St. Johns River
Water Management District
Kirby B. Green III, Director • David W. Fisk, Assistant Executive Director

4049 Reid Street • P.O. Box 1429 • Palatka, FL 32178-1429 • (386) 329-4500
On the Internet at floridaswater.com.

September 14, 2011

Vanacore Construction Inc
1293 N US Highway 1 Ste 3
Ormond Beach, FL 32174

Re: Village Business Centre (Ltr Mod)
Letter Modification Number 40-127-121341-2
(Please reference the above number on any submittal)

The St. Johns River Water Management District is in receipt of your request for letter modification to Permit Number 40-127-121341-1. Based upon staff review of the information you submitted, the proposed modification qualifies for a letter modification pursuant to 40C-4.331(1)(b), Florida Administrative Code (F.A.C.). A copy of the modified permit is enclosed for your records.

Please be advised that the District has not published a notice in the newspaper to advise the public that it is issuing this letter of modification. If you do not publish a notice in the newspaper, a party's right to challenge the issuance of this letter modification extends for an indefinite period of time. If you wish to have certainty that the period of filing such a challenge is closed, then you may publish, at your own expense, such a notice in a newspaper of general circulation within the area that includes the project to which the modification applies. A copy of the form of the notice is attached for your use. If you have any questions, please contact Ratna Salihin-Lee at (407) 659-4847 or Lee Kissick at (407) 659-4850.

Sincerely,

Victor Castro, Division Director
Division of Regulatory Support

cc: District Permit File

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
Post Office Box 1429
Palatka, Florida 32178-1429

PERMIT NO. 40-127-121341-2 **DATE ISSUED:** September 14, 2011
PROJECT NAME: Village Business Centre (Ltr Mod)

A PERMIT AUTHORIZING:

Modification of a Surface Water Management System with stormwater treatment by Retention for Village Business Centre (Ltr Mod), a 5.26 - acre project to be constructed and operated as per plans received by the District on August 18, 2011.

LOCATION:

Section(s): 36 Township(s): 13S Range(s): 31E

Volusia County

ISSUED TO:

Vanacore Construction Inc
1293 N US Highway 1 Ste 3
Ormond Beach, FL 32174

Permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes:

PERMIT IS CONDITIONED UPON:

See conditions on attached "Exhibit A", dated September 14, 2011

AUTHORIZED BY: St. Johns River Water Management District
Department of Environmental Resource Permitting

By: David Dewey

David Dewey
Service Center Director - Maitland

"EXHIBIT A"
CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 40-127-121341-2
Vanacore Construction Inc
DATED SEPTEMBER 14, 2011

1. All activities shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications, shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which do not cause violations of state water quality standards.

4. Prior to and during construction, the permittee shall implement and maintain all erosion and sediment control measures (best management practices) required to retain sediment on-site and to prevent violations of state water quality standards. All practices must be in accordance with the guidelines and specifications in chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988), which are incorporated by reference, unless a project specific erosion and sediment control plan is approved as part of the permit, in which case the practices must be in accordance with the plan. If site specific conditions require additional measures during any phase of construction or operation to prevent erosion or control sediment, beyond those specified in the erosion and sediment control plan, the permittee shall implement additional best management practices as necessary, in accordance with the specifications in chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988). The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

5. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.

6. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District a Construction Commencement Notice Form No. 40C-4.900(3) indicating the actual start date and the expected completion date.

7. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an Annual Status Report Form No. 40C-4.900(4). These forms shall be submitted during June of each year.

8. For those systems which will be operated or maintained by an entity which will require an easement or deed restriction in order to provide that entity with the authority necessary to operate or maintain the system, such easement or deed restriction, together with any other final operation or maintenance documents as are required by subsections 7.1.1 through 7.1.4 of the Applicant's Handbook: Management and Storage of Surface Waters, must be submitted to the District for approval. Documents meeting the requirements set forth in these subsections of the Applicant's Handbook will be approved. Deed restrictions, easements and other operation and maintenance

documents which require recordation either with the Secretary of State or the Clerk of the Circuit Court must be so recorded prior to lot or unit sales within the project served by the system, or upon completion of construction of the system, whichever occurs first. For those systems which are proposed to be maintained by county or municipal entities, final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local governmental entity. Failure to submit the appropriate final documents referenced in this paragraph will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system.

9. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by the portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of that phase or portion of the system to local government or other responsible entity.

