

The Folchetti OVERVIEW

May, 2005 No. 1 Issue 3

published by J. Robert Folchetti & Associates, LLC
Information for the regulated community

Changes to Annual MS4 Reporting Requirements

MS4s that must prepare and file their second annual reports with NYSDEC (New York State Department of Conservation) by June 1, 2005, need to be aware of a few important changes. This year's annual report form is slightly changed from last year's, as follows:

The MCC (Municipal Compliance Certification) form and SWMPAR (Stormwater Management Plan Annual Report) form have been combined into a single file, and the executive summary and table of contents are no longer required.

In addition, the narrative overview has been replaced with room for additional notes to explain and/or describe changes to the specific minimum measures. And while in last year's form it was enough to mention activities planned for the coming year, the second annual report form specifically requires a list of best management practices and measurable goals, including a schedule for implementation.

There is also a change in submission procedures: the Division of Water now requires that all MS4 annual reports be sent to its central office, at MS4 Permit Coordinator, 625 Broadway, Division of Water – 4th Floor, Albany, NY 12233-3505, rather than to the regional offices. (The central office will send the reports to the regional offices.)

For this year's MS4 annual report forms and instructions, please see our website at www.jrfa.com.

— Douglas Marr, P.E. (douglas.marr@jrfa.com)

IN THIS ISSUE:

page 1: A few key changes to the MS4 annual report

page 1: A guide to developer due diligence: doing the homework pays off

page 2: Synthetics rule: why schools are converting their sports fields

page 3: What municipalities need to know to manage construction projects

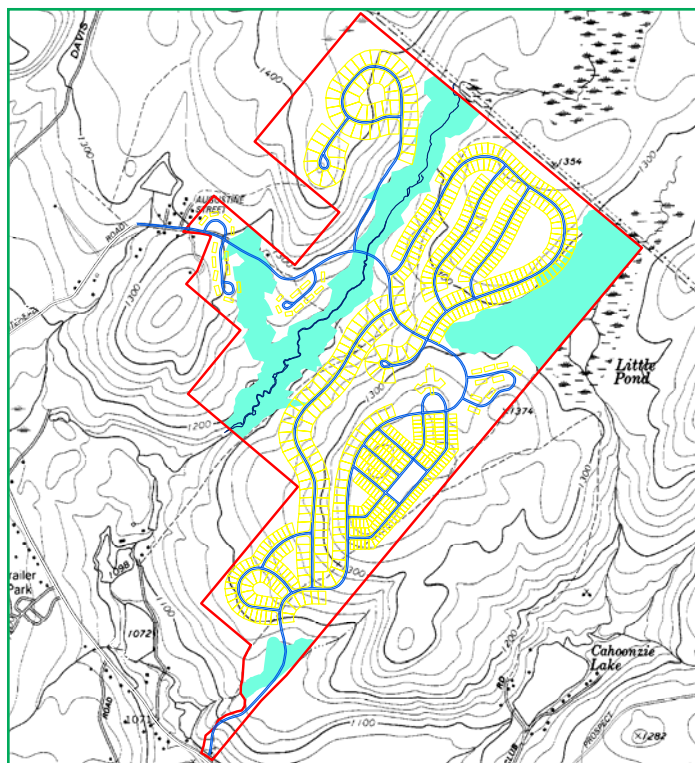
page 4: Q&A on mapping

page 4: Monthly Funding Calendar

Due Diligence for Developers

Before investing in a project, appearing before the planning board, and entering the SEQRA process, the savvy developer will embark on due diligence. The following set of related tasks can help determine whether the project is a worthwhile investment and, if so, what expenses might be expected. They can also help the developer more easily gain approval from the planning board and navigate the SEQRA process.

First on the agenda is a code review. If the project is a residential subdivision, the developer must determine whether the zoning is residential or commercial. Also critical are the site requirements for individual lots, which will reveal whether the target number of houses can be positioned on them based on setback requirements.



Map identifying a proposed site development.
Color key: yellow, lots; blue, roadways; red, property lines;
black, stream; aqua, wetlands and setbacks.

