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El Paso County

Grandview Metro District Project

1041 Submission

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Exhibits

- Exhibit A - Vicinity/Location Map
- Exhibit B – 1041 Permit Application
- Exhibit C – Combined Proposed Infrastructure Map
- Exhibit D - Adjacent Property Owners Map



- Exhibit E - Surrounding Metropolitan District Map
- Exhibit F - Legal Description
- Exhibit G - Title Commitment
- Exhibit H - Notice to Mineral Estate Owners
- Exhibit I – Grandview Reserve Sketch Plan
- Exhibit J - Grandview Reserve District Service Plan
- Exhibit K - Fire Protection Commitment Letter
- Exhibit L - MDDP
- Exhibit M - FEMA Floodplain Mapping
- Exhibit N – Colorado Parks & Wildlife Correspondence
- Exhibit O – ECOS Report including Wildlife Reports, Wetland Reports, and Weed Management Plan
- Exhibit P – Hazardous Material Location Exhibit
- Exhibit Q – Noise Study
- Exhibit R - Areas of Paleontological, Historic or Archeological Importance
- Exhibit S - Soil Map
- Exhibit T – Water Right Determinations
- Exhibit U - Geotechnical Report
- Exhibit V - Groundwater Quality Reports/Maps
- Exhibit W – Land Use and Public Parcels Maps
- Exhibit X - Traffic Impact Analysis
- Exhibit Y – Water Treatment Plant Process Flow Diagram
- Exhibit Z – ROW-Easements Wastewater Alignment
- Exhibit AA – CMD IGA and WHMD Draft Agreement
- Exhibit BB - Water/Wastewater Report
- Exhibit CC - Water/Wastewater Commitment Letters
- Exhibit DD - CDPHE Correspondence
- Exhibit EE – Applicant Resumes
- Exhibit FF – Surrounding Infrastructure
- Exhibit GG – Existing Zoning Map
- Exhibit HH – Haul Route Exhibit
- Exhibit II – Service Area for Woodmen Alternative
- Exhibit JJ – Well Permits

Documents Related to 2.303 [Submission Requirements]

Application – 1041 Permit

Completed Application form in the format attached and approved by the Planning and Community Development Director.

- a) See attached 1041 Permit Application as Exhibit B.

Additional Submissions, as Requested by Director

The Director may require submission of any plan, study, survey or other information, in addition to the information required by this Section at the applicant's expense, as in the Director's judgement is necessary to enable it to review and act upon the application. Completed Application form in the format attached and approved by the Planning and Community Development Director,

- a) See the table of contents for a full list of information provided in this permit submittal. Exhibit C contains a map depicting the proposed infrastructure to be permitting under this 1041 application.

Certification of Deed Research of Mineral Owners

Any application which requires compliance with § 24-65.5-101, et seq., C.R.S., (Notification to Mineral Owners of Surface Development) shall not be considered to have been submitted as complete until the applicant has provided a certification signed by the applicant confirming that the applicant or its agent has examined the records of the El Paso County Clerk and Recorder for the existence of any mineral estate owners or lessees that own less than full fee title in the property which is the subject of the application, and stating whether or not any such mineral estate owners or lessees exist. In addition, for purposes of the County convening its initial public hearing on any application involving property which mineral estate owners or lessees owning less than full fee title in the property have been certified by the applicant to exist, the application shall not be considered to have been submitted as complete until the applicant has provided an additional signed certification confirming that the applicant has, at least 30 days prior to the initial public hearing, transmitted to the County and to the affected mineral estate owners and lessees the notices required by C.R.S. §24-65.5-101, et seq.

As of January 8, 2019, Mike Bramlett, on behalf of JR Engineering researched the records of the El Paso County Clerk and Record and established that there were no mineral estate owners on the property known as Grandview Reserve. For official certification, see Exhibit H. For further information about soil type in the area, please reference Exhibit U.

Information Describing the Applicant

- a) *The names and addresses, including email address and fax number, organization form, and business of the applicant and, if different, the owner of the Project.*

Melody Homes, Inc.
9555 S. Kingston Ct.,
Englewood, Colorado 80112
303-503-4903
WMCarlisle@drhorton.com

Paul Howard
Grandview Reserve Metropolitan District
1271 Kelly Johnson Blvd, Suite 100
Colorado Springs, CO 80920
719-499-8416
Paulinfinity1@msn.com

- b) *The names, address and qualifications, including those areas of expertise and experience with projects directly related or similar to that proposed in the application package, of individuals who are or will be responsible for construction and operating the Project.*

Information regarding the HR Green team that compiled this application can be found in section 4. e) below and a full resume for each of these individuals is also provided in Exhibit EE.

- c) *Written authorization of the application package by the Project owner, if different than the applicant.*

The District is the applicant and has authorized the application package in Exhibit B. Will serve letters by Woodmen Hills Metropolitan District (WHMD) and Cherokee Metropolitan District (MSD) are located in Appendix CC.

Melody Homes is now a partial landowner and has also authorized this application.

- d) *Documentation of the applicant's financial and technical capability to develop and operate the Project, including a description of the applicant's experience developing and operating similar projects.*

The property owner has engaged HR Green, Inc. to design and manage associated sub-consultants of the proposed development. HR Green is one of the nation's longest operating engineering firms with experience in a wide variety of projects. While HR Green is newer to the Colorado market, current employees within the organization have worked in Colorado for numerous years and have designed and managed numerous similar size and larger projects within Colorado and nationwide. Most recently HR Green has been the lead engineering

consultant for the Aurora Highlands project covering 3,100+ acres of land is planned to have 23,000 homes.

Grandview Reserve Metropolitan District (GRMD) is authorized to issue up to \$295,000,000 in bonds. At full build out, GRMD projects to generate approximately \$2,427,000 in revenue from a 10-mill levy dedicated for O&M. Refer to the Grandview Reserve Metro District Service Plan located in Exhibit J for more details. According to the Draft Agreement with WHMD, WHMD will be responsible to operate the wastewater system. Discussions are ongoing regarding the operation of the water system.

e) *Written qualification of report preparers.*

This report was prepared by the following:

Gregory Panza, PE, PMP, Senior Project Manager

With nearly 25 years of experience, Greg manages and master plans land development and municipal water projects. He offers experience in both the engineering and construction realms. His project management, construction management, and general contracting experience, total nearly 15 years of expertise. Greg brings a broad knowledge of the civil field, including drainage, construction inspection, surveying, and stormwater management analysis. His project experience ranges from hydrologic & hydraulic analysis, utility and drainage studies consistent with FEMA, Corps and local requirements, utility coordination, heavy civil utility construction, mass grading, and roadway design projects.

Professional Engineer, CO, 37081, 2002

Mark Volle, PE, Lead Engineer

Mark has over 14 years of experience encompassing all aspects of water and wastewater projects. He has extensive permitting experience for projects similar to the proposed project including wastewater lift stations and force mains, large diameter transmission lines, water storage tanks and ground water treatment plants. On those projects, he has performed or managed a team on all aspects including: planning, permitting, design and construction administration.

Professional Engineer, CO, 48654, 2014

Trevor Igel, EIT, Staff Engineer

Trevor has a variety of hands-on experience ranging from the physical analysis of hydraulic phenomena, to stream, wetland and general ecosystem restoration. His

experience also includes computational hydraulic and hydrologic analysis, drainage design, grading, erosion control, surveying and construction inspection. Trevor is proficient in AutoCAD, Civil 3D, GIS, 1 and 2 Dimensional HEC-RAS analysis and SWMM modeling. His experience in modeling will ensure the water development plans are accurate for the Grandview Metro District project application.

Sarah Fernandez, MA English, Design Technician

Sarah is an analytical and detail-oriented individual with acute knowledge of drafting technologies. She supports the design leaders to ensure that exhibits are accurate. Having completed a Master's of English, her background in both communication and design is an asset in preparing the 1041 permit.

Information Describing the Project

- a) *Vicinity map showing the proposed site and the surrounding area.*

Vicinity Map include in Exhibit A.

