WETLAND DELINEATION REPORT

Forest Lakes Residential Development Project
El Paso County, Colorado
Project No. 16-038

PREPARED FOR:

Classic Homes, Inc.
6385 Corporate Drive, Suite 200
Colorado Springs, Colorado 80919
Phone: 719-592-9333
Contact: Jim Boulton

PREPARED BY:

CORE Consultants, Inc.
1950 W. Littleton Boulevard, Suite 109
Littleton, CO 80120
Phone: 303-703-4444
Contact: Dan Maynard
CORE Project Number: 16-038

December 22, 2016
Updated: November 16, 2018

TABLE OF CONTENTS

EXECUTIVE SUMMARY 2

1.0 INTRODUCTION 3

2.0 SITE DESCRIPTION 3

3.0 METHODS 4

4.0 BACKGROUND DOCUMENTATION REVIEW 4

4.1 Aerial Photograph Review Results 4

4.2 National Wetlands Inventory Map Review 5

4.3 USGS Topographic Map Review 5

4.4 FEMA FIRM Floodplain Review 5

4.5 County Soil Survey Map Review 5

5.0 RESULTS 6

5.1 Watercourses 6

5.2 Wetlands 6

5.3 Soils 8

5.4 Hydrology 9

5.5 Vegetation 9

6.0 CONCLUSIONS AND RECOMMENDATIONS 10

REFERENCES 12

TABLES

TABLE 5-1. WETLANDS IN PROJECT 7

APPENDICES

APPENDIX I: FIGURES

FIGURE 1. SITE LOCATION MAP
FIGURE 2. NATIONAL WETLAND INVENTORY MAP
FIGURE 3. FEMA FLOOD INSURANCE RATE MAP
FIGURE 4. SOIL COMPLEXES MAP
FIGURE 5. WETLAND LOCATION MAP

APPENDIX II: PHOTOGRAPHIC LOG

APPENDIX III: WETLAND DELINEATION DATA FORMS

EXECUTIVE SUMMARY

CORE Consultants, Inc. (CORE) was retained by Classic Communities, Inc. (Client) to perform a wetland delineation for the proposed Forest Lakes Residential Development Project (Project) in El Paso County (County), Colorado. The Project is located approximately two miles west of the intersection of Baptist Road and Interstate 25 (I-25) in El Paso County, Colorado and would consist of single family residential lots, access roads, recreational trails, and associated infrastructure.

This Executive Summary is intended to be taken in context with the following report and is not designed to be used as a separate document. The following summarizes the results of the wetland delineation.

This document is an assessment of the potential regulatory status of wetlands, significant bodies of water, watercourses, and/or floodplains located within the Project, based on Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. The wetland delineation was performed in accordance with the U.S. Army Corps of Engineers' (USACE) Western Mountains, Valleys, and Coasts Regional Supplement (Version 2.0) (USACE 2010) and the 1987 USACE Wetland Delineation Manual (USACE 1987).

CORE conducted a site visit to assess the presence of wetlands, watercourses or other similar features within the Project. Water features were delineated on-site. Field work was conducted on October 19 and 25, 2016. Observations of hydric soils, wetland vegetation, and hydrology aided in CORE's determination of the potential regulatory status of Waters of the U.S. (WOUS), including wetlands, within the Project.

Based on the field reconnaissance and document review, it is CORE's opinion that the main channels of Beaver Creek, North Beaver Creek, South beaver Creek, and associated wetlands across the Project exhibit characteristics of WOUS. Pursuant to Section 404 of the CWA, a USACE permit would be required for the discharge of dredged or fill material into WOUS, including jurisdictional wetlands. Permanent impacts to WOUS would result from development of the Project. It is likely that impacts could be permitted through the nationwide permit (NWP) program under the jurisdiction of the USACE.

1.0 INTRODUCTION

Core Consultants, Inc. (CORE) was retained by Classic Communities, Inc. ("Client") to perform a routine wetland delineation for the proposed Forest Lakes Residential Development Project (Project) in El Paso County, Colorado. The Project is located approximately two miles west of the intersection of Baptist Road and Interstate 25 (I-25) in El Paso County, Colorado and is on the U.S. Geological Survey (USGS) Palmer Lake quadrangle, in portions of Sections 27 and 28 in Township 11 South, Range 67 West (USGS 1994) (**Figure** 1: *Site Location Map*). The approximate coordinates of the project center are latitude 39.058436° North and longitude -104.899506° West (WGS 84 datum). Project elevations range from approximately 6,900 feet above mean sea level (AMSL) to 7,100 AMSL. Beaver Creek drains the Project in an easterly direction. North Beaver Creek drains to Beaver Creek in a southeasterly direction and South Beaver Creek and Hell Creek drain to Beaver Creek in a northeasterly direction. The Project drains to the Fountain watershed, hydrologic unit code (HUC) 11020003.

Construction of permanent roads would require two crossings of North Beaver Creek. It is anticipated that permanent impacts to potentially jurisdictional Waters of the U.S. (WOUS) would result from development of the Project and would not exceed 0.5 acre or 300 linear feet of WOUS. As such, impacts would likely be permitted under the nationwide permit (NWP) program under jurisdiction of the U.S. Army Corps of Engineers (USACE), and would not require compensatory mitigation.

2.0 SITE DESCRIPTION

The proposed Project is located in the Fountain watershed (8-digit hydrologic unit code [HUC] 11020003). Topography of the Project consists of hills and ridges of the foothill shrublands level IV ecoregion within the Southern Rockies level III ecoregion (Chapman et al. 2006). Project elevations range between approximately 6,900 above mean sea level (amsl) along footslopes and 7,100 feet amsl along shallow ridges; Project elevations trend lower towards the Beaver Creek drainage and associated tributaries traversing the Project. Beaver Creek drains the Project in an easterly direction. North Beaver Creek drains to Beaver Creek in a southeasterly direction and South Beaver Creek and Hell Creek drain to Beaver Creek in a northeasterly direction. Land use in the region is typified by rangeland and wildlife habitat with increasing residential development (Chapman 2006). Typical vegetation includes pinyon-juniper woodlands interspersed with foothill-mountain grasslands. Dominant botanical species would include mountain mahogany (*Cercocarpus montanus*), Gambel oak (*Quercus gambelii*), skunkbush (*Rhus trilobata*), fringed sage (*Artemisia frigida*), rabbitbrush (*Chrysothamnus* spp.), blue grama (*Bouteloua gracilis*), western wheatgrass (*Pascopyrum smithii*), and Indian ricegrass (*Oryzopsis hymenoides*).

3.0 METHODS

The purpose of the wetland delineation was to survey and delineate the boundaries of potentially jurisdictional water features within the Project, as defined under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.

Prior to the field survey, a preliminary desktop analysis was performed to evaluate overall water resource characteristics of the Project and determine the presence of potentially jurisdictional watercourses. Spatial data and aerial imagery sources reviewed included:

- National Hydrography Dataset (NHD),
- USGS topographic maps
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps,
- Natural Resource Conservation Service (NRCS) soil survey maps,
- and Flood Emergency Management Agency (FEMA) floodplain maps.

Watercourses and other aquatic features identified in the preliminary desktop analysis were inspected in the field to assess their jurisdictional potential. A site visit and routine wetland delineation were conducted on October 19 and 25, 2016. The wetland delineation was performed in accordance with the Rocky Mountains, Valleys, and Coasts Regional Supplement (Version 2.0) (USACE 2010) to the 1987 USACE Wetland Delineation Manual (USACE 1987).

