**INVOICE SUMMARY PAGE**

<table>
<thead>
<tr>
<th>CONTRACTOR</th>
<th>VENDOR #</th>
<th>PROCESSING DATE</th>
<th>INVOICE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>A TSI</td>
<td>03931</td>
<td>12-3-09</td>
<td>139036</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>$ TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Avenue Dumpsite - Biological Ponds</td>
<td>$6,100.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BARS ACCOUNT TITLE</th>
<th>BARS ACCOUNT #</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Avenue Dumpsite Closure</td>
<td>450.09. 34.587.34.41.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BARS ACCOUNT TITLE</th>
<th>BARS ACCOUNT #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BARS ACCOUNT TITLE</th>
<th>BARS ACCOUNT #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BARS ACCOUNT TITLE</th>
<th>BARS ACCOUNT #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BARS ACCOUNT TITLE</th>
<th>BARS ACCOUNT #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BARS ACCOUNT TITLE</th>
<th>BARS ACCOUNT #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ENTERED INTO ENGINEERING DATABASE**

<table>
<thead>
<tr>
<th>Date Entered</th>
</tr>
</thead>
</table>

U:\Denise\Forms Miscellaneous\Invoice Summary Page.doc
16 November 2009

Jeff Beltramini
City of Anacortes, Engineering
904 6th Street
P.O. Box 547
Anacortes, WA 98221

Re: 10-Year Closure Plan and Timeline for the City of Anacortes, A Avenue Landfill.

Dear Mr. Beltramini:

This invoice is for work completed to date on the above referenced work. The work includes site visits, consultation with Skagit County, consultation with city staff for preparation of a draft report, preparation of figures, and preparation of the final closure plan.

A Avenue landfill Closure Plan.

<table>
<thead>
<tr>
<th>Task</th>
<th>Time</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Periodic consultation with city staff</td>
<td>6</td>
<td>600.00</td>
</tr>
<tr>
<td>2. Prepare draft closure plan</td>
<td>25</td>
<td>2,500.00</td>
</tr>
<tr>
<td>3. Preparation of figures</td>
<td>8</td>
<td>800.00</td>
</tr>
<tr>
<td>3. Prepare final closure plan</td>
<td>10</td>
<td>1,000.00</td>
</tr>
<tr>
<td>4. Consultation with Skagit County (on and off site)</td>
<td>4</td>
<td>400.00</td>
</tr>
<tr>
<td>5. Site visits (ATSI)</td>
<td>8</td>
<td>800.00</td>
</tr>
<tr>
<td>Office time/equipment and travel expenses</td>
<td></td>
<td>500.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6,600.00</td>
</tr>
</tbody>
</table>

Total amount due: $6,600.00

Please send remittance to: Jim Wiggins
ATSI
21993 Grip Road
Sedro-Woolley, WA 98284

Respectfully,

Jim Wiggins, PWS
President
ATSI
City of Anacortes  
Department of Public Works  
Invoice Summary for Project:  
03-071-ADM  
A Ave Dump Site Capping Project

**CONTRACT:** 03-071-ADM-009   Aqua-Terr Systems Inc. (ATSI)

<table>
<thead>
<tr>
<th>Invoice No.</th>
<th>Date</th>
<th>Account No.</th>
<th>Invoice Amount</th>
<th>Tax Amount</th>
<th>Retainage</th>
<th>Net Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>00001</td>
<td>12/1/2009</td>
<td>450.09.34.537.34.41.00</td>
<td>$6,600.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$6,600.00</td>
</tr>
</tbody>
</table>

**Construction Other**

Cost Phase Total: $6,600.00

Account Number Total: $6,600.00

| Total Invoiced This Contract | $6,600.00 | $0.00 | $0.00 | $6,600.00 |
| Current Contract Amount      | $0.00     |       |       |           |
| Amount Remaining on Contract  | ($6,600.00)|       |       |           |

Total Invoiced This Project: $6,600.00

Current Value All Contracts This Project: $67,496.95

Amount Remaining on Contracts: $60,896.95

Percent Invoiced This Project: 9.8%

Work for this invoice has been completed and this payment is approved for payment processing.

Date: 01-Dec-09  
Name: Jeff Beltramini  
Signature: [Signature]

12/1/2009     03-071-ADM     A Ave Dump Site Capping Project  
Page 1 of 1
TASK ORDER 03-071-ADM-009
Issued Under Basic Ordering Agreement 08-040-ADM-008
Between the City of Anacortes and Aqua-Terr Systems, Inc.

Task Order No. 03-071-ADM-009
Task Title Develop a Ten-Year Closure Plan for the A Avenue Landfill
Consultant Aqua-Terr Systems, Inc.
Consultant Contact Jim Wiggins Phone (360) 856-2139 Email atsi@fidalgo.net
City Contact Jeff Beltramini Phone (360) 661-3462 Email jeffb@cityofanacortes.org
City Project No. 03-071-ADM-009 Budget Line No. 450.09.34.537.34.41.00

BACKGROUND
Since Year 2003 it has been the City’s goal is to acquire a determination of non-significance from Skagit County Public Health Department for the A Avenue Landfill Site. Thus far, the work performed at the Site includes removing railroad materials, re-grading, adding soil cover which contains additives/amendments to reduce permeability, fencing, and some hydro seeding. The City now needs to prepare a 10-Years Closure Plan that meets the requirements set forth by the Skagit County Health Department. The scope of work under this task order is in response to recent correspondence from Skagit County Public Health representative, Ms. Polly Dubbel.

DESCRIPTION OF TASK ASSIGNMENT
The Consultant shall perform the activities detailed in attached Exhibit A which is incorporated and made a part hereof.

The Basic Ordering Agreement between the City of Anacortes and Aqua-Terr Systems, Inc. BOA No 05-040-ADM-008, shall be in full force and effect for this Task Order.