- b) *Executive summary of the proposal indicating the scope and need for the Project.*

Proposed Water System:

The proposed project consists of the water infrastructure necessary to support development within the Grandview Reserve Metropolitan District (GRMD). The water infrastructure applicable to the 1041 includes source water wells, water treatment facilities, water storage tanks and the associated piping. Please reference Exhibit BB for all information regarding Grandview Reserve's water demands. The wells will be Denver Basin wells typically with 2 wells (one Arapahoe and one Laramie Fox Hills) per well site. Exhibit C contains a map of the potential proposed well sites within GRMD. The total number of well sites to be developed will be dependent on well production and the rate of development.

A total of up to 4 water treatment facilities are planned for the project. All water treatment facilities will utilize pressure sand filtration and iron and manganese precipitation to treat raw water from the wells. A flow diagram of the treatment provided is in Appendix II. The capacity of each water treatment facility will be determined by the filings that it will serve. The first water treatment facility will be sized to treat approximately 0.5 MGD with room to expand to 1.0 MGD. The total treatment capacity needed for full buildout of GRMD is approximately 3.0 MGD. Exhibit C shows the proposed locations of the water treatment facilities.

Once treated at the water treatment facilities, water will be stored in elevated or ground-level tanks. Multiple tanks constructed of steel or concrete will serve the project area. Currently, up to 4 different sites are identified in Exhibit C. The tanks will be sized to store

approximately 24 hours of average daily flow and the fire flow requirement. The first tank is anticipated to be approximately 400,000 gallons. The size and number of future tanks will be determined as development progresses. All tanks are anticipated to be above ground water tanks, and if elevated, the maximum height is approximately 175-ft. Total storage capacity for the development at buildout is anticipated to be 1.5-3.0 million gallons. The total storage required will be determined by the building with the largest fire flow requirement. The raw and potable water facilities will be connected by water lines ranging from 4"-18" diameter as depicted in Exhibit C.

Proposed Wastewater System:

The proposed project consists of the wastewater infrastructure necessary to support development within the Grandview Reserve Metropolitan District (GRMD). The wastewater infrastructure applicable to the 1041 includes one or more lift stations and associated force main(s). Treatment will be provided by an existing treatment facility. Depending on the treatment facility as outlined below.

GRMD is proposed to have approximately 3340 single family equivalents (SFE) at buildout. Please reference Exhibit BB for all information regarding Grandview Reserve's wastewater demands.

This report evaluates three alternatives for conveyance and treatment:

- A. Woodmen Hills Metropolitan District (WHMD)
 - Expansion of the treatment facility anticipated to involved the headworks, sludge basin and dewatering facility
 - One lift station is anticipated
- B. Meridian Ranch Metropolitan District (MSMD)
 - Expansion is anticipated to be wet well and pump expansion within the lift station
- C. Cherokee Metropolitan District (CMD)
 - Expansion is not anticipated initially, but future expansion may involve aeration tanks and clarifiers
 - Two lift stations are anticipated

The preferred alternative is Woodmen Hills Metropolitan District.

For all three alternatives, it is anticipated that parallel force mains will be installed as shown in Exhibit C. An 8" – 12" diameter force main will be used to convey flows during the early stages of development. This will ensure that flushing velocities of 3.5 ft/s can be achieved with minimal water added. A second force main will be 12"-16" to convey the remainder of the wastewater flows for full build-out. The gravity lines are anticipated to be 15"-21" in diameter and the exact size will be determined once a design profile is developed, and the minimum slope is known. The force mains and gravity interceptors shall be PVC or HDPE

and will vary in length depending on the alternative chosen. The typical lift station (quantified above) will consist of:

- Wet Well/Dry Well Configuration
- Flooded-suction Pumps with redundancy for the largest pump
- Emergency storage
- Electrical Equipment
- Back-up Generator
- Odor Control

Alternative A

Wastewater infrastructure will convey flows from GRMD and other surrounding parcels to the Woodmen Hills Metropolitan District (WHMD) Water Reclamation Facility (WRF) for treatment. This alignment will require one lift station that will be located at the corner of Curtis Rd. and Judge Orr Rd. The sanitary sewer alignment is approximately 5.8 miles and is depicted in Exhibit C. The service area of the lift station is defined in Exhibit II. WHMD will determine the exact capacity of the proposed lift station and force main. It is anticipated that the lift station and force main will have a 0.8 – 1.5 MGD average daily flow capacity. The WHMD WRF currently has capacity for 900 SFE from GRMD. WHMD plans to expand the WRF capacity to allow them to accept full build out flows from GRMD. The WHMD WRF expansion is anticipated to involve the headworks, sludge basin and dewatering facility and is included in the IGA in Appendix AA. . No pretreatment or equalization storage is required for this alternative. The will-serve letter from WHMD is included in Exhibit CC.

Alternative B

Wastewater infrastructure will convey flows from GRMD to the MSMD Falcon Lift Station, where MSMD will facilitate conveyance to and treatment at the CMD WRF. Currently, MSMD has an inter-governmental agreement (IGA) with CMD and owns nearly half the capacity of the plant. This alternative requires one lift station located along Highway 24 at the southeast border of the project site. The proposed lift station would have a capacity of 0.5-0.75 MGD since it would only serve GRMD and not be intended as a regional facility.

The force main alignment will be from GRMD to the intersection of Highway 24 and Judge Orr Rd and will be approximately 4.3 miles. There are two potential routes for the gravity interceptors to flow:

- B1) Judge Orr Rd. to Fort Smith Rd to MSMD 12" gravity main.
- B2) Highway 24 to a MSMD 12" gravity main.

Both gravity mains will need to be paralleled in the future to handle full build-out flows from GRMD. The size of the future parallel mains are anticipated to be 12-18" and will be determined by MSMD and GRMD as built-out progresses.

The sanitary sewer alignment alternatives can be found in Exhibit C. Equalization storage will be included at this lift station and no pretreatment is required for this option. There will be no open lagoons or sludge basins required. All storage will be provided in underground tanks.

Alternative C

Wastewater infrastructure will convey flows from GRMD to the Cherokee Metropolitan District (CMD) Water Reclamation Facility (WRF) for treatment as depicted in Exhibit C.

This alternative will require two lift stations. The north lift station will be located at the intersection of Curtis Rd. and Judge Orr Rd and will include equalization storage. There will be no open lagoons or sludge basins required. All storage will be provided in underground tanks. The south lift station will be located north of the intersection of Davis Rd. and Curtis Rd. The second lift station will include pre-treatment as required by CMD to include a bar screen and grit removal equipment. Both lift stations will include odor control. The lift stations and force mains would have a capacity of 0.8 – 1.5 MGD and could provide service to GRMD and potentially to the areas identified in Exhibit II.

The conveyance infrastructure described above will be approximately 10 miles and will deliver the wastewater to the connection point as defined in the CMD IGA. That connection point is on CMD's existing force main running parallel to Hwy 94, approximately at Curtis Road.

- c) *Plans and specification of the Project in sufficient detail to evaluate the application against the applicable Review Criteria.*

Preliminary analysis has been performed on major infrastructure for the development and is included in the overall report. See the Table of Contents for a full list of all documents included in this submittal. Site development plans meeting Chapter 6 of the LDC will be required and they will address aesthetic and noise issues in future submittals.

- d) *Descriptions of alternatives to the Project considered by the applicant. If the Director determines that the nature or extent of the proposal involves the potential for significant damage and warrants examination of other specific, less damaging alternatives, the Director may require the applicant to evaluate and present information on such additional alternatives as part of the application.*

The following alternatives were considered for water and wastewater service for the proposed development:

1. Annexation into City of Colorado Springs – not feasible given the requirement that properties to be annexed into the City must be within 3 miles of the existing city limit.

2. Wastewater treatment provided by WHMD – DR Horton has a draft agreement with WHMD for wastewater treatment and have continued to pursue this option as a viable alternative. The draft agreement is included in Exhibit AA.
3. Wastewater treatment provided by CMD – The District has obtained an IGA with CMD for wastewater treatment and have continued to pursue this option as a viable alternative.
4. Wastewater conveyance provided by MSMD – The District has had discussions with MSMD regarding purchasing capacity in MSMD’s lift station, force main, and the CMD WRF.
5. GRMD has had discussions with MSMD and WHMD regarding serving water but has not been able to reach an agreement at this point. Discussions regarding water service or interconnections may be revisited in the future.

e) *Schedules for designing, permitting, constructing, and operating the Project, including the estimated life of the Project.*

The proposed water and wastewater infrastructure will be permitted, designed and constructed in phases as development progresses.

