

MEMORANDUM

DATE: November 3, 2022

TO: Ryan Howser, PCD-Project Manager

FROM: Jeff Rice, PCD-Engineering
719-520-7877

SUBJECT: SP-20-005 – Eagle Rising
Second Submittal (2022 first review)

LRA – RESPONSE TO COMMENTS
Jan 13, 2023

Engineering Division

Planning and Community Development (PCD)-Engineering reviews plans and reports to ensure general conformance with El Paso County standards and criteria. The project engineer is responsible for compliance with all applicable criteria, including other governmental regulations. Notwithstanding anything depicted in the plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the relevant adopted El Paso County standards, including the Land Development Code (LDC), the Engineering Criteria Manual (ECM), the Drainage Criteria Manual (DCM), and the Drainage Criteria Manual Volume 2 (DCM2). Any deviations from regulations and standards must be requested, and approved by the ECM Administrator, in writing. Any modifications necessary to meet overlooked criteria after-the-fact will be entirely the developer's responsibility to rectify.

A written response to all comments and redlines is required for review of the re-submittal. Please arrange a meeting between the developer's team and County staff to review and discuss these comments and prepared revisions/responses prior to the next submittal.

Due to the volume and complexity of these comments and additional information needed, Staff will provide additional, more detailed comments on the complete Preliminary Plan and Preliminary Drainage Report submittals upon review of the necessary information. A 21-day review period will be necessary with the next review to complete the review of all revised documents including any deviations and waivers.

General

1. Please provide an updated Letter of Intent addressing deviations, waivers, and describing the project as currently proposed. **A supplemental Letter of Intent w/ attachments has been included within the resubmittal package. Discussions related to deviations, waivers and project description have been included within the supplemental LOI.**
2. The proposed private road requires a waiver in accordance with LDC Section 8.4.4.E. Certain design standards may be relaxed for private roads, subject to approval by the County. Standards subject to deviation under the waiver request may only include the following:
 - a. reduction of right-of-way width where suitable alternative provisions are made for pedestrian walkways and utilities;
 - b. reduction of design speed where it is unlikely the road will be needed for use by the general public;

- c. reduction in standard section thickness minimums and pavement type where suitable and perpetual maintenance provisions are made;
- d. variation in maximum and minimum block lengths.
- e. Maximum grade.

Identify all deviations proposed (also see TIS redlines). Any deviations from criteria not allowed under the waiver require a deviation request. The maintenance entity and funding mechanism needs to be addressed in the private road waiver request.

The El Paso County BoCC approved the inclusion of privately owned and maintained roadways during their Dec 8, 2020 Preliminary Plan Reinstatement. See Supplement to LOI for detailed discussion of waivers and deviations previously approved or proposed. The applicant has included a deviation request related to the use of gravel roadway surfaces within the resubmittal package.

Preliminary Plan

1. If any revisions are proposed to the preliminary plan submit the updated Preliminary Plan.

Minor revisions have been made to the reinstated Preliminary Plan. These revisions are the result of updated information and data obtained from updated Preliminary Plan support documents required by the Dec 8, 2020 BoCC reinstatement Approval Conditions and staff requests and requirements. See Supplement to LOI and resubmitted current Preliminary Plan.

Transportation / Traffic Impact Study. See updated LSC Preliminary Plan Transportation Memo, associated deviation request and LSC Response to PCD-Engineering Comments.

1. See TIS redlines.
2. Provide deviation requests as needed.

Preliminary Drainage Report / Drainage Plans (cursory comments) See MVE, Inc. Master Development Drainage Plan / Preliminary Drainage Report and MVE Response to PCD-Engineering Comments.

1. The Preliminary Drainage Report (PDR) needs to be updated to current County criteria; drainage criteria have been updated since the time of original preliminary plan approval, and regulatory oversight of projects to ensure compliance with all criteria associated with the County's MS4 permit has become a priority.
2. See PDR redlines.
3. Regarding the 4-step process including channel stabilization (Step 2 – “drainageways are required to be stabilized”), for the main channel and all tributary drainageways: Provide a complete hydraulic analysis of the channel and complete information on the proposed and ultimate channel stabilization improvements, including grade control and bank stabilization. Address all drainageways and pond spillways throughout the preliminary plan area. In accordance with DCM Section 1.4.2, some level of channel stabilization improvements will be required in areas of concern and a clearly defined maintenance agreement is necessary.
4. Note: Ensure that the DCM Update hydrologic criteria are met. Reference EPC Board Resolution No. 15-042 (El Paso County adoption of Chapter 6 and Section 3.2.1 Chapter 13 of the City of Colorado Springs Drainage Criteria Manual dated May 2014, hydrology and full-spectrum detention) and Colorado Revised Statute §37-92-602 (8) in the report.
5. Runoff increases indicate the need for detention upstream of DP 12 and possibly DP 6B; address as appropriate. If the ponds in the main channel are proposed to be used, criteria

