Appendix I
Engineering Concepts, Drainage and Storm Water
May 18th, 2011

East Ridge Developments Inc.
GS 601, Box 16, RR#6
Saskatoon, SK. S7K 3J9

Attention: Mr. L. Merkosky

Re: Saddle Ridge Subdivision – Drainage Report

Background
Catterall and Wright was requested to conduct a drainage study for the above project east of Saskatoon, Saskatchewan. Saddle Ridge is located on NE ¼ 36-36-4-W3 along the south side of Highway #5, approximately 6 km east of the Highway #41 junction. Saddle Ridge is a proposed 32 lot subdivision located in the Rural Municipality (R.M.) of Corman Park with lots ranging in size from 2.17 to 10 acres.

Site Drainage
The site is currently divided into three separate catchment areas. The largest catchment (#1) has several storage areas (sloughs) with an ultimate flood crest elevation of 567.00 before draining to the south east. The other two catchment areas, #2 and #3 (north west and south west corners, respectfully), are relatively small in size. Catchment #2 drains to the south west and catchment #3 drains to the north west. Additional runoff as a result of site development from these two catchments will be virtually unchanged since the areas in these catchments are back lot areas and municipal buffer which will see little developmental upgrade.

Pre-Development Runoff Conditions:
The existing site topography is rolling hills with substantial areas of vegetation and localized sloughs. Based on City of Saskatoon rainfall intensity curves, the model (based on the rational
formula) yielded runoff results for the 2 and 100 year return periods for the pre-developed site as follows: (Runoff rate based on time of concentration, Runoff volume based on 24-hour rainfall event).

<table>
<thead>
<tr>
<th></th>
<th>Catchment #1</th>
<th>Catchment #2</th>
<th>Catchment #3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2-year Return Period</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>T_e (minutes)</strong></td>
<td>70</td>
<td>57</td>
<td>68</td>
</tr>
<tr>
<td><strong>Intensity (mm/hr)</strong></td>
<td>15.3</td>
<td>17.5</td>
<td>15.6</td>
</tr>
<tr>
<td><strong>Area (hectares)</strong></td>
<td>52.8</td>
<td>3.0</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Max. Runoff Rate (L/s)</strong></td>
<td>112.3</td>
<td>7.3</td>
<td>15.4</td>
</tr>
<tr>
<td><strong>Runoff Volume (m³)</strong></td>
<td>964</td>
<td>55</td>
<td>130</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Catchment #1</th>
<th>Catchment #2</th>
<th>Catchment #3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>100-year Return Period</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td><strong>T_e (minutes)</strong></td>
<td>28</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td><strong>Intensity (mm/hr)</strong></td>
<td>99.5</td>
<td>111.9</td>
<td>101.7</td>
</tr>
<tr>
<td><strong>Area (hectares)</strong></td>
<td>52.8</td>
<td>3.0</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Max. Runoff Rate (L/s)</strong></td>
<td>2,921</td>
<td>186.6</td>
<td>401.5</td>
</tr>
<tr>
<td><strong>Runoff Volume (m³)</strong></td>
<td>9,297</td>
<td>531</td>
<td>1,251</td>
</tr>
</tbody>
</table>

**Post-Development Runoff Conditions**

Each catchment will have different proportions of developed surface area due to the amount of road and development area within each catchment. Catchment #1 contains all developed roads for the proposed subdivision as well as twenty six development sites. Catchment #2 contains only 1 development site and Catchment #3 has four development sites. Each development site was assumed to have 625 square meters of impervious surface area and 240 square meters of gravel driveway. The balance of the area in each catchment is assumed to remain undeveloped. The recommended runoff coefficients for a 2 year return period is 0.90 for impervious and 0.15
for gravel. The resulting calculated runoffs for the developed site for the 2-year and 100 year events are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Catchment #1</th>
<th>Catchment #2</th>
<th>Catchment #3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2-year Return Period</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weighted C</td>
<td>0.082</td>
<td>0.069</td>
<td>0.081</td>
</tr>
<tr>
<td>T₀ (minutes)</td>
<td>70</td>
<td>57</td>
<td>68</td>
</tr>
<tr>
<td>Intensity (mm/hr)</td>
<td>15.3</td>
<td>17.5</td>
<td>15.6</td>
</tr>
<tr>
<td>Area (hectares)</td>
<td>52.8</td>
<td>3.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Max. Runoff Rate (L/s)</td>
<td>184.2</td>
<td>10.1</td>
<td>24.9</td>
</tr>
<tr>
<td>Runoff Volume (m³)</td>
<td>1,543</td>
<td>77</td>
<td>208</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Catchment #1</th>
<th>Catchment #2</th>
<th>Catchment #3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>100-year Return Period</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weighted C</td>
<td>0.247</td>
<td>0.219</td>
<td>0.232</td>
</tr>
<tr>
<td>T₀ (minutes)</td>
<td>28</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Intensity (mm/hr)</td>
<td>99.5</td>
<td>111.9</td>
<td>101.7</td>
</tr>
<tr>
<td>Area (hectares)</td>
<td>52.8</td>
<td>3.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Max. Runoff Rate (L/s)</td>
<td>3,607</td>
<td>204.3</td>
<td>465.7</td>
</tr>
<tr>
<td>Runoff Volume (m³)</td>
<td>11,622</td>
<td>584</td>
<td>1,439</td>
</tr>
</tbody>
</table>