Phase 1 Water: Phase 1 water infrastructure will support Grandview Reserve Filing 1 (approximately 577 SFE). Permitting and design has begun and is expected to continue through the first quarter of 2024. Well drilling is expected to begin in the second quarter of 2023. All other construction is anticipated to begin in second quarter of 2024 and continue through the first quarter of 2025. Construction is anticipated to last 6 - 14 months. Subsequent phases will be constructed as necessary based on the build-out of the development.

All 1041 wastewater infrastructure is anticipated to be constructed in a single phase. Permitting has begun and is anticipated to continue through the fourth quarter of 2023. Design is anticipated to start in the second quarter of 2023 and run through the first quarter of 2024. Construction is anticipated to begin immediately after completion of design and may span from 6 - 18 months.

The useful life span of the proposed infrastructure is approximately 50 years.

f) *The need for the Project, including a discussion of alternatives to the Project that were considered and rejected; existing/proposed facilities that perform the same or related function; and population projections or growth trends that form the basis of demand projections justifying the Project.*

The need for the Project is primarily due to the growing demand and shortage of housing in the Colorado Springs region and this area of El Paso County specifically. There is a great need for a variety of housing choices that are more affordable to the general population.

Population growth and trends in the Colorado Springs are pushing expansion to the east and northeast primarily. This property is just east of Meridian Ranch which has grown significantly and nearing the final phases of that community. While exact population projections are not known, there is significant population growth east of Colorado Springs limits in areas near Grandview Reserve. Other alternatives were explored but the mix of housing products and densities that were selected and approved on the Sketch Plan aim to meet the housing needs and associated services such as Institutional (school and church), parks and open space, and amenity center and miles of trails.

The proposed development includes lots smaller than 2.5 acres so onsite wastewater treatment systems (septic systems) are not allowed. Therefore, a centralized wastewater system is required. The District considered construction of its own wastewater treatment facility (WWTF) but chose to pursue capacity in an existing WWTF to save cost and comply with the EPC Water Master Plan and Regional 208 Water Quality Management Plan regarding proliferation of individual systems. Additionally, the lot sizes in the proposed development are too small for individual residential wells so a central water system is required. As discussed in Section D, the District explored options to be served by an existing water system but none in the area had the capacity or desire to serve the development in GRMD. Infrastructure developments in connection with Grandview Metro District are essential to support the growing population in the area. The development of Water and Wastewater infrastructure will streamline water distribution efforts and mitigate the need for private well and septic among the growing number of independent property owners. Road developments will provide greater ease of transportation and diminish traffic congestion in the area. The development of an elementary school in the area will provide competitive educational options for families in the area.

g) Description of relevant conservation techniques to be used in the construction and operation of the Project.

During construction, BMPs will be required to reduce sediment discharge from the site. The specific BMPs to be utilized will be included in the drainage and erosion control plan to be submitted with the Site Development Plans for the infrastructure components.

Several techniques and technologies will be utilized for conservation during operation of the project. All pump motors will be run by variable frequency drives which allow for operation at the pump/motor best efficiency point whenever possible which will reduce power demand. Dual force mains will be installed. One of the force mains will allow a flushing velocity of 3.5 ft/s to be achieved with minimal potable water use. This will lead to responsible water use. Finally, a SCADA system will be constructed with the infrastructure improvements to allow remote monitoring and control of some aspects of the system which will reduce the number of trips the operators must make to the site. This will reduce fuel consumption.

Relevant conservation techniques were examined such as creation site and road layouts that were efficient and worked well with the existing topography. Regarding landscape for the community this project will use primarily Colorado native plant material and other Xeriscape plans to minimize high maintenance landscapes. This community will preserve most of the on-site drainages and adjacent open space buffer area, allowing good potential to improve native vegetation by creating a habitat restoration and management plan for the drainages/open space corridors. Increasing native vegetation in the disturbed shortgrass prairie areas by seeding with native species. Implementing a stormwater management plan and preparing a natural channel stabilization plan for all drainages, which will provide long-term natural landscapes for wildlife and residents to enjoy for generations. These areas will either be maintained by the Sub-Districts or an HOA (Homeowners Association) or combination thereof.

h) Description of demands that this Project expects to meet and basis for projections of that demand.

There is significant demand and need for housing in this area of El Paso County. This project intends to meet that need by proposing a range of housing choices in Filing 1 (and future phases). The Sketch Plan (Exhibit I) includes approximately 3,260 homes at varying densities, which will provide the opportunity for a range of housing product at a variety of price points. This will provide housing for varying demands and lifestyle options, which will ensure that the proposed housing is both attractive to and attainable by a variety of purchasers, including first-time buyers, families, and empty-nesters. The proposed open space, parks, and trail system will create an active community that will be beneficial to the health and wellbeing of County residents, both within and outside Grandview Reserve subdivision. The proposed community park will be the central focal point of the neighborhood and will provide a venue for recreational activities, social events, and community entertainment. This will help to provide a strong and connected community, which will have a positive social impact on this part of the County.

i) List of adjacent property owners and their mailing addresses

Adjacent Property Owner Map include in Exhibit D. Complete list of surrounding property owners' contact information is also included in list form in Exhibit D.

Property Rights, Other Permits, and Approvals

a) Description of property rights that are necessary for or that will be affected by the Project, including easements and property rights proposed to be acquired through negotiation or condemnation.

The property in GRMD is currently owned by the developer. Additional off-site easements may be necessary depending on the sanitary sewer alignment chosen. Exhibits Z show the

offsite wastewater alignment and the portions which require easements. Negotiations to acquire those easements are paused until an alternative is selected. Exhibit G contains ownership information of the project site within which all water improvements will be constructed.

- b) *A list of all other federal, state, and local permits and approvals that will be required for the Project, together with any proposal for coordinating these approvals with the County permitting process. Copies of any permits or approvals related to the Project that have been granted.*

Additional permits required for the project will include:

- i) Federal – Conditional Letter of Map Revision, Letter of Map Revision, USACE Wetlands Determination Letters.
 - ii) State – CDPHE Stormwater Discharge Permit, CDOT Permit, CDPHE Dewatering Permit, CDPHE Site Location Application and CDPHE BDR. See Exhibit DD for a summary of discussions that have been held with CDPHE.
 - iii) County – Site Development Plan permits, storm water permitting
 - iv) City/Local – The project is outside city limits however falls within the Pikes Peak Regional Building Department’s (PPRBD) limits. PPRBD general building permits and a Floodplain Development Permit will be required.
 - v) EPC Construction Activity Permit
 - vi) EPC Right-of-Way Permit
 - vii) Haul Route Agreement if required
- c) *Copies of relevant official federal and state consultation correspondence prepared for the Project; a description of all mitigation required by federal, state and local authorities; and copies of any draft or final environmental assessments or impact statements required for the Project.*

The Amended Water Rights Determinations from the Colorado Ground Water Commission are included in Exhibit T. See Exhibit P for more information on correspondence received from the USACE. See Exhibit R for information regarding correspondence with the State Historic Preservation Office.

The well permit applications for LFH-1 and A-1 are anticipated to be submitted to the State Engineer’s Office in February 2023.

The following documents will be submitted to CDPHE for review and approval:

- i. Site Location Application for lift station(s) – Anticipated submittal date: June 2023
- ii. Construction documents and Basis of Design Report (BDR) for lift station(s) and force main(s) – Anticipated submittal date: February 2024
- iii. BDR and Construction Documents for the water system including water treatment facility, source water (wells) and storage tank – Anticipated submittal date: November 2023

To date, no state permit or approvals have been received. Copies of all CDPHE approvals shall be provided to El Paso County as they are received.

Land Use

- a) *Provide a map at a scale relevant to the Project and acceptable to the Department describing existing land uses and existing zoning of the proposed Project area and the Project service area, including peripheral lands which may be impacted. The land use map shall include but need not necessarily be limited to the following categories: residential, commercial, industrial, extractive, transportation, communication and utility, institutional, open space, outdoor recreation, agricultural, forest land and water bodies. Show all special districts (school, fire, water, sanitation, etc.) within the Project area.*

Exhibit GG contains a map depicting zoning in the project area. Exhibits FF and E contain maps of neighboring special districts in the vicinity. Exhibit W contains maps of the land use in the project area. The service area for the water infrastructure is the Grandview Development. The wastewater service area depends on the alternative selected. The various service areas are shown in Exhibit MM.

