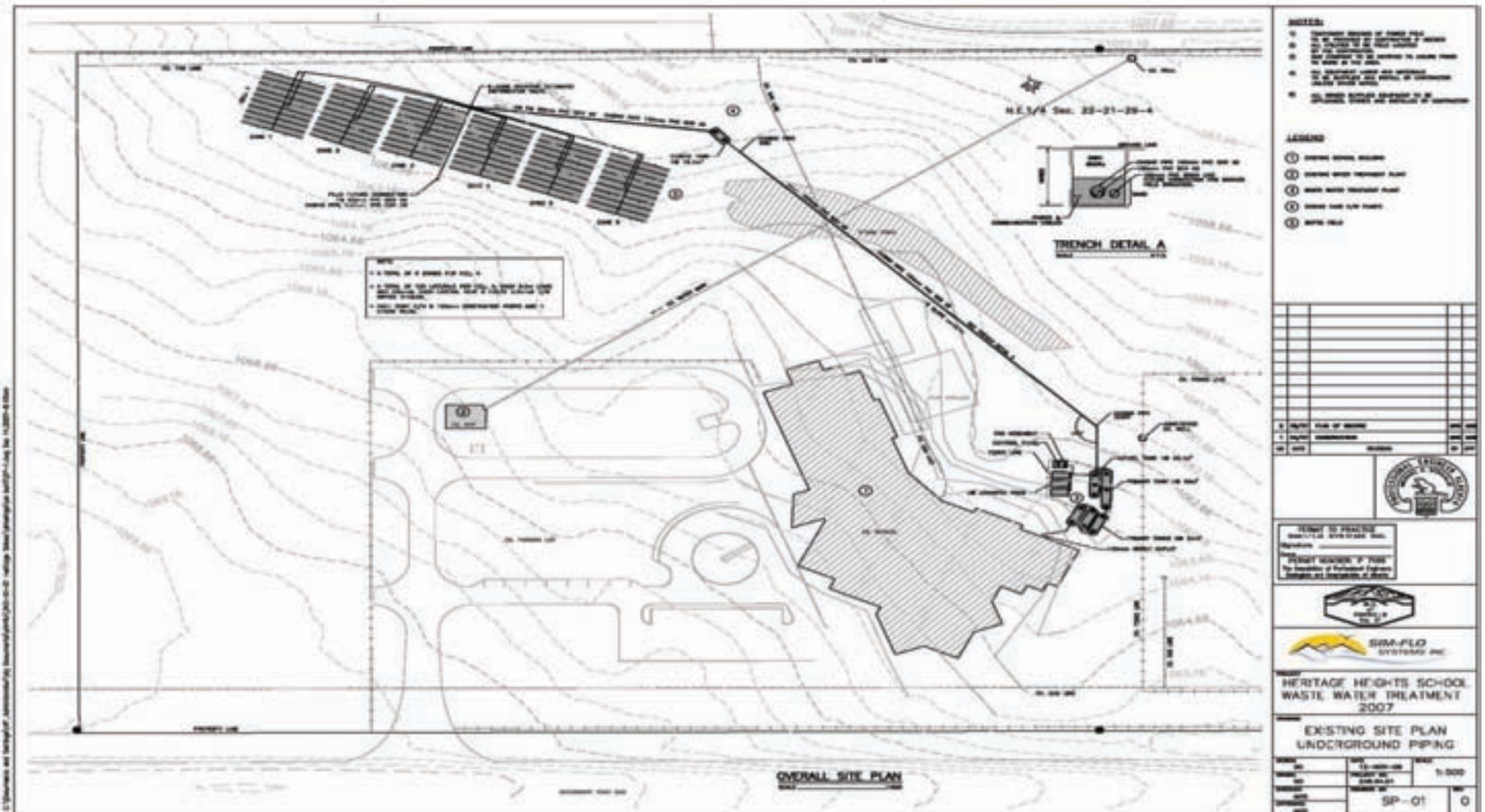
Outdoor rink with zamboni to clear ice. Fire pit too.