COMPENSATION
The work described in this Task Order shall be performed on a Time and Materials (T&M) basis. The not-to-exceed price is Eight Thousand Five Hundred Dollars ($8,500.00)

SCHEDULE
The Consultant shall complete the services described above by November 30, 2009

APPROVED
CITY OF ANACORTES
By H. Dean Maxwell
Signature Title Mayor
Date 8/25/09

AQUA-TERR SYSTEMS, INC.
By
Signature
Title
Date
Proposal for Work

The following has been prepared by Aqua-Terr Systems Inc. (ATSI) for Jeff Beltramini, City of Anacortes-Engineering, 904 6th Street, P.O. Box 547, Anacortes, WA 98221 (Client) and is an estimate of the tasks, time, and cost to assist the City of Anacortes to develop a 10-Year Closure Plan and Timeline for the City of Anacortes, A Avenue Landfill.

We reviewed the A Avenue Landfill site and on 26 May 2009 met with Ms. Polly Dubbel of the Skagit County Public Health Department (Skagit County) regarding the closure of the Avenue A Landfill (landfill). We have also reviewed a recent email from Ms. Dubble and have been on the site several times since our meeting with Ms. Dubble to discuss the final design and report content with city staff regarding closing the landfill. However, the most recent email from Ms. Dubble has given us a better understanding of the contents for the closure plan, therefore I am providing you with this revised estimate.

The estimates for this work are set forth below. Additional meetings with Client, Client’s representatives, and regulatory agencies may be required and are not included in the estimates set forth below. All descriptions, measurements, locations, and percentages are approximate.

Estimate for A Avenue Landfill Closure Plan.

<table>
<thead>
<tr>
<th>Task</th>
<th>Time</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Periodic consultation with city staff regarding required information</td>
<td>10</td>
<td>1,000.00</td>
</tr>
<tr>
<td>2. Prepare draft closure plan</td>
<td>40</td>
<td>4,000.00</td>
</tr>
<tr>
<td>3. Preparation of figures (see below*)</td>
<td>8</td>
<td>800.00</td>
</tr>
<tr>
<td>3. Prepare final closure plan</td>
<td>10</td>
<td>1,000.00</td>
</tr>
<tr>
<td>4. Consultation with Skagit County</td>
<td>4</td>
<td>400.00</td>
</tr>
<tr>
<td>5. Site visits</td>
<td>8</td>
<td>800.00</td>
</tr>
<tr>
<td>Office time/equipment and travel expenses</td>
<td></td>
<td>500.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>8,500.00</td>
</tr>
</tbody>
</table>

* Drawings (existing and proposed) shall be generated by Client with ATSI consultation.
CITY OF ANACORTES

ROUTING SLIP-REQUIRED APPROVALS
(Follow sequence set forth below)

Contract No: 03-071-ADM-009
Contract Name: Ten Year Closure Plan A Avenue, Landfill
Contract Amount: $8,500
Contracting Party: Aqua-Terra Systems Inc

1. DEPARTMENT HEAD: ___________________________ Date: 8-18-09
2. CONTRACT OFFICER: ___________________________ Date: 8/20/09
(Log-In)
3. FINANCE DIRECTOR: ___________________________ Date: 8/20/09
4. CITY ATTORNEY: ___________________________ Date: 
5. MAYOR: ___________________________ Date: 8/25/09
6. COUNCIL: ___________________________ Date: 
7. CONTRACT OFFICER: ___________________________ Date: 
(Log-Out)

COMMENTS: 

ACTION REQUIRED:

Interlocal Contracts: Please route to Legal Department: Carol Yates
August 12, 2009

Aqua-Terr Systems, Inc.
21993 Grip Road
Sedro-Woolley, WA 98284

Attention: Mr. Jim Wiggins

Subject: Task Order 03-071-ADM-009 Develop a Ten-Year Closure Plan for A Avenue Landfill

Dear Mr. Jim Wiggins,

Enclosed for your review and signature are three (3) copies of the subject task order which is revised from that originally submitted on July 30, 2009 since further correspondence with Skagit County Public Health Department.

Please return all three signed copies to my attention and a fully-executed copy will be furnished for your records once the Mayor signs.

Should you have any questions, you may contact our offices at (360) 293-1920.

Sincerely,

CITY OF ANACORTES

[Signature]
Denise Van Wyck
Administrative Assistant
BACKGROUND

Since Year 2003 it has been the City's goal to acquire a determination of non-significance from Skagit County Public Health Department for the A Avenue Landfill Site. Thus far, the work performed at the Site includes removing railroad materials, re-grading, adding soil cover which contains additives/amendments to reduce permeability, fencing, and some hydro seeding. The City now needs to prepare a 10-Years Closure Plan that meets the requirements set forth by the Skagit County Health Department. The scope of work under this task order is in response to recent correspondence from Skagit County Public Health representative, Ms. Polly Dubbel.

DESCRIPTION OF TASK ASSIGNMENT

The Consultant shall perform the activities detailed in attached Exhibit A which is incorporated and made a part hereof.

The Basic Ordering Agreement between the City of Anacortes and Aqua-Terr Systems, Inc. BOA No 05-040-ADM-008, shall be in full force and effect for this Task Order.

COMPENSATION

The work described in this Task Order shall be performed on a Time and Materials (T&M) basis. The not-to-exceed price is Eight Thousand Five Hundred Dollars ($8,500.00)

SCHEDULE

The Consultant shall complete the services described above by November 30, 2009

APPROVED

CITY OF ANACORTES

By H. Dean Maxwell
Signature
Title Mayor
Date

AQUA-TERR SYSTEMS, INC.

By
Signature
Title
Date
Proposal for Work

The following has been prepared by Aqua-Terr Systems Inc. (ATSI) for Jeff Beltramini, City of Anacortes-Engineering, 904 6th Street, P.O. Box 547, Anacortes, WA 98221 (Client) and is an estimate of the tasks, time, and cost to assist the City of Anacortes to develop a 10-Year Closure Plan and Timeline for the City of Anacortes, A Avenue Landfill.