The determination of a wetland depends on the presence or absence of three parameters: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology during the wettest season. Vegetation, soils, and hydrology were analyzed for the determination of the presence of wetlands, watercourses, and other special aquatic features. A wetland boundary delineation was conducted along potential WOUS, including wetlands, within the Project. Boundaries were mapped using a Trimble Geo 6X global positioning system (GPS) unit with sub-foot accuracy. Photographs were recorded depicting field conditions at the time of the site visit (**Appendix II**: *Photographic Log*). Results of the field assessment and descriptions of observed features are detailed below (**Appendix III**: *Wetland Delineation Data Forms*).

4.0 BACKGROUND DOCUMENTATION REVIEW

Aerial photographs, NWI maps, USGS topographic maps, FEMA FIRM panels, and County Soil Survey maps were utilized to document Project background information. A discussion of each evaluation process follows.

4.1 Aerial Photograph Review Results

Aerial photographs dated 1999, 2003, 2004, 2005, 2006, 2008, 2011, 2013, 2015, and 2016 were obtained from the U.S. Department of Agriculture (USDA) Farm Service Agency (USDA 2015). Aerial photograph interpretation was conducted to identify potential wetlands, watercourses, and other notable landscape features within the property. Aerial imagery indicated well defined channelization and surface water within Beaver Creek; channelization is apparent in North and South Beaver Creek bus surface water is lacking. Vegetation appears dense within and adjacent to the three channels. Hell Creek appears to be weakly channelized within the Project.

4.2 National Wetlands Inventory Map Review

A review of NWI maps (USFWS 2016) was conducted to determine the potential presence, location, size, and type of wetlands located within the Project. The USFWS generates NWI maps through aerial photograph interpretation. NWI maps may not accurately depict the extent or existence of wetland systems in a specific area, nor do maps consistently and accurately identify wetland type. As such, the maps were utilized for preliminary analysis only. Field reconnaissance was conducted to determine the true extent and type of wetlands located within the Project, and to verify the information gathered through NWI data review. NWI data depicted 11 wetlands within the Project (**Figure 2:** *National Wetland Inventory Map)*. Types and locations of NWI wetlands included:

- Palustrine scrub-shrub temporarily flooded wetlands (PSSA) along South Beaver Creek and Beaver Creek
- Palustrine scrub-shrub seasonally flooded wetlands (PSSC) along Beaver Creek
- Palustrine unconsolidated shore seasonally flooded wetland (diked impounded) (PUSCh) along North Beaver Creek

4.3 USGS Topographic Map Review

The USGS 7.5-Minute Topographic map – Palmer Lake quadrangle (USGS 2016) – indicates that elevations within the Project range between approximately 6,900 and 7,100 feet AMSL (**Figure 1**). Project contours trend lower towards the Beaver Creek drainage and east in the direction of flow; the highest Project elevations are located along shallow ridges within the northern and southern portions of the Project. General infrastructure is depicted in the vicinity including Interstate 25 to the east and minimal residential development to the north.

4.4 FEMA FIRM Floodplain Review

A review of FEMA FIRM floodplain maps (FEMA 2016) was conducted to determine the existence, location, and extent of floodplains located within the Project. The FIRM maps depict floodplain areas along rivers and tributaries. The maps record the following data: 100-year floodplains (1% chance of annual flooding) and 500-year floodplains (0.2% annual chance of flooding), the height of the base flood (Base Flood Elevations), and the risk premium zones developed from topographical information across a floodplain. The FEMA generates FIRM floodplain maps for flood insurance purposes.

A review of El Paso County FEMA FIRM panels (2016) indicate portions of the Project vicinity within and adjacent to Beaver Creek, North Beaver Creek, and South Beaver Creek are at risk of inundation by a 100-year flood (**Figure 3:** *FEMA Flood Insurance Rate Map*). The remainder of the property is identified as Zone X flood zone, which consists of areas of minimal flood risk "outside the 1-percent and 0.2-percent-annual-chance floodplains" (FEMA 2005). The Project is located within FEMA FIRM panels 08041C0260F and 08041C0270F, El Paso County.

4.5 County Soil Survey Map Review

The El Paso County Soil Survey indicates the Project traverses three soil associations including Jarre-Tecolete complex (8 to 65 percent slopes), Peyton Pring complex (3 to 8 percent slopes), and Perrypark gravelly sandy loam (**Figure 4:** *Soil Complexes Map*). Loamy alluvial land is classified as a hydric soil in Adams County by the Natural Resources Conservation Service (NRCS) (NRCS 2014).

5.0 RESULTS

5.1 Watercourses

The desktop review and field reconnaissance indicated that the perennial channel of Beaver Creek drains the Project in an easterly direction. The intermittent channels of North Beaver Creek and South Beaver Creek drain the Project in a southeasterly and northeasterly direction, respectively; North and South Beaver Creek converge and become Beaver Creek at roughly the center of the Project (**Figure 5:** *Wetland Location Map*). Hell Creek was investigated, although the Project would not impact this channel, and was determined to be an upland swale. Both channels of Beaver Creek appear generally undisturbed with the exception of a previously developed two-track road crossing of North Beaver Creek located approximately 1,000 feet upstream of the confluence (**Figure 5**). The actual location of the North Beaver Creek channel is located approximately 900 feet west of the NHD recorded location, which is likely a result of water diversion from an unknown date (**Figure 5**). North Beaver Creek presented as a potentially jurisdictional aquatic stream-wetland complex throughout its stretch within the Project. Wetlands were present within and adjacent to the northern portion of the channel (SCCW E) with abutting wetlands consistently located along this stretch of approximately 1,100 feet from the northern Project boundary (**Figure 5**). The channel dries up at this point and transitions to a dry, channelized stream bed for approximately 900 feet before transitioning to a short, 100 foot stretch of stream channel containing wetlands (SCCW D) located at the previously developed two-track road crossing. Additional dry stream channel is present for approximately 100 feet before North Beaver Creek widens and presents as a notably wider and shallower stream channel containing wetlands (SCCW C) until converging with Beaver Creek (**Figure 5**). South Beaver Creek and Beaver Creek presented as a well channelized, forested stream channel. Surface water was present within Beaver Creek and South Beaver Creek. Of note, a water impoundment and beaver pond is located west of the confluence of the three main channels (North, South, and main channel of Beaver Creek). An additional, unidentified stream channel containing wetlands (SCCW B) is located approximately 200 feet west of the confluence point and flows south into South Beaver Creek **(Figure 5**).

5.2 Wetlands

Potentially jurisdictional wetlands were observed at ten locations within the Project at the time of the site visit. Soils, hydrologic indicators, and vegetation were examined on site to determine the presence or absence of wetlands.

Potentially jurisdictional wetlands were observed within and adjacent to North Beaver, South Beaver, and Beaver Creek. Five wetlands presented as stream channels containing wetlands within North Beaver and Beaver Creek (**Figure 5**).

