



April 19, 2013

Via e-mail to: [jmartini@cityofsparks.us](mailto:jmartini@cityofsparks.us)

John A. Martini, P.E.  
Assistant Community Services Director  
City of Sparks  
431 Prater Way  
Sparks, NV 89431.

**Re:** Marina Village Channel – 2013-14 Lake Management & Services Proposal

Dear Mr. Martini:

We have assembled the proposal for the (2013) season water quality management and maintenance for the Marina Village Channel at the Sparks Marina, as per your request. The budget and scope of work covers the base items necessary for the maintenance of the water quality and overall aesthetics that both the residents and the City have come to accept as the minimum threshold. In addition, this report details the additional work at the site for the repairs and maintenance of the equipment and facilities, in an effort to minimize equipment downtime and or water quality related problems. Based on our most recent site visit (April 19), our work plan and scope for this season will cover the basic operations as well as including a brief summary of explanation for the City relative to the long(er) term maintenance items.

2013 – Base Channel Maintenance:

Based on the most recent inspection, crews noted that the channel and water quality in general, were in acceptable shape, however, was still at low water elevation. In the past, we have typically started our inspection services in April as a precaution, and will continue performing bi-weekly inspections of the site from this point forward. Under the “base” lake maintenance, crews will visit the site to inspect, remove flotsam and other debris, as well as perform our basic water quality testing. On our next visit, crews will restart the pump and circulation systems (water was too low and it had snowed earlier in the week), assuming that the temperatures and conditions will begin to warm up. The monthly maintenance program is designed to cover the regular and ongoing standard maintenance and testing services as required under this contract. As in the past, the items included under the standard maintenance program covers the following items:

- Monitor, test and document the water quality;
- Provide regularly scheduled service events (crew labor) to remove flotsam/debris and other surface materials;
- Inspect, start, reset equipment as needed
- Perform a thorough inspection, anticipate any water quality changes, and address in a proactive manner

The intent of this approach is to stay ahead of water quality degradation, nutrient spikes or other environmental factors to provide a healthy body of water. The maintenance and service program will consist of a minimum of one site visit per week to identify, manage and remove excessive or artificial nutrient sources from the channel to reduce or prevent nuisance odors or algae. As part of the documentation, crews will recommend corrective measures to abate nuisance conditions such as vegetation and algae blooms, as well as excessive waterfowl, before or when they occur.

Total Cost for this Service (Service from May through October, 2013):

\$8,976

In addition to the Base channel maintenance, we recommend that the City consider the following items relative to continue to manage and enhance the site.

Microbial Bacteria Program: In an effort to reduce the overall use of chemical use in the system, AEI has been using a microbial product to reduce the available nutrients within the water column. Starting this in 2009, testing showed moderate and quantifiable reductions in water quality related problems, which was attributed to the addition of beneficial bacteria to the system. The use of microbes since then has been part of a full spectrum IPM program that uses bacteria to remove the algae's primary food sources of Nitrogen and Phosphorus from the water column and underlying benthic layer. Since the channel is a one way flow system, it is treated as a static body for the purposes of this and other control applications. This program has been successful enough that we are recommending that the City continue to reduce chemical additions as a means of both cost saving and IPM compliance.

Microbial Bacteria (Seasonal program cost for 2013): \$2,960

2012 Algae Control (Planktonic & Filamentous): Even with the addition to the microbial applications, the channel sometimes requires spot to touch up applications to inhibit the growth of both Planktonic and Filamentous algae. The combination of a low movement body of water, and elevated (summer) temperatures results in infrequent blooms, when conditions are right. Much of the nutrients that produce the growth come from the main lake proper, as well as urban runoff from the (now) surrounding watershed. During the warmer months, algae, if not treated in a proactive manner, the water becomes malodorous and unsightly, causing complaints from both residents and park patrons. With the IPM program, we attempt to control the nutrient spikes in a proactive manner through microbial and mechanical means, however, there are conditions that can require treatments to minimize these occurrences. If warranted, AEI will treat the channel at label rates to achieve the desired results to preserve the overall water quality and aesthetics. Any products used are approved by the USEPA and the State of Nevada Department of Agriculture and applied by a State of Nevada licensed Pest Control Applicator (PCA). All applications will be performed or observed by Mr. Jose Botello to ensure that all required guidelines and safety measures are strictly followed. Based on our experience at the site, we anticipate that no more than four (4) treatments would be necessary for the 2013 season. Algaecide applications (up to four), are inclusive of all labor & equipment costs at \$1,550 per event for a total of \$6,200