Wednesday, March 18, 2009

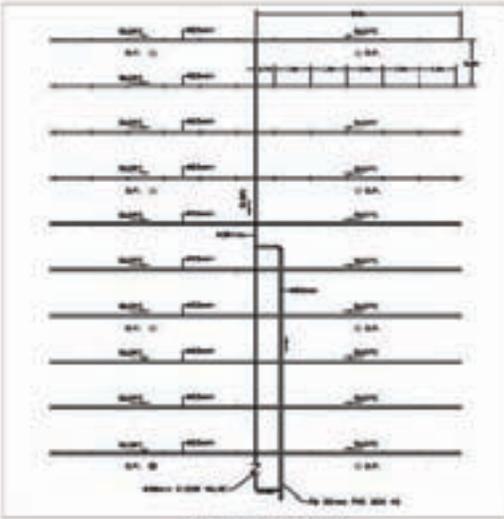
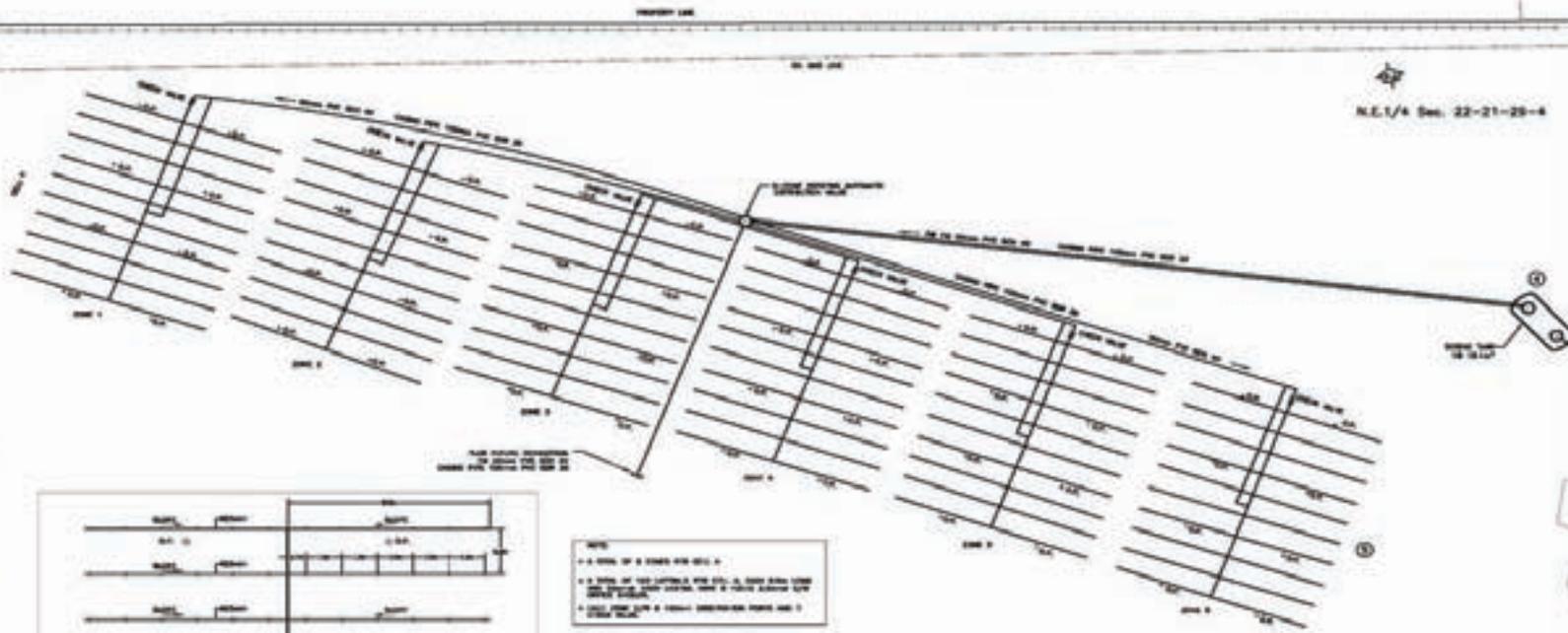
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# Appendix Two: Heritage Heights Site Evaluation





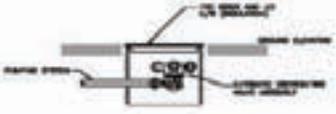


**NOTE**

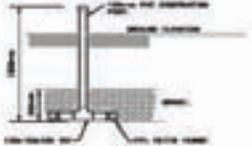
- A ROW OF 8 RISERS PER LOT.
- A ROW OF 100 RISERS PER LOT. A ROW OF 100 RISERS PER LOT.
- ALL RISERS ARE 4" DIA. OBSERVATION RISERS AND 4" DIA. RISERS.

SEE 1. CROSS THE OBSERVATION RISERS.

**SEPTIC FIELD SITE PLAN**  
SCALE: 1/8" = 1'-0"



**DISTRIBUTING VALVE DETAIL**  
SCALE: 1/2" = 1'-0"



**OBSERVATION PORT DETAIL**  
SCALE: 1/2" = 1'-0"

- ALL OBSERVATION RISERS AND RISERS SHALL BE INSTALLED AND OPERATED BY CONTRACTOR UNDER CLOSE SUPERVISION.
  - ALL RISERS SHALL BE INSTALLED TO BE OBSERVABLE, STABLE AND CAPABLE OF SUPPORTING.
- LEGEND**
- ① OBSERVATION RISER
  - ② OBSERVATION RISER TREATMENT PLANT
  - ③ RISER WITH TREATMENT PLANT
  - ④ RISER WITH LRV RISER
  - ⑤ RISER FIELD

NO.	DESCRIPTION	DATE	BY
1	DESIGN		
2	REVISION		

**PLANT BY PROJECT**  
SPECIALTY CONTRACTORS, INC.  
Signature: \_\_\_\_\_  
PROJECT NUMBER: "P" FILE  
No. Description of Project (Optional)  
SIGNED AND SEALED: J. B. B.