We reviewed the A Avenue Landfill site and on 26 May 2009 met with Ms. Polly Dubbel of the Skagit County Public Health Department (Skagit County) regarding the closure of the Avenue A Landfill (landfill). We have also reviewed a recent email from Ms. Dubble and have been on the site several times since our meeting with Ms. Dubble to discuss the final design and report content with city staff regarding closing the landfill. However, the most recent email from Ms. Dubble has given us a better understanding of the contents for the closure plan, therefore I am providing you with this revised estimate.

The estimates for this work are set forth below. Additional meetings with Client, Client’s representatives, and regulatory agencies may be required and are not included in the estimates set forth below. All descriptions, measurements, locations, and percentages are approximate.

Estimate for A Avenue landfill Closure Plan.

<table>
<thead>
<tr>
<th>Task</th>
<th>Time</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Periodic consultation with city staff regarding required information</td>
<td>10</td>
<td>1,000.00</td>
</tr>
<tr>
<td>2. Prepare draft closure plan</td>
<td>40</td>
<td>4,000.00</td>
</tr>
<tr>
<td>3. Preparation of figures (see below*)</td>
<td>8</td>
<td>800.00</td>
</tr>
<tr>
<td>3. Prepare final closure plan</td>
<td>10</td>
<td>1,000.00</td>
</tr>
<tr>
<td>4. Consultation with Skagit County</td>
<td>4</td>
<td>400.00</td>
</tr>
<tr>
<td>5. Site visits</td>
<td>8</td>
<td>800.00</td>
</tr>
<tr>
<td>Office time/equipment and travel expenses</td>
<td></td>
<td>500.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>8,500.00</td>
</tr>
</tbody>
</table>

* Drawings (existing and proposed) shall be generated by Client with ATSI consultation.
July 30, 2009

Aqua-Terr Systems, Inc.
21993 Grip Road
Sedro-Woolley, WA 98284

Attention: Mr. Jim Wiggins

Subject: Task Order 03-071-ADM-009 Develop a Ten-Year Closure Plan for A Avenue Landfill

Dear Mr. Jim Wiggins,

Enclosed for your review and signature are three (3) copies of the subject task order. Please return all three signed copies to my attention and a fully-executed copy will be furnished for your records once the Mayor signs.

Should you have any questions, you may contact our offices at (360) 293-1920.

Sincerely,

CITY OF ANACORTES

Denise Van Wyck
Administrative Assistant
TASK ORDER 03-071-ADM-009
Issued Under Basic Ordering Agreement 08-040-ADM-008
Between the City of Anacortes and Aqua-Terr Systems, Inc.

Task Order No. 03-071-ADM-009
Task Title Develop a Ten-Year Closure Plan for the A Avenue Landfill
Consultant Aqua-Terr Systems, Inc.
Consultant Contact Jim Wiggins Phone (360) 856-2139 Email atsi@fidalgo.net
City Contact Jeff Beltramini Phone (360) 661-3462 Email jeffb@cityofanacortes.org
City Project No. 03-071-ADM-009 Budget Line No. 450.09.34.537.34.41.00

BACKGROUND
Since Year 2003 it has been the City's goal is to acquire a determination of non-significance from Skagit County Public Health Department for the A Avenue Landfill Site. Thus far, the work performed at the Site includes removing railroad materials, re-grading, adding soil cover which contains additives/amendments to reduce permeability, fencing, and some hydro seeding. The City now needs to prepare a 10-Years Closure Plan that meets the requirements set forth by the Skagit County Health Department. The scope of work under this task order is in response to an onsite meeting conducted between the Consultant and Skagit County Public Health representative, Ms. Polly Dubbel.

DESCRIPTION OF TASK ASSIGNMENT
The Consultant shall perform the activities detailed in attached Exhibit A which is incorporated and made a part hereof.

The Basic Ordering Agreement between the City of Anacortes and Aqua-Terr Systems, Inc. BOA No 05-040-ADM-008, shall be in full force and effect for this Task Order.

COMPENSATION
The work described in this Task Order shall be performed on a Time and Materials (T&M) basis. The not-to-exceed price is Thirteen Thousand Three Hundred Dollars ($13,300.00)

SCHEDULE
The Consultant shall complete the services described above by November 30, 2009

APPROVED
CITY OF ANACORTES AQUA- TERR SYSTEMS, INC.
By H. Dean Maxwell By 
Signature 
Title Mayor 
Date 

By 
Signature 
Title 
Date
Scope of Work

The Consultant shall develop a final draft 10-Year Closure Plan for submittal to Skagit County Health Department. Once the Consultant has prepared a draft plan, the Consultant shall coordinate a review of that plan obtaining review comments from the Health Department representative and the City representative. Comments shall be incorporated into the final draft plan.

The tasks to complete the 10-Year Closure Plan include:

Plan development:
- Client will provide documentation (anecdotal or quantitative) addressing the date of the last waste materials added to the landfill, the type of materials, and assurance that additional waste materials will not be placed into the landfill.
- ATSI will contact Skagit County to discuss the Closure Plan, the contents of this proposal, and maintain an open dialogue with Skagit County.
- Client will provide ATSI with a topographic contours map for the current cap of the landfill. ATSI and Client will work together with Skagit County to develop a mounded/rounded cap design to increase surface water runoff and reduce permeability.
- ATSI and Client will work with Skagit County to determine suitable material that is acceptable by Skagit County to assure infiltration standards are met for the cap. We anticipate typical imported subsoil fill material will be acceptable.
- Finalize Closure Plan with Client, gain approval for Closure Plan from Skagit and implement said plan.