As the first step in site investigation, the developer needs a map identifying layout constraints such as steep slopes and wetlands. Such a map can sometimes be provided by a professional engineer using existing information, eliminating the need for much more expensive aerial mapping. If too much of the site turns out to be steep slopes or wetlands, which would prevent an adequate return on investment, the project may end at this point. On the other hand, if a developer decides to move ahead despite steep slopes, an extra

continued on page 3

J. Robert Folchetti & Associates, LLC www.jrfa.com

JRFA • Somers 247 Route 100, Somers, NY 10589 • phone: 914.232.2500 • fax: 914.232.6827

JRFA • Walden 156 Orange Avenue, Walden, NY 12586 • phone: 845.778.4020 • fax: 845.778.4165

Schools Switch to Synthetic Sports Fields

As reported in the April 10 issue of *The New York Times*, last winter's soggy sports fields put a real dent in playing time at local high schools. An increasing number of schools are solving the problem by switching their fields from natural turf to synthetic, but the main factor driving the change is the great increase in sporting activities in recent years. Now that athletic fields are used on almost a continual basis (girls' soccer alone doubled their use), many natural turf fields are in poor and unsafe conditions, and, in some cases, unplayable. What's more, due to the high demand on them, they can't be put out of service annually for the six to eight weeks required for resodding and installation of an irrigation system, not to mention monthly maintenance lasting a week or so in the growing season.

Although it takes a few months to install (preferably over the summer break), a synthetic turf field needs to be installed only once. When it needs to be replaced, only new turf is required, not an entire new system. (Most manufacturers guarantee the turf for eight years.)

Once installed, unlike high-maintenance natural turf, a synthetic turf field requires little maintenance, and what is required does not take it out of commission for any extended period of time. Nor must a synthetic field be rested between activities, which can run from 8 a.m. to dark or into the night if desired. Furthermore, although previous types of synthetic turf fields gave rise to certain type of injuries, from their installation on asphalt or concrete and use of Astro turf, today's are just as safe as natural turf fields in good condition.



A view of a newly constructed synthetic field at Erasmus Hall High School in Brooklyn.

considering installing synthetic fields, but the costs can be considerable. They're cheaper now that they're installed on stone, but still run between \$7.00-\$8.00/square foot, or about \$1 million for an entire field. (Replacement turf runs between \$4.50 – \$5.50/square foot). Paying for a synthetic field can require a school bond or a community-wide effort in which school district, recreation department and local sporting clubs unite to raise funds privately.

Most of the new fields being installed at high schools or colleges use an "infill system" in which a carpet-like synthetic turf system is installed on a base of about six inches of crushed stone, below which is a filter fabric and a drainage system of either small pipes or flat drains. Made of polypropylene fibers cushioned with particles of rubber or rubber and sand, all kept smooth by a special device, the turf system has enough resiliency to prevent injuries.

It can also stand up to heavy rain, which passes quickly and directly through the field's rubber, sand and stone, and into its storm drainage system. A synthetic field can be used right after, or even during, a rainstorm, while a grass field would be severely damaged. A synthetic field can even be used after snow. Once the snow is removed (with special brush equipment), the field will be as resilient as ever. Since it doesn't retain moisture, it won't freeze, nor are its fibers susceptible to freezing.

More and more communities are

Is it worth it? Studies indicate that over an eight to ten year period, the costs for synthetic fields and grass fields are about the same. The difference is that the synthetic field provides up to eight times more use.



End-zone view of new synthetic track and field with shotput event shown, Greenwich High School, Greenwich, Connecticut.

If a school or community decides to convert to a synthetic field, careful planning, engineering and design are required to ensure a quality product. There are many brands of turf to choose from, and the initial construction of the drainage layer must be specified, tested and installed correctly to make sure the system will perform as expected.

— Ron Tetelman, R.L.A.
President, Eberlin & Eberlin
(ron@eberlin.com)

Fifty-yard line view of new synthetic field and grandstands with light fixtures shown, Greenwich High School, Greenwich, Connecticut.

**For more information on programs mentioned in our newsletter, please refer to our website, www.jrfa.com
To subscribe to the newsletter, call 914.232.2500 or register online at www.jrfa.com**

Avoiding Potential Pitfalls in Construction

When your municipality needs construction work done, the last thing you want is nasty surprises. Fortunately, with a little due diligence and sound contracts, you can avoid potential problems and most unforeseen costs. Make sure all contracts are reviewed by your attorney, and keep these tips in mind:

Make sure the engineer you hire to design the project and manage the construction can provide references, examples of other work, and all required bidding documents. The firm should also have expertise in the type of work required.