**Recommendations**

It is our recommendation that no ponds be developed as existing depression storage is sufficient to accommodate additional runoff rates and volumes. However, we would recommend the minimum finished ground elevation at all buildings in the subdivision be above the estimated peak water levels as indicated by the Saskatchewan Watershed Authority. These elevations are shown on the attached drawing for each lot. It is critical that the culvert beneath the road crossing from lot 9 to lot 4 be constructed with a north invert elevation of 565.60 and a south invert elevation of 565.45. It is also important to construct a drainage swale on lot 1, block 2 as shown on the attached drawing.
We have attached a site plan, Dwg 403-00101 showing existing contours, catchment delineations, design road cross sections, proposed center line grades, roadway culvert locations and minimum building elevations for each lot. The maximum road gradient is 7.5%, well below the maximum allowable gradient preferred by the R.M. Note that all driveway crossings should have a minimum 300mm diameter CSP culvert.

Please advise if further information is required.

Yours truly,
CATTERALL & WRIGHT
Per:

[Signature]
Brett LaRoche, P.Eng.

Encl.
January 20th, 2010

East Ridge Developments Inc.
GS 601, Box 16, RR#6
Saskatoon, SK. S7K 3J9

Attention: Mr. L. Merkosky

Re:  Saddle Ridge Subdivision – Drainage Report

Background
Catterall and Wright was requested to conduct a drainage study for the above project east of Saskatoon, Saskatchewan. Saddle Ridge is located on NE ¼ 36-36-4-W3 along the south side of Highway #5, approximately 6 km east of the Highway #41 junction. Saddle Ridge is a proposed 32 lot subdivision located in the Rural Municipality (R.M.) of Corman Park with lots ranging in size from 2.17 to 10 acres.

Site Drainage
The site is currently divided into three separate catchment areas. The largest catchment (#1) has several storage areas (sloughs) with an ultimate flood crest elevation of 567.00 before draining to the south east. The other two catchment areas, #2 and #3 (north west and south west corners, respectfully), are relatively small in size. Catchment #2 drains to the south west and catchment #3 drains to the north west. Additional runoff as a result of site development from these two catchments will be virtually unchanged since the areas in these catchments are back lot areas and municipal buffer which will see little developmental upgrade.

Pre-Development Runoff Conditions:
The existing site topography is rolling hills with substantial areas of vegetation and localized sloughs. Based on City of Saskatoon rainfall intensity curves, the model (based on the rational
formula) yielded runoff results for the 2 and 100 year return periods for the pre-developed site as follows: (Runoff rate based on time of concentration, Runoff volume based on 24-hour rainfall event).

<table>
<thead>
<tr>
<th>2-year Return Period</th>
<th>Catchment #1</th>
<th>Catchment #2</th>
<th>Catchment #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>T_e (minutes)</td>
<td>70</td>
<td>57</td>
<td>68</td>
</tr>
<tr>
<td>Intensity (mm/hr)</td>
<td>15.3</td>
<td>17.5</td>
<td>15.6</td>
</tr>
<tr>
<td>Area (hectares)</td>
<td>52.8</td>
<td>3.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Max. Runoff Rate (L/s)</td>
<td>112.3</td>
<td>7.3</td>
<td>15.4</td>
</tr>
<tr>
<td>Runoff Volume (m³)</td>
<td>964</td>
<td>55</td>
<td>130</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>100-year Return Period</th>
<th>Catchment #1</th>
<th>Catchment #2</th>
<th>Catchment #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>T_e (minutes)</td>
<td>28</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Intensity (mm/hr)</td>
<td>99.5</td>
<td>111.9</td>
<td>101.7</td>
</tr>
<tr>
<td>Area (hectares)</td>
<td>52.8</td>
<td>3.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Max. Runoff Rate (L/s)</td>
<td>2,921</td>
<td>186.6</td>
<td>401.5</td>
</tr>
<tr>
<td>Runoff Volume (m³)</td>
<td>9,297</td>
<td>531</td>
<td>1,251</td>
</tr>
</tbody>
</table>

Post-Development Runoff Conditions
Each catchment will have different proportions of developed surface area due to the amount of road and development area within each catchment. Catchment #1 contains all developed roads for the proposed subdivision as well as twenty six development sites. Catchment #2 contains only 1 development site and Catchment #3 has four development sites. Each development site was assumed to have 625 square meters of impervious surface area and 240 square meters of gravel driveway. The balance of the area in each catchment is assumed to remain undeveloped. The recommended runoff coefficients for a 2 year return period is 0.90 for impervious and 0.15
for gravel. The resulting calculated runoffs for the developed site for the 2-year and 100 year events are as follows:

<table>
<thead>
<tr>
<th>2-year Return Period</th>
<th>Catchment #1</th>
<th>Catchment #2</th>
<th>Catchment #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted C</td>
<td>0.082</td>
<td>0.069</td>
<td>0.081</td>
</tr>
<tr>
<td>Tc (minutes)</td>
<td>70</td>
<td>57</td>
<td>68</td>
</tr>
<tr>
<td>Intensity (mm/hr)</td>
<td>15.3</td>
<td>17.5</td>
<td>15.6</td>
</tr>
<tr>
<td>Area (hectares)</td>
<td>52.8</td>
<td>3.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Max. Runoff Rate (L/s)</td>
<td>184.2</td>
<td>10.1</td>
<td>24.9</td>
</tr>
<tr>
<td>Runoff Volume (m³)</td>
<td>1,543</td>
<td>77</td>
<td>208</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>100-year Return Period</th>
<th>Catchment #1</th>
<th>Catchment #2</th>
<th>Catchment #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted C</td>
<td>0.247</td>
<td>0.219</td>
<td>0.232</td>
</tr>
<tr>
<td>Tc (minutes)</td>
<td>28</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Intensity (mm/hr)</td>
<td>99.5</td>
<td>111.9</td>
<td>101.7</td>
</tr>
<tr>
<td>Area (hectares)</td>
<td>52.8</td>
<td>3.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Max. Runoff Rate (L/s)</td>
<td>3,607</td>
<td>204.3</td>
<td>465.7</td>
</tr>
<tr>
<td>Runoff Volume (m³)</td>
<td>11,622</td>
<td>584</td>
<td>1,439</td>
</tr>
</tbody>
</table>

**Recommendations**

It is our recommendation that no ponds be developed as existing depression storage is sufficient to accommodate additional runoff rates and volumes. However, we would recommend the minimum finished ground elevation at all buildings in the subdivision be above 567.00 meters (geodetic) as this is the flood crest elevation of the major depressions within the development. Also note that it is critical that the culvert beneath the road crossing from lot 9 to lot 4 be constructed with a north invert elevation of 567.00 and a south invert elevation of 566.85.
We have attached a site plan, Dwg 403-00101 showing existing contours, catchment
delineations, design road cross sections, proposed center line grades and roadway culvert
locations, sizes and invert elevations. The maximum road gradient is 7.5%, well below the
maximum allowable gradient preferred by the R.M. Note that all driveway crossings should have
a minimum 300mm diameter CSP culvert.

Please advise if further information is required.

Yours truly,

CATTERALL & WRIGHT

Per:

Brett LaRoche, P.Eng.

Encl.

Reviewed by: A. Mickelson, P.Eng.
Appendix J
Saskatchewan Watershed Authority
I have reviewed SaskWatershed's comments. In general, most of the prime building spots on the lots are higher than the elevations recommended by Sask Watershed. However, I have reviewed the survey data and contour plan in greater detail and provide the following remarks in response to Watershed's comments #1 through #8 below:

#1. I will have to revise the drainage plan to accommodate this request. In addition to the recommended installation of a culvert across the roadway, we would recommend that some ditching be done within the north central area of lot 1, block 2 to accommodate the flows in this area toward the south east.

#2. We agree with the recommended EPWL of 572.0 metres

#3. In reviewing the survey data and contour plan, the EPWL for lots 15 and 16, block 1 should be 571.5 metres if our recommendations in point #1 are followed.

#4. Not all areas will be able to be constructed to accommodate the proposed cross section of the roads as shown on the drawing. These areas include places where fill would be required to bring the ditch bottom up to grade to satisfy the cross sectional detail. The area Watershed is referring to is an instance like this and so the ditch bottom would actually be sloped toward the south in this area, eliminating the need for a culvert.

#5. We agree with this recommendation

#6. We agree with this comment

#7. We agree with this comment

#8. Upon review the EPWL for lot 9 is 574, the EPWL for lot 8 is 573.5. The other EPWL suggested appear to be accurate.

If you have any questions in regards to the above information, feel free to contact me to discuss.

Regards,

---

CONFIDENTIALITY NOTICE: This email was intended for a specific recipient. It may contain information that is privileged and/or confidential. If the reader is not the intended recipient, use or distribution of this information is prohibited. If you have received this communication in error, please notify the sender by telephone or return email and delete or destroy all copies of the message.

From: East Ridge Developments Inc. [mailto:eastridge@sasktel.net]
Sent: Monday, April 04, 2011 7:32 PM
To: Brett LaRoche - Catterall & Wright  
Cc: East Ridge Developments Inc.; sdukart@mcoomanpark.ca  
Subject: Fw: Saddle Ridge - proposed subdivision

Brett,

Attached is a response from The Watershed Authority after reviewing the drainage report.

Would you please review the attachment and provide your comments?

Thanks.

Landry Merkosky

--- Original Message ---

From: Ron Crush  
To: East Ridge  
Sent: Monday, April 04, 2011 12:37 PM  
Subject: FW: Saddle Ridge - proposed subdivision

Landry

Here are the comments from our Hydrology unit!

I am sorry I forgot to forward them to you we have been very busy with spring flooding.

Ron

---------- Forwarded message ----------

From: Curtis Hallborg  
Sent: March 18, 2011 3:12 PM  
To: Ron Crush  
Subject: RE: Saddle Ridge - proposed subdivision

Hi Ron,

I think there are a few deficiencies with this report, particularly with the drainage routes and safe building elevation suggested. With the topography at this site, I don’t think a single Estimated Peak Water Level (EPWL) will work. Here’s what I noted:

1. There appears to be a need for a culvert between Lot 15, Block 1 and Lot 1, Block 2 to allow the western most portion of Catchment #1 to spill to the northeast towards the low area on Lot 16, Block 1.

2. An EPWL of 572.0 m is recommended for Lots 10, 11, and 12, Block 1, since the low area would have to reach an elevation somewhere between 571.5 m and 572.0 m to spill to the northeast.