Plan contents and implementation:
- Document and map the areas that are not to be mowed to protect the existing tree and shrub canopy, areas of steep slopes, wetlands, etc. This will be explained in detail within the report.
- Closure Plan will include a management plan for the control of invasive species growing on the current landfill cap (e.g. Japanese knotweed (Polygonum cuspidatum), Himalayan blackberry (Rubus procerus), etc.
- The report will address the debris posing safety hazards. Pieces of debris in the uplands and wetlands that are on top of the ground or buried shallow shall be identified and removed. Large metal debris more deeply buried should not be pulled out; however, those portions sticking up above ground can be cut off. Large areas of glass within the wetland should not be removed, but physical controls should be implemented to keep the wetlands wet and to keep people out.
- Deterrents to human intrusion should be addressed. Natural methods for deterring human intrusion are preferred. For example fallen logs, split rail fencing, and spiny vegetation such as devils club (Oplopanax horridus), Nootka rose (Rosa nutkana), clustered rose (Rosa pisocarpa), and salmonberry (Rubus spectabilis) are preferable to metal fencing and signage. This shall be described and designed within the report.
- Import fill material to Skagit County requirements.
- Cover the cap with topsoil to enable the establishment of a grass covering and maintenance procedures and policies.
- Provide a surveyed map of the as-built and document within the report. To be prepared by Client with ATSI consultation.
- Perform a drainage inspection and provide a diagram showing where the drainage from the capped landfill is flowing to.
- Provide a maintenance plan that includes a follow up in 5 years to determine if the cap needs further improvement, if the drainage sample points need to be modified, if toluene should be retested for, if additional barriers to points of human intrusion need to be added, etc.
- Include test sampling which should occur at least 2 times, once after closure and once after 5 years. The City will need to document where the test sampling will occur and why those locations were selected, ATSI will select locations. Testing should include basic pH, metals, nitrates/ites, sulfides, low level vinyl chloride, VOC, and to recheck the previous Toluene hit (this list requires confirmation with Skagit County).
Proposal for Work

The following has been prepared by Aqua-Terr Systems Inc. (ATSI) for Jeff Beltramini, City of Anacortes-Engineering, 904 6th Street, P.O. Box 547, Anacortes, WA 98221 (Client) and is an estimate of the tasks, time, and cost to assist the City of Anacortes to develop a 10-Year Closure Plan and Timeline for the City of Anacortes, A Avenue Landfill.

We reviewed the A Avenue Landfill site and on 26 May 2009 met with Ms. Polly Dubbel of the Skagit County Public Health Department (Skagit County) regarding the closure of the Avenue A Landfill (landfill). The purpose of said meetings was to familiarize ourselves with the project and to enable us to prepare this proposal. The tasks to complete said Closure Plan, are as follows, but not limited to:

Plan development:
- Client will provide documentation (anecdotal or quantitative) addressing the date of the last waste materials added to the landfill, the type of materials, and assurance that additional waste materials will not be placed into the landfill.
- ATSI will contact Skagit County to discuss the Closure Plan, the contents of this proposal, and maintain an open dialogue with Skagit County.
- Client will provide ATSI with a topographic contours map for the current cap of the landfill. ATSI and Client will work together with Skagit County to develop a mounded/rounded cap design to increase surface water runoff and reduce permeability.
- ATSI and Client will work with Skagit County to determine suitable material that is acceptable by Skagit County to assure infiltration standards are met for the cap. We anticipate typical imported subsoil fill material will be acceptable.
- Finalize Closure Plan with Client, gain approval for Closure Plan from Skagit and implement said plan.

Plan contents and implementation:
- Document and map the areas that are not to be mowed to protect the existing tree and shrub canopy, areas of steep slopes, wetlands, etc. This will be explained in detail within the report.
- Closure Plan will include a management plan for the control of invasive species growing on the current landfill cap (e.g. Japanese knotweed (Polygonum cuspidatum), Himalayan blackberry (Rubus procerus), etc.
- The report will address the debris posing safety hazards. Pieces of debris in the uplands and wetlands that are on top of the ground or buried shallow shall be identified and removed. Large metal debris more deeply buried should not be pulled out; however, those portions sticking up above ground can be cut off. Large areas of glass within the wetland should not be removed, but physical controls should be implemented to keep the wetlands wet and to keep people out.
- Deterrents to human intrusion should be addressed. Natural methods for deterring human intrusion are preferred. For example fallen logs, split rail fencing, and spiny vegetation such as devils club (*Oplopanax horridus*), Nootka rose (*Rosa nutkana*), clustered rose (*Rosa pisocarpa*), and salmonberry (*Rubus spectabilis*) are preferable to metal fencing and signage. This shall be described and designed within the report.
- Import fill material to Skagit County requirements.
- Cover the cap with topsoil to enable the establishment of a grass covering and maintenance procedures and policies.
- Provide a surveyed map of the as-built and document within the report. To be prepared by Client with ATSI consultation.
- Perform a drainage inspection and provide a diagram showing where the drainage from the capped landfill is flowing to.
- Provide a maintenance plan that includes a follow up in 5 years to determine if the cap needs further improvement, if the drainage sample points need to be modified, if toluene should be retested for, if additional barriers to points of human intrusion need to be added, etc.
- Include test sampling which should occur at least 2 times, once after closure and once after 5 years. The City will need to document where the test sampling will occur and why those locations were selected, ATSI will select locations. Testing should include basic pH, metals, nitrates/ites, sulfides, low level vinyl chloride, VOC, and to recheck the previous Toluene hit (this list requires confirmation with Skagit County).
- Implementation (importation of fill material, debris removal, plantings, etc.) of the Closure Plan is not included in this proposal.

Below are a description of our company and an estimate of the tasks, time and cost to complete this work.

1. **Description of Company**

Aqua-Terr Systems, Incorporated (ATSI), formed in 1988, is an environmental consulting and management corporation in the biological fields of habitat and water quality assessments, and system design. ATSI specializes in environmental monitoring and permitting, analysis, design, and restoration of freshwater, marine and terrestrial systems.

