

Roam Meadow Glades Clean Water Act 404 Individual Permit Submission

Grand County, Colorado

FEBRUARY 2023

PREPARED FOR

Fraser River Development Company

PREPARED BY

SWCA Environmental Consultants

ROAM MEADOW GLADES CLEAN WATER ACT 404 INDIVIDUAL PERMIT SUBMISSION, GRAND COUNTY, COLORADO

Prepared for

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SWCA Project No. 69045

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1 INTRODUCTION AND PROJECT LOCATION

The Fraser River Development Company (FRDC) (Applicant) is proposing to construct the Roam Meadow Glades Phase 2 and 3 Development Project (Project) in Grand County, Colorado. In accordance with the Clean Water Act Section 404(b)(1) (40 Code of Federal Regulations 230), the Applicant is requesting issuance of an Individual Permit (IP) from the U.S. Army Corps of Engineers (USACE). A purpose and need statement and an alternatives analysis are presented in this document in support of the IP application for the Project for unavoidable impacts to waters of the United States (WOTUS).

The proposed Project will be located on parcel numbers 158733404115 and 158733404081 near the town of Winter Park in Grand County, Colorado (Project Area). The Project Area is south of Rendezvous Drive and bounded by the Fraser River to the east and U.S. Highway 40 to the west. The Project Area is in Section 33, Township 1 South, Range 75 West, 6th Principal and Meridian. The approximate center point of the Project Area is located at latitude 39.911989°, longitude -105.781156°.

A secondary project area (mitigation site) located immediately south of the southern terminus of County Road 522 in Tabernash, Colorado, (parcel number 158901300068) will be utilized as a mitigation site to offset permanent impacts to waters at the primary Project Area. The approximate center point for the mitigation site is latitude 39.9834644°, longitude -105.8482597°. A separate mitigation plan for permanent impacts resulting from the Project is prepared under separate cover. The Project Area and mitigation site are depicted in Figure 1.

2 PROJECT DESCRIPTION

The Project initially consisted of three Phases; however, Phase 1 construction is underway for 20 townhomes and 16 single-family housing (SFH) units with associated roads, drives, and dedicated open space. Phase 1 resulted in 0.49 acre of unavoidable impacts to on-site waters, which were permitted under Nationwide Permit 27 for Aquatic Habitat Restoration, Enhancement, and Establishment Activities and Nationwide Permit 29 for Residential Developments (SPK-2018-01012). A mitigation and monitoring plan for Phase 1 has been approved by the USACE with mitigation scheduled to commence in spring 2023. Phase 1 is not considered or referenced as part of the Project in the remainder of this document, due to already being under permit and under construction.

Phases 2 and 3 of the Project are proposed to consist of the construction of SFH units, multifamily housing (MFH) units, hotel rooms, associated roads and parking, dedicated open space, and trails and boardwalks. Phase 2 construction is tentatively planned for spring 2023 to fall 2024, and Phase 3 construction is tentatively planned for summer 2024 to fall 2025.

Birch Ecology (2021) and SWCA Environmental Consultants (SWCA) (2021) completed wetland delineations for the Project Area in 2021 (Appendix A).

3 NEED AND PURPOSE STATEMENT

The Fraser River Valley Housing Needs Assessment Update (Williford, LLC et al. 2022) identified the following housing issues in the Fraser River Valley:

• Increased demand for both owner and renter housing driven by the COVID-19 pandemic

- A decrease of available housing as a result of the East Troublesome Fire (366 homes lost)
- Increased short-term home rentals to visitors
- Construction supply chain issues slowing the building of new housing
- Steep increases in housing prices due increases in demand and stagnating supply.

The purpose of the Project is to provide MFH and SFH units and both long-term and short-term rental options to meet both community and visitor housing needs in Winter Park, Colorado. Additionally, 30 housing units would be dedicated to community affordable housing.

The Applicant is undertaking the Project to make a financial return on the development, which is estimated to generate a return of approximately 12% (commensurate with the average percentage net profit for developments of this type) (New York University Stern School of Business 2023). The Town of Winter Park (TOWP), the quasi-government entity Roam Metropolitan District 1-3 (Roam Metro District), and the private developers, FRDC and Riverside WP, LLC, all have an economic interest in the Project and have made significant public and private investment in the main roadway arteries, utility infrastructure, land, and soft costs to service the Project.

The TOWP would receive property taxes on a mill levy of 80 mills per year on the assessed value of the proposed properties associated with the Project, resulting in approximately \$12 million in present value to the TOWP. The Roam Metro District would receive a levy of 57.26 mills on each home built as a result of the Project, resulting in bond revenue of approximately \$7.5 million that would go toward infrastructure development and maintenance, including roads, utilities, and the Fraser River Walk and Community Center, all planned for public access. This is a consequential contribution for a bond issuance with only \$20 million in net proceeds.

The Project Area is zoned as a Planned Development (Destination Center) and as a Downtown Business Overlay Zone District, both of which support high density commercial and residential use with access to the main arterial (U.S. Highway 40) while also providing a walkable pedestrian environment (Fraser/Winter Park Zoning Lookup 2022; TOWP 2022). The current Project design addresses community housing needs and meets the high-density, mixed use, development zoning goals and increased walkability zoning goals through inclusion of trails and boardwalks. Additionally, a full-service boutique hotel with a prominent location on U.S. Highway 40 would be an amenity for the TOWP and provide economic benefit to all parties involved.

4 ALTERNATIVES ANALYSIS

4.1 Non-Practicable Alternatives

SWCA completed an alternatives analysis to demonstrate that a variety of potentially practicable on- and off-site approaches to the Project have been considered per 404(b)(1) 40 Code of Federal Regulations 230.10(a). Alternatives were assessed based on land availability, parcel size adequate to support mixed housing and commercial construction (≥ 25 acres), appropriate zoning (mixed residential and commercial or similar), utility and access availability, feasibility of construction on the site based on existing technology, cost of land acquisition, and economic feasibility (Table 1). Additionally, a No Action Alternative that would not require additional approvals from the USACE was analyzed for Project practicability.

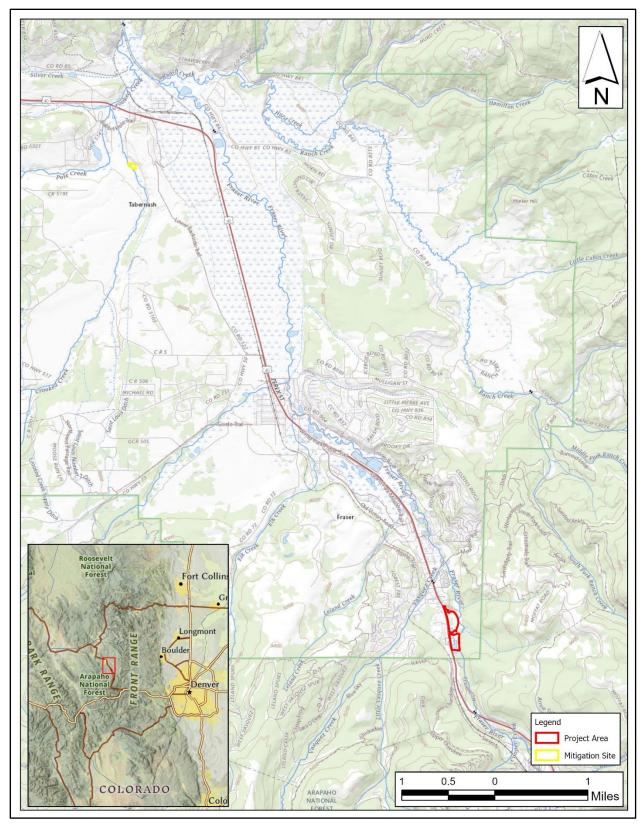


Figure 1. Project Area and mitigation site locations.

4.1.1 Alternative 3 – No Action Alternative

The No Action Alternative (Alternative 3) would not incur additional impacts to WOTUS and would not require additional action from the USACE. Alternative 3 would limit Phase 2 of the Project to the development of 18 SFH units, six walk-up townhomes, 48 MFH units, and 30 community affordable housing units. Phase 3 would be limited to a 50-room hotel, three SFH units, and associated parking and drives (Appendix B).

The amount and location of the water features in the Project Area limit the availability for design and engineering solutions to provide an economically feasible approach to developing the Project Area in accordance with Alternative 3.

The investment costs associated with roads, utilities, and planning for the Project would be the same for both Alternative 3 and Alternative 1 – Preferred Development Plan, because they would be required to service the same footprint; however, construction of less housing in Alternative 3 would result in a lower return on investment. Additionally, construction of a subsurface water conveyance to avoid impacts to the drainage area in the southwestern portion of Phase 2, immediately north of Road A, would be cost prohibitive.

The reduced hotel footprint in Phase 3 would not allow for a full-service hotel program, including restaurants, meeting rooms and amenities. The only type of hotel that would be developable in this footprint would be a lower budget, limited-service hotel. With only 50 planned rooms, the revenue from a limited-service hotel would not have the budget for payroll, affordable housing, amenities, and other services. Given the noted constraints and the costs of construction within the market, this type of hotel would not be economically viable.

The Applicant estimates the loss of revenue associated with 22 fewer homesites and no hotel with Alternative 3 would be approximately \$30 to 40 million and would severely impact the Applicant and Project viability. Additionally, the loss of these structures would reduce the TOWP revenue by approximately \$300,000 a year with no incremental cost, resulting in an overall impact of approximately \$6.2 million in present value to the TOWP. Finally, Roam Metro District would see a \$3 million reduction in bond revenue from Alternative 3, relative to Alternative 1, which would require a diversion of funds from other public amenities to accommodate that loss.

Alternative 3 is considered non-practicable due to the reduced number of housing units and short-term rental units and the associated reduced tax income to TOWP and Roam Metro District and negative rate of return for the Applicant.

4.1.2 Alternative 4 – Off-Site Adjacent

The Applicant owns a parcel on the east side of the Fraser River, adjacent to the preferred development site (Alternative 4; parcel number 158733404103), which is situated predominantly on a slope and bisected by Wolverine Creek. This parcel is zoned Planned Development (Residential-Commercial Service), which limits hotel construction to arterial or collector roads. Spatial constraints of this parcel would not allow the development of arterial or collector roads; thus, it would not allow for development of a hotel and would impede a portion of the Project's purpose of providing additional short-term rental accommodations in Winter Park. Additionally, the cost to construct a bridge over the Fraser River and to provide access to the Alternative 4 parcel is cost prohibitive to the Project (estimated at \$1.4 million).

The Alternative 4 parcel sits at the base of the slope between a large area of Arapaho National Forest lands and the east bank of the Fraser River, and development of this parcel could impede wildlife access to an important water source and movement corridor along the Fraser River and lead to increased erosion

and potential sedimentation impacts to Wolverine Creek and the Fraser River. Development of this parcel would push impacts into a relatively naturally intact area and away from the higher intensity development already concentrated around U.S. Highway 40 in Winter Park. For these reasons, Alternative 4 is considered non-practicable for the Project.

Table 1. Development Alternatives Comparison Matrix Based on Practicability Assessment Categories

Practicability Category	Factor	Alternative 1 (Applicant's Preferred; On- Site)	Alternative 2 (On-Site)	Alternative 3 (No Action Alternative; On-Site)	Alternative 4 (Off-Site; east of Fraser River)	Alternative 5 (Off-Site)
Available	Available for acquisition	YES – Applicant owns parcels	YES – Applicant owns parcels	YES – Applicant owns parcels	YES – Applicant owns parcels	YES – Listed for sale
Logistics	Sufficient parcel size	YES	YES	YES	YES	YES
	Appropriate zoning	YES – Zoned for this project type	YES – Zoned for this project type	YES – Zoned for this project type	NO – Zoning limits this project type	YES – Zoned for this project type
	Utility availability	YES	YES	YES	N/A – Failed appropriate zoning screen	YES
	Access availability	YES	YES	YES	N/A – Failed appropriate zoning screen	YES
Existing Technology	Site conditions feasible for construction	YES – With fill of on-site water features and engineered drainage features	YES – With fill of on-site water features and engineered drainage features	YES – Site development limited by WOTUS	N/A – Failed appropriate zoning screen	YES
Cost	Reasonable acquisition cost	YES – Applicant owns parcels	YES – Applicant owns parcels	NO – Reduced number of housing units and hotel would result in a negative rate of return for Applicant.	N/A – Failed appropriate zoning screen	NO – Property is not available for subdivision; listed cost is \$19.5 million (exorbitant cost)
Summary of Practicability	YES – Practicable	YES – Practicable	YES – Practicable	NO – Reduced number of housing units and hotel would result in a negative rate of return for Applicant.	NO – Zoning limits this project type	NO – Property is not available for subdivision; listed cost is \$19.5 million (exorbitant cost)

Note: N/A = not applicable

4.1.3 Alternative 5 – Off-Site in Fraser River Valley

SWCA searched as far north as Tabernash and southward to the south end of Winter Park, an area that covers a majority of the developable land in this portion of the Fraser Valley, for off-site parcels that have

similar access to U.S. Highway 40, are of similar or greater acreage (≥25 acres), and that are zoned for mixed commercial and residential use. This search identified a single property located at 25780 GCR 50 in Fraser, Colorado (Zillow 2022a; Realtor.com 2022). The property consists of two parcels (parcel numbers R028635 and R074630) and 128.34 acres zoned as split residential and business. The asking price of \$19.5 million is cost prohibitive and thus non-practicable for the Project; therefore, Alternative 5 (Off-Site Alternative) is deemed non-practicable due to exorbitant costs. Additional parcels were dismissed based on lack of developable land and potential additional impacts to WOTUS (Zillow 2022a) or due to zoning and access issues (Zillow 2022b, 2022c).