The overall development plan consists of a mix of urban residential densities, institutional (i.e., school and church) and commercial land uses as depicted in the Sketch Plan included in Exhibit I. This community will contain ample open space, trails, and parks including a community park.

Residential Land Use:

- i) Majority of the proposed uses are residential for this community. The maximum number of residential units proposed Sketch Plan is based upon the proposed density of 4.24 units/acre totaling 3,260 units. The proposed residential development will range in density from Low Density (up to 2 dwelling units per acre) adjacent to part of the north boundary, with gradual transitions in density up to High Density (up to 12 dwelling units per acre) surrounding the commercial uses along Highway 24.

Institutional:

- ii) Two sites are planned for institutional uses. One site on the east half of the project is tentatively planned for an elementary school; the location and size of which has been discussed with the Peyton School District. The applicant had two meetings with the Peyton School District representatives to determine which site would be beneficial and the size that would be acceptable for an elementary school and the request was made to have a park adjacent to the school for a shared use purpose. These requests were accommodated and shown on the Sketch Plan accordingly. The area shown on the plan for the elementary school is 10.9 acres shown as Parcel "V". The other site in the northwest corner is tentatively planned for a church denoted as parcel A that is 6.1 acres.

- b) *All immediately affected public land boundaries should be indicated on the map. Potential impacts of the proposed development upon public lands will be visually illustrated on the map as well as described in the text.*

Exhibit W includes a map of the public lands near to the project area. No public lands, sans those rights-of-way planned to be used for linear infrastructure (gravity sewer and force mains) will be impacted by this development.

- c) *Specify whether and how the proposed Project conforms to the El Paso County Master Plan.*

Grandview falls within the “Area of Change” for new development and is planned for suburban and urban growth. Furthermore, the Master Plan states:

“These areas will be significantly transformed as new development takes place on lands currently largely designated as undeveloped or agricultural areas. Undeveloped portions of the County that are adjacent to a built-out area will be developed to match the character of that adjacent development or to a different supporting or otherwise complementary one such as an employment hub or business park adjacent to an urban neighborhood.”

As Grandview is adjacent to the last phases of Meridian Ranch, the project is a natural extension of development from west to east.

More specifically Grandview falls within the Suburban Residential Placetype which is described as:

“Predominantly residential areas with mostly single-family detached housing. This placetype can also include limited single-family attached and multifamily housing, provided such development is not the dominant development type and is supportive of and compatible with the overall single-family character of the area. This placetype often deviates from the traditional grid pattern of streets and contains a more curvilinear pattern.”

Grandview Reserve meets the description and intent of the Suburban Residential placetype. The Master Plan states there are Primary and Supporting Uses in this placetype as follows:

Primary

- *Single-Family Detached Residential with lots sizes smaller than 2.5 acres per lot, up to 5 units per acre*

Supporting

- *Single-family Attached and Multifamily Residential*
- *Parks/Open Space*
- *Commercial Retail and Commercial Service*
- *Institutional*

Grandview will encompass all of these uses with the primary use being single family as described above.

2021 El Paso County Master Plan - Priority Development Areas

The Master Plan states:

“This framework identifies specific locations throughout the County that should be prioritized first for new residential development to help accommodate growth”.

Filing 1 of Grandview Reserve falls within the “Suburban Residential” and “Urban Residential” areas including the “Priority Development Areas”. Therefore, this proposal meets the intent of the 2021 Master Plan.

2021 El Paso County Master Plan - Highway 24 Area

The Master Plan describes the “Highway 24” area as already growing and that the area along the Highway 24 corridor “should not be set aside for Large-Lot Residential alone”. The Master Plan further states:

“Falcon, and the surrounding area, is already growing, with the majority of homes being developed in the last two decades. The amount of vacant land along Highway 24 should not be set aside for Large-Lot Residential alone. Just as with the proposed Large-Lot Residential in this part of the County, proximity to Highway 24 and availability of central services is another benefit to expanding suburban development. The corridor provides important access south to Colorado Springs”.

- *To sustain Falcon’s growth momentum, the County should continue to prioritize Suburban Residential in this area. Doing so would match the community’s existing character and utilize available land to accommodate a sizable portion of the County’s expected population growth without negatively impacting adjacent areas.*

Therefore, Grandview Reserve and specifically Filing 1 meets the general intent of this Master plan core idea as it proposes Suburban Residential uses and densities.

2021 El Paso County Master Plan - Housing Mix

Regarding housing mixes the County Master Plan states:

“Housing variety provides multiple options to support residents regardless of income, house-hold size, and age. Providing an equitable mix of housing can ensure the viability of El Paso County as a home for all.”

This statement aligns well with the Grandview Reserve project as per the approved Sketch Plan with a project of this size, a large variety of housing types are proposed. Filing 1 (the first phase of Grandview Reserve) proposes 50’ and 60’ wide lots and future phases include duplex (paired units), townhomes and various other residential uses.

2021 El Paso County Master Plan - Affordability

The Master plan states:

Like many growing communities across the United States, housing affordability is an issue in El Paso County. With significant estimated growth over the next three decades, the County will undoubtedly have to continue addressing this issue. Since this Master Plan addresses unincorporated areas, the recommendations regarding affordability do as well.

The County Master plan further describes the need for attainable and more affordable homes which typically translates to smaller lots and homes instead of large estate lots. Grandview Reserve and specifically Filing 1 aligns with this goal of proposing smaller lots that are in a more affordable range rather than large estates lots that promote urban sprawl and high prices of homes un-affordable to most residents.

2013 El Paso County Parks Master Plan

One of the significant goals of the Parks Master Plan is to:

Provide a coordinated and connected system of parks, trails, and open space that is equitably distributed based on population and serves the needs of county residents.

The proposed development in Grandview will provide a demand for more parks, trails and open spaces. The proposed water and wastewater system will allow for irrigated parks with bathroom facilities should that be desired in the area. None of the proposed infrastructure will negatively impact existing parks facilities. A condition of the license agreement to use the Rock Island Trail for the gravity alignment along Hwy 24 is that the trail be restore to similar or better condition than it is currently. Grandview will work closely with the Parks Department to ensure that there are no negative impacts from the sewer line.

1996 El Paso County Mineral Extraction Master Plan

The Mineral Extraction Master Plan states that the primary material mined in El Paso County is aggregate. It states that coal mining is not considered economically feasible at this time. It also states that refractory clay mining is limited to the area around Calhan. Since the clay mining is not near the proposed project area, the review of the Mineral Extraction Master Plan was focused on aggregate mining.

The project area is primarily in soils classified as Upland Deposits. The master plan describes this as “sand, gravel with silt and clay; remnants of older streams deposited on topographic highs or bench like features.” The only active mine near the project area listed in the Master Plan is the Solberg Pit (State Permit Number M-81-044). It is located along Curtis Road so would only be near the project if CMD was selected as the wastewater treatment alternative. The proposed sewer alignment will be within the ROW of Curtis Road or withing the prescriptive easement. As such, it will not impact the Solberg Pit.

After reviewing the Mineral Extraction Master Plan and evaluating the impacts of the proposed project, it is apparent that the proposed project will not have a negative impact on mineral extraction and complies with the general intent of the Master Plan.

2016 El Paso County Major Transportation Corridors Plan

The Major Transportation Corridors Plan states that growth in the County will lead to a need for new roads and improvements to existing roads. The following roads in the project area are identified for improvements:

1. Proposed Bicycle Routes: Curtis Road, Judge Orr Road and Stapleton Drive
2. Rural County Road Upgrades: Curtis Road and Falcon Hwy
3. County Road Capacity Improvements: Judge Orr Road and Stapleton Drive

All 3 wastewater alternatives include linear infrastructure either crossing or paralleling those roads. The gravity sewer and force mains will be designed to be installed outside of the pavement cross section to reduce the impact to the roads. Crossing of paved roads are anticipated to be bored to reduce pavement damage and minimize impact to traffic. For those reasons, the infrastructure in the proposed project will have minimal negative impact on the roads identified in the Major Transportation Corridors Plan and is in general conformance with the Plan.