SCCW B is classified as a palustrine emergent, seasonally flooded wetland (**Table 5-1**). Field indicators included a narrowly defined bed and bank and wetland vegetation within and abutting the channel. The channel flows out of an unmarked beaver pond and into South Beaver Creek just west of the confluence with North Beaver Creek (**Figure 5**). Wetland vegetation is present within and abutting SCCW B, tapering to the shoreline of the beaver pond at the northern extent of the channel. Additional wetlands are adjacent to SCCW B (Wetland J) to the southwest, where a wet meadow presents as a scrub-shrub wetland below the impoundment of the beaver dam (**Figure 5**). Wetland A is a palustrine emergent wetland alonf the northwest shore of the beaver pond, and is surprisingly extensive. Wetland K, too, is an extensive palustrine emergent wetland to the west and south of the

beaver pond. Both wetlands were comprised of Nebraska sedge (*Carex nebrascensis*) and redtop (*Agrostis gigantea*), and were at least somewhat persistent, being easily regonizable as potential wetlands even outside of the growing season. Wetland L connects Wetland J to South Beaver Creek, and differs from that wetland in type (Wetland J is a scrub-shrub wetland, Wetland K is emergent) (**Figure 5**). The whole area surrounding the bever pond in this area was surprisingly wet, and all wetlands were quite extensive.

As mentiond above, wetlands were present throughout Beaver Creek and South Beaver Creek. Because impacts to these channels and any adjacent or abutting wetlands were not expected (Project development will avoid the floodplain of the main creek altogether), wetlands were not delineated along the whole length of Beaver Creek. This is not to say that wetlands are not present there (they are), rather, since they will be avoided entirely, they were included in the scope of this delineation.

North Beaver Creek, however, was delineated within the Project in its entirety. SCCW C, which distinguishes North Beaver Creek for several hundred feet from the confluence with South Beaver Creek upstream, is characterized as a palustrine emergent, seasonally flooded wetland (**Table 5-1**). SCCW E, several hundred more feet upstream from SCCW C, is also a palustrine emergent wetland occupying the narrow channel of North Beaver Creek (**Figure 5**). Wetland F and Wetland G are abutting and adjacent (respectively) palustrine emergent wetlands in meadows near the channel of North Beaver Creek (**Figure 5**). Soil saturation and some ponding was evident within a few portions of the channel at the locations of in-channel wetlands, especially SCCW C. However, since the remainder of the channel was dry at the surface and the site visit occurred during the transitional period between end of growing season and the vegetative dormant period, CORE characterized the channel as seasonally flooded (**Appendix II**). Wetland vegetation is increasingly dense closest to the confluence with South Beaver Creek (**Appendix II**).

Table 5-1. *WETLANDS IN PROJECT*

Wetland ID	Latitude	Longitude	Wetland Type
Wetland A	39.059786° N	-104.903993° W	PEM1C (Palustrine emergent, persistent, seasonally flooded)
SCCW B	39.059294° N	-104.902519° W	PEM1F (Palustrine emergent, persistent, semipermanently flooded)
SCCW C	39.060003° N	-104.902295° W	PSSC (Palustrine scrub-shrub, seasonally flooded)
SCCW D	39.061335 ° N	-104.904314 ° W	PSSC (Palustrine scrub-shrub, seasonally flooded)
SCCW E	39.062865° N	-104.908596° W	PSSC (Palustrine scrub-shrub seasonally flooded)
Wetland F	39.062571° N	-104.907659° W	PEMC (Palustrine emergent, nonpersistent, seasonally flooded)
Wetland G	39.063440° N	-104.910029° W	PEMC (Palustrine emergent, nonpersistent, seasonally flooded)

Wetland H	39.059046° N	-104.901681° W	PEM1C (Palustrine emergent, persistent, seasonally flooded)
Wetland I	39.058864° N	-104.901505° W	PEM1C (Palustrine emergent, persistent, seasonally flooded)
Wetland J	39.059494° N	-104.904586° W	PSSC (Palustrine scrub-shrub, seasonally flooded)
Wetland K	39.059298° N	-104.905711° W	PEM1C (Palustrine emergent, persistent, seasonally flooded)
Wetland L	39.058962° N	-104.903786° W	PEM1C (Palustrine emergent, persistent, seasonally flooded)
Isolated Wetland	39.058973° N	-104.905680° W	PEMC (Palustrine emergent, nonpersistent, seasonally flooded)

5.3 Soils

As described above, the soil associations located in the vicinity of the Project include Arvada loams (0 to 3 percent slopes), Ascalon sandy loams (0 to 3 percent slopes), and loamy alluvial land. Specifically, soil associations were dominant in the areas of the Project listed below:

- Jarre-Tecolete complex (8 to 65 percent slopes) is dominant across higher elevation ridges across the northern and southern portions of the Project (**Figure 4**).

- Peyton-Pring complex (3 to 8 percent slopes) is dominant along drainages within the Project. The Peryton-Pring complex is identified as hydric by the NRCS in the El Paso County Soil Survey (NRCS 2014).

- Perrypark gravelly sandy loam (3 to 9 percent slopes) is located across a small, higher elevation plateau area within the northcentral portion of the Project.

Four soil samples were taken at soil sample points within the area surveyed (**Figure 5**). All sample points were located within loamy alluvial lands. Sample Point 1 (SCCW B) was described as sandy clay loam and sandy clay with an organic top layer composed of sapric materials; positive hydric soil indicators at this location were A2 (histic epipedon) and A4 (hydrogen sulfide odor) (**Appendix III**). Sample Point 2 (Wetland A) was described as sandy loams with thirty-percent organic matter, and an extremely hard restrictive layer composed of sandy clay; positive hydric soil indicators showed a Sandy Redox (S5) within the A and B horizons (**Appendix III**). Sample Point 3 (Wetland K) was described as sandy loam with twenty-percent organic matter, sandy clay loam, and an extremely hard restrictive layer composed of sandy clay; positive hydric soil indicators included Sandy Redox (S5). Sample Point 4 (Wetland K) was described as sandy clay loams and sandy clays, with positive hydric soil indicator F8 (Redox Depressions) present. The restrictive clayey layer observed at Sample Points 2, 3 and 4 indicates decreased soil permeability at Wetland A, Wetland K, Wetland L, Wetland J, and SCCW B, leading to a perched water table and explaining the extensive nature of wetlands in this area (**Figure 5**).

5.4 Hydrology

Hydrology across the main channels of North Beaver, South Beaver, and Beaver creeks is provided by normal precipitation and runoff events. Hydrology has likely been altered across the eastern portion of North Beaver Creek since it is shifted approximately 900 feet west of the NHD referenced flowline. However, evidence of the shift is not apparent from visual observations of the channel on-site. South Beaver Creek and Beaver Creek presented as perennial stream channels; surface water was present throughout the stretches of South Beaver and Beaver creeks within the Project.

Wetlands F, G, H and I consist of abutting emergent wetlands located within depressional topography that provides sufficient seasonal inundation to create anoxic conditions. Saturation and surface water were not present but dense stands of senescent, hydrophytic vegetation indicated the presence of seasonal emergent wetlands that received reliable seasonal inundation.

Wetland A, Wetland J, Wetland K, Wetland L, and SCCW B are located northwest of the confluence of North Beaver, South Beaver, and Beaver creeks. A large, linear beaver pond is present in the center of the wetland complex. A manmade well is located on the northern boundary of the pond. Site reconnaissance found saturation at multiple locations in the wetland boundaries; however, observations did not indicate the presence of seeps within the delineated areas. Soil sampling indicated an impermeable layer across portions of these wetlands, thus, hydrology for much of Wetlands A, J, K, and L is likely provided by a perched water table upon a restrictive, high-clay content soil layer. Hydrology of SCCW B is likely provided by seasonal runoff from the beaver pond and overflow from the manmade well. Minimal seasonal flows drain southeasterly, developing a narrow, shallow stream channel (SCCW B) that contributes minimal flows to South Beaver Creek.