4.2 Practicable Alternatives

4.2.1 Alternative 1 – Preferred Development Plan

Alternative 1 is the preferred development plan for this Project (see Appendix B), because it meets the Project purpose and need, minimizes impacts to WOTUS, and is the least environmentally damaging. Under Alternative 1, the following development and waters impacts are proposed:

- Phase 2 of the Project would consist of the construction of 28 SFH units, six walk-up townhomes, 48 MFH units, 30 community affordable housing units, and associated roads, dedicated open space, and trails and boardwalks. Phase 2 of the Project would result in 0.26 acre of permanent wetland impacts and 0.15 acre of temporary wetland impacts.
- Phase 3 of the Project would consist of the construction of 15 SFH units, one hotel with 10 associated cabins, parking areas, roads, dedicated open space, and trails and boardwalks. Phase 3 of the Project would result in 2.89 acres of permanent and 0.09 acre of temporary impacts to aquatic habitat and 0.71 acre of permanent and 0.02 acre of temporary wetland impacts.

4.2.1.1 IMPACTS TO PHYSICAL AND CHEMICAL CHARACTERISTICS

Impacts to physical and chemical characteristics of receiving waters would be none to negligible under Alternative 1. Fill would not leave wetlands or travel to adjacent or abutting WOTUS. Appropriate soil erosion and sediment controls would be used and maintained in effective operating condition during construction, and all exposed soil and other fills would be permanently stabilized at the earliest practicable date.

Only materials that are considered suitable fill within wetland and non-wetland waters would be used for the Project. Materials would be selected based on their resiliency in aquatic habitats and the expectation that they would not leach harmful levels of pollutants into the Fraser River or its adjacent wetlands.

To the extent practicable, equipment used during construction activities would be placed in areas that would be permanently altered or disturbed by the Project. In areas where this is not possible, equipment would be placed on mats to minimize soil disturbance to the maximum extent practicable.

The Project would be designed to minimize adverse effects on the adjacent aquatic system to the maximum extent practicable; Project components would be constructed to avoid accelerating the passage of water or restricting its flow. Additionally, a COR400000 Construction Stormwater Discharge Permit request is being prepared by a qualified civil engineer and will be submitted to the USACE and Colorado Department of Public Health and the Environment Water Quality Control Division when received. This permit will provide detail on best management practices that would be implemented to protect aquatic resources within and beyond the Project Area. A construction stormwater management plan for both Project phases is presented in Appendix C.

4.2.1.2 BIOLOGICAL CHARACTERISTICS

Alternative 1 would be expected to have no effect to negligible effects on biological characteristics of the Project Area or immediate vicinity. SWCA reviewed U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) data for threatened or endangered species with the potential to occur on or near the Project Area (Appendix D). Based on SWCA's knowledge of the Project Area and the listed species, an evaluation of occurrence potential is presented in Table 2. No federally listed threatened and endangered species are expected to occur within the Project Area. Alternative 1 would be designed and constructed to minimize adverse effects on aquatic life movement, including native fish populations. More specifically, intake and outfall structures installed adjacent to the Fraser River would be designed to maintain consistent flows to sustain the movement of any aquatic species. The Project Area contains suitable habitat for ground- and tree-nesting migratory birds; however, conservation measures would be implemented to avoid or minimize impacts to migratory birds in accordance with the Migratory Bird Treaty Act.

Table 2. Federally Listed Species for Grand County and Their Potential to Occur in the Project Area

Common Name (scientific name)		
Mammals		
Canada lynx (<i>Lynx canadensis</i>)	FT	None. There is a lack of suitable high-elevation boreal forest habitat within the Project Area.
Gray wolf (Canis lupus)	FE	Unlikely. Although wolves occupy a wide range of habitats and a breeding pair currently occupies the northcentral portion of the state, the Project Area is located next to an urban city with commercial and residential development.
Birds		
Mexican spotted owl (Strix occidentalis lucida)	FT	Unlikely. U.S. Fish and Wildlife Service–designated critical habitat is found in mountainous regions along the southern Front Range between Castle Rock and Pueblo, Colorado. There is a lack of suitable canyonland and dense forested habitat within the Project Area. Limited forested habitat is present immediately adjacent to the Project Area.
Fish		
Bonytail (<i>Gila elegans</i>)	FE	Unlikely. This species prefers backwaters with rocky or muddy bottoms and flowing pools and is mostly restricted to rocky canyons. The species was historically known primarily in the main stems of the Colorado River system. Additionally, no impacts to the Fraser River would be incurred as part of the Project.
Colorado pikeminnow (Ptychocheilus lucius)	FE	Unlikely. The present distribution of this species is known only in the Upper Colorado River basin. Additionally, no impacts to the Fraser River would be incurred as part of the Project.
Humpback chub (<i>Gila cypha</i>)	FE	Unlikely. Currently, this species is found only in the Little Colorado River and direct tributaries, which is very far from the Project Area. Additionally, no impacts to Fraser River would be incurred as part of the Project.
Razorback sucker (Xyrauchen texanus)	FE	Unlikely. In Colorado, recent specimens have been seen only in the lower, main stem Colorado, Gunnison, lower Yampa, and Green Rivers. Additionally, no impacts to the Fraser River would be incurred as part of the Project.
Insects		
Monarch butterfly (Danaus plexippus)	С	None. Candidate species do not receive statutory protection under the Endangered Species Act, and there are no imminent actions to list the species.

 $^{^{\}star}$ FE = federally endangered species; FT = federally threatened species; C = candidate species.

4.2.1.3 SPECIAL AQUATIC SITES

Minor short-term and minor long-term effects would be expected for a portion of on-site wetlands as a result of Alternative 1. Approximately 0.97 acre of permanent and 0.17 acre of temporary impacts to wetlands and 2.89 acres of permanent and 0.09 acre of temporary impacts to aquatic habitat are proposed to on-site WOTUS under Alternative 1.

4.2.1.4 HUMAN USE CHARACTERISTICS

Minor, short-term visual impacts resulting from Project construction would be expected for the Project Area. Additional negative effects on human use characteristics are not anticipated as a result of Alternative 1. Alternative 1 would provide additional housing in a market that is lacking adequate housing options, and it would provide positive economic impacts through additional property taxes paid to Winter Park and Grand County. Furthermore, Alternative 1 would be expected to improve aesthetic value through increased public and private access to aquatic habitat and increased recreational use by development of the walkable environment (i.e., trails, boardwalks, and vista points) within the Project Area. For most, the aesthetics are only appreciable at a distance in the current, undeveloped state, whereas Alternative 1 would increase public and private access to the aquatic habitat and other natural resources within the Project Area. In addition, mitigation enhancements would increase scrub-shrub habitat and use by various wildlife as compared to the emergent features that currently dominate much of the Project Area.

4.2.1.5 CULTURAL RESOURCES AND HISTORIC PROPERTIES

Metcalf Archaeological Consultants, Inc., conducted two Class III cultural resources inventories for the Project Area (Metcalf 2022, 2023) (Appendix E). Both reports recommended a finding of no historic properties affected by Phases 2 and 3 of the Project. Based on these findings, no impacts to cultural or historic properties would be expected to result from Alternative 1.

4.2.1.6 POSSIBLE CONTAMINANTS IN DREDGED AND FILL MATERIAL

Only materials that are considered suitable fill within wetland and non-wetland waters would be used for the Project. Materials would be selected based on their resiliency in aquatic habitats and the expectation that they would not leach harmful levels of pollutants into the Fraser River or its adjacent wetlands.

4.2.2 Alternative 2 – Alternative Development Plan

Although Alternative 2 would meet the stated Project purpose and need, it would result in a greater amount of impacts to WOTUS (see Appendix B). Under Alternative 2, the following development and waters impacts are proposed:

- Phase 2 of the Project would consist of the construction of 28 SFH units, associated roads, dedicated open space, and trails and boardwalks, and would result in 0.28 acre of permanent wetland impacts and 0.17 acre of temporary impacts.
- Phase 3 of the Project would consist of the construction of 10 lake cabins, 23 river homes, one
 hotel, one chateau, associated parking areas, roads, dedicated open space, and trails and
 boardwalks. Phase 3 of the Project would result in 2.84 acres of permanent aquatic habitat
 impacts and 0.98 acres of permanent wetland impacts.

4.2.2.1 IMPACTS TO PHYSICAL AND CHEMICAL CHARACTERISTICS

Alternative 2 would be expected to have similar effects on physical and chemical characteristics as those discussed for Alternative 1.

4.2.2.2 BIOLOGICAL CHARACTERISTICS

Alternative 2 would be expected to have similar effects on biological characteristics as those discussed for Alternative 1.

4.2.2.3 SPECIAL AQUATIC SITES

Minor short-term and minor long-term effects would be expected for a portion of on-site wetlands as a result of Alternative 2. Approximately 1.26 acres of permanent impacts and 0.17 acre of temporary impacts to wetlands and 2.84 acres of permanent impacts to aquatic habitat are proposed to on-site WOTUS under Alternative 2.

4.2.2.4 HUMAN USE CHARACTERISTICS

Alternative 2 would be expected to have similar effects on human use characteristics as those discussed for Alternative 1.

4.2.2.5 CULTURAL RESOURCES AND HISTORIC PROPERTIES

Metcalf Archaeological Consultants, Inc., conducted two Class III cultural resources inventories for the Project Area (Metcalf 2022, 2023) (see Appendix E). Both reports recommend a finding of no historic properties affected by Phases 2 and 3 of the Project. Based on these findings, no impacts to cultural or historic properties would be expected to result from Alternative 2 of the Project.

4.2.2.6 POSSIBLE CONTAMINANTS IN DREDGED AND FILL MATERIAL

Only materials that are considered suitable fill within wetland and non-wetland waters would be used for the Project. Materials would be selected based on their resiliency in aquatic habitats and the expectation that they would not leach harmful levels of pollutants into the Fraser River or its adjacent wetlands.

4.2.3 Summary

Based on the comparison of the two practicable alternatives (Table 3), Alternative 1 is the Preferred Development Plan and the Least Environmentally Damaging Practicable Alternative. Alternative 2 would meet the Project purpose and need by providing a greater number of SFH units, short-term rental units, and a higher net profit relative to Alternative 1; however, Alternative 2 would result in a greater amount of impacts to on-site WOTUS relative to Alternative 1.

Table 3. Environmental Factor Matrix for Comparison of Practicable Alternatives for Phases 2 and 3 Combined

Environmental Factors	Alternative 1 (Applicant's Preferred Development Plan)	Alternative 2	
Wetland Impacts (acres)			
Temporary	0.17	0.17	

Environmental Factors	Alternative 1 (Applicant's Preferred Development Plan)	Alternative 2
Permanent	0.97	1.26
Aquatic Habitat Impacts (acres)		
Temporary	0.09	
Permanent	2.89	2.84
Total Permanent WOTUS Impacts (acres)	3.86	4.1
Impacts to Federally Listed Threatened and Endangered Species	No	No
Least Environmentally Damaging Practicable Alternative	Yes	No

4.2.4 Avoidance and Mitigation

Alternative 1 has been designed to minimize permanent impacts to onsite WOTUS while still meeting project purpose and need. The Applicant proposes compensatory mitigation for unavoidable impacts to WOTUS through the construction of additional wetland habitat and enhancement of existing wetland habitat within the Project Area and on another parcel owned by the Applicant (parcel number 158901300068) also in the Fraser River watershed and restoration and aquatic habitat within the Project Area. A comprehensive mitigation and monitoring plan for permanent impacts to WOTUS is in final development and will be submitted within 45 days of the submission date of this document. Additionally, a restoration plan for temporary impacts to WOTUS resulting from Alternative 1 of the Project is presented in Appendix F. Mitigation for temporary and permanent impacts will follow the *Final 2015 Regional Compensatory Mitigation and Monitoring Guidelines for South Pacific Division USACE* (USACE 2015). Finally, a construction stormwater management plan for the Project with descriptions of best management practices to minimize potential impacts to on-site and off-site waters is presented in Appendix C.