3. From the information provided, it’s not clear where and at what elevation the low area on Lots 15 and 16, Block 1 will spill (if it will spill at all). Therefore, I would suggest an EPWL of 572.0 m for these lots as well.

4. Unless the south ditch of the roadway between Lot 4, Block 2 and Lot 21, Block 1 will be sloped towards the southern tip of the large wetland area on Lot 4, Block 2, one or more through grade culverts would be required to allow runoff from the lots south of the roadway to continue north.

5. Since the low area in the northeast corner of Lot 21, Block 1 will have to reach an elevation between 567.5 and 568.0 m in order to spill to the southeast, I would suggest an EPWL of 568.0 m for Lots 20 and 21, Block 1.

7/24/2011
6. An EPWL of 567.0 m, as suggested in the report, appears to be sufficient for all other lots within Catchment 1, provided that the large wetland on Lots 17-21, Block 1, does indeed spill at 567.0 m.
7. For Catchment #2, Lots 13 and 14, Block 1, I would suggest an EPWL of 573.0 m.
8. For Catchment #3, I would suggest an EPWL of 574.0 m for Lots 8 and 9, Block 1, 573.0 m for Lot 7, Block 1, 572.0 m for Lot 6, Block 1, and 570.0 m for Lot 5, Block 1.

As far as the hydrology, I think it appears to be pretty solid with reasonable and conservative assumptions. I am not sure if the increases in flow rates and velocities would be deemed significant though.

I also attached a better copy of the plan which I obtained from Catterall and Wright.

Let me know if you have any questions.

Curtis

Curtis Hallborg, E.I.T., A.Sc.T.
Hydrologist (In-training), Basin Operations
Saskatchewan Watershed Authority

111 Fairford St E | Moose Jaw SK S6H 7X9
Phone: 306-694-3942 | Fax: 306-694-3944
curtis.hallborg@swa.ca | www.swa.ca

Please consider the environment before printing this email.

CONFIDENTIALITY NOTICE: This email, including any attachments, was intended for a specific recipient. It may contain information that is privileged, confidential or exempt from disclosure. Privilege and confidentiality is not waived. If the reader is not the intended recipient, use or distribution of this information is prohibited. If you have received this communication in error, please notify the sender by telephone or return email and delete or destroy all copies of the message.

From: Ron Crush
Sent: Tuesday, March 01, 2011 9:58 AM
To: Curtis Hallborg
Subject: FW: Saddle Ridge - proposed subdivision

Curtis

Please provide your comments.

Thanks

Ron

From: East Ridge Developments Inc. [mailto:eastridge@sasktel.net]
Sent: February 28, 2011 9:46 AM
To: Ron Crush
Subject: Re: Saddle Ridge - proposed subdivision

Hi Ron,
I’ve attached the Drainage Report.

Thanks,

Landry

----- Original Message -----  
From: Ron Crush  
To: East Ridge Developments Inc.  
Sent: Monday, February 28, 2011 7:31 AM  
Subject: RE: Saddle Ridge - proposed subdivision

We would appreciate the drainage report for our review.

Thank you

Ron

From: East Ridge Developments Inc. [mailto:eastridge@sasktel.net]  
Sent: February 27, 2011 2:30 PM  
To: "Ron Crush"@swa.ca  
Subject: Saddle Ridge - proposed subdivision

East Ridge Developments Inc. is proposing a multi-parcel subdivision in the R.M. of Corman Park which is located at 36-36-4 W3rd.

The R.M. has requested that we forward a copy of the proposed plan to you as notification of our intentions and to determine if the Watershed Authority has any concerns with this proposed development. A drainage report has already been obtained through Catteral & Wright and a copy of this report can be provided at your request.

As we are required to submit your response with our final application, we look forward to receiving your comments on this proposal at your earliest convenience.

Thank you.

Landry & Kim Merkosky  
East Ridge Developments Inc.  
email: eastridge@sasktel.net  
Phone: 306 477-2447  
Fax: 306 477-2450

7/24/2011
June 13, 2011

East Ridge Developments Inc.
G.S. 601 Box 16 RR#6
Saskatoon, SK S7K 3J9

ATTENTION: Mr. Landry Merkosky

Dear Sir:

RE: SADDLE RIDGE SUBDIVISION
NE-36-36-4-W3M
RM OF CORMAN PARK NO. 344
PMEL FILE NO. S09-7106

In response to your request, we have reviewed question 13 posed by Sharon Dukart, Municipal Planner, RM of Corman Park, in their letter dated May 26, 2011. Based on the peak water levels "----- lots may have restricted building sites unless fill is brought in to raise the lot elevation above the peak water level --." Could this affect the PMEL recommendations for foundation design?

The geotechnical investigation and groundwater monitoring was conducted in October/November 2009. Significant precipitation in 2010 and above average snowfall during 2010/2011 winter season would be expected to raise the groundwater table. We measured the water levels in the existing piezometers on June 13, 2011. The recorded water levels have been tabulated on Table II, Summary of Recorded Groundwater Levels. The groundwater levels measured on November 6, 2009 ranged from dry to a high of 566.5 metres. The June 13, 2011 readings ranged from dry to 572.5 metres. As shown on Table II, the water levels ranged from 0.4 to more than 6 metres below ground surface except for Test Hole No. 09-1 at which location a perched groundwater level existed at 500 mm above ground surface. The water levels in 7 of the 15 test holes drilled at this site were shallower than 2 metres below ground surface.