Your contract with the engineer should require that the design specify all existing built-in conditions as accurately as possible, especially with regard to underground facilities. If, for example, there is an existing water main, the design should indicate where in the street it is located.

The design should also specify quantities of materials required to do the job, so it can be bid on a unit price basis. Rather than a single price for all work, you want to ask contractors for prices based on feet of sewer pipe to be installed, number and depth of manholes to be installed, square yards or tons of asphalt paving, etc. Since jobs typically run 5% over bid price, you can avoid cost overruns by also asking for prices for any extra items that may be required.

As to the construction management, the engineer usually provides on-site inspections; approves all materials and equipment used or installed, making sure they are of the same quality specified in the contract; makes sure that proper installation and safety methods are followed as specified in the contract; and provides proper maintenance of traffic. The engineer also coordinates between the contractor and the owner, helping to draw up a contract with the contractor and reviewing and approving all payments required.

Before approving a contract, however, the engineer should first help check the contractor's qualifications, by asking for references and examples of other

work and possibly running a Dun & Bradstreet credit check. If the lowest qualified bidder has offered a price 20% or more lower than that of the next closest bidder, the engineer and owner should meet with the contractor to determine whether the work actually can be performed at the price bid.

Drawn up with the municipality's mayor, trustees, own engineer and/or head of department of public works, the contract with the contractor can provide:

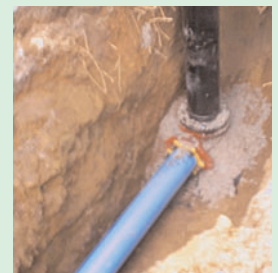
- ◆ A "bid bond" representing 10% of the price bid, demonstrating that the contractor has the financial viability to perform the work.
- ◆ A performance bond, guaranteeing that the work will be performed at the price bid: even if a contractor goes out of business, the surety for the bond must complete the work with another contractor.
- ◆ A payment bond, guaranteeing that all of the contractor's suppliers and subcontractors are paid, thus preventing potential lawsuits against the owner.
- ◆ A release of all liens from all subcontractors and suppliers.

To prevent against costs from delays, the contract can include a provision for "liquidated damages" in which the contractor is fined for every day the job goes past deadline and the amount is deducted from the final payment. Under a "retainage" provision, the owner can withhold about 5% of monthly payments until the work is complete. The contract can also include a punchlist that protects against costs from damages such as a broken sidewalk by allowing the owner to withhold funds until the damage is repaired.

When you undertake construction, your engineer is your best protection against unforeseen costs. Your engineer should provide not only sound design and management, but a sound contract with your contractor.

—Michael Corcoran, P.E.
(michael.corcoran@jrfa.com)

The photo sequence shows construction steps from rock removal to pipe and hydrant installation to compaction.



Due Diligence for Developers *continued from page 1*

level of erosion control will have to be incorporated into the design as part of an overall stormwater management plan. The developer also needs information on flood plains, which can usually be obtained from municipal flood plain mappings.

Soil type can be another site constraint. If a project calls for large houses and septic systems, but the soil turns out to be mostly clay, which doesn't drain well, the houses might have to be smaller. The developer can conduct a soil boring program to learn more about what types of soil are on the site. Though expensive, borings can reveal whether excavation for construction or buried utilities will have to

be done in bedrock, which could change the developer's mind about the project.

After identifying layout constraints, the developer should conduct an environmental review, with help in the field from an environmental professional such as an engineer or planner. Such a review should provide additional information on wetlands, including signs of standing water and areas containing wetlands plants, which would be delineated by a surveyor. An environmental professional can also conduct a Phase I ESA (environmental site assessment) and identification of any endangered or threatened species. Depending on the size of the project and whether it is

to be located in a place of historical significance, the developer might also employ an archeologist to perform an archeological review.

As part of the environmental review, the developer should also consider how the site will be accessed. Whether access is planned from a local, county or state road, the developer needs to contact officials with jurisdiction over site planning on that roadway to learn their requirements. Highway officials, who work with municipal planning boards and have some discretion as to approvals, want the access location to provide maximum safety for the site. Engaging officials early in the planning

continued on page 4



Q & A with John Folchetti

For both developers and municipalities, assessing the capabilities and limitations of the land in question is a critical part of planning.