5 **SUMMARY**

FRDC requests authorization of a Clean Water Act Section 404 IP for Alternative 1 – Preferred Development Plan of the Project as the least environmentally damaging practicable alternative.

A list of property owners adjacent to the Project Area are included in Appendix G in order to accommodate the public notice associated with this IP application.

6 LITERATURE CITED

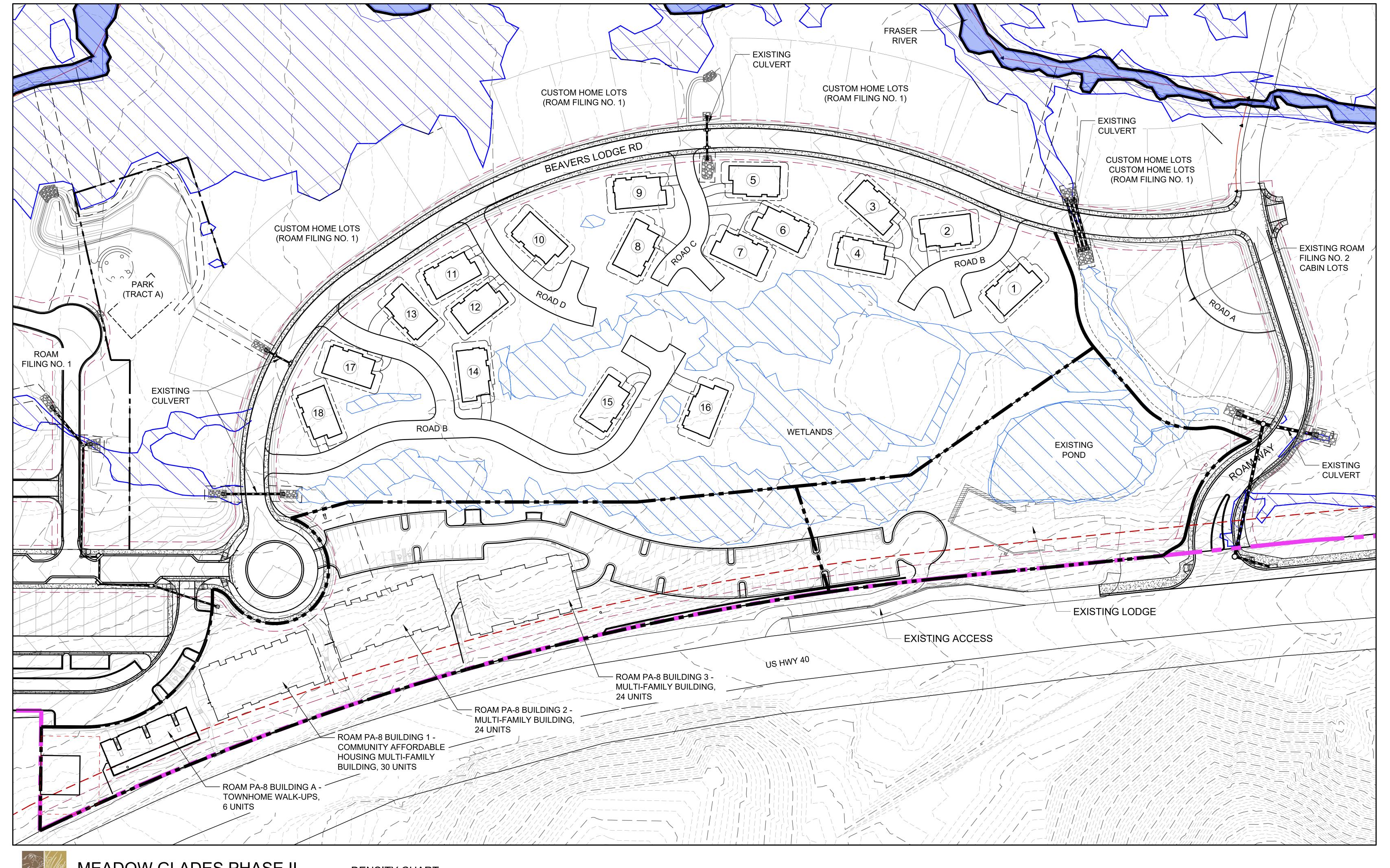
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APPENDIX B

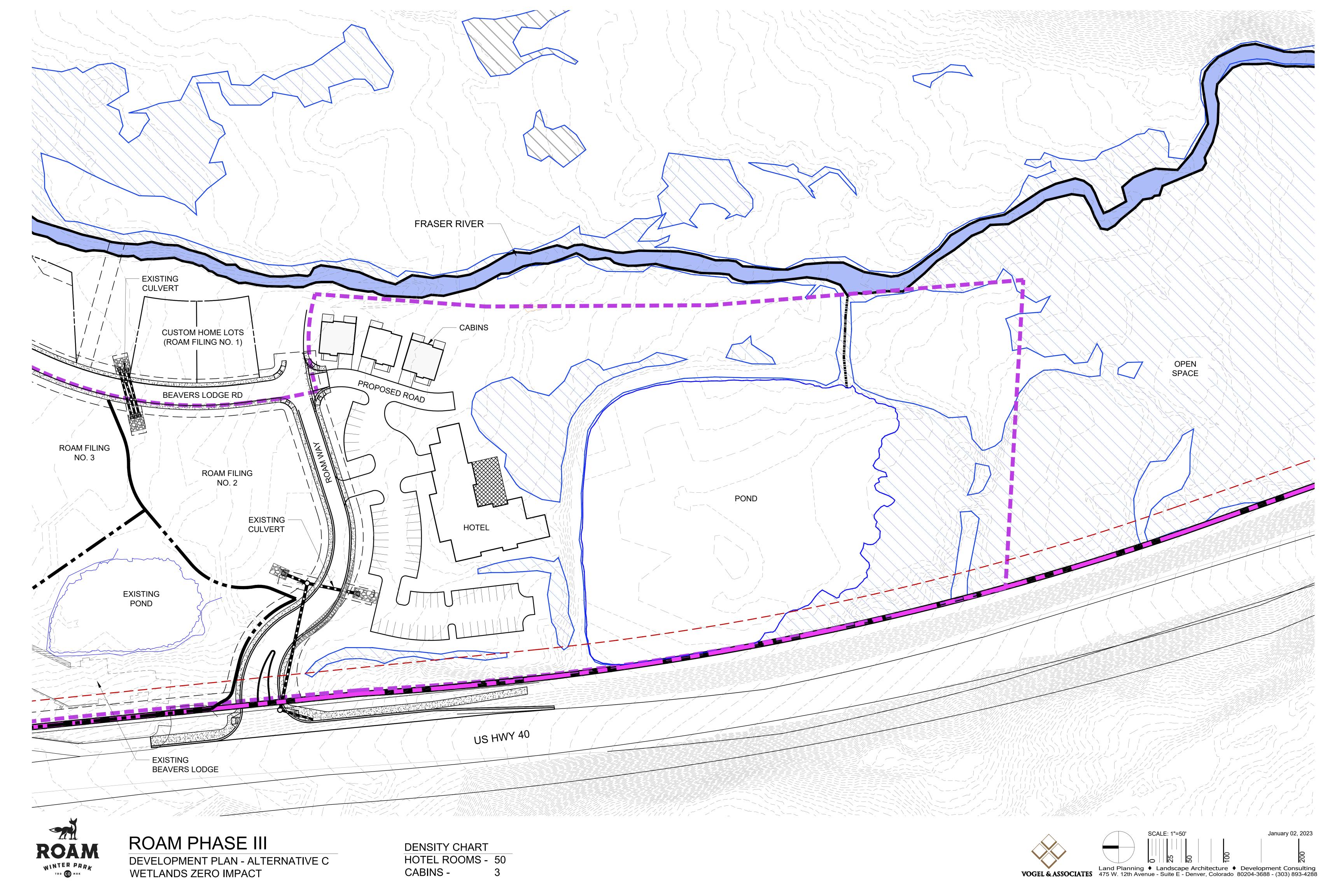
Development Alternatives

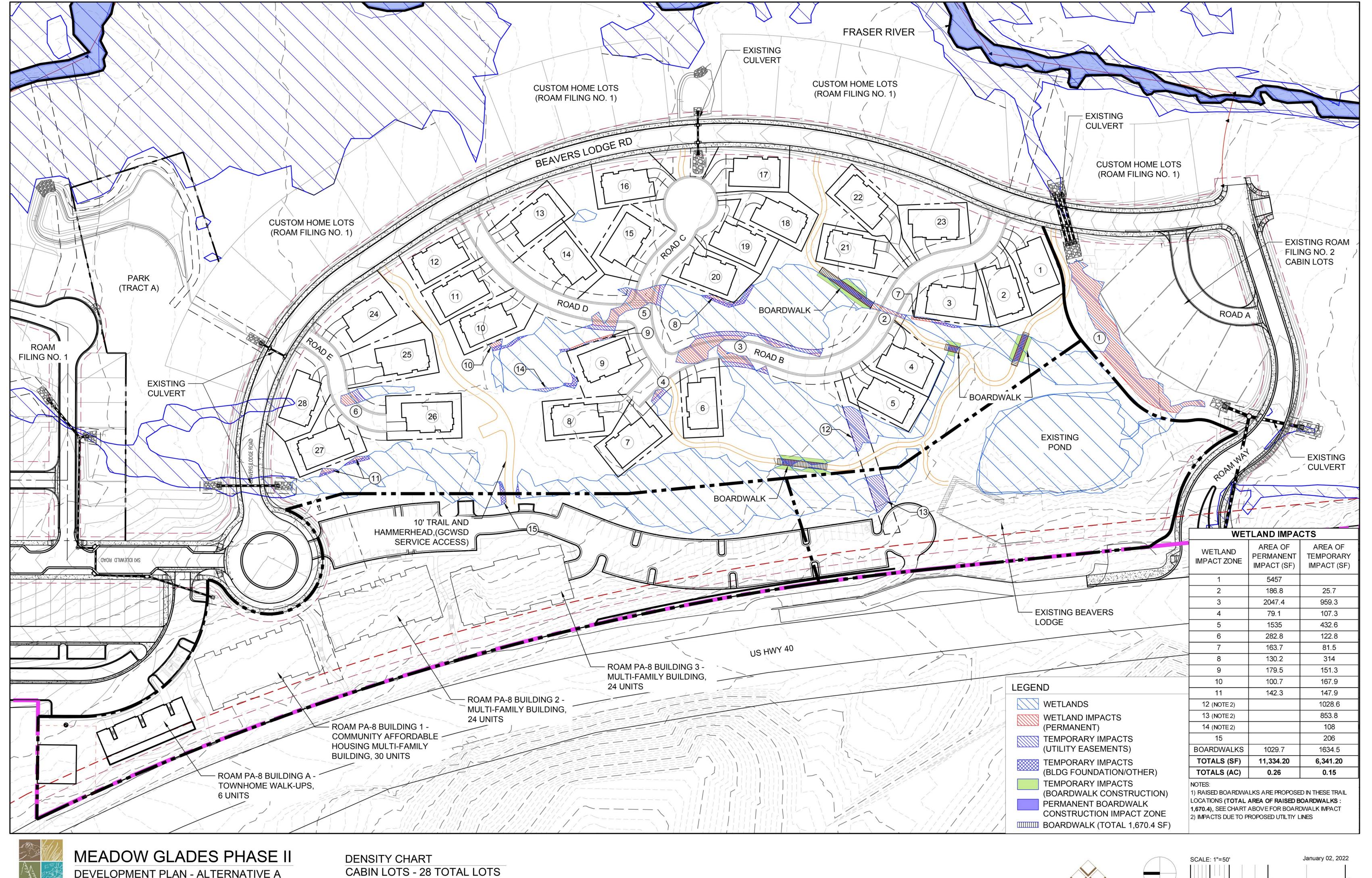
Alternative 3 – No Action Alternative Development Plan Alternative 1 – Preferred Development Plan Alternative 2 – Alternative Development Plan