**HERITAGE HEIGHTS SCHOOL WASTE WATER TREATMENT 2007**

**EXISTING SITE PLAN UNDERGROUND PIPING**

DATE: 02-20-08	SCALE: 1/8" = 1'-0"	NO. 0
PROJECT NO. 02-0001-08	DATE: 02-20-08	
DRAWN BY: SP-03	CHECKED BY: 0	

C:\Documents and Settings\jpl\_administrator\My Documents\proj\m\h\02-0001-08\Heritage Heights School Waste Water Treatment\SP-03.dwg Date: 11/20/07 9:52 AM



## SHALLOW FOUNDATIONS

Design and construction of shallow foundations should comply with relevant Building Code requirements.

The term "shallow foundations" includes strip and spread footings, mat slab and raft foundations.

Minimum footing dimensions in plan should be 0.45 m and 0.9 m for strip and square footings, respectively.

No loose, disturbed or sloughed material should be allowed to remain in open foundation excavations. Hand cleaning should be undertaken to prepare an acceptable bearing surface. Re-compaction of disturbed or loosened bearing surface may be required.

Foundation excavation and bearing surfaces should be protected from rain, snow, freezing temperatures, drying and the ingress of free water, during and after footing construction.

Footing excavations should be carried down into the designated bearing stratum.

After the bearing surface is approved, a mud slab should be poured to protect the soil and provide a working surface for construction, should immediate foundation construction not be intended.

All constructed foundations should be placed on unfrozen soils, which should be at all times protected from frost penetration.

All foundation excavations and bearing surfaces should be observed by a qualified geotechnical engineer to confirm that the recommendations contained in this report have been followed and that soil conditions are consistent with those assumed in the design.

Where over-excavation has been carried out through a weak or unsuitable stratum to reach into a suitable bearing stratum or where a foundation pad is to be placed above stripped natural ground surface, such over-excavation may be backfilled to subgrade elevation utilizing either structural fill or lean-mix concrete. These materials are defined under the separate heading "Backfill Materials and Compaction."

*Elco Consulting Ltd.*

Box 139 Brant Alberta T0L 0L0  
Phone 403-684-3719  
Fax 403-684-3895

Proud To Be A Member



Alberta Onsite Wastewater  
Contractors Association

April 23, 2005

Job# 5009

M.D. Foothills # 31  
Box 5605  
High River, Alberta  
T1V 1M7

Attn: Tom Gilliss, P.Eng  
Municipal Engineer

Re: Heritage Heights School  
DeWinston, Alberta

Dear Sir:

Elco Consulting Ltd. conducted a site evaluation, as requested by Tom Gilliss, Municipal Engineer, M.D. Foothills ("MD"), at the above noted site. The scope of our work or the main objectives were as follows:

- (a) Review of wastewater site plans and design as provided by the MD
- (b) Review of pertinent data received from M.D. engineering department,
- (c) Preliminary system design sizing, and
- (d) Soil structure and texture classification by test pits and soil evaluation.

The proposed Heritage Heights School site is located on the north side of Highway 552, approximately 1.5 km. east of the Highway 2 overpass south of Calgary. The site is located within the SE1/4 of Sec.27, Twp 21, Rge.29, W4M.

The project site, at present day is a farm field used primarily for growing cereal crops. On the day of site evaluation, property was in previous year's stubble.

### Overview of existing information received.

Information from M.D. Foothills indicates the school will house students from kindergarten to grade 9. The permanent school structure will have capacity for 350 students and a number of portable classrooms will be attached the main building by a corridor, with an additional population of 200 students. Therefore total students for design purposes will be 550.

A kitchen is designed into the structure, however, the MD has advised this facility will be quite small and will not be provided with high-end water using devices such as commercial dishwashers. It is further understood the school will use the kitchen infrequently for fund raising such as cooking hot dogs.



It has been assumed that the wastewater discharge from the school will be residential strength, as defined by the Alberta Private Sewage Systems Standard of Practice, 1999 ("standard")

**Estimated Design Flow**

From the above information, a Peak Daily Flow of 38,730 Litres per day (L/d) (8,520 gal./day), is calculated for the 550 students @ 70 litres/student/day + 230 L/d (50 gal./day) for the kitchen. These estimates are based on literature values as noted in Table 3.1.14.A in the standard.

**Wastewater Disposal Field Location**

The final site plan of the school has been approved and topsoil stripping has commenced in the construction area. Based on a previous report prepared by others (EBA, 2002) the north east corner of the property was chosen for the wastewater disposal field. This area is approximately 90m by 90m bordering the east and north property lines and has not been stripped.