2018 El Paso County Water Master Plan

The Water Master Plan places an emphasis on protecting water quality, promoting responsible use of water resources and encouraging re-use. The proposed project is located in Planning Region 3 as identified in the Water Master Plan. The Water Master Plan projects growth in Region 3 and Grandview is an example of that projected growth. This project complies with the Water Master Plan in the following ways:

1. Protects water quality by utilizing existing, advanced wastewater treatment facilities. Both WHMD and CMD treat their wastewater to a very high level and both plants are modern, having been built or significantly upgraded in the last 4 years. Both plants discharge highly treated effluent which helps to maintain clean source water.
2. Grandview intends to encourage responsible use of water by implementing tiered water rates, similar to other Metropolitan Districts in the area. Tiered rates have proven to be effective in reducing water use and therefore help to conserve water.
3. While the current project does not include re-use, discussions have been held with both CMD and WHMD to ensure that re-use will be a possibility in the future. Both CMD and WHMD have language in their agreements that allow for re-use by Grandview. Once re-use is a

possibility (either by CMD having their Replacement Plan approved by the State or by WHMD achieving a higher level of treatment), Grandview will consider how best to implement water re-use.

As such, the proposed project generally conforms to the goals of the Water Master Plan.

b) *Specify whether and how the proposed Project conforms to applicable regional and state planning policies.*

The Pikes Peak Area Council of Governments (PPACG) Regional Water Quality Plan is the regional planning policy most applicable to this project. The project is located in the Upper Black Squirrel Watershed which is a subbasin of the Chico Creek Watershed. The following are some excerpts from the Water Quality Plan accompanied by brief descriptions of how the project aligns with the Water Quality Plan:

- i) “Groundwater quality could be impacted from an increased reliance on onsite wastewater systems instead of centralized wastewater treatment.” The proposed project includes a centralized wastewater system which benefits groundwater quality.
- ii) “Stormwater detention, retention ponds or other BMPs should be utilized to minimize flooding, maximize infiltration and minimize water quality impacts from impervious surface contaminants.” The proposed development shall include detention ponds and other BMPs designed to minimize water quality impacts.
- iii) “Recommend regional cooperation...to avoid the proliferation of individual wastewater treatment facilities”. The proposed project may utilize the WHMD WRF or CMD WRF to provide wastewater treatment depending on the alternative selected by the applicant.

c) *Specify whether and how the proposed Project conforms to applicable federal land management policies.*

No federal lands will be impacted by this project, the development of Grandview Metro District is limited to privately owned land. Regardless, the development process, resale, and maintenance of Grandview Metro District will follow the regulations set forth by the Federal Land Policy. The surface drainage channel design will follow FEMA guidelines for floodplain delineation and design.

d) *If relevant to the Project design, describe the agricultural productivity capability of the land in the Project area, using Soils Conservation Service soils classification data.*

The land to be used for Grandview Metro District was previously used for agricultural purposes and has the capability of being agriculturally productive. Approximately 55% of the proposed development includes Group A soils and the other 45% are classified as Group B soils. Exhibit S contains the SCS soil classification map for the area.

- e) *Describe the probability that the Project may be significantly affected by earthquakes, floods, fires, snow, slides, avalanches, rockslides or landslides and any measures that will be taken to reduce the impact of such events upon the Project.*

The probability that the land will be affected by earthquakes, slides, avalanches, rockslides or landslides is extremely low. The location of the site development is far away from sloping land formations where rockslides, landslides, and avalanches may pose a threat. Seismic activity is largely absent in northeast Colorado. No measures will be taken to reduce the impacts of these events beyond ensuring that the common standards are met. For impacts due to floods, fires and snow, the project will be designed to local, state and federal regulations governing such impacts such as surface drainage design, fire protection required for each particular building type and structural design of buildings for snow loads.

- f) *Specify if excess service capabilities created by the proposed Project will prove likely to generate sprawl or strip development.*

The project falls within El Paso County's master plan, described in additional detail above. The project will likely not generate any additional sprawl or strip development. The project is proposed in answer to the growing population but does not intend to generate any additional spread. The few job opportunities generated by the development (school personnel, utility personnel, etc.) may be filled by current community residents. Sprawl would not necessarily increase in response to the capacity developed for the purpose of Grandview Reserve Metropolitan District.

The water system will be sized to serve only GRMD and is not projected to have any excess capacity.

If either the CMD or WHMD wastewater solution is selected, the wastewater infrastructure will be sized and located to potentially serve other properties in the region. However, currently all of the capacity in CMD's plant is under contract. Additionally, both CMD and WHMD's facilities are regional facilities, so a potential for central wastewater service in this area exists regardless of whether or not the infrastructure in this 1041 application is constructed. Therefore, the increased risk of additional urban development in this area is not significantly increased by the proposed project.

- g) *Specify whether the demand for the Project is associated with development within or contiguous to existing service areas.*

The demand for the project exists and as demand increases the development will progress. It is not expected that the entire development will occur over a short period of time however each phase/filing will go through final planning and engineering efforts as demand is forecast. The residential population of the area is estimated to increase by approximately

8,125 as a result of the development. The project is associated with development contiguous to the existing service areas (MSMD and 4WRMD).

Surface and Subsurface Drainage Analysis

- a) *The applicant shall supply a surface and subsurface drainage analysis.*

A Master Development Drainage Study has been done for the project and is included in Exhibit L of the appendix. In general, the site has 4 major drainage channels running through the site which will be used in conjunction with detention facilities to control storm surface drainage. Sub surface drainage will include storm sewer systems to convey flow captured with the streets and will ultimately discharge to the aforementioned ponds and ultimately to the drainage channels. The Final Drainage Reports will be provided with the site development plans(s) and subdivisions.

Financial Feasibility of the Project

- a) *Relevant bond issue, loan and other financing approvals or certifications (ex: approved bond issues; bond counsel opinion).*

The District anticipates issuing bonds to pay for the capital water and wastewater improvements in this 1041 submittal. The initial bond issuance contemplated in the Service Plan is for approximately \$65,025,000. Subsequent bond issues are anticipated.

The water infrastructure proposed in this 1041 application is anticipated to cost \$60M-\$70M. Approximately \$10-\$15M of that will be needed for Phase 1. The wastewater infrastructure is projected to cost \$6M-\$26M depending on the alternative selected. Additional costs for existing infrastructure expansion could range from \$5M-\$15M. All wastewater costs are anticipated to be incurred in Phase 1.

The projected mill levy for the District is 60 mills for residential and 45 mills for commercial development. Of those, 10 mills from both residential and commercial will be used for O&M expenses. At buildout, annual O&M revenue from those 10 mills are anticipated to be \$2,427,321. Refer to the Grandview Reserve Metro District Service Plan, Exhibit J for more details.

- b) *Business plan that generally describes the financial feasibility of the Project.*

The property within GRMD is divided into 4 parcels as follows:

| Schedule Number | Owner |
|-----------------|-------------------------|
| 4200000471 | Cross Fellowship Church |
| 4200000473 | 4 Site Investments LLC |
| 4200000464 | 4 Site Investments LLC |
| 4200000465 | 4 Site Investments LLC |

Melody Homes Inc is under contract to purchase a portion of parcel number 4200000473.

Cost estimates for the proposed public improvements were generated by Developer representatives, with the assistance of HR Green, Inc., who all have experience in the completion of similar improvements.

It should be noted, though, that such costs estimates are preliminary in nature and the ultimate costs may increase or decrease depending on numerous factors, many of which are out of the Developer's control. In particular, these initial cost estimates only include the public improvement portion of costs and the total project improvement costs may be significantly higher.

Anticipated development of approximately 3,260 single-family residential units and 20,000 square feet of commercial development. The rate of absorption provided in the Service Plan (Exhibit J) is a projection based on information from the developer and is used for estimating the financial plan. There is no way to accurately predict absorption due to variables such as the economic factors, housing demand, land-use approval timing, building supply chains, and labor availability. In view of these factors, the bond underwriter projects the potential ability of the Districts to discharge the proposed debt per the statutory requirement. If absorption is delayed or accelerated, the bond issuance parameters will reflect those changes at the time of issuance.