Positive hydrologic indicators at Sample Point 1 included a high water table (A2), saturation (A3), water stained leaves (B9), hydrogen sulfide odor (C1), presence of reduced iron (C4), and a dry season water table (C2). Sample point 1 is located down-gradient of the beaver pond and manmade well; hydrology of this area of the wetland is likely provided by seasonal runoff from the man-made well and beaver pond.. Positive hydrologic indicators at Sample Points 2 and 4 included oxidized rhizosphere on living roots (C3), a shallow aquitard (D3), and FAC-neutral test (D5). Positive hydrologic indicators at Sample Point 3 included oxidized rhizospheres on living roots (C3) and a shallow aquitard (D3). Hydrology across the western portions of the beaver pond wetland complex (Sample Points 2, 3, and 4) is presumably provided by a seasonal perched water table.

5.5 Vegetation

Upland and above-channel riparian areas were dominated by several species of willow (*Salix* spp.), alders (*Alnus* spp.), Gambel oak, skunkbush sumac, water birches (*Betula occidentalis*), shrubby cinquefoil (*Potentilla fruticosa*), side oats grama (*Bouteloua curtipendula*), smooth brome (*Bromopsis inermis*), fringed sage, and western wheat grass. Wetland areas were dominated by Nebraska sedge, Arctic rush (*Juncus arcticus*), redtop, Parry's sedge (*Carex parryana*), and shrubby cinquefoil.

Wetland plant indicator status was determined following the Western Mountains, Valleys, and Coast National Wetland Plant List (Lichvar et al. 2016). The delineation was performed at the boundary of areas dominated by water-tolerant plants, where vegetation transitioned into upland plant-dominated areas. Wetland vegetation varies across sample points. Dominant vegetation observed throughout the wetland complex of SCCW B, and Wetlands A, J, K, and L consisted of Nebraska sedge, Arctic rush, redtop, shrubby cinquefoil, and park willow (*Salix monticola*).

6.0 CONCLUSIONS AND RECOMMENDATIONS

In summary, the intermittent channel of North Beaver Creek and the perennial channels of South Beaver and Beaver Creek drain the Project in an easterly direction; the north and south channels conflow into Beaver Creek at the central portion of the Project. South Beaver Creek and Beaver Creek presented as perennial stream channels with a well developed riparian corridor; North Beaver Creek presented as an intermittent channel that contributed seasonal flows to Beaver Creek. Abutting emergent wetlands are located along the channels in the areas surveyed. An extensive emergent and partially saturated wetland is situated to the west of the conflow of the three channels at the central portion of the Project. The routine wetland delineation determined that the North Beaver Creek, South Beaver Creek, and Beaver Creek channels and abutting wetlands presented as potentially jurisdictional. Accordingly, impacts to these channels and associated wetlands would require permitting through the USACE under Section 404 of the Clean Water Act.

The USACE typically has jurisdiction over navigable or traditionally navigable waters, relatively permanent waters, and wetlands that abut such waters, and determines jurisdiction over other waters based predominantly on their significant nexus to navigable or traditionally navigable waters (i.e. WOUS). A permit under Section 404 of the Clean Water Act is required for the discharge of dredged or fill material into WOUS, and mitigation may be required pending Project impacts.

While the USACE regulates only those activities resulting in a discharge of dredge or fill material into waters of the U.S., the Colorado Department of Public Health and Environment (CDPHE) has the authority to regulate activities resulting in a discharge of pollutants into state waters. The CDPHE conducts Section 401 certification reviews of projects in Colorado requiring a Section 404 permit from the USACE. The purpose of certification review is to determine whether a proposed discharge will comply with Colorado water quality standards.

In Colorado, joint Section 404 and 401 permitting is utilized through the NWP program, as NWPs are certified by statute. A NWP is a general permit intended to apply throughout the United States and is designed to eliminate the need to issue an individual permit for specific small-scale activities which minimally affect wetlands. NWPs allow certain activities to take place in WOUS which may result in minimal impacts to WOUS, including wetlands. Specifically, a NWP 29 (Residential Developments) can be issued as long as the activity/discharge does not cause the loss of greater than 0.5 acre of WOUS. A Pre-construction Notification (PCN) to the USACE is required if the loss of WOUS exceeds 0.1 acre or if there is a discharge in a special aquatic site, including wetlands.

Should impacts to WOUS result in the loss of greater than 0.5 acre and/or 300 linear feet of stream bed, the Project would be permitted under an Individual Permit (IP). A PCN is not required for activities permitted under an IP. Rather, IPs require a 30-day public notice period, and a separate 401 Water Quality Certification through CDPHE.

Impacts to jurisdictional wetlands within both the north and south channels of Beaver Creek and abutting wetlands are not likely to cause the loss of greater than 0.5 acre of WOUS. As such, it is expected that the Project would be permitted under a NWP 29. If permanent impacts to WOUS exceed 0.1 acre, a PCN would be required and a Compensatory Mitigation Plan would likely need to be submitted to the USACE, identifying wetland mitigation on-site or through an off-site mitigation bank.

If you should have any questions regarding this report or any other matter, please feel free to contact us at (303) 703-4444.

Sincerely,
CORE Consultants, Inc.

Daniel Maynard
Senior Ecologist

REFERENCES

Chapman, S.S., G.E. Griffith, J.M. Omernik, A.B. Price, J. Freeouf, and D.L. Schrupp. 2006. Ecoregions of Colorado. Reston, Virginia, U.S. Geological Survey (map scale 1:1,200,000). ftp://ftp.epa.gov/wed/ecoregions/co/co_front.pdf.

Federal Emergency Management Agency. 2016. El Paso County, Colorado FEMA Flood Insurance Rate Maps. Map 08041C0535F.

Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2016. The National Wetland Plant List: 2016 Update of Wetland Ratings. Phytoneuron 2016-30: 1-17.

Natural Resources Conservation Service (NRCS). 2007. Ecological Site Description – Loamy Plains. https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&repType=regular&id=R067BY002CO.

NRCS. 2014. List of Hydric Soils. http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/.

U.S. Army Corps of Engineers (USACE). 1987. Wetlands Delineation Manual.

USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Regional Supplement (Version 2).