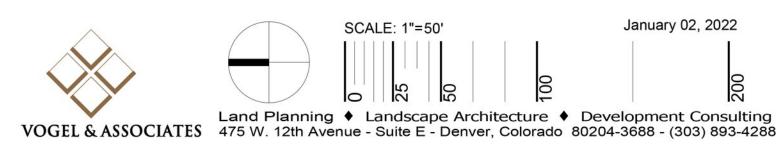


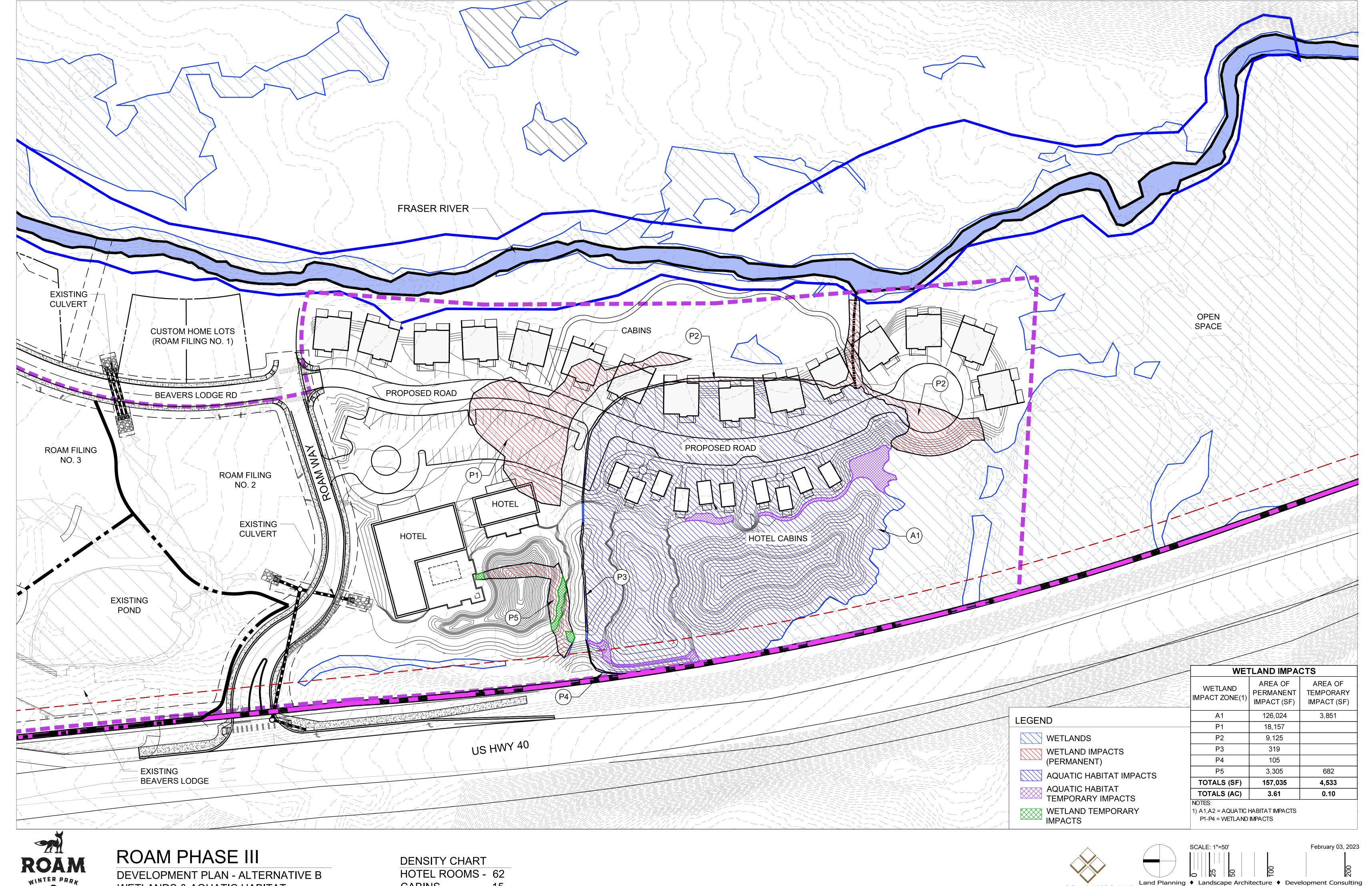
DENSITY CHART
CABIN LOTS - 18 TOTAL LOTS