2013 Control and Maintenance Program for *Sago pondweed* and other submerged vegetation: As a result of the changes at the federal level, the law now requires that any applications have in place an NPDES permit. AEI will again provide this permit for the City to submit as part of the application package, inclusive of the APAP program. We currently use a fisheries biologist to draft the permit and perform all background testing. The permit cost is negligible (still at \$200 per year), however, the background work (pre, during and post application testing and final YE report) is the significantly more costly portion of this operation. While this is not new (it was in place in 2007 as well), the permit is now required for all applications within the Western US. Due to the success AEI has had with the *Sonar* program at the site over the past several years; we intend to continue to use this product for the control of submerged vegetation as part of our overall management. The results of this program have allowed us to use less and less material, and now only have to perform smaller treatments to create a significant reduction in the dominant plant population, as well as minimize the intrusion of other (less desirable) species. We will determine the level of ppb's to apply at based on this season's growth, but note that the product will be applied and monitored according to the *Sonar* prescription program as recommended by the manufacturer

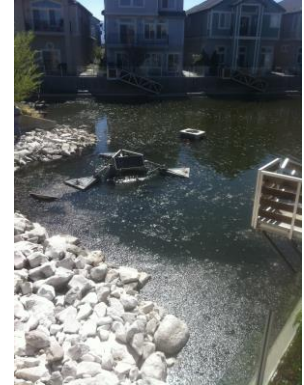
as in the past. The cost of the program includes all material, labor and equipment to perform the applications as a Preferred Sonar Applicator and remains unchanged for this season. Included under this item are the six (6) separate sampling events for NPDES compliance. The cost for this program is as noted below:

2013 *Sonar I* Maintenance Treatment Program Costs (inclusive of 6 Samples & NPDES): \$15,000

*2013 Additional Recommendations:*

**Immediate Needs:**

- a. Raise water level in lake/channel (if possible); Crews cannot restart the pump at this point due to the possibility of creating an air lock in the suction line. The City should advise as to when/if the water level can be raised so that we can start the pump and get the circulation going.
- b. Immediate Algae control; while the channel water quality is acceptable, a decent time of warmer weather will set off the algae (which is already beginning to pop), and our recommendation is to pre-treat the back 2/3 of the channel to minimize the potential for a large scale bloom. We would recommend using some of the residual (2012) funds for this (\$1,550)
- c. Service Aeration Pump; Repairs to All Weather Pump House; Crews noted that the pump will require its annual servicing of the vanes and service the diffusers, due to the service hours. In addition to this, we will purge the lines of water and get the system back up and operational. We also noted that the pump house had been vandalized and is in need of some repairs and touch up paint. Total cost for our crews to perform this work will be \$1,675 and could be pulled from the remaining balance from the 2012 budget.



*Photo taken 4/19/13*



*The Pump House on 4/19/13*

**Seasonal Recommendations:**

Emergency Services – Used as needed: In past seasons, having a contingent fund for emergency items has been a valuable asset, allowing our crews to get on site in the case of an emergency and address any water quality or equipment deficiencies. We have used some of this in the past, and sometimes not, but we feel that given the nature of this channel and the unpredictability of the weather, it is worthwhile to maintain this budget item. This item is considered to be an as needed basis, and may or may not be utilized. The amount budgeted for 2013 remains unchanged at: \$5,000

Harvesting of Vegetation: AEI in the past has brought one of its smaller harvesters to the site for vegetation removal and channel clean up. We have not had to do this for some time, however, like the *Emergency Services Item*; it is relative to keep this as an option in case the need arises. The possibility of needing large scale vegetation removal is unlikely, given the success of the *Sonar* program, but if the plant population were to not respond as in the past, it will be necessary to cut the bulk of the plants as we have done in past events. In this manner, we are prepared to address the water quality from an alternate (mechanical) approach, which is in line with the IPM program. In past events of harvesting at the channel, we have only needed two (2-day) events per season. For this season, we would recommend a budget of \$4,500, inclusive of mob and demobilization, which is consistent with our previous experiences at the site.