Jim Wiggins the principal of ATSI performs or supervises all fieldwork and report preparation. Mr. Wiggins has a Masters of Science degree in ecology and is a Professional Wetland Scientists certified through the Society of Wetland Scientists Professional Certification Program. Janet Cray, associate biologist, has a Bachelors of Arts degree in science and biology, is our field technician and report preparation specialist. She has taken 120 hours of wetland related course work through the University of Washington and is an AutoCAD specialist. Karla Van Leaven, associate biologist with a Bachelor of Science, is also our field technician and report preparation specialist. She has a BS from Paul Smiths College in New York.
2. Fees
ATS I charges $100.00/hour/person for all work. The terms of payment are as follows: Timely Payment.

3. Cost Estimates
ATS I's proposal for work includes an existing conditions report, a proposed conditions report, consultation with city staff on the design of the trail and includes mitigation measures, and, permitting. The estimates for this work are set forth below. Additional meetings with Client, Client's representatives, and regulatory agencies may be required and are not included in the estimates set forth below. All descriptions, measurements, locations, and percentages are approximate.

<table>
<thead>
<tr>
<th>Estimate for A Avenue landfill Closure Plan.</th>
<th>Time</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Data collection</td>
<td>14</td>
<td>1,400.00</td>
</tr>
<tr>
<td>2. Existing conditions summary</td>
<td>8</td>
<td>800.00</td>
</tr>
<tr>
<td>3. Periodic consultation with city staff</td>
<td>25</td>
<td>2,500.00</td>
</tr>
<tr>
<td>regarding required information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Prepare draft closure plan*</td>
<td>40</td>
<td>4,000.00</td>
</tr>
<tr>
<td>5. Consultation with Skagit County</td>
<td>8</td>
<td>800.00</td>
</tr>
<tr>
<td>6. Preparation of As-built</td>
<td>12</td>
<td>1,200.00</td>
</tr>
<tr>
<td>7. Follow up site inspections</td>
<td>16</td>
<td>1,600.00</td>
</tr>
<tr>
<td>8. Monitoring**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office time/equipment and travel expenses</td>
<td></td>
<td>1,000.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>13,300.00</td>
</tr>
</tbody>
</table>

* Drawings (existing and proposed) shall be generated by Client with ATSI consultation.
** Monitoring cannot be bid at this time but must include water sample collection and analysis.

4. Indemnification
All of the statements to be expressed by our company are based on ATSI's professional judgment and although ATSI follows applicable federal, state, and local criteria, ATSI does not guarantee that the U.S. Army Corps of Engineers, WA State Department of Ecology, or the local jurisdiction (Skagit County) determination will correspond to ATSI's determination. Please note that regulations pertaining to this project are subject to Skagit County approval.

ATS I does not make any representations as to the applicability of any federal, state, or local regulation to Client's property. ATSI recommends that Client consult an attorney with regard to the legal interpretation of any statutes and regulations that may pertain to your project.

Client covenants and agrees to fully defend, protect, indemnify and hold harmless ATSI, including its officers, employees, and agents from and against all claims, demands, suits at law or equity including costs, expenses and attorney's fees incurred in defense of any such claims, demands, or suits arising out of or in any way related to the negligent acts or omissions of Client, its employees, officers, and agents; and in like

City of Anacortes, Avenue A Landfill
ATS I, 22 June 2009
fashion, ATSI covenants and agrees to fully defend, protect, indemnify and hold harmless Client, its officers, employees, and agents from and against all claims, demands, and suits at law or equity including costs, expenses, and attorney’s fees incurred in defense of any such claims, demands, or suits arising out of or in any way related to the negligent acts or omissions of ATSI, its employees, officers, and agents. If claims, demands, or suits result from the concurrent negligence of Client and ATSI, this indemnity provision with respect to such claims or suits based upon such concurrent negligence shall be valid and enforceable only to the extent of negligence of either Client or ATSI or that of their respective agents, officers or employees.

5. **Expiration of Proposal**

This proposal shall expire 30 days from its execution. ATSI can typically begin work within approximately twenty (20) working days of written acceptance and return of this entire proposal. Invoices (payment) will be billed on a monthly basis or upon completion a pertinent portions of the above referenced work. No down payment is required for this contract.

Signature of ATSI representative, Jim Wiggins________________________ Date____________
atsi@fidalgo.net

Signature of acceptance________________________________________ Date____________

Print name_____________________________________________________

Billing Address__________________________________________________

Telephone_______________________________________________________

Cc: Denise Van Wyck
Administrative Assistant
City of Anacortes
Public Works Department
PO Box 547
Anacortes, WA 98221
December 17, 2009

Jeff Beltramini
City of Anacortes Engineering
904-6th Street
P.O. Box 547
Anacortes, WA 98221

Janet Cray
ATSI
21993 Grip Road
Sedro Woolley, WA 98284

RE: A Avenue Landfill 10-Year Closure Plan City of Anacortes, Washington

Dear Mr. Beltramini and Ms. Cray:

I have reviewed your December 12, 2009 report “A Avenue Landfill 10-Year Closure Plan City of Anacortes, Washington.” The plan is approved by the Skagit County Health Department. We will look for the submittal of the As Built and Drainage Inspection as described in the 10-Year Closure in the next few weeks. Sampling locations will be determined at that time with sampling reports to be submitted in 2010 and 2015. Please be aware that if conditions change at the site or new information is found indicating a threat to human health or the environment the Health Department may require changes to this plan and further review of the site under the Model Toxics Control Act. Any changes to this plan need to be reviewed and approved in writing by the Health Department. Thank you all for your efforts in completing the closure of this landfill.