DEVELOPMENT PLAN - ALTERNATIVE A WETLANDS IMPACT MEADOW GLADES



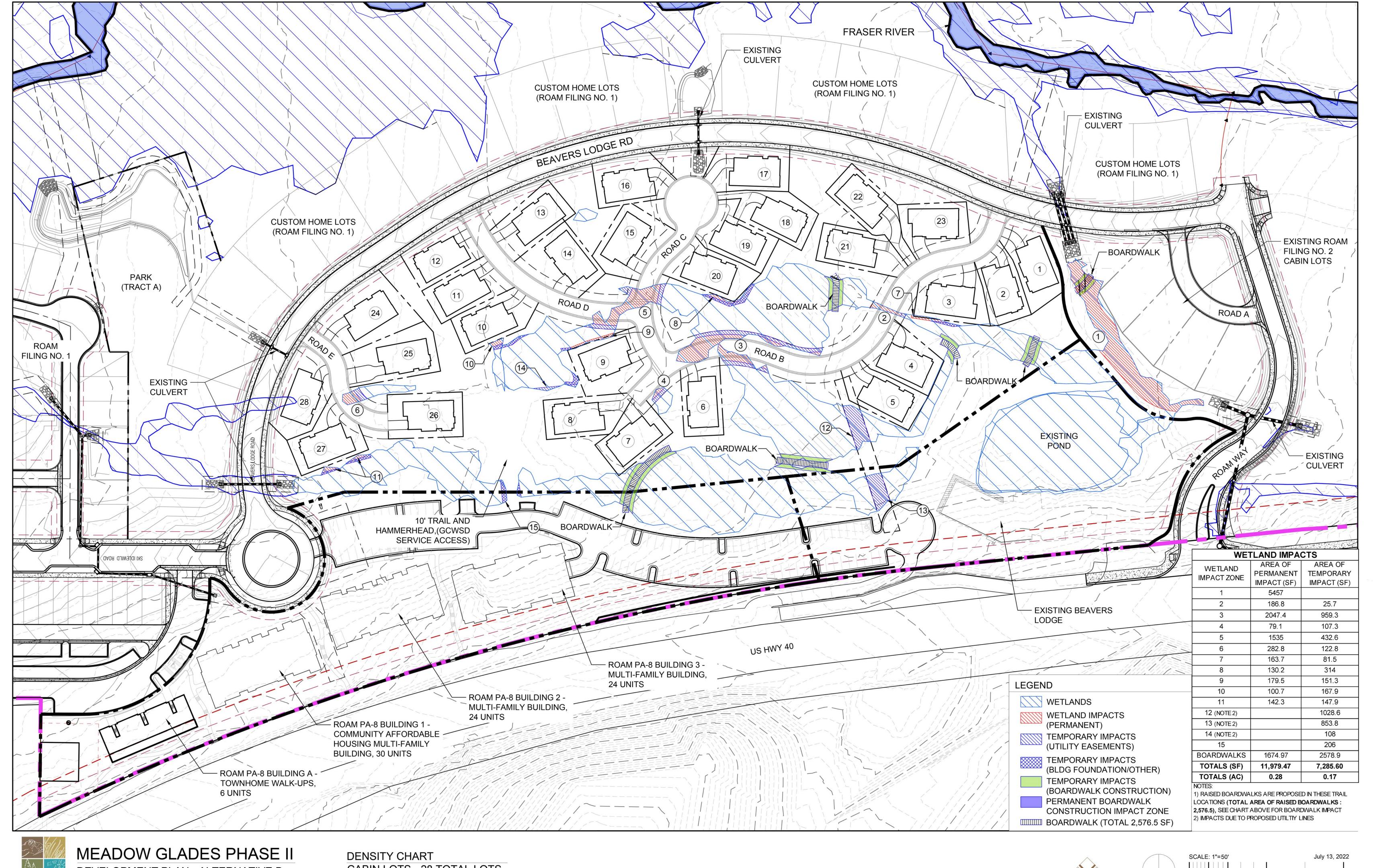


ROAM
WINTER PARK
TRD @ MRK

WETLANDS & AQUATIC HABITAT

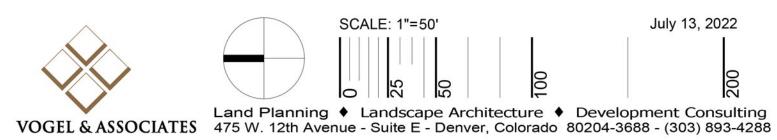
CABINS -

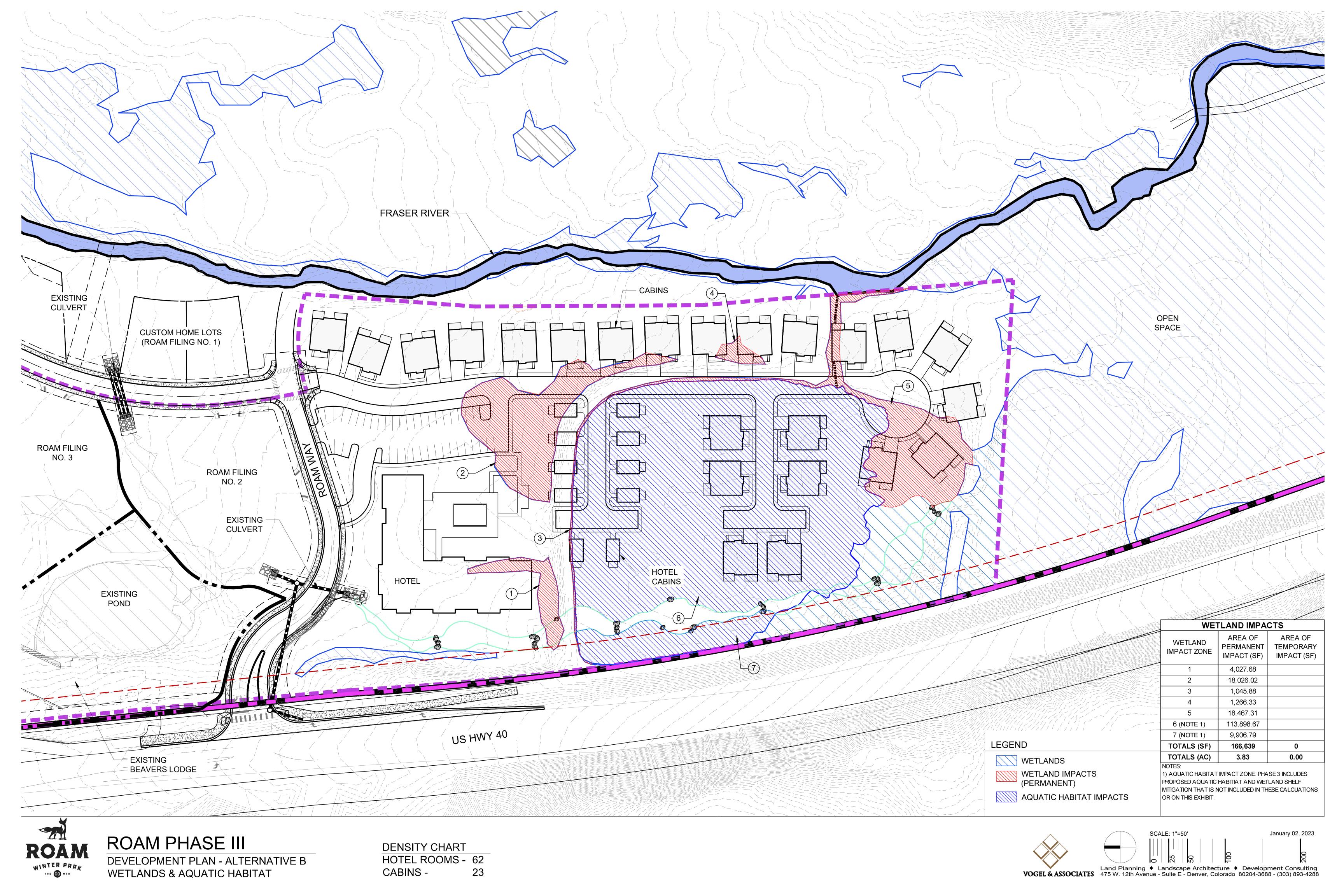


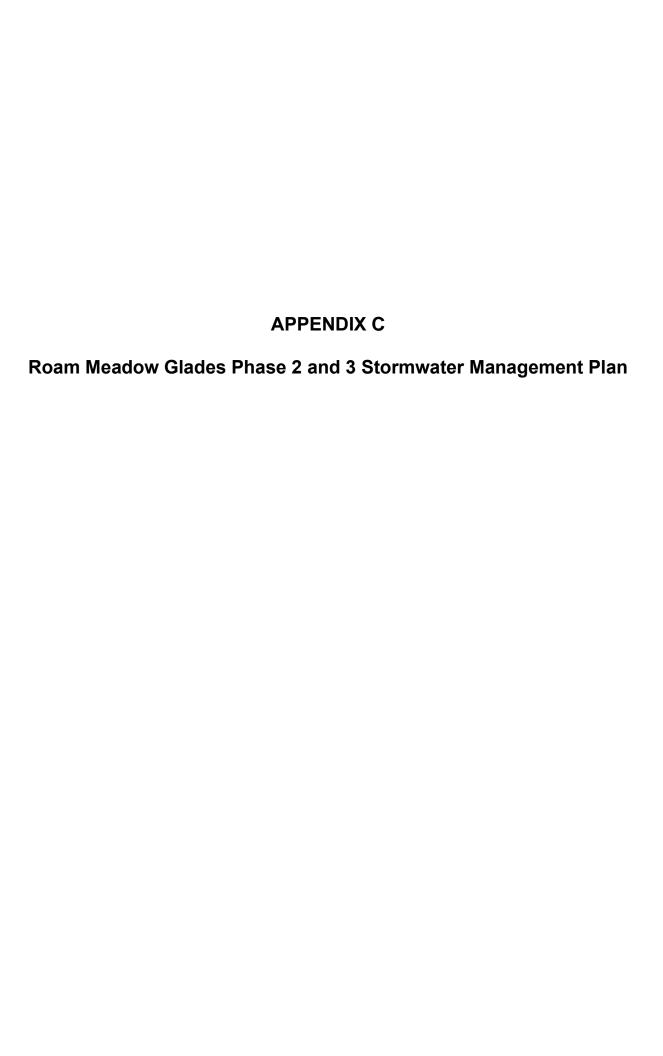


DEVELOPMENT PLAN - ALTERNATIVE B WETLANDS IMPACT MEADOW GLADES

CABIN LOTS - 28 TOTAL LOTS











GESC (1 OF

INITIAL

DOCUMENT SET ISSUE DATE
SUBMITTAL SET 04/15/2022

PRELIMINARY PLANS SET

DWN. BY: TCW

REVISIONS:

REVISION #1: 07/26/2022

REVISION #2: 09/27/2022 REVISION #3: 12/9/2022

REVISION #3: 12/9/2022





ROAM FILING NC WINTER PARK, CO

2

OF

GESC (2

INITIAL

DOCUMENT SET ISSUE DATE
SUBMITTAL SET 04/15/2022

PRELIMINARY PLANS SET

DWN. BY: TCW

REVISIONS:

REVISION #1: 07/26/2022

REVISION #1: 07/26/2022 REVISION #2: 09/27/2022

REVISION #3: 12/9/2022



CORE CONSULTANTS. INC.

INTERIM GESC (1 OF ROAM FILING NO. 3

DOCUMENT SET ISSUE DATE
SUBMITTAL SET 04/15/2022

PRELIMINARY PLANS SET

DWN. BY: TCW

REVISIONS:

REVISION #1: 07/26/2022 REVISION #2: 09/27/2022

REVISION #2: 09/27/2022 REVISION #3: 12/9/2022



CORE CONSULTANTS. INCLIVEYOURCORE.COM

INTERIM GESC (2 OF ROAM FILING NO. 3 WINTER PARK, CO 80.

DOCUMENT SET ISSUE DATE
SUBMITTAL SET 04/15/2022

PRELIMINARY PLANS SET

DWN. BY: TCW

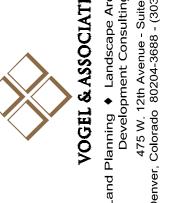
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REVISIONS:

REVISION #1: 07/26/2022 REVISION #2: 09/27/2022

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ROAM FILING NO.

GESC (1

FINAL

DOCUMENT SET ISSUE DATE
SUBMITTAL SET 04/15/2022

PRELIMINARY PLANS SET

DWN. BY: TCW

REVISIONS:

REVISION #1: 07/26/2022

REVISION #2: 09/27/2022 REVISION #3: 12/9/2022



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GESC (2)

DOCUMENT SET ISSUE DATE
SUBMITTAL SET 04/15/2022

PRELIMINARY PLANS SET
DWN. BY: TCW

DWN. BY: TCW
REVISIONS:

REVISION #1: 07/26/2022 REVISION #2: 09/27/2022

REVISION #2: 09/27/2022 REVISION #3: 12/9/2022

Representative Date

This certification shall be signed upon request for submittal by the State of Colorado or the Environmental Protection Agency in accordance with the following criteria from the General Permit section I.F.1.

. In the case of corporations, by a principal executive officer of at least the level of vice-president or his or her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the form originates;

. In the case of a partnership, by a general partner; In the case of a sole proprietorship, by the proprietor.

l. In the case of a municipal, state, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized

SUMMARY OF STORMWATER MANAGEMENT PLAN

This Stormwater Management Plan (SWMP) covers construction activities associated with Roam Phase III. Construction activities will involve clearing and grubbing of the site as well as grading associated with proposed roadways. This SWMP identifies potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction activity, describes the practices to be used to reduce the pollutants in stormwater discharges associated with construction activity, and ensures the practices are selected, installed, implemented, and maintained in accordance with good engineering practices.

Project Location

A PORTION OF THE SOUTHWEST 1/4, NORTHEAST 1/4, WEST 1/2, SOUTHEAST 1/4

SECTION 33, Township 1 South,

Range 75 West of the Sixth Principal Meridian, Town of Winter Park

County of Grand State of Colorado

Roam Phase III is bound on the north by Roam Way, to the south by the Forest Service, on the east by the Fraser River, and on the west by US Highway 40 Fraser River is located along the eastern project boundary and generally flows from south to north. The approximate latitude and longitude of the project are 39°54'38" N and 105°46'51" W.

Owner's Name and Address

Fraser River Development, CO LLC 1500 Wynkoop Street, Suite 200 Denver, Colorado 80202

Stormwater Mangament Administrator

Name (Printed) Address Phone

This project is certified to discharge under CDPS General Permit COR-030000 Stormwater Discharges Associated with Construction, Certification Number Stabilized storage areas, concrete washout areas This Certification to Discharge authorizes , during construction of roadways, to discharge stormwater from the facility identified as Roam Filing 1, on 14 acres disturbed. Certification is effective on and expires on anticipated construction start date is June 2019 with final stabilization occurring by October 2020

SITE DESCRIPTION

. Construction Activities. This project will consist of roadways, site grading, utility construction over approximately on 6.4 acres, with associated landscaping. Soil disturbing activities will include clearing and grubbing; installing a stabilized construction entrance, perimeter, and other erosion and sediment controls; roadway grading; and preparation for final planting and seeding. Clearing and grubbing will be necessary to allow for road grading and utility construction. Storm culverts will then follow, along with the paving of roads with adjacent lots. Permanent erosion control will be constructed on the site. Construction activities associated with this type of development typically require the use of heavy earthmoving equipment,

dump trucks, generators, and other assorted equipment. Proposed BMP Sequence. The general sequence of BMP installation with respect to construction activities will be as follows:

Phase 1 — Project Implementation

Appoint SWMP Administrator.

Install/construct temporary or permanent erosion control BMPs from an approved plan set, including: permanent seeding, temporary seeding, surface roughening, mulching, concrete washout, silt fence, vehicle tracking control, inlet protection, outlet protection, and erosion control matting.

B. Grade the construction site from an approved plan set, including: roadways and turnarounds, etc.

road construction sequence will not be seeded at this time because they will be active construction areas that will not be dormant for more than 14

Implement construction sequence for roadway construction:

Storm sewer installation, with culvert inlet protection installed as storm sewer are installed. Preparation of road sub-grade.

Construction of water, sanitary sewer, and storm sewer and storm inlets.

Prepaeration of road sub base Paving of roads. Once roads are paved, curb socks will be installed in ditches to slow runoff and promote sedimentation.

Installation of dry utilities (gas, power, cable, phone) for lots.

This construction sequence will be scheduled to allow for no lapse in activities of more than 14 days. Once this sequence of construction activities has been completed, areas where construction will not begin within 14 days will be surface roughened to reduce erosion potential and promote infiltration and will be temporarily seeded if the weather is appropriate for successful seed germination.

Implement construction activities related to the construction of individual homes including debris management, spoil piles, and soil stockpiles. Install specific BMPs as shown on the approved plan set and in accordance with the SWMP sheets, included in Appendix C, to provide erosion protection prior to landscaping and re-vegetation.

Complete final site grading including replacing stockpiled topsoil. In addition, clean out and re-grade (as necessary) detention and sedimentation ponds used for water quality capture purposes during construction to conform to the design of the permanent site drainage system.

Final (permanent) seeding, sodding, planting, and landscaping of the site will be the responsibility of the developer. Some temporary stormwater controls, such as inlet protection for the storm sewers, should remain in place during this phase.

Remove temporary control measures.

Sequencing of construction activities will progress as rapidly as practical to minimize the amount of time that portions of the site are disturbed Areas that will be inactive for more than 14 days will be surface roughened to reduce erosion, slow runoff velocity, and promote infiltration. Temporary seeding shall occur on all disturbed areas where construction activities are not completed within the calendar year. Inactive areas will be seeded with an approved temporary native seed mix when the weather conditions are such that growth of native grasses from seed is possible (see approved erosion control report).

Phase 2 — Post-Construction Site Inspection

Following completion of the project, including final re-vegetation and landscaping, the SWMP Administrator will inspect areas that have been seeded and landscaped to assure that the re-vegetation and landscaping have been successful in establishing uniform ground cover (70% of pre-disturbance cover criteria for re-vegetation). If re-vegetation has not been successful, spot re-vegetation or other remedial actions should be implemented to assure compliance with the stormwater discharge permit and other applicable regulations. The SWMP Administrator will carry out the inspection.

C. Site Area. The proposed site consists of approximately 15.6 acres, more or less. The current plan is to develop the land, in one phase. The total disturbed area is 15.6 acres of approximately 350 acres of the entire site.

There are no substantial offsite properties draining onto the subject site.

D. Soils. The predominant soil type consists of Cowdry loams with the presence of cobbly sandy loams. Cowdry loam, 18 to 57% soils are considered to be soil type 'C', which is consists chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture Four basic approaches used for mitigating erosion and sediment loss from stormwater runoff in construction areas are as follows: or fine texture on table 3-1 in the Urban Drainage Criteria Manual for hydrological purposes. This soil is characterized by having a slow infiltration rate * Minimize onsite erosion from occurring at the outset. Install BMPs up-gradient of significant surface disturbances to reduce the volume and when thoroughly wet and have a slow rate of water transmission. Scout cobbly sandy loam, 15-65% soils are considered to be soil type 'B', which consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have a moderately fine texture to moderately coarse texture on table 3-1 in the Urban Drainage Criteria Manual for hydrological purposes. This soil is characterized by having a moderate infiltration rate when thoroughly wet and have a moderate rate of water transmission.

The site currently has not been developed and is in its historic condition. Currently any stormwater discharge is carrying pollutants at a historic rate.

E. Existing Vegetation. The property slopes from the east to west. The land is covered by approximately 90 percent vegetative ground cover consisting of lodgepole pines, aspen groves, native grasses, and moderate brush cover.

F. Potential Pollution Sources. Potential pollution sources at the project site include sediment, equipment/vehicle washing, vehicle maintenance and fueling, paint, solvents, wood treated products, asphalt (bituminous) paving, concrete, metal, petroleum products, waste storage and disposal, portable toilets, dust or particulate generating processes, and offsite sediment transport from vehicle tracking. Many chemicals typically associated with construction activities are considered potential pollutants. Onsite storage of potential pollution sources will be at the stabilized staging area, except for soil stockpile(s) whose location(s) will be noted on the SWMP plan. The SWMP plan shall be continually updated should the storage location(s) be moved.