- regarding Waters of the State need to be met and permissions from the water rights holder needs to be provided.
6. Provide water quality provisions for the proposed Eagle Wing View in accordance with ECM Appendix I requirements. Provide water quality analysis and design in accordance with ECM Appendix I, Section I.7.
 7. Discuss maintenance access provisions (for channels and BMPs), maintenance requirements and responsibility, and the Private BMP Maintenance Agreement and Easement that will be provided for the channel and any required PBMPs. Per criteria, a 15 foot wide access easement and an all-weather access road is required on each side of the main channel.
 8. Show all improvements including ditch erosion protection, culvert inlet and outlet protection details on the developed drainage plan and GEC Plan.
 9. The report states that a maximum permissible velocity of 5 fps was assumed (as per Table 10-4 of DCM 1). The 5 fps figures in that table are for reed canarygrass, tall fescue, and Kentucky bluegrass. These types of lining are essentially lawns. As stated in the footnote below the table, "Grass lined channels are dependent upon assurance of continuous growth and maintenance of grass." Without assured irrigation, these grass types may not be used for design; the designer must use 2.5 fps figure for design. Alternately, the designer may use Table 10-3, but as was stated earlier in the report, the soil types onsite are a sandy loam or loamy sand. The maximum mean velocity for sandy loam is also 2.5 fps, so the design value is 2.5 fps either way. The Soils and Geology Report states that flows of 3-4 fps may be allowable but vegetative linings may increase permissible velocities to 4-7 fps. Several lot line locations with flow velocities exceeding 5 fps are identified and it is stated that no improvements are proposed; these areas need to be addressed both in terms of long-term stabilization and maintenance by an entity other than individual property owners. The velocities discussed here apply to the main channel and roadside ditches as well.
 10. Address all structures that have been added to the site on the drainage plan, and which will be removed or remain.

Geotechnical Issues

1. Address specifically the CGS comments regarding groundwater depths and monitoring. (No comments on the soils and geology report itself.). Entech Engineering has evaluated the Eagle Rising property to determine the location of potential seasonally shallow groundwater and seasonal shallow groundwater (See Entech Engineering's Soils, Geology, Geologic Hazard Study, Figure 6). LRA has designed a site development plan which allows for the areas of known seasonal shallow groundwater and potential seasonally shallow groundwater to be avoided during the roadway and home construction (see LRA's Preliminary Plan). M&S Civil will be preparing a Final Plat which provides easements and setbacks prohibiting construction within the shallow and potentially shallow ground water areas. In addition, all building foundations within the Eagle Rising subdivision will be required to be designed by a professional engineer utilizing site specific soil testing. Should shallow ground water be encountered during site specific testing, Entech Engineering's Soils, Geology, Geologic Hazard Report provides mitigation measures and construction details necessary to mitigate the high ground water issues. Given the facts that (1) not all lots in all subdivisions are suitable for basement construction, (2) a particular lot buyer may or may not chose to include a basement and (3) only 1 out of 6 test borings indicated ground water at a depth that would influence the construction of a basement and (4) shallow ground water mitigation measures are available, subdivision wide monitoring of ground water depths and subdivision wide limitations on basement construction would be excessive. The applicant believes that the current practice of notifying potential lot buyers of possible geologic hazards (including ground water) via plat notes remains a preferable method to deal with the issue of basement construction.
2. It is anticipated that high groundwater levels may require an underdrain system(s). If there is to be a single or combined system, please address construction and maintenance in all applicable

- documents. Entech Engineering has identified areas of high or potentially high groundwater and the applicant has taken appropriate steps to preclude construction within these areas. If high ground water is encountered outside of the identified areas, Entech Engineering has provided mitigation measures, including construction details, to deal with the high groundwater.
3. Update the Soils and Geology report as applicable if any revisions occur to lots, roads, or drainage design. See updated Entech Engineering's Soil, Geology, Geologic Hazard Study.

Attachments

1. TIS redlines
2. Preliminary Drainage Report redlines