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I am pleased to provide this report of my review of the stormwater documents for the proposed additional parking lots for the CVS pharmacy to be located at the intersection of Avenue E and 9th Street. My qualifications to conduct this review include a Bachelor's degree in environmental engineering, a Master's degree in engineering management, and a 23 year career focusing in stormwater. I recently retired from my position as the Department of Environmental Protection's State Stormwater Engineer, a position which was preceded by a fifteen year career with the Northwest Florida Water Management District as Bureau Chief and creator of their Environmental Resource Permitting bureau and their Surface Water bureau.

My review indicates that the proposed stormwater system does not appear to be in compliance with the City of Apalachicola's stormwater ordinances.

The project previously had a "10/2" self-certified general permit granted under Chapter 403.814(12). However, with the addition of a separate parking lot with wetland impacts, the previous permit is no longer valid, and the current configuration no longer qualifies for the "10/2". The project will now need an Environmental Resource Permit for both wetland and stormwater impacts, issued by the Northwest Florida Water Management District (NFWFMD), which at this writing they do not appear to have, to comply with City ordinance VIII.A.1., which states:

“...a storm water discharge facilities permit from the Department of Environmental Regulation (DER) in accordance with Chapter 17-25, F.A.C., “Regulation of Storm water Discharge,” shall be required for all new development prior to the issuance of a building permit.”

It is acknowledged that the ordinance has not yet been updated to reflect current State stormwater regulations; however, the intent of the ordinance is clearly that a permit issued by the appropriate State agency (in this case, NFWFMD) is required prior to the issuance of a building permit. It should also be noted that, pending a more complete wetland delineation with the proper avoidance and minimization review, a Corps of Engineering (ACOE) permit may also be required in order to issue a building permit.

The stormwater treatment system proposed is an underdrain system, described in NFWFMD's Applicant's Handbook Volume II. These systems are used as retention systems in areas where a high groundwater level prevents infiltration. The underdrain, a series of perforated pipes installed under the retention basin, lowers the water table under the basin by draining it away, in this case to a discharge to the municipal stormwater drainage system. Note that this is a continuous discharge, which was not taken into account when the drainage system was designed and installed. Additionally, filling and paving of the wetland identified on the lot will further increase the amount of water running off the site into the stormwater drainage system. The receiving storm drain has been identified as “impacted” by Baskerville and Donovan in their drainage study for the City. An engineering analysis of the impacts by the development on the drainage system should be performed to ensure the system can accept the increased flows without exacerbating the current known flooding problems.

As with the last review, the designers have not provided the seasonal high groundwater table level for the site. However, the soil type for the area is typified by a water table less than ten (10) inches below the soil surface more than eight (8) months of the year. The wetland delineation report submitted indicates on Page 5 that "...soil saturation was...observed in several areas" on the site. With such a high groundwater table, the proposed TrueGrid system will not function as a pervious surface, as there will be no void space for water to infiltrate. When the seasonal high groundwater table is at or above the ground surface, as it will be up to eight (8) months of the year, the TrueGrid system can be considered 100% impervious. This brings the use of 0.65 "C" runoff factor utilized in the calculations into question.

The system is designed to detain the runoff from the 25-year, 24-hour storm to keep it at or below the pre-development peak discharge. Part of the storage for this volume is proposed to be open ponding of the water in the parking lot. During this period, the TrueGrid system will be saturated and inundated, precluding infiltration. The only outlet will be via the underdrain stormwater system. The drainage report did not provide a recovery period for either the water quality treatment volume nor the runoff for the 25-year, 24-hour storm, giving no estimate of how long the parking lot will be inundated.

The topographic surveys included in the application were not signed and sealed by an appropriate registered professional, as required in the stormwater ordinance in VIII.7.c.

I appreciate the opportunity to provide these services. If you have any questions or concerns, or if I can be of any further service, please don't hesitate to contact me at 850-508-9275.

Sincerely,

A handwritten signature in blue ink that reads "Lee Marchman". The signature is written in a cursive style.

Lee Marchman, P.E.