10. Within 30 days after completion of construction of the permitted system, or independent portion of the system, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing As Built Certification Form 40C-1.181(13) or 40C-1.181(14) supplied with this permit. When the completed system differs substantially from the permitted plans, any substantial deviations shall be noted and explained and two copies of as-built drawings submitted to the District. Submittal of the completed form shall serve to notify the District that the system is ready for inspection. The statement of completion and certification shall be based on on-site observation of construction (conducted by the registered professional engineer, or other appropriate individual as authorized by law, or under his or her direct supervision) or review of as-built drawings for the purpose of determining if the work was completed in compliance with approved plans and specifications. As-built drawings shall be the permitted drawings revised to reflect any changes made during construction. Both the original and any revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor. The following information, at a minimum, shall be verified on the as-built drawings: 1. Dimensions and elevations of all discharge structures including all weirs, slots, gates, pumps, pipes, and oil and grease skimmers; 2. Locations, dimensions, and elevations of all filter, exfiltration, or underdrain systems including cleanouts, pipes, connections to control structures, and points of discharge to the receiving waters; 3. Dimensions, elevations, contours, or cross-sections of all treatment storage areas sufficient to determine state-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems, when appropriate; 4. Dimensions, elevations, contours, final grades, or cross-sections of the system to determine flow directions and conveyance of runoff to the treatment system; 5. Dimensions, elevations, contours, final grades, or cross-sections of all conveyance systems utilized to convey off-site runoff around the system; 6. Existing water elevation(s) and the date determined; and Elevation and location of benchmark(s) for the survey.

11. The operation phase of this permit shall not become effective until the permittee has submitted the appropriate As-Built Certification Form, the District determines the system to be in compliance with the permitted plans, and the entity approved by the District in accordance with subsections 7.1.1 through 7.1.4 of the Applicant's Handbook: Management and Storage of Surface Waters, accepts responsibility for operation and maintenance of the system. The permit may not be transferred to such an approved operation and maintenance entity until the operation phase of the permit becomes

effective. Following inspection and approval of the permitted system by the District, the permittee shall request transfer of the permit to the responsible approved operation and maintenance entity, if different from the permittee. Until the permit is transferred pursuant to section 7.1 of the Applicant's Handbook: Management and Storage of Surface Waters, the permittee shall be liable for compliance with the terms of the permit.

12. Should any other regulatory agency require changes to the permitted system, the permittee shall provide written notification to the District of the changes prior implementation so that a determination can be made whether a permit modification is required.

13. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and chapter 40C-4 or chapter 40C-40, F.A.C.

14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the activities authorized by the permit or any use of the permitted system.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under rule 40C-1.1006, F.A.C., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of the permitted system or the real property at which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of rule 40C-1.612, F.A.C. The permittee transferring the permit shall remain liable for any corrective actions that may be required as a result of any permit violations prior to such sale, conveyance or other transfer.

17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the District.

19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

20. At a minimum, all retention and detention storage areas must be excavated to rough grade prior to building construction or placement of impervious surface within the area to be served by those facilities. To prevent reduction in storage volume and percolation rates, all accumulated sediment must be removed from the storage area prior to final grading and stabilization.

21. All wetland areas or water bodies that are outside the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring or excess turbidity, and dewatering.

22. Prior to construction, the permittee must clearly designate the limits of construction on-site. The permittee must advise the contractor that any work outside the limits of construction, including clearing, may be a violation of this permit.

23. The operation and maintenance entity shall inspect the stormwater or surface water management system once within two years after the completion of construction and every two years thereafter to determine if the system is functioning as designed and permitted. The operation and maintenance entity must maintain a record of each required inspection, including the date of the inspection, the name, address, and telephone number of the inspector, and whether the system was functioning as designed and permitted, and make such record available for inspection upon request by the District during normal business hours. If at any time the system is not functioning as designed and permitted, then within 14 days the entity shall submit an Exceptions Report to the District, on form number 40C-42.900(6), Exceptions Report for Stormwater Management Systems Out of Compliance.

24. This permit will expire February 5, 2015

25. The proposed surface water management system shall be constructed and operated in accordance with the plans received by the District on August 18, 2011.

Notice Of Rights

1. A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P. O. Box 1429, Palatka Florida 32178-1429 (4049 Reid St., Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-six (26) days of the District depositing the notice of intended District decision in the mail (for those persons to whom the District mails actual notice), within twenty-one (21) days of the District emailing the notice of intended District decision (for those persons to whom the District emails actual notice), or within twenty-one (21) days of newspaper publication of the notice of intended District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Chapter 28-106, Florida Administrative Code. The District will not accept a petition sent by facsimile (fax), as explained in paragraph no. 5 below. Mediation pursuant to Section 120.573, Florida Statutes, is not available.