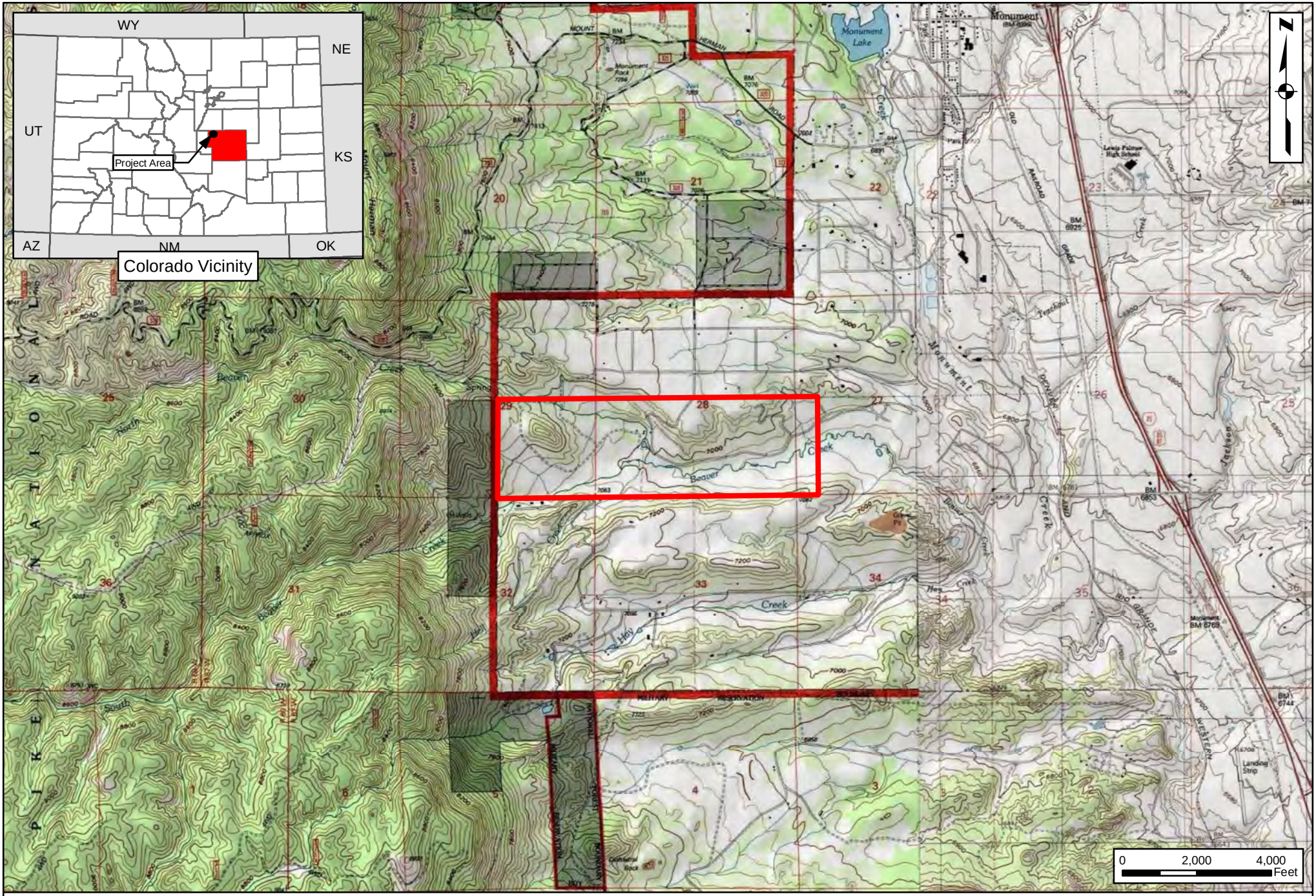
U.S. Department of Agriculture. 2010. Farm Service Agency – National Agricultural Imagery Program.

U.S. Fish and Wildlife Service. 2016. National Wetland Inventory. http://www.fws.gov/wetlands/.

U.S. Geological Survey. 2016. 7.5-Minute Topographic Maps. Palmer Lake Quadrangle – Colorado.

APPENDIX I: FIGURES

FIGURE 1. SITE LOCATION MAP
FIGURE 2. NATIONAL WETLAND INVENTORY MAP
FIGURE 3. FEMA FLOOD INSURANCE RATE MAP
FIGURE 4. SOIL COMPLEXES MAP
FIGURE 5. WETLAND LOCATION MAP