**Soil Test Pit Evaluation Locations**

Test pits 1,2 and 3 were excavated within the above mentioned area. Test pits 4 and 5 were excavated approximately 30 m south of the proposed treatment field area and test pit 6 was excavated approximately 35m west of the proposed treatment field area. Test pit 7 was excavated adjacent to the newly constructed well for the domestic water system for the school. All test pits were completed using a rubber tire backhoe to a depth not less than 2.5 m from existing ground surface. Setbacks must be maintained between water sources such as wells and the disposal field wastewater infiltration zone. We also observed a residential water well from an adjacent property east of the school site. The generalized groundwater flow is assumed to be to the north east (i.e. following the topographic countours) toward this adjacent residential well. Larger setbacks should be used to mitigate effects of laminar groundwater flow from the school site toward the well. .

A minimum setback of 30 m from these two water wells will reduce the wastewater treatment area to 2/3 of the original proposed usable area.

**Soil Evaluation Test Pit Results**

Fieldwork was carried out in general accordance with the requirements of the standard and recently published training materials designated OWTS 2004 Modules 106 & 107. These materials address the requirements for site and soils evaluation. The soils evaluation test pit results are as follows:

**Surficial Soils (existing ground to 350 mm depth)**

- Texture – silt loam (based on laboratory analysis)
- Structure – grade 2 to 3 prismatic below surface disturbance (farm tillage)

**Infiltration Zone (600 to 900 mm below existing ground)**

- Texture – loam to clay loam
- Structure – grade 2 or 3 prismatic or blocky
- Root Penetration - observed

In general a Loam to Clay Loam texture was present in the infiltration zone 600-900mm (24-36 inches) from ground elevation, a grade 2-3 Prismatic or Blocky structure, with good root penetration was also observed.

**Vadose Zone (to 1420 mm below existing ground)**

- Texture – Loam or clay loam
- Structure – granular to grade 2 blocky
- Mottling – Faint to moderate
- Gleying – Slight to moderate

Below the infiltration zone, to a depth of 142 cm (56") was generally a Loam or Clay Loam texture, with a Granular to grade 2 Blocky structure, seasonally saturated soils, where indicated by a faint to moderate mottled soils. Slight to Moderate Gleyed conditions where present

From 142 cm to 243 cm (56"-96"), generally soil conditions were a loam texture, with a presence of fine sand seams 20-50mm thick running horizontally. Structure varied from Grade 1 Bocky-Platty to Platty Massive. Moderate Gleyed conditions where present.

**Discussion of test results**

The test pit results reveal, on average, a restrictive layer at approx 136 cm below existing ground elevation. According to standard, subsurface disposal systems shall maintain a vertical separation between the point of infiltration into the soil and the water table or an impervious layer of not less than 1500mm (5ft.) if effluent is supplied from a septic tank with no other treatment.

**Soil Treatment and sizing**

The soils within the infiltration zone has been determined to be a Loam or Clay Loam texture. For design purposes Clay Loam will be used, as it is the lower loading rate of the two textures.

At the peak daily wastewater flow of 38,730 l/day (8,520 gal./day) and using the standard recommended loading rate for Clay Loam of 10.78 L/sq.m. (0.22 gal./sq.ft.), a field area of 3593 sq. m. (38,727 sq.ft.) is required for a standard field system.

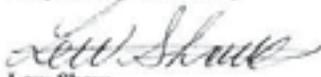


#### Options and Recommendations

1. The vertical separation from the infiltration zone to a restrictive layer is less than 1500 mm (5 ft.), and therefore a high quality effluent treated to secondary standards is required
2. Pre-treatment from septic tank or tanks should be installed up-stream of any secondary treatment plants to allow for primary treatment and flow equalization. Allowance for sludge and scum accumulation, for a minimum of one year should also be taken into account.
3. Due to elevation difference from school location to the treatment field the dose tank may be located closer to treatment field. In this manner, gravity flow from treatment plants to dose tank can be achieved. The dose tank should be sized for timed dosing.
4. Installation of the dose tank in the vicinity of treatment field results in less pumping head and energy and less discharge pressure variation throughout the field.
5. Pressure distribution should be used to apply effluent to the disposal field.
6. It is recommended that shallow bury chamber systems be installed for treatment field to maintain 900mm (3 ft.) vertical separation between infiltration zone and restrictive layer.
7. As secondary treatment and pressure distribution is recommended for this system, the standard allows for up to a 50% credit or reduction in surface area infiltration. However, it is recommended that a maximum of 20% reduction be used.
8. In order to obtain the required infiltration surface area, it may be necessary to design part of the treatment field system out side of the 90m X 90m perimeters.
9. The existing potable water well for the school is located downhill and in the assumed direction of groundwater flow. A further study of possible impact on the well by the disposal field should be undertaken. However to achieve all safety concerns abandonment of well may be the best recommendation.
10. Loading rates should be compared with Tyler Table loading rates for these soil textures and structures to ensure linear loading is not exceeded.