The estimated initial assessed value at time of complete build-out, estimated to be in 2036, is \$105,013,186. The District is anticipated to complete an estimated \$285,000,000 of on and off-site public improvements including, but not limited to on and off-site streets, roadway, water and sanitary, stormwater and drainage, landscaping, and park and recreation improvements. The water and wastewater infrastructure included in this application is expected to account for approximately \$85,000,000 - \$105,000,000 of the total public improvement cost. GRMD is anticipated to fund the construction costs for all public improvements included in this permit application.

Local Infrastructure and Service Impacts

- a) *An impact analysis that addresses the manner in which the applicant will comply with the relevant Permit Application Review Criteria. The impact analysis shall include the following information: description of existing capacity of and demand for local government services including but not limited to roads, schools, water and wastewater treatment, water supply, emergency services, transportation, infrastructure, and other services necessary to accommodate the Project within El Paso County.*
 - i) Roads: Rex Road will be extended for greater ease in transportation. US Highway 24 is planned to be widened to four lanes through Falcon. PPRTA-funded improvements are anticipated in the future at the intersection of Eastonville Road and Stapleton Drive. A

- plan of proposed roadways within the development is included in the Sketch Plan in Exhibit I. For more information about roads and traffic studies, please review Exhibit X.
- ii) Schools: Peyton School District will serve the property and a potential elementary school site is provided on the Sketch Plan in Exhibit I. The school district will be impacted by the development of this elementary school. The school is not likely to adversely affect the school district or its preexisting entities.
 - iii) Water and Wastewater Treatment and Water Supply: Wastewater treatment will be provided by an existing WRF. Both the CMD and WHMD WRFs would need to be expanded to provide treatment for the full build-out of the project. The proposed water supply is based on adjudicated water rights. Based on the water determinations included, the water supply will not have an impact on adjacent properties or water rights.
 - iv) Emergency services: Falcon Fire Protection District and Peyton Fire Protection District will provide fire protection since the property spans the boundaries between districts. Fire Protection letters from both fire protection districts are provided with this application in Exhibit K.
 - v) Transportation: School bus routes will be impacted by the new housing development and the development of a new elementary school. Traffic will be impacted by increased population in the area. For Traffic Impact Studies refer to Exhibit X.
 - vi) Infrastructure: The development will consist of housing, roads, parks, trails, and an elementary school. Further commercial development may result from the increase in population in the area. For more information about road and water developments, see sections i and iii above.
 - vii) Other services: The proposed community park will be the central focal point of the neighborhood and will provide a venue for recreational activities, social events, and community entertainment. This will help to provide a strong and connected community, which will have a positive social impact on this part of the County. Mountain View Electric Association Inc. (MVEA) will provide electric service to the property. A Will Serve letter is provided with this application. Utility services for El Paso County may be impacted by the development. Pikes Peak Library District may be slightly impacted by a small increase in patrons due to the regional population growth, however this impact should be offset by the correlational rise in financial support by that population.

Recreational Opportunities

- a) *Description of the impacts and net effect of the Project on present and potential recreational opportunities.*

An expansive system of parks, open space, and trails is planned throughout the community. Many of the major open space corridors follow the four major existing drainage-ways. The proposed trails within this community will connect to the existing Rock Island Trail along the eastern boundary to the rest of this community. The trails will also provide connection to the El Paso County Falcon Regional Park northwest of this project. Over 16% of the site is proposed in open space. A large, 6.3-acre community park is the central focal point of the community, adjacent to the proposed institutional parcel that is tentatively planned for an

elementary school. The park and school will be linked to the entire community by the trail system and sidewalks. There are also numerous smaller neighborhood parks (0.25 acres – 1 acre) throughout the community all linked by the expansive trail system that approximately equals 5 acres. The locations and sizes of the parks shown on the Sketch Plan are approximate only and subject to change as more detailed plans are created in the future. This approximate acreage for the pocket parks does not include opens space and detention ponds. Commercial uses are sited along Highway 24 at the main entrance to the community. It is unknown at this time the type uses; however, the intent is mixed, low to medium density commercial uses (not industrial) that will serve this community (within walking distance) and users traveling in vehicles along Highway 24. Please reference Exhibit N for comments from Parks and Wildlife and Exhibit I for more information about the development of recreational areas.

Areas of Paleontological, Historic or Archeological Importance

- a) *Description of the impacts and net effect of the Project on sites of paleontological, historic or archeological interest.*

According to the Historic Survey conducted by the Office of Archeology and Historic Preservation, the only point of historical importance involved in the development of the property is the Rock Island Regional Trail that runs parallel to Highway 24 between Falcon and Peyton and is part of the America the Beautiful Trail. It was constructed on the former Chicago and Rock Island Railroad Line that ran between Falcon and Peyton and thus has cultural and historical significance. While there will likely be no major long-term disruption to the trail as a result of the development, it may be temporarily impacted by access ways and staging areas during the construction phase. Please see Exhibit R for more information on points of historical importance.

Nuisance

- a) Descriptions of noise, glare, dust, fumes, vibration, and odor levels anticipated to be caused by the Project.

Noise:

The results of the noise prediction were compared to the noise abatement criteria contained in Exhibit 1 of the Colorado Department of Transportation Noise Analysis and Abatement Guidelines dated January 15, 2015. The proposed residential areas would be considered Category “B” land uses. The threshold for exterior noise level for Category B is 66 decibels Leq(h). The results of the noise prediction show that in the year 2040, receivers 1, 2, and 3 located on the east boundary of Parcel K would have predicted noise levels which would exceed this threshold.

If a six-and-a-half-foot high noise barrier were constructed at the location shown, these noise receiver locations are predicted to be below the threshold. This noise barrier could be

a wall, a berm, or a combination of the two. If a wall is constructed, it should be made of rigid material with a density of at least 4 pounds per square foot and should have no gaps. Receivers 4 through 9 located on the east boundary of Parcels L, M, and N have predicted noise levels that would not exceed 66 decibels Leq(h) and therefore noise mitigation would not be required adjacent to these parcels. Please see Exhibit Q for more information on Noise Reports.

Glare:

The plans for Grandview Reserve Metropolitan District water and wastewater infrastructure do not include any structures of significant size and glazing to impact glare.

Dust:

While dust may be a factor during construction phases, measures should be taken to control dust and particulate spread. Construction crews should follow Erosion Control Plans provided in final design sets. Landscaping, seeding mulching, and sodding efforts should be sufficient to mitigate any long-term effects of dust in the area.

Fumes:

Facilities developed in connection with Grandview Metro District will comply to standard practices to mitigate any diffusion of fumes.

Vibration:

Use of construction equipment that results in significant vibration will be strategically managed to diminish any negative impacts of vibration for nearby residents during construction. Long-term, no facilities developed in connection with Grandview Metro District will contribute to any increase in vibration in the area.

Odor:

Wastewater facilities developed in connection with Grandview Metro District will comply to standard practices of odor control to prevent the diffusion of odor vapors. The lift station(s) will have either liquid or gas phase odor control.

Air Quality

- a) *Description of the impacts and net effect that the Project would have on air quality during both construction and operation, and under both average and worst case conditions, considering particulate matter and aerosols, oxides, hydrocarbons, oxidants, and other chemicals, temperature effects and atmospheric interactions.*

Air quality may be impacted due to construction causing an increase of dust and particulate. During construction the contractor will be required to obtain an Air Pollutant Emission Notice (APEN) Permit from CDPHE by filling out Form APCD-223 for land development activities disturbing more than 25 acres. Additionally, should the contractor have any generators on site they may need additional APEN permits as well.

Long term, the proposed water and wastewater infrastructure will have a negligible impact on air quality. Electric motors shall be used for all facilities except for backup generators which shall be diesel. The backup generators will rarely be run and therefore will have a negligible

effect on air quality. Odor control at the lift station(s) will be either liquid or gas phase. The only chemicals anticipated to be stored for this project sodium hypochlorite for disinfection and bioxide for odor control. They will be stored in appropriate containers and properly vented to avoid impacts to air quality.