The foundation design recommendations submitted in our report PMEL File No. S09-7106 dated November 23, 2009, were based on the then recorded water levels. The presently higher water levels recorded on June 13, 2011 will not significantly affect the foundation design recommendations. However, some elevation adjustments will be required to ensure that the basement floors are constructed a minimum of 500 mm above the groundwater elevation. (See design recommendation in Section 8.1.2 Foundation Design, page 10 of PMEL Report No. S09-7106).
If fill is required to ensure that the floor slab is constructed at least 500 mm above the groundwater elevation, then care must be exercised to ensure that the building footing is not founded on fill materials. It may be necessary to install piles which extend below the placed fill and into the undisturbed soil.

For surface foundations (buildings such as car garages constructed on a thickened perimeter edge foundation) the fill material should be approved by the geotechnical consultant and the geotechnical consultant should inspect the building site preparation.

**CLOSURE**

We trust the foregoing is the information you require at this time. Should you require additional information or clarification, please contact our office.

Yours very truly,

P. MACHIBRODA ENGINEERING LTD.

Paul Machibroda, P. Eng., P. Geo., FCSCE

Terry Werbovetski, P. Eng.

PM:TW:clb
### TABLE II. SUMMARY OF RECORDED GROUNDWATER LEVELS

<table>
<thead>
<tr>
<th>Test Hole No.</th>
<th>Piezometer Rim Elevations (metres)</th>
<th>Ground Surface Elevation (metres)</th>
<th>Recorded Groundwater Elevation (metres)*</th>
<th>Water Level Below Ground Surface (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09-1</td>
<td>567.6</td>
<td>566.6</td>
<td>563.7</td>
<td>562.8</td>
</tr>
<tr>
<td>09-2</td>
<td>568.1</td>
<td>567.1</td>
<td>Dry</td>
<td>561.1</td>
</tr>
<tr>
<td>09-3</td>
<td>568.6</td>
<td>567.5</td>
<td>Dry</td>
<td>Dry</td>
</tr>
<tr>
<td>09-4</td>
<td>565.3</td>
<td>564.2</td>
<td>561.4</td>
<td>560.7</td>
</tr>
<tr>
<td>09-5</td>
<td>568.9</td>
<td>567.7</td>
<td>Dry</td>
<td>Dry</td>
</tr>
<tr>
<td>09-6</td>
<td>569.4</td>
<td>569.4</td>
<td>Dry</td>
<td>Dry</td>
</tr>
<tr>
<td>09-7</td>
<td>567.5</td>
<td>566.5</td>
<td>564.0</td>
<td>563.1</td>
</tr>
<tr>
<td>09-8</td>
<td>569.0</td>
<td>568.0</td>
<td>Dry</td>
<td>562.2</td>
</tr>
<tr>
<td>09-9</td>
<td>574.6</td>
<td>573.6</td>
<td>Dry</td>
<td>568.5</td>
</tr>
<tr>
<td>09-10</td>
<td>575.7</td>
<td>575.7</td>
<td>Dry</td>
<td>Dry</td>
</tr>
<tr>
<td>09-11</td>
<td>574.7</td>
<td>573.4</td>
<td>Dry</td>
<td>Dry</td>
</tr>
<tr>
<td>09-12</td>
<td>567.5</td>
<td>566.6</td>
<td>561.8</td>
<td>561.9</td>
</tr>
<tr>
<td>09-13</td>
<td>668.8</td>
<td>566.0</td>
<td>562.9</td>
<td>565.0</td>
</tr>
<tr>
<td>09-14</td>
<td>574.2</td>
<td>573.0</td>
<td>Dry</td>
<td>Dry</td>
</tr>
<tr>
<td>09-15</td>
<td>573.2</td>
<td>572.2</td>
<td>Dry</td>
<td>Dry</td>
</tr>
<tr>
<td>09-16</td>
<td>576.1</td>
<td>575.1</td>
<td>Dry</td>
<td>Dry</td>
</tr>
</tbody>
</table>

*Higher static water levels are expected following piezometer stabilization, during or following spring snowmelt, and/or during or following periods of precipitation.

P. MACHIBRODA ENGINEERING LTD.
2010 March 22

Eastridge Development Inc.
Site 601 PO Box 16 RR 6 Stn Main
Saskatoon, SK S7K 3J9

Attention: Landry Merkosky

Dear Mr. Merkosky:

RE: Natural Gas Service For 32 Lot Rural Subdivision at NE36-36-04-W3

SaskEnergy has completed the design to provide natural gas service to the above location. It is our goal to provide cost effective customer solutions while meeting SaskEnergy's business criteria.

Please review this offer carefully and in particular the General Servicing Conditions and Rates section in this letter, which outlines potential additional costs.

Servicing Plan

Under SaskEnergy's Terms and Conditions of Service Schedule (the "Terms and Conditions of Service"), an applicant or customer who authorizes construction for a new service installation will be responsible for all SaskEnergy construction costs and service fees associated with that new service unless otherwise agreed to by SaskEnergy in a written service agreement.

This design includes a main extension only, and is designed to provide a maximum load of 4.0 m³/hr with one point of delivery and 1.75 kPa delivery pressure to each lot.

Your Contribution

Your required contribution is $58,909.82, plus GST of $2,945.49, for a total customer contribution of $61,855.31. SaskEnergy's GST number is 119 429 751.