2. If the District takes action that substantially differs from the notice of intended District decision, a person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the District, but this request for administrative hearing shall only address the substantial deviation. Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed (received) at the office of the District Clerk at the mail/street address or email address described in paragraph no. 1 above, within twenty-six (26) days of the District depositing notice of final District decision in the mail (for those persons to whom the District mails actual notice), within twenty-one (21) days of the District emailing the notice of final District decision (for those persons to whom the District emails actual notice), or within twenty-one (21) days of newspaper publication of the notice of final District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Chapter 28-106, Florida Administrative Code. Mediation pursuant to Section 120.573, Florida Statutes, is not available.

3. A person whose substantial interests are or may be affected has the right to a formal administrative hearing pursuant to Sections 120.569 and 120.57(1), Florida Statutes, where there is a dispute between the District and the party regarding an issue of material fact. A petition for formal hearing must also comply with the requirements set forth in Rule 28-106.201, Florida Administrative Code.

4. A person whose substantial interests are or may be affected has the right to an informal administrative hearing pursuant to Sections 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must also comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

Notice Of Rights

5. A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8:00 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at floridaswater.com. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile is prohibited and shall not constitute filing.

6. Failure to file a petition for an administrative hearing within the requisite time frame shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, Florida Administrative Code).

7. The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. A person whose substantial interests are or may be affected by the District's final action has the right to become a party to the proceeding, in accordance with the requirements set forth above.

8. Pursuant to Section 120.68, Florida Statutes, a party to the proceeding before the District who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, within 30 days of the rendering of the final District action.

9. A District action is considered rendered, as referred to in paragraph no. 8 above, after it is signed on behalf of the District, and is filed by the District Clerk.

10. Failure to observe the relevant time frames for filing a petition for judicial review as described in paragraph no. 8 above will result in waiver of that right to review.

NOR.DOC.001
Revised 7/27/09

Notice Of Rights

Certificate of Service

I HEREBY CERTIFY that a copy of the foregoing Notice of Rights has been sent by U.S. Mail to:

Vanacore Construction Inc
1293 N US Highway 1 Ste 3
Ormond Beach, FL 32174

At 4:00 p.m. this 14th day of September, 2011.

Division of Regulatory Support
Victor Castro, Division Director

St. Johns River Water Management District
Post Office Box 1429
Palatka, FL 32178-1429
(386) 329-4570
Permit Number: 40-127-121341-2

ZEV COHEN
& ASSOCIATES, INC.
Main Office: Ormond Beach
St. Augustine • Amelia Island • Edgewater

300 Interchange Blvd
Ormond Beach, FL 32174
386-677-2482 • Fax: 386-677-2505
Website: www.ZevCohen.com

Permitted vs Proposed Comparisons

Retention Volume Comparison at the Top of Bank

Proposed:
RA-1A: 45,422 cubic feet (1.043 acre-feet)
RA-1B: 5,585 cubic feet (0.128 acre-feet)
Total Volume: 51,007 cubic feet (1.71 acre-feet)
Permitted:
RA-1A: 32,754 cubic feet (0.752 acre-feet)
RA-1B: 8,599 cubic feet (0.197 acre-feet)
Total Volume: 41,434 cubic feet (0.951 acre-feet)
Conclusion:
Proposed volume at the top of bank (1.71 acre-feet) is greater than the permitted volume (0.951 acre-feet).

Retention Volume Comparison at the Weir

Proposed (El. 29.40') :
Required PAV: 23,870 cubic feet (0.548 acre-feet)
Total Volume provided: 24,219 cubic feet (0.556 acre-feet)
Permitted (El. 30.10'):
Required PAV: 25,961 cubic feet (0.596 acre-feet)
Total Volume: 28,967 cubic feet (0.665 acre-feet)
Conclusion:
Adequate volume has been provided below the weir.

Impervious Area Comparison

Proposed:
Impervious area: 2.229 acres
Permitted:
Impervious area: 2.385 acres
Conclusion:
Proposed impervious area (2.229 acres) is less than permitted impervious area (2.385 acres).

Note: The permitted volumes and areas have been indicated based on the permitted Stormwater Calculations as submitted to SJRWMD on January 22, 2010 and permitted on February 5, 2010.

121341-2
RECEIVED
AUG 18 2011
ALTAMONTE

PROPOSED POST-DEVELOPMENT

BASIN DATA
P.A.V. CALCULATIONS
STAGE STORAGE

121341-2

ZEV COHEN
& ASSOCIATES, INC.