Sincerely,

Polly Dubbel
Environmental Health Specialist
12 December 2009

Prepared for:

City of Anacortes
904 – 6th Street
P.O. Box 547
Anacortes, WA 98221

Prepared by:

ATSI
21993 Grip Road
Sedro-Woolley, Washington 98284

ATSI
Aqua-Terr Systems, Inc.
# TABLE OF CONTENTS

**LIST OF FIGURES** ................................................. iii

**EXECUTIVE SUMMARY** ........................................... 1

**INTRODUCTION** .................................................. 1

**SITE DESCRIPTION** ............................................. 1
  - General .................................................................. 1
  - Historical Information ........................................ 2

**PROPOSED 10-YEAR CLOSURE PLAN** ....................... 4
  - Landfill Capping .................................................. 5
    - Topography ..................................................... 5
    - Soils ................................................................ 5
    - Compaction ...................................................... 5
    - Topsoil & Hydroseeding ...................................... 5
    - As-Built .......................................................... 5
    - Steep Slopes & Margins ................................. 5
  - Monitoring: Drainage Inspections & Test Sampling ...... 6
  - Public Safety/Access ............................................ 6
    - Fencing .......................................................... 6
    - Exposed Miscellaneous Debris ......................... 6
    - Glass Debris Field ........................................... 6
    - Signage .......................................................... 7
  - Annual Maintenance, Management, and Reporting .... 7
    - Annual Maintenance ........................................ 7
    - Adaptive Management ..................................... 7
    - Reporting ....................................................... 7

**FIGURES** ................................................................ 8

**LIST OF FIGURES**

Figure 1. Vicinity Map
Figure 2. Aerial Photograph of Landfill Cap Location
Figure 3. Existing Conditions & Cross Section Locations
Figure 4. Proposed Conditions & Cross Section Locations
Figure 5. Existing and Proposed Conditions, Landfill Cross Section A-A'
Figure 6. Existing and Proposed Conditions, Landfill Cross Section B-B'
Figure 7. Existing and Proposed Conditions, Landfill Cross Section C-C'
Figure 8. Proposed Mowing and Noxious Weed Control Plan
EXECUTIVE SUMMARY
In August 2009, the City of Anacortes contracted with ATSI to prepare a 10-Year Closure Plan for the A Avenue Landfill. The Closure Plan is intended to meet the requirements set forth by the Skagit County Health Department (Skagit County) by addressing: the topography and final recontouring of the landfill cap in order to increase surface water run off and decrease the potential for infiltration; drainage inspections and test sampling; public safety issues created by landfill debris in the uplands and wetlands; annual maintenance, adaptive management, and follow up reports.

INTRODUCTION
As requested, ATSI reviewed the approximately 6-acre landfill located within a portion of the Anacortes Community Forest Lands, west of A Avenue, in the City of Anacortes, Washington, within a portion of Section 26, Township 35 North, Range 1 East, W.M. (Figure 1). The landfill is comprised of the “cap,” which is approximately 1.58-acres of bare weedy surface soils rising 25 to 30 feet above grade; approximately 1.95-acres of steep vegetated slopes adjacent to the cap; and the remaining areas of debris which extend in all directions into the adjacent forested wetland and upland areas (Figures 2 and 3).

ATSI met with Skagit County staff who clarified that the A Avenue Landfill closed under WAC 173-301 standards. Therefore, the current WAC 173-351 landfill closure standards do not apply to the landfill. However, the Health Department recommended capping, maintenance, monitoring, and public safety/access specifications to mitigate environmental and public health impacts from the landfill. This 10-year Closure Plan will address how the City will meet these criteria.

SITE DESCRIPTION
General
The landfill is located within a portion of the Anacortes Community Forest Lands (ACFL), west of A Avenue, in the City of Anacortes, Washington (Figure 1). The landfill is approximately 6-acres in size and is comprised of the “cap,” which is approximately 1.58-acres of bare weedy surface soils that rise 25 to 30 feet above grade; approximately 1.95-acres of steep vegetated slopes adjacent to the cap; and the remaining areas of debris which extend in all directions into the adjacent forested wetland and upland areas (Figures 2 and 3). The cap, though slightly sloped to the east, is terrace-shaped and allows pockets of water to pond and potentially infiltrate into the landfill (Figures 3, 5, 6 and 7). A 6-foot tall chain-link fence was erected and extends along the southeastern side of the landfill, adjacent to the trail, to prohibit access by bicycles and motorcycles onto the cap. A stormwater collection ditch was constructed in 2008 along the southeastern boundary of the landfill.

Land use in the vicinity of the landfill includes approximately 517 acres of the ACFL with trails utilized for walking, hiking, bicycling, and motorcycle riding. Residential areas are located to the east of A Avenue. Because of the heavy public use of the trails in the vicinity of the landfill, public safety issues are a primary concern with
Skagit County, especially adjacent to the glass debris area located along the west side of the landfill.

On 15 February 2006, ATSI performed a Wetland Fish/Wildlife Reconnaissance and Delineation of a study area, approximately 10-acres in size, which included the A Avenue Landfill and immediate vicinity. We identified seven seasonally flooded, palustrine forested scrub/shrub (PFO/SSC) wetlands within and near the 10-acre study area. Wetlands B, C and D are located to the east of the landfill and wetlands E, F and G are located to the west (Figure 3; ATSI 31 May 2006 Report). Wetlands E and F are associated with seasonal streams that originate and/or continue off-site. Wetland A is likely a Category I wetland, but is off-site and was not fully investigated as part of the 31 May 2006 report. Wetlands E and F are rated as Category I wetlands with 200-foot required buffers. Wetlands B, C, D, and G are rated as Category III wetlands with 50-foot required buffers. These wetlands are regulated by the City of Anacortes, state, and federal governments, and permits are required from the appropriate agencies for site development and activities that occur in the wetlands or buffers.

The proposal for the landfill cap will not fill any wetlands; however, placement of fill will occur within the buffers of the on-site regulated wetlands. Because the site of the cap is a landfill, the dominant vegetation is non-native and the margins/steep slopes of the landfill where mowing is impracticable have generated invasive species that include: poison hemlock (Conium maculatum), Japanese knotweed (Polygonum cuspidatum), and hedge bindweed from the morning glory family (Convolvulus sepium). The majority of the cap will be planted with non-native grass for the purpose of preventing tree root penetration through the cap; however, noxious weed control along these margins/steep sides of the landfill has and will continue to be implemented. The net result will be an enhancement of the existing buffers.

