



Allen Kisinger
1904-1981

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August 6, 2003

Mr. R. Michael Salmon, P.E.
City of Tampa Director of Storm Water
City Hall
306 E. Jackson Street, 6E
Tampa, Fl 33605

Re: Stormwater Mitigation Credit Review

Dear Mr. Salmon and City Council Members:

Kisinger Campo & Associates, Corp. (KCA) has been requested to review and comment upon the City of Tampa Stormwater Utility Mitigation Policy. In the performance of this task, we have reviewed the Phase 1 Stormwater Assessment and Phase 2 Stormwater Funding Programs prepared by GSG, attended meetings with City Staff, and reviewed stormwater mitigation strategies in other Florida communities. Additionally, we have analyzed the eligibility requirements, rationale, and methodology by which the mitigation credits were calculated.

The City has established this rationale for Mitigation Credits: *Mitigation credits may be granted to parcels (1) whose off-site stormwater impacts on the City system are non-existent, are mitigated by a properly functioning and permitted stormwater system, or (2) the parcel owner contributes to the maintenance of a private system which provides stormwater treatment and attenuation for runoff from public right-of-way, or (3) the parcel discharges stormwater runoff from a properly functioning stormwater treatment and attenuation facility to a City right-of-way.*

The overall need for stormwater treatment provided by the City of Tampa is a function of the quantity of stormwater discharged from a developed property, the rate at which it is released, and the quality of the water discharged. Currently, most stormwater utilities have developed fee structures based upon the quantity and rate of discharge components, which are directly related to the amount of impervious surface area on a developed property. This conveyance-based approach has been demonstrated as a fair and reasonable method to apportion the operation and maintenance costs of a stormwater utility.

The City of Tampa was developed and urbanized before the modern era of environmental and stormwater planning and regulations. Consequently, there are many varieties of collection, conveyance, and attenuation systems in existence. These include combinations of curb and gutter systems, ditch and swale systems, and detention and retention ponds with and without outfalls. Given the large number of stormwater system configurations, and the variability in the day to day operation and maintenance activities of an urban stormwater management system, the City adopted three basic criteria to establish the eligibility for the mitigation policy.



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Parcels may be granted a mitigation credit based upon one of the criteria discussed below:

1. **No portion of the parcel drains to City right-of-way or any part of a stormwater system over which the City has maintenance responsibility.**

KCA believes that granting full mitigation credit is a reasonable initial approach when all elements of the privately maintained stormwater management system are operated and maintained, as permitted, without any services provided from the City stormwater department. If no direct burdens are placed upon the City's operation and maintenance staff, such as for street sweeping, inspections and cleaning of inlets and conveyance elements, stormwater treatment ponds, and their outfall structures, or upon the City's stormwater system, the owner(s) of the system may reasonably expect a credit up to a full mitigation credit.

There are several system configurations within the City of Tampa in which this criterion may allow full mitigation credit:

- Parcel(s) drain to an internal or private collection and conveyance system into a retention pond or system, with no outfall or offsite discharge;
- Parcel(s) drain to an internal or private collection and conveyance system without a treatment system, which then discharges to an outfall system not operated or maintained by the city; and
- Parcel(s) drain to an internal or private collection and conveyance system into a wet / dry detention treatment system, which then discharges to an outfall system not operated or maintained by the city.

The above scenarios do not impose a direct maintenance burden on the City. Since the parcel(s) do not receive any operation and maintenance services from the City, eligibility for a full mitigation credit (1.0) appears to be a reasonable approach at present.

2. **Owner of parcel contributes monetarily to a Community Development District, Civic Association, or Special District which provides maintenance to non-city owned stormwater management facilities which accept drainage from City right-of-way.**

The most important element of private stormwater management systems accepting City right-of-way runoff, from the perspective of the City, is the ability of the system to adequately convey stormwater runoff and protect the City right-of-way from flooding.

For such systems, the City appears to have a vested interest in ensuring that these systems can, and do adequately protect the right-of-way. At this point, the exact number of parcels which may qualify for a credit using this criterion is not known.

The amount of mitigation credit proposed for parcels under this scenario is based on the estimated costs of operating and maintaining a stormwater treatment system. Budgetary estimates for the numerous elements of pond maintenance for Fiscal Year 2004 were provided by the City of Tampa based upon historically accurate data. The work tasks typically performed in stormwater system pond maintenance were factored into the mitigation credit estimate, including:



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- Mowing, motor pool, annual vehicle replacement, pond chemicals, operations support and inspections, sediment and debris disposal (calculations were performed based upon FY 04 budget estimates); and
- Structure repair, troubleshooting, pumping, washout repair, hauling, other work, training, meetings, travel, and down time (calculations were based upon the average of four year historical data of work performed by City of Tampa during 2000- 2003 fiscal years).

The estimated percentage of the annual operations and maintenance budget for pond maintenance was calculated to be 9.6%. KCA reviewed the methodology and confirmed the reasonableness of the assumptions made for the above analysis. The 10% mitigation credit (0.1) proposed by the City for privately maintained systems receiving discharge from the City's right-of-ways is reasonable, based upon the current level of pond maintenance performed by the City.