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Engineers • Planners • Landscape Architecture

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Engineers • Planners • Landscape Architecture

Project Name	The Village Business Centre	File No.	ZC 08173
Date	August 11, 2011	By	JSJ
Description			

BASIN DATA
BASIN 1

BASIN 1

1. Area Calculation

Pavement =	58,041 sf	= 1.332 ac	Retention Area =	14,890 sf	= 0.342 ac
Roadway =	0 sf	= 0.000 ac	Grass Area =	27,497 sf	= 0.631 ac
Sidewalk =	10,923 sf	= 0.251 ac			
Building =	28,020 sf	= 0.643 ac			
Total Impervious Area =	96,984 sf	= 2.226 ac	**Total Area =**	**139,371 sf**	**= 3.200 ac**

2. Composite CN

Cover (Soil Group)	CN	Area (sf)	Area (ac)	CN*Area (ac)
Impervious	98	96,984 sf	2.226 ac	218.192
Grass (Good,C)	74	31,433 sf	0.722 ac	53.399
Grass (Good,D)	80	6,890 sf	0.158 ac	12.654
Dry Retention (C)	74	14,890 sf	0.342 ac	25.295
Total		**150,197 sf**	**3.448 ac**	**309.539**

CN = CN*Area / Total Area

Composite CN = 89.8

3. Time of Concentration

Assume a time of concentration of: 10 min

ZEV COHEN
& ASSOCIATES, INC.
300 Interchange Blvd • Ormond Beach, FL 32174
386.677.2482 • Fax 386.677.2505
Engineers • Planners • Landscape Architecture

Project Name	The Village Business Centre	File No.	ZC 08173
Date	August 11, 2011	By	JSJ
Description			
	POLLUTION ABATEMENT VOLUME		
	Basin 1		

POLLUTION ABATEMENT VOLUME CALCULATIONS

Criteria: Dry Retention, On-Line, Class III

PAV = 0.5" over total area plus 1.25" over impervious area, or
1" over the total area, whichever is greater

Basin Data: For Basin 1

Total Area = 3.200 ac
Impervious Area = 2.226 ac

Option 1: 0.5" Over total area plus 1.25" over impervious area

0.5" * Total area * (1'/12") +
1.25" * Impervious area * (1'/12") = 0.365 ac-ft

Option 2: 1" Runoff from entire site

1" * Total area * (1'/12") = 0.267 ac-ft

Since Option 1 > Option 2, Option 1 governs

Discharge to OFW Waters?: yes

Since discharge is to OFW waters, 50% extra treatment volume required

Extra volume due to OFW considerations = 0.183 ac-ft

PAV = 0.548 ac-ft

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Project Name	The Village Business Centre	File No.	ZC 08173
Date	August 11, 2011	By	JSJ
Description			

STAGE STORAGE
RETENTION AREA RA-1 (RA-1A/RA-1B COMBINED)

RETENTION AREA RA-1 (RA-1A/RA-1B COMBINED)

Elevation	Area (sf)	Area (ac)	Volume (cf)	Volume (ac-ft)
27.4	9,429	0.216	0	0
28.0	10,861	0.249	6,087	0.140
29.00	13,456	0.309	18,246	0.419
30.0	16,324	0.375	33,136	0.761
31.0	19,419	0.446	51,007	1.171

MINIMUM WEIR ELEVATION

1. Pollution Abatement Volume (Minimum Treatment Volume)

= .548 ac-ft = 23,864 cuft

2. Pre Vs. Post Retention Volume (25 Year / 24 Hour Storm)

= .520 ac-ft = 22,651 cuft

3. Filled Volume in Wetlands

= . 027 cuft = 1,178 cuft

Sum of Pre vs. Post and Filled Wetland Volume = 23,830 cuft

Since P.A.V. governs, this
implies a minimmum weir elevation of: = 29.38 ft

4. Set weir at elevation: 29.40 ft

5. Volume at weir elevation:

= .556 ac-ft = 24,219 cuft

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Project Name	The Village Business Centre	File No.	ZC 08173
Date	August 11, 2011	By	JSJ
Description			

STAGE STORAGE
RETENTION AREA RA-1A

STAGE STORAGE RA-1A

Elevation	Area (sf)	Area (ac)	Volume (cf)	Volume (ac-ft)
27.4	8,874	0.204	0	0
28.0	10,042	0.231	5,675	0.130
29.00	12,098	0.278	16,745	0.384
30.0	14,304	0.328	29,946	0.687
31.0	16,648	0.382	45,422	1.043