Careful handling, storage, and application of these materials reduce the likelihood that these chemicals will contribute to pollution of the environment. Preventative practices are discussed in greater detail in the materials handling and spill prevention section.

The following table provides a broad list of potential pollutants from a range of construction-related activities. Inclusion of a chemical in the table does not necessarily imply that the chemical will be used as a part of the development construction activities.

Chemicals Potentially Associated With Construction Activities

Potential Pollutant, Sources, and Location

Gasoline (benzene, toluene, ethylbenzene, xylene tetraethyl leads, methyl tertiary butyl ether (MTBE), and other compounds) Construction vehicles, gas cans, and generators

Stabilized storage areas, access roads, onsite tanks, and fuel sites

Diesel fuel (and associated constituents) Heavy construction equipment

Stabilized storage areas, access roads, and fuel sites

Construction vehicles, heavy construction equipment, generators, small containers, and lift equipment Stabilized storage areas, access roads, fuel sites, storage areas, and lift houses

Solvents (TCE, TCA, and others) Small containers Stabilized storage areas

Paints, stains, and varnishes Small containers, bulk containers, and spray equipment Stabilized storage areas

Glues and waterproofing compounds Small containers and bulk containers

Fertilizers Bulk containers Stabilized storage areas

Stabilized storage areas

Chlorine (hypochlorite) Disinfections of water line Stabilized storage areas, water line testing areas

Cement

Bulk containers

Metals, paint chips, wood chips, insulation, asbestos, and plastics Construction debris

Stabilized storage areas, access roads

Microbiological contaminants (coliform, giardia, etc.) Sanitary wastewater Septic tank/leach field systems, broken sewer lines, portable toilets

Construction vehicles and equipment, small containers, and bulk containers Stabilized storage areas, access roads, and compressor site

Bulk containers and spray equipment Stabilized storage areas

G. Non-stormwater Discharges. Potable water is anticipated as a non-stormwater discharge. Potable water may be used for grading, dust control, and irrigation of erosion control and permanent landscaping, creating return flow. An effort shall be made to use only the amount of potable water required for these operations. Flows from emergency fire fighting activities and uncontaminated springs may also contribute to non-stormwater discharges.

Discharge to the ground of concrete washout water from washing of tools and concrete mixer chutes is an anticipated non-stormwater discharge. These activities will be carried out per the requirements described in Section III.C.7(b).

Areas where roadway installation will not begin immediately will be temporarily reseeded and surface roughened. Phases that are proceeding with the Discharge to the ground of construction dewatering may be required. Land application of construction water will be an allowed non-stormwater discharge and must be carried out per the requirements described in Section III.C.8.

> H. Outfalls and Receiving Waters. Developed stormwater runoff from this site will be conveyed to proposed detention basins or discharged off the site as sheet flow. These flows will travel over the surface (e.g., streets and swales). The existing drainage ultimately flows into the Fraser River, located southwest of the site.

II. SITE MAP

The vicinity map located in Appendix A shows the development site. A detailed site plan with proposed temporary and permanent BMPs is provided in Appendix D. The onsite SWMP folder will contain the up-to-date BMP map to provide tracking of progress. Construction site boundaries are indicated on these drawings. (For the construction activities covered by this SWMP, the permitted area is equivalent to the area indicated by the site property

III. STORMWATER MANAGEMENT CONTROLS

A. SWMP Administrator. The individual(s), position, or title that is responsible for developing, implementing, maintaining, and revising the SWMP is FRDC. LLC. The SWMP Administrator will serve as the comprehensive point of contact for all aspects of the facility's SWMP.

SWMP Amendments. The SWMP Administrator shall amend the SWMP:

written request to the Division by completion of the Inactivation Notice.

When there is a change in design, construction, operation, or maintenance of the site, which would require the implementation of new or revised If the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with

construction activity: or When BMPs are no longer necessary and are removed.

SWMP changes shall be made prior to changes in the site conditions, except those addressing BMP installation and/or implementation that are made responsive to changing conditions. When current BMPs are determined ineffective, changes to the SWMP shall be made as soon as practicable, but in no * case more than 72 hours after the changes in BMP installation and/or implementation occur at the site.

The SWMP administrator must keep the SWMP current by redlining and marking other notes on drawings and in the text of the SWMP to accurately portray the actual erosion and sediment controls used on the site. Notation should include the time and date of the changes in the field, an identification of the BMPs removed or added, and the location of those BMPs.

2. Notice of Transfer. When responsibility for stormwater discharges at a construction site changes from one individual to another, the permittee shall submit a completed Notice of Transfer and Acceptance of Terms form. If the new responsible party will not complete the transfer form, and if the 5. Dedicated Concrete or Asphalt Batch Plants. The use of a concrete or asphalt batch plants are not anticipated; its use will not be permitted under this permittee has no legal responsibility, through ownership or contract, for the construction activities at the site, then the permit may be inactivated upon

B. Identification of Potential Pollutant Sources. See Section I.F.

C. Best Management Practices (BMPs) for Stormwater Pollution Prevention. BMPs for stormwater pollution prevention include structural and non-structural practices intended to reduce the amount of pollutants entering stormwater runoff and leaving the job site. All personnel responsible for implementation and maintenance of BMPs should review and understand the BMPs identified herein and on the Site Plan in Appendix D, and their specifications in Appendix C.

velocity of run-on entering disturbed areas. Stage construction to minimize the amount of time which soil is left bare. Surface roughen, temporarily Streets will be scraped, swept, or both, and gutters will be cleaned as necessary and following: seed, and mulch areas when practical to protect open disturbances. These practices help reduce the area of land susceptible to erosion. Reduce sediment from stormwater runoff. Use a combination of temporary structural sediment controls to manage runoff onsite such as rock socks, silt fence, and inlet protection. These measures encourage sediment in stormwater runoff to deposit and accumulate, reducing the total amount of sediment in runoff.

Detain stormwater runoff for frequently occurring events. Use temporary sediment basins to detain runoff, encourage further sedimentation, and protect against downstream flooding. Release stormwater runoff in a controlled manner. Riser pipes in temporary sediment basins will slowly release stormwater and reduce the erosion

potential of downstream areas. The erosion and sediment control strategy for a construction project is dynamic. As phases of construction progress, the strategy and measures

1. Structural Practices for Erosion and Sediment Control. Structural BMPs are measures to reduce runoff and/or remove pollutants from runoff. Those designed for use during construction activities and are to be removed after final stabilization are temporary measures. Those designed for use after construction as an integral part of the final stabilization strategy are permanent measures.

Temporary Structural BMPs identified for this site include:

implemented must evolve to remain effective.

Temporary Seeding * Surface Roughening

Mulching * Silt Fence

Vehicle Tracking Control

 * Inlet Protection Outlet Protection * Straw Wattle

Permanent Structural BMPs identified for this site include:

* Erosions Control Matting * Water Quality Basins

* Flow Spreaders (flat riprap pads) * Permanent Seeding

Locations for each BMP are identified on the SWM Plan

Disturbed areas must be properly mulched, or seeded and mulched, within 14 days after final grade is reached on any portion of the site not otherwise permanently stabilized. Soil surface stabilization should also be applied within 14 days to disturbed areas that may not be at final grade but will remain inactive for more than 30 days.

Soil stockpiles at the site perimeter, or within 100 feet of a drainageway, shall have perimeter sediment controls installed as soon as possible. Stockpiles expected to be in place longer than 60 days should be temporarily seeded and mulched within 14 days after stockpile construction.

2. Non-Structural Practices for Erosion and Sediment Control. Non-Structural BMPs are practices aimed at preventing and reducing the amount of pollutants from entering runoff. Practices include good housekeeping, materials handling and spill prevention, and waste management and disposal. IV. FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT Please see Section III.C.4 for materials handling and spill prevention practices. Please see Section III.C.7 for waste management and disposal

Good Housekeeping. The most effective first steps towards preventing pollution in stormwater from worksites simply involve using good sense to improve the facility's basic housekeeping methods. Poor housekeeping practices result in more waste being generated than necessary and an increased potential for stormwater contamination where a clean and orderly worksite reduces the possibility of stormwater mixing with pollutants. Good housekeeping practices include the following:

 Preventative maintenance of equipment * Proper materials storage and inventory

* Regular cleanup schedules * Maintaining well organized work areas

excavated material has the potential for entering a storm drainage system.

* Proper signage 3. Phased BMP Implementation. Erosion and sediment controls for construction shall be phased to be fully effective. A vehicular tracking control device shall be installed prior to the mobilization of construction equipment onsite. Prior to the clearing and grubbing of the construction area, localized clearing shall be performed for the placement of necessary perimeter sediment control measures (silt fence, etc.). Site clearing shall commence only after perimeter erosion control measures are in place. Proposed sediment basins in cut areas shall be constructed prior to grading poerations. The proposed detention ponds will be constructed prior to construction ot the storm sewer system. Storm sewer protection (i.e., inle

4. Materials Handling and Spill Prevention. Areas where potential spills can occur, e.g., stabilized storage areas, shall have the following prevention and

protection, culvert protection, outlet structure protection) will be installed as each element is constructed and also whenever soil erosion from the

a. Materials Handling and Spill Prevention Practices. Materials used at construction sites can present a potential for contamination of stormwater runoff. These include fuel, oil, lubricants, paints, solvents, concrete-curing compounds, and other liquid chemicals such as fertilizers, herbicides, and pesticides. Practices that can be used to prevent or minimize toxic materials in runoff from a construction site are described in this section.

A list of all potentially toxic or hazardous chemicals used shall be maintained on the site. Warning labels must be attached to all potentially toxic or hazardous chemicals. Material safety data sheets (MSDS) and other safety information for a potentially toxic or hazardous substance will be on file and accessible (on the site) during all periods in which the substance is used or stored.

In addition to maintaining an inventory of potentially toxic and/or hazardous materials and associated safety information, the following materials management practices must be followed:

Materials will be handled in accordance with Occupational Safety and Health Administration (OSHA) requirements and manufacturer's instructions. Chemicals regulated under the Comprehensive Environmental Response, Compensations and Liability Act (CERCLA) will be reported and handled in accordance with relevant regulations.

Materials stored at the construction site will be covered or otherwise protected from the elements. The quantity of fuel and lubricants stored at the construction site will be limited to the amount that is reasonable to support the specific construction or maintenance activity. Offsite storage of fuel, hydraulic oil, and form oil are preferable.

Bulk storage areas for materials not consumed on a daily basis will be enclosed and protected from the elements and contained in a manner to prevent release to the environment.

Petroleum products and fertilizers will be stored at separate facilities or isolated by impermeable barriers. Hypochlorite and other chlorine compounds will be stored separately from other materials and kept dry. Areas at the construction site that are used for storage of toxic materials and petroleum products shall be designed with an enclosure, container, or

dike located around the perimeter of the storage area to prevent discharge of these materials in runoff from the construction site. These barriers will also function to contain spilled materials from contact with surface runoff. Measures to prevent spills or leaks of fuel, gear oil, lubricants, antifreeze, and other fluids from construction vehicles and heavy equipment shall be considered to protect groundwater and runoff quality. All equipment maintenance shall be performed in a designated area and measures, such as drip pans, shall be used to contain petroleum products. Spills of construction-related materials, such as paints, solvents, or other fluids and

chemicals, shall be cleaned up immediately and disposed of properly. Concrete trucks and other concrete coated equipment shall be cleaned only in designated concrete washout areas. Hazardous materials and wastes shall be stored in covered, leak-proof containers.

When fueling must take place onsite, designate an area away from drainage courses to be used. Dedicated fueling areas shall be protected from stormwater run-on and runoff, and shall be a minimum of 50 feet away from drainage courses. The area is to be protected with secondary containment such as berms and dikes. Drop cloths or drain pans can be used to catch spills if necessary. If a small spill does occur, the operator will use absorbent materials to remove as much of the spill as possible. The spent absorbent material will be disposed of properly and promptly.