Elco Consulting Ltd. trusts the above report satisfies the current objectives you requested. Please do not hesitate to call for any questions concerning this report, or if Elco can be of any further assistance on this project.

Respectfully submitted,

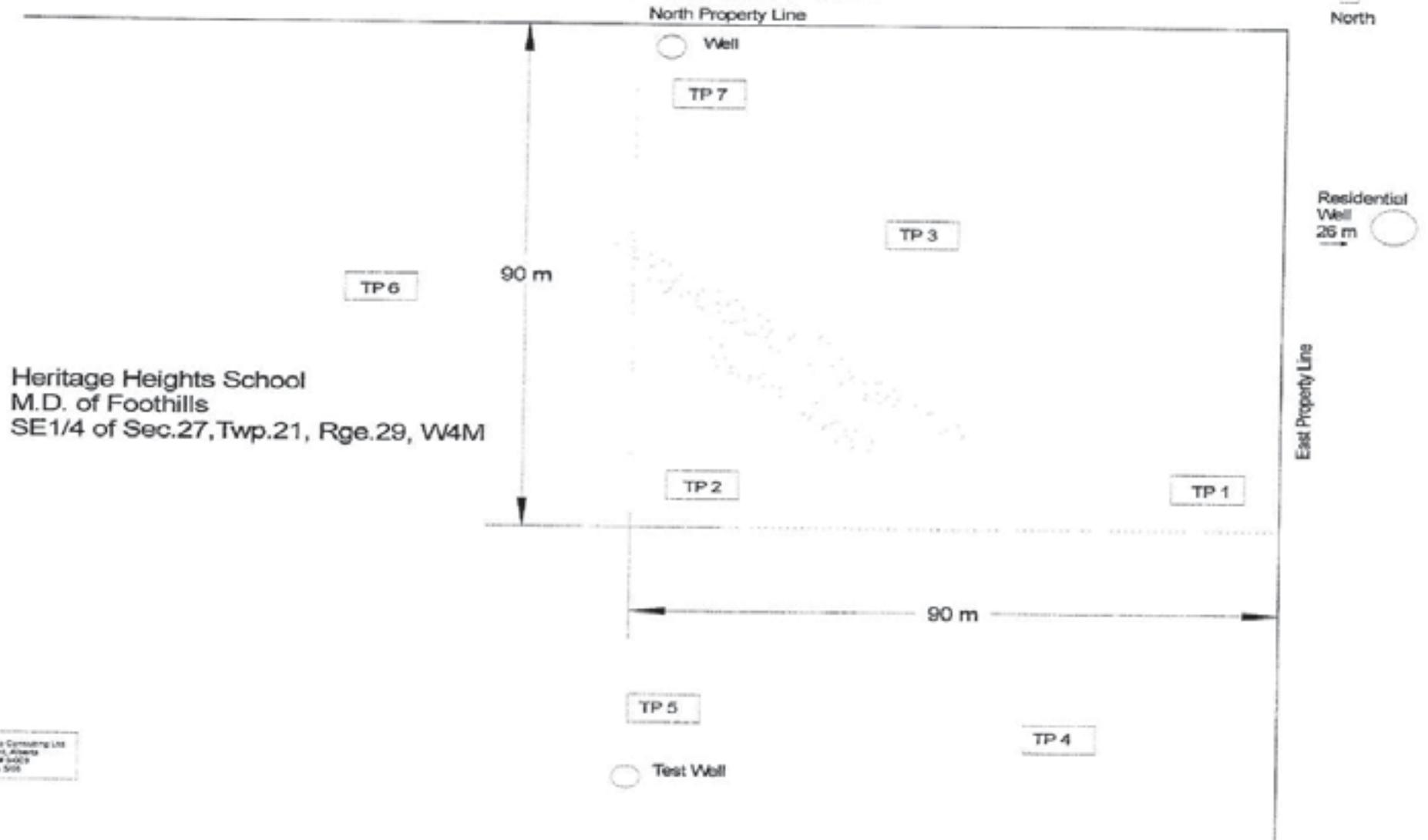


Low Shaw  
Elco Consulting Ltd.

Note: This report was compiled by a Certified PSDS Installer (Certification # P94608 of Alberta Municipal Affairs) All information was derived from the Alberta Private Sewage Systems, Standard of Practice 1999 and the OWTS Manuals 2000.

The material contained within this report reflects Elco Consulting Ltd.'s best judgement in light of information available at the time of preparation. This material is intended for the Owner of the above captioned property or the Installer requesting this information for the above captioned property. The use or distribution of this report to a Third Party is prohibited.