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Project Name: The Village Business Centre | File No. ZC 08173
Date: August 11, 2011 | By JSJ
Description: STAGE STORAGE
RETENTION AREA RA-1B

STAGE STORAGE RA-1B

Elevation	Area (sf)	Area (ac)	Volume (cf)	Volume (ac-ft)
27.4	555	0.013	0	0
28.00	819	0.019	412	0.009
29.0	1,358	0.031	1,501	0.034
30.0	2,020	0.046	3,190	0.073
31.0	2,771	0.064	5,585	0.128

PERMITTED POST-DEVELOPMENT

BASIN DATA
P.A.V. CALCULATIONS
STAGE STORAGE

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386.677.2482 • Fax 386.677.2505
Engineers • Planners • Landscape Architecture

Project Name: The Village Business Centre
Date: December 23, 2009
Description:
File No. ZC 08173
By JSJ

BASIN DATA
BASIN 1

BASIN 1

1. Area Calculation

Pavement =	70,541 sf	= 1.619 ac
Roadway =	0 sf	= 0.000 ac
Sidewalk =	5,318 sf	= 0.122 ac
Building =	28,020 sf	= 0.643 ac
Total Impervious Area =	103,879 sf	= 2.385 ac

Retention Area =	13,685 sf	= 0.314 ac
Grass Area =	38,323 sf	= 0.880 ac

Total Area = 155,887 sf = 3.579 ac

2. Composite CN

Cover (Soil Group)	CN	Area (sf)	Area (ac)	CN*Area (ac)
Impervious	98	103,879 sf	2.385 ac	233.704
Grass (Good,C)	74	31,433 sf	0.722 ac	53.399
Grass (Good,D)	80	6,890 sf	0.158 ac	12.654
Dry Retention (C)	74	13,685 sf	0.314 ac	23.248
Total		**155,887 sf**	**3.579 ac**	**323.004**

CN = CN*Area / Total Area

Composite CN = 90.3

3. Time of Concentration

Assume a time of concentration of: 10 min

AS DOWNLOADED FROM SJRWMD PERMIT WEBSITE:

PERMITTED CALCULATIONS.

SUBMITTED 1/22/10, PERMITTED 2/5/10

ZEV COHEN
& ASSOCIATES, INC.
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386.677.2482 • Fax 386.677.2505
Engineers • Planners • Landscape Architecture

Project Name	The Village Business Centre	File No.	ZC 08173
Date	January 5, 2010	By	JSJ
Description	POLLUTION ABATEMENT VOLUME Basin 1		

POLLUTION ABATEMENT VOLUME CALCULATIONS

Criteria: Dry Retention, On-Line, Class III

**PAV = 0.5" over total area plus 1.25" over impervious area, or
1" over the total area, whichever is greater**

Basin Data: For Basin 1

Total Area = 3.579 ac
Impervious Area = 2.385 ac

Option 1: 0.5" Over total area plus 1.25" over impervious area

0.5" * Total area * (1'/12") +
1.25" * Impervious area * (1'/12") = 0.398 ac-ft

Option 2: 1" Runoff from entire site

1" * Total area * (1'/12") = 0.298 ac-ft

Since Option 1 > Option 2, Option 1 governs

Discharge to OFW Waters?: yes

Since discharge is to OFW waters, 50% extra treatment volume required

Extra volume due to OFW considerations = 0.199 ac-ft

PAV = 0.596 ac-ft

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Engineers • Planners • Landscape Architecture

Project Name: The Village Business Centre | File No. ZC 08173
Date: January 22, 2010 | By JSJ
Description:
STAGE STORAGE
RETENTION AREA RA-1 (RA-1A/RA-1B COMBINED)

RETENTION AREA RA-1 (RA-1A/RA-1B COMBINED)

Elevation	Area (sf)	Area (ac)	Volume (cf)	Volume (ac-ft)
27.4	5,731	0.132	0	0
28.3	7,066	0.162	5,759	0.132
28.35	10,387	0.238	6,195	0.142
29.0	12,906	0.296	13,765	0.316
31.0	14,763	0.339	41,434	0.951