Full SaskEnergy investment on all proposed lots has been deferred until such time as a request to install service lines is received by SaskEnergy. The cost of the service line and meter have not been included in the overall costs below, and will be charged at the time of installation request.
The customer contribution quoted above includes ONE crew mobilization. If SaskEnergy has to dispatch the construction crew several times due to delays in your ability to have the property ready for servicing (i.e. survey pins, obstacles in the natural gas route, other utilities needing to go in first etc.) you will be charged for the additional crew mobilization(s). You may also be responsible for any increased construction costs related to any changes you make in the original design, or as a result of the re-mobilization(s).

If SaskEnergy cannot complete this project prior to winter construction coming into effect, due to the property not being ready for servicing at the time requested, we will contact you with two servicing options:

1. SaskEnergy will re-estimate the cost of this job with winter construction and re-quote you this amount, or
2. Defer construction of this project to next spring.

Methods of Payment
Payment of the required customer contribution may be provided as follows:

- An immediate single payment, cash or cheque, for the total amount of $81,855.31.
- A cheque or cash deposit of 25% of the total amount of $15,463.83, and the balance of $46,391.48, as follows:
  > In the form of a cheque postdated for June 1, 2010
  > Invoiced upon project completion

General Servicing Conditions and Rates

This customer offer is based on the following conditions:

1. SaskEnergy is able to obtain all required easements and approvals.
2. Route is to final grade, clear of obstruction, and ready for service prior to construction.
3. Native material can (In SaskEnergy's opinion) be used for backfill of all excavations.
4. The work can be performed under summer working conditions
5. SaskEnergy will prepare and forward the required easement agreement(s) for the right-of-way plan, which Eastridge Development Inc. will execute and return.
SaskEnergy will advise Eastridge Development Inc. when the easement(s) has been registered. Eastridge Development Inc. will not sell or transfer the parcel or individual lots in NE36-36-04-W3 before the easement(s) as been registered. Eastridge Development Inc. will be responsible for any and all costs incurred by SaskEnergy to acquire the easement(s) in the event that Eastridge Development Inc. fails to comply with said obligation.

The offer is open for acceptance for thirty (30) days from the date of this letter. A deposit or payment in full is required on acceptance, as outlined in this offer.

These conditions are for the sole benefit of SaskEnergy and may be waived by SaskEnergy. In the event these conditions are not met (or waived in writing), or an accepted offer is not received by the date provided, no binding contract shall exist.
All Services are subject to SaskEnergy's Terms and Conditions of Service. SaskEnergy’s Terms and Conditions of Service are available at www.saskenergy.com or at your local SaskEnergy office.

What Happens Next?

In order to better secure a place in the 2010 construction season’s schedule, please execute and return the attached Customer Confirmation as indicated. Your commitment is needed as soon as possible. If SaskEnergy receives your commitment for this offer by April 12, 2010, we will target installation for late June/early July. This is a target Installation date only. Within this time period, SaskEnergy will forward you a routing approval drawing indicating SaskEnergy’s easement requirements, for your approval.

By accepting this offer below, you agree to execute and deliver such further documents and consents and do such further acts and things as SaskEnergy may reasonably request to evidence, carry out and give full effect to the terms, conditions, intent and meaning of this letter.

Yours truly,

SaskEnergy Incorporated

M.A. (Maureen) Sutherland
Business Supervisor
MAS*ggf

cc: Frank Chacun - Saskatoon East/West District
    Project File
February 23, 2010
FILE: SASKATOON-FWC.200

Landry Merkosky
East Ridge Development Inc.
Saddle Ridge Development
Phone: 477-2447
Fax: 477-2450

RE: Saddle Ridge Rural Subdivision – NE36-36-4W5

Dear Sir:

This is in response to your request for services of the above mentioned lots.

SaskTel no longer charges to service rural subdivisions. However, rural service connection charges will be the responsibility of service applicants and are not covered by this contract. Information regarding rural service connection charges is available from SaskTel’s Business Office at 1-800-214-7906.

We ask that easements, as required, be granted to provide service to your development.

Installation of the distribution cable for the rural residential subdivision as noted herein is provided pursuant to the terms and conditions of SaskTel’s General Tariff which is incorporated by reference in this letter of agreement.

We typically go joint use with SaskPower. As you proceed, could you keep me informed, as well please send a CAD drawing of the development.

If any further information is required please contact Terry Haney at (306) 931-5442, or fax (306) 931-5122.

Yours truly,

Terry Haney
Facilities Designer
Technology Development & Engineering
Terry.haney@sasktel.sk.ca
Hi Landry,

A very, very rough estimate would be $8,000.00 per lot. Therefore 32 lots would be approximately $200,000.00 for the development. Power source will be in close proximity to this area. Thank you.

Des,  
Conrad Sigurdson  
Business Manager - Sales  
SaskPower  
200 Block 1000 Lakeridge Drive East  
Saskatoon, SK  
Telephone: (306) 934-7832  
Fax: (306) 934-7939

This email including attachments is confidential and proprietary. If you are not the intended recipient, any redistribution or copying of this message is prohibited. If you have received this email in error, please notify us by return email, and delete this email.

