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October 25, 2023

Ms. Dawn Collins, Town Administrator/Clerk
Town of Palmer Lake
42 Valley Crescent
Palmer Lake, CO 80133

Via Email to Dawn@palmer-lake.org
No Hard Copy to Follow

RE: Town of Palmer Lake
Undeveloped Right-of-Way Use and Roadway Standards

Dear Dawn:

This correspondence is provided to summarize the thoughts and recommendations regarding the improvement and use of undeveloped right-of-way (ROW) land throughout the Town. It is our understanding that the Town Board of Trustees requested an inquiry into the development requirements which would be applicable to undeveloped ROW, should that ROW be desired to be improved for beneficial use. In particular, the inquiry would investigate the potential for reducing the current roadway development standards to economically accommodate the improvement of currently undeveloped ROW. Following discussions with Town staff, including the Town's legal counsel, we offer the following points and the recommendations.

To begin, it is important to note that the Town has adopted the roadway design standards of El Paso County (EPC), as defined in the Engineering Criteria Manual (ECM) published by EPC. The ECM defines specific design and construction criteria for a roadway section such as road surface material, road surface thickness, subgrade or base course thickness, cross slopes, lane widths, shoulder widths and curb and gutter or drainage ditch requirements. The criteria vary for the numerous defined roadway classifications. The various roadway classifications are primarily based on the intended use conditions and anticipated traffic volumes of a particular roadway. The design criteria assigned to each roadway classification are selected to provide acceptable service, safety, maintenance accommodations and longevity under the intended use. The criteria published in the ECM are based on sound engineering practice, as well as decades of knowledge and experience in roadway performance.

When looking at the ECM roadway classifications, the lower classifications (such as local roads) tend to have lower design and construction criteria requirements than the higher classifications of Collectors and Arterials. This is due to the typically lower traffic volumes applicable to the lower classifications. The traffic volume for a roadway is noted by the term maximum average daily traffic, or maximum ADT. The following describes four of the lower rated roadway classifications, starting with the lowest maximum ADT and progressing upward. The lowest maximum ADT of 199 applies to a Rural Gravel Local Roadway. This roadway classification requires a 32-foot wide gravel surface to provide a 12-foot wide travel lane and a four-foot wide shoulder on each side of the roadway. It also includes drainage ditches on each side of the gravel roadway for stormwater management. The next classification with a maximum ADT of 300 applies to the Urban Local (low volume) Roadway. This classification requires a 24-foot wide asphalt pavement surface over aggregate base

course with concrete curb and gutter and sidewalk on each side of the roadway. Following the Urban Local (low volume) Roadway, a maximum ADT count of 750 applies to the Rural Local Roadway classification. The criteria for this roadway require an asphalt pavement surface over aggregate base course with a 12-foot travel lane and two-foot shoulder constructed of asphalt on each side of the road. The aggregate base course extends beyond the asphalt surface and falls to drainage ditches on either side. The next classification is the Urban Local Roadway, with a maximum ADT of 3000. This classification requires a 30-foot wide asphalt pavement section on aggregate base course, along with concrete curb and gutter and sidewalk on each side of the asphalt surface for drainage management. These four classifications and their standard details are attached for reference.

As can be seen in the roadway classifications described above, the design criteria vary according to the needs of each particular roadway. The surface material for the lowest classification is given as gravel. As the maximum ADT count rises, asphalt surfacing is required in order to provide adequate serviceability and longevity for the roadway. The requirements for the travel lanes and widths for shoulders also increase as the maximum ADT count rises. This provides for adequate safety of vehicles traveling in each direction, according to traffic volume and design speeds. As traffic volume increases, the surface thickness would increase to accommodate the added loading of higher traffic. Drainage considerations are also addressed differently between classifications, with some roadways utilizing drainage ditches while other roadways utilize curb and gutter for drainage management.

The criteria included for each roadway classification is specifically assigned in order to meet the engineering requirements and serviceability needs of each classification. To consider lessening the criteria of a specific roadway classification would not be advantageous as it would ultimately reduce the intended level of service, safety, maintainability and longevity of the roadway. This results in the responsible engineer and the Town assuming additional, and unacceptable, risk and liability. It would also increase the maintenance burden on Town staff, as well as the Town's expenses associated with the maintenance efforts. In addition, lessening of roadway criteria could have negative public perception. It could be interpreted in certain circumstances as favoritism or preferential treatment. Whereas abiding by established and adopted standards with defined criteria mitigates the potential for subjective consideration by Town staff. Reducing criteria also has the potential to be abused by other future developments and/or developers that may try to claim, by precedent, that reduced criteria can be applicable to their future development if it was deemed acceptable for other areas of Town.

Another negative impact is the scenario of a ROW being improved according to reduced standards in order to accommodate only the initial intended use, but then the area is eventually used for other unintended purposes once it is improved. An example of such a case would be the improvement of an undeveloped ROW in order to accommodate the adjacent property owner(s) in their maneuvering and parking of a recreational vehicle. In this case, say the Town were to allow the ROW to be improved according to the Rural Gravel Local Roadway classification, but reduced the criteria to remove the gravel surfacing requirement. Once the improvements are completed, a cleared and graded surface is drivable. Other vehicles may see the clear area and use it as a road or alley, even though its safety is compromised without a gravel surface. Likewise, pedestrians may see the area as a walking path or trail and use it as such. The overall safety of the area is now severely compromised with unforeseen vehicular and pedestrian traffic coupled together.

Maintenance of the road also becomes burdensome for Town staff due to the unintended, and detrimental, use by vehicles and pedestrians. Should an accident occur on the area, the Town may hold liability as it approved, and assumed the maintenance of, the sub-standard improvements to that area.

From an engineering perspective, the idea of reducing standards or criteria from the currently adopted ECM classifications is not recommended. The adopted roadway classifications and design and construction criteria are based on proven engineering design and decades of real-world experience. Arbitrarily reducing the criteria imposes unacceptable liability on the Town. The purpose behind having multiple roadway classifications is to provide a tiered set of standards and criteria that are well defined and defendable based on the intended use of a roadway. For instance, if a proposed roadway has a lower traffic volume than the Urban Local Roadway classification, then the criteria may justify constructing it to a lower classification. In this way, the multiple tiered classifications have a built-in reduction of criteria that adjusts accordingly to the traffic volume and needs of the proposed roadway.

It is for these reasons that we would ultimately recommend the Town maintain the current adopted ECM standards, and not consider reducing those standards for the improvement of undeveloped ROW.

Should you have any questions or desire additional information, please contact us at your convenience.

Sincerely,

Mark A. Morton, P.E.

MAM/jjs
Enclosures