# Test Pit Plot Plan



Ellis Consulting Ltd  
Brampton, Ontario  
July 2009  
May 2008

# Elco Consulting Ltd.

Box 139 Brant, Alberta T0L 0L0  
 Phone 403-684-3719 Cell 403-333-7872  
 Fax 403-684-3895

Test Pit # 1		Job #200 5 - 009				April 06/05 10:15 AM			
Horizon	Depth (in)	Texture	Colour	Gleyed	Mottled	Structure	Consistence	Moisture	% Coarse Fragments
AH	0-7.5"	Silt Loam	Blacks	None	None	Disturbed Till	Friable	Normal	0/0
A	7.5-14"	Silt Loam	Blacks	None Roots	None	Grade #2 Prismatic	Friable	Normal	0/0
B	14-25"	Loam	Brown Greys	None Roots	None	Gr. #1 Prismatic Granular	Friable	Normal	0
C1	25-35.5"	Clay Loam	Grey	Slight	Faint	Grade #2 Prismatic	Friable	Normal	0-1" 5%
C2	35.5-44"	Clay Loam	Grey	Slight	Faint	Gr.#2 Prismatic Blocky	Friable	Normal	0-2" <5%
C3	44-56"	Clay Loam	Grey	Moderate	Distinct	Gr.#1 Blocky Platty	Friable	Moist	0-1" <10%
C4	56-96"	Clay ?	Dark Grey	Moderate	Prominent	Massive	Friable	Moist	0-2" <15%
Depth of Groundwater		Not found @ 96"			Limiting Soil Layer		Clay @ 56"		
Depth of Seasonally Saturated Soil		44"			Depth to Limiting Soil Layer		56" to below excavation		
Key Limiting System Design Characteristic		Massive @ 56"							

Comments:

Saturation percentage @39-56" is 52%

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Fax 403-684-3895

Test Pit # <u>2</u>		Job #200 <u>5</u> - <u>009</u>				April 06/05 10:15 AM			
Horizon	Depth (in)	Texture	Colour	Gleyed	Mottled	Structure	Consistence	Moisture	% Coarse Fragments
AH	0-8"	Silt Loam	Blacks	None Roots	None	Disturbed Till	Friable	Normal	0
A	8-14"	Silt Loam	Blacks	None Roots	None	Grade #2 Prismatic	Friable	Normal	0
B	14-32"	Loam ?	Brown Greys	None	None	Gr. #1 Granular Prismatic	Friable	Normal	0
C	32-45"	Loam ?	Brown Greys	None	None	Granular	Friable	Normal	0
C1	45-49"	Silt Loam?	Grey White seams	None	None	Granular Platty	Friable	Normal	0
C2	49-67"	Loam	Grey	Slight to Moderate	None	Blocky	Friable	Normal	0
C3	67-96"	Clay Loams?	Grey	Moderate to Strong	Distinct to Prominent	Patty to Massive	Friable	Normal	0
						Limiting Soil Layer		Platty- Massive	
Depth of Groundwater		> 96"			Depth to Limiting Soil Layer		87"		
Depth of Seasonally Saturated Soil		Prominent, Mottling @87"							
Key Limiting System Design Characteristic		Platty and Massive @ 87"							

Comments:

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Test Pit # <u>3</u>			Job #200 <u>5</u> - <u>009</u>			April 06/05 10:15 AM			
Horizon	Depth (in)	Texture	Colour	Gleyed	Mottled	Structure	Consistence	Moisture	% Coarse Fragments
AH	0-7"	Silt Loam?	Blacks	None	None	Disturbed Till	Friable	Normal	0/0
A	7-14"	Silt Loam?	Blacks	None Roots	None	Grade #2 Prismatic	Friable	Normal	0/0
B	14-32	Sandy Clay Loam ?	Brown Greys	None	None	Gr.#2 Granular to Prismatic	Friable	Normal	0
C	32-37	Sandy Clay Loam ?	Grey	Slight	Very Faint	Blocky	Friable	Normal	0
C1	37-43	Sand Seams?	Grey Yellow	Slight	Faint	Granular	Friable	Normal	0
C2	43-96	Clay Loams	Greys	Moderate	Distinct	Platty	Friable	Moist	0-3/4" < 10%
Depth of Groundwater		1" of ground water in 4 hrs. of open pit @ 96"			Limiting Soil Layer		none		
Depth of Seasonally Saturated Soil		43"			Depth to Limiting Soil Layer				
Key Limiting System Design Characteristic		Distinct mottling @ 43"							

Comments:

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# Elco Consulting Ltd.