Historical Information
During the 1960's and 1970's, the landfill was utilized for municipal solid waste, most of which was eliminated by burning. When regulations changed and burning was prohibited, the City stopped accepting municipal waste at this location, but continued to use it to dispose of and store materials such as wood waste, concrete and asphalt, metals, yard waste, vactor waste, and street sweepings. In the 1980's, a concrete slab was poured to the east of the landfill cap and used for a sewage sludge drying bed. In the early 1990's, it was reported that a plastic barrier was laid down and the surface of the landfill was used to treat petroleum contaminated soils.

In 2003, Skagit County conducted an initial investigation of the A Avenue Landfill. It was determined that no data existed for the type of soils placed in the landfill or the thickness or permeability of the surficial layers of the cap. Without documentation for the soils, type, and thickness of the cap; it was difficult to accurately assess the level of risk generated by the landfill from the potential infiltration of surface water and/or the leaching of potential toxins. In 2003, the City of Anacortes contracted with Geomatrix to test for the presence of any contaminants that were likely to pose risks
which would trigger further action under the Model Toxics Control Act. No results from the water quality tests exceeded applicable MTCA Method A or B clean up levels for groundwater and surface water with the exception of manganese. There was only one type of volatile organic carbon (VOC), p-isopropyl toluene, detected; but there is no clean up level listed for this compound. After reviewing the results of the water quality test samples collected by Geomatrix, the site was placed on the Confirmed and Suspected Contaminated Sites list by Ecology for confirmed soil contamination with petroleum products and suspected soil and sediment contamination with petroleum and polycyclic aromatic hydrocarbons (PAH). There has been no additional testing performed since this time.

In April of 2005, the City contracted with Geomatrix to investigate the site and prepare a work plan for further grading of the landfill. The grading was intended to reduce stormwater infiltration, minimize the potential for leachate, minimize erosion and to address public safety issues. In their August 2006 report, Geomatrix stated that, when the City closed the landfill in approximately 1973, they brought in soils to cover the waste and they regraded the landfill. The report noted that these were standard methods for landfill closures at this time. They confirmed that, following the initial closure, the City used the landfill up to 2006 for disposal and storage of public works materials including wood and yard wastes, concrete and asphalt, scrap metals, street/vactor waste materials, street sweepings, and fill dirt. They further stated that these materials averaged 5 to 6 feet in thickness over most of the site, but as much as 15 feet over the southwestern portion of the landfill. Overall, the landfill reaches 25 to 30 feet in elevation above the surrounding topography. Geomatrix noted that, while the landfill generally slopes to the east, two terraces were present. Ultimately the proposal outlined by Geomatrix for the grading and final capping of the landfill was not carried out because it was felt the proposed plan was overly complex and the City wanted to seek a more cost effective solution.

On 15 February 2006, ATSI performed a Wetland Fish/Wildlife Reconnaissance and Delineation of approximately 10-acres which included the A Avenue Landfill and immediate vicinity. We identified seven seasonally flooded, palustrine forested scrub/shrub (PFO/SSC) wetlands within and near the 10-acre study area. Wetlands B, C and D are located to the east of the landfill and wetlands E, F and G are located to the west (Figure 3; ATSI 31 May 2006 Report). Wetlands E and F are associated with seasonal streams that originate and/or continue off-site. Wetland A is likely a Category I wetland, but is off-site and was not fully investigated as part of the 31 May 2006 report. Wetlands E and F are rated as Category I wetlands with 200-foot required buffers. Wetlands B, C, D, and G are rated as Category III wetlands with 50-foot required buffers. These wetlands are regulated by the City of Anacortes, state, and federal governments, and permits are required from the appropriate agencies for site development and activities that occur in the wetlands or buffers.

In the fall of 2008, the City brought in additional soil and graded the east and northeast sides of the cap.
On 7 April 2009, Skagit County conducted a second site assessment of the landfill. It was noted that the surface of the landfill was tiered, that additional soil now covered previously exposed materials, and a 6-foot high chain-link fence was installed to prevent public access to the cap. However, Skagit County also observed water collecting in pockets that could be seen in wet weather. In their 26 May 2009, Site Hazard Assessment report, Skagit County recommended no further action under the Model Toxics Control Act, conditioned on completion of approved landfill closure. The report notes that no drinking water systems are impacted from the landfill and that the areas receiving runoff are native wetlands. Therefore, Skagit County concluded that the risk of environmental impacts to the wetlands from further dredging or additional work was greater than impacts posed to the public since everyone down gradient receives public water.

Skagit County requested that the City proceed with the implementation of a 10-year closure plan (CP) which addressed: safety issues such as limiting public access to the cap and the western glass/metal debris field, removal of materials from the surface of the landfill where removal can be accomplished in a way that does not negatively impact the environment, completion of a soil cap that is recontoured to prevent ponding and reduce stormwater infiltration, maintenance of a grass cover on top of the cap, test sampling for leachate, and a maintenance plan for follow ups needed to assess the effectiveness of the cap and to address any other issues that require further attention.

In 2009, the City contracted with ATSI to prepare a 10-Year CP for the A Avenue Landfill. Jim Wiggins and Janet Cray of ATSI met with Skagit County on 26 May 2009. At this meeting, Skagit County clarified that the A Avenue Landfill closed under WAC 173-301 standards. Therefore, the current WAC 173-351 landfill closure standards do not apply to the landfill. However, the Health Department recommended capping, maintenance, monitoring, and public safety/access specifications to mitigate environmental and public health impacts from the landfill. Subsequent meetings between Skagit County, ATSI, and the City, held on-site at the landfill on 14 October and 19 October of 2009, identified options and further clarified acceptable closure requirements. This 10-Year CP incorporates information gathered from meetings with Skagit County, itemizes the requirements for the CP, and details how each will be addressed by the City of Anacortes in order to provide an acceptable closure plan for the A Avenue Landfill.