MINIMUM WEIR ELEVATION

1. Pollution Abatement Volume (Minimum Treatment Volume)

   = .596 ac-ft = 25,974 cuft

2. Pre Vs. Post Retention Volume (25 Year / 24 Hour Storm)

   = .070 ac-ft = 3,049 cuft

Since P.A.V. governs, this
implies a minimmum weir elevation of: 29.88

3. Set weir at elevation: 30.10 ft

4. Volume at weir elevation:

   = .665 ac-ft = 28,967 cuft

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Project Name: The Village Business Centre | File No. ZC 08173
Date: January 21, 2010 | By JSJ
Description: STAGE STORAGE
RETENTION AREA RA-1A

STAGE STORAGE RA-1A

Elevation	Area (sf)	Area (ac)	Volume (cf)	Volume (ac-ft)
27.4	5,731	0.132	0	0
28.3	7,066	0.162	5,759	0.132
28.35	7,142	0.164	6,114	0.140
29.0	9,661	0.222	11,575	0.266
31.0	11,518	0.264	32,754	0.752

MINIMUM WEIR ELEVATION

1. Pollution Abatement Volume (Minimum Treatment Volume)

   = .479 ac-ft = 20,865 cuft

2. Pre Vs. Post Retention Volume (25 Year / 24 Hour Storm)

   = .070 ac-ft = 3,049 cuft

Since P.A.V. governs, this
implies a minimmum weir elevation of: = 29.88 ft

3. Set weir at elevation: 30.10 ft

4. Volume at weir elevation:

   = .533 ac-ft = 23,217 cuft

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Project Name: The Village Business Centre | File No. ZC 08173
Date: January 21, 2010 | By JSJ
Description: STAGE STORAGE
RETENTION AREA RA-1B

STAGE STORAGE RA-1B

Elevation	Area (sf)	Area (ac)	Volume (cf)	Volume (ac-ft)
28.35	3,245	0.074	0	0
28.4	3,245	0.074	162	0.004
29.0	3,245	0.074	2,109	0.048
31.0	3,245	0.074	8,599	0.197

MINIMUM WEIR ELEVATION

1. Pollution Abatement Volume (Minimum Treatment Volume)

= .114 ac-ft = 4,966 cuft

2. Pre Vs. Post Retention Volume (25 Year / 24 Hour Storm)

= .070 ac-ft = 3,049 cuft

Since P.A.V. governs, this
implies a minimmum weir elevation of: = 29.88 ft

3. Set weir at elevation: 30.10 ft

4. Volume at weir elevation:

= .130 ac-ft = 5,663 cuft

RECOVERY ANALYSIS

I. SUMMARY

II. RA-1 PAV RECOVERY ANALYSIS
- A. EQUIVALENT POND DIMENSION CALCULATION
- B. PONDS ANALYSIS INPUT
- C. PONDS ANALYSIS OUTPUT

III. RA-1 WEIR RECOVERY ANALYSIS
- A. EQUIVALENT POND DIMENSION CALCULATION
- B. PONDS ANALYSIS INPUT
- C. PONDS ANALYSIS OUTPUT

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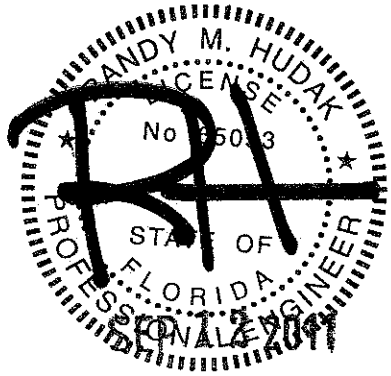
RECOVERY SUMMARY

Pond	PAV (cubic feet)	Time of PAV Recovery (hour)	Weir Volume (cubic feet)	Time of Weir Volume Recovery (hour)
RA-1*	23,864	48	24,219	48

* The ponds parameters utilized during the Recovery Analysis are based on the previous SJRWMD permit # 40-127-121341-1.

Conclusion:

RA-1 recovers the PAV within the required 72 hour time period and the total volume below the weir within the required 336 hour time period.



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Project Name	The Village Business Centre	File No.	ZC 08173
Date	September 12, 2011	By	JSJ
Description			

EQUIVALENT POND DIMENSIONS
Retention Area RA-1(RA-1A and RA-1B combined)
PAV Recovery

EQUIVALENT POND DIMENSIONS RA-1 (PAV Volume)

Effective perimeter (P) = 608 ft
Weir Volume (V) = 23,864 cu-ft
Pond bottom elev. = 27.40 ft
Weir Elev. = 29.38 ft
Height of weir above pond bottom (h) = 1.98 ft

$L = (P/2 + (P^2/4 - 4V/h)^{0.5}) / 2$

Length = 257.13 ft

$W = (P/2 - (P^2/4 - 4V/h)^{0.5}) / 2$

Width = 46.87 ft

Note: Equations for equivalent length and width found on following sheets from Ponds version 1.4 and 2.26
(See Appendix A for Ponds program directions)

Check:

length	*	width	*	height	=	volume
257.13 ft	X	46.87 ft	X	1.98 ft	=	23,864 ft

2 * length	+	2 * width	=	perimeter
2 * 257.13 ft	+	2 * 46.87 ft	=	608 ft

Since volume and perimeter match, dimensions are valid

PONDS Version 3.3.0239
Retention Pond Recovery - Refined Method

Devo Seereeram, Ph.D., P.E.