--- Forwarded by Conrad Sigurdson on 2010-03-01 09:55 PM ---

"East Ridge Developments Inc."  
To calgardson@saskpower.com  
cc Subject: Conrad  Proposed Saddle Ridge Development

Re: NE 38-38-4 W3rd  
Customer #8000070387  
Project Reference #301031537

Further to our telephone conversation on Monday, February 8, 2010, I am sending you a copy of the proposed plan we have submitted to the R.M of Corman Park. I hope this is adequate information for you to give us a ballpark figure of cost for SaskPower to service the project pending the approval of the proposal.

Updates on the progress of the project will be forwarded to you as it becomes available.

Thank you very much.

Landry Markowsky  
East Ridge Developments Inc.

2/23/2010
Appendix L
Correspondence with Fire and Protective Services
From: "Kobussen, Gary (Fire)" <Gary.Kobussen@Saskatoon.ca>
To: "East Ridge Developments Inc." <eastridge@sasktel.net>
Sent: Tuesday, August 03, 2010 1:58 PM
Subject: RE: Confirmation requested

East Ridge Developments Inc.

With regard to our Fire Service Agreement with Corman Park, Saskatoon Fire & Protective Services have no concerns on the development.

Gary Kobussen
Deputy Chief
Saskatoon Fire & Protective Services

From: East Ridge Developments Inc. [mailto:eastridge@sasktel.net]
Sent: July 21, 2010 10:48
To: Kobussen, Gary (Fire)
Subject: Confirmation requested

East Ridge Developments Inc. has a proposal in the R.M. of Corman Park to subdivide a parcel of land which is 30-36-4 W3rd. We have received approval from the R.M. council to proceed with our application and to include pertinent data with our final submission.

Attached is a copy of our plan for this proposed multi-parcel development. We have spoken to Eric MacDougall from the R.M. planning department who suggested we forward this plan to you as notification of our intentions.

As the R.M. of Corman Park pays the Saskatoon Fire Department for coverage in this area, we look forward to receiving acknowledgement that you have been notified of this future subdivision.

Please contact us if you have any questions. Thank you.

Landry & Kim Merkosky
East Ridge Developments Inc.
email: eastridge@sasktel.net
Phone: 308 477-2447
Fax: 308 477-2450

8/13/2010
Appendix M
Sample Latecomer Agreement
Policy  Municipal Servicing Agreements and Reimbursement of Road Servicing Costs

1  Purpose

To establish municipal policy for the re-imbursement of front end road servicing costs, in part, to a developer who has been required under the provisions of a servicing agreement to pay servicing agreement fees for construction of a road or for a road improvement to a proposed residential subdivision. In the course of providing for the required road, the developer will be providing a benefit to other land owners in the area that may subsequently decide to subdivide their land. A municipality may include re-imbursement provisions in a servicing agreement with the “first in” developer to recover a proportionate share of service fees through serving agreement provisions with “latecomer” developers. Such fees will be paid to the municipality by the “latecomer” developer and reimbursed to the “first in” developer.

2  Authority

Section 172(3)(b) of The Act provides that a municipality may require a servicing agreement prior to subdivision approval to provide for the payment of fees by the applicant for payment in whole or part for the capital cost of providing infrastructure within or outside the proposed subdivision that directly or indirectly serves the proposed subdivision.

Section 173 (d) of The Act provides that a servicing agreement may provide for re-imbursement of servicing agreement fees collected by a municipality under a servicing agreement (together with any accrued interest on the money collected) from the payment of serving agreement fees by a subsequent developer whose land benefits from the provision of infrastructure provided under a previous servicing agreement.

3  Definition of Terms

Benefitting Area:

means any land which is adjacent to and receives access via a road improved pursuant to a servicing agreement.

Cost of Road Improvements:

shall include:

a) land or right of way acquisition costs;

b) current construction costs; and,

c) design and inspection costs by a certified professional engineer.
The cost of road improvements shall not include any road enhancements provided by the municipality subsequent to the construction of the road under the provisions of a servicing agreement with a first-in developer.

**First-in Developer:**

means a subdivision applicant/developer who is required, under the provisions of a servicing agreement, to pay fees for the construction of a road to provide access from the existing municipal road system to the proposed subdivision.

**Latecomer Developer:**

means a subdivision applicant /developer who subsequently proposes to subdivide land in the benefitting area and is required under the provisions of a serving agreement to pay latecomer charges to re-imburse the first-in developer for a proportionate share of road construction costs.

**Per Metre Latecomer Charge:**

shall be calculated based on the cost of road improvements divided by the total frontage of all land in the benefitting area on the improved road.

**Latecomer Charge:**

shall be calculated for land in the benefitting area based on the per metre latecomer charge multiplied by the total frontage of lots in the proposed subdivision.

4 **Servicing Agreement Reimbursement Provisions**

A servicing agreement that provides rights to re-imbursement of a proportionate share of road construction costs to a first-in developer shall include the following provisions:

a) **Identification of Benefitting Area**

A map which identifies all properties in the benefitting area including a list of legal descriptions and the names of registered owners shall be furnished by the developer.

b) **Cost of Road Construction**

The municipal engineer will confirm the cost of road construction for the municipality at the developers expense for inclusion in the agreement.

c) **Time Period for Reimbursement**

The agreement should state a specific time period (e.g. 10 to 15 years), to which the
rights to reimbursement will apply based on the recommendation of the municipal engineer furnished at the developer’s expense. An option for extending the agreed upon time period may be included in the agreement under the same terms as noted above should the life expectancy of the road exceed initial expectations.

d) **Per-metre Latecomer Charges**

The identification of the per-metre latecomer charges for the benefitting area will be identified by the municipality in the agreement.

c) **Potential Latecomer Charges**

The identification of the potential latecomer charges for each existing property in the benefitting area shall be provided by the developer in the form of a schedule detailing the proportionate share of potential charges for each property under each possible residential density development option in the municipality.

f) **Procedural Details**

Identification by the municipality in the agreement of procedural details respecting the manner of payment of latecomer charges by a latecomer developer and the reimbursement of fees to the first-in developer.

g) **Developers’ Responsibility to Maintain Communication**

Upon the collection of the latecomer charge, the Rural Municipality will notify the developer by an agreed means of communication (mail, telephone, etc.).