Independently, KCA researched and found literature on the operation and maintenance costs of stormwater Best Management Practices (BMPs) specific to systems operated in Florida (South Florida Water Management District, 2002). Typical operation and maintenance activities for detention ponds are noted below:

- Inspection of Facilities;
- Vegetation Control on Site (cut grass, maintain ground cover, remove invasive vegetation and trees, repair rodent holes);
- Vegetation and Erosion Control of Side Slopes (cut grass, maintain ground cover, remove invasive vegetation and trees, repair rodent holes, repair erosion and scour damage);
- Vegetation Control of Pond Interior;
- Aquatic Plantings Maintenance (if applicable);
- Sediment Removal from Pond Bottom;
- Removal of Trash and Debris;
- Clean Control Structure (remove trash and debris);
- Repair Control Structure (concrete repairs; replace, repair, or reposition orifice plate);
- Repair of Oil Skimmer (replace corroded or missing fasteners, repair, or reposition for proper operation);
- Repair Emergency Overflow/Spillway (if applicable);
- Clean Catch Basins and Manholes;
- Clean pipes; and
- Miscellaneous Repairs.

The level of funding necessary to maintain wet detention stormwater ponds at the BMP level of service is estimated between a low of \$653 and a high of \$2,178 per acre-foot of storage. Using the low value of \$653 per acre-foot, and assuming the average depth at 3 feet, KCA calculated the estimated BMP cost for the 374 wet-acres of stormwater ponds currently under the City's control at \$732,666 per year. The current estimated level of pond maintenance (~\$494,537) was subtracted to determine the additional funding needed if the ponds were maintained at the higher BMP level of service. This exercise indicated that the percent of the City's total stormwater budget dedicated to pond operation and maintenance would potentially increase from 9.6% to 13.6% if BPM were implemented. It is reasonable to expect that the increasing focus on stormwater quality issues may require a greater level of effort in the future.



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In summary, the currently proposed mitigation credit of 10% for parcel(s) which are served by privately maintained treatment ponds appears reasonable for the current level of maintenance activity. Should the City adopt the higher BMP standard for maintenance in the future, the mitigation credit policy should be revisited. However, there is no guarantee that private stormwater treatment systems currently are, or in the future would be, maintained at the BMP level of service. Annual inspections and proof of the BMP level of maintenance would be incumbent upon the applicants on a periodic (annual or biennial) basis to ensure that the true benefits of a privately maintained treatment system to the City are realized.

3. Parcel has a properly maintained and functional onsite stormwater management system which treats and/or attenuates stormwater prior to discharge to the City right-of-way or stormwater system.

This scenario is the opposite situation that was described in #2 above. In this case, the City is receiving stormwater runoff from “private” (non-city) facilities. The facilities may be owned by private interests or other governmental agencies. From the perspective of the City, the most important element of “private” stormwater management system’s discharge into the City’s right-of-way is the burden that this discharge adds to the City’s operation and maintenance of their stormwater system. For such systems, the City appears to have a direct interest in ensuring that these systems can, and do reduce that additional burden to the City to the amount practicable.

An incentive for the “private” system to be maintained by the parcel owner is through the issuance of a mitigation credit. As in the case for #2 above, the amount of mitigation credit proposed for parcels under this scenario is based on the estimated value of the operation and maintenance elements of stormwater treatment system operated and maintained by the City. This is the same methodology and analysis as discussed in item 2 above and at this point, the exact number of parcels which may qualify for a credit using this criterion is not known.

In summary, the currently proposed mitigation credit of 10% for parcel(s) which have “privately” maintained treatment ponds appears reasonable. In order to ensure that “private” stormwater treatment systems are maintained at an acceptable level of service, periodic inspections and proof of the BMP level of maintenance should be required. It should be incumbent upon the applicants to demonstrate the maintenance history to the City.

Future Considerations:

KCA notes that indirectly, there may be a portion of the Management costs associated with the stormwater utility that could be assigned to privately maintained systems in the future. Currently, there is not enough historical data available to accurately make this assessment. These potentially shared costs result from various management subtasks, such as finance, administration, planning, engineering and design, inspection, reporting and tracking, and construction services. Additionally, there will be administrative costs to process the initial mitigation credit application, set up the data base for future tracking, and inspections and verifications of the applicant’s periodic certification for continuation of mitigation credits.

The City also has a vested interest in the proper operation and maintenance of private facilities. While the City does not directly spend funds on the private system, if the private system is not maintained and fails to perform as permitted, the City may need to maintain the outfall in order to protect the public right-of-way and infrastructure located downstream.



KCA also notes that there may be indirect burdens on other City infrastructure outside of the jurisdiction of the stormwater department under special off-normal and emergency conditions. Bridges, roads, and other City owned property located downstream of privately maintained stormwater systems may be adversely affected during abnormal weather and emergency conditions. These conditions would likely be repaired under Federal Emergency Management Agency (FEMA) programs, and are not considered part of a normal City stormwater operation and maintenance program.

As the stormwater utility matures and garners additional detailed operational data, the current mitigation credit and fee structure should be revisited. The general trend for maturing stormwater utilities has been to track and budget for Administrative, Management, and O&M cost centers. This data may allow the costs and benefits (indirect and direct) to be thoroughly evaluated, and the mitigation credit policy refined to match.

Please do not hesitate to contact me at (813) 871-5331 if you have questions on these matters.

Sincerely,

Paul Hauck
Manager, Special Projects