**PROPOSED 10-YEAR CLOSURE PLAN**

This CP, as outlined below, will address the recommendations for capping needed to increase surface water run off and decrease the potential for infiltration; monitoring through drainage inspections and test sampling; public safety/access; and annual maintenance, adaptive management, and reporting.
Landfill Capping

Topography
The existing topography of the landfill will be modified by the resculpting of existing surface materials and the placement of additional fill in order to create a mounded cap with approximately 5 percent slopes (Figure 4, 5, 6 and 7). These recontoured slopes will prevent the occurrence of standing water, increase surface water runoff, reduce permeability, and facilitate rapid runoff from the landfill into adjacent undisturbed lands.

Soils
The soils used for the cap will be clay type content soils that have a high compaction capacity to prevent infiltration. Following the recontouring, but before hydrote seeding occurs, a representative soil sample will be collected and sent in to a laboratory for soil content identification and compaction/infiltration rate capacities.

Compaction
Once the cap topography and slopes have been found to be acceptable, heavy machinery will roll and compact the upper layer of the cap to the greatest extent possible.

Topsoil & Hydrote seeding
The cap will be covered with a final layer of 6-inches of topsoil to enable the establishment of a hydrote seeded grass covering (Figures 5, 6 and 7).

As-Built
Following the creation of the final mounded cap, the City will provide an as-built that includes photographs (pre and post construction). The achieved soil permeability will be noted in the as-built report along with the achieved slopes of the cap.

Steep Slopes & Margins
The steep slopes along the margins adjacent to the landfill cap create a potential for disturbance to soils, underlying landfill materials, the existing tree and shrub canopy stabilizing the slopes, and the adjacent wetlands. Therefore, these areas are not to be mowed or disturbed (Figure 6).

The steep slopes of the landfill where mowing is impracticable have generated invasive species that include: poison hemlock, Japanese knotweed, and hedge bindweed. Over the past three years, noxious weed control in these areas has been an ongoing project for the City’s Parks Department with noticeable success. Therefore, noxious weed control along the steep sides of the landfill will continue to be implemented as part of their ongoing maintenance (Figure 8).

The margins of the landfill along the north and northeastern side of the natural drainage also have generated invasive species that create a competing seed bank for the cap and the adjacent forest lands. On 14 October 2009, ATSI, the City, and Skagit County staff met on site to discuss combating the invasive species in this
location. It was agreed that a path would be graded to allow access for a mower and the noxious weeds in this location were to be mowed as short as possible. It was further agreed upon that an existing row of red alders would be allowed to remain, additional alders would be planted in a row along the edge where they are lacking, and volunteer alders would be allowed within the interior of the area dominated by invasive species in order to promote shading and to outcompete and inhibit the reestablishment and dominance of invasive species (Figure 8).

**Monitoring: Drainage Inspections & Test Sampling**
Following the recontouring of the cap, a drainage inspection will be performed during the wet season. A diagram will be provided to Skagit County that shows where the drainage from the capped landfill is flowing. ATSI and the City will confer with Skagit County staff to determine the most logical sites for test sampling.

Test sampling will occur at least 2 times, once after closure and once after 5 years. Test samples will include pH, metals, nitrates and nitrites, sulfides, low level vinyl chloride, and VOC.

**Public Safety/Access**
Hazards created by landfill debris in the uplands and wetlands have been addressed by consideration of public safety as well as the need to implement methods which minimize the potential disruption of soil and debris. The methods proposed below address fencing, exposed miscellaneous debris, the glass debris field, and signage.

**Fencing**
Fencing adjacent to the cap and hydroseeded area will be maintained in order to continue to limit public access into the main cap area (Figure 3).

**Exposed Miscellaneous Debris**
Deeply buried materials such as large metal debris will not be pulled out due to the potential disruption to soils and other buried materials. Instead, those portions sticking up above ground will be cut off and removed wherever possible.

Miscellaneous debris that is exposed at the surface but is not deeply buried (large pieces of concrete or metal) will be removed and hauled off when it is practical and cost effective to do so.

**Glass Debris Field**
Large areas of glass within the wetland also will not be removed due to the likelihood for disruption of soils. Instead natural physical controls, such as log barriers or obnoxious natural barriers (woody debris, tree limbs, etc.) will be implemented as public deterrents at discrete points of obvious access, such as preexisting paths or trails (Figure 4).
Signage
Signs may also be installed to deter persons from deliberately investigating the landfill. In order not to create an attractive nuisance, signage referring to “Native Plant Restoration Area” is preferred to any references to the actual landfill or areas of debris.

Annual Maintenance, Management, and Reporting
Annual Maintenance
Mowing of the grass on the mounded cap will occur twice annually for 10-years (2119) to prevent trees and shrubs from growing on the cap (Figure 8). Fencing adjacent to the new cap and hydroseeded area will be maintained in order to continue to limit public access into this area (Figure 3).

Adaptive Management
Yearly on-site visits will be made by City staff during the wet season to determine if there are issues relevant to the functioning of the final cap (such as differential areas requiring more fill), public safety, testing sampling points, or noxious weed control areas that would require further adjustment or improvements.

Reporting
A 5-year follow-up will be provided to Skagit County that addresses the results of the 5th year test sampling results, any issues discovered during the course of the annual inspections, and any improvements or changes made therein.

A 10-year follow-up will be provided to Skagit County that discusses any additional issues discovered and improvements or changes made to the A Avenue Landfill.

Following the 10-year follow-up, if there are no further issues needing to be addressed, Skagit County will make a determination as to whether or not the annual maintenance occurring on the cap may be allowed to cease. Should no further action be required and should annual maintenance cease, the establishment and succession of native plants will be allowed to progress on the cap until the A Avenue landfill successfully blends into the adjacent forest lands.