It is the sole responsibility of developer to maintain communication with the Rural Municipality and to ensure that the Rural Municipality’s information remains current to communicate with the developer. Latecomer charges will be held by the Rural Municipality on behalf of the developer for 364 calendar days from the first attempt to contact the developer, at which point the developer forfeits reimbursement and the latecomer charge will be reimbursed to the latecomer.

5 **Other Considerations**

There are a number of additional considerations that the municipality may wish to address in relation to enacting a reimbursement policy in servicing agreements:

a) **Notification to Property Owners**

All existing properties in the benefitting area including all agricultural holdings and any existing farmstead or country residential site, will be unaffected by the latecomer servicing agreement policy unless they choose to subdivide their property. All country residential subdivisions in the benefitting area subsequent to
a first in servicing agreement will be subject to latecomer charges. The only exemption will be granted by the municipality for the subdivision of an existing farmstead for residential retirement purposes. Council may wish to fully inform all landowners via registered letter concerning the consequences of the re-imbursement policy for landowners should they decide to subdivide and develop their property for country residential use.

b) Appeal Provisions

The reimbursement provisions in either a first-in or latecomer servicing agreement will constitute a term or condition of a servicing agreement as authorized pursuant to Section 172 of the Act. A subdivision applicant would have the right of appeal to the Saskatchewan Municipal Board pursuant to Section 176(1) of the Act concerning a dispute arising out of the terms or conditions of a servicing agreement. Therefore, a developer would have the right to appeal re-imbursement provisions of a servicing agreement.

Prepared by Crosby Hanna & Associates, November 2009
R.M.- Draft "Latecomer Policy"
Prepared By Crosby Hanna & Associates

1. Implementation

1.1 Latecomer Agreements

Any developer using private funds to construct road improvements in the Rural Municipality right of way that subsequently serves land other than the land being subdivided may apply to the R.M. for a Latecomer Agreement in accordance with this policy.

Definitions

A. "Frontender" means the person who constructs the road extension / improvement and carries through the Latecomer Agreement.

B. "Latecomer" means the registered owner of the lands that front and directly benefit from the construction of a road extension or improvement.

C. "Latecomer Graphic" is a required portion of the Latecomer Agreement application, showing the road extension / improvement and all benefitting lands, including front-end lands and waived lands, and the frontages for each parcel.

D. "Latecomer Rate Calculation" is a required portion of the Latecomer Agreement application, calculated by the total pre-construction cost estimate divided by the total benefitting lands frontage, including benefitting lands, front-end lands and waived lands.

E. "Latecomer Summary Table" is a required portion of the Latecomer Agreement application and includes the civic addresses and legal description of each benefitting parcel, including waived lands, the frontage for each parcel, and the estimated latecomer charge for each parcel assessed as a potential latecomer.

Agreement Principles

(1) Under the latecomer agreement, the RM shall impose a charge on subsequent owners who obtain physical access to, or benefit from the road extension / improvement. Such charges shall be paid the RM who will, in turn, pay the frontendeer.

(2) A property owner that already had an existing connection to a road of adequate size and capacity for the intended land use prior to the date of a latecomer agreement is exempt from all payments unless the property is developed to a higher density.
(3) The cost of the road extension / improvement used to determine the latecomer charges shall be based on the actual cost of the road extension / improvement required to serve the frontender's land in accordance with the Rural Municipality's road standards. The cost of the extension / improvement shall only include the following:

i) Land or rights of way acquisition costs (only those incurred outside the applicant's land);
ii) Current construction costs; and
iii) Design and inspection costs - all certified by a Professional Engineer.

(4) Within the benefiting lands of a Latecomer Agreement, the unit latecomer rate shall be calculated from the cost of the road extension / improvement (i.e. construction, engineering, consulting, and land acquisition costs) divided by the total amount of benefiting frontage.

(5) The developer may choose to waive or eliminate latecomer charges for certain lands within the benefiting area.

(6) An owner within the benefiting lands shall pay, at the time of application for subdividing his property, a latecomer charge equal to the unit latecomer rate, multiplied by the benefiting frontage for that lot, unless waived from the latecomer agreement by the Applicant.

(7) The latecomer charges shall be escalated by an interest rate (i.e. Bank of Canada Prime Rate). The accumulation of interest shall be compounded annually on the anniversary date of the completion of the extension / improvement.

(8) The term of the latecomer agreement shall not exceed 10 years
Option #2: The term of the latecomer agreement shall not exceed 15 years.
Option #3: The period during which latecomer fees will be collected will be the subject of negotiation between the developer and the RM.

(9) The R.M. is authorized to adopt a procedure which implements this policy (i.e. within the Basic Planning Statement).