Q: What should such an assessment consider?

A: Any environmental constraints that could limit or affect development, including the presence of state and federal wetlands, flood zones, steep slopes, soil types, potential aquifer or wellhead protection areas and water bodies.

Q: What's the best way to make such an assessment?

A: Through mapping. It's impossible to simply look at a piece of land from a road or walk over it and understand its real constraints. Instead, you need to combine information from various maps and databases, either by hand or with the help of a GIS package. Just compiling the data can be helpful, but if you can find a way to merge the information you'll get a much more helpful answer.

Q: When is the best time to do this?

A: As early as possible, whether you're part of a planning board creating a town master plan or a developer performing due diligence. By the time a proposed project enters the SEQRA process, both sides have invested a lot

of time and effort and developers have made a substantial financial investment. That's not the time to learn that what you thought were two acres of wetland actually are fifty.

Q: What are the benefits of early assessment?

A: Knowing the constraints upfront can allow developers to avoid unnecessary investments and to plan their expenditures more realistically. Being able to create master plans that identify areas which might need protection can allow municipalities to plan more efficiently for smart zoning and smart growth.

Please give us your suggestions for future Q & A topics and future articles, by emailing them to john.folchetti@jrfa.com.

May, 2005 No. 1 Issue 3

*Published monthly by
J. Robert Folchetti and Associates, LLC*

Managing Editor John Folchetti

Executive Editor Catherine Gonick

Art Director Annette Bensen

Operations Marshall Mermell

Contributors

John Folchetti *CEO, PE*

Michael Corcoran, *PE*

Mary Donnelly

Douglas Marr, *PE*

Paul Pelusio, *PE*

Ronald Tetelman, *RLA,*
PRESIDENT, EBERLIN & EBERLIN, PC

Production

MKTworks, Inc.

Photos

J. Robert Folchetti and Associates, LLC

Eberlin & Eberlin, PC

In coming issues . . .

*Getting started with SEQRA:
a primer for developers*

*What schools need to know about
SEQRA*

Update on wetlands permitting

Due Diligence for Developers continued from page 3

process can save time and money later.

At this point, an engineer or planner can create a preliminary layout in the form of a drawing. The developer should also now consider wastewater, water supply and stormwater issues, all of which must be addressed in the SEQRA process.

If a large subdivision is to include an onsite wastewater plant, the developer needs effluent discharge criteria from the DEC. If criteria are lacking for a particular water body, an engineer or scientist can perform the necessary waste assimilative capacity analysis.

If a ground water supply must be developed for a large project, the developer should first check whether the municipality has an aquifer study on file. If not, a geologist or hydrogeologist can perform a fracture trace analysis, analyzing aerial photographs to find cracks in the earth indicating where water might be located. These scientists can also conduct geophysical confirmation tests on the fractures to show the best locations to drill wells for maximum water yield potential. The developer should then have a

test well installation and drawdown test conducted to see how much water can be pulled out of the ground and what effect the pumping rate has on the immediate aquifer. A well may draw 100 gallons a minute, but this rate may last only 10 minutes.

Whether the project requires a draft or full environmental assessment, developers are required to mitigate stormwater runoff under both SEQRA and MS4 regulations. An engineer can calculate runoff on the site using topographic or USGS maps and the TR55/TR20 mathematical models developed by the national Soil Conservation Service. The modeling is run on software employing design criteria from the site, such as type of land cover, types of soil, efficiency of drainage, and the presence of steep slopes and impervious surfaces. The developer must then consider how to mitigate additional runoff from impervious surfaces that will result from the project.

The tasks of due diligence are many, but considering the risks involved in development, they are well worth performing. Taking the steps outlined in this article can prevent later costly surprises and allow better budgeting.

— Paul Pelusio, project manager
(paul.pelusio@jrfa.com)

THE FUNDING CALENDAR

Grant Name	Funding Agency	Eligible	Deadline	Goals
2005 Preserve New York Grant Program	The Preservation League of New York and the New York State Council of the Arts	Municipalities and Not-for-Profit	May 2, 2005	A- Historic Structure Reports B- Historic Landscape Reports C- Cultural Resource Surveys