Project Data

Project Name:	VILLAGE BUSINESS CENTRE
Simulation Description:	3 DAY PAV RECOVERY-RA-1
Project Number:	08173
Engineer :	
Supervising Engineer:	RMH
Date:	09-12-2011

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	14.94
Water Table Elevation, [WT] (ft datum):	25.82
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	22.00
Fillable Porosity, [n] (%):	30.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day):	7.33
Maximum Area For Unsaturated Infiltration, [Av] (ft^2):	14545.0

Geometry Data

Equivalent Pond Length, [L] (ft):	257.1
Equivalent Pond Width, [W] (ft):	46.9

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
27.40	9429.0
29.00	13456.0
31.00	19419.0

Modflow Log

MODFLOW CONTROL PARAMETERS
Perimeter boundary condition: constant head
Maximum iterations of outer loop: 150
Maximum iterations of inner loop: 60
Horizontal conductivity within pond: 1000000 (if ground water mound is expected to intersect pond bottom)
Instantanerous storage coefficient: Volumetric balance
Default head closure tolerance: .01
Default residual closure tolerance: .5
Target water budget error: 1
On failure to converge: Rerun limiting inner loop to one iteration
> Maximum number of iterations of outer loop: 500
Running Average Porosity is active
> Starting on pass: 2
> When outer iteration reaches: 50
> Number of data points: 4
Running Average Pond Stage (for discharge structures with tailwater) is active
> Starting on pass: 2
> When outer iteration reaches: 50
> Number of data points: 4
Grid size: 1000 ft (from pond centerline)
Mound Output: none

Begin Scenario 1 9/12/2011 15:25:5
End Scenario 1 9/12/2011 15:25:5

Detailed Results :: *Scenario 1 :: 23,864 ft³ slug load*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	3977.3330	0.0000	25.820	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.002	3977.3330	0.0000	29.395	1.23416	0.00000	23864.0	7.4	0.0	U/P
2.400	0.0000	0.0000	28.406	0.99488	0.00000	23864.0	13099.8	0.0	U/S
6.000	0.0000	0.0000	28.171	0.17759	0.00000	23864.0	15848.5	0.0	S
12.000	0.0000	0.0000	27.937	0.10296	0.00000	23864.0	18442.6	0.0	S
24.000	0.0000	0.0000	27.652	0.05739	0.00000	23864.0	21410.1	0.0	S
36.000	0.0000	0.0000	27.449	0.02840	0.00000	23864.0	23400.9	0.0	S
48.000	0.0000	0.0000	27.216	0.00536	0.00000	23864.0	23864.0	0.0	S
60.000	0.0000	0.0000	27.027	0.00000	0.00000	23864.0	23864.0	0.0	S
72.000	0.0000	0.0000	26.892	0.00000	0.00000	23864.0	23864.0	0.0	S
84.000	0.0000	0.0000	26.789	0.00000	0.00000	23864.0	23864.0	0.0	S
96.000	0.0000	0.0000	26.707	---	---	23864.0	23864.0	0.0	N.A.

Summary of Results :: *Scenario 1 :: 23,864 ft³ slug load*

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	0.000	25.82		
Maximum	0.002	29.40		
Inflow				
Rate - Maximum - Positive	0.002		3977.3330	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			23864.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			23864.0
Infiltration				
Rate - Maximum - Positive	0.002		1.2342	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	48.000			23864.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			23864.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	27.45		23400.9
72 Hour Stage and Infiltration Volume	72.000	26.89		23864.0

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Project Name	The Village Business Centre	File No.	ZC 08173
Date	September 12, 2011	By	JSJ
Description			

EQUIVALENT POND DIMENSIONS
Retention Area RA-1(RA-1A and RA-1B combined)
RECOVERY (WEIR)

EQUIVALENT POND DIMENSIONS RA-1 (WEIR)