Study Area

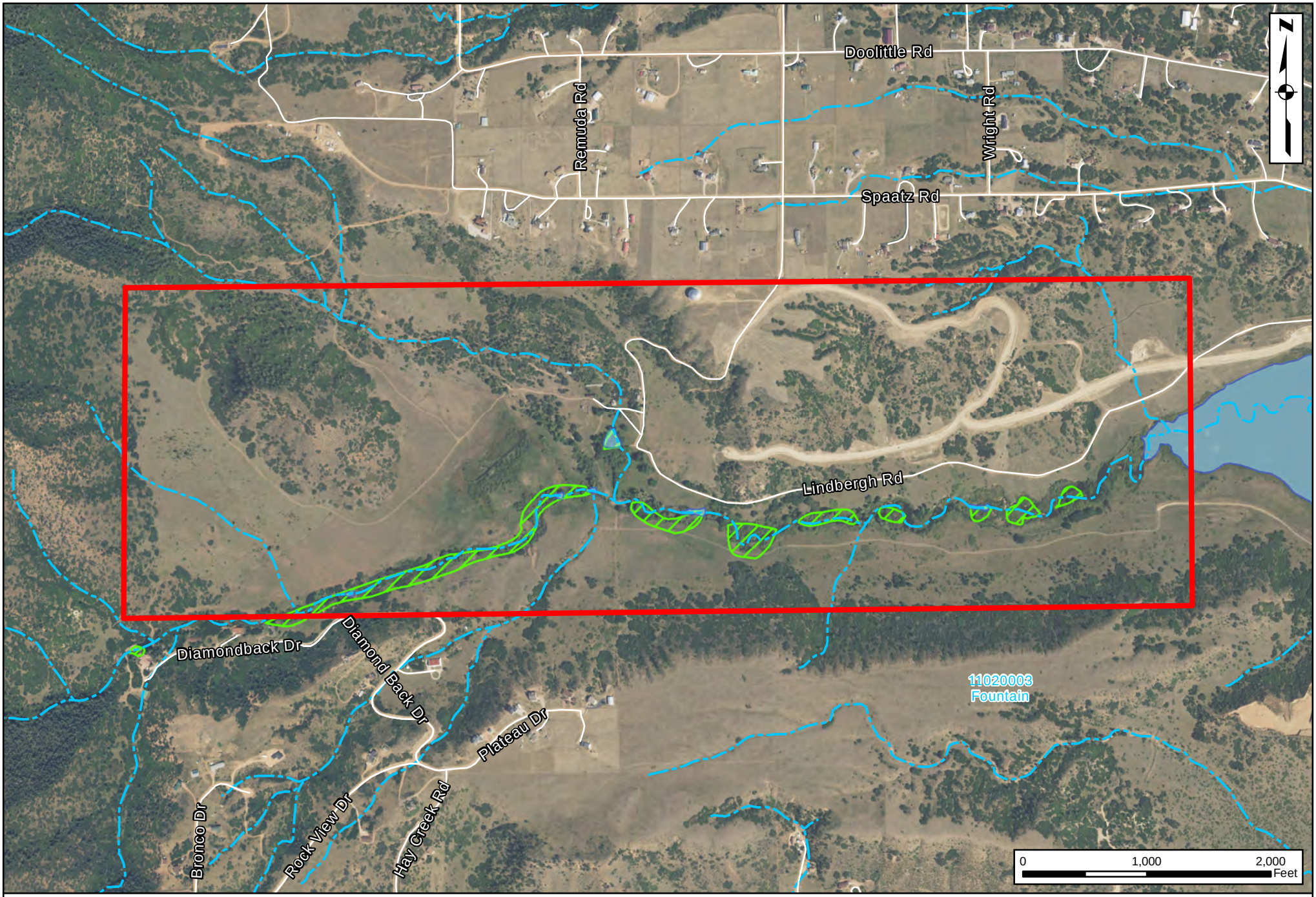
Forest Lakes

Site Location Map

El Paso County, Colorado

Reference:
USGS 7.5 Minute
Topographic Quadrangle
Palmer Lake, CO Quad

Date: 12/21/2016
CORE Project #: 16-038



Study Area
NHD Watercourse
NHD Waterbody
NWI Wetland

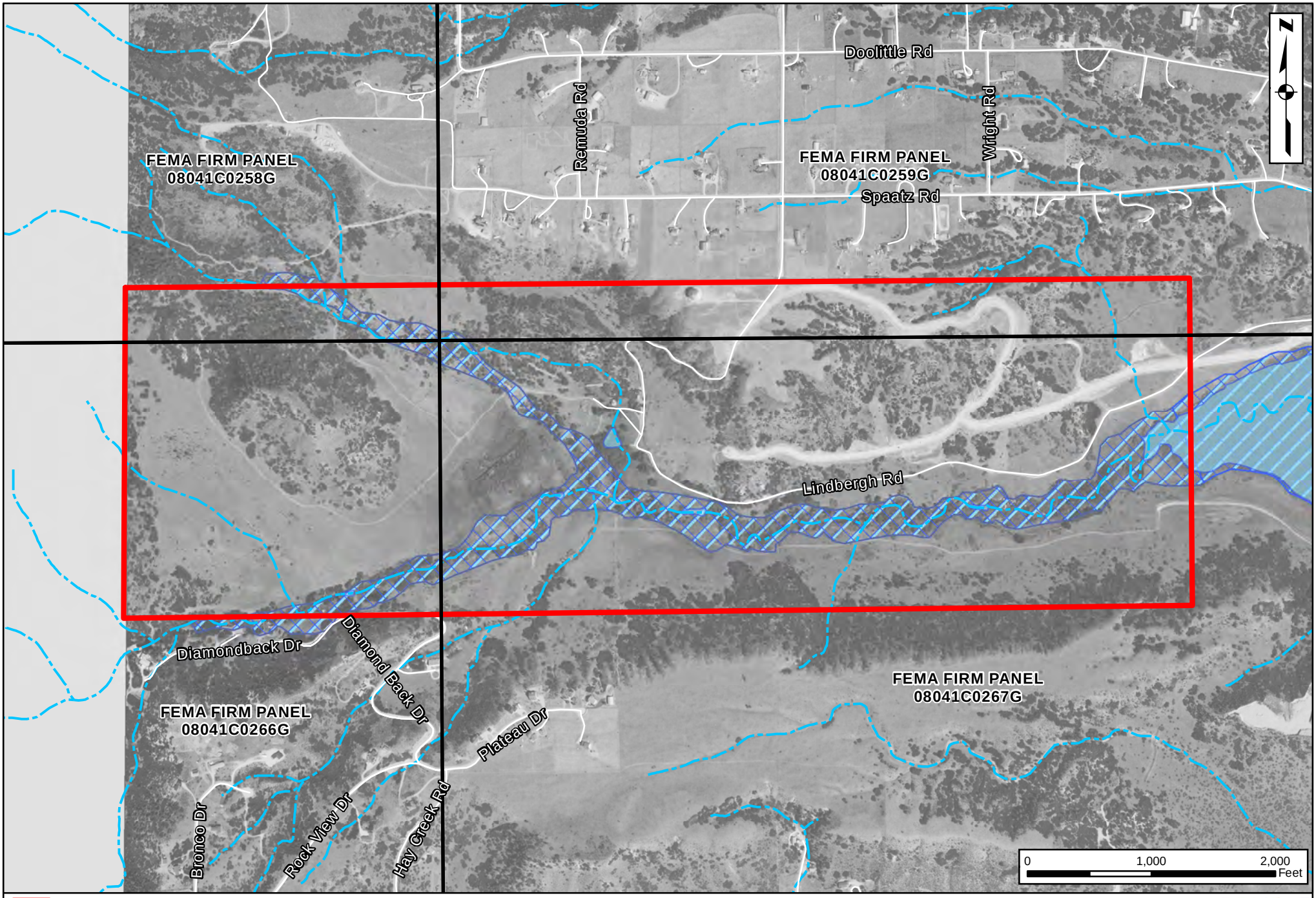
Forest Lakes

National Wetland Inventory Map

El Paso County, Colorado

CORE CONSULTANTS

Date: 12/21/2016
CORE Project #: 16-038



Study Area
NHD Watercourse
NHD Waterbody
FIRM Panel

Flood Zone
Zone AE: 100-year Floodplain
Zone X: Outside 100- & 500-year Floodplain
Zone D: Undetermined

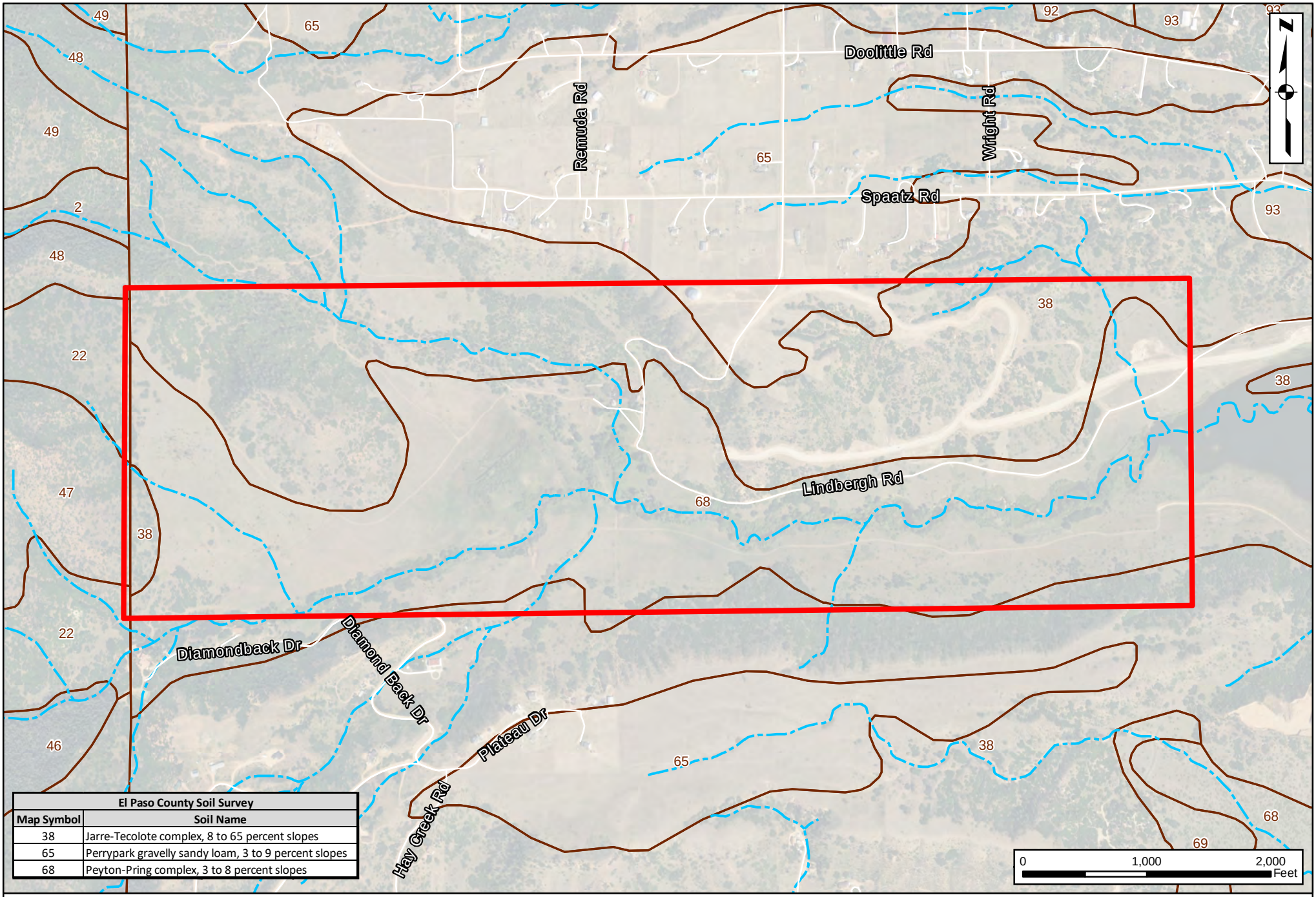
Forest Lakes

FEMA Flood Insurance Rate Map

El Paso County, Colorado

CORE CONSULTANTS

Date: 12/23/2016
CORE Project #: 16-038



El Paso County Soil Survey	
Map Symbol	Soil Name
38	Jarre-Tecolote complex, 8 to 65 percent slopes
65	Perrypark gravelly sandy loam, 3 to 9 percent slopes
68	Peyton-Pring complex, 3 to 8 percent slopes