There will be no bulk storage of fuel onsite. * Portable toilets will be located at least 50 feet away from storm sewer inlets. They will be located in level locations, but not in drainage paths, curb and gutter, or on sidewalks or drives. They shall also be stabilized to minimize the risk of tipping over. Downstream perimeter controls shall be installed to prevent leaks from entering the storm sewer system.

b. Spill Control Practices. All employees must be trained to recognize "significant spills" based on the relative toxicity of the material. Spills should be cleaned immediately, using as little water as possible to avoid spreading. Stockpiles of cleanup materials should be stored in an easily accessible area. All employees should be notified of the location of the MSDS and the storage location of cleanup material, and should be trained to clean up spills. All construction site personnel must follow spill prevention and control practices as follows: * Designated individuals on the site will receive training on cleanup procedures for various types of chemicals and the location of information and

cleanup supplies. The MSDS for a chemical provides information about health hazards, safe handling, use, and control measures. The MSDS for all chemicals used on the site will be kept on the site, and workers will be required to review the MSDS for materials they are working around. Spills will be cleaned up promptly after discovery, and materials used for spill cleanup must be disposed of offsite at an approved facility. The designated coordinator and the SWMP administrator will be notified immediately of any spill of a toxic or hazardous material that threatens human health or the environment. The SWMP administrator (or designee) must in turn report the spill to the appropriate federal, state, or local agencies in accordance with applicable regulations.

If a spill occurs, this plan will be reviewed and appropriately revised to incorporate measures to reduce the likelihood of a spill recurring and to improve response time and cleanup effectiveness. * For any construction activities covered by this plan that involve the use of toxic or hazardous substances, onsite spill prevention and cleanup coordination, in the event of a spill, will be the responsibility of the site superintendent.

6. Vehicle Tracking Control. Practices implemented at the site to control potential sediment discharges from vehicle tracking include:

Vehicle Tracking Control (VTC)

Minimizing site access Graveled parking areas

Vehicle access to the site will be minimized through the use of construction and silt fence. Access will only be allowed at the south entrance of the existing Ski Idlewild Road where a Vehicle Tracking Control (VTC) will be installed. A VTC will be provided at the construction trailer for the site and at the designated concrete washout. If construction trailers are established on lots by production staff during the course of home construction, a VTC will be

Completion of foundation excavation and backfilling,

Completion of water and sewer connection work, or Completion of flat work

Parking for production staff and sub-contractors will be allowed only on paved or otherwise stabilized areas. During wet weather, vehicle access to lots will be minimized to the extent practical.

7. Waste Management and Disposal. The site shall implement BMPs to control stormwater pollution from site wastes such as building waste (liquid and solid) and concrete wash out activities.

a. Construction Waste. Additional provisions of the erosion and sediment control plan relating to waste disposal are as follows: The contractor shall remove all sediment, mud, and construction debris that may accumulate in the flow lines and public rights-of-way as a result of

the site development. This shall be performed in a timely manner. The contractor shall control sediment, debris, and all other pollutants from entering the storm sewer system as a result of construction operations. The owner and designated agents shall ensure that all loads of cut and fill material imported or exported from the site shall be properly covered to prevent loss of the material during transport on public rights-of-way.

Blow trash will be picked up and disposed of on building sites as necessary. Where possible, trash bins will be located at least 50 feet away from storm sewer inlets. They will be located in level locations, but not in drainage paths, curb and gutter, or on sidewalks or drives. Downstream perimeter controls shall be installed to prevent contaminants in stormwater from entering the storm sewer system.

8. Groundwater and Stormwater Dewatering. The dewatering of stormwater to surface waters from excavations is allowed under the general permit (DRPC, 10). The dewatering of groundwater or groundwater mixed with stormwater from excavations will be an allowed non-stormwater discharge providing the following conditions are met: the source water shall not contain pollutants in concentrations exceeding the State groundwater standards in Regulations 5 CCR 1002-41 and 42, proper BMPs are implemented, and these discharges are to the ground and do not leave the site as surface runoff or to surface waters.

The contractor shall use an appropriate filter when pumping water from the excavation and discharge in a manner that does not cause erosion or surface runoff. This land application can be accomplished through using an energy dissipater such as spraying over a large portion of land, or discharging onto riprap which drains into a sediment basin or sediment trap. The SWMP must be updated to indicate locations of dewatering land applications. In no case will this water be allowed into flow lines or otherwise enter a storm sewer system.

The permittee must apply for coverage under a separate CDPS discharge permit, such as the Construction Dewatering general permit, if there is a potential for discharges to surface waters.

10. Fugitive Dust and Wind Erosion Controls. Erosion control measures will be used to mitigate erosion caused by wind. Watering exposed, un-vegetated areas with potable water will control fugitive dust during dry and windy conditions. Surface roughening, the use of watering trucks, and the application of bonded fiber matrix to disturbed areas can help reduce fugitive dust and wind erosion while perimeter silt fence will help catch

9. BMP Specifications. BMPs shall be implemented, installed, operated, and maintained in accordance with the specifications located in Appendix C.

Final stabilization of the site will occur when all streets, walks, and drives are paved, when all ground surface disturbing activities at the site have been completed, and when a uniform vegetative cover has been established with a density of at least 70 percent of pre-disturbance levels or equivalent permanent physical erosion reduction methods have been employed.

Final stabilization practices for obtaining a vegetative cover should include using an approved seed mix. Permanent seeding, sodding, planting, and landscaping of the custom home sites will be the responsibility of the homeowners. These areas will be considered at final stabilization when they have been mulched. Some temporary stormwater controls, such as inlet protection, should remain in place during this phase.

Planned structural practices to control pollutants in stormwater discharges that will occur after construction operations have been completed at the site

will include final landscaping per the landscape plan, riprap at designated locations, and permanent erosion control blankets along Road A.

Non-Structural practices will include coordination with homebuilders as discussed in Section V.A – Practices for Homebuilding. All temporary erosion and sediment control measures shall be removed and disposed within 30 days after final site stabilization is achieved, or after the temporary measures are no longer needed, whichever occurs earliest, or as authorized by the local governing jurisdiction. Trapped sediment and disturbed soil areas resulting from the disposal of temporary measures must be returned to final plan grades and permanently stabilized to prevent further

V. INSPECTION AND MAINTENANCE

windblown sand and soil.

All temporary and permanent erosion and sediment control practices shall be maintained and repaired by the contractor during the construction phases as needed to ensure continued performance of their intended function. All disturbed surface areas are to be stabilized in accordance with the approved SWMP/Erosion Control Plan or approved amendments and shall be reviewed onsite by the SWMP Administrator

The SWMP Administrator, or their representative, shall observe each BMP that is shown on the approved SWMP/Erosion Control Plan or approved amendments. This review shall include completing and signing the "Observation Report" (see Appendix B) for each review date. Any deviations from the approved plan shall be noted on the report. The reviewer shall especially note any BMP that is not in compliance with the approved plan/approved amendments. Deficiencies that are not immediately repairable should be reported to the construction superintendent, the owner, or their designee for instructions on how to proceed. The review shall also include recommended courses of action based on the field review. BMPs shall be reviewed in accordance with the BMP specifications and criteria listed in Appendix C.

The CDPS General Permit requires a thorough stormwater management inspection be performed at least every 14 calendar days, and within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion with the following exceptions:

Where no construction activities will occur following a storm event, post-storm event inspections shall be conducted prior to re-commencing construction activities, but no later than 72 hours following the storm event. Where snow cover exists over the entire site for an extended period of time, and melting conditions do not pose a risk of surface erosion, the 14-day, monthly, and post-storm event inspections are not required. For sites, or portions of sites, where all construction activities that will result in surface ground disturbance are completed and all activities required for final stabilization, in accordance with this SWMP, have been completed, with the exception of seed that has not occurred due to seasonal conditions or the necessity for additional seed application to augment previous efforts, inspections will be conducted at least once every month and post-storm event inspections will not be required.

Following completion of the project, including final re-vegetation and landscaping, the SWMP Administrator will inspect areas that have been seeded and landscaped to ensure that the re-vegetation and landscaping have been successful in establishing uniform ground cover (70% of pre-disturbance cover criteria for re-vegetation). If re-vegetation has not been successful, spot re-vegetation or other remedial actions should be implemented to ensure compliance with the stormwater discharge permit and other applicable regulations. The SWMP Administrator will carry out the inspection.

The following inspection guidelines and maintenance practices should be used to conduct walk around field inspections and to maintain erosion and

sediment control BMPs

BMPs shall match the SWMP BMPs detailed on the SWMP shall be installed

depth and/or at the completion of the project

BMPs shall be appropriately applied BMPs shall be installed correctly

Work practices shall be executed to preserve BMP installations Inspect for any releases or evidence of possible past offsite releases All measures shall be maintained in good working order. If a repair is necessary, it shall be initiated within 24 hours of the report

Built up sediment shall be removed from structural BMPs when sediment has reached one half the height of the BMP, or the BMP is no longer

Built up sediment shall be removed from the silt fence when it has reached one-third the height of the fence, or the silt fence is no longer

Silt fence shall be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts The sediment basin shall be inspected for depth of sediment, and built up sediment shall be removed before it reaches the basins 50% volume

A rain gauge will be required onsite to determine the amount of precipitation received on the site. Its location will be decided onsite, and will be noted on the SWMP plans.

VI. REFERENCES

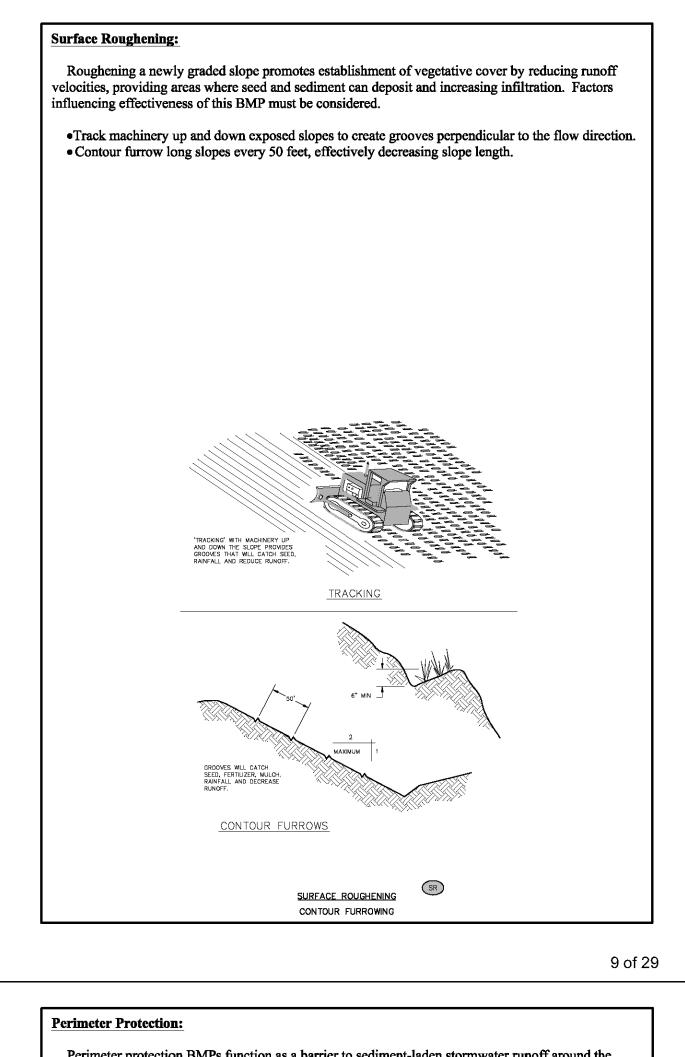
1. Colorado Department of Public Health and Environmental Guidelines, Water Quality Control Division, Denver, Colorado, May 1995. 2. Division Response to Public Comments – Part 2, Stormwater Construction General Permit COR-030000, Colorado Department of Public Heath and Environment, Water Quality Control Division, Denver, Colorado, May 2007.

3. Urban Storm Drainage Criteria Manual, Volume 3, Urban Drainage and Flood Control District, Denver, Colorado, September 1999.