Visual Quality

- a) *Description of the impacts and net effect that the Project would have on visual quality, considering viewsheds, scenic vistas, unique landscapes or land formations within view of the Project area.*

The development is not within a viewshed nor is it currently a scenic vista. The site is currently gently sloping range land with minor drainage channels within the property. An ill-defined and undulating hill, which likely an eroded remnant bluff, is present in the north-central portion of the site. The development will generally use the natural topography for development with grading to be completed to convey storm water and provide scenic vistas to the front range when possible. The development will improve the visual aesthetics of the natural drainage ways with natural stream design and landscape plantings.

The following water and wastewater facilities will have above grade buildings that will be constructed to match the character of the surrounding development. They will be single-story and have siding and roofing material which matches the nearby homes:

1. Water treatment facilities
2. Well houses
3. Lift stations

The water storage tanks shall be above grade. They will be painted tan to prevent them standing out as much as possible. Water storage tanks are anticipated not to exceed 40' above grade unless an elevated storage tank is selected. The height of the elevated storage tanks will be discussed with EPC for their approval as each specific tank is designed.

Surface Water Quality

- a) *Map and/or description of all surface waters relevant to the Project, including description of provisions of the applicable regional water quality management plan, and NPDES Phase II Permit and necessary El Paso County Erosion and Stormwater Quality Control Permit ("ESQCP"), Section 404 Federal Clean Water Act Permit that applies to the Project and assessment of whether the Project would comply with those provisions.*

The property contains 4 natural drainage channels which are ephemeral streams. The four channels are referred to as follows moving from west to east: The Main Stem, Main Stem Tributary Number 2, East Fork tributary, and the East Fork. All four drainage channels are tributary to Black Squirrel Creek and lie within the Gieck Ranch Drainage Basin. All channels within this watershed are part of the Arkansas River water basin.

Currently there is not an adopted Drainage Basin Planning Study for the site however a Master Development Drainage Plan has been developed for the project which this development will follow recommendations and general design guidance. As part of the development, full spectrum detention facilities will be installed to provide water quality for the development. The facilities will be designed using El Paso County criteria and provide stormwater quality by slowing the release of stormwater captured by the ponds and allowing solids to settle out. Additionally, when possible, the revised drainage channels, which were not jurisdictional wetlands, will be used to convey stormwater via a natural channel. Currently, the Main Stem and Main Stem tributary of the Gieck Ranch Drainage Basin will be regraded and stabilized to accommodate the new flows. The Conditional Letter of Map Revision has been sent to FEMA. Wetlands will not be negatively impacted by the development. Please consult Exhibit O for more information about wetland impacts. Stormwater must be treated before entering the natural channels. The natural channel will provide a pervious means to transport stormwater and provide some water quality benefits as well.

On site practices for the homes, schools, churches, and other buildings should use means such that impervious areas drain across pervious area to allow for infiltration during the minor events. This would include discharge of the gutters onto landscape areas vs. directly connecting to storm sewer and using natural ditches and swales where it is logical and makes sense to convey stormwater in lieu of storm sewer piping.

b) *Existing data monitoring sources.*

No existing monitoring is currently occurring related to the water quality of these streams nor is Black Squirrel Creek listed by CDPHE as impaired waters.

c) *Descriptions of the immediate and long-term impact and net effects that the Project would have on the quantity and quality of surface water under both average and worst-case conditions.*

Overall runoff from the site will by and large match the predevelopment peak flows. The volume of water will increase however as the drainage channels are designed; continuous simulation models will be done to see the effects of prolonged runoff rates. Increases in runoff volume can impact natural drainage channels that typically would not have a base flow however geomorphic assessments and design have been done to reduce the possibilities for erosion within the channel.

In a worst-case scenario should the detention ponds fail or a storm event exceeding the maximum design of the detention basins and storm sewer occur, drainage channels within the area would likely fare better than a natural channel as improvements to the channels will occur to limit head cutting within the channel thalweg along with providing additional free board in the channels for storms exceeding their designed intent.

Groundwater Quality

- b) *Map and/or description of all groundwater, including any and all aquifers relevant to the Project. At a minimum, the description should include:*

Refer to Exhibit V for more information about groundwater. Seasonal water levels in each portion of the aquifer affected by the Project.

- i) Since the Denver Basin water for this project is non-tributary, the static water level in those aquifers is anticipated to drop over time. The alluvial groundwater levels at the development site are anticipated to drop during construction due to expected dewatering efforts and well pumping.

Seasonal alluvial groundwater levels in this area fluctuate based on precipitation in the region. Groundwater is anticipated at levels starting anywhere from 8 to 17 feet deep, based on the Subsurface Soil Investigation performed by CTL Thompson., dated December 23, 2020 and enclosed in Appendix U and an earlier Subsurface Soil Investigation was performed by Entech Engineering, dated January 15, 2019 and also enclosed in Appendix U shows groundwater levels starting anywhere from 4.5 to 19 feet deep.

After completion of the project, and after removal of temporary dewatering equipment, groundwater levels adjacent to the development are anticipated to return to typical seasonal levels.

Artesian pressure in said aquifers.

- ii) There are no known artesian wells or artesian confined aquifers at the proposed location.

Groundwater flow directions and levels.

- iii) Groundwater generally flows from the northwest to the southeast in the project area. Groundwater has been encountered approximately 5 feet below existing grade in early summer. The soils report, included as Exhibit S, contains additional information on groundwater conditions. Exhibit O also includes information about existing soil conditions in Section 3.

Existing aquifer recharge rates and methodology used to calculate recharge to the aquifer from any recharge sources.

- iv) Existing aquifer recharge rates have not been determined for this project, nor have methodologies been used to calculate recharge rates from any sources.

For aquifers to be used as part of a water storage system, methodology and results of tests used to determine the ability of the aquifer to impound groundwater and aquifer storage capacity.

- v) No aquifers are planned to be used for water storage for this project.

Seepage losses expected at any subsurface dam and at stream-aquifer interfaces and methodology used to calculate seepage losses in the affected streams, including description and location of measuring devices.

- vi) There are no subsurface dams or stream-aquifer interfaces that the project is anticipated to affect.

Existing groundwater quality and classification

- vii) The groundwater in the area can be classified as EPA Class II – Ground water currently and potentially a source for drinking water.

Location of all water wells potentially affected by the Project and their uses.

- viii) There are currently two wells in use at the 4WRMD filter plant site, and the distance between the proposed lift station and the wells is over 2,000 feet (horizontally).

This distance is in conformance with the Office of the State Engineer, State Board of Examiners of Water Well Construction and Pump Installation Contractors, Rules and Regulations for Water Well Construction, Pump Installation, Cistern Installation, and Monitoring & Observation Hole/Well Construction - 2 CCR 402-2, Effective Date January 1, 2005, Section 12.2.2, which states:

10.2.2 Wells shall not be located closer than one hundred (100) feet horizontally to the nearest existing source of contaminants or fifty (50) feet from a septic tank, sewer line or other vessel containing contaminants. A request for variance must be submitted and written approval from the Board must be obtained prior to the construction of a well that cannot meet this spacing requirement.

This distance also exceeds the values listed in Table 7-1, Chapter 8 of the El Paso County Board of Health On-Site Wastewater Treatment System Regulations. This table lists a minimum horizontal distance of 50 feet between a sewage vault and a well.

Description of the impacts and net effect of the Project on groundwater.

- ix) Temporary dewatering is likely to lower groundwater levels immediately adjacent to the lift station during construction. After completion of the project, and after removal of temporary dewatering equipment, groundwater levels adjacent to the lift station are anticipated to return to typical seasonal levels. It is anticipated that there will be little to no net effect of this project on groundwater.

Water Quantity

- a) *Map and/or description of existing stream flows and reservoir levels relevant to the Project.*

As mentioned within the surface water quality portion of this project, a Master Development Drainage Plan has been developed for the project which goes into detail related to storm water quality and quantity. No channels within the site have constant base flow at this time nor do reservoirs exist within the property boundaries. A small farm stock pond does currently exist in the western portion of the site however this pond does not provide any meaningful water storage or benefits to the existing land and will be removed as part of the development project.

Stream flow amounts are discussed in greater detail in the MDDP in Exhibit L.

- b) *Map and/or description of existing minimum stream flows held by the Colorado Water Conservation Board.*

No existing minimum stream flows are held by the Colorado Water Conservation Board.