Study Area
NHD Watercourse
Soil

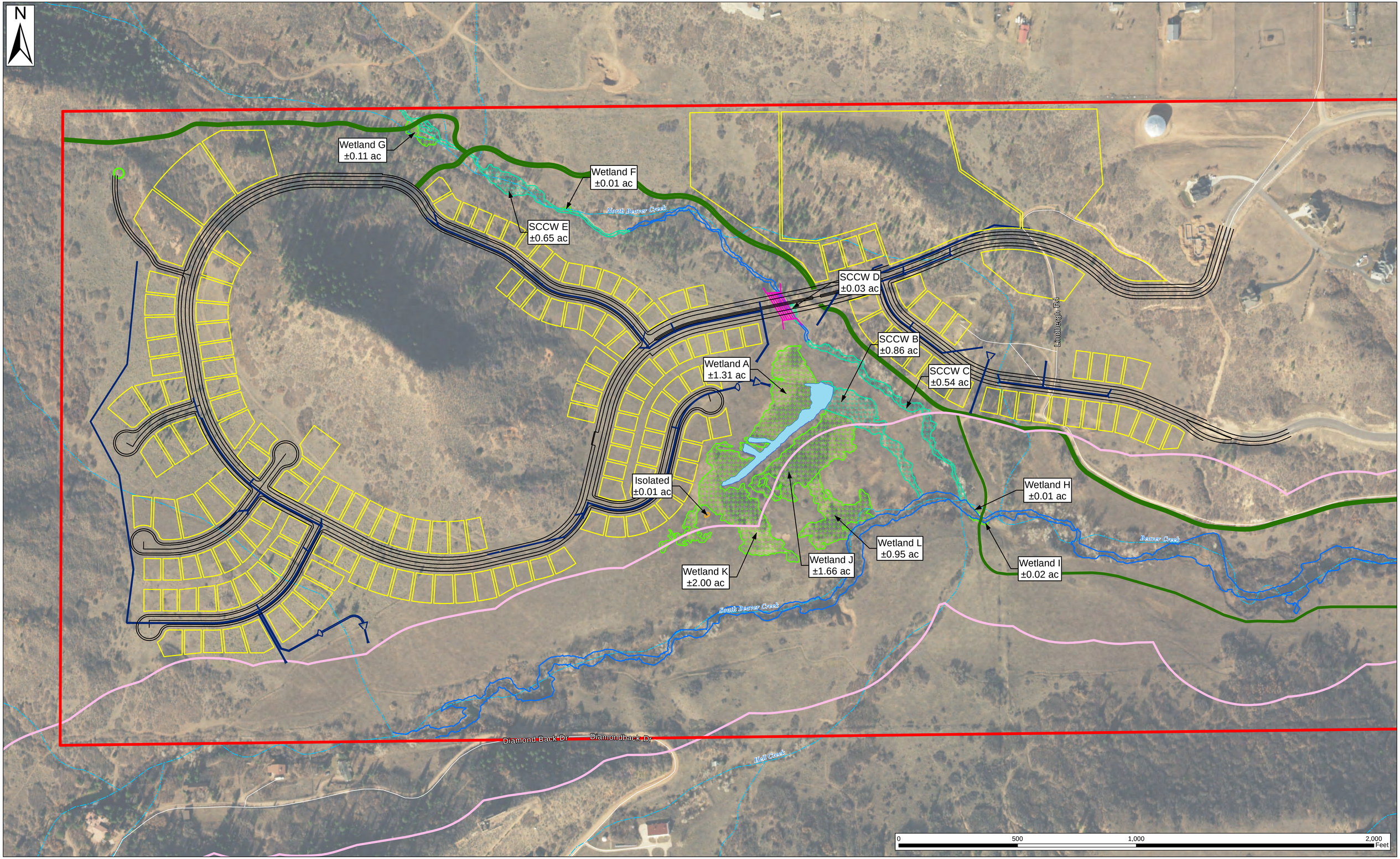
Forest Lakes

County Soil Survey Map

El Paso County, Colorado

CORE CONSULTANTS

Date: 12/23/2016
CORE Project #: 16-038



Forest Lake

Wetland Location Map

El Paso County, Colorado

- Study Area - ±524 ac
- NHD Watercourse
- Stream Channel Containing Wetlands
- Wetland
- Isolated Wetland
- Ordinary High Watermark
- Beaver Pond
- Proposed Culvert
- Proposed Roads
- Proposed Storm
- Proposed Lot
- Facility
- USFWS Critical Habitat
- Trails

CORE CONSULTANTS
CIVIL ENGINEERING
DEVELOPMENT CONSULTING
NATURAL RESOURCES CONSULTING
LAND SURVEYING
303.703.4444
1950 W. Littleton Blvd., Ste. 109
Littleton, CO 80120

CORE Project #: 16-038 Date: 11/13/2018

APPENDIX II

PHOTOGRAPHIC LOG

Beaver Creek Drainage facing east, showing one of many beaver dams in the main channel; just east of confluence

South Beaver Creek looking west; typical stream channel profile, showing dense scrub-shrub abutting wetland vegetation

South Beaver Creek, with its well-developed riparian corridor

A portion of the wetland complex west of the South Beaver Creek-North Beaver Creek confluence, facing southeast. Much of the emergent wetland here is persistent, remaining standing even during the non-growing season

APPENDIX III

WETLAND DELINEATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Forest Lakes City/County: El Paso Co. Sampling Date: 10/25/16
Applicant/Owner: Classic Communities State: CO Sampling Point: Sample Pt. 1
Investigator(s): Dan Maynard Section, Township, Range: Sec. 28, T11S R67W
Landform (hillslope, terrace, etc.): Damp Meadow Local relief (concave, convex, none): None Slope (%): 3.5%
Subregion (LRR): LRR E Lat: 39.06027°N Long: 104.90344°W Datum: WGS 84
Soil Map Unit Name: Pring (Aridic Haplustolls) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: Beaver dam immediately uphill, and a well (stone, manmade) – both affecting hydrology. Soils are somewhat trampled by cattle

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'x 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Betula papyrifera	1		FAC
2. Salix eriocephala	15	✓	OBL
3.			
4.			
	16	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15'x 15')			
1. Rumex crispus	1		FAC
2. Symphoricarpos occidentalis	1		FAC
3. Epilobium angustifolium	5	✓	FACU
4. Salix eriocephala	1		OBL
5. Potentilla Fruticosa [Pentaphylloides floribunda]	10	✓	FAC
	18	= Total Cover	
Herb Stratum (Plot size: ____)			
1. Carex nebrascensis	20	✓	OBL
2. Juncus arcticus	45	✓	FACW
3. Juncus torreyi	5		FACW
4. Cirsium arvense	5		FAC
5. Centaurea diffusa	1		UPL
6. Agrostis gigantea	20	✓	FAC
7. Other forbs	3		
8.			
9.			
10.			
11.			
	98	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum 2