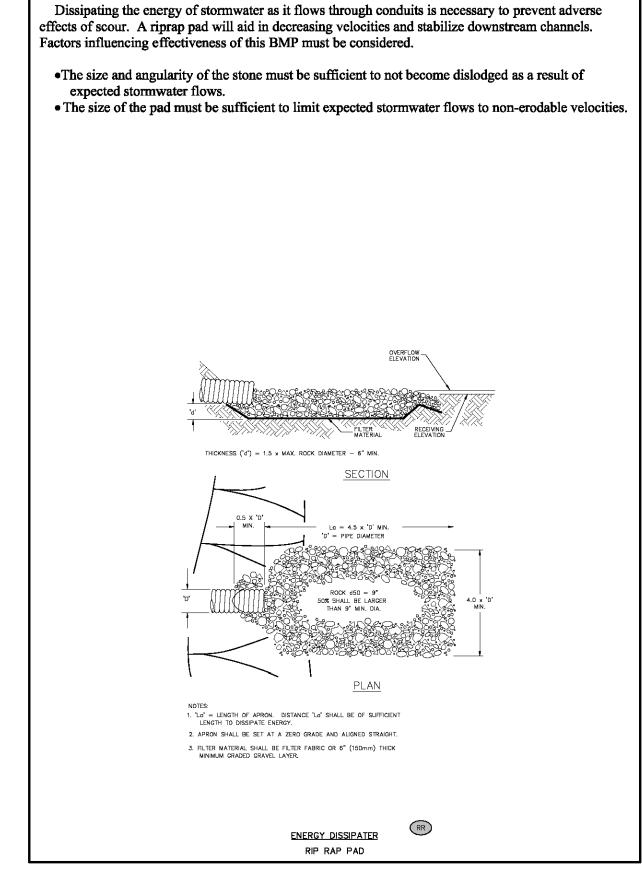
ROAM - PHASE II WINTER PARK GRAND COUNTY, COLC

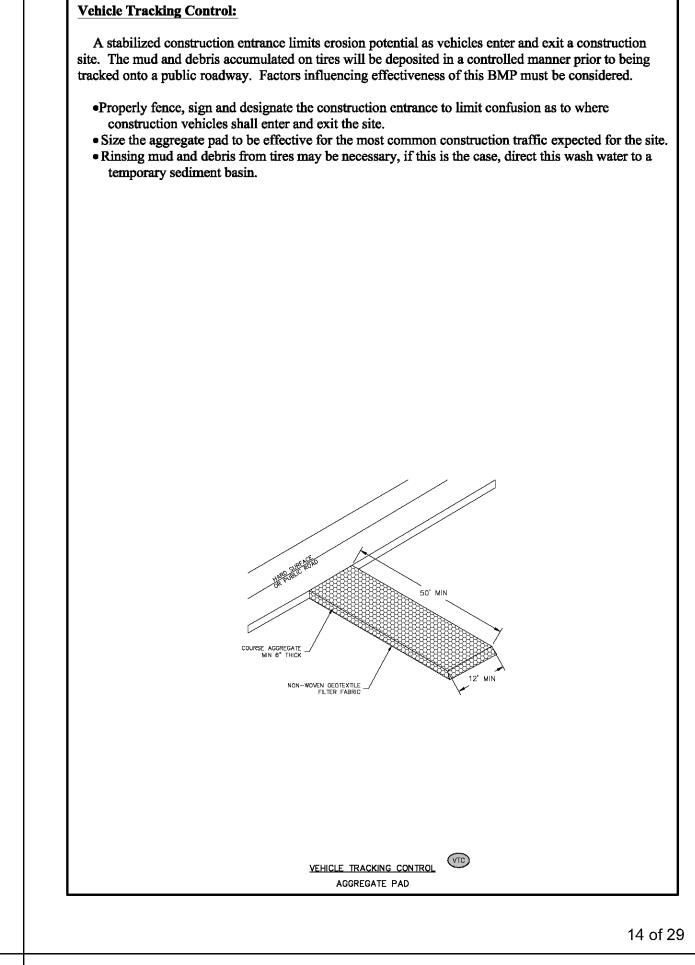
STORM WATER

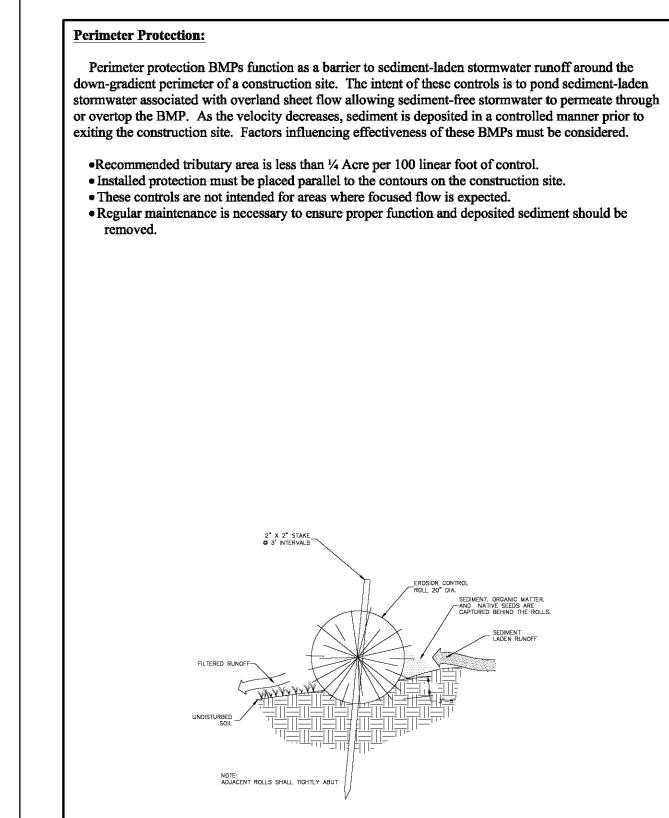
MANAGEMENT NOTES



Permanent and Temporary Seeding: Establishing vegetative cover capable of limiting erosion potential to that of pre-disturbed levels is necessary for SWMP compliance. Effective revegetation limits raindrop impact erosion, facilitates infiltration, reduces runoff and reduces negative impacts caused by noxious weeds. Factors influencing revegetation efforts must be considered. •Permanent seeding is required on all disturbed areas within 14 days of achieving finished grade. • Temporary seeding is required on all disturbed areas and/or stockpiles expected to remain dormant for a period greater than 30 days. • Seedbed must be properly prepared to be firm but not compacted for successful seed to soil contact and germination. • Soil management and/or fertilizer may be required based on soil type. Contact CSU and/or NRCS for further information. Irrigation may be necessary based on site conditions. • Seed application and application rate may vary based on site conditions. • Proper cover over the seed is essential. • Seed must be evenly applied to all disturbed areas. LAND USE % OF MIX SPECIES VARIETY APPLICATION RATE (Lbs/Ac) SHEEP FESCUE PUBESCENT WHEATGRASS LUNA WILD FLOWER BLUE FLAX 2 Lbs/Ac NOTES: 1. THE APPLIED SEED SHALL NOT BE COVERED BY A SOIL THICKNESS GREATER THAN 0.5 INCHES IN DEPTH. SEEDING SHALL TAKE PLACE WITHIN 14 DAYS OF ACHIEVING FINISHED GRADE. SEEDING MUST OCCUR WITHIN 3 DAYS OF TOPSOIL PLACEMENT. 3. TO PROVIDE TEMPORARY EROSION CONTROL PRIOR TO SEED APPLICATION, UTILIZE SURFACE ROUGHENING (ON THE CONTOUR OR PERPENDICULAR TO PREVAILING WINDS) AND APPLY MULCH. 4. SEED SHALL BE PLANTED WITH DRILL SEEDING EQUIPTMENT, WHEN POSSIBLE. 5. AREAS THAT REQUIRE BROADCAST SEEDING SHALL BE MULCHED AND TACKIFIED. 6. SEED APPLIED HYDRAULICALLY SHALL INCLUDE TACKIFIER IN THE MIX, AS SPECIFIED BY MANUFACTURER. TEMPORARY SEED MIX COMMENDED BY GRAND CO. NRC 50% PUBESCENT WHEATGRASS LUNA B Lbs/Ac NOTES: 1. THE APPLIED SEED SHALL NOT BE COVERED BY A SOIL THICKNESS GREATER THAN 0.5 INCHES IN DEPTH. 2. SEEDING SHALL TAKE PLACE ON ALL DISTURBED AREAS AND STOCKPILES EXPECTED TO REMAIN DORMANT FOR A PERIOD GREATER THAN 30 DAYS. 3. TO PROVIDE TEMPORARY EROSION CONTROL PRIOR TO SEED APPLICATION, UTILIZE SURFACE ROUGHENING (ON THE CONTOUR OR PERPENDICULAR TO PREVAILING WINDS) AND APPLY MULCH. 4. SEED SHALL BE PLANTED WITH DRILL SEEDING EQUIPTMENT, WHEN POSSIBLE. 5. AREAS THAT REQUIRE BROADCAST SEEDING SHALL BE MULCHED AND TACKIFIED. PERMANENT SEEDING PS TEMPORARY SEEDING 10 of 29



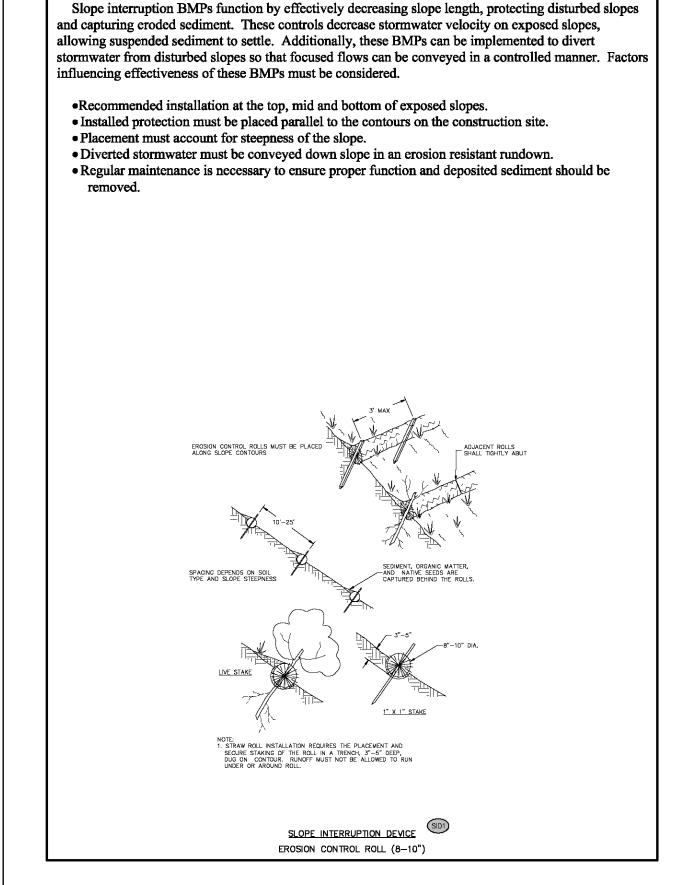




PERIMETER PROTECTION

EROSION CONTROL ROLL (20")

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Slope Interruption:

Inlet protection BMPs function as a barrier to sediment-laden stormwater runoff from entering culvert crossings and storm sewers. These controls are designed to pond sediment-laden stormwater associated with focused flows entering drainage conveyances allowing sediment-fee stormwater to permeate through or overtop the BMP. As this runoff ponds, suspended sediment is deposited in a controlled manner. Factors influencing effectiveness of these BMPs must be considered. •Obstructions in the flow path of focused stormwater runoff must be properly secured from the forces • Drainage conveyances are designed to accept runoff, implementation of these BMPs must allow this infrastructure to function as intended by incorporating overflow spillways yet still allow for •Regular maintenance is necessary to ensure proper function and deposited sediment should be COMPACTED SOIL TO PREVENT PIPING INLET PROTECTION - CULVERT EROSION CONTROL ROLL (20")

channels to function as intended by incorporating overflow spillways yet still allow for ponding. • Placement of these BMPs must account for the slope of the channel. • Regular maintenance is necessary to ensure proper function and deposited sediment should be removed. SECTION A-A L = THE DISTANCE SUCH THAT POINTS A AND E ARE OF EQUAL ELEVATION SPACING BETWEEN CHECK DAMS CHECK DAM ROCK

Granby, Colorado 80446

STORM WATER

MANAGEMENT DETAILS

Inlet Protection:

Energy Dissipaters:

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Check Dams: the BMP. As this runoff ponds, suspended sediment is deposited in a controlled manner. Factors influencing effectiveness of these BMPs must be considered.

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•Obstructions in the flow path of focused stormwater runoff must be properly secured from the forces

Check dam BMPs facilitate deposition of sediment in drainage channels. They function by allowing

sediment-laden stormwater to pond allowing sediment-free stormwater to permeate through or overtop

• Drainage channels are designed to convey runoff, implementation of these BMPs must allow these

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Granby, Colorado 80446
970.725.3310

FOR AND ON BEHALF OF TOPKNOT ENGINEERING:

≈ 01.13.2023 ≈ STORMWATER MANAGEMENT

ROAM - PHASE III WINTER PARK GRAND COUNTY, COLORADO

PROJECT: 22011

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STORM WATER
MANAGEMENT PLAN

FRO-03