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Test Pit # <u>4</u>		Job #200 <u>5</u> - <u>009</u>				April 06/05 10:15 AM			
Horizon	Depth (in)	Texture	Colour	Gleyed	Mottled	Structure	Consistence	Moisture	% Coarse Fragments
A	0-23"	Sandy Silt Loam?	Blacks	None Roots	None	Grade #1 Prismatic	Friable	Normal	0
B	23-28"	Sandy Silt Loam?	Grey	None Roots	None	Grade #2 Granular Prismatic	Friable	Normal	0
C	28-37"	Clay Loam	Grey	Slight	Faint	Grade #3 Blocky to Platty	Friable	Normal	0
C1	37-96"	Clay Loam?	Grey	Moderate	Faint to Distinct	Grade #2 Blocky to Platty	Friable	Normal	0-1" < 5%
Depth of Groundwater		> 96"			Limiting Soil Layer		None		
Depth of Seasonally Saturated Soil		Moderate mottling @ 37"			Depth to Limiting Soil Layer		None		
Key Limiting System Design Characteristic		Still Grade #2 Blocky/Platty @ 96"							

Comments:

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# Elco Consulting Ltd.

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 Fax 403-684-3895

Test Pit # <u>5</u>			Job #200 <u>5</u> - <u>009</u>			April 06/05 10:15 AM			
Horizon	Depth (in)	Texture	Colour	Gleyed	Mottled	Structure	Consistence	Moisture	% Coarse Fragments
A	0-18"	Sandy Loam?	Black	None	None	Tilled over Prismatic	Friable	Normal	0
B	18-31"	Loam	Brown	None	None	Granular	Friable	Normal	0
C	31-56"	Loam	Grey	White seams Rust Streaks	Faint to Distinct	Grade #2 Blocky	Friable	Normal	0
C1	56-64"	Clay Loam?	Grey	Moderate	Prominent	Grade #1 Blocky	Friable	Normal	1-2" < 10%
	64-74"	Clay Loam?	Grey	Moderate	Prominent	Massive	Friable	Normal	1-2" < 10%
Depth of Groundwater		> 96 "			Limiting Soil Layer		Clay Loam/Prominent Mottling/ Blocky-Massive		
Depth of Seasonally Saturated Soil		Moderate mottling @ 56"			Depth to Limiting Soil Layer		64"		
Key Limiting System Design Characteristic		Massive to Grade #1 Blocky at 56"							

Comments:

Saturation percentage @ 31 to 56 " is 55%

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Test Pit # <u>6</u>		Job #200 <u>5</u> - <u>009</u>				April 06/05 10:15 AM			
Horizon	Depth (in)	Texture	Colour	Gleyed	Mottled	Structure	Consistence	Moisture	% Coarse Fragments
A	0-16"	Sandy Silt Loam?	Black to Browns	None	None	Tilled over Prismatic	Friable	Normal	0
B	16-30"	Sandy Silt Loam?	Grey	None Roots	None	Granular	Friable	Normal	0
C	30-55"	Clay Loam	Dark Grey	Slight	Faint	Grade #1 Blocky	Friable	Normal	0-2" < 5%
C1	55-96"	Clay Loam?	Dark Grey	Moderate	Prominent	?	Friable	Normal	?
Depth of Groundwater		> 96 "			Limiting Soil Layer		none		
Depth of Seasonally Saturated Soil		Traces of mottling, Grade #1 Blocky @ 55"			Depth to Limiting Soil Layer				
Key Limiting System Design Characteristic		Grade #1 Blocky @55"							

Comments:

Saturation percentage @ 30 to 50 " is 59%

# Elco Consulting Ltd.

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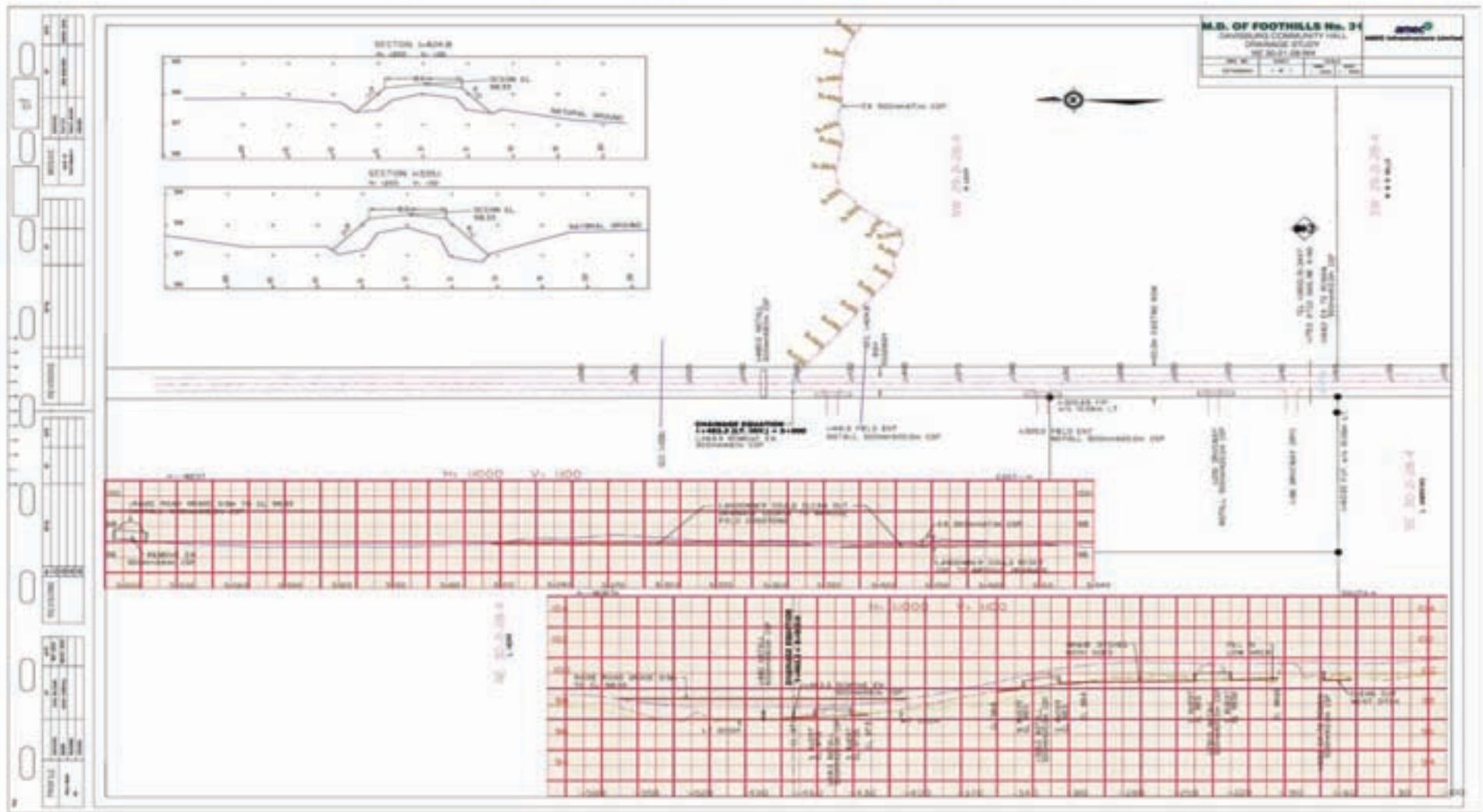
Test Pit # <u>7</u>			Job #200 <u>5</u> - <u>009</u>			April 06/05 10:15 AM			
Horizon	Depth (in)	Texture	Colour	Gleyed	Mottled	Structure	Consistence	Moisture	% Coarse Fragments
A	0-23"	Sandy Silt Loam?	Black	None	None	Tilled over Prismatic	Friable	Normal	0
B	23-39"	Sandy Silt Loam?	Browns to Greys	None	None	Granular to Prismatic	Friable	Normal	0
C	39-56"	Loam	Grey	Slight	Faint	Grade #2 Blocky	Friable	Normal	1/2-3" < 5%
C1	56-96"	Clay Loam?	Dark Grey	Slight	Prominent	Grade #1 Blocky to Massive	Friable	Normal	?
Depth of Groundwater		> 96 "			Limiting Soil Layer		None		
Depth of Seasonally Saturated Soil		Prominent mottling, massive @56"			Depth to Limiting Soil Layer				
Key Limiting System Design Characteristic									

Comments:

Saturation percentage @ 39 to 56 " is 52%



# Appendix Three: Davisburg Drainage Study



# Appendix Four: Heritage Pointe Park (2020)

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Project Element	Cost (\$)
Grading & seed	50,000
Walking Path	94,500
Landscaping	100,000
Parking & Road	100,000
Soccer	25,000
Ball Diamond	50,000
Playground	50,000
Day Use	25,000
Benches & Garbage Receptacle	15,000
Woodchip Trail	35,000
<b>Subtotal</b>	<b>544,500</b>
Contingency	81,675
Consulting & Project Management	55,000
<b>Total</b>	<b>681,175</b>

# Appendix Five: Heritage Heights Park (2020)

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Project Element	Cost (\$)
Grading & seed	50,000
Servicing	50,000
Water Management System	
Landscaping	150,000
Soccer	50,000
Ball diamond	50,000
Day use	25,000
Benches & garbage	15,000
Indoor Arena	3,000,000
<b>Subtotal</b>	<b>3,390,000</b>
Contingency	508,500
Consulting & Project Management	339,000
<b>Total</b>	<b>4,237,500</b>

# Appendix Six: Davisburg Park (2020)

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Project Element	Cost (\$)
Grading & seeding	25,000
Fencing	50,000
Ball Diamond	150,000
Soccer field	100,000
Road & Parking	150,000
Playground	50,000
Service Building	250,000
<b>Subtotal</b>	<b>775,000</b>
Contingency	116,250
Consulting & Project Management	77,500
<b>Total</b>	<b>968,750</b>





[cdcconsultants.com](http://cdcconsultants.com)

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