Effective perimeter (P) = 651 ft
Volume at weir elevation (V) = 24,219 cu-ft
Pond bottom elev. = 27.40 ft
Elev. of weir = 29.40 ft
Height of weir above pond bottom (h) = 2.00 ft

$L = (P/2 + (P^2/4 - 4V/h)^{0.5}) / 2$

$W = (P/2 - (P^2/4 - 4V/h)^{0.5}) / 2$

Length = 282.66 ft

Width = 42.84 ft

Note: Equations for equivalent length and width found on following sheets from Ponds version 1.4 and 2.26
(See Appendix A for Ponds program directions)

Check:

length	*	width	*	height	=	volume
282.66 ft	X	42.84 ft	X	2.00 ft	=	24,219 ft

2 * length	+	2 * width	=	perimeter
2 * 282.66 ft	+	2 * 42.84 ft	=	651 ft

Since volume and perimeter match, dimensions are valid

PONDS Version 3.3.0239
Retention Pond Recovery - Refined Method

Devo Seereeram, Ph.D., P.E.

Project Data

Project Name:	VILLAGE BUSINESS CENTRE
Simulation Description:	14 DAY PAV RECOVERY-RA-1
Project Number:	08173
Engineer :	
Supervising Engineer:	RMH
Date:	09-12-2011

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	14.94
Water Table Elevation, [WT] (ft datum):	25.82
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	22.00
Fillable Porosity, [n] (%):	30.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day):	7.33
Maximum Area For Unsaturated Infiltration, [Av] (ft^2):	14604.0

Geometry Data

Equivalent Pond Length, [L] (ft):	282.7
Equivalent Pond Width, [W] (ft):	42.8

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
27.40	9429.0
29.00	13456.0
31.00	19419.0

Modflow Log

MODFLOW CONTROL PARAMETERS
Perimeter boundary condition: constant head
Maximum iterations of outer loop: 150
Maximum iterations of inner loop: 60
Horizontal conductivity within pond: 1000000 (if ground water mound is expected to intersect pond bottom)
Instantanerous storage coefficient: Volumetric balance
Default head closure tolerance: .01
Default residual closure tolerance: .5
Target water budget error: 1
On failure to converge: Rerun limiting inner loop to one iteration
> Maximum number of iterations of outer loop: 500
Running Average Porosity is active
> Starting on pass: 2
> When outer iteration reaches: 50
> Number of data points: 4
Running Average Pond Stage (for discharge structures with tailwater) is active
> Starting on pass: 2
> When outer iteration reaches: 50
> Number of data points: 4
Grid size: 1000 ft (from pond centerline)
Mound Output: none

Begin Scenario 1 9/12/2011 15:28:25
End Scenario 1 9/12/2011 15:28:25

Detailed Results :: *Scenario 1 :: 24,219 ft³ slug load*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	4036.5000	0.0000	25.820	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.002	4036.5000	0.0000	29.419	1.23920	0.00000	24219.0	7.4	0.0	U/P
2.400	0.0000	0.0000	28.405	1.02555	0.00000	24219.0	13477.2	0.0	U/S
6.000	0.0000	0.0000	28.156	0.18626	0.00000	24219.0	16369.7	0.0	S
12.000	0.0000	0.0000	27.912	0.10654	0.00000	24219.0	19063.3	0.0	S
24.000	0.0000	0.0000	27.619	0.05835	0.00000	24219.0	22096.4	0.0	S
36.000	0.0000	0.0000	27.412	0.02457	0.00000	24219.0	24105.0	0.0	S
48.000	0.0000	0.0000	27.155	0.00132	0.00000	24219.0	24219.0	0.0	S
60.000	0.0000	0.0000	26.978	0.00000	0.00000	24219.0	24219.0	0.0	S
72.000	0.0000	0.0000	26.850	0.00000	0.00000	24219.0	24219.0	0.0	S
84.000	0.0000	0.0000	26.752	0.00000	0.00000	24219.0	24219.0	0.0	S
96.000	0.0000	0.0000	26.674	---	---	24219.0	24219.0	0.0	N.A.

Summary of Results :: *Scenario 1 :: 24,219 ft³ slug load*

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	0.000	25.82		
Maximum	0.002	29.42		
Inflow				
Rate - Maximum - Positive	0.002		4036.5000	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			24219.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			24219.0
Infiltration				
Rate - Maximum - Positive	0.002		1.2392	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	48.000			24219.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			24219.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	27.41		24105.0
72 Hour Stage and Infiltration Volume	72.000	26.85		24219.0