Full Channel Alum Treatments: This season, in an effort to use less chemicals in the channel, we will use Alum treatments to bind up or lock up phosphorous in the water column, as well as clarify the water. This practice has been used successfully in many lake and other water applications and does not require an NPDES permit to apply. Our belief is that the use of this material will slow down or aid in the microbial program in reducing the food sources for algae and vegetation. We will try three alum events at the channel, and monitor efficacy for control. The issue at hand is whether or not the treatment will remain in the channel or be diluted by the lake proper. This will be a slurry application and water quality improvements will be almost instantaneous. Each application will run \$1,225, and consist of all labor and materials to make a proper application. The three applications will total \$3,675.

Should you have any questions or comments with respect to this proposal, please do not hesitate to contact me directly at (510) 406-3473 or at our office (925) 521-0400. AEI is a State of Nevada licensed contractor and possesses a current State of Nevada pesticide applicators license for aquatic applications.

Thank you for your continued patronage and confidence in our services.

Sincerely,



George Peter Forni II

Enc.: Nevada State Contractor's License; Nevada Dept. of Ag Pesticide Applicator License, Nevada State Business License

*The City of Sparks - Marina Village Channel*

Months Covered: May - December

**Item of Work:**

*Numerals in Italics are projected*

\* Based on AE Crew experiences, and water conditions will dictate algaecide treatments to maintain thresholds/standards (averaged one or two small treatments per month for maintenance)

# An emergency service can consist of any event beyond the regular, scheduled maintenance, and is inclusive of application or harvesting events and chemicals (vegetation and/or algae), as necessary.

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% Remaining

0%

NEVADA  
**PEST CONTROL BUSINESS LICENSE**

COMPANY # 6645

EXPIRES DECEMBER 31, 2013

**This Is To Certify That AQUATIC ENVIRONMENTS INC**

dba **AQUATIC ENVIRONMENTS OF NEVADA**

4000 INDUSTRIAL WAY, CONCORD, CA 94520

is a licensed commercial pest control operator in the State of Nevada.

Permanent Nevada License No: 6645

Date Issued: 12/11/2012

Issued by JS

  
NEVADA STATE DEPARTMENT OF AGRICULTURE  
405 South 21st Street, Sparks, NV 89431

(NSPO Rev. 7-08)

(O) 1121A

NEVADA CUSTOM PEST CONTROL LICENSE

This is to certify that

**JOSE M.  
BOTELLO**

Has been licensed to operate as an employee of  
the State licensed company listed on the reverse.

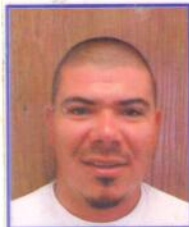
**NEVADA DEPARTMENT  
OF AGRICULTURE**

Tony Lesperance, Director

500764



This license is the property of the Dept. of  
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NEVADA STATE CONTRACTORS BOARD  
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9670 Gateway Drive, Suite 100, Reno, NV 89521  
[www.nscb.nv.gov](http://www.nscb.nv.gov)



April 16, 2013

Southern Nevada Office  
2310 Corporate Circle, Suite 200  
Henderson, Nevada 89074  
(702) 486-1100

Northern Nevada Office  
9670 Gateway Drive, Suite 100  
Reno, Nevada 89521  
(775) 688-1141

## STATE CONTRACTORS BOARD

The Nevada State Contractors Board certifies that

### AQUATIC ENVIRONMENTS OF NEVADA

Licensed since March 27, 2009

License No. 0072940

Is duly licensed as a contractor in the following classification(s):

**PRINCIPALS:**

**A-GENERAL ENGINEERING**

**LIMIT:** \$150,000

**EXPIRES:** 03/31/2015

GEORGE PETER FORNI II, President Qual

KERRI LISA FORNI, Secretary/Treasurer

  
Chairman, Nevada State Contractors Board



### STATE OF NEVADA CONTRACTOR'S LICENSE



THIS IS TO CERTIFY THAT THE COMPANY OR PERSON LISTED BELOW IS  
LICENSED IN THE STATE OF NEVADA FOR THE CLASSIFICATION(S) SHOWN

**LICENSE#:** 0072940

**EXPIRES:** 3/31/2015

AQUATIC ENVIRONMENTS OF NEVADA  
PO BOX 1406  
ALAMO, CA 94507

**LIMIT:** \$150,000

**CLASS:** A