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
— 1 - Rapid Test for Hydrophytic Vegetation
+ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: Pt. 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8"	10YR 2/1	100					Organic	Histic Epipedon - Saprric
8-11"	10 YR 2/1	85					SCL	Very coarse - rocky
11+"	10 YR 2/1	90					SC	Med-coarse - Sandy

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- _ Histosol (A1)
- + Histic Epipedon (A2)
- _ Black Histic (A3)
- + Hydrogen Sulfide (A4)
- _ Depleted Below Dark Surface (A11)
- _ Thick Dark Surface (A12)
- _ Sandy Mucky Mineral (S1)
- _ Sandy Gleyed Matrix (S4)
- _ Sandy Redox (S5)
- _ Stripped Matrix (S6)
- _ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- _ Loamy Gleyed Matrix (F2)
- _ Depleted Matrix (F3)
- _ Redox Dark Surface (F6)
- _ Depleted Dark Surface (F7)
- _ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- _ 2 cm Muck (A10)
- _ Red Parent Material (TF2)
- _ Very Shallow Dark Surface (TF12)
- _ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock Fragments

Depth (inches): 8-11" rocky mineral layer

Hydric Soil Present? Yes ✓ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- _ Surface Water (A1)
- + High Water Table (A2)
- + Saturation (A3)
- _ Water Marks (B1)
- _ Sediment Deposits (B2)
- _ Drift Deposits (B3)
- _ Algal Mat or Crust (B4)
- _ Iron Deposits (B5)
- _ Surface Soil Cracks (B6)
- _ Inundation Visible on Aerial Imagery (B7)
- _ Sparsely Vegetated Concave Surface (B8)
- + Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- _ Salt Crust (B11)
- _ Aquatic Invertebrates (B13)
- + Hydrogen Sulfide Odor (C1)
- _ Oxidized Rhizospheres along Living Roots (C3)
- + Presence of Reduced Iron (C4)
- _ Recent Iron Reduction in Tilled Soils (C6)
- _ Stunted or Stressed Plants (D1) **(LRR A)**
- _ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- _ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- _ Drainage Patterns (B10)
- + Dry-Season Water Table (C2)
- _ Saturation Visible on Aerial Imagery (C9)
- _ Geomorphic Position (D2)
- _ Shallow Aquitard (D3)
- _ FAC-Neutral Test (D5)
- _ Raised Ant Mounds (D6) **(LRR A)**
- _ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No _____ Depth (inches): 10"

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 0-10"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Forest Lakes City/County: El Paso Co. Sampling Date: 10/26/16
Applicant/Owner: Classic Communities State: CO Sampling Point: Sample Pt. 2
Investigator(s): Dan Maynard Section, Township, Range: Sec. 28, T11S, R67W
Landform (hillslope, terrace, etc.): Dry meadow Local relief (concave, convex, none): Concave Slope (%): 1%
Subregion (LRR): LRR E Lat: 39.06070°N Long: 104.90463°W Datum: WGS 84
Soil Map Unit Name: Peyton (Aridic Argiustolls) NWI classification: —
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: Soils heavily impacted by cattle when wet

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5'x5')			
1. Juncus arcticus	32	✓	FACW
2. Juncus torreyi	2		FACW
3. Agrostis gigantea	20	✓	FAC
4. Carex nebrascensis	3		OBL
5. Carex utriculata	25	✓	OBL
6. Juncus tenuis	5		FAC
7. Eleocharis acicularis	1		OBL
8. Cirsium arvense	8		FAC
9. Rumex crispus	1		FAC
10. Poa sp.	1		—
11.			
	98 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 2

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
✓ 1 - Rapid Test for Hydrophytic Vegetation
✓ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: Pt. 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
O	0-4"	10 YR 2/2	70					SL	30% Organic matter
A	4-8"	10 YR 2/1	95	10YR 6/8	5	C	PL	SCL	A Horizon
B'	8-12"	10 YR 4/2	88	10 YR 6/8	12	C	PL	SCL	Light gray layer - hard
B2	12+"	10 YR 5/3	100					SC	Extremely hard restrictive clay layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- + Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: B Horizon - Mineral

Depth (inches): 12"

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- + Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- + Shallow Aquitard (D3)
- + FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Forest Lakes City/County: El Paso Co. Sampling Date: 10/26/16
Applicant/Owner: Classic Communities State: CO Sampling Point: Sample Pt. 3
Investigator(s): Dan Maynard Section, Township, Range: Sec. 28, T 11S R 67W
Landform (hillslope, terrace, etc.): Meadow Local relief (concave, convex, none): Concave Slope (%): < 1%
Subregion (LRR): LRR E Lat: 39.05948° N Long: 104.90538° W Datum: WGS 84
Soil Map Unit Name: Peyton (Aridic Argiustolls) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'x30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus ponderosa	2	✓	FACU
2. Salix monticola	5	✓	OBL
3.			
4.			
	7 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15'x15')			
1. Salix exigua	15	✓	FACW
2. Salix eriocephala	8		OBL
3. Potentilla fruticosa	32	✓	FAC
4. Symphoricarpos occidentalis	12		FAC
5. Rosa woodsii	7		FACU
	74 = Total Cover		
Herb Stratum (Plot size: 5'x5')			
1. Juncus arcticus	30	✓	FACW
2. Agrostis gigantea	15		FAC
3. Unknown grass	15		UPL
4. Asclepias viridiflora	5		FACU
5. Potentilla gracilis	2		FAC
6. Carex parryana	30	✓	FACW
7. Achillea millefolium	1		FACU
8. Other forbs	2		
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
– 1 - Rapid Test for Hydrophytic Vegetation
+ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	10 YR 3/2	80					SL	20% organic matter
2-6"	10 YR 3/2	95	10 YR 6/8	5	C	PL	SCL	A Horizon
6-12"	10 YR 4.5/2	90	10 YR 6/8	10	C	PL	SCL	Light gray layer
12+"	10 YR 5/2	100					SC	Extremely hard clay layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: B Horizon (Clay)

Depth (inches): 12"

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Forest Lakes City/County: El Paso Co. Sampling Date: 10/26/16

Applicant/Owner: Classic Communities State: CO Sampling Point: Sample Pt. 4

Investigator(s): Dan Maynard Section, Township, Range: Sec. 29, T11S R67W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2%

Subregion (LRR): LRR E Lat: 39.05875 °N Long: 104.90610 °W Datum: WGS 84

Soil Map Unit Name: Peyton (Aridic Argiustolls) NWI classification: —

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: Concave due to two hillslopes joining, but extremely locally convex
- No evidence of seeps

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5' x 5')			
1. Carex parryana	76	✓	FACW
2. Elymus canadensis	20	✓	FAC
3. Mullein (Verbascum thapsus)	2		UPL
4. Gallium boreale	1		FACU
5. Cirsium arvense	1		FAC
6. Other forbs	2		
7.			
8.			
9.			
10.			
11.			
	99 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 1

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

+ 1 - Rapid Test for Hydrophytic Vegetation
+ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ____

Remarks:

SOIL

Sampling Point: DP. 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	10YR 3/2	100					SCL	
5-10"	10 YR 3/2	90	7.5YR 5/8	10	C	PL	SCL	
10+"	10 YR 5/2	100					SC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Horizon B - Clay

Depth (inches): 10"

Hydric Soil Present? Yes ✓ No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Restrictive clay layer creating seasonal perched water table