- c) *Descriptions of the impacts and net effect that the Project would have on water quantity.*

The project will use water from Determinations 510-BD and 511-BD. GRMD currently owns 140,000 acre-ft of Arapahoe water under 511-BD and 131,250 acre-ft of LFH water under 510-BD. Both determinations allow for municipal use by GRMD. The Determinations are included in Exhibit T. Both water rights are non-tributary and allow the District to use them to extinction. The quantities of water included in the determinations are determined by the State Engineer's office so that GRMD's use of that water will not negatively impact other water rights. Based on the 300-year rule, the proposed water supply will last for 300 years before being exhausted if it is on the only supply. GRMD is continuing to explore options for re-use which will reduce their dependency on the Denver Basin water supplies and extend their useful life. More details regarding possible re-use plans are included in Section d below.

- d) *Statement of methods for efficient utilization of water, including recycling and reuse.*

This project will deliver wastewater to either Cherokee Metropolitan District or Woodmen Hills Metropolitan District Wastewater Treatment Facility.

Cherokee is currently processing a replacement plan with the State that will allow CMD to utilize an alluvial aquifer recharge system downstream of the treatment facility that pumps water north for reuse. The CMD WRF is in the same basin (Upper Black Squirrel) as GRMD so they will be eligible to participate in replacement plan water once approved.

Woodmen currently does not implement reuse. The Draft Agreement (Exhibit AA) with WHMD allows for GRMD to re-use treated effluent. Currently, the WHMD WRF does not provide a high enough level of treatment for the effluent to be re-used without additional treatment.

Grandview will continue to evaluate opportunities for re-use.

Floodplains, Wetlands and Riparian Areas; Terrestrial and Aquatic Animals, Plant Life and Habitat

a) Floodplains:

The property contains portions of floodplain as shown in the FEMA Flood Insurance Rate Maps 08041C0556G and 08041C0552G effective December 7, 2018. Exhibit M provides current FEMA FIRM maps of the area involved in the development of Grandview Metro District. Currently, the Main Stem and Main Stem tributary of the Gieck Ranch Drainage Basin will be regraded and stabilized to accommodate the new flows. The Conditional Letter of Map Revision has been sent to FEMA. The Letter of Map Revision will be sent to FEMA once construction is complete.

b) Wildlife:

The impact to wildlife is parallel to that for vegetation. Species that occur in wetland and riparian habitat are expected to benefit from the habitat restoration and management plan for the drainages and Open Space. Implementation of the stormwater management plan will assist in protecting water quality in the drainages to ameliorate development impacts on aquatic wildlife species. Many shortgrass prairie specialist species avoid areas with buildings, overhead power lines, and trees; thus, the project is expected to have the most significant negative impact on these species; however, effects may be ameliorated by improving native vegetation in the disturbed shortgrass prairie areas (refer to Vegetation section above). Reference Exhibit N for correspondence with CPW and Sections 3.7 and 4 of Exhibit O for additional information about wildlife and the impacts of wetland habitat.

Additional measures to reduce impacts to wildlife include:

- i) Limiting the use of herbicides, pesticides, and fertilizers.
- ii) Minimizing the installation of fencing; and when fencing is needed, use wildlife friendly fences or include specific wildlife crossings along fence lines.
- iii) Designing road crossing over the drainages to enable wildlife underpass and allow use of the drainages as movement corridors to reduce collisions with vehicles.
- iv) Managing pets to avoid conflicts with wildlife.

Soils, Geologic Conditions and Natural Hazards

- a) *Map and/or description of soils, geologic conditions, and natural hazards including but not limited to soil types, drainage areas, slopes, avalanche areas, debris fans, mud flows, rockslide areas, faults and fissures, seismic history, and wildfire hazard areas, all as relevant to the Project area.*

The Soils and Geology Report prepared by Entech on January 15, 2019 identifies geologic conditions that occur on the property. This Entech report was for the overall property. Site specific reports will be developed and submitted with each site development plan as they become available. The site was found to be suitable for development. Refer to Exhibit U for additional information.

- b) *Descriptions of the risks to the Project from natural hazards.*

Refer to Exhibit P for risk due to natural hazards.

- c) *Descriptions of the impacts and net effect of the Project on soil and geologic conditions in the area.*

The project is not anticipated to have adverse impacts on soil and geologic conditions.

Hazardous Materials

- a) *Description of all solid waste, hazardous waste, petroleum products, hazardous, toxic, and explosive substances to be used, stored, transported, disturbed or produced in connection with the Project, including the type and amount of such substances, their location, and the practices and procedures to be implemented to avoid accidental release and exposure.*

Exhibit P includes a map of hazardous materials storage locations. Diesel and Sodium Hypochlorite will be utilized in the water treatment plants and the location of these materials is specified in the map. Diesel will be stored at the lift station(s) for the emergency generators. All hazardous materials will be stored in double-walled tanks or have secondary containment. Operations staff shall develop site specific material safety plans before the facilities are put into operation. Some materials may be involved in the construction process, but construction crews will handle any hazardous materials according to regulations. Solid waste generated from residential and light commercial use will occur however this will be handled by normal waste management contractors and facilities.

- b) *Location of storage areas designated for equipment, fuel, lubricants, and chemical and waste storage with an explanation of spill containment plans and structures.*

As part of CDPHE's permitting process for construction water quality, contractor's working on the site will be required to submit for approval materials management plans should storage of equipment, fuel, lubricants and chemical waste occur as part of the construction. Ultimate means and methods of this will be done by the contractor.

Monitoring and Mitigation Plan

- a) *Description of all mitigation that is proposed to avoid, minimize or compensate for adverse impacts of the Project and to maximize positive impacts of the Project.*

As part of the development process for Grandview Reserve, land planning efforts, including landscape design of the site will be done to enhance the beauty of the site. An expansive system of parks, open space, and trails is planned throughout the community. Many of the major open space corridors follow the four major existing drainage-ways. The proposed trails within this community will connect to the existing Rock Island Trail along the eastern boundary to the rest of this community. The trails will also provide connection to the El Paso County Falcon Regional Park northwest of this project. Over 16% of the site is proposed in open space. A large, 6.3-acre community park is the central focal point of the community, adjacent to the proposed institutional parcel that is tentatively planned for an elementary school. The park and school will be linked to the entire community by the trail system and sidewalks. There are also numerous smaller neighborhood parks (0.25 acres – 1 acre) throughout the community all linked by the expansive trail system that approximately equals 5 acres. The locations and sizes of the parks shown on the Sketch Plan are approximate only and subject to change as more detailed plans are created in the future.

A LOMR will be completed for the impacted drainageways designated as Zone X as required by FEMA. There are four drainageways on the property. Portions of the drainageways will be reconfigured in a manner to stabilize the drainageway in order to lessen the impacts of the surrounding uses. Stabilizing the drainageways will ultimately lessen the maintenance typical required with agricultural use or development. Less maintenance will decrease financial obligations over the life of the waterway.

- b) *Describe how and when mitigation will be implemented and financed.*

These improvements to mitigate possible adverse impacts will be paid for initially by the developer and will be managed via homeowner's associations within the single and multi-family development areas and via the commercial property owners within the commercial development areas. Ongoing maintenance of parks, community parks and landscaped areas will be funded from HOA fees and district fees paid as part of property taxes. Furthermore, the district will collect revenue to manage and own the open space areas as well as CCR enforcement.

- c) *Describe impacts that are unavoidable that cannot be mitigated.*

As all impacts to the site cannot be avoided it should be noted that increased quantity of water leaving the site is to be expected. This may lead to increased vegetation along the lower drainage ways which could reduce the conveyance capabilities of the water.

Additionally, because surface water will have fewer means to infiltrate into the ground water system it is expected that the groundwater level within the area may reduce. Lastly because the development will provide homes for a large amount of people, traffic to and within the area will increase which may affect the existing air quality.

- d) *Description of methodology used to measure impacts of the Project and effectiveness of proposed mitigation measures.*

Proven methods for waterway stabilization in the form of natural waterways is implemented in this project.

- e) *Description, location and intervals of proposed monitoring to ensure that mitigation will be effective.*

GRMD will perform regular maintenance checks. The maintenance check interval will be determined on a case by case basis for each mitigation as it is implemented.

Additional Information

To